



# Parker One Pneumatic

A complete range of pneumatic system components

Catalogue PDE2600PNUK March 2011

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
**pneumatics**  
process control  
sealing & shielding



ENGINEERING YOUR SUCCESS.



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# Parker Hannifin

Parker Hannifin is one of the world's leading suppliers of products and solutions in Motion and Control. Using innovative product development and an acquisition strategy to increase our range of pneumatic products and solutions, we now have one of the broadest product offerings available in the market.

Our range now extends from the compressor to the point at which the air is used. This could be supplying power

take off on a vehicle, moving a cylinder or gripper to milking cows. The design and manufacture of bespoke integrated solutions for air, gas and fluid control is one of our core specialisation.

The Parker network of distributors is the most comprehensive in the world, which means our products are available from specialist pneumatic distributors wherever you are located.

In the following pages are listed the core first choice products from across Parker which are aimed at the pneumatic market. From valves, actuators and air preparation to push in fittings quick connectors and tubing to customized systems. In this catalogue you will find products from Pneumatic Division Europe, Legris, Rectus Tema, Fluidconnectors, KV and Fluid Controls, presenting an unrivalled choice of products and solutions to suit virtually any application.



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climate control  
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pneumatics  
process control  
sealing & shielding

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# Actuators

## Mini ISO Cylinders 6432 - P1A



p24

- Mini cylinder according to ISO 6432
- Available in 10 to 25 mm bores
- Corrosion resistant design and low weight construction
- Magnetic piston as standard
- End stroke buffers for long service life

## ISO Cylinders 6431/VDMA - P1D



p30

- Available in 32 to 125 mm bores
- PUR seals for long service life
- Drop-in sensors
- Corrosion resistant design
- Magnetic piston as standard
- Lubricated with food grade grease

## ISO Cylinders 24562/VDMA - P1E



p46

- Ø160 - 200mm Bore sizes VDMA standard
- Double acting with adjustable end cushioning
- Magnetic piston as standard
- Non-lube operation
- Tie rod construction
- Complete range of mountings & sensors.

## Compact Cylinders - P1J



p48

- Compact and versatile
- Magnetic piston for direct fit with electronic controls
- Fit flush global sensor range with many functions
- Choose from our wide range of double-acting, single-acting and double-acting with guide rod

## Short Build Cylinders - P1M



p53

- 4 ported design - optional port configuration
- VDMA mounting centres 32mm to 100mm bore size
- Corrosion resistant design and low weight construction
- Magnetic piston as standard
- End of stroke buffers for long service life

## Stainless Steel ISO 6431 - P1S



p62

- Round cylinder to ISO 6431
- All stainless steel
- Clean, smooth washdown design
- Magnetic piston as standard
- Adjustable cushioning for long service life
- Complete range of mountings and sensors

## Compact Cylinders - P5T



p75

- Complete cylinder function with integral guidance
- Stainless steel guide rods
- Wide range of standard strokes, diameter 16-100 mm
- Flexible porting as standard
- End stop cushions as standard

## Rodless Cylinders - OSP



p80

- Compact design space saving applications
- 10mm – 80mm bore size
- ATEX and clean room versions available
- Special versions for high speed or ultra low speed actuation
- Extreme temperature versions -40° to +120° C

# Actuators

## Thrust Cylinders - C0D/C0P



p107

- Thrust cylinders provide large forces
- Compact dimensions
- C0D, diaphragm type
- C0P, piston type
- Available in single and double acting versions

## Air Bellows - 9109



p110

- 10 sizes, diameters 70-660 mm
- Strokes from 45 to 375 mm
- Single, double or triple convolutions
- High thrust and frictionless movement
- Maintenance free

## Stainless Steel Air Motors - P1VS



p112

- Power from 0,02 kW to 1,2 kW
- ATEX CE Ex approved from 0,12 kW to 1,2 kW
- No-lube intermittent operation as standard
- 0,2 kW and 0,3 kW Brakemotors for higher safety

## Robust Air Motor - P1V-M



p117

- Power 0,2 kW, 0,4 kW and 0,6 kW
- Patented way for simple change of vanes
- Free speeds from 28 up to 10000 rpm
- Torque from 0,38 Nm up to 380Nm by max output power

## Rotary Actuators - PRO-PRN



p120

- Compact design
- Durable construction
- Long maintenance-free life
- High output torque/weight ratio
- Wide choice of torques available (up to 247 Nm)

## Rotary Actuators - PV



p122

- Double acting actuators
- Single or double vane
- Compact smooth design
- Uniform torque in both directions
- Angle adjustment and sensors available.

## Compact Rotary Table - P5W



p123

- Rack and pinion patented movement.
- Continuously adjustable stroke.
- Through hole in the pinion.
- Optional rubber end stroke or hydraulic shock-absorber.
- Mid position stop (MPS).

## Universal Grippers - P5GC



p126

- Compact design
- Double acting, square jaws
- Automatic grip retention by mechanical system
- Total jaw opening (180°)
- High reliability

# Control Devices

## Metal Spool Valves - Viking Xtreme



p137

- 4 sizes: G1/8, G1/4, G3/8 and G1/2.
- Compact design with good corrosion resistance.
- Wide range of 5/2 and 5/3 versions.
- High and low temperature versions available for transport applications.

## Adex Directional Control Valves



p154

- 2 sizes: M5 and 1/8"
- Compact body with large flow
- Quick response time, faster than 10ms
- Expected life time more than 50,000,000 cycles
- Low power consumption only 0.6W

## Midget Spool Valves



p160

- G1/8 body ported
- Rugged die cast body
- 3/2 & 5/2 configurations
- Stainless steel spool
- Viton body seals as standard
- Integral mounting holes
- Manual, mechanical and automatic actuators.

## Intermediate Spool Valves



p160

- G1/4 body ported
- Rugged die cast body
- 3/2, 5/2 & 5/3 configurations
- Stainless steel spool
- Viton body seals as standard
- Integral mounting holes
- Manual, mechanical and automatic actuators.

## Directional Control Valves - VA



p175

- Rugged valves for heavy duty applications
- Large and robust actuators for easy operation
- Excellent corrosion resistance
- Integral mounting holes
- Panel mounting versions

## Heavy Duty Poppet Valves



p179

- G3/8 & G1/2 body ported
- 2/2 & 3/2 NC spring return as standard
- High flow poppet design
- Manual and mechanical and solenoid actuators
- Light actuation forces
- Integral mounting holes.

## Isys Micro Valves



p221

- Up to 8 pneumatic functions on a 42mm width metal sub base
- 4 valve modules back to back for compact dimensions
- High performance
- Optimized flow for 6mm tubes
- Side or bottom mounted manifolds available.

## DX ISO Valves



p188

- ISO sizes 02, 01, 1, 2 & 3 sub base & manifold mounted valves
- ISO 5599-1 & ISO 15470-1
- Excellent reliability, in excess of 100 million cycles
- Ceramic slide technology operates on Lubricated or non-lube air



# Control Devices

## Isys Net



- A complete field bus communication offering for valve islands
- Extremely fast I/O back plane uses change of state connections to maximise performance
- UL, C-UL and CE certifications
- Accepts signals from sensors, photo eyes, limit switches and other field input devices
- Communication module supports up to a maximum of 63 I/O and up to 264 inputs/outputs

p267

## Isys Valves



p193

- ISO sizes 02, 01, 1, 2 & 3 sub base mounted valves
- ISO 5599-1, ISO 5599-2, ISO 15470-1 & ISO 15470-2
- Stable long lasting performance
- Heavy duty metal bodies
- Wear compensating seal technology

## Moduflex Valves - P2M



p241

- High flow, compact size.
- Mixable valve sizes.
- Stand alone valves, modular islands with individual, multi connector or bus connections.
- Integrated selectable internal or external pilot supply and exhaust.

## Control & Process Duty - PXB



p327

- Facia mounted operators
- 3/2 NO or NC versions
- Pneumatic valves combinable with electrical switches
- Modular construction
- Wide choice of actuators.

## Logic Control



p322

- Complete range of logic processing modules
- Stand alone or stackable and combinable units
- Ultra fast response times
- Visual indication
- DIN rail mounting.

## Limit Switches - PXC



p330

- 3/2 Nc spring return as standard
- Ø4mm, M5 & G1/8 ported versions
- Miniature and Compact designs
- Wide choice of actuators include levers, rollers & ultra light whisker types.

## Two Hand Control Units - PXP



p332

- Ergonomic design
- Robust polymer or metal enclosure
- Meets requirements for protection against accidental operation and tampering
- Conforms to EN574 and EN954-1 requirements

# Air Preparation & Airline Accessories

## Moduflex Lite - P3X Series



p344

- Integral 1/2 or 3/4 ports
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Secondary pressure ranges 8 and 16 bar
- Rolling diaphragm for extended life
- Membrane dryers

## Modular Membrane Dryers - P3X



p348

- Removes water vapour & lowers the PDP
- Compact design
- No electrical connections necessary
- Suitable for hazardous environments
- No moving parts
- Maintenance & wear free
- No change in air consumption
- Low pressure drop less than 0.1 bar

## Global Air Preparation System



p350

- Space saving integral gauge (P31 size only)
- Manifold style regulators available
- OSHA compliant shut-off valves
- Soft-Start & Quick Dump valves
- Electronic Proportional Regulator

## Modular FRLs - P3Y Series



p359

- Integral 3/4 or 1" ports (BSPP or NPT)
- High efficiency element as standard
- Excellent water removal efficiency
- Secondary pressure ranges 12 and 16 bar

## Heavy Duty FRLs - P3Z Series



p363

- Self relieving feature plus balanced poppet provides quick response and accurate pressure regulation.
- Port flanges G1 1/2" & 2" to a 2" body.
- Proportional oil delivery over a wide range of air flows.

## Moduflex Compressed Air Filters



p365

- Tested in accordance with ISO 8573.9
- High liquid removal efficiencies at all flow conditions
- Low pressure losses for low operational costs
- Multiple port sizes for a given flow rate provides increased flexibility during installation

## Moduflex Dry Air System



p373

- Designed in accordance with ASME VIII Div.1, approved to CSA/UL/CRN and fully CE Marked (PED, EMC, LVD) as standard.
- Flexible installation utilising the multiple in-line inlet & outlet connection ports.
- Can be Floor, Bench or Wall/Canopy mounted.

## Global Proportional Technology



p376

- Very fast response times
- Accurate output pressure
- Micro parameter settings
- Selectable I/O parameters
- Quick, full flow exhaust
- LED display indicates output pressure
- No air consumption in steady state
- Multiple mounting options
- Protection to IP65

# Air Preparation & Airline Accessories

## Precision Pressure Regulators



p395

- High repeatability
- High relief capacity on R220 model
- High flow capacity on R230 model

## Prep-Air II® Miniature FRLs



p397

- Compact body ported units.
- Port sizes G<sup>1</sup>/<sub>8</sub> and G<sup>1</sup>/<sub>4</sub>.
- Unique deflector plate ensuring maximum water and particulate removal.
- Solid control piston with lip seal for extended life.
- Proportional oil delivery over a wide range of air flows.

## Stainless Steel FRLs



p399

- Suitable for Marine & Offshore applications
- Chemical / Petroleum and process industries
- Coalescing filters are designed for removing oil and water aerosols down to 0.01µ
- Suitable for food industry applications

## Moduflex AirGuard Protection



p402

- Maintenance friendly, Repair possible while plant is still operating.
- Reliable and tamperproof, No adjustment necessary.
- Complies with EU current standard
- Complies with the 2009 ISO4414 (5.4.5.11.1)

## Cylinder Controls



p404

- "Push-in" or threaded connection
- Multifunction options
- Fit directly to cylinder ports
- Swivelling pilot banjo
- Pneumatic, Electric or Electronic back pressure sensor

## Shuttle Valve & Quick Exhaust Valves



p409

- Increases piston speeds, super sensitive diaphragm.
- May be used as differential shuttle valve.
- Allows two separate signals to be applied to the air pilot.
- 0,6 bar differential, Viton seals as standard.
- Aluminium or polymer bodies

## Prestolok Push-in Fittings



p411

- Use with plastic or metal tubing
- Positive hold by a flexible grab ring
- Ready to use fitting
- Plastic push button
- Parallel thread fittings for use with plastic bodied valves

## Quick Acting Couplers - Schrader



p483

- Twistlok action.
- Wide choice of adaptors.
- Non whip adaptors.
- Rugged design.

## Parker KV Division

The design and manufacture of bespoke integrated solutions for air, gas and fluid control are the specialisation of Parker KVD. In general, a high manufacturing ingenuity in circuitry design and system expertise are required for the relevant pneumatic and electro-pneumatic control system products.

### Rapid Prototyping / Rapid Manufacturing

#### Cost and time saving

Parker KVD took its first steps into Advanced Manufacturing Technology in 1999 and since then has been applying the concept of Rapid Prototyping/Manufacturing. Many parts and products have been designed purely by these technologies.

Nowadays, customers are supplied with RP and RM parts for 1 to 1000 off, of the highest quality, using in-house facilities.

### From CAD drawing to Rapid Prototyping / Rapid Manufacturing

With the advent of 3D CAD, the improvements in materials and new technologies such as SLS and SLA, the capability to simply translate CAD data into a physical 3D model are a reality.

To supply complex sintered or moulded parts, in metal or plastic, direct from the 3D model, Parker KVD uses the 'material on' rather than a 'material off' process.

### Concept models / prototypes allow:

- Solid visualisation of a concept
- Fast & easy communication with clients
- Identification of problems with ergonomics
- Quick design agreement

### The Clean Room



At Parker KVD, the Clean Room facilities have a total floor area of 380 square metres (4092 sq.ft.) The Clean Room operates to ISO 14644-1, ISO Class 6 Standard, (FED Standard 209E, Class 1000) over the working areas, and has its own dedicated material handling area and store. It contains over 24 square metres of Laminar Flow Cabinets operating to ISO 14644-1, ISO Class 4 Standard (FED Standard 209E, Class 10). The industries serviced by this Clean Room are numerous and varied, ranging from the Semi-Conductor industry to Medical, to Precision Measurement and Instrumentation.

### Anaesthesia and Ventilation



Unique Parker KVD control elements have been used in the enhanced performance of many gas flow management systems for years, in:

- Modern operating theatres
- Intensive or critical care units
- Neonatal ICU Emergency resuscitation is also a very important field in Life Sciences. There is a range of systems available for this application too.

### Dental - Air Abrasion Systems



A compact system for the control of gas, fluid and abrasive within this procedure was produced here.

With Parker KVD's own in-house rapid prototyping, innovational design can be brought into production within weeks, from foot controls to suction and air polishing systems etc.

### Life Science



Pneumatic, electro-pneumatic, fluid system controls and solutions are at the heart of many advanced technologies such as:

- Pharmaceuticals
- Diagnostics
- Medical Devices
- Analytical Instrumentation
- Medical Research Products
- Semiconductor Handling
- Healthcare Systems

# KVD Systems

## Transportation



Parker KVD has been designing and manufacturing systems and components for the transport industry for over 30 years. They include a range of rodded and rodless actuators providing complete solutions for all door types.

All components used are to industry standards relating to temperature range, voltage tolerances and sealing.

## Rail - Control Door Systems



The control systems for both external and internal doors meet individual customer specifications. They also satisfy particular requirements regarding:

- Safety
- Operational needs
- Space availability
- Reliability

## Rail - Vacuum Toilet System



Sanitary waste is stored within on-board retention tanks and then transferred via vacuum. Space and weight are optimised by integrating the control of air/vacuum and fluids into a single module:

- Modular control systems
- Liquid media control valves
- Air and vacuum control valves
- Waste valves
- Handling detergents as well as water
- Self priming and self cleaning
- Easy fitting and maintenance (incl. simple quick connectors and multi-core plugs)

## Commercial - Axle Lift



Parker KVD Axle Lift Systems are designed to meet international legislations, and can provide significant savings through reduced tyre wear and improved operational costs.

Typically, these systems incorporate:

- On board load & position sensing
- Override facility for traction control assistance
- IP67 compliance
- Correct ride height self compensation
- Automatic axle load protection
- Wide temperature and voltage tolerances

## Alternative Energy



Parker KV Division sees the alternative energy market as a key strategic objective due to its global growth and environmental benefits.

New and exciting opportunities can be developed by working closely with customers from the earliest stages of development.

## Hydrogen Generation Unit



In the commercial and private vehicle industry the adaption of hydrogen fuel cell technology for hybrid applications has resulted in Parker KVD developing a control system for all the fluid handling in the product.

Within the solution every component has been custom-designed to reduce size, weight and cost without compromising the performance or endurance of the system.

# KVD Systems

## Integrated Neonatal Ventilator Gas Supply and Mixing Module



This control module is designed to control, mix and blend air and oxygen as part of a Neonatal Ventilator System. Bespoke pneumatic control and solenoid valves and integrated standard components for 'turn-key' control systems were developed.

Material: aluminium filled polyurethane, designed specifically to integrate a large number of circuit components into a single control module. The finished module then becomes a part of a larger ventilator control system. Valves are both surface mounted and embedded as appropriate, using the Parker KVD patented AMT process to incorporate a complex pneumatic circuit, including volumes and a blending chamber.

## Cryosurgery



Cryogenic procedures are often used in some of today's most advanced surgery and pain relief. Using the application of extreme cold, destruction of unwanted tissue has become a preferred method of treatment as it leaves minimal scarring and avoids hospitalisation or the need for anaesthesia.

The critical aspects of rapid-freeze and slow-thaw can be precisely monitored and controlled by the specialist modular control systems for liquid gas management within cryoanalgesic instruments that have been developed by Parker KVD.

## Agriculture - Automated Cow Milking



Pneumatic systems can be utilized in several areas of agriculture.

This fully automated milking system works with an upper traversing, vertically mounted attachment robot equipped with a double-scanner system comprising a camera and ultrasound sensor. The special software supports the quick attachment to different teat types.

Successful attachment to the livestock is also checked and monitored. When combined with remote animal tagging technology it allows a truly autonomous production process.

## Gas / Liquid Chromatography & Mass Spectrometry



Since the early development of analysers, applications such as sequencing of DNA and proteins have been providing worldwide benefits. Developers and providers of innovative life science solutions in the fields of analytical chemistry and medicine are some of Parker KVD's key partners. This means working with low power and precise leak rates on specially selected gases such as nitrogen.

## KVD Systems

### Tanker Control System



Components and systems, where safety levels are increased through the use of non-electrical air actuation and brake interlocking, are specially designed for use in the Freight Tanker sector by Parker KVD. It is much more economic to use pure pneumatic control solutions instead of explosion protected ones.

The most relevant cases to which this applies are:

- Bottom loading control systems (BVLR)
- Bulk or hose reel delivery selection
- Engine & pump PTO speed control
- By-pass valve control
- Dip tube interlocks
- Guard bar interlocks
- Overfill protection systems
- Guard rail actuation
- Remote hatch loading actuation systems

### Power Generation Unit



In remote locations where there is a requirement for autonomous electrical power, the utilisation of fuel cell technology provides a low cost and environmentally friendly solution.

The power generation units utilise alternative fuels that are readily available and the only by-products are electricity and medically pure water. By utilising the extensive product range available in the Parker organization, a solution has been developed to manage all the gas controls within the power generation unit.

### Complete Pneumatic Sub-System



This unit is designed to provide the pneumatic functionality required to control the movement of the reticle in a lithographic machine used in the process of manufacturing wafers in a semiconductor fabrication plant.

For further information see: [www.parker.com](http://www.parker.com)

# Fluid Controls

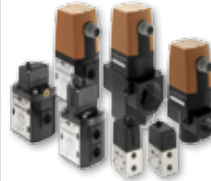
## 2/2 - Way Shut off Valve for Air



p291

- 1/4" - 2" pipe mount
- Pressure range up to 40 bar
- Normally open and normally closed
- Direct or servo-acting
- Long life expectancy, highest reliability
- Manual override optional
- Excellent response time
- Can be mounted with Lucifer® coil families

## Proportional Pressure Regulator



p378

- 1/4" - 2" pipe mount
- Lucifer® Programmable EPP4 all parameters fully adjustable through the PC software calys
- Low power consumption (2.2W), energy savings
- High responsiveness and low hysteresis (0.5%)
- Flexible remote display
- Compact design and light
- Easy to use software

## 3/2 - Way Valves for Air



p300

- 1/8" - 1/4" pipe mount and flange version
- Pressure range up to 30 bar
- Normally open and normally closed, universal
- Long life expectancy - highest reliability
- Excellent response time repeatability
- Can be mounted with Lucifer® coil families

## 3/2 - 5/2 NAMUR Valves



p301

- 1/4" - 1/2" NAMUR interface
- Patented NAMUR conversion plate
- Highflow Qn: 3000 L/min
- Solenoid or pneumatic version
- High resistance aluminium
- ATEX zone 22 certified products
- Fast switching application

## EExPress Bus Manifold for ATEX



p335

- EExPress™ is a stackable system that includes Gateway, Input sensor modules and 5/2 way Solenoid valve modules
- EExPress™ uses the well known Profibus DP protocol
- IP65 - no cabinet needed
- Zone 1, 2, 21 and 22 protection
- It has been designed to approach a "plug and play" usage

## Standard, ATEX and IECEx Coils



p314

- Modular concept for dedicated valves
- D / B Terminal Standard
- Various AC / DC voltages
- Various IP65-IP67, 100% ED
- Meet latest international & national codes
- ATEX zone 0, 1, 2, 20, 21, 22 protected ia, ib, dm, d, e, m, me, n



## Fluid Controls

### Solenoid Valves for Fluid Control Applications



Fluid control products have been designed to offer customers the ultimate in performance. Every valve is engineered for optimal operation, is constructed with modern machinery that use stringent processes, and provides standard features not necessarily offered in any competitive line. The Fluid Control Series portfolio offers a broad range of 2/2, 3/2 and 5/2 solenoid valves. Sizes range from 1/8" to 3", with Kv as high as 1385 L/min. Pressure capabilities range up to 200 bar; the whole range is available with various seal materials, such as NBR, FKM, EPDM, PTFE, PCTFE, PUR and Ruby. Brass, Aluminium, Stainless steel and Plastic Valves are available to control a wide variety of air, neutral gases and liquids, water, oils, process fluids and steam.

For further information see: [www.parker.com/fcde](http://www.parker.com/fcde)

# CONNECTIC Solutions for Compressed Air

## Legris LF3000 Instant Fittings



p416

- Brass / polymer fittings for standard applications.
- Instant connection/disconnection.
- Full flow, automatic sealing.
- Vacuum capability.
- Compact & aesthetic, lightweight.
- Very extensive range.
- -20°C to 80°C, maximum 20 bar (depending on fitting type and OD).

## Legris Tubing



p439

- Standard tubing made of PA, PU, FEP 140, and PE.
- PA and PU hoses in 7 colours.
- Multi, twin and spiral; anti-spark, anti-static.
- 25 or 100 m rolls in Tubepack® box.
- Large pack on drum.
- Hoses made of braided PVC.
- Self-fastening hoses.

## Legris LF3600 Instant Fittings



p430

- Nickel-plated brass instant fittings for demanding applications.
- For air and fluid transportation.
- FDA, 1935/2004/CE.
- -20°C to 150°C at 30 bars.
- Wide range.
- Compact & robust design.

## Legris Universal Compression Fittings



p429

- Brass or stainless steel (316L).
- Withstand high temperatures and pressures (max. 80 bars, 250°C).
- Resistant to aggressive and corrosive environments.
- A large range for many applications.
- Many accessories.

## Legris LF3900/3800 Instant Fittings



p436

- Stainless steel 316L fittings for severe conditions.
- Hygienic design.
- Extreme chemical and mechanical resistance.
- Fittings suitable for permanent food contact (FKM seals in accordance with FDA and 1935/2004/CE directives).
- Wide range: 21 shapes, diameters 4 to 12 mm.

## Legris Ball Valves / Axial Valves



p448

- Nickel-plated brass.
- Optimum sealing & excellent resistance.
- -20°C to 80°C, 20 to 40 bar (depending on the model).

## Legris Function Fittings



p423

- Flow control regulators, blocking fittings, mini-ball valves, non-return valves, silencers...
- Used on pneumatic devices in many industrial applications: factory automation, packaging, multi-purpose robots, material handling, textile, printing, auto process, machine tools.
- 0°C to 70°C, from 1 to 10 bars (depending on fitting type).

## Safety Couplers / Blowguns / Accessories



p443

- Couplers:**
- Comply with ISO 4414 and EN983 safety standards 0 - 16 bar, -20°C to 60°C.
- Blowguns:**
- Two connection points. Comply with OSHA and EU regulation for safe use. Up to 10 bar, -15°C to +60°C.
- Accessories:**
- Full nickel-plated range.

# Quick connect couplings

## Industrial Interchange couplings



p450

- Single handed operation
- Nominal diameter 5 to 11 mm
- Conforms to various profiles (European standard, MIL, etc. )
- Working pressure up to 35 bar
- Low pressure drop
- Temp. range -40°C up to 200°C
- Choice of material: steel/brass/ stainless steel/thermoplastics
- Variety of different threads available on request

## Safety couplings



p474

- Operated with two hands
- Conforms to ISO 4414
- Increased safety in the work place
- Working pressure up to 12 bar
- Low pressure drop
- Temp. range -40°C up to 80°C
- The design allows disconnection without rebound

## Blow guns



p482

- Plastic and aluminium versions
- Threaded and spigot connections
- Different nozzles for different applications

## Brass accessories



p482

- Threaded and spigot connections
- 3 way manifold versions assembled with quick connect couplings

## Coil tubing



p482

- Coil tubing ideal for air tools
- Material: polyurethane and polyamid
- Different length 5,6 and 7,5 meter
- Completely assembled with coupling and plug
- Straight extensions for perfect use

For further information see: [www.rectus.de](http://www.rectus.de)





# Actuators

Cylinder bore mm	Serie	Stroke	Bore mm	Piston rod mm	Area cm <sup>2</sup>	Max theoretical force in N										
						1.0 bar	2.0 bar	3.0 bar	4.0 bar	5.0 bar	6.0 bar	7.0 bar	8.0 bar	9.0 bar	10.0 bar	
10/4	P1A P1S	Double acting	+	10	4	0.8	8	15	23	31	39	<b>46</b>	54	62	69	77
			-	10	4	0.7	6	13	19	26	32	<b>39</b>	45	52	58	65
12/5	C05	Double acting	+	12	5	1.1	11	22	33	44	55	<b>67</b>	78	89	100	111
			-	12	5	0.9	9	18	28	37	46	<b>55</b>	64	73	83	92
12/6	P1A P1J P1M P1S	Double acting	+	12	6	1.1	11	22	33	44	55	<b>67</b>	78	89	100	111
			-	12	6	0.8	8	17	25	33	42	<b>50</b>	58	67	75	83
16	P1T	Double acting Rodless	+/-	16	-	2.0	20	39	59	79	99	<b>118</b>	138	158	178	197
16/6	P1A P1S	Double acting	+	16	6	2.0	20	39	59	79	99	<b>118</b>	138	158	178	197
			-	16	6	1.7	17	34	51	68	85	<b>102</b>	119	136	153	170
16/8	P1M	Double acting	+	16	8	2.0	20	39	59	79	99	<b>118</b>	138	158	178	197
			-	16	8	1.5	15	30	44	59	74	<b>89</b>	104	118	133	148
20/8	P1A P1S	Double acting	+	20	8	3.1	31	62	92	123	154	<b>185</b>	216	247	277	308
			-	20	8	2.6	26	52	78	104	129	<b>155</b>	181	207	233	259
20/10	C05 P1J P1M P5T	Double acting	+	20	10	3.1	31	62	92	123	154	<b>185</b>	216	247	277	308
			-	20	10	2.4	23	46	69	92	116	<b>139</b>	162	185	208	231
25	P1T	Double acting Rodless	+/-	25	-	4.9	48	96	144	193	241	<b>289</b>	337	385	433	482
25/10	P1A P1J P1M P1S P5T	Double acting	+	25	10	4.9	48	96	144	193	241	<b>289</b>	337	385	433	482
			-	25	10	4.1	40	81	121	162	202	<b>243</b>	283	324	364	405
32	P1T	Double acting Rodless	+/-	32	-	8.0	79	158	237	316	394	<b>473</b>	552	631	710	789
32/12	C05 P1D P1J P1M P1S	Double acting	+	32	12	8.0	79	158	237	316	394	<b>473</b>	552	631	710	789
			-	32	12	6.9	68	136	203	271	339	<b>407</b>	475	542	610	678
32/16	P5T	Double acting	+	32	16	8.0	79	158	237	316	394	<b>473</b>	552	631	710	789
			-	32	16	6.0	59	118	178	237	296	<b>355</b>	414	473	533	592
40	P1T	Double acting Rodless	+/-	40	-	12.6	123	247	370	493	616	<b>740</b>	863	986	1109	1233

Cylinder bore mm	Serie		Stroke	Bore mm	Piston rod mm	Area cm <sup>2</sup>	Max theoretical force in N									
							1.0 bar	2.0 bar	3.0 bar	4.0 bar	5.0 bar	6.0 bar	7.0 bar	8.0 bar	9.0 bar	10.0 bar
40/16	P1D	Dubbelverkande	+	40	16	12,6	126	251	377	503	628	754	880	1005	1131	1257
			-	40	16	10,6	106	212	318	424	530	636	742	848	954	1060
40/12	P1J	Double acting	+	40	12	12,6	123	247	370	493	616	740	863	986	1109	1233
			-	40	12	11,4	112	224	337	449	561	673	785	897	1010	1122
40/16	P1M	Double acting	+	40	16	12,6	123	247	370	493	616	740	863	986	1109	1233
			-	40	16	10,6	104	207	311	414	518	621	725	828	932	1036
50	P1T	Double acting Rodless	+/-	50	-	19,6	193	385	578	770	963	1156	1348	1541	1734	1926
50/16	C05 P1J	Double acting	+	50	16	19,6	193	385	578	770	963	1156	1348	1541	1734	1926
			-	50	16	17,6	173	346	519	692	865	1037	1210	1383	1556	1729
50/20	P1D	Double acting	+	50	20	19,6	193	385	578	770	963	1156	1348	1541	1734	1926
	P1M		-	50	20	16,5	162	324	485	647	809	971	1133	1295	1456	1618
	P1S															
	P5T															
63	P1T	Double acting Rodless	+/-	63	-	31,2	306	612	917	1223	1529	1835	2141	2446	2752	3058
63/16	C05 P1J	Double acting	+	63	16	31,2	306	612	917	1223	1529	1835	2141	2446	2752	3058
			-	63	16	29,2	286	572	858	1144	1430	1717	2003	2289	2575	2861
63/20	P1D	Double acting	+	63	20	31,2	306	612	917	1223	1529	1835	2141	2446	2752	3058
	P1M		-	63	20	28,0	275	550	825	1100	1375	1650	1925	2200	2475	2750
	P1S															
	P5T															
80/25	P1D P1M P1S P5T	Double acting	+	80	25	50,3	493	986	1479	1972	2466	2959	3452	3945	4438	4931
			-	80	25	45,4	445	890	1335	1780	2225	2670	3115	3560	4005	4450
84/20	C0D300	Double acting	+	84	20	55,4	544	1087	1631	2175	2718	3262	3806	4349	4893	5436
			-	84	20	52,3	513	1026	1539	2051	2564	3077	3590	4103	4616	5128
100/25	P1D	Double acting	+	100	25	78,5	770	1541	2311	3082	3852	4623	5393	6164	6934	7705
	P1M		-	100	25	73,6	722	1445	2167	2889	3612	4334	5056	5779	6501	7223
	P1S															
	P5T															
114/20	C0D600	Double acting	+	114	20	101,9	1000	2000	3000	4000	5000	6000	7001	8001	9001	10001
			-	114	20	98,8	969	1939	2908	3877	4846	5816	6785	7754	8724	9693
125/32	P1D P1S	Double acting	+	125	32	122,7	1204	2408	3612	4815	6019	7223	8427	9631	10835	12039
			-	125	32	114,7	1125	2250	3375	4500	5625	6750	7875	9000	10125	11250
161/25	C0D1200	Double acting	+	161	25	203,9	2000	4000	6000	8000	10000	12000	14000	16000	18000	20000
			-	161	25	199,0	1952	3904	5856	7808	9759	11711	13663	15615	17567	19519
160/40	P1E	Double acting	+	160	40	201,1	1972	3945	5917	7890	9862	11835	13807	15779	17752	19724
200/40	P1E	Double acting	+	200	40	314,2	3082	6164	9246	12328	15410	18491	21573	24655	27737	30819
250/28	C0P2500	Double acting	+	250	28	490,9	4815	9631	14446	19262	24077	28893	33708	38524	43339	48155
			-	250	28	484,7	4755	9510	14265	19020	23776	28531	33286	38041	42796	47551

+ = Outward stroke  
- = Return stroke

**Note!**  
Select a theoretical force 50-100% larger than the force required

The Force Guide is only for double acting cylinders, please look into the technical catalogue for every individual single acting cylinder to see the forces.

**Note!** For all single acting cylinders you have to reduce the force in the table with the spring force to get the theoretical force.  
The spring force is not calculated to create any work, it is only to take the piston rod into the cylinder

The P1A range of cylinders is intended for use in a wide range of applications. The cylinders are particularly suitable for lighter duties in the packaging, food and textile industries. Careful design and high quality manufacture throughout ensure long service life and optimum economy.

Mounting dimensions fully in accordance with ISO 6432 and CETOP RP52P greatly simplifies installation and world-wide interchangeability.



- Mini cylinder according to ISO 6432
- Available in 10 to 25 mm bores
- Corrosion resistant design and low weight construction
- Magnetic piston as standard
- End stroke buffers for long service life

### Operating information

Working pressure: Max 10 bar  
 Temperature range: -20°C to +80°C Ø10-25mm

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

For technical information see CD

### Double acting buffer cushioning

#### Ø10mm - (M5)

Stroke mm	Order code
10	<b>P1A-S010DS-0010</b>
15	<b>P1A-S010DS-0015</b>
25	<b>P1A-S010DS-0025</b>
30	<b>P1A-S010DS-0030</b>
40	<b>P1A-S010DS-0040</b>
50	<b>P1A-S010DS-0050</b>
80	<b>P1A-S010DS-0080</b>
100	<b>P1A-S010DS-0100</b>
125	<b>P1A-S010DS-0125</b>

#### Ø12mm - (M5)

Stroke mm	Order code
10	<b>P1A-S012DS-0010</b>
15	<b>P1A-S012DS-0015</b>
25	<b>P1A-S012DS-0025</b>
30	<b>P1A-S012DS-0030</b>
40	<b>P1A-S012DS-0040</b>
50	<b>P1A-S012DS-0050</b>
80	<b>P1A-S012DS-0080</b>
100	<b>P1A-S012DS-0100</b>
125	<b>P1A-S012DS-0125</b>
160	<b>P1A-S012DS-0160</b>
200	<b>P1A-S012DS-0200</b>

#### Ø16mm - (M5)

Stroke mm	Order code
10	<b>P1A-S016DS-0010</b>
15	<b>P1A-S016DS-0015</b>
25	<b>P1A-S016DS-0025</b>
30	<b>P1A-S016DS-0030</b>
40	<b>P1A-S016DS-0040</b>
50	<b>P1A-S016DS-0050</b>
80	<b>P1A-S016DS-0080</b>
100	<b>P1A-S016DS-0100</b>
125	<b>P1A-S016DS-0125</b>
160	<b>P1A-S016DS-0160</b>
200	<b>P1A-S016DS-0200</b>

#### Ø20mm - (G1/8)

Stroke mm	Order code
10	<b>P1A-S020DS-0010</b>
15	<b>P1A-S020DS-0015</b>
25	<b>P1A-S020DS-0025</b>
30	<b>P1A-S020DS-0030</b>
40	<b>P1A-S020DS-0040</b>
50	<b>P1A-S020DS-0050</b>
80	<b>P1A-S020DS-0080</b>
100	<b>P1A-S020DS-0100</b>
125	<b>P1A-S020DS-0125</b>
160	<b>P1A-S020DS-0160</b>
200	<b>P1A-S020DS-0200</b>
250	<b>P1A-S020DS-0250</b>
320	<b>P1A-S020DS-0320</b>

#### Ø25mm - (G1/8)

Stroke mm	Order code
10	<b>P1A-S025DS-0010</b>
15	<b>P1A-S025DS-0015</b>
25	<b>P1A-S025DS-0025</b>
30	<b>P1A-S025DS-0030</b>
40	<b>P1A-S025DS-0040</b>
50	<b>P1A-S025DS-0050</b>
80	<b>P1A-S025DS-0080</b>
100	<b>P1A-S025DS-0100</b>
125	<b>P1A-S025DS-0125</b>
160	<b>P1A-S025DS-0160</b>
200	<b>P1A-S025DS-0200</b>
250	<b>P1A-S025DS-0250</b>
320	<b>P1A-S025DS-0320</b>

Cylinders are supplied complete with neck mounting and piston rod nuts.

Cylinders with Through piston rods are supplied with two piston rod nuts and one neck mounting nut.

#### Sensors

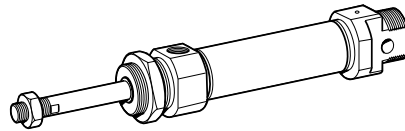
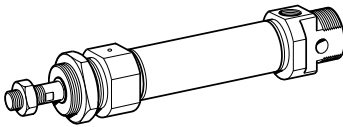
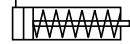


For sensors see page 42.

 Indicates stocked product.



Single acting push type (Spring return for retract stroke)



Ø10mm - (M5)

Stroke mm	Order code
10	P1A-S010SS-0010
15	P1A-S010SS-0015
25	P1A-S010SS-0025
40	P1A-S010SS-0040
50	P1A-S010SS-0050
80	P1A-S010SS-0080

Ø16mm - (M5)

Stroke mm	Order code
10	P1A-S016SS-0010
15	P1A-S016SS-0015
25	P1A-S016SS-0025
40	P1A-S016SS-0040
50	P1A-S016SS-0050
80	P1A-S016SS-0080

Ø25mm - (G1/8)

Stroke mm	Order code
10	P1A-S025SS-0010
15	P1A-S025SS-0015
25	P1A-S025SS-0025
40	P1A-S025SS-0040
50	P1A-S025SS-0050
80	P1A-S025SS-0080

Ø12mm - (M5)

Stroke mm	Order code
10	P1A-S012SS-0010
15	P1A-S012SS-0015
25	P1A-S012SS-0025
40	P1A-S012SS-0040
50	P1A-S012SS-0050
80	P1A-S012SS-0080

Ø20mm - (G1/8)

Stroke mm	Order code
10	P1A-S020SS-0010
15	P1A-S020SS-0015
25	P1A-S020SS-0025
40	P1A-S020SS-0040
50	P1A-S020SS-0050
80	P1A-S020SS-0080

Single acting pull type (Spring return for advance stroke)



Ø16mm - (M5)

Stroke mm	Order code
10	P1A-S016TS-0010
15	P1A-S016TS-0015
25	P1A-S016TS-0025
40	P1A-S016TS-0040
50	P1A-S016TS-0050

Ø20mm - (G1/8)

Stroke mm	Order code
10	P1A-S020TS-0010
15	P1A-S020TS-0015
25	P1A-S020TS-0025
40	P1A-S020TS-0040
50	P1A-S020TS-0050
80	P1A-S020TS-0080

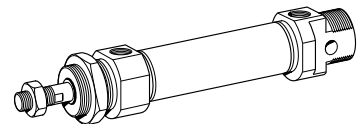
Ø25mm - (G1/8)

Stroke mm	Order code
10	P1A-S025TS-0010
15	P1A-S025TS-0015
25	P1A-S025TS-0025
40	P1A-S025TS-0040
50	P1A-S025TS-0050
80	P1A-S025TS-0080

Double acting adjustable cushioning

Effective cushioning

The Mini ISO range is available with fixed end cushioning or with adjustable pneumatic cushioning, controlled by simple bleed screws for fine adjustment. The adjustable cushioned cylinders can be operated with higher mass loads and at higher speeds than those with fixed end cushioning, reducing overall cycle times.



Ø16mm - (M5)

Stroke mm	Order code
20	P1A-S016MS-0020
25	P1A-S016MS-0025
30	P1A-S016MS-0030
40	P1A-S016MS-0040
50	P1A-S016MS-0050
80	P1A-S016MS-0080
100	P1A-S016MS-0100
125	P1A-S016MS-0125
160	P1A-S016MS-0160
200	P1A-S016MS-0200

Ø20mm - (G1/8)

Stroke mm	Order code
20	P1A-S020MS-0020
25	P1A-S020MS-0025
30	P1A-S020MS-0030
40	P1A-S020MS-0040
50	P1A-S020MS-0050
80	P1A-S020MS-0080
100	P1A-S020MS-0100
125	P1A-S020MS-0125
160	P1A-S020MS-0160
200	P1A-S020MS-0200
250	P1A-S020MS-0250
320	P1A-S020MS-0320

Ø25mm - (G1/8)

Stroke mm	Order code
20	P1A-S025MS-0020
25	P1A-S025MS-0025
30	P1A-S025MS-0030
40	P1A-S025MS-0040
50	P1A-S025MS-0050
80	P1A-S025MS-0080
100	P1A-S025MS-0100
125	P1A-S025MS-0125
160	P1A-S025MS-0160
200	P1A-S025MS-0200
250	P1A-S025MS-0250
320	P1A-S025MS-0320

Indicates stocked product.

## Design Variants

### Working temperatures

#### High temperature

Ø10, 12 and 16mm -10°C to +120°C Non-magnetic piston

Ø20 and 25mm -10°C to +150°C Non-magnetic piston

#### External seals

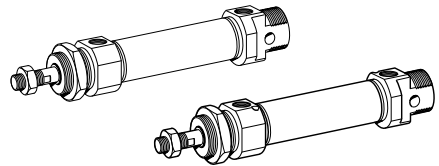
flourinated rubber -20°C to +80°C Magnetic piston



### Double acting options

Double-acting adjustable cushioning Ø16 - Ø25  
(not for seal material type F)

Double-acting non-adjustable cushioning Ø10 - Ø25

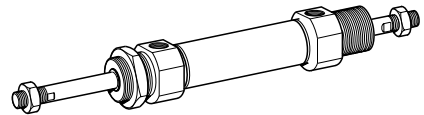


Double-acting, adjustable cushioning through rod Ø16 - Ø25  
(not for seal material type F)

Double-acting, non-adjustable cushioning through rod Ø10 - Ø25

Double-acting, adjustable cushioning through rod, hollow Ø16 - Ø25  
(not for seal material type F)

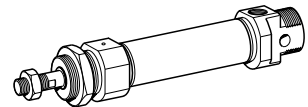
Double-acting, non-adjustable cushioning through rod, hollow Ø10 - Ø25



### Single acting options

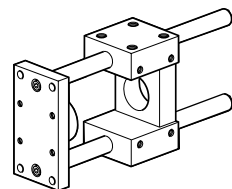
Single-acting, non-adjustable cushioning, spring return for retract stroke Ø16 - Ø25

Single-acting, push type Ø10 - Ø25



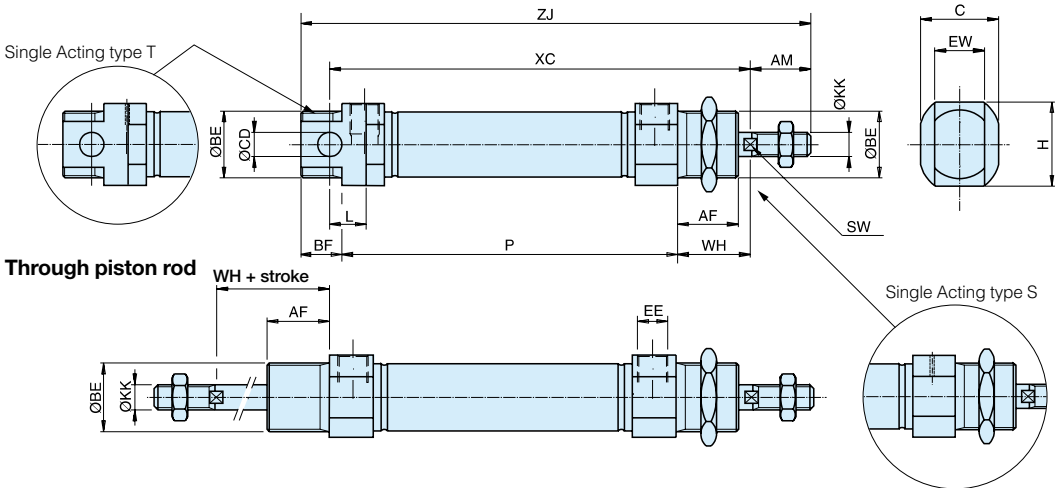
### "U" style rod guidance modules, plain bearings

The P1A series cylinders can be equipped with an external guiding device to prevent the piston rod from turning. When fitted the guide provides a guided piston movement enabling the cylinder to resist turning moments on the piston rod, as well as greater transverse forces.



**Dimensions**

**Double and single acting cylinders**



Cylinder bore mm	AM 0/-2 mm	BE	AF mm	BF mm	C mm	CDH9 mm	EE mm	EW mm	H mm	KK mm	L mm	SW mm	WH±1,2 mm
10	12	M12x1,25	12	10	13,0	4	M5	8	13,0	M4	6	-	16
12	16	M16x1,5	18	13	17,8	6	M5	12	17,8	M6	9	5	22
16 <sup>1)</sup>	16	M16x1,5	18	13	17,8	6	M5	12	17,8	M6	9	5	22
16 <sup>2)</sup>	16	M16x1,5	18	13	23,8	6	M5	12	23,8	M6	9	5	22
20	20	M22x1,5	20	14	23,8	8	G1/8	16	23,8	M8	12	7	24
25	22	M22x1,5	22	14	26,8	8	G1/8	16	26,8	M10x1,25	12	9	28

1) P1A-S016DS/SS/TS

2) P1A-S016MS

**Double acting cylinders**

Cylinder bore mm	XC mm	ZJ mm	P mm
10	64 + stroke	84 + stroke	46 + stroke
12	75 + stroke	99 + stroke	48 + stroke
16	82 + stroke	104 + stroke	53 + stroke
20	95 + stroke	125 + stroke	67 + stroke
25	104 + stroke	132 + stroke	68 + stroke

**Single-acting, spring return, type SS**

Stroke/ Cylinder bore mm	10 XC mm	15 XC mm	25 XC mm	40 XC mm	50 XC mm	80 XC mm	10 ZJ mm	15 ZJ mm	25 ZJ mm	40 ZJ mm	50 ZJ mm	80 ZJ mm	10 P mm	15 P mm	25 P mm	40 P mm	50 P mm	80 P mm
10	74	79	89	126	136	174	94	99	109	146	156	194	56	61	71	108	118	156
12	85	90	100	132	142	185	109	114	124	156	166	209	58	63	73	105	115	158
16	92	97	107	122	132	184	114	119	129	144	154	206	63	68	78	93	103	155
20	105	110	120	135	145	191	135	140	150	165	175	221	77	82	92	107	117	163
25	114	119	129	144	154	201	142	147	157	172	182	229	78	83	93	108	118	165

**Single-acting, spring-extended, type TS**

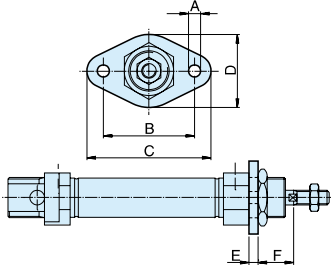
Stroke/ Cylinder bore mm	10 XC <sup>3)</sup> mm	15 XC <sup>3)</sup> mm	25 XC <sup>3)</sup> mm	40 XC <sup>3)</sup> mm	50 XC <sup>3)</sup> mm	80 XC <sup>3)</sup> mm	10 ZJ <sup>3)</sup> mm	15 ZJ <sup>3)</sup> mm	25 ZJ <sup>3)</sup> mm	40 ZJ <sup>3)</sup> mm	50 ZJ <sup>3)</sup> mm	80 ZJ <sup>3)</sup> mm	10 P mm	15 P mm	25 P mm	40 P mm	50 P mm	80 P mm
16	107	112	122	137	147	-	129	134	144	159	169	-	78	83	93	108	118	-
20	120	125	135	150	160	195	150	155	165	180	190	225	92	97	107	122	132	167
25	129	134	144	159	169	205	157	162	172	187	197	233	93	98	108	123	133	169

3) With piston rod retracted, as shown in the dimension drawing

Length tolerances ±1 mm

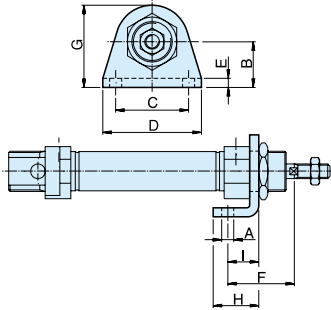
Stroke length tolerances +1,5/0 mm

Cylinder Mountings



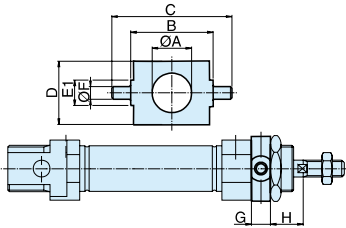
Flange-MF8

Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	Order code
10	4,5	30	40	22	3	13	<b>P1A-4CMB</b>
12-16	5,5	40	52	30	4	18	<b>P1A-4DMB</b>
20	6,6	50	66	40	5	19	<b>P1A-4HMB</b>
25	6,6	50	66	40	5	23	<b>P1A-4HMB</b>



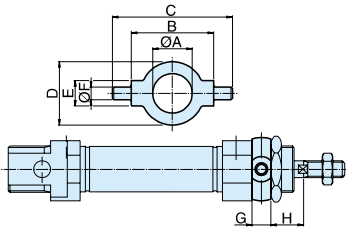
Foot-MS3

Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Order code
10	4,5	16	25	35	3	24	26,0	16	11	<b>P1A-4CMF</b>
12-16	5,5	20	32	42	4	32	32,5	20	14	<b>P1A-4DMF</b>
20	6,5	25	40	54	5	36	45,0	25	17	<b>P1A-4HMF</b>
25	6,5	25	40	54	5	40	45,0	25	17	<b>P1A-4HMF</b>



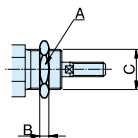
Cover trunnion

Cylinder Ø mm	A mm	B h14 mm	C mm	D mm	E1 mm	F e9 mm	G mm	H mm	Order code
10	12,5	26	38	20	9	4	6	10	<b>P1A-4CMJZ</b>
12-16	16,5	38	58	25	13	6	8	14	<b>P1A-4DMJZ</b>
20	22,5	46	66	30	13	6	8	16	<b>P1A-4HMJZ</b>
25	22,5	46	66	30	13	6	8	20	<b>P1A-4HMJZ</b>



Cover trunnion  
Stainless steel

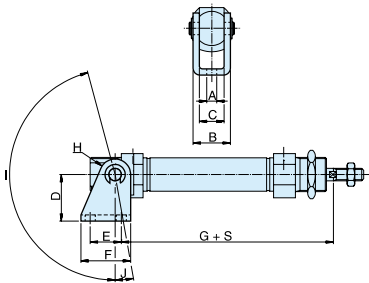
Cylinder Ø mm	A mm	B h14 mm	C mm	D mm	E mm	F e9 mm	G mm	H mm	Order code
10	12,5	26	38	20	8	4	6	10	<b>P1A-4CMJ</b>
12-16	16,5	38	58	25	10	6	8	14	<b>P1A-4DMJ</b>
20	22,5	46	66	30	10	6	8	16	<b>P1A-4HMJ</b>
25	22,5	46	66	30	10	6	8	20	<b>P1A-4HMJ</b>



Stainless Mounting nut

Cylinder Ø mm	A mm	B mm	C	Order code
10	17	5	M12x1,25	<b>9126725405</b>
12-16	24	8	M16x1,50	<b>9126725406</b>
20-25	27	5	M22x1,50	<b>9126725407</b>

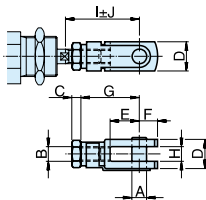
Cylinder Mountings



Clevis bracket

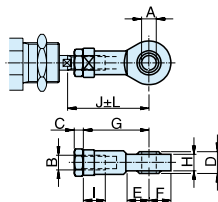
Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I °	J °	Order code
10	4,5	13	8	24	12,5	20	65,3	5	160	17	<b>P1A-4CMT</b>
12	5,5	18	12	27	15,0	25	73,0	7	170	15	<b>P1A-4DMT</b>
16	5,5	18	12	27	15,0	25	80,0	7	170	15	<b>P1A-4DMT</b>
20	6,5	24	16	30	20,0	32	91,0	10	165	10	<b>P1A-4HMT</b>
25	6,5	24	16	30	20,0	32	100,0	10	165	10	<b>P1A-4HMT</b>

S=stroke



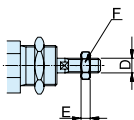
Clevis

Cylinder Ø mm	A mm	B	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	Order code
10	4	M4	2,2	8	8	5	16	4	22,0	2,0	<b>P1A-4CRC</b>
12-16	6	M6	3,2	12	12	7	24	6	31,0	3,0	<b>P1A-4DRC</b>
20	8	M8	4,0	16	16	10	32	8	40,5	3,5	<b>P1A-4HRC</b>
25	10	M10x1,25	5,0	20	20	12	40	10	49,0	3,0	<b>P1A-4JRC</b>



Swivel rod eye

Cylinder Ø mm	A mm	B	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	Order code
10	5	M4	2,2	8	10	9	27	6,0	8	33,0	9	2,0	<b>P1A-4CRS</b>
12-16	6	M6	3,2	9	10	10	30	6,8	9	38,5	11	1,5	<b>P1A-4DRS</b>
20	8	M8	4,0	12	12	12	36	9,0	12	46,0	14	2,0	<b>P1A-4HRS</b>
25	10	M10x1,25	5,0	14	14	14	43	10,5	15	52,5	17	2,5	<b>P1A-4JRS</b>



Stainless Rod nut

Cylinder Ø mm	D	F mm	E mm	Order code
10	M4	7	2,2	<b>9127385121</b>
12-16	M6	10	3,2	<b>9127385122</b>
20	M8	13	4,0	<b>9127385123</b>
25	M10x1,25	17	5,0	<b>9126725404</b>

# P1D Pneumatic Cylinders

ISO, VDMA and AFNOR

The innovative P1D, a **future-proof** generation of **ISO/VDMA** cylinders.



## ISO cylinder family, P1D

A completely new cylinder range from the ground up, with major investment in research, material and technology, demands long experience and major resources. When we developed our P1D cylinder range, we started from scratch, but not really. Decades of research and learning about what our customers really need world-wide has given us a very stable foundation to start from.

P1D is a cylinder design of the highest possible quality, every detail has been thought through, without making any compromises. It has a large number of innovations which could only be achieved by using the best possible materials and methods. The result is a complete family of ISO/VDMA cylinders, of which we are very proud.

P1D is a high technology cylinder design for just about every conceivable application, both simple and highly complex.



The innovative P1D is a future-proof generation of ISO/VDMA cylinders. The cylinders are double-acting, with a new design of air cushioning.

The P1D complies with the current ISO 6431, VDMA 24562 and AFNOR installation dimension standards.



- Available in 32 to 125 mm bores
- PUR seals for long service life
- Drop-in sensors
- Corrosion resistant design
- Magnetic piston as standard
- Lubricated with food grade grease

### Operating information

Working pressure:	Max 10 bar
Seals / Temperature options	
Standard:	-20°C to +80°C
High temperature:	-10°C to +150°C
Low temperature:	-40°C to +80°C
Cylinders for low pressure	
hydraulic operation:	Ø32-125mm
ATEX approval:	CE Ex IIGD c T4 120°C

**For ATEX specific products contact Sales Office**

For technical information see CD

### P1D Standard - Double acting

#### Ø32mm - (G<sup>1</sup>/<sub>8</sub>)

Stroke mm	Order code
25	P1D-S032MS-0025
40	P1D-S032MS-0040
50	P1D-S032MS-0050
80	P1D-S032MS-0080
100	P1D-S032MS-0100
125	P1D-S032MS-0125
160	P1D-S032MS-0160
200	P1D-S032MS-0200
250	P1D-S032MS-0250
320	P1D-S032MS-0320
400	P1D-S032MS-0400
500	P1D-S032MS-0500

#### Ø40mm - (G<sup>1</sup>/<sub>4</sub>)

Stroke mm	Order code
25	P1D-S040MS-0025
40	P1D-S040MS-0040
50	P1D-S040MS-0050
80	P1D-S040MS-0080
100	P1D-S040MS-0100
125	P1D-S040MS-0125
160	P1D-S040MS-0160
200	P1D-S040MS-0200
250	P1D-S040MS-0250
320	P1D-S040MS-0320
400	P1D-S040MS-0400
500	P1D-S040MS-0500

#### Ø50mm - (G<sup>1</sup>/<sub>4</sub>)

Stroke mm	Order code
25	P1D-S050MS-0025
40	P1D-S050MS-0040
50	P1D-S050MS-0050
80	P1D-S050MS-0080
100	P1D-S050MS-0100
125	P1D-S050MS-0125
160	P1D-S050MS-0160
200	P1D-S050MS-0200
250	P1D-S050MS-0250
320	P1D-S050MS-0320
400	P1D-S050MS-0400
500	P1D-S050MS-0500

#### Ø63mm - (G<sup>3</sup>/<sub>8</sub>)

Stroke mm	Order code
25	P1D-S063MS-0025
40	P1D-S063MS-0040
50	P1D-S063MS-0050
80	P1D-S063MS-0080
100	P1D-S063MS-0100
125	P1D-S063MS-0125
160	P1D-S063MS-0160
200	P1D-S063MS-0200
250	P1D-S063MS-0250
320	P1D-S063MS-0320
400	P1D-S063MS-0400
500	P1D-S063MS-0500

#### Ø80mm - (G<sup>3</sup>/<sub>8</sub>)

Stroke mm	Order code
25	P1D-S080MS-0025
40	P1D-S080MS-0040
50	P1D-S080MS-0050
80	P1D-S080MS-0080
100	P1D-S080MS-0100
125	P1D-S080MS-0125
160	P1D-S080MS-0160
200	P1D-S080MS-0200
250	P1D-S080MS-0250
320	P1D-S080MS-0320
400	P1D-S080MS-0400
500	P1D-S080MS-0500

#### Ø100mm - (G<sup>1</sup>/<sub>2</sub>)

Stroke mm	Order code
25	P1D-S100MS-0025
40	P1D-S100MS-0040
50	P1D-S100MS-0050
80	P1D-S100MS-0080
100	P1D-S100MS-0100
125	P1D-S100MS-0125
160	P1D-S100MS-0160
200	P1D-S100MS-0200
250	P1D-S100MS-0250
320	P1D-S100MS-0320
400	P1D-S100MS-0400
500	P1D-S100MS-0500

#### Ø125mm - (G<sup>1</sup>/<sub>2</sub>)

Stroke mm	Order code
25	P1D-S125MS-0025
40	P1D-S125MS-0040
50	P1D-S125MS-0050
80	P1D-S125MS-0080
100	P1D-S125MS-0100
125	P1D-S125MS-0125
160	P1D-S125MS-0160
200	P1D-S125MS-0200
250	P1D-S125MS-0250
320	P1D-S125MS-0320
400	P1D-S125MS-0400
500	P1D-S125MS-0500

The cylinders are supplied complete with a zinc plated steel piston rod nut.

#### Sensors



For sensors see page 42.

 Indicates stocked product.

## Design Variants

### P1D Tie-Rod

The P1D is available in a tie-rod version, based on the same high level technology. This future-proof cylinder is the perfect choice wherever a tie-rod cylinder is needed.

The P1D Tie-Rod uses "drop-in" P1D sensors. An ingenious multi-jointed adapter fixes the sensors in any chosen position along the stroke.



### P1D Clean

P1D Clean is a new version in our ISO cylinder system, completely designed for the foodstuffs industry. Many years' experience of the stringent requirements for hygiene, choice of material and corrosion resistance, from a wide spectrum of foodstuffs applications have guided the development of this cylinder version. Great emphasis has been put on the external design of the cylinder, choice of materials and corrosion protection.



### P1D Clean without sensor function

Special order code for P1D Clean without sensor function.

This version is a permanently sealed. The cylinder has a very clean design and is intended for applications where no sensors are used.



### Alternative piston rod materials

All P1D cylinders in all bores, Ø32-125 mm, can be ordered with the following piston rod materials:

- Steel, hard chromed
- Stainless steel, roller polished (standard)
- Acid-proof steel, roller polished
- Stainless steel, hard chromed



### Through piston rod

All P1D cylinders in all bores, Ø32-125 mm, are available with a through rod. Cylinders with a through rod can take higher side forces thanks to the double support for the piston rod. In addition, this design makes it easier to install external position sensors.



### 3 and 4 position cylinders

By installing two cylinders with the same or different stroke, it is possible to build a working unit with three or four positions. This type of unit is available as factory-fitted P1D tie-rod cylinders (P1D-T) in all bores, Ø32-125 mm. Other P1D cylinders can be flange mounted back-to-back with a special mounting



### Tandem version

The P1D is also available as a tandem cylinder, i.e. two cylinders connected in series. This cylinder unit has almost twice the force, which is a great advantage in restricted spaces. Tandem cylinders are available as tie-rod cylinders, P1D-T, in all bores Ø32-125 mm.





## Design Variants

### Low and high ambient temperature

For all bores, Ø32-125 mm, the P1D can be supplied in special high ambient temperature and low ambient temperature versions. The cylinders have seal systems, materials and grease for their particular temperature ranges. The high temperature version does not have magnetic piston (no function at high temperatures). The low temperature cylinders do have magnetic piston, but remember that most sensors are specified to -25 °C (no function below this temperature). Ambient temperature ranges:

- Low temperature: -40 °C to +40 °C
- High temperature: -10 °C to +150 °C, peaks up to +200 °C



### Low pressure hydraulics

The P1D in bores Ø32 - 125 mm can be supplied with special seals for operation with low pressure hydraulics up to 10 bar. Temperature range -20 °C to +80°C.

### P1D complete working unit

P1D Standard can be ordered with a factory-fitted valve and piping. The valve series is the robust and compact Viking series, with product code P2L-A (for cylinder bores 32-63), P2L-B (for cylinder bores 80-100) and P2L-D (for cylinder bore 125).



### P1D cylinder with piston rod locking

The P1D cylinder is available in a version with piston rod locking, allowing the piston rod to be locked in any position. The lock unit, of the air/spring actuated type, is integrated in the front end piece of the cylinder.



P1D Standard with piston rod locking



P1D Clean with piston rod locking

### Cylinders complete with mountings, sensors, speed regulation, fittings etc.

Order a complete working unit on a single order code instead of a lot of separate numbers. Save time in all phases, such as purchasing, goods reception and installation. A factory installed complete cylinder makes your work more efficient!

For complete ordering information see Technical Catalogue CD.

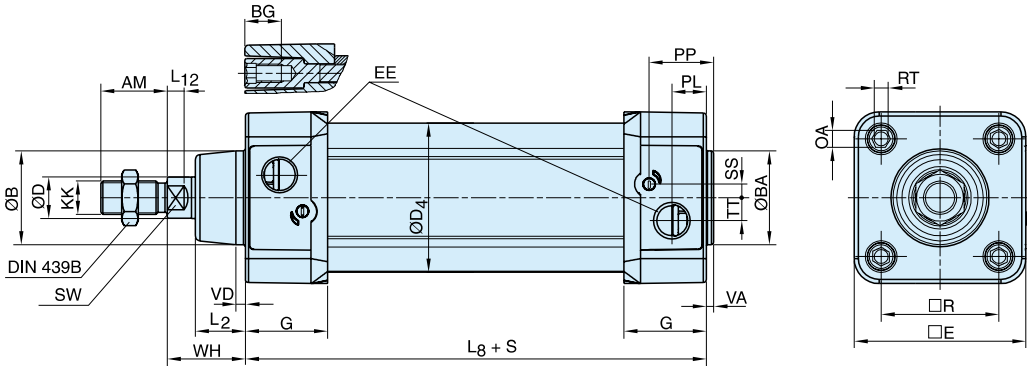


### Operation with dry piston rod

In many applications, primarily in the foodstuffs industry, the cylinders are cleaned frequently. This means that the film of grease on the piston rod is washed off, which puts special demands on the materials and the design of the piston rod seal system (scraper ring and piston rod seal). A piston rod seal system specially designed for dry rod operation is available as options for this type of application, for all bores of P1D cylinders. The system has a specially designed L-shaped seal and the material is self-lubricating, high molecular weight plastics (HDPE) – the same system as in our previous P1C cylinders, with proven function.



## P1D Standard



## Dimensions

Cylinder bore mm	AM mm	B mm	BA mm	BG mm	D mm	D4 mm	E mm	EE mm	G mm	KK mm	L2 mm	L8 mm	L12 mm
32	22	30	30	16	12	45,0	50,0	G1/8	28,5	M10x1,25	16,0	94	6,0
40	24	35	35	16	16	52,0	57,4	G1/4	33,0	M12x1,25	19,0	105	6,5
50	32	40	40	16	20	60,7	69,4	G1/4	33,5	M16x1,5	24,0	106	8,0
63	32	45	45	16	20	71,5	82,4	G3/8	39,5	M16x1,5	24,0	121	8,0
80	40	45	45	17	25	86,7	99,4	G3/8	39,5	M20x1,5	30,0	128	10,0
100	40	55	55	17	25	106,7	116,0	G1/2	44,5	M20x1,5	32,4	138	14,0
125	54	60	60	20	32	134,0	139,0	G1/2	51,0	M27x2	45,0	160	18,0

Cylinder bore mm	OA mm	PL mm	PP mm	R mm	RT mm	SS mm	SW mm	TT mm	VA mm	VD mm	WH mm
32	6,0	13,0	21,8	32,5	M6	4,0	10	4,5	3,5	4,5	26
40	6,0	14,0	21,9	38,0	M6	8,0	13	5,5	3,5	4,5	30
50	8,0	14,0	23,0	46,5	M8	4,0	17	7,5	3,5	5,0	37
63	8,0	16,4	27,4	56,5	M8	6,5	17	11,0	3,5	5,0	37
80	6,0	16,0	30,5	72,0	M10	0	22	15,0	3,5	4,0	46
100	6,0	18,0	35,8	89,0	M10	0	22	20,0	3,5	4,0	51
125	8,0	28,0	40,5	110,0	M12	0	27	17,5	5,5	6,0	65

S=Stroke

## Tolerances

Cylinder bore mm	B	BA	L <sub>8</sub> mm	L <sub>9</sub> mm	R mm	Stroke tolerance up to stroke 500 mm	Stroke tolerance for stroke over 500 mm
32	d11	d11	±0,4	±2	±0,5	+0,3/+2,0	+0,3/+3,0
40	d11	d11	±0,7	±2	±0,5	+0,3/+2,0	+0,3/+3,0
50	d11	d11	±0,7	±2	±0,6	+0,3/+2,0	+0,3/+3,0
63	d11	d11	±0,8	±2	±0,7	+0,3/+2,0	+0,3/+3,0
80	d11	d11	±0,8	±3	±0,7	+0,3/+2,0	+0,3/+3,0
100	d11	d11	±1,0	±3	±0,7	+0,3/+2,0	+0,3/+3,0
125	d11	d11	±1,0	±3	±1,1	+0,3/+2,0	+0,3/+3,0

**Cylinder mountings**

**Flange MF1/MF2**



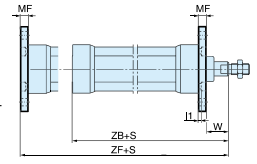
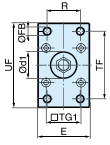
Intended for fixed mounting of cylinder. Flange can be fitted to front or rear end cover of cylinder.

**Materials**

Flange: Surface-treated steel, black

Mounting screws acc. to DIN 6912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.



According to ISO MF1/MF2, VDMA 24 562, AFNOR

Cyl. bore mm	d1 H11 mm	FB H13 mm	TG1 mm	E mm	R JS14 mm	MF JS14 mm	TF JS14 mm	UF mm	l1 -0,5 mm	W* mm	ZF* mm	ZB* mm	Weight Kg	Order code
32	30	7	32,5	45	32	10	64	80	5,0	16	130	123,5	0,23	<b>P1C-4KMB</b>
40	35	9	38,0	52	36	10	72	90	5,0	20	145	138,5	0,28	<b>P1C-4LMB</b>
50	40	9	46,5	65	45	12	90	110	6,5	25	155	146,5	0,53	<b>P1C-4MMB</b>
63	45	9	56,5	75	50	12	100	120	6,5	25	170	161,5	0,71	<b>P1C-4NMB</b>
80	45	12	72,0	95	63	16	126	150	8,0	30	190	177,5	1,59	<b>P1C-4PMB</b>
100	55	14	89,0	115	75	16	150	170	8,0	35	205	192,5	2,19	<b>P1C-4QMB</b>
125	60	16	110,0	140	90	20	180	205	10,5	45	245	230,5	3,78	<b>P1C-4RMB</b>

S = Stroke length

**Foot bracket MS1**



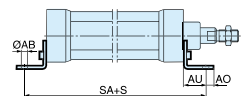
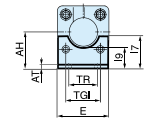
Intended for fixed mounting of cylinder. Foot bracket can be fitted to front and rear end covers of cylinder.

**Materials**

Foot bracket: Surface-treated steel, black

Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

Supplied in pairs with mounting screws for attachment to cylinder.



According to ISO MS1, VDMA 24 562, AFNOR

Cyl. bore mm	AB H14 mm	TG1 mm	E mm	TR JS14 mm	AO mm	AU mm	AH JS15 mm	l7 mm	AT mm	l9 JS14 mm	SA* mm	Weight Kg	Order code
32	7	32,5	45	32	10	24	32	30	4,5	17,0	142	0,06	<b>P1C-4KMF</b>
40	9	38,0	52	36	8	28	36	30	4,5	18,5	161	0,08	<b>P1C-4LMF</b>
50	9	46,5	65	45	13	32	45	36	5,5	25,0	170	0,16	<b>P1C-4MMF</b>
63	9	56,5	75	50	13	32	50	35	5,5	27,5	185	0,25	<b>P1C-4NMF</b>
80	12	72,0	95	63	14	41	63	49	6,5	40,5	210	0,50	<b>P1C-4PMF</b>
100	14	89,0	115	75	15	41	71	54	6,5	43,5	220	0,85	<b>P1C-4QMF</b>
125	16	110,0	140	90	22	45	90	71	8,0	60,0	250	1,48	<b>P1C-4RMF</b>

S = Stroke length

**Pivot bracket with rigid bearing**

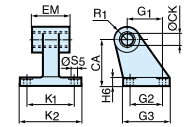


Intended for flexible mounting of cylinder. The pivot bracket can be combined with clevis bracket MP2.

**Materials**

Pivot bracket: Surface-treated aluminium, black

Bearing: Sintered oil-bronze bushing



According to CETOP RP 107 P, VDMA 24 562, AFNOR

Cyl. bore mm	CK H9 mm	S5 H13 mm	K1 JS14 mm	K2 mm	G1 JS14 mm	G2 JS14 mm	EM mm	G3 mm	CA JS15 mm	H6 mm	R1 mm	Weight Kg	Order code
32	10	6,6	38	51	21	18	25,5	31	32	8	10,0	0,06	<b>P1C-4KMD</b>
40	12	6,6	41	54	24	22	27,0	35	36	10	11,0	0,08	<b>P1C-4LMD</b>
50	12	9,0	50	65	33	30	31,0	45	45	12	13,0	0,15	<b>P1C-4MMD</b>
63	16	9,0	52	67	37	35	39,0	50	50	12	15,0	0,20	<b>P1C-4NMD</b>
80	16	11,0	66	86	47	40	49,0	60	63	14	15,0	0,33	<b>P1C-4PMD</b>
100	20	11,0	76	96	55	50	59,0	70	71	15	19,0	0,49	<b>P1C-4QMD</b>
125	25	14,0	94	124	70	60	69,0	90	90	20	22,5	1,02	<b>P1C-4RMD</b>

**Cylinder mountings**

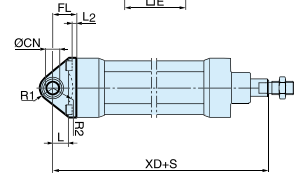
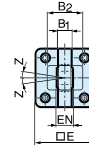
**Swivel eye bracket**



Intended for use together with clevis bracket GA

Material  
Bracket: Surface-treated aluminium, black  
Swivel bearing acc. to DIN 648K: Hardened steel

Supplied complete with mounting screws for attachment to cylinder.



According to VDMA 24 562, AFNOR

Cyl. bore mm	E mm	B1 mm	B2 mm	EN mm	R1 mm	R2 mm	FL mm	I2 mm	L mm	CN H7 mm	XD* mm	Z mm	Weight Kg	Order code
32	45	10,5	-	14	16	-	22	5,5	12	10	142	4°	0,08	<b>P1C-4KMSA</b>
40	52	12,0	-	16	18	-	25	5,5	15	12	160	4°	0,11	<b>P1C-4LMSA</b>
50	65	15,0	51	21	21	19	27	6,5	15	16	170	4°	0,20	<b>P1C-4MMSA</b>
63	75	15,0	-	21	23	-	32	6,5	20	16	190	4°	0,27	<b>P1C-4NMSA</b>
80	95	18,0	-	25	29	-	36	10,0	20	20	210	4°	0,52	<b>P1C-4PMSA</b>
100	115	18,0	-	25	31	-	41	10,0	25	20	230	4°	0,72	<b>P1C-4QMSA</b>
125	140	25,0	-	37	40	-	50	10,0	30	30	275	4°	1,53	<b>P1C-4RMSA</b>

S = Stroke length \* Does not apply to cylinders with lock unit.

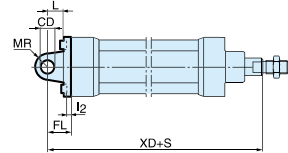
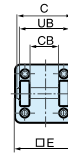
**Clevis bracket MP2**



Intended for flexible mounting of cylinder. Clevis bracket MP2 can be combined with clevis bracket MP4.

Materials  
Clevis bracket: Surface-treated aluminium, black  
Pin: Surface hardened steel  
Circlips according to DIN 471: Spring steel  
Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.



According to ISO MP2, VDMA 24 562, AFNOR

Cyl. bore mm	C mm	E mm	UB mm	CB mm	FL mm	L mm	I2 mm	CD H9 mm	MR mm	XD* mm	Weight Kg	Order code
32	53	45	45	26	22	13	5,5	10	10	142	0,08	<b>P1C-4KMT</b>
40	60	52	52	28	25	16	5,5	12	12	160	0,11	<b>P1C-4LMT</b>
50	68	65	60	32	27	16	6,5	12	12	170	0,14	<b>P1C-4MMT</b>
63	78	75	70	40	32	21	6,5	16	16	190	0,29	<b>P1C-4NMT</b>
80	98	95	90	50	36	22	10,0	16	16	210	0,36	<b>P1C-4PMT</b>
100	118	115	110	60	41	27	10,0	20	20	230	0,64	<b>P1C-4QMT</b>
125	139	140	130	70	50	30	10,0	25	25	275	1,17	<b>P1C-4RMT</b>

S = Stroke length \* Does not apply to cylinders with lock unit

**Cylinder mountings**

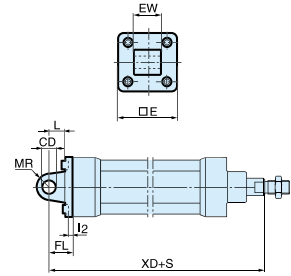
**Clevis bracket MP4**



Intended for flexible mounting of cylinder. Clevis bracket MP4 can be combined with clevis bracket MP2.

Materials  
 Clevis bracket: Surface-treated aluminium, black  
 Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.



According to ISO MP4, VDMA 24 562, AFNOR

Cyl. bore	E	EW	FL	L	I2	CD	MR	XD*	Weight	Order code
mm	mm	mm	mm	±0,2 mm	mm	mm	H9 mm	mm	Kg	
32	45	26	22	13	5,5	10	10	142	0,09	<b>P1C-4KME</b>
40	52	28	25	16	5,5	12	12	160	0,13	<b>P1C-4LME</b>
50	65	32	27	16	6,5	12	12	170	0,17	<b>P1C-4MME</b>
63	75	40	32	21	6,5	16	16	190	0,36	<b>P1C-4NME</b>
80	95	50	36	22	10,0	16	16	210	0,46	<b>P1C-4PME</b>
100	115	60	41	27	10,0	20	20	230	0,83	<b>P1C-4QME</b>
125	140	70	50	30	10,0	25	25	275	1,53	<b>P1C-4RME</b>

S = Stroke length \* Does not apply to cylinders with lock unit.

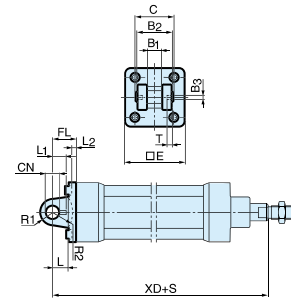
**Clevis bracket GA**



Intended for flexible mounting of cylinder. Clevis bracket GA can be combined with pivot bracket with swivel bearing, swivel eye bracket and swivel rod eye.

Materials  
 Clevis bracket: Surface-treated aluminium  
 Pin: Surface hardened steel  
 Locking pin: Spring steel  
 Circlips according to DIN 471: Spring steel  
 Mounting screws acc. to DIN 912: Zinc-plated steel 8.8

Supplied complete with mounting screws for attachment to cylinder.



According to VDMA 24 562, AFNOR

Cyl. bore	C	E	B2	B1	T	B3	R2	L1	FL	I2	L	CN	R1	XD*	Weight	Order code
mm	mm	mm	d12 mm	H14 mm	mm	mm	mm	mm	±0,2 mm	mm	mm	F7 mm	mm	mm	Kg	
32	41	45	34	14	3	3,3	17	11,5	22	5,5	12	10	11	142	0,09	<b>P1C-4KMCA</b>
40	48	52	40	16	4	4,3	20	12,0	25	5,5	15	12	13	160	0,13	<b>P1C-4LMCA</b>
50	54	65	45	21	4	4,3	22	14,0	27	6,5	17	16	18	170	0,17	<b>P1C-4MMCA</b>
63	60	75	51	21	4	4,3	25	14,0	32	6,5	20	16	18	190	0,36	<b>P1C-4NMCA</b>
80	75	95	65	25	4	4,3	30	16,0	36	10,0	20	20	22	210	0,58	<b>P1C-4PMCA</b>
100	85	115	75	25	4	4,3	32	16,0	41	10,0	25	20	22	230	0,89	<b>P1C-4QMCA</b>
125	110	140	97	37	6	6,3	42	24,0	50	10,0	30	30	30	275	1,75	<b>P1C-4RMCA</b>

S = Stroke length \* Does not apply to cylinders with lock unit.

**Stainless steel Pin Set GA**

Cyl. bore	Weight	Order code
mm	Kg	
32	0,05	<b>9301054311</b>
40	0,06	<b>9301054312</b>
50	0,07	<b>9301054313</b>
63	0,07	<b>9301054314</b>
80	0,17	<b>9301054315</b>
100	0,31	<b>9301054316</b>
125	0,54	<b>9301054317</b>

Materials  
 Pin: Stainless steel  
 Locking pin: Stainless steel  
 Circlips according to DIN 471: Stainless steel

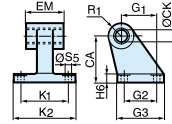
**Cylinder mountings**

**Pivot bracket with swivel bearing**



Intended for use together with clevis bracket GA.

Material  
 Pivot bracket: Surface-treated steel, black  
 Swivel bearing acc. to DIN 648K: Hardened steel



According to VDMA 24 562, AFNOR

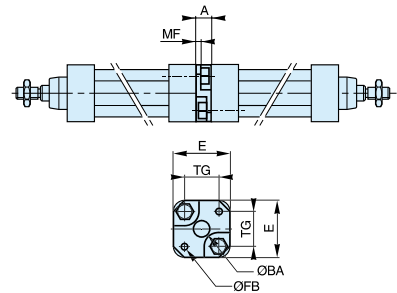
Cyl. bore	CN H7	S5 H13	K1 JS14	K2 JS14	EU mm	G1 JS14	G2 JS14	EN mm	G3 mm	CH JS15	H6 mm	ER mm	Z	Weight Kg	Order code
32	10	6,6	38	51	10,5	21	18	14	31	32	10	16	4°	0,18	<b>P1C-4KMA</b>
40	12	6,6	41	54	12,0	24	22	16	35	36	10	18	4°	0,25	<b>P1C-4LMA</b>
50	16	9,0	50	65	15,0	33	30	21	45	45	12	21	4°	0,47	<b>P1C-4MMA</b>
63	16	9,0	52	67	15,0	37	35	21	50	50	12	23	4°	0,57	<b>P1C-4NMA</b>
80	20	11,0	66	86	18,0	47	40	25	60	63	14	28	4°	1,05	<b>P1C-4PMA</b>
100	20	11,0	76	96	18,0	55	50	25	70	71	15	30	4°	1,42	<b>P1C-4QMA</b>
125	30	14,0	94	124	25,0	70	60	37	90	90	20	40	4°	3,10	<b>P1C-4RMA</b>

**Mounting kit**



Mounting kit for back to back mounted cylinders, 3 and 4 position cylinders.

Material:  
 Mounting: Aluminium  
 Mounting screws: Zinc-plated steel 8.8



Cyl. bore	E	TG	ØFB	MF	A	ØBA	Weight Kg	Order code
32	50	32,5	6,5	5	16	30	0,060	<b>P1E-6KB0</b>
40	60	38,0	6,5	5	16	35	0,078	<b>P1E-6LB0</b>
50	66	46,5	8,5	6	20	40	0,162	<b>P1E-6MB0</b>
63	80	56,5	8,5	6	20	45	0,194	<b>P1E-6NB0</b>
80	100	72,0	10,5	8	25	45	0,450	<b>P1E-6PB0</b>
100	118	89,0	10,5	8	25	55	0,672	<b>P1E-6QB0</b>

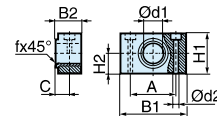
**Pivot bracket for MT4**



Intended for use together with central trunnion MT4.

Material  
 Pivot bracket: Surface-treated aluminium  
 Bearing acc. to DIN 1850 C: Sintered oil-bronze bushing

Supplied in pairs.



According to ISO, VDMA 24 562, AFNOR

Cyl. bore	B1	B2	A	C	d1	d2 H13	H1	H2	fx45° min	Weight Kg	Order code
32	46	18,0	32	10,5	12	6,6	30	15	1,0	0,04*	<b>9301054261</b>
40	55	21,0	36	12,0	16	9,0	36	18	1,6	0,07*	<b>9301054262</b>
50	55	21,0	36	12,0	16	9,0	36	18	1,6	0,07*	<b>9301054262</b>
63	65	23,0	42	13,0	20	11,0	40	20	1,6	0,12*	<b>9301054264</b>
80	65	23,0	42	13,0	20	11,0	40	20	1,6	0,12*	<b>9301054264</b>
100	75	28,5	50	16,0	25	14,0	50	25	2,0	0,21*	<b>9301054266</b>
125	75	28,5	50	16,0	25	14,0	50	25	2,0	0,21*	<b>9301054266</b>

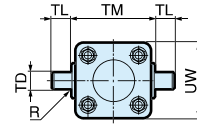
Cylinder mountings

Centre trunnion MT4 for P1D-S



Intended for articulated mounting of cylinder. This mounting is available for the P1D Standard and for the tie-rod design of P1D. The trunnion is factory-fitted in the centre of the cylinder or at an optional location specified by the XV-measure – Combined with pivot bracket for MT4.

Material:  
Trunnion: zinc plated steel



Centre trunnion MT4 for P1D-T



Trunnion centred

The central trunnion for the P1D-S and P1D-T is ordered with letter D in position 17 (no dimension specified in positions 18-20).

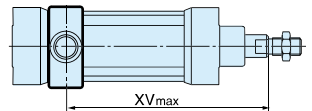
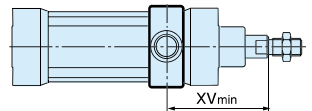
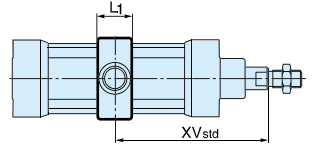
Trunnion with optional location

The central trunnion for the P1D-S and P1D-T is ordered with letter G in position 17 and desired XV-measure (3-digit measure in mm) in positions 18-20.

Trunnion loose

P1D-S can also be ordered with the central trunnion loosely fitted to the cylinder (not fixed in position). This allows the position to be established at the time of installation.

Ordered with letter G in position 17 and 000 in positions 18-20.



According to ISO MT4, VDMA 24 562, AFNOR

Cyl. bore	TM	TL	TD	R	UW	UW	L1	L1	X1*	XV* <sub>min</sub>	XV* <sub>min</sub>	X2*	X2*
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
32	50	12	12	1,0	52	46	18	15	73,0	89	62	57	84
40	63	16	16	1,6	59	59	20	20	82,5	95	73	70	92
50	75	16	16	1,6	71	69	20	20	90,0	113	81	67	99
63	90	20	20	1,6	84	84	26	25	97,5	118	90	78	106
80	110	20	20	1,6	105	102	26	25	110,0	132	98	88	122
100	132	25	25	2,0	129	125	32	30	120,0	140	111	100	129
125	160	25	25	2,0	159	155	33	32	145,0	168	132	122	158

XVstd = X1 + Stroke length/2, XVmax = X2 + Stroke length

\* Does not apply to cylinders with lock unit.

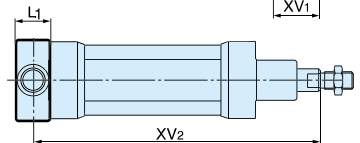
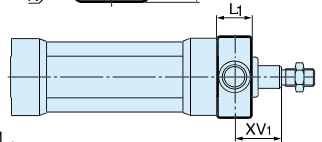
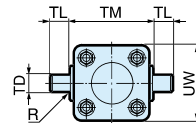
Flange mounted trunnion



Intended for articulated mounting of cylinder. This trunnion can be flange mounted on the front or rear end cover of all P1D cylinders. At your choice, you can order a complete cylinder with factory-fitted flange mounted trunnion. Individual trunnions have order code as shown to the right.

Material:  
Trunnion: zinc plated steel  
Screws: zinc plated steel, 8.8

Delivered complete with mounting screws for attachment to the cylinder



According to ISO MT4, VDMA 24 562, AFNOR

Cyl. bore	TM	TL	TD	R	UW	L1	XV <sub>1</sub> *	X*	Y	Weight	Order code
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	
32	50	12	12	1,0	46	14	19,5	126,5	11	0,17	<b>P1D-4KMYF</b>
40	63	16	16	1,6	59	19	21,0	144,0	14	0,43	<b>P1D-4LMYF</b>
50	75	16	16	1,6	69	19	28,0	152,0	20	0,55	<b>P1D-4MMYF</b>
63	90	20	20	1,6	84	24	25,5	169,5	20	1,10	<b>P1D-4NMYF</b>
80	110	20	20	1,6	102	24	34,5	185,5	26	1,66	<b>P1D-4PMYF</b>
100	132	25	25	2,0	125	29	37,0	203,0	31	3,00	<b>P1D-4QMYF</b>

XV<sub>2</sub> = X + Stroke length \* Does not apply to cylinders with lock unit.

To fit a flange mounted trunnion at the front end cover of a P1D cylinder with lock unit, the piston rod must be extended. This is in order to provide the same WH dimensions as for the P1D base cylinder with dimension Y.

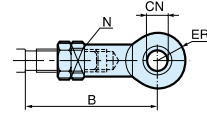
Piston rod mountings

Swivel rod eye

Intended for articulated mounting of the cylinder.  
Maintenance-free PTFE.



Material:  
Swivel rod eye, nut: galvanized steel.  
Swivel bearing according to DIN 648K: Hardened steel.

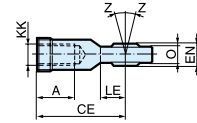


Stainless steel swivel rod eye

Stainless-steel swivel rod eye for articulated mounting of cylinder.  
Maintenance-free.



Materials  
Swivel rod eye: Stainless steel  
Swivel bearing according to DIN 648K: Stainless steel  
Use stainless steel nut with stainless steel swivel rod eye.



ISO 8139

Cyl.- dia. mm	A mm	B min mm	B max mm	CE mm	CN H9 mm	EN h12 mm	ER mm	KK	LE mm	N* min mm	O mm	Z mm	Weight kg	Order code Galvanised Steel	Order code Stainless Steel
32	20	48,0	55	43	10	14	14	M10x1,25	15	17	10,5	12°	0,08	<b>P1C-4KRS</b>	<b>P1S-4JRT</b>
40	22	56,0	62	50	12	16	16	M12x1,25	17	19	12,0	12°	0,12	<b>P1C-4LRS</b>	<b>P1S-4LRT</b>
50	28	72,0	80	64	16	21	21	M16x1,5	22	22	15,0	15°	0,25	<b>P1C-4MRS</b>	<b>P1S-4MRT</b>
63	28	72,0	80	64	16	21	21	M16x1,5	22	22	15,0	15°	0,25	<b>P1C-4MRS</b>	<b>P1S-4MRT</b>
80	33	87,0	97	77	20	25	25	M20x1,5	26	32	18,0	15°	0,46	<b>P1C-4PRS</b>	<b>P1S-4PRT</b>
100	33	87,0	97	77	20	25	25	M20x1,5	26	32	18,0	15°	0,46	<b>P1C-4PRS</b>	<b>P1S-4PRT</b>
125	51	123,5	137	110	30	37	35	M27x2	36	41	25,0	15°	1,28	<b>P1C-4RRS</b>	<b>P1S-4RRT</b>

\*key grip

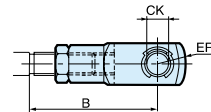
Clevis

Intended for articulated mounting of the cylinder.



Material:  
Clevis and clip galvanized steel.  
Pin: Hardened steel

Supplied complete with axle.

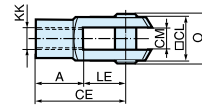


Stainless steel clevis

Stainless-steel clevis for articulated mounting of cylinder.



Material  
Clevis: Stainless steel  
Pin: Stainless steel  
Circlips according to DIN 471: Stainless steel  
Use stainless steel nut with stainless steel swivel rod eye.



ISO 8140

Cyl.- dia. mm	A mm	B min mm	B max mm	CE mm	CK mm	CL h11/E9 mm	CM mm	ER mm	KK	LE mm	O mm	Weight kg	Order code Galvanised Steel	Order code Stainless Steel
32	20	45,0	52	40	10	20	10	16	M10x1,25	20	28,0	0,09	<b>P1C-4KRC</b>	<b>P1S-4JRD</b>
40	24	54,0	60	48	12	24	12	19	M12x1,25	24	32,0	0,15	<b>P1C-4LRC</b>	<b>P1S-4LRD</b>
50	32	72,0	80	64	16	32	16	25	M16x1,5	32	41,5	0,35	<b>P1C-4MRC</b>	<b>P1S-4MRD</b>
63	32	72,0	80	64	16	32	16	25	M16x1,5	32	41,5	0,35	<b>P1C-4MRC</b>	<b>P1S-4MRD</b>
80	40	90,0	100	80	20	40	20	32	M20x1,5	40	50,0	0,75	<b>P1C-4PRC</b>	<b>P1S-4PRD</b>
100	40	90,0	100	80	20	40	20	32	M20x1,5	40	50,0	0,75	<b>P1C-4PRC</b>	<b>P1S-4PRD</b>
125	56	123,5	137	110	30	55	30	45	M27x254	72,0		2,10	<b>P1C-4RRC</b>	<b>P1S-4RRD</b>



**Piston rod mountings**

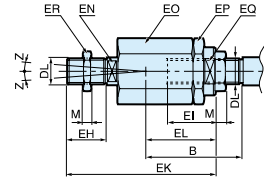
**Flexo coupling**



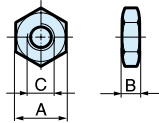
Flexo coupling for articulated mounting of piston rod.  
Flexo fitting is intended to take up axial angle errors within a range of  $\pm 4^\circ$ .

Material  
Flexo coupling, nut: Zinc-plated steel  
Socket: Hardened steel

Supplied complete with galvanized adjustment nut.



Cyl. bore mm	B min mm	B max mm	DL	EH mm	EI mm	EK mm	EL mm	EN mm	EO mm	EP mm	EQ mm	ER mm	M mm	Z	Weight mm	Order code
32	36,0	43	M10x1,25	20	23	70	31	12	30	30	19	30	5,0	4°	0,21	<b>P1C-4KRF</b>
40	37,0	43	M12x1,25	23	23	67	31	12	30	30	19	30	6,0	4°	0,22	<b>P1C-4LRF</b>
50	53,0	61	M16x1,5	40	32	112	45	19	41	41	30	41	8,0	4°	0,67	<b>P1C-4MRF</b>
63	53,0	61	M16x1,5	40	32	112	45	19	41	41	30	41	8,0	4°	0,67	<b>P1C-4MRF</b>
80	57,0	67	M20x1,5	39	42	122	56	19	41	41	30	41	10,0	4°	0,72	<b>P1C-4PRF</b>
100	57,0	67	M20x1,5	39	42	122	56	19	41	41	30	41	10,0	4°	0,72	<b>P1C-4PRF</b>
125	75,5	89	M27x2	48	48	145	60	24	55	55	32	55	13,5	4°	0,72	<b>P1C-4RRF</b>



According to DIN 439 B

**Nut**



Intended for fixed mounting of accessories to the piston rod.  
Material: Zinc-plated steel

All P1D cylinders are delivered with a zinc-plated steel piston rod nut, except P1D Clean, which is delivered with a stainless steel piston rod nut instead.

Cyl. bore mm	A mm	B mm	C	Weight Kg	Order code
32	17	5,0	M10x1,25	0,007	<b>9128985601</b>
40	19	6,0	M12x1,25	0,010	<b>0261109910</b>
50	24	8,0	M16x1,5	0,021	<b>9128985603</b>
63	24	8,0	M16x1,5	0,021	<b>9128985603</b>
80	30	10,0	M20x1,5	0,040	<b>0261109911</b>
100	30	10,0	M20x1,5	0,040	<b>0261109911</b>
125	30	10,0	M20x1,5	0,100	<b>0261109912</b>

**Stainless steel nut**



Intended for fixed mounting of accessories to the piston rod.

Material: Stainless steel A2

All P1D cylinders are delivered with a zinc-plated steel piston rod nut, except P1D Clean, which is delivered with a stainless steel piston rod nut instead.

32	17	5,0	M10x1,25	0,007	<b>9126725404</b>
40	19	6,0	M12x1,25	0,010	<b>9126725405</b>
50	24	8,0	M16x1,5	0,021	<b>9126725406</b>
63	24	8,0	M16x1,5	0,021	<b>9126725406</b>
80	30	10,0	M20x1,5	0,040	<b>0261109921</b>
100	30	10,0	M20x1,5	0,040	<b>0261109921</b>
125	30	10,0	M20x1,5	0,100	<b>0261109922</b>

**Acid-proof nut**



Intended for fixed mounting of accessories to the piston rod.

Material: Acid-proof steel A4

Cylinders with acid-proof piston rod are supplied with nut of acid-proof steel

32	17	5,0	M10x1,25	0,007	<b>0261109919</b>
40	19	6,0	M12x1,25	0,010	<b>0261109920</b>
50	24	8,0	M16x1,5	0,021	<b>0261109917</b>
63	24	8,0	M16x1,5	0,021	<b>0261109917</b>
80	30	10,0	M20x1,5	0,040	<b>0261109916</b>
100	30	10,0	M20x1,5	0,040	<b>0261109916</b>
125	30	10,0	M20x1,5	0,100	<b>0261109918</b>

**Sealing plugs**

Four plastic sealing plugs are supplied with every P1D Clean cylinder. These are installed in the end cover screws which are not used for the cylinder installation. To ensure the sealing function, the plugs can be used only once i.e. they cannot be re-used. When installed in the end cover screws, they should be tapped lightly with a hammer to securely fix.



Cyl.	Order code
32	<b>9121742201</b>
40	<b>9121742201</b>
50	<b>9121742202</b>
63	<b>9121742202</b>
80	<b>9121742203</b>
100	<b>9121742203</b>
125	<b>9121742204</b>

## New drop-in sensors

The completely new "drop-in" P1D sensors can easily be installed from the side in the sensor groove, at any position along the piston stroke. The sensors are completely recessed and thus mechanically protected. Choose between electronic or reed sensors and several cable lengths and 8 mm and M12 connectors. The same standard sensors are used for all P1D versions, i.e. even for P1D Clean with the patent applied system of integrated sensors. Please note that the sensors with 8 mm and M12 connector should have cable lengths 1 m for P1D Clean to allow flexible positioning of the sensors, including longer stroke lengths. There is a double jointed adapter for the tie-rod version, which offers simple and flexible use of standard sensors.



## Electronic sensors

The new electronic sensors are "Solid State", i.e. they have no moving parts at all. They are provided with short-circuit protection and transient protection as standard. The built-in electronics make the sensors suitable for applications with high on and off switching frequency, and where very long service life is required.

### Technical data

Design	GMR (Giant Magnetic Resistance) magneto-resistive function
Installation	From side, down into the sensor groove, so-called drop-in
Outputs	PNP, normally open (also available in NPN design, normally closed, on request)
Voltage range	10-30 VDC 10-18 V DC, ATEX sensor
Ripple	max 10%
Voltage drop	max 2,5 V
Load current	max 100 mA
Internal consumption	max 10 mA
Actuating distance	min 9 mm
Hysteresis	max 1,5 mm
Repeatability accuracy	max 0,2 mm
On/off switching frequency	max 5 kHz
On switching time	max 2 ms
Off switching time	max 2 ms
Encapsulation	IP 67 (EN 60529)
Temperature range	-25 °C to +75 °C -20 °C to +45 °C, ATEX sensor
Indication	LED, yellow
Material housing	PA 12
Material screw	Stainless steel
Cable	PVC or PUR 3x0.25 mm <sup>2</sup> see order code respectively

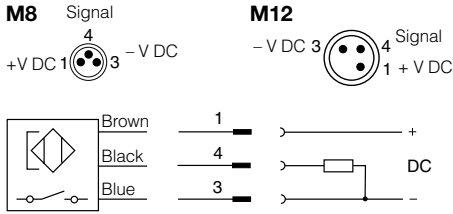
## Reed sensors

The sensors are based on proven reed switches, which offer reliable function in many applications. Simple installation, a protected position on the cylinder and clear LED indication are important advantages of this range of sensors.

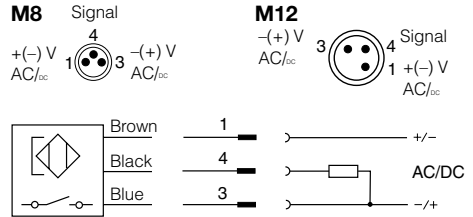
### Technical data

Design	Reed element
Mounting	From side, down into the sensor groove, so-called drop-in
Output	Normally open , or normally closed
Voltage range	10-30 V AC/DC or 10-120 V AC/DC 24-230 V AC/DC
Load current	max 500 mA for 10-30 V or max 100 mA for 10-120 V max 30 mA for 24-230 V
Breaking power (resistive)	max 6 W/WA
Actuating distance	min 9 mm
Hysteresis	max 1,5 mm
Repeatability accuracy	0,2 mm
On/off switching frequency	max 400 Hz
On switching time	max 1,5 ms
Off switching time	max 0,5 ms
Encapsulation	IP 67 (EN 60529)
Temperature range	-25 °C to +75 °C
Indication	LED, yellow
Material housing	PA12
Material screw	Stainless steel
Cable	PVC or PUR 3x0.14 mm <sup>2</sup> see order code respectively

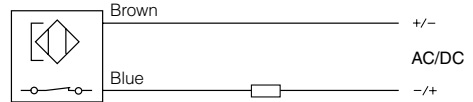
Electronic sensors



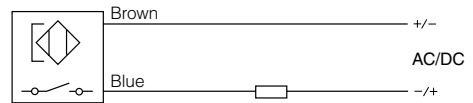
Reed sensors



P8S-GCFPX

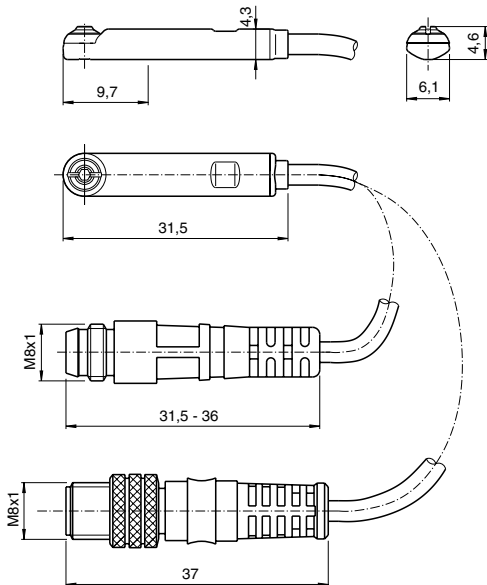


P8S-GRFLX / P8S-GRFLX2

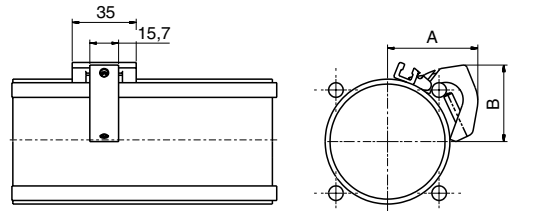


Dimensions

Sensors




Adapter for P1D-T



Cyl. bore mm	A mm	B mm
32	35	26
40	39	30
50	44	30
63	50	42
80	54	52
100	62	60
125	74	69

## Ordering data


Output/function	Cable/connector	Weight kg	Order code
<b>Electronic sensors , 10-30 V DC</b>			
PNP type, normally open	0,27 m PUR-cable and 8 mm snap-in male connector <sup>1)</sup>	0,007	<b>P8S-GPSHX</b>
PNP type, normally open	1,0 m PUR-cable and 8 mm snap-in male connector	0,013	<b>P8S-GPSCX</b>
PNP type, normally open	1,0 m PUR-cable and M8 screw male connector	0,013	<b>P8S-GPCCX</b>
PNP type, normally open	0,27 m PUR-cable and M12 screw male connector <sup>1)</sup>	0,015	<b>P8S-GPMHX</b>
PNP type, normally open	3 m PVC-cable without connector	0,030	<b>P8S-GPFLX</b>
PNP type, normally open	10 m PVC-cable without connector	0,110	<b>P8S-GPFTX</b>
<b>Electronic sensor 18-30 V DC</b>			
<b>ATEX-certified</b>			
		See ATEX information pages 22 - 25.	
Type PNP , normally open	3 m PVC-cable without connector	0,030	<b>P8S-GPFLX/EX</b>
<b>Reed sensors , 10-30 V AC/DC</b>			
Normally open	0,27 m PUR-cable and 8 mm snap-in male connector <sup>1)</sup>	0,007	<b>P8S-GSSHX</b>
Normally open	1,0 m PUR-cable and 8 mm snap-in male connector	0,013	<b>P8S-GSSCX</b>
Normally open	1,0 m PUR-cable and M8 male connector	0,013	<b>P8S-GSCCX</b>
Normally open	0,27 m PUR-cable and M12 screw male connector <sup>1)</sup>	0,015	<b>P8S-GSMHX</b>
Normally open	1,0 m PUR-cable and M12 screw male connector	0,023	<b>P8S-GSMCX</b>
Normally open	3 m PVC-cable without connector	0,030	<b>P8S-GSFLX</b>
Normally open	10 m PVC-cable without connector	0,110	<b>P8S-GSFTX</b>
Normally closed	5m PVC-cable without connector <sup>2)</sup>	0,050	<b>P8S-GCFPX</b>
<b>Reed sensors, 10-120 V AC/DC</b>			
Normally open	3 m PVC-cable without connector	0,030	<b>P8S-GRFLX</b>
<b>Reed sensorer, 24-230 V AC/DC</b>			
Normalt öppen	3 m PVC-kabel utan kontakt	0,030	<b>P8S-GRFLX2</b>

1) Not in combination with P1D Clean (too short cable)

2) Without LED

## Adapter for tie-rod design

Description	Weight kg	Order code
Double jointed adapter for cylinder P1D-T cylinder bore Ø32 to Ø125 mm	0,07	<b>P8S-TMA0X</b>



## Sensor mounting

Description	Weight kg	Order code
Suitable for P1A and P1S diameter 10 - 25 mm	0,07	<b>P8S-TMC01</b>
Suitable for P1S diameter 32 - 63 mm	0,07	<b>P8S-TMC02</b>
Suitable for P1S diameter 80 - 125 mm	0,07	<b>P8S-TMC03</b>

## Connecting cables with one connector

The cables have an integral snap-in female connector.



Type of cable	Cable/connector kg	Weight	Order code
<b>Cables for sensors, complete with one female connector</b>			
Cable, Flex PVC	3 m, 8 mm Snap-in connector	0,07	<b>9126344341</b>
Cable, Flex PVC	10 m, 8 mm Snap-in connector	0,21	<b>9126344342</b>
Cable, Super Flex PVC	3 m, 8 mm Snap-in connector	0,07	<b>9126344343</b>
Cable, Super Flex PVC	10 m, 8 mm Snap-in connector	0,21	<b>9126344344</b>
Cable, Polyurethane	3 m, 8 mm Snap-in connector	0,01	<b>9126344345</b>
Cable, Polyurethane	10 m, 8 mm Snap-in connector	0,20	<b>9126344346</b>
Cable, Polyurethane	5 m, M12 screw connector	0,07	<b>9126344348</b>
Cable, Polyurethane	10 m, M12 screw connector	0,20	<b>9126344349</b>

## Male connectors for connecting cables

Cable connectors for producing your own connecting cables. The connectors can be quickly attached to the cable without special tools. Only the outer sheath of the cable is removed. The connectors are available for M8 and M12 screw connectors and meet protection class IP 65.



Connector	Weight kg	Order code
M8 screw connector	0,017	<b>P8CS0803J</b>
M12 screw connector	0,022	<b>P8CS1204J</b>

P1E Cylinders are equipped as standard with magnetic pistons for proximity position sensing. A full range of sensors enables the cylinders to be integrated into the most advanced automation systems. The sensors can be fitted at any position along the cylinder stroke.

In development of P1E cylinders, great emphasis was placed on the importance of long service life and operation with unlubricated air characteristics essential for applications in demanding environments.



- Cylinder for heavy duty operation to VDMA 24562
- Bore sizes Ø160 - Ø200mm
- Tie rod design
- Hard anodised cylinder tube as standard
- Stainless steel piston rod
- Non-lube operation

### Operating information

Working pressure: Max 10 bar

Seal / Temperature options:

Standard: -20°C to +70°C

High temperature: -10°C to +180°C

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

#### Piston rod type

Male threaded

Stainless steel as standard

Chrome plated steel

Rod gaiter versions

For technical information see CD

## Tie rod cylinders - Double acting, magnetic piston, male piston rod thread

### Ø160mm - (G<sup>3/4</sup>)

Stroke mm	Order code
25	<b>P1E-T160MS-0025</b>
50	<b>P1E-T160MS-0050</b>
80	<b>P1E-T160MS-0080</b>
100	<b>P1E-T160MS-0100</b>
125	<b>P1E-T160MS-0125</b>
160	<b>P1E-T160MS-0160</b>
200	<b>P1E-T160MS-0200</b>
250	<b>P1E-T160MS-0250</b>
320	<b>P1E-T160MS-0320</b>

### Ø200mm - (G<sup>3/4</sup>)

Stroke mm	Order code
25	<b>P1E-T200MS-0025</b>
50	<b>P1E-T200MS-0050</b>
80	<b>P1E-T200MS-0080</b>
100	<b>P1E-T200MS-0100</b>
125	<b>P1E-T200MS-0125</b>
160	<b>P1E-T200MS-0160</b>
200	<b>P1E-T200MS-0200</b>
250	<b>P1E-T200MS-0250</b>
320	<b>P1E-T200MS-0320</b>

## Cylinder mountings

### Swivel rod eye Zinc plated steel

Cyl.Ø	Order code
160	<b>P1C--4SRS</b>
200	<b>P1C--4SRS</b>

### Clevis Galvanised steel

Cyl.Ø	Order code
160	<b>P1C-4SRC</b>
200	<b>P1C-4SRC</b>

### Clevis bracket MP2 Aluminium/Cast iron

Cyl.Ø	Order code
160	<b>P1C-4SMT</b>
200	<b>P1C-4TMT</b>

### Clevis bracket MP4 Aluminium/Cast iron

Cyl.Ø	Order code
160	<b>P1C-4SME</b>
200	<b>P1C-4TME</b>

### Flange MF1 and MF2 Surface treated steel

Cyl.Ø	Order code
160	<b>P1C-4SMB</b>
200	<b>P1C-4TMB</b>

### Foot bracket Surface treated steel

Cyl.Ø	Order code
160	<b>P1C-4SMF</b>
200	<b>P1C-4TMF</b>

### Piston rod nut Zinc plated steel

Cyl.Ø	Order code
160	<b>9128985606</b>
200	<b>9128985606</b>

### Pivot bracket for MT4

Cyl.Ø	Order code
160	<b>9301054268</b>
200	<b>9301054268</b>

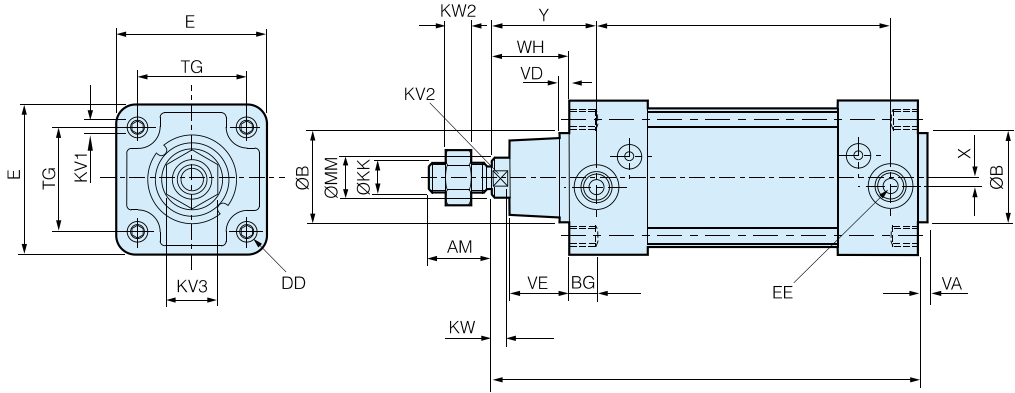
### Sensors



For sensors see page 42.

 Indicates stocked product.

Basic Tie Rod and Profile cylinders



Dimensions (mm)

Bore Size	MM Ø	KK*	AM* +0/-2	ØB e11	WH	VD	VE	ZJ	VA	PJ	X	Y	KV3 A/F	KW2
160	40	M36x2	72	65	80	7	52	260	5	132	0	104	55	14
200	40	M36x2	72	75	95	7	60	275	5	132	0	119	55	14

Bore Size	EE	DD	KV1 A/F	BG min	KV2 A/F	KW	E	TG
160	G <sup>3</sup> / <sub>4</sub>	M16	30	24	36	16	179	140
200	G <sup>3</sup> / <sub>4</sub>	M16	30	24	36	16	216	175

Bore Size	Weight (kg)	
	0mm stroke	5mm stroke
160	11,71	0,114
200	15,45	0,126

\* To ISO 6431

The P1J cylinder is ideal for applications where you need compact dimensions and high overall performance. The versatile P1J cylinder range provides a long trouble-free operation in a variety of applications.



- Compact and versatile
- Magnetic piston for direct fit with electronic controls
- Fit flush sensor range with many functions
- Patent press fit end cover for short axial length
- Choose from our wide range of double-acting, single-acting and double-acting with guide rod

### Operating information

Working pressure:	Max 10 bar
Permissible fluid:	Air, with or without lubrication
Standard working temperature:	-20°C to +80°C

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

For technical information see CD

### Double acting - Standard seals - Female threaded piston rod

#### Ø12mm - (M5)

Stroke mm	Order code
10	<b>P1J-S012DS-0010</b>
15	<b>P1J-S012DS-0015</b>
20	<b>P1J-S012DS-0020</b>
25	<b>P1J-S012DS-0025</b>

#### Ø20mm - (M5)

Stroke mm	Order code
10	<b>P1J-S020DS-0010</b>
15	<b>P1J-S020DS-0015</b>
20	<b>P1J-S020DS-0020</b>
25	<b>P1J-S020DS-0025</b>
30	<b>P1J-S020DS-0030</b>
40	<b>P1J-S020DS-0040</b>
50	<b>P1J-S020DS-0050</b>

#### Ø25mm - (M5)

Stroke mm	Order code
10	<b>P1J-S025DS-0010</b>
15	<b>P1J-S025DS-0015</b>
20	<b>P1J-S025DS-0020</b>
25	<b>P1J-S025DS-0025</b>
30	<b>P1J-S025DS-0030</b>
40	<b>P1J-S025DS-0040</b>
50	<b>P1J-S025DS-0050</b>

#### Ø32mm - (G1/8)

Stroke mm	Order code
10	<b>P1J-S032DS-0010</b>
15	<b>P1J-S032DS-0015</b>
20	<b>P1J-S032DS-0020</b>
25	<b>P1J-S032DS-0025</b>
30	<b>P1J-S032DS-0030</b>
40	<b>P1J-S032DS-0040</b>
50	<b>P1J-S032DS-0050</b>
80	<b>P1J-S032DS-0080</b>

#### Ø40mm - (G1/8)

Stroke mm	Order code
10	<b>P1J-S040DS-0010</b>
15	<b>P1J-S040DS-0015</b>
20	<b>P1J-S040DS-0020</b>
25	<b>P1J-S040DS-0025</b>
30	<b>P1J-S040DS-0030</b>
40	<b>P1J-S040DS-0040</b>
50	<b>P1J-S040DS-0050</b>
80	<b>P1J-S040DS-0080</b>

#### Ø50mm - (G1/8)

Stroke mm	Order code
10	<b>P1J-S050DS-0010</b>
15	<b>P1J-S050DS-0015</b>
20	<b>P1J-S050DS-0020</b>
25	<b>P1J-S050DS-0025</b>
30	<b>P1J-S050DS-0030</b>
40	<b>P1J-S050DS-0040</b>
50	<b>P1J-S050DS-0050</b>
80	<b>P1J-S050DS-0080</b>

#### Ø63mm - (G1/8)

Stroke mm	Order code
10	<b>P1J-S063DS-0010</b>
15	<b>P1J-S063DS-0015</b>
20	<b>P1J-S063DS-0020</b>
25	<b>P1J-S063DS-0025</b>
30	<b>P1J-S063DS-0030</b>
40	<b>P1J-S063DS-0040</b>
50	<b>P1J-S063DS-0050</b>
80	<b>P1J-S063DS-0080</b>
100	<b>P1J-S063DS-0100</b>

 Indicates stocked product.



## Single acting - Standard seals - Female threaded piston rod

## Ø12mm - (M5)

Stroke mm	Order code
10	P1J-S012SS-0010
15	P1J-S012SS-0015

## Ø20mm - (M5)

Stroke mm	Order code
5	P1J-S020SS-0005
10	P1J-S020SS-0010
15	P1J-S020SS-0015
20	P1J-S020SS-0020
25	P1J-S020SS-0025
30	P1J-S020SS-0030

## Ø25mm - (M5)

Stroke mm	Order code
5	P1J-S025SS-0005
10	P1J-S025SS-0010
15	P1J-S025SS-0015
20	P1J-S025SS-0020
25	P1J-S025SS-0025
30	P1J-S025SS-0030
40	P1J-S025SS-0040
50	P1J-S025SS-0050

## Ø32mm - (G1/8)

Stroke mm	Order code
5	P1J-S032SS-0005
10	P1J-S032SS-0010
15	P1J-S032SS-0015
20	P1J-S032SS-0020
25	P1J-S032SS-0025
30	P1J-S032SS-0030
40	P1J-S032SS-0040
50	P1J-S032SS-0050

## Ø40mm - (G1/8)

Stroke mm	Order code
5	P1J-S040SS-0005
10	P1J-S040SS-0010
15	P1J-S040SS-0015
20	P1J-S040SS-0020
25	P1J-S040SS-0025
30	P1J-S040SS-0030
40	P1J-S040SS-0040
50	P1J-S040SS-0050

## Ø50mm - (G1/8)

Stroke mm	Order code
5	P1J-S050SS-0005
10	P1J-S050SS-0010
15	P1J-S050SS-0015
20	P1J-S050SS-0020
25	P1J-S050SS-0025
30	P1J-S050SS-0030
40	P1J-S050SS-0040
50	P1J-S050SS-0050

## Ø63mm - (G1/8)

Stroke mm	Order code
5	P1J-S063SS-0005
10	P1J-S063SS-0010
15	P1J-S063SS-0015
20	P1J-S063SS-0020
25	P1J-S063SS-0025
30	P1J-S063SS-0030
40	P1J-S063SS-0040
50	P1J-S063SS-0050

The spring forces in single acting cylinders are sufficient to return the piston without load.

## Double acting - Guided

These cylinders feature twin guide rods connected to the piston rod by a flange plate. These are ideal for clamping and moving applications where turning of the piston rod must be avoided or side load is present.



## Double Acting - Guided

## Ø20mm - (M5)

Stroke mm	Order code
5	P1J-G020DS-0005
10	P1J-G020DS-0010
15	P1J-G020DS-0015
20	P1J-G020DS-0020
25	P1J-G020DS-0025
30	P1J-G020DS-0030
40	P1J-G020DS-0040
50	P1J-G020DS-0050

## Ø25mm - (M5)

Stroke mm	Order code
5	P1J-G025DS-0005
10	P1J-G025DS-0010
15	P1J-G025DS-0015
20	P1J-G025DS-0020
25	P1J-G025DS-0025
30	P1J-G025DS-0030
40	P1J-G025DS-0040
50	P1J-G025DS-0050

## Ø32mm - (G1/8)

Stroke mm	Order code
5	P1J-G032DS-0005
10	P1J-G032DS-0010
15	P1J-G032DS-0015
20	P1J-G032DS-0020
25	P1J-G032DS-0025
30	P1J-G032DS-0030
40	P1J-G032DS-0040
50	P1J-G032DS-0050
80	P1J-G032DS-0080

## Ø40mm - (G1/8)

Stroke mm	Order code
5	P1J-G040DS-0005
10	P1J-G040DS-0010
15	P1J-G040DS-0015
20	P1J-G040DS-0020
25	P1J-G040DS-0025
30	P1J-G040DS-0030
40	P1J-G040DS-0040
50	P1J-G040DS-0050
80	P1J-G040DS-0080

## Ø50mm - (G1/8)

Stroke mm	Order code
5	P1J-G050DS-0005
10	P1J-G050DS-0010
15	P1J-G050DS-0015
20	P1J-G050DS-0020
25	P1J-G050DS-0025
30	P1J-G050DS-0030
40	P1J-G050DS-0040
50	P1J-G050DS-0050
80	P1J-G050DS-0080

## Ø63mm - (G1/8)

Stroke mm	Order code
5	P1J-G063DS-0005
10	P1J-G063DS-0010
15	P1J-G063DS-0015
20	P1J-G063DS-0020
25	P1J-G063DS-0025
30	P1J-G063DS-0030
40	P1J-G063DS-0040
50	P1J-G063DS-0050
80	P1J-G063DS-0080
100	P1J-G063DS-0100

 Indicates stocked product.

## Cylinder mountings

### Flange MF1

Anodised aluminium

Cyl. dia.	Order code
12	<b>P1J-4DMB</b>
20	<b>P1J-4HMB</b>
25	<b>P1J-4JMB</b>
32	<b>P1J-4KMB</b>
40	<b>P1J-4LMB</b>
50	<b>P1J-4MMB</b>
63	<b>P1J-4NMB</b>



### Foot bracket

Anodised aluminium

Cyl. dia.	Order code
12	<b>P1J-4DMF</b>
20	<b>P1J-4HMF</b>
25	<b>P1J-4JMF</b>
32	<b>P1J-4KMF</b>
40	<b>P1J-4LMF</b>
50	<b>P1J-4MMF</b>
63	<b>P1J-4NMF</b>



## Piston rod mountings

### Clevis \*

Galvanised steel

Cyl. dia.	Order code
20	<b>P1J-4HRC</b>
25	<b>P1J-4HRC</b>
32	<b>P1A-4DRC</b>
40	<b>P1A-4DRC</b>
50	<b>P1A-4HRC</b>
63	<b>P1A-4HRC</b>



### Swivel rod eye \*

Galvanised steel

Cyl. dia.	Order code
12	<b>P1J-4DRS</b>
20	<b>P1J-4HRS</b>
25	<b>P1J-4HRS</b>
32	<b>P1A-4DRS</b>
40	<b>P1A-4DRS</b>
50	<b>P1A-4HRS</b>
63	<b>P1A-4HRS</b>



### Male stud kit

Surface treated steel

Cyl. dia.	Order code
12	<b>P1J-6DS0</b>
20	<b>P1J-6HS0</b>
25	<b>P1J-6HS0</b>
32	<b>P1J-6KS0</b>
40	<b>P1J-6KS0</b>
50	<b>P1J-6MS0</b>
63	<b>P1J-6MS0</b>



\* Used in connection with Male Stud Kit

## Sensors

	Reed switch sensor	Solid state sensor
3m cable	<b>P8S-DRFLX</b>	<b>P8S-DPFLX</b>
8mm snap-on connector	<b>P8S-DRSHX</b>	<b>P8S-DPSHX</b>

## Connecting cables with one connector

The cables have an integral snap-in female connector.

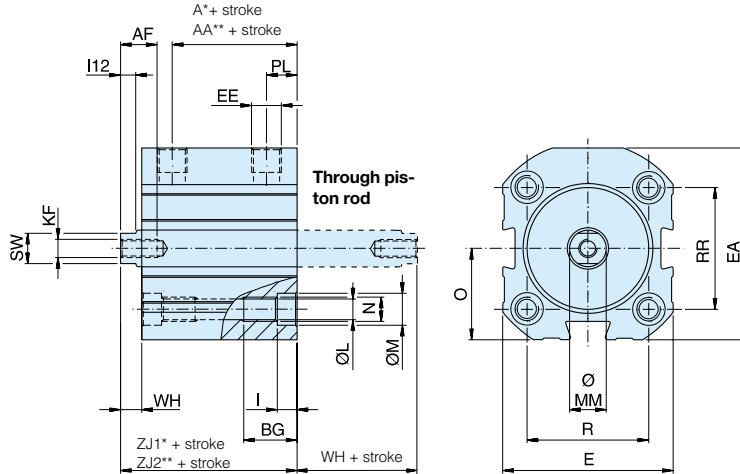


Type of cable	Cable length/connector	Weight kg	Order code
<b>Cables for sensors, complete with female connector</b>			
Cable, Flex PVC	3 m, 8 mm round connector	0,07	<b>9126344341</b>
Cable, Flex PVC	10 m, 8 mm round connector	0,21	<b>9126344342</b>
Cable, Super Flex PVC	3 m, 8 mm round connector	0,07	<b>9126344343</b>
Cable, Super Flex PVC	10 m, 8 mm round connector	0,21	<b>9126344344</b>
Cable, Polyuretan	3 m, 8 mm round connector	0,01	<b>9126344345</b>
Cable, Polyuretan	10 m, 8 mm round connector	0,20	<b>9126344346</b>
Cable, Polyuretan	3 m, M12 connector	0,07	<b>9126344348</b>
Cable, Polyuretan	10 m, M12 connector	0,20	<b>9126344349</b>

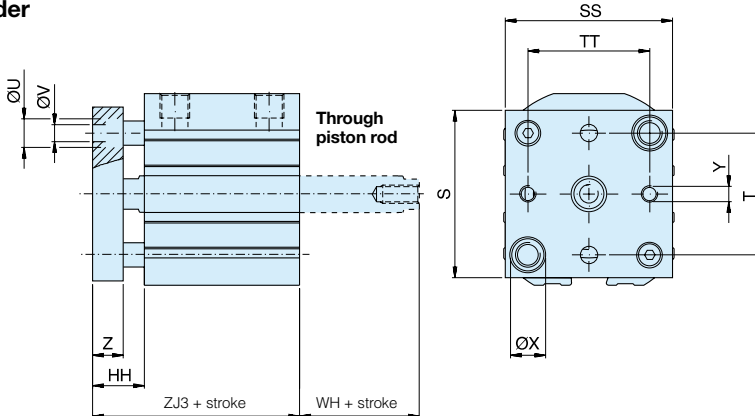
Indicates stocked product.

Dimensions (mm),

Double and single acting cylinders



Guided cylinder



Cylinder bore	A*	AA**	AF	BG	E	EA	EE	HH	I	KF	L	I12	M	MM	N	O	PL
12	25,0	-	5	9	26	30,0	M5	-	3,5	M3	3,4	3,0	6,1	6	M4	15,0	6,5
20	31,5	-	10	15	33	43,0	M5	14,8	5,5	M5	5,3	4,5	9,2	10	M6	21,5	6,5
25	32,5	47,5	10	15	40	44,5	M5	16,0	5,5	M5	5,3	4,5	9,2	10	M6	22,5	6,5
32	32,6	50,6	12	15	46	54,0	G1/8	15,7	5,5	M6	5,3	5,0	9,2	12	M6	25,5	10,0
40	34,0	52,0	12	18	56	63,0	G1/8	17,0	6,5	M6	6,9	5,0	10,5	12	M8	30,0	10,0
50	38,5	56,5	12	18	66	73,0	G1/8	19,0	6,5	M8	6,9	5,5	10,5	16	M8	35,0	10,0
63	40,0	60,0	12	25	83	87,5	G1/8	20,0	9,0	M8	9,3	5,5	15,0	16	M10	41,5	10,0

Cylinder bore	R	RR	S	SS	SW	T	TT	U	V	WH	X	Y	Z	ZJ1*	ZJ2**	ZJ3
12	13	18	-	-	5	-	-	-	-	4,0	-	-	-	38,0	-	-
20	20	30	42	32	8	22	22	8,0	4,5	4,8	9,4	M4	10	42,8	-	52,8
25	27	27	40	39	8	28	26	8,0	4,5	6,0	9,4	M4	10	45,0	60,0	45,5
32	32	36	48	45	10	36	32	9,4	5,5	5,7	9,4	M4	10	45,5	63,5	55,5
40	40	40	55	55	10	40	40	9,4	5,5	7,0	11,5	M5	10	47,0	65,0	57,0
50	50	50	65	65	13	50	50	11,5	6,5	7,0	11,5	M6	12	53,0	71,0	65,0
63	62	62	80	80	13	62	62	14,5	9,0	8,0	14,5	M6	12	57,0	77,0	69,0

\* A and ZJ1 = Double acting cylinders and single acting cylinders up to stroke length 30 mm

\*\* AA and ZJ2 = Single acting cylinders, stroke length 31 to 50 mm

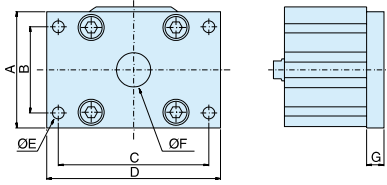
Length tolerances ±1 mm

Stroke length tolerances +1.5/0 mm



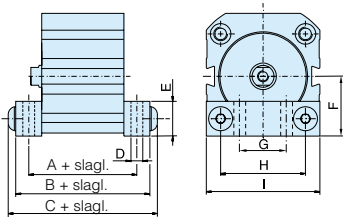
Dimensions (mm),

Flange, MF1



Cyl. Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm
12	25,4	18	38	46,0	3,6	10	4,8
20	38,0	24	50	58,0	3,6	15	6,0
25	40,0	28	54	63,5	4,6	15	6,0
32	48,0	36	66	76,0	4,6	15	6,0
40	63,5	42	78	92,0	6,6	20	9,5
50	70,0	50	90	102,0	6,6	25	9,5
63	85,0	63	110	127,0	8,6	25	12,7

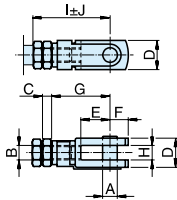
Foot bracket



Cyl. Ø mm	A1* mm	A2** mm	B1* mm	B2** mm	C1* mm	C2** mm	D mm	E mm	F mm	G mm	H mm	I mm
12	42,0	-	50,0	-	54,4	-	3,5	12,7	17,0	25	13	33
20	44,5	-	51,0	-	57,5	-	3,5	12,7	22,0	35	20	43
25	48,5	63,5	58,0	73,0	64,5	79,5	4,5	16,0	23,0	41	27	51
32	49,3	67,3	58,7	76,7	65,3	83,3	4,5	16,0	27,0	19	32	46
40	53,7	71,7	66,5	84,5	75,2	93,2	6,5	19,0	31,5	21	40	56
50	58,7	76,7	71,5	89,5	80,3	98,3	6,5	19,0	37,0	27	50	66
63	69,0	89,0	88,0	108,0	99,0	119,0	8,5	25,4	43,0	34	62	83

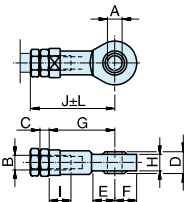
\* Double acting cylinders and single acting cylinders up to stroke length 30 mm  
 \*\* Single acting cylinders, stroke length 31 to 50 mm

Clevis



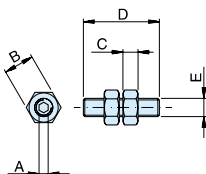
Cyl. Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm
20	5	M5	2,5	10	10	6	20	5	25	2,0
25	5	M5	2,5	10	10	6	20	5	25	2,0
32	6	M6	3,0	12	12	7	24	6	30	3,0
40	6	M6	3,0	12	12	7	24	6	30	3,0
50	8	M8	5,0	16	16	10	32	8	42	3,5
63	8	M8	5,0	16	16	10	32	8	42	3,5

Swivel rod eye



Cyl. Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	L mm
12	3	M3	1,6	6	10	7	21	4,5	4,5	24,2	1,0
20	5	M5	2,5	8	10	9	27	6,0	7,5	34,5	1,0
25	5	M5	2,5	8	10	9	27	6,0	7,5	34,5	1,0
32	6	M6	3,0	9	10	10	30	6,8	9,0	38,5	1,5
40	6	M6	3,0	9	10	10	30	6,8	9,0	38,5	1,5
50	8	M8	5,0	12	12	12	36	9,0	12,0	49,0	2,0
63	8	M8	5,0	12	12	12	36	9,0	12,0	49,0	2,0

Pin bolt



Cyl. Ø mm	A mm	B mm	C mm	D mm	E mm
12	1,5	5,5	1,6	10	M3
20	2,5	8,0	2,5	20	M5
25	2,5	8,0	2,5	20	M5
32	3,0	10,0	3,0	25	M6
40	3,0	10,0	3,0	25	M6
50	4,0	13,0	5,0	25	M8
63	4,0	13,0	5,0	25	M8

The versatile range of Short Build Cylinders, with unique porting options, integral sensor grooves and one of the shortest overall lengths on the market is suitable for a wide range of applications.



- 4 ported design - optional port configuration
- VDMA mounting centres 32mm to 100mm bore size
- Corrosion resistant design and low weight construction
- Magnetic piston as standard
- End of stroke buffers for long service life
- Lubricated with food grade grease

### Operating information

Working pressure:	Max 10 bar
Permissible fluid:	Air, with or without lubrication
Standard working temperature:	-20°C to +80°C
High temperature:	-10°C to +150°C

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

For technical information see CD

### Double acting - female threaded piston rod

#### Ø20mm - (M5)

Stroke mm	Order code
5	P1M020VDMA7G005
10	P1M020VDMA7G010
25	P1M020VDMA7G025
40	P1M020VDMA7G040
50	P1M020VDMA7G050
80	P1M020VDMA7G080
100	P1M020VDMA7G100
125	P1M020VDMA7G125
160	P1M020VDMA7G160
200	P1M020VDMA7G200

#### Ø25mm - (M5)

Stroke mm	Order code
5	P1M025VDMA7G005
10	P1M025VDMA7G010
25	P1M025VDMA7G025
40	P1M025VDMA7G040
50	P1M025VDMA7G050
80	P1M025VDMA7G080
100	P1M025VDMA7G100
125	P1M025VDMA7G125
160	P1M025VDMA7G160
200	P1M025VDMA7G200

#### Ø32mm - (G1/8)

Stroke mm	Order code
5	P1M032VDMA7G005
10	P1M032VDMA7G010
25	P1M032VDMA7G025
40	P1M032VDMA7G040
50	P1M032VDMA7G050
80	P1M032VDMA7G080
100	P1M032VDMA7G100
125	P1M032VDMA7G125
160	P1M032VDMA7G160
200	P1M032VDMA7G200
250	P1M032VDMA7G250
320	P1M032VDMA7G320

#### Ø40mm - (G1/8)

Stroke mm	Order code
5	P1M040VDMA7G005
10	P1M040VDMA7G010
25	P1M040VDMA7G025
40	P1M040VDMA7G040
50	P1M040VDMA7G050
80	P1M040VDMA7G080
100	P1M040VDMA7G100
125	P1M040VDMA7G125
160	P1M040VDMA7G160
200	P1M040VDMA7G200
250	P1M040VDMA7G250
320	P1M040VDMA7G320

#### Ø50mm - (G1/8)

Stroke mm	Order code
5	P1M050VDMA7G005
10	P1M050VDMA7G010
25	P1M050VDMA7G025
40	P1M050VDMA7G040
50	P1M050VDMA7G050
80	P1M050VDMA7G080
100	P1M050VDMA7G100
125	P1M050VDMA7G125
160	P1M050VDMA7G160
200	P1M050VDMA7G200
250	P1M050VDMA7G250
320	P1M050VDMA7G320

#### Ø63mm - (G1/8)

Stroke mm	Order code
5	P1M063VDMA7G005
10	P1M063VDMA7G010
25	P1M063VDMA7G025
40	P1M063VDMA7G040
50	P1M063VDMA7G050
80	P1M063VDMA7G080
100	P1M063VDMA7G100
125	P1M063VDMA7G125
160	P1M063VDMA7G160
200	P1M063VDMA7G200
250	P1M063VDMA7G250
320	P1M063VDMA7G320
400	P1M063VDMA7G400
500	P1M063VDMA7G500

#### Ø80mm - (G1/4)

Stroke mm	Order code
5	P1M080VDMA7G005
10	P1M080VDMA7G010
25	P1M080VDMA7G025
40	P1M080VDMA7G040
50	P1M080VDMA7G050
80	P1M080VDMA7G080
100	P1M080VDMA7G100
125	P1M080VDMA7G125
160	P1M080VDMA7G160
200	P1M080VDMA7G200
250	P1M080VDMA7G250
320	P1M080VDMA7G320
400	P1M080VDMA7G400
500	P1M080VDMA7G500

#### Ø100mm - (G1/4)

Stroke mm	Order code
5	P1M100VDMA7G005
10	P1M100VDMA7G010
25	P1M100VDMA7G025
40	P1M100VDMA7G040
50	P1M100VDMA7G050
80	P1M100VDMA7G080
100	P1M100VDMA7G100
125	P1M100VDMA7G125
160	P1M100VDMA7G160
200	P1M100VDMA7G200
250	P1M100VDMA7G250
320	P1M100VDMA7G320
400	P1M100VDMA7G400
500	P1M100VDMA7G500

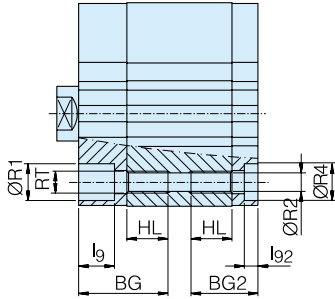


Indicates stocked product.

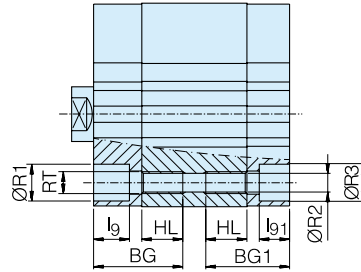
Dimensions (mm),

Double acting  
standard cylinders

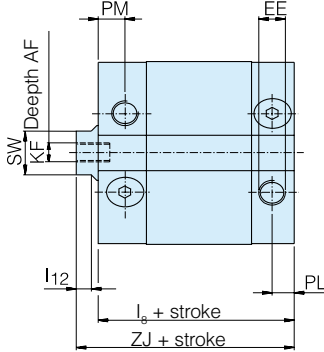
Port Position G, J



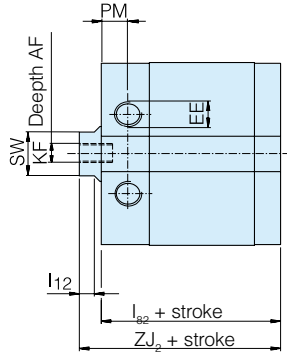
Port Position H



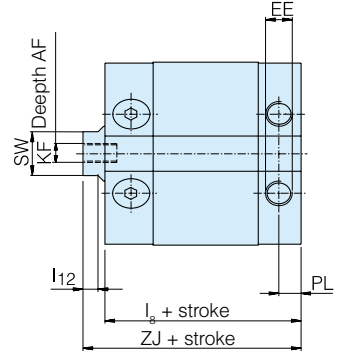
Port Position G



Port Position H



Port Position J



Cylinder designation	AF mm	BG mm	BG1 mm	BG2 mm	EE	HL mm	l8 mm	l9* mm	l12 mm	l82 mm	l91* mm	l92* mm	KF
P1M012	6	25,5	20,5	15,5	M5	12	40,0	3,5	3,0	35,0	3,5	3,5	M3
P1M016	8	26,0	21,0	15,5	M5	12	41,5	5,5	3,0	36,5	3,0	4,0	M4
P1M020	10	32,5	27,0	22,0	M5	18	42,5	10,5	4,0	37,5	5,0	4,5	M5
P1M025	12	32,5	29,0	23,0	M5	18	44,5	4,1	4,0	38,5	4,1	5,0	M6
P1M032	12	41,5	39,0	31,0	G1/8	24	49,0	4,5	5,0	41,0	4,5	4,0	M6
P1M040	12	41,5	39,5	31,0	G1/8	24	50,5	7,2	5,5	42,5	5,2	3,5	M6
P1M050	12	42,5	40,5	34,5	G1/8	25	51,0	5,2	5,5	44,5	5,2	5,0	M8
P1M063	12	43,5	40,5	35,0	G1/8	25	55,5	6,5	5,5	50,0	6,5	4,0	M8
P1M080	14	51,0	51,0	42,0	G1/4	30	63,5	9,5	6,0	54,5	9,5	8,5	M10
P1M100	16	52,0	52,0	43,5	G1/4	30	72,5	9,5	6,0	64,0	9,5	8,5	M12

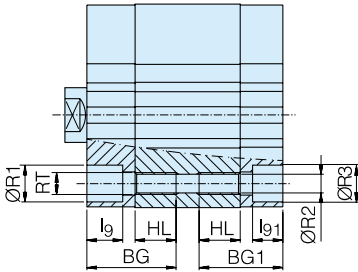
Cylinder designation	PL mm	PM mm	R1* mm	R2 mm	R3* mm	R4* mm	RT mm	SW mm	ZJ mm	ZJ2 mm
P1M012	5,0	8,0	6,0	3,5	6,0	6,0	M4	5	43,5	38,5
P1M016	5,0	9,0	7,5	3,5	6,0	6,0	M4	7	45,0	40,0
P1M020	5,0	9,0	10,5	5,0	9,0	9,0	M6	9	47,0	42,0
P1M025	7,0	9,0	10,5	5,0	9,0	9,0	M6	9	49,5	43,5
P1M032	8,0	10,5	10,5	5,0	9,5	9,5	M6	10	57,0	48,5
P1M040	7,5	9,5	10,5	5,0	10,5	10,5	M6	13	58,5	50,5
P1M050	8,0	10,0	14,5	7,0	14,5	11,0	M8	16	59,0	52,5
P1M063	8,0	11,0	10,5	7,0	10,5	10,5	M8	16	63,5	58,0
P1M080	11,5	11,5	14,0	8,5	14,0	14,0	M10	21	73,5	64,5
P1M100	12,0	12,0	14,0	8,5	14,0	14,0	M10	21	84,5	76,0

Length tolerances ±1 mm    Stroke length tolerances +1,5/0 mm

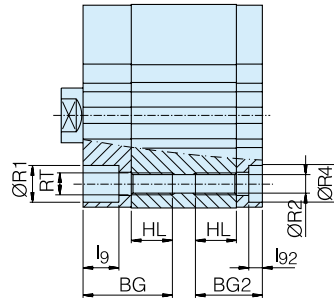
Dimensions (mm),

Single acting and  
High temperature variants

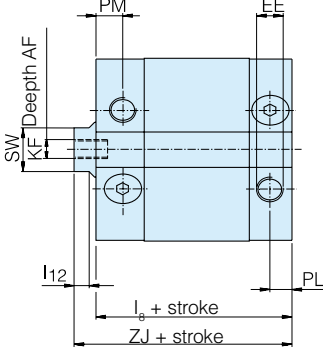
Port Position G, J



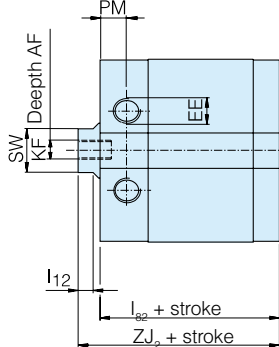
Port Position H



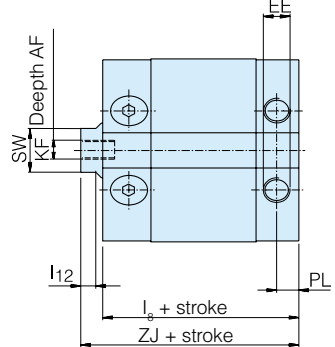
Port Position G



Port Position H



Port Position J



Cylinder designation	AF mm	BG mm	BG1 mm	BG2 mm	EE	HL mm	l8 mm	l9* mm	l12 mm	l82 mm	l91* mm	l92* mm	KF
P1M012	6	25,5	20,5	15,5	M5	12	40,0	3,5	3,0	35,0	3,5	3,5	M3
P1M016	8	26,0	21,0	15,5	M5	12	41,5	5,5	3,0	36,5	3,0	4,0	M4
P1M020	10	32,5	27,0	22,0	M5	18	42,5	10,5	4,0	37,5	5,0	4,5	M5
P1M025	12	32,5	29,0	23,0	M5	18	44,5	10,5	4,0	38,5	7,0	5,0	M6
P1M032	12	41,5	39,0	31,0	G1/8	24	49,0	14,5	5,0	41,0	12,5	4,0	M6
P1M040	12	41,5	39,5	31,0	G1/8	24	50,5	14,0	5,5	42,5	12,0	4,0	M6
P1M050	12	42,5	40,5	34,5	G1/8	25	51,0	13,0	5,5	44,5	11,0	5,0	M8
P1M063	12	43,5	40,5	35,0	G1/8	25	55,5	6,5	5,5	50,0	6,5	6,5	M8
P1M080	14	51,0	51,0	42,0	G1/4	30	63,5	9,5	6,0	54,5	9,5	8,5	M10
P1M100	16	52,0	52,0	43,5	G1/4	30	72,5	9,5	6,0	64,0	9,5	8,5	M12

Cylinder designation	PL mm	PM mm	R1* mm	R2 mm	R3* mm	R4* mm	RT mm	SW	ZJ mm	ZJ2 mm
P1M012	5,0	8,0	6,0	3,5	6,0	6,0	M4	5	43,5	38,5
P1M016	5,0	9,0	7,5	3,5	6,0	6,0	M4	7	45,0	40,0
P1M020	5,0	9,0	10,5	5,0	9,0	9,0	M6	9	47,0	42,0
P1M025	7,0	9,0	10,5	5,0	9,0	9,0	M6	9	49,5	43,5
P1M032	8,0	10,5	10,5	5,0	10,5	10,5	M6	10	57,0	48,5
P1M040	7,5	9,5	10,5	5,0	10,5	10,5	M6	13	58,5	50,5
P1M050	8,0	10,0	13,5	7,0	13,5	13,5	M8	16	59,0	52,5
P1M063	8,0	11,0	10,5	7,0	10,5	10,5	M8	16	63,5	58,0
P1M080	11,5	11,5	14,0	8,5	14,0	14,0	M10	21	73,5	64,5
P1M100	12,0	12,0	14,0	8,5	14,0	14,0	M10	21	84,5	76,0

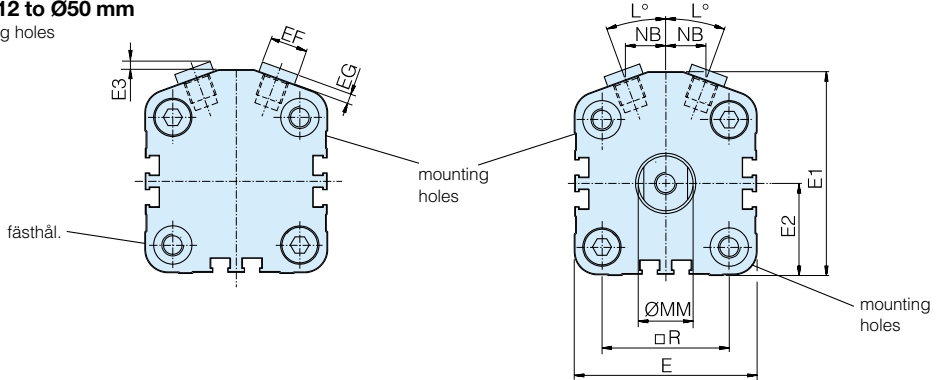
Length tolerances ±1 mm    Stroke length tolerances +1,5/0 mm

Dimensions (mm),

Port Position G, H, J

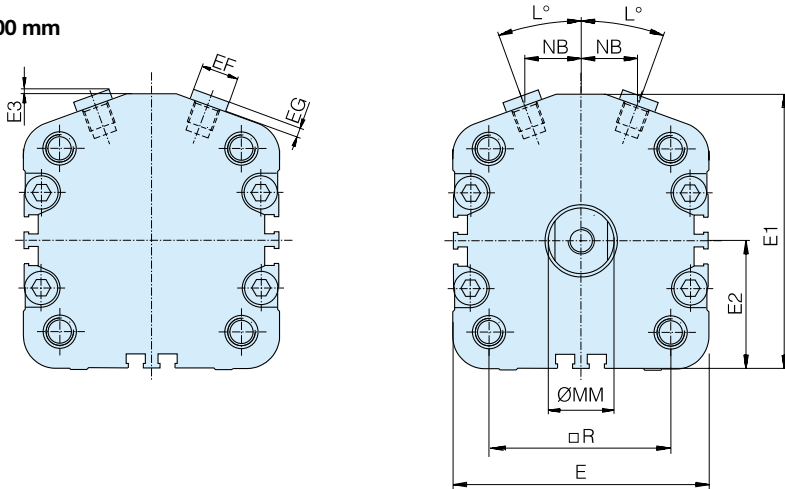
Bore Ø12 to Ø50 mm

2 mounting holes



Bore Ø63 to Ø100 mm

4 mounting holes



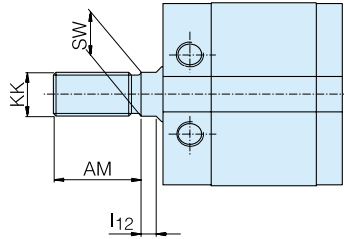
Cylinder designation	E mm	E1 mm	E2 mm	E3 mm	EE mm	EF mm	EG mm	L	MM mm	NB mm	R mm
P1M 012	27,0	31,0	14,0	-	M5	-	-	26°	6	5,5	15,5
P1M 016	31,5	35,0	16,0	-	M5	-	-	20°	8	6,5	20,0
P1M 020	38,5	42,5	19,5	3,5	M5	7*	4,5	20°	10	7,5	25,5
P1M 025	41,5	45,5	21,0	3,5	M5	7*	4,5	20°	10	8,5	28,0
P1M 032	48,0	56,0	24,0	3,0	G1/8	14	2,5	20°	12	9,5	32,5
P1M 040	56,0	62,5	28,0	3,0	G1/8	14	2,5	20°	16	11,5	38,0
P1M 050	67,0	74,5	33,5	3,0	G1/8	14	2,5	20°	20	14,5	46,5
P1M 063	82,0	86,0	40,5	2,5	G1/8	14	2,5	20°	20	17,5	56,5
P1M 080	98,0	106,5	48,5	2,5	G1/4	17	3,0	20°	25	25,5	72,0
P1M 100	119,0	126,5	59,5	2,5	G1/4	17	3,0	20°	25	31,5	89,0

\*\* Hexagon head screw

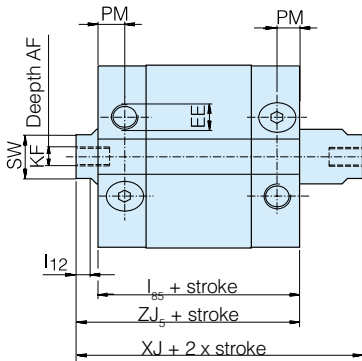


Dimensions (mm),

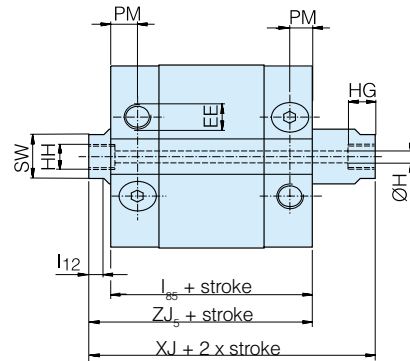
Piston rod thread 8 (external)



Cylinder type K (through piston rod)



Cylinder type H (hollow, through piston rod)



Cylinder designation	AF mm	AM mm	H* mm	HG mm	HH mm	I12 mm	I85 mm	KF	KK	PM mm	SW mm	XJ mm	ZJ5 mm
P1M 012	6	16	-	-	-	3,0	46,0	M3	M6	8,0	5	54,0	50,0
P1M 016	8	20	-	-	-	3,0	47,5	M4	M6	9,0	7	54,5	51,5
P1M 020	10	22	3	7	M5	4,0	49,5	M5	M8	9,0	9	58,5	54,0
P1M 025	12	22	3	7	M5	4,0	49,5	M6	M10X1,25	9,0	9	60,0	55,0
P1M 032	12	22	3	7	G1/8	5,0	51,5	M6	M10X1,25	10,5	10	67,5	59,5
P1M 040	12	24	4	8	G1/8	5,5	52,5	M6	M12X1,25	9,5	13	69,0	60,5
P1M 050	12	32	5	8	G1/8	5,5	53,0	M8	M16X1,5	10,0	16	69,0	61,0
P1M 063	12	32	5	8	G1/8	5,5	58,5	M8	M16X1,5	11,0	16	75,0	66,5
P1M 080	14	40	6	11	G1/4	6,0	63,5	M10	M20X1,5	11,5	21	84,0	73,5
P1M 100	16	40	6	11	G1/4	6,0	72,5	M12	M20X1,5	12,0	21	97,0	84,5

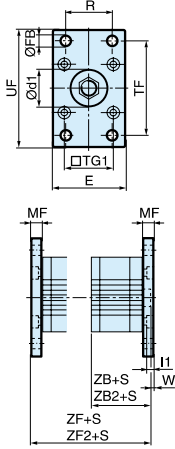
\* Dimension H only for cylinder H

Length tolerances ±1 mm

Stroke length tolerances +1,5/0 mm

Dimensions (mm),

Flange MF1/MF2



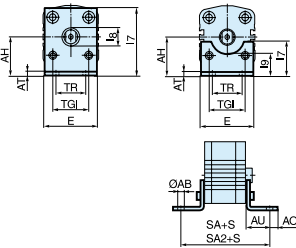
Cyl. bore mm	d1 mm	FB mm	TG1 mm	E mm	R mm	MF mm	TF mm	UF mm	I1 mm	W mm	ZF* mm	ZB* mm	ZF2* mm	ZB2* mm	Order code
	H11	H13	JS14 JS14		JS14	-0,5									
12	9,0	4,5	15,5	25	-	5,5	45,0	55	3,0	2,0	44,0	38,5	49,0	43,5	<b>P1M-4DMB</b>
16	11,5	4,5	20,0	30	-	5,5	45,0	55	3,0	2,0	45,5	40,0	50,5	45,0	<b>P1M-4FMF</b>
20	14,0	6,6	25,5	39	-	8,0	50,5	62	4,2	4,5	49,0	41,0	54,0	46,0	<b>P1M-4HMB</b>
25	14,0	6,6	28,0	42	-	8,0	53,0	65	4,2	3,0	51,5	43,5	56,5	49,5	<b>P1M-4JMB</b>
32	30,0	7,0	32,5	45	32	10,0	64,0	80	5,0	2,0	58,5	48,5	67,0	57,0	<b>P1C-4KMB</b>
40	35,0	9,0	38,0	52	36	10,0	72,0	90	5,0	2,0	60,5	50,5	68,5	58,5	<b>P1C-4LMB</b>
50	40,0	9,0	46,5	65	45	12,0	90,0	110	6,5	4,0	64,5	52,5	71,0	59,0	<b>P1C-4MMB</b>
63	45,0	9,0	56,5	75	50	12,0	100,0	120	6,5	4,0	70,0	58,0	75,5	63,5	<b>P1C-4NMB</b>
80	45,0	12,0	72,0	95	63	16,0	126,0	150	8,0	6,0	80,5	64,5	89,5	73,5	<b>P1C-4PMB</b>
100	55,0	14,0	89,0	115	75	16,0	150,0	170	8,0	4,0	92,0	76,0	100,5	84,5	<b>P1C-4QMB</b>

S = Stroke length

\* ZF, ZB for cylinders with both ports in front end (type H)  
ZF2, ZB2 for all other cylinders (type G, J, K)

Angle bracket MS1

Bore 12-50 mm      Bore 63-100 mm

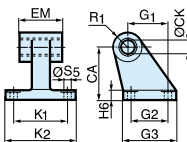


Cyl. bore mm	AB mm	TG1 mm	E mm	TR mm	AO mm	AU mm	AH mm	I7 mm	AT mm	I9 mm	I8 mm	SA* mm	SA2* mm	Order code
	H14	JS14		JS14	JS15				JS14					
12	4,5	15,5	44	35	5,5	8,0	17	29,5	2	-	8	51,0	56,0	<b>P1M-4DMF</b>
16	4,5	20,0	48	39	6,0	8,0	19	33,5	2	-	10	52,5	57,5	<b>P1M-4FMF</b>
20	6,6	25,5	62	50	7,5	9,0	24	42,0	3,2	-	12	59,5	64,5	<b>P1M-4HMF</b>
25	6,6	28,0	66	52	7,5	10,5	26	46,0	3,2	-	12	59,5	65,5	<b>P1M-4JMF</b>
32	7,0	32,5	45	32	11,0	24,0	32	54,5	8,0	-	30	88,5	97,0	<b>P1C-4KMZ</b>
40	9,0	38,0	52	36	7,0	28,0	36	62,0	8,0	-	35	98,5	106,5	<b>P1C-4LMZ</b>
50	9,0	46,5	65	45	13,0	32,0	45	77,5	10,0	-	40	108,5	115,0	<b>P1C-4MMZ</b>
63	9,0	56,5	75	50	13,0	32,0	50	35,0	5,5	27,5	-	114,0	119,5	<b>P1C-4NMF</b>
80	12,0	72,0	95	63	14,0	41,0	63	49,0	6,5	40,5	-	136,5	145,5	<b>P1C-4PMF</b>
100	14,0	89,0	115	75	15,0	41,0	71	54,0	6,5	43,5	-	146,0	154,5	<b>P1C-4QMF</b>

S = Stroke length

\* SA for cylinders with both ports in front end (type H)  
\* SA2 for all other cylinders (type G, J, K)

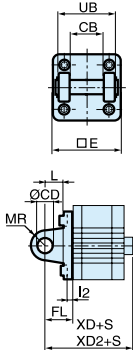
Pivot bracket with rigid bearing



Cyl. bore mm	CK mm	S5 mm	K1 mm	K2 mm	G1 mm	G2 mm	EM mm	G3 mm	CA mm	H6 mm	R1 mm	Order code
	H9	H13	JS14		JS14	JS14			JS15			
32	10	6,6	38	51	21	18	25,5	31	32	8	10	<b>P1C-4KMD</b>
40	12	6,6	41	54	24	22	27,0	35	36	10	11	<b>P1C-4LMD</b>
50	12	9,0	50	65	33	30	31,0	45	45	12	13	<b>P1C-4MMD</b>
63	16	9,0	52	67	37	35	39,0	50	50	12	15	<b>P1C-4NMD</b>
80	16	11,0	66	86	47	40	49,0	60	63	14	15	<b>P1C-4PMD</b>
100	20	11,0	76	96	55	50	59,0	70	71	15	19	<b>P1C-4QMD</b>

**Dimensions (mm),**

**Clevis bracket MP2**

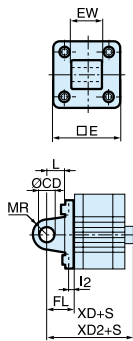


Cyl. bore	E	UB	CB	FL	L	I2	CD	MR	XD*	XD2*	Order code
mm	h14	H14	±0,2	mm	mm	H9	mm	mm	mm	mm	
12	27,0	10	5,2	14	7	-	5	6	52,5	57,5	<b>P1M-4DMT</b>
16	31,5	12	6,7	15	10	-	5	6	55,0	60,0	<b>P1M-4FMT</b>
20	38,5	16	8,2	18	12	-	8	9	59,0	65,0	<b>P1M-4HMT</b>
25	41,0	20	10,2	20	14	-	10	10	63,5	69,5	<b>P1M-4JMT</b>
32	45,0	25	12,5	22	16	5,5	10	10	70,5	79,0	<b>P1C-4KMT</b>
40	52,0	32	16,0	25	20	5,5	12	12	75,5	83,5	<b>P1C-4LMT</b>
50	65,0	40	20,0	27	25	6,5	12	12	79,5	86,0	<b>P1C-4MMT</b>
63	75,0	50	25,0	32	30	6,5	16	16	90,0	95,5	<b>P1C-4NMT</b>
80	95,0	63	31,5	36	36	10,0	16	16	100,5	109,5	<b>P1C-4PMT</b>
100	115,0	75	37,5	41	41	10,0	20	20	117,0	125,5	<b>P1C-4QMT</b>

S = Stroke length

\* XD for cylinders with both ports in front end (type H)  
XD2 for all other cylinders (type G, J, K)

**Clevis bracket MP4**

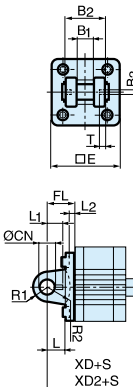


Cyl. bore	E	EW	FL	L	I2	CD	MR	XD*	XD2*	Order code
mm	mm	mm	±0,2	mm	mm	H9	mm	mm	mm	
12	27,0	4,7	14	7	-	5	6	52,5	57,5	<b>P1M-4DME</b>
16	31,5	6,2	15	10	-	5	6	55,0	60,0	<b>P1M-4FME</b>
20	38,5	7,7	18	12	-	8	9	59,0	65,0	<b>P1M-4HME</b>
25	41,0	9,7	20	14	-	10	10	63,5	69,5	<b>P1M-4JME</b>
32	45,0	12,5	22	16	5,5	10	10	70,5	79,0	<b>P1C-4KME</b>
40	52,0	16,0	25	20	5,5	12	12	75,5	83,5	<b>P1C-4LME</b>
50	65,0	20,0	27	25	6,5	12	12	79,5	86,0	<b>P1C-4MME</b>
63	75,0	25,0	32	30	6,5	16	16	90,0	95,5	<b>P1C-4NME</b>
80	95,0	31,5	36	36	10,0	16	16	100,5	109,5	<b>P1C-4PME</b>
100	115,0	37,5	41	41	10,0	20	20	117,0	125,5	<b>P1C-4QME</b>

S = Stroke length

\* XD for cylinders with both ports in front end (type H)  
XD2 for all other cylinders (type G, J, K)

**Clevis bracket GA**



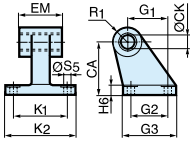
Cyl. bore	E	B2	B1	T	B3	R2	L1	FL	I2	L	CN	R1	XD*	XD2*	Order code
mm	d12	H14	mm	mm	mm	mm	mm	±0,2	mm	mm	F7	mm	mm	mm	
32	45	34	14	3	3,3	17	11,5	22	5,5	12	10	11	70,5	79,0	<b>P1C-4KMCA</b>
40	52	40	16	4	4,3	20	12,0	25	5,5	15	12	13	75,5	83,5	<b>P1C-4LMCA</b>
50	65	45	21	4	4,3	22	14,0	27	6,5	17	16	18	79,5	86,0	<b>P1C-4MMCA</b>
63	75	51	21	4	4,3	25	14,0	32	6,5	20	16	18	90,0	95,5	<b>P1C-4NMCA</b>
80	95	65	25	4	4,3	30	16,0	36	10,0	20	20	22	100,5	109,5	<b>P1C-4PMCA</b>
100	115	75	25	4	4,3	32	16,0	41	10,0	25	20	22	117,0	125,5	<b>P1C-4QMCA</b>

S = Stroke length

\* XD for cylinders with both ports in front end (type H)  
XD2 for all other cylinders (type G, J, K)

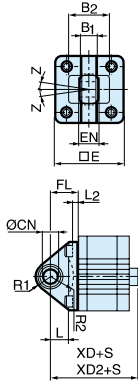
**Dimensions (mm),**

**Pivot bracket with swivel bearing**



Cyl. bore	CN H7	S5 H13	K1 JS14	K2	EU	G1 JS14	G2 JS14	EN	G3	CH JS15	H6	ER	Z	Order code
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
32	10	6,6	38	51	10,5	21	18	14	31	32	10	16	4°	<b>P1C-4KMA</b>
40	12	6,6	41	54	12,0	24	22	16	35	36	10	18	4°	<b>P1C-4LMA</b>
50	16	9,0	50	65	15,0	33	30	21	45	45	12	21	4°	<b>P1C-4MMA</b>
63	16	9,0	52	67	15,0	37	35	21	50	50	12	23	4°	<b>P1C-4NMA</b>
80	20	11,0	66	86	18,0	47	40	25	60	63	14	28	4°	<b>P1C-4PMA</b>
100	20	11,0	76	96	18,0	55	50	25	70	71	15	30	4°	<b>P1C-4QMA</b>

**Swivel eye bracket**

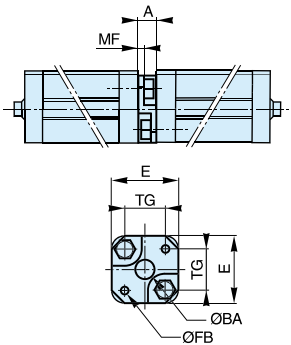


Cyl. bore	E	B1	B2	EN	R1	R2	FL	I2	L	CN H7	XD*	XD2*	Z	Order code
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
32	45	10,5	38	14	16	14	22	5,5	12	10	70,5	79,0	4°	<b>P1C-4KMSA</b>
40	52	12,0	44	16	18	16	25	5,5	15	12	75,5	83,5	4°	<b>P1C-4LMSA</b>
50	65	15,0	51	21	21	19	27	6,5	15	16	79,5	86,0	4°	<b>P1C-4MMSA</b>
63	75	15,0	56	21	23	22	32	6,5	20	16	90,0	95,5	4°	<b>P1C-4NMSA</b>
80	95	18,0	72	25	29	25	36	10,0	20	20	100,5	109,5	4°	<b>P1C-4PMSA</b>
100	115	18,0	82	25	31	27	41	10,0	25	20	117,0	125,5	4°	<b>P1C-4QMSA</b>

S=Stroke length

\* XD for cylinders with both ports in front end (type H)  
XD2 for all other cylinders (type G, J, K)

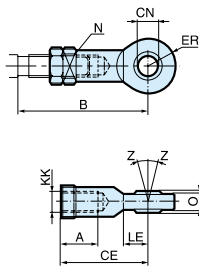
**Mounting kit**



Cyl. bore	E	TG	ØFB	MF	A	ØBA	Order code
mm	mm	mm	mm	mm	mm	mm	
32	50	32,5	6,5	5	16	30	<b>P1E-6KB0</b>
40	60	38,0	6,5	5	16	35	<b>P1E-6LB0</b>
50	66	46,5	8,5	6	20	40	<b>P1E-6MB0</b>
63	80	56,5	8,5	6	20	45	<b>P1E-6NB0</b>
80	100	72,0	10,5	8	25	45	<b>P1E-6PB0</b>
100	118	89,0	10,5	8	25	55	<b>P1E-6QB0</b>

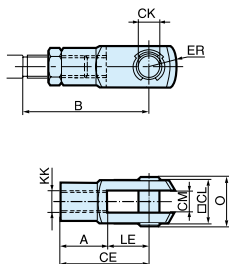
Dimensions (mm),

Swivel rod eye



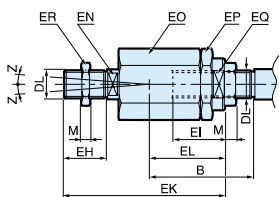
Cyl. bore mm	A mm	B min mm	B max mm	CE mm	CN H9 mm	EN h12 mm	ER mm	KK	LE min mm	M mm	N mm	O mm	Z	Order code
12	9	37	40	30	6	9	10	M6	10	3,2	10	6,8	10°	P1A-4DRS
16	9	37	40	30	6	9	10	M6	10	3,2	10	6,8	10°	P1A-4DRS
20	12	44	48	36	8	12	12	M8	12	4,0	13	9,0	12°	P1A-4HRS
25	15	48	55	43	10	14	14	M10X1,25	14	5,0	17	10,5	12°	P1A-4JRS
32	20	48	55	43	10	14	14	M10x1,25	15	5,0	17	10,5	12°	P1C-4KRS
40	22	56	62	50	12	16	16	M12x1,25	17	6,0	19	12,0	12°	P1C-4LRS
50	28	72	80	64	16	21	21	M16x1,5	22	8,0	22	15,0	15°	P1C-4MRS
63	28	72	80	64	16	21	21	M16x1,5	22	8,0	22	15,0	15°	P1C-4MRS
80	33	87	97	77	20	25	25	M20x1,5	26	10,0	32	18,0	15°	P1C-4PRS
100	33	87	97	77	20	25	25	M20x1,5	26	10,0	32	18,0	15°	P1C-4PRS

Clevis



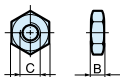
Cyl. bore mm	A mm	B min mm	B max mm	CE mm	CK h11/E9 mm	CL mm	CM mm	ER mm	KK	LE mm	M mm	O mm	Order code
12	12	28	34	24	6	12	6	7	M6	12	3,2	17,0	P1A-4DRC
16	12	28	34	24	6	12	6	7	M6	12	3,2	17,0	P1A-4DRC
20	16	37	44	32	8	16	8	10	M8	16	4,0	22,0	P1A-4HRC
25	20	45	52	40	10	20	10	12	M10X1,25	20	5,0	28,0	P1A-4JRC
32	20	45	52	40	10	20	10	16	M10x1,25	20	5,0	28,0	P1C-4KRC
40	24	54	60	48	12	24	12	19	M12x1,25	24	6,0	32,0	P1C-4LRC
50	32	72	80	64	16	32	16	25	M16x1,5	32	8,0	41,5	P1C-4MRC
63	32	72	80	64	16	32	16	25	M16x1,5	32	8,0	41,5	P1C-4MRC
80	40	90	100	80	20	40	20	32	M20x1,5	40	10,0	50,0	P1C-4PRC
100	40	90	100	80	20	40	20	32	M20x1,5	40	10,0	50,0	P1C-4PRC

Flexcoupling



Cyl. bore mm	B min mm	B max mm	DL mm	EH mm	EI mm	EK mm	EL mm	EN mm	EO mm	EP mm	EQ mm	M mm	Z	Order code
32	36	43	M10x1,25	20	23	70	31	12	30	30	19	5	4°	P1C-4KRF
40	37	43	M12x1,25	23	23	67	31	12	30	30	19	6	4°	P1C-4LRF
50	53	61	M16x1,5	40	32	112	45	19	41	41	30	8	4°	P1C-4MRF
63	53	61	M16x1,5	40	32	112	45	19	41	41	30	8	4°	P1C-4MRF
80	57	67	M20x1,5	39	42	122	56	19	41	41	30	10	4°	P1C-4PRF
100	57	67	M20x1,5	39	42	122	56	19	41	41	30	10	4°	P1C-4PRF

Nut



Cyl. bore mm	d mm	M mm	S mm	Order code
12	M6	3,2	10	0261210800
16	M6	3,2	10	0261210800
20	M8	4,0	13	0261211000
25	M10x1,25	5,0	17	9128985601
32	M10x1,25	5,0	17	9128985601
40	M12x1,25	6,0	19	0261109910
50	M16x1,5	8,0	24	9128985603
63	M16x1,5	8,0	24	9128985603
80	M20x1,5	10,0	30	0261109911
100	M20x1,5	10,0	30	0261109911

This range of stainless steel cylinders has been specially designed for use in difficult environments. Hygienic design, external seals of flourianted rubber and prelubrication with our food-industry-approved grease according to USDA-H1 make the cylinders particularly suitable for food industry use. All cylinders have magnetic pistons for proximity position sensing. Fixing dimensions to ISO 6432 simplify installation and make the cylinders physically interchangeable throughout the world.



- Mini - cylinders according to ISO 6432
- All stainless in 10 to 25 mm bores
- Magnetic piston as standard
- Double and single acting
- End stroke buffers for long service life
- Available with adjustable cushioning

### Operating information

Working pressure: Max 10 bar  
 Temperature range: -20°C to +80°C Ø10-25mm

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

For technical information see CD

### Double acting fixed cushioning

#### Ø10mm - (M5)

Stroke mm	Order code
10	P1S-S010DS-0010
15	P1S-S010DS-0015
25	P1S-S010DS-0025
40	P1S-S010DS-0040
50	P1S-S010DS-0050
80	P1S-S010DS-0080
100	P1S-S010DS-0100
125	P1S-S010DS-0125

#### Ø12mm - (M5)

Stroke mm	Order code
10	P1S-S012DS-0010
15	P1S-S012DS-0015
25	P1S-S012DS-0025
40	P1S-S012DS-0040
50	P1S-S012DS-0050
80	P1S-S012DS-0080
100	P1S-S012DS-0100
125	P1S-S012DS-0125
160	P1S-S012DS-0160
200	P1S-S012DS-0200

#### Ø16mm - (M5)

Stroke mm	Order code
10	P1S-S016DS-0010
15	P1S-S016DS-0015
25	P1S-S016DS-0025
40	P1S-S016DS-0040
50	P1S-S016DS-0050
80	P1S-S016DS-0080
100	P1S-S016DS-0100
125	P1S-S016DS-0125
160	P1S-S016DS-0160
200	P1S-S016DS-0200

#### Ø20mm - (G1/8)

Stroke mm	Order code
10	P1S-S020DS-0010
15	P1S-S020DS-0015
25	P1S-S020DS-0025
40	P1S-S020DS-0040
50	P1S-S020DS-0050
80	P1S-S020DS-0080
100	P1S-S020DS-0100
125	P1S-S020DS-0125
160	P1S-S020DS-0160
200	P1S-S020DS-0200
250	P1S-S020DS-0250
320	P1S-S020DS-0320

#### Ø25mm - (G1/8)

Stroke mm	Order code
10	P1S-S025DS-0010
15	P1S-S025DS-0015
25	P1S-S025DS-0025
40	P1S-S025DS-0040
50	P1S-S025DS-0050
80	P1S-S025DS-0080
100	P1S-S025DS-0100
125	P1S-S025DS-0125
160	P1S-S025DS-0160
200	P1S-S025DS-0200
250	P1S-S025DS-0250
320	P1S-S025DS-0320

### Double acting adjustable cushioning

#### Ø20mm - (G1/8)

Stroke mm	Order code
15	P1S-S020MS-0015
25	P1S-S020MS-0025
40	P1S-S020MS-0040
50	P1S-S020MS-0050
80	P1S-S020MS-0080
100	P1S-S020MS-0100
125	P1S-S020MS-0125
160	P1S-S020MS-0160
200	P1S-S020MS-0200
250	P1S-S020MS-0250
320	P1S-S020MS-0320

#### Ø25mm - (G1/8)

Stroke mm	Order code
15	P1S-S025MS-0015
25	P1S-S025MS-0025
40	P1S-S025MS-0040
50	P1S-S025MS-0050
80	P1S-S025MS-0080
100	P1S-S025MS-0100
125	P1S-S025MS-0125
160	P1S-S025MS-0160
200	P1S-S025MS-0200
250	P1S-S025MS-0250
320	P1S-S025MS-0320

## Design Variants

### Working temperatures

#### High temperature

Ø10 and Ø16mm -10°C to +120°C Non-magnetic piston  
 Ø20 and Ø25mm -10°C to +150°C Non-magnetic piston

#### Low temperature

Ø10, 12 and 16mm -40°C to +60°C Non-magnetic piston

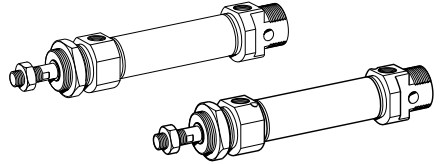


## Double acting options

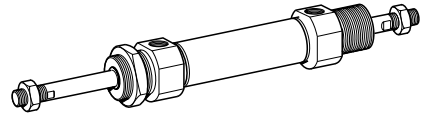
### Effective end-cushioning

A version of ISO 6432 Ø10-Ø25 incorporates fixed end-cushioning, while the cylinders Ø20-Ø125 have pneumatic end-cushioning with adjusting screws for exact setting, permitting heavier loads and higher speeds for short cycle times.

Double-acting adjustable cushioning	Ø20 - Ø25 (not for seal material type F and L)
Double-acting non-adjustable cushioning	Ø10 - Ø25

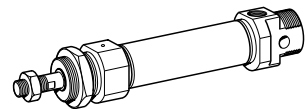


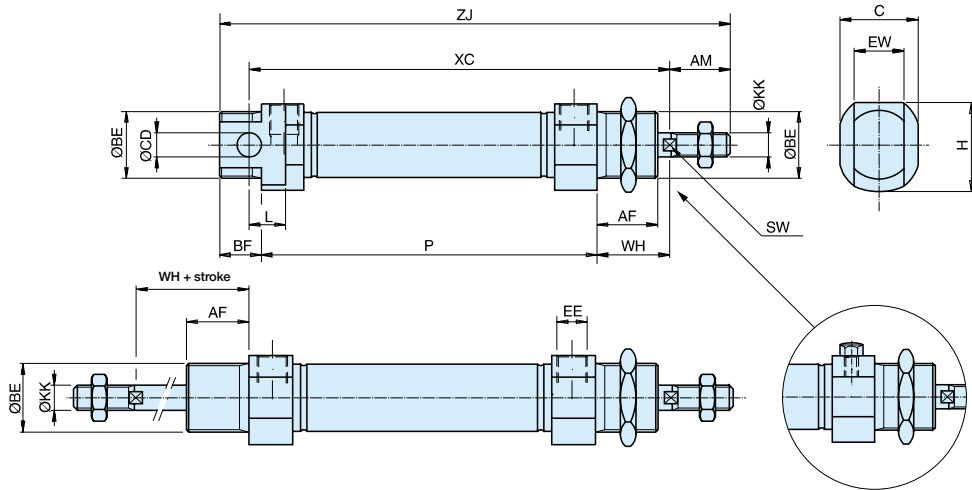
Double-acting, adjustable cushioning through rod	Ø20 - Ø25 (not for seal material type F and L)
Double-acting, non-adjustable cushioning through rod	Ø10 - Ø25
Double-acting, adjustable cushioning through rod, hollow	Ø20 - Ø25 (not for seal material type F and L)
Double-acting, non-adjustable cushioning through rod, hollow	Ø20 - Ø25 max stroke 125mm



## Single acting options

Single-acting, non-adjustable cushioning, spring return for retract stroke	Ø10 - Ø25
Single-acting, push type	Ø20 - Ø25





**Dimensions**

Cyl. bore mm	AM 0/-2 mm	BE	AF mm	BF mm	C mm	CDH9 mm	EE	EW mm	H mm	KK	L mm	SW mm	WH±1,2 mm
10	12	M12x1,25	12	10	14	4	M5	8	19	M4	6	-	16
12	16	M16x1,5	18	13	18	6	M5	12	19	M6	9	5	22
16	16	M16x1,5	18	13	18	6	M5	12	19	M6	9	5	22
20	20	M22x1,5	20	14	24	8	G1/8	16	29	M8	12	7	24
25	22	M22x1,5	22	14	28	8	G1/8	16	32	M10x1,25	12	9	28

**Double acting cylinders**

Cyl. bore mm	XC mm	ZJ mm	P mm
10	64 + stroke	84 + stroke	46 + stroke
12	75 + stroke	99 + stroke	48 + stroke
16	82 + stroke	104 + stroke	53 + stroke
20	95 + stroke	125 + stroke	67 + stroke
25	104 + stroke	132 + stroke	68 + stroke

**Single acting with spring return, type SS**

Stroke/ Cyl. bore mm	10 mm	15 mm	25 mm	40 mm	50 mm	80 mm	10 mm	15 mm	25 mm	40 mm	50 mm	80 mm	10 mm	15 mm	25 mm	40 mm	50 mm	80 mm
10	74	79	89	126	136	174	94	99	109	146	156	194	56	61	71	108	118	156
12	85	90	100	132	142	185	109	114	124	156	166	209	58	63	73	105	115	158
16	92	97	107	122	132	184	114	119	129	144	154	206	63	68	78	93	103	155
20	105	110	120	135	145	191	135	140	150	165	175	221	77	82	92	107	117	163
25	114	119	129	144	154	201	142	147	157	172	182	229	78	83	93	108	118	165

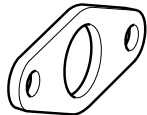
Length tolerances ± 1 mm  
 Stroke length tolerances +1,5/0 mm

Cylinders are supplied complete with mounting and adjusting nuts.  
 Cylinders with through piston rod are supplied complete with two adjusting nuts and one mounting nut.



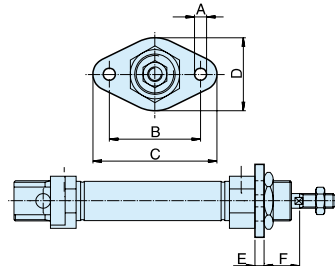
**Cylinder mountings**

**Flange-MF8**



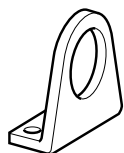
Intended for fixed attachment of the cylinder. The flange is designed for mounting on the front or rear end-covers.

Material:  
Stainless steel, DIN X 10 CrNiS 18 9



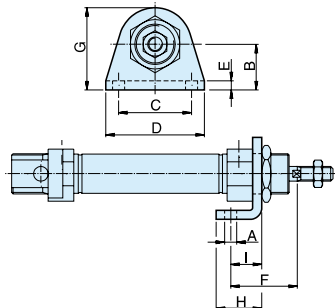
Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	Weight Kg	Order code
10	4,5	30	40	22	3	13	0,012	<b>P1S-4CMB</b>
12-16	5,5	40	52	30	4	18	0,025	<b>P1S-4DMB</b>
20	6,6	50	66	40	5	19	0,045	<b>P1S-4HMB</b>
25	6,6	50	66	40	5	23	0,045	<b>P1S-4HMB</b>

**Foot-MS3**



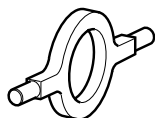
Intended for fixed attachment of the cylinder. The bracket is designed for mounting on the front or rear end-covers.

Material:  
Stainless steel, DIN X 10 CrNiS 18 9



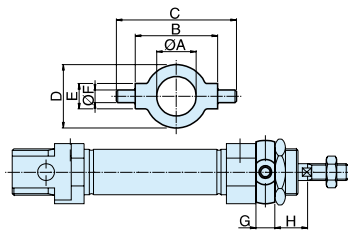
Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Weight Kg	Order code
10	4,5	16	25	35	3	24	26	16	11	0,020	<b>P1S-4CMF</b>
12-16	5,5	20	32	42	4	32	32,5	20	14	0,040	<b>P1S-4DMF</b>
20	6,5	25	40	54	5	36	45	25	17	0,080	<b>P1S-4HMF</b>
25	6,5	25	40	54	5	40	45	25	17	0,080	<b>P1S-4HMF</b>

**Cover trunnion**



Intended for articulated mounting of the cylinder. The flange is designed for mounting on the front or rear end-covers.

Material:  
Stainless steel, DIN X 10 CrNiS 18 9



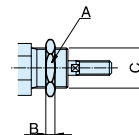
Cylinder Ø	A mm	B h14 mm	C mm	D mm	E e9 mm	F mm	G mm	H mm	Weight Kg	Order code
10	12,5	26	38	20	8	4	6	10	0,014	<b>P1A-4CMJ</b>
12-16	16,5	38	58	25	10	6	8	14	0,033	<b>P1A-4DMJ</b>
20	22,5	46	66	30	10	6	8	16	0,037	<b>P1A-4HMJ</b>
25	22,5	46	66	30	10	6	8	20	0,037	<b>P1A-4HMJ</b>

**Mounting nut**



Intended for fixed mounting of the cylinder. Cylinders are supplied complete with one mounting nut.

Material:  
Stainless steel, DIN X 5 CrNi 18 10



Cylinder Ø mm	A mm	B mm	C	Weight Kg	Order code
10	17	5	M12x1,25	0,009	<b>9126725405</b>
12-16	24	8	M16x1,50	0,018	<b>9126725406</b>
20-25	27	5	M22x1,50	0,042	<b>9126725407</b>

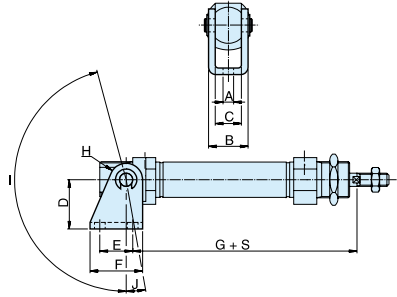
**Cylinder mountings**

**Clevis bracket**

Intended for articulated mounting of the cylinder. Supplied with shaft for mounting on the rear end cover.



Material:  
 Bracket: stainless steel, DIN X 5 CrNi 18 10  
 Pin: tempered stainless steel, DIN X 20 Cr 13  
 Locking rings: stainless steel, DIN X 5 CrNi 18 10

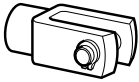


Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	Weight Kg	Order code
10	4,5	13	8	24	12,5	20	65,3	5	160	17	0,020	<b>P1S-4CMT</b>
12	5,5	18	12	27	15	25	73	7	170	15	0,040	<b>P1S-4DMT</b>
16	5,5	18	12	27	15	25	80	7	170	15	0,040	<b>P1S-4DMT</b>
20	6,5	24	16	30	20	32	91	10	165	10	0,080	<b>P1S-4HMT</b>
25	6,5	24	16	30	20	32	100	10	165	10	0,080	<b>P1S-4HMT</b>

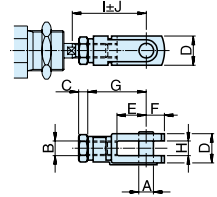
S=stroke

**Clevis**

According to ISO 8140  
 Intended for articulated mounting of the cylinder. This mounting is adjustable in the axial direction. Supplied complete with pin.



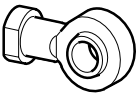
Material:  
 Stainless steel, DIN X 5 CrNi 18 10



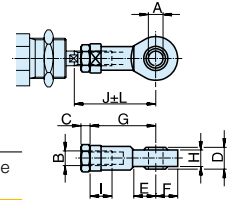
Cylinder Ø mm	A mm	B	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	Weight	Order code
10	4	M4	2,2	8	8	5	16	4	22	2	0,007	<b>P1S-4CRD</b>
12-16	6	M6	3,2	12	12	7	24	6	31	3	0,022	<b>P1S-4DRD</b>
20	8	M8	4	16	16	10	32	8	40,5	3,5	0,045	<b>P1S-4HRD</b>
25	10	M10x1,25	5	20	20	12	40	10	49	3	0,095	<b>P1S-4JRD</b>

**Swivel rod eye**

According to ISO 8139  
 Intended for articulated mounting of the cylinder. This mounting is adjustable in the axial direction.



Material:  
 Swivel rod eye: stainless steel, DIN X 5 CrNi 18 10  
 Ball: hardened stainless steel, DIN X 5 CrNi 18 10



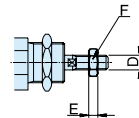
Cylinder Ø mm	A mm	B	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	Weight	Order code
10	5	M4	2,2	8	10	9	27	6	8	33	9	2	0,017	<b>P1S-4CRT</b>
12-16	6	M6	3,2	9	10	10	30	6,8	9	38,5	11	1,5	0,025	<b>P1S-4DRT</b>
20	8	M8	4	12	12	12	36	9	12	46	14	2	0,045	<b>P1S-4HRT</b>
25	10	M10x1,25	5	14	14	14	43	10,5	15	52,5	17	2,5	0,085	<b>P1S-4JRT</b>

**Rod nut**

Intended for fixed mounting on the piston rod. Cylinders are supplied complete with one rod nut. (cylinders with through piston rod are supplied with two rod nuts.)



Material:  
 Stainless steel, DIN X 5 CrNi 18 10



Cylinder Ø mm	D	F mm	E mm	Weight	Order code
10	M4	7	2,2	0,001	<b>9127385121</b>
12-16	M6	10	3,2	0,002	<b>9127385122</b>
20	M8	13	4	0,005	<b>9127385123</b>
25	M10x1,25	17	5	0,007	<b>9126725404</b>

This range of stainless steel cylinders has been specially designed for use in difficult environments. Hygienic design, external seals of flourianted rubber and prelubrication with our food-industry-approved grease according to USDA-H1 make the cylinders particularly suitable for food industry use. All cylinders have magnetic pistons for proximity position sensing. Fixing dimensions to ISO 6431 simplify installation and make the cylinders physically interchangeable throughout the world.



- Round cylinder to ISO 6431
- All stainless steel
- Clean, smooth washdown design
- Magnetic piston as standard
- Adjustable cushioning for long service life
- Complete range of mountings and sensors

### Operating information

Working pressure: Max 10 bar  
Temperature range: -20°C to +70°C

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

For technical information see CD

### Standard stroke lengths

#### Ø32mm - (G1/8)

Stroke mm	Order code
25	P1S-D032MS-0025
50	P1S-D032MS-0050
80	P1S-D032MS-0080
100	P1S-D032MS-0100
125	P1S-D032MS-0125
160	P1S-D032MS-0160
200	P1S-D032MS-0200
250	P1S-D032MS-0250
320	P1S-D032MS-0320
400	P1S-D032MS-0400
500	P1S-D032MS-0500

#### Ø63mm - (G3/8)

Stroke mm	Order code
25	P1S-D063MS-0025
50	P1S-D063MS-0050
80	P1S-D063MS-0080
100	P1S-D063MS-0100
125	P1S-D063MS-0125
160	P1S-D063MS-0160
200	P1S-D063MS-0200
250	P1S-D063MS-0250
320	P1S-D063MS-0320
400	P1S-D063MS-0400
500	P1S-D063MS-0500

#### Ø100mm - (G1/2)

Stroke mm	Order code
25	P1S-L100MS-0025
50	P1S-L100MS-0050
80	P1S-L100MS-0080
100	P1S-L100MS-0100
125	P1S-L100MS-0125
160	P1S-L100MS-0160
200	P1S-L100MS-0200
250	P1S-L100MS-0250
320	P1S-L100MS-0320
400	P1S-L100MS-0400
500	P1S-L100MS-0500

#### Ø40mm - (G1/4)

Stroke mm	Order code
25	P1S-D040MS-0025
50	P1S-D040MS-0050
80	P1S-D040MS-0080
100	P1S-D040MS-0100
125	P1S-D040MS-0125
160	P1S-D040MS-0160
200	P1S-D040MS-0200
250	P1S-D040MS-0250
320	P1S-D040MS-0320
400	P1S-D040MS-0400
500	P1S-D040MS-0500

#### Ø80mm - (G3/8)

Stroke mm	Order code
25	P1S-L080MS-0025
50	P1S-L080MS-0050
80	P1S-L080MS-0080
100	P1S-L080MS-0100
125	P1S-L080MS-0125
160	P1S-L080MS-0160
200	P1S-L080MS-0200
250	P1S-L080MS-0250
320	P1S-L080MS-0320
400	P1S-L080MS-0400
500	P1S-L080MS-0500

#### Ø125mm - (G1/2)

Stroke mm	Order code
25	P1S-L125MS-0025
50	P1S-L125MS-0050
80	P1S-L125MS-0080
100	P1S-L125MS-0100
125	P1S-L125MS-0125
160	P1S-L125MS-0160
200	P1S-L125MS-0200
250	P1S-L125MS-0250
320	P1S-L125MS-0320
400	P1S-L125MS-0400
500	P1S-L125MS-0500

#### Ø50mm - (G1/4)

Stroke mm	Order code
25	P1S-D050MS-0025
50	P1S-D050MS-0050
80	P1S-D050MS-0080
100	P1S-D050MS-0100
125	P1S-D050MS-0125
160	P1S-D050MS-0160
200	P1S-D050MS-0200
250	P1S-D050MS-0250
320	P1S-D050MS-0320
400	P1S-D050MS-0400
500	P1S-D050MS-0500

## Design Variants

### Working temperatures

**High temperature** -10°C to +150°C Non-magnetic piston

**Low temperature**

Ø10 and Ø125mm -40°C to +40°C Non-magnetic piston

**Stainless steel scraper for piston rod**

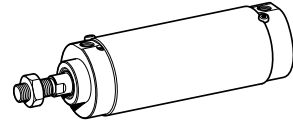
-20°C to +80°C Magnetic piston



### Double acting options

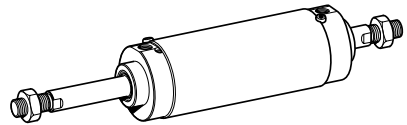
Double-acting  
adjustable cushioning

Ø80 - Ø125



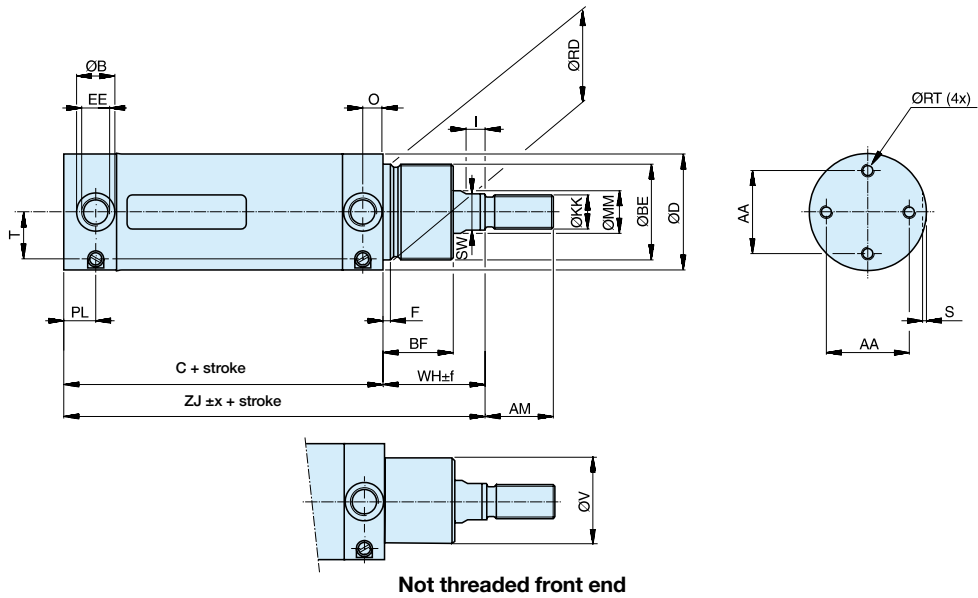
Double-acting  
adjustable cushioning  
through rod only

Ø80 - Ø125



### Mounting options

ISO 6431 Stainless Steel Cylinders are available with a variety of integral threaded mounting holes or trunnion pegs. See Technical Catalogue CD for details.



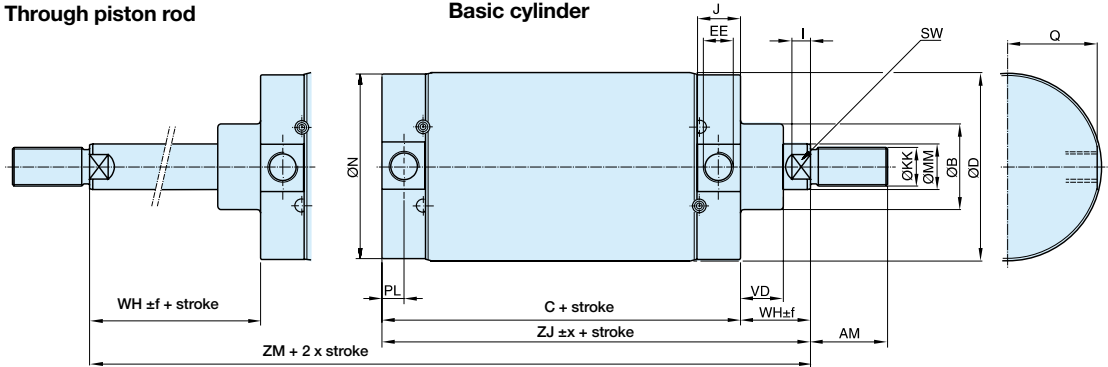
**Dimensions Ø32-Ø63**

Cylinder designation	AA mm	AM mm	B mm	BF mm	BE	C mm	D mm	EE mm	F mm	I mm	KK	MM mm	O mm	PL mm	RD mm	RT mm
P1S-D032M	24,5	22	15	25	M30x1,5	88	36	G1/8	4,2	6	M10x1,25	12	8	13	30	M5
P1S-D040M	30	24	18	30	M38x1,5	97	44	G1/4	4,5	9	M12x1,25	16	9,5	15	38	M6
P1S-D050M	39	32	18	33	M45x1,5	101	55	G1/4	4,5	9	M16x1,5	20	9,5	15	45	M6
P1S-D063M	49	32	25	33	M45x1,5	117	68	G3/8	4,5	9	M16x1,5	20	13,3	20,5	45	M8

Cylinder designation	S mm	SW mm	T mm	V mm	WH mm	ZJ mm	Mounting tolerances x f mm mm		Stroke length 0-500 mm mm
P1S-D032M	1,5	10	12,2	26	35,5	123,5	1,2	2,5	+2,0
P1S-D040M	1,5	14	16,5	35	44	141	1,0	2,2	+2,0
P1S-D050M	1,5	17	22	41	47	148	0,9	2,3	+2,0
P1S-D063M	1,5	17	26	41	47	164	1,4	2,3	+2,5

Through piston rod

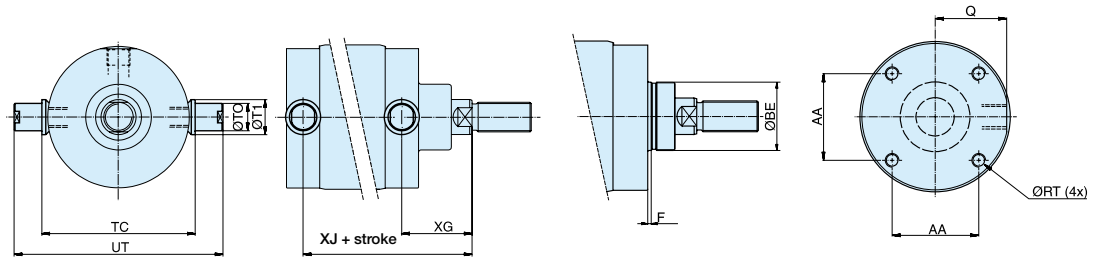
Basic cylinder



Trunnion pegs on front or rear end cover

Threaded front end

Mounting holes in the end covers



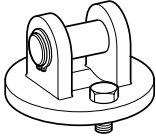
Dimensions Ø80-Ø125

Cylinder designation	AA mm	AM mm	B mm	BE	C mm	D mm	EE	F mm	KK	I mm	J mm	MM mm	N mm	PL mm	Q mm
P1S-•080M	46	40	50	M50x1,5	141	86	G3/8	4	M20x1,5	10	24,5	25	84	12,5	40
P1S-•100M	60	40	50	M50x1,5	158	106	G1/2	4	M20x1,5	8	30	25	104	15,5	49,5
P1S-•125M	76	54	60	M60x2	183	132	G1/2	4	M27x2	13	30	32	129	15,5	62,5

Cylinder designation	RT	SW	TC	TO	T1	UT	VD	WH	XG	X3	ZJ	ZM	Mounting tol. x f	Stroke length 0-500 mm
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm mm	mm
P1S-•080M	M8	21	98	20	25	125	19	37	49,5	165,5	178	215	1,5 2,5	+2,5
P1S-•100M	M10	21	109	25	32	152	19	35	50,5	177,5	193	228	1,5 2,5	+2,5
P1S-•125M	M12	27	134	25	32	177	24	47	63	214	230	277	2,0 2,5	+4,0

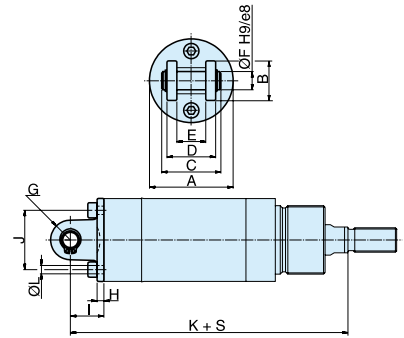
## Cylinder mountings Ø32 - Ø63

## Clevis bracket MP2



Intended for articulated mounting of the cylinder versions D, F or K. The bracket is mounted at the rear end cover and is supplied complete with shaft, mounting screw and O-ring for a clean joint between end cover and bracket.

Material:  
Stainless steel, DIN X 5 CrNi 18 10



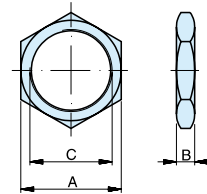
Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	Weight Kg	Order code
32	35,5	20	33	26	15	10	10	4,5	18,5	25	142	5,5	0,09	<b>P1S-4KME</b>
40	43,5	24	35	28	17	12	12	4	19	30	160	6,5	0,12	<b>P1S-4LME</b>
50	54,5	26	39	32	17	12	13	4,5	22	39	170	6,5	0,19	<b>P1S-4MME</b>
63	67,5	34	47	40	22	16	17	6	26	49	190	8,6	0,34	<b>P1S-4NME</b>

S = Stroke

## Mounting nut

Intended for fixed mounting of the cylinder via the neck.

Material: stainless steel, DIN X 5 CrNi 18 10



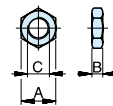
Cylinder Ø mm	A mm	B mm	C	Weight Kg	Order code
32	36	8	M30x1,5	0,03	<b>9127294401</b>
40	46	10	M38x1,5	0,06	<b>9127294402</b>
50	55	10	M45x1,5	0,08	<b>9127294403</b>
63	55	10	M45x1,5	0,08	<b>9127294403</b>

## Cylinder mountings Ø32-Ø125

## Rod nut

Intended for fixed mounting on the piston rod. Cylinders are supplied complete with one rod nut. (cylinders with through piston rods are supplied with two rod nuts.)

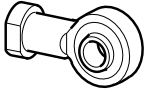
Material:  
Stainless steel, DIN X 5 CrNi 18 10



Cylinder Ø	A mm	B mm	C mm	Weight Kg	Order code
32	17	5	M10x1,25	0,01	<b>9126725404</b>
40	19	6	M12x1,25	0,01	<b>9126725405</b>
50	24	8	M16x1,5	0,02	<b>9126725406</b>
63	24	8	M16x1,5	0,02	<b>9126725406</b>
80	30	10	M20x1,5	0,04	<b>0261109921</b>
100	30	10	M20x1,5	0,04	<b>0261109921</b>
125	41	13,5	M27x2	0,10	<b>0261109922</b>

Cylinder mountings Ø32 - Ø125

Swivel rod eye

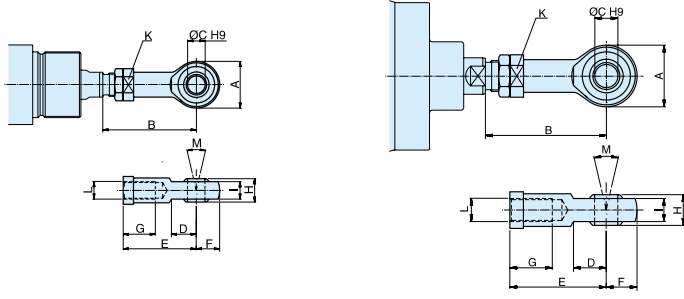


According to ISO 8139  
Intended for articulated mounting of the cylinder. This mounting is adjustable in the axial direction.

Material:  
Swivel rod eye: stainless steel, DIN X 5 CrNi 18 10  
Ball: hardened stainless steel, DIN X 5 CrNi 18 10

32	0,09
40	0,15
50-63	0,35
80-100	0,75
125	2,10

- P1S-4JRD
- P1S-4LRD
- P1S-4MRD
- P1S-4PRD
- P1S-4RRD



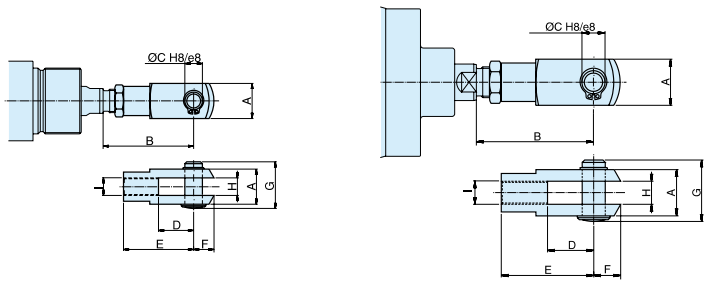
Cyl. Ø mm	A mm	B <sub>min</sub> mm	B <sub>max</sub> mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	K mm	L	M	Weight Kg	Order code
32	28	50	55	10	15	43	14	15	14	10,5	17	M10x1,25	24°	0,08	P1S-4JRT
40	32	56	62	12	17	50	16	22	16	12	19	M12x1,25	24°	0,12	P1S-4LRT
50	42	72	80	16	22	64	21	28	21	15	22	M16x1,5	30°	0,25	P1S-4MRT
63	42	72	80	16	22	64	21	28	21	15	22	M16x1,5	30°	0,25	P1S-4MRT
80	50	87	97	20	26	77	25	33	25	18	32	M20x1,5	30°	0,46	P1S-4PRT
100	50	87	97	20	26	77	25	33	25	18	32	M20x1,5	30°	0,46	P1S-4PRT
125	70	123,5	137	30	36	110	35	51	37	25	41	M27x2	30°	1,28	P1S-4RRT

Clevis



According to ISO 8140  
Intended for articulated mounting of the cylinder. This mounting is adjustable in the axial direction. Supplied complete with pin.

Material:  
Clevis: stainless steel, DIN X 10 CrNiS 18 9  
Pin: stainless steel, DIN X 5 CrNi 18 10  
Locking rings according to DIN 471

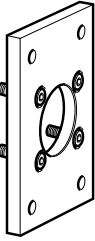


Cylinder Ø mm	A mm	B <sub>min</sub> mm	B <sub>max</sub> mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	Weight Kg	Order code
32	20	46	52	10	20	40	12	28	10	M10x1,25	0,09	P1S-4JRD
40	24	54	60	12	24	48	19	32	12	M12x1,25	0,15	P1S-4LRD
50	32	72	80	16	32	64	25	42	16	M16x1,5	0,35	P1S-4MRD
63	32	72	80	16	32	64	25	42	16	M16x1,5	0,35	P1S-4MRD
80	40	90	100	20	40	80	32	50	20	M20x1,5	0,75	P1S-4PRD
100	40	90	100	20	40	80	32	50	20	M20x1,5	0,75	P1S-4PRD
125	55	123,5	137	30	54	110	45	72	30	M27x2	2,10	P1S-4RRD



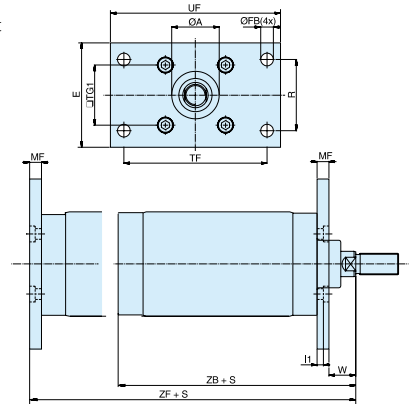
**Cylinder mountings**

**Flange MF1/MF2**



Intended for fixed attachment of cylinder version D, E, F, L, M or Q. The flange is designed for mounting on the front or rear end covers.

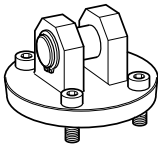
Material:  
Stainless steel, DIN X 5 CrNiMo 17 13 3



Cylinder Ø mm	A mm	FB mm	E mm	R mm	TF mm	TG1 mm	UF mm	MF mm	I1 mm	W mm	ZB mm	ZF mm	Weight Kg	Order code
80	50,2	12	86	63	126	46	150	12	6	25	178	190	0,97	<b>P1S-4PMB</b>
100	51	14	106	75	150	60	170	12	6	23	193	205	1,42	<b>P1S-4QMB</b>
125	61	16	132	90	180	76	205	15	8	32	230	245	1,55	<b>P1S-4RMB</b>

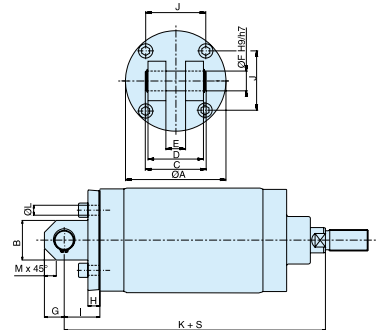
S = Stroke

**Clevis bracket MP4**



Intended for articulated mounting of cylinder versions D, F, L or Q. The bracket is mounted on the rear end cover and is supplied complete with shaft, mounting screw and O-ring for a clean joint between end cover and bracket.

Material:  
Bracket: stainless steel, DIN X 5 CrNi 18 10  
Pin: stainless steel, DIN X 5 CrNiMo 17 13 3



Cylinder Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm	K mm	L mm	M mm	Weight Kg	Order code
80	80	30	57	50	16	16	15	12	32	46	210	8,6	9	0,78	<b>P1S-4PME</b>
100	103	42	67	60	20	20	21	12	37	60	230	10,6	12	1,42	<b>P1S-4QME</b>
125	127	50	77	70	25	25	25	15	45	76	275	12,6	15	2,06	<b>P1S-4RME</b>

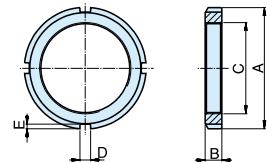
S = Stroke

**Mounting nut**



Intended for fixed mounting on the front end cover of cylinders according to cylinder version C or D.

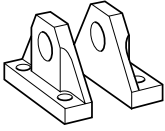
Material:  
Stainless steel, DIN X 5 CrNi 18 10



Cylinder Ø mm	A mm	B mm	C	D mm	E mm	Weight Kg	Order code
80	70	11	M50x1,5	6	2,5	0,16	<b>9126461304</b>
100	70	11	M50x1,5	6	2,5	0,16	<b>9126461304</b>
125	80	11	M60x2	7	3	0,19	<b>9126461305</b>

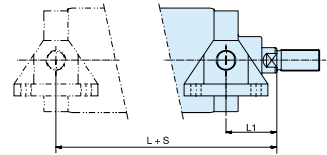
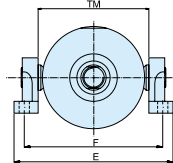
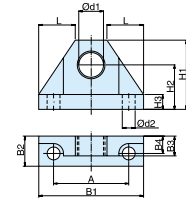
**Cylinder mountings**

**Bearing bracket for trunnion pegs**



Intended for articulated mounting of the cylinder. The trunnion pegs are factory mounted on the front or rear end cover and are combined with bearing brackets. Supplied in pairs.

Material:  
 Bearing brackets: stainless steel, DIN X 5 CrNi 18 10  
 Journal bearing: stainless steel,  
 DIN X 5 CrNiMo 17 13 3/PTFE

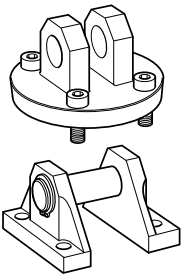


Cylinder Ø mm	A mm	B1 mm	B2 mm	B3 mm	B4 mm	d1 mm	d2 mm	H1 mm	H2 mm	H3 mm	L mm	Weight Kg	Order code
80-100	60	90	28	15	15,5	20	11	58	37	12	34,5	0,16	<b>P1S-4PMW</b>
125	76	106	30	20	17,5	25	13	70	45	15	40	0,19	<b>P1S-4QMW</b>

Cylinder Ø mm	E mm	F mm	L1 mm	L2 mm	TM mm	Weight Kg	Order code
80	154	129	49,5	165,5	98	0,16	<b>P1S-4PMW</b>
100	169	144	50,5	177,5	109	0,16	<b>P1S-4QMW</b>
125	194	169	63	214	134	0,19	<b>P1S-4QMW</b>

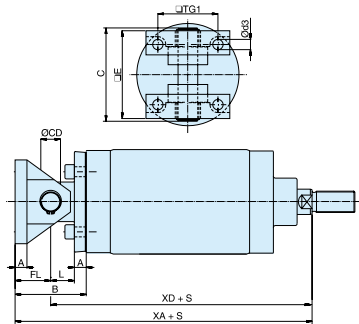
S = Stroke

**Combinated mounting MP2/MP4**



Intended for articulated mounting of cylinder versions D, F, L or Q. The unit is mounted on the rear end cover and is combined with bearing brackets MP2 and is supplied complete with shaft, mounting screw and O-ring for a clean joint between end cover and bracket.

Material:  
 Bearing brackets: stainless steel, DIN X 5 CrNi 18 10  
 Journal bearing: stainless steel,  
 DIN X 5 CrNiMo 17 13 3/PTFE  
 Bracket: stainless steel, DIN X 5 CrNi 18 10  
 Pin: stainless steel, DIN X 5 CrNiMo 17 13 3



Cylinder Ø mm	A mm	B mm	C mm	CD mm	d3 mm	E mm	FL mm	L mm	TG1 mm	XA mm	XD mm	Weight Kg	Order code
80	12	64	82	16	9	74	32	20	46	242	210	1,29	<b>P1S-4PML</b>
100	12	74	98	20	11	90	37	25	60	267	230	2,33	<b>P1S-4QML</b>
125	15	90	118	25	13	110	45	30	76	320	275	3,30	<b>P1S-4RML</b>

S = Stroke

P5T cylinders are a modern and versatile range of cylinders with integral guides. The cylinders are double-acting, with end stop cushioning for quiet and vibration free operation. The strong guide shafts make it possible to adsorb considerable thrust forces and torque.



- Complete cylinder function with integral guidance
- Stainless steel guide rods
- Wide range of standard strokes, diameter 16-100 mm
- Flexible porting as standard
- Magnetic piston as standard with drop-in sensor technology
- End stop cushions as standard

### Operating information

Working pressure Max 10 bar  
Working temperature -20 °C to +80 °C

Prelubricated, further lubrication is not normally necessary.  
If additional lubrication is introduced it must be continued.

For technical information see CD

### Double acting - Plain bearing and top & rear connections

#### Ø16mm - (M5)

Stroke.mm	Order code
10	P5T-C016DGSN010
25	P5T-C016DGSN025
40	P5T-C016DGSN040
50	P5T-C016DGSN050
75	P5T-C016DGSN075
100	P5T-C016DGSN100

#### Ø20mm - (G1/8)

Stroke.mm	Order code
25	P5T-C020DGSN025
40	P5T-C020DGSN040
50	P5T-C020DGSN050
75	P5T-C020DGSN075
100	P5T-C020DGSN100
125	P5T-C020DGSN125
150	P5T-C020DGSN150

#### Ø25mm - (G1/8)

Stroke.mm	Order code
25	P5T-C025DGSN025
50	P5T-C025DGSN050
75	P5T-C025DGSN075
100	P5T-C025DGSN100
125	P5T-C025DGSN125
150	P5T-C025DGSN150

#### Ø32mm - (G1/8)

Stroke.mm	Order code
25	P5T-C032DGSN025
50	P5T-C032DGSN050
75	P5T-C032DGSN075
100	P5T-C032DGSN100
125	P5T-C032DGSN125
150	P5T-C032DGSN150
175	P5T-C032DGSN175
200	P5T-C032DGSN200

#### Ø40mm - (G1/8)

Stroke.mm	Order code
25	P5T-C040DGSN025
50	P5T-C040DGSN050
75	P5T-C040DGSN075
100	P5T-C040DGSN100
125	P5T-C040DGSN125
150	P5T-C040DGSN150
175	P5T-C040DGSN175
200	P5T-C040DGSN200

#### Ø50mm - (G1/4)

Stroke.mm	Order code
25	P5T-C050DGSN025
50	P5T-C050DGSN050
75	P5T-C050DGSN075
100	P5T-C050DGSN100
125	P5T-C050DGSN125
150	P5T-C050DGSN150
175	P5T-C050DGSN175
200	P5T-C050DGSN200

#### Ø63mm - (G1/4)

Stroke.mm	Order code
25	P5T-C063DGSN025
50	P5T-C063DGSN050
75	P5T-C063DGSN075
100	P5T-C063DGSN100
125	P5T-C063DGSN125
150	P5T-C063DGSN150
175	P5T-C063DGSN175
200	P5T-C063DGSN200

#### Ø80mm - (G3/8)

Stroke.mm	Order code
25	P5T-C080DGSN025
50	P5T-C080DGSN050
75	P5T-C080DGSN075
100	P5T-C080DGSN100
125	P5T-C080DGSN125
150	P5T-C080DGSN150
175	P5T-C080DGSN175
200	P5T-C080DGSN200

#### Ø100mm - (G3/8)

Stroke.mm	Order code
25	P5T-C100DGSN025
50	P5T-C100DGSN050
75	P5T-C100DGSN075
100	P5T-C100DGSN100
125	P5T-C100DGSN125
150	P5T-C100DGSN150
175	P5T-C100DGSN175
200	P5T-C100DGSN200

 Indicates stocked product.

## Design Variants

In addition to the standard designs, a number of variants of the P5T range are available to special order, to provide effective solutions in a large number of applications.

- Cylinders with special strokes
- Cylinders with two fixing plates
- Cylinders with adjustable stops, with cushioning
- High-temperature cylinders for the temperature range of -10°C to +150°C (not magnetic piston).

### Special design for food industry applications

There is a special version of the P5T for food industry applications and other installation cases where high corrosion resistance and hygiene are required. This version has steel parts and other components in either stainless steel or special treated aluminium. Please contact Customer Service for more information.

### Plain bearing or recirculating ball bearings

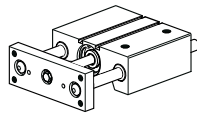
The P5T is supplied with plain bearings as standard. This type of bearing has guide rods of greater diameter, providing excellent support for heavy loads, especially static loads. Plain bearings are highly tolerant of vibration and dirt, and are suitable for regular cleaning.

Recirculating ball bearings are used for applications which require high precision and low friction.

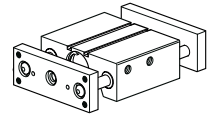
The choice should be based on the following factors:

Application requirements	Plain bearing	Recirculating ball bearings
Precision	Good	Excellent
Friction	Higher	Low
Coefficient of friction	Variable	Constant
Precision during service life	Variable	Constant
Static load capacity	Excellent	Good
Dynamic load capacity	Good, but with friction losses	Good
Vibration tolerance	Excellent	Average
Dirt tolerance	Excellent	Poor
Washing tolerance	Excellent	Poor

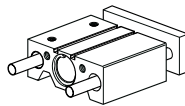
Double acting, connections on top.



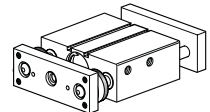
Double acting with two fixing plates, side connections are recommended.



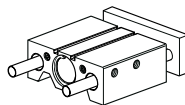
Double acting, connections at rear.



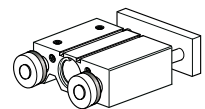
Double acting with two fixing plates and adjustable end stops with cushioning, side connections are recommended.



Double acting, connections on side.



Double acting with one fixing plate adjustable end stops with cushioning, connections on side, on top or at rear.

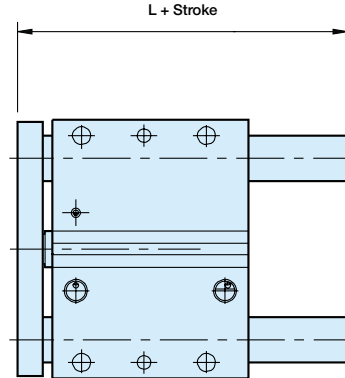




**Dimensions, P5T basic cylinder**

Standard lengths

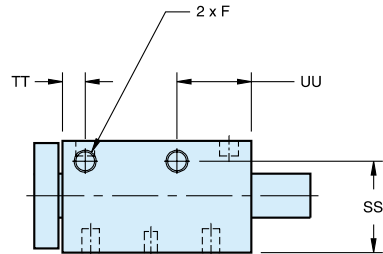
Cylinder diam mm	Stroke mm	L mm
<b>16</b>	10	36,2
	25, 40, 50, 75	60,2
	100	75,2
<b>20</b>	25, 40, 50, 75	66,9
	100, 125	91,9
<b>25</b>	25, 50, 75, 100	69,9
	125, 150	91,9
<b>32</b>	25, 50, 75, 100	77,9
	125, 150, 175, 200	116,0
<b>40</b>	25, 50, 75, 100	77,9
	125, 150, 175, 200	116,0
<b>50</b>	25, 50, 75, 100	84,0
	125, 150, 175, 200	124,1
<b>63</b>	25, 50, 75, 100	84,0
	125, 150, 175, 200	124,1
<b>80</b>	25, 50, 75, 100	101,8
	125, 150, 175, 200	140,0
<b>100</b>	25	122,8
	50, 75, 100	120,3
	125, 150, 175, 200	158,4



**Dimensions, P5T basic cylinder**

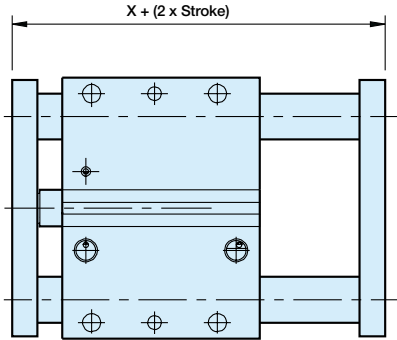
Connection option **S** (side connections)

Cylinder diam. mm	SS mm	TT mm	UU mm	F mm
<b>16</b>	24,1	10	20	M5
<b>20</b>	29,2	10	20	M5
<b>25</b>	35,2	11,4	25	M5
<b>32</b>	41,7	10,4	34	G1/8
<b>40</b>	41,7	14,9	34	G1/8
<b>50</b>	51,3	16,1	38	G1/4
<b>63</b>	60,7	15,6	41,8	G1/4
<b>80</b>	75,5	19	47	G3/8
<b>100</b>	83,7	23	53,3	G3/8



**Dimensions, P5T basic cylinder**

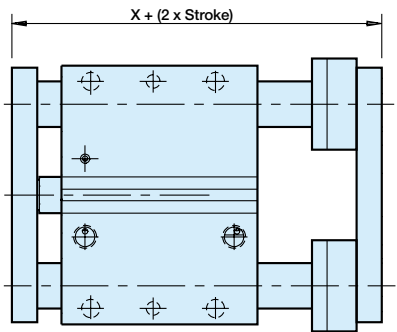
Option **D**



**Please note that load capacity increases with two fixing plates, due to greater bearing distance.**

**Dimensions, P5T with two fixing plates and adjustable end stop with cushioning**

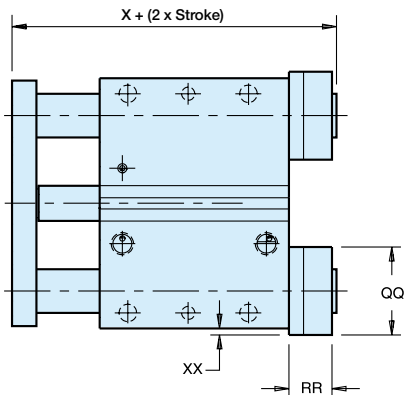
Option **A**



Cylinder diam. mm	Guide rod dia. mm	X for option			QQ mm	RR mm	XX mm
		D mm	A mm	E mm			
<b>16</b>	8	57,6	70,6	62,7	18,0	13,0	0
	10	57,6	70,6	62,7	24,0	13,0	1
<b>20</b>	10	54,9	67,9	59,9	24,0	13,0	1
	12	54,9	72,6	64,6	28,0	17,7	3
<b>25</b>	12	57,8	75,5	67,6	28,0	17,7	1
	16	57,8	77,5	69,6	34,0	19,7	4
<b>32</b>	16	62,2	81,9	70,8	34,0	19,7	0
	20	62,2	83,9	72,8	41,4	21,7	3,7
<b>40</b>	16	70,2	89,9	78,8	34,0	19,7	0
	20	70,2	91,9	80,8	41,4	21,7	3,7
<b>50</b>	20	74,3	96,0	83,3	41,4	21,7	0,7
	25	74,3	96,0	83,3	50,8	21,7	5,4
<b>63</b>	20	79,5	101,2	88,5	41,4	21,7	0,7
	25	79,5	101,2	88,5	50,8	21,7	5,4
<b>80</b>	25	95,5	117,2	101,2	50,8	21,7	1,4
	30	95,5	117,2	101,2	60,5	21,7	6,3
<b>100</b>	30	102,0	123,7	107,7	60,5	21,7	3,3
	35	102,0	123,7	107,7	65,0	21,7	5,5

**Dimensions, P5T with adjustable end stop with cushioning**

Option **E**



Parker Origa rodless pneumatic cylinders are the first rodless cylinders that have been approved for use in potentially explosive atmospheres in Equipment Group II, Category 2 GD.

The Cylinders are to the ATEX Certification 94/9/EG (ATEX 95) for Pneumatic Components.

For the different classifications and details please see data sheet P-1.10.020E and P-1.45.105E.

For full details and information on the OSP-P range of rodless cylinders please see catalogue no. : P-A4 p011

You will find further information on the ATEX Directives in our brochure P-A5P060E.

Products for  
Potentially Explosive Atmospheres

ORIGA - simply the first



## Special Versions



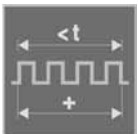
for use in Ex-Areas



for Clean Room Applications  
certified to  
DIN EN ISO 14644-1



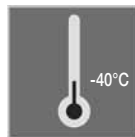
Stainless steel version  
for special applications



with special pneumatic  
cushioning system for cycle  
time optimization,  
for Ø 16 to 50 mm  
– on request



High Temperature Version  
for temperatures up to  
+120°C



Low Temperature Version  
for temperatures up to  
-40°C



Slow Speed Version  
 $v = 0.005 - 0.2 \text{ m/s}$







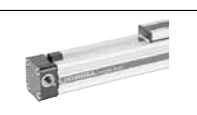

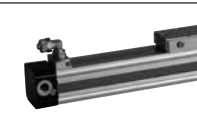


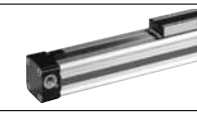



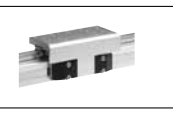








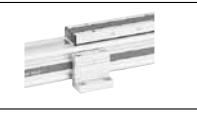






High Speed Version  
 $v_{\text{max.}} = 30 \text{ m/s}$



Cylinders with extreme long  
strokes  
Stroke length up to 41 m

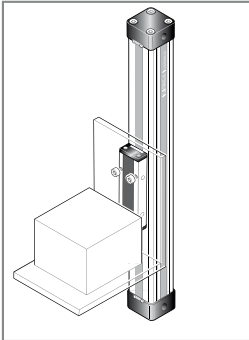


\* Information on electrical linear drives series OSP-E, please refer to catalogue P-A4P017E

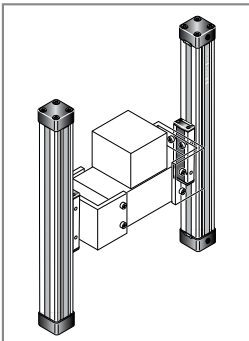
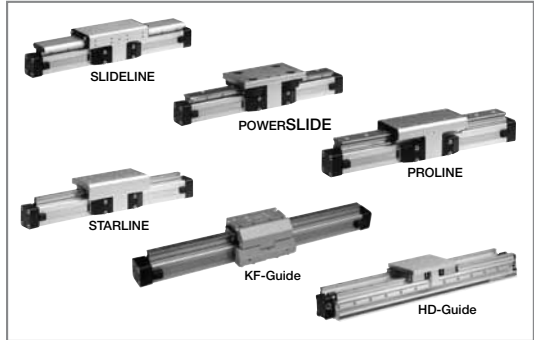
<p><b>Basic Linear Drive Standard Version</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E* Belt drive Belt drive with integrated Guides Vertical belt drive with recirculating ball bearing guide</li> <li>Series OSP-E* Screw drive (Ball Screw, Trapezoidal Screw)</li> </ul>		<p><b>Duplex Connection</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>	
<p><b>Air Connection on the End-face or both at One End</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>		<p><b>Multiplex Connection</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>	
<p><b>Long-Stroke Cylinders for strokes up to 41 m</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>		<p><b>Linear Guides – SLIDELINE</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Screw drive*</li> </ul>	
<p><b>Clean Room Cylinder certified to DIN EN ISO 146644-1</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E..SB</li> </ul>		<p><b>Linear Guides – POWERSLIDE</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> </ul>	
<p><b>Products for ATEX Areas</b></p> <ul style="list-style-type: none"> <li>Series OSP-P Rodless Cylinders</li> </ul> 		<p><b>Linear Guides – PROLINE</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> </ul>	
<p><b>Products for ATEX Areas</b></p> <ul style="list-style-type: none"> <li>Series OSP-P Rodless Cylinders with Linear Guide SLIDELINE</li> </ul> 		<p><b>Linear Guides – STARLINE</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>	
<p><b>Bi-parting Version</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>		<p><b>Linear Guides – KF</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>	
<p><b>Integrated 3/2 Way Valves</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>		<p><b>Heavy Duty Linear Guides – HD</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Screw drive*</li> </ul>	
<p><b>Clevis Mounting</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> </ul>		<p><b>Intermediate stop module – ZSM</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> </ul>	
<p><b>End Cap Mounting</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> </ul>		<p><b>Brakes</b></p> <ul style="list-style-type: none"> <li>Active Brakes</li> <li>Passive Brakes</li> </ul>	
<p><b>Mid-Section Support</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> </ul>		<p><b>Magnetic Switches</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> <li>ATEX-Versions</li> </ul> 	
<p><b>Inversion Mounting</b></p> <ul style="list-style-type: none"> <li>Series OSP-P</li> <li>Series OSP-E Belt drive*</li> <li>Series OSP-E Screw drive*</li> </ul>		<p><b>SENSOFLEX – Measuring system</b></p> <ul style="list-style-type: none"> <li>Series SFI-plus</li> </ul>	
<p><b>Variable Stop VS</b></p> <ul style="list-style-type: none"> <li>Series OSP-P with Linear Guide STL, KF, HD</li> </ul>		<p><b>Variable Stop VS</b></p> <ul style="list-style-type: none"> <li>Series OSP-P with Linear Guide STL, KF, HD</li> </ul>	

# OSP-P APPLICATION EXAMPLES

ORIGA SYSTEM PLUS – rodless linear drives offer maximum flexibility for any application.



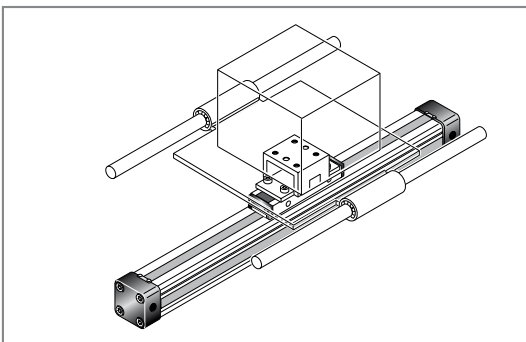
The high load capacity of the piston can cope with high bending moments without additional guides.



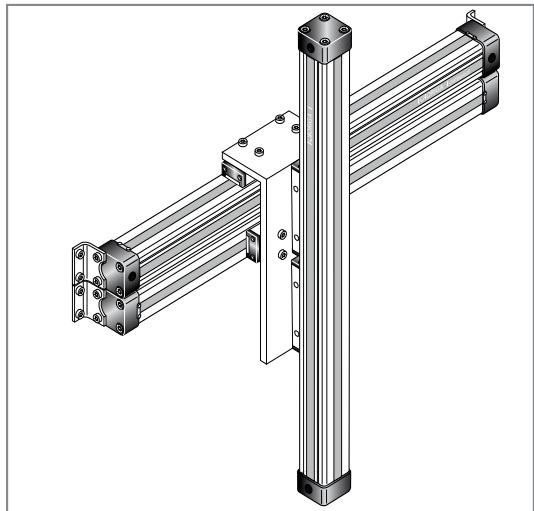
The mechanical design of the OSP-P allows synchronised movement of two cylinders.

Integrated guides offer optimal guidance for applications requiring high performance, easy assembly and maintenance free operation.

Optimal system performance by combining multi-axis cylinder combinations.



When using external guides, the clevis mounting is used to compensate for deviations in parallelism.



For further information and assembly instructions, please contact your local Parker Origa dealer.

## OPTIONS AND ACCESSORIES FOR SYSTEM VERSATILITY

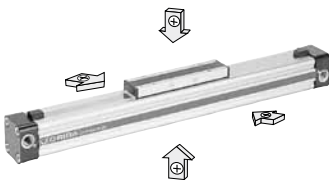
### SERIES OSP-P

#### STANDARD VERSIONS OSP-P10 to P80

Data Sheet P-1.10.002E-1, -2, -3

Standard carrier with integral guidance. End cap can be rotated 4 x 90° to position air connection on any side.

Magnetic piston as standard. Dovetail profile for mounting of accessories and the cylinder itself.



#### LONG-STROKE VERSION Data Sheet P-1.10.002E- 11

For extremely long strokes up to max. 41m



#### BASIC CYLINDER OPTIONS

##### CLEAN ROOM CYLINDERS Data Sheet P-1.10.003E

For use in clean room applications, certified with the IPA-Certificate (to DIN EN ISO 14644-1).

The special design of the linear drive enables all emissions to be led away.



ATEX-Version  
Data Sheet P-1.10.020E  
For use in Ex-Areas



##### STAINLESS VERSION

For use in constantly damp or wet environments. All screws are A2 quality stainless steel (material no.1.4301 / 1.4303)



##### SLOW SPEED OPTIONS

Specially formulated grease lubrication facilitates slow, smooth and uniform piston travel in the speed range from 0.005 to 0.2 m/s. Minimum achievable speeds are dependent on several factors. Please consult our technical department. Slow speed lubrication in combination with Viton® on demand. Oil free operation preferred.



##### VITON® VERSION

For use in an environment with high temperatures or in chemically aggressive areas. All seals are made of Viton®. Sealing bands: Stainless steel.



##### END-FACE AIR CONNECTION

Data Sheet P-1.10.002E-6

To solve special installation problems.



##### BOTH AIR CONNECTIONS AT ONE END

Data Sheet P-1.10.002E-7

For simplified tubing connections and space saving.



##### INTEGRATED VOE VALVES

Data Sheet P-1.10.002E-8

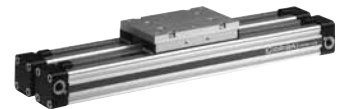
The complete compact solution for optimal cylinder control.



##### DUPLEX CONNECTION

Data Sheet P-1.45.011E

The duplex connection combines two OSP-P cylinders of the same size into a compact unit with high performance.



##### MULTIPLEX CONNECTION

Data Sheet P-1.45.012E

The multiplex connection combines two or more OSP-P cylinders of the same size into one unit.

The orientation of the carriers can be freely selected.



# ORIGA SYSTEM PLUS

## - INNOVATION FROM A PROVEN DESIGN

A completely new generation of linear drives which can be simply and neatly integrated into any machine layout.

### A NEW MODULAR LINEAR DRIVE SYSTEM

With this second generation linear drive Parker Origa offers design engineers complete flexibility. The well known ORIGA cylinder has been further developed into a combined linear actuator, guidance and control package. It forms the basis for the new, versatile ORIGA SYSTEM PLUS linear drive system.

All additional functions are designed into modular system components which replace the previous series of cylinders.

### MOUNTING RAILS ON 3 SIDES

Mounting rails on 3 sides of the cylinder enable modular components such as linear guides, brakes, valves, magnetic switches etc. to be fitted to the cylinder itself. This solves many installation problems, especially where space is limited.

The modular system concept forms an ideal basis for additional customer-specific functions.

Magnetic piston as standard - for contactless position sensing on three sides of the cylinder.

Corrosion resistant steel outer sealing band and robust wiper system on the carrier for use in aggressive environments.

Proven corrosion resistant steel inner sealing band for optimum sealing and extremely low friction.

Combined clamping for inner and outer sealing band with dust cover.

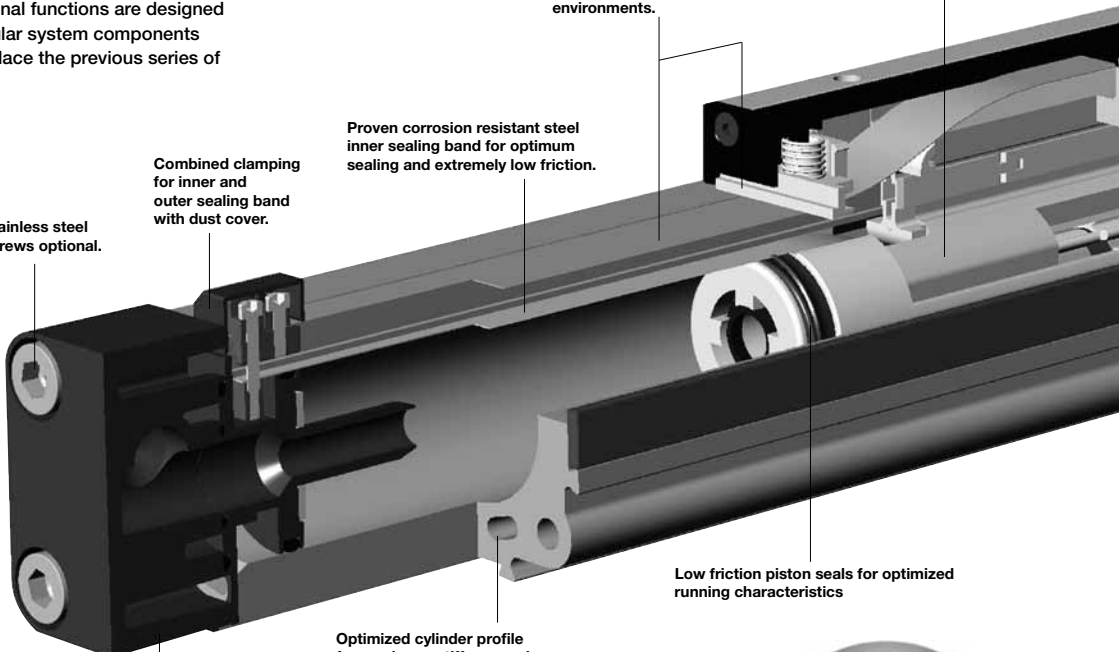
Stainless steel screws optional.

Low friction piston seals for optimized running characteristics

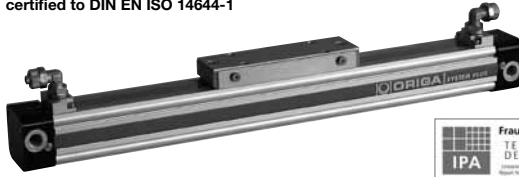
Optimized cylinder profile for maximum stiffness and minimum weight. Integral air passages enable both air connections to be positioned at one end, if desired.

Install the OSP-P System to simplify design work! The files are compatible with all popular CAD systems and package hardware.

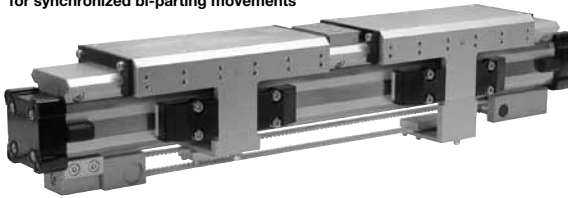
End cap can be rotated to any one of the four positions (before or after delivery) so that the air connection can be in any desired position.



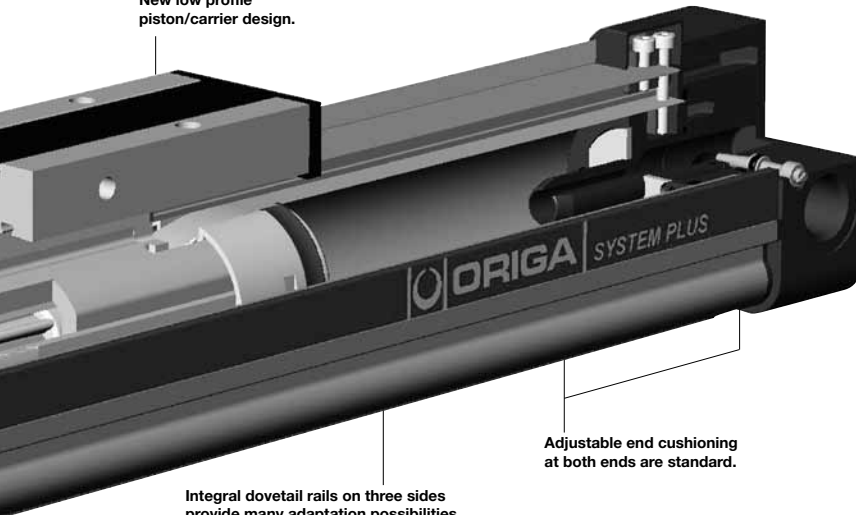
Clean Room Version  
certified to DIN EN ISO 14644-1



Rodless Cylinder  
for synchronized bi-parting movements



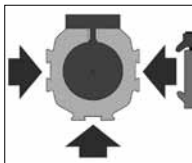
New low profile  
piston/carrier design.



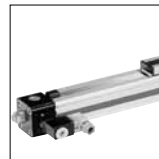
Adjustable end cushioning  
at both ends are standard.

Integral dovetail rails on three sides  
provide many adaptation possibilities  
(linear guides, magnetic switches,  
etc.).

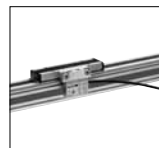
Modular system components  
are simply clamped on.



**INTEGRATED  
VOE VALVES**  
The complete  
compact solution  
for optimal cylinder  
control.



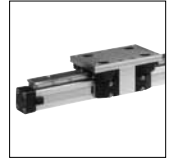
**SENSOFLEX**  
SFI-plus  
incremental  
measuring system  
with 0,1 (1,0) mm  
resolution.



**SLIDELINE**  
Combination with  
linear guides  
provides for heavier  
loads.



**POWERSLIDE**  
Roller bearing  
precision guidance  
for smooth travel  
and high dynamic  
or static loads.



**PROLINE**  
The compact  
aluminium roller  
guide for high loads  
and velocities.



**STARLINE**  
Recirculating ball  
bearing guide for  
very high loads  
and precision.



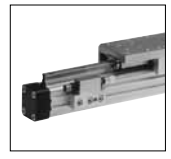
**KF GUIDE**  
Recirculating ball  
bearing guide  
– the mounting  
dimensions corre-  
spond to FESTO  
Type: DGPL-KF



**HEAVY DUTY  
GUIDE HD**  
for heavy duty  
applications.



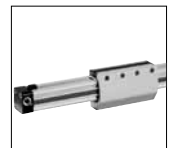
**VARIABLE STOP  
VS**  
The variable stop  
provides simple  
stroke limitation.



Passive  
pneumatic brake  
reacts automati-  
cally to pressure  
failure.



Active pneumatic  
brake for secure,  
positive stopping  
at any position.



**ACCESSORIES**

**MAGNETIC SWITCHES**  
TYPE RS, ES, RST, EST

Data Sheet 1.45.100E, 1.45.104E, 1.45.105E

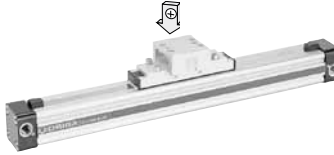
For electrical sensing of end and intermediate piston positions, also in EX-Areas.



**CLEVIS MOUNTING**

Data Sheet 1.45.002E

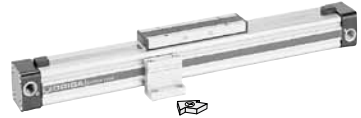
Carrier with tolerance and parallelism compensation for driving loads supported by external linear guides.



**MID-SECTION SUPPORT**

Data Sheet 1.45.004E

For supporting long cylinders or mounting the cylinder by its dovetail rails.



**END CAP MOUNTING**

Data Sheet 1.45.003E

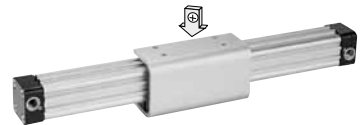
For end-mounting of the cylinder.



**INVERSION MOUNTING**

Data Sheet 1.45.006E

The inversion mounting transfers the driving force to the opposite side, e. g. for dirty environments.



Characteristics			Pressures quoted as gauge pressure	
Characteristics	Symbol	Unit	Description	
<b>General Features</b>				
Type			Rodless cylinder	
Series			OSP-P	
System			Double-acting, with cushioning, position sensing capability	
Mounting			See drawings	
Air Connection			Threaded	
Ambient range	$T_{min}$	°C	-10	Other temperature on request
temperature range	$T_{max}$	°C	+80	
Weight (mass)		kg	See table below	
Installation			In any position	
Medium air			Filtered, unlubricated compressed (other media on request)	
Lubrication			Permanent grease lubrication (additional oil mist lubrication not required) Option: special slow speed grease	
Material	Cylinder Profile		Anodized aluminium	
	Carrier (piston)		Anodized aluminium	
	End caps		Aluminium, lacquered / Plastic (P10)	
	Sealing bands		Corrosion resistant steel	
	Seals		NBR (Option: Viton®)	
	Screws		Galvanized steel Option: stainless steel	
	Dust covers, wipers		Plastic	
Max. operating pressure $p_{max}$		bar	8	
<b>Weight (mass) kg</b>				
Cylinder series (Basic cylinder)	At 0 mm stroke		Weight (Mass) kg per 100 mm stroke	
OSP-P10	0.087		0.052	
OSP-P16	0.22		0.1	
OSP-P25	0.65		0.197	
OSP-P32	1.44		0.354	
OSP-P40	1.95		0.415	
OSP-P50	3.53		0.566	
OSP-P63	6.41		0.925	
OSP-P80	12.46		1.262	

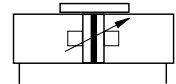
Size Comparison							
P10	P16	P25	P32	P40	P50	P63	P80

# Rodless Pneumatic Cylinder

ø 10-80 mm



Series OSP-P..



### Standard Versions:

- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing

**Long-Stroke Cylinders for stroke lengths up to 41 m**  
(see data sheet 1.10.002E-11)

### Special Versions:

- with special pneumatic cushioning system (on request)
- Clean room cylinders (see data sheet 1.10.003E)
- ATEX-Version (see data sheet 1.10.020E)
- Stainless steel screws
- Slow speed lubrication
- Viton® seals
- Both air connections on one end

- Air connection on the end-face
- Integrated Valves



- End cap can be rotated 4 x 90° to position air connection as desired
- Free choice of stroke length up to 6000 mm, Long-Stroke version (Ø50-80mm) for stroke lengths up to 41 m

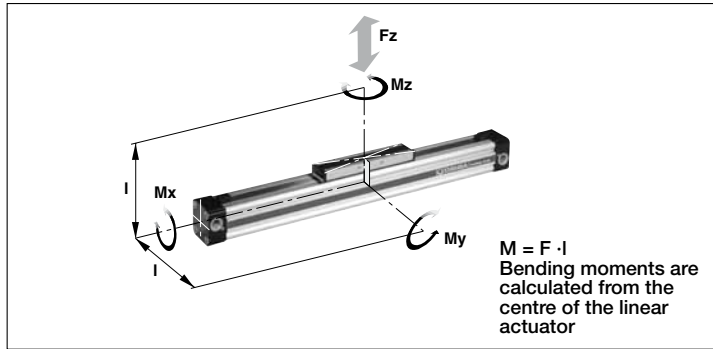
### Loads, Forces and Moments

Choice of cylinder is decided by:

- Permissible loads, forces and moments
- Performance of the pneumatic end cushions. The main factors here are the mass to be cushioned and the piston speed at start of cushioning (unless external cushioning is used, e. g. hydraulic shock absorbers).

The adjacent table shows the maximum values for light, shock-free operation, which must not be exceeded even in dynamic operation. Load and moment data are based on speeds  $v \leq 0.5$  m/s.

When working out the action force required, it is essential to take into account the friction forces generated by the specific application or load.

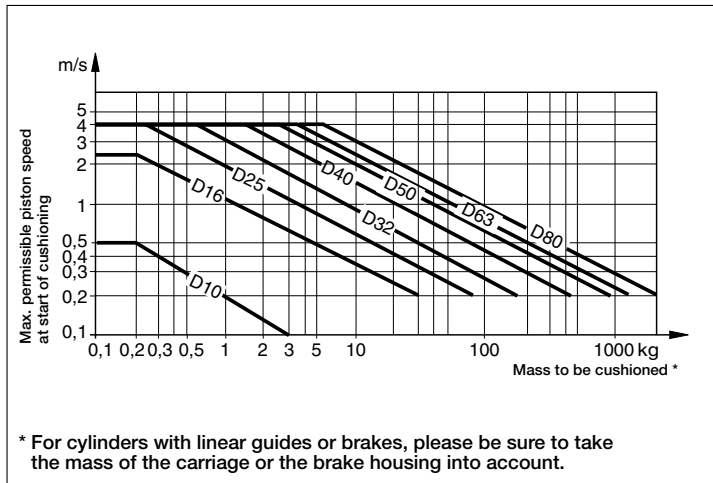


Cylinder-Series [mm Ø]	Theoretical Action Force at 6 bar [N]	effektive Action Force $F_A$ at 6 bar [N]	max. Moments			max. Load F [N]	Cushion Length [mm]
			$M_x$ [Nm]	$M_y$ [Nm]	$M_z$ [Nm]		
OSP-P10	47	32	0.2	1	0.3	20	2.5 *
OSP-P16	120	78	0.45	4	0.5	120	11
OSP-P25	295	250	1.5	15	3	300	17
OSP-P32	483	420	3	30	5	450	20
OSP-P40	754	640	6	60	8	750	27
OSP-P50	1178	1000	10	115	15	1200	30
OSP-P63	1870	1550	12	200	24	1650	32
OSP-P80	3016	2600	24	360	48	2400	39

\* A rubber element (non-adjustable) is used for end cushioning. To deform the rubber element enough to reach the absolute end position would require a  $\Delta p$  of 4 bar!

### Cushioning Diagram

Work out your expected moving mass and read off the maximum permissible speed at start of cushioning. Alternatively, take your desired speed and expected mass and find the cylinder size required. Please note that piston speed at start of cushioning is typically ca. 50 % higher than the average speed, and that it is this higher speed which determines the choice of cylinder. If these maximum permissible values are exceeded, additional shock absorbers must be used.



\* For cylinders with linear guides or brakes, please be sure to take the mass of the carriage or the brake housing into account.

If the permitted limit values are exceeded, either additional shock absorbers should be fitted in the area of the centre of gravity or you can consult us about our special cushioning system – we shall be happy to advise you on your specific application.



**Order Instructions – Basic Cylinder**

**Basic Cylinder**

	OSPP	25	0	0	0	0	0	0	01000	
--	------	----	---	---	---	---	---	---	-------	--

Piston Diameter	
10 = 10 mm	40 = 40 mm
16 = 16 mm	50 = 50 mm
25 = 25 mm	63 = 63 mm
32 = 32 mm	80 = 80 mm

Piston Mounting
0 = Standard
1 = Tandem

Air Connections	
0 = Standard	A = VOE 24 V =
1 = On the end-face	B = VOE 230 V ~ / 110 =
2 = Both at one end	C = VOE 48 V =
	E = VOE 110 V ~

Seals
0 = Standard (NBR)
1 = Viton ®

Stroke Length
In mm (5 digits)

Screws
0 = Standard (galvanized steel)
1 = Stainless steel

Grease Lubrication
0 = Standard
1 = Slow <sup>1)</sup>

<sup>1)</sup> Slow speed lubrication in combination with Viton® seals on demand.

**Accessories - please order separately**

Description	Further information see Data Sheet No.
Clevis Mounting	1.45.002E
End Cap Mountings	1.45.003E
Mid-Section Support	1.45.004E
Inversion Mounting	1.45.006E
Adaptor Profile	1.45.007E
T-Slot Profile	1.45.008E
Adaptor Profile	1.45.009E
Duplex Connection	1.45.011E
Multiplex Connection	1.45.012E
Magnetic Switches	1.45.100E, 1.45.104E, 1.45.105E
Cable Cover	1.45.102E

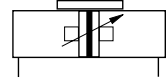
# Rodless Pneumatic Cylinder

Ø 50-80 mm



## Long-Stroke Cylinder for strokes up to 41 m

Series OSP-P..LS



**Standard Versions:**

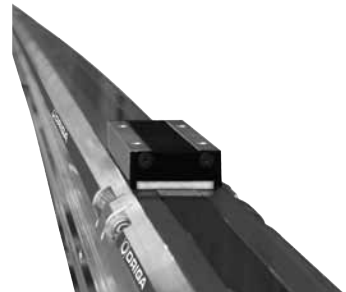
- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing

**Special Versions:**

- Stainless steel screws
- Slow speed lubrication
- Viton® seals

**Options:**

- Displacement measuring system SFI-plus
- Active Brake AB..



Characteristics		Pressures quoted as gauge pressure	
Characteristics	Symbol	Unit	Description
<b>General Features</b>			
Type			Rodless cylinder
Series			OSP-P
System			Double-acting, with cushioning, position sensing capability
Mounting			See drawings
Air Connection			Threaded
Ambient ranges temperature range	T <sub>min</sub> T <sub>max</sub>	°C °C	+10 +40 Other temperature on request
Weight (mass)		kg	See table below
Installation			vertical, horizontal (piston at top or at bottom)
Medium air			Filtered, unlubricated compressed (other media on request)
Lubrication			Permanent grease lubrication (additional oil mist lubrication not required) Option: special slow speed grease
Material	Cylinder Profile		Anodized aluminium
	Carrier (piston)		Anodized aluminium
	End caps		Anodized aluminium
	Sealing bands		Corrosion resistant steel
	Seals		NBR (Option: Viton®)
	Screws		Galvanized steel Option: stainless steel
	Dust covers, wipers		Plastic
Max. operating pressure	p <sub>max</sub>	bar	8
Max. speed	v	m/s	2

Weight (mass) kg		
Cylinder series (Basic cylinder)	Weight (Mass) kg	
	At 0 mm stroke	per 100 mm stroke
OSP-P50LS	3,53	0,566
OSP-P63LS	6,41	0,925
OSP-P80LS	12,46	1,262

Size Comparison			
	P50	P63	P80

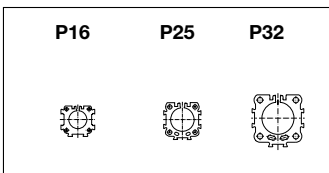
Characteristics		Pressure quoted as gauge pressure	
Characteristics	Symbol	Unit	Description
<b>General Features</b>			
Type			Rodless Cylinder
Series			OSP-P
System			Double-acting, with cushioning, position sensing capability
Mounting			see drawings
Air connection			Threaded
Ambient and medium temperature range	T <sub>min</sub> T <sub>max</sub>	°C °C	-10 – other temperature ranges on request +80
Weight (Mass)		kg	See table below
Installation			In any position
Medium			Filtered, unlubricated compressed air (other media on request)
Lubrication			Permanent grease lubrication (additional oil mist lubrication not required) Option: special slow speed grease
Material	Cylinder profile		Anodized aluminium
	Carrier (piston)		Anodized aluminium
	End caps		Aluminium, lacquered
	Sealing bands		Corrosion resistant steel
	Seals		NBR (Option: Viton®)
	Screws		Stainless steel
	Covers		Anodized aluminium
	Guide plate		Plastic
Max. operating pressure* p <sub>max</sub>		bar	8

\* Pressure quoted as gauge pressure

**Weight (Mass) kg**

Cylinder series (basic cylinder)	Weight (Mass) kg	
	at 0 mm stroke	per 100 mm stroke
OSP-P16	0.22	0.1
OSP-P25	0.65	0.197
OSP-P32	1.44	0.354

**Size Comparison**



# Clean Room Cylinder

ø 16 – 32 mm

## Rodless Cylinder

certified to  
**DIN EN ISO 14644-1**



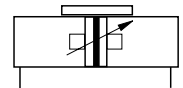
**Standard Versions:**

- Double-acting with adjustable end cushioning
- With magnetic piston for position sensing
- Stainless steel screws

**Special Versions:**

- Slow speed lubrication
- Viton® seals

**Series OSP-P..**



**Features:**

- Clean room classification  
ISO Class 4 at v<sub>m</sub> = 0.14 m/s  
ISO Class 5 at v<sub>m</sub> = 0.5 m/s
- suitable for smooth slow speed operation up to v<sub>min</sub> = 0.005 m/s
- optional stroke length up to 1200 mm (longer strokes on request)
- Low maintenance
- Compact design with equal force and velocity in both directions
- Aluminium piston with bearing rings to support high direct and cantilever loads



### Informations for ATEX-Directives

The rodless pneumatic cylinders of Parker Origa are the first linear drive unit, for that Ex range in the group of equipment II, Category 2 GD are certified.

Detail informations for use pneumatic components in Ex-Areas see leaflet A5P060E "EU Directive 94/9/EG (ATEX 95) for Pneumatic Components".

## Components for EX-Areas



### Technical Data (deviant to the Standard Cylinder)

Pressure quoted as gauge pressure

Characteristics	Symbol	Unit	Description
Ambient temperature range	$T_{min}$ $T_{max}$	°C °C	-10 +60
Max. switching frequency		Hz	1 (double stroke/s) Basic cylinder 0.5 (1 stroke/s) Cylinder with guide
Operating pressure range	$p_{max}$	bar	Max. 8
Max. speed	$v_{max}$	m/s	3 Basic cylinder 2 Cylinder with guide
Medium			Filtered, un lubricated compressed air – free from water and dirt to ISO 8573-1 Solids: Class 7 particle size < 40 µm for Gas Water content: pressure dew point +3 °C, class 4, but at least 5 °C below minimum operating temperature
Noise level		dB (A)	70
Information for materials			Aluminium: see data sheet "Material" Lubrication: see security data sheet "Grease for use in Cylinder with guides" Sealing bands: Corrosion resistant steel

For all other details for dimensions, weights, allowable loads, cushioning diagrams and accessories see data sheets in this catalogue.

### Equipment Group II Categorie 2GD

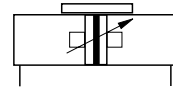
Rodless cylinder: Ⓢ II 2GD c T4 T135°C -10°C ≤ Ta ≤ +60°C

Series	Size	Stroke range	Accessories
OSP-P	Ø 10 to 80	1– 6000 mm	Mountings programme
SLIDELINE	Ø 16 to 80	1– 6000 mm	Mountings programme

**OSP**  
ORIGA  
SYSTEM  
PLUS

## Rodless Cylinder Ø 10 – 80 mm Basic Cylinder

Series: OSP-P ....ATEX



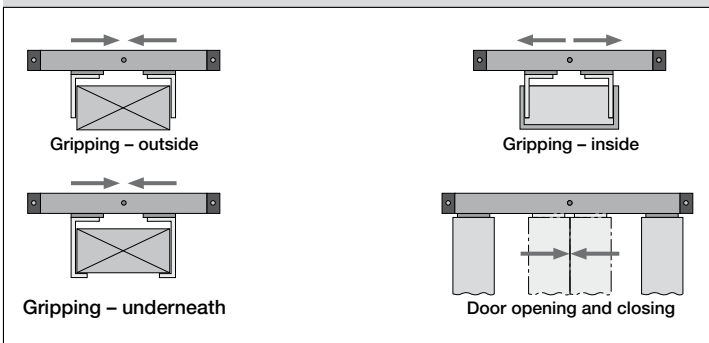
## Plain Bearing Guide SLIDELINE Ø 16 – 80 mm

Series: SL -..ATEX



Characteristics			
Characteristics	Symbol	Unit	Description
<b>General Features</b>			
Type			Rodless cylinder for synchronized bi-parting movements
Series			OSP-P
System			Double acting with end cushioning For contactless position sensing
Guide			Slideline SL40
Synchronization			Toothed belt
Mounting			See drawings
Ambient temperature range	$T_{min}$ $T_{max}$	°C °C	-10 +60
Weight (Mass)		kg	see Data Sheet No P-1.10.021E-2
Medium			Filtered, unlubricated compressed air (other media on request)
Lubrication			Special slow speed grease – additional oil mist lubrication not required
Material			
Toothed Belt			Steel-corded polyurethane
Belt wheel			Aluminium
Operating pressure range	$p_{max}$	bar	6
Cushioning middle position			Elastic buffer
Max. Speed	$v_{max}$	m/s	0.2
Max. stroke of each stroke		mm	500
Max. mass per guide carrier		kg	25
Max. moments on guide carrier			
lateral moment	$M_{x_{max}}$	Nm	25
axial moment	$M_{y_{max}}$	Nm	46
rotating moment	$M_{z_{max}}$	Nm	46
For more technical information see Data Sheet No. P-1.10.002E and P-1.40.002E			

### Applications



# Rodless Cylinder Ø 40 mm

for synchronized  
bi-parting movements

Type OSP-P40-SL-BP

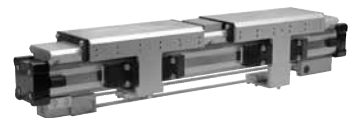


#### Features:

- Accurate bi-parting movement through toothed belt synchronization
- Optimum slow speed performance
- Increased action force
- Anodized aluminium guide rail with prism-form slideway arrangement
- Adjustable polymer slide units
- Combined sealing system with polymer and felt elements to remove dirt and lubricate the slideway
- Integrated grease nipples for guide lubrication

#### Applications:

- Opening and closing operations
- Gripping of workpieces – outside
- Gripping of hollow workpieces – inside
- Gripping underneath larger objects
- Clamping force adjustable via pressure regulator



# OSP

— ORIGA  
— SYSTEM  
— PLUS

## Adaptive modular system

The Origa system plus – OSP – provides a comprehensive range of linear guides for the pneumatic and electric linear drives.

### Advantages:

- Takes high loads and forces
- High precision
- Smooth operation
- Can be retrofitted
- Can be installed in any position

### Rodless Pneumatic Cylinder Series OSP - P

Piston diameters 10 – 80 mm

See data sheet

P-1.10.002E (Standard)

P-1.10.020E (ATEX-Version)



## Linear Guides

### SLIDELINE

The cost-effective plain bearing guide for medium loads. Active/ Passive Brake optional.

Piston diameters 16 – 80 mm

See data sheet

P-1.40.002E (Standard)

P-1.10.020E (ATEX-Version)



### POWERSLIDE

The roller guide for heavy loads and hard application conditions

Piston diameters 16 – 50 mm

See data sheet 1.40.003E



### PROLINE

The compact aluminium roller guide for high loads and velocities.

Active/ Passive Brake optional.

Piston diameters 16 – 50 mm

See data sheet no. P-1.40.005E



### STARLINE

Recirculating ball bearing guide for very high loads and precision

Piston diameters 16 – 50 mm

See data sheet no. P-1.40.006E



### KF GUIDE

Recirculating ball bearing guide. Correspond to FESTO dimensions (Type DGPL-KF)

Piston diameters 16 – 50 mm

See data sheet no. P-1.40.007E

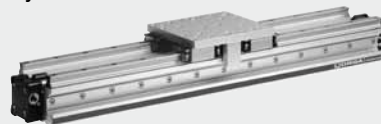


### HD HEAVY DUTY GUIDE

The recirculating ball bearing guide for highest loads and greatest accuracy..

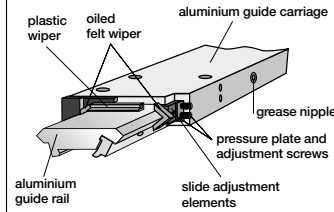
Piston diameters 25 – 50 mm

See data sheet no. P-1.40.008E

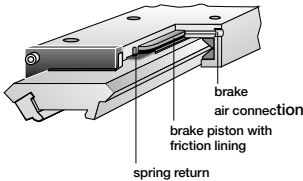


Versions

for pneumatic linear drive:  
Series OSP-P



Option - Integrated Brake

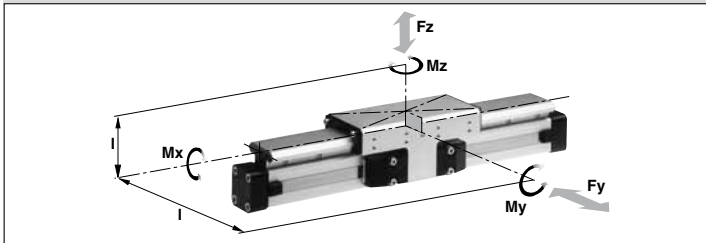


**Integrated Brake (optional)**  
for series OSP-P25 to OSP-P50:

- Actuated by pressure
- Released by exhausting and spring return

For further technical data see also linear drives OSP-P (P-1.10.002E)

Loads, Forces and Moments



Technical Data

The table shows the maximum permissible values for smooth operation, which should not be exceeded even under dynamic conditions.

The load and moment figures apply to speeds  $v < 0.2$  m/s.

\* Please note:  
In the cushioning diagram, add the mass of the guide carriage to the mass to be cushioned.

# Plain Bearing Guide SLIDELINE



Series SL 16 to 80  
for Linear-drive  
• Series OSP-P

Features:

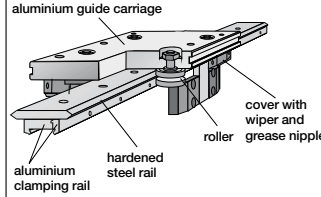
- ATEX-version (without brake) is also available (see data sheet no. P-1.10.020E)
- Anodised aluminium guide rail with prism-shaped slideway arrangement
- Adjustable plastic slide elements – optional with integral brake
- Composite sealing system with plastic and felt wiper elements to remove dirt and lubricate the slideways
- Corrosion resistant version available on request
- Any length of stroke up to 5500 mm (longer strokes on request)

- 1) Only with integrated brake: Braking force on dry oil-free surface Values are decreased for lubricated slideways
- 2) Corrosion resistant fixtures available on request

Series	For linear drive	Max. moments [Nm]			Max. loads [N]	Maximum braking force at 6 bar [N] <sup>1)</sup> with 0 mm stroke	Mass of linear drive with guide [kg]		Mass* of guide carriage [kg]	Order No. SLIDELINE <sup>2)</sup> for	
		Mx	My	Mz			Fy, Fz	increase per 100 mm stroke		OSP-P without brake	OSP-P with brake
SL16	OSP-P16	6	11	11	325	–	0.57	0.22	0.23	20341	–
SL25	OSP-P25	14	34	34	675	325	1.55	0.39	0.61	20342	20409
SL32	OSP-P32	29	60	60	925	545	2.98	0.65	0.95	20196	20410
SL40	OSP-P40	50	110	110	1500	835	4.05	0.78	1.22	20343	20411
SL50	OSP-P50	77	180	180	2000	1200	6.72	0.97	2.06	20195	20412
SL63	OSP-P63	120	260	260	2500	–	11.66	1.47	3.32	20853	–
SL80	OSP-P80	120	260	260	2500	–	15.71	1.81	3.32	21000	–

Versions

for pneumatic linear drive:  
Series OSP-P

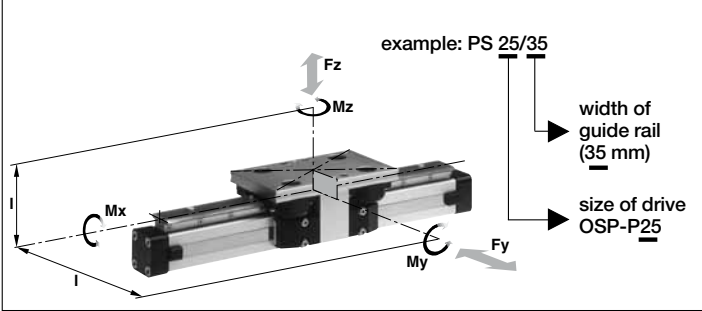


# Roller Guide POWERSLIDE



Series PS 16 to 50  
for Linear-drive  
• Series OSP-P

Loads, Forces and Moments



Features:

- Anodised aluminium guide carriage with vee rollers having 2 rows of ball bearings
- Hardened steel guide rail
- Several guide sizes can be used on the same drive
- Corrosion resistance version available on request
- Max. speed  $v = 3$  m/s,
- Tough roller cover with wiper and grease nipple
- Any length of stroke up to 3500 mm, (longer strokes on request)

Technical Data

The table shows the maximum per-missible values for smooth operation, which should not be exceeded even under dynamic conditions.

For further information and technical data see data sheets for linear drives OSP-P (P-1.10.002E).

\* Please note:  
In the cushioning diagram, add the mass of the guide carriage to the mass to be cushioned.

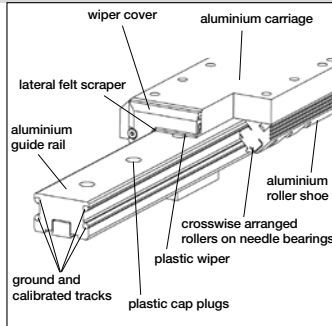
Series	For linear drive	Max. moments [Nm]			Max. load [N] F <sub>y</sub> , F <sub>z</sub>	Mass of linear drive with guide [kg]		Mass* of guide carriage [kg]	Order-No. Powerslide for OSP-P <sup>1)</sup>
		M <sub>x</sub>	M <sub>y</sub>	M <sub>z</sub>		with 0 mm stroke	increase per 100 mm stroke		
PS 16/25	OSP-P16	14	45	45	1400	0.93	0.24	0.7	20285
PS 25/25	OSP-P25	14	63	63	1400	1.5	0.4	0.7	20015
PS 25/35	OSP-P25	20	70	70	1400	1.7	0.4	0.8	20016
PS 25/44	OSP-P25	65	175	175	3000	2.6	0.5	1.5	20017
PS 32/35	OSP-P32	20	70	70	1400	2.6	0.6	0.8	20286
PS 32/44	OSP-P32	65	175	175	3000	3.4	0.7	1.5	20287
PS 40/44	OSP-P40	65	175	175	3000	4.6	1.1	1.5	20033
PS 40/60	OSP-P40	90	250	250	3000	6	1.3	2.2	20034
PS 50/60	OSP-P50	90	250	250	3000	7.6	1.4	2.3	20288
PS 50/76	OSP-P50	140	350	350	4000	11.5	1.8	4.9	20289

<sup>1)</sup> corrosion resistance version available on request (max. loads and moments are 25% lower)



Versions

for pneumatic linear drive:  
Series OSP-P



# Aluminium Roller Guide PROLINE



Series PL 16 to 50  
for Linear-drive  
• Series OSP-P

Technical Data

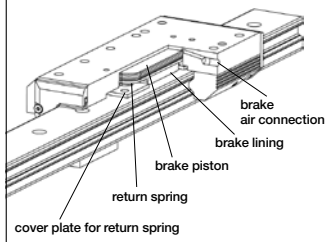
The table shows the maximal permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

The sum of the loads should not exceed >1. With a load factor of less than 1, service life is 8000 km

The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

Option – Integrated Brake



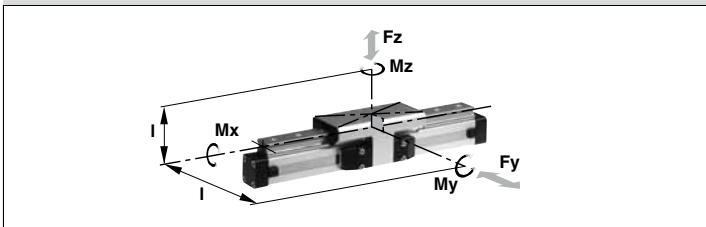
Features:

- High precision
- High velocities (10 m/s)
- Smooth operation - low noise
- Integrated wiper system
- Long life lubrication
- Compact dimensions - compatible to Slideline plain bearing guide
- Any length of stroke up to 3750 mm

Integrated Brake (optional)  
for Series OSP-P25 to OSP-P50:

- Actuated by pressurisation
- Release by depressurisation and spring actuation

Loads, Forces and Moments



\* Please note:

The mass of the carriage has to be added to the total moving mass when using the cushioning diagram.

Series	For linear drive	Max. moments [Nm]			Max. loads [N] Fy, Fz	Maximum braking force at 6 bar [N] <sup>1)</sup>	Mass of linear drive with guide [kg]		Mass* guide carriage [kg]	Order No. PROLINE for OSP-P	
		Mx	My	Mz			with 0 mm stroke	increase per 100 mm stroke		without brake	with brake
PL 16	OSP-P16	8	12	12	542	-	0.55	0.19	0.24	20855	-
PL 25	OSP-P25	16	39	39	857	on request	1.65	0.40	0.75	20856	20860
PL 32	OSP-P32	29	73	73	1171	on request	3.24	0.62	1.18	20857	20861
PL 40	OSP-P40	57	158	158	2074	on request	4.35	0.70	1.70	20858	20862
PL 50	OSP-P50	111	249	249	3111	on request	7.03	0.95	2.50	20859	20863

<sup>1)</sup> Only for version with brake:

Braking surface dry – oiled surface reduces the effective braking force.

# Recirculating Ball Bearing Guide STARLINE



Series STL 16 to 50  
for Linear Drive Series OSP-P

**Features:**

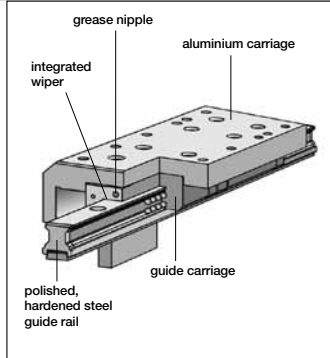
- Polished and hardened steel guide rail
- For very high loads in all directions
- High precision
- Integrated wiper system
- Integrated grease nipples
- Any length of stroke up to 3700 mm
- Anodized aluminium guide carriage – dimensions compatible with OSP guides SLIDELINE and PROLINE
- Installation height (STL16 - 32) compatible with OSP guides SLIDELINE and PROLINE
- Maximum speed  
STL16: v = 3 m/s  
STL25 to 50: v = 5 m/s

**\*\* Please note:**

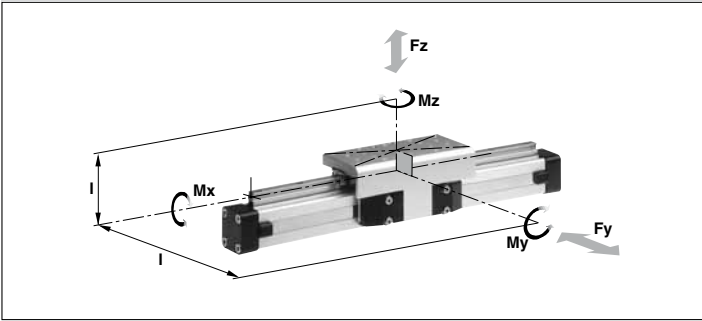
The mass of the carriage has to be added to the total moving mass when using the cushioning diagram.

**Versions**

for pneumatic linear drive:  
Series OSP-P



**Loads, Forces and Moments**



**Technical Data**

The table shows the maximum permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

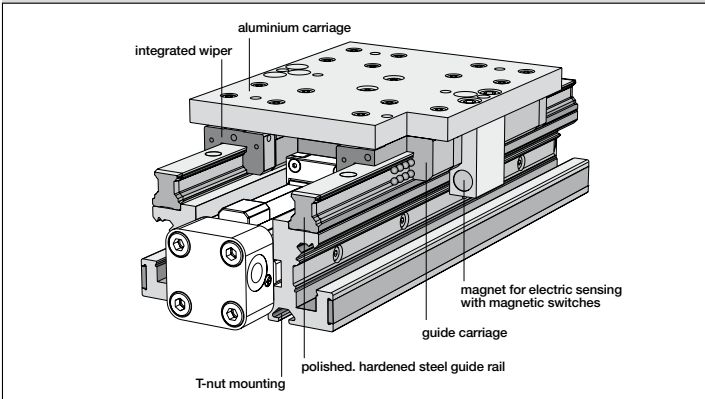
$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

The sum of the loads should not exceed >1

The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

Series	For linear drive	Max. moments [Nm]			Max. loads [N]		Mass of linear drive with guide [kg]		Mass ** guide carriage [kg]	Order No. STARLINE for OSP-P
		Mx	My	Mz	Fy	Fz	with 0 mm stroke	increase per 100 mm stroke		
STL16	OSP-P16	15	30	30	1000	1000	0.598	0.210	0.268	21111
STL25	OSP-P25	50	110	110	3100	3100	1.733	0.369	0.835	21112
STL32	OSP-P32	62	160	160	3100	3100	2.934	0.526	1.181	21113
STL40	OSP-P40	150	400	400	4000	7500	4.452	0.701	1.901	21114
STL50	OSP-P50	210	580	580	4000	7500	7.361	0.936	2.880	21115

Version with pneumatic linear drive series OSP-P

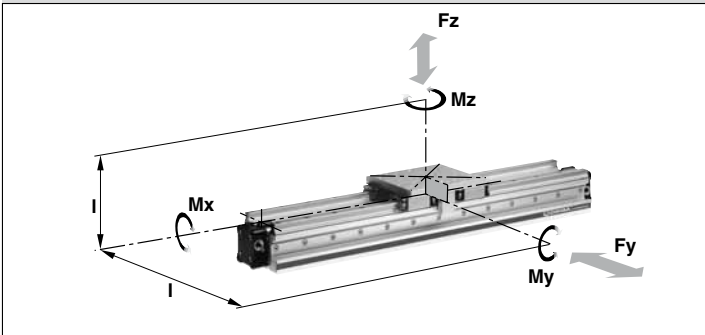


# Heavy Duty-Guide HD



Series HD 25 to 50  
for Linear Drive Series OSP-P

Loads, Forces and Moments



Features:

- Guide system: 4-row recirculating ball bearing guide
- Polished and hardened steel guide rail
- For highest loads in all directions
- Highest precision
- Integrated wiper system
- Integrated grease nipples
- Any lengths of stroke up to 3700 mm (longer strokes on request)
- Anodized aluminium guide carriage - dimensions compatible with OSP guide GUIDELINE
- Maximum speed  $v = 5 \text{ m/s}$

Options:

- With variable stop
- With intermediate stop module

Technical Data

The table shows the maximum permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

The sum of the loads should not >1

The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

\* Please note:

The mass of the carriage does not have to be added to the total moving mass when using the cushioning diagram.



Series	for linear drive	Max. moments [Nm]			Max. loads [N]		Mass of the linear drive with guide [kg]		Mass* guide carriage [kg]	Order No. HD guide for OSP-P
		Mx	My	Mz	Fy	Fz	with 0 mm stroke	increase per 100 mm stroke		
HD25	OSP-P25	260	320	320	6000	6000	3.065	0.924	1.289	21246
HD32	OSP-P32	285	475	475	6000	6000	4.308	1.112	1.367	21247
HD40	OSP-P40	800	1100	1100	15000	15000	7.901	1.748	2.712	21248
HD50	OSP-P50	1100	1400	1400	18000	18000	11.648	2.180	3.551	21249

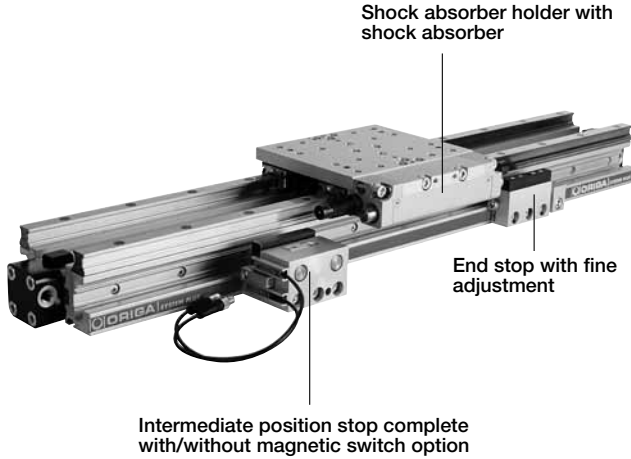
Intermediate stop module Type ZSM..HD

# Intermediate stop module

The intermediate stop module ZSM allows the guide carriage to stop at any desired intermediate positions with high accuracy. It can be retro-fitted. Depending on the application, i.e. the number of intermediate stops, one or more intermediate position stops can be used. The intermediate position stops can be retracted and extended without the need for the guide carriage to be moved back out of position. Therefore the guide carriage can be made to stop at the defined intermediate positions in any order.

**ORIGA intermediate stop module ZSM:**

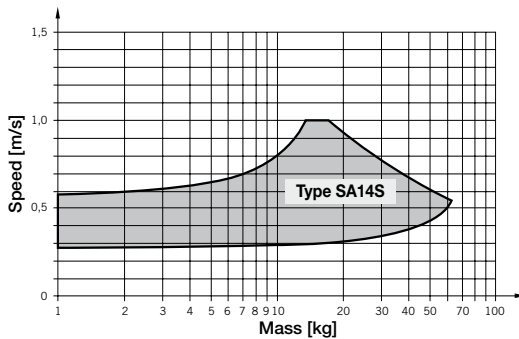
- Allows stopping at any intermediate positions
- Intermediate position stops can be located steplessly anywhere along the whole stroke length
- Movement to the next position without reverse stroke
- Compact unit
- Cost-effective positioning module without electrical or electronic components
- Option: end stop with fine adjustment



**Technical data**

Temperature range	-10°C to +70°C
Operating pressure range	4 – 8 bar
Intermediate position grid	85 mm

**Shock Absorber Type SA14S**



The values relate to an effective driving force of 250 N (6 bar)

# OSP

— ORIGA  
— SYSTEM  
— PLUS

## Versions:

- ACTIVE Brake
- Plain bearing guide with integrated ACTIVE Brake
- Aluminium roller guide with integrated ACTIVE Brake
- Plain bearing guide with PASSIVE Brake
- Aluminium roller guide with PASSIVE Brake

## Active Brakes and Passive Brakes

### Active Brake

for pneumatic linear drive  
Series OSP-P  
Piston diameters 25 - 80 mm.

See data sheet no.  
P-1.42.002E



### Slideline with Active Brake

Plain bearing guide SLIDELINE - SL  
with integrated ACTIVE Brake  
Piston diameters 25 - 50 mm.

See data sheet no.  
P-1.40.002E



### Proline with Active Brake

Aluminium roller guide  
PROLINE - PL with  
integrated ACTIVE Brake  
Piston diameters 25 - 50 mm.

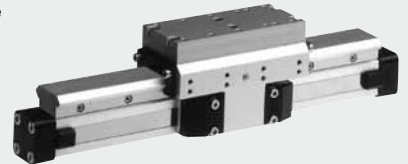
See data sheet no.  
P-1.40.005E



### Multibrake with Slideline

MULTI BRAKE – PASSIVE Brake  
with plainbearing guide  
SLIDELINE - SL  
Piston diameter 25 - 80 mm.

See data sheet no.  
P-1.42.003E



### Multibrake with Proline

MULTI BRAKE – PASSIVE Brake  
with aluminium roller guide  
PROLINE - PL  
Piston diameters 25 - 50 mm.

See data sheet no.  
P-1.42.004E



# Active Brake



Series AB 25 to 80  
for linear drive  
• Series OSP-P

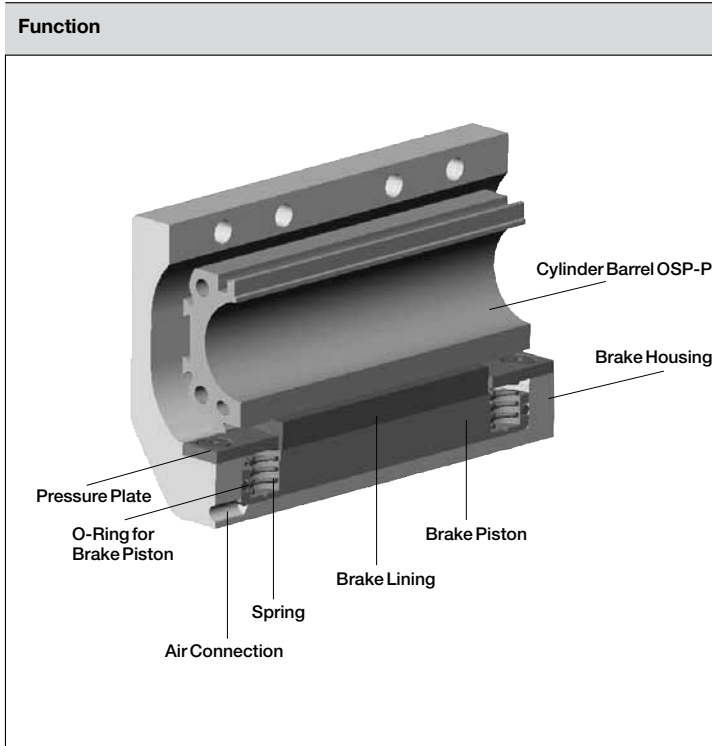
**Features:**

- Actuated by pressurisation
- Released by spring actuation
- Completely stainless version
- Holds position, even under changing load conditions

For further technical data, please refer to the data sheets for linear drives OSP-P (P-1.10.002E).

**Note:**

For combinations Active Brake AB + SFI-plus + Magnetic Switch contact our technical department please.

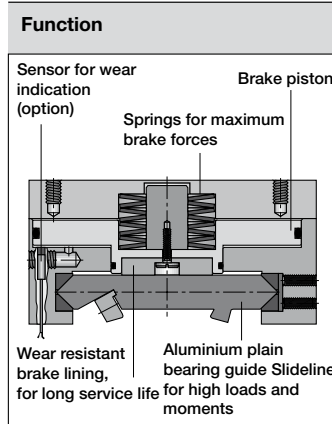
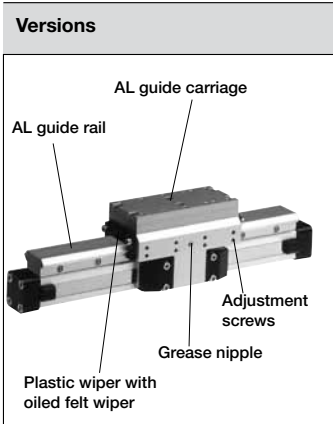


Forces and Weights							
Series	For linear drive	Max. braking force [N] <sup>(1)</sup>	Brake pad way [mm]	Linear drive with brake 0 mm stroke	Mass [kg] increase per 100mm stroke	brake*	Order No. Active brake
AB 25	OSP-P25	350	2.5	1.0	0.197	0.35	20806
AB 32	OSP-P32	590	2.5	2.02	0.354	0.58	20807
AB 40	OSP-P40	900	2.5	2.83	0.415	0.88	20808
AB 50	OSP-P50	1400	2.5	5.03	0.566	1.50	20809
AB 63	OSP-P63	2170	3.0	9.45	0.925	3.04	20810
AB 80	OSP-P80	4000	3.0	18.28	1.262	5.82	20811

<sup>(1)</sup> – at 6 bar  
both chambers pressurised  
with 6 bar  
Braking surface dry  
– oil on the braking surface will  
reduce the braking force

**\* Please Note:**  
The mass of the brake has to be added to the total moving mass when using the cushioning diagram.





# Multi-Brake Passive Brake with plain bearing guide Slideline SL



Series MB-SL 25 to 80  
for Linear-drive  
• Series OSP-P

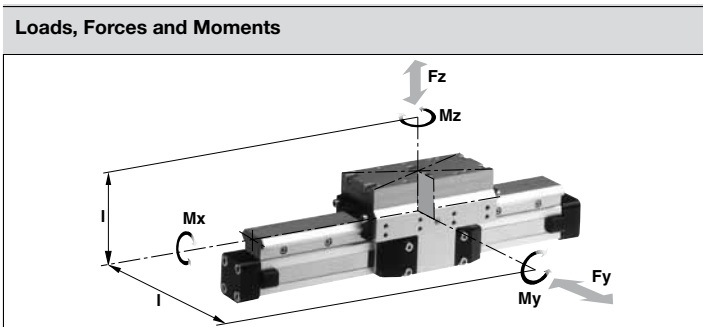
**Function:**

The Multi-Brake is a passive device. When the air pressure is removed the brake is actuated and movement of the cylinder is blocked. The brake is released by pressurisation. The high friction,

wear resistant brake linings allow the Multi-Brake to be used as a dynamic brake to stop cylinder movement in the shortest possible time. The powerful springs also allow the Multi-Brake to be used effectively in positioning applications.

**Features:**

- Brake operated by spring actuation
- Brake release by pressurisation
- Optional sensor to indicate brake lining wear
- Anodised aluminium rail, with prism shaped slide elements
- Adjustable plastic slide elements
- Composite sealing system with plastic and felt wiper elements to remove dirt and lubricate the slideway
- Replenishable guide lubrication by integrated grease nipples
- Blocking function in case of pressure loss
- Intermediate stops possible



**Technical Data:**

The table shows the maximum values for light, shock-free operation, which must not be exceeded even in dynamic operation.

Load and moment data are based on speeds  $v < 0.2$  m/s.

Operating pressure 4.5 - 8 bar  
A pressure of 4.5 bar is required to release the brake.

For further technical information, please refer to the data sheets for linear drives OSP-P (P-1.10.002E)

<sup>1)</sup> Braking surface dry – oil on the braking surface will reduce the braking force

\* **Please note:** in the cushioning diagram, the mass of the guide carriage has to be added to the total moving mass.

Series	For linear drive	Max. moments [Nm]			Max. loads [N] Ly, Lz	Max. brake force [N] <sup>1)</sup>	Mass of linear drive with guide [kg]		Mass* guide carriage [kg]	Order No. – MB-SL	
		Mx	My	Mz			with 0 mm stroke	increase per 100 mm stroke		without sensor	with sensor for wear indication
MB-SL 25	OSP-P25	14	34	34	675	470	2.04	0.39	1.10	20796	on request
MB-SL 32	OSP-P32	29	60	60	925	790	3.82	0.65	1.79	20797	on request
MB-SL 40	OSP-P40	50	110	110	1500	1200	5.16	0.78	2.34	20798	on request
MB-SL 50	OSP-P50	77	180	180	2000	1870	8.29	0.97	3.63	20799	on request
MB-SL 63	OSP-P63	120	260	260	2500	2900	13.31	1.47	4.97	20800	on request
MB-SL 80	OSP-P80	120	260	260	2500	2900	17.36	1.81	4.97	20846	on request

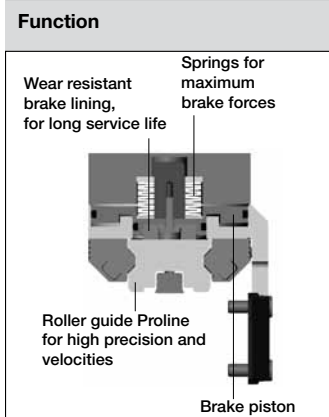
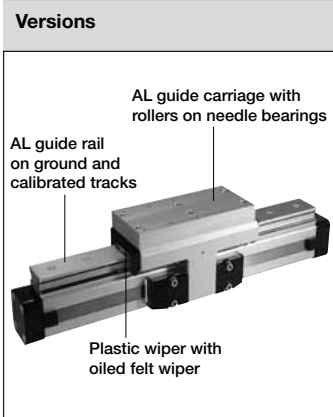
# Multi-Brake Passive Brake with Aluminium Roller Guide Proline PL



Series MB-PL 25 to 50  
for Linear-drive  
• Series OSP-P

**Features:**

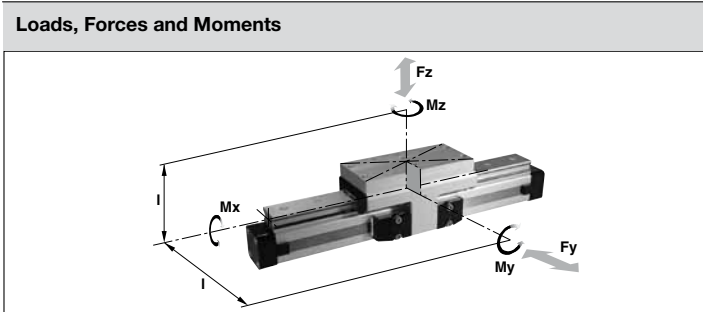
- Brake operated by spring actuation
- Brake release by pressurisation
- Optional sensor to indicate brake lining wear
- Composite sealing system with plastic and felt wiper elements to remove dirt and lubricate the slideway
- Blocking function in case of pressure loss
- Intermediate stops possible



**Function:**

The Multi-Brake is a passive device. When the air pressure is removed the brake is actuated and movement of the cylinder is blocked. The brake is released by pressurisation. The high friction, wear resistant

brake linings allow the Multi-Brake to be used as a dynamic brake to stop cylinder movement in the shortest possible time. The powerful springs also allow the Multi-Brake to be used effectively in positioning applications.



**Technical Data**

The table shows the maximal permissible loads. If multiple moments and forces act upon the cylinder simultaneously, the following equation applies:

$$\frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} + \frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} \leq 1$$

The sum of the loads should not exceed >1. With a load factor of less than 1, service life is 8000 km

The table shows the maximum permissible values for light, shock-free operation, which must not be exceeded even under dynamic conditions.

Operating Pressure 4,5 - 8 bar. A pressure of min. 4.5 bar release the brake.

<sup>1)</sup> Braking surface dry – oil on the braking surface will reduce the braking force


\* Please note: In the cushioning diagram, the mass of the guide carriage has to be added to the total moving mass.

Series	For linear drive	Max. moments [Nm]			Max. loads [N] Fy, Fz	Max. brake force [N] <sup>1)</sup>	Mass of linear drive with guide [kg]		Mass* guide carriage [kg]	Order No. – MB-PL	
		Mx	My	Mz			with 0mm stroke	increase per 100mm stroke		without sensor	with sensor for wear indication
MB-PL25	OSP-P25	16	39	39	857	315	2.14	0.40	1.24	20864	on request
MB-PL32	OSP-P32	29	73	73	1171	490	4.08	0.62	2.02	20865	on request
MB-PL40	OSP-P40	57	158	158	2074	715	5.46	0.70	2.82	20866	on request
MB-PL50	OSP-P50	111	249	249	3111	1100	8.60	0.95	4.07	20867	on request



# Linear Drive-Accessories (Mountings and Magnetic Switches) Series OSP-P



Description	Data Sheet No.
Overview	P-1.45.001E
Clevis Mounting	P-1.45.002E
End Cap Mountings	P-1.45.003E
End Cap Mountings (for Linear Drives with guides)	P-1.45.00E-2,-6,-7
Mid-Section Support	P-1.45.004E
Mid-Section Support (for Linear Drives with guides)	P-1.45.005E-3,-5,-8,-9
Inversion Mounting	P-1.45.006E
Adaptor Profile	P-1.45.007E
T-Slot Profile	P-1.45.008E
Connection Profile	P-1.45.009E
Duplex Connection	P-1.45.011E
Multiplex Connection	P-1.45.012E
Magnetic Switch, standard version	P-1.45.100E
Magnetic Switch for T-Nut mounting	P-1.45.104E
Magnetic Switch ATEX-version 	P-1.45.105E
Cable Cover	P-1.45.102E

# ORIGA- Sensoflex

Displacement measuring system  
for automated movement

Series SFI-plus  
(incremental measuring system)

for cylinder series

- OSP-P...



## Characteristics

- Contactless magnetic displacement measurement system
- Displacement length up to 32 m
- Resolution 0.1 mm (option: 1 mm)
- Displacement speed up to 10 m/s
- For linear and non-linear rotary motion
- Suitable for almost any control or display unit with a counter input

The SFI-plus magnetic displacement measuring system consists of 2 main components.

- **Measuring Scale**

Self-adhesive magnetic measuring scale

- **Sensing Head**

Converts the magnetic poles into electrical signals which are then processed by counter inputs downstream (e.g. PLC, PC, digital counter)

The thrust cylinders are linear actuators, designed for a high force to size ratio. This makes the cylinder ideal to use for clamping, riveting, punching and similar applications where a high force is required.

- Thrust cylinders provide large forces
- Compact dimensions
- C0D, diaphragm type
- C0P, piston type
- Available in single and double acting versions



### Operating information

Working pressure: Max 8 bar  
Working temperature: -20°C to +70°C

Stainless steel piston rod  
Piston rod according to ISO 4395



Compressed air cylinders, types C0D and C0P should not be used in vertical applications without external stop.

For technical information see CD

### C0D - Double acting

Force at code 6 bar, N	Port size	Stroke mm	Order
3000	G1/4	40	<b>C0D300-40</b>
6000	G1/4	50	<b>C0D600-50</b>
12000	G1/2	50	<b>C0D1200-50</b>
25000	G1/2	60	<b>C0P2500-60</b>
25000	G1/2	80	<b>C0P2500-80</b>


### C0P - Single acting

Force at 6 bar, N	Spring N force		Port size	Stroke mm	Order code
	Max N	Min N			
1600	314	128	G1/4	50	<b>C0P160-50S</b>
1600	314	128	G1/4	80	<b>C0P160-80S</b>
3000	314	128	G1/4	50	<b>C0P300-50S</b>
3000	314	128	G1/4	80	<b>C0P300-80S</b>
3000	294	98	G1/4	40	<b>C0D300-40S</b>
6000	638	98	G1/4	50	<b>C0D600-50S</b>
12000	981	235	G1/2	50	<b>C0D1200-50S</b>
25000	2700	883	G1/2	60	<b>C0P2500-60S</b>
25000	2700	883	G1/2	100	<b>C0P2500-100S</b>

The spring forces in single acting cylinders are sufficient to return the piston rod without load

### Accessories


#### Neck mounting nut

Lock nut thread	For cylinder	Order code
 M24x2	C0D300	<b>9141100000</b>
M36x3	C0D600/1200	<b>9141100100</b>
M48x3	C0P2500	<b>9141100200</b>
M24x3	C0P160/300	<b>9141100300</b>

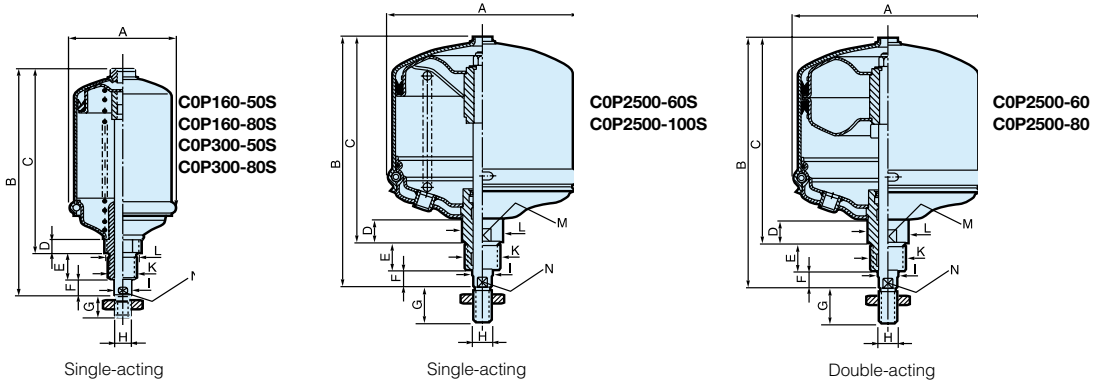


Indicates stocked product.

#### Piston rod nut (one nut is included)

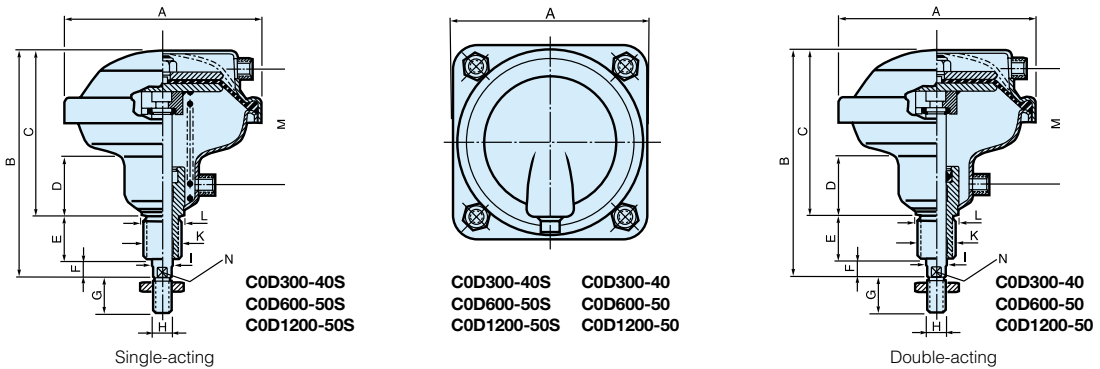
Piston rod nut thread	For cylinder	Order code
 M12	C0P160/300 and C0D300	<b>0266211200</b>
M16	C0D600	<b>0266211400</b>
M20	C0D1200	<b>0266211600</b>
M24	C0P2500	<b>0266211800</b>

Dimensions (mm), piston type



Type	Connection thread	A	B	C	D	E	F	G	H	I Ø	K	L Ø	M	N
C0P160-50S	G1/4	66	192	151	18	30	11	24	M12x1,75	14	M24x3	30	30	12
C0P160-80S	G1/4	66	222	181	18	30	11	24	M12x1,75	14	M24x3	30	30	12
C0P300-50S	G1/4	93	192	151	18	30	11	24	M12x1,75	14	M24x3	30	30	12
C0P300-80S	G1/4	93	222	181	18	30	11	24	M12x1,75	14	M24x3	30	30	12
C0P2500-60S	G1/2	268	345	285	33	40	20	48	M24x3	28	M48x3	56	50	25
C0P2500-100S	G1/2	268	385	325	33	40	20	48	M24x3	28	M48x3	56	50	25
C0P2500-60	G1/2	268	345	285	33	40	20	48	M24x3	28	M48x3	56	50	25
C0P2500-80	G1/2	268	385	325	33	40	20	48	M24x3	28	M48x3	56	50	25

Dimensions (mm), diaphragm type



Type	Connection thread	A	B	C	D	E	F	G	H	I Ø	K	L Ø	M	N
C0D300-40S	G1/4	150	183	131	48	38	14	24	M12x1,75	16	M24x2	30	90	13
C0D300-40	G1/4	150	183	131	48	38	14	24	M12x1,75	16	M24x2	30	90	13
C0D600-50S	G1/4	195	212	154	55	38	20	32	M16x2	20	M36x3	43	107	17
C0D600-50	G1/4	195	212	154	55	38	20	32	M16x2	20	M36x3	43	107	17
C0D1200-50S	G1/2	261	243	178	58	45	20	40	M20x2,5	25	M36x3	43	117	22
C0D1200-50	G1/2	261	243	178	58	45	20	40	M20x2,5	25	M36x3	43	117	22

**Press stand for thrust cylinders**

A simple press for efficient mounting and pressing can easily be built by screwing the thrust cylinders into the threaded holes in the very stable and strong steel press stand. The stand is available in two versions with different fastening threads for the cylinders.

The top plate has two different threads, and can be rotated through 180 degrees to present the correct thread for nose fitting of the cylinders.

The sub-base is fitted with a T-track for easy mounting of accessories. It also has two through holes for simple and secure fitting to a work bench.

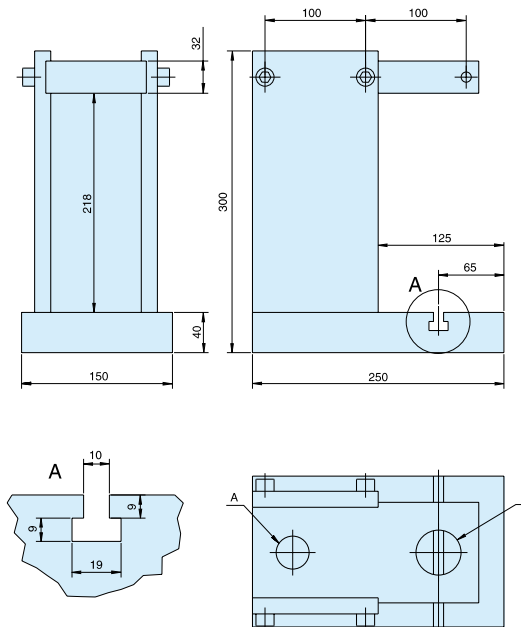


**NOTE!** Remember that an approved two-handed press control must be used with the cylinders and the press stand to prevent crush injuries. We recommend the use of our type PXP two-handed press control. It is available in a number of versions, and is simple, ergonomic and safe to incorporate in the press stand. It meets the requirements of safety standards EN574 and EN954-1.

For more information, see our website:  
[www.parker.com/euro\\_pneumatic](http://www.parker.com/euro_pneumatic)

Description	Threads A/B	Weight kg	Order No.
Press stand for C0P160 / C0P300 / C0D300	M24x2/M24x3	24	<b>C0P-C0D-P01</b>
Press stand for C0D600 / C0D1200 / C0P2500	M36x3/M48x3	24	<b>C0P-C0D-P02</b>

**Dimensions**



Air bellows are the ideal choice for applications requiring short stroke, high thrust single acting actuators.

Manufactured from fabric reinforced synthetic rubber in one, two or three convolutions according to stroke and model. They incorporate no reciprocating meat parts and so provide virtually frictionless thrust compared with conventional pneumatic cylinders.



- 10 sizes, diameters 70-660 mm
- Strokes from 45 to 375 mm
- Single, double or triple convolutions
- High thrust and frictionless movement
- Maintenance free

### Operating information

Working pressure: Max 8 bar  
 Working temperature: -30°C to +70°C  
 High temperature version  
 Working temperature: -30°C to +115°C  
 Operation: Dry air



It is recommended that external mechanical stops are used to limit the stroke. The units should not achieve maximum stroke or be allowed to 'bottom out'.  
 Air Bellows may not be stacked, use singly only.

Air bellows are suitable for vibration applications i.e. device feeders at high frequency.

For technical information see CD

### Single convolution

Symbol	Ø mm (inches)	Port size	Max force (N) at 1 bar (0 stroke)	Max stroke mm	Order code
	110 (4½ x 1)	G3/8	1150	45	9109400
	150 (6 x 1)	G1/2	1900	55	9109004A
	200 (8 x 1)	G1/2	3200	75	9109014
	250 (10 x 1)	G1/2	5000	100	9109024
	300 (12 x 1)	G1/2	6500	100	9109044
	370 (14½ x 1)	G1/2	9600	115	9109064

### Double convolution

Symbol	Ø mm (inches)	Port size	Max force (N) at 1 bar (0 stroke)	Max stroke mm	Order code
	70 (2¾ x 2)	G1/4	400	50	9109009
	110 (4½ x 2)	G3/8	900	80	9109401
	150 (6 x 2)	G1/2	1800	112	9109001A
	200 (8 x 2)	G1/2	3000	180	9109011
	250 (10 x 2)	G1/2	4800	200	9109021
	300 (12 x 2)	G1/2	6800	195	9109041
	370 (14½ x 2)	G1/2	10000	225	9109061
	410 (16 x 2)	G1/2	11400	250	9109171
	550 (21½ x 2)	G3/4	24000	300	9109150
	660 (26 x 2)	G3/4	30800	310	9109156

### Triple convolution

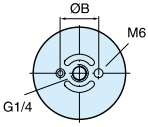
Symbol	Ø mm (inches)	Port size	Max force (N) at 1 bar (0 stroke)	Max stroke mm	Order code
	70 (2¾ x 3)	G1/4	370	65	9109010
	110 (4½ x 3)	G3/8	900	100	9109402
	150 (6 x 3)	G1/2	1800	173	9109007A
	200 (8 x 3)	G1/2	3000	225	9109017
	250 (10 x 3)	G1/2	4800	300	9109031
	300 (12 x 3)	G1/2	6800	330	9109051
	370 (14½ x 3)	G1/2	10200	350	9109069
410 (16 x 3)	G1/2	10500	375	9109177	

Indicates stocked product.

Dimensions (mm)

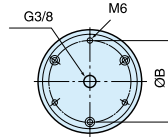
Ø70 mm (2¾")

Aluminium end plate version



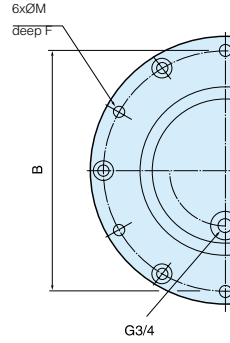
Ø110 mm (4½")

Aluminium end plate version



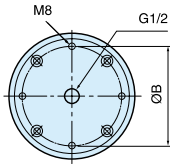
Ø550 mm (21½")

Steel end plate version



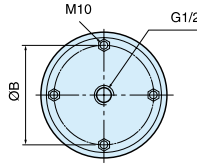
Ø150 mm (6")

Aluminium end plate version



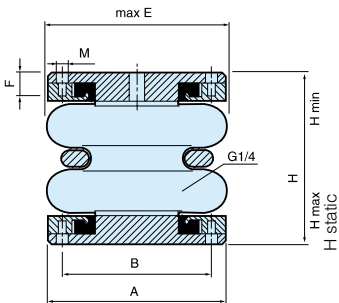
Ø200-410 mm (8-16")

Aluminium end plate version



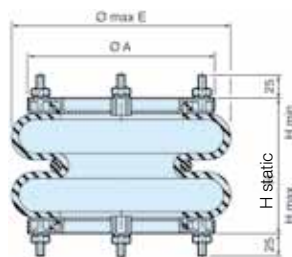
Ø	Number of convolutions	H min	H static	H max	Stroke max	ØE max	ØA	ØB	ØM	F
70	2	65	90	115	50	80	78	36	M6	9
70	3	80	110	145	65	80	78	36	M6	9
110	1	45	65	90	45	125	110	93	M6	13
110	2	65	100	145	80	125	110	93	M6	13
110	3	100	145	200	100	125	110	93	M6	13
150	1	50	80	105	55	175	155	127	M8	16
150	2	78	130	190	172	175	155	127	M8	16
150	3	102	190	275	173	175	155	127	M8	16
200	1	50	90	125	75	230	184	155.5	M10	
200	2	70	160	250	180	230	184	155.5	M10	
200	3	100	205	325	225	230	184	155.5	M10	
250	1	50	100	150	100	280	210	181	M10	
250	2	70	170	270	250	280	210	181	M10	
250	3	100	250	400	300	280	210	181	M10	
300	1	50	100	150	100	330	260	232	M10	
300	2	75	170	270	195	330	260	232	M10	
300	3	100	250	430	330	330	260	232	M10	
370	1	50	110	165	115	395	310	282.5	M10	
370	2	70	180	295	225	395	310	282.5	M10	
370	3	100	280	450	350	395	310	282.5	M10	
410	2	75	200	325	250	440	310	282.5	M10	
410	3	125	300	500	375	440	310	282.5	M10	
550	2	90	200	390	300	580	498.5	470	M10	19
660	2	90	200	400	310	700	498.5	470	M10	19

Ø70-150 mm (2¾-6")



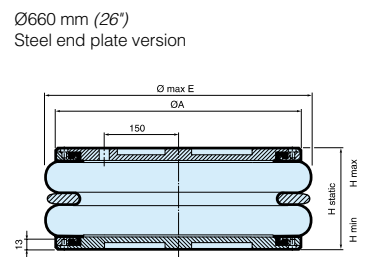
Ø200-410 mm (8-16")

Steel end plate version



Ø550 mm (21½")

Aluminium end plate version



Ø660 mm (26")

Steel end plate version



# Stainless Steel Air Motors

## P1V-S Series

*An ideal choice for the **Food Industry***



Designed for demanding applications and available in a wide variety of speeds and output torques. The all round, dirt-trap free design, stainless steel construction and viton external seals makes them the ideal choice for the Food Industry, where washdown with aggressive cleaning agents is common.

All versions are reversible in use and are fitted with a keyed shaft as standard. Power output from 120 to 1200 Watts is available and they are extremely efficient in operation, air consumption is low, ranging from 3,7 l/s to 27l/s.



P1V-S is a range of air motors with all external components made of stainless steel, which means that they can be used in food grade applications, and in all other applications where there is a risk of corrosion.



- Power from 0,02 kW to 1,2 kW
- ATEX CE Ex approved from 0,12 kW to 1,2 kW
- Designed for arduous applications
- No-lube intermittent operation as standard
- 0,2 kW and 0,3 kW Brakemotors for higher safety

### Operating information

Working pressure: Max 7 bar (max 6 bar in Ex area)  
 Working temperature: -30° to +100° C (-20° to +40° C in Ex area)  
 Fluid: Compressed air with ISO 8573-1 Quality class 3.4.3 (no-lube operation) and 3.-.5 (lube operation)  
 ATEX approval: CE Ex II 2 GD c IIC T6 (80°C)X  
 CE Ex II 2 GD c IIC T5 (95°C)X

**For ATEX specific products contact Sales Office**

**Note:** All technical data is based on a working pressure of 6 bar in the inlet port

### Reversible air motors

Keyed shaft, Max output kW	P1V-S002A series, 20 watt - (M5)		Free Speed at max output r/min	Torque at max output Nm	Min start torque Nm	Air consumption at max output l/s	Conn.	Min pipe ID	Order code
	Free speed rpm	max output r/min							
0,02	1300	650	0,29	0,44	1,7	M5	3	P1V-S002A0130	
0,02	950	475	0,40	0,60	1,7	M5	3	P1V-S002A0095	

### Keyed shaft, P1V-S008A series, 80 watt - (M8 x 0,75, 3 push in nippels for plastic pipes Ø6/4 mm supplied)

0,08	24000	12000	0,06	0,09	3,5	M8 x 0,75*	4	P1V-S008A0Q00
0,08	7000	3500	0,22	0,33	3,5	M8 x 0,75*	4	P1V-S008A0700
0,08	1900	950	0,80	1,20	3,5	M8 x 0,75*	4	P1V-S008A0190
0,08	1300	650	1,20	1,80	3,5	M8 x 0,75*	4	P1V-S008A0130

### Keyed shaft, P1V-S012A series, 120 watt - (G1/8)

CE II2GD cIIC T6 (80°C) X

0,12	22000	11000	0,10	0,15	5,0	G1/8	6	P1V-S012A0N00
0,12	5500	2750	0,42	0,63	5,0	G1/8	6	P1V-S012A0550
0,12	3600	1800	0,64	0,95	5,0	G1/8	6	P1V-S012A0360
0,12	1400	700	1,64	2,40	5,0	G1/8	6	P1V-S012A0140
0,12	900	450	2,54	3,80	5,0	G1/8	6	P1V-S012A0090
0,12	600	300	3,82	5,00*	5,0	G1/8	6	P1V-S012A0060
0,12	100	50	5,00*	5,00*	5,0	G1/8	6	P1V-S012A0010

### Threaded shaft, P1V-S012D series, 120 watt - (G1/8)

CE II2GD cIIC T6 (80°C) X

0,12	22000	11000	0,10	0,15	5,0	G1/8	6	P1V-S012D0N00
0,12	5500	2750	0,42	0,63	5,0	G1/8	6	P1V-S012D0550
0,12	3600	1800	0,64	0,95	5,0	G1/8	6	P1V-S012D0360
0,12	1400	700	1,64	2,40	5,0	G1/8	6	P1V-S012D0140
0,12	900	450	2,54	3,80	5,0	G1/8	6	P1V-S012D0090
0,12	600	300	3,82	5,00*	5,0	G1/8	6	P1V-S012D0060
0,12	100	50	5,00*	5,00*	5,0	G1/8	6	P1V-S012D0010

### Keyed shaft, P1V-S020A series, 200 watt - (G1/8)

CE II2GD cIIC T6 (80°C) X

0,20	14500	7250	0,26	0,40	6,3	G1/8	10	P1V-S020A0E50
0,20	4600	2300	0,80	1,20	6,3	G1/8	10	P1V-S020A0460
0,20	2400	1200	1,60	2,40	6,3	G1/8	10	P1V-S020A0240
0,20	1400	700	2,70	4,10	6,3	G1/8	10	P1V-S020A0140
0,20	700	350	5,40	8,20	6,3	G1/8	10	P1V-S020A0070
0,20	350	160	12,00	18,00	6,3	G1/8	10	P1V-S020A0035
0,10	180	90	10,50	15,00	6,3	G1/8	10	P1V-S020A0018
0,20	110	55	33,00	49,50	6,3	G1/8	10	P1V-S020A0011
0,20	60	30	72,00	108,00*	6,3	G1/8	10	P1V-S020A0006
0,18	50	25	20,00*	20,00*	6,3	G1/8	10	P1V-S020A0005
0,18	20	-	20,00*	20,00*	6,3	G1/8	10	P1V-S020A0002
0,18	10	-	20,00*	20,00*	6,3	G1/8	10	P1V-S020A0001
0,20	5	-	20,00*	20,00*	6,3	G1/8	10	P1V-S020A0005

Indicates stocked product.

\* Max allowed torque

## Reversible air motors

## Threaded shaft, P1V-S020D series, 200 watt - (G1/8)




Max output kW	Free speed rpm	Speed at max output r/min	Torque at max output Nm	Min start torque Nm	Air consumption at max output l/s	Conn.	Min pipe ID	Order code
0,20	14500	7250	0,26	0,40	6,3	G1/8	10	P1V-S020D0E50
0,20	4600	2300	0,80	1,20	6,3	G1/8	10	P1V-S020D0460
0,20	2400	1200	1,60	2,40	6,3	G1/8	10	P1V-S020D0240
0,20	1400	700	2,70	4,10	6,3	G1/8	10	P1V-S020D0140
0,20	700	350	5,40	8,20	6,3	G1/8	10	P1V-S020D0070
0,20	350	160	12,00	18,00	6,3	G1/8	10	P1V-S020D0035
0,10	180	90	10,50	15,00	4,5	G1/8	10	P1V-S020D0018
0,20	50	25	20,00*	20,00*	6,3	G1/8	10	P1V-S020D0005

## Keyed shaft, P1V-S030A series, 300 watt - (G1/4)




0,30	14500	7250	0,40	0,60	8,0	G1/4	10	P1V-S030A0E50
0,30	4600	2300	1,20	1,90	8,0	G1/4	10	P1V-S030A0460
0,30	2400	1200	2,40	3,60	8,0	G1/4	10	P1V-S030A0240
0,30	1400	700	4,10	6,10	8,0	G1/4	10	P1V-S030A0140
0,30	600	300	9,60	14,30	8,0	G1/4	10	P1V-S030A0060
0,30	280	140	20,50	26,00	8,0	G1/4	10	P1V-S030A0028
0,30	230	115	24,00	36,00	8,0	G1/4	10	P1V-S030A0023
0,13	180	90	13,80	21,00	4,7	G1/4	10	P1V-S030A0018
0,30	100	50	57,00	85,50	8,0	G1/4	10	P1V-S030A0010
0,30	50	25	36,00*	36,00*	8,0	G1/4	10	P1V-S030A0005

## Threaded shaft, P1V-S030D series, 300 watt - (G1/4)




0,30	14500	7250	0,40	0,60	8,0	G1/4	10	P1V-S030D0E50
0,30	4600	2300	1,20	1,90	8,0	G1/4	10	P1V-S030D0460
0,30	2400	1200	2,40	3,60	8,0	G1/4	10	P1V-S030D0240
0,30	1400	700	4,10	6,10	8,0	G1/4	10	P1V-S030D0140
0,30	600	300	9,60	14,30	8,0	G1/4	10	P1V-S030D0060
0,30	280	140	20,50	26,00	8,0	G1/4	10	P1V-S030D0028
0,13	180	90	13,80	21,00	4,7	G1/4	10	P1V-S030D0018
0,30	50	25	36,00*	36,00*	8,0	G1/4	10	P1V-S030D0005

## Keyed shaft, P1V-S060A series, 600 watt - (G3/8)




0,60	14000	7000	0,82	1,23	14,5	G3/8	12	P1V-S060A0E00
0,60	4000	2000	2,90	4,30	14,5	G3/8	12	P1V-S060A0400
0,60	2700	1350	4,20	6,40	14,5	G3/8	12	P1V-S060A0270
0,60	1700	850	6,70	10,10	14,5	G3/8	12	P1V-S060A0170
0,60	720	360	15,90	24,00	14,5	G3/8	12	P1V-S060A0072
0,60	480	240	23,90	36,00	14,5	G3/8	12	P1V-S060A0048
0,60	300	150	38,20	57,00	14,5	G3/8	12	P1V-S060A0030
0,30	100	50	60,00*	60,00*	14,5	G3/8	12	P1V-S060A0010

## Keyed shaft, P1V-S120A series, 1200 watt - (G3/4)




1,20	8000	4000	2,90	4,30	27,0	G3/4	19	P1V-S120A0800
1,20	2700	1350	8,50	12,70	27,0	G3/4	19	P1V-S120A0270
1,20	1100	550	21,00	31,00	27,0	G3/4	19	P1V-S120A0110
1,20	780	390	29,40	44,00	27,0	G3/4	19	P1V-S120A0078
1,20	320	160	71,60	107,00	27,0	G3/4	19	P1V-S120A0032
1,20	200	100	66,90	110,00*	19,0	G3/4	19	P1V-S120A0012

\* Max allowed torque

 Indicates stocked product.

## Brake motors

The integrated brake is a spring-loaded disk brake, which is released at a minimum air pressure of 5 bar. The brake is applied in the absence of pressure.

The technology and the size of air motors with integrated running and stationary brake make them ideal for applications requiring repeated precise positioning.

The motor can also be kept stationary in a specific position, and the stopping time for a rotating weight can be shortened significantly. Another typical application for brake motors is when the output shaft needs to be held in one position when the motor stops delivering torque.

The brake can handle more than 1500 braking operations per hour at maximum braking torque.

### Note!

Brake motors must only ever be supplied with unlubricated air, otherwise there is a risk of oil from the supply air getting into the brake unit, resulting in poor brake performance or no braking effect.

Please check the allowed maximum torque applied on the motor from the load in the technical catalogue

### Brake motors with keyed shaft, P1V-S020AD series, 200 watt - (G1/8)

Max output kW	Free speed rpm	Speed at max output r/min	Torque at max output Nm	Min start torque Nm	Air consumption at max output l/s	Conn.	Min pipe ID	Order code
0,20	14500	7250	0,26	0,40	6,3	G1/8	10	<b>P1V-S020ADE50</b>
0,20	4600	2300	0,80	1,20	6,3	G1/8	10	<b>P1V-S020AD460</b>
0,20	2400	1200	1,60	2,40	6,3	G1/8	10	<b>P1V-S020AD240</b>
0,20	1400	700	2,70	4,10	6,3	G1/8	10	<b>P1V-S020AD140</b>
0,20	700	350	5,40	8,20	6,3	G1/8	10	<b>P1V-S020AD070</b>
0,20	350	160	12,00	18,00	6,3	G1/8	10	<b>P1V-S020AD035</b>
0,10	180	90	10,50	15,00	4,5	G1/8	10	<b>P1V-S020AD018</b>
0,20	110	55	33,00	49,50	6,3	G1/8	10	<b>P1V-S020AD011</b>
0,20	60	30	72,00	108,00*	6,3	G1/8	10	<b>P1V-S020AD006</b>
0,18	50	25	20,00*	20,00*	6,3	G1/8	10	<b>P1V-S020AD005</b>
0,18	20	-	20,00*	20,00*	6,3	G1/8	10	<b>P1V-S020AD002</b>
0,18	10	-	20,00*	20,00*	6,3	G1/8	10	<b>P1V-S020AD005</b>
0,18	5	-	20,00*	20,00*	6,3	G1/8	10	<b>P1V-S020AD0005</b>


### Brake motors with keyed shaft, P1V-S030AD series, 300 watt - (G1/4)

0,30	14500	7250	0,40	0,60	8,0	G1/4	10	<b>P1V-S030ADE50</b>
0,30	4600	2300	1,20	1,90	8,0	G1/4	10	<b>P1V-S030AD460</b>
0,30	2400	1200	2,40	3,60	8,0	G1/4	10	<b>P1V-S030AD240</b>
0,30	1400	700	4,10	6,10	8,0	G1/4	10	<b>P1V-S030AD140</b>
0,30	600	300	9,60	14,30	8,0	G1/4	10	<b>P1V-S030AD060</b>
0,30	280	140	20,50	26,00	8,0	G1/4	10	<b>P1V-S030AD028</b>
0,30	230	115	24,00	36,00	8,0	G1/4	10	<b>P1V-S030AD023</b>
0,30	100	50	57,00	85,50	8,0	G1/4	10	<b>P1V-S030AD010</b>
0,30	50	25	36,00*	36,00*	8,0	G1/4	10	<b>P1V-S030AD005</b>


\* Max allowed torque

## P1V-S Accessories

### Flange

	For air motor	For drilling motor	Order code
	P1V-S002		<b>P1V-S4002B</b>
	P1V-S008	P1V-S008	<b>P1V-S4008B</b>
	P1V-S012		<b>P1V-S4012B</b>
	P1V-S020	P1V-S025	<b>P1V-S4020B</b>
	P1V-S030	P1V-S040	<b>P1V-S4030B</b>
	P1V-S060		<b>P1V-S4060B</b>
	P1V-S120		<b>P1V-S4120B</b>

### Foot

	For air motor	For drilling motor	Order code
	P1V-S008	P1V-S008	<b>P1V-S4008F</b>
	P1V-S012		<b>P1V-S4012F</b>
	P1V-S020	P1V-S025	<b>P1V-S4020F</b>
	P1V-S030	P1V-S040	<b>P1V-S4030F</b>
	P1V-S020A0011		<b>P1V-S4020C</b>
	P1V-S020A0006		<b>P1V-S4020C</b>
	P1V-S020A0023		<b>P1V-S4020C</b>
	P1V-S020A0010		<b>P1V-S4020C</b>
	P1V-S060		<b>P1V-S4060F</b>
	P1V-S120		<b>P1V-S4120F</b>

## Design Variants

A large number of drilling motors, milling motors and grinding motors have been developed using the P1V-S as the base motor in order to make it easier to install air motors in machining applications.

**NB:** These motors must be supplied with lubricated air



### Operating information

Working pressure:	Max 7 bar
Working temperature:	-30°C to +100°C
Medium:	40 µm filtered oil mist (unlubricated for grinding motor P1V-S009)

For technical information see CD

P1V-M is a series of air motors, with planetary gearbox and motor made of black varnished steel. Its robustness makes it suitable for all normal air motor applications.

The range contains three different sizes with power ratings of 200, 400 or 600 Watts, shaft speeds ranging from 29 rpm to 10000 rpm, and torques up to 401 Nm at maximum power (more than 800 Nm torque if the motor is braked to stationary).

The standard range includes a total of 27 versions, covering all possible requirements for these power ratings.



- Power 0,2 kW, 0,4 kW and 0,6 kW
- Patented way for simple change of vanes
- Free speeds from 28 up to 10000 rpm
- Torque from 0,38 Nm up to 380NM by max output power
- Standard equipped with flange mounting
- Foot mountings as accesories

### Operating information

Working pressure	Max 7 bar
Working temperature	-30 °C to +100 °C
Medium	Filtered dry air and oil mist, purity class ISO 8573-1 class 3.-.5 for indoor use and with a dew point lower than ambient temperature for outdoor use.

### P1V-M020A, 200 watt motor with flange

Max power kW	Free speed r/Min	Speed at max power r/Min	Torque at max power Nm	Min start torque Nm	Air consumption at max power l/s	Conn. ID	Min pipe mm	Weight Kg	Order code
0,200	10 000	5 000	0,38	0,57	6,5	G1/8	10	1,94	<b>P1V-M020A0A00</b>
0,200	2 890	1 445	1,31	1,97	6,5	G1/8	10	1,94	<b>P1V-M020A0290</b>
0,200	1 466	733	2,59	3,89	6,5	G1/8	10	1,94	<b>P1V-M020A0150</b>
0,200	810	405	4,69	7,04	6,5	G1/8	10	2,94	<b>P1V-M020A0081</b>
0,200	413	206	9,20	13,81	6,5	G1/8	10	2,94	<b>P1V-M020A0041</b>
0,200	209	105	18,14	27,21	6,5	G1/8	10	2,94	<b>P1V-M020A0021</b>
0,200	90	45	42,34	63,50	6,5	G1/8	10	7,44	<b>P1V-M020A0009</b>
0,200	59	29	64,76	97,15	6,5	G1/8	10	7,44	<b>P1V-M020A0006</b>
0,200	30	15	126,99	190,48	6,5	G1/8	10	7,44	<b>P1V-M020A0003</b>

**P1V-M040A, 400 watt motor with flange**

Max power kW	Free speed r/Min	Speed at max power r/Min	Torque at max power Nm	Min start torque Nm	Air consumption at max power l/s	Conn. ID	Min pipe mm	Weight Kg	Order code
0,400	10 000	5 000	0,76	1,15	9,5	G3/8	12	2,32	<b>P1V-M040A0A00</b>
0,400	2 890	1 445	2,63	3,98	9,5	G3/8	12	2,32	<b>P1V-M040A0290</b>
0,400	1 466	733	5,18	7,84	9,5	G3/8	12	2,32	<b>P1V-M040A0150</b>
0,400	810	405	9,39	14,20	9,5	G3/8	12	4,32	<b>P1V-M040A0081</b>
0,400	413	206	18,41	27,85	9,5	G3/8	12	4,32	<b>P1V-M040A0041</b>
0,400	209	105	36,28	54,90	9,5	G3/8	12	4,32	<b>P1V-M040A0021</b>
0,400	90	45	84,67	128,12	9,5	G3/8	12	7,82	<b>P1V-M040A0009</b>
0,400	59	29	129,53	195,99	9,5	G3/8	12	7,82	<b>P1V-M040A0006</b>
0,400	30	15	253,98	384,31	9,5	G3/8	12	7,82	<b>P1V-M040A0003</b>

**P1V-M060A, 600 watt motor with flange**

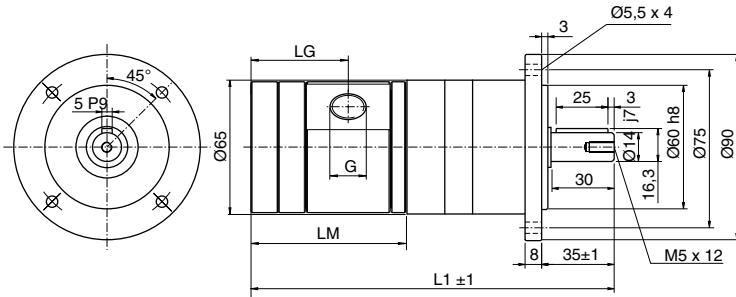
Max power kW	Free speed r/Min	Speed at max power r/Min	Torque at max power Nm	Min start torque Nm	Air consumption at max power l/s	Conn.	Min pipe ID mm	Weight Kg	Order code
0,600	10 000	5 000	1,14	1,71	15,0	G3/8	12	5,59	<b>P1V-M060A0A00</b>
0,600	2 890	1 445	3,94	5,92	15,0	G3/8	12	5,59	<b>P1V-M060A0290</b>
0,600	1 466	733	7,77	11,66	15,0	G3/8	12	5,59	<b>P1V-M060A0150</b>
0,600	810	405	14,08	21,12	15,0	G3/8	12	6,59	<b>P1V-M060A0081</b>
0,600	413	206	27,61	41,42	15,0	G3/8	12	6,59	<b>P1V-M060A0041</b>
0,600	209	105	54,42	81,64	15,0	G3/8	12	6,59	<b>P1V-M060A0021</b>
0,600	90	45	127,01	190,51	15,0	G3/8	12	11,09	<b>P1V-M060A0009</b>
0,600	59	29	194,29	291,44	15,0	G3/8	12	11,09	<b>P1V-M060A0006</b>
0,600	30	15	380,97	571,45	15,0	G3/8	12	11,09	<b>P1V-M060A0003</b>

**Dimensions**

Motor P1V-M0●0A0A00

Motor P1V-M0●0A0290

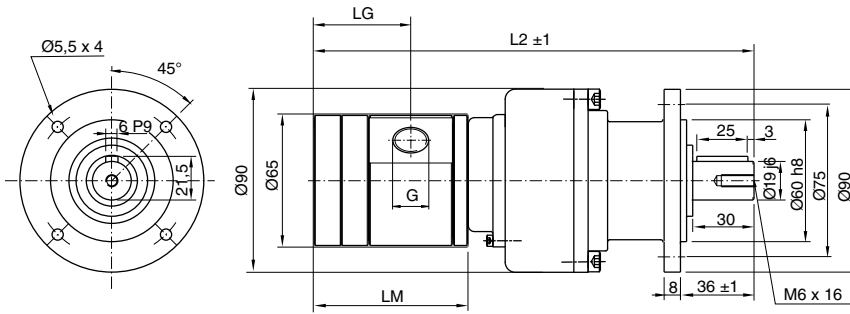
Motor P1V-M0●0A0150



Motor P1V-M0●0A0081

Motor P1V-M0●0A0041

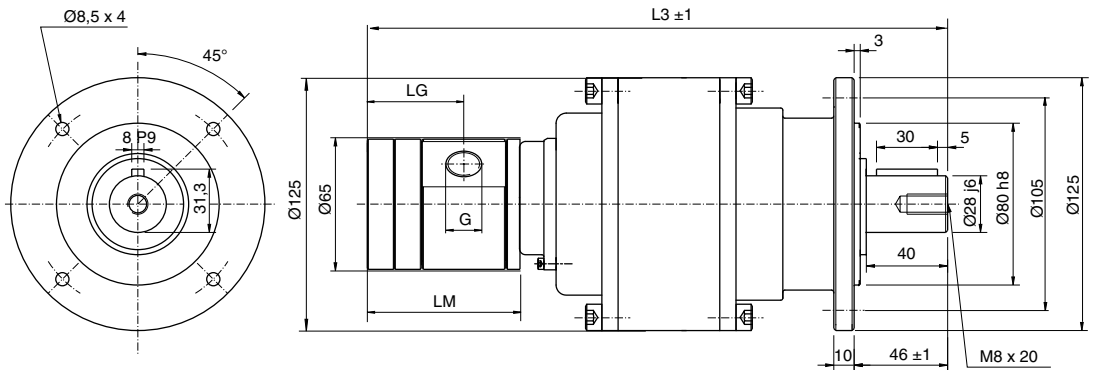
Motor P1V-M0●0A0021



Motor P1V-M0●0A0009

Motor P1V-M0●0A0006

Motor P1V-M0●0A0003



Motor type	G	LG	LM	L1	L2	L3
P1V-M020A	G1/8	39,0	57,5	160,5	197,5	267,5
P1V-M040A	G3/8	49,0	77,5	180,5	217,5	287,5
P1V-M060A	G3/8	56,5	92,0	195,0	232,0	302,0

Rotary actuators are an efficient and easy way to generate torque from compressed air, in a very compact size. They are ideal for the compact applications in a wide range of industries such as, packaging, process, electronics etc.

- Compact design
- Durable construction
- Long maintenance-free life
- High output torque/weight ratio
- Wide choice of torques available (up to 247 Nm)
- Range of mounting option, hydro-cushioning and position sensors



#### Operating information

Working pressure: Max 10 bar  
 Permissible fluid: Filtered (<math><5\mu</math>) with or without lubrication  
 Standard working temperature:  
 PRN/PRO 3 to 20 -5°C to +80°C  
 Other models -5°C to +60°C

Pre-lubricated, further lubrication is not normally necessary. If additional lubrication is introduced it must be continued.

For technical information see CD

#### PRN miniature (fixed oscillating angle)


Single vane	Torque at 6 bar (N.m)	Oscillating reference point		Order code	Oscillating angle
		45°	90°		
PRNA1S	0,16	X		<b>PRNA1S-90-90</b>	<b>PRNA1S-180-90</b>
PRNA3S	0,38	X		<b>PRNA3S-90-90</b>	<b>PRNA3S-180-90</b>
PRNA10S	1,20	X		<b>PRNA10S-90-90</b>	<b>PRNA10S-180-90</b>
PRNA20S	2,10		X	<b>PRNA20S-90-90</b>	<b>PRNA20S-180-90</b>
PRN30SE	4,10	X		<b>PRN30SE-90-45</b>	<b>PRN30SE-180-45</b>
<b>Double vane</b>					
PRNA3D	0,65			<b>PRNA3D-90-45</b>	
PRNA10D	2,54			<b>PRNA10D-90-45</b>	
PRNA20D	4,70			<b>PRNA20D-90-45</b>	
PRN30DE	9,50			<b>PRN30DE-90-45</b>	

#### PRO (adjustable oscillating angle)

Single vane	Torque at 6bar (N.m)	Oscillating angle	Order code	Torque at 6bar (N.m)	Oscillating angle	Order code
	0,38	30 to 180°	<b>PROA3S-0-90</b>	0,65	30 to 90°	<b>PROA3D-0-45</b>
	1,20	30 to 180°	<b>PROA10S-0-90</b>	2,54	30 to 90°	<b>PROA10D-0-45</b>
	2,10	30 to 180°	<b>PROA20S-0-90</b>	4,70	30 to 90°	<b>PROA20D-0-45</b>
	4,10	30 to 270°	<b>PRO30SE-0-45</b>	9,50	30 to 90°	<b>PRO30DE-0-45</b>

#### PRN high torque range (fixed oscillating angle)

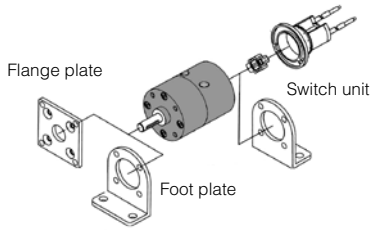
Single vane	Torque at 6 bar (N.m)	Oscillating angle	
		90°	270°
PRN50SE	5,9	<b>PRN50SE-90-45</b>	<b>PRN50SE-180-45</b>
PRN150SE	18,0	<b>PRN150SE-90-45</b>	<b>PRN150SE-180-45</b>
PRN300SE	34,5	<b>PRN300SE-90-45</b>	<b>PRN300SE-180-45</b>
PRN800SE	123,0	<b>PRN800SE-90-45</b>	<b>PRN800SE-180-45</b>
<b>Double vane (oscillating angle 45°)</b>			
PRN50DE	12,8	<b>PRN50DE-90-45</b>	
PRN150DE	41,5	<b>PRN150DE-90-45</b>	
PRN300DE	83,0	<b>PRN300DE-90-45</b>	
PRN800DE	247,0	<b>PRN800DE-90-45</b>	

 Indicates stocked product.

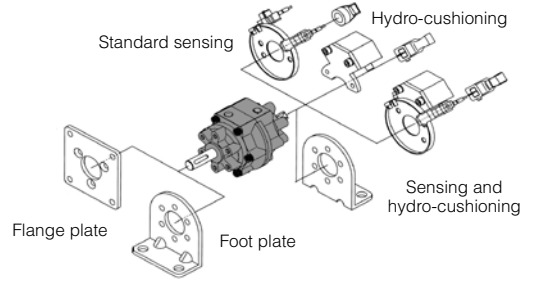


## Design Variants

### PRO and miniature PRN ranges



### PRN high torque range



### Hydro-cushion for PRN050 to PRN800 rotary actuators

Rotary actuator	Hydro-cushion	Claw for hydro-cushion - Oscillating angle		
		90°	180°	270°
PRN50S	<b>CRN50</b>	CRN50-90-45-T	CRN50-180-45-T	CRN50-270-45-T
PRN150S	<b>CRN150</b>	CRN150-90-45-T	CRN150-180-45-T	CRN150-270-45-T
PRN300S	<b>CRN300</b>	CRN300-90-45-T	CRN300-180-45-T	CRN300-270-45-T
PRN50D	<b>CRN50</b>	CRN50-90-45-T		
PRN150D	<b>CRN150</b>	CRN150-90-45-T		
PRN300D	<b>CRN300</b>	CRN300-90-45-T		

Vane actuators provide the maximum amount of output torque from the smallest possible envelope size. They convert pneumatic pressure into rotary motion for a wide variety of industrial applications.

Two basic styles are available. Single vane models have a maximum rotation of 280°, while the double vane units produce twice the torque output from identical envelope dimensions and have a maximum rotation of 100°.

- Double acting actuators
- Single or double vane
- Compact smooth design
- Uniform torque in both directions
- Angle adjustment and sensors available.



### Operating information

Type	Double acting actuation	
Standard rotation (tolerance $\pm 1^\circ$ )	Single vane	0 to 275°, size 10 to 11 0 to 280°, size 22 to 23
	Double vane	0 to 95°, size 10 to 11 0 to 100°, size 22 to 23
Temperature	-10°C to +80°C	
Air supply	Lubricated or non-lubricated	
Pressure range	2 to 10 bar max	

### Basic Unit

Size	Max.rotation	Type	Shaft	Order code.
10	275°	Single	Not through rod	<b>6V5100010F-275</b>
	95°	Double		<b>6V5100010F-095</b>
11	275°	Single		<b>6V5200010F-275</b>
	95°	Double		<b>6V5200010F-095</b>
22	280°	Single	Through rod	<b>6V1300030F-280</b>
	100°	Double		<b>6V1300030F-100</b>
33	280°	Single		<b>6V2400030F-280</b>
	100°	Double		<b>6V2400030F-100</b>

### Angle adjustment and sensor kits

Size	Options	Order code.
22	Angle adjustment kit	<b>6V03570</b>
	Angle adjustment kit with sensors PNP	<b>6V03575</b>
33	Angle adjustment kit with sensors NPN	<b>6V03576</b>
	Angle adjustment Kit	<b>6V04570</b>
33	Angle adjustment kit with sensors PNP	<b>6V04575</b>
	Angle adjustment kit with sensors NPN	<b>6V04576</b>

### Complete with angle adjustment and sensors

Size	Max.rotation	Type	Shaft	Order code.
22	220°	Single	Angle adjustment kit	<b>6V1357630F-220</b>
	100°	Double		<b>6V1357730F-100</b>
	220°	Single	As above + PNP Sensors + plug	<b>6V1357635F-220</b>
	100°	Double		<b>6V1357735F-100</b>
33	220°	Single	Angle adjustment kit	<b>6V1357636F-220</b>
	100°	Double		<b>6V1357736F-100</b>
	220°	Single	As above + PNP Sensors + plug	<b>6V2457630F-220</b>
	100°	Double		<b>6V2457730F-100</b>
33	220°	Single	As above + PNP Sensors + plug	<b>6V2457635F-220</b>
	100°	Double		<b>6V2457735F-100</b>
	220°	Single	As above + NPN Sensors + plug	<b>6V2457636F-220</b>
	100°	Double		<b>6V2457736F-100</b>

The P5W units provide precise control from 0° - 190° even under heavy loads, with specially designed load fixing and centring capabilities. End stroke cushioning using adjustable stops or hydraulic buffers offers dependable linear cushioning enabling objects to be carried and positioned safely and securely.



- Rack and pinion patented movement.
- Continuously adjustable stroke.
- Large ball bearings on the shaft.
- Through hole in the pinion.
- Optional rubber end stroke or hydraulic shock-absorber.
- Mid position stop (MPS).

#### Operating information

Working pressure: 1.5 - 8 bar

Temperature range: +5°C to +60°C

Operation: Filtered dry air, lubricated or not

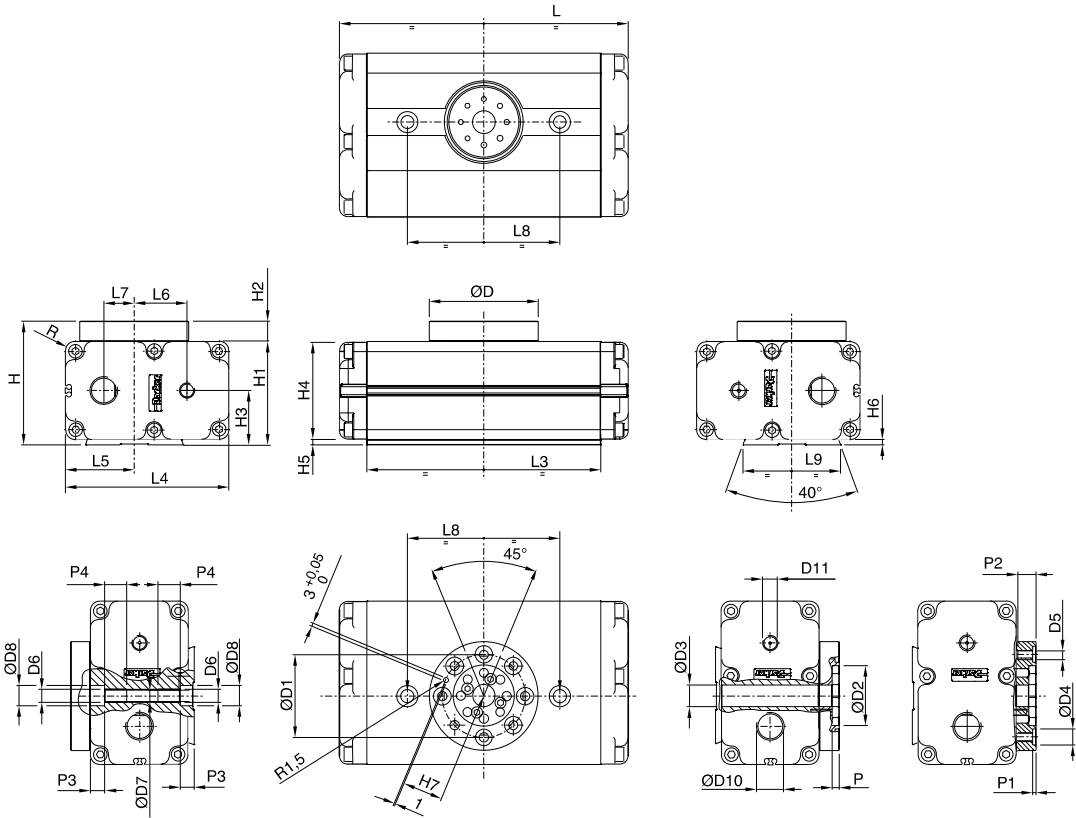
For technical information see CD

#### Rotary table

Must be fitted with either external cushioning or other cushioning

Size Ø mm	Connection	Weight kg	Order code
10	M5	0,234	<b>P5WCM10NMN0190B</b>
12	M5	0,557	<b>P5WCM12NMN0190B</b>
20	M5	0,966	<b>P5WCM20NMN0190B</b>
25	G1/8	1,682	<b>P5WCM25NMN0190B</b>
35	G1/8	2,473	<b>P5WCM35NMN0190B</b>
45	G1/4	5,252	<b>P5WCM45NMN0190B</b>
63	G1/4	8,184	<b>P5WCM63NMN0190B</b>

Dimensions



Stroke	L	L3	L4	L5	L6	L7	L8	L9	D	D1	D2	D3	D4	D5	D6	D7	D8	D10	D11
Ø mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
10	81	65	38	19	10	9	50	40	32	23	-	5	7	M4	M5	4,3	9	M8x1	M5
12	108	88	50	25	13	13	59	40	45	31,5	22	6	7	M4	M6	5,2	11	M10x1	M5
20	130	110	65	32,5	16	13,5	72	56	45	31,5	22	8	7	M4	M6	5,2	11	M12x1	M5
25	162	136	80	40,5	24	18	86	70	65	50	37	10	9	M5	M8	6,8	15	M12x1	G1/8
35	170	140	100	47	28,5	17,5	86	70	65	50	37	12	9	M5	M8	6,8	15	M14x1,5	G1/8
45	230	180	120	56	37	26	140	90	100	76	55	18	15	M8	M12	10,5	19	M20x1,5	G1/4
63	265	215	150	63	48,5	28	140	90	100	76	55	20	15	M8	M12	10,5	19	M25x1,5	G1/4

Stroke	H	H1	H2	H3	H4	H5	H6	H7	P	P1	P2	P3	P4	R
Ø mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
10	35	27	8	16	21,5	5,25	5	-	-	2,5	6,5	6	10	2,75
12	47	37	10	21	31	5,5	5	15,25	4	2,5	8	6	12	3,5
20	54	44	10	24,5	38	5,5	5	15,25	4	2,5	8	6	12	4,5
25	64	50	14	27,5	44	5,5	5	24,5	5	3	12	10	18	5
35	76	62	14	33,5	55	5,5	5	24,5	5	3	12	10	18	7
45	95,5	77	18,5	41	70	5,5	5	37,5	7	3,5	16	13	24	7
63	113,5	95	18,5	50	88	5,5	5	37,5	7	3,5	16	13	24	9

## Damping

### Shock Absorber



Size Ø mm	Order code
10	MC10MH
12	TK10M-6-1
20	MC75M-3-NB-111
25	MC75M-3-NB-111
35	MC150MH2
45	MC225MH2
63	MC600MH2

### Rubber Damper



Size Ø mm	Order code
10	P5WCM10B
12	P5WCM12B
20	P5WCM20B
25	P5WCM20B

### Mid position stop

The Mid position stop unit is a stroke reducer, acting against the rack of the rotary table unit by a piston rod. The stopping unit piston bore is larger than the rotary unit and pressurised at the same pressure it stops in the middle of the rotary unit stroke. When not pressurised a spring keeps the stopping unit piston rod against the rotary unit rack.



Size Ø mm	Weight kg	Intermediate stop Order code
10	0.055	P5WCM10M
12	0.100	P5WCM12M
20	0.190	P5WCM20M
25	0.300	P5WCM25M
35	0.450	P5WCM35M
45	1.000	P5WCM45M
63	1.675	P5WCM63M

### Magnetic Sensors

All switches are normally open (NO) in the unswitched position. When introduced to the magnetic field, the switch closes. Switches are designed for simple flush mounting without the need for additional brackets.



Ouput / Function	Cable / connector	Weight kg	Order code
Type PNP , normally open	2,5 m PUR-cable	0,007	P8S-SPFL3
Type NPN , normally open	2,5 m PUR-cable	0,007	P8S-SNFL3
Type PNP , normally open	0.3 m M8 / Snap-in	0.013	P8S-SPSH3
Type NPN , normally open	0.3 m M8 / Snap-in	0.013	P8S-SNSH3

These modern lightweight grippers offer high performance with a choice of options to suit most applications.

- Compact design
- Double acting, square jaws
- Automatic grip retention by mechanical system
- High reliability



### Operating information

Working pressure	3-8 bar
Working temperature (with or without sensors)	+5°C to +60°C
Operation	Dry air, with or without lubrication
For technical information see CD	

## Design Variants

### Parallel double acting, square jaw carriers

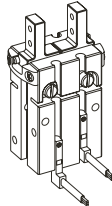
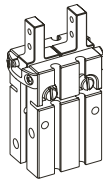
Gripper is opened and closed by pneumatic pressure.  
No grip retention at closing.  
4 sizes available.

#### Sensors

Check on closing and opening of gripper by means of sensors.

#### Spring function

Self-locking in closed or opened position by internal spring.  
In case of air failure, the retention force is equal to the clamping force divided by 4.



### Angular double acting, square jaw carriers

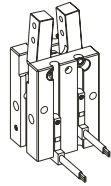
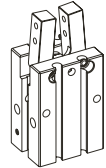
Gripper is opened and closed by pneumatic pressure.  
No self-locking in closed position.  
4 sizes available.

#### Sensors

Check on closing and opening of gripper by means of sensors.

#### Spring function

Self-locking in closed or opened position by internal spring.  
In case of air failure, the retention force is equal to the clamping force divided by 4.

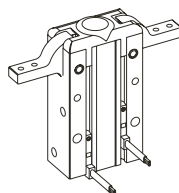
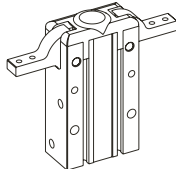


### Radial double acting, square jaw carriers

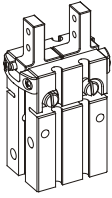
Gripper is opened and closed by pneumatic pressure.  
Automatic grip retention by mechanical system.  
4 sizes available.

#### Sensors

Check on opening and closing of gripper by means of sensors.



## Parallel Grippers



### Without spring

Size	Order code
10	<b>P5GCM10HMN0004B</b>
16	<b>P5GCM16HMN0006B</b>
20	<b>P5GCM20HMN0010B</b>
25	<b>P5GCM25HMN0014B</b>

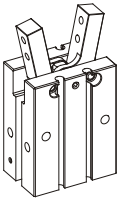
### Spring opening

Size	Order code
10	<b>P5GCM10HBN0004B</b>
16	<b>P5GCM16HBN0006B</b>
20	<b>P5GCM20HBN0010B</b>
25	<b>P5GCM25HBN0014B</b>

### Spring Closing

Size	Order code
10	<b>P5GCM10HDN0004B</b>
16	<b>P5GCM16HDN0006B</b>
20	<b>P5GCM20HDN0010B</b>
25	<b>P5GCM25HDN0014B</b>

## Angular Grippers



### Without spring

Size	Order code
10	<b>P5GCM10KMN0040B</b>
16	<b>P5GCM16KMN0040B</b>
20	<b>P5GCM20KMN0040B</b>
25	<b>P5GCM25KMN0040B</b>

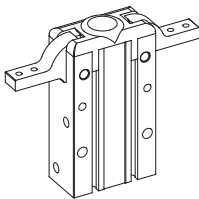
### Spring opening

Size	Order code
10	<b>P5GCM10KBN0040B</b>
16	<b>P5GCM16KBN0040B</b>
20	<b>P5GCM20KBN0040B</b>
25	<b>P5GCM25KBN0040B</b>

### Spring Closing

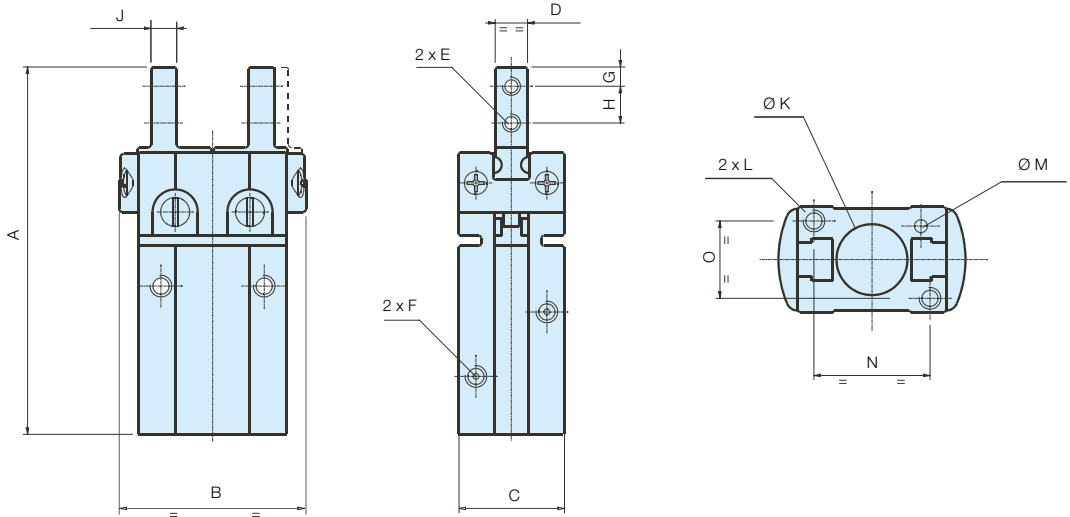
Size	Order code
10	<b>P5GCM10KDN0040B</b>
16	<b>P5GCM16KDN0040B</b>
20	<b>P5GCM20KDN0040B</b>
25	<b>P5GCM25KDN0040B</b>

## Radial Grippers



Size	Order code
10	<b>P5GCM10BMN0180B</b>
16	<b>P5GCM16BMN0180B</b>
20	<b>P5GCM20BMN0180B</b>
25	<b>P5GCM25BMN0180B</b>

## Dimensions (mm)



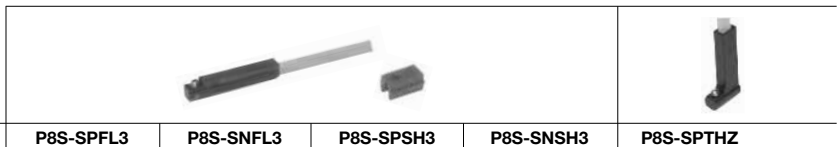
Type	Size	A	B	C	D	E	F	G	H	J	ØK	L	ØM	N	O	Stroke mm
Parallel	10	57	29,4	16,4	5	M2,5	M3	3	5,7	4	11	M3	2	18	12	4,4
	16	67,3	38,6	23,6	8	M3	M5	4	7	5	17	M4	3	22	15	6,6
	20	84,8	50,4	27,6	10	M4	M5	5	9	8	21	M5	4	32	18	10,2
	25	102,7	64,0	33,6	12	M5	M5	6	12	10	26	M6	4	40	22	14
Angular	10	53	23	16,4	6,4	M2,5	M3	3	5,7	4	11	M3	-	18	12	40°
	16	63,3	30,6	23,6	8	M3	M5	4	7	7	17	M4	-	22	15	40°
	20	78,7	42	27,6	10	M4	M5	5,2	9	8	21	M5	-	32	18	40°
	25	93,3	52	33,6	12	M5	M5	8	12	10	26	M6	-	40	22	40°
Radial	10	71	30	15	6	M3	M5	3	6	4	11	M3	3	24	9	180°
	16	84	38	20	8	M3	M5	4	7	5	17	M4	3	30	12	180°
	20	106	48	26	10	M4	M5	5	9	8	21	M5	4	38	16	180°
	25	131	58	30	12	M5	M5	6	12	10	26	M6	4	46	18	180°

## Sensors for P5GC gripper

Sensors can be adjusted along grooves

			Size 10	Size 16	Size 20	Size 25
<b>P8S-SPFL3</b>	PNP	2.5m cable	<input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)
<b>P8S-SNFL3</b>	NPN	2.5m cable	<input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)
<b>P8S-SPSH3</b>	PNP	M8 connector	<input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)
<b>P8S-SNSH3</b>	NPN	M8 connector	<input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1)
<b>P8S-SPTH2</b>	PNP	M8 connector	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>

(1) By using the adaptor provided with the sensor



Order code

P8S-SPFL3

P8S-SNFL3

P8S-SPSH3

P8S-SNSH3

P8S-SPTHZ



# Linear Actuator Products

A complete range of pneumatic actuators

PDE2612TCUK



Parker is the world leader in motion and control technologies, providing systematic, precision-engineered solutions for a wide variety of, industrial markets. Throughout the world, Parker Hannifin is working together with companies to make their machines more reliable and more productive. Parker products are in operation on satellites orbiting the earth: in machine tools and mobile plant; on oil rigs and refineries; in hospitals and laboratories. In fact, wherever there

are machines that depend on motion or fluid control, you will find innovative and reliable Parker components and systems.

The Parker range of linear actuators encompasses both compact, lightweight and rodless versions and ISO/VDMA models. Versions specifically for the food industry both in aluminium and stainless steel and products for arduous applications in harsh environments are all featured.

Minimum Space Applications

P1G Compact Cylinders



- Ø6, 10 & 16mm Bore sizes
- Non-lube operation
- Corrosion resistant design
- Integral mounting thread
- Compact construction
- Single acting as standard.

Clamping & Locking Operations

C05 Short Stroke Cylinders



- Ø8 - 63mm bore sizes
- Short stroke providing high clamping force
- Compact dimensions for confined spaces
- Single and double acting
- Simple installation and mounting.

Light Duties in Packaging, Food and Textile

P1A Mini ISO Cylinders



- Ø10 - 25mm Bore size to ISO 6432
- Magnetic piston as standard
- End stroke buffers for long service life
- Adjustable cushioning Ø16 - 25mm Bore sizes
- Complete range of mountings & sensors
- Piston rod guidance units available.

Confined Space Applications

P1J Compact Cylinders



- Ø12 - 63mm
- Stroke lengths up to 100mm
- Single and double acting
- Magnetic piston as standard
- Compact dimensions for confined spaces
- Complete range of mountings & sensors.

Flexible Porting Options

P1M Cylinders



- Ø12 - 100mm
- Stroke lengths up to 500mm
- Single and double acting
- Magnetic piston as standard
- Flexible porting options
- Complete range of mountings & sensors.

Harsh Environments / Food Industry

P1S Stainless Steel Cylinders



- All stainless steel design
- Mini ISO 6432 Ø10 - 25mm Bore sizes
- Standard ISO 6431 Ø32 - 125mm Bore sizes
- Magnetic piston as standard
- Clean design ideal for washdown
- Adjustable end cushioning.
- Initial lubrication with food grade grease.

Resistance to Side Load

P5T Compact Cylinders



- Ø12 - 100mm bore size
- Complete cylinder with integral guidance
- Plain bearing or twin recirculating bearings
- End stop cushioning as standard
- Magnetic as standard
- Flexible porting and mounting
- Standard strokes 10 - 200mm

Light Duty Applications

P1K Cylinders



- Ø32 - 125mm Bore sizes
- Single and double acting
- Clean line profile design
- Designed for dry piston rod operation
- End stroke buffers for long service life
- Position sensing versions.

Short Stroke, High Thrust Single Acting Applications

Air Bellows



- 10 sizes Ø70 - 660mm
- Strokes from 45 - 430mm
- High thrust frictionless movement
- Single, double or triple convolutions
- Maintenance free.

**Linear Actuator Products**

**General Industrial & Food Industry Versions**

**P1D ISO/VDMA Cylinders**



- Ø32 - 125mm Bore size ISO/VDMA standard
- Double acting with adjustable end cushioning
- Magnetic piston as standard
- Flexible porting option
- Non-lube operation
- 'Clean' version for food industry
- Complete range of sensors and mountings

**Clamping & Tightening**

**Hydraulic Clamp Cylinders**



- Single acting cylinders with built-in hydro-pneumatic intensifier
- Compact size with large clamping forces up to 2700 daN (depending on air pressure)
- Operated using a compressed air supply, no special installation required
- Easy adjustment through a fully threaded body
- Simple and rapid installation

**Gripping for most applications**

**P5G-C Robotic Grippers**



- 4 sizes available
- Parallel or angular action
- Square jaw carriers
- One or two magneto-inductive sensor can be mounted on all sizes to provide signal to monitor gripper opening and closing.

**Demanding Environments**

**P1E VDMA 24562 Cylinders**



- Ø160 - 200mm Bore sizes VDMA standard
- Double acting with adjustable end cushioning
- Magnetic piston as standard
- Non-lube operation
- Tie rod construction
- Complete range of mountings & sensors.

**Wide Variety of Industrial Applications**

**PV Rotary Actuators - Vane Type**



- Double acting actuators
- Single or double vane
- Compact smooth design
- Uniform torque in both directions
- Angle adjustment and sensors available.

**Hydraulic Damping Cylinder**

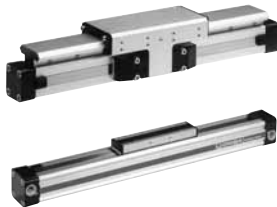
**Hydrochecks**



- Range of imperial sizes
- Gives smooth control feeds
- Strokes up to 450mm

**Door Actuation, Special Purpose Machinery**

**Rodless Cylinders**



- High precision cushioning
- Flexible porting
- High efficiency sealing technology
- Integral sensor slot with enhancement strip
- Heavy load carrying capability

**Clamping, Riveting & Punching Applications**

**C0D - C0P Thrust Cylinders**



- Short stroke high thrust design
- Compact dimensions
- Diaphragm or piston versions
- Single or double acting.

**Chip Mounting, Glass, Injection Mold, Sheet Metal**

**Vacuum**



- Mini vacuum generators
- Compact "air saver" vacuum generators
- Multi-function vacuum generators with holding
- Valve and rapid release options
- Wide range of suction cups
- Wide range materials

# Rotary Actuator and Air Motor Products

A complete range of rotary actuator and air motor products

PDE2613TCUK

**Rotary Actuators and Air Motors**  
A complete range of pneumatic Rotary Actuators and Air Motor components.

**Parker**

...SAVING YOUR...

Parker is the world leader in motion and control technologies, providing systematic, precision-engineered solutions for a wide variety of, industrial markets. Throughout the world, Parker Hannifin is working together with companies to make their machines more reliable and more productive. Parker products are in operation on satellites orbiting the earth: in machine tools and mobile plant; on oil rigs and refineries; in hospitals and laboratories. In fact, wherever there

are machines that depend on motion or fluid control, you will find innovative and reliable Parker components and systems.

The Parker range of rotary actuators and airmotors offers a choice of oscillating or continuous rotary motion. Stainless steel versions specifically for food industry or more robust models for general industrial applications are available.

## Rotary Actuator and Air Motor Products

### Harsh Environments & Food Industry

#### P1V-S Air Motors



- All stainless steel design
- From 0.120kW - 1.2kW power
- For arduous applications
- Non-lube intermittent operation
- External seals viton
- Ideal for food industry applications.

### Arduous Applications

#### P1V-B Large Vane Air Motors



- Power 5, 1 kW, 9 kW and 18 kW
- For the very heavy applications
- Free speed from 400 up to 300 rpm
- High torque from 57 to 160 Nm by max output power

### Packaging, Process, Electronic Applications

#### PRO-PRN Rotary Actuators



- Compact design
- Durable construction
- Long maintenance-free life
- High output torque/weight ratio
- Wide choice of torques available (up to 247 Nm)

### Minimum Noise Level

#### P1V-P Radial Piston Air Motors



- P1V-P piston motor
- Power 0.73 kW, 0.125kW and 0.228kW
- Low speed and high torque
- Available as base and brake motors
- Free speed from 2200 down to 7.4 rpm
- High torque from 0.637Nm up to 500Nm

### Arduous Applications

#### P1V-A Large Air Motors



- Designed for arduous applications.
- Wide range of optional gears
- Wide speed and torque range 1.6kW, 2.6kW, 3.6kW

### Rack and Pinion Piston Rods

#### RA Rotary Actuators Rack & Pinion Type



- High torque
- Uniform torque in both directions
- Compact design
- 90° or 180° rotation
- Output shaft with key

### Robust Air Motor

#### P1V-M Robust Vane Air Motors



- Power 0.2 kW, 0.4 kW and 0.6 kW
- Patented way for simple change of vanes
- Free speeds from 28 up to 10000 rpm
- Torque from 0.38 Nm up to 380Nm by max output power
- Standard equipped with flange mounting
- Footmountings as accessories

### Heavy Duty Applications

#### P5W Rotary Table Units



- Rack and pinion patented movement.
- Continuously adjustable stroke.
- Large ball bearings on the shaft.
- Through hole in the pinion.
- Optional rubber end stroke or hydraulic shock-absorber.
- Mid position stop (MPS)



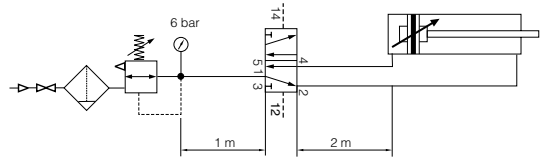


# Control Devices

**Choice of components for air supply to cylinders**

In the chart below can you find the suitable valves, tubes etc. for each cylinder size. If you have a tube length over 2 m, choose one tube size larger than in the chart. The table is based on a maximum cylinder speed of 0,5m/s.

Following data is valid:  
 Supply pressure: min 7,0 bar  
 Regulator pressure setting: 6,0 bar  
 Pipe length between air treatment unit and valve: max 1 m  
 Pipe length between valve and cylinder : max 2 m  
 The table is made for a cylinder speed max 0,5 m/s



Cylinder														
Cylinder diameter mm	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63	Ø80	Ø100	Ø125	Ø160	Ø200
Cylinder ISO connection	M5	M5	M5	G1/8	G1/8	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2	G3/4	G3/4
Tube														
Tube diameter mm Ext / Int	4 / 2.7	4 / 2.7	4 / 2.7	6 / 4	6 / 4	6 / 4	8 / 6	8 / 6 10 / 8	10 / 8	12 / 9 14 / 11	12 / 9	16 / 13	18 / 15	22 / 16
FRL units														
Global P31														
Global P32														
Global P33														
Valves														
4mm inst. fitting valve														
M5 valve														
6mm inst. fitting valve														
1/8 valve														
1/4 valve														
3/8 valve														
1/2 valve														

Possible    
  Recommended    
  Cylinder speed < 0,5 m/s    
  Not recommended





## Viking Xtreme

High performance directional control valves  
G1/8 - G1/2 body ported



## Extreme Environments

*Demand The **Viking Xtreme***

The Viking Xtreme valve range is robust, versatile and combines high performance with compact installation dimensions. Large flow capacity, short change-over times and low change-over pressure are important characteristics of this valve range.

The 1/8 & 1/4 sizes are designed to operate with pressures up to 16 bar and the 3/8 & 1/2 sizes up to 12 bar, in ambient temperatures  $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  when fitted with suitable solenoid operators.

The Viking Xtreme valve range is robust, versatile and combines high performance with compact installation dimensions. Large flow capacity, short change-over times and low change-over pressure are important characteristics of this valve range.

- 4 sizes: G1/8, G1/4, G3/8 and G1/2.
- Wide operating temperature range
- Compact design with good corrosion resistance.
- Wide range of 5/2 and 5/3 versions.
- High and low temperature versions available for transport applications.
- Lever operated version.



### Operating information

	P2L-AX	P2L-BX	P2L-CX	P2L-DX
Working pressure:	16 bar	16 bar	12 bar	12 bar
Working temperature, standard				
Air pilot solenoid		-40 °C to +60 °C		
Standard and food version		-10 °C to +50 °C		
Mobile & Lever operated version		-40 °C to +60 °C		
Flow (Qmax);	<b>P2L-AX</b>	<b>P2L-BX</b>	<b>P2L-CX</b>	<b>P2L-DX</b>
	19,0 l/s	38,0 l/s	72,0 l/s	78,0 l/s






### Pneumatically actuated 5/2 and 5/3 valves

Symbol	Size	Actuator	Return	Order code
	G1/8 G1/4 G3/8 G1/2	Air pilot	Air pilot	<b>P2LAX511PP</b> <b>P2LBX512PP</b> <b>P2LCX513PP</b> <b>P2LDX514PP</b>
	G1/8 G1/4 G3/8 G1/2	Air pilot	Spring	<b>P2LAX511PS</b> <b>P2LBX512PS</b> <b>P2LCX513PS</b> <b>P2LDX514PS</b>
	G1/8 G1/4 G3/8 G1/2	Air pilot Closed centre	Air pilot Self centring	<b>P2LAX611PP</b> <b>P2LBX612PP</b> <b>P2LCX613PP</b> <b>P2LDX614PP</b>
	G1/8 G1/4 G3/8 G1/2	Air pilot Vented centre	Air pilot Self centring	<b>P2LAX811PP</b> <b>P2LBX812PP</b> <b>P2LCX813PP</b> <b>P2LDX814PP</b>
	G1/8 G1/4 G3/8 G1/2	Air pilot Pressure centre	Air pilot Self centring	<b>P2LAX711PP</b> <b>P2LBX712PP</b> <b>P2LCX713PP</b> <b>P2LDX714PP</b>



### Electrically actuated 5/2 and 5/3 valves - 15mm solenoid

Symbol	Size	Actuator	Return	Order code 15mm solenoid with 24 VDC sol	Order code without 15mm solenoid
	G1/8 G1/4 G3/8 G1/2	Solenoid	Solenoid	<b>P2LAX511EENXB549</b> <b>P2LBX512EENXB549</b> <b>P2LCX513EENXB549</b> <b>P2LDX514EENXB549</b>	<b>P2LAX511EENXXX</b> <b>P2LBX512EENXXX</b> <b>P2LCX513EENXXX</b> <b>P2LDX514EENXXX</b>
	G1/8 G1/4 G3/8 G1/2	Solenoid	Spring	<b>P2LAX511ESNXB549</b> <b>P2LBX512ESNXB549</b> <b>P2LCX513ESNXB549</b> <b>P2LDX514ESNXB549</b>	<b>P2LAX511ESNXXX</b> <b>P2LBX512ESNXXX</b> <b>P2LCX513ESNXXX</b> <b>P2LDX514ESNXXX</b>
	G1/8 G1/4 G3/8 G1/2	Solenoid Closed centre	Solenoid Self centring	<b>P2LAX611EENXB549</b> <b>P2LBX612EENXB549</b> <b>P2LCX613EENXB549</b> <b>P2LDX614EENXB549</b>	<b>P2LAX611EENXXX</b> <b>P2LBX612EENXXX</b> <b>P2LCX613EENXXX</b> <b>P2LDX614EENXXX</b>
	G1/8 G1/4 G3/8 G1/2	Solenoid Vented centre	Solenoid Self centring	<b>P2LAX811EENXB549</b> <b>P2LBX812EENXB549</b> <b>P2LCX813EENXB549</b> <b>P2LDX814EENXB549</b>	<b>P2LAX811EENXXX</b> <b>P2LBX812EENXXX</b> <b>P2LCX813EENXXX</b> <b>P2LDX814EENXXX</b>
	G1/8 G1/4 G3/8 G1/2	Solenoid Pressure centre	Solenoid Self centring	<b>P2LAX711EENXB549</b> <b>P2LBX712EENXB549</b> <b>P2LCX713EENXB549</b> <b>P2LDX714EENXB549</b>	<b>P2LAX711EENXXX</b> <b>P2LBX712EENXXX</b> <b>P2LCX713EENXXX</b> <b>P2LDX714EENXXX</b>

## Electrically actuated 5/2 and 5/3 valves - 22mm solenoid









Symbol	Size	Actuator	Return	Order code 22mm solenoid 24 VDC	Order code Without solenoid coil
	G1/8	Solenoid	Solenoid	P2LAX511EENDDB49	P2LAX511EENDDN
	G1/4			P2LBX512EENDDB49	P2LBX512EENDDN
	G3/8			P2LCX513EENDDB49	P2LCX513EENDDN
	G1/2			P2LDX514EENDDB49	P2LDX514EENDDN
	G1/8	Solenoid	Spring	P2LAX511ESNDDB49	P2LAX511ESNDDN
	G1/4			P2LBX512ESNDDB49	P2LBX512ESNDDN
	G3/8			P2LCX513ESNDDB49	P2LCX513ESNDDN
	G1/2			P2LDX514ESNDDB49	P2LDX514ESNDDN
	G1/8	Solenoid	Solenoid	P2LAX611EENDDB49	P2LAX611EENDDN
	G1/4			P2LBX612EENDDB49	P2LBX612EENDDN
	G3/8			P2LCX613EENDDB49	P2LCX613EENDDN
	G1/2			P2LDX614EENDDB49	P2LDX614EENDDN
	G1/8	Solenoid	Solenoid	P2LAX811EENDDB49	P2LAX811EENDDN
	G1/4			P2LBX812EENDDB49	P2LBX812EENDDN
	G3/8			P2LCX813EENDDB49	P2LCX813EENDDN
	G1/2			P2LDX814EENDDB49	P2LDX814EENDDN
	G1/8	Solenoid	Solenoid	P2LAX711EENDDB49	P2LAX711EENDDN
	G1/4			P2LBX712EENDDB49	P2LBX712EENDDN
	G3/8			P2LCX713EENDDB49	P2LCX713EENDDN
	G1/2			P2LDX714EENDDB49	P2LDX714EENDDN




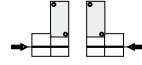

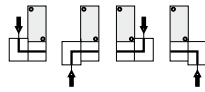

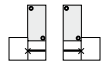

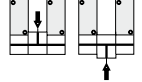

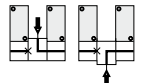


## Electrically actuated 5/2 - Xtreme duty 16 bar - 40°C to +60°C. P2LAX/P2LBX 16 bar and P2LCX/P2LDX 12 bar

Symbol	Size	Actuator	Return	Order code 22mm solenoid 24 VDC	Order code Without solenoid coil
	G1/8	Solenoid	Solenoid	P2LAX511EEHDDB49	P2LAX511EEHDDN
	G1/4			P2LBX512EEHDDB49	P2LBX512EEHDDN
	G3/8			P2LCX513EEHDDB49	P2LCX513EEHDDN
	G1/2			P2LDX514EEHDDB49	P2LDX514EEHDDN
	G1/8	Solenoid	Spring	P2LAX511ESHDDB49	P2LAX511ESHDDN
	G1/4			P2LBX512ESHDDB49	P2LBX512ESHDDN
	G3/8			P2LCX513ESHDDB49	P2LCX513ESHDDN
	G1/2			P2LDX514ESHDDB49	P2LDX514ESHDDN

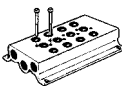






## Lever operated directional control valves

Max operating pressure 16 bar. temp range -40°C to +60°C.

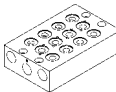

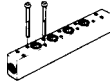

Symbol	Size	Actuation	Return	Changeover angle	Type	Weight Kg	Order code
<b>5/2 valves, standard temperature, lever 90° to ports</b>							
	G1/8	Lever	Lever	28°	Std.	0,18	<b>P2LAX511VV</b>
	G1/4	Lever	Lever	20°	Std.	0,33	<b>P2LBX512VV</b>
	G3/8	Lever	Lever	32°	Std.	0,40	<b>P2LCX513VV</b>
	G1/2	Lever	Lever	32°	Std.	0,60	<b>P2LDX514VV</b>
	G1/8	Lever	Spring	28°	Std.	0,18	<b>P2LAX511VS</b>
	G1/4	Lever	Spring	20°	Std.	0,33	<b>P2LBX512VS</b>
	G3/8	Lever	Spring	32°	Std.	0,40	<b>P2LCX513VS</b>
	G1/2	Lever	Spring	32°	Std.	0,60	<b>P2LDX514VS</b>
<b>5/3 valves, low temperature, lever 90° to ports</b>							
	G1/8	Lever	Lever	±14°	Std.	0,18	<b>P2LAX61122</b>
	G1/4	Closed centre position held in three positions		±12°	Std.	0,33	<b>P2LBX61222</b>
	G3/8		±16°	Std.	0,71	<b>P2LCX61322</b>	
	G1/2		±16°	Std.	0,73	<b>P2LDX61422</b>	
G1/8	Lever		Lever	±14°	Std.	0,18	<b>P2LAX81122</b>
	G1/4	Exhausted centre position held in three positions		±12°	Std.	0,33	<b>P2LBX81222</b>
	G3/8		±16°	Std.	0,71	<b>P2LCX81322</b>	
	G1/2		±16°	Std.	0,73	<b>P2LDX81422</b>	
	G1/8		Lever	Lever	±14°	Std.	0,18
	G1/4	Pressure applied centre position held in three positions		±12°	Std.	0,33	<b>P2LBX71222</b>
	G3/8		±16°	Std.	0,71	<b>P2LCX71322</b>	
	G1/2		±16°	Std.	0,73	<b>P2LDX71422</b>	
	G1/8		Lever	Lever	±14°	Std.	0,18
	G1/4	Closed centre position Self centring		±12°	Std.	0,33	<b>P2LBX61211</b>
	G3/8		±16°	Std.	0,71	<b>P2LCX61311</b>	
	G1/2		±16°	Std.	0,73	<b>P2LDX61411</b>	
	G1/8		Lever	Lever	±14°	Std.	0,18
	G1/4	Exhausted centre position Self centring		±12°	Std.	0,33	<b>P2LBX81211</b>
	G3/8		±16°	Std.	0,71	<b>P2LCX81311</b>	
	G1/2		±16°	Std.	0,73	<b>P2LDX81411</b>	
	G1/8		Lever	Lever	±14°	Std.	0,18
	G1/4	Pressure applied centre position Self centring		±12°	Std.	0,33	<b>P2LBX71211</b>
	G3/8		±16°	Std.	0,71	<b>P2LCX71311</b>	
	G1/2		±16°	Std.	0,73	<b>P2LDX71411</b>	

Accessories P2LAX	Connection alternatives	Type	Weight kg	Order code
		<b>Multiple manifold</b> including seals, mounting screws, and guiding pins.	0,11	<b>9121658060</b>
		<b>Connection block S</b> including seals, mounting screws, and guiding pins. G1/4	0,15	<b>9121658064</b>
		<b>Connection block L</b> including seals, mounting screws, and guiding pins. G1/4	0,15	<b>9121658061</b>
		<b>End cover</b> including seals, mounting screws, and guiding pins.	0,16	<b>9121658066</b>
		<b>Intermediate block T</b> including seals, mounting screws, and guiding pins. G1/4	0,17	<b>9121658062</b>
		<b>Intermediate block L</b> including seals, mounting screws, and guiding pins. G1/4	0,17	<b>9121658065</b>
		<b>Blanking plate</b> including seals, mounting screws.	0,05	<b>9121658063</b>

**Accessories P2LAX**

Type	Weight kg	Order code
 <b>Manifold bar, P2LA</b> including seals, mounting screws. G3/8 For 4 valves For 6 valves For 8 valves For 10 valves For 12 valves For 14 valves	0,48 0,63 0,80 0,98 1,10 1,23	<b>9121658075</b> <b>9121658076</b> <b>9121658077</b> <b>9121658078</b> <b>9121658079</b> <b>9121658099</b>
 <b>Blanking plate, P2LA</b> for Manifold bar	0,05	<b>9121658063</b>
 <b>Pressure bar, P2LA</b> for common air supply incl. O-rings and mounting screws. G1/4 For 2 valves For 4 valves For 6 valves For 8 valves	0,13 0,20 0,26 0,33	<b>9121658070</b> <b>9121658071</b> <b>9121658072</b> <b>9121658073</b>
 <b>Blanking plate, P2LA</b> for Pressure bar	0,05	<b>9121658074</b>
 <b>Assembly screws, P2LA</b> in stainless steel for valve	0,02	<b>9121658043</b>
 <b>Assembly screws, P2LA</b> in stainless steel for blanking plate	0,01	<b>9121658044</b>
 <b>O-ring kit, P2LA</b> O-rings between valve and manifold bar/ Pressure bar	0,01	<b>9121658046</b>

**Accessories P2LBX**

Type	Weight kg	Order code
 <b>Manifold bar, P2LB,</b> <b>(not for P2LB with</b> <b>external air supply</b> <b>to solenoid valves)</b> incl. fasteners and O-ring. G3/8 For 2 valves For 4 valves For 6 valves For 8 valves For 10 valves	0,69 1,13 1,56 2,00 2,45	<b>9121594805X</b> <b>9121594806X</b> <b>9121594807X</b> <b>9121594808X</b> <b>9121594812X</b>
 <b>Blanking plate, P2LB</b> for Manifold bar	0,10	<b>9121594809X</b>
 <b>Pressure bar, P2LB</b> for common air supply incl. O-rings and banjo-bolts. G3/8 For 2 valves For 4 valves For 6 valves For 8 valves For 10 valves	0,38 0,53 0,68 0,83 0,99	<b>9127113301X</b> <b>9127113302X</b> <b>9127113303X</b> <b>9127113304X</b> <b>9127113305X</b>
 <b>Blanking plug, P2LB</b> for Pressure bar. G1/4	0,02	<b>9127113306X</b>

## 22mm solenoid operator part numbers and spares

### Solenoid coils for 22mm solenoid operators

Voltage	Order code Form A	Weight (Kg)	Order code Form B	Weight (Kg)
12V 60Hz			<b>P2FCB440</b>	0.093
24V 50/60Hz			<b>P2FCB442</b>	0.093
12V DC			<b>P2FCB445</b>	0.093
12V DC Mobile	<b>P2FCA447</b>	0.17	<b>P2FCB447</b>	0.093
24v DC Mobile	<b>P2FCA448</b>	0.17	<b>P2FCB448</b>	0.093
24V DC			<b>P2FCB449</b>	0.093
24V DC Low power			<b>P2FCB249</b>	0.093
48V DC			<b>P2FCB451</b>	0.093
110V/50Hz, 120V/60Hz			<b>P2FCB453</b>	0.093
230V/50Hz, 230V/60Hz			<b>P2FCB457</b>	0.093

**Note:** Mobile solenoids are only suitable for Viking Xtreme valves with 'H' specification having 0,8/1,0 operator type P2FP13H4D

### Spare Solenoid Nuts

Valves requiring captured exhaust should be fitted with plastic knurled nut

Order code
<b>P2FNP</b>

Valves with vented exhaust are fitted with diffuser plastic nut

Order Code
<b>P2FND</b>

## Spare Solenoid Operators

**Solenoid pilot operator 22mm NC, Normal duty**  
(Max Operating pressure 10bar, Temp -10°C to +50°C)

Order code (with locking bi-stable m/o)	weight Kg	Order code (with Non-locking monostable m/o)	weight Kg
<b>P2FP13N4C</b>	0.05kg	<b>P2FP13N4D</b>	0.05kg

**Low power pilot operator NC, Normal duty**  
(Max Operating pressure 10bar, Temp -10°C to +50°C)

Order code (with locking bi-stable m/o)	weight Kg	Order code (with Non-locking monostable m/o)	weight Kg
<b>P2FP13N2C</b>	0.05kg	<b>P2FP13N2D</b>	0.05kg

**Solenoid pilot operator 22mm NC, Xtreme duty**  
(Max Operating pressure 16bar, Temp -40°C to +60°C)

Order code (with Non-locking monostable m/o)	weight Kg
<b>P2FP13H4D</b>	0.05kg

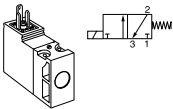
**Note.**






















Solenoid pilot operators are fitted to the Viking valve range. Order the above part numbers for spares. The operators are supplied with mounting screws and interface 'O' rings.

**Coils and connectors must be ordered separately.**

## Solenoid Operators - Electrical connection EN175301-803 C/ISO15217 (Ex DIN 43650C)




## Solenoids 15 mm NC, standard

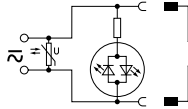
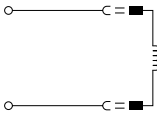


Voltage	Weight Kg	Order code Without manual override	Weight Kg	Order code Override, blue, non locking flush	Weight Kg	Order code Override, yellow, locking flush
12 VDC	0,038	<b>P2E-KV32B0</b> 	0,038	<b>P2E-KV32B1</b> 	0,038	<b>P2E-KV32B2</b> 
24 VDC	0,038	<b>P2E-KV32C0</b> 	0,038	<b>P2E-KV32C1</b> 	0,038	<b>P2E-KV32C2</b> 
48 VDC	0,038	<b>P2E-KV32D0</b> 	0,038	<b>P2E-KV32D1</b> 	0,038	<b>P2E-KV32D2</b> 
24 VAC 50Hz	0,038	<b>P2E-KV31C0</b> 	0,038	<b>P2E-KV31C1</b> 	0,038	<b>P2E-KV31C2</b> 
48 VAC 50/60Hz	0,038	<b>P2E-KV34D0</b> 	0,038	<b>P2E-KV34D1</b> 	0,038	<b>P2E-KV34D2</b> 
115 VAC 50Hz/ 120 VAC 60Hz	0,038	<b>P2E-KV31F0</b> 	0,038	<b>P2E-KV31F1</b> 	0,038	<b>P2E-KV31F2</b> 
230 VAC 50Hz/ 240 VAC 60Hz	0,038	<b>P2E-KV31J0</b> 	0,038	<b>P2E-KV31J1</b> 	0,038	<b>P2E-KV31J2</b> 

In accordance with the EU Machine Directive, EN 983, solenoid valves with manual override should have spring-return operating arms for safety.

**Solenoid Connectors / Cable Plugs EN175301-803**

	Description	Order code 15mm Form C/ISO15217	Order code 22mm Industrial Form B
With large headed screw suitable for mounting in inaccessible or recess position 	Standard IP65	<b>P8C-C</b>	
	24V DC LED and protection IP65	<b>P8C-C26C</b>	
	110V AC LED and protection IP65	<b>P8C-C21E</b>	
With standard screw 	Standard IP65 without flying lead	<b>P8C-D</b>	<b>3EV10V10</b>
	With LED and protection 24V AC/DC	<b>P8C-D26C</b>	<b>3EV10V20-24</b>
	With LED and protection 110V AC	<b>P8C-D21E</b>	<b>3EV10V20-110</b>
	With LED and protection 230V AC		<b>3EV10V20-230</b>
With cable 	Standard with 2m cable IP65	<b>P8L-C2</b>	
	Standard with 5m cable IP65	<b>P8L-C5</b>	
	24V AC/DC, 2m cable LED and protection IP65	<b>P8L-C226C</b>	
	24V AC/DC, 5m cable LED and protection IP65	<b>P8L-C526C</b>	<b>3EV10V20-24L5</b>
	24V AC/DC, 10m cable LED and protection IP65	<b>P8L-CA26C</b>	
	110V AC/DC, 2m cable LED and protection IP65	<b>P8L-C221E</b>	
	110V AC/DC, 5m cable LED and protection IP65	<b>P8L-C521E</b>	<b>3EV10V20-110L5</b>
	230V AC, 5m cable LED and protection IP65		<b>3EV10V20-230L5</b>

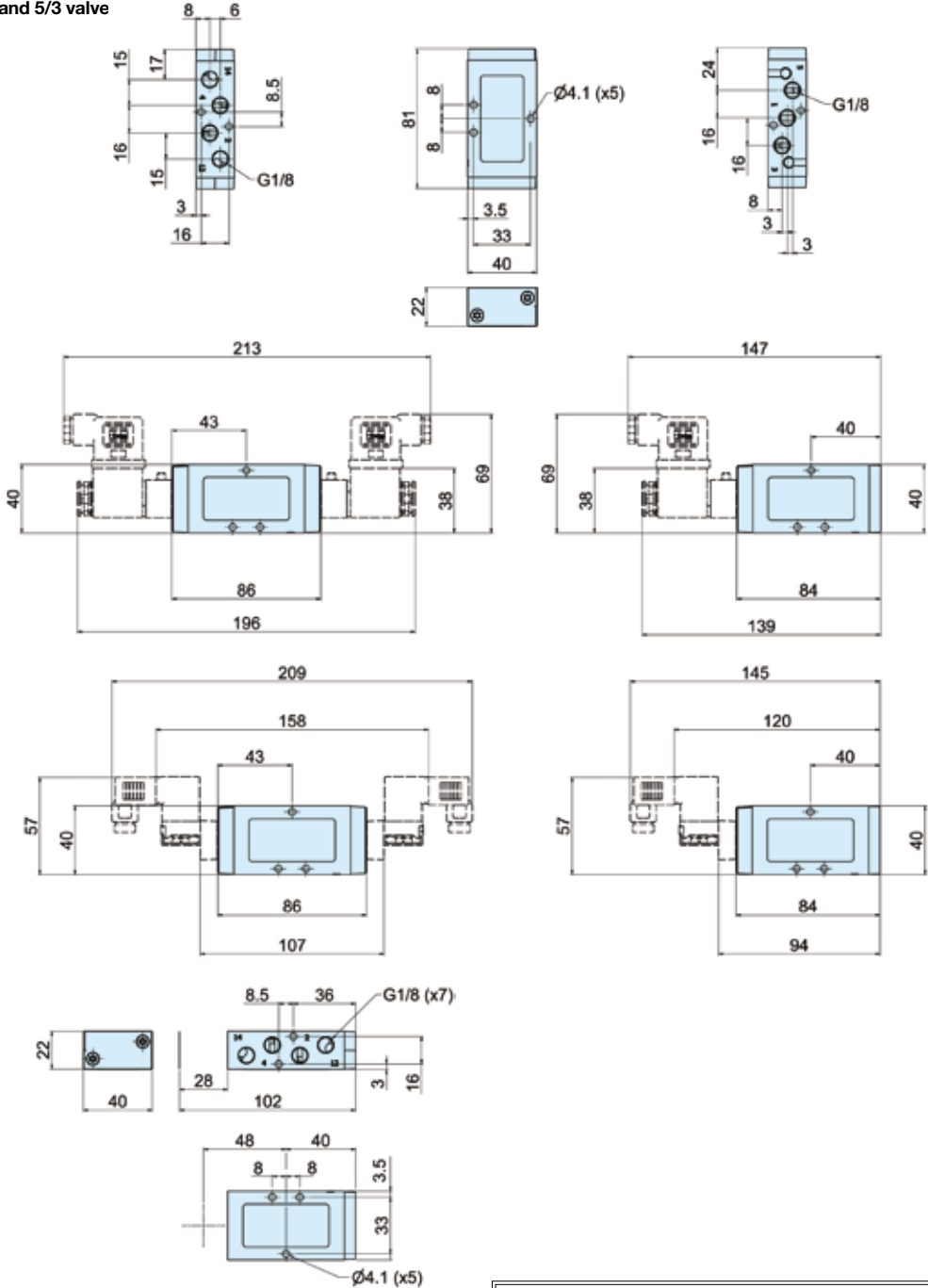


<b>P8C-C</b>	<b>P8C-D26C</b>	<b>P8L-C226C</b>
<b>P8C-D</b>	<b>P8C-D21E</b>	<b>P8L-C526C</b>
<b>P8L-C2</b>	<b>P8C-C26C</b>	<b>P8L-CA26C</b>
<b>P8L-C5</b>	<b>P8C-C21E</b>	<b>P8L-C221E</b>
<b>3EV10V10</b>		<b>P8L-C521E</b>
<b>3EV290V10</b>	<b>3EV10V20-24</b>	<b>3EV10V20-24L5</b>
	<b>3EV10V20-110</b>	<b>3EV10V20-110L5</b>
	<b>3EV10V20-230</b>	<b>3EV10V20-230L5</b>



Dimensions

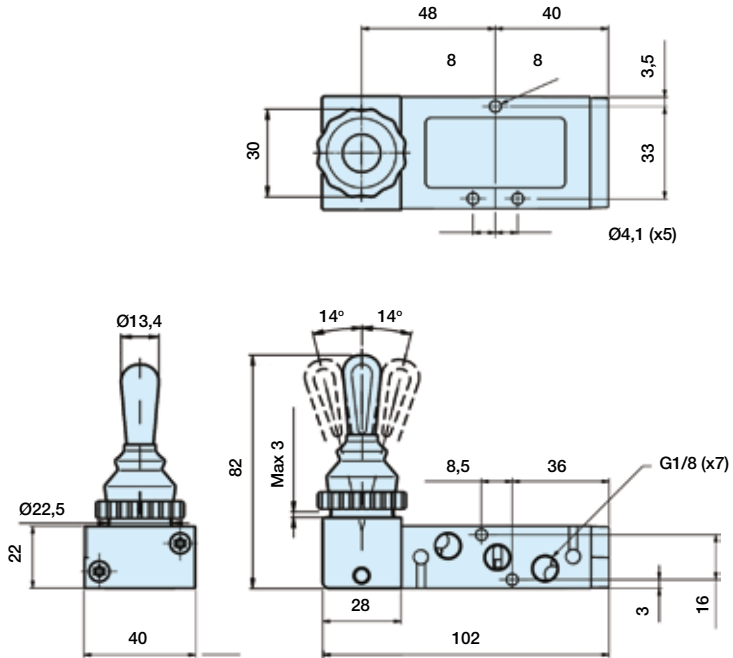
P2LAX... all  
5/2 and 5/3 valve



**Solenoid valves**  
Solenoid valves and cable plugs must be ordered separately.  
One pilot valve is required for each E in the valve order code.

Dimensions

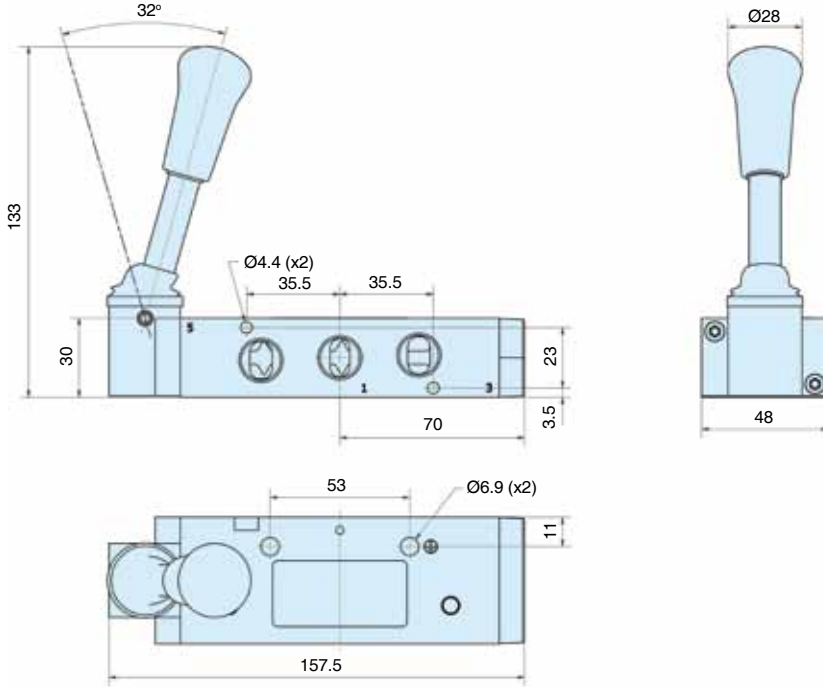
P2LAX - Lever operated directional control valves



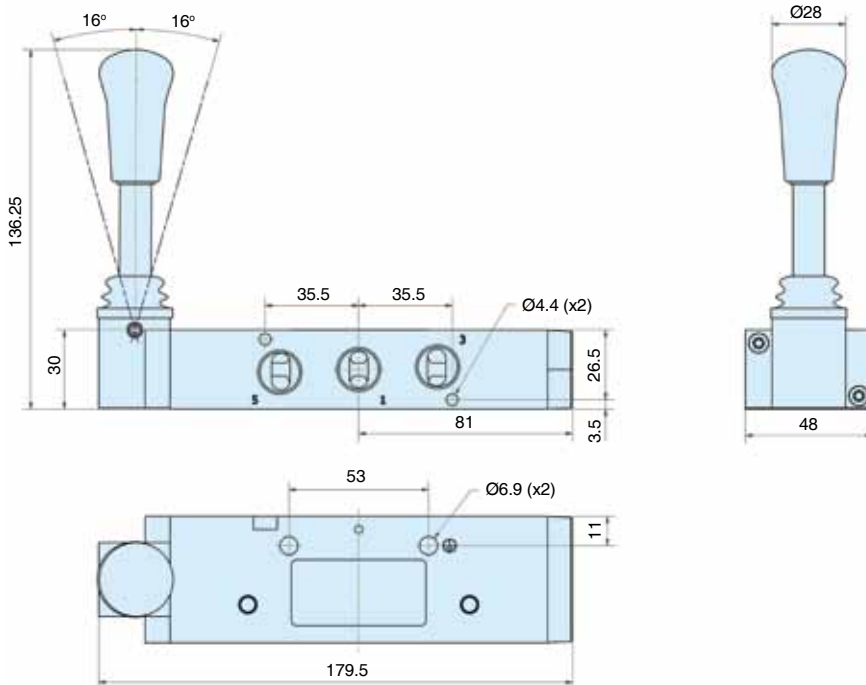


Dimensions

P2LCX - 5/2 Lever operated directional control valves

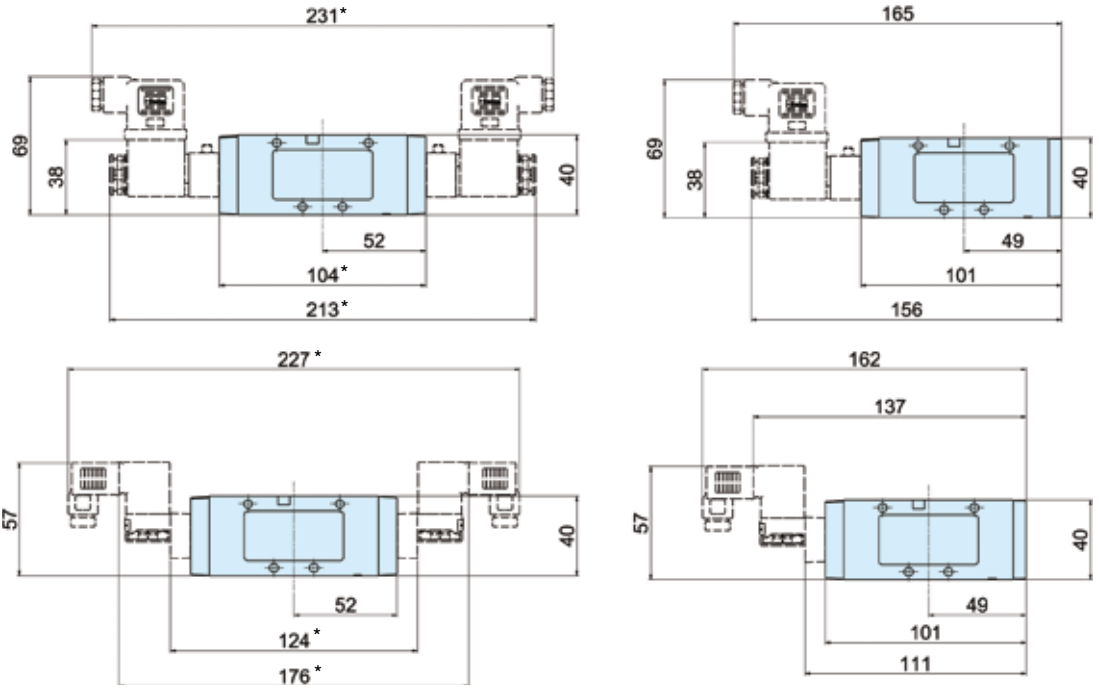
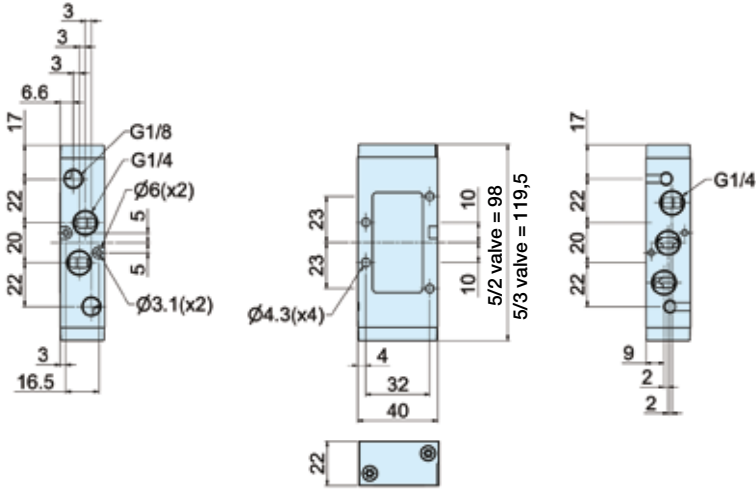


P2LCX - 5/3 Lever operated directional control valves



Dimensions

P2LBX... all  
5/2 and 5/3 valves

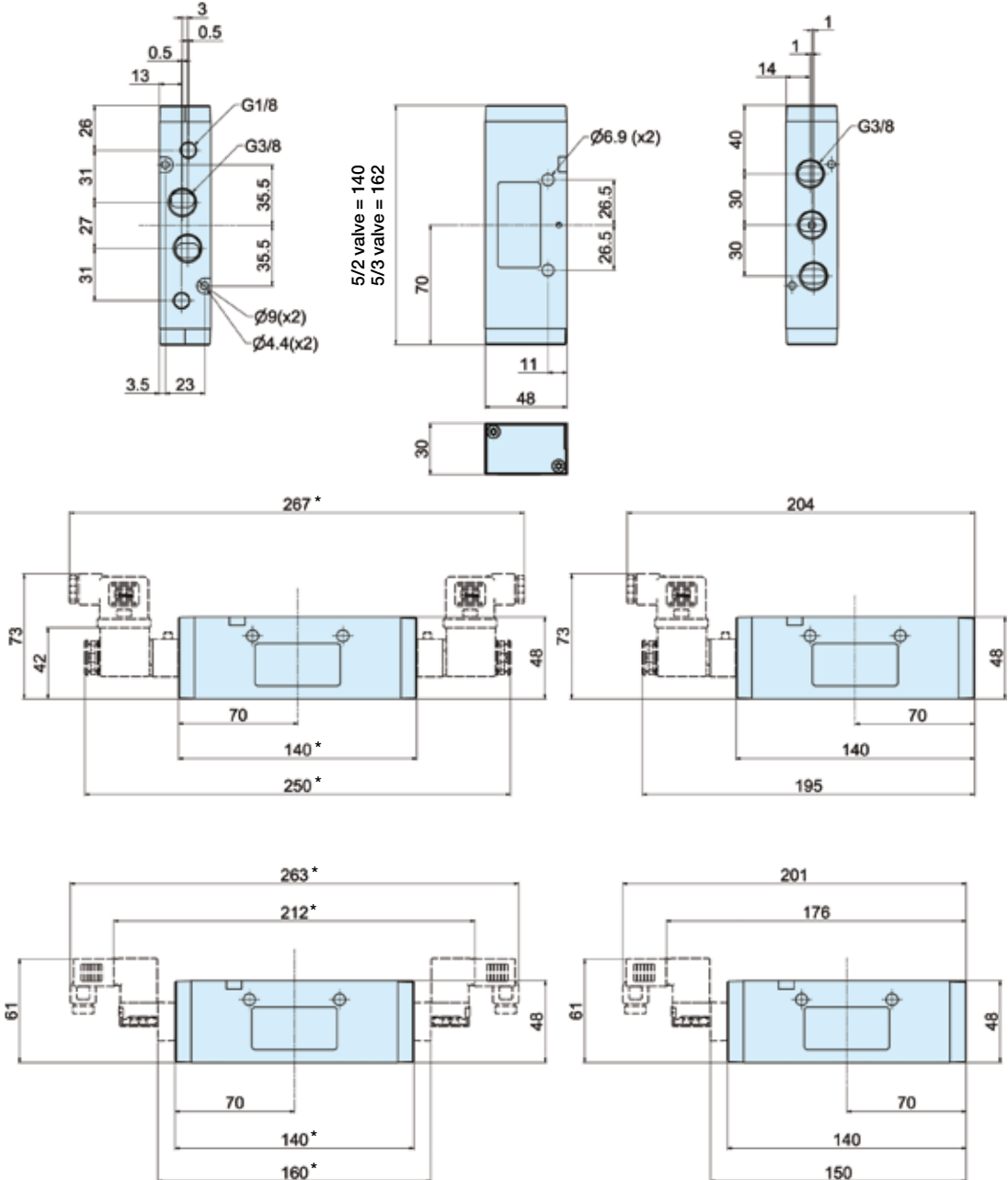


\* Note: 5/3 valves - add 21.5mm

**Solenoid valves**  
Solenoid valves and cable plugs must be ordered separately.  
One pilot valve is required for each E in the valve order code.

**Dimensions**

P2LCX... all  
5/2 and 5/3 valves



\* Note: 5/3 valves - add 22.0mm

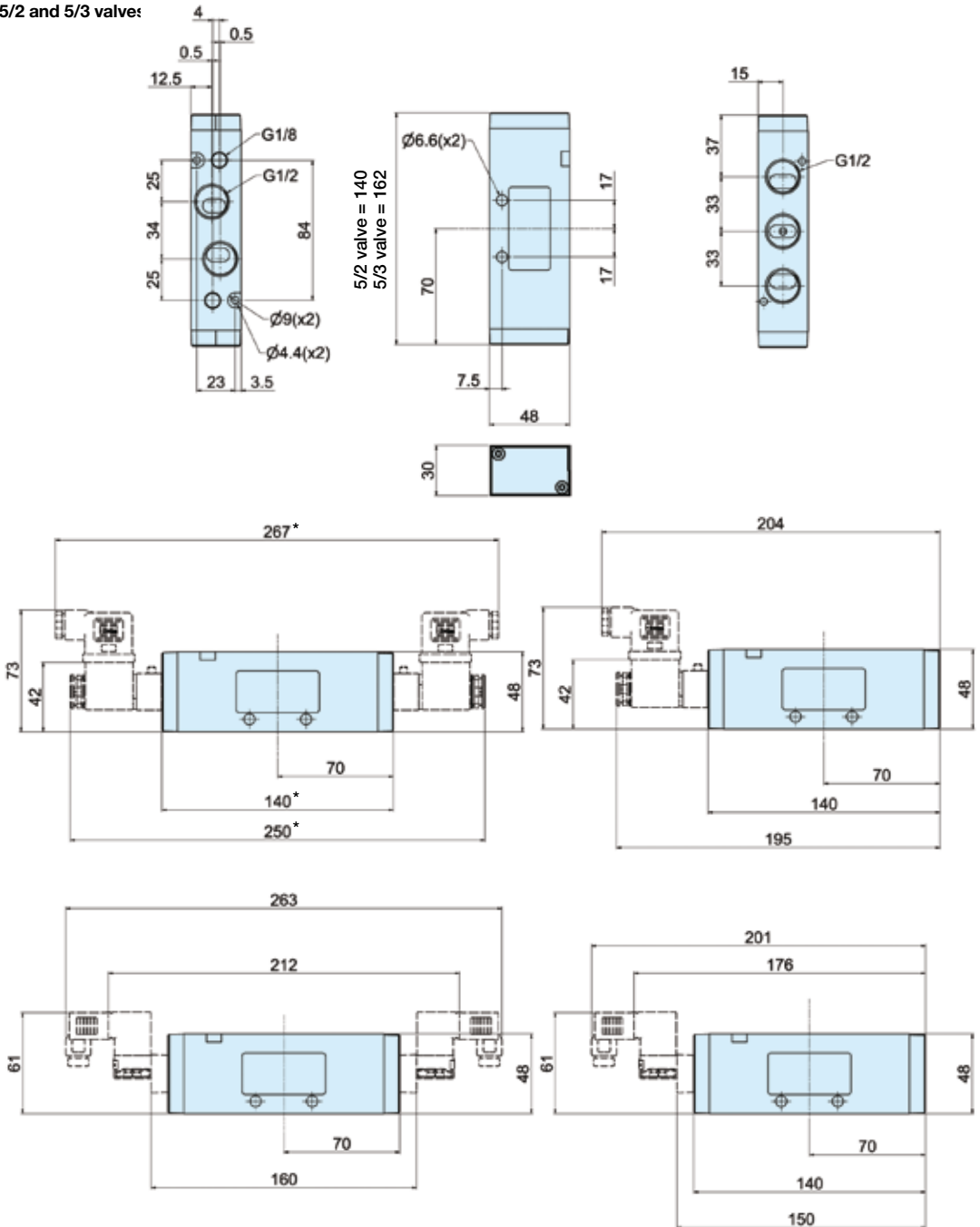
**Solenoid valves**

Solenoid valves and cable plugs must be ordered separately. One pilot valve is required for each E in the valve order code.

Dimensions

P2LDX... all

5/2 and 5/3 valve:



\* Note: 5/3 valves - add 22.0mm

**Solenoid valves**  
 Solenoid valves and cable plugs must be ordered separately.  
 One pilot valve is required for each E in the valve order code.

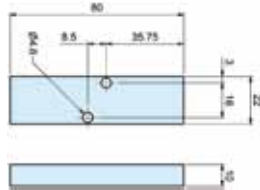
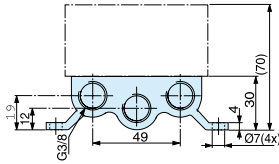
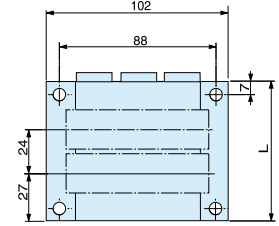




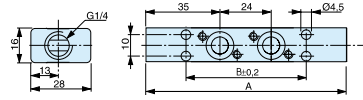
Dimensions

Manifold bar, P2LA

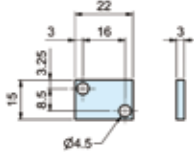
No. of valves	L mm
4	126
6	174
8	222
10	270
12	318
14	366



Pressure bar, P2LA

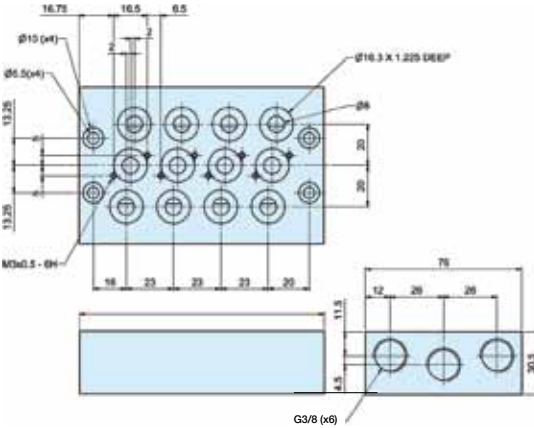


Pressure bar, P2LA

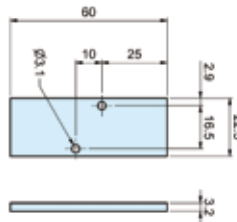


No. of valves	A mm	B mm
2	94	56
4	142	104
6	190	152
8	238	200

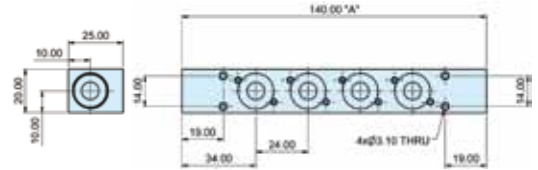
Manifold bar, P2LB



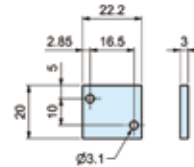
No. of valves	L mm
2	74
4	122
6	170
8	218
10	266



Pressure bar, P2LB



Blanking plug, P2LB



No. of valves	A mm
2	92
4	140
6	188
8	236
10	284

Miniature low voltage solenoid valves, ideal for powering small cylinders in the packaging and process industries. Metal bodies with stand alone or manifold mounted versions.



- 2 sizes: M5 and 1/8"
- Compact body with large flow
- Quick response time, faster than 10ms
- Expected life time more than 50,000,000 cycles
- Low power consumption only 0.6W
- Optional multipin connector manifold
- Manual override

**Operating information**

Working pressure : 1.5 to 7 bar  
 Working temperature : -5°C to +50°C  
 Flow (Qmax) A05 : 260 l/min  
                   A12 : 850 l/min  
 Flow Qn A05 : 160 l/min  
             A12 : 510 L/min

For technical information see CD

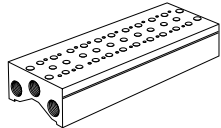
**Directional control valves A05R and A12R series, inline / IEM manifold**

Symbol	Description (Electrically Actuated)	Voltage	Order code A05R - M5 ports	Order code A12R - G1/8 ports
	5/2 single solenoid	24V DC	<b>A05RS251PM5MF</b>	<b>A12RS251PG1MF</b>
	5/2 double solenoid	24V DC	<b>A05RD251PM5MF</b>	<b>A12RD251PG1MF</b>
	5/3 closed centre	24V DC	<b>A05RD351PM5MF</b>	<b>A12RD351PG1MF</b>

**A05R/A12R Series Manifolds**


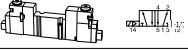

Manifold for individual wiring threaded type

No. of stations	Port size	Size	Order Code Manifold
4	M5	A05	<b>MMFU4A05G</b>
	G1/8	A12	<b>MMFU4A12G</b>
6	M5	A05	<b>MMFU6A05G</b>
	G1/8	A12	<b>MMFU6A12G</b>
8	M5	A05	<b>MMFU8A05G</b>
	G1/8	A12	<b>MMFU8A12G</b>



Indicates stocked product.

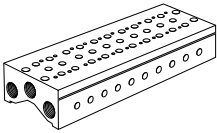
## Directional control valves A05P/A12P series, sub-base version

Symbol	Description	Voltage	Order code A05P	Order code A12P
	Electrically actuated 5/2 single solenoid	24V DC	<b>A05PS251P</b>	<b>A12PS251P</b>
	Electrically actuated 5/2 double solenoid	24V DC	<b>A05PD251P</b>	<b>A12PD251P</b>
	Electrically actuated 5/3 closed centre	24V DC	<b>A05PD351P</b>	<b>A12PD351P</b>

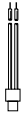
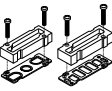

## A05P/A12P Series manifold sub-bases

## Manifolds individual wiring threaded type

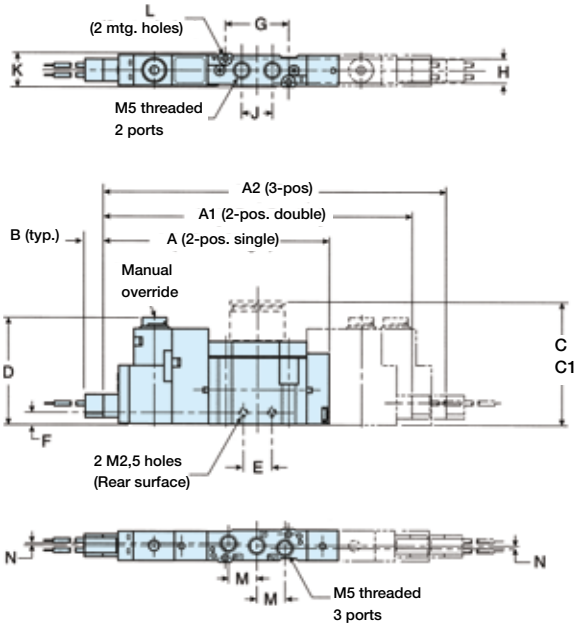
No. of stations	Port size	Size	Order Code
			Manifold
4	M5	A05	<b>MMFS4A05GM5</b>
	G <sup>1</sup> / <sub>8</sub>	A12	<b>MMFS4A12GG1</b>
6	M5	A05	<b>MMFS6A05GM5</b>
	G <sup>1</sup> / <sub>8</sub>	A12	<b>MMFS6A12GG1</b>
8	M5	A05	<b>MMFS8A05GM5</b>
	G <sup>1</sup> / <sub>8</sub>	A12	<b>MMFS8A12GG1</b>



## Mounting and Wiring Accessories

Description	Order code
 Connector with lead wire black (-) red (+) 500mm	<b>A05PDCL5</b>
 IEM blank plate kit (pack of 5)	<b>A05RGBP</b> <b>A12RGBP</b>
 Subbase blank plate kit (pack of 5)	<b>A05PGBP</b> <b>A12PGBP</b>

**A05R - Single and double operators - Body ported**

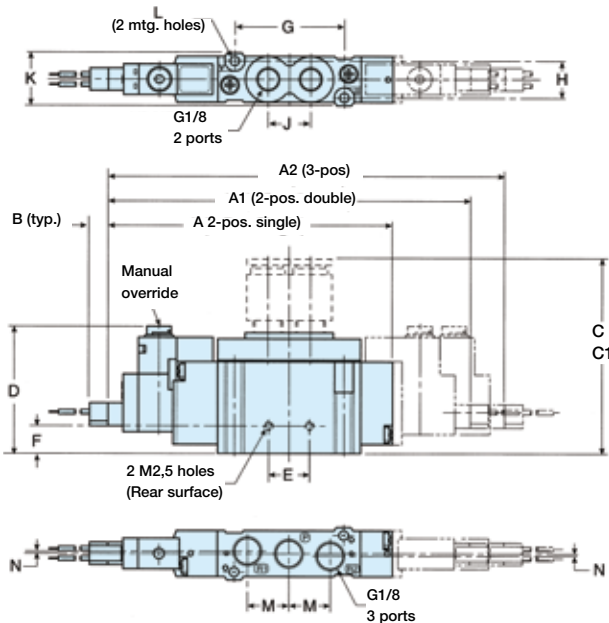


**A05R - Body ported**

A	A1	A2	B	C
74	100	108	6	-
C1	D	E	F	G
-	34,6	9,6	4	21
H	J	K	L	M
8,5	10,2	11,4	Ø2,1	9,5
N				
1				

Dimensions in mm

**A12R - Single and double operators - Body ported**

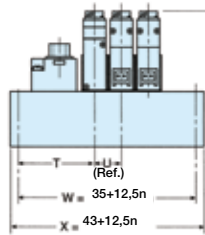
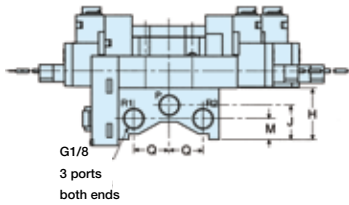
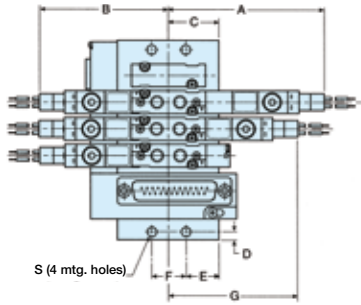


**A12R - Body ported**

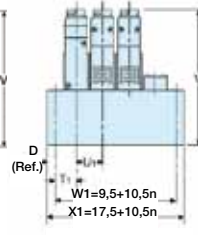
A	A1	A2	B	C
93,5	119	130	6	-
C1	D	E	F	G
-	41,6	13,4	9	36
H	J	K	L	M
12	14	17,2	Ø3,1	13,6
N				
0,8				

Dimensions in mm

**A05R - Manifold - Valve body ports**



**MMCU...**



**MMFU...**

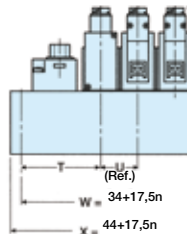
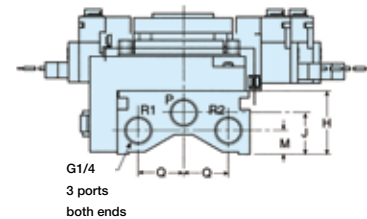
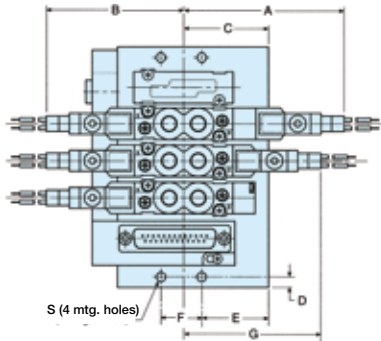
**A05R - Manifold - valve body port**

<b>A</b> 64	<b>B</b> 56	<b>C</b> 23,5	<b>D</b> 4	<b>E</b> 15,5
<b>F</b> 16	<b>G</b> 56	<b>H</b> 24	<b>J</b> 15,5	<b>M</b> 9,5
<b>Q</b> 16	<b>S</b> Ø4,5	<b>T</b> 34	<b>T1</b> 10	<b>U</b> 12,5
<b>U1</b> 10,5	<b>V</b> 63			

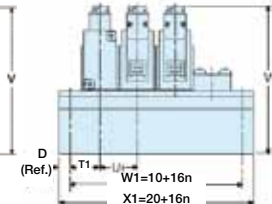
Dimensions in mm

n = number of stations

**A12R - Manifold - Valve body ports**



**MMCU...**



**MMFU...**

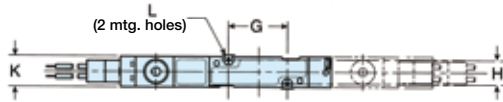
**A12R - Manifold - Valve body port**

<b>A</b> 77	<b>B</b> 66	<b>C</b> 29	<b>D</b> 5	<b>E</b> 19,2
<b>F</b> 19,6	<b>G</b> 66	<b>H</b> 27,5	<b>J</b> 18	<b>M</b> 10,5
<b>Q</b> 19,5	<b>S</b> Ø4,5	<b>T</b> 37,5	<b>T1</b> 12,2	<b>U</b> 17,5
<b>U1</b> 16	<b>V</b> 70			

Dimensions in mm

n = number of stations

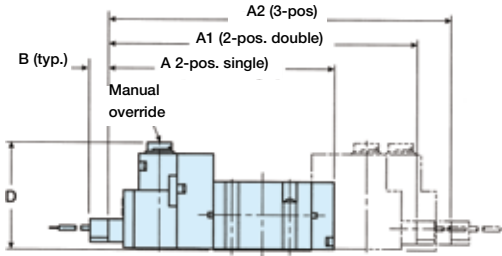
**A05P - Single and double operators - Subbase**



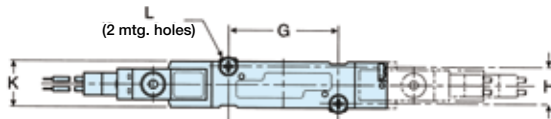
**A05P - Subbase**

<b>A</b> 74	<b>A1</b> 100	<b>A2</b> 108	<b>B</b> 6	<b>D</b> 35,1
<b>G</b> 19	<b>H</b> 8,5	<b>K</b> 10	<b>L</b> Ø2,1	

Dimensions in mm



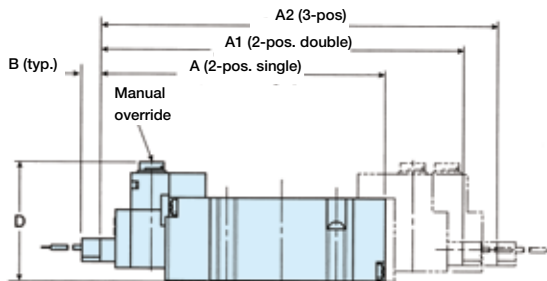
**A12P - Single and double operators - Subbase**



**A12P - Subbase**

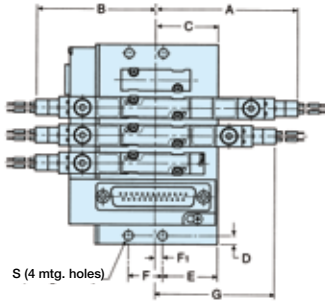
<b>A</b> 93,5	<b>A1</b> 119	<b>A2</b> 130	<b>B</b> 6	<b>D</b> 39,1
<b>G</b> 34	<b>H</b> 12	<b>K</b> 15	<b>L</b> Ø3,1	

Dimensions in mm



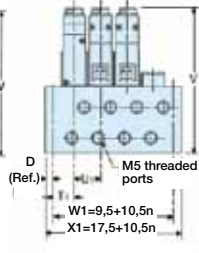
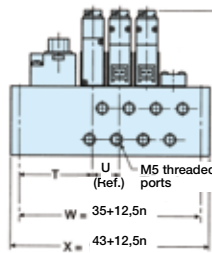
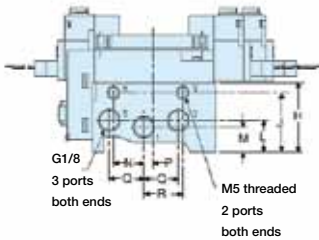
**A05P - Manifold - Side ports**

**A05P - Manifold - Side ports**



A	B	C	D	E
64	56	30,2	4	25,5
F	F1	G	H	J
16	4,7	56	32	28
L	M	N	P	Q
14,5	11,5	14	3	16
R	S	T	T1	U
18	Ø4,5	33,8	10	12,5
	U1	V		
	10,5	67		

Dimensions in mm



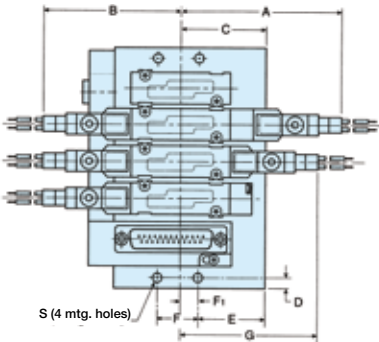
n = number of stations

**MMCS...**

**MMFS...**

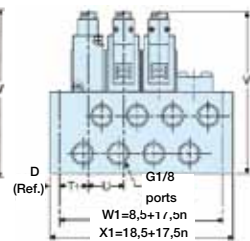
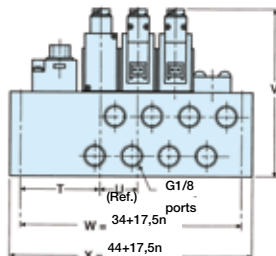
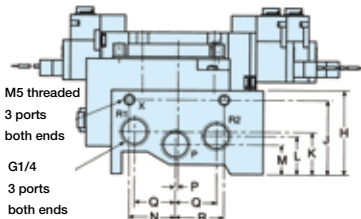
**A12P - Manifolds - Side ports**

**A12P - Manifold - Side ports**



A	B	C	D	E
77	66	40,4	5	31,7
F	F1	G	H	J
19,6	11	66	39,5	35
K	L	M	N	P
20,5	18	14	22	1
Q	R	S	T	T1
19,5	23	Ø4,5	37,2	12,7
U	V			
17,5	79			

Dimensions in mm



n = number of stations

**MMCS...**

**MMFS...**

The compact design of these valves make them a popular choice for manual or mechanical operation and their modular construction permit different operators to be fitted to the actuator and return assemblies.

The Midget and Intermediate valves are designed to have balanced forces across the spool so that 3/2 valves can be piped normally open or normally closed by changing the inlet supply from port 1 to port 3.



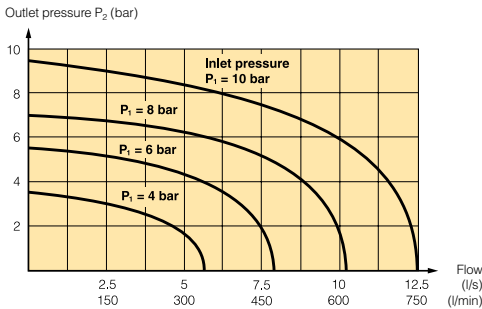
- B 43 - 1/8" ported, B53 - 1/4 ported
- Manual and mechanical operation
- Stainless steel spools
- Viton seals
- 3/2, 5/2, 3/3 and 5/3 versions.
- Integral mounting holes

Operating information		Material specification	
Type	Spool valves	Valve body	Aluminium
Style	Body ported	Spool	Stainless steel
Port size	G1/8 & G1/4	Seal spacers	Zinc die cast
Mounting	Any plane	Seals	Viton
Pressure range	Vacuum to 10 bar	Spring housing	Nylon
Temperature range	-10°C to +80°C	Spring	Zinc plated
Flow acc. (to ISO 6358)		End covers	Zinc die cast
	<b>Midget B43 series</b>	Actuators	Zinc die cast
	<b>Intermediate B53 series</b>	End cover screws	Zinc plated
	c = 1.13 NI/s x bar		
	b = 0.36		
	Qn = 5.5 l/s		
	Qmax = 9.0 l/s		
	Cv = 0.24		
	c = 3.69 NI/s x bar		
	b = 0.33		
	Qn = 17.5 l/s		
	Qmax = 29 l/s		
	Cv = 1.02		
		<b>Working medium, air quality</b>	
		Working medium:	Dry, filtered compressed air to ISO 8573-1 class 3.4.3.

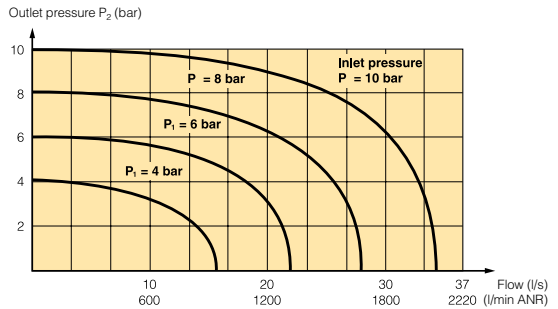
**Flow characteristics**

Flow capacities in accordance with ISO 6358  
The flow curves shown below are typical.

**Midget B43 series valves**




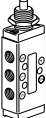


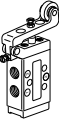


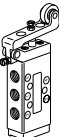


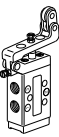


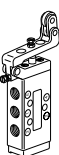




**Intermediate B53 series valves**

















Midget mechanically operated valves, B43 series

	Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
		3/2	Plunger	Spring	36	G1/8	0,182	<b>B43003CS</b>
		3/2	Plunger	Air	14	G1/8	0,202	<b>B43003CP</b>
		5/2	Plunger	Spring	36	G1/8	0,222	<b>B43004CS</b>
		5/2	Plunger	Air	14	G1/8	0,242	<b>B43004CP</b>
		3/2	Roller Lever	Spring	20	G1/8	0,234	<b>B43003RS</b>
		3/2	Roller lever	Air	7	G1/8	0,254	<b>B43003RP</b>
		5/2	Roller Lever	Spring	20	G1/8	0,274	<b>B43004RS</b>
		5/2	Roller lever	Air	7	G1/8	0,294	<b>B43004RP</b>
		3/2	One way roller lever	Spring	20	G1/8	0,274	<b>B43003RTS</b>
		3/2	One way roller lever	Air	7	G1/8	0,294	<b>B43003RTP</b>
		5/2	One way roller lever	Spring	20	G1/8	0,314	<b>B43004RTS</b>
		5/2	One way roller lever	Air	7	G1/8	0,334	<b>B43004RTP</b>





















 Indicates stocked product.

## Intermediate mechanically operated valves, B53 series

	Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
		3/2	Plunger	Spring	53	G1/4	0,348	<b>B53003CS</b>
		3/2	Plunger	Air	27	G1/4	0,388	<b>B53003CP</b>
		5/2	Plunger	Spring	53	G1/4	0,478	<b>B53004CS</b>
		5/2	Plunger	Air	27	G1/4	0,518	<b>B53004CP</b>
		3/2	Roller	Spring	53	G1/4	0,350	<b>B53003RS</b>
		3/2	Roller	Air	27	G1/4	0,390	<b>B53003RP</b>
		5/2	Roller	Spring	53	G1/4	0,480	<b>B53004RS</b>
		5/2	Roller	Air	27	G1/4	0,520	<b>B53004RP</b>

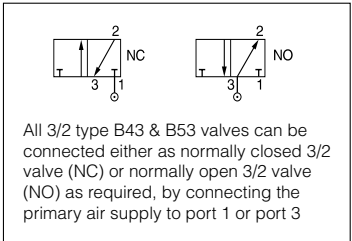
 Indicates stocked product.


Midget manually operated valves, B43 series

	Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
		3/2	Button, black	Spring	36	G1/8	0,200	<b>B43003BXS</b>
		3/2	Button, black	Button	13	G1/8	0,200	<b>B43003HXS</b>
		5/2	Button, black	Spring	36	G1/8	0,240	<b>B43004BXS</b>
		5/2	Button, black	Button	13	G1/8	0,240	<b>B43004HXS</b>
		3/2	Button, black	Air	13	G1/8	0,200	<b>B43003BXP</b>
		3/2	Button, black	Air or button	13	G1/8	0,200	<b>B43003HXP</b>
		5/2	Button, black	Air	13	G1/8	0,240	<b>B43004BXP</b>
		5/2	Button, black	Air or button	13	G1/8	0,280	<b>B43004HXP</b>
		3/2	Lock down lever	Spring	9	G1/8	0,202	<b>B43003LS</b>
		3/2	Lock down lever	Spring	9	G1/8	0,242	<b>B43004LS</b>
		3/2	Lock down lever	Air	3	G1/8	0,240	<b>B43003LP</b>
		3/2	Lock down lever	Air	3	G1/8	0,280	<b>B43004LP</b>




**Note:** The standard button colour is black (X)  
 For optional colour buttons change 8th character of order code  
 e.g. B43004HXS = Black button, B43004HXS = Green button,  
 B43004HYS = Red button.

- X = Black
- Z = Green
- Y = Red



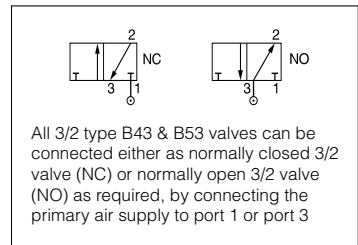
 Indicates stocked product.


Intermediate manually operated valves, B53 series

Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
	3/2	Button, black	Spring	53	G1/4	0,368	<b>B53003HXS</b>
	3/2	Button, black	Button	27	G1/4	0,368	<b>B53003HX</b>
	3/2	Button, black	Air	27	G1/4	0,380	<b>B53003HXP</b>
	5/2	Button, black	Spring	53	G1/4	0,498	<b>B53004HXS</b>
	5/2	Button, black	Button	27	G1/4	0,498	<b>B53004HX</b>
	5/2	Button, black	Air	27	G1/4	0,510	<b>B53004HXP</b>
	5/3	Button Closed centre position	Button Self centring	53	G1/4	0,623	<b>B53004HXX</b>
	5/3	Button Vented centre position	Button Self centring	53	G1/4	0,623	<b>B53004HXY</b>
	5/3	Button Pressurised centre position	Button Self centring	53	G1/4	0,623	<b>B53004HZ</b>

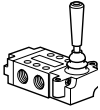





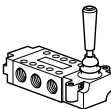









**Note:** The standard button colour is black (X)  
 For optional colour buttons change 8th character of order code  
 e.g. B43004HXS = Black button, B43004HZS = Green button,  
 B43004HYS = Red button.

- X = Black
- Z = Green
- Y = Red

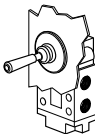


 Indicates stocked product.

Intermediate lever operated valves, B53 series

	Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
		3/2	Lever	Spring	14	G1/4	0,504	<b>B53003LS</b>
		3/2	Lever	Air	9	G1/4	0,520	<b>B53003LP</b>
		3/2	Lever	Lever	9	G1/4	0,500	<b>B53003LT</b>
		3/3	Lever Closed centre position	Lever	9	G1/4	0,504	<b>B53003L</b>
		3/3	Lever Closed centre position	Lever Self centring	14	G1/4	0,780	<b>B53003LX</b>
		5/2	Lever	Spring	14	G1/4	0,506	<b>B53004LS</b>
		5/2	Lever	Air	14	G1/4	0,526	<b>B53004LP</b>
		5/2	Lever	Lever	14	G1/4	0,632	<b>B53004LT</b>
		5/3	Lever Closed centre position	Lever held in three positions	9	G1/4	0,640	<b>B53004L</b>
		5/3	Lever Vented centre position	Lever held in three positions	9	G1/4	0,640	<b>B53004LW</b>
		5/3	Lever Pressurised centre position	Lever held in three positions	9	G1/4	0,640	<b>B53004LN</b>
		5/3	Lever Closed centre position	Lever Self centring	14	G1/4	0,780	<b>B53004LX</b>
		5/3	Lever Vented centre position	Lever Self centring	14	G1/4	0,780	<b>B53004LY</b>
		5/3	Lever Pressurised centre position	Lever Self centring	14	G1/4	0,780	<b>B53004LZ</b>

Mounting kit




Panel mounting kit



Kit includes panel plate and M5 counter sunk head screws

0,040



**M53004L-10A**

 Indicates stocked product.






Midget foot operated valves, B43 series

Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
	3/2	Foot pedal	Spring	16	G1/8	0,312	<b>B43003FS</b>
	5/2	Foot pedal	Spring	16	G1/8	0,370	<b>B43004FS</b>

Intermediate foot operated valves, B53 series



Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
<b>Single pedal operated</b>							
	3/2	Foot pedal	Spring	95	G1/4	1,34	<b>B53003FS</b>
	5/2	Foot pedal	Spring	95	G1/4	1,48	<b>B53004FS</b>

Rocker pedal operated


	3/2	Foot pedal	Foot pedal	18	G1/4	1,38	<b>B53003G</b>
	5/2	Foot pedal	Foot pedal	18	G1/4	1,58	<b>B53004G</b>
	5/3	Foot pedal Closed centre position	Foot pedal Self centring	18	G1/4	1,68	<b>B53004GX</b>
	5/3	Foot pedal Vented centre position	Foot pedal Self centring	18	G1/4	1,68	<b>B53004GY</b>
	5/3	Foot pedal Pressurised centre position	Foot pedal Self centring	18	G1/4	1,68	<b>B53004GZ</b>

Accessories

	Foot guard kit					1,16	<b>3117</b>
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All 3/2 type B43 & B5/3 valves can be connected either as normally closed 3/2 valve (NC) or normally open 3/2 valve (NO) as required, by connecting the primary air supply to port 1 or port 3

 Indicates stocked product.

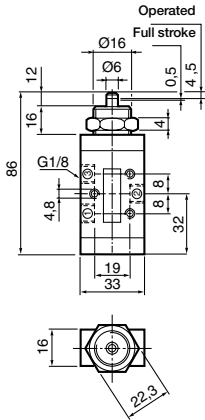
**Dimensions, G1/8 ported spool valves**

All dimensions in mm unless otherwise stated

**Mechanically operated valves**

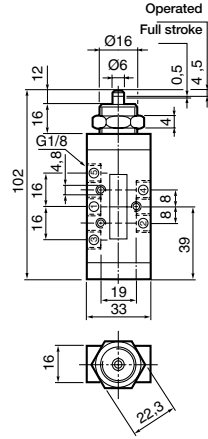
**3/2 valves**

Plunger operated spring return



**5/2 valves**

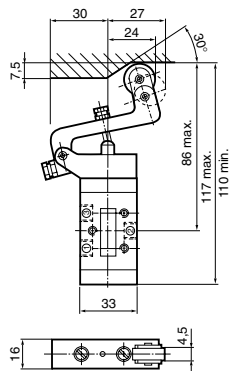
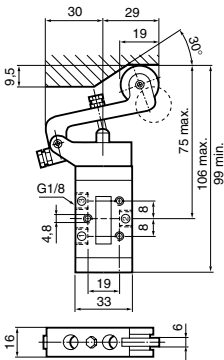
Plunger operated spring return



**3/2 valves**

Roller operated spring return

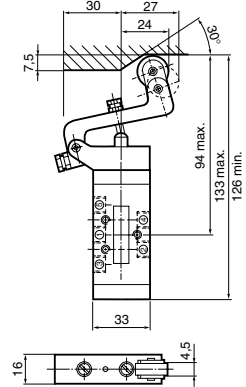
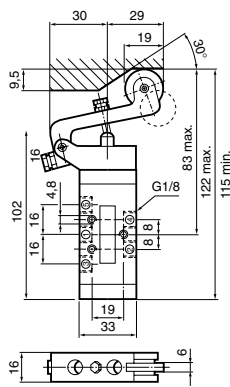
One way roller trip operate spring return



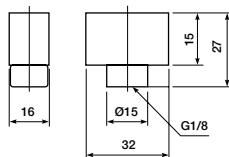
**5/2 valves**

Roller operated spring return

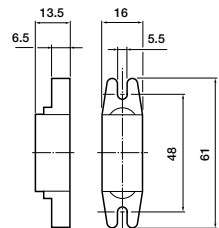
One way roller trip operate spring return



Air Pilot Return



Optional foot mounted - Spring return housing



**Dimensions, G1/8 ported spool valves**

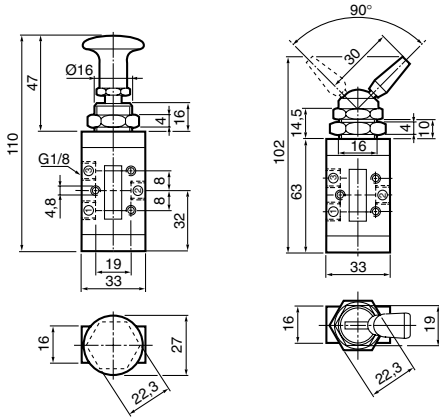
All dimensions in mm unless otherwise stated

**Manually operated valves**

**3/2 valves**

Button operated spring return  
or button returned

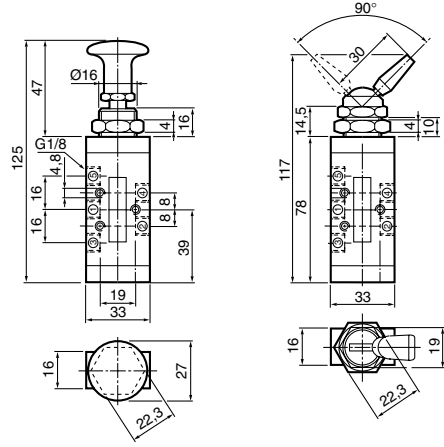
Lock down lever  
operated spring return



**5/2 valves**

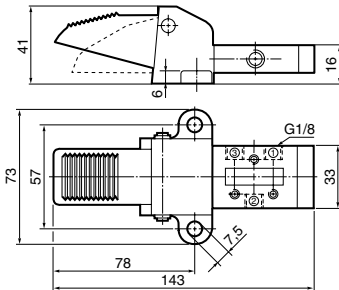
Button operated spring return  
or button returned

Lock down lever  
operated spring return



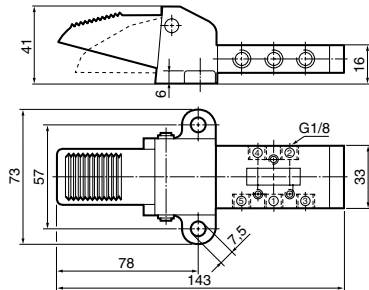
**3/2 valves**

Foot pedal operated spring return

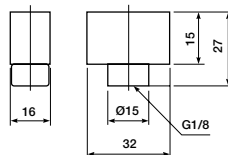


**5/2 valves**

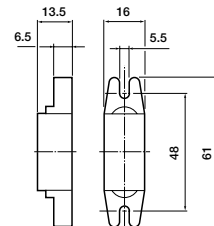
Foot pedal operated spring return



Air Pilot Return



Optional foot mounted -  
Spring return housing





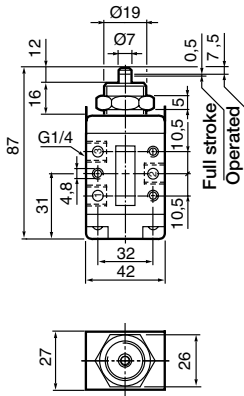
**Dimensions, G1/4 ported spool valves**

All dimensions in mm unless otherwise stated

**Mechanically operated valves**

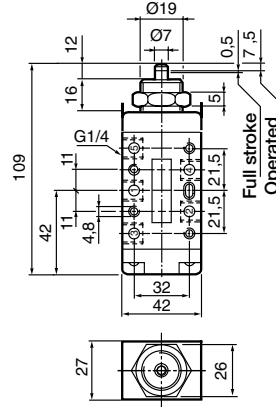
**3/2 valves**

Plunger operated spring return



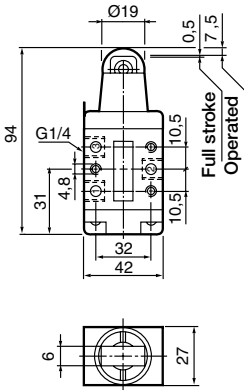
**5/2 valves**

Plunger operated spring return



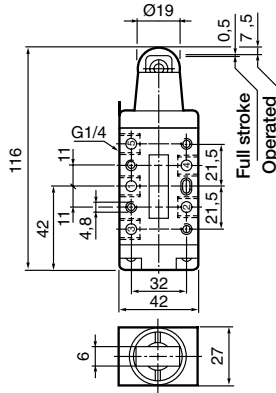
**3/2 valves**

Roller operated spring return

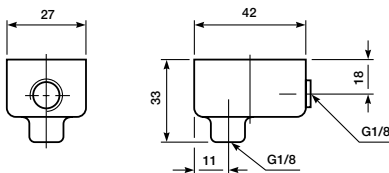


**5/2 valves**

Roller operated spring return



Air Pilot Return



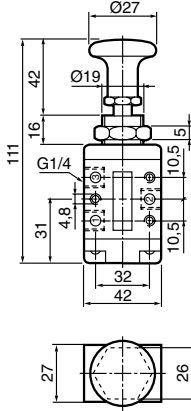
**Dimensions, G1/4 ported spool valves**

All dimensions in mm unless otherwise stated

**Manually operated valves**

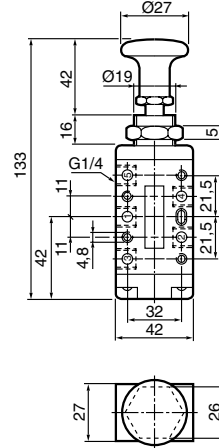
**3/2 valves**

Button operated spring return  
or button returned



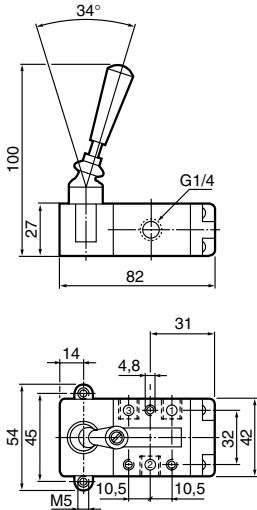
**5/2 valves**

Button operated spring return  
or button returned



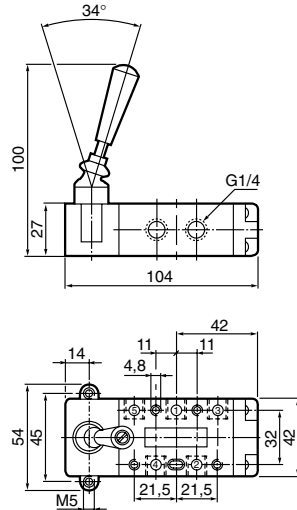
**3/2 valves**

Lever operated

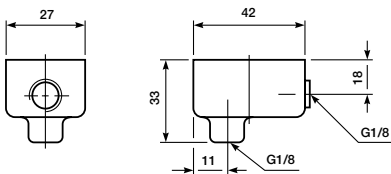


**5/2 valves**

Lever operated



Air Pilot Return



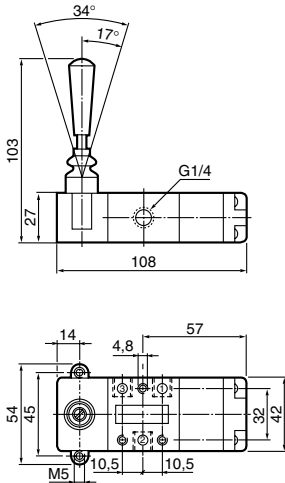
**Dimensions, G1/4 ported spool valves**

All dimensions in mm unless otherwise stated

**Manually operated valves**

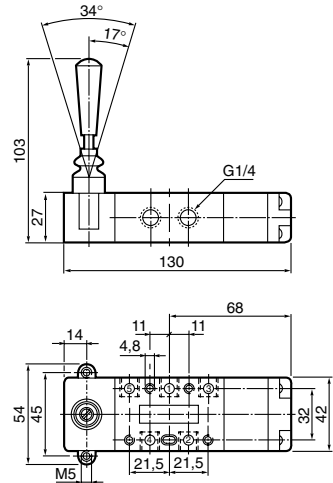
**3/3 valves (Self centring)**

Lever operated



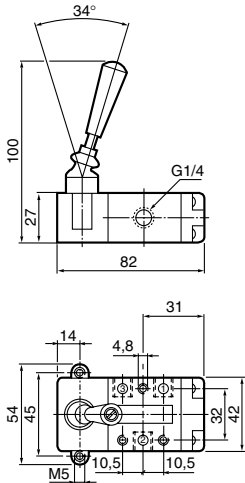
**5/3 valves (Self centring)**

Lever operated



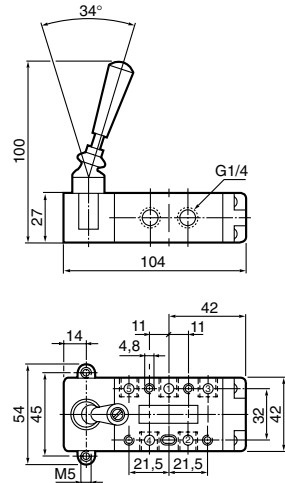
**3/3 valves (3 positions)**

Lever operated

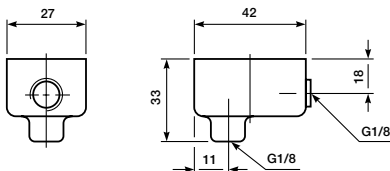


**5/3 valves (3 positions)**

Lever operated



Air Pilot Return



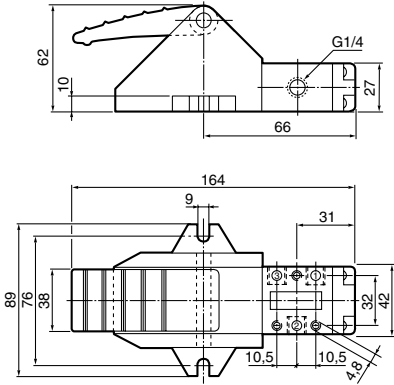
**Dimensions, G1/4 ported spool valves**

All dimensions in mm unless otherwise stated

**Manually operated valves**

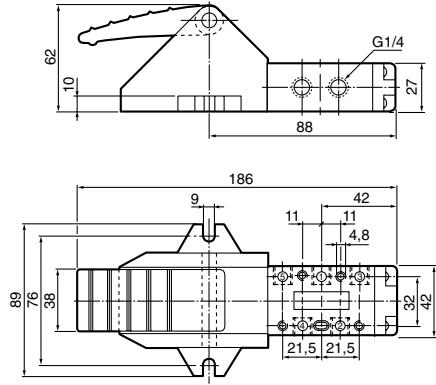
**3/2 valves**

Foot pedal operated spring return



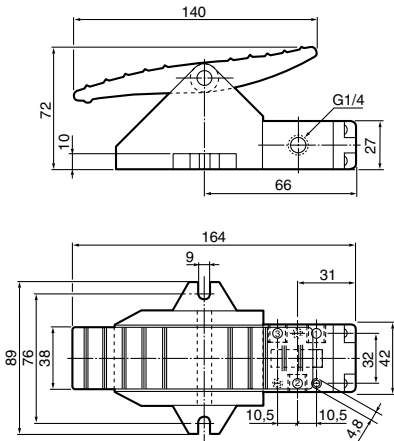
**5/2 valves**

Foot pedal operated spring return



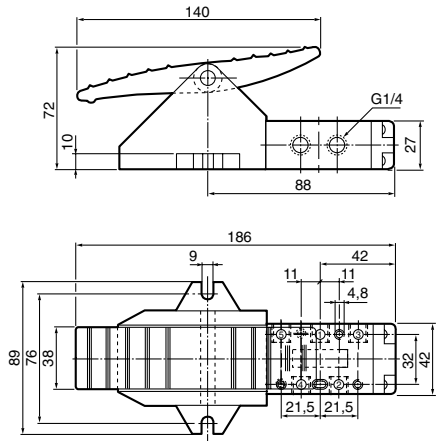
**3/2 valves**

Foot pedal operated



**5/2 valves**

Foot pedal operated



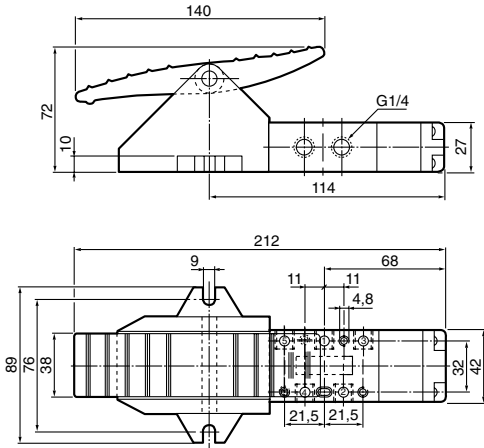
**Dimensions, G1/4 ported spool valves**

All dimensions in mm unless otherwise stated

**Manually operated valves**

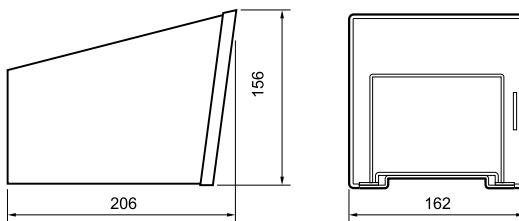
**5/3 valves**

Foot pedal operated



**Foot guard kit**

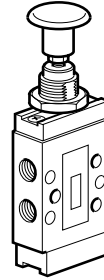
3117



## Service and Replacement Parts

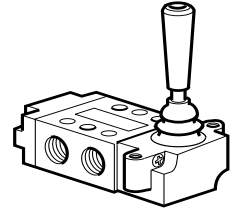
## B43 Series Manually Operated Valves

Order code	Actuator	Replacement actuator	Repair kit
B43003BXS	Button		
B43004BXS	Button	43004BX-100	
B43004HXS	Button, Push/Pull	43004H-100	Body seal 43007A
B43003LS	Lockdown lever		
B43004LS	Lockdown lever	43004L-200	



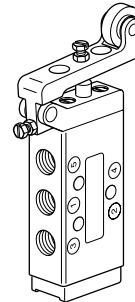
## B53 Series Manually Operated Valves

Order code	Actuator	Replacement actuator	Repair kit
B53003HXS	Button		
B53004HXS	Button		
B53003HX	Button, Push/Pull		
B53004HX	Button, Push/Pull	53004HX-100	Body seal 53007
B53004HXX	Button, Self centring		
B53004HXY	Button, Self centring		
B53004HXZ	Button, Self centring		
B53003FS	Foot		
B53004FS	Foot	53004F-100	
B53003LS	Lever		
B53004LS	Lever	53004L-198	
B53003LT	Lever, 2 positions		Body seal
B53004LT	Lever, 2 positions	53004L-196	53007
B53004L	Lever, 3 positions		Lever kit
B53004LW	Lever, 3 positions	53004L-100	53004L-300R
B53004LX	Lever, Self centring		
B53004LY	Lever, Self centring	53004L-198	



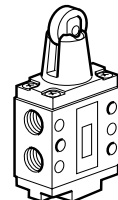
## B43 Series Mechanically Operated Valves

Order code	Actuator	Replacement actuator	Repair kit
B43003CS	Plunger		
B43004CS	Plunger	43004C-100	Body seal
B43003RS	Roller Lever		43007A
B43004RS	Roller Lever	43004R-200	



## B53 Series Mechanically Operated Valves

Order code	Actuator	Replacement actuator	Repair kit
B53003CS	Plunger		
B53004CS	Plunger	53004C-100	Body seal
B53003RS	Roller		53007
B53004RS	Roller	53004R-100	



 Indicates stocked product.

Rugged brass bodies with excellent corrosion resistance make these valves the ideal choice for arduous applications. Large and robust manual actuators are available together with air pilot actuators.

- Rugged valves for heavy duty applications
- Large and robust actuators for easy operation
- Excellent corrosion resistance
- Integral mounting holes
- Panel mounting versions



Operating information	
Working temperature	-20 °C to +70 °C
Working pressure	Max 10 bar
Flow (Qmax):	380 l/min
For technical information see CD	







**Push button valves, VA13 Series - G<sup>1/8</sup>**

Symbol	Actuator	Return	Operating force at 6 bar, N	Mounting	Order code
<b>Hand actuated</b>					
	Flush-Push button, red	Spring	32,5	Panel	<b>VA13-HIS4</b>
	Flush-Push button, black	Spring	32,5	Panel	<b>VA13-HIS4A06</b>
	Hand lever Held in two positions	Hand lever	8	Panel	<b>VA13-HB24</b>
	Hand lever Held in two positions	Hand lever	8	Side	<b>VA13-HB2</b>
	Button, red Two positions	Button	3	Panel	<b>VA13-KL24</b>
	Button, red	Spring	31,5	Panel	<b>VA13-KS4</b>
	Button, red Two positions	Button	3	Side	<b>VA13-KL2</b>
	Button, red	Spring	31,5	Side	<b>VA13-KS</b>
	Button, red Two positions	Knob/ Air signal	6	Side	<b>VA13-KL2A</b>



All 3/2 type VA13 valves can be connected either as normally closed 3/2 valve (NC) or normally open 3/2 valve (NO) as required, by connecting the primary air supply to port 1 or port 3


Indicates stocked product.

Push button valves, VA15 Series - G<sup>1</sup>/<sub>8</sub> connection

Symbol	Actuator	Return	Operating force at 6 bar, N	Mounting	Order code
<b>Hand actuated</b>					
	Flush-Push button, red	Spring	34,5	Panel	<b>VA15-HIS4</b>
	Hand lever Held in two positions	Hand lever	9	Panel	<b>VA15-HB24</b>
	Hand lever Held in three positions Closed centre position	Hand lever	9	Panel	<b>VA15-HB34</b>
	Hand lever Held in three positions Vented centre position	Hand lever	9	Panel	<b>VA15-XHB34</b>
	Hand lever Three positions Closed centre position	Hand lever	9	Panel	<b>VA15-HC4</b>
	Hand lever Three positions Vented centre position	Hand lever Self centring	9	Panel	<b>VA15-XHC4</b>
	Hand lever Held in two positions	Hand lever	9	Side	<b>VA15-HB2</b>
	Button, red Two positions	Button	5	Panel	<b>VA15-KL24</b>
	Button, red Two positions	Button	5	Side	<b>VA15-KL2</b>
	Air signal	Air signal	3/3	Side	<b>VA15-AA</b>
	Air signal	Spring	4/-	Side	<b>VA15-AS</b>

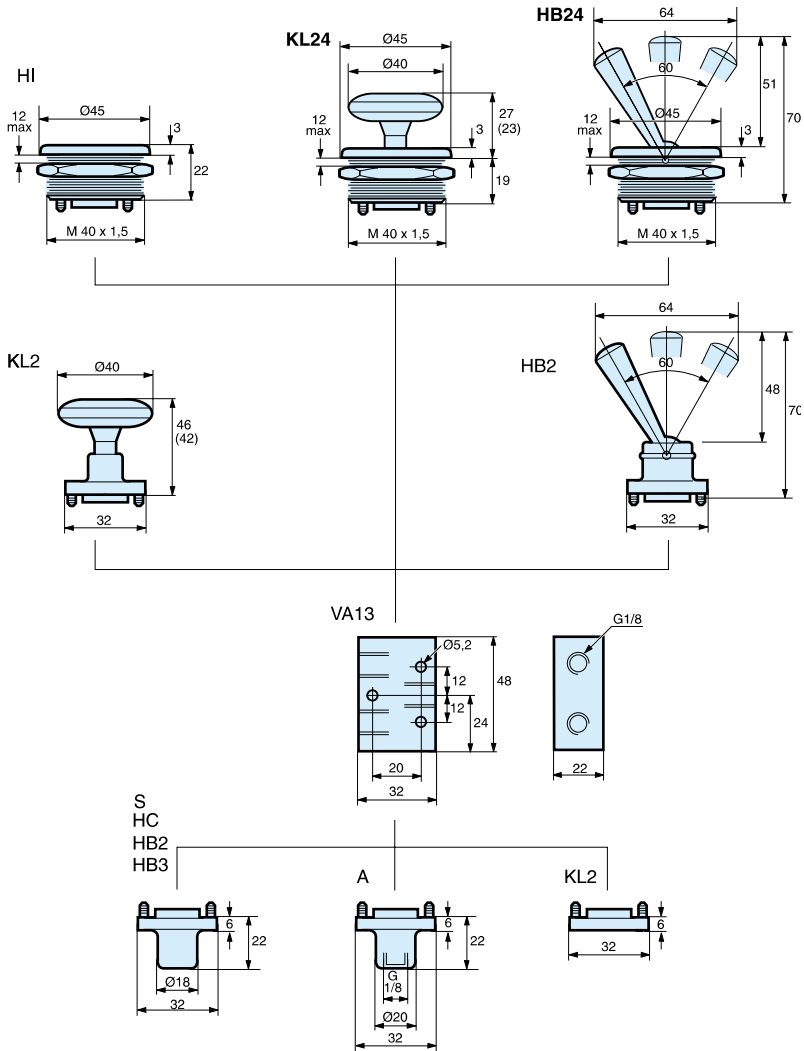
Accessories for VA13/15HI... Series valves

Description	Order code
 Diaphragm	
Diaphragm, black	<b>9127359331</b>
Diaphragm, yellow	<b>9127359332</b>
 Mounting ring	<b>9127359334</b>

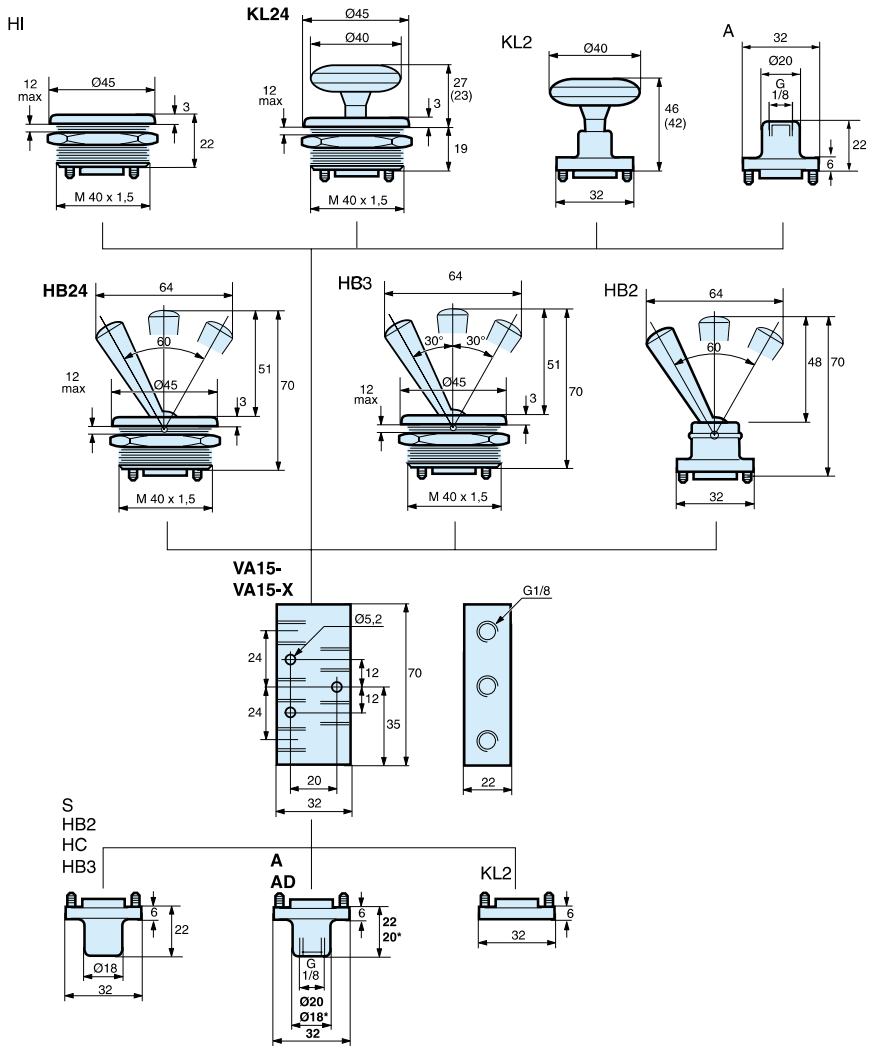
 Indicates stocked product.



Dimensions



Dimensions



## Heavy duty poppet valves

### 2/2 & 3/2 - G<sup>3</sup>/<sub>8</sub>" & G<sup>1</sup>/<sub>2</sub>"

These valves use the well proven poppet principle to give high flow rates with short valve travel, both the 2/2 and 3/2 valves in the range are available in G3/8" and G1/2" port sizes. This means that each actuator is available in four configurations i.e. 3/8" ports 2/2 or 3/2 and G1/2" ports 2/2 or 3/2. All valves are normally closed.

The bodies are of block form construction for ease of mounting. Springs are stainless steel; internal seals being of nitrile rubber. The 2/2 body allows air in one direction only, 3/2 versions having the facility of exhausting air through the actuator unit. This exhaust vent is unthreaded on all valves except the pilot and solenoid types which allows the piping away of exhaust air.

All mechanisms are spring returned.



## Working medium, air quality

Working medium: Dry, filtered compressed air to ISO 8573-1 class 3.4.3.

### Recommended air quality for valves

For best possible service life and trouble free operation, ISO 8573-1 quality class 3.4.3 should be used. This means 5µm filter (standard filter) dew point +3°C for indoor operation (a lower dew point should be selected for outdoor operation) and oil concentration 1.0 mg oil/m<sup>3</sup>, which is what a standard compressor with a standard filter gives.

### ISO 8573-1 quality classes

Quality class	Pollution		Water max. press. dew point (°C)	Oil max. concentration (mg/m <sup>3</sup> )
	particle size (µm)	max. concentration (mg/m <sup>3</sup> )		
1	0,1	0,1	-70	0,01
2	1	1	-40	0,1
3	5	5	-20	1,0
4	15	8	+3	5,0
5	40	10	+7	25
6	-	-	+10	-

## Specification

### Material

Body	Zinc die cast
Roller	Zinc plated steel
Mechanical arm	Zinc plated steel
Poppet	Stainless steel
Seals	Nitrile
Spring	Stainless steel
Bush	Aluminium
Piston	Aluminium

## Operating information

Working pressure	0 - 10 bar
Working temperature	-10°C to +80°C
Solenoid version	-10°C to +50°C
Minimum pilot pressure	1.9 bar @ 6 bar supply
Response time (solenoid energised)	14 msecs
Response time (solenoid de-energised)	75 msecs

Flow capacities in accordance with ISO6358

Flow;	<b>B102-B103</b>	<b>B202-B203</b>
	C = 7,54	C = 10,75 NI/s x bar
	b = 0,29	b = 0,24
	Qn = 33 l/s	Qn = 43 l/s
	Qmax = 54 l/s	Qmax = 75 l/s
	Cv = 2,65	Cv = 3,20

Part number configurator for solenoid valves

**DB** Valve family  
DB HD poppet solenoid operated

**1** Thread port  
1 3/8 BSP  
2 1/2 BSP

**2** Air supply to solenoid  
2 Internal

**2** Function  
2 2/2 NC  
3 3/2 NC

**A** Overrides  
A None  
C Flush - Locking  
D Extended - non locking

**4**

**9** Voltage <sup>1</sup>

	AC		DC
	60Hz	50Hz	
40	12		
42	24	22	
45			12
49			24
53	120	110	
57	240	230	
XX	valve less solenoid/coil		

<sup>1</sup> Shaded part numbers are standard  
Unshaded part numbers are available on request but will be subject to minimum order quantities  
Otherwise order XX version and order coil separately.

Part number configurator for manual & mechanical operated poppet valves

**B** Valve family  
B HD poppet manual & mechanical

**1** Thread port  
1 3/8 BSP  
2 1/2 BSP

**0**

**2** Function  
2 2/2 NC  
3 3/2 NC

**P** Operator  
C Ball  
L Lever  
P Pilot pressure  
R Roller lever

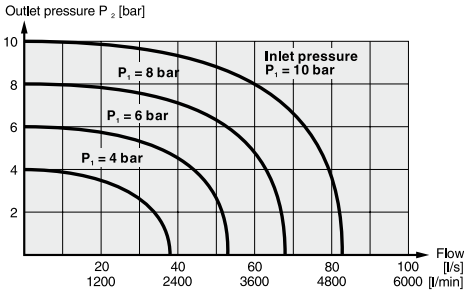
**Flow characteristics**

Flow capacities in accordance with ISO6358

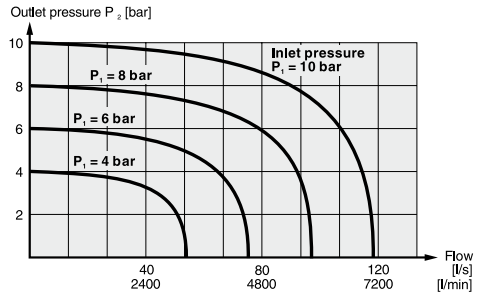
Flow measured with valve on manifold

All pressures = effective pressure

**B102**



**B202**



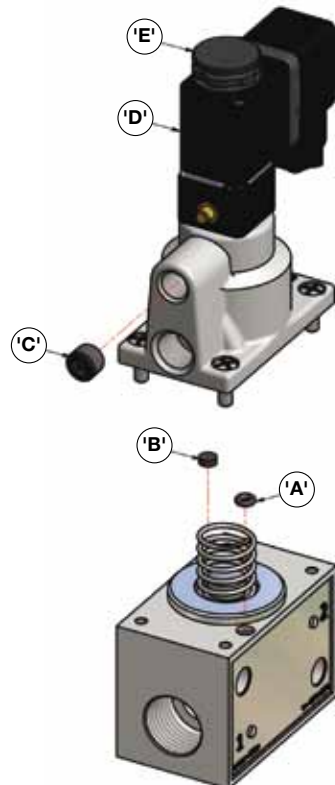
**Electrical Information**

Power consumption	Inrush		Hold
	AC	VA	8.5VA
	DC	4.8 Watt	
Rating	100% continuous		
Isolation class	F		
Protection class	IP 65 (P 54) DIN 40 050		
Connection	DIN 43 650 Form B		
Solenoid response	milliseconds at 7 bar		

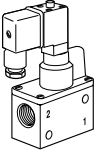




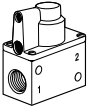




**External pilot supply option**

Solenoid pilot operated valves have an internal pilot air supply, but provisions for external pilot supply is provided. To use with external supply interchange 'O'-ring (Item 'A') and Plug (Item 'B') to block off the internal pilot supply. Remove hexagon socket plug (Item 'C') from the external pilot supply port, connecting an air supply as desired.

Orientation of the solenoid coil (Item 'D') can be altered through 90° increments by loosening the diffuser nut (Item 'E').



## Main data for mechanically operated valves, Heavy duty poppet series (NC only)

Symbol	Type	Connection	Actuator	Return	Voltage	Weight Kg	Order code	
		2/2	G3/8	Solenoid pilot	Spring	24VDC Less solenoid 0.70 0.65	<b>DB122A49</b> <b>DB122A99</b>	
		3/2	G3/8	Solenoid pilot	Spring	24VDC Less solenoid 0.70 0.65	<b>DB123A49</b> <b>DB123A99</b>	
		2/2	G1/2	Solenoid pilot	Spring	24VDC Less solenoid 0.70 0.65	<b>DB222A49</b> <b>DB222A99</b>	
		3/2	G1/2	Solenoid pilot	Spring	24VDC Less solenoid 0.70 0.65	<b>DB223A49</b> <b>DB223A99</b>	
			2/2	G3/8	Air pilot	Spring	0.61	<b>B102P</b>
			3/2	G3/8	Air pilot	Spring	0.61	<b>B103P</b>
			2/2	G1/2	Air pilot	Spring	0.61	<b>B202P</b>
			3/2	G1/2	Air pilot	Spring	0.61	<b>B203P</b>

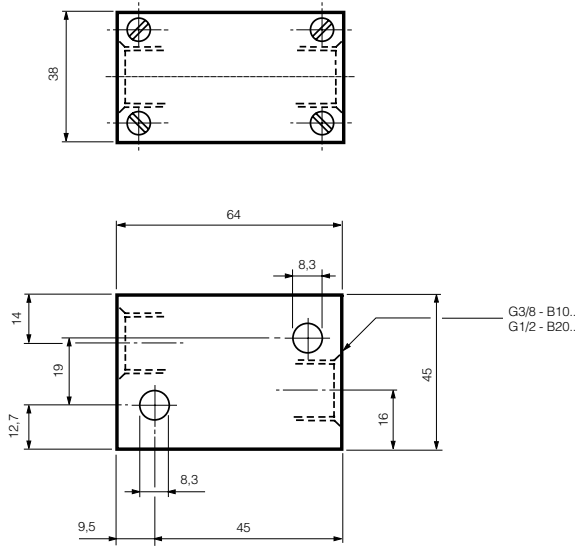
Order electrical connectors for solenoids separately.

Main data for mechanically operated valves, Heavy duty poppet series (NC only)

Symbol	Type	Connection	Actuator	Return	Operating force at 6 bar, N	Weight Kg	Order code	
	2/2	G3/8	Lever	Lever	22	0.65	<b>B102L</b>	
		3/2	G3/8	Lock down lever	Lever	22	0.65	<b>B103L</b>
		2/2	G1/2	Lock down lever	Lever	22	0.65	<b>B202L</b>
		3/2	G1/2	Lock down lever	Lever	22	0.65	<b>B203L</b>
		2/2	G3/8	Roller lever	Spring	36	0.642	<b>B102R</b>
		3/2	G3/8	Roller lever	Spring	36	0.630	<b>B103R</b>
		2/2	G1/2	Roller lever	Spring	36	0.614	<b>B202R</b>
		3/2	G1/2	Roller lever	Spring	36	0.604	<b>B203R</b>
		2/2	G3/8	Ball	Spring	220	0.542	<b>B102C</b>
		3/2	G3/8	Ball	Spring	220	0.532	<b>B103C</b>
		2/2	G1/2	Ball	Spring	220	0.530	<b>B202C</b>
		3/2	G1/2	Ball	Spring	220	0.520	<b>B203C</b>

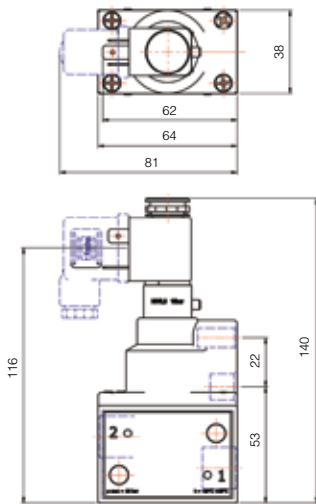
**Mechanically operated valves - 2/2, 3/2 valves**

**Basic body dimensions**



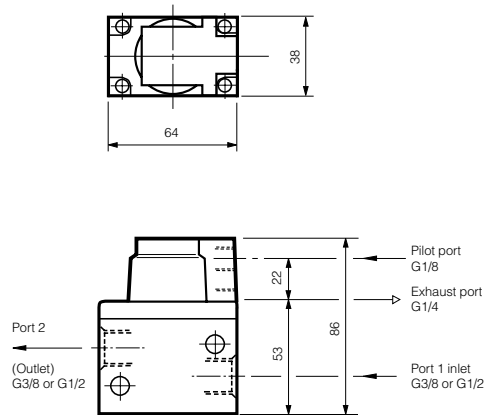
**Solenoid pilot operated spring return**

DB122, DB123, DB222, DB223



**Air pilot operated spring return**

B102P, B103P, B202P, B203P



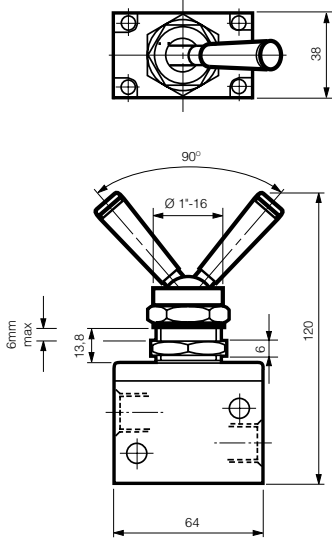
All dimensions in mm unless otherwise stated



**Mechanically operated valves - 2/2, 3/2 valves**

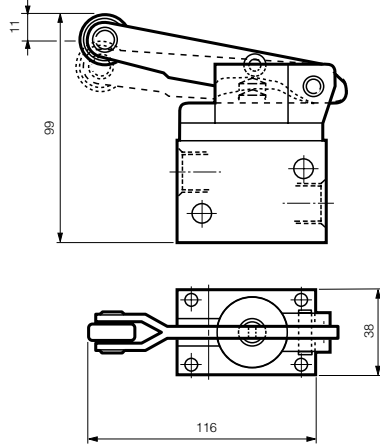
**Lock down lever**

B102L, B103L, B202L, B203L



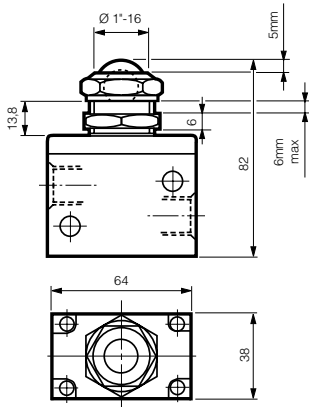
**Roller lever operated spring return**

B102R, B103R, B202R, B203R



**Ball operated spring return**

B102C, B103C, B202C, B203C



All dimensions in mm unless otherwise stated

**22mm solenoid operator part numbers and spares**

**Solenoid coils for 22mm solenoid operators**

Voltage	Order code Form B	Weight (Kg)
12V 60Hz	<b>P2FCB440</b>	0.093
24V 50/60Hz	<b>P2FCB442</b>	0.093
12V DC	<b>P2FCB445</b>	0.093
12V DC Mobile	<b>P2FCB447</b>	0.093
24v DC Mobile	<b>P2FCB448</b>	0.093
24V DC	<b>P2FCB449</b>	0.093
48V DC	<b>P2FCB451</b>	0.093
110V/50Hz, 120V/60Hz	<b>P2FCB453</b>	0.093
230V/50Hz, 230V/60Hz	<b>P2FCB457</b>	0.093

**Spare Solenoid Nuts**

Valves with vented exhaust are fitted with diffuser plastic nut

Order Code
<b>P2FND</b>


**Spare Solenoid Operators**

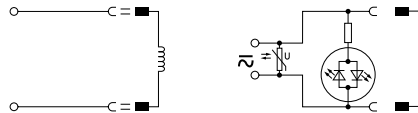
**Solenoid pilot operator 22mm NC, Normal duty (Max Operating pressure 10bar, Temp -10°C to +50°C)**

Order code (with locking bi-stable m/o)	Weight Kg
<b>P2FP13N4C</b>	0.05
Order code (with Non-locking monostable m/o)	Weight Kg
<b>P2FP13N4D</b>	0.05
Order code (with no m/o)	Weight Kg
<b>P2FP13N4A</b>	0.05

**Note.**  
The operators are supplied with mounting screws and interface 'O' rings.  
**Coils and connectors must be ordered separately.**

**Solenoid Connectors / Cable Plugs EN175301-803**

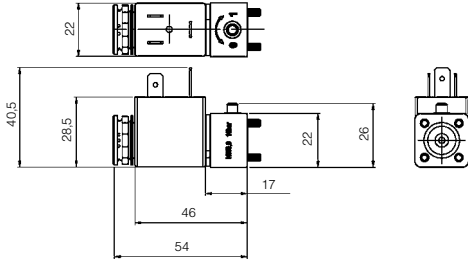
	Description	Order code 22mm Industrial Form B
With standard screw	Standard IP65 without flying lead	<b>3EV10V10</b>
	With LED and protection 24V AC/DC	<b>3EV10V20-24</b>
	With LED and protection 110V AC	<b>3EV10V20-110</b>
	With LED and protection 230V AC	<b>3EV10V20-230</b>
With cable	24V AC/DC, 5m cable LED and protection IP65	<b>3EV10V20-24L5</b>
	110V AC/DC, 5m cable LED and protection IP65	<b>3EV10V20-110L5</b>
	230V AC, 5m cable LED and protection IP65	<b>3EV10V20-230L5</b>



<b>3EV10V10</b>	<b>3EV10V20-24</b>	<b>3EV10V20-24L5</b>
	<b>3EV10V20-110</b>	<b>3EV10V20-110L5</b>
	<b>3EV10V20-230</b>	<b>3EV10V20-230L5</b>

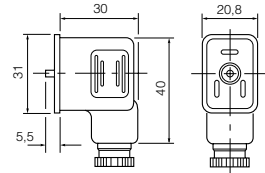
Cable Plug Dimensions (mm)

Solenoid operators P2E-•V...



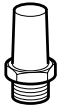
Cable plugs Form B

3EV10V10



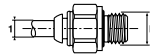
Accessories

Sintered bronze series silencers



Port	Order code	Pack Qty
G1/4	<b>P6M-BAA2</b>	1

Male straight connectors - Parallel thread



Tube Ø1	Thread B	Order code	Box Qty
4	1/8	<b>F4PMB4-1/8</b>	20
6	1/8	<b>F4PMB6-1/8</b>	30
6	1/4	<b>F4PMB6-1/4</b>	30
8	1/8	<b>F4PB8-1/8</b>	40
8	1/4	<b>F4PB8-1/4</b>	30
8	3/8	<b>F4PB8-3/8</b>	20
10	1/4	<b>F4PB10-1/4</b>	20
10	3/8	<b>F4PB10-3/8</b>	20
10	1/2	<b>F4PB10-1/2</b>	10
12	1/4	<b>F4PB12-1/4</b>	10
12	3/8	<b>F4PB12-3/8</b>	10
12	1/2	<b>F4PB12-1/2</b>	10
14	3/8	<b>F4PB14-3/8</b>	10
14	1/2	<b>F4PB14-1/2</b>	10

Ceramic slide valves for maximum operational life.  
Solenoid or air pilot actuation. Vacuum to 10 bar  
general applications.



- Size 01 and 02 (26 and 18 mm)
- Ceramic technology for long life operation
- From vacuum up to 10 bar applications
- Internal or external pilot supply with same valves
- Capture solenoid exhaust

#### Operation information

Working pressure :	-0,9 to 10 bar	
Working temperature :	-10 to +60°C	
	<b>DX02</b>	<b>DX01</b>
Flow (Qmax.) :	630 l/min	1000 l/min
Flow (Qn) :	385 l/min	585 l/min




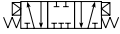

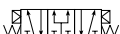
### Solenoid operated ISO valve fitted with 15 mm solenoid 24 VDC

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	02 - 18mm 01 - 26mm	Electrical signal Electrical signal	Spring Spring	4,0/2,0 4,3/2,3	15/25 25/35	0.13 0.17	<b>DX02-621-951M</b> <b>DX01-621-951M</b>
	02 - 18mm 01 - 26mm	Electrical signal Electrical signal	Differential Differential	3,9/1,6 3,8/1,7	15/30 20/40	0.13 0.17	<b>DX02-651-951M</b> <b>DX01-651-951M</b>
	02 - 18mm 01 - 26mm	Electrical signal Electrical signal	Electrical signal Electrical signal	1,3/1,3 1,0/1,0	12/12 15/15	0.17 0.21	<b>DX02-606-951M</b> <b>DX01-606-951M</b>
<b>5/3 Valves</b>							
	02 - 18mm 01 - 26mm	Electrical signal Closed center	Electrical signal Self centering	3,3 2,9	20/60 20/60	0.17 0.21	<b>DX02-616-951M</b> <b>DX01-616-951M</b>
	02 - 18mm 01 - 26mm	Electrical signal Vented center	Electrical signal Self centering	3,3 3	20/60 20/60	0.17 0.21	<b>DX02-611-951M</b> <b>DX01-611-951M</b>
	02 - 18mm 01 - 26mm	Electrical signal Press. center	Electrical signal Self centering	3,3 3	20/60 20/60	0.17 0.21	<b>DX02-613-951M</b> <b>DX01-613-951M</b>


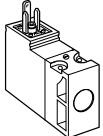
### Solenoid operated ISO valve fitted with adaptor to accept 15 mm solenoid

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	02 - 18mm 01 - 26mm	Electrical signal Electrical signal	Spring Spring	4,0/2,0 4,3/2,3	15/25 25/35	0.9 0.13	<b>DX02-621-60</b> <b>DX01-621-60</b>
	02 - 18mm 01 - 26mm	Electrical signal Electrical signal	Differential Differential	3,9/1,6 3,8/1,7	15/30 20/40	0.9 0.13	<b>DX02-651-60</b> <b>DX01-651-60</b>
	02 - 18mm 01 - 26mm	Electrical signal Electrical signal	Electrical signal Electrical signal	1,3/1,3 1,0/1,0	12/12 15/15	0.9 0.13	<b>DX02-606-60</b> <b>DX01-606-60</b>
<b>5/3 Valves</b>							
	02 - 18mm 01 - 26mm	Electrical signal Closed center	Electrical signal Self centering	3,3 2,9	20/60 20/60	0.9 0.13	<b>DX02-616-60</b> <b>DX01-616-60</b>
	02 - 18mm 01 - 26mm	Electrical signal Vented center	Electrical signal Self centering	3,3 3	20/60 20/60	0.9 0.13	<b>DX02-611-60</b> <b>DX01-611-60</b>
	02 - 18mm 01 - 26mm	Electrical signal Press. center	Electrical signal Self centering	3,3 3	20/60 20/60	0.9 0.13	<b>DX02-613-60</b> <b>DX01-613-60</b>

## Pneumatic operated ISO valve

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	02 - 18mm	Air signal	Spring	4,0/2,0	15/25	0,9	<b>DX02-421-60</b>
	01 - 26mm	Air signal	Spring	4,3/2,3	25/35	0,13	<b>DX01-421-60</b>
	02 - 18mm	Air signal	Differential	3,9/1,6	15/30	0,9	<b>DX02-451-60</b>
	01 - 26mm	Air signal	Differential	3,8/1,7	20/40	0,13	<b>DX01-451-60</b>
	02 - 18mm	Air signal	Air signal	1,3/1,3	12/12	0,9	<b>DX02-406-60</b>
	01 - 26mm	Air signal	Air signal	1,0/1,0	14/14	0,13	<b>DX01-406-60</b>
<b>5/3 Valves</b>							
	02 - 18mm	Air signal	Air signal	3,3	20/50	0,9	<b>DX02-416-60</b>
	01 - 26mm	Closed center	Self centering	2,9	20/50	0,13	<b>DX01-416-60</b>
	02 - 18mm	Air signal	Air signal	3,3	20/50	0,9	<b>DX02-411-60</b>
	01 - 26mm	Vented center	Self centering	3	20/50	0,13	<b>DX01-411-60</b>
	02 - 18mm	Air signal	Air signal	3,3	20/50	0,9	<b>DX02-413-60</b>
	01 - 26mm	Press. center	Self centering	3	20/50	0,13	<b>DX01-413-60</b>

## Solenoids 15 mm NC standard flow DIN 1,2 W/1,6 VA

	Voltage	Order code	Order code
		Override flush non locking	Override flush locking
	24 V DC	<b>P2E-KV32C1</b>	<b>P2E-KV32C2</b>
	48 V DC		<b>P2E-KV32D1</b>
	24 V AC 50 Hz	<b>P2E-KV31C1</b>	<b>P2E-KV31C2</b>
	48 V AC 50/60 Hz	<b>P2E-KV34D1</b>	<b>P2E-KV34D2</b>
	115 V AC 50 Hz / 120 V AC 60 Hz	<b>P2E-KV31F1</b>	<b>P2E-KV31F2</b>
	230 V AC 50 Hz / 240 V AC 60 Hz	<b>P2E-KV31J1</b>	<b>P2E-KV31J2</b>



Indicates stocked product.

Ceramic slide valves for maximum operational life. Solenoid or air pilot operated with a wide choice of bases and manifolds. Vacuum to 12 bar general applications.

- Size 1, 2 and 3
- Ceramic technology for long life operation
- From vacuum up to 12 bar applications
- Internal or external pilot supply with same valves
- M12 on each coil
- Common M12






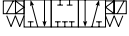

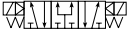
#### Operation information

Working pressure :	-0,9 to 12 bar		
Working temperature :	-10 to +60°C		
	<b>DX1</b>	<b>DX2</b>	<b>DX3</b>
Flow (Qmax.) :	1680 l/min	3640 l/min	6420 l/min
Flow (Qn.) :	1150 l/min	2330 l/min	4050 l/min
ATEX approval:	CE Ex II 2 GD c 85°C		
<b>For ATEX specific products contact Sales Office</b>			






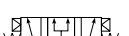
#### Solenoid operated ISO valve fitted with CNOMO solenoid(s) 24 VDC

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	1 - 43mm	Electrical signal	Spring	3,9/2,5	40/55	0.5	<b>DX1-621-BL49</b>
	2 - 56mm	Electrical signal	Spring	3,6/2,4	60/105	0.75	<b>DX2-621-BL49</b>
	3 - 71mm	Electrical signal	Spring	3,6/2,3	85/160	1.25	<b>DX3-621-BL49</b>
	1 - 43mm	Electrical signal	Differential	3,3/1,9	30/70	0.5	<b>DX1-651-BL49</b>
	2 - 56mm	Electrical signal	Differential	3,3/2,0	55/110	0.75	<b>DX2-651-BL49</b>
	3 - 71mm	Electrical signal	Differential	3,3/1,9	80/180	1.25	<b>DX3-651-BL49</b>
	1 - 43mm	Electrical signal	Electrical signal	1,0/1,0	25/25	0.65	<b>DX1-606-BL49</b>
	2 - 56mm	Electrical signal	Electrical signal	1,0/1,0	30/30	0.9	<b>DX2-606-BL49</b>
	3 - 71mm	Electrical signal	Electrical signal	1,0/1,0	40/40	1.4	<b>DX3-606-BL49</b>
<b>5/3 Valves</b>							
	1 - 43mm	Electrical signal	Electrical signal	2,6	30/95	0.65	<b>DX1-616-BL49</b>
	2 - 56mm	Closed center	Self centering	2,1	40/190	0.9	<b>DX2-616-BL49</b>
	3 - 71mm			2,1	55/330	1.4	<b>DX3-616-BL49</b>
	1 - 43mm	Electrical signal	Electrical signal	2,8	25/70	0.65	<b>DX1-611-BL49</b>
	2 - 56mm	Vented center	Self centering	2,2	40/140	0.9	<b>DX2-611-BL49</b>
	3 - 71mm			2,1	60/270	1.4	<b>DX3-611-BL49</b>
	1 - 43mm	Electrical signal	Electrical signal	2,4	25/65	0.65	<b>DX1-613-BL49</b>
	2 - 56mm	Press. center	Self centering	2,1	40/150	0.9	<b>DX2-613-BL49</b>

## Solenoid operated ISO valve fitted with CNOMO operator without coil

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	1 - 43mm	Electrical signal	Spring	3,9/2,5	40/55	0.4	<b>DX1-621-BN</b> <b>DX2-621-BN</b> <b>DX3-621-BN</b>
	2 - 56mm	Electrical signal	Spring	3,6/2,4	60/105	0.65	
	3 - 71mm	Electrical signal	Spring	3,6/2,3	85/160	1.15	
	1 - 43mm	Electrical signal	Differential	3,3/1,9	30/70	0.4	<b>DX1-651-BN</b> <b>DX2-651-BN</b> <b>DX3-651-BN</b>
	2 - 56mm	Electrical signal	Differential	3,3/2,0	55/110	0.65	
	3 - 71mm	Electrical signal	Differential	3,3/1,9	80/180	1.15	
	1 - 43mm	Electrical signal	Electrical signal	1,0/1,0	25/25	0.55	<b>DX1-606-BN</b> <b>DX2-606-BN</b> <b>DX3-606-BN</b>
	2 - 56mm	Electrical signal	Electrical signal	1,0/1,0	30/30	0.8	
	3 - 71mm	Electrical signal	Electrical signal	1,0/1,0	40/40	1.3	
<b>5/3 Valves</b>							
	1 - 43mm	Electrical signal	Electrical signal	2,6	30/95	0.55	<b>DX1-616-BN</b> <b>DX2-616-BN</b> <b>DX3-616-BN</b>
	2 - 56mm	Closed center	Self centering	2,1	40/190	0.8	
	3 - 71mm			2,1	55/330	1.3	
	1 - 43mm	Electrical signal	Electrical signal	2,8	25/70	0.55	<b>DX1-611-BN</b> <b>DX2-611-BN</b> <b>DX3-611-BN</b>
	2 - 56mm	Vented center	Self centering	2,2	40/140	0.8	
	3 - 71mm			2,1	60/270	1.3	
	1 - 43mm	Electrical signal	Electrical signal	2,4	25/65	0.55	<b>DX1-613-BN</b> <b>DX2-613-BN</b>
	2 - 56mm	Press. center	Self centering	2,1	40/150	0.8	

## Pneumatic operated ISO valve without valve spool override

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	1 - 43mm	Air signal	Spring	3,9/2,5	30/45	0.35	<b>DX1-421-60</b> <b>DX2-421-60</b> <b>DX3-421-60</b>
	2 - 56mm	Air signal	Spring	3,6/2,4	50/95	0.6	
	3 - 71mm	Air signal	Spring	3,6/2,3	80/160	1.1	
	1 - 43mm	Air signal	Differential	3,3/1,9	25/60	0.35	<b>DX1-451-60</b> <b>DX2-451-60</b> <b>DX3-451-60</b>
	2 - 56mm	Air signal	Differential	3,3/2,0	45/100	0.6	
	3 - 71mm	Air signal	Differential	3,3/1,9	70/170	1.1	
	1 - 43mm	Air signal	Air signal	1,0/1,0	20/20	0.35	<b>DX1-406-60</b> <b>DX2-406-60</b> <b>DX3-406-60</b>
	2 - 56mm	Air signal	Air signal	1,0/1,0	25/25	0.6	
	3 - 71mm	Air signal	Air signal	1,0/1,0	35/35	1.1	
<b>5/3 Valves</b>							
	1 - 43mm	Air signal	Air signal	2,6	20/80	0.35	<b>DX1-416-60</b> <b>DX2-416-60</b> <b>DX3-416-60</b>
	2 - 56mm	Closed center	Self centering	2,1	30/170	0.6	
	3 - 71mm			2,1	45/330	1.1	
	1 - 43mm	Air signal	Air signal	2,8	20/65	0.35	<b>DX1-411-60</b> <b>DX2-411-60</b> <b>DX3-411-60</b>
	2 - 56mm	Vented center	Self centering	2,2	30/140	0.6	
	3 - 71mm			2,1	50/270	1.1	
	1 - 43mm	Air signal	Air signal	2,4	20/60	0.35	<b>DX1-413-60</b> <b>DX2-413-60</b>
	2 - 56mm	Press. center	Self centering	2,1	25/140	0.6	

## Solenoid operated ISO valve, CNOMO, 24 VDC with M12 coil

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	1 - 43mm	Electrical signal	Spring	3,9/2,5	40/55	0.5	<b>DX1-621-B619</b>
	2 - 56mm	Electrical signal	Spring	3,6/2,4	60/105	0.75	<b>DX2-621-B619</b>
	3 - 71mm	Electrical signal	Spring	3,6/2,3	85/160	1.25	<b>DX3-621-B619</b>
	1 - 43mm	Electrical signal	Differential	3,3/1,9	30/70	0.5	<b>DX1-651-B619</b>
	2 - 56mm	Electrical signal	Differential	3,3/2,0	55/110	0.75	<b>DX2-651-B619</b>
	3 - 71mm	Electrical signal	Differential	3,3/1,9	80/180	1.25	<b>DX3-651-B619</b>
	1 - 43mm	Electrical signal	Electrical signal	1,0/1,0	25/25	0.65	<b>DX1-606-B619</b>
	2 - 56mm	Electrical signal	Electrical signal	1,0/1,0	30/30	0.9	<b>DX2-606-B619</b>
	3 - 71mm	Electrical signal	Electrical signal	1,0/1,0	40/40	1.4	<b>DX3-606-B619</b>
<b>5/3 Valves</b>							
	1 - 43mm	Electrical signal	Electrical signal	2,6	30/95	0.65	<b>DX1-616-B619</b>
	2 - 56mm	Closed center	Self centering	2,1	40/190	0.9	<b>DX2-616-B619</b>
	3 - 71mm			2,1	55/330	1.4	<b>DX3-616-B619</b>
	1 - 43mm	Electrical signal	Electrical signal	2,8	25/70	0.65	<b>DX1-611-B619</b>
	2 - 56mm	Vented center	Self centering	2,2	40/140	0.9	<b>DX2-611-B619</b>
	3 - 71mm			2,1	60/270	1.4	<b>DX3-611-B619</b>
	1 - 43mm	Electrical signal	Electrical signal	2,4	25/65	0.65	<b>DX1-613-B619</b>
	2 - 56mm	Press. center	Self centering	2,1	40/150	0.9	<b>DX2-613-B619</b>

## Solenoid operated ISO valve, CNOMO, 24 VDC with Din A coil and M12 connector

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	1 - 43mm	Electrical signal	Spring	3,9/2,5	40/55	0.65	<b>DX1-621-B219</b>
	2 - 56mm	Electrical signal	Spring	3,6/2,4	60/105	0.9	<b>DX2-621-B219</b>
	3 - 71mm	Electrical signal	Spring	3,6/2,3	85/160	1.4	<b>DX3-621-B219</b>
	1 - 43mm	Electrical signal	Differential	3,3/1,9	30/70	0.65	<b>DX1-651-B219</b>
	2 - 56mm	Electrical signal	Differential	3,3/2,0	55/110	0.9	<b>DX2-651-B219</b>
	3 - 71mm	Electrical signal	Differential	3,3/1,9	80/180	1.4	<b>DX3-651-B219</b>
	1 - 43mm	Electrical signal	Electrical signal	1,0/1,0	25/25	0.8	<b>DX1-606-B219</b>
	2 - 56mm	Electrical signal	Electrical signal	1,0/1,0	30/30	1.05	<b>DX2-606-B219</b>
	3 - 71mm	Electrical signal	Electrical signal	1,0/1,0	40/40	1.55	<b>DX3-606-B219</b>
<b>5/3 Valves</b>							
	1 - 43mm	Electrical signal	Electrical signal	2,6	30/95	0.8	<b>DX1-616-B219</b>
	2 - 56mm	Closed center	Self centering	2,1	40/190	1.05	<b>DX2-616-B219</b>
	3 - 71mm			2,1	55/330	1.55	<b>DX3-616-B219</b>
	1 - 43mm	Electrical signal	Electrical signal	2,8	25/70	0.8	<b>DX1-611-B219</b>
	2 - 56mm	Vented center	Self centering	2,2	40/140	1.05	<b>DX2-611-B219</b>
	3 - 71mm			2,1	60/270	1.55	<b>DX3-611-B219</b>
	1 - 43mm	Electrical signal	Electrical signal	2,4	25/65	0.8	<b>DX1-613-B219</b>
	2 - 56mm	Press. center	Self centering	2,1	40/150	1.05	<b>DX2-613-B219</b>



Solenoid or air pilot actuation. Vacuum to 10 bar heavy duty applications.

- Size HA and HB (26mm and 18mm)
- Heavy duty and corrosion resistant body
- Internal led & rectifier
- Internal or external pilot supply with same valve
- M12 common wiring



#### Operation information

Working pressure :	2,0 to 10 bar	
Working temperature :	-15 to +50°C	
	<b>Size 02</b>	<b>Size 01</b>
Flow (Qmax.) :	10,8 l/s	25,3 l/s
Flow (Qn) :	6,5 l/s	15,3 l/s

#### Solenoid operated ISO valve, 24VDC, central M12 connection

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	02 - 18mm	Electrical signal	Spring & Diff.	3,1	20/40	0.15	<b>HBEXWBG2G9000FA</b> <b>HAEXWBG2G9000FA</b>
	01 - 26mm	Electrical signal	Spring & Diff.	3,1	20/45	0.25	
	02 - 18mm	Electrical signal	Differential	2,7	15/40	0.15	<b>HB1WXBG2G9000FA</b> <b>HA1WXBG2G9000FA</b>
	01 - 26mm	Electrical signal	Differential	2,7	15/50	0.25	
	02 - 18mm	Electrical signal	Electrical signal	1,7	10	0.165	<b>HB2WXBG2G9000FA</b> <b>HA2WXBG2G9000FA</b>
	01 - 26mm	Electrical signal	Electrical signal	1,7	10	0.265	
<b>5/3 Valves</b>							
	2 - 18mm	Electrical signal	Electrical signal	2,4	15/60	0.165	<b>HB5WXBG2G9000FA</b> <b>HA5WXBG2G9000FA</b>
	01 - 26mm	Closed center	Self centering	2,4	15/50	0.265	
	02 - 18mm	Electrical signal	Electrical signal	2,4	15/60	0.165	<b>HB6WXBG2G9000FA</b> <b>HA6WXBG2G9000FA</b>
	01 - 26mm	Vented center	Self centering	2,4	15/50	0.265	
	02 - 18mm	Electrical signal	Electrical signal	2,4	15/60	0.165	<b>HB7WXBG2G9000FA</b> <b>HA7WXBG2G9000FA</b>
	01 - 26mm	Press. center	Self centering	2,4	15/50	0.265	

#### Pneumatic operated ISO valve

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	02 - 18mm	Air signal	Spring & Diff.	3,1	15/30	0.115	<b>HBFWX000XXA</b> <b>HAFWX000XXA</b>
	01 - 26mm	Air signal	Spring & Diff.	3,1	15/40	0.215	
	02 - 18mm	Air signal	Differential	2,7	10/30	0.115	<b>HB3WX000XXA</b> <b>HA3WX000XXA</b>
	01 - 26mm	Air signal	Differential	2,7	15/35	0.215	
	02 - 18mm	Air signal	Air signal	1,7	8	0.115	<b>HB4WX000XXA</b> <b>HA4WX000XXA</b>
	01 - 26mm	Air signal	Air signal	1,7	10	0.215	
<b>5/3 Valves</b>							
	2 - 18mm	Air signal	Air signal	2,4	15/35	0.115	<b>HB8WX000XXA</b> <b>HA8WX000XXA</b>
	01 - 26mm	Closed center	Self centering	2,4	15/40	0.215	
	02 - 18mm	Air signal	Air signal	2,4	15/35	0.115	<b>HB9WX000XXA</b> <b>HA9WX000XXA</b>
	01 - 26mm	Vented center	Self centering	2,4	15/40	0.215	
	02 - 18mm	Air signal	Air signal	2,4	15/35	0.115	<b>HB0WX000XXA</b> <b>HA0WX000XXA</b>
	01 - 26mm	Press. center	Self centering	2,4	15/40	0.215	

Solenoid actuated Iso valve for multiple and centralised field bus (Plug-in)

- Size HA and HB (26mm and 18mm)
- Heavy duty and corrosion resistant body
- Internal led & rectifier
- Internal or external pilot supply with same valve
- Multiple connection, Sub D25, M23, Terminal block
- Communication with ISYS NET



#### Operation information

Working pressure :	2,0 to 10 bar	
Working temperature :	-15 to +50°C	
	<b>Size 02</b>	<b>Size 01</b>
Flow (Qmax.) :	10,8 l/s	25,3 l/s
Flow (Qn) :	6,5 l/s	15,3 l/s

### Solenoid operated ISO plug-in valve, 24VDC

Manual override non locking, Led & surge suppressor

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	02 - 18mm	Electrical signal	Spring & Diff.	3,1	20/40	0.13	<b>HBEVXBG0G9A</b> <b>HAEVXBG0G9A</b>
	01 - 26mm	Electrical signal	Spring & Diff.	3,1	20/45	0.23	
	02 - 18mm	Electrical signal	Differential	2,7	15/40	0.13	<b>HB1VXBG0G9A</b> <b>HA1VXBG0G9A</b>
	01 - 26mm	Electrical signal	Differential	2,7	15/50	0.23	
	02 - 18mm	Electrical signal	Electrical signal	1,7	10	0.145	<b>HB2VXBG0G9A</b> <b>HA2VXBG0G9A</b>
	01 - 26mm	Electrical signal	Electrical signal	1,7	10	0.245	
<b>5/3 Valves</b>							
	02 - 18mm	Electrical signal	Electrical signal	2,4	15/60	0.145	<b>HB5VXBG0G9A</b> <b>HA5VXBG0G9A</b>
	01 - 26mm	Closed center	Self centering	2,4	15/50	0.245	
	02 - 18mm	Electrical signal	Electrical signal	2,4	15/60	0.145	<b>HB6VXBG0G9A</b> <b>HA6VXBG0G9A</b>
	01 - 26mm	Vented center	Self centering	2,4	15/50	0.245	
	02 - 18mm	Electrical signal	Electrical signal	2,4	15/60	0.145	<b>HB7VXBG0G9A</b> <b>HA7VXBG0G9A</b>
	01 - 26mm	Press. center	Self centering	2,4	15/50	0.245	

Heavy duty valve. Solenoid or air pilot. Vacuum to 10 bar. Wide choice of electrical connections.

- Size 1, 2, 3
- Heavy duty and corrosion resistant body
- Vacuum to 10 bar
- Internal or external pilot supply with same valve
- Din A, M12, M23 connections



**Operation information**

Working pressure :	2,0 to 10 bar		
Working temperature :	-15 to +50°C		
	<b>Size 1</b>	<b>Size 2</b>	<b>Size 3</b>
Flow (Qmax.) :	34,5 l/s	69,0 l/s	130,8 l/s
Flow (Qn) :	20,8 l/s	42,0 l/s	83,7 l/s

**Solenoid operated ISO valve fitted with CNOMO solenoid(s) 24 VDC**

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	1 - 43mm	Electrical signal	Spring & Diff.	3,1/2,5	25/35	0,77	<b>H1EWXBBL49C</b>
	2 - 56mm	Electrical signal	Spring & Diff.	3,1/2,1	40/70	1,19	<b>H2EWXBBL49C</b>
	3 - 71mm	Electrical signal	Spring & Diff.	3,8/3,3	70/80	1,47	<b>H3EWXBBL49C</b>
	1 - 43mm	Electrical signal	Differential	1,7/1,9	25/45	0,77	<b>H11WXBBL49C</b>
	2 - 56mm	Electrical signal	Differential	2,4/1,7	35/80	1,19	<b>H21WXBBL49C</b>
	3 - 71mm	Electrical signal	Differential	3,5/2,4	55/85	1,47	<b>H31WXBBL49C</b>
	1 - 43mm	Electrical signal	Electrical signal	1,7	15	0,94	<b>H12WXBBL49C</b>
	2 - 56mm	Electrical signal	Electrical signal	1,7	20	1,36	<b>H22WXBBL49C</b>
	3 - 71mm	Electrical signal	Electrical signal	2,4	25	1,64	<b>H32WXBBL49C</b>
<b>5/3 Valves</b>							
	1 - 43mm	Electrical signal	Electrical signal	2,4	15/60	0,94	<b>H15WXBBL49C</b>
	2 - 56mm	Closed center	Self centering	3,5	30/75	1,36	<b>H25WXBBL49C</b>
	3 - 71mm	Closed center	Self centering	3,5	23/80	1,64	<b>H35WXBBL49C</b>
	1 - 43mm	Electrical signal	Electrical signal	2,4	15/60	0,94	<b>H16WXBBL49C</b>
	2 - 56mm	Vented center	Self centering	3,5	30/75	1,36	<b>H26WXBBL49C</b>
	3 - 71mm	Vented center	Self centering	3,5	23/80	1,64	<b>H36WXBBL49C</b>
	1 - 43mm	Electrical signal	Electrical signal	2,4	15/60	0,94	<b>H17WXBBL49C</b>
	2 - 56mm	Press. center	Self centering	3,5	30/75	1,36	<b>H27WXBBL49C</b>
	3 - 71mm	Press. center	Self centering	3,5	23/80	1,64	<b>H37WXBBL49C</b>

## Solenoid operated ISO valve fitted with CNOMO operator without coil




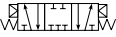
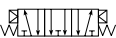
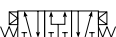
Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	1 - 43mm	Electrical signal	Spring & Diff.	3,1/2,5	25/35	0.65	<b>H1EWXBNNXXC</b>
	2 - 56mm	Electrical signal	Spring & Diff.	3,1/2,1	40/70	1.07	<b>H2EWXBNNXXC</b>
	3 - 71mm	Electrical signal	Spring & Diff.	3,8/3,3	70/80	1.35	<b>H3EWXBNNXXC</b>
	1 - 43mm	Electrical signal	Differential	1,7/1,9	25/45	0.65	<b>H11WXBNNXXC</b>
	2 - 56mm	Electrical signal	Differential	2,4/1,7	35/80	1.07	<b>H21WXBNNXXC</b>
	3 - 71mm	Electrical signal	Differential	3,5/2,4	55/85	1.35	<b>H31WXBNNXXC</b>
	1 - 43mm	Electrical signal	Electrical signal	1,7	15	0.7	<b>H12WXBNNXXC</b>
	2 - 56mm	Electrical signal	Electrical signal	1,7	20	1.12	<b>H22WXBNNXXC</b>
	3 - 71mm	Electrical signal	Electrical signal	2,4	25	1.4	<b>H32WXBNNXXC</b>
<b>5/3 Valves</b>							
	1 - 43mm	Electrical signal	Electrical signal	2,4	15/60	0.7	<b>H15WXBNNXXC</b>
	2 - 56mm	Closed center	Self centering	3,5	30/75	1.12	<b>H25WXBNNXXC</b>
	3 - 71mm			3,5	23/80	1.4	<b>H35WXBNNXXC</b>
	1 - 43mm	Electrical signal	Electrical signal	2,4	15/60	0.7	<b>H16WXBNNXXC</b>
	2 - 56mm	Vented center	Self centering	3,5	30/75	1.12	<b>H26WXBNNXXC</b>
	3 - 71mm			3,5	23/80	1.4	<b>H36WXBNNXXC</b>
	1 - 43mm	Electrical signal	Electrical signal	2,4	15/60	0.7	<b>H17WXBNNXXC</b>
	2 - 56mm	Press. center	Self centering	3,5	30/75	1.12	<b>H27WXBNNXXC</b>
	3 - 71mm			3,5	23/80	1.4	<b>H37WXBNNXXC</b>

## Solenoid operated ISO valve, 24VDC, central M12 connection

Oriented side 14, Led &amp; surge suppressor

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	1 - 43mm	Electrical signal	Spring & Diff.	3,1/2,5	30/40	0.77	<b>H1EWXBG2B9000FC</b>
	2 - 56mm	Electrical signal	Spring & Diff.	3,1/2,1	45/70	1.29	<b>H2EWXBG2B9000FC</b>
	3 - 71mm	Electrical signal	Spring & Diff.	3,8/3,3	75/80	1.57	<b>H3EWXBG2B9000FC</b>
	1 - 43mm	Electrical signal	Differential	1,7/1,9	30/50	0.77	<b>H11WXBG2B9000FC</b>
	2 - 56mm	Electrical signal	Differential	2,4/1,7	40/80	1.29	<b>H21WXBG2B9000FC</b>
	3 - 71mm	Electrical signal	Differential	3,5/2,4	60/85	1.57	<b>H31WXBG2B9000FC</b>
	1 - 43mm	Electrical signal	Electrical signal	1,7	20	1.04	<b>H12WXBG2B9000FC</b>
	2 - 56mm	Electrical signal	Electrical signal	1,7	25	1.46	<b>H22WXBG2B9000FC</b>
	3 - 71mm	Electrical signal	Electrical signal	2,4	30	1.74	<b>H32WXBG2B9000FC</b>
<b>5/3 Valves</b>							
	1 - 43mm	Electrical signal	Electrical signal	2,4	20/65	1.04	<b>H15WXBG2B9000FC</b>
	2 - 56mm	Closed center	Self centering	3,5	35/80	1.46	<b>H25WXBG2B9000FC</b>
	3 - 71mm			3,5	40/85	1.74	<b>H35WXBG2B9000FC</b>
	1 - 43mm	Electrical signal	Electrical signal	2,4	20/65	1.04	<b>H16WXBG2B9000FC</b>
	2 - 56mm	Vented center	Self centering	3,5	35/80	1.46	<b>H26WXBG2B9000FC</b>
	3 - 71mm			3,5	40/85	1.74	<b>H36WXBG2B9000FC</b>
	1 - 43mm	Electrical signal	Electrical signal	2,4	20/65	1.04	<b>H17WXBG2B9000FC</b>
	2 - 56mm	Press. center	Self centering	3,5	35/80	1.46	<b>H27WXBG2B9000FC</b>
	3 - 71mm			3,5	40/85	1.74	<b>H37WXBG2B9000FC</b>

## Pneumatic operated ISO valve without manual override

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	1 - 43mm	Air signal	Spring & Diff.	3,1/2,5	20/30	0.6	<b>H1FWX000XXC</b>
	2 - 56mm	Air signal	Spring & Diff.	3,1/2,1	35/70	1.02	<b>H2FWX000XXC</b>
	3 - 71mm	Air signal	Spring & Diff.	3,8/3,3	65/75	1.3	<b>H3FWX000XXC</b>
	1 - 43mm	Air signal	Differential	1,7/1,9	20/40	0.6	<b>H13WX000XXC</b>
	2 - 56mm	Air signal	Differential	2,4/1,7	30/80	1.02	<b>H23WX000XXC</b>
	3 - 71mm	Air signal	Differential	3,5/2,4	50/85	1.3	<b>H33WX000XXC</b>
	1 - 43mm	Air signal	Air signal	1,7	12	0.6	<b>H14WX000XXC</b>
	2 - 56mm	Air signal	Air signal	1,7	16	1.02	<b>H24WX000XXC</b>
	3 - 71mm	Air signal	Air signal	2,4	20	1.3	<b>H34WX000XXC</b>
<b>5/3 Valves</b>							
	1 - 43mm	Air signal	Air signal	2,4	15/55	0.6	<b>H18WX000XXC</b>
	2 - 56mm	Closed center	Self centering	3,5	20/70	1.12	<b>H28WX000XXC</b>
	3 - 71mm			3,5	30/80	1.3	<b>H38WX000XXC</b>
	1 - 43mm	Air signal	Air signal	2,4	15/55	0.6	<b>H19WX000XXC</b>
	2 - 56mm	Vented center	Self centering	3,5	20/70	1.02	<b>H29WX000XXC</b>
	3 - 71mm			3,5	30/80	1.3	<b>H39WX000XXC</b>
	1 - 43mm	Air signal	Air signal	2,4	15/55	0.6	<b>H10WX000XXC</b>
	2 - 56mm	Press. center	Self centering	3,5	20/70	1.02	<b>H20WX000XXC</b>
	3 - 71mm			3,5	30/80	1.3	<b>H30WX000XXC</b>

Solenoid actuator Iso valve for multiple and centralised field bus



- Size 1, 2, 3
- Heavy duty and corrosion resistant body
- Internal led rectifier
- Internal or external pilot supply with same valve
- Multiple connection, SubD25, M23, Terminal block
- Communication with ISYS NET

### Operation information

Working pressure :	2,0 to 10 bar		
Working temperature :	-15 to +50°C		
	<b>Size 1</b>	<b>Size 2</b>	<b>Size 3</b>
Flow (Qmax.) :	34,5 l/s	69,0 l/s	130,8 l/s
Flow (Qn) :	20,8 l/s	42,0 l/s	83,7 l/s

### Solenoid operated ISO valve, 24VDC, Plug-in


Led & surge suppressor

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	1 - 43mm	Electrical signal	Spring & Diff.	3,1/2,5	30/40	0,77	<b>H1EVXBG0B9C</b>
	2 - 56mm	Electrical signal	Spring & Diff.	3,1/2,1	45/70	1,19	<b>H2EVXBG0B9C</b>
	3 - 71mm	Electrical signal	Spring & Diff.	3,8/3,3	75/80	1,47	<b>H3EVXBG0B9C</b>
	1 - 43mm	Electrical signal	Differential	1,7/1,9	30/50	0,77	<b>H11VXBG0B9C</b>
	2 - 56mm	Electrical signal	Differential	2,4/1,7	40/80	1,19	<b>H21VXBG0B9C</b>
	3 - 71mm	Electrical signal	Differential	3,5/2,4	60/85	1,47	<b>H31VXBG0B9C</b>
	1 - 43mm	Electrical signal	Electrical signal	1,7	20	0,94	<b>H12VXBG0B9C</b>
	2 - 56mm	Electrical signal	Electrical signal	1,7	25	1,36	<b>H22VXBG0B9C</b>
	3 - 71mm	Electrical signal	Electrical signal	2,4	30	1,64	<b>H32VXBG0B9C</b>
<b>5/3 Valves</b>							
	1 - 43mm	Electrical signal	Electrical signal	2,4	20/65	0,94	<b>H15VXBG0B9C</b>
	2 - 56mm	Closed center	Self centering	3,5	35/80	1,36	<b>H25VXBG0B9C</b>
	3 - 71mm	Closed center	Self centering	3,5	40/85	1,64	<b>H35VXBG0B9C</b>
	1 - 43mm	Electrical signal	Electrical signal	2,4	20/65	0,94	<b>H16VXBG0B9C</b>
	2 - 56mm	Vented center	Self centering	3,5	35/80	1,36	<b>H26VXBG0B9C</b>
	3 - 71mm	Vented center	Self centering	3,5	40/85	1,64	<b>H36VXBG0B9C</b>
	1 - 43mm	Electrical signal	Electrical signal	2,4	20/65	0,94	<b>H17VXBG0B9C</b>
	2 - 56mm	Press. center	Self centering	3,5	35/80	1,36	<b>H27VXBG0B9C</b>
	3 - 71mm	Press. center	Self centering	3,5	40/85	1,64	<b>H37VXBG0B9C</b>

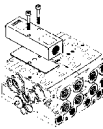
## Solenoid operated ISO valve, with plug in operator, without coil

Symbol	Size	Actuation	Return	Signal pressure min. (bar) at 6 bar actua./return	Changeover time (ms) at 6 bar actua./return	Weight Kg	Order code
<b>5/2 Valves</b>							
	1 - 43mm	Electrical signal	Spring & Diff.	3,1/2,5	30/40	0.65	<b>H1EVXBGXXC</b> <b>H2EVXBGXXC</b> <b>H3EVXBGXXC</b>
	2 - 56mm	Electrical signal	Spring & Diff.	3,1/2,1	45/70	1.07	
	3 - 71mm	Electrical signal	Spring & Diff.	3,8/3,3	75/80	1.35	
	1 - 43mm	Electrical signal	Differential	1,7/1,9	30/50	0.65	<b>H11VXBGXXC</b> <b>H21VXBGXXC</b> <b>H31VXBGXXC</b>
	2 - 56mm	Electrical signal	Differential	2,4/1,7	40/80	1.07	
	3 - 71mm	Electrical signal	Differential	3,5/2,4	60/85	1.35	
	1 - 43mm	Electrical signal	Electrical signal	1,7	20	0.7	<b>H12VXBGXXC</b> <b>H22VXBGXXC</b> <b>H32VXBGXXC</b>
	2 - 56mm	Electrical signal	Electrical signal	1,7	25	1.12	
	3 - 71mm	Electrical signal	Electrical signal	2,4	30	1.4	
<b>5/3 Valves</b>							
	1 - 43mm	Electrical signal	Electrical signal	2,4	20/65	0.7	<b>H15VXBGXXC</b> <b>H25VXBGXXC</b> <b>H35VXBGXXC</b>
	2 - 56mm	Closed center	Self centering	3,5	35/80	1.12	
	3 - 71mm	Closed center	Self centering	3,5	40/85	1.4	
	1 - 43mm	Electrical signal	Electrical signal	2,4	20/65	0.7	<b>H16VXBGXXC</b> <b>H26VXBGXXC</b> <b>H36VXBGXXC</b>
	2 - 56mm	Vented center	Self centering	3,5	35/80	1.12	
	3 - 71mm	Vented center	Self centering	3,5	40/85	1.4	
	1 - 43mm	Electrical signal	Electrical signal	2,4	20/65	0.7	<b>H17VXBGXXC</b> <b>H27VXBGXXC</b> <b>H37VXBGXXC</b>
	2 - 56mm	Press. center	Self centering	3,5	35/80	1.12	
	3 - 71mm	Press. center	Self centering	3,5	40/85	1.4	

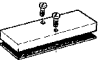
## Side ported subbase

	Description	Port size	Weight	Order code BSPP "G"	Order code NPT
	<b>Individual subbase kit</b> Subbase with side port				
	Size 02	G1/8	0.07	<b>PL02-01-70</b>	<b>PL02-01-80</b>
	Size 01	G1/4	0.12	<b>PL01-02-70</b>	<b>PL01-02-80</b>












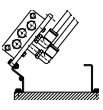

## Side ported manifold

	Description	Port size	Weight	Order code BSPP "G"	Order code NPT
	<b>Two station manifold base with side ports</b> To suit valves with internal supply solenoid				
	Size 02	G1/8	0.14	<b>PJLP02-201-70</b>	<b>PJLP02-201-80</b>
	Size 01	G1/4	0.7	<b>PJLP01-202-70</b>	<b>PJLP01-202-80</b>
	<b>Two station manifold base</b> To suit pneumatic actuated valves				
	Size 01	G1/4	0.73	<b>PJL01-202-70</b>	<b>PJL01-202-80</b>
	<b>End plate kit - for side ported two station manifold base</b>				
	Size 02	G1/4	0.15	<b>PEJ02-02-70</b>	<b>PEJ02-02-80*</b>
	Size 01	G3/8	0.52	<b>PEJ01-03-70</b>	<b>PEJ01-03-80**</b>
	* Use with PJLP02				
	** Use with PJLP01 or PJL01				
	Gaskets and assembly hardware included.				


## Accessories

	Description	Weight	Order code
	<b>Blanking plate</b>		
	Size 02	0.04	<b>DX02BLK</b>
	Size 01	0.05	<b>DX01BLK</b>
	<b>Blanking plug (for subbase PJL)</b>		
	Size 02	0.01	<b>D02BD0</b>
	Size 01	0.02	<b>D01BD0</b>
	<b>Bolt, washer and nut</b>		
	Size 02		<b>DX02M2MB</b>
	Size 01		<b>DX01M2MB</b>




Accessories	Designation	Weight (kg)	Order code (P2V-A, 18 mm)	Weight (kg)	Order code (P2V-B, 26 mm)
	<b>Multiple manifold</b> Including seal, fitting screws and plugs. Ports 2, 4, and 14 are bottom-connected. Fit plugs as required to provide common supply of operating air and common exhausts for solenoid valves.	0,20	<b>P2V-AM511NB</b>	0,40	<b>P2V-BM512NB</b>
	<b>Multiple manifold</b> Multiple manifold as above, but with the plugs fitted to suit use with valves with internal supply to solenoid.	0,20	<b>P2V-AM511PB</b>	0,40	<b>P2V-BM512PB</b>
	<b>Intermediate manifold, 18 to 26 mm</b> Including seals and fitting screws. For connecting P2V-AM511NB/PB multiple manifolds to P2V-BM511NB/PB multiple manifolds.	0,33	<b>P2V-AM500BE</b>	0,33	<b>P2V-AM500BE</b>
	<b>Connection block</b> G-side, including seal and fitting screws. For side connection.	0,18	<b>P2V-AM512GS</b>	0,21	<b>P2V-BM513GS</b>
	<b>Connection block</b> H-side. For side connection.	0,18	<b>P2V-AM512HS</b>	0,21	<b>P2V-BM513HS</b>
	<b>Connection block</b> G-side, including seal and fitting screws. For top connection.	0,18	<b>P2V-AM512GT</b>	0,21	<b>P2V-BM513GT</b>
	<b>Connection block</b> H-side. For top connection.	0,18	<b>P2V-AM512HT</b>	0,21	<b>P2V-BM513HT</b>
	<b>Connection block</b> G-side, including seal and fitting screws. For bottom connection.	0,18	<b>P2V-AM512GB</b>	0,22	<b>P2V-BM513GB</b>
	<b>Connection block</b> H-side. For bottom connection.	0,18	<b>P2V-AM512HB</b>	0,22	<b>P2V-BM513HB</b>
	<b>End cover</b> G-side, including seal and fitting screws.	0,19	<b>P2V-AM500G0</b>	0,24	<b>P2V-BM500G0</b>
	<b>End cover</b> H-side	0,19	<b>P2V-AM500H0</b>	0,24	<b>P2V-BM500H0</b>
	<b>Plug</b> For sealing supply and exhaust air ducts between multiple manifolds with different primary supply pressures.	0,004	<b>P2V-AK0P</b>	0,01	<b>P2V-BK0P</b>
	<b>Angle mounting set</b> For raising multiple manifolds so that angle connections can be fitted to the underside. The parts are designed so that the entire manifold can be angled to simplify connection of the pipes. The set consists of four mounts, complete with all necessary screws and nuts.	0,14	<b>P2V-AK0M</b>	0,14	<b>P2V-AK0M</b>
	<b>O-ring strip seal</b> For sealing between bases and multiple manifolds. 3.53 mm diameter, Supplied in 5 m lengths.	0,07	<b>9304331543</b>	0,07	<b>9304331543</b>

## Side ported manifold


Description	Port size	Order code
	<b>Manifold with two valve positions with terminal Strip (Non collective wiring)</b> Size 01 - 26mm	G1/4 <b>PS551154CP</b>
	<b>Manifold with two single solenoid valve positions with single address board</b> Size 02 - 18mm Size 01 - 26mm	G1/8 <b>PS561152JP</b> G1/4 <b>PS551154JP</b>
	<b>Manifold with two valve positions with double address board</b> Size 02 - 18mm Size 01 - 26mm	G1/8 <b>PS561152MP</b> G1/4 <b>PS551154MP</b>
	<b>Extension Manifold with two valve positions with single address board *</b> Size 02 - 18mm Size 01 - 26mm	G1/8 <b>PS561152NP</b> G1/4 <b>PS551154NP</b>
	<b>Extension Manifold with two valve positions with double address board *</b> Size 02 Size 01	G1/8 <b>PS561152PP</b> G1/4 <b>PS551154PP</b>

\* Use only one per manifold assembly to address more 24 solenoid

## Side &amp; bottom ported manifold



Description	Port size	Order code
	<b>Manifold with two valve positions with terminal Strip</b> Size 01 - 26mm	G1/4 <b>PS551164CP</b>
	<b>Manifold with two valve positions with single address board</b> Size 02 - 18mm Size 01 - 26mm	G1/8 <b>PS561162JP</b> G1/4 <b>PS551164JP</b>
	<b>Manifold with two valve positions with double address board</b> Size 02 - 18mm Size 01 - 26mm	G1/8 <b>PS561162MP</b> G1/4 <b>PS551164MP</b>
	<b>Extension Manifold with two valve positions with single address board</b> Size 02 - 18mm Size 01 - 26mm	G1/8 <b>PS561162NP</b> G1/4 <b>PS551164NP</b>
	<b>Extension Manifold with two valve positions with double address board</b> Size 02 Size 01	G1/8 <b>PS561162PP</b> G1/4 <b>PS551164PP</b>

## Accessories


Description	Order code	
	<b>Blanking plate</b> Size 02 - 18mm Size 01 - 26mm	<b>PS5634P</b> <b>PS5534P</b>
	<b>Manifold to Manifold gasket kit</b> HA & HB Gasket Standard HA & HB Gasket 1 Blocked HA & HB Gasket 1 2 3 Blocked	<b>PS561AP</b> <b>PS561BP</b> <b>PS561CP</b>

 Indicates stocked product.

## Collective wiring end plate kits

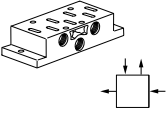
	Description	Port size	Order code
	<b>Left &amp; right ends modules with pressure &amp; exhaust port, auxiliary port , and non collective wiring (only for PS551154CP)</b> Size 02 / 01	G3/8	<b>PS5631011P</b>
	<b>Left &amp; right ends modules with pressure &amp; exhaust port, auxiliary port , and SubD25 connection</b> Size 02 / 01	G3/8	<b>PS5620L21P</b>
	<b>Left &amp; right ends modules with pressure &amp; exhaust port, auxiliary port , and 19pin Brad Harrison connection</b> Size 02 / 01	G3/8	<b>PS5620L31P</b>
	<b>Left &amp; right ends modules with pressure &amp; exhaust port, auxiliary port , and 12pin M23 connection</b> Size 02 / 01	G3/8	<b>PS5620L41P</b>
	<b>Left &amp; right ends modules with pressure &amp; exhaust port, auxiliary port , and 16 point terminal strip</b> Size 02 / 01	G3/8	<b>PS5620L51P</b>
	<b>Left &amp; right ends modules with pressure &amp; exhaust port, auxiliary port , and ISYSNET (32 output driver is included)</b> Size 02 / 01	G3/8	<b>PS5620L61P</b>

## Accessories

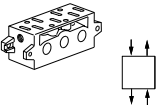
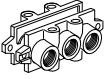
	Description	Order code
	<b>32 output driver module for spare part</b>	<b>PSSV32A</b>
	<b>HA &amp; HB 24 Out Cable</b> Size 02 / 01	G3/8 <b>PS5624P</b>
	<b>HA &amp; HB 32 Out cable</b> Size 02 / 01	G3/8 <b>PS5632P</b>
	<b>25 pin female 25 pin SubD25 cable 3m</b>	<b>P8LMH25M3A</b>

 Indicates stocked product.


## VDMA Side Ported Subbases

	Description	Size	Port size	Weight	Order code
	<b>Subbases VDMA</b>				
	Side port according to VDMA	1 - 43mm	G1/4	0.16	<b>P2N-VS512SD</b>
	Side port according to VDMA	2 - 56mm	G3/8	0.28	<b>P2N-WS513SD</b>
	Side port according to VDMA	3 - 71mm	G1/2	0.35	<b>P2N-YS514SD</b>

## VDMA Bottom Ported Manifold


	Description	Size	Port size	Weight	Order code
	<b>VDMA Form C</b>				
	Bottom port according to VDMA	1 - 43mm	G1/4	0.24	<b>P2N-VM512MB</b>
	Bottom port according to VDMA	2 - 56mm	G3/8	0.36	<b>P2N-WM513MB</b>
	Bottom port according to VDMA	3 - 71mm	G1/2	0.70	<b>P2N-YM514MB</b>
	<b>VDMA Transition plate</b>				
	Size 1 to Size 3	1 to 3	G1/4		<b>P2N-VM500AK</b>
	<b>Kit includes:</b> Transition plate only				
	<b>VDMA Form D - End plate</b>				
	According to VDMA	1 - 43mm	G3/8	0.21	<b>P2N-VM513ES</b>
	According to VDMA	2 - 56mm	G1/2	0.36	<b>P2N-WM514ES</b>
	According to VDMA	3 - 71mm	G1	0.68	<b>P2N-YM518ES</b>
	<b>VDMA Isolation - Main galley</b>				
	According to VDMA	1 - 43mm	G3/8	0.21	<b>P2N-VK0P</b>
	According to VDMA	2 - 56mm	G1/2	0.36	<b>P2N-WK0P</b>
	According to VDMA	3 - 71mm	G1	0.68	<b>P2N-YK0P</b>
	<b>Kit includes:</b> (1) Isolator plug.				

## Accessories


	Description	Size	Port size	Weight	Order code
	<b>Blanking plate</b>				
		1 - 43mm	G1/4	0.10	<b>P2N-AA5B</b>
	<b>Kit includes:</b> (1) Blanking plate, (1) Gasket	2 - 56mm	G3/8	0.15	<b>P2N-BA5B</b>
	and (4) Mounting bolts	3 - 71mm	G1/2	0.20	<b>P2N-CA5B</b>

 Indicates stocked product.

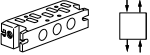
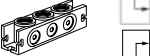
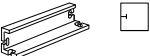
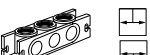

## Side ported subbases

Description	Size	Port size	Weight	Order code BSP	Order code NPT
 <b>Single subbase with side ports</b> 1 3 5 2 4 ports & 12 14	1 - 43mm	G1/4	0.16	<b>PL1-1/4-70</b>	<b>PL1-1/4-80</b>
	1 - 43mm	G3/8	0.16	<b>PL1-3/8-70</b>	
	2 - 56mm	G3/8	0.28	<b>PL2-3/8-70</b>	<b>PL2-3/8-80</b>
	2 - 56mm	G1/2		<b>P2N-HS514SS</b>	
	3 - 71mm	G1/2		<b>PL3-1/2-70</b>	<b>PL3-1/2-80</b>
	3 - 71mm	G3/4		<b>P2N-JS516SD</b>	

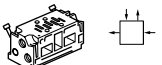
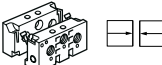
## Bottom ported subbases

Description	Size	Port size	Weight	Order code BSP	Order code NPT
 <b>Single subbase with side ports</b> 1 3 5 2 4 ports & 12 14	1 - 43mm	G1/4	0.37	<b>PD1-1/4-70</b>	<b>PD1-1/4-80</b>
	2 - 56mm	G3/8	0.59	<b>PD2-3/8-70</b>	<b>PD2-3/8-80</b>
	3 - 71mm	G1/2	0.59	<b>PD3-1/2-70</b>	

## Size 1 bottom ported manifold


Description	Size	Port size	Weight	Order code
 <b>Manifold</b> with bottom ports low profile	1 - 43mm	G1/4	0.2	<b>P2N-AM512MB</b>
 <b>Connecting block</b> Top or bottom ported connecting block for above manifold "low profile"	1 - 43mm	G3/8	0.15	<b>P2N-AM513GT</b>
 <b>End</b> End piece for above manifold "low profile"	1 - 43mm	no	0.06	<b>P2N-AM500J</b>
 <b>Intermediate supply</b> Top or bottom ported intermediate supply for above manifold "low profile"	1 - 43mm	G3/8	0.14	<b>P2N-AM513BT</b>
 <b>Isolation plugs</b> isolating seal for above manifold "low profile"	1 - 43mm		0.07	<b>P2N-AK0P</b>

## Sizes 1 &amp; 2 side ported manifold

Description	Size	Port size	Weight	Order code
 <b>Manifold</b> Manifold with side port	1 - 43mm	G1/4	0.24	<b>P2N-EM512MD</b>
	2 - 56mm	G3/8	0.21	<b>P2N-FM513MD</b>
 <b>End</b> Side ported connecting kit for above manifold with side ports	1 - 43mm	G3/8	0.36	<b>P2N-EM513ES</b>
	2 - 56mm	G1/2	0.29	<b>P2N-FM514ES</b>

 Indicates stocked product.


## Side ported manifold

	Description	Size	Port size	Order code
	<b>Manifold with terminal Strip (non collective wiring)</b>	1 - 43mm	G3/8	<b>PS401156CCP</b>
		2 - 56mm	G1/2	<b>PS411158CCP</b>
		3 - 71mm	G3/4	<b>PS421150CCP</b>
	<b>Manifold with single address board (single solenoid)</b>	1 - 43mm	G3/8	<b>PS401156JCP</b>
	<b>Manifold with double address board</b>	1 - 43mm	G3/8	<b>PS401156MCP</b>

## Accessories

	Description	Size	Port size	Order code
	<b>Blanking plate</b>	1 - 43mm	G3/8	<b>PS4034CP</b>
		2 - 56mm	G1/2	<b>PS4134CP</b>
		3 - 71mm	G3/4	<b>PS4234CP</b>
	<b>Insulation plug</b>	1 - 43mm	G3/8	<b>PS4032CP</b>
2 - 56mm		G1/2	<b>PS4132CP</b>	
3 - 71mm		G3/4	<b>PS4232CP</b>	
	<b>Manifold to Manifold gasket kit</b>	1 - 43mm	G3/8	<b>PS4013P</b>






## Coils for plug in valve

	Description		Order code
	12 V DC	5599-2 coil	<b>PS404145P</b>
	24 V DC	5599-2 coil	<b>PS4041B9P</b>
	24 V AC	5599-2 coil	<b>PS404142P</b>
	120 V AC	5599-2 coil	<b>PS404123P</b>
	240 V AC	5599-2 coil	<b>PS404157P</b>




Indicates stocked product.

## Collective wiring end plate kits

	Description	Port size	Order code
	<b>Left &amp; right ends modules with pressure &amp; exhaust port, auxiliary port , and non collective wiring</b>		
	Size 1	G1/2	<b>PS4031011CP</b>
	Size 2	G3/4	<b>PS4131011CP</b>
	Size 3	G3/4	<b>PS4231011CP</b>
	<b>Left &amp; right ends modules with pressure &amp; exhaust port, auxiliary port , and SubD25 connection</b>		
	Size 1	G1/2	<b>PS4020L21CP</b>
	<b>Left &amp; right ends modules with pressure &amp; exhaust port, auxiliary port , and 19pin Brad Harrison connection</b>		
	Size 1	G1/2	<b>PS4020L31CP</b>
	<b>Left &amp; right ends modules with pressure &amp; exhaust port, auxiliary port , and 12pin M23 connection</b>		
	Size 1	G1/2	<b>PS4020L41CP</b>
	<b>Left &amp; right ends modules with pressure &amp; exhaust port, auxiliary port , and ISYSNET</b>		
	Size 1	G3/8	<b>PS4020L61CP</b>

## Accessories

	Description	Order code
	<b>32 output driver module for spare part</b>	<b>PSSV32A</b>
	<b>HA &amp; HB 24 Out Cable</b>	<b>PS4024P</b>
	<b>25 pin female 25 pin SubD25 cable 3m</b>	<b>P8LMH25M3A</b>
	<b>H1 H2 H3 Pilot Gasket</b>	<b>PS4007P</b>
	<b>Valve to base gasket</b>	<b>PS4005CP</b>

 Indicates stocked product.

**Accessories - Sandwich Regulator**

**Features**

- Remote air pilot operated for hard-to-reach pressure control.
- Unregulated pilot pressure to valve for consistent valve shifting regardless of pressure adjustment.

**Gauge adaptor kit**

Included with all HB Regulators. Both kits are required on all HA & HB Regulators when the Regulator is on the last station on the right (14) end.

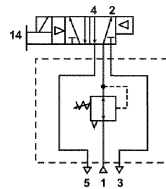


Description	Order code
Gauge kit	<b>PS5651160P</b>

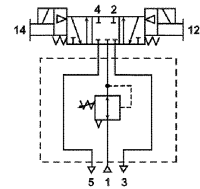
**HB & HA Common Port Regulation**

Provides adjustable regulated air pressure to the valves #1 port which gives the same pressure to both the #2 and #4 port of the manifold or subbase. The regulator is always on the 14 end of the valve.

**Common port regulator with 4-way, 2-position single solenoid valve**



**Common port regulator with 4-way, 3-position APB valve**



**HA - 26mm**

(Common Port Regulator shown)



8 bar	Order code	
	Plug-in	Non Plug-in
Size 18mm	<b>PS5638133P</b>	<b>PS5637133P</b>
Size 26mm	<b>PS5538133P</b>	<b>PS5537133P</b>

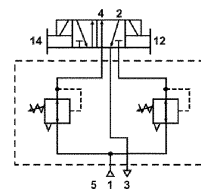
**HB & HA Independent Port Regulation**

**Dual Port Regulator**

Provides regulated pressure to both ports. Pressure regulation can occur out of the #2 or #4 port of the valve. In this case #2 and #4 have to be cross wired.

3 position CP have to be used as a COE  
 3 position COE have to be used as a CP

**Independent dual port regulator with 4-way, 2-position double solenoid valve**





**Order chart - Sandwich Regulator** (please contact Parker Sales Office)

<b>PS5637</b>	<b>1</b>	<b>6</b>	<b>6</b>	<b>P</b>																																						
<b>Series</b>	<b>Regulator function</b>	<b>#4 Port regulator / Gauge*</b>	<b>#2 Port regulator / Gauge*</b>																																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="3" style="text-align: left;">HB</th> </tr> <tr> <td style="width: 33%;">15407-1 18mm</td> <td style="width: 33%;"></td> <td style="width: 34%;"><b>PS5637</b></td> </tr> <tr> <td>15407-2 18mm</td> <td></td> <td><b>PS5638</b></td> </tr> <tr> <th colspan="3" style="text-align: left;">HA</th> </tr> <tr> <td>15407-1 26mm</td> <td></td> <td><b>PS5537</b></td> </tr> <tr> <td>15407-2 26mm</td> <td></td> <td><b>PS5538</b></td> </tr> </table>	HB			15407-1 18mm		<b>PS5637</b>	15407-2 18mm		<b>PS5638</b>	HA			15407-1 26mm		<b>PS5537</b>	15407-2 26mm		<b>PS5538</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">1</td> <td style="width: 67%;">Common pressure regulator</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Independent pressure regulator</td> </tr> </table>	1	Common pressure regulator	2	Independent pressure regulator	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">2</td> <td style="width: 67%;">2-60 PSIG w/o Gauge</td> </tr> <tr> <td style="text-align: center;">3</td> <td>5-125 PSIG w/o Gauge</td> </tr> <tr> <td style="text-align: center;">5</td> <td>2-60 PSIG w/Gauge</td> </tr> <tr> <td style="text-align: center;">6</td> <td>5-125 PSIG w/Gauge</td> </tr> </table>	2	2-60 PSIG w/o Gauge	3	5-125 PSIG w/o Gauge	5	2-60 PSIG w/Gauge	6	5-125 PSIG w/Gauge	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">2</td> <td style="width: 67%;">2-60 PSIG w/o Gauge</td> </tr> <tr> <td style="text-align: center;">3</td> <td>5-125 PSIG w/o Gauge</td> </tr> <tr> <td style="text-align: center;">5</td> <td>2-60 PSIG w/Gauge</td> </tr> <tr> <td style="text-align: center;">6</td> <td>5-125 PSIG w/Gauge</td> </tr> </table>	2	2-60 PSIG w/o Gauge	3	5-125 PSIG w/o Gauge	5	2-60 PSIG w/Gauge	6	5-125 PSIG w/Gauge	
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		<p><small>* For common pressure regulator option. Regulator gauge callout must be the same number for both Port #4 and port #2. (Example: 166)</small></p>	<p><small>* For common pressure regulator option. Regulator gauge callout must be the same number for both Port #4 and port #2. (Example: 166)</small></p>																																							

**How to Configure Sandwich Regulator / Valve Combinations**

**Ordering Components**

- Manifold or Subbase Kit required.
- Sandwich Regulator Kit configured for Internal Pilot as standard.
- Order valve as External Pilot.

**Internal Pilot Configuration -**

Pressure in Base Port 1 feeds regulator configured for Internal Pilot which feeds valve configured for External Pilot.

**Flow control - ISO 15407 - Sandwich flow controls features**

- Both adjustment screws are located on the 12 end of the unit.
- Sandwich Flow Control mounts with its own studs, which means the valve uses standard bolts for mounting.
- Sandwich Flow Control is not to be used as a shut off device and is not bubble tight when needles are fully turned down.



Size	Order code	
	Plug-in	Non Plug-in
	<b>15407-2</b>	<b>15407-1</b>
Size 18mm	<b>PS5635P</b>	<b>PS5642P</b>
Size 26mm	<b>PS5535P</b>	<b>PS5542P</b>

**Accessories - Sandwich Regulator**

**Features**

- Remote air pilot operated for hard-to-reach pressure control.
- Unregulated pilot pressure to valve for consistent valve shifting regardless of pressure adjustment.

**Gauge adaptor kit**

Included with all HB Regulators. Both kits are required on all HA & HB Regulators when the Regulator is on the last station on the right (14) end.

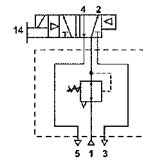


Description	Order code
Gauge kit	<b>PS5651160P</b>

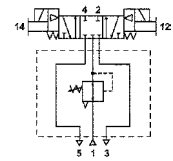
**ISYS ISO 1 / 2 / 3 Common Port Regulation**

Provides adjustable regulated air pressure to the valves #1 port which gives the same regulated pressure to both the #2 and #4 port of the manifold or subbase. The regulator is always on the 14 end of the valve.

Common port regulator with 4-way, 2-position single solenoid valve



Common port regulator with 4-way, 3-position APB valve



**Order code**

Plug-in

Non Plug-in

Size 1	8 bar	<b>PS4038133CP</b>	<b>PS4037133CP</b>
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**ISYS ISO 1 / 2 / 3 Independent Port Regulation**

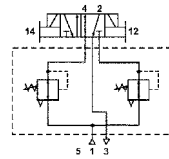
**Dual Port Regulator or Single Port Regulator**

Provides regulated pressure to both ports. Pressure regulation can occur out of the #2 or #4 port of the valve. Full line pressure would be provided with a pass plate.

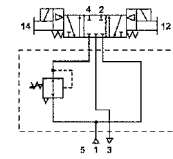


When using an independent Pressure Sandwich Regulator, the cylinder outlet ports are reversed. The 12 end energizes the #2 port. The 3-Position CE and PC functions are also reversed. (See schematics on right).

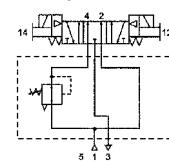
Independent dual port regulator with 4-way, 2-position double solenoid valve



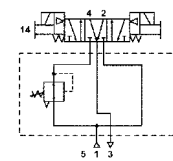
Independent port regulator with 4-way, 3-position all ports blocked valve



Independent port regulator with 4-way, 3-position inlet to cylinder function



Independent port regulator with 4-way, 3-position cylinder to exhaust function



**CAUTION:** Requires 4-way, 3-position, cylinder to exhaust valve

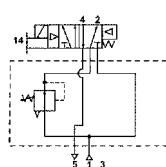


**CAUTION:** Requires 4-way, 3-position, cylinder to exhaust valve

**ISYS ISO 1 / 2 / 3 Selector Regulation**

Supplies two different pressures to the valves #1 and #3 flow paths. Shifting the valve "selects" one or the other of these two pressures to flow out port #2. A Selector Regulator can: 1) Provide regulated pressure to one flow path and full line pressure to the other by use of the Line Pressure By-Pass Plate.

Selector regulator with 4-way, 2-position single solenoid valve



**Order chart - Sandwich Regulator** (please contact Parker Sales Office)

<b>PS4037</b>	<b>1</b>	<b>6</b>	<b>6</b>	<b>C</b>	<b>P</b>																																										
Series	Regulator function	#4 Port regulator / Gauge*	#2 Port regulator / Gauge*																																												
<b>ISYS ISO Size 1</b>	<table border="1"> <tr> <td>1</td> <td>Common pressure regulator</td> </tr> <tr> <td>2</td> <td>Independent pressure regulator</td> </tr> <tr> <td>3</td> <td>Selector Regulator</td> </tr> </table>	1	Common pressure regulator	2	Independent pressure regulator	3	Selector Regulator	<table border="1"> <tr> <td>0</td> <td>Line By-Pass Plate**</td> </tr> <tr> <td>1</td> <td>1-30 PSIG w/o Gauge</td> </tr> <tr> <td>2</td> <td>2-60 PSIG w/o Gauge</td> </tr> <tr> <td>3</td> <td>5-125 PSIG w/o Gauge</td> </tr> <tr> <td>4</td> <td>1-30 PSIG w/Gauge</td> </tr> <tr> <td>5</td> <td>2-60 PSIG w/Gauge</td> </tr> <tr> <td>6</td> <td>5-125 PSIG w/Gauge</td> </tr> <tr> <td>C</td> <td>Air Pilot w/60 PSIG Gauge</td> </tr> <tr> <td>D</td> <td>Air Pilot w/60 PSIG Gauge</td> </tr> </table>	0	Line By-Pass Plate**	1	1-30 PSIG w/o Gauge	2	2-60 PSIG w/o Gauge	3	5-125 PSIG w/o Gauge	4	1-30 PSIG w/Gauge	5	2-60 PSIG w/Gauge	6	5-125 PSIG w/Gauge	C	Air Pilot w/60 PSIG Gauge	D	Air Pilot w/60 PSIG Gauge	<table border="1"> <tr> <td>0</td> <td>Line By-Pass Plate**</td> </tr> <tr> <td>1</td> <td>1-30 PSIG w/o Gauge</td> </tr> <tr> <td>2</td> <td>2-60 PSIG w/o Gauge</td> </tr> <tr> <td>3</td> <td>5-125 PSIG w/o Gauge</td> </tr> <tr> <td>4</td> <td>1-30 PSIG w/Gauge</td> </tr> <tr> <td>5</td> <td>2-60 PSIG w/Gauge</td> </tr> <tr> <td>6</td> <td>5-125 PSIG w/Gauge</td> </tr> <tr> <td>C</td> <td>Air Pilot w/60 PSIG Gauge</td> </tr> <tr> <td>D</td> <td>Air Pilot w/60 PSIG Gauge</td> </tr> </table>			0	Line By-Pass Plate**	1	1-30 PSIG w/o Gauge	2	2-60 PSIG w/o Gauge	3	5-125 PSIG w/o Gauge	4	1-30 PSIG w/Gauge	5	2-60 PSIG w/Gauge	6	5-125 PSIG w/Gauge	C	Air Pilot w/60 PSIG Gauge	D	Air Pilot w/60 PSIG Gauge
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5599-1 <b>PS4037</b>																																															
5599-2 <b>PS4038</b>																																															
<b>ISYS ISO Size 2</b>			<table border="1"> <tr> <td>0</td> <td>Line By-Pass Plate**</td> </tr> <tr> <td>1</td> <td>1-30 PSIG w/o Gauge</td> </tr> <tr> <td>2</td> <td>2-60 PSIG w/o Gauge</td> </tr> <tr> <td>3</td> <td>5-125 PSIG w/o Gauge</td> </tr> <tr> <td>4</td> <td>1-30 PSIG w/Gauge</td> </tr> <tr> <td>5</td> <td>2-60 PSIG w/Gauge</td> </tr> <tr> <td>6</td> <td>5-125 PSIG w/Gauge</td> </tr> <tr> <td>C</td> <td>Air Pilot w/60 PSIG Gauge</td> </tr> <tr> <td>D</td> <td>Air Pilot w/60 PSIG Gauge</td> </tr> </table>			0	Line By-Pass Plate**	1	1-30 PSIG w/o Gauge	2	2-60 PSIG w/o Gauge	3	5-125 PSIG w/o Gauge	4	1-30 PSIG w/Gauge	5	2-60 PSIG w/Gauge	6	5-125 PSIG w/Gauge	C	Air Pilot w/60 PSIG Gauge	D	Air Pilot w/60 PSIG Gauge																								
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5599-1 <b>PS4137</b>																																															
5599-2 <b>PS4138</b>																																															
<b>ISYS ISO Size 3</b>			<table border="1"> <tr> <td>0</td> <td>Line By-Pass Plate**</td> </tr> <tr> <td>1</td> <td>1-30 PSIG w/o Gauge</td> </tr> <tr> <td>2</td> <td>2-60 PSIG w/o Gauge</td> </tr> <tr> <td>3</td> <td>5-125 PSIG w/o Gauge</td> </tr> <tr> <td>4</td> <td>1-30 PSIG w/Gauge</td> </tr> <tr> <td>5</td> <td>2-60 PSIG w/Gauge</td> </tr> <tr> <td>6</td> <td>5-125 PSIG w/Gauge</td> </tr> <tr> <td>C</td> <td>Air Pilot w/60 PSIG Gauge</td> </tr> <tr> <td>D</td> <td>Air Pilot w/60 PSIG Gauge</td> </tr> </table>			0	Line By-Pass Plate**	1	1-30 PSIG w/o Gauge	2	2-60 PSIG w/o Gauge	3	5-125 PSIG w/o Gauge	4	1-30 PSIG w/Gauge	5	2-60 PSIG w/Gauge	6	5-125 PSIG w/Gauge	C	Air Pilot w/60 PSIG Gauge	D	Air Pilot w/60 PSIG Gauge																								
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5599-1 <b>PS4237</b>																																															
5599-2 <b>PS4238</b>																																															

\* For common pressure regulator option. Regulator gauge callout must be the same number for both Port #4 and port #2. (Example: 166)

\*\* Pressure Line By-Pass Option can only be used with independent and Selector Regulators (Option 2 & 3 in Sandwich Block Function).

**How to Configure Sandwich Regulator / Valve Combinations**

**Ordering Components**

- Manifold or Subbase Kit required.
- Sandwich Regulator Kit configured for Internal Pilot as standard.
- Order valve as External Pilot.

**Internal Pilot Configuration -**

Pressure in Base Port 1 feeds regulator configured for Internal Pilot which feeds valve configured for External Pilot.

**External Pilot Configuration - H1, H2, H3**

An External Pilot pressure in Port 12 or 14 of the base feeds thru the Sandwich Regulator 12 or 14 galley directly to the 12/14 pilot of the valve.  
 This configuration takes an External Pilot from the 12 port of the base and passes it thru the regulator to feed the 12 galley of the valve.

**Flow Control - Size 1 / 2 / 3 - ISO 5599 - Sandwich flow controls features**

- Both adjustment screws are located on the 12 end of the unit.
- Sandwich Flow Control mounts with its own studs, which means the valve uses standard bolts for mounting.

Size	Order code	
	Plug-in	Non Plug-in
	<b>5599-2</b>	<b>5599-1</b>
Size 1	<b>PS4035CP</b>	<b>PS4042CP</b>
Size 2	<b>PS4135CP</b>	<b>PS4142CP</b>
Size 3	<b>PS4235CP</b>	<b>PS4242CP</b>

**Plug-In  
5599-2  
Size 2 Shown**



### Solenoid coils with Din A or Industrial connection

Voltage	Order code Din A Standard 30 x 30	Weight (Kg)	Order code Din A Mobile 30 x 30	Weight (Kg)	Order code Industrial standard 22 x 30	Weight (Kg)
Direct current						
12V DC	<b>P2FCA445</b>	0.105	<b>P2FCA447</b>	0.105	<b>P2FCB445</b>	0.093
24V DC	<b>P2FCA449</b>	0.105	<b>P2FCA448</b>	0.105	<b>P2FCB449</b>	0.093
48V DC	<b>P2FCA453*</b>	0.105	<b>P2FCA474</b>	0.105	<b>P2FCB451</b>	0.093
72V DC			<b>P2FCA470</b>	0.105		
96V DC			<b>P2FCA471</b>	0.105		
110V DC			<b>P2FCA472</b>	0.105		
Alternative current						
12V 50/60Hz	<b>P2FCA440</b>	0.105			<b>P2FCB440</b>	0.093
24V 50/60Hz	<b>P2FCA442</b>	0.105			<b>P2FCB442</b>	0.093
48V 50/60Hz	<b>P2FCA469#</b>	0.105				
110V 50Hz, 120V 60Hz	<b>P2FCA453</b>	0.105			<b>P2FCB453</b>	0.093
230V 50Hz, 230V 60Hz	<b>P2FCA457</b>	0.105			<b>P2FCB457</b>	0.093

\* P2FCA453 is compatible with 110 V AC and 48 V DC

# P2FCA469 is 24 V DC 6.8W or 48 V 50Hz 9.9 VA

### Solenoid coils with M12 connection

Voltage	Order code 30 x 30	Weight (Kg)	Order code 22 x 30	Weight (Kg)
Direct current				
24V DC	<b>P2FC6419</b>	0.065	<b>P2FC7419</b>	0.065

### Spare Solenoid Nuts

Valves requiring captured exhaust should be fitted with plastic knurled nut

Order code
<b>P2FNP</b>

Valves with vented exhaust are fitted with diffuser plastic nut

Order Code
<b>P2FND</b>

### Spare Solenoid Operators

#### Solenoid pilot operator CNOMO NC




Description	Order code No manual override	Weight (Kg)	Order code Non-lock manual override	Weight (Kg)	Order code Locking manual override	Weight (Kg)
Standard duty	<b>P2FP23N4A</b>	0.065	<b>P2FP23N4B</b>	0.065	<b>P2FP23N4C</b>	0.065
Mobile metal	<b>P2FP43M4A</b>	0.1				

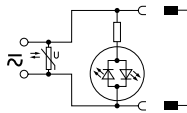
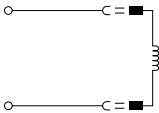
**Note.**

Solenoid pilot operators are fitted to the Viking valve range. Order the above part numbers for spares. The operators are supplied with mounting screws and interface 'O' rings.

**Coils and connectors must be ordered separately.**

**Solenoid Connectors / Cable Plugs EN175301-803**

	<b>Description</b>	<b>Order code</b> 15mm Form C/ISO15217	<b>Order code</b> 22mm Industrial Form B	<b>Order code</b> 30mm Form A/ISO4400
With large headed screw suitable for mounting in inaccessible or recess position 	Standard IP65	<b>P8C-C</b>		
	24V DC LED and protection IP65	<b>P8C-C26C</b>		
	110V AC LED and protection IP65	<b>P8C-C21E</b>		
With standard screw 	Standard IP65 without flying lead	<b>P8C-D</b>	<b>3EV10V10</b>	<b>3EV290V10</b>
	With LED and protection 24V AC/DC	<b>P8C-D26C</b>	<b>3EV10V20-24</b>	<b>3EV290V20-24</b>
	With LED and protection 110V AC	<b>P8C-D21E</b>	<b>3EV10V20-110</b>	<b>3EV290V20-110</b>
	With LED and protection 230V AC		<b>3EV10V20-230</b>	<b>3EV290V20-230</b>
With cable 	Standard with 2m cable IP65	<b>P8L-C2</b>		
	Standard with 5m cable IP65	<b>P8L-C5</b>		
	24V AC/DC, 2m cable LED and protection IP65	<b>P8L-C226C</b>		
	24V AC/DC, 5m cable LED and protection IP65	<b>P8L-C526C</b>	<b>3EV10V20-24L5</b>	<b>3EV290V20-24L5</b>
	24V AC/DC, 10m cable LED and protection IP65	<b>P8L-CA26C</b>		
	110V AC/DC, 2m cable LED and protection IP65	<b>P8L-C221E</b>		
	110V AC/DC, 5m cable LED and protection IP65	<b>P8L-C521E</b>	<b>3EV10V20-110L5</b>	<b>3EV290V20-110L5</b>
	230V AC, 5m cable LED and protection IP65		<b>3EV10V20-230L5</b>	<b>3EV290V20-230L5</b>

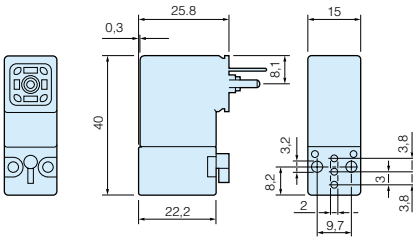


<b>P8C-C</b>
<b>P8C-D</b>
<b>P8L-C2</b>
<b>P8L-C5</b>
<b>3EV10V10</b>

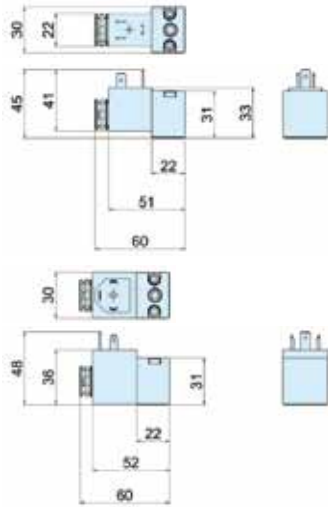
<b>P8C-D26C</b>	<b>P8L-C226C</b>
<b>P8C-D21E</b>	<b>P8L-C526C</b>
<b>P8C-C26C</b>	<b>P8L-CA26C</b>
<b>P8C-C21E</b>	<b>P8L-C221E</b>
	<b>P8L-C521E</b>
<b>3EV10V20-24</b>	<b>3EV10V20-24L5</b>
<b>3EV10V20-110</b>	<b>3EV10V20-110L5</b>
<b>3EV10V20-230</b>	<b>3EV10V20-230L5</b>

**Cable Plug Dimensions (mm)**

Solenoid operators P2E - 15mm

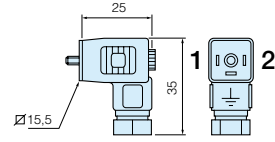


Solenoid operators P2F - CNOMO - 22 x 30mm



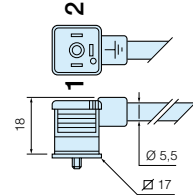
Cable plugs

- P8L-C2
- P8LC5
- P8L-C226C
- P8L-C526C
- P8L-CA26C
- P8L-C221E
- P8L-C521E



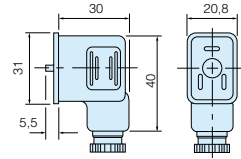
Cable plugs

- P8C-C
- P8C-C26C
- P8C-C21E
- P8C-D
- P8C-D26C
- P8C-D21E



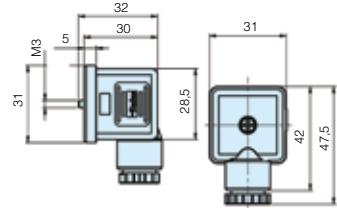
Cable plugs

- 3EV10V10



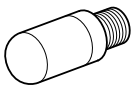
Cable plugs

- 3EV290V10



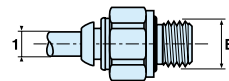
**Accessories**

**Silencers**



Port	Ordercode	Pack Qty
G1/8	P6M-PAB1	10
G1/4	P6M-PAB2	10
G3/8	P6M-PAB3	10
G1/2	P6M-PAB4	10

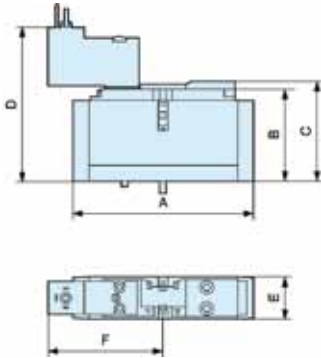
**Fittings**



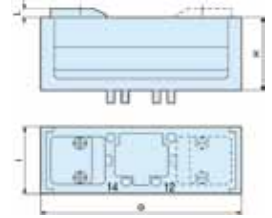
Male connector - BSPP

Tube dia 1	Thread B	Ordercode	Box Qty
4	1/8	F4PMB4-1/8	20
4	1/8	F4PMB4-1/8	20
6	1/8	F4PMB6-1/8	30
8	1/8	F4PB8-1/8	40
6	1/4	F4PMB6-1/4	30
8	1/4	F4PB8-1/4	30
10	1/4	F4PB10-1/4	20
12	1/4	F4PB12-1/4	10
8	3/8	F4PB8-3/8	20
10	3/8	F4PB10-3/8	20
12	3/8	F4PB12-3/8	10
14	3/8	F4PB14-3/8	10
10	1/2	F4PB10-1/2	10
12	1/2	F4PB12-1/2	10
14	1/2	F4PB14-1/2	10

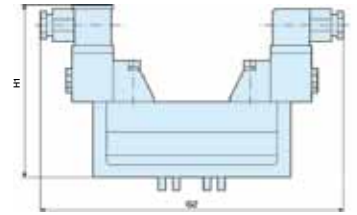
Isomax - Dimensions (mm)



Pneumatically actuated



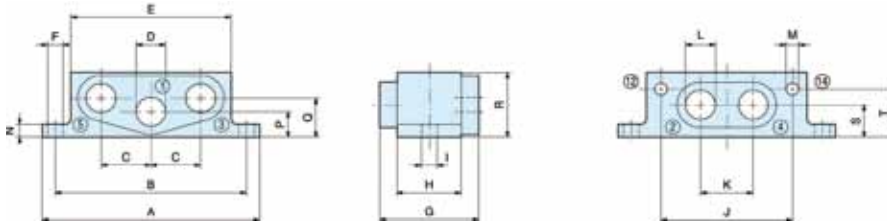
With P2F solenoids



	A	B	C	D	E	F
Isomax 02	80	41	44,5	67,8	18	51,2
Isomax 01	100	42	45,5	68,8	26	51,2

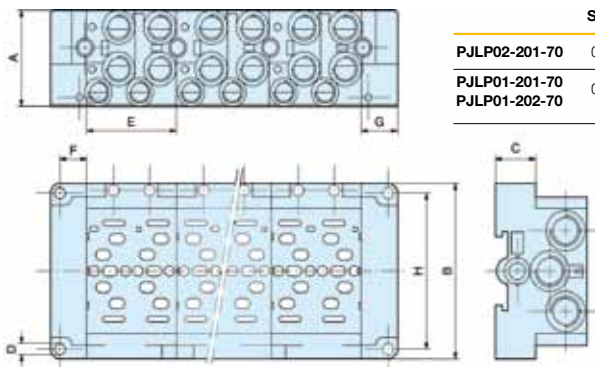
	G	G1	G2	G3	H	H1	I	L
Size 1	120	164	202,5	160	47	119	42	5
Size 2	140	179,5	218	175,5	58,5	130	54	5
Size 3	170	198	235,5	194	71	142,5	68	5

Single subbases side ported



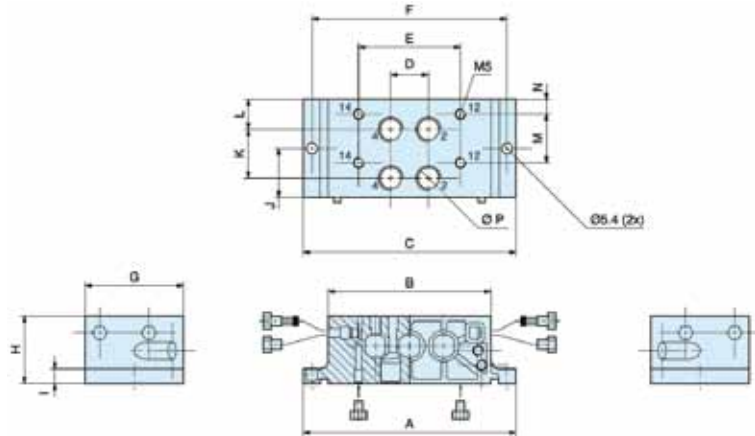
Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	
PL02-01-70	02	80	70	16	G1/8	52	8	27	19	5,5	40	17	G1/8	M5	8	8	8	22	13	6
P2V-BS512SS	01	92	80	21,2	G1/8	68	6,5	42	27	5,5	55	22	G1/8	M5	6	11	17	28	14	21

Side ported manifolds for 2 valve positions



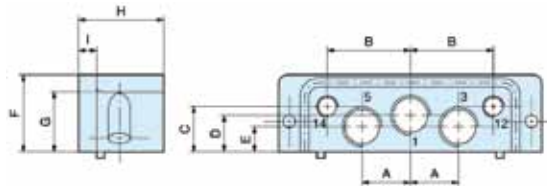
Size	A	B	C	D	E	F	G	H	
PJLP02-201-70	02	38,5	80	12	Ø 4,2	38	14	18	72
PJLP01-201-70	01	55	100	24	Ø 5,5	54	17	22	90

Bottom ported manifolds for 2 valve positions



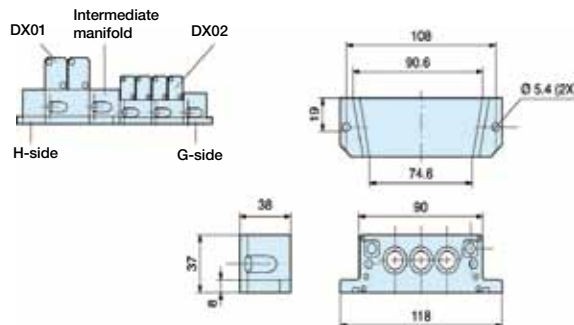
	Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
P2V-AM511PB	02	102	74	74,6	16	43	92	38	26	7	19	19	11	19	5	G1/8
P2V-BM512PB	01	118	90	90,6	21	56,5	108	54	37	8	27	27	16,5	27	8	G1/4

G and H side end plate bottom ported for above bottom ported manifold



	Size	Port size 1,2,3	Port size 12, 14	A	B	C	D	E	F	G	H	I
P2V-AM512GB and P2V-AM512HB	02	G1/4	G1/8	17	29	21	18,5	9,5	35,5	28	33	7
P2V-BM513GB and P2V-BM513HB	01	G3/8	G1/8	21,5	37	20	16	11	34,5	28	38	8

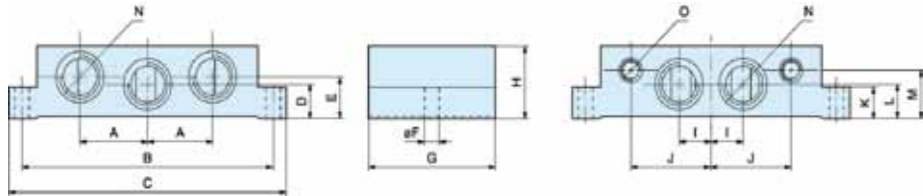
Transfer plate size 01 to size 02 for above bottom ported manifold





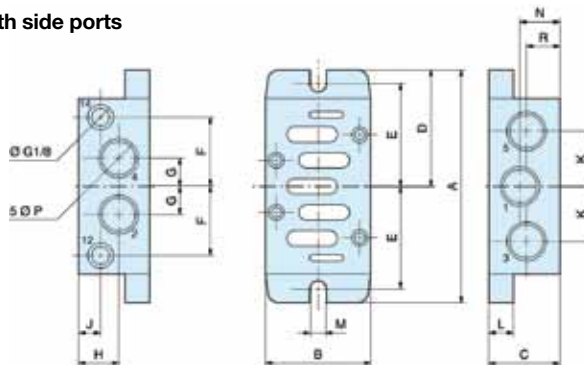
## Dimensions

### Single subbase with side ports according to VDMA



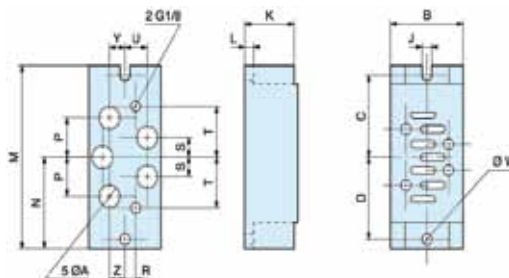
Order code	ISO Size	Port Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
P2N-VS512SD	1	G1/4	21,5	98	110	11	20	5,5	48	32	12	29	10	11	23	G1/4	G1/8
P2N-WS513S	2	G3/8	28	112	124	14	26	6,6	56	40	15	37	13	14	30	G3/8	G1/8
P2N-YS514SD	3	G1/2	34	136	149	17	17	6,6	71	32	16	45	18	17	22	G1/2	G1/8

### Single subbase with side ports



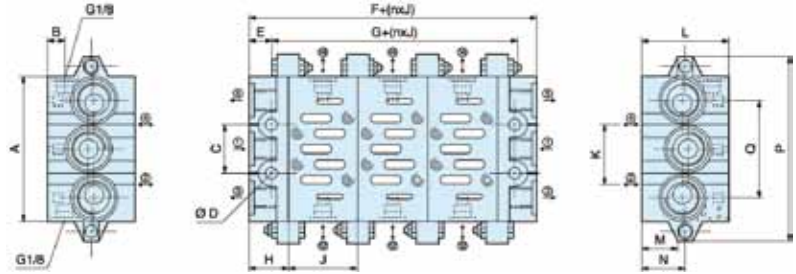
Order code	ISO Size	ØP	A	B	C	D	E	F	G	H	J	K	L	M	N	R
PL1-1/4-70	1	G1/4	110	46	29	55	49	30	11	17,75	17,75	22	6	5,5	17,75	17,75
PL2-3/8-70	2	G3/8	124	56	37	62	55	37	14,5	22,5	14	28	6	5,5	22,5	14,5
P2N-JS516SD	3	G3/4	149	71	60	74,5	68	45	21	33	10	40	18	6,6	37,5	22,5

### Single subbase with bottom ports



Order code	A	B	C	D	J	K	L	M	N	P	R	S	T	U	W	Y	Z
PD1-1/4-70	G1/4	46	49	49	5,5	29	6	110	55	22	10	11	30	10	5,5	10	10
PD2-3/8-70	G3/8	56	55	55	5,5	37	6	124	62	29	10	14,5	37	12,5	5,5	12,5	12,5
PD3-1/2-70	G1/2	77	68	68	6,6	32	18	149	74,5	34	10	17	45	17	6,5	17	17

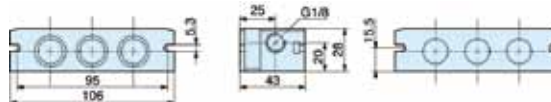
Manifold and end plates according to VDMA (P2N-VM / WM / YM)



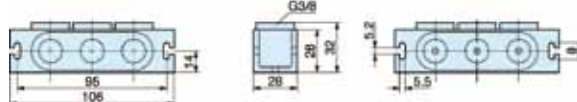
ISO Size	Port 1, 3, 5	Port 2, 4	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
1	G3/8	G1/4	85	8,5	28	7	11	44	22	22	43	26	46	21	24	56	110
2	G1/2	G3/8	100	9	35	9	13	52	26	26	56	30	47	22	24	68	135
3	G1	G1/2	140	10	52	12	15	60	30	30	71	38	56	31	34	104	190

Manifold and end plates with bottom ports "low profile" (P2N-AM..)

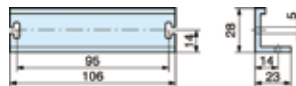
Manifold P2N-AM512MB



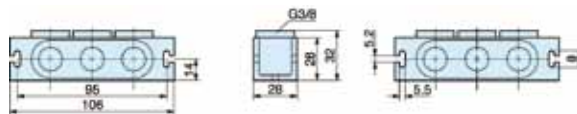
Connecting block P2N-AM513GT



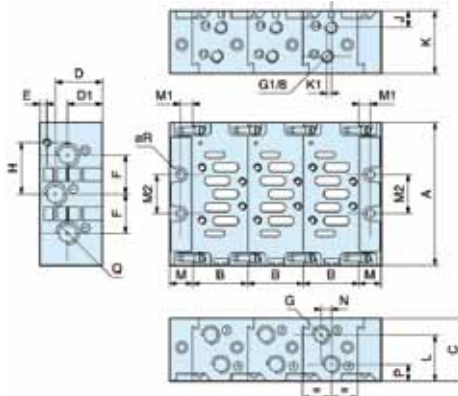
End piece P2N-AM500J



Intermediate supply P2N-AM513BT

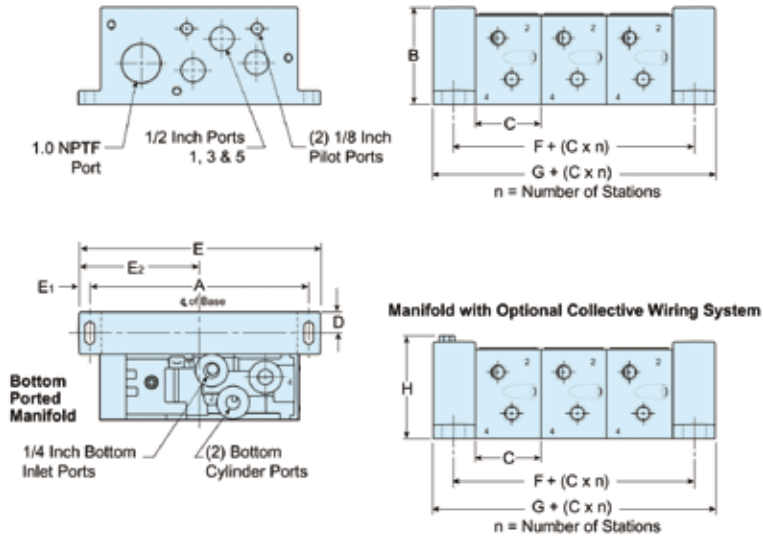


Manifold and end plates with side ports (P2N-EM / FM..)



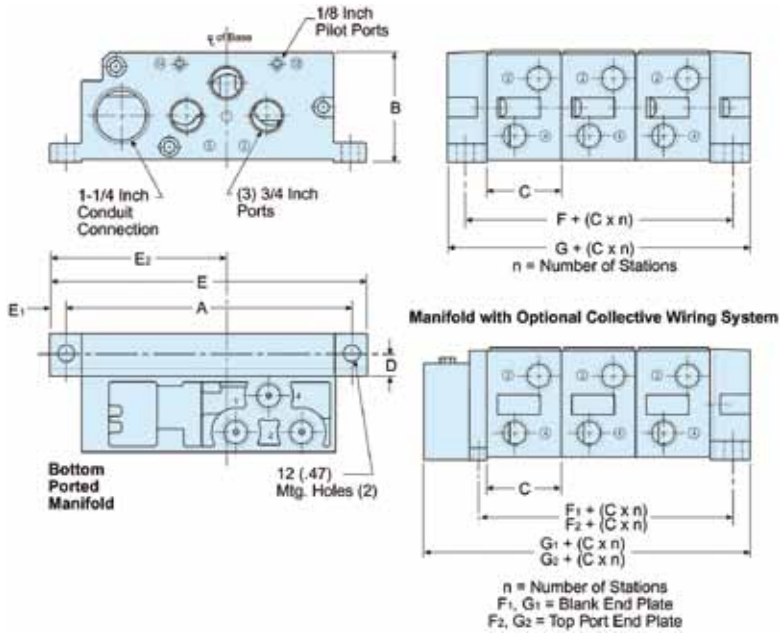
Order code	A	B	C	D	D1	E	F	G	H	J	K	K1	L	M	M1	M2	N	P	Q	R
P2N-EM...	110	43	48	35,5	26,5	5,5	28	G1/4	36	15,5	35	3	32	20	11	28	12	12,5	G3/8	6
P2N-FM...	129	56	60	44,5	35,5	6	34,5	G3/8	45	16	41,5	3	41	24	13	35	12,5	16	G1/2	8

H1 5599-2 / 5599-1 Manifold



	A	B	C	D	E	E <sub>1</sub>	E <sub>2</sub>	F	G	H
H1	165	73	49	15.9	182	.84	91	31.8	63.5	76

H2 / H3 5599-2 / 5599-1 Manifold



	A	B	C	D	E	E <sub>1</sub>	E <sub>2</sub>	F	F <sub>1</sub>	F <sub>2</sub>	G	G <sub>1</sub> *	G <sub>2</sub> *
H2	215	85	56	15	239	12	134	30	27	33	60	87	99

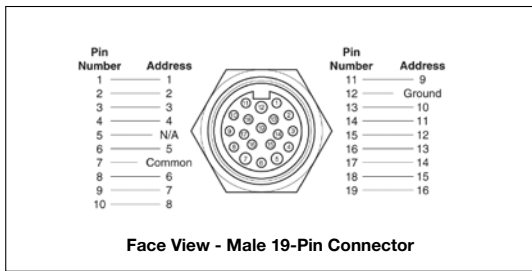
	A	B	C	D	E	E <sub>1</sub>	E <sub>2</sub>	F	F <sub>1</sub>	F <sub>2</sub>	G	G <sub>1</sub> *	G <sub>2</sub> *
H3	265	105	71	17	295	15	159	33	29	41	63	90	114

**Maximum Solenoids Energized Simultaneously**

HA HB	Voltage code	25-pin D-Sub	19-pin round	Single 12-pin M23	Isysnet	
24 V DC	B9 / G9	24	16	8	32	
120 V AC*	23	24	16	8	32	
H1 H2 H3	Voltage code	25-pin D-Sub	19-pin round	Single 12-pin M23	Isysnet	SAM 3.0
12 V DC	45	13	13	8	N/A	N/A
24 V AC*	42	24	16	8	N/A	N/A
24 V DC	B9	20	16	8	21	4
120 V AC*	23	24	16	8	N/A	N/A

\* Not CSA certified for 25-pin, D-Sub option.

**19-Pin Round Brad Harrison**



**19-Pin Round Cable Specifications**

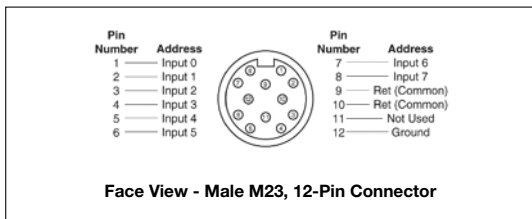
Common Pin "7" is rated for 8 amps. Cable common wire must be greater than total amperage of solenoids on Add-A-Fold assembly.

**Example:-** 8 station manifold, 16 solenoids,  
120VAC - 16 x .039 amps = .63 total amp rating.  
NEMA 4 rated with properly assembled NEMA 4 rated cable.

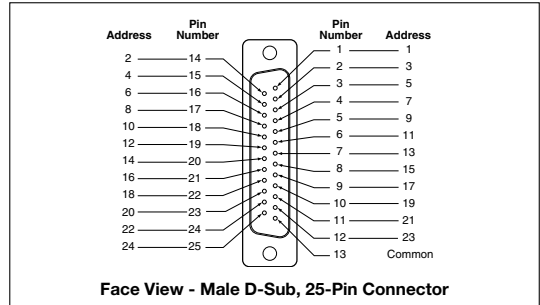
Brad Harrison #333030P80M050 16.40 ft. (Female to Male Cable)

Brad Harrison #333030P80M0100 32.80 ft. (Female to Male Cable)

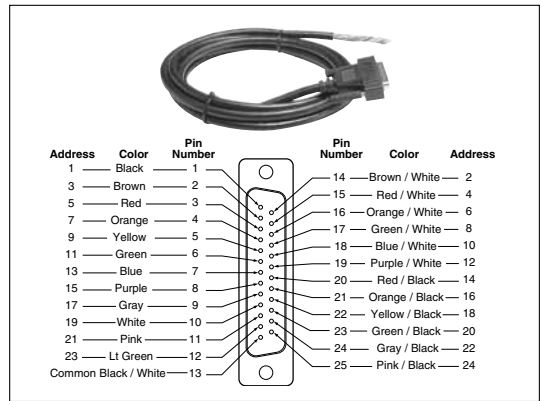
**M23, 12-Pin Round Connector (Male)**



**25-Pin, D-Sub Connector (Male)**



**25-Pin, D-Sub Cable (Female)**

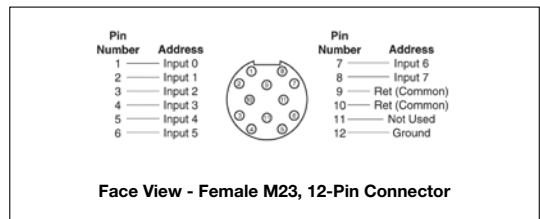


**25-Pin, D-Sub Cable Specifications**

Common Pin "13" is rated for 3 amps. Common wire rating must be greater than total amperage of all solenoids on a Add-A-Fold assembly.

IP65 rated with properly assembled IP65 rated cable.

**M23, 12-Pin Round Connector (Female)**





# Isys Micro

## Plug-in valve island

*Parker's newest and most innovative valve design offers functionality for **every** machine configuration.*



The Isys Micro valve redefines flexibility for pneumatic users. When either configured from basic components or ordered as pre-assembled and tested valve islands, Isys Micro valves are the answer to all your needs.

### **Flexible in use**

The Isys Micro range is fully dedicated to centralized applications where a high quantity of valves have to be concentrated in a single location.

Solenoid valve island can also be implemented with digital or analogical electrical I/O.

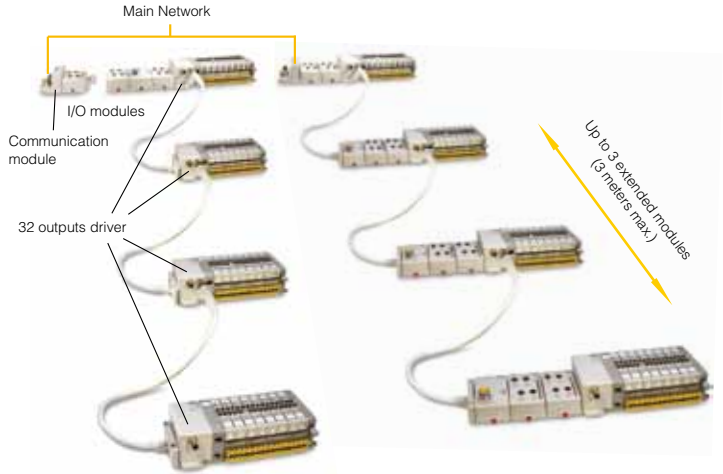
From a centralized application high complexity level to a basic configuration, with industrial communication or traditional multi-connection, an Isys Micro valve island can be designed.

**One communication module for 256 Inputs and 256 Outputs**

The combination of 32 output drivers and electrical I/O modules linked to the main communication module allows Isys Micro valve islands to drive up to 512 I/O, including up to 128 solenoids split between 4 interconnected devices.

Both electrical inputs and outputs modules can also be assembled either on the main or extended islands.

Expansion power supply may be used to provide additional Pointbus backplane current.



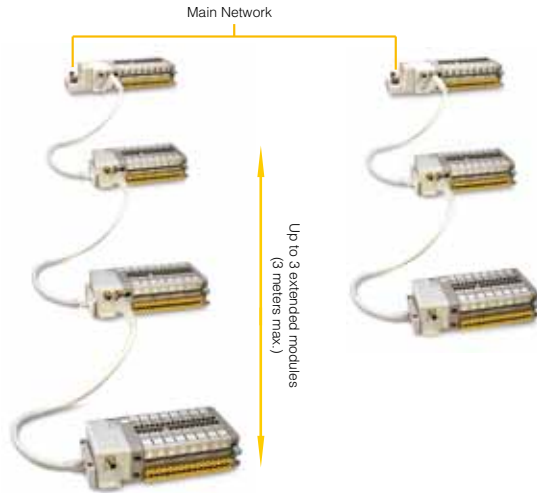
**Up to 128 solenoid valves configuration**

If a high quantity of valves is required in a centralized application, up to 3 extended islands can be connected to the main device communication module.

All extended islands are connected through a bus extension cable PSSVEXT1 (including 1 m cable and head plate).

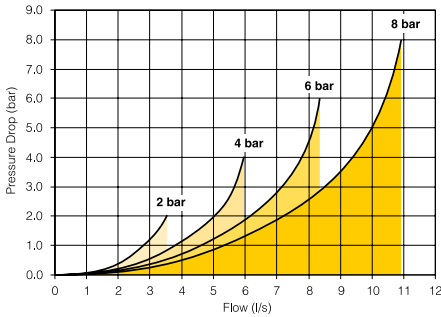
In this configuration, the 32 outputs driver module, on the main island and the extended island, have to be equipped with a "bus extension" M12 connector, excepted for the last extended island.

All 32 outputs driver modules need to be equipped with a M12 solenoids power supply connector.



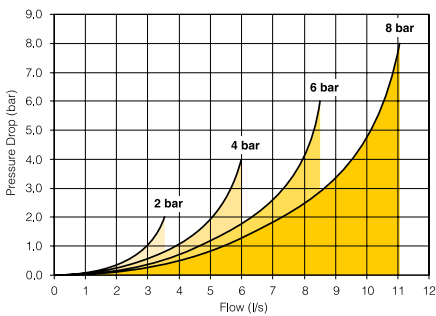
## Flow Characteristics

### Dual 3/2



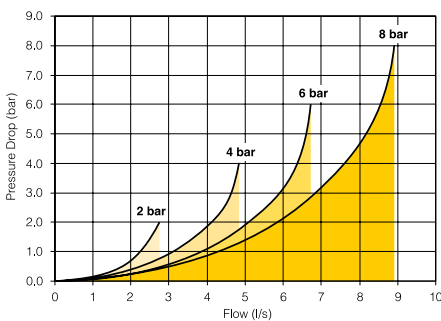
Operating pressure :	2,7 to 8,3 bar
Change-over time (side 14)	Actua. 15 ms Return 20 ms P = 6b
Change-over time (side 12)	15 ms / 25 ms P = 6b
Flow (acc. to ISO 6358) :	c = 1,2 NI/s x bar b = 0,13 Qn = 4,6 NI/s Qmax = 8,4 NI/s

### 5/2 single and double solenoid



Operating pressure single solenoid:	2,7 to 8,3 bar
Operating pressure double solenoid:	1,7 to 8,3 bar
Change-over time single solenoid:	Actua. 15 ms Return 25 ms P = 6b
Change-over time double solenoid:	13 ms / 13 ms P = 6b
Flow (acc. to ISO 6358) :	c = 1,2 NI/s x bar b = 0,13 Qn = 4,7 NI/s Qmax = 8,5 NI/s

### 5/3 all ports blocked

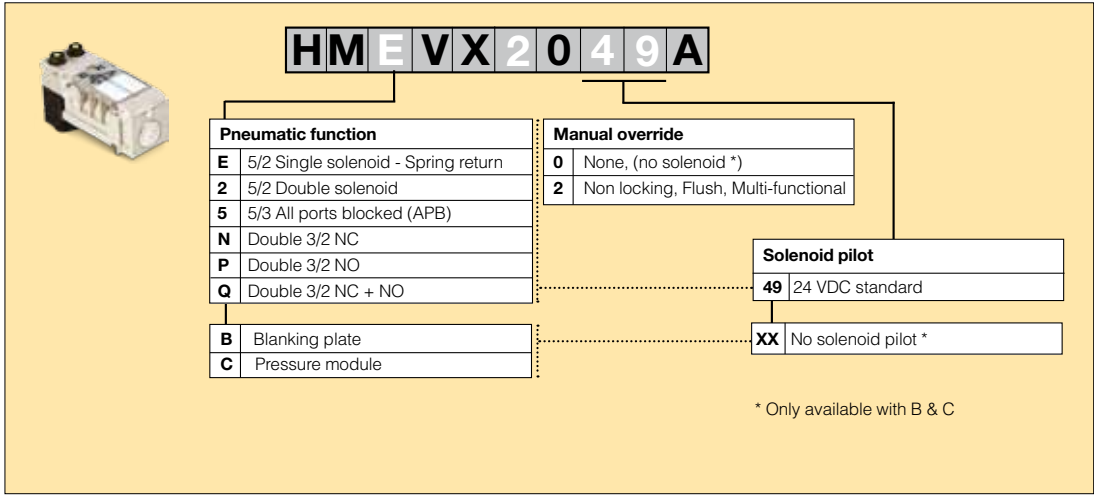


Operating pressure :	2,7 to 8,3 bar
Change-over time	Actua. 20 ms Return 20 ms P = 6b
Flow (acc. to ISO 6358) :	c = 1 NI/s x bar b = 0,14 Qn = 3,8 NI/s Qmax = 6,7 NI/s

## Characteristics

Fluid :	Air or inert gas Filtered 40 µ Class 5 (according to ISO 8573-1) Dry class 4 (according to ISO 8573-1) Non-lubricated or lubricated	Operating pressure :	-0,9 to 8,3 bar with external pressure 6 bar
Storage temperature :	-40 °C to + 70 °C	Piloting pressure :	2,7 to 8,3 bar
Working temperature	-15 °C to + 50°C	Exhaust collection :	Independant exhaust collection
Vibration :	according to IEC 68-2-6 2G to 150 Hz	Rated coil voltage :	24 VDC -15 % / +10 %
Shock :	according to IEC 68-2-27 15G 11 ms	Electrical connection:	Not polarised
		Coil insulation :	Class B
		Power consumption :	1 W (42 mA) with LED
		Duty factor :	100 % at 20°C

Valve ordering chart



**HMEVX2049A**

Pneumatic function		Manual override	
<b>E</b>	5/2 Single solenoid - Spring return	<b>0</b>	None, (no solenoid *)
<b>2</b>	5/2 Double solenoid	<b>2</b>	Non locking, Flush, Multi-functional
<b>5</b>	5/3 All ports blocked (APB)		
<b>N</b>	Double 3/2 NC		
<b>P</b>	Double 3/2 NO		
<b>Q</b>	Double 3/2 NC + NO		

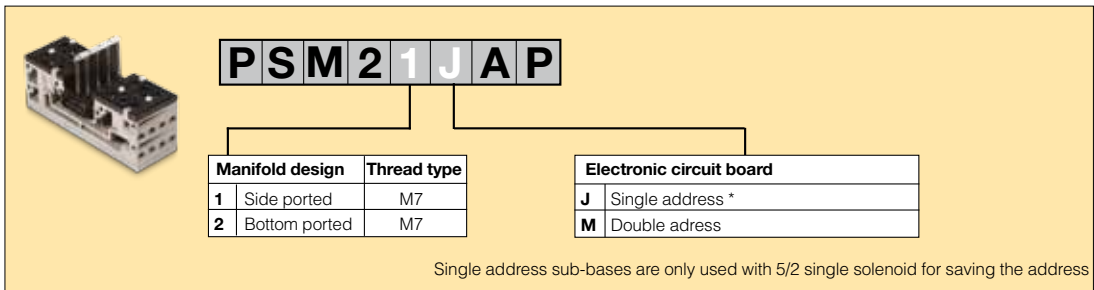
Solenoid pilot	
<b>49</b>	24 VDC standard
<b>XX</b>	No solenoid pilot *

<b>B</b>	Blanking plate
<b>C</b>	Pressure module

\* Only available with B & C

Manifold ordering chart (without valve module and fitting)



**PSM21JAP**

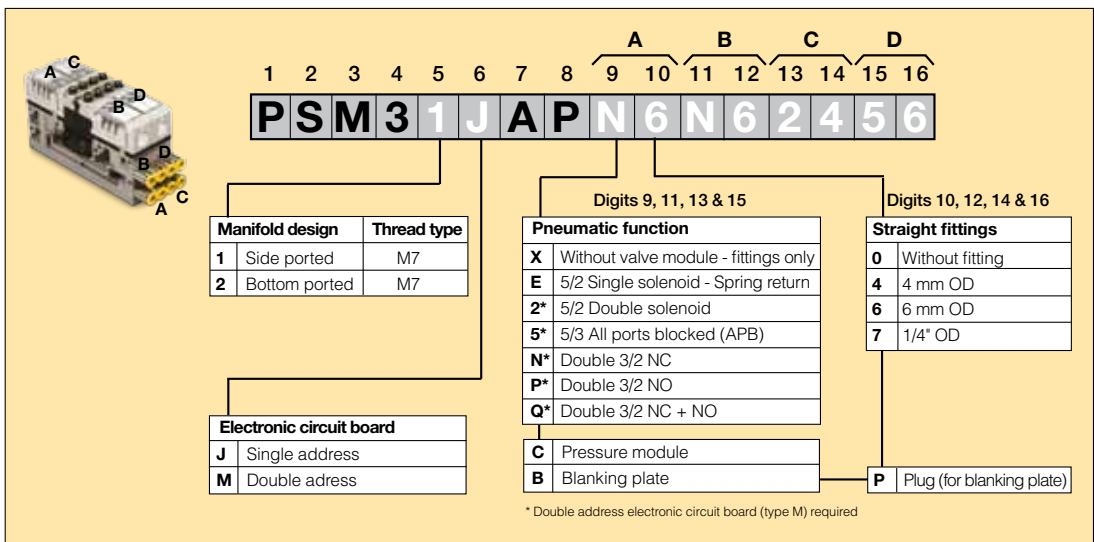
Manifold design		Thread type
<b>1</b>	Side ported	M7
<b>2</b>	Bottom ported	M7

Electronic circuit board	
<b>J</b>	Single address *
<b>M</b>	Double address

Single address sub-bases are only used with 5/2 single solenoid for saving the address

Manifold ordering chart (complete with valve modules and/or fittings)



**PSM31JAPN6N62456**

Manifold design		Thread type
<b>1</b>	Side ported	M7
<b>2</b>	Bottom ported	M7

Electronic circuit board	
<b>J</b>	Single address
<b>M</b>	Double address

Pneumatic function	
<b>X</b>	Without valve module - fittings only
<b>E</b>	5/2 Single solenoid - Spring return
<b>2*</b>	5/2 Double solenoid
<b>5*</b>	5/3 All ports blocked (APB)
<b>N*</b>	Double 3/2 NC
<b>P*</b>	Double 3/2 NO
<b>Q*</b>	Double 3/2 NC + NO
<b>C</b>	Pressure module
<b>B</b>	Blanking plate











  

Straight fittings	
<b>0</b>	Without fitting
<b>4</b>	4 mm OD
<b>6</b>	6 mm OD
<b>7</b>	1/4" OD
<b>P</b>	Plug (for blanking plate)



\* Double address electronic circuit board (type M) required













**Solenoid operated valve fitted with 24 VDC solenoid**

	Symbol	Description	Weight (g)	Order code
 <p>Including multi-function manual override cap</p>		Double 3/2 NC + NC	60	<b>HMN VX2049A</b>
		Double 3/2 NO + NO	60	<b>HMP VX2049A</b>
		Double 3/2 NC + NO	60	<b>HMQ VX2049A</b>
		5/2 single solenoid - Spring return	49	<b>HME VX2049A</b>
		5/2 double solenoid	60	<b>HM2 VX2049A</b>
		5/3 all ports blocked (APB)	65	<b>HM5 VX2049A</b>
		Blanking module kit (including two M7 plugs for manifold)	30	<b>HMB VX00XXA</b>
		Additional pressure module	30	<b>HMC VX00XXA</b>



**Metal manifold for 4 valves (M7 threaded)**

	Description	Weight (g)	Order code
 <p>Side ported</p>	4 position manifold single electrical address	332	<b>PSM21JAP</b>
	4 position manifold double electrical address	332	<b>PSM21MAP</b>
 <p>Bottom ported</p>	4 position manifold single electrical address	310	<b>PSM22JAP</b>
	4 position manifold double electrical address	310	<b>PSM22MAP</b>


**Complete manifold without fitting (M7 threaded)**

	Symbol	Description	Weight (g)	Order code
 <p>Side ported</p>		4 x Double 3/2 NC + NC	572	<b>PSM31MAPN0N0N0N0</b>
		4 x 5/2 single solenoid - Spring return	528	<b>PSM31JAPE0E0E0E0</b>
		4 x 5/2 double solenoid	572	<b>PSM31MAP20202020</b>
		4 x 5/3 all ports blocked (APB)	592	<b>PSM31MAP50505050</b>
 <p>Bottom ported</p>		4 x Double 3/2 NC + NC	550	<b>PSM32MAPN0N0N0N0</b>
		4 x 5/2 single solenoid - Spring return	506	<b>PSM32JAPE0E0E0E0</b>
		4 x 5/2 double solenoid	550	<b>PSM32MAP20202020</b>
		4 x 5/3 all ports blocked (APB)	570	<b>PSM32MAP50505050</b>


## Pneumatic accessories

	Description	Size	Tube OD	Material	Order code
	Straight pneumatic connector for sub-base and <b>Px</b>	M7	4 mm	Metal	<b>F28PMB4M7MD</b>
		M7	6 mm	Metal	<b>F28PMB6M7MD</b>
	Straight pneumatic connector for <b>Ex</b>	1/8"	6 mm	Metal	<b>F4PMB6-1/8</b>
		3/8"	8 mm	Metal	<b>F4PB8-3/8</b>
		3/8"	10 mm	Metal	<b>F4PB10-3/8</b>
	Muffler for <b>Ex</b>	3/8"	12 mm	Metal	<b>F4PB12-3/8</b>
		1/8"		Metal	<b>ESB12MC</b>
	Muffler for exhaust port	1/8"		Plastic	<b>P6M-PAB1</b>
	Muffler for exhaust port	3/8"		Metal	<b>ESB37MC</b>


## Multi-pressure inter-manifold seal plate

	Description	Pressure port	Exhaust port	Weight (g)	Order code
	Inter-manifold seal plate	Passing / Passing	Passing	16	<b>PSM0001</b>
		Passing / Block	Passing	20	<b>PSM0002</b>
		Passing / Block	Block	30	<b>PSM0003</b>
		Block / Block	Block	40	<b>PSM0004</b>

## Spare parts

	Description	Weight (g)	Order code
	24 VDC Pilot solenoid with screws	11	<b>PSM0010</b>
	Set of 10 multifunction manual override caps	15	<b>PSM0011</b>
	Set of 5 valve manifold gaskets and 10 screws	25	<b>PSM0012</b>
	Set of 10 M7 plugs for auxiliary pressure selection	30	<b>PSM0013</b>
	Set of 10 labels (in the P/N, <b>x</b> has to be replaced with the valve function letter, see page 14)	5	<b>PSM002x</b>
	Set of 10 manifold to manifold M3 screws	20	<b>PSM0014</b>

Isysnet 32 output driver end modules ordering chart



<b>P</b>	<b>S</b>	<b>M</b>	<b>L</b>	<b>6</b>	<b>1</b>	<b>A</b>	<b>P</b>
----------	----------	----------	----------	----------	----------	----------	----------

ISYSNET 32 Output driver end modules		
	24 VDC power supply connector	Extender bus connector
<b>L6</b>	NO	NO
<b>M5</b>	NO	YES
<b>M6</b>	YES	NO
<b>M7</b>	YES	YES

Ported design		Thread type
<b>1</b>	Side ported	3/8" BSPP
<b>2</b>	Bottom ported	3/8" BSPP
<b>5</b>	Side ported	3/8" NPT
<b>6</b>	Bottom ported	3/8" NPT

32 outputs driver selection guide :

**L6 type**

- Isysnet 32 outputs driver with internal solenoids power supply from the communication head module
- Extended valve island not possible



**M6 type**

- Isysnet 32 outputs driver with external solenoids power supply by M12 male connector
- Extended valve island not possible



**M7 type**

- Isysnet 32 outputs driver with external solenoids power supply by separated M12 male connector
- Extended Bus link connection for additional valve islands by separate M12 female connector



**M5 type**

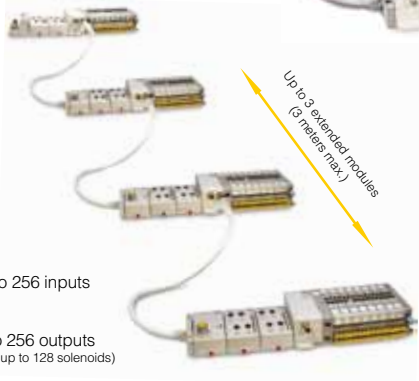
- Isysnet 32 outputs driver with internal solenoids power supply from the communication head module
- Extended Bus link connection for additional valve islands by separate M12 female connector



**Isysnet bus extender**

Isysnet bus extender communication 1 meter cable for instant valve island plug-in by M12 male connector and direct head connection plate on Isysnet device

Every extended island has to be separately power supplied







**Technical data**


**Isysnet 32 Outputs driver modules**

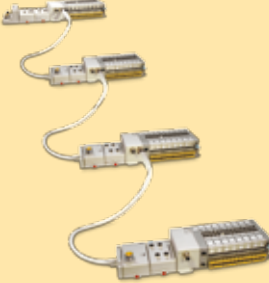
- Number of Outputs : 32
- Operating Voltage Range : 20,4 to 26.4 VDC
- Output current rating Nom. : 50 mA per chanel (100 mA Max)
- 3.2A per module
- Pointbus current : 200 mA
- Working temperature : -15°C to 50°C
- Dust and water protection : IP65

## Isysnet 32 outputs driver modules

	Sub-base design	Thread type	24 VDC power supply	Extender bus	Weight (g)	Order code
	Side ported	3/8" BSPP	NO	NO	400	<b>PSML61AP</b>
	Bottom ported	3/8" BSPP	NO	NO	400	<b>PSML62AP</b>
	Side ported	3/8" BSPP	YES	NO	400	<b>PSMM61AP</b>
	Bottom ported	3/8" BSPP	YES	NO	400	<b>PSMM62AP</b>
	Side ported	3/8" BSPP	NO	YES	400	<b>PSMM51AP</b>
	Bottom ported	3/8" BSPP	NO	YES	400	<b>PSMM52AP</b>
	Side ported	3/8" BSPP	YES	YES	400	<b>PSMM71AP</b>
	Bottom ported	3/8" BSPP	YES	YES	400	<b>PSMM72AP</b>

## Isysnet bus extender

	Description	Weight (g)	Order code
	Head plate 1 meter cable / M12 male connector for extended island inter-connection	380	<b>PSSVEXT1</b>



Communication modules :

- Fieldbus
- Industrial Ethernet

Digital and Analogical I/O modules  
 Extended power supply module  
 IP67 modules

**Isysnet Communication and I/O modules**

**Isysnet Communication modules**

Isysnet communication modules are available in :

- DeviceNet
- Profibus DP
- Ethernet I/P
- ControlNet



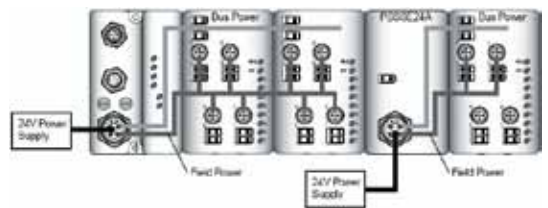
**Digital or Analogical electrical I/O modules**

Some modules have diagnostic features, electronic fusing, or individually isolated inputs/ outputs. The Isysnet family provides a wide range of input and output modules to span many applications, from highspeed discrete to process control. Isysnet supports producer/consumer technology, which allows input information and output status to be shared among multiple Logix controllers.



**Isysnet Extension Power Unit**

The auxiliary power supports up to 10 I/O modules and 32 output driver with a maximum of 10 A field power. The 24 VDC extension power unit (PSSSE24A) extends the backplane bus power to support up to 10 more I/O modules. Connect additional extension power units to expand the I/O assembly up to 63 I/O modules



**Technical data**

**Isysnet Communication modules & Extension power unit**

Bus power supply : 24 VDC at 400 mA  
 Power supply input voltage : 24 VDC  
 Operative voltage range : 10 to 28.8 VDC  
 Input overvoltage protection : Reverse polarity protected

**Isysnet Digital Input modules**

Number of Outputs : 8 – PNP or NPN  
 Operating Voltage Range : 10 to 28.8 VDC  
 Input current on-state : 2 to 5 mA  
 Input current off-state : 1,5 mA  
 Pointbus current : 75 mA

**Isysnet Analogue Input modules**

Number of Outputs : 2  
 Input signal Range : 4 to 20 mA / 0 to 10 VDC  
 Pointbus current : 75 mA

**Isysnet Digital Output modules**

Number of Outputs : 8  
 Operating Voltage Range : 10 to 28.8 VDC  
 Output current rating Max. : 1 A per channel  
 3 A per module  
 Pointbus current : 75 mA


**Isysnet Analogue Output modules**

Number of Outputs : 2  
 Input signal Range : 4 to 20 mA / 0 to 10 VDC  
 Pointbus current : 75 mA






**Isysnet Relay Output modules**

Number of Outputs : 4 – NO contacts  
 Operating Voltage Range : 5 to 28.8 VDC  
 Output current rating Max. : 2 A per channel  
 8 A per module  
 Pointbus current : 90 mA


## Isysnet communication modules

	Description	Fieldbus connection	Power supply connector	Weight (g)	Order code
	DeviceNet	M18	7/8" - 4 pins	400	<b>PSSCDM18PA</b>
		M12 - A coding	7/8" - 4 pins	400	<b>PSSCDM12A</b>
	Profibus DP	M12 - B coding	7/8" - 5 pins	380	<b>PSSCPBA</b>
		Ethernet I/P	M12 - D coding	7/8" - 4 pins	380
	ControlNet	M12 - D coding	7/8" - 4 pins	380	<b>PSSCCNA</b>



## Isysnet electrical I/O modules

	Description	Polarity	Connector type	Weight (g)	Order code	
	8 Digital Inputs	PNP	8 x M8	400	<b>PSSN8M8A</b>	
			4 x M12	380	<b>PSSN8M12A</b>	
	8 Digital Outputs	NPN	8 x M8	400	<b>PSST8M8A</b>	
			4 x M12	380	<b>PSST8M12A</b>	
	8 Digital Outputs	PNP	8 x M8	400	<b>PSST8M8A</b>	
			4 x M12	380	<b>PSST8M12A</b>	
	4 Digital Outputs	Relay	4 x M12	410	<b>PSSTR4M12A</b>	
			2 Analogue Inputs	0 - 10 V	2 x M12	400
	2 Analogue Outputs	0 - 10 V	4 - 20 mA	2 x M12	400	<b>PSSNACM12A</b>
			4 - 20 mA	2 x M12	400	<b>PSSTAVM12A</b>
			2 x M12	400	<b>PSSTACM12A</b>	



## Isysnet auxiliary electrical modules

	Description	Connector type	Weight (g)	Order code
	24 VDC expansion power unit	7/8" - 4 pins	420	<b>PSSSE24A</b>


## Isysnet bus extender

	Description	Length	Weight (g)	Order code
	Bus extender cable for Isysnet module interconnection	1 meter	380	<b>PSSVEXT1</b>
		3 meters	760	<b>PSSVEXT3</b>
	Isysnet termination module		200	<b>PSSTERM</b>

## Isysnet accessories

	Description	Bus protocol	Connector type	Weight (g)	Order code
	Power supply connector	DeviceNet, ControlNet & Ethernet	7/8" - 4 pins	40	<b>P8CS7804AA</b>
		Profibus DP	7/8" - 5 pins	40	<b>P8CS7805AA</b>
	Line termination	DeviceNet	M12 - A coding	25	<b>P8BPA00MA</b>
		Profibus DP	M12 - B coding	25	<b>P8BPA00MB</b>
	Bus IN female connector	DeviceNet	M12 - A coding	25	<b>P8CS1205AA</b>
	Bus OUT male connector	Profibus DP	M12 - B coding	25	<b>P8CS1205AB</b>
	Bus IN female connector	DeviceNet	M12 - A coding	25	<b>P8CS1205BA</b>
	Bus OUT male connector	Profibus DP	M12 - B coding	25	<b>P8CS1205BB</b>
	Cable quick connect connector		M8	25	<b>P8CS0803J</b>
			M12 - A coding	25	<b>P8CS1204J</b>
	"Y" shape, thread to thread		M12 - 2 x M12	25	<b>P8CSY1212A</b>

16 Outputs Moduflex Bus ends module adaptor



**TURCK BL67 Series adaptor**

<b>T0</b>	Valve Driver Module without output module
<b>T1</b>	Valve Driver Module for 16 Outputs
<b>T2</b>	Valve Driver Module for 32 Outputs

Ported design		Thread type
<b>1</b>	Side ported	3/8" BSPP
<b>2</b>	Bottom ported	3/8" BSPP
<b>5</b>	Side ported	3/8" NPT
<b>6</b>	Bottom ported	3/8" NPT

For T0 version, 16 output module and blank module can be ordered separately from the next page or directly from TURCK under the same part number.

Valve driver Module for 16 or 32 Outputs

Modularity up to 16 or 32 Outputs :

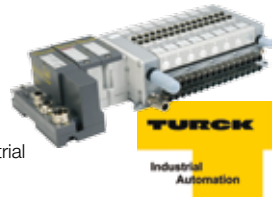
- Populated with 1 or 2 standard TURCK 16 Output modules BL67-16DO-0. 1A-P, the Valve Driver Module can handle up to 16 or 32 solenoid valves.
- For a 16 Outputs configuration, the second slot has to be populated with 1 standard TURCK blank module BL67-E.



TURCK BL67 communication gateway

Industrial Communication :

- Linked to a TURCK BL67 communication module (programmable or not programmable), the device can be connected to a wide choice of Field Bus or Industrial Ethernet protocols.

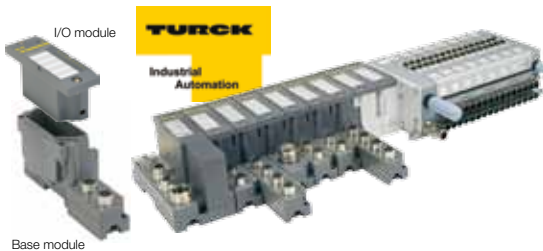


TURCK BL67 I/O and Base modules

The 2 piece design allows to complete the device with a choice through a full digital or analogue **I/O modules** range populating the **base module** existing with a multiple choice of electrical connection (M8, M12, M23, 7/8")

The complete resulting configuration can handle :

- Up to 32 electrical modules (up to 2 in the Valve Driver Module)
- Up to 256 digital I/O (up to 32 outputs in the Valve Driver Module)
- Up to 64 analog I/O




BL67 Ethernet IP gateway to DeviceNet

Using the TURCK BL67 Ethernet/IP gateway with DeviceNet master BL67-GW-EN-IP-DN, you can easily connect and configure a DeviceNet subnetwork thanks to the "Magic Black Button".




Full description of TURCK BL67 Series on <http://www.turck.com>

## Valve Driver Module - TURCK BL67 adaptor

	Description	Solenoid Valves	Sub-base design	Thread type	Weight (g)	Order code	
	Valve Driver Module	0	Side ported	3/8" BSPP	200	<b>PSMT01AP</b>	
		Without 16 O module	Bottom ported	3/8" BSPP	200	<b>PSMT02AP</b>	
	16 Outputs or blank module to be ordered separately (see below)						
	16	Including : - 1 x 16 O module - 1 blank module	Side ported	3/8" BSPP	270	<b>PSMT11AP</b>	
			Bottom ported	3/8" BSPP	270	<b>PSMT12AP</b>	
	32	Including : - 2 x 16 O modules	Side ported	3/8" BSPP	310	<b>PSMT21AP</b>	
Bottom ported			3/8" BSPP	310	<b>PSMT22AP</b>		

## Standard TURCK BL67 module

	Description	Weight (g)	Order code
	16 Outputs module for 16 or 32 solenoid valves configuration	55	<b>BL67-16DO-0.1A-P</b>
	Blank module for 16 solenoid valves configuration	15	<b>BL67-E</b>


Both standard TURCK BL67 Outputs module and Blank module can be ordered directly from TURCK under the same part number.

## 16 Outputs module BL67-16DO-0.1A-P technical specifications

Number of channels	16	Dimensions (W x L x H)	32 x 91 x 59 mm
Nominal voltage $V_0$	24 VDC	Approvals	CE, cULus
Rated current from field supply	≤ 100 mA	Operating temperature	Refer to solenoid valve
Rated current from module bus	≤ 30 mA	Storage temperature	-40°C to +70°C
Power loss, typical	≤ 1.5 W	Vibration	According to IEC68-2-6 : 2g to 150 Hz
		Shock test	According to IEC68-2-27 : 15g to 11 ms
Output type	PNP	Electro-magnetic compatibility	acc. to EN61131-2
Output voltage	24 VDC	Protection class	IP 65
Output current per channel	140 mA rated current (with VN 01-05 or higher)	Tightening torque fixing screws	0.9 ... 1.2 Nm
Output delay	3 ms		
Load type	resistive, inductive		
Short-circuit protection	yes		
Simultaneity factor	1		
Electrical isolation	electronics for the field level		



16 Outputs Moduflex Bus ends module adaptor



**P S M C 1 A P**

Moduflex 16 Outputs adaptor	
<b>M4</b>	Adaptor without bus module
<b>MC</b>	Adaptor with CANopen module
<b>MD</b>	Adaptor with DeviceNet module
<b>MP</b>	Adaptor with Profibus DP module

	Ported design	Thread type
<b>1</b>	Side ported	3/8" BSPP
<b>2</b>	Bottom ported	3/8" BSPP
<b>5</b>	Side ported	3/8" NPT
<b>6</b>	Bottom ported	3/8" NPT

For AS-i communication, use M4 and see Moduflex Valve catalogue for AS-i module part number.

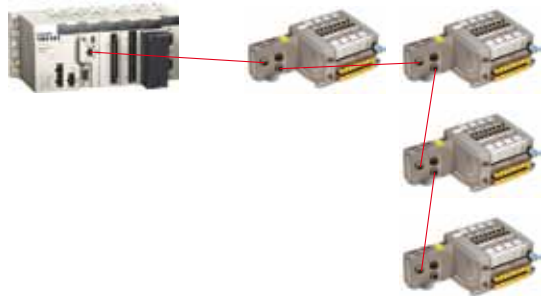
Moduflex Bus 16 Outputs

16 solenoids fieldbus modules available in DeviceNet, CANopen, and Profibus DP protocols.



Closer to the cylinder

Decentralized application when solenoid valves have to be closer to the pneumatic actuators.




Technical data


Moduflex Bus communication modules

- Bus power supply : 20 to 30 VDC
- Power supply output voltage : 24 VDC
- Module consumption :
  - DeviceNet : 1,5 W
  - CANopen : 1,5 W
  - Profibus DP : 1,5 W
- Water and dust Protection : IP65
- Output protection : overload protected

## Moduflex Bus modules






Description	Bus protocol	Sub-base design	Thread type	Weight (g)	Order code
	Moduflex Bus module	Side ported	3/8" BSPP	250	<b>PSMMC1AP</b>
		Bottom ported	3/8" BSPP	250	<b>PSMMC2AP</b>
	DeviceNet	Side ported	3/8" BSPP	250	<b>PSMMD1AP</b>
		Bottom ported	3/8" BSPP	250	<b>PSMMD2AP</b>
	Profibus DP	Side ported	3/8" BSPP	250	<b>PSMMP1AP</b>
		Bottom ported	3/8" BSPP	250	<b>PSMMP2AP</b>

Also available, AS-i interface protocol, standard version or extended version (A - B coded). See Moduflex Valve catalogue.

	End modules adaptor without Moduflex Bus module	All	Side ported	3/8" BSPP	200	<b>PSMM41AP</b>
			Bottom ported	3/8" BSPP	200	<b>PSMM42AP</b>

For configuration files, go to : <http://www.parker.com/pneu/moduflex>.

## Decentralized Device bus accessories

Description	Bus protocol	Connector type	Weight (g)	Order code		
	Power supply female straight connector	All	M12 - A coding	25	<b>P8CS1205AA</b>	
	Line termination	DeviceNet	M12 - A coding	25	<b>P8BPA00MA</b>	
		CANopen				
		Profibus DP	M12 - B coding	25	<b>P8BPA00MB</b>	
	Bus IN female connector	DeviceNet	M12 - A coding	25	<b>P8CS1205AA</b>	
		CANopen				
		Profibus DP	M12 - B coding	25	<b>P8CS1205AB</b>	
	Bus OUT male connector	DeviceNet	M12 - A coding	25	<b>P8CS1205BA</b>	
		CANopen				
		Profibus DP	M12 - B coding	25	<b>P8CS1205BB</b>	
	Cable quick connect connector		M8	25	<b>P8CS0803J</b>	
			M12 - A coding	25	<b>P8CS1204J</b>	
	"Y" shape, thread to thread		M12 - 2 x M12 - A coding	25	<b>P8CSY1212A</b>	

Multi-connection head module

**P S M L 2 1 A P**

Multi-wire connection	
L2	Sub-D25 connector

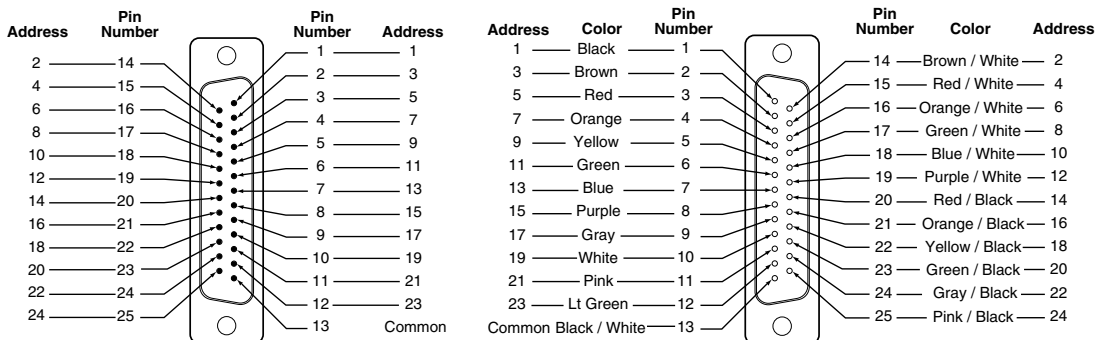
Ported design		Thread type
1	Side ported	3/8" BSPP
2	Bottom ported	3/8" BSPP
5	Side ported	3/8" NPT
6	Bottom ported	3/8" NPT

Sub-D25 connection

Up to 24 solenoids on standard Sub-D25 connector.




Technical data




Rated voltage :	24 VDC
Maximum addresses :	24
Maximum energised simultaneously :	24
Electrical connection :	Sub-D25 pin DIN 41652, MIL-C-24308, NFC93425 type HE5
Polarity :	PNP and NPN compatible (solenoids not polarized)
Dust and water protection :	IP65 rated with properly assembled IP65 rated cable

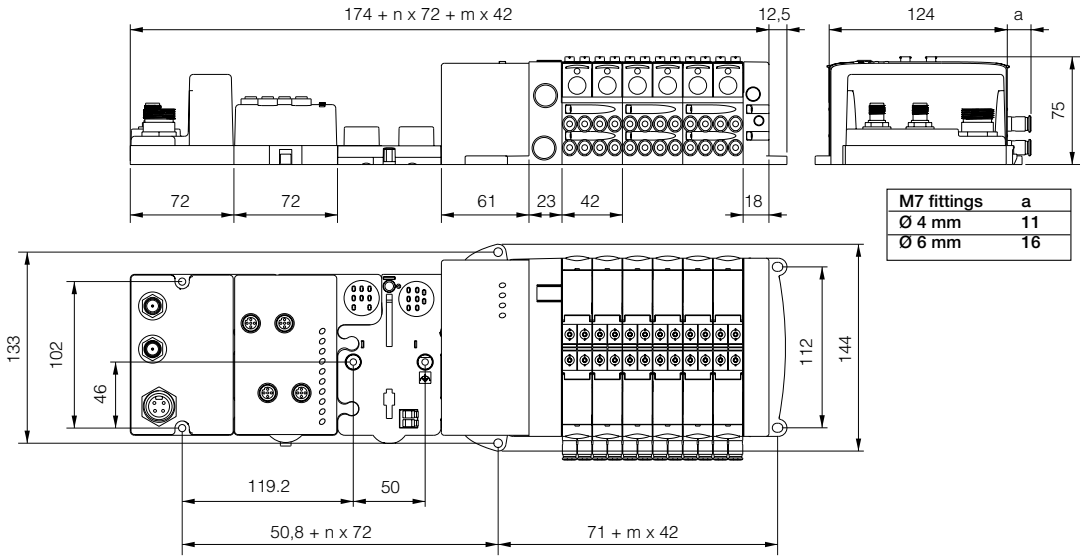
## Electrical multi-pole end modules

	Description	Sub-base design	Thread type	Weight (g)	Order code
	Sub-D25 ends module	Side ported	3/8" BSPP	250	<b>PSML21AP</b>
		Bottom ported	3/8" BSPP	250	<b>PSML22AP</b>

## Electrical accessories

	Description	Cable length	Weight (g)	Order code
	Sub-D25 connector IP40 with flying leads multi-cable	3 m	380	<b>P8LMH25M3A</b>
		9 m	780	<b>P8LMH25M9A</b>
<b>P8LMH25M3A</b>	Sub-D25 connector IP65 with flying leads multi-cable	9 m	790	<b>P8LMH25B9A</b>

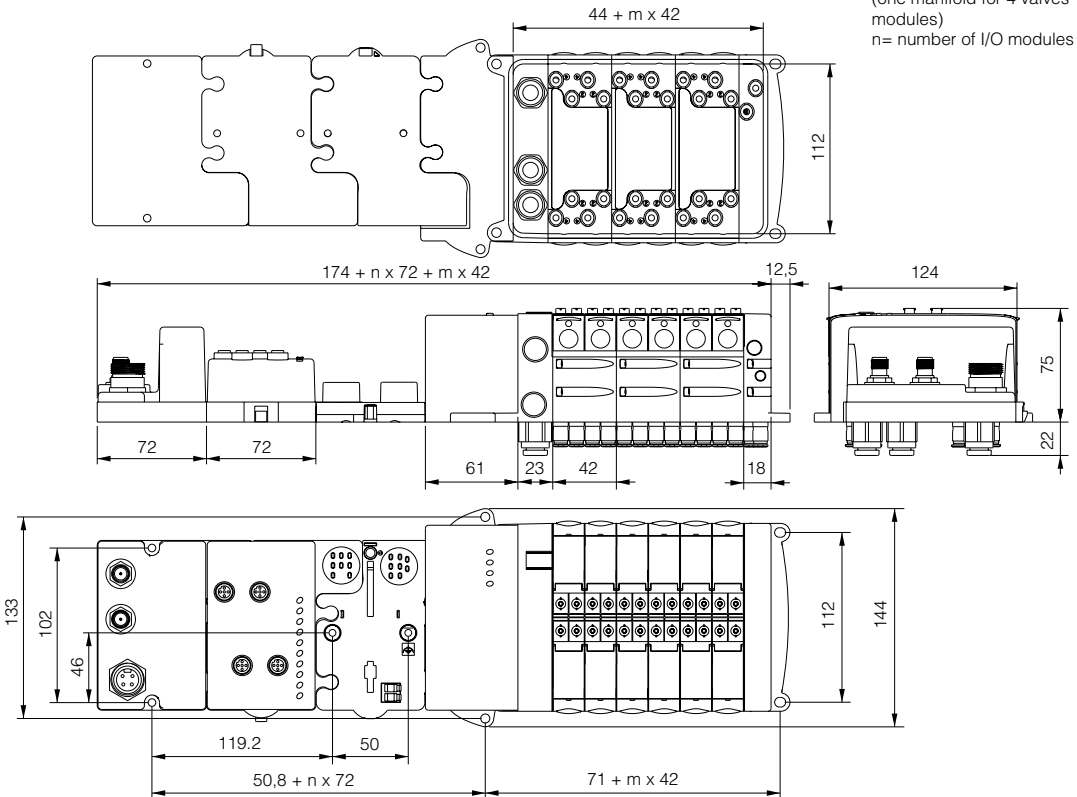
Centralized bus - Side ported



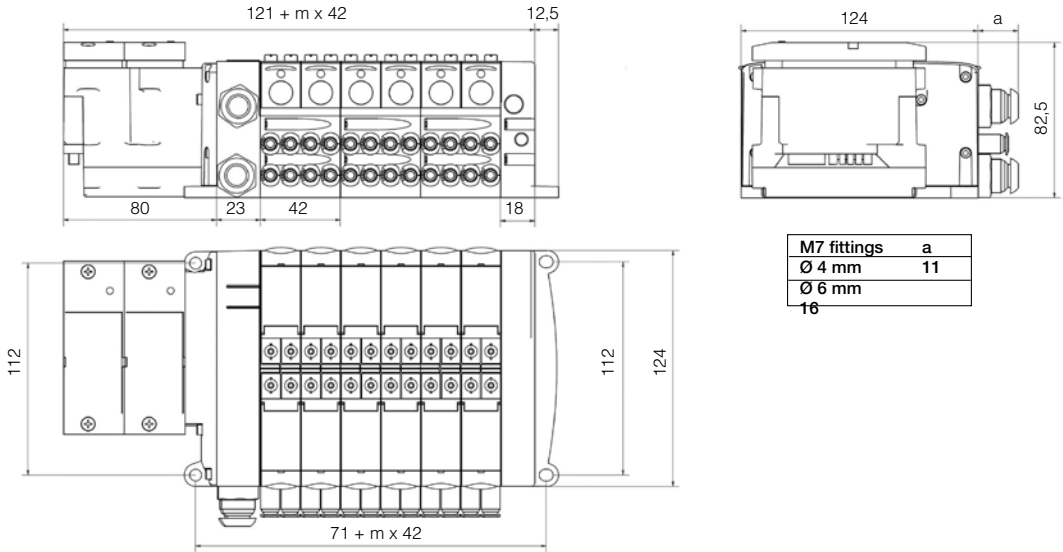
Note:

m = number of manifolds  
 (one manifold for 4 valves  
 modules)  
 n = number of I/O modules

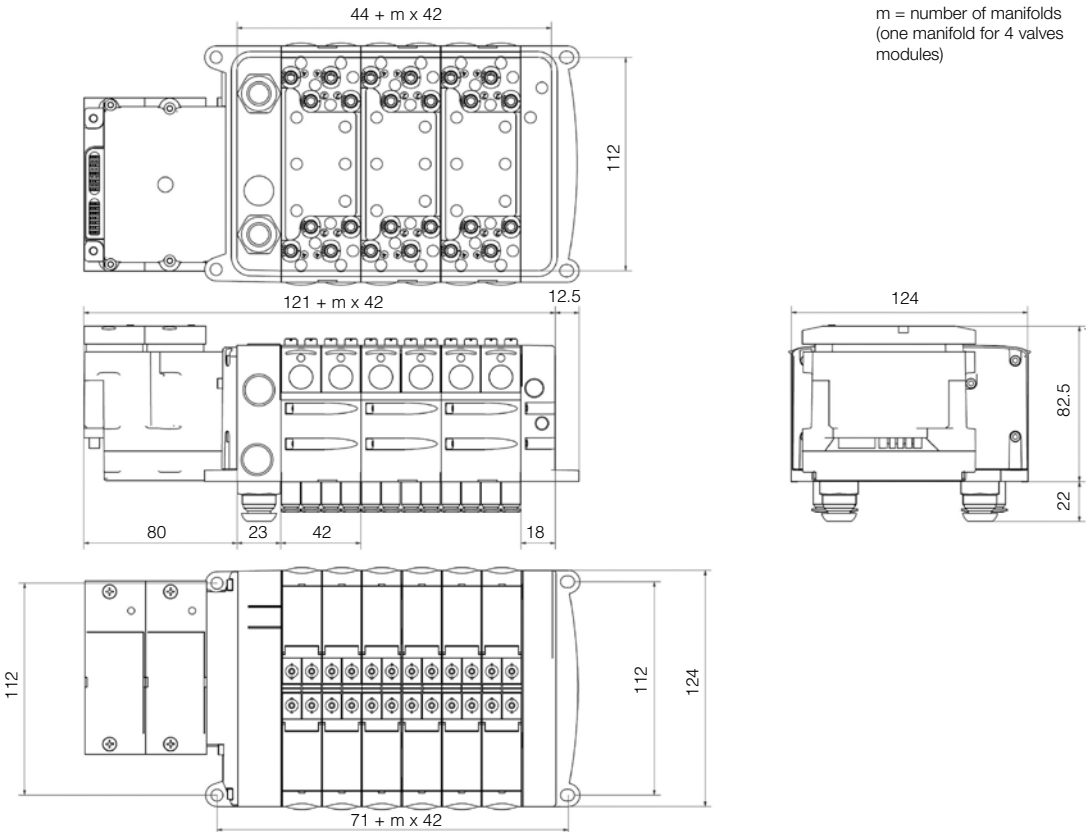
Centralized bus - Bottom ported



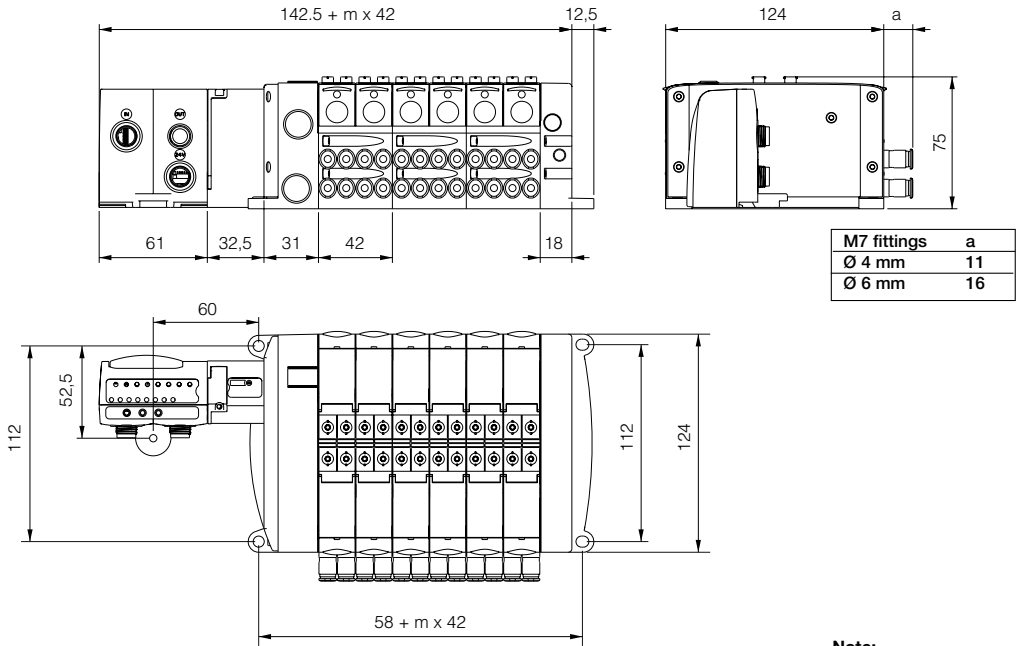
Isys Micro with TURCK BL67 adaptor - Side ported



Isys Micro with TURCK BL67 adaptor - Bottom ported

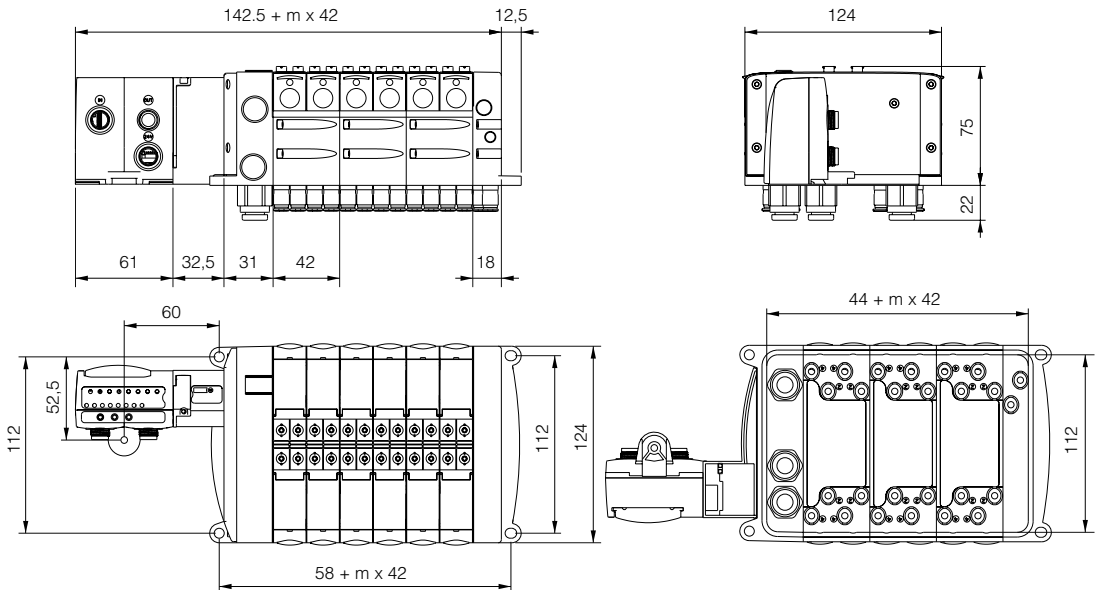


Fieldbus - Side ported

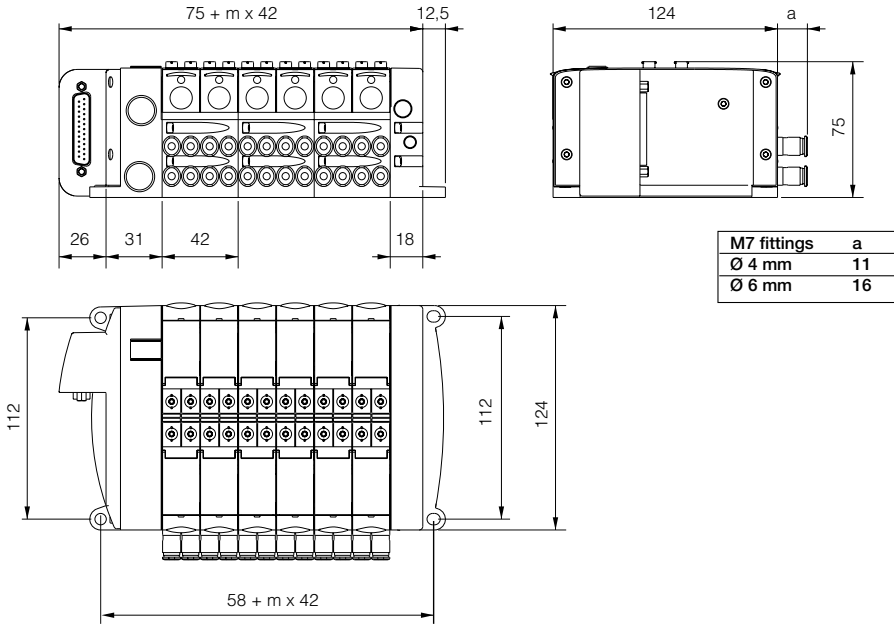


**Note:**  
 m = number of manifolds  
 (one manifold for 4 valves modules)

Fieldbus - Bottom ported

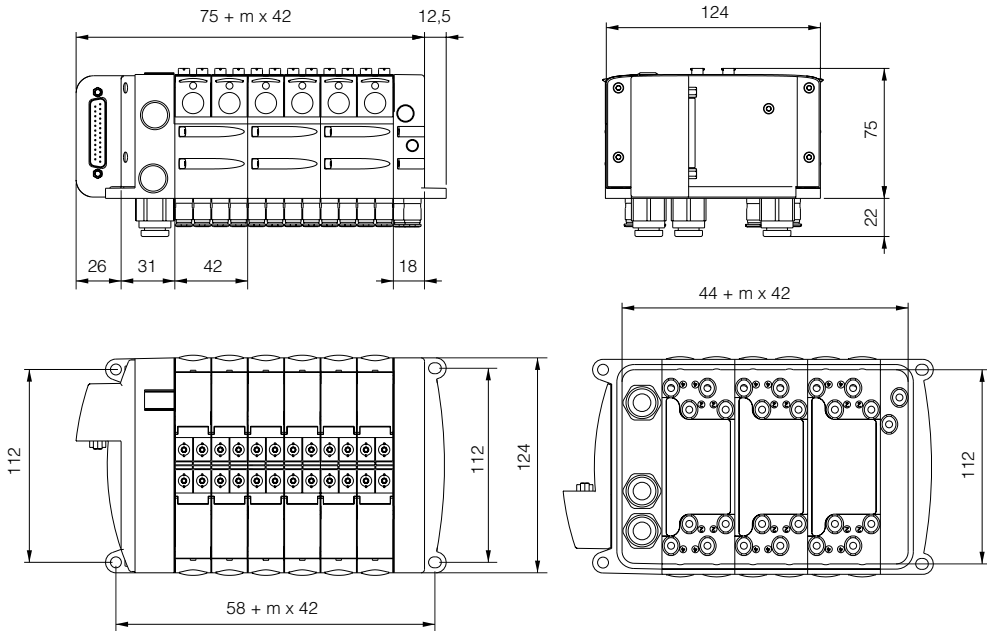


SubD25 - Side ported



**Note:**  
 m = number of manifolds  
 (one manifold for 4 valves  
 modules)

SubD25 - Bottom ported







# Moduflex Valve System®

## Flexibility for pneumatic users

Whether configured from basic components or ordered as a pre-assembled and tested valve island, **Moduflex flexibility** is unmatched in the market place.



### Innovative

The 6 patents awarded to the Moduflex Valve System reflect that innovation is core to the Parker design process. Maintaining a clear understanding of our customer's expectations has defined the individuality of the Moduflex, and clearly differentiated it as a leading automation solution.

### Adaptive

No other system can be adapted so simply once specified. Unique, captive fitting release system, quick release electrical connectors and single mechanical screw connection between manifolds offer the ultimate capability for late system design changes.

### Multi-Functional

From stand-alone valves to fieldbus ready valve islands, from cylinder flow controls to vacuum generators with integrated blow-off, the Moduflex Valve System meets the requirements of the whole automation spectrum.

## Moduflex Valve technology

Two technology platforms enable the compact design and high performance of the Moduflex Valve System.

The compact dual 4/2 and 3/2 valves utilize well proven Parker seal technology. The standard 4/2 valves adopt the long life super durable ceramic switching technology.

**Dual 4/2 valve**

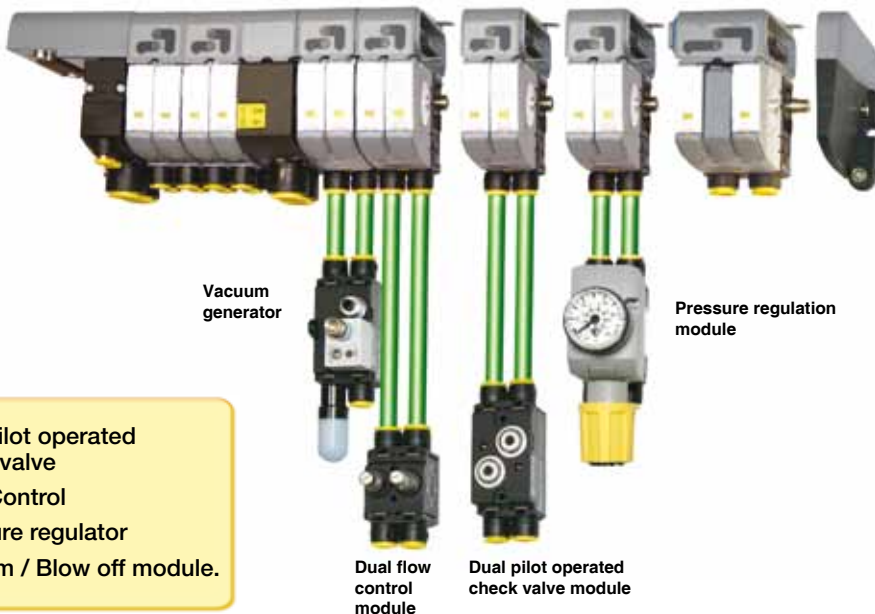


**4/2 Valve**



## Moduflex Complete Control

With the introduction of the dual 4/2 size 1 valves, Moduflex now offers unrivaled ability of matching valves to exact flow requirements, ensuring cost and space are minimized. In addition, Moduflex Valve System offers all the necessary control peripherals to provide a complete automation solution. Moduflex is the complete control package.



- Dual pilot operated check valve
- Flow Control
- Pressure regulator
- Vacuum / Blow off module.

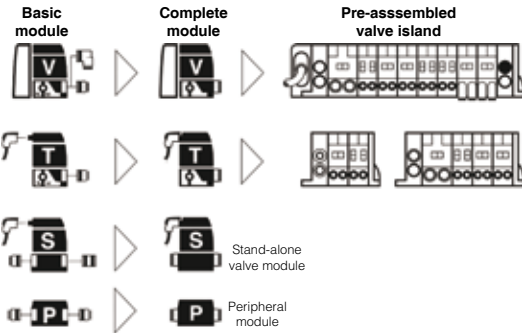
**Operating information**

Working pressure	-0,9 to 8 bar	<b>Dual 4/2</b>	<b>Dual 3/2</b>	<b>3/2</b>	<b>4/2</b>
Pilot pressure	3 to 8 bar *				
Working temperature	-15 °C to 60 °C				
Protection individual connectors	IP 67 NEMA4				
Protection integrated connectors	IP 65				
Voltage	24 V DC				
* Single and double 3/2	3,5 to 8 bar				

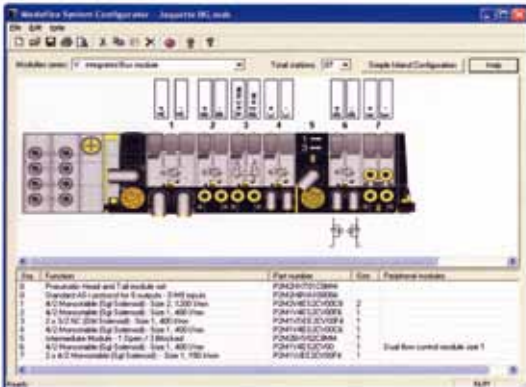
		Dual 4/2	Dual 3/2	3/2	4/2
<b>Size 1</b>	<b>Qmax.</b>	275 l/min	415 l/min	415 l/min	510 l/min
	<b>Qn</b>	165 l/min	235 l/min	235 l/min	310 l/min
<b>Size 2</b>	<b>Qmax.</b>	-	805 l/min	805 l/min	1340 l/min
	<b>Qn</b>	-	450 l/min	440 l/min	800 l/min

**Total ordering flexibility**

Additionally to the complete product adaptability, the Moduflex Valve range offers for V, T, S and P series an ordering flexibility with 3 different designs; from all components separately ordered (basic module) to pre-assembled and tested valve island.



The Moduflex Valve Island Configurator software is the easy way to, step by step, configure and order the required valve island for the application.



**Ordering options**

**1 - Basic modules ordering**

Using this option, all basic components are separately ordered :

- Head and Tail set
- Valve modules
- Intermediate module kit
- Peripheral modules
- Pneumatic connectors, mufflers and plugs
- Electrical connection or fieldbus module

The complete bill of material needed for the valve island assembly can be easily details using page 1 of the Moduflex Valve Configurator software report.

**2 - Complete modules ordering**

Using this option, modules are defined, ordered and supplied, pneumatic connectors and electrical connection equipped. One part number defines :

- Function module
- Pneumatic connectors, muffler and plugs
- Electrical connection and cable

For an entire valve island configuration, the list of complete modules can be easily details using page 3 of the Moduflex Valve Configurator software report.

**3 - Pre-assembled valve islands ordering**

Using this option, the complete valves island configuration has to be defined, and may be ordered, delivered fully assembly and tested under one part number.

The Moduflex Valve Configurator software is an easy way for a clear definition of the requested valve island configuration.

**V series**

Integrated connection field bus or multi-connector valve island



**T series**

Individual connector valve islands  
Solenoid or air pilot



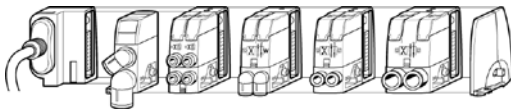
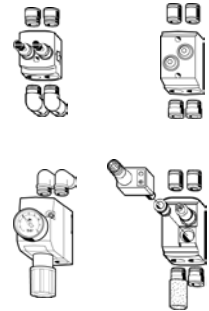
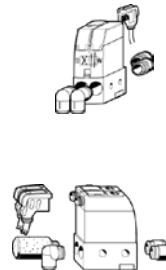
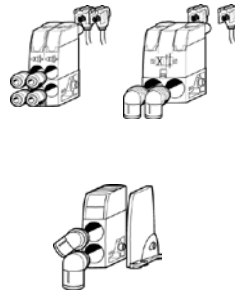
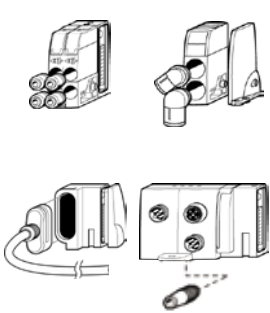
**S series**

Stand alone valves  
Solenoid or air pilot

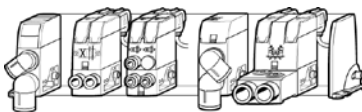


**P series**

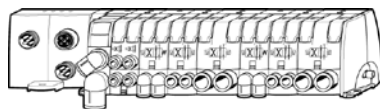
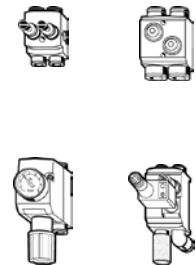
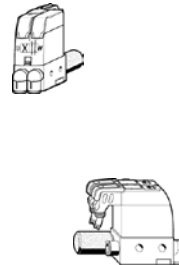
Peripheral modules  
Flow control, check valves, pressure regulator, vacuum



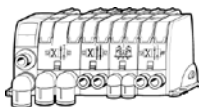
**V series**



**T series**



**V series**



**T series**

Moduflex Valve Configurator software



**Integrated connections valve islands : V series**

In a V series Moduflex valve island, electrical controls are all received by the head module and transmitted to the concerned valve modules through the modular integrated circuit.

The head module may either be a cable multi-connector or a Fieldbus communication module : the next pages show multi-connector cable and a complete choice of bus protocols.

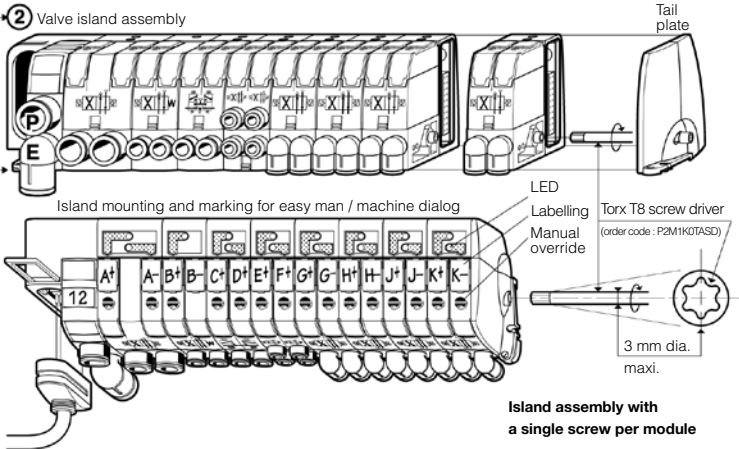
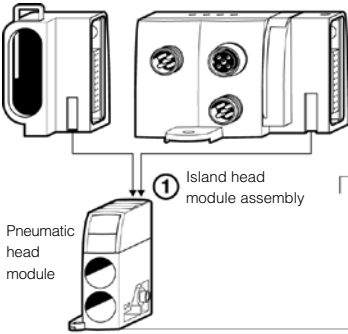


**Valve island configuration**

The following page shows all valve sizes and functions that may enter into a V series valve island and, for each valve size, a choice of clip-on pneumatic connectors : tubing size, straight, elbow...  
To receive its pressure supply and collect its exhaust, the island also requires a pneumatic

head and tail module set and sometimes an intermediate module set with 4 configuration plates for different functions. To receive its electrical controls, the island is completed by an electrical head module, either a multi-connector or by a bus module to be chosen from the next pages.

Valve island electrical head module : multi-connector or field bus connection



**Valve island assembly**

The above illustration presents :

- **Step ①** : the electrical head module is engaged into the pneumatic head module ;
- **Step ②** valve modules are one by one screwed onto each other starting from the head module. For this task, the single integrated screw is tightened with a torx T8 standard screwdriver.

**Island assembly with a single screw per module**

The pneumatic connectors may be clipped or unclipped at any stage.

With a LED, a manual override and a labelling for each valve pilot (see illustration), the island front face eases the "man / machine" dialog.

The resulting valve island length is expressed by the drawing below, while further size details and mountings are presented on dimensions pages.

**Modules and island ordering**

Choice between 3 approaches :

**1 - Basic modules ordering :**

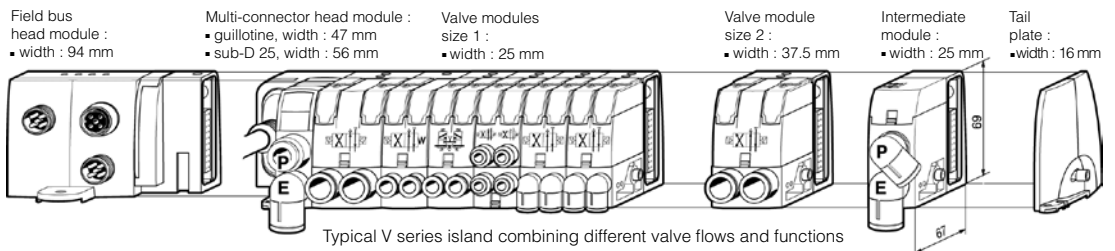
The following page shows these modules supplied without connector, together with the choice of clip-on connectors separately supplied (10 units packs). This approach gives the maximum flexibility.

**2 - Complete modules ordering :**

Page 265 shows the ordering chart for modules supplied with their connectors.

**3 - Assembled island ordering :**

Page 268 shows the valve island configurator CD-Rom to specify a valve island that may be delivered assembled.

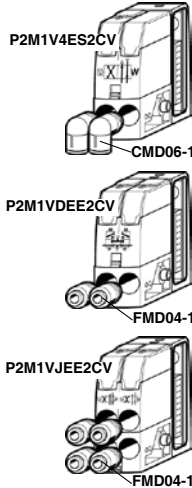


Typical V series island combining different valve flows and functions

Basic modules (without connector) and corresponding clip-on pneumatic connectors

Size 1 Valve Modules

Description	Symbol	Weight (g)	Order code
4/2 Solenoid spring		94	<b>P2M1V4ES2CV</b>
4/2 Double solenoid		103	<b>P2M1V4EE2CV</b>
2 x 3/2 NC + NC with exhaust check valves		106	<b>P2M1VDEE2CV</b>
2 x 3/2 NO + NO with exhaust check valves		106	<b>P2M1VCEE2CV</b>
2 x 3/2 NC + NO with exhaust check valves		106	<b>P2M1VEEE2CV</b>
2 x 4/2 Solenoid spring with exhaust check valves		114	<b>P2M1VJEE2CV</b>
3/2 NC with exhaust check valves		102	<b>P2M1V3ES2CV</b>
4/3 Centre exhaust = 2 x 3/2 NC + NC without exhaust check valve		106	<b>P2M1VGEE2CV</b>



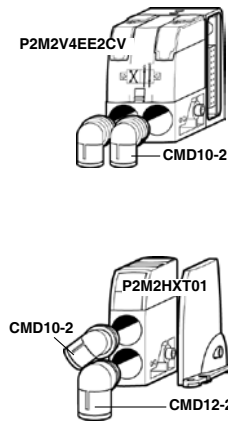
Size 1 pneumatic connectors \*

Description	Tube OD	W. (g)	Order code
Straight	4 mm	2	<b>FMD04-1</b>
	6 mm	3	<b>FMD06-1</b>
Elbow	4 mm	3	<b>CMD04-1</b>
	6 mm	5	<b>CMD06-1</b>
Plug		3	<b>PMDXX1</b>

\* Pack quantity : 10

Size 2 Valve Modules

Description	Symbol	Weight (g)	Order code
4/2 Solenoid spring		100	<b>P2M2V4ES2CV</b>
4/2 Double solenoid		110	<b>P2M2V4EE2CV</b>
2 x 3/2 NC + NC with exhaust check valves		115	<b>P2M2VDEE2CV</b>
2 x 3/2 NO + NO with exhaust check valves		115	<b>P2M2VCEE2CV</b>
2 x 3/2 NC + NO with exhaust check valves		115	<b>P2M2VEEE2CV</b>
3/2 NC with exhaust check valves		110	<b>P2M2V3ES2CV</b>
4/3 Centre exhaust = 2 x 3/2 NC + NC without exhaust check valve		115	<b>P2M2VGEE2CV</b>



Size 2 pneumatic connectors \*

Description	Tube OD	W. (g)	Order code
Straight	6 mm	3	<b>FMD06-2</b>
	8 mm	4	<b>FMD08-2</b>
	10 mm	5	<b>FMD10-2</b>
Elbow	6 mm	5	<b>CMD06-2</b>
	8 mm	6	<b>CMD08-2</b>
	10 mm	7	<b>CMD10-2</b>
Plug		5	<b>PMDXX2</b>

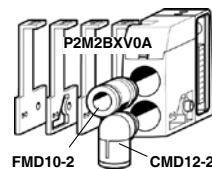
Also for head and intermediate modules

Straight	12 mm	6	<b>FMD12-2</b>
Elbow	12 mm	8	<b>CMD12-2</b>
Muffler		5	<b>MMDVA2</b>

\* Pack quantity : 10

Island head and intermediate module sets

Description	Symbol	Weight (g)	Order code
Valve Island Pneumatic head and tail module set		64	<b>P2M2HXT01</b>
Valve Island Intermediate supply module with a set of 4 configuration plates		68	<b>P2M2BXV0A</b>







Electrical multi-connection and field bus head modules

Multiconnector or field bus head module to be chosen from next pages.





Indicates stocked product.

**V series valve island : Electrical multi-connector head module**



Description	Weight (g)	Order code		
 <p><b>Electrical head module Guillotine type</b></p>	 <p><b>P2M2HEV0A</b> <b>P8LMH20M2A</b></p>	IP65 Guillotine type Multi-connector head module	38	<b>P2M2HEV0A</b>
		Connectors with flying leads multi-cable (Other length on request)	IP65 2 m cable 335	<b>P8LMH20M2A</b>
			5 m cable 802	<b>P8LMH20M5A</b>
			9 m cable 1425	<b>P8LMH20M9A</b>
 <p><b>Electrical head module Sub-D 25 type</b></p>	 <p><b>P2M2HEV0D</b> <b>P8LMH25M3A</b></p>	Sub-D 25 standard multi-connector head module	60	<b>P2M2HEV0D</b>
		Sub-D 25 connector with flying leads multi-cable	IP40 3 m cable 435	<b>P8LMH25M3A</b>
			9 m cable 1425	<b>P8LMH25M9A</b>
			IP65 9 m cable 1425	<b>P8LMH25B9A</b>

**V series valve island : Electrical field bus head modules for AS-i protocol**




Description	Weight (g)	Order code		
 <p><b>Standard AS-i protocol (up to 31 nodes)</b></p> <p>Electrical module for <b>8 outputs</b> max.</p> <ul style="list-style-type: none"> <li>V series island may have up to 8 solenoid pilots</li> <li>2 nodes per module, 4I / 4O per node</li> </ul>	<p>Input connections</p>	No input	150	<b>P2M2HBVA10800</b>
		8 M8 inputs	200	<b>P2M2HBVA10808A</b>
		8 inputs on 4 M12	200	<b>P2M2HBVA10808B</b>
		Input connections		
 <p>Electrical module for <b>4 outputs</b> max.</p> <ul style="list-style-type: none"> <li>V series island may have up to 4 solenoid pilots</li> <li>1 node per module, 4I / 4O</li> </ul>	<p>Input connections</p>	No input	150	<b>P2M2HBVA10400</b>
		4 inputs on 4 M12	200	<b>P2M2HBVA10404B</b>
		Input connections		
		 <p><b>AS-i version 2.1 protocol (up to 62 nodes)</b></p> <p>Electrical module for <b>6 outputs</b> max.</p> <ul style="list-style-type: none"> <li>V series island may have up to 6 solenoid pilots</li> <li>2 nodes per module, 4I / 3O per node</li> </ul>	<p>Input connections</p>	No input
8 M8 inputs	200			<b>P2M2HBVA20608A</b>
8 inputs on 4 M12	200			<b>P2M2HBVA20608B</b>
Input connections				
 <p><b>AS-i head module accessorie</b></p> <p>M12 cable with jack for adresssing</p>	<p>Length 1 m</p>		100	<b>P8LS12JACK</b>

**Standard threaded IP 67 electrical connectors \***



	Male	Female	Weight (g)	Order code
 <p><b>P8CS0803J</b></p> <p>straight, cable to thread</p>	M8	cable quick connect	12	<b>P8CS0803J</b>
	M12	cable quick connect	15	<b>P8CS1204J</b>
 <p><b>P8CSY1212A</b></p> <p>Y shape, thread to thread</p>	M12	two M12	30	<b>P8CSY1212A</b>



\* Pack Quantity : 10



 Indicates stocked product.



**V series valve island : Electrical field bus head modules for device bus**

Electrical modules for 16 outputs  
(The V series modules may have up to 16 solenoid pilot valves)

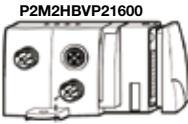

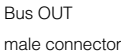


	Description				
	Description	Bus In / Bus Out connector type	Power supply connector type	Weight (g)	Order code
	Profibus DP communication head module	M12 - B coding	M12 - A coding	250	<b>P2M2HBVP21600</b>
		For .GSD file, go to <a href="http://www.parker.com/pneu/moduflex">http://www.parker.com/pneu/moduflex</a>			


	Description				
	Description	Bus In / Bus Out connector type	Power supply connector type	Weight (g)	Order code
	DeviceNet communication head module	M12 - A coding	M12 - A coding	250	<b>P2M2HBVD21600</b>
		For .EDS file, go to <a href="http://www.parker.com/pneu/moduflex">http://www.parker.com/pneu/moduflex</a>			

	Description				
	Description	Bus In / Bus Out connector type	Power supply connector type	Weight (g)	Order code
	CANopen communication head module	M12 - A coding	M12 - A coding	250	<b>P2M2HBVC21600</b>
		For .EDS file, go to <a href="http://www.parker.com/pneu/moduflex">http://www.parker.com/pneu/moduflex</a>			

	Description				
	Description	Bus In / Bus Out connector type	Power supply connector type	Weight (g)	Order code
	InterBus-S communication head module	M23 - 9 Pins	M12 - A coding	300	<b>P2M2HBVS11600</b>

**Device bus accessories**

	Description	Bus protocol	Connector type	Weight (g)	Order code
	Power supply female straight connector	All	M12 - A coding	25	<b>P8CS1205AA</b>
	Line termination	DeviceNet	M12 - A coding	25	<b>P8BPA00MA</b>
		CANopen	M12 - B coding	25	<b>P8BPA00MB</b>
	Bus IN female connector	DeviceNet	M12 - A coding	25	<b>P8CS1205AA</b>
		CANopen	M12 - B coding	25	<b>P8CS1205AB</b>
		Profibus DP	M12 - B coding	25	<b>P8CS1205AB</b>
	Bus OUT male connector	DeviceNet	M12 - A coding	25	<b>P8CS1505BA</b>
		CANopen	M12 - B coding	25	<b>P8CS1205BB</b>
		Profibus DP	M12 - B coding	25	<b>P8CS1205BB</b>
	Cable quick connect connector		M8	25	<b>P8CS0803J</b>
			M12 - A coding	25	<b>P8CS1204J</b>
	"Y" shape, thread to thread		M12 - 2 x M12 - A coding	25	<b>P8CSY1212A</b>

 Indicates stocked product.



M12 - A coding connector



M12 - B coding connector



**Individual connection valve islands : T series**

In a T series valve island, electrical controls are individually connected to each valve module, onto its solenoid pilot.

As an alternative, air pilot valve modules are also available, to be controlled by individual pneumatic signals.



**Valve island assembly**

As shown by the above illustration, the valve modules are one by one screwed onto each other, starting from the head module. For this task, the single integrated screw is tightened with a torx T8 standard screwdriver.

The pneumatic connectors may be clipped or unclipped at any stage.

With a LED, a manual override and a labelling for each valve pilot (see above illustration), the island front face eases the "man / machine" dialog. The resulting valve island length is expressed by the drawing below, while further size details and mountings are presented on dimensions pages.

**Valve island configuration**

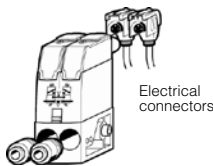
The following page presents all valve sizes and functions that may enter into a T series valve island and, for each valve size, a choice of clip-on pneumatic connectors : tubing size, straight, elbow... To receive its pressure supply and collect its exhaust, the island also requires a

pneumatic head and tail module set and sometimes an intermediate module set including 4 configuration plates for different functions.

Valve modules may either be solenoid versions or air pilot versions. Mixing both versions into the same valve island is possible.

**Valve pilot connections**

**1 - Solenoid valve modules**



Electrical connectors

Each solenoid shows a M8 connection. Lockable clip-on connectors, IP67 protected, with LED, voltage surge protection and flying lead cable may be ordered for the required length.

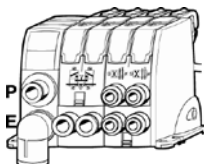
**2 - Air pilot valve modules**



4 mm OD tube

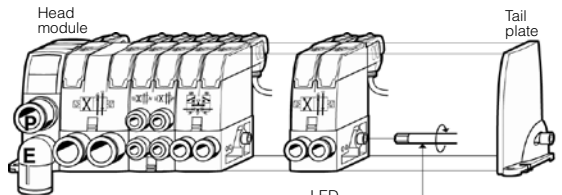
No connector has to be ordered : each pneumatic pilot port includes its integrated swivable elbow 4 mm OD tube push-in connector.

Typical T series short island for single or double acting small cylinders.

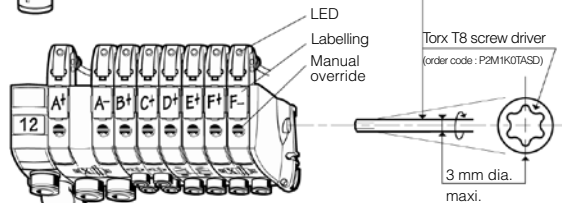


Typical T series islands combining different valve flows and functions

**Valve island assembly**



**Island mounting and marking for easy man / machine dialog**



Island assembly with a single screw per module

**Modules and island ordering**

Choice between 3 approaches :

**1 - Basic modules ordering :**

The following page shows these modules supplied without connector, together with the choice of clip-on connectors separately supplied (10 units packs). This approach gives the maximum flexibility.

**2 - Complete modules ordering :**

Page 265 shows the ordering chart for modules supplied with their connectors.

**3 - Assembled island ordering :**

Page 268 shows the valve island configurator CD-Rom to specify a valve island that may be delivered assembled.

Pneumatic head module :  
▪ width : 32 mm

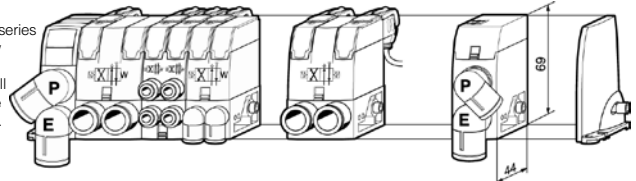
Valve module size 1 :  
▪ width : 25 mm

Valve module size 2 :  
▪ width : 37.5 mm

Intermediate module :  
▪ width : 25 mm

Tail plate :  
▪ width : 16 mm

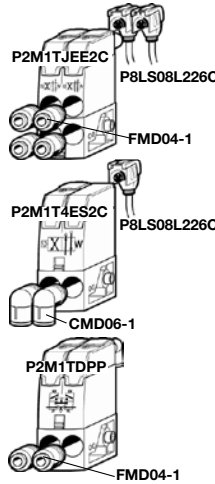
Typical T series high flow island for both small and large cylinders.



Basic modules (without connector) and clip-on electrical and pneumatic connectors

Size 1 Valve Modules

Description	Symbol	Actuator	W.(g)	Order code
4/2 Spring return		Solenoid	68	<b>P2M1T4ES2C</b>
		Air pilot	63	<b>P2M1T4PS</b>
4/2 Double pilot		Solenoid	77	<b>P2M1T4EE2C</b>
		Air pilot	67	<b>P2M1T4PP</b>
2 x 3/2 NC + NC with exhaust check valves		Solenoid	80	<b>P2M1TDEE2C</b>
		Air pilot	70	<b>P2M1TDPP</b>
2 x 3/2 NO + NO with exhaust check valves		Solenoid	80	<b>P2M1TCEE2C</b>
		Air pilot	70	<b>P2M1TCPP</b>
2 x 3/2 NC + NO with exhaust check valves		Solenoid	80	<b>P2M1TEEE2C</b>
		Air pilot	70	<b>P2M1TEPP</b>
2 x 4/2 Spring return with exhaust check valves		Solenoid	88	<b>P2M1TJEE2C</b>
		Air pilot	78	<b>P2M1TJPP</b>
3/2 NC with exhaust check valves		Solenoid	76	<b>P2M1T3ES2C</b>
		Air pilot	71	<b>P2M1T3PS</b>
4/3 Centre exhaust = 2 x 3/2 NC + NC without exhaust check valve		Solenoid	80	<b>P2M1TGEE2C</b>
		Air pilot	70	<b>P2M1TGPP</b>



Size 1 pneumatic connectors \*

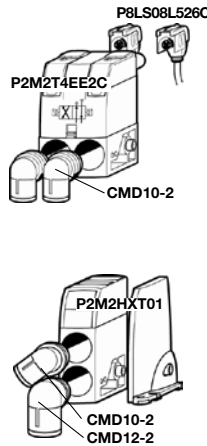
Description	Tube OD	W. (g)	Order code
Straight	4 mm	2	<b>FMD04-1</b>
	6 mm	3	<b>FMD06-1</b>
Elbow	4 mm	3	<b>CMD04-1</b>
	6 mm	5	<b>CMD06-1</b>
Plug		3	<b>PMDXX1</b>

\* Pack quantity : 10

Indicates stocked product.

Size 2 Valve Modules

Description	Symbol	Actuator	W.(g)	Order code
4/2 Spring return		Solenoid	74	<b>P2M2T4ES2C</b>
		Air pilot	69	<b>P2M2T4PS</b>
4/2 Double pilot		Solenoid	83	<b>P2M2T4EE2C</b>
		Air pilot	73	<b>P2M2T4PP</b>
2 x 3/2 NC + NC with exhaust check valves		Solenoid	94	<b>P2M2TDEE2C</b>
		Air pilot	84	<b>P2M2TDPP</b>
2 x 3/2 NO + NO with exhaust check valves		Solenoid	94	<b>P2M2TCEE2C</b>
		Air pilot	84	<b>P2M2TCPP</b>
2 x 3/2 NC + NO with exhaust check valves		Solenoid	94	<b>P2M2TEEE2C</b>
		Air pilot	84	<b>P2M2TEPP</b>
3/2 NC with exhaust check valves		Solenoid	90	<b>P2M2T3ES2C</b>
		Air pilot	70	<b>P2M2T3PS</b>
4/3 Centre exhaust = 2 x 3/2 NC + NC without exhaust check valve		Solenoid	94	<b>P2M2TGEE2C</b>
		Air pilot	84	<b>P2M1TGPP</b>



Size 2 pneumatic connectors \*

Description	Tube OD	W. (g)	Order code
Stra	6 mm	3	<b>FMD06-2</b>
	8 mm	4	<b>FMD08-2</b>
	10 mm	5	<b>FMD10-2</b>
Elbo	6 mm	5	<b>CMD06-2</b>
	8 mm	6	<b>CMD08-2</b>
	10 mm	7	<b>CMD10-2</b>
Plug		5	<b>PMDXX2</b>

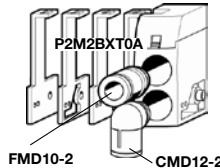
Also for head and intermediate modules

Stra	12 mm	6	<b>FMD12-2</b>
Elbo	12 mm	8	<b>CMD12-2</b>
Muf		5	<b>MMDVA2</b>

\* Pack quantity : 10

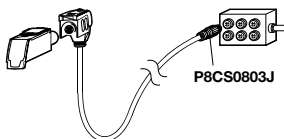
Island head and intermediate module sets

Description	W.(g)	Order code
Valve Island Pneumatic head and tail module set	64	<b>P2M2HXT01</b>
Valve Island Intermediate supply module with a set of 4 configuration plates	64	<b>P2M2BXT0A</b>



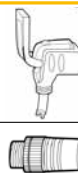
Electrical connectors

P8LS08L226C



Clip-on individual electrical connector, for each solenoid pilot, IP67 protected, including LED, voltage surge protection and flying lead cable

Straight cable quick connect to thread connector, IP67 protected.



Description	W. (g)	Order code
2 m. cable	62	<b>P8LS08L226C</b>
5 m. cable	155	<b>P8LS08L526C</b>
9 m. cable	180	<b>P8LS08L926C</b>
M8	12	<b>P8CS0803J</b>
M12	15	<b>P8CS1204J</b>

**Stand-Alone Valve Modules : S series**

Very useful to control isolated cylinders, these stand-alone valves module are compact and easy to mount on the machines with neat electrical and pneumatic connections.

As an alternative to electrical controls, valves with air pilots are also available, to be controlled by individual pneumatic signals.

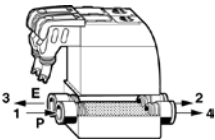


**Valve functions**

The following page shows all valve sizes and functions and, for each valve size, a choice of clip-on pneumatic connectors : tubing size, straight, elbow, ...

**Valve main connections**

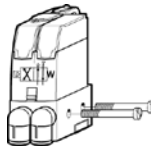
- Outlets to cylinders (ports 2 and 4) on one side.
- Supply P (port 1) and exhaust E (port 3) on the other side. At port 3, exhaust may be collected or receive a clip-on muffler.



**Valve mounting**

All valves may be mounted either with side screws or with their integrated retractable brackets.

**Side screw mounting**



The brackets are then retracted.

**Optional foot mounting**

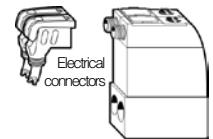


The brackets are then extended.

**Valve pilot connections**

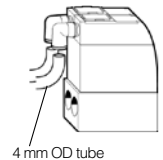
**1- Solenoid valve modules**

Each solenoid presents an M8 connection. Lockable clip-on connectors, IP 67 protected, with LED, voltage surge protection and flying lead cable may be ordered for the required length.



**2- Air pilot valve modules**

No connector has to be ordered : each pneumatic pilot port includes its integrated swivable elbow 4 mm OD tube push-in connector.



**Modules and island ordering**

Choice between 2 approaches :

**1 - Basic modules ordering :**

The following page shows these modules supplied without connector, together with the choice of clip-on connectors separately supplied (10 units packs). This approach gives the maximum flexibility.

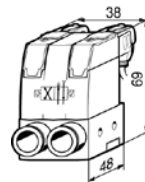
**2 - Complete modules ordering :**

Page 266 shows the ordering chart for modules supplied with their pneumatic and electrical connectors and muffler.

Valve module size 1



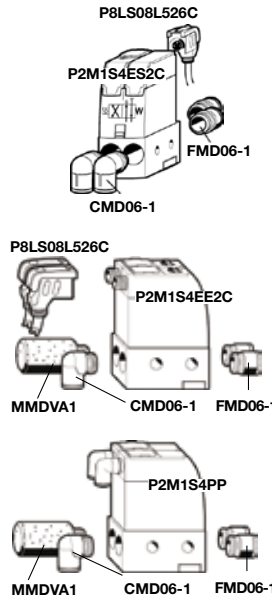
Valve module size 2



Basic modules (without connector) and clip-on electrical and pneumatic connectors

Size 1 Valve Modules

Description	Symbol	Actuator	W.(g)	Order code
4/2 Spring return		Solenoid	72	<b>P2M1S4ES2C</b>
		Air pilot	67	P2M1S4PS
4/2 Double pilot		Solenoid	87	<b>P2M1S4EE2C</b>
		Air pilot	77	P2M1S4PP
2 x 3/2 NC + NC with exhaust check valves		Solenoid	85	<b>P2M1SDEE2C</b>
		Air pilot	75	P2M1SDPP
2 x 3/2 NO + NO with exhaust check valves		Solenoid	85	<b>P2M1SCEE2C</b>
		Air pilot	75	P2M1SCPP
2 x 3/2 NC + NO with exhaust check valves		Solenoid	85	<b>P2M1SEEE2C</b>
		Air pilot	75	P2M1SEPP
3/2 NC with exhaust check valves		Solenoid	85	<b>P2M1S3ES2C</b>
		Air pilot	75	P2M1S3PS
4/3 Centre exhaust = 2 x 3/2 NC + NC without exhaust check valve		Solenoid	85	<b>P2M1SGEE2C</b>
		Air pilot	75	P2M1SGPP



Size 1 pneumatic connectors \*

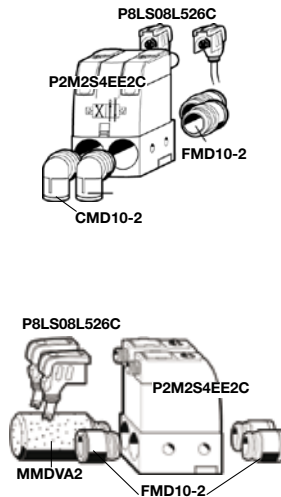
Description	Tube OD	W. (g)	Order code
Straight	4mm	2	<b>FMD04-1</b>
	6mm	3	<b>FMD06-1</b>
Elbow	4mm	3	<b>CMD04-1</b>
	6mm	5	<b>CMD06-1</b>
Plug		3	<b>PMDXX1</b>
Muffler		3	<b>MMDVA1</b>

\* Pack quantity : 10

Indicates stocked product.

Size 2 Valve Modules

Description	Symbol	Actuator	W.(g)	Order code
4/2 Spring return		Solenoid	72	<b>P2M2S4ES2C</b>
		Air pilot	67	P2M2S4PS
4/2 Double pilot		Solenoid	87	<b>P2M2S4EE2C</b>
		Air pilot	77	P2M2S4PP
2 x 3/2 NC + NC with exhaust check valves		Solenoid	85	<b>P2M2SDEE2C</b>
		Air pilot	75	P2M2SDPP
2 x 3/2 NO + NO with exhaust check valves		Solenoid	85	<b>P2M2SCEE2C</b>
		Air pilot	75	P2M2SCPP
2 x 3/2 NC + NO with exhaust check valves		Solenoid	85	<b>P2M2SEEE2C</b>
		Air pilot	75	P2M2SEPP
3/2 NC with exhaust check valves		Solenoid	85	<b>P2M2S3ES2C</b>
		Air pilot	75	P2M2S3PS
4/3 Centre exhaust = 2 x 3/2 NC + NC without exhaust check valve		Solenoid	85	<b>P2M2SGEE2C</b>
		Air pilot	75	P2M2SGPP



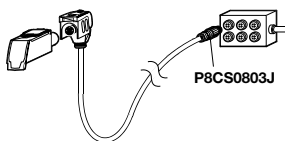
Size 2 pneumatic connectors \*

Description	Tube OD	W. (g)	Order code
Straight	6mm	3	<b>FMD06-2</b>
	8mm	4	<b>FMD08-2</b>
	10mm	r	<b>FMD10-2</b>
	12mm	r	<b>FMD12-2</b>
Elbow	6mm	5	<b>CMD06-2</b>
	8mm	6	<b>CMD08-2</b>
	10mm	r	<b>CMD10-2</b>
	12mm	r	<b>CMD12-2</b>
Plug		5	<b>PMDXX2</b>
Muff		5	<b>MMDVA2</b>

\* Pack quantity : 10

Electrical connectors

P8LS08L226C



Clip-on individual electrical connector, for each solenoid pilot, IP67 protected, including LED, voltage surge protection and flying lead cable

Straight cable quick connect to thread connector, IP67 protected.



Description	W. (g)	Order code
2 m. cable	62	<b>P8LS08L226C</b>
5 m. cable	155	<b>P8LS08L526C</b>
9 m. cable	180	<b>P8LS08L926C</b>
M8	12	<b>P8CS0803J</b>
M12	15	<b>P8CS1204J</b>

**Peripheral Valve Modules : P series**

Four additional peripheral modules complete the valve system in order to facilitate the installation of specific cylinder controls :

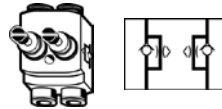
- Dual flow control, for cylinder speed adjusting;
- Dual pilot operated check valve, for cylinder positioning;
- Pressure regulator, for cylinder thrust adjusting;
- Vacuum generator, for vacuum pad controls.



**Module function selection**

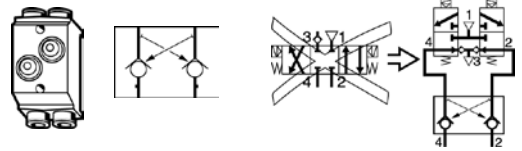
**Dual flow control**

By controlling the exhaust flows of a double acting cylinder, this module can adjust both speeds : forward and backward.



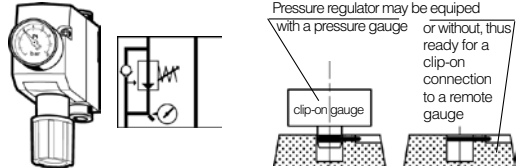
**Dual pilot operated check valve**

Combined with a double 3/2 NC + NC valve, this module will block flows and stop cylinder movement as soon as the valve outputs are both exhausted. Better than a 3 position closed centre valve, it provides accurate positioning when mounted close to the cylinder.



**Pressure regulator**

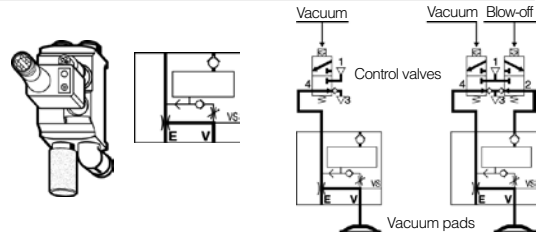
The thrust developed by a cylinder often requires adjustment by controlling the pressure to the front or back of the piston. This pressure regulator module enables manual adjustment of pressure on one side of the piston, with visual indication provided by the pressure gauge.



**Vacuum generator**

This multi-purpose module controls vacuum pads with a choice between two basics schematics :

- Controlled with only one 3/2 NC valve, the vacuum generator provides vacuum to the pads during valve actuation and then blow-off supplied from an integrated chamber.
  - Controlled with a double 3/2 NC + NC, the vacuum generator provides vacuum during the first valve actuation, and then strong blow-off from the second valve.
- Integrated blow-off flow controller. Optional plug-in vacuum sensor.

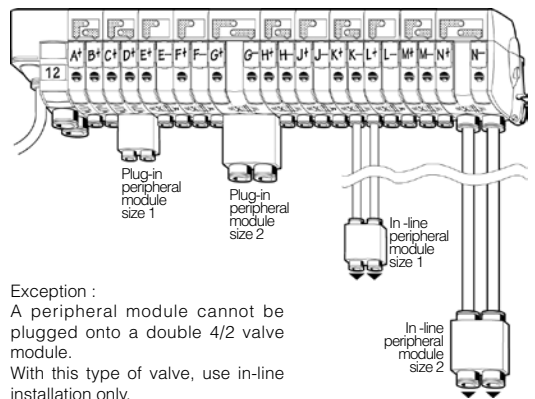


**Module installation selection**



Peripheral modules may either be mounted :





- Plugged into the valve module through double male unions;
- Or in line, close to the cylinder to control it better.

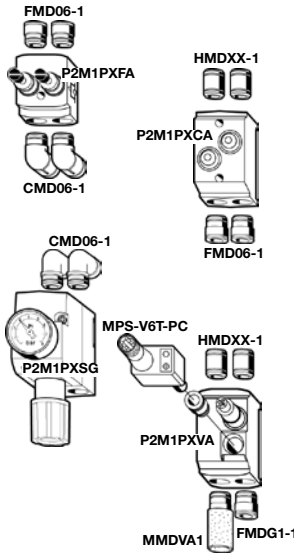


Exception :  
A peripheral module cannot be plugged onto a double 4/2 valve module.  
With this type of valve, use in-line installation only.





Basic peripheral modules (without connector) and corresponding clip-on pneumatic connectors

Size 1 Peripheral Modules

Description / Symbol	W.(g)	Order code
Dual flow control 	50	<b>P2M1PXFA</b>
Dual P.O. check valve 	50	<b>P2M1PXCA</b>
Pressure regulator 	Gauge	
	0-2 bar	With 135 <b>P2M1PXSR</b> Without 105 <b>P2M1PXST</b>
	0-4 bar	With 135 <b>P2M1PXSM</b> Without 105 <b>P2M1PXSL</b>
	0-8 bar	With 135 <b>P2M1PXSG</b> Without 105 <b>P2M1PXSN</b>
Vacuum generator 	90% Vac	30 <b>P2M1PXVA</b>




Size 1 pneumatic connectors \*




Description	Tube OD	W. (g)	Order code
Straight 	4mm	2	<b>FMD04-1</b>
	6mm	3	<b>FMD06-1</b>
Elbow 	4mm	3	<b>CMD04-1</b>
	6mm	5	<b>CMD06-1</b>
Plug 		3	<b>PMDXX1</b>
Double male union 		5	<b>HMDXX-1</b>

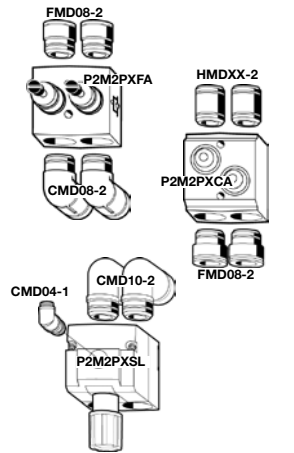
\* Pack quantity : 10

Also for vacuum ports





Description	BSP	W. (g)	Order code
Female threaded connectors 	Straight 1/8"	2	<b>FMDG1-1</b>
	Elbow 1/8"	3	<b>CMDG1-1</b>

Size 2 Peripheral Modules


Description / Symbol	W. (g)	Order code
Dual flow control 	50	<b>P2M2PXFA</b>
Dual P.O. check valve 	50	<b>P2M2PXCA</b>
Pressure regulator 	Gauge	
	0-2 bar	With 135 <b>P2M2PXSR</b> Without 165 <b>P2M2PXST</b>
	0-4 bar	With 135 <b>P2M2PXSM</b> Without 165 <b>P2M2PXSL</b>
	0-8 bar	With 135 <b>P2M2PXSG</b> Without 165 <b>P2M2PXSN</b>



Size 2 pneumatic connectors \*

Description	Tube OD	W. (g)	Order code
Straight 	6mm <sup>3</sup>		<b>FMD06-2</b>
	8mm <sup>4</sup>		<b>FMD08-2</b>
	10mm <sup>5</sup>		<b>FMD10-2</b>
	12mm <sup>6</sup>		<b>FMD12-2</b>
Elbow 	6mm <sup>5</sup>		<b>CMD06-2</b>
	8mm <sup>6</sup>		<b>CMD08-2</b>
	10mm <sup>7</sup>		<b>CMD10-2</b>
	12mm <sup>8</sup>		<b>CMD12-2</b>
Plug 		5	<b>PMDXX2</b>
Double male union 		5	<b>HMDXX-1</b>

\* Pack quantity : 10

 Indicates stocked product.

Clip-on accessories

Clip-on pressure gauge for pressure regulator modules, size 1 or size 2. Pressure gauge is equipped with a damper to protect it from pressure oscillations.



Description	W. (g)	Order code
0 to 2 bar	30	<b>P2M1K0GT</b>
0 to 4 bar	30	<b>P2M1K0GL</b>
0 to 8 bar	30	<b>P2M1K0GN</b>

Clip-on vacuum sensor for vacuum generator module. Pressure sensors are equipped with an output LED and a switch point trimmer.

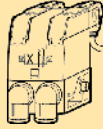


M8 electrical connector	25	<b>MPS-V6T-PC</b>
Flying lead cable	25	<b>MPS-V6T-PG</b>

**Complete module ordering, as compared to basic module ordering**

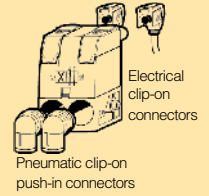
**Complete modules**

Ordered from the following pages, the complete modules are supplied all equipped with their electrical and pneumatic connectors. Only one order line is necessary, and each module comes complete, with just the necessary chosen connectors.



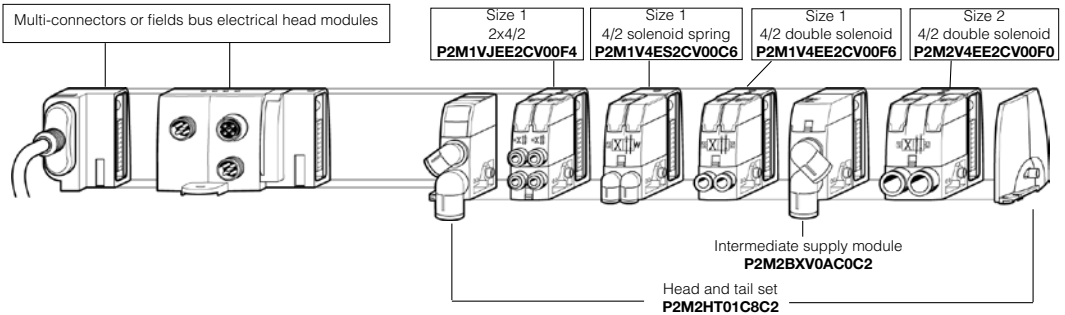
**Basic modules**

Ordered from the previous pages, the basic modules are to be equipped with their connectors. There clip-on assembly to the module is easy. The main advantage is flexibility : connector type and size may be chosen at the last moment, to fit better the machine needs.



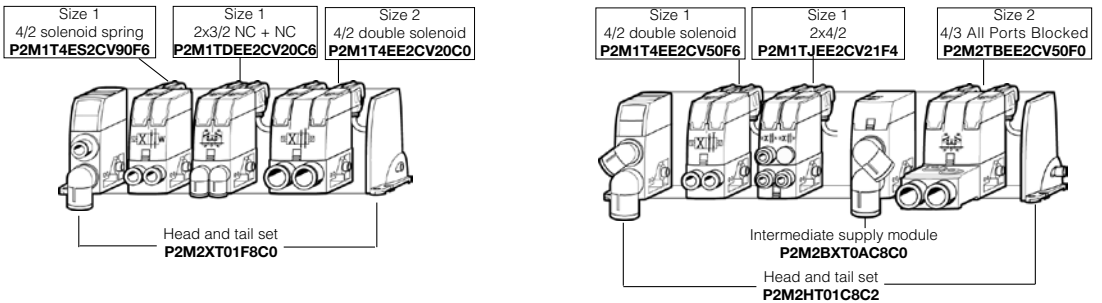
**V series**

See opposite page for complete module order code chart



**T series**

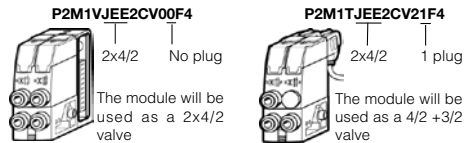
See next page for complete module order code chart



**Special case : the 2 x 4/2 mini-module plug configuration**

For micro-cylinders, this very compact 2 x 4/2 module (order code. JEE) may also be used to obtain 3/2 valves, either Normally Closed or Normally Open.

To do so, the complete module may be supplied with plugs that may replace some of the plug-in connectors.



Complete Moduflex modules, equipped with their electrical and pneumatic connectors, may be ordered. To do so, use the below chart to define the complete module order codes.

Valve modules

Minimum ordering quantity : 10 pieces

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

**P 2 M 1 V 4 E E 2 C V 0 0 F 6**

<b>Size</b>	<b>Series</b>	<b>Electrical connections</b>	<b>Pneumatic connectors</b>
1 Size 1	<b>V</b> Integrated connections	<b>V Series</b>	<b>Ports 2 &amp; 4</b>
2 Size 2	<b>T</b> Individual connectors	<b>V0</b> Integrated connection	<b>Size 1 modules</b>
		<b>T Series</b>	<b>F4</b> Straight 4 mm OD
		<b>00</b> No cable	<b>C4</b> Elbow 4 mm OD
		<b>V2</b> 2 m cable	<b>F6</b> Straight 6 mm OD
		<b>V5</b> 5 m cable	<b>C6</b> Elbow 6 mm OD
		<b>V9</b> 9 m cable	<b>Size 2 modules</b>
			<b>F6</b> Straight 6 mm OD
			<b>C6</b> Elbow 6 mm OD
			<b>F8</b> Straight 8 mm OD
			<b>C8</b> Elbow 8 mm OD
			<b>F0</b> Straight 10 mm OD
			<b>C0</b> Elbow 10 mm OD

<b>Valve Function - Solenoid Versions *</b>	
<b>4 ES</b>	4/2 Solenoid spring
<b>4 EE</b>	4/2 Double solenoid
<b>DEE</b>	2 x 3/2NC + NC (with exhaust check valve)
<b>CEE</b>	2 x 3/2 NO + NO (with exhaust check valve)
<b>EEE</b>	2 x 3/2 NC + NO (with exhaust check valve)
<b>3 ES</b>	3/2 NC (with exhaust check valve)
<b>G EE</b>	4/3 centre exhaust (= 2x3/2 without exhaust check valve)
<b>B EE</b>	2x3/2 + clipped dual PO check (= 4/3 APB)

<b>Plug configurations</b>	
<b>0</b>	No plug

<b>Only for JEE 2x4/2 modules</b>	
<b>0</b>	0 plug ( 2x 4/2)
<b>1</b>	1 plug (4/2 + 3/2)
<b>2</b>	2 plugs (2x3/2 or 1x4/2)
<b>3</b>	3 plugs (1x3/2)

<b>Size 1 only</b>	<b>J EE</b>	2x4/2 with exhaust check valve with plug configuration
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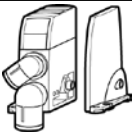
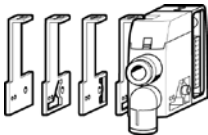
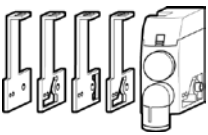
\* For T series only, air pilot versions p21, as basic modules.

Head/Tail & Intermediate Modules

Minimum ordering quantity : 10 pieces

1 2 3 4 5 6 7 8 9 10 11 12 13

**P 2 M 2 H X T 0 1 F 0 C 2**

<b>Island head or intermediate module function</b>	<b>Pressure port connector</b>	<b>Exhaust port connector</b>
<b>HXT01</b> <b>V</b> and <b>T</b> series Pneumatic head and tail set 	<b>F6</b> Straight 6 mm OD	<b>F6</b> Straight 6 mm OD
<b>BXV0A</b> <b>V</b> series intermediate supply module with a set of 4 configuration plates 	<b>C6</b> Elbow 6 mm OD	<b>C6</b> Elbow 6 mm OD
<b>BXT0A</b> <b>T</b> series intermediate supply module with a set of 4 configuration plates 	<b>F8</b> Straight 8 mm OD	<b>F8</b> Straight 8 mm OD
	<b>C8</b> Elbow 8 mm OD	<b>C8</b> Elbow 8 mm OD
	<b>F0</b> Straight 10 mm OD	<b>F0</b> Straight 10 mm OD
	<b>C0</b> Elbow 10 mm OD	<b>C0</b> Elbow 10 mm OD
	<b>F2</b> Straight 12 mm OD	<b>F2</b> Straight 12 mm OD
	<b>C2</b> Elbow 12 mm OD	<b>C2</b> Elbow 12 mm OD
	<b>PP</b> Plug	<b>PP</b> Plug
	<b>MM</b> Muffler	<b>MM</b> Muffler



Complete Moduflex stand alone valves, equipped with their electrical and pneumatic connectors, may be ordered.

To do so, use the below chart to define the complete module order codes.

Stand alone valve modules

Minimum ordering quantity : 10 pieces

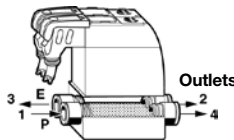
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

**P 2 M 1 S 4 E E 2 C V 5 A F 6**

Size	1 Size 1 2 Size 2	
Series	S Stand alone valve modules	
Electrical connector	00 No cable V2 2 m cable V5 5 m cable V9 9 m cable	
Valve Function - Solenoid Versions *		
4 ES	4/2 Solenoid spring	
4 EE	4/2 Double solenoid	
D EE	2 x 3/2NC + NC (with exhaust check valve)	
C EE	2 x 3/2 NO + NO (with exhaust check valve)	
E EE	2 x 3/2 NC + NO (with exhaust check valve)	
3 ES	3/2 NC (with exhaust check valve)	
G EE	4/3 centre exhaust (= 2x3/2 without exhaust check valve)	
B EE	2x3/2 + clipped dual PO check (= 4/3 APB)	
Pneumatic connectors		
Ports 1 & 3	Outlet ports 2 & 4	Tube OD
A Straight & straight	F Straight & straight	<b>Size 1 modules</b>
B Elbow & elbow	C Elbow & elbow	4 4 mm OD
C Straight & muffler	0 No connector for plug-in P module	6 6 mm OD
D Elbow & muffler		<b>Size 2 modules</b>
		6 6 mm OD
		8 8 mm OD
		0 10 mm OD

\* Air pilot version, as basic modules.

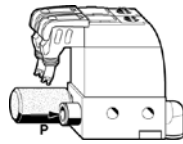
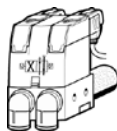
Size 1  
4/2 solenoid spring  
**P2M1S4ES2CV5CC6**



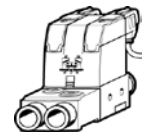
Size 1  
2x3/2 NC + NC  
**P2M1SDEE2CV2BC6**



Size 2  
4/2 double solenoid  
**P2M2S4EE2CV9CC8**



Size 2  
2x3/2 NC + NC  
**P2M2SDEE2CV2CC0**



Size 2  
4/3 All Ports Blocked  
**P2M2SBEE2CV2AF0**

Complete Moduflex peripheral module, equipped with their pneumatic connectors, may be ordered. To do so, use the below chart to define the complete module order codes.

**Dual flow control, dual pilot operated check valve, and pressure regulator peripheral modules**

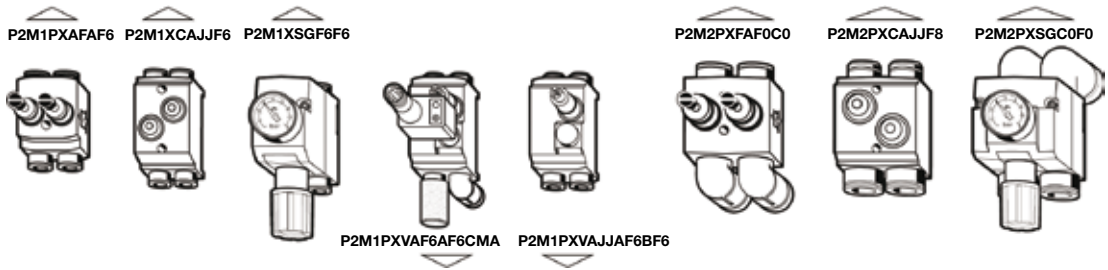
Minimum ordering quantity : 10 pieces

1 2 3 4 5 6 7 8 9 10 11 12

**P 2 M 1 P X F A J J F 6**

Size		Peripheral module function	
1	Size 1	<b>FA</b>	Dual flow control
2	Size 2	<b>CA</b>	Dual P.O. check valve
<b>Pressure regulators</b>			
		<b>SR</b>	0-2 bar, with pressure gauge
		<b>SM</b>	0-4 bar, with pressure gauge
		<b>SG</b>	0-8 bar, with pressure gauge

Inlet port pneumatic connectors		Outlet port pneumatic connectors	
<b>Size 1 modules</b>			
<b>F4</b>	Straight 4 mm OD	<b>F4</b>	Straight 4 mm OD
<b>C4</b>	Elbow 4 mm OD	<b>C4</b>	Elbow 4 mm OD
<b>F6</b>	Straight 6 mm OD	<b>F6</b>	Straight 6 mm OD
<b>C6</b>	Elbow 6 mm OD	<b>C6</b>	Elbow 6 mm OD
<b>Size 2 modules</b>			
<b>F6</b>	Straight 6 mm OD	<b>F6</b>	Straight 6 mm OD
<b>C6</b>	Elbow 6 mm OD	<b>C6</b>	Elbow 6 mm OD
<b>F8</b>	Straight 8 mm OD	<b>F8</b>	Straight 8 mm OD
<b>C8</b>	Elbow 8 mm OD	<b>C8</b>	Elbow 8 mm OD
<b>F0</b>	Straight 10 mm OD	<b>F0</b>	Straight 10 mm OD
<b>C0</b>	Elbow 10 mm OD	<b>C0</b>	Elbow 10 mm OD



**Vacuum generator peripheral module**

Minimum ordering quantity : 10 pieces

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

**P 2 M 1 P X V A F 6 A F 6 C M A**

Size		Peripheral module function	
1	Size 1	<b>VA</b>	Vacuum generator

Vacuum connectors and vacuum sensors (2) *		Exhaust port (3) *	
<b>F4</b>	Straight 4 mm OD	<b>F4</b>	Straight 4 mm OD
<b>C4</b>	Elbow 4 mm OD	<b>C4</b>	Elbow 4 mm OD
<b>F6</b>	Straight 6 mm OD	<b>F6</b>	Straight 6 mm OD
<b>C6</b>	Elbow 6 mm OD	<b>C6</b>	Elbow 6 mm OD
<b>JJ</b>	Clip-on double male	<b>MA</b>	Clip-on muffler

Vacuum connectors and vacuum sensors (2) *		Vacuum connectors and vacuum sensors (2) *	
<b>F4</b>	Straight 4 mm OD	<b>A</b>	2 push-in connectors
<b>C4</b>	Elbow 4 mm OD	<b>B</b>	1 push-in connector + 1 plug
<b>F6</b>	Straight 6 mm OD	<b>C</b>	1 push-in connector + 1 vacuum sensor MPS-V6T-PC
<b>C6</b>	Elbow 6 mm OD		
<b>F1</b>	Straight threaded 1/8"		
<b>C1</b>	Elbow threaded 1/8"		

**Modulflex Valve Island Configurator**

This software facilitates any valve island configuration and its bill ordering through basic or complete modules.

**Pre-assembled valve island ordering**

As an option, so defined with the configurator, any Modulflex Valve island may be ordered as pre-assembled.



**Island configuration practice**

An easy step by step procedure, finalized with the complete valve island print, composition report and 2D drawing.

*Valve island modules identification*

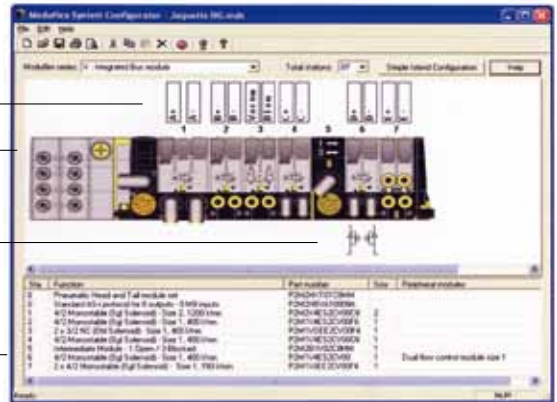
*Valve island graphic description*

*including pneumatic function module symbol, outlet port connector, pneumatic and electrical head module,...*

*Additional peripheral modules*

*Valve island composition*

*including each module description and order code*

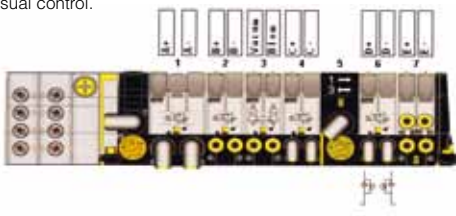


**An easy to use software for a complete ordering tool**

The Modulflex Valve Island Configurator software offers an easy way to, step by step, configure the required valve island for the application.

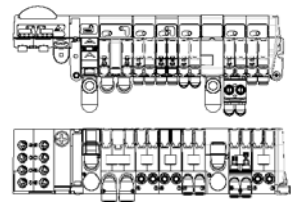
**Valve island print with symbols and markings**

Once the valve island configured, picture of the configuration allows a visual control.



**2D drawing :**

A direct valve island configuration exportation function to .dxf format included.



**3D drawing library :**

3 formats are available on the CD for each basic module, electrical components and pneumatic connectors.



**4 pages report :**

A complete 4 pages report can be edit, giving :

Page 1	Page 2	Page 3	Page 4
Complete list of "basic modules" pneumatic connectors, mufflers and electrical connectors	Complete list of components splitted slice by slice	Detail list of "complete module" with module width and total valve island length	Warnings and advices depending on the configuration

**Multi-language CD-Rom order code :**

PDE2536CDV3.1-ev

**3D e-configurator software :**

Also available, a 3D e-configurator on : <http://www.parker.com/pneu/modulflex>



1 - Multi-connector or sub-D 25 valve island

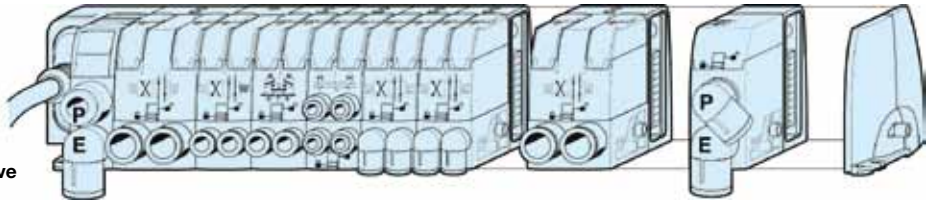
Multi-connector or sub-D 25 electrical head module width : 15 mm

Head and tail pneumatic module set width : 48 mm

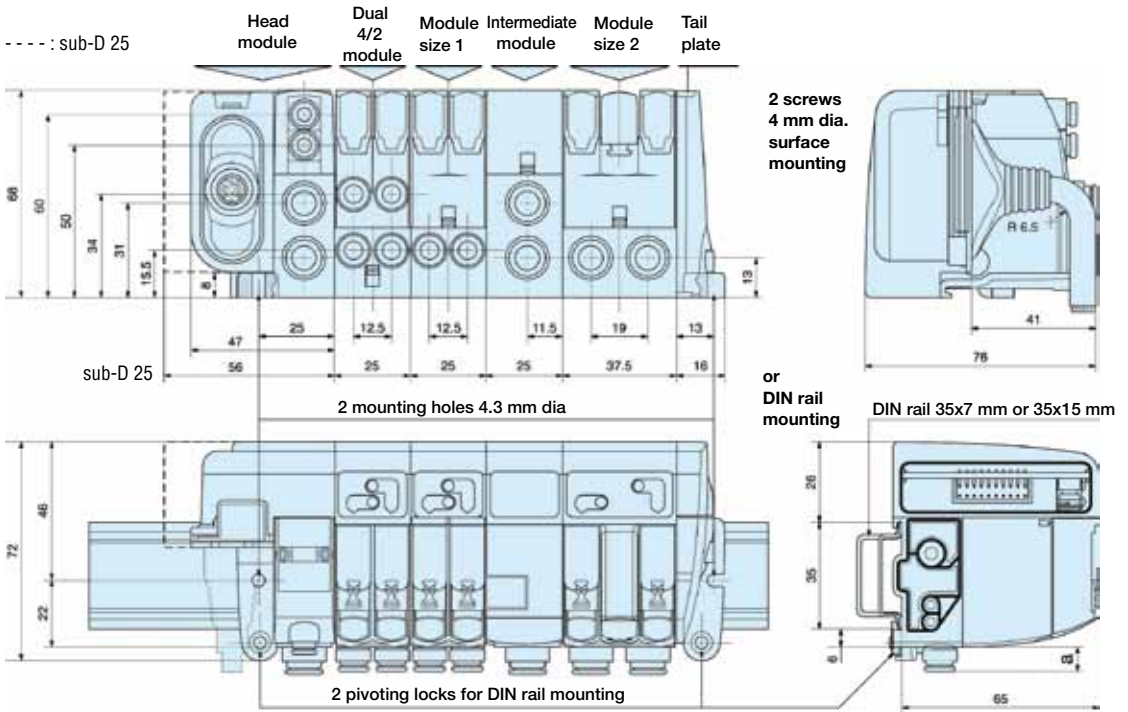
Modules size 1 width : 25 mm

Modules size 2 width : 37.5 mm

Intermediate module width : 25 mm



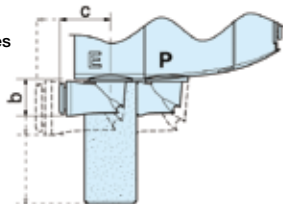
Island total width depending on valve composition



Special case : 4/3 closed centre function within island version : Add the dimensions of the dual P.O. check valve module plugged into the island.

Island head and intermediate modules

	a	b	c
6 mm tube OD	8	13	16
8 mm tube OD	9	16	19
10 mm tube OD	13	18	22
12 mm tube OD	13	19	25
muffler		40	



Island valves modules

	OD tube	a	b	c
Size 1 modules	4 mm	8	10	12
	6 mm	8	13	16
Size 2 modules	8 mm	9	16	19
	10 mm	13	18	22



2 - Field bus connected islands

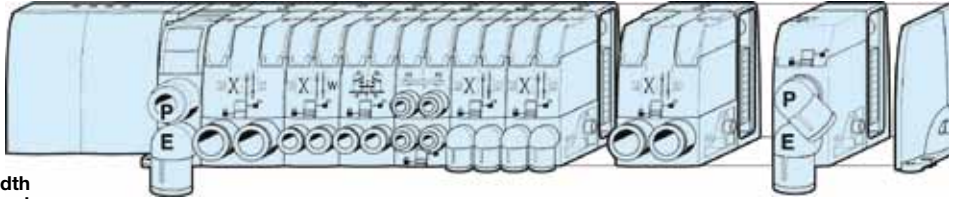
Electrical field bus head module  
width : 62 mm

Head and tail pneumatic module set  
width : 48 mm

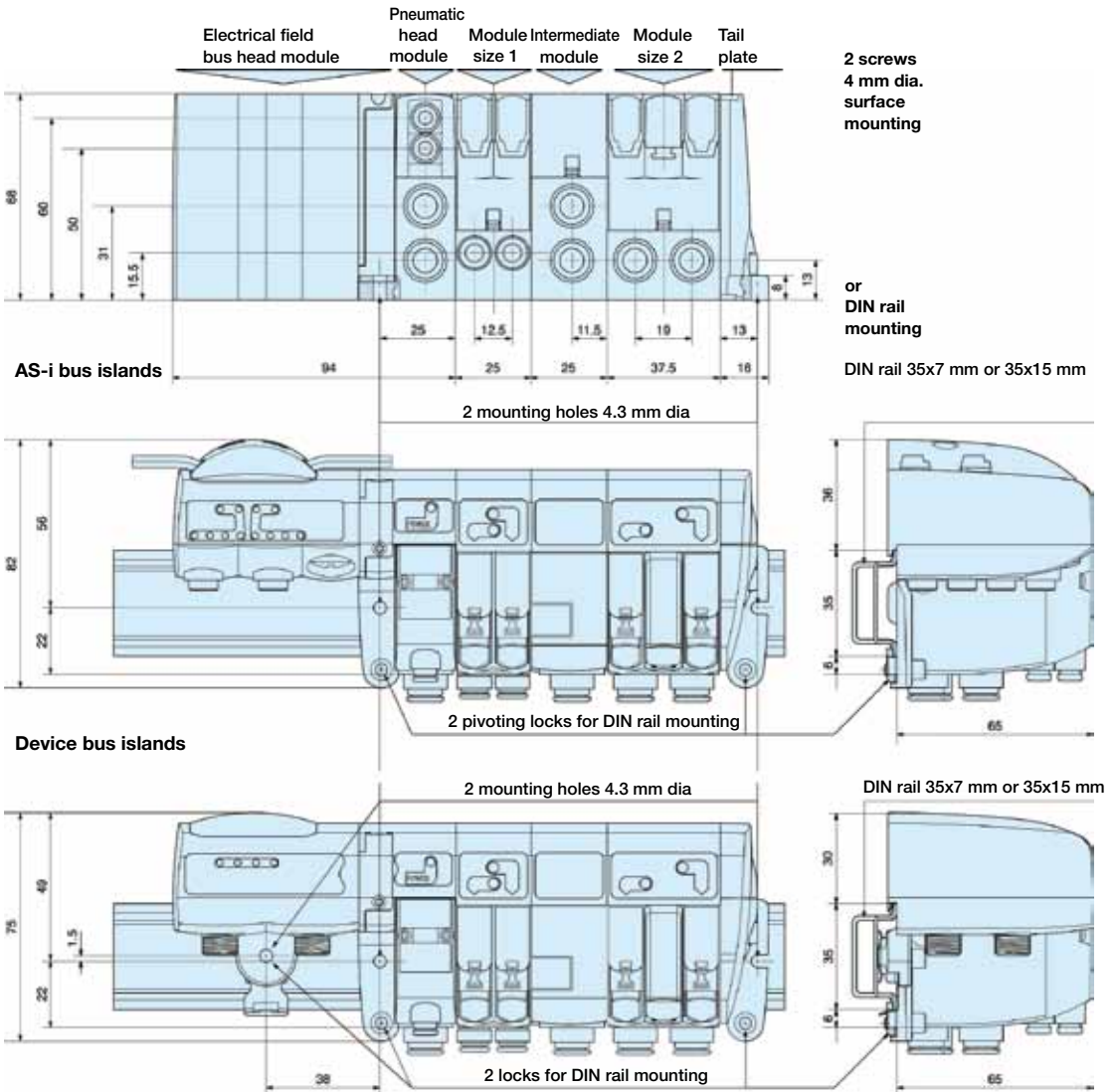
Modules size 1  
width : 25 mm

Modules size 2  
width : 37.5 mm

Intermediate module  
width : 25 mm

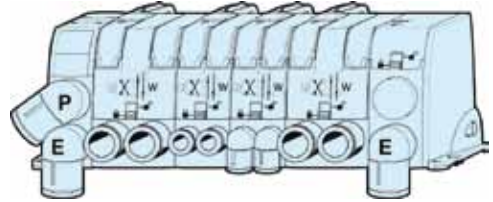
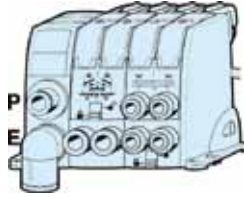


Island total width depending on valve composition

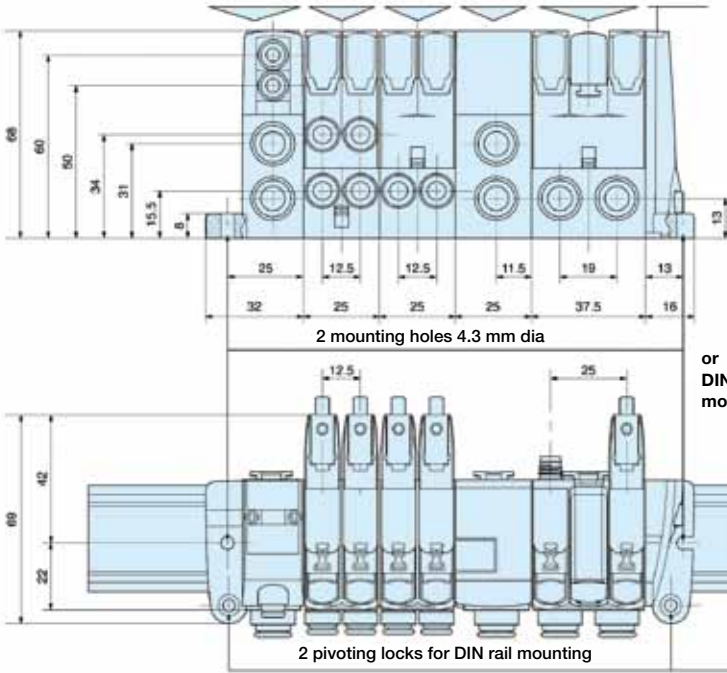


Island total width depending on valve composition

Pneumatic head and tail module width =>	48 mm	Modules size 1 25 mm	Modules size 2 37.5 mm	Intermediate module 25 mm
---	-------	----------------------	------------------------	---------------------------



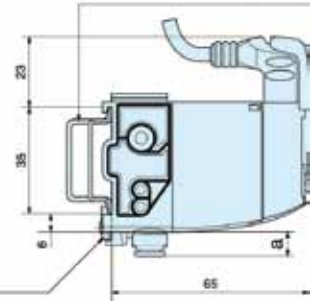
Pneumatic head module    Dual 4/2 module    Module size 1    Intermediate module    Module size 2    Tail plate



2 screws 4 mm dia. surface mounting

DIN rail 35x7 mm or 35x15 mm

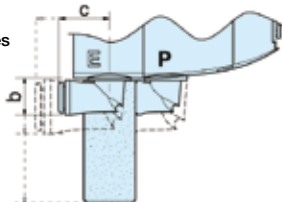
or DIN rail mounting



Special case : 4/3 closed centre function within island version : Add the dimensions of the dual P.O. check valve module plugged into the island.

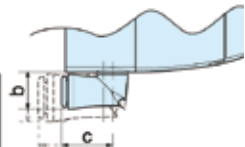
Island head and intermediate modules

	a	b	c
6 mm tube OD	8	13	16
8 mm tube OD	9	16	19
10 mm tube OD	13	18	22
12 mm tube OD	13	19	25
muffler	40		

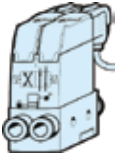


Island valves modules

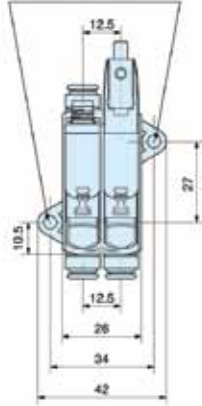
	OD tube	a	b	c
Size 1 modules	4 mm	8	10	12
	6 mm	8	13	16
Size 2 modules	8 mm	9	16	19
	10 mm	13	18	22



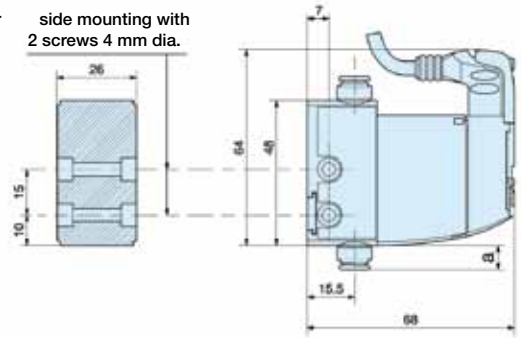
**Stand-alone valve size 1**



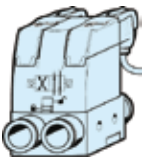
surface mounting with screws  
4 mm dia. into retractable brackets 3 mm thick



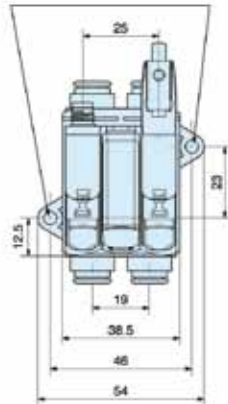
or side mounting with 2 screws 4 mm dia.



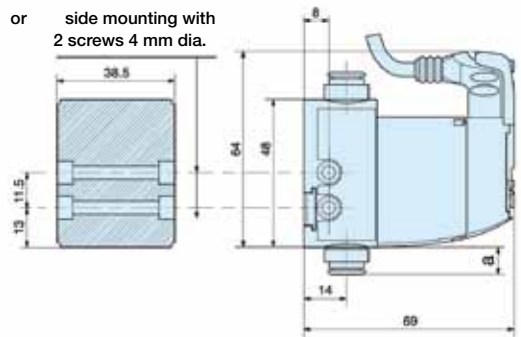
**Stand-alone valve size 2**



surface mounting with screws  
4 mm dia. into retractable brackets 3 mm thick



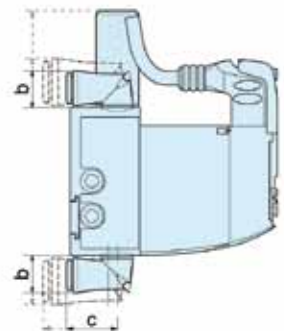
or side mounting with 2 screws 4 mm dia.



Dimensions and mountings of the stand-alone valves 4/2, double and single 3/2, 4/3 vented centre and 4/3 pressure centre.

Special case : 4/3 closed centre. Add the dual P.O. check valve module that has been plugged in the basic valve.

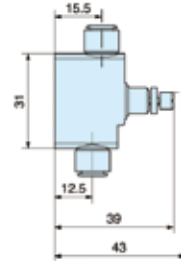
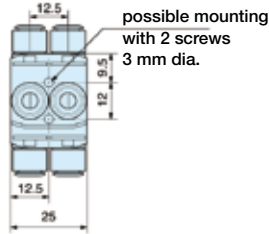
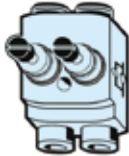
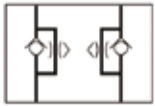
		a	b	c
Size 1 modules	4 mm tube OD	8	10	12
	6 mm tube OD	8	13	16
	muffler		31	
Size 2 modules	8 mm tube OD	9	16	19
	10 mm tube OD	13	18	22
	muffler		40	



**Reminder :** peripheral modules may either be plugged in a valve output ports or mounted in line separate from the valve



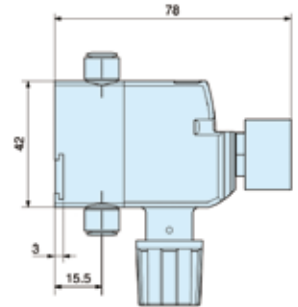
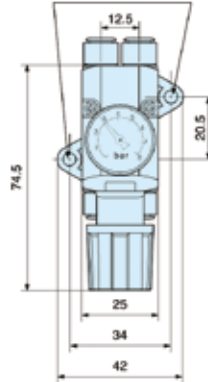
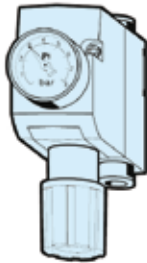
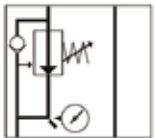
**Dual flow control module size 1**



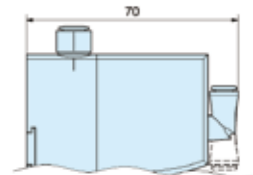
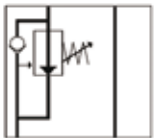
**Pressure regulation module size 1**

mounting with 2 screws 4 mm dia. on retractable brackets

- with gauge

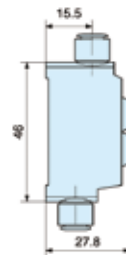
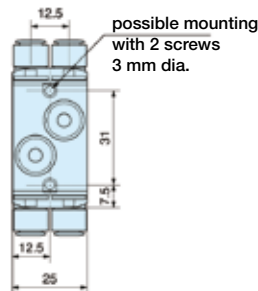
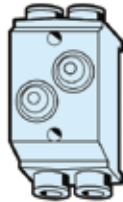
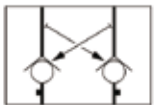


- without gauge



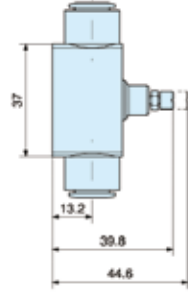
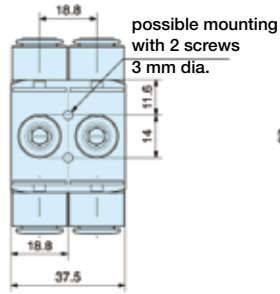
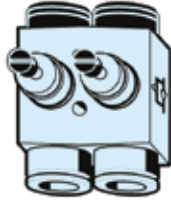
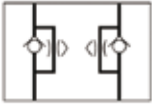
swivel elbow push-in connector 4 mm OD tube

**Dual P.O. check valve module size 1**



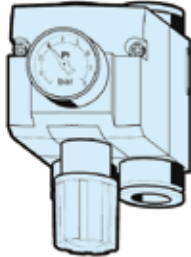
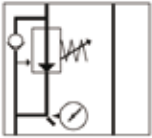


Dual flow control module size 2

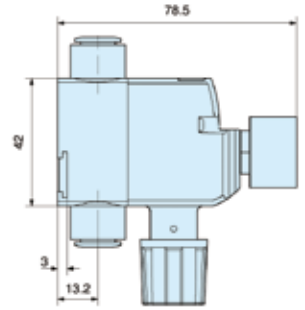
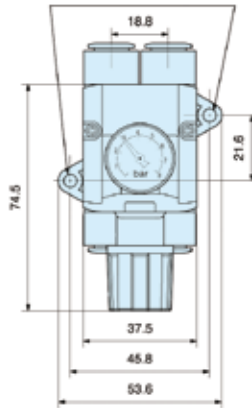


Pressure regulation module size 2

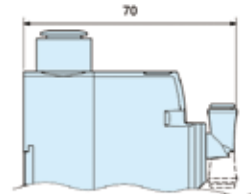
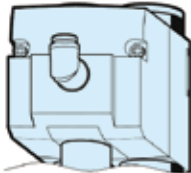
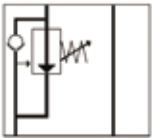
- with gauge



mounting with 2 screws 4 mm dia.  
on retractable brackets

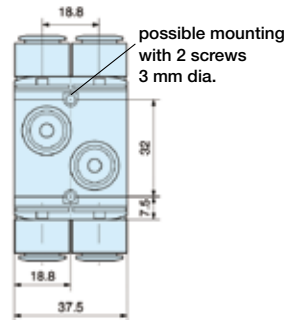
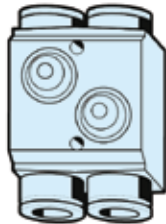
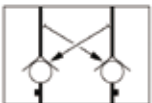


- without gauge



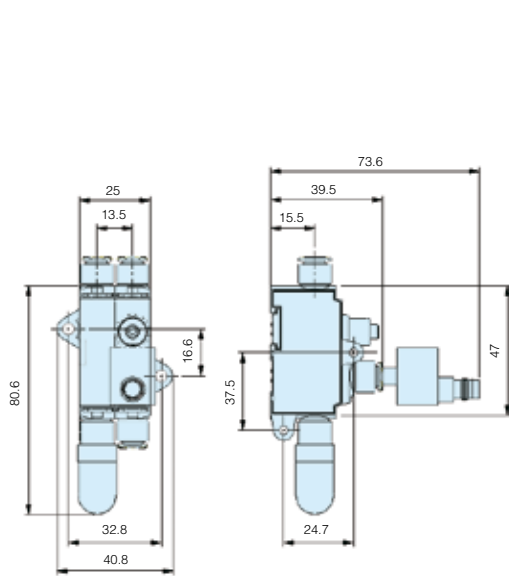
swivel elbow push-in  
connector 4 mm OD tube

Dual P.O. check valve module size 2

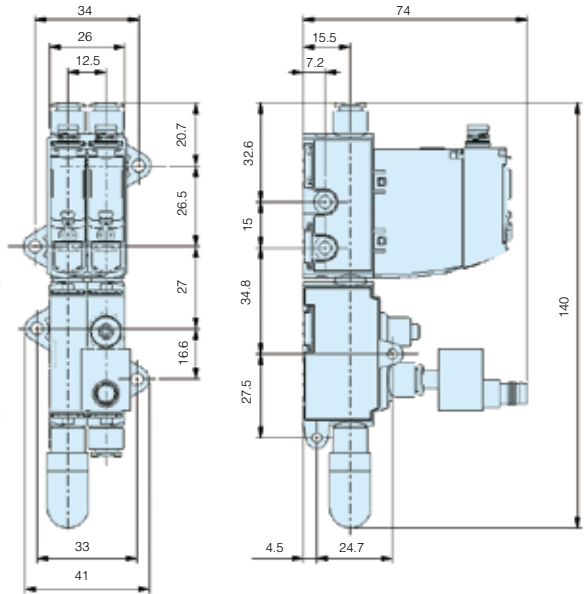


Vacuum generator module

In-line



With Moduflex valve





# Industrial Communication System

## Isysnet / Moduflex

*Isysnet system for **centralised** and **decentralised** applications*



### Isysnet System for Centralised applications

Isysnet System has 4 major components :

- **Communication interface modules** provide the network- interface circuitry
- **I/O modules** provide the field interface, system-interface circuitry, and bases for mounting
- **Power distribution module** provide the solution to expandability of the Isysnet system or multiple power supply

### Moduflex Bus System for Decentralised applications

The Moduflex communication module is directly attach the either, a Moduflex, Isys Micro or Isys ISO manifold in a compact valve island directly connectable to the industrial network.

**Pneumatic variants using Isysnet Industrial communication system for Centralised applications**

**Isysnet device with electric modules only**



**Isysnet with Isys Micro extended device**



**Isysnet with Isys Micro Valves island**



**Isysnet with Isys ISO valves island**

Isys ISO 15407-2 – HA & HB  
Isys ISO 5599-2 – H1



**Pneumatic variants using Moduflex Fieldbus modules for Decentralised applications**

**Moduflex Bus with Moduflex Valve System**



**Moduflex Bus with Isys Micro Valves island**



**Moduflex Bus With Isys ISO 15407-2 or 5599-2 valves island**

Isys ISO 15407-2 – HA & HB  
Isys ISO 5599-2 – H1



**Isysnet Device constitution overview for a Centralised application**

**For main device**

**For both main and extended devices**



**For extended device**



**Communication modules :**

- Fieldbus or Industrial Ethernet protocol
- Network connection
- Separated 24VDC for logic and user power supply
- Configuration with coding wells and bus status display by LED

**Bus extender cable :**

- Cable linking extended device through the Sub-network
- Sub-network connection from Isysnet module or Isys Micro Valve driver
- Transferring both sub-network communication and 5VDC for bus power supply

**I/O modules :**

- Choice of Digital or Analogic I/O modules offering multiple industrial connection types
- Connection to the Sub-network and the separated 24VDC for both logic and user through the socket
- I/O and sub-network status display by LEDs

**Power extender module :**

- Additional separated 24VDC power supply for logic and user allowing multiple permanent or safety power supply recommendations
- Both Logic and User electrical power supply display by separated LEDs

**Isysnet end section :**

- Specific socket or valve driver without extender bus connector for Isysnet end section

**Isysnet prologation section :**

- Specific socket with sub-network extender cable and extended device head plate
- Valve driver including extender bus connector for sub-network continuity

**Moduflex constitution overview for a Decentralised application**



**Communication module :**

- Fieldbus protocols
- Network connection
- Separated power supply for communication and solenoid valves
- Addressing and speed communication configuration by coding wells
- Bus status display by LED

**Bus module adaptor :**

Using the appropriate adaptor, the Moduflex Bus module can be assembled to :

- Moduflex Valve System
- Isys Micro
- Isys ISO 15407-2 – HA & HB
- Isys ISO 5599-2 – H1

## Isysnet Industrial Communication modules



A choice of different protocols to connect the Isysnet device to the requested industrial network :

- DeviceNet
- Profibus DP
- ControlNet
- Ethernet I/P

## Digital and Analogue Isysnet I/O modules :



Application always needs a wide sensor quantity, diversity and additional electric actuators as well, with an appropriate electrical connection.

With a modularity from 2 to 16 channels, the wide Isysnet range of digital or analogue inputs and outputs modules offers a choice of industrial connection :

- M8 -3 PINs
- M12 -5 PINs
- M23 - 12 PINs

## Isysnet extension power supply module :



The auxiliary power from the communication module supports up to 10 I/O modules. Also, for application needing a huge I/O modules quantity, this 24VDC extension power module extends the backplane bus power to support up to 10 more I/O modules.

Also, when safety recommendations require multiple permanent and safety power supplies, this 24VDC extension power module avoids to get a separated power supply section in the Isysnet device.

## Isysnet and Isys Micro bus extender cable



An Isysnet device can be split into the Isysnet section or, from an Isys Micro valve manifold to an extended Isysnet section. Both cables avoid the backplane Bus power and communication.

The Isysnet device has to be closed with a 32 output driver (internally ending the backplane bus) or using the Isysnet terminating base module

**Isysnet 32 Outputs driver for valve islands in centralised applications**

**Isysnet 32 Outputs driver for Isys Micro Valve Islands**



- Isys Micro valve nominal flow up to 280 NI/mn
- 32 outputs per module to handle up to 32 solenoids per valve island
- Up to 4 valve islands linked through the internal sub-network for a total of 128 solenoids per device
- With or without additional user power supply
- With or without bus extender

**Isysnet 32 Outputs driver for Isys ISO Valve Islands**



ISO 15407-2

ISO 5599-2

- ISO 15407-2 Size 02 (HB) 18 mm 380 NI/mn
- ISO 15407-2 Size 01 (HA) 26 mm 590 NI/mn
- ISO 5599-2 Size 1 (H1) 42 mm 1030 NI/mn
- 32 outputs per module to handle up to 32 solenoids per valve island.

**Moduflex fieldbus modules for valve islands in decentralised applications**

**Moduflex fieldbus adaptor for Isys Micro and Isys ISO valve islands**



Moduflex valve system

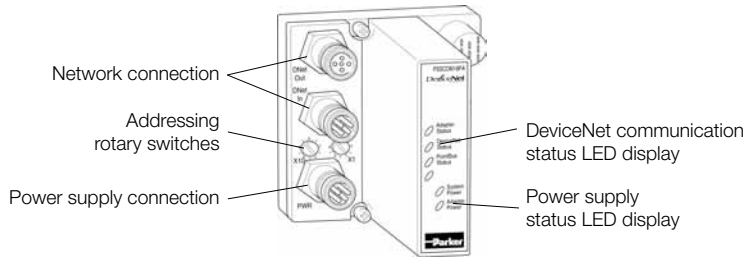
Isys Micro

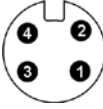




ISO 15407-2  
HA - HB

ISO 5599-2  
H1

- Compatible with all Moduflex fieldbus protocol modules handling up to 16 solenoids:
  - DeviceNet
  - CANopen
  - Profibus DP
  - InterBus-S
  - AS-i standard and extended a-b coding versions.

**DeviceNet communication module**



DeviceNet Adapters		
DeviceNet module order code	PSSCDM12A	PSSCDM18PA
<b>Adapters connection</b>		
Power supply connection	7/8" - 4 PINs - Male :  <ul style="list-style-type: none"> <li>- PIN 1 : User power +</li> <li>- PIN 2 : Adapter power +</li> <li>- PIN 3 : Adapter power -</li> <li>- PIN 4 : User power -</li> </ul>	
Bus IN connection	M12 - 5 PINs - Male - A coding	M18 - 5 PINs - Male :
	  <ul style="list-style-type: none"> <li>- PIN 1 : Drain</li> <li>- PIN 2 : DeviceNet V+</li> <li>- PIN 3 : DeviceNet V-</li> <li>- PIN 4 : CAN High</li> <li>- PIN 5 : CAN Low</li> </ul>	
Bus OUT connection	M12 - 5 PINs - Female - A coding	M18 - 5 PINs - Female :
	  <ul style="list-style-type: none"> <li>- PIN 1 : Drain</li> <li>- PIN 2 : V+</li> <li>- PIN 3 : V-</li> <li>- PIN 4 : CAN High</li> <li>- PIN 5 : CAN Low</li> </ul>	
LED display	1 - Adapter status : green/red 2 - DeviceNet status : green/red 3 - Status : green/red 4 - System power (5V power) : green 5 - Adapter power (24V from field supply) : green	

**DeviceNet communication module connection accessories**

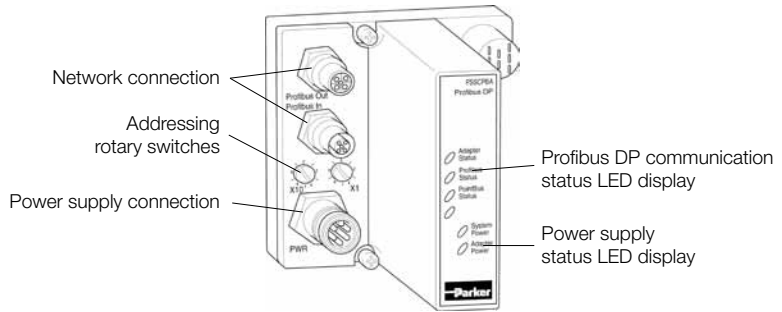


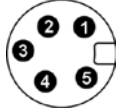

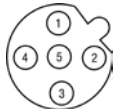
P8CS1205BA

Description	Connector type	W (g)	Order code
Power supply connector	7/8" - 4 PINs	40	<b>P8CS7804AA</b>
Bus IN connector	M12 female - A coding	25	<b>P8CS1205AA</b>
Bus OUT connector	M12 male - A coding	25	<b>P8CS1205BA</b>
Line terminaison	M12 male - A coding	25	<b>P8BPA00MA</b>



Profibus DP communication module



Profibus DP Adapters	
Profibus DP module order code	<b>PSSCPBA</b>
Profibus DP adapters connection	
Power supply connection	7/8" - 5 PINs - Male :  <ul style="list-style-type: none"> <li>- PIN 1 : User power -</li> <li>- PIN 2 : Adapter power -</li> <li>- PIN 3 : Protective GND</li> <li>- PIN 4 : Adapter power +</li> <li>- PIN 5 : User power +</li> </ul>
BUS IN connection	M12 - 5 PINs - Male - B coding  <ul style="list-style-type: none"> <li>- PIN 1 : + 5 VDC Bus</li> <li>- PIN 2 : A - Line</li> <li>- PIN 3 : GND Bus</li> <li>- PIN 4 : B - Line</li> <li>- PIN 5 : Shield</li> </ul>
BUS OUT connection	M12 - 5 PINs - Female - B coding  <ul style="list-style-type: none"> <li>- PIN 1 : + 5 VDC Bus</li> <li>- PIN 2 : A - Line</li> <li>- PIN 3 : GND Bus</li> <li>- PIN 4 : B - Line</li> <li>- PIN 5 : Shield</li> </ul>
LED display	1 - Adapter status : green/red 2 - Profibus DP status : green/red 3 - Bus status : green/red 4 - System power (5V power) : green 5 - Adapter power (24V from field supply) : green

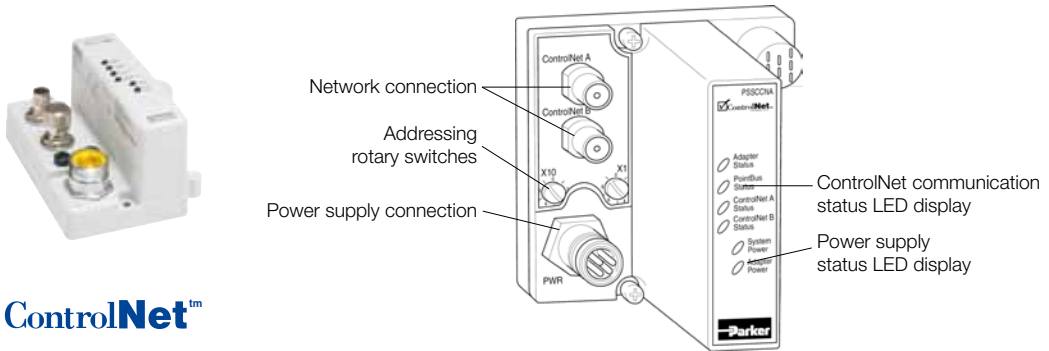
Profibus DP communication module connection accessories




P8CS1205BB

Description	Connector type	W (g)	Order code
Power supply connector	7/8" - 5 PINs	40	<b>P8CS7805AA</b>
Bus IN connector	M12 female - B coding	25	<b>P8CS1205AB</b>
Bus OUT connector	M12 male - B coding	25	<b>P8CS1205BB</b>
Line terminaison	M12 male - B coding	25	<b>P8BPA00MB</b>

**ControlNet communication module**



**ControlNet™**

<b>ControlNet Adapters</b>	
ControlNet module order code	<b>PSSCNA</b>
<b>ControlNet adapters connection</b>	
Power supply connection	7/8" - 4 PINs - Male :  <ul style="list-style-type: none"> <li>- PIN 1 : User power +</li> <li>- PIN 2 : Adapter power +</li> <li>- PIN 3 : Adapter power -</li> <li>- PIN 4 : User power -</li> </ul>
ControlNet IN connection	TNC style connector
ControlNet OUT connection	TNC style connector
LED display	1 - Adapter status : green/red 2 - Bus status : green/red 3 - ControlNet A status : green/red 4 - ControlNet B status : green/red 5 - System power (Bus 5V power) : green 6 - Adapter power (24V from field supply) : green

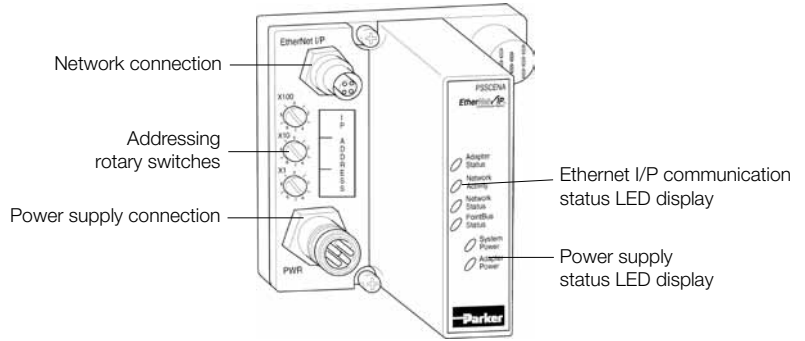
**ControlNet communication module connection accessories**





P8CS7804AA

Description	Connector type	W (g)	Order code
Power supply connector	7/8" - 4 PINs	40	<b>P8CS7804AA</b>

**Ethernet I/P communication module**



<b>Ethernet I/P Adapters</b>	
Ethernet I/P module order code	<b>PSSCENA</b>
<b>Ethernet I/P adapters connection</b>	
Power supply connection	7/8" - 4 PINs - Male :  <ul style="list-style-type: none"> <li>- PIN 1 : User power +</li> <li>- PIN 2 : Adapter power +</li> <li>- PIN 3 : Adapter power -</li> <li>- PIN 4 : User power -</li> </ul>
Ethernet I/P connection	M12 - 4 PINs - Female - D coding :  <ul style="list-style-type: none"> <li>- PIN 1 : Tx +</li> <li>- PIN 2 : Rx +</li> <li>- PIN 3 : Tx -</li> <li>- PIN 4 : Rx -</li> </ul>
LED display	1 - Adapter status : green/red 2 - Network activity : green 3 - Network status : green/red 4 - Bus status : green/red 5 - System power (Bus 5V power) : green 6 - Adapter power (24V from field supply) : green

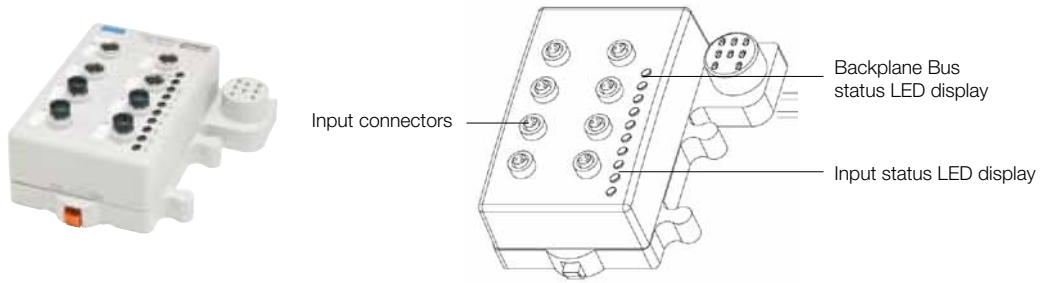
**Ethernet I/P communication module connection accessories**







P8CS7804AA


Description	Connector type	W (g)	Order code
Power supply connector	7/8" - 4 PINs	40	<b>P8CS7804AA</b>

**Isysnet Digital Input modules**





<b>Isysnet Digital DC Input modules</b>				
Input module order code	<b>PSSN8M8A</b>	<b>PSSP8M8A</b>	<b>PSSN8M12A</b>	<b>PSSP8M12A</b>
				
Nb of Inputs	8	8	8	8
Nb of Input connectors	8 x M8	8 x M8	4 x M12	4 x M12
Input density / connector	1	1	2	2
Sensor polarity	PNP	NPN	PNP	NPN
<b>Input module connection</b>				
Input connector	M8 - 3 PINs - Female  - PIN 1 : + 24 VDC - PIN 3 : Common - PIN 4 : Input		M12 - 5 PINs - Female  - PIN 1 : + 24 VDC - PIN 2 : Odd input (1, 3, 5, 7) - PIN 3 : Common - PIN 4 : Even input (0, 2, 4, 6) - PIN 5 : n/a	
Input status LED display (Logic side)	8 x Yellow			
Backplane Bus status LED display (Logic side)	Network status : 1 x green / red Module status : 1 x green / red			

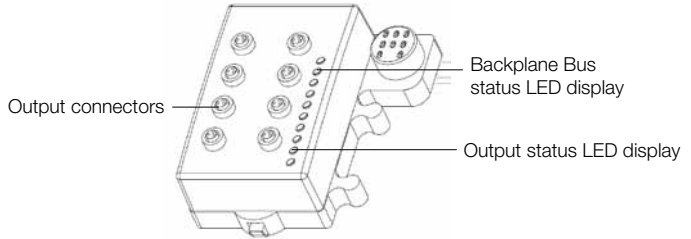
**Isysnet Backplane Bus accessories**









	Description	Cable length	W (g)	Order code
	Backplane Bus extender	1 meter	380	<b>PSSEXT1</b>
		3 meter	760	<b>PSSEXT3</b>
		Terminaison module	200	<b>PSSTERM</b>

**Connectors for inputs**

	Description	Connector type	W (g)	Order code
	Cable quick connect connector	M8 male	25	<b>P8CS0803J</b>
		M12 male - A coding	25	<b>P8CS1204J</b>
	Y shape	M12 male - 2 x M12 female	25	<b>P8CSY1212A</b>

**Isysnet Digital Output modules**



<b>Isysnet Digital DC Output modules</b>				
Output module order code	<b>PSST8M8A</b>	<b>PSST8M12A</b>	<b>PSST8M23A</b>	<b>PSSTR4M12A</b>
				
Nb of Outputs	8	8	8	4
Nb of Output connectors	8 x M8	4 x M12	1 x M23	4 x M12
Output density / connector	1	2	8	1
<b>Output module connection</b>				
Output connector	<p>M8 - 3 PINS Female</p>  <ul style="list-style-type: none"> <li>- PIN 1 : +24 VDC</li> <li>- PIN 3 : Common</li> <li>- PIN 4 : Outputs (0 to 7)</li> </ul>	<p>M12 - 5 PINS Female</p>  <ul style="list-style-type: none"> <li>- PIN 1 : +24 VDC</li> <li>- PIN 2 : Odd output (1, 3, 5, 7)</li> <li>- PIN 3 : Common</li> <li>- PIN 4 : Even output (0, 2, 4, 6)</li> <li>- PIN 5 : n/a</li> </ul>	<p>M23 - 12 PINS Female</p>  <ul style="list-style-type: none"> <li>- PIN 1 : Output 0</li> <li>- PIN 2 : Output 1</li> <li>- PIN 3 : Output 2</li> <li>- PIN 4 : Output 3</li> <li>- PIN 5 : Output 4</li> <li>- PIN 6 : Output 5</li> <li>- PIN 7 : Output 6</li> <li>- PIN 8 : Output 7</li> <li>- PIN 9 : Return (common)</li> <li>- PIN 10 : Return (common)</li> <li>- PIN 11 : +24 VDC</li> <li>- PIN 12 : Chassis</li> </ul>	<p>M12 - 5 PINS Female</p>  <ul style="list-style-type: none"> <li>- PIN 1 : +24 VDC</li> <li>- PIN 2 : Odd outputs</li> <li>- PIN 3 : Common</li> <li>- PIN 4 : Even outputs</li> <li>- PIN 5 : n/a</li> </ul>
Output status LED display (Logic side)	8 x Yellow / Red			4 x Yellow / Red
Backplane Bus status LED display (Logic side)	Network status : 1 x green / red Module status : 1 x green / red			

**Isysnet Backplane Bus accessories**



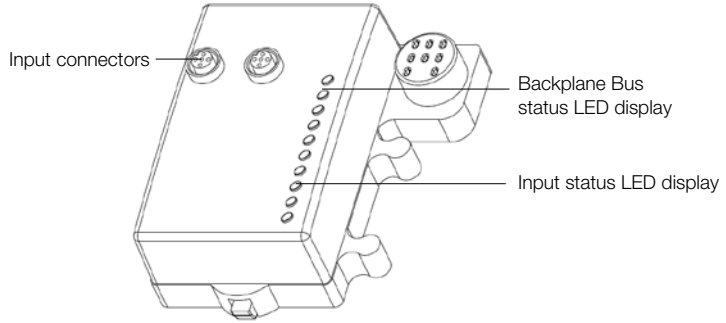
Description	Connector type	W (g)	Order code
Backplane Bus extender	1 meter	380	<b>PSSEXT1</b>
	3 meter	760	<b>PSSEXT3</b>
Termination module		200	<b>PSSTERM</b>

**Connectors for Outputs**



Description	Connector type	W (g)	Order code
Cable quick connect connector	M8 male	25	<b>P8CS0803J</b>
	M12 male - A coding	25	<b>P8CS1204J</b>
Y shape	M12 male - 2 x M12 female	25	<b>P8CSY1212A</b>

**Isysnet Analogue Input modules**



<b>Isysnet Analogue Input modules</b>		
Input module order code	<b>PSSNAVM12A</b>	<b>PSSNACM12A</b>
Nb of Inputs	2	2
Nb of Input connectors	2 x M12	2 x M12
Input density / connector	1	1
Input signal	0 - 10 V	4 - 20 mA
<b>Analogue Input module connection</b>		
Input connector	M12 - 5 PINs - Female  - PIN 1 : +24 VDC - PIN 2 : Inputs - PIN 3 : Common - PIN 4 : Common - PIN 5 : n/a	
Input status LED display (Logic side)	2 x green / red	
Backplane Bus status LED display (Logic side)	Module status : 1 x green / red Network status : 1 x green / red	

**Isysnet Backplane Bus accessories**



Description	Cable length	W (g)	Order code
Backplane Bus extender	1 meter	380	<b>PSSEXT1</b>
	3 meter	760	<b>PSSEXT3</b>
Termination module		200	<b>PSSTERM</b>

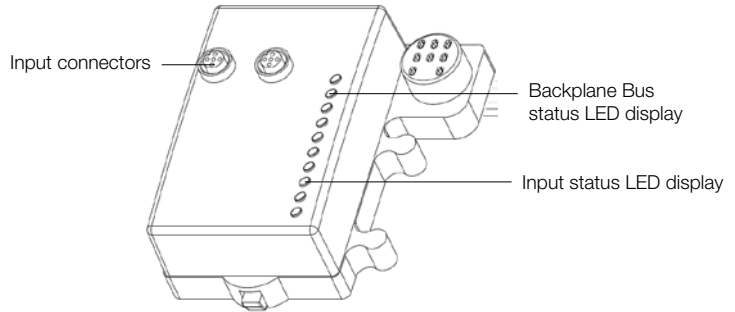
**Connectors for inputs**



P8CS1205BA

Description	Connector type	W (g)	Order code
Straight connector	M12 male - A coding	25	<b>P8CS1205BA</b>

**Isysnet Analogue Output modules**



<b>Isysnet Analogue Output modules</b>		
Output module order code	<b>PSSTAVM12A</b>	<b>PSSTACM12A</b>
Nb of Outputs	2	2
Nb of Output connectors	2 x M12	2 x M12
Output density / connector	1	1
Output signal	0 - 10 V	4 - 20 mA
<b>Analogue Output module connection</b>		
Output connector	M12 - 5 PINs - Female  - PIN 1 : Outputs - PIN 2 : +24 VDC - PIN 3 : Common - PIN 4 : Common - PIN 5 : n/a	
Output status LED display (Logic side)	2 x green / red	
Backplane Bus status LED display (Logic side)	Module status : 1 x green / red Network status : 1 x green / red	

**Isysnet Backplane Bus accessories**



Description	Cable length	W (g)	Order code
Backplane Bus extender	1 meter	380	<b>PSSEXT1</b>
	3 meter	760	<b>PSSEXT3</b>



Termination module		200	<b>PSSTERM</b>
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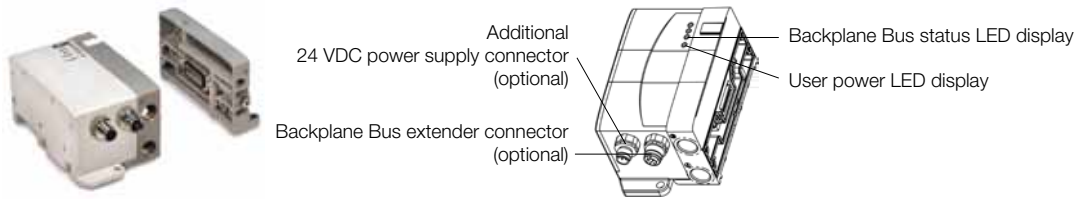
**Connectors for Outputs**



P8CS1205BA

Description	Connector type	W (g)	Order code
Straight connector	M12 male - A coding	25	<b>P8CS1205BA</b>

**Isysnet 32 Output drivers**

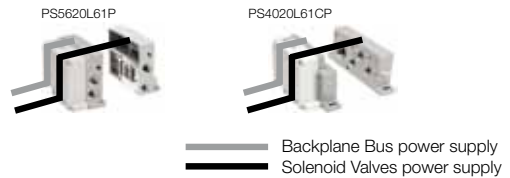
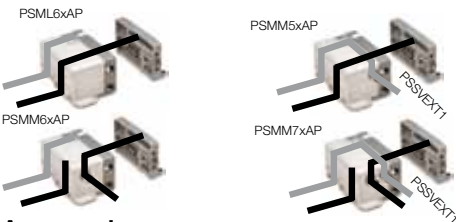


Isysnet 32 Output driver modules		Isys Micro				Isys ISO 15407-2	Isys ISO 5599-2
Dedicated valve range 32 Output driver modules order code	Side ported	<b>PSML61AP</b>	<b>PSMM61AP</b>	<b>PSMM71AP</b>	<b>PSMM51AP</b>	<b>PS5620L61P</b>	<b>PS4020L61CP</b>
	Bottom ported	<b>PSML62AP</b>	<b>PSMM62AP</b>	<b>PSMM72AP</b>	<b>PSMM52AP</b>		
Pneumatic port sizes		Power supply Exhaust				G3/8" G3/8"	
Pneumatic pilot port sizes		Power supply Exhaust				Internal or M7 G1/8"      Internal Internal	
<b>32 Output driver module connection</b>							
24 VDC power supply connector	NO	YES	YES	NO	NO	NO	
	M12 - 5 PINs - Male - PIN 1 : +24 VDC - PIN 2 : n/a - PIN 3 : Common - PIN 4 : n/a - PIN 5 : Protective Earth						
Backplane Bus Extender connector	NO	NO	YES	YES	NO	NO	
	M12 - 5 PINs - Female To use with PSSVEXT1 - PIN 1 : CAN SHLD - PIN 2 : CAN V+ - PIN 3 : CAN GND - PIN 4 : CAN High - PIN 5 : CAN Low						
Backplane Bus status LED display (Logic side)	Backplane Bus power supply : 1 x green / red Backplane Bus status : 1 x green / red Output fault : 1 x red Valve power supply : 1 x green				Module status : 1 x green / red Backplane Bus status : 1 x green/red Output fault : 1 x yellow / red		

**Backplane Bus and Solenoid Valves Power Supply Sourcing :**

**Isys Micro 32 output driver modules**

**Isys ISO 32 output driver modules**



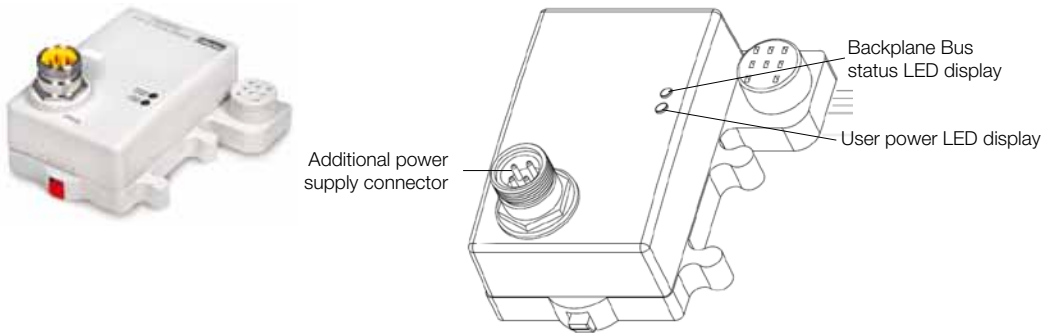
For further details on Multiple Power supply, see at end of this section.


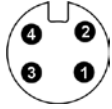
**Accessories**

	Description	Connector type	W (g)	Order code
	Backplane Bus extension cable with 1 meter cable	M12 male - A coding Head plate	380	<b>PSSVEXT1</b>
	Connector for 24 VDC power supply connector	M12 Female - A coding	25	<b>P8CS1205AA</b>
	Line termination	M12 Male - A coding	25	<b>P8BPA00MA</b>



**Isysnet Power Extender module**



<b>Backplane Bus Extension Power Supply module</b>	
Power Supply Extender module Order Code	<b>PSSE24A</b>
	
<b>Extender module connection</b>	
Power supply connection	<p>7/8" - 4 PINs - Male</p> <div style="display: flex; align-items: center;">  <ul style="list-style-type: none"> <li>- PIN 1 : User power +</li> <li>- PIN 2 : Backplane bus power +</li> <li>- PIN 3 : Backplane bus power +</li> <li>- PIN 4 : User power -</li> </ul> </div>
Status LED display (Logic side)	<p>Field power status : 1 x green 5 VDC system power status : 1 x green</p>

**Isysnet Backplane Bus connector**



P8CS7804AA

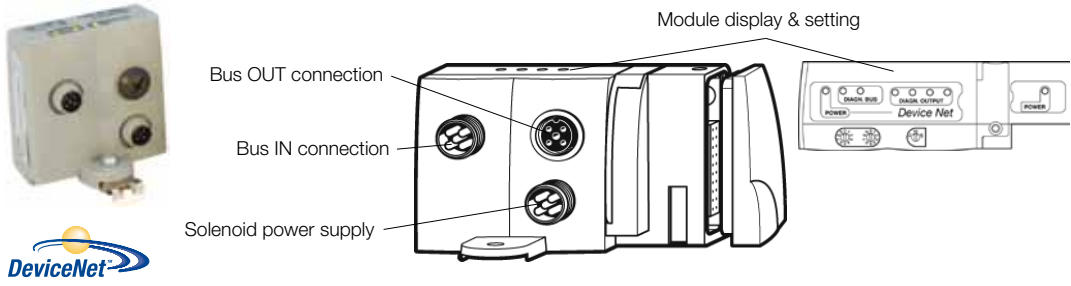
Description	Connector type	W (g)	Order code
power supply connector	7/8" - 4 PINs	40	<b>P8CS7804AA</b>

**Isysnet Backplane Bus accessories**



Description	Cable length	W (g)	Order code
Backplane Bus extender from Isysnet module	1 meter	380	<b>PSSEXT1</b>
	3 meter	760	<b>PSSEXT3</b>
Backplane Bus extension cable from 32 outputs driver	1 meter	380	<b>PSSVEXT1</b>

DeviceNet 16 outputs communication module



DeviceNet Adapters	Moduflex Valve System		Isys Micro
Dedicated valve range			
DeviceNet module Order Code	<b>P2M2HBVD11600</b>	<b>P2M2HBVD21600</b>	<b>Side ported : PSMMD1AP</b> <b>Bottom ported : PSMMD2AP</b>
Adapter connection			
Power supply connection	<p>M12 - 5 PINs - Male - B coding                      - PIN 1 : n/a                      - PIN 2 : n/a                      - PIN 3 : 0 VDC Solenoids                      - PIN 4 : 24 VDC Solenoids                      - PIN 5 : Protected earth (PE)</p>	<p>M12 - 5 PINs - Male - A coding                      - PIN 1 : n/a                      - PIN 2 : n/a                      - PIN 3 : 0 VDC Solenoids                      - PIN 4 : 24 VDC Solenoids                      - PIN 5 : Protected earth (PE)</p>	
Bus IN connection		<p>M12 - 5 PINs - Male - A coding                      - PIN 1 : Drain                      - PIN 2 : CAN V+                      - PIN 3 : CAN V-                      - PIN 4 : CAN High                      - PIN 5 : CAN Low</p>	
Bus OUT connection		<p>M12 - 5 PINs - Female - A coding                      - PIN 1 : Drain                      - PIN 2 : CAN V+                      - PIN 3 : CAN V-                      - PIN 4 : CAN High                      - PIN 5 : CAN Low</p>	
LED Display	Adapter power : 1 x green DeviceNet status : 2 x green/red Solenoid pilots power : 1 x green/red Solenoid pilots diagnostic : 4 x red		

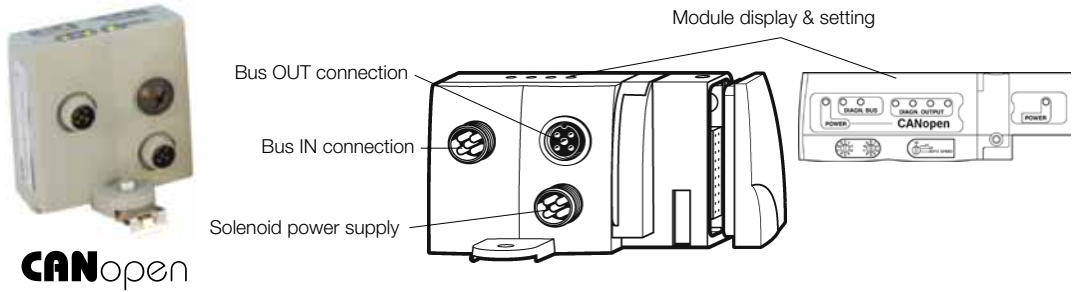
Valve range adapters

Description	Valve range	W (g)	Order code	
<p>PSMM41AP</p>	Moduflex Bus adapter	30	<b>P2M2HEV0B</b>	
	without communication module	Isys Micro Side ported	200	<b>PSMM41AP</b>
		Bottom ported	200	<b>PSMM42AP</b>
		Isys ISO 15407-2 - HA - HB	200	<b>PS5620M41P</b>
		Isys ISO 5599-2 - H1	300	<b>PS4020M41CP</b>

DeviceNet communication module connection accessories

Description	Connection type	W (g)	Order code
<p>P8CS1205BA</p>	Power supply connector	40	<b>P8CS1205AA</b>
		40	<b>P8CS1205AB</b>
Bus IN connector	M12 Female - A coding	25	<b>P8CS1205AA</b>
Bus OUT connector	M12 Male - A coding	25	<b>P8CS1205BA</b>
Line terminaison	M12 Male - A coding	25	<b>P8BPA00MA</b>

**CANopen 16 outputs communication module**



**CANopen**

CANopen Adapters	Modulflex Valve System		Isys Micro
Dedicated valve range			
CANopen module Order Code	<b>P2M2HBVC11600</b>	<b>P2M2HBVC21600</b>	<b>Side ported : PSMMC1AP</b> <b>Bottom ported : PSMMC2AP</b>

Adapter connection	
Power supply connection	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">                       M12 - 5 PINs - Male - B coding                      - PIN 1 : n/a                      - PIN 2 : n/a                      - PIN 3 : 0 VDC Solenoids                      - PIN 4 : 24 VDC Solenoids                      - PIN 5 : Protected earth (PE)                 </div> <div style="text-align: center;">                       M12 - 5 PINs - Male - A coding                      - PIN 1 : n/a                      - PIN 2 : n/a                      - PIN 3 : 0 VDC Solenoids                      - PIN 4 : 24 VDC Solenoids                      - PIN 5 : Protected earth (PE)                 </div> </div>
Bus IN connection	<div style="text-align: center;">                       M12 - 5 PINs - Male - A coding                      - PIN 1 : Drain                      - PIN 2 : CAN V+                      - PIN 3 : CAN V-                      - PIN 4 : CAN High                      - PIN 5 : CAN Low                 </div>
Bus OUT connection	<div style="text-align: center;">                       M12 - 5 PINs - Female - A coding                      - PIN 1 : Drain                      - PIN 2 : CAN V+                      - PIN 3 : CAN V-                      - PIN 4 : CAN High                      - PIN 5 : CAN Low                 </div>
LED Display	Adapter power : 1 x green CANopen status : 2 x green/red Solenoid pilots power : 1 x green/red Solenoid pilots diagnostic : 4 x red

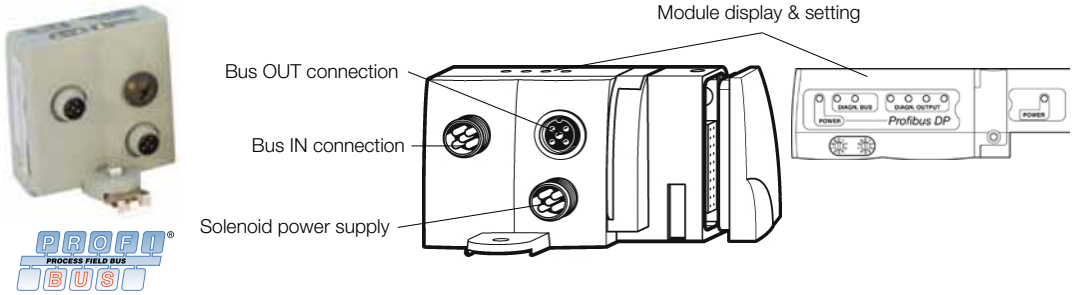
**Valve range adapters**

Description	Valve range	W (g)	Order code	
 PSMM41AP Modulflex Bus adapter without communication module	Modulflex Valve	30	<b>P2M2HEV0B</b>	
	Isys Micro	Side ported	200	<b>PSMM41AP</b>
		Bottom ported	200	<b>PSMM42AP</b>
	Isys ISO 15407-2 - HA - HB	200	<b>PS5620M41P</b>	
	Isys ISO 5599-2 - H1	300	<b>PS4020M41CP</b>	

**CANopen communication module connection accessories**

Description	Connection type	W (g)	Order code
 P8CS1205BA Power supply connector	M12 Female - A coding	40	<b>P8CS1205AA</b>
	M12 Female - B coding	40	<b>P8CS1205AB</b>
Bus IN connector	M12 Female - A coding	25	<b>P8CS1205AA</b>
Bus OUT connector	M12 Male - A coding	25	<b>P8CS1205BA</b>
Line terminaison	M12 Male - A coding	25	<b>P8BPA00MA</b>

**Profibus DP 16 outputs communication module**



<b>Profibus DP Adapters</b>		
Dedicated valve range	<b>Moduflex Valve System</b>	<b>Isys Micro</b>
Profibus DP module Order Code	<b>P2M2HBVP21600</b>	<b>Side ported : PSMMP1AP Bottom ported : PSMMP2AP</b>

<b>Adapter connection</b>	
Power supply connection	<ul style="list-style-type: none"> <li>M12 - 5 PINs - Male - A coding</li> <li>- PIN 1 : +24 VDC adapter</li> <li>- PIN 2 : n/a</li> <li>- PIN 3 : 0 VDC Adapter &amp; Solenoids</li> <li>- PIN 4 : 24 VDC Solenoids</li> <li>- PIN 5 : Protected earth (PE)</li> </ul>
Bus IN connection	<ul style="list-style-type: none"> <li>M12 - 5 PINs - Male - B coding</li> <li>- PIN 1 : + 5 VDC Bus</li> <li>- PIN 2 : A - Line</li> <li>- PIN 3 : GND Bus</li> <li>- PIN 4 : B - Line</li> <li>- PIN 5 : Shield</li> </ul>
Bus OUT connection	<ul style="list-style-type: none"> <li>M12 - 5 PINs - Female - B coding</li> <li>- PIN 1 : + 5 VDC Bus</li> <li>- PIN 2 : A - Line</li> <li>- PIN 3 : GND Bus</li> <li>- PIN 4 : B - Line</li> <li>- PIN 5 : Shield</li> </ul>
LED Display	Adapter power : 1 x green Profibus DP status : 2 x green/red Solenoid pilots power : 1 x green/red Solenoid pilots diagnostic : 4 x red

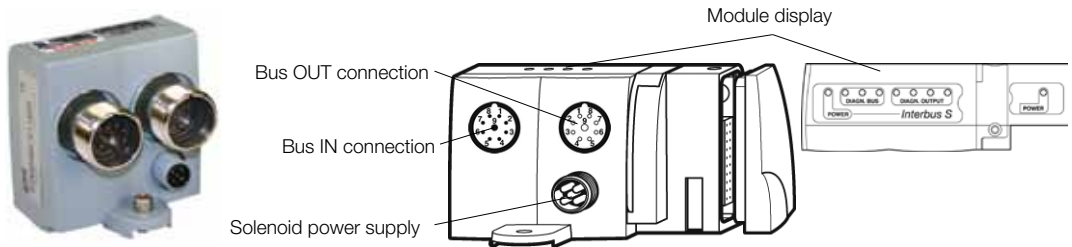
**Valve range adapters**

	Description	Valve range	W (g)	Order code
	Moduflex Bus adapter without communication module	Moduflex Valve	30	<b>P2M2HEVOB</b>
		Isys Micro Side ported	200	<b>PSMMP1AP</b>
		Bottom ported	200	<b>PSMMP2AP</b>
		Isys ISO 15407-2 - HA - HB	200	<b>PS5620M41P</b>
		Isys ISO 5599-2 - H1	300	<b>PS4020M41CP</b>

**Profibus DP communication module connection accessories**

	Description	Connection type	W (g)	Order code
	Power supply connector	M12 Female - A coding	40	<b>P8CS1205AA</b>
	Bus IN connector	M12 Female - B coding	25	<b>P8CS1205AB</b>
	Bus OUT connector	M12 Male - B coding	25	<b>P8CS1205BB</b>
	Line terminaison	M12 Male - B coding	25	<b>P8BPA00MB</b>

InterBus-S 16 outputs communication module



**INTERBUS-S**

<b>InterBus-S Adapters</b>	
Dedicated valve range	<b>Moduflex Valve System</b>
InterBus-S module Order Code	<b>P2M2HBVS11600</b>
<b>Adapter connection</b>	
Power supply connection	<p>M12 - 5 PINs - Male - A coding                  - PIN 1 : +24 VDC adapter                  - PIN 2 : n/a                  - PIN 3 : 0 VDC Adapter &amp; Solenoids                  - PIN 4 : 24 VDC Solenoids                  - PIN 5 : Protected earth (PE)</p>
Bus IN connection	<p>M23 - 9 PINs - Male:                  - PIN 1 : DO - PIN 6 : n/a                  - PIN 2 : DO - PIN 7 : n/a                  - PIN 3 : DI - PIN 8 : n/a                  - PIN 4 : DI - PIN 9 : n/a                  - PIN 5 : Ground</p>
Bus OUT connection	<p>M23 - 9 PINs - Female:                  - PIN 1 : DO - PIN 6 : n/a                  - PIN 2 : DO - PIN 7 : n/a                  - PIN 3 : DI - PIN 8 : n/a                  - PIN 4 : DI - PIN 9 : RBST                  - PIN 5 : Ground</p>
LED Display	Adapter power : 1 x green InterBus S status : 3 x green/red Solenoid pilots power : 1 x green/red Solenoid pilots diagnostic : 4 x red

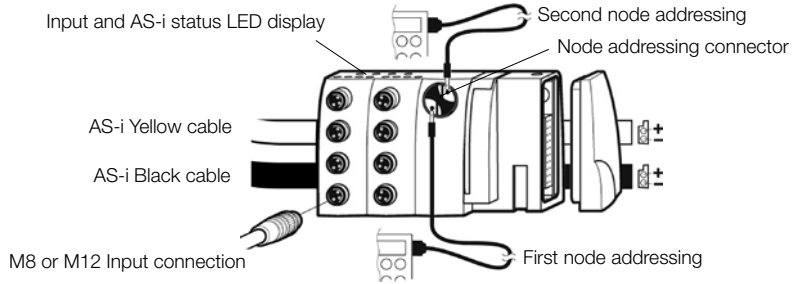
Valve range adapters

Description	Valve range	W (g)	Order code
<p>P8MM41AP</p> Moduflex Bus adapter without communication module	Moduflex Valve	30	<b>P2M2HEV0B</b>
	lsys Micro Side ported	200	<b>PSMM41AP</b>
		Bottom ported	200
	lsys ISO 15407-2 - HA - HB	200	<b>PS5620M41P</b>
	lsys ISO 5599-2 - H1	300	<b>PS4020M41CP</b>

InterBus-S communication module connection accessories

Description	Connection type	W (g)	Order code
<p>P8CS1205AA</p> Power supply connector	M12 Female - A coding	40	<b>P8CS1205AA</b>

AS-interface communication module



AS-i Adapters								
AS-i module Order Code	P2M2HBVA10400	P2M2HBVA10800	P2M2HBVA20600	P2M2HBVA10808A	P2M2HBVA20608A	P2M2HBVA10404B	P2M2HBVA10808B	P2M2HBVA20608B
AS-i Version	V2.0	V2.0	V2.1	V2.0	V2.1	V2.0	V2.0	V2.1
Number of addresses	1 / 31	2 / 31	2 / 31a + 31b	2 / 31	2 / 31a + 31b	1 / 31	2 / 31	2 / 31a + 31b
Nb of outputs for sol. valves	4	8	6	8	6	4	8	6
Nb of Inputs	-			8	8	4	8	8
Nb of Input connectors	-			8 x M8	8 x M8	4 x M12	4 x M12	4 x M12
Input density / connector	-			1	1	1	2	2
Adapter connection								
Yellow cable	Bus signal Bus module and sensors power supply							
Black cable	24 VDC outputs for solenoid valves							
INPUTS connection				M8 - 3 PINs - Female:  - PIN 1 : +24 VDC - PIN 3 : Common - PIN 4 : Input		M12 - 5 PINs - Female:  PIN 1 : +24 VDC PIN 2* : Input 2&3 PIN 3 : Common PIN 4 : Input 0 to 3 PIN 5 : n/a *on left connectors only		
LED Display	Node status : 2 x green/red per node Input status : 4 x yellow per node Valve power (24V from field supply) : 1 x green / red							

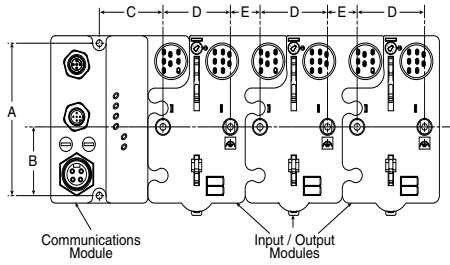
Valve range adapters

Description	Valve range	W (g)	Order code	
 Moduflex Bus adapter without communication module	Moduflex Valve	30	<b>P2M2HEV0B</b>	
	Isys Micro	Side ported	200	<b>PSMM41AP</b>
		Bottom ported	200	<b>PSMM42AP</b>
	Isys ISO 15407-2 - HA - HB	200	<b>PS5620M41P</b>	
	Isys ISO 5599-2 - H1	300	<b>PS4020M41CP</b>	

Connectors for Inputs

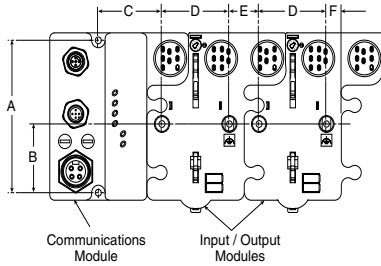
Description	Connection type	W (g)	Order code
 Cable quick connect connector	M8 Male	25	<b>P8CS0803J</b>
	M12 Male - A coding	25	<b>P8CS1204J</b>
 "Y" shape	M12 Male - 2 x M12 Female	25	<b>P8CSY1212A</b>
 Addressing cable	M12 Male - Jack	100	<b>P8LS12JACK</b>

Isysnet modules



Dimensions

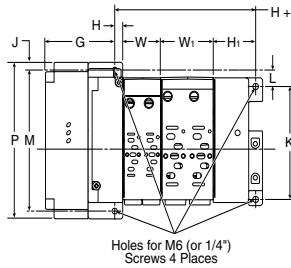
<b>A</b>	<b>B</b>	<b>C</b>
102	46	48
<b>D</b>	<b>E</b>	<b>F</b>
51	22	11



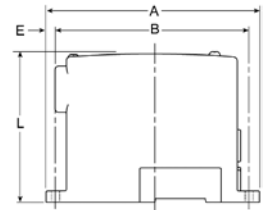
Isysnet with Isys ISO Valves

HB-HA Dimensions

<b>A</b>	<b>B</b>	<b>E</b>	<b>L</b>	<b>G</b>
152	137	7.5	106	68
<b>H</b>	<b>H<sub>1</sub></b>	<b>J</b>	<b>K</b>	<b>L</b>
8.4	45.8	4	110	16
<b>M</b>	<b>P</b>	<b>W</b>	<b>W<sub>1</sub></b>	
137	152	40.8	56.8	



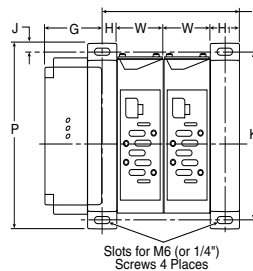
$n$  = Number of 18mm HB Bases  
 $n_1$  = Number of 26mm HA Bases  
 $W$  = Width of 18mm HB Bases  
 $W_1$  = Width of 26mm HA Bases



Holes for M6 (or 1/4")  
 Screws 4 Places

H1 Dimensions

<b>G</b>	<b>H</b>	<b>H<sub>1</sub></b>	<b>J</b>	<b>K</b>
56	15.9	15.9	8.5	165
<b>P</b>	<b>W</b>			
182	49			

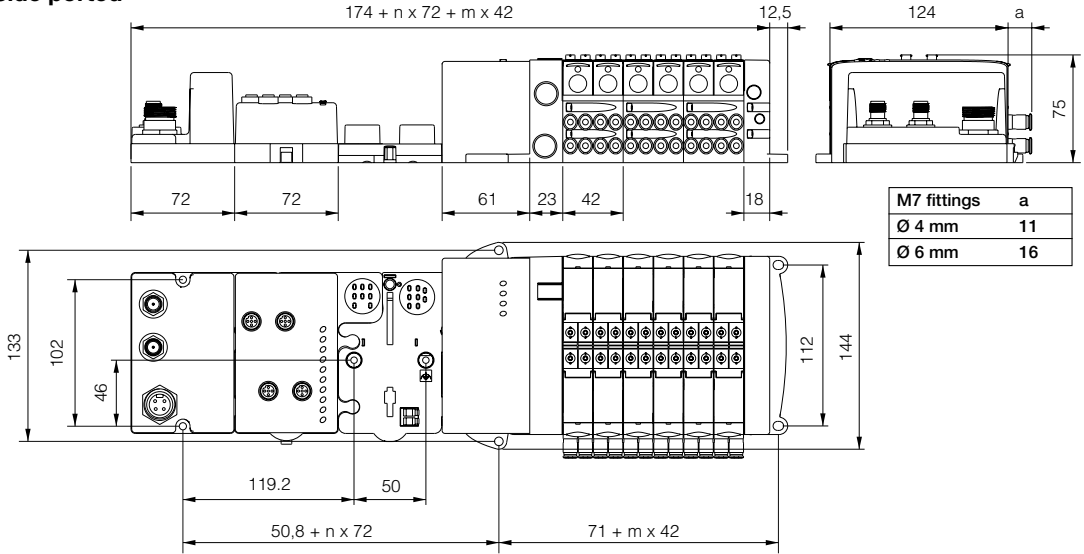


$n$  = Number of H1 Bases  
 $W$  = Width of H1 Bases

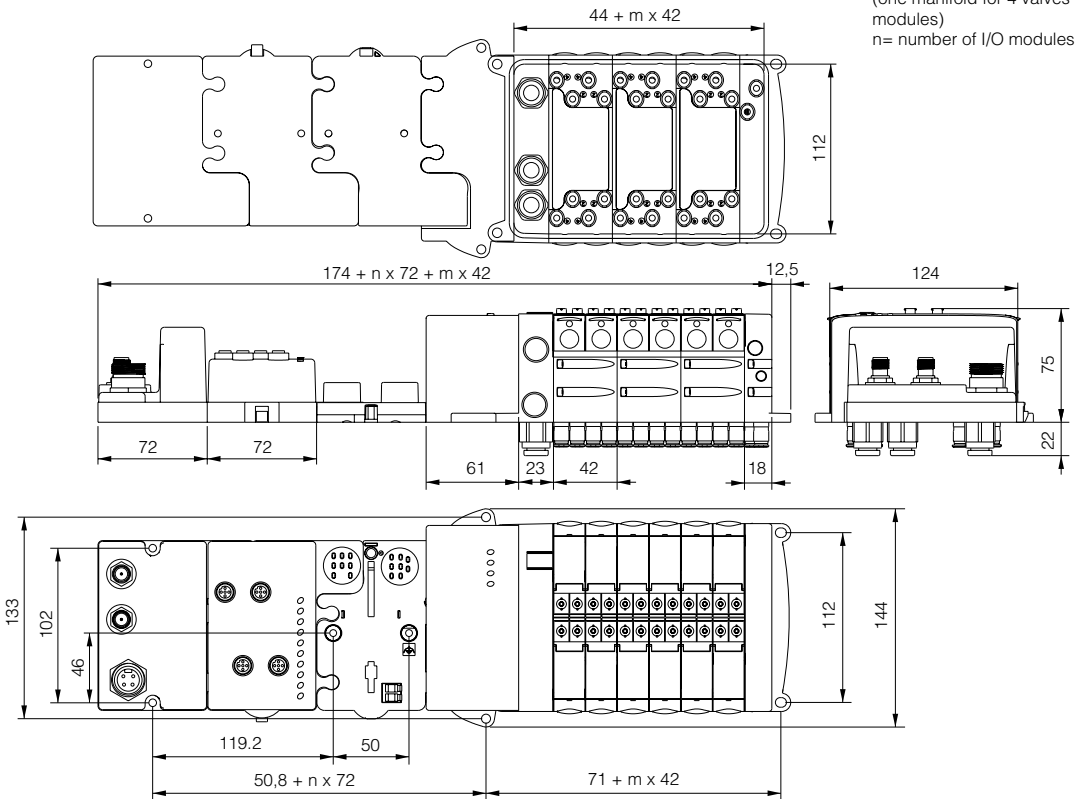
Slots for M6 (or 1/4")  
 Screws 4 Places

Isysnet with Isys Micro Valves

Side ported



Bottom ported



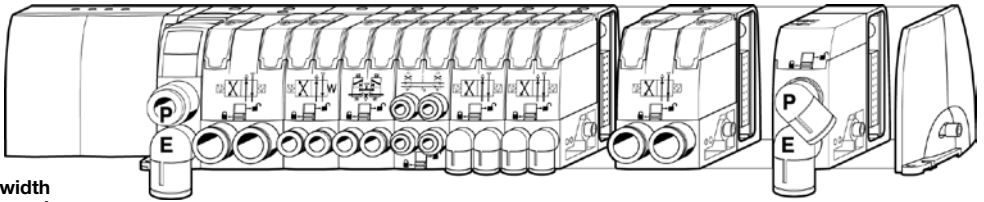
Note:

m = number of manifolds  
 (one manifold for 4 valves  
 modules)  
 n = number of I/O modules

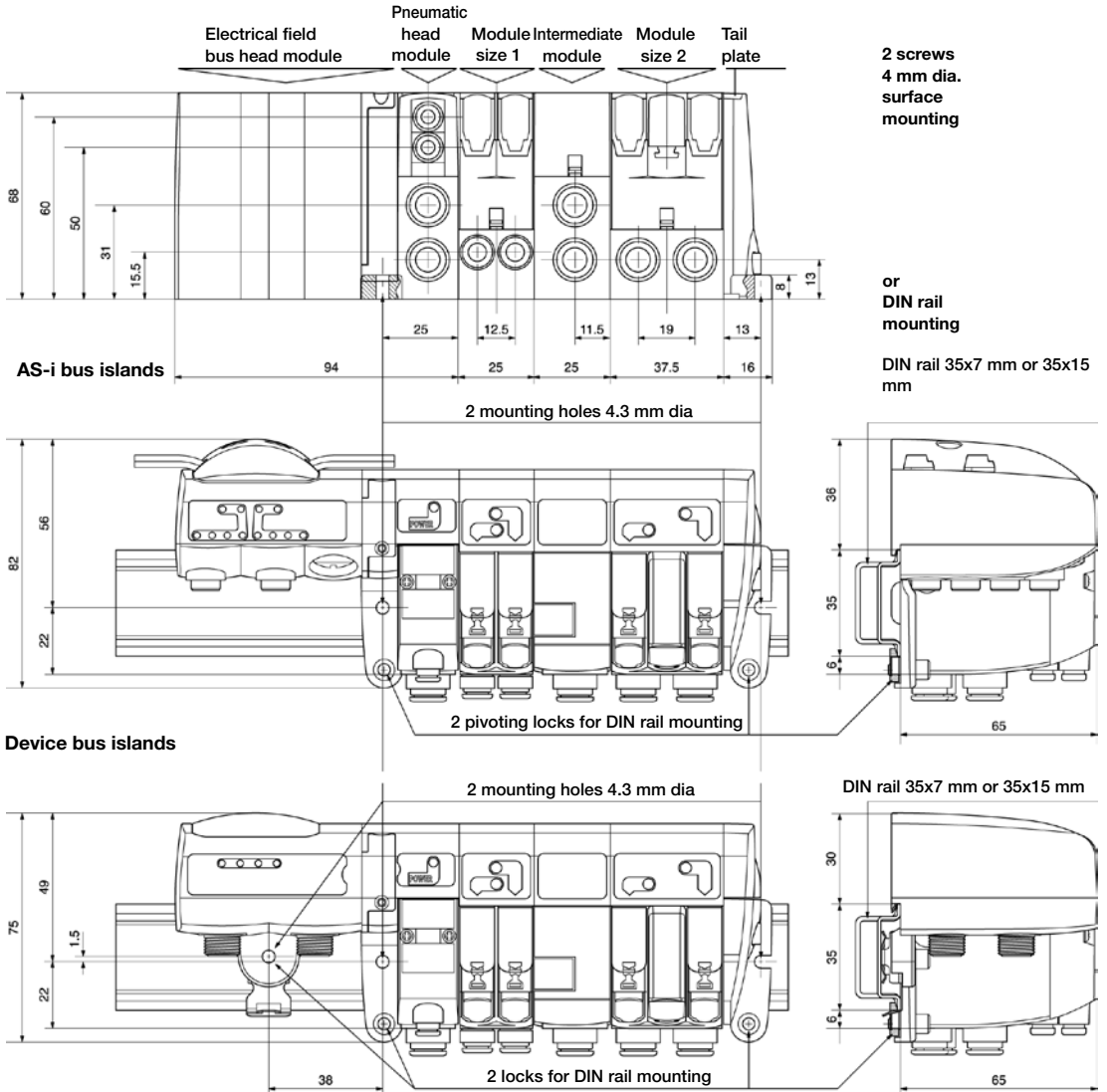


**Moduflex Bus with Moduflex Valve**

Electrical field bus head module width : 62 mm	Head and tail pneumatic module set width : 48 mm	Modules size 1 width : 25 mm	Modules size 2 width : 37.5 mm	Intermediate module width :25 mm
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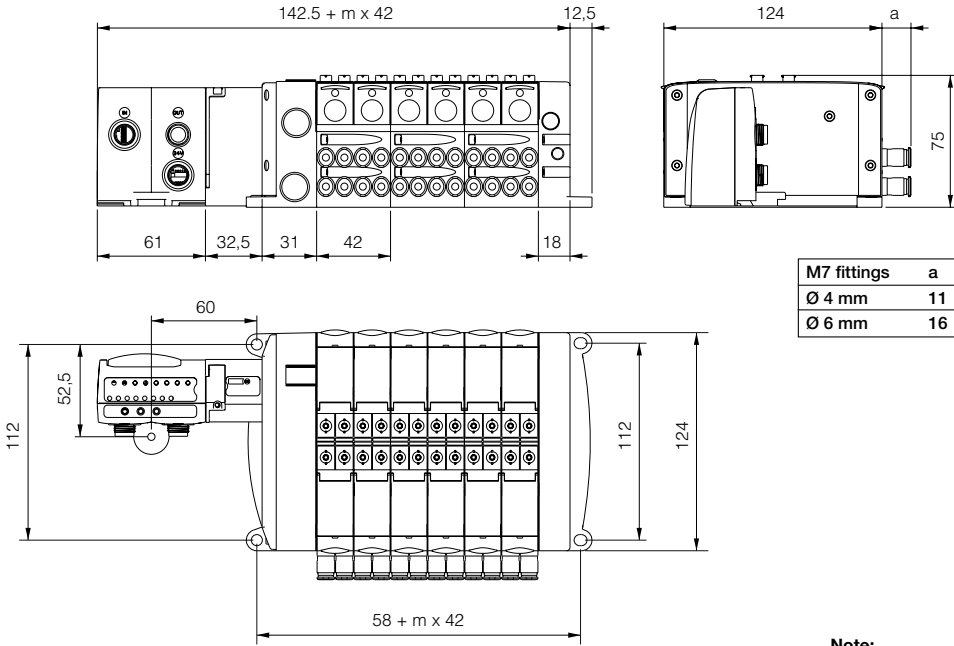


Island total width depending on valve composition



**Moduflex Bus with Isys Micro Valves**

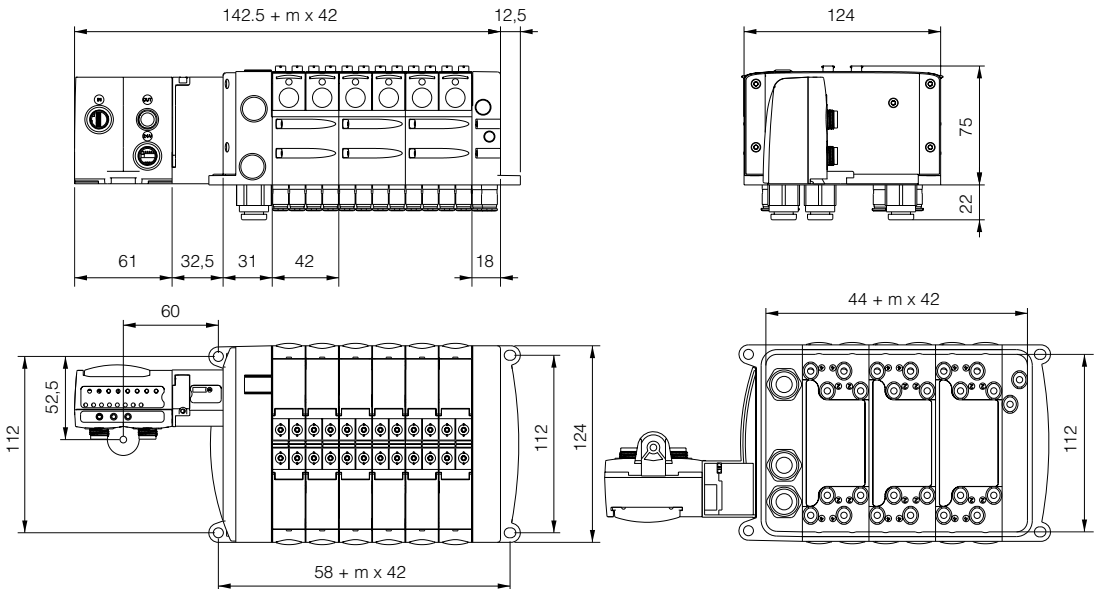
**Side ported**



**Note:**

m = number of manifolds  
(one manifold for 4 valves modules)

**Bottom ported**



## 2/2-Way Direct Operated Valve

General application valves for dry or lubricated air, neutral gases and liquids



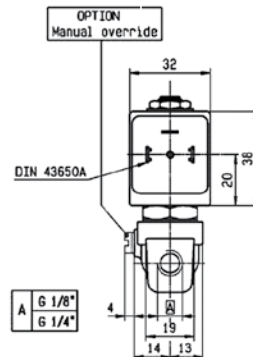
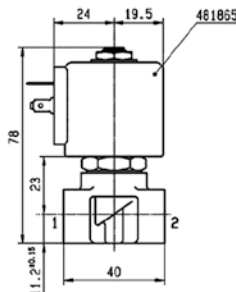
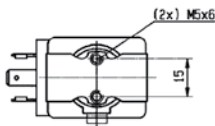
- Description:
- 2/2-Way Direct Operated Valve - Normally Closed.
  - Coil IP65 for 2 P + E plug according to DIN 43650 type A
  - Power Consumption 8W (AC), 9W (DC).
- Applications:
- Shut-off and control (On-Off) of water, air, light oils, steam and inert gases
  - Humidifiers, welding systems, industrial washing machines, automatic dispensers, diesel oil burners, sterilizers, compressors.
- Temperature Range:
- Min: -10°C | Max: see table
- Seals Material:
- See table
- Advantages:
- Versatile product for many 2/2 NC valve requiring applications, robust design.

Port size	Orifice	K <sub>v</sub>	Admissible differential pressure (bar)			Fluid Temp.	Seal Material	Reference number			Options
			Min.	Max. DC	Max. AC			Valve	Housing	Coil	
G	mm	l/min					°C				

### 2/2-Way Direct Operated Valve

Normally CLOSED

1/8"	2.5	3.50	0	10.0	28.0	100°C	Ruby	E121K23	2995	481865	-
1/8"	3.0	4.50	0	7.0	10.0	100°C	FKM	121K1302	2995	481865	-
1/4"	1.2	0.85	0	36.0	80.0	100°C	Ruby	E121K65	2995	481865	-
1/4"	1.5	1.50	0	25.0	60.0	75°C	PCTFE	E121K04	2995	481865	-
1/4"	1.5	1.50	0	25.0	60.0	100°C	Ruby	E121K67	2995	481865	-
1/4"	1.5	1.50	0	20.0	20.0	100°C	FKM	E121K0402	2995	481865	-
1/4"	2.5	3.50	0	10.0	28.0	75°C	PCTFE	E121K07	2995	481865	-
1/4"	2.5	3.50	0	7.0	14.0	100°C	FKM	121K0706	2995	481865	-
1/4"	2.5	3.50	0	10.0	28.0	100°C	Ruby	E121K63	2995	481865	-
1/4"	3.0	4.50	0	7.0	20.0	75°C	PCTFE	E121K03	2995	481865	-
1/4"	3.0	4.50	0	7.0	10.0	100°C	FKM	E121K0302	2995	481865	-
1/4"	3.0	4.50	0	7.0	10.0	100°C	EPDM	121K0323	2995	481865	-
1/4"	3.0	4.50	0	7.0	10.0	100°C	FKM	E121K0352	2995	481865	**
1/4"	3.0	4.50	0	7.0	20.0	100°C	Ruby	E121K64	2995	481865	-
1/4"	4.0	7.50	0	4.0	10.0	100°C	FKM	121K02	2995	481865	-
1/4"	4.0	7.50	0	4.0	10.0	100°C	FKM	121K0250	2995	481865	**
1/4"	5.0	11.00	0	2.0	7.0	100°C	FKM	121K01	2995	481865	-
1/4"	5.0	11.00	0	2.0	7.0	100°C	EPDM	121K0103	2995	481865	-
1/4"	5.0	11.00	0	2.0	7.0	100°C	FKM	121K0150	2995	481865	**
1/4"	5.0	11.00	0	2.0	7.0	100°C	FKM	121K3106	2995	481865	-
3/8"	4.0	7.50	0	4.0	10.0	100°C	FKM	121K3206	2995	481865	-
3/8"	6.0	12.00	0	1.1	5.0	100°C	FKM	121K3303	2995	481865	-
3/8"	6.0	12.00	0	1.1	5.0	100°C	FKM	121K3306	2995	481865	-
1/2"	8.5	25.00	0	0.5	1.1	100°C	FKM	E121K46	2995	481865	-
1/2"	11.0	36.00	0	0.3	0.7	100°C	FKM	E121K45	2995	481865	-



\*\* Manual override standard

## 2/2 & 3/2 Solenoid Valves for High Pressure pneumatic applications - 40 bar

### Product offering:

- 2/2 valves and 3/2 way valves - pilot operated
- Pipe mounting (G 1/2- 3/4) or sub-base mounting
- 1.5 (2) - 40 bar
- Normally open or closed
- Internal or external pilot pressure supply

### Customer Value Proposition:

- Safety of operation
- Reliability
- Response time stability
- Repeatability
- No leakage
- Integrated non return valve (421version)



The use of high pressure gases became a necessity in the new technologies developed during the last years.

The control of these fluids can be done through the solenoid valves specially designed by Parker Lucifer for high pressure applications (maximum 50 bar).

The **life expectancy of several millions** of cycles, with **response time of few milliseconds**, allows the use of these valves on intensive applications and on high technology machines, as the plastic bottle blowing machines, or the laser cutting machines.



Parker Lucifer also develops special valves or adapted blocks upon specific customers needs. Please contact your agent for more information.

## Application Example

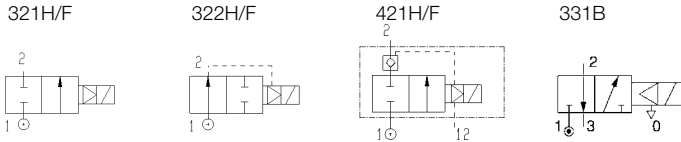
### Main Technical Specifications

#### Function

2/2 pilot operated: Normally closed (with internal pilot pressure) 321H/F type  
 Normally closed (with external pilot pressure) 421H/F type  
 Normally open (with internal pilot pressure) 322H/F type

3/2 pilot operated: normally closed (with internal pressure) 331B type

#### ISO diagram



#### Mounting

- For direct pipe mounting G 1/2" or 3/4" (2/2 Valve type H); G 1/4 (3/2 Valve type B)  
 - For sub-base mounting (type F)

#### Nominal diameter

15 mm (type H), 14 mm (type F)

#### Pressures

For the version with external pilot pressure, the pilot pressure must always be higher than the controlled pressure

#### External Leakage

0 Ncc/min.

#### Internal Leakage

< 20 Ncc/min.

#### Fluids

Dry lubricated or non lubricated air, Argon, Nitrogen.  
 Oxygen on request

#### Proof pressure

200 bar

#### Filtration

< 1  $\mu$ m

#### Life expectancy

> 2  $10^6$  cycles (dry and clean air)  
 > 8  $10^6$  cycles (lubricated air)

#### Temperatures

Ambient / fluid mini: -10 °C  
 Ambient / fluid maxi: +50 °C

#### Materials specifications

Body/cover: 2/2 Valves: Brass - 3/2 Valves: Aluminium  
 Pilot seals : PUR  
 Main seals : FKM (Viton®) with isolating diaphragm from PUR  
 Tube and plunger : Stainless steel  
 Coil : Encapsulation from PA66 + 30% fiber glass

#### Options

$\Delta p$  maxi 50 bar on request

#### Response Time

Depends on application

#### Mounting Position

Indifferent

#### Specials

Parker Lucifer also develops special valves or adapted blocks upon specific customers needs.  
 Please contact your agent for more information.

Port size	Orifice	Flow Factor (l/min)	Admissible differential pressure (bar)			Fluid Temp.	Seal Material (C°)	Reference number				Dim. Ref. N°
			Min.	Max. DC	Max. AC			Global Ref. No.	Valve	Housing	Coil	
G	mm	Gaz Qn				Gaz Max.						

**2/2 Valves - Direct Pipe Mounting**

Normally CLOSED

1/2"	15	3150	1.5	40	40	50	FKM	-	321H35	2995	see table	1
3/4"	15	3550	1.5	40	40	50	FKM	-	321H36	2995	see table	1

**2/2 Valves - Direct Pipe Mounting**

Normally OPEN

1/2"	15	3150	1.5	40	40	50	FKM	-	322H35	2995	see table	2
3/4"	15	3550	1.5	40	40	50	FKM	-	322H36	2995	see table	2

**2/2 Valves - Direct Pipe Mounting**

External Pilot

Normally CLOSED

1/2"	15	3150	2	40	40	50	FKM	-	421H35	2995	see table	3
3/4"	15	3550	2	40	40	50	FKM	-	421H36	2995	see table	3

**2/2 Valves - Sub-base Mounting**

Normally CLOSED

-	14	2100	1.5	40	40	50	FKM	-	321F35	2995	see table	4
-	22	7000	5	40	40	50	FKM	-	321F37	2995	see table	-

**2/2 Valves - Sub-base Mounting**

Normally OPEN

-	14	2100	1.5	40	40	50	FKM	-	322F35	2995	see table	5
-	22	7000	1.5	40	40	50	FKM	-	322F37	2995	see table	-

**2/2 Valves - Sub-base Mounting**

External Pilot

Normally CLOSED

-	14	2100	2	40	40	50	FKM	-	421F35	2995	see table	6
---	----	------	---	----	----	----	-----	---	--------	------	-----------	---

**3/2 Valves - Direct Pipe Mounting**

Normally CLOSED

1/4"	8	750	1	40	40	50	PUR	-	331B31	2995	see table	7
------	---	-----	---	----	----	----	-----	---	--------	------	-----------	---

**3/2 Valves - Sub-base Mounting**

Normally CLOSED

-	8	750	1	40	40	50	PUR	-	331F31	2995	see table	-
---	---	-----	---	----	----	----	-----	---	--------	------	-----------	---

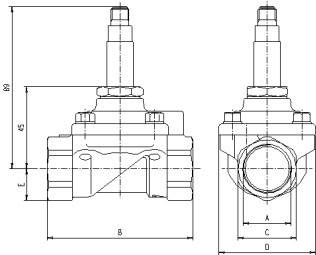
**Available electrical parts:**

You will find standard available coil details on the next pages. Due to the innovative sleeve design it is also possible to use all listed Parker valves with special solutions, like water tight (IP67) or explosion proof designs.

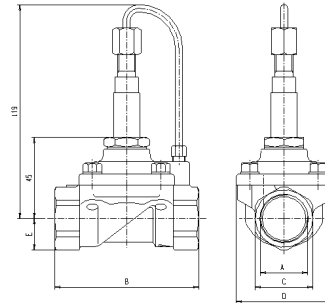
Please consult your local agent for more details.

**Dimensions**

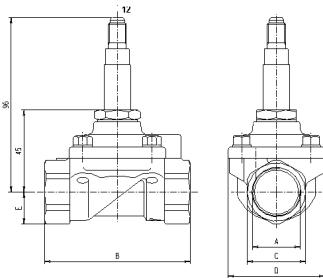
Dimensions Reference N° 1



Dimensions Reference N° 2

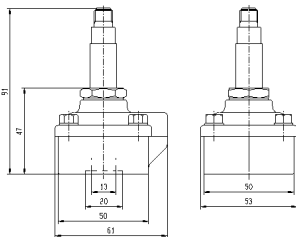


Dimensions Reference N° 3

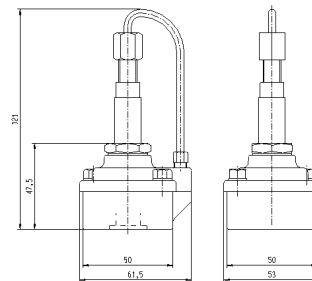


	A	B	C	D	E
G3/4"	80	32	53	17.5	
G1/2"	75	27	53	13.5	

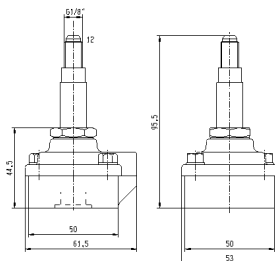
Dimensions Reference N° 4



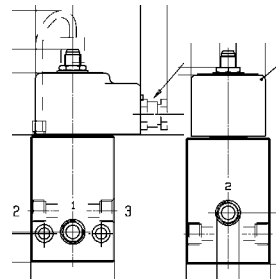
Dimensions Reference N° 5



Dimensions Reference N° 6



Dimensions Reference N° 7



## Electrical Parts Availability

### 32 mm Electrical Parts Availability

#### 481865 Series - Standard Coil Mono-Frequency, F Class, IP65

Encapsulated in synthetic material, connector for 2P+E DIN 43650 A Plug, IP65 insulation class to be considered with connector plug only. This coil conforms to the IEC/CENELEC safety standards and complies with European low-voltage directive 73/23/EC.

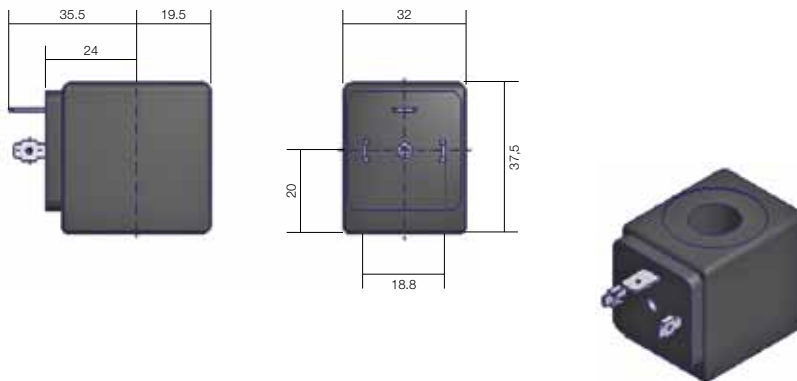
Voltage V	Power Consumption	Reference	Approvals	Ambient Temperature	Class of insulation	Dimensional Drawing
24/50	8 W	<b>481865A2</b>	-	-40°C to +50°C	F Class 155°C	8
48/50	8 W	<b>481865A4</b>	-	-40°C to +50°C	F Class 155°C	8
110/50	8 W	<b>481865A5</b>	-	-40°C to +50°C	F Class 155°C	8
220-230/50	8 W	<b>4818653D</b>	-	-40°C to +50°C	F Class 155°C	8
380/50	8 W	<b>481865A9</b>	-	-40°C to +50°C	F Class 155°C	8
24/60	8 W	<b>481865B2</b>	-	-40°C to +50°C	F Class 155°C	8
230/60	8 W	<b>481865J3</b>	-	-40°C to +50°C	F Class 155°C	8
115/60	8 W	<b>481865K8</b>	-	-40°C to +50°C	F Class 155°C	8
12 DC	9 W	<b>481865C1</b>	-	-40°C to +50°C	F Class 155°C	8
24 DC	9 W	<b>481865C2</b>	-	-40°C to +50°C	F Class 155°C	8
48 DC	9 W	<b>481865C4</b>	-	-40°C to +50°C	F Class 155°C	8
110V DC	9 W	<b>481865C5</b>	-	-40°C to +50°C	F Class 155°C	8

#### Voltage

**Tolerances:** -10% to +10% of the nominal voltage (AC), -5% to +10% of the nominal voltage (DC)

**Duty:** Continuous duty coil (100%ED)

**Weight:** 130 g (without plug)



All dimensions are in mm

Dimensional Drawing N° 8



## 32 mm Electrical Parts Availability

### 483510 Series - Standard Bi-Frequency Coil, F Class, IP65

Encapsulated in synthetic material, connector for 2P+E DIN 43650 A Plug, IP65 insulation class to be considered with connector plug only.

This coil conforms to the IEC/CENELEC safety standards and complies with European low-voltage directive 73/23/EC.

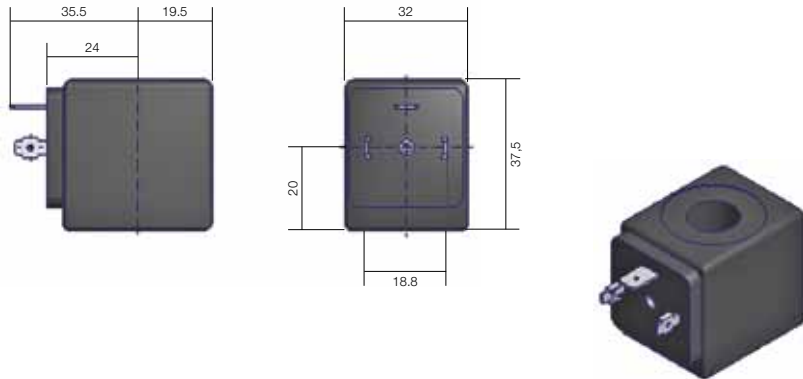
Voltage V	Power Consumption	Reference	Approvals	Ambient Temperature	Class of insulation	Dimensional Drawing
12/50-60	9 W	<b>4835101W</b>	-	-40°C to +50°C	F Class 155°C	8
24/50-60	9 W	<b>483510P0</b>	-	-40°C to +50°C	F Class 155°C	8
48/50-60	9 W	<b>483510S4</b>	-	-40°C to +50°C	F Class 155°C	8
110-115/50 120/60	9 W	<b>483510S5</b>	-	-40°C to +50°C	F Class 155°C	8
220-240/50 240/60	9 W	<b>483510S6</b>	-	-40°C to +50°C	F Class 155°C	8

#### Voltage

**Tolerances:** -10% to +10% of the nominal voltage (AC), -5% to +10% of the nominal voltage (DC)

**Duty** Continuous duty coil (100%ED)

**Weight:** 130 g (without plug)



All dimensions are in mm

Dimensional Drawing N° 8

## 2 Way Solenoid Valves High Flow

### Fast Switching

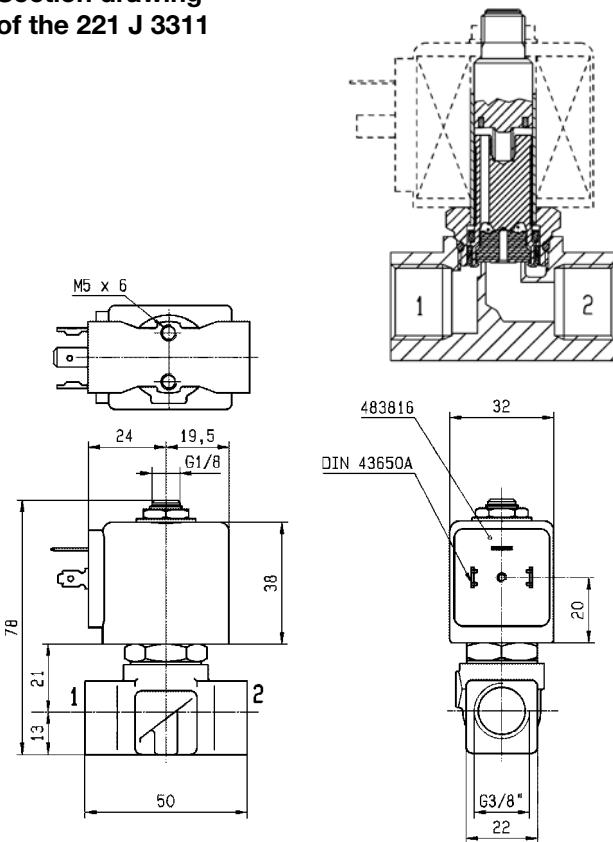
2/2 magnalift solenoid valve used for air control or air pulsing in all applications where extremely short response time and/ or long life expectancy are required.

Flow rate up to 40 Nm<sup>3</sup>/h (subsonic flow only) like: textile weaving looms, printing machines, sorting machines, bank note counting machines.

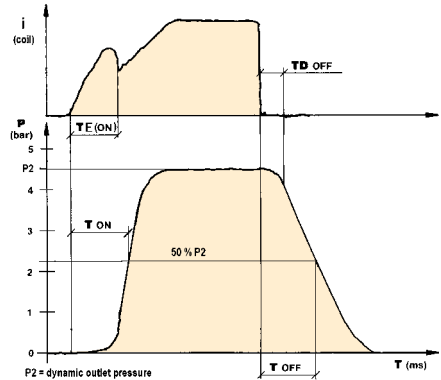
### Features

- 2P+E DIN 43650A plug connection
- Degree of protection IP65
- Guide rings assure high life expectancy
- High performance plunger with low residual magnetic effect and long life
- Shock absorber improves life expectancy of the valve
- PUR seat disc provides magnalift effect

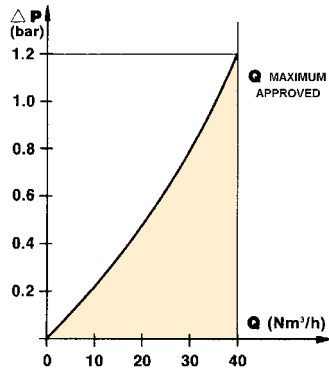
### Section drawing of the 221 J 3311



Typical reponse times At 20 Hz (40% on)



Flow rate (valve on 100%)



## Technical Data

<b>Function:</b>	2/2 solenoid valve closed when de-energized.		
<b>Design:</b>	Pilot operated poppet valve with magnalift.		
<b>Mounting:</b>	For direct pipe mounting or with the help of M5x6 mm screw (see dimensions).		
<b>Mounting position:</b>	Indifferent.		
<b>Material specifications:</b>	Forged brass body. Internal parts in stainless steel. Sealing material in PUR.		
<b>Range of admissible pressure drop:</b>	$\Delta p$ min.	= 0 bar	
	$\Delta p$ max.	= 7 bar	
<b>Response time (see p. 2):</b>	Conditions: voltage 24 VDC nominal, flow 34 Nm <sup>3</sup> /h. Reference pressure dynamic (orifice 2): 4.5 bar. Response times are increasing above starting from 300 millions cycles.		
<b>Switching on:</b>	TE on: 9.5 - 12 ms Electrical response time until the plunger is in fully attracted position. T on: 10-14 ms Filling time until the pressure has reached 50% of output pressure P2 (own volume of the valve, outlet port plugged.)		
<b>Switching off:</b>	TD off: 4 - 8 ms Closing time until the plunger is in the rest position. T off: 5,5 - 9,5 ms Emptying time until the pressure has dropped to 50% of P2 pressure. This response time is depending on user at the outlet port.		
<b>Cycling rate:</b>	Up to 30 Hz.		
<b>Life expectancy:</b>	> 500 millions cycles Conditions: Instrumentation dried and filtered air at 20 $\mu$ m, (dew point +2°C). P max. 5 bar nominal voltage 24 VDC vibrations 5 to 500 Hz.		
<b>Media:</b>	Instrumentation air (dried and unlubricated) filtered at 20 $\mu$ m.		
<b>Fluid temperature:</b>	Min. 0°C. Max. + 40°C.		
<b>Ambient temperature:</b>	0°C to +50°C.		
<b>Vibrations:</b>	Up to 1500 Hz, max. shocks 10 g. At max. vibration rating, life expectancy will decrease.		
<b>Electrical part:</b>	32 mm coil 483816 (14W DC) encapsulated in synthetic material. Connection with 3 pin DIN 43650 type A plug connector, degree of protection IP 65.		
<b>Solenoid duty:</b>	Relative duty time: 80% max. for cycle 30 Hz (33ms). 70% max. for cycle 20 Hz (50ms). 55% max. for cycle 10 Hz (100ms). 25% max. for cycle 1 hour (this valve can not work at ED 100%). $x \% = \frac{\text{Energized time}}{\text{Cycle time}} \div 100$		
<b>Housing:</b>	3 possibilities 2994/2995/299560.		
<b>Voltage:</b>	24 V DC.		
<b>Voltage tolerance:</b>	±10%.		
<b>Class of insulation material:</b>	Class F (155 °C).		
<b>Part kit:</b>	Nothing available		
<b>Port Size:</b>	G		3/8
<b>Orifice:</b>	mm		8
<b>Qmax:</b>	Nm <sup>3</sup> / h		40
<b>Admissible differential pressure:</b>	min.		0
	bar	Max.	7
<b>Maximum admissible fluid temperature:</b>	Air		40
<b>References N°:</b>	Valve	221 J 3311	
	Housing	2994	2995
	Coil	483816	299560
<b>Power consumption:</b>	W		14
<b>Weight:</b>	g		360

### 3-Way Solenoid Valve - Direct Acting

General application valves for dry or lubricated air, neutral gases and liquids



**Description:**

- 3-Way Solenoid Valve - Direct Acting - Normally Closed.
- Coil IP65 for 2 P + E plug according to DIN 43650 type A
- Power Consumption 8W (AC), 9W (DC).

**Applications:**

- This series is used in applications which require actuation and automatic discharge of moving systems.
- Typical applications can be found in: sterilizers, Cylinder actuation, air compressors, Diesel oil burners, pilot valves, water treatment installations.

**Temperature Range:**

- Min: -10°C | Max: see table

**Seals Material:**

- FKM, PCTFE

**Advantages:**

- Versatile product for many 2/2 NC v alve requiring applications, robust design.

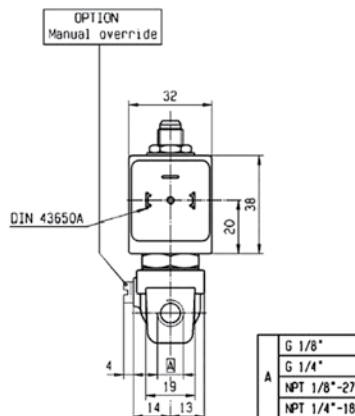
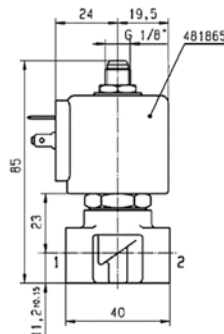
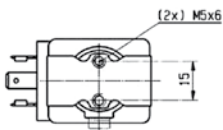
Port size	Orifice	K <sub>v</sub>	Admissible differential pressure (bar)		Fluid Temp.	Seal Material	Reference number			Options
			Min.	Max.			Valve	Housing	Coil	
G	mm	l/min			°C					

**3-Way Solenoid Valve - Direct Acting - Normally Closed**

Normally CLOSED

1/8"	1.5	1.5	0	15	100°C	FKM	E131K14	2995	481865	-
1/8"	2.0	2.5 (3.5)*	0	10	100°C	FKM	131K16	2995	481865	-
1/8"	2.0	2.5 (3.5)*	0	10	100°C	FKM	131K1650	2995	481865	**
1/8"	2.5	3.5	0	7	100°C	FKM	E131K13	2995	481865	-
1/4"	0.8	0.3	0	40	75°C	PCTFE	131K05	2995	481865	-
1/4"	1.5	1.5	0	15	100°C	FKM	E131K04	2995	481865	-
1/4"	1.5	1.5	0	15	100°C	FKM	E131K0450	2995	481865	**
1/4"	2.0	2.5 (3.5)*	0	10	100°C	FKM	E131K06	2995	481865	-
1/4"	2.0	2.5 (3.5)*	0	10	100°C	FKM	E131K0650	2995	481865	**
1/4"	2.5	3.5	0	7	100°C	FKM	E131K03	2995	481865	-
1/4"	2.5	3.5	0	7	100°C	FKM	E131K0350	2995	481865	**

\* Kv for Exhaust side  
 \*\* Manual override standard



Please consult the "How to Order" part at the end of each coil chapter.

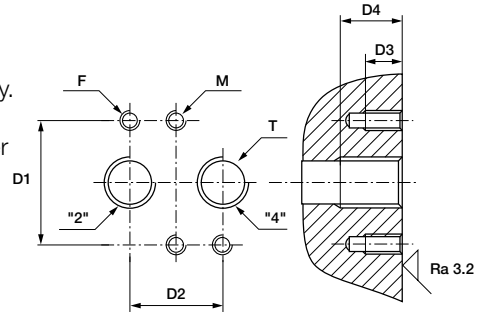
## Valves for Pneumatic Actuator Control

### NAMUR Interfaces 1/4" & 1/2"

NAMUR + piped versions in safe or dangerous areas.

The interface design is conform to the NAMUR standard and to the VDI/VDE 3845 recommendations of the actuator industry. It allows a compact design of the actuator/valve unit. In case of a 3/2 function, the air of the actuator spring chamber also flows through the pilot valve (re-breather function). This prevents corrosion of the actuator springs.

F	T	D1	D2	D3	D4 min.	M
		mm	mm	mm	mm	mm
M5	1/4	32	24	8	12	M5
M6	1/2	45	40	10	16	M6



F: 2 mounting holes - T: 2 actuators control port - M: 2 holes for dowel pins

- High flow: 1.250 l/min (1/4"), 3.000 l/min (1/2")
- Compact design
- Long life expectancy
- N3x & P3x Series compatible with any Parker Lucifer coil (ATEX or not) of electrical group 2 (8/9 W coils)
- Fail safe standard
- Reduced inventory (3/2 & 5/2 functions with the same valve on 341Nx5 series)
- Mechanical part of the valve ATEX certified according standard EN 13463-1 & -5

### General Information

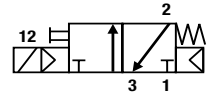
<b>Function:</b>	3/2, 5/2, 3/2 <=> 5/2 and 5/3 valves.
<b>Manual override:</b>	Standard on all versions.
<b>Design:</b>	Nxx & Pxx Series: Solenoid operated spool valve with combined spring and air return & external air pressure operated versions. B0x Series: Solenoid direct acting valve with spring return.
<b>Mounting:</b>	Nxx Series: For direct mounting on NAMUR interface 1/4" & 1/2" Pxx Series: Piped valves G1/4" & G1/2" Bxx Series: Equipped with a banjo bolt G1/8" or G1/4"
<b>Mounting position:</b>	Indifferent.
<b>Material specifications:</b>	Aluminium body. Internal parts of stainless steel. Sealing material from NBR.
<b>Range of admissible pressure drop:</b>	$\Delta p$ min. = see table. $\Delta p$ max. = 10 bar.
<b>Media:</b>	Dry or lubricated air.
<b>Fluid temperature:</b>	Min. 0°C Max. + 50°C
<b>Ambient temperature:</b>	-10°C to +50°C
<b>Electrical part: series</b>	N0x / P0x / Bxx Series are compatible with 22 mm coil 496131 / 496482 / 496637 N3x / P3x Series are compatible with 32/37/40 mm coils part of electrical group 2 (8/9W), including 481865 / 495870 / 495905 Series.
<b>Solenoid duty:</b>	100% ED.
<b>Voltage:</b>	481865 coil: 12 VDC , 24 VDC , 48 VDC , 110VDC, 24 V / 50 AC, 48 V / 50 AC, 110 V / 50 AC, 220-230V/50 AC, 115 V / 60 Hz AC, 230 V / 60 AC.
<b>Voltage tolerance:</b>	± 10% of nominal for 481865 coil.
<b>Class of insulation material:</b>	Class F for 481865 coil.
<b>Standards:</b>	Mechanical ATEX conform to EN 13463-1 & -5.

## Banjo Valves - G1/4" & G1/8" Series

### Solenoid Operated Versions B14-B04 Versions with 22 mm Coil

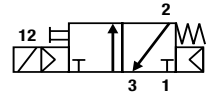
Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)		Max. admissible fluid temperature (°C)		Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Dimensions Reference
			max.	AC-	min.	Air & Neutral gases		Valve	Housing	Coil	DC	AC		
G	mm	l/min	min	DC=	AC-									

#### 3/2 Solenoid operated - Spring return (monostable)



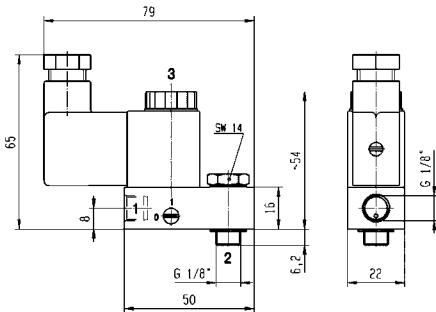
1/8	1.2	50	0	10	10	50	NBR	<b>131B14</b>	-	496131	3	3	140	26
1/8	1.2	50	0	10	10	50	NBR	<b>131B14</b>	-	496482	3	3	140	26
1/8	1.2	50	0	10	10	50	NBR	<b>131B14</b>	-	496637	3	3	140	26

#### 3/2 Solenoid operated - Spring return (monostable)

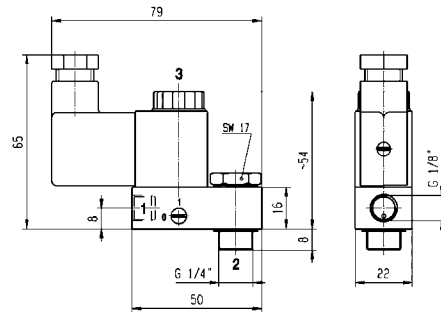


1/4	1.2	50	0	10	10	50	NBR	<b>131B04</b>	-	496131	3	3	160	27
1/4	1.2	50	0	10	10	50	NBR	<b>131B04</b>	-	496482	3	3	160	27
1/4	1.2	50	0	10	10	50	NBR	<b>131B04</b>	-	496637	3	3	160	27

#### Dimensions Reference 26



#### Dimensions Reference 27



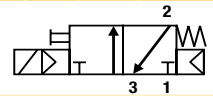
Please consult the "How to Order" part at the end of each coil chapter.

## NAMUR Valves G1/4" Series

### Solenoid Operated Versions N03-N05 Series with 22 mm Coil

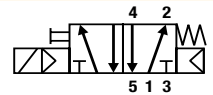
Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)			Max. admissible fluid temperature (°C)	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Dimensions Reference
			max.	DC=	AC=			Valve	Housing	Coil	DC	AC		
G	mm	l/min	min	DC=	AC=	Air & Neutral gases		Valve	Housing	Coil	DC	AC		

#### 3/2 Solenoid operated - Combined spring & air return (monostable)



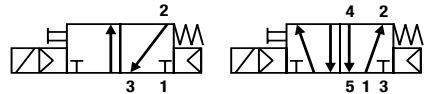
1/4	7	1250	2.5	10	10	50	NBR	<b>331N03</b>	-	496131	3	3	300	1
1/4	7	1250	2.5	10	10	50	NBR	<b>331N03</b>	-	496482	3	3	300	1
1/4	7	1250	2.5	10	10	50	NBR	<b>331N03</b>	-	496637	3	3	300	1

#### 5/2 Solenoid operated - Combined spring & air return (monostable)



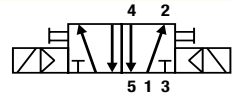
1/4	7	1250	2.5	10	10	50	NBR	<b>341N03</b>	-	496131	3	3	300	2
1/4	7	1250	2.5	10	10	50	NBR	<b>341N03</b>	-	496482	3	3	300	2
1/4	7	1250	2.5	10	10	50	NBR	<b>341N03</b>	-	496637	3	3	300	2

#### 3/2 <=> 5/2 with conversion plate - Solenoid operated Combined spring & air return (monostable)



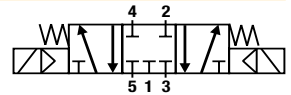
1/4	7	1250	2.5	10	10	50	NBR	<b>341N05</b>	-	496131	3	3	310	3
1/4	7	1250	2.5	10	10	50	NBR	<b>341N05</b>	-	496482	3	3	310	3
1/4	7	1250	2.5	10	10	50	NBR	<b>341N05</b>	-	496637	3	3	310	3

#### 5/2 Solenoid operated and return (bistable)



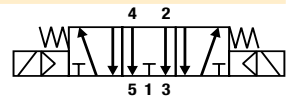
1/4	7	1250	2.5	10	10	50	NBR	<b>347N03</b>	-	496131	3	3	430	4
1/4	7	1250	2.5	10	10	50	NBR	<b>347N03</b>	-	496482	3	3	430	4
1/4	7	1250	2.5	10	10	50	NBR	<b>347N03</b>	-	496637	3	3	430	4

#### 5/3 W1 closed in center position - Solenoid operated and return



1/4	7	1250	2.5	10	10	50	NBR	<b>342N03</b>	-	496131	3	3	430	4
1/4	7	1250	2.5	10	10	50	NBR	<b>342N03</b>	-	496482	3	3	430	4
1/4	7	1250	2.5	10	10	50	NBR	<b>342N03</b>	-	496637	3	3	430	4

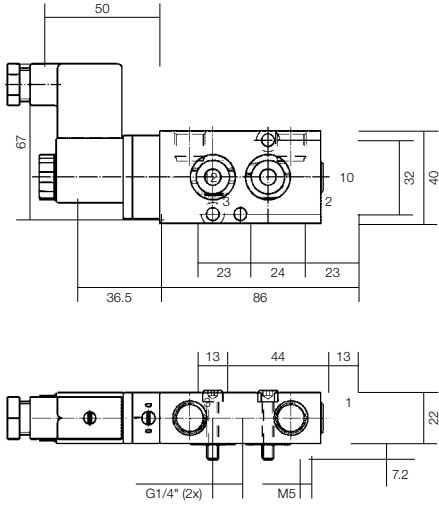
#### 5/3 W3 exhausted in center position Solenoid operated and return



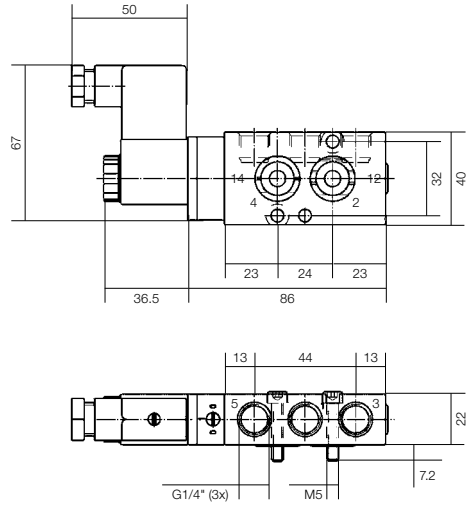
1/4	7	1250	2.5	10	10	50	NBR	<b>343N03</b>	-	496131	3	3	430	4
1/4	7	1250	2.5	10	10	50	NBR	<b>343N03</b>	-	496482	3	3	430	4
1/4	7	1250	2.5	10	10	50	NBR	<b>343N03</b>	-	496637	3	3	430	4

Please consult the "How to Order" part at the end of each coil chapter.

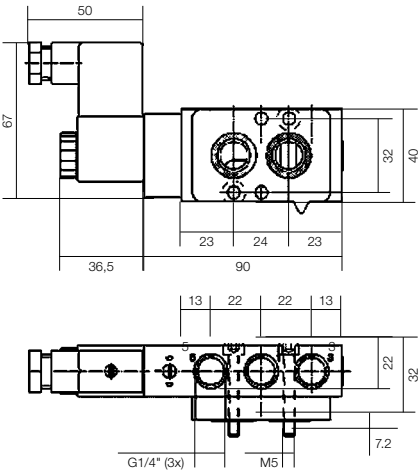
Dimensions Reference 1



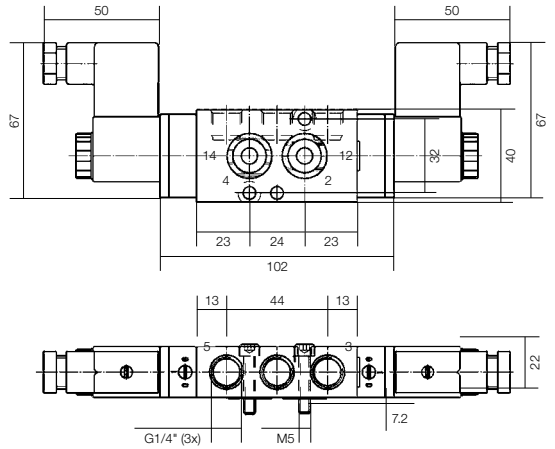
Dimensions Reference 2



Dimensions Reference 3



Dimensions Reference 4



Please consult the "How to Order" part at the end of each coil chapter.



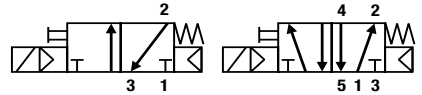
## NAMUR Valves G1/4" Series

### Solenoid Operated Versions

#### N33-N35 Series with 32 / 37 / 40 mm Coil

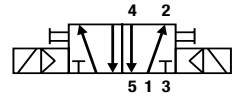
Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)		Max. admissible fluid temperature (°C)	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Dim. Group Ref.	
			max.	AC~			Valve	Housing	Coil	DC	AC			
G	mm	l/min	min	DC=	AC~	Air & Neutral gases								

#### 3/2 <=> 5/2 with conversion plate - Solenoid operated Combined spring & air return (monostable)



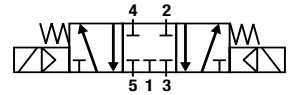
1/4	7	1250	2.5	10	10	50	NBR	<b>341N35</b>	<b>2995</b>	481865	9	8	480	2	5
1/4	7	1250	2.5	10	10	50	NBR	<b>341N35</b>	<b>2995</b>	495870	9	8	700	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>341N35</b>	-	495905	8	8	740	2	-

#### 5/2 Solenoid operated and return (bistable)



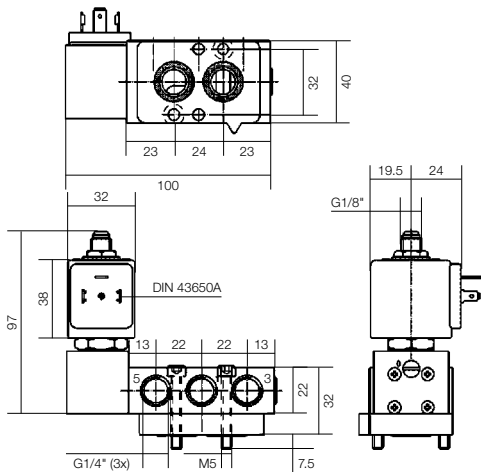
1/4	7	1250	2.5	10	10	50	NBR	<b>347N33</b>	<b>2995</b>	481865	9	8	750	2	6
1/4	7	1250	2.5	10	10	50	NBR	<b>347N33</b>	<b>2995</b>	495870	9	8	1190	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>347N33</b>	-	495905	8	8	1270	2	-

#### 5/3 W1 Closed in center position Solenoid operated and return

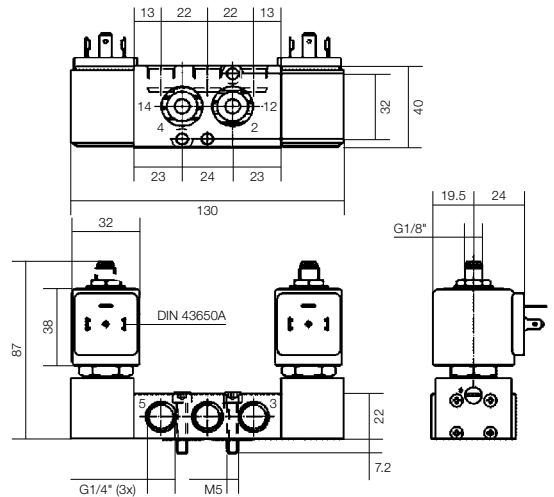


1/4	7	1250	2.5	10	10	50	NBR	<b>342N33</b>	<b>2995</b>	481865	9	8	750	2	6
1/4	7	1250	2.5	10	10	50	NBR	<b>342N33</b>	<b>2995</b>	495870	9	8	1190	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>342N33</b>	-	495905	8	8	1270	2	-

#### Dimensions Reference 5



#### Dimensions Reference 6

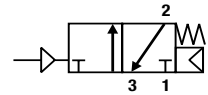


## NAMUR Valves G1/4" Series

### External Pressure Air Operated Series 5xx N03 Series

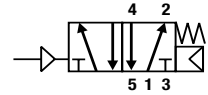
Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)			Max. admissible fluid temperature (°C)	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Dimensions Reference
			max.	DC=	AC~			Valve	Housing	Coil	DC	AC		
G	mm	l/min	min	DC=	AC~	Air & Neutral gases		Valve	Housing	Coil	DC	AC		

**3/2 External pressure air operated**  
**Combined spring & air return (monostable)**  
**External pressure supply 2.5 to 10 bar**



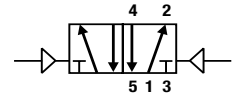
1/4	7	1250	2.5	10	10	50	NBR	<b>531N03</b>	-	w/o	-	-	210	7
-----	---	------	-----	----	----	----	-----	---------------	---	-----	---	---	-----	---

**5/2 External pressure air operated**  
**Combined spring & air return (monostable)**  
**External pressure supply 2.5 to 10 bar**



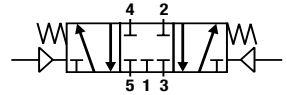
1/4	7	1250	2.5	10	10	50	NBR	<b>541N03</b>	-	w/o	-	-	210	8
-----	---	------	-----	----	----	----	-----	---------------	---	-----	---	---	-----	---

**5/2 External pressure air operated**  
**External pressure air return (bistable)**  
**External pressure supply 2.5 to 10 bar**



1/4	7	1250	2.5	10	10	50	NBR	<b>547N03</b>	-	w/o	-	-	240	9
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**5/3 W1 closed in center position - External pressure air operated**  
**External pressure air return**  
**External pressure supply 2.5 to 10 bar**

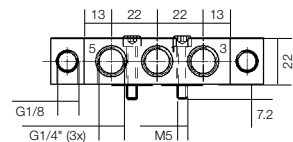
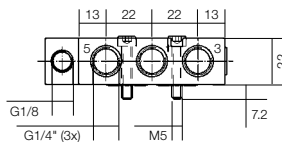
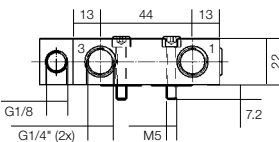
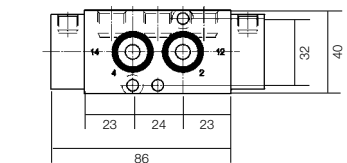
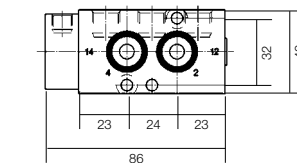
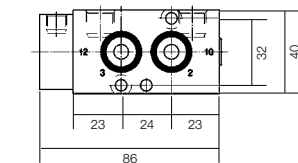


1/4	7	1250	2.5	10	10	50	NBR	<b>542N03</b>	-	w/o	-	-	240	9
-----	---	------	-----	----	----	----	-----	---------------	---	-----	---	---	-----	---

Dimensions Reference 7

Dimensions Reference 8

Dimensions Reference 9

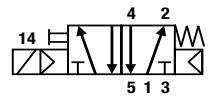


### NAMUR Valves G1/2" Series

#### Solenoid Operated Versions N04 Versions with 22 mm Coil

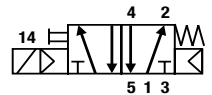
Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)			Max. admissible fluid temperature (°C)	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Dimensions Reference
			max.	DC=	AC~			Valve	Housing	Coil	DC	AC		
G	mm	l/min	min	DC=	AC~	Air & Neutral gases								

#### 3/2 Solenoid operated Combined spring & air return (monostable)



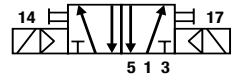
1/2	12	3000	2.5	10	10	50	NBR	<b>331N04</b>	-	496131	3	3	910	670	10
1/2	12	3000	2.5	10	10	50	NBR	<b>331N04</b>	-	496482	3	3	1130	670	10
1/2	12	3000	2.5	10	10	50	NBR	<b>331N04</b>	-	496637	3	3	1170	670	10

#### 5/2 Solenoid operated Combined spring & air return (monostable)



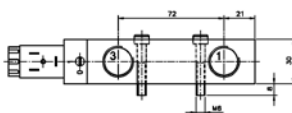
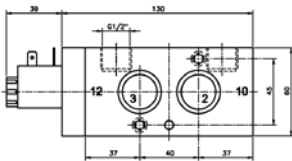
1/2	12	3000	2.5	10	10	50	NBR	<b>341N04</b>	-	496131	3	3	900	840	11
1/2	12	3000	2.5	10	10	50	NBR	<b>341N04</b>	-	496482	3	3	1120	840	11
1/2	12	3000	2.5	10	10	50	NBR	<b>341N04</b>	-	496637	3	3	1160	840	11

#### 5/2 Solenoid operated and return (bistable)

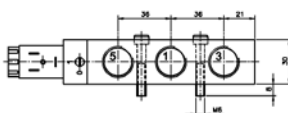
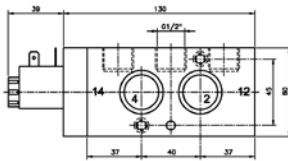


1/2	12	3000	2.5	10	10	50	NBR	<b>347N04</b>	-	496131	3	3	1240	840	12
1/2	12	3000	2.5	10	10	50	NBR	<b>347N04</b>	-	496482	3	3	1680	840	12
1/2	12	3000	2.5	10	10	50	NBR	<b>347N04</b>	-	496637	3	3	1760	840	12

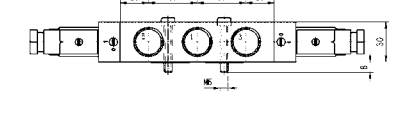
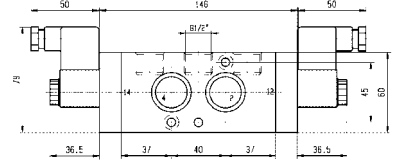
Dimensions Reference 10



Dimensions Reference 11



Dimensions Reference 12



Please consult the "How to Order" part at the end of each coil chapter.



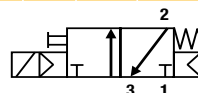
## NAMUR Valves G1/2" Series

### Solenoid Operated Versions

#### N34 Series with 32 / 37 / 40 mm Coil

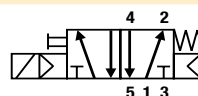
Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)			Max. admissible fluid temperature (°C)		Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Dim. Group Ref.
			min	DC=	AC=	min.	max.		Valve	Housing	Coil	DC	AC		
G	mm	l/min	min	DC=	AC=	Air & Neutral gases									

#### 3/2 Solenoid operated Combined spring & air return (monostable)



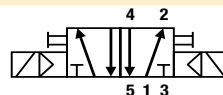
1/2	12	3000	2.5	10	10	50	NBR	<b>331N34</b>	<b>2995</b>	481865	9	8	910	2	13
1/2	12	3000	2.5	10	10	50	NBR	<b>331N34</b>	<b>2995</b>	495870	9	8	1130	2	-
1/2	12	3000	2.5	10	10	50	NBR	<b>331N34</b>	-	495905	8	8	1170	2	-

#### 5/2 Solenoid operated Combined spring & air return (monostable)



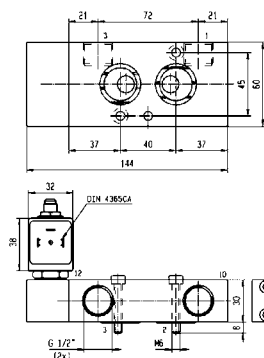
1/2	12	3000	2.5	10	10	50	NBR	<b>341N34</b>	<b>2995</b>	481865	9	8	900	2	14
1/2	12	3000	2.5	10	10	50	NBR	<b>341N34</b>	<b>2995</b>	495870	9	8	1120	2	-
1/2	12	3000	2.5	10	10	50	NBR	<b>341N34</b>	-	495905	8	8	1160	2	-

#### 5/2 Solenoid operated and return (bistable)

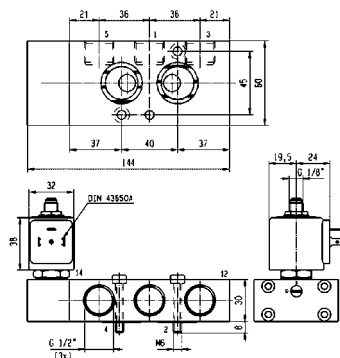


1/2	12	3000	2.5	10	10	50	NBR	<b>347N34</b>	<b>2995</b>	481865	9	8	1240	2	15
1/2	12	3000	2.5	10	10	50	NBR	<b>347N34</b>	<b>2995</b>	495870	9	8	1680	2	-
1/2	12	3000	2.5	10	10	50	NBR	<b>347N34</b>	-	495905	8	8	1760	2	-

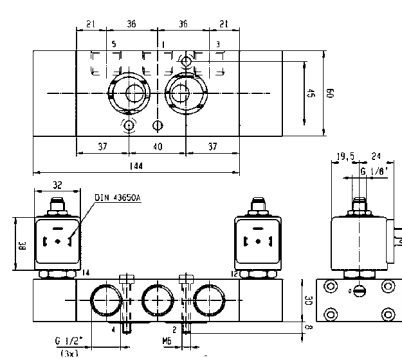
Dimensions Reference 13



Dimensions Reference 14



Dimensions Reference 15



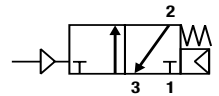
Please consult the "How to Order" part at the end of each coil chapter.

## NAMUR Valves G1/2" Series

### External Pressure Air Operated Series 5 xx N04 Series

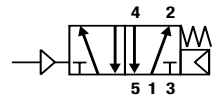
Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)			Max. admissible fluid temperature (°C)	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Dimensions Reference
			max.	DC=	AC~			Valve	Housing	Coil	DC	AC		
G	mm	l/min	min	DC=	AC~	Air & Neutral gases								

**3/2 External pressure air operated**  
**Combined spring & air return (monostable)**  
**External pressure supply 2.5 to 10 bar**



1/2	12	3000	2.5	10	10	50	NBR	531N04	-	w/o	-	-	620	16
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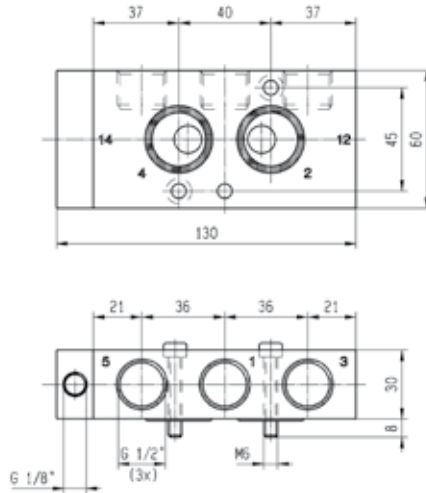
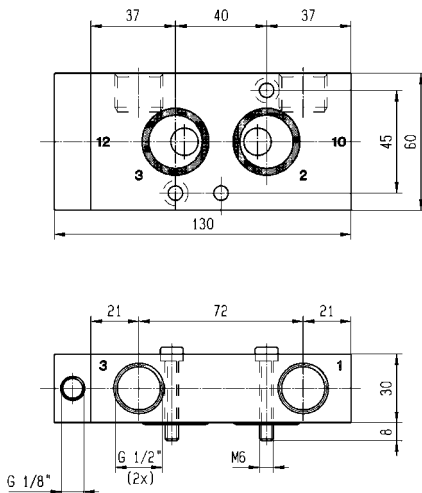
**5/2 External pressure air operated**  
**Combined spring & air return (monostable)**  
**External pressure supply 2.5 to 10 bar**



1/2	12	3000	2.5	10	10	50	NBR	541N04	-	w/o	-	-	600	17
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Dimensions Reference 16

Dimensions Reference 17



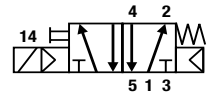
Please consult the "How to Order" part at the end of each coil chapter.

## Piped Valves - G1/4" Series

### Solenoid Operated Versions P03 Versions with 22 mm Coil

Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)		Max. admissible fluid temperature (°C)	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Dimensions Reference
			max.	AC~			Valve	Housing	Coil	DC	AC		
G	mm	l/min	min	DC=	AC~	Air & Neutral gases							

#### 5/2 Solenoid operated Combined spring & air return (monostable)



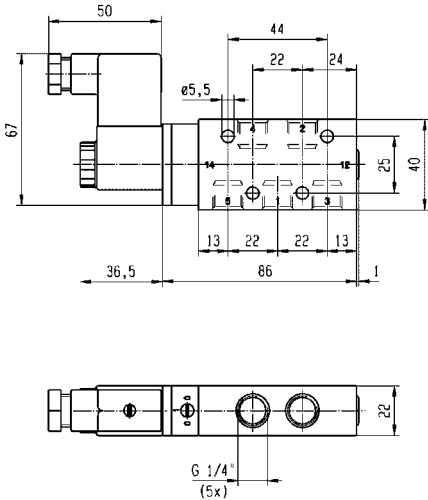
1/4	7	1250	2.5	10	10	50	NBR	<b>341P03</b>	-	496131	3	3	250	18
1/4	7	1250	2.5	10	10	50	NBR	<b>341P03</b>	-	496482	3	3	250	18
1/4	7	1250	2.5	10	10	50	NBR	<b>341P03</b>	-	496637	3	3	250	18

#### 5/2 Solenoid operated and return (bistable)

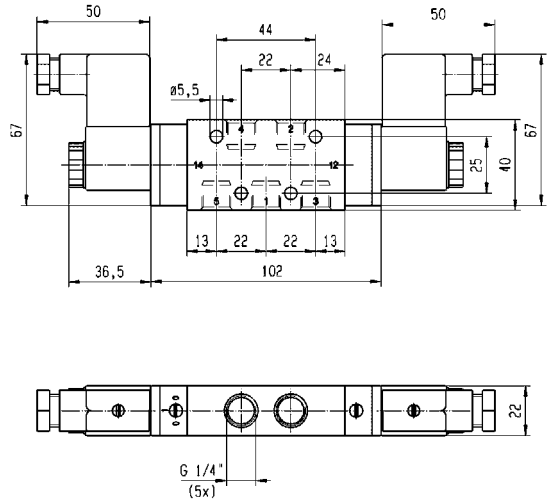


1/4	7	1250	2.5	10	10	50	NBR	<b>347P03</b>	-	496131	3	3	350	19
1/4	7	1250	2.5	10	10	50	NBR	<b>347P03</b>	-	496482	3	3	350	19
1/4	7	1250	2.5	10	10	50	NBR	<b>347P03</b>	-	496637	3	3	350	19

Dimensions Reference 18



Dimensions Reference 19



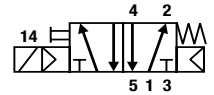
Please consult the "How to Order" part at the end of each coil chapter.

## Piped Valves - G1/4" Series

### Solenoid Operated Versions P33 Versions with 32-37-40 mm Coil

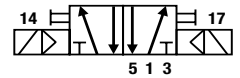
Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)		Max. admissible fluid temperature (°C)	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Dim. Group Ref.	
			max.	AC~			Valve	Housing	Coil	DC	AC			
G	mm	l/min	min	DC=	AC~	Air & Neutral gases								

#### 5/2 Solenoid operated Combined spring & air return (monostable)



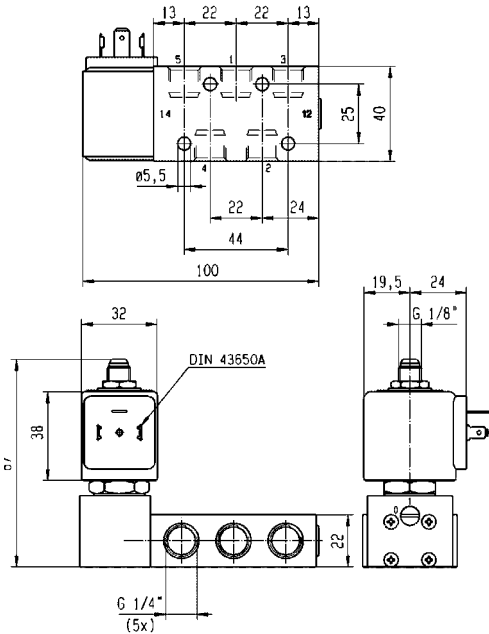
1/4	7	1250	2.5	10	10	50	NBR	<b>341P33</b>	2995	481865	9	8	470	2	20
1/4	7	1250	2.5	10	10	50	NBR	<b>341P33</b>	2995	495870	9	8	690	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>341P33</b>	-	495905	8	8	730	2	-

#### 5/2 Solenoid operated and return (bistable)

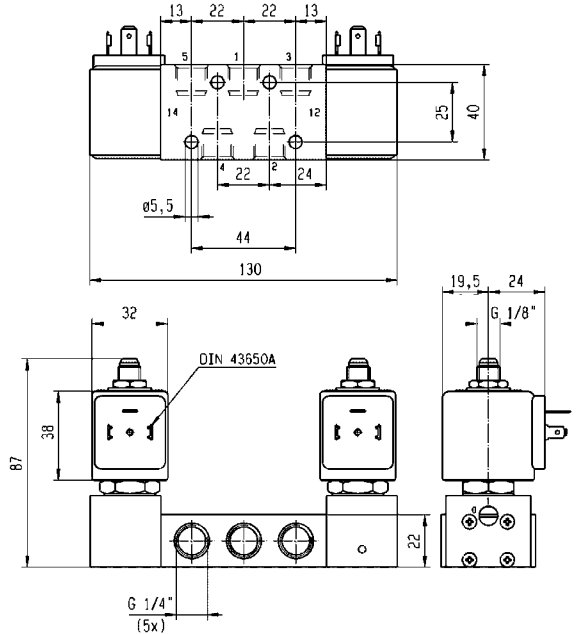


1/4	7	1250	2.5	10	10	50	NBR	<b>347P33</b>	2995	481865	9	8	750	2	21
1/4	7	1250	2.5	10	10	50	NBR	<b>347P33</b>	2995	495870	9	8	1190	2	-
1/4	7	1250	2.5	10	10	50	NBR	<b>347P33</b>	-	495905	8	8	1270	2	-

#### Dimensions Reference 20



#### Dimensions Reference 21

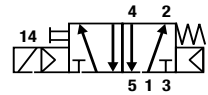


## Piped Valves - G1/2" Series

### Solenoid Operated Versions P04 Versions with 22 mm Coil

Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)			Max. admissible fluid temperature (°C)	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Dimensions Reference
			max.	DC=	AC=			Valve	Housing	Coil	DC	AC		
G	mm	l/min	min	DC=	AC=	Air & Neutral gases								

#### 5/2 Solenoid operated Combined spring & air return (monostable)



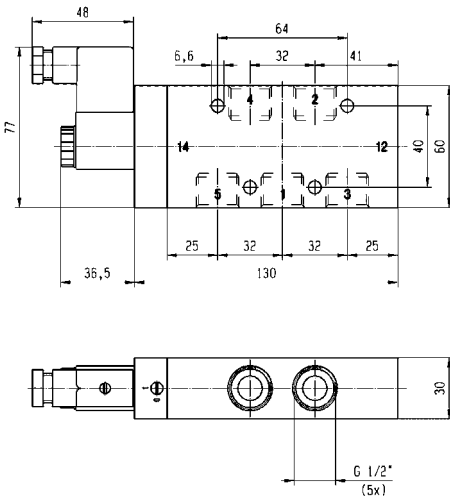
1/2	12	3000	2.5	10	10	50	NBR	<b>341P04</b>	-	496131	3	3	670	22
1/2	12	3000	2.5	10	10	50	NBR	<b>341P04</b>	-	496482	3	3	670	22
1/2	12	3000	2.5	10	10	50	NBR	<b>341P04</b>	-	496637	3	3	670	22

#### 5/2 Solenoid operated and return (bistable)

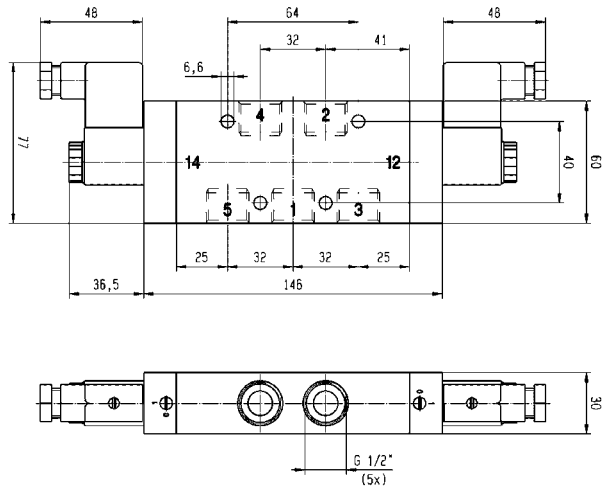


1/2	12	3000	2.5	10	10	50	NBR	<b>347P04</b>	-	496131	3	3	840	23
1/2	12	3000	2.5	10	10	50	NBR	<b>347P04</b>	-	496482	3	3	840	23
1/2	12	3000	2.5	10	10	50	NBR	<b>347P04</b>	-	496637	3	3	840	23

#### Dimensions Reference 22



#### Dimensions Reference 23



Please consult the "How to Order" part at the end of each coil chapter.

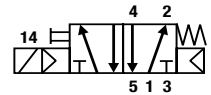


## Piped Valves - G1/2" Series

### Solenoid Operated Versions P34 Versions with 32/37/40 mm Coil

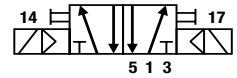
Port size	Orifice	Q <sub>N</sub>	Admissible differential pressure (bar)		Max. admissible fluid temperature (°C)	Seat disc	Reference number			Consumption Power (Watt)		Weight (g)	Elect. Group	Dim. Ref.
			max.	AC~			Valve	Housing	Coil	DC	AC			
G	mm	l/min	min	DC=	AC~	Air & Neutral gases								

#### 5/2 Solenoid operated Combined spring & air return (monostable)



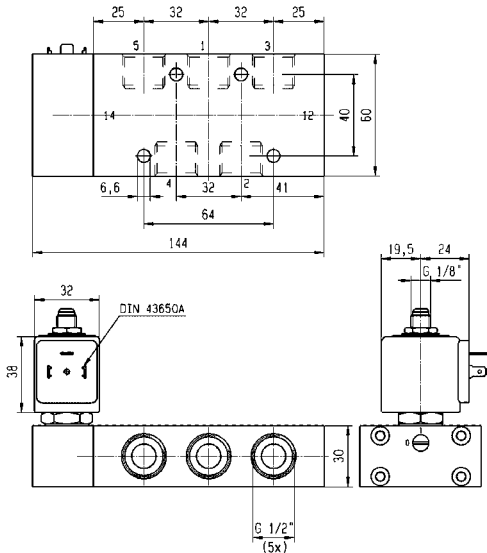
1/2	12	3000	2.5	10	10	50	NBR	<b>341P34</b>	2995	481865	9	8	900	2	24
1/2	12	3000	2.5	10	10	50	NBR	<b>341P34</b>	2995	495870	9	8	1120	2	-
1/2	12	3000	2.5	10	10	50	NBR	<b>341P34</b>	-	495905	8	8	1160	2	-

#### 5/2 Solenoid operated and return (bistable)

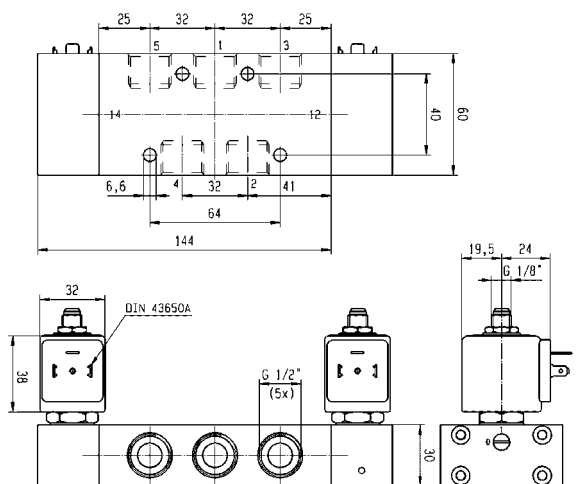


1/2	12	3000	2.5	10	10	50	NBR	<b>347P34</b>	2995	481865	9	8	1240	2	25
1/2	12	3000	2.5	10	10	50	NBR	<b>347P34</b>	2995	495870	9	8	1680	2	-
1/2	12	3000	2.5	10	10	50	NBR	<b>347P34</b>	-	495905	8	8	1760	2	-

#### Dimensions Reference 24



#### Dimensions Reference 25



Please consult the "How to Order" part at the end of each coil chapter.


## Coils and Spare Parts Informations

### Coils 22 mm for N03-N05 Series

#### Safe Area & ATEX Zone 22

Ref. 496131 / 496482 / 496637

These coils with connection for 2 P+G DIN 43650 B plug are encapsulated in synthetic material, conform to the IEC/CENELEC safety standards and comply with European low voltage directive 73/23/EC .

- Power: 3W
  - Insulation Class: F (155°C)
  - Degree of Protection: IP65 (with plug)
  - Duty Cycle: 100% ED
  - Ambient Temperature: -10°C to 50°C
- 3 different types are available:**
- Ref. 496131 for a safe area without plug
  - Ref. 496482 for a safe area with plug
  - Ref. 496637 for an ATEX area Zone 22 

496637 coil series with connection 2P + G when mounted together with the supplied Pg9 plug (delivered with the coil) are suitable for use in dangerous areas (dust Zone 22) according to the European directive ATEX 94/9/C. Protection mode: Ex tD A22 IP65 - T95°C

Available Voltages	Safe area without DIN plug Order Code	Safe area with DIN plug Order Code	ATEX Zone 22 EX II 3D Order Code
12 VDC	496131 C1	496482 C1	496637 C1
24 VDC	496131 C2	496482 C2	496637 C2
48 VDC	496131 C4	496482 C4	496637 C4
110 VDC	496131 C5	496482 C5	496637 C5
24/50-60 VAC	496131 P0	496482 P0	496637 P0
48/50-60 VAC	496131 S4	496482 S4	496637 S4
110/50-60 VAC	496131 P2	496482 P2	496637 P2
115/60 VAC	496131 K8	496482 K8	496637 K8
230/50-60 VAC	496131 P9	496482 P9	496637 P9

## How to Order

The housing kit is already included into the coil reference, so it's not needed to add it with the order code:

Valve Reference Number - Coil Reference - Voltage code = Order code

**Example: 341N03 - 496131 C2**

Valves and coils may be ordered also separately.

## Coils 32 mm / 37 mm / 40 mm for N33-N34-N35 Series

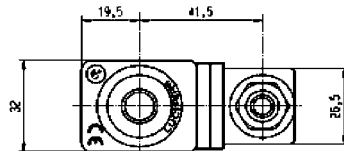
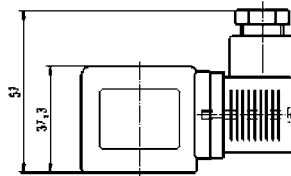
### Safe Area

Ref. 481865

N3x series are compatible with any Parker Lucifer coil part of electrical group 2. That group includes many different coils for safe areas or areas submitted to ATEX certifications. These coils are part of the 8/9W class. These coils with connection for 2P+G DIN 43650 A plug are encapsulated in synthetic material, conform to the IEC/CENELEC safety standards and comply with European low voltage directive 73/23/EC.

Safe Area

- Power: 8W (AC) 9W (DC)
- Insulation Class: F (155°C)
- Degree of Protection: IP65 (with plug)
- Duty Cycle: 100% ED
- Voltage Tolerance -10% / +10%
- Ambient Temperature -40°C / +50°C
  - The application can be limited also by the temperature range of the valve



Available Voltages	Order Code
12 VDC	481865 C1
24 VDC	481865 C2
48 VDC	481865 C4
110 VDC	481865 C5
24/50 VAC	481865 A2
48/50 VAC	481865 A4
110/50 VAC	481865 A5
220-230/50 VAC	481865 3D
380/50 VAC	481865 A9
24/60 VAC	481865 B2
115/60 VAC	481865 K8
230/60 VAC	481865 J3



### How to Order

This coil must be used together with a housing kit which includes a nut, a plate, and a washer. Housing Kit Order Code: 2995

Valve Reference Number - Housing Reference - Coil Reference - Voltage Code = Order Code

**Example: 341N35 - 2995 - 481865 C2**

Valves and coils may be ordered also separately.

## Coils and Spare Parts Informations

### Coils 32 mm / 37 mm / 40 mm for N33-N34-N35 Series

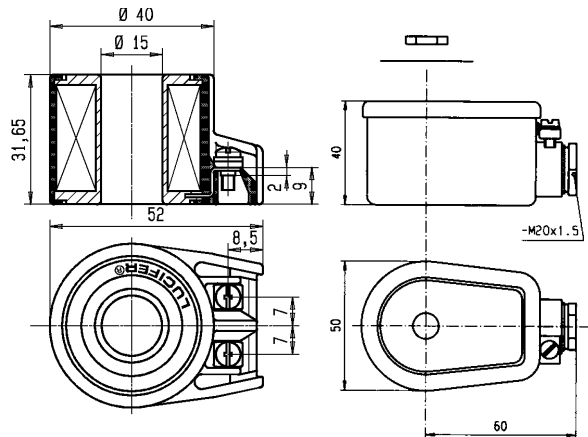
#### Safe Area Coil 481000 Series with 4538 Watertight and dust proof housing IP67

Ref. 481000

Coil 481000 series is encapsulated in synthetic material. Electrical connection is made with screw terminals for wire up to 1.5 mm. This coil conforms to the IEC/CENELEC safety standards and complies with European low voltage directive 73/23/EC. It must be used with a metallic housing.

- Power: 8W
- Insulation Class: F (155°C)
- Degree of Protection: IP67 (with 4538 housing)
- Duty Cycle: 100%
- Voltage Tolerance -10%/+10%
- Ambient Temperature -40°C/+50°C
- The application can be limited also by the temperature range of the valve

Available Voltages	Order Code
12 VDC	481000 C1
24 VDC	481000 C2
48 VDC	481000 C4
110 VDC	481000 C5
24/50 VAC	481000 A2
48/50 VAC	481000 A4
110-115/50 VAC	481000 OA
220-230/50 VAC	481000 3D
380/50-440/60 VAC	481000 5P
24/60 VAC	481000 B2
110-115/60 VAC	481000 6J
220-240/60 VAC	481000 4K
42/50-48/60 VAC	481000 S7



## Housing 4538

This enclosure is dust and water proof. It corresponds to the protection degree IP67 according to IEC/EN60529. Corrosion resistant, the metallic housing offers good protection for the coil against shocks. It can be 360° orientable. This housing must be equipped with 481000 series coil.

Material: galvanized passivated steel - Degree of protection IP67 according to IEC/EN 60529 - Electrical connection: cable connection by cable gland according to DIN46320. Cable with outer diameter 6.5-13.5 mm (M20x1.5) can be simply sealed using a rubber gland resilient sealing rings. The enclosure is internally and externally fitted with grounding and earthing screw terminals.

## How to Order

Valve Reference Number - Housing Reference - Coil Reference - Voltage Code = Order Code

**Example: 331N34 - 4538 - 481000C2**

Valves and coils may be ordered also separately.

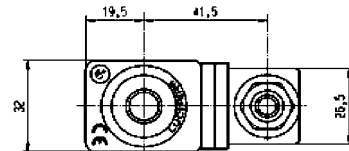
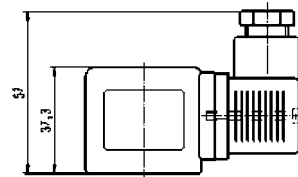
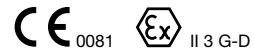
## Coils 32 mm / 37 mm / 40 mm for N33-N34-N35 Series

ATEX Zone 2-22

REF. 495870

This coil with connection 2P+G - when mounted together with the supplied Pg 9 plug (delivered with the coil), is suitable for use in Gas and Dust dangerous areas (Zone 2-22), according to the European directive **ATEX 94/9/C. Certificate LCIE 05 ATEX 6003 X - Protection mode: non sparking / limited energy solenoid**

- II 3 G - Ex nAC IIC T3 / T4
- II 3 D - Ex tD A22 IP65 - T 195°C / T 130°C
- Power: 8W (AC) 9W (DC)
- Insulation Class: F (155°C)
- Degree of Protection: IP65 (with plug)
- Duty Cycle: 100% ED
- Voltage Tolerance -10%/+10%
- Ambient temperature
  - T3 (gaz) T 195°C (dust) -40°C/+65°C
  - T4 (gaz) T 130°C (dust) -40°C/+50°C
  - The application can be limited also by the temperature range of the valve



Available Voltages	Order Code
24 VDC	495870 C2
48 VDC	495870 C4
110 VDC	495870 C5
24/50 VAC	495870 A2
48/50 VAC	495870 A4
110/50 VAC	495870 A5
220-230/50 VAC	495870 3D



### How to Order

This coil must be used together with a housing kit which includes a nut, a plate, and a washer. Housing kit order code: 2995

Valve Reference Number - Coil Reference - Voltage code = Order code

**Example: 331N34 - 2995 - 495870 A5**

Valves and coils may be ordered also separately.

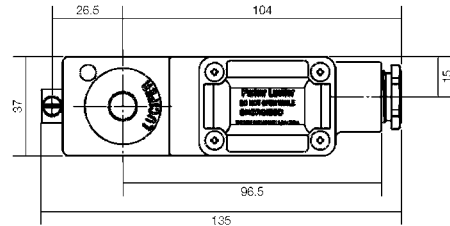
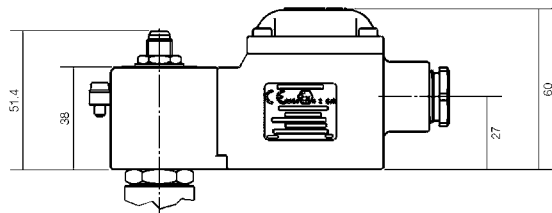
## Coils 32 mm / 37 mm / 40 mm for N33-N34-N35 Series

### ATEX Zone 1-21

Ref. 495905

This coil is suitable for use in Gas and Dust dangerous areas (Zone 1-21), according to the European directive **ATEX 94/9/C**. It's also IECEx certified according to the IECEx Scheme. **Certificate LCIE 02 ATEX 6451 X - Protection modes: Explosionproof solenoids with flameproof enclosure / encapsulation "d mb"**

- II 2 G - Ex d mb IIC T4
- II 2 D - Ex tD A21 IP67 - T 130°C
- Insulation Class H (180°C)
- Power: 8W (AC-DC)
- Degree of Protection IP67
- Duty Cycle 100%
- Voltage Tolerance -10%/+10%
- Ambient Temperature: -40°C/+65°C
- The application can be limited also by the temperature range of the valve



Available Voltages	Order Code
24 VDC	495905 C2
48 VDC	495905 C4
110 VDC	495905 C5
24/50 VAC	495905 A2
48/50 VAC	495905 A4
110/50 VAC	495905 E5
220-230/50 VAC	495905 3D
115/60	495905 E5
240/60	495905 B8

Electric connection is done in the connection box on an easily accessible connector terminals.  
M20x1.5 Cable gland



### How to Order

The housing kit is already included into the coil reference, so it's not needed to add it in the order code:  
Valve Reference Number - Coil Reference - Voltage code = Order code

**Example: 347N33 - 495905 C2**

Valves and coils may be ordered also separately.

## Coils 32 mm / 37 mm / 40 mm for N33-N34-N35 Series

### ATEX Solutions Zone 1-21

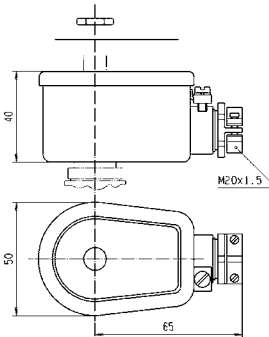
### Ref. 483371 & 494040

These coils are suitable for use in Gas and Dust dangerous areas (Zone 1-21), according to the European directive **ATEX 94/9/C**. **Protection mode: encapsulated electrical parts with increased safety.**

ATEX Zone 1-21

Reference		483371 or HZ06	494040 or HZ23
<b>Approval</b>		LCIE 02 ATEX 6011 X	
<b>Type of protection</b>		LCIE 02 ATEX 6013 X	
Gas		II 2 G - Ex e mb II T4	II 2 G - Ex e mb II T3
Dust		II 2 D - Ex tD A21 T 130°C	II 2 D - Ex tD A21 T 195°C
<b>Degree of protection</b>		IP67	
<b>Ambient temperature</b>		-40°C to +65°C	-40°C to +65°C
The application is limited also by the temperature range of the valve			
<b>Class of insulation</b>		F (155°)	H (180°)
<b>Electrical connection</b>		By special cable gland or M20x1.5 "Ex e" on screw terminals for wires up to 1.5 mm <sup>2</sup> . Cables with outside diameter 6.5 mm to 13.5 mm can be simply sealed using the rubber gland with resilient sealing rings supplied.	
<b>Elect. Power</b>	DC Pn (hot)	8 W	8 W
	P (cold) 20°C	9 W	9 W
	AC Pn (holding)	8 W	8 W
		32 VA (9 W)	32 VA (9 W)
<b>Voltage tolerance</b>		Tolerance -10/ +10% of the nominal voltage	
<b>Solenoid duty</b>		Continuous duty solenoid (ED 100%)	

Available Voltages	Order Code	Order Code
6 VDC	483371 C0	-
12 VDC	483371 C1	-
24 VDC	483371 C2	494040 C2
36 VDC	483371 C3	-
48 VDC	483371 C4	-
60 VDC	483371 M3	-
110 VDC	483371 C5	-
125 VDC	483371 3N	494040 3N
220 VDC	483371 C7	494040 C7
12/50 VAC	483371 A1	-
24/50 VAC	483371 A2	494040 A2
48/50 VAC	483371 A4	-
110-115/50 VAC	483371 0A	494040 0A
220-230/50	483371 3D	494040 3D
24/60 VAC	483371 B2	-
110-115/60 VAC	483371 6J	-
220-240/60 VAC	483371 4K	-
380/50-440/60 VAC	-	494040 5P



**Fuses:** Both electrical 483371... and 494040... parts have to be connected in series with a safety fuse according to CEI 60127-3.

483371...	494040...
DC: 24V / 400mA - 48V / 250mA 110V / 100mA	DC: 24V / 400mA - 125V / 80mA 48V / 220V - 63mA
AC: 24V / 630mA - 48V / 315mA 110/115V / 160mA 220/230V / 80mA	AC: 24V / 630mA - 48V / 315mA 110/115V / 160mA 220/230V / 80mA

## How to Order

The housing kit is already included into the coil reference, so it's not needed to add it in the order code:  
Valve Reference Number - Coil Reference - Voltage code = Order code

**Example: 347N33 - 483371C2**

Valves and coils may be ordered also separately.

## Spare Parts Mounting Kit and Accessories

### Kit for G1/4" Models without conversion plate (N x 3 Series)



Kit includes the 2 mounting screws M5 x 25 A2, the dowel pin M5 x 10 A2, the 2 O-rings NBR 15 x 2.5

**Order code: 496132**

### Kit for G1/4" Models with conversion plate (N x 5 Series)



Kit includes the 2 mounting screws M5 x 35 A2, the dowel pin M5 x 20 A2, the conversion plate equipped with its seals

**Order code: 496742 (equipped plate)**

**Order code: 496852 (screws + pin)**

### Kit for G1/2" Models (N x 4 Series)



Kit includes the 2 mounting screws M6 x 35 A2, the dowel pin M6 x 12 A2, the 2 O-rings NBR 24 x 3

**Order code: 496133**

## Exhaust Flow Regulators



Material Body:	Brass	Filter element:	Sintered bronze
Spring:	Stainless Steel	Seal:	NBR

**G1/8" Order code: 496551**

**G1/4" Order code: 496552**

**G1/2" Order code: 496553**





### Connector for 22 mm Coil

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Connector DIN43650 AB Pg9 2P+E

**Order code: 481043**



### Housing for 22 mm Coil

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Plastic nut with O-ring

**Order code: 3125**



### Connector for 32 mm Coil

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Connector DIN43650 AA Pg9 2P+E

**Order code: 486586**

Miniature high-speed valves in stand alone, stackable or combined modules, incorporating standard logic functions. The range also includes timers and impulse modules.

- Complete range
- Stand alone, stackable or combinable modules
- Very fast response time
- Flexible and highly maintainable system
- DIN rail mounting
- Ø 4mm connection



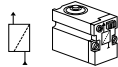
**Operating information**

Working pressure	3 to 8 bar
Working temperature	-15 °C to 60 °C
Flow (Qmax)	180 l/min (PRD = 60 l/min)
ATEX approval:	CE Ex II 2 GD c 85°C

**For ATEX specific products contact Sales Office**  
For technical information see CD

**Logic sequencer**

**Step modules**



Order code

Without sub base	<b>PSM-A10</b>
Pneumatic output	
Visual indication of pneumatic output and manual override	<b>PSM-A12</b>
With sub base	<b>PSM-B12</b>
Without manual override	

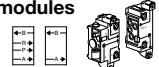
**Step module subbase**



Order code

Subbase	<b>PSB-A12</b>
Additional interlock	<b>PSV-A12</b>

**Set of head and tail modules and deviation modules**

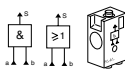


Order code

Head & tail set	<b>PSE-A12</b>
Deviation standard	<b>PSD-A12</b>
Deviation for remote	<b>PSD-B12</b>

**Logic elements**

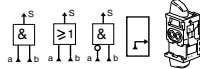
**Line mounted elements**



Order code

AND	<b>PLL-A11</b>
OR	<b>PLK-A11</b>
Clip on Din-rail	<b>PZM-L199</b>

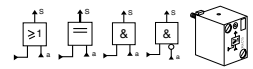
**Combinable elements**



Order code

AND	<b>PLL-B12</b>
OR	<b>PLK-B12</b>
NOT	<b>PLN-B12</b>
INPUT	<b>PLE-B12</b>

**Subbase mounted elements**



Order code

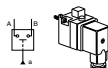
AND	<b>PLL-C10</b>
NOT inhibit standard	<b>PLN-C10</b>
NOT inhibit threshold	<b>PLN-D10</b>
OR	<b>PLK-C10</b>
YES regenerated	<b>PLJ-C10</b>

3 port subbase to be ordered separately.

**Logic relays**

**Pressure switch**

To be used with 3 port subbase

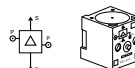


Order code

With subbase	<b>PRE-A12</b>
Without subbase	<b>PRE-A10</b>

**Amplifier relays**

To be used with 4 port subbase



Order code

With subbase	<b>PRD-A12</b>
Without subbase	<b>PRD-A10</b>

**Memory relays**

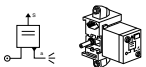
To be used with 4 port subbase



Order code

With subbase	<b>PLM-A12</b>
Without subbase	<b>PLM-A10</b>

**Sensor relays**



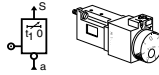
Order code

With subbase	<b>PRF-A12</b>
Without subbase	<b>PRF-A10</b>

Indicates stocked product.

**Time delay relays**

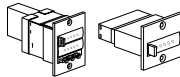
To be mounted on 3 port subbase



Function	Timing	Order code
Output after timed period	0,1 to 3s	<b>PRT-E10</b>
	0,1 to 30s	<b>PRT-A10</b>
	10 to 180s	<b>PRT-B10</b>
With subbase	0,1 to 30s	<b>PRT-A12</b>
Output during timed period	0,1 to 3s	<b>PRT-F10</b>
	0,1 to 30s	<b>PRT-C10</b>
	10 to 180s	<b>PRT-D10</b>

**Impulse counters**

Flush mounting  
Pneumatic or manual reset




	Order code
*Surface mounting	<b>PCT-A11</b>
*Flush mounting	<b>PCT-B11</b>
Surface mounting	<b>PCP-A11</b>

\* Totalising counters



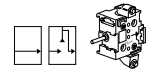
**Not elements**

Description	Order code
PLNC10 on PZUA12 subbase	<b>PLN-C12</b>
PLND10 on PZUA12 subbase	<b>PLN-D12</b>

 Indicates stocked product.

**Subbase for logic elements and relays**

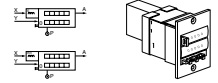
3 port and 4 port subbases



	Order code
Input module	<b>PZU-E12</b>
3 port *common input*	<b>PZU-A12</b>
3 port *cascade*	<b>PZU-C12</b>
4 port subbase*	<b>PZU-B12</b>

\* For combination with memory relay and amplified relay.

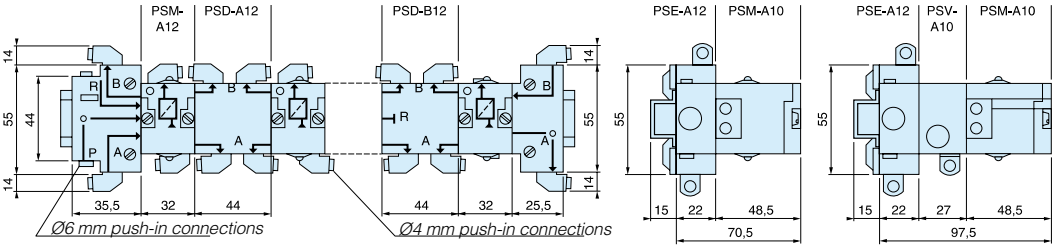
**Timers**



Time base	Time range	Order code
1 second	1 second to 27 hours	<b>PCM-A11</b>
1 minute	1 minute to 69 days	<b>PCM-B11</b>
2 minutes	3 to 100 seconds	<b>PCM-C11</b>
2 minutes	3 to 10 minutes	<b>PCM-D11</b>
2 minutes	3 to 100 minutes	<b>PCM-E11</b>

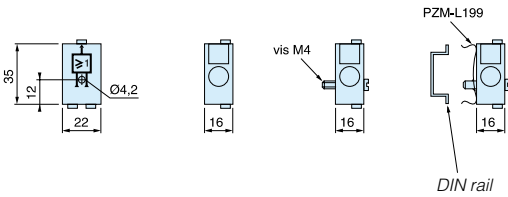
Dimensions, Logic processing

Modular sequencer



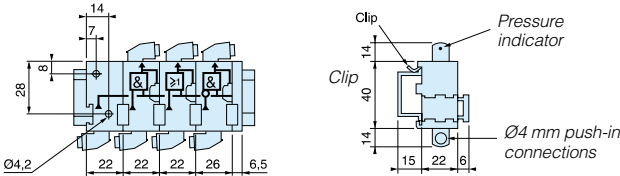
Line mounted logic elements

PLL-A11 and PLK-A11



Combinable logic elements

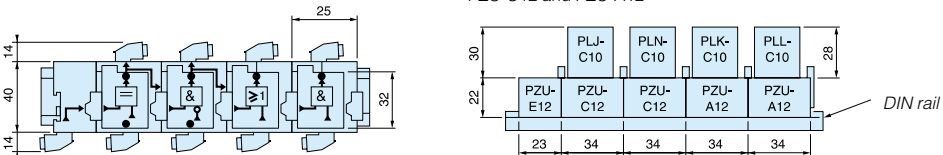
PLE-B12 — PLL-B12 — PLK-B12 and PLN-B12



Logic elements mounted on 3-port modular subbases

PZU-E12

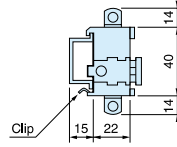
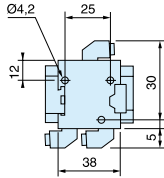
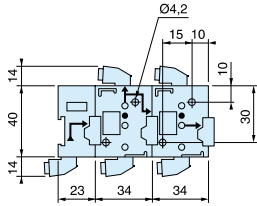
PLJ-C10 — PLN-C10 — PLK-C10 and PLL-C10 mounted on PZU-C12 and PZU-A12



**3 and 4-port modular subbases**

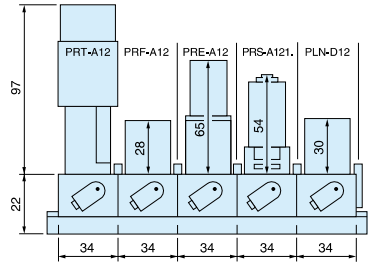
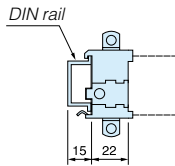
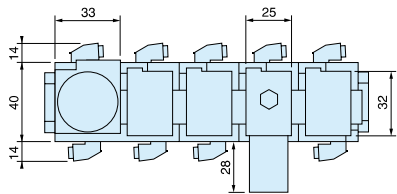
PZU-E12 — PZU-C12 — PZU-A12

PZU-B12



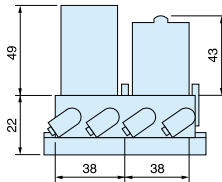
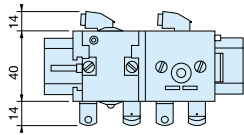
**Relays mounted on 3-port modular subbases**

PRT-A12 — PRF-A12 — PRE-A12 — PRS-A121 and PLN-D12



**Relays mounted on 4-port modular subbases**

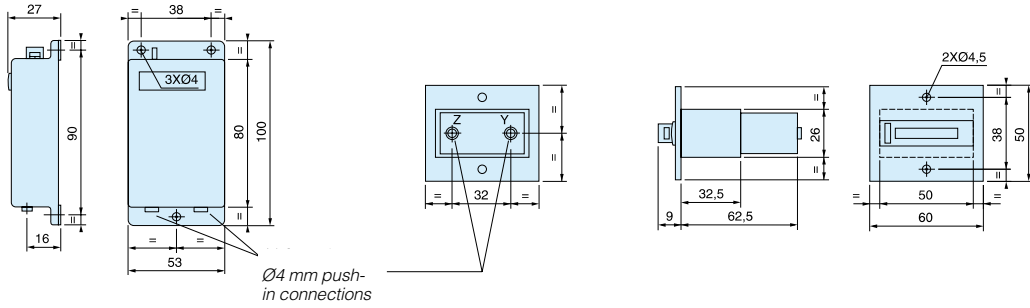
PLM-A12 and PRD-A12



**Totalising counters**

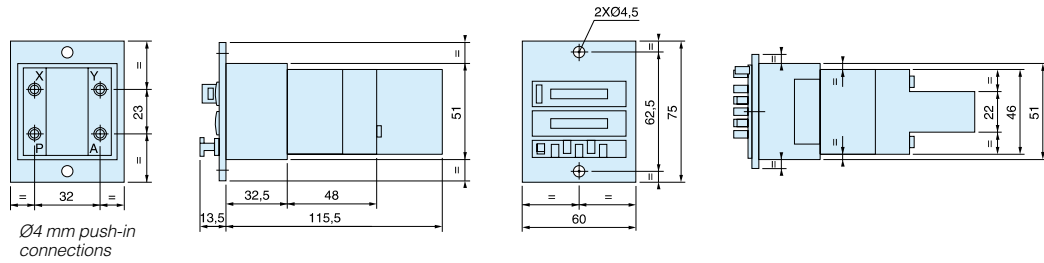
PCT-A11

PCT-B11



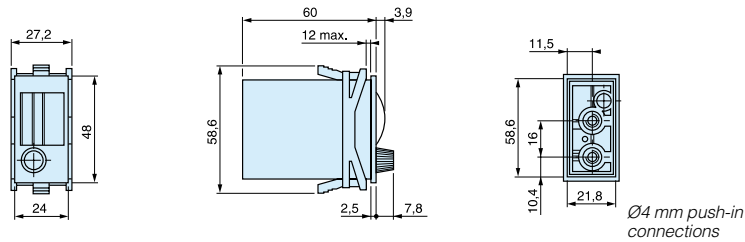
**Digital display timers**

PCM-A11 to PCM-B11



**Timers with calibrated dial**

PCM-F11 and PCM-G11



Designed to fit the standard electrical Ø22mm knock out, they can provide dual pneumatic and electrical output signals. A variety of button and switch actuators are available.

- Facia mounted operation
- 3/2 NO or NC
- Modular construction
- Wide range of actuators
- Dual pneumatic and electrical output signal



### Flow characteristics


<b>PXB-B3••</b>	Q <sub>max</sub> = 60 l/min Q <sub>n</sub> = 30 l/min
<b>PXB-B4••</b>	Q <sub>max</sub> = 240 l/min Q <sub>n</sub> = 120 l/min
Connections	Ø 4 mm push-in

### Operating information


#### Push button valves - Visual indicators

Working pressure	
PXB-B3••	1 to 9 bar
PXB-B4••	1 to 10 bar
PXV-••	1 to 8 bar
Working temperature	-15°C to +60°C
ATEX approval:	CE Ex II 3 GD
<b>For ATEX specific products contact Sales Office</b>	


### Spring return push buttons

Symbol	Flow	Order code
	60 l/min	<b>PXB-B3111BA2</b>
	240 l/min	<b>PXB-B4131BA2</b>

Black - With 1 NC valve


Symbol	Flow	Order code
	60 l/min	<b>PXB-B3111BA4</b>
	240 l/min	<b>PXB-B4131BA4</b>

Red - With 1 NC valve


Symbol	Flow	Order code
	60 l/min	<b>PXB-B3111BA3</b>
	240 l/min	<b>PXB-B4131BA3</b>

Green - With 1 NC valve

### Mushroom head push buttons


Symbol	Flow	Order code
	60 l/min	<b>PXB-B3111BC2</b>
	240 l/min	<b>PXB-B4131BC2</b>

Black - Spring return - With 1 NC valve


Symbol	Flow	Order code
	60 l/min	<b>PXB-B3111BT4</b>
	240 l/min	<b>PXB-B4131BT4</b>

Red - Latching - With 1 NC valve

### Selector switches

Symbol	Flow	Order code
	60 l/min	<b>PXB-B3111BD2</b>
	240 l/min	<b>PXB-B4131BD2</b>

Black - 2 positions - With 1 NC valve

 Indicates stocked product.

**Additional switch valves, electrical contact block and mounting brackets**

Symbol	Flow	Order code
	60 l/min NC	<b>PXB-B3911</b>
	240 l/min NC	<b>PXB-B4931</b>
	60 l/min NO	<b>PXB-B3921</b>
	240 l/min NO	<b>PXB-B4931</b>
	60 l/min NC	<b>PXB-B3912</b>
	60 l/min NO	<b>PXB-B3922</b>

Contact	Order code
Normally open NO	<b>ZBE-101</b>
Normally closed NC	<b>ZBE-102</b>

All PXB-B4 valves can be connected either as normally closed 3/2 valve (NC) or normally open 3/2 valve (NO) as required, by connecting the primary air supply to port 1 or port 3.

Symbol	Flow	Order code
	60 l/min NC	<b>PXB-B3111B</b>
	60 l/min NO	<b>PXB-B3121B</b>

Description	Order code
Mounting	<b>ZB4-BZ009</b> block

**Spring return push buttons**

**Spring return**

Colour	Order code
Black	<b>ZB4-BA2</b>
Green	<b>ZB4-BA3</b>
Red	<b>ZB4-BA4</b>

Flush

**Mushroom head**

Colour	Order code
Black	<b>ZB4-BC2</b>
Green	<b>ZB4-BC3</b>
Red	<b>ZB4-BC4</b>

Ø40 mm  
spring return

**Selector switches**

**Black handle**

Function	Order code
2 positions fixed	<b>ZB4-BD2</b>
3 positions fixed	<b>ZB4-BD3</b>

Standard

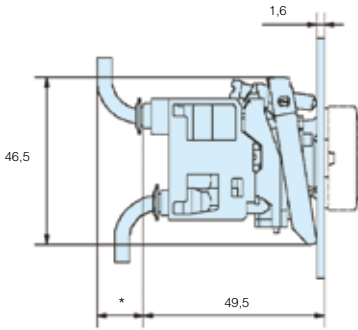
**Visual indicators**

Colour actuated	Colour unactuated	Order code
Green	Black	<b>PXV-F131</b>
Red	Black	<b>PXV-F141</b>
Yellow	Black	<b>PXV-F151</b>
Blue	Black	<b>PXV-F161</b>
White	Black	<b>PXV-F111</b>
Green	Red	<b>PXV-F1314</b>

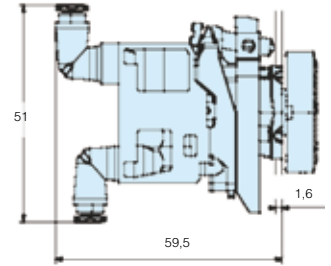
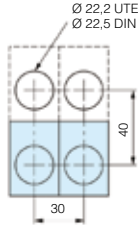
Indicates stocked product.



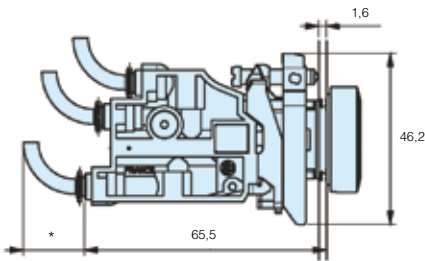
**PXB-B3**



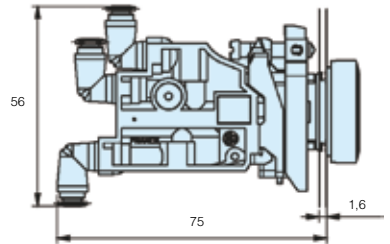
Body width 30mm  
\* With 2 x 4mm tube = 10  
With 2,7 x 4mm tube = 15



**PXB-B4**



Body width 30mm  
\* With 2 x 4mm tube = 10  
With 2,7 x 4mm tube = 15



Compact 3/2 normally closed metal bodied valves with push-in air connections. Designed for the process duty cycle with high durability. Ideal for the process or packaging industry.

- High durability
- Very good repeat accuracy
- Design for process duty cycle
- Push-in connection
- Versatile and easily maintained
- Miniature size




### Operating information


Working pressure; PXC-M 3 to 8 bar  
Working temperature -15 °C to +60 °C

	PXC-M111	PXC-M121	PXC-M521	PXC-M601
Flow (Qmax):	60 l/min	85 l/min	250 l/min	250 l/min


### Bore Ø1,5 mm, flow 60 NI/min

Symbol	Actuator	Return	Operating forces at 6 bar, N	Order code
	Steel plunger	Spring	11	<b>PXC-M111</b>

### Bore Ø1,5 mm, flow 85 NI/min




Symbol	Actuator	Return	Operating forces at 6 bar, N	Order code
	Plastic roller	Spring	4,5	<b>PXC-M121</b>
	Steel roller	Spring	4,5	<b>PXC-M131</b>


### Bore Ø2,5 mm, flow 250 NI/min

Symbol	Actuator	Return	Operating forces at 6 bar, N	Order code
	Plastic roller	Spring	7	<b>PXC-M521</b>

**3/2 compact limit switches - With Ø4mm Push-in connections with pipeable exhaust port**

**Bore Ø2,5mm, flow 250 NI/min - With plunger head**

Symbol	Actuator	Return	Operating forces at 6 bar, N	Order code
	Steel plunger	Spring	24	<b>PXC-M601A110</b>
	Steel roller plunger	Spring	24	<b>PXC-M601A102</b>
	90° Steel roller plunger	Spring	24	<b>PXC-M601A103</b>

 Indicates stocked product.

### Dimensions, Limit switches, Series PXC

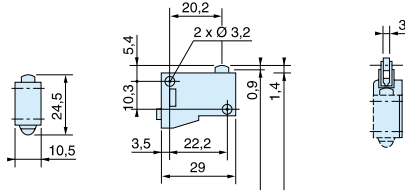
All dimensions in mm unless otherwise stated

#### 3/2 miniature limit switches

PXC-M111

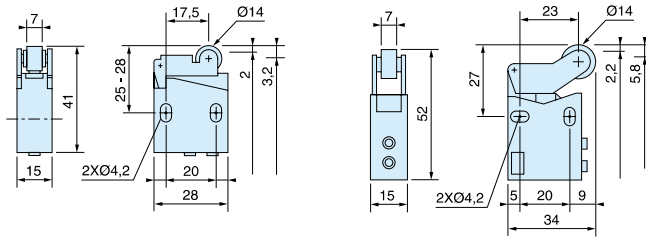
PXC-Z12

PXC-Z11



PXC-M121 - PXC-M131

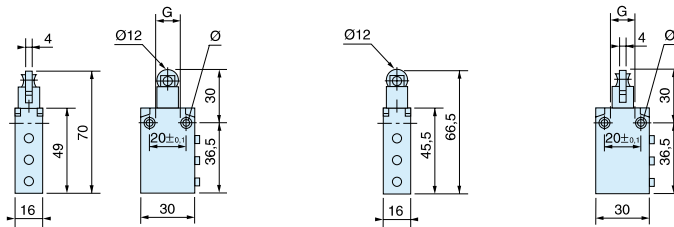
PXC-M521



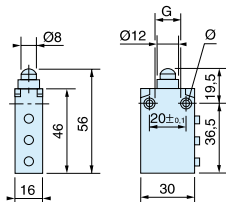
#### 3/2 compact limit switches

PXC-M601A102

PXC-M601A103



PXC-M601A110



Ergonomically designed units to provide protection against accidental operation of machines. Completely sealed units prevent tampering and comply with latest European safety standards.



- Ergonomic design
- Robust polymer or metal enclosure
- Meets requirements for protection against accidental operation and tampering
- Metal enclosure features a wrist-rest bar which helps prevent illness due to repetitive actions
- Conforms to EN574 and EN954-1 requirements

**Operating information**

Working pressure	3 to 8 bar
Working temperature	-5 °C to +60 °C
For technical information see CD	

**Control module only**

Symbol	Connections	Order code
	Ø4 mm Push-in	<b>PXP-A11</b>

**Complete units**

Polymer enclosure, with two Ø40 mm push button with protective guards and control module

Symbol	Connections	Number of control modules	Order code
	Ø4 mm Push-in	1	<b>PXP-C111</b>
	Ø4 mm Push-in	2	<b>PXP-D121</b>

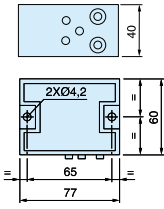
Metal enclosure, with two Ø60 push buttons, wrist restbar, built in protective guard and control module

Symbol	Connections	Number of control modules	Order code
	Push-in Ø6 mm for supply Ø4 mm for output	1	<b>PXP-S111</b>
	Push-in Ø6 mm for supply Ø4 mm for output	2	<b>PXP-S121</b>

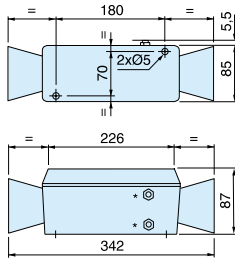
Indicates stocked product.

Dimensions

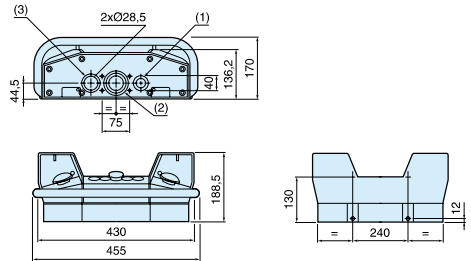
PXP-A11



PXP-C111 and PXP-D121



PXP-S111 and PXP-S121



\* Ø4 mm push-in connections  
 \*\* Ø6 mm push-in connections

## Ex Bus Manifold

for pneumatic actuator control

Parkers EExPress™ bus manifold package has been designed for the control of pneumatic actuators in the Process Industry where hazardous environments Zone 1, 21 and or Zone 2, 22 are present.

EExPress™ is a stackable system that includes Gateway - Input sensor modules - Solenoid valve modules.

NAMUR Standard ON/OFF Where the (NPN) sensor can be directly connected on the input sensor module.

The Ex manifold uses the Profibus DP protocol.



## Increased Process Productivity

- When plant installation's are simplified, the engineering study, component package's and man hour costs are reduced, this results in a quicker production start-up.
- Through more efficient process control, quality and quantity of production is improved.
- EExPress™ bus manifold replaces a lot of proprietary components, thus reducing cost of installation.
- EExPress™ bus manifold simplifies commissioning time resulting in quicker plant start up time.
- EExPress™ bus manifold reduces overall product life cost through reduction in maintenance costs.



Reg. No. 10440

## A User Friendly Product

- EExPress™ uses the well known profibus DP protocol.
- It as been designed to aproach a "plug and play" usage.
- At a glance at the LED the user knows immediately the current production Process status.
- Authorised users may re-address the 5/2 valves directly from the manifold.



## Plant installation simplification

- EExPress™ significantly reduces the need of electronic components such as couplers, repeaters, safety barriers, PLC, etc.
- It significantly reduces the need of mechanical components such as pressurised cabinet's, pneumatic piping, electrical wiring, connectors, etc.
- One bus address can operate and control up to 32 x solenoid valves on one manifold (or combination of sensor modules and solenoid valves).
- Integrated solution with high flow valves and sensor signal inputs.

## Better process & personnel safety

- With separated wiring, the bus communication\* is maintained "ON" even if the coil voltage supply is cut.  
\* Solenoid valve status + inputs sensor status + safety pressure status, etc.
- The diagnostic capabilities offer permanently a real reliable Process Control.
- Ex px [ia] [ib] mb IIC T5 Ex tD A21 IP65 T100°C protection as well as the patented coil connection eliminate risks associated with bad handling.  
eg.: disconnection of bus or sensor connectors in presence of gases.
- It provides more efficient Process Control due to centralised mounting close to actuators.



IECEx LCI 07.0027 X



LCIE 01 ATEX 6013 X



**Ex px [ia] [ib] mb IIC T5  
Ex tD A21 IP65 T100°C**

**Proven achievement through innovative fluid control.**

# Control Devices

A complete range of pneumatic valves

PDE2614TCUK

Valves & Logic Processing

Parker

Parker is the world leader in motion and control technologies, providing systematic, precision-engineered solutions for a wide variety of, industrial markets. Throughout the world, Parker Hannifin is working together with companies to make their machines more reliable and more productive. Parker products are in operation on satellites orbiting the earth: in machine tools and mobile plant; on oil rigs and refineries; in hospitals and laboratories. In fact, wherever there are machines that depend on motion or fluid control, you will find innovative and reliable Parker components and systems. The Parker range of control devices is much more than just valves, we have within our product programme field bus enabled valve systems, limit switches, logic process components, two hand control units, metal valves for arduous applications and ultra lightweight plastic valves.



**General Lightweight Applications & Individual/ Multiple Field Bus Connections**

**P2M Moduflex Valves**



- High flow, compact size.
- Mixable valve sizes.
- Stand alone valves, modular islands with individual, multiconnector or bus connections.
- Integrated selectable internal or external pilot supply and exhaust.
- Optional peripheral modules.
- Push-in connection.

**Poppet Valve for Enclosures**

**PS1 Interface**



- High speed poppet valve
- Push-in connection
- Built-in terminal block
- Pneumatic output indicator
- DIN rail mounting

**Industrial Applications**

**B Series Valves**



- 2 sizes: 1/8" and 1/4"
- Compact size
- Inlet-exhaust-mounting facility
- Fast response, high flow
- Integrated mounting holes
- Wear compensating seal system
- DIN rail mountable manifolds

**Valve Islands**

**PVL-B10**



- Compact lightweight, high flow valves
- 2 x 3/2, 5/2 or 5/3 configuration
- Push-in Ø6mm or G1/8 threaded connections
- High performance 15mm solenoids
- Stacking type modules with DIN rail mounting
- Bus protocols: Interbus S, Profibus DP, Devicenet, ASI.

**Stackable Inline Lightweight Valve**

**PVL Compact Valves**



- High flow, compact size
- Push-in or threaded connection
- DIN rail or block mounting
- Light weight construction

**Heavy Duty Applications / Mobile**

**Viking Xtreme Metal Spool Valves**



- 4 sizes: G1/8, G1/4, G3/8 and G1/2.
- Wide operating temperature range
- Compact design with good corrosion resistance.
- Wide range of 5/2 and 5/3 versions.
- High and low temperature versions available for transport applications.

**Valve Islands**

**PVL-C10**



- Compact lightweight, high flow valves
- 2 x 3/2, 5/2 or 5/3 configuration
- Push-in Ø8mm or G1/4 threaded connections
- High performance 15mm solenoids
- Stacking type modules with DIN rail mounting
- Bus protocols: Interbus S, Profibus DP, Devicenet, ASI.

**Miniature Valves**

**ADEX Directional Control Valves**



- 2 sizes: M5 and 1/8"
- Compact body with large flow
- Quick response time, faster than 10ms
- Expected life time more than 50,000,000 cycles
- Low power consumption only 0.6W
- Optional multipin connector manifold
- Manual override

**Hi Flow Valves**

**P2V Flowstar Valves ISO 15407-1**



- Compact high flow design
- To VDMA 24563, ISO 15407-1 standard
- 5/2 & 5/3 configurations
- 18mm & 26mm body widths
- Single sub-base or manifold mounted
- Air pilot and solenoid actuators
- Suitable for Food Industry applications.

**Heavy Duty Applications / Multiple Connection and Plug-in**

**Isomax Valves - ISO 15407 / ISO 5599**



- Size 1, 2 and 3 ISO 5599-1
- Size 01 and 02 (26 and 18 mm) ISO 15407-1
- Ceramic technology for long live operation
- From vacuum up to 12 bar applications
- Internal or external pilot supply with same valves
- Pressure supply possible on exhaust port

**ISYS Valves - ISO 15407 / ISO 5599**



- Size 1, 2 and 3 ISO 5599-1 / 2
- Size 01 and 02 ISO 15407-1 / 2
- Excellent reliability, long life in excess of 30 million operations.
- Complete range, plug-in and non-plug-in
- WCS Spool technology

**Ceramic Valves**

**PVD Everdure**



- Available in 3 sizes
- 4/2 Directional control valves
- 3/2 dump valves & 2/2 slow start valves
- Stand alone or manifolds.
- Built-in manual override
- Ceramic slide provides extremely long life
- DIN rail mounting.

**Metal Spool Valves**

**Midget Spool Valves**



- G1/8 body ported
- Rugged die cast body
- 3/2 & 5/2 configurations
- Stainless steel spool
- Viton body seals as standard
- Integral mounting holes
- Manual, mechanical and automatic actuators.

**Metal Spool Valves**

**Intermediate Spool Valves**



- G1/4 body ported
- Rugged die cast body
- 3/2, 5/2 & 5/3 configurations
- Stainless steel spool
- Viton body seals as standard
- Integral mounting holes
- Manual, mechanical and automatic actuators.

**Push Button Actuators**

**PXB Push Buttons**



- Facia mounted operators
- 3/2 NO or NC versions
- Pneumatic valves combinable with electrical switches
- Modular construction
- Wide choice of actuators.

**Heavy Duty Applications**

**VA - Brass bodied spool valves**



- Rugged valves for heavy duty applications
- Large and robust actuators for easy operation
- Excellent corrosion resistance
- Integral mounting holes
- Panel mounting versions

**Limit Switches**

**PXC Limit Switches**



- 3/2 Nc spring return as standard
- Ø4mm, M5 & G1/8 ported versions
- Miniature and Compact designs
- Wide choice of actuators include levers, rollers & ultra light whisker types.

**Processing Modules**

**Logic Control**



- Complete range of logic processing modules
- Stand alone or stackable and combinable units
- Ultra fast response times
- Visual indication
- DIN rail mounting.

## Metal Poppet Valves

### Mini Poppet Valves



- M5 body ported
- 3/2 NC spring return as standard
- Manual and mechanical actuators
- Light actuation forces.

### Midget Poppet Valves



- G1/8 body ported poppet design
- 3/2 NC spring return as standard
- Manual, mechanical and air pilot actuators
- Light actuation forces
- Integral mounting holes.

### Heavy Duty Poppet Valves



- G3/8 & G1/2 body ported
- 2/2 & 3/2 NC spring return as standard
- High flow poppet design
- Manual and mechanical and solenoid actuators
- Light actuation forces
- Integral mounting holes.

## Heavy Duty Valves

### VE Heavy Duty Isolator Valves



- G1/4, G1/2 & G1 versions
- 2/2 or 3/2 option
- Inline installation
- High flow
- Suitable as a remotely controlled main shut off valve.
- Air or solenoid pilot

## Lockout Valves

### LV Series Lockout Valves



- G1/4 - G1 Ported emergency shut-off valves
- High flow G1 exhaust port
- Manually operated
- High visibility, rugged aluminium body
- Detented spool with padlock 'lockout' facility.

## Shut Off Valves

### Ball Valves and Sliding Sleeve Valves



#### Ball Valves

- 3 distinct series
- Vented and non vented
- Bubble tight shut-off
- Positive 90 ° movement
- Wide variety of fluids

#### Sliding sleeve valves

- Linear sleeve operated
- 3/2 valve
- Simple airline isolation
- Compact
- Minimum space for valve operation

## Processing Modules

### Two Hand Control Units



- Ergonomic design
- Robust polymer or metal enclosure
- Meets requirements for protection against accidental operation and tampering
- Metal enclosure features a wrist rest bar which prevents illness due to repetitive actions
- Conforms to EN574 and EN954-1 requirements

# Vacuum Products

A complete range of vacuum products and accessories

PDE2615TCUK



Parker is the world leader in motion and control technologies, providing systematic, precision-engineered solutions for a wide variety of, industrial markets. Throughout the world, Parker Hannifin is working together with companies to make their machines more reliable and more productive. Parker products are in operation on satellites orbiting the earth; in machine tools and mobile plant; on oil rigs and refineries; in hospitals and laboratories. In fact, wherever there

are machines that depend on motion or fluid control, you will find innovative and reliable Parker components and systems.

The Parker Convum range of vacuum products is one of the most comprehensive in the market. The product range includes vacuum cups in wide variety of styles and materials, ejectors and generators from mini units to fully integrated units along with sensors and a wide selection of accessories.

**Wide choice of styles and materials**

**Vacuum Pads**



- Flat & Bellow Pads
- Male & Female Connections
- Different Materials
- Range of Diameters

**High performance accessories**

**Vacuum Accessories**



- High performance silencers and vacuum filters
- Electronic cables with M8 connector 4 pin

**Vacuum generators to suit most applications**

**Vacuum Ejectors**



- Basic Ejectors
- Basic Ejectors with electro-mechanical Switch
- In-line Ejectors
- Integrated Ejectors small & large

**Digital or analog out put**

**Vacuum Sensors**



- -1 to +10 bar
- Analog and/or Digital Outputs
- With display





# Air Preparation & Airline Accessories

# Nano Mist

Simple. Convincing in the Details

*There are innovations that bring selective improvements.  
And then there are real innovations.*

*Innovations that set **new** standards.*

*Like the **new Parker Moduflex Lite** series.*

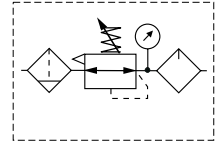


The Moduflex Lite FRL system is constructed from ultra light weight technopolymers instead of the traditional aluminium or zinc die cast, this means that is up to 45% lighter than conventional units. This non-metal construction also means that the Moduflex Lite is corrosion free enabling it to be used in harsh industrial environments where anti freeze or aggressive synthetic oils are present.

The use of technopolymers in the design of Moduflex Lite has facilitated a universal body design, this has resulted in reducing the number of variants required to cover the full spectrum of applications. This can dramatically lower logistic costs and simplify stock holding for customers making the Moduflex Lite a very cost effective solution.

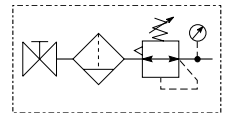


Popular Combinations



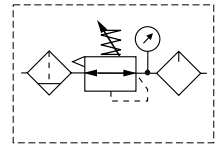
**Slide Valve + Filter/Regulator + Lubricator Combinations** (50mg/m<sup>3</sup>)  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**

Port size	Combined Manual/Semi-Auto Drain	Flow dm <sup>3</sup> /s	Weight (g)	Auto Drain	Flow dm <sup>3</sup> /s	Weight (g)
G <sup>1</sup> / <sub>2</sub>	<b>P3XAA14GECNGPNW</b>	76	1300	<b>P3XAA14GEANGPNW</b>	76	1300
G <sup>3</sup> / <sub>4</sub>	<b>P3XAA16GECNGPNW</b>	77	1300	<b>P3XAA16GEANGPNW</b>	77	1300



**Slide Valve + Filter/Regulator Combinations**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**

Port size	Combined Manual/Semi-Auto Drain	Flow dm <sup>3</sup> /s	Weight (g)	Auto Drain	Flow dm <sup>3</sup> /s	Weight (g)
G <sup>1</sup> / <sub>2</sub>	<b>P3XAN14GECNGW</b>	105	950	<b>P3XAN14GEANGW</b>	105	950
G <sup>3</sup> / <sub>4</sub>	<b>P3XAN16GECNGW</b>	106	950	<b>P3XAN16GEANGW</b>	106	950



**Filter/Regulator + Lubricator Combinations** (50mg/m<sup>3</sup>)  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**

Port size	Combined Manual/Semi-Auto Drain	Flow dm <sup>3</sup> /s	Weight (g)	Auto Drain	Flow dm <sup>3</sup> /s	Weight (g)
G <sup>1</sup> / <sub>2</sub>	<b>P3XCA14GECNGPNW</b>	76	1000	<b>P3XCA14GEANGPNW</b>	76	1000
G <sup>3</sup> / <sub>4</sub>	<b>P3XCA16GECNGPNW</b>	77	1000	<b>P3XCA16GEANGPNW</b>	77	1000

Options: 16 bar pressure available on request.

- Integral 1/2 or 3/4 ports
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Secondary pressure ranges 8 and 16 bar
- Rolling diaphragm for extended life
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.



### Operating information

Working pressure:	Max 16 bar
Working temperature:	-10 °C to +60 °C

### Flow characteristics

Flow dm <sup>3</sup> /s	1/2	3/4
Filter	55	57
Coalescing Filter	24	24
Adsorber Filter	18	18
Regulator	122	134
Filter Regulator	111	113
Lubricator	78	78

### Filters - 5 micron element

Port size	Description	Order Code
G1/2	Manual drain/Semi auto	<b>P3XFA14EGCN</b>
G1/2	Auto drain	<b>P3XFA14EGAN</b>
G3/4	Manual drain / Semi auto	<b>P3XFA16EGCN</b>
G3/4	Auto drain	<b>P3XFA16EGAN</b>
	Mounting bracket	<b>P3XKA00MW</b>

### Coalescing Filters - 0.01 micron element

Port size	Description	Order Code
G1/2	Coalescing 0.01µm, manual/semi auto drain	<b>P3XFA14DGCN</b>
G1/2	Coalescing Filter 0.01µm, auto drain	<b>P3XFA14DGAN</b>
G3/4	Coalescing 0.01µm, manual/semi auto drain	<b>P3XFA16DGCN</b>
G3/4	Coalescing Filter 0.01µm, auto drain	<b>P3XFA16DGAN</b>

### Regulators - relieving type - non relieving options available

Port size	Description	Order Code
G1/2	8 bar relieving	<b>P3XRA14BNNN</b>
G1/2	8 bar relieving + gauge	<b>P3XRA14BNGN</b>
G3/4	8 bar relieving	<b>P3XRA16BNNN</b>
G3/4	8 bar relieving + gauge	<b>P3XRA16BNGN</b>
G1/2	8 bar relieving, tamperproof	<b>P3XRA14BANN</b>
G1/2	8 bar relieving, tamperproof + gauge	<b>P3XRA14BAGN</b>
G3/4	8 bar relieving, tamperproof	<b>P3XRA16BANN</b>
G3/4	8 bar relieving, tamperproof + gauge	<b>P3XRA16BAGN</b>

### Adsorber Filters

Port size	Description	Order Code
G1/2	Adsorber 0.01µm, manual/semi auto drain	<b>P3XFA14AGCN</b>
G3/4	Adsorber 0.01µm, manual/semi auto drain	<b>P3XFA16AGCN</b>

### Filter/Regulators

- transparent bowl - 2 and 4 bar and non relieving options available

Port size	Description	Order Code
G1/2	8 bar, relieving manual/semi auto drain	<b>P3XEA14EGCBNNN</b>
G1/2	8 bar, relieving auto drain	<b>P3XEA14EGABNNN</b>
G1/2	8 bar, relieving manual/semi auto + gauge	<b>P3XEA14EGCBNGN</b>
G1/2	8 bar, relieving auto drain + gauge	<b>P3XEA14EGABNGN</b>
G3/4	8 bar, relieving manual/semi auto drain	<b>P3XEA16EGCBNNN</b>
G3/4	8 bar, relieving auto drain	<b>P3XEA16EGABNNN</b>
G3/4	8 bar, relieving manual/semi auto + gauge	<b>P3XEA16EGCBNGN</b>
G3/4	8 bar, relieving auto drain + gauge	<b>P3XEA16EGABNGN</b>

### Lubricators

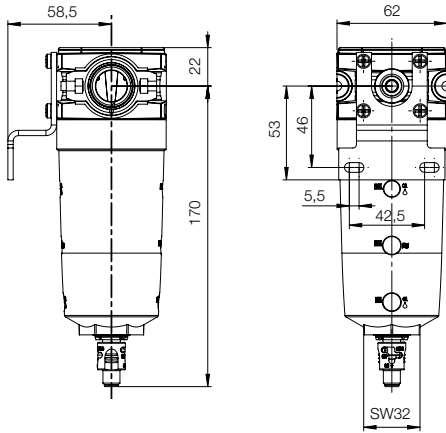
Port size	Description	Order Code
G1/2	Oil mist, fill under pressure (50mg/m <sup>3</sup> )	<b>P3XLA14PGNN</b>
G3/4	Oil mist, fill under pressure (50mg/m <sup>3</sup> )	<b>P3XLA16PGNN</b>
G1/2	Oil mist, fill under pressure (5mg/m <sup>3</sup> )	<b>P3XLA14SGNN</b>
G3/4	Oil mist, fill under pressure (5mg/m <sup>3</sup> )	<b>P3XLA16SGNN</b>

### Pressure Gauges

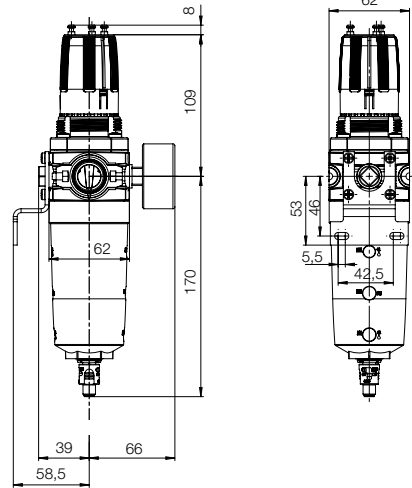
	Order Code
0 - 10 bar	<b>KG8012</b>
0 - 16 bar	<b>KG8013</b>

Dimensions (mm)

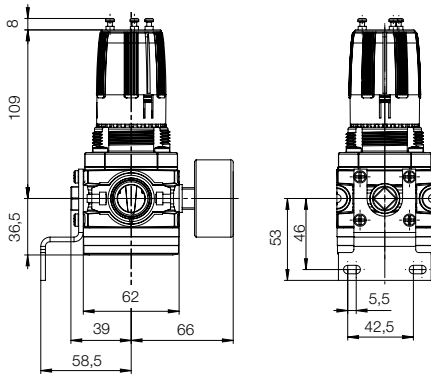
Filters



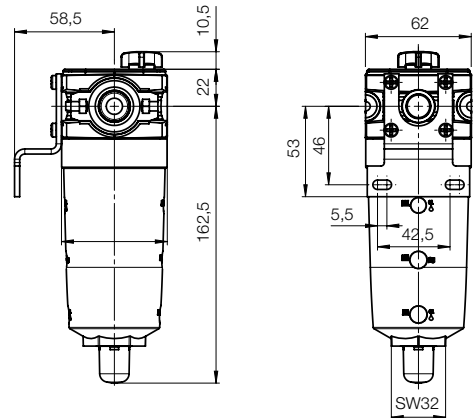
Filter/Regulators



Regulators



Lubricators



Service kits

Description	Order code
5 micron element kit	P3XKA00ESE
40 micron element kit	P3XKA00ESG
Bowl kit with combined manual/semi auto drain	P3XKA00BSC
Bowl kit with auto drain	P3XKA00BSA
Tamper-proof knob kit (keylock)	P3XKA00AS
Diaphragm kit (relieving type)	P3XKA00RR
Diaphragm kit (non-relieving type)	P3XKA00RN
Wall bracket kit	P3XKA00MW
Panel mount nut	P3XKA00MM

- Removes water vapour & lowers the PDP
- Compact design
- No electrical connections necessary
- Suitable for hazardous environments
- No moving parts
- Maintenance & wear free
- No change in air consumption
- Low pressure drop less than 0.1 bar
- Minimal purge air consumption
- Modular design - compatible with the P3X air prep series



**Operating information**

Operating pressure range:	5 to 16 bar
Temperature range:	2 °C to 60 °C
Pressure drop:	0.1 bar
Purge air (at 20K PDP reduction):	10%
Max Flow at inlet (size 50):	2800 l/m

**Note:**

For optimum system performance and maintenance free conditions, Parker recommend the dryer is preceded with a 5 micron and 0.01 coalescer filter from the P3X series.

**Membrane dryer**

Port size	Size	Description	Order Code
G1/2	10	Membrane dryer with return tube - size 10	<b>P3XJA14CA1N</b>
G1/2	15	Membrane dryer with return tube - size 15	<b>P3XJA14CB1N</b>
G1/2	20	Membrane dryer with return tube - size 20	<b>P3XJA14CC1N</b>
G1/2	25	Membrane dryer with return tube - size 25	<b>P3XJA14CD1N</b>
G1/2	35	Membrane dryer serial type - size 35	<b>P3XJA14CE1N</b>
G1/2	50	Membrane dryer serial type - size 50	<b>P3XJA14CF1N</b>



Atex versions available on request

**Wall mounting bracket kit**

Order Code

**P3XKA00MWD**

Complete Filter / Dryer System combinations available on request



F + Fc + MD



F + Fc + MD + R



F + Fc + MD + R + Fa

**Selection Criteria**

To correctly select the dryer best suited for your application, the following information is required to ensure optimum performance and trouble free operation.

- Maximum inlet pressure dew point ( °C )
- Outlet PDP ( °C )
- Working pressure (bar)
- Maximum inlet flow rate (m<sup>3</sup>/h)

**Conversion factor for calculation of corrected flow rate**

Operating pressure range p (bar)	5	6	7	8	9	10	11	12	13	14	15	16
Conversion factor f <sub>p</sub>	0.57	0.78	1.0	1.21	1.42	1.64	1.85	2.06	2.28	2.49	2.70	2.92

**Working Example:**

Selecting a dryer with an inlet pressure dew point of 35°C, a PDP reduction of 35K with a working / operating pressure of 6 bar and an inlet flow of 11 m<sup>3</sup>/h.

**Step 1**

From the correction factor table select the required pressure (6 bar) and read below the corrected factor value (0.78)

**Step 2**

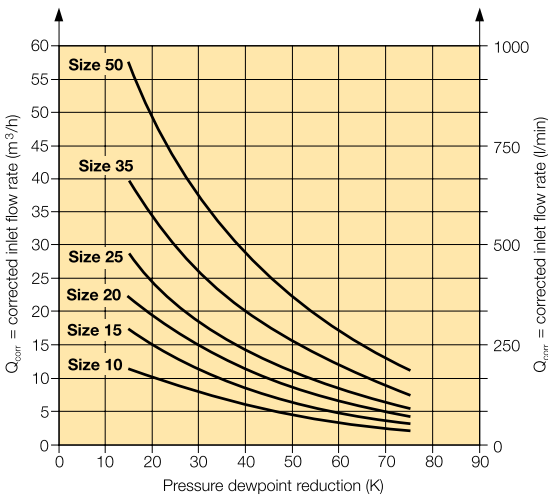
To adjust the flow for your application, divide the required flow by the 0.78 correction factor

$$\text{Sizing capacity} = \frac{\text{Actual flow}}{\text{Correction factor}} = \frac{11 \text{ m}^3/\text{h}}{0.78} = 14.1 \text{ m}^3/\text{h}$$

**Step 3**

Plot the values on the selection graph (below). Where the dew point reduction value of 35K intersects with the corrected flow value of 14.1 m<sup>3</sup>/h, select the dryer flow curve which is equal or above the intersection point. For example: the optimum dryer would be

**size 25 (P3XJA14CD1N)**





# Parker Global Air Preparation System

**Global.  
Economical.  
Modular.**



*Performance you need,  
**wherever** you need it.*

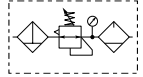
The comprehensive Global Air Preparation System is available in three body sizes with either BSPP or NPT to accommodate thread type requirements.

Full featured filters, regulators, filter/regulators, and lubricators are available with a wide range of standard options to meet air preparation needs.

Individual units can easily be assembled into various combinations, utilizing patented modular lightweight body connectors.

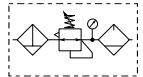
[www.parker.com/globalfrl](http://www.parker.com/globalfrl)

Popular Combinations - P31 Series



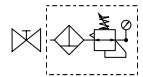
**Filter + Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)	Manual Drain	Weight	Pulse Drain	Weight
1/4"	13 27	<b>P31CB12GEMNTLNW</b>	0.46 kg (1.01 lbs)	<b>P31CB12GEBNTLNW</b>	0.46 kg (1.01 lbs)



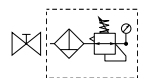
**Filter/Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)	Manual Drain	Weight	Pulse Drain	Weight
1/4"	14 28	<b>P31CA12GEMNTLNW</b>	0.35 kg (0.77 lbs)	<b>P31CA12GEBNTLNW</b>	0.35 kg (0.77 lbs)



**Slide Valve + Filter/Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)	Manual Drain	Weight	Pulse Drain	Weight
1/4"	14 28	<b>P31YA12GEMNTLNW</b>	0.54 kg (1.19 lbs)	<b>P31YA12GEBNTLNW</b>	0.54 kg (1.19 lbs)

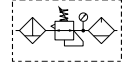


**Slide Valve + Filter/Regulator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)	Manual Drain	Weight	Pulse Drain	Weight
1/4"	14 28	<b>P31YN12GEMNTW</b>	0.4 kg (0.88 lbs)	<b>P31YN12GEBNTW</b>	0.4 kg (0.88 lbs)

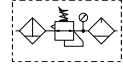
<b>P 3 1</b>					<b>E</b>		<b>N</b>		<b>LN</b>	<b>W</b>
<b>Combination</b>		<b>Thread type</b>		<b>Port size</b>		<b>Drain type</b>		<b>Adjustment range</b>		Add only for options with Lubricator
Combination <b>C</b> Shut off + Combi <sup>1</sup> <b>Y</b>		BSPP <b>1</b> NPT <b>9</b>		1/4 <b>2</b>		Manual drain <b>M</b> Pulse drain <b>B</b>		With square gauge 2 bar * <b>V</b> 4 bar <b>S</b> 8 bar ** <b>T</b>		
<b>Combination type</b>		<b>Bowl type</b>								
F/R+L <b>A</b> F+R+L <b>B</b> F/R <b>N</b>		Poly bowl with bowl guard <b>G</b> Metal bowl without sight glass <b>M</b>								
<p><b>Note:</b> All bowl types are the same for each component</p> <p><b>Example:</b> If a "G" is specified for a F+L, both units would get a poly bowl with bowl guard.</p> <p>* Unit comes with 0-4 bar, gauge respectively</p> <p>** Unit comes with 0-10 bar, gauge respectively</p> <p><sup>1</sup> Option not available with F+R+L</p>										

Popular Combinations - P32 Series



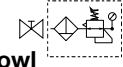
**Filter + Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)	Manual Drain	Weight	Auto Drain	Weight
1/4"	20 42	<b>P32CB12GEMNGLNW</b>	1.29 kg (2.84 lbs)	<b>P32CB12GEANGLNW</b>	1.29 kg (2.84 lbs)
3/8"	32 68	<b>P32CB13GEMNGLNW</b>	1.29 kg (2.84 lbs)	<b>P32CB13GEANGLNW</b>	1.29 kg (2.84 lbs)
1/2"	40 85	<b>P32CB14GEMNGLNW</b>	1.29 kg (2.84 lbs)	<b>P32CB14GEANGLNW</b>	1.29 kg (2.84 lbs)



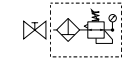
**Filter/Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)	Manual Drain	Weight	Auto Drain	Weight
1/4"	22 45	<b>P32CA12GEMNGLNW</b>	1.03 kg (2.27 lbs)	<b>P32CA12GEANGLNW</b>	1.03 kg (2.27 lbs)
3/8"	33 70	<b>P32CA13GEMNGLNW</b>	1.03 kg (2.27 lbs)	<b>P32CA13GEANGLNW</b>	1.03 kg (2.27 lbs)
1/2"	43 90	<b>P32CA14GEMNGLNW</b>	1.03 kg (2.27 lbs)	<b>P32CA14GEANGLNW</b>	1.03 kg (2.27 lbs)



**Slide Valve + Filter/Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)	Manual Drain	Weight	Auto Drain	Weight
1/4"	22 45	<b>P32YA12GEMNGLNW</b>	1.5 kg (3.3 lbs)	<b>P32YA12GEANGLNW</b>	1.5 kg (3.3 lbs)
3/8"	33 70	<b>P32YA13GEMNGLNW</b>	1.5 kg (3.3 lbs)	<b>P32YA13GEANGLNW</b>	1.5 kg (3.3 lbs)
1/2"	43 90	<b>P32YA14GEMNGLNW</b>	1.5 kg (3.3 lbs)	<b>P32YA14GEANGLNW</b>	1.5 kg (3.3 lbs)



**Slide Valve + Filter/Regulator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)	Manual Drain	Weight	Auto Drain	Weight
1/4"	22 45	<b>P32YN12GEMNGW</b>	1.1 kg (2.42 lbs)	<b>P32YN12GEANGW</b>	1.1 kg (2.42 lbs)
3/8"	33 70	<b>P32YN13GEMNGW</b>	1.1 kg (2.42 lbs)	<b>P32YN13GEANGW</b>	1.1 kg (2.42 lbs)
1/2"	43 90	<b>P32YN14GEMNGW</b>	1.1 kg (2.42 lbs)	<b>P32YN14GEANGW</b>	1.1 kg (2.42 lbs)

**P 3 2**      **E**      **N**      **L N W**

<b>Combination</b>	<b>Thread type</b>	<b>Port size</b>	<b>Drain type</b>	<b>Adjustment range</b>	<b>Add only for options with Lubricator</b>
Combination <b>C</b>	BSPP <b>1</b>	1/4 <b>2</b>	Auto drain <b>A</b>	<b>With round gauge</b>	
Shut off + Combination <sup>1</sup> <b>Y</b>	NPT <b>9</b>	3/8 <b>3</b>	Manual drain <b>M</b>	0-2 bar; 0-30 psi; 0.2 MPa <b>Z</b>	
		1/2 <b>4</b>		4 bar; 60 psi; 0.4 MPa <b>M</b>	
				8 bar; 125 psi; 0.8 MPa <b>G</b>	

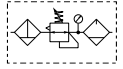
<sup>1</sup> Option not available with F+R+L

<b>Combination type</b>	<b>Bowl type</b>
F/R+L <b>A</b>	Poly bowl with bowl guard <b>G</b>
F+R+L <b>B</b>	Metal bowl with sight glass <b>S</b>
F/R <b>N</b>	

**Note:** All bowl types are the same for each component  
**Example:** If a "G" is specified for a F+L, both units would get a poly bowl with bowl guard.

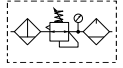


Popular Combinations - P33 Series



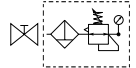
**Filter + Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)	Manual Drain	Weight	Auto Drain	Weight
1/2"	43 90	<b>P33CB14GEMNGLNW</b>	1.84 kg (4.06 lbs)	<b>P33CB14GEANGLNW</b>	1.84 kg (4.06 lbs)
3/4"	52 110	<b>P33CB16GEMNGLNW</b>	1.84 kg (4.06 lbs)	<b>P33CB16GEANGLNW</b>	1.84 kg (4.06 lbs)



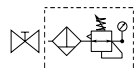
**Filter/Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)	Manual Drain	Weight	Auto Drain	Weight
1/2"	52 110	<b>P33CA14GEMNGLNW</b>	1.51 kg (3.33 lbs)	<b>P33CA14GEANGLNW</b>	1.51 kg (3.33 lbs)
3/4"	71 150	<b>P33CA16GEMNGLNW</b>	1.51 kg (3.33 lbs)	<b>P33CA16GEANGLNW</b>	1.51 kg (3.33 lbs)



**Slide Valve + Filter/Regulator + Lubricator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)	Manual Drain	Weight	Auto Drain	Weight
1/2"	52 110	<b>P33YA14GEMNGLNW</b>	2.35 kg (5.2 lbs)	<b>P33YA14GEANGLNW</b>	2.35 kg (5.2 lbs)
3/4"	71 150	<b>P33YA16GEMNGLNW</b>	2.35 kg (5.2 lbs)	<b>P33YA16GEANGLNW</b>	2.35 kg (5.2 lbs)



**Slide Valve + Filter/Regulator Combinations + Poly bowl**  
**5 micron element, 8 bar Regulator + Gauge and Wall Mounting Brackets**  
**Inlet pressure 10 bar, Secondary pressure 6.3 bar, 1 bar pressure drop.**

Port size	Flow dm <sup>3</sup> /s (scfm)	Manual Drain	Weight	Auto Drain	Weight
1/2"	52 110	<b>P33YN14GEMNGW</b>	1.7 kg (3.75 lbs)	<b>P33YN14GEANGW</b>	1.7 kg (3.75 lbs)
3/4"	71 150	<b>P33YN16GEMNGW</b>	1.7 kg (3.75 lbs)	<b>P33YN16GEANGW</b>	1.7 kg (3.75 lbs)

**P 3 3**      **E**      **N**      **LN**      **W**

<b>Combination</b>	<b>Thread type</b>	<b>Port size</b>	<b>Drain type</b>	<b>Adjustment range</b>	<b>Add only for options with Lubricator</b>
Combination <b>C</b>	BSPP <b>1</b>	1/2 <b>4</b>	Auto drain <b>A</b>	<b>With round gauge</b>	
Shut off + Combination <sup>1</sup> <b>Y</b>	NPT <b>9</b>	3/4 <b>6</b>	Manual drain <b>M</b>	0-2 bar; 0-30 psi; 0.2 MPa <b>Z</b>	
				4 bar; 60 psi; 0.4 MPa <b>M</b>	
				8 bar; 125 psi; 0.8 MPa <b>G</b>	

<sup>1</sup> Option not available with F+R+L.

<b>Combination type</b>	<b>Bowl type</b>
F/R+L <b>A</b>	Poly bowl with bowl guard <b>G</b>
F+R+L <b>B</b>	Metal bowl with sight glass <b>S</b>
F/R <b>N</b>	

**Note:** All bowl types are the same for each component  
**Example:** If a "G" is specified for a F+L, both units would get a poly bowl with bowl guard.

- Space saving integral gauge (P31 size only)
- Manifold style regulators available
- OSHA compliant shut-off valves
- Soft-Start & Quick Dump valves
- Electronic Proportional Regulator



Operating information		Flow characteristics					
Working pressure :		40mm body width 1/4" Ported		60mm body width 1/4", 3/8", & 1/2" Ported		73mm body width 1/2" & 3/4" Ported	
Plastic bowl:	10 bar max	<b>Flow</b>	<b>dm<sup>3</sup>/s</b>	<b>Flow</b>	<b>dm<sup>3</sup>/s</b>	<b>Flow</b>	<b>dm<sup>3</sup>/s</b>
Metal bowl:	17 bar max	Filter	12	Filter	38	Filter	48
Working temperature :		Coalescing Filter	2	Coalescing Filter	11	Coalescing Filter	20
Plastic bowl:	0°C to +52°C	Regulator	30	Regulator	67	Regulator	100
Metal bowl:	0°C to +65.5°C	Filter Regulator	14	Filter Regulator	64	Filter Regulator	98
		Lubricator	13	Lubricator	47	Lubricator	68

### Filters - 5 µm

Port	Description	Order code
1/4"	Poly bowl - Manual drain	<b>P31FA12EGMN</b>
1/4"	Poly bowl - Pulse drain	<b>P31FA12EGBN</b>
1/4"	Metal bowl - Manual drain	<b>P31FA12EMMN</b>
1/4"	Metal bowl - Pulse drain	<b>P31FA12EMBN</b>
1/4"	Poly bowl - Manual drain	<b>P32FA12EGMN</b>
1/4"	Poly bowl - Auto drain	<b>P32FA12EGAN</b>
1/4"	Metal bowl sight glass - Manual drain	<b>P32FA12ESMN</b>
1/4"	Metal bowl sight glass - Auto drain	<b>P32FA12ESAN</b>
3/8"	Poly bowl - Manual drain	<b>P32FA13EGMN</b>
3/8"	Poly bowl - Auto drain	<b>P32FA13EGAN</b>
3/8"	Metal bowl sight glass - Manual drain	<b>P32FA13ESMN</b>
3/8"	Metal bowl sight glass - Auto drain	<b>P32FA13ESAN</b>
1/2"	Poly bowl - Manual drain	<b>P32FA14EGMN</b>
1/2"	Poly bowl - Auto drain	<b>P32FA14EGAN</b>
1/2"	Metal bowl sight glass - Manual drain	<b>P32FA14ESMN</b>
1/2"	Metal bowl sight glass - Auto drain	<b>P32FA14ESAN</b>
1/2"	Poly bowl - Manual drain	<b>P33FA14EGMN</b>
1/2"	Poly bowl - Auto drain	<b>P33FA14EGAN</b>
1/2"	Metal bowl sight glass - Manual drain	<b>P33FA14ESMN</b>
1/2"	Metal bowl sight glass - Auto drain	<b>P33FA14ESAN</b>
3/4"	Poly bowl - Manual drain	<b>P33FA16EGMN</b>
3/4"	Poly bowl - Auto drain	<b>P33FA16EGAN</b>
3/4"	Metal bowl sight glass - Manual drain	<b>P33FA16ESMN</b>
3/4"	Metal bowl sight glass - Auto drain	<b>P33FA16ESAN</b>

### Coalescing Filters + Absorbers - 0,01 µm

Port	Description	Order code
1/4"	Poly bowl - 0.01 µ - Manual drain	<b>P31FA12CGMN</b>
1/4"	Poly bowl - 0.01 µ - Pulse drain	<b>P31FA12CGBN</b>
1/4"	Metal bowl - 0.01 µ - Manual drain	<b>P31FA12CMMN</b>
1/4"	Metal bowl - 0.01 µ - Pulse drain	<b>P31FA12CMBN</b>
1/4"	Poly bowl - Adsorber	<b>P31FA12AGMN</b>
1/4"	Metal bowl - Adsorber	<b>P31FA12AMMN</b>
1/4"	Poly bowl - 0.01 µ, Manual drain	<b>P32FA12DGMN</b>
1/4"	Poly bowl - 0.01 µ, Auto drain	<b>P32FA12DGAN</b>
1/4"	Metal bowl sight glass - 0.01 µ, Man. drain	<b>P32FA12DSMN</b>
1/4"	Metal bowl sight glass - 0.01 µ, Auto drain	<b>P32FA12DSAN</b>
3/8"	Poly bowl - 0.01 µ, Manual drain	<b>P32FA13DGMN</b>
3/8"	Poly bowl - 0.01 µ, Auto drain	<b>P32FA13DGAN</b>
3/8"	Metal bowl sight glass - 0.01 µ, Man. drain	<b>P32FA13DSMN</b>
3/8"	Metal bowl sight glass - 0.01 µ, Auto drain	<b>P32FA13DSAN</b>
1/2"	Poly bowl - 0.01 µ, Manual drain	<b>P32FA14DGMN</b>
1/2"	Poly bowl - 0.01 µ, Auto drain	<b>P32FA14DGAN</b>
1/2"	Metal bowl sight glass - 0.01 µ, Man. drain	<b>P32FA14DSMN</b>
1/2"	Metal bowl sight glass - 0.01 µ, Auto drain	<b>P32FA14DSAN</b>
1/4"	Poly bowl - Adsorber	<b>P32FA12AGMN</b>
1/4"	Metal bowl sight glass - Adsorber	<b>P32FA12ASMN</b>
3/8"	Poly bowl - Adsorber	<b>P32FA13AGMN</b>
3/8"	Metal bowl sight glass - Adsorber	<b>P32FA13ASMN</b>
1/2"	Poly bowl - Adsorber	<b>P32FA14AGMN</b>
1/2"	Metal bowl sight glass - Adsorber	<b>P32FA14ASMN</b>
1/2"	Poly bowl - 0.01 µ, Manual drain	<b>P33FA14DGMN</b>
1/2"	Poly bowl - 0.01 µ, Auto drain	<b>P33FA14DGAN</b>
1/2"	Metal bowl sight glass - 0.01 µ, Man. drain	<b>P33FA14DSMN</b>
1/2"	Metal bowl sight glass - 0.01 µ, Auto drain	<b>P33FA14DSAN</b>
3/4"	Poly bowl - 0.01 µ, Manual drain	<b>P33FA16DGMN</b>
3/4"	Poly bowl - 0.01 µ, Auto drain	<b>P33FA16DGAN</b>
3/4"	Metal bowl sight glass - 0.01 µ, Man. drain	<b>P33FA16DSMN</b>
3/4"	Metal bowl sight glass - 0.01 µ, Auto drain	<b>P33FA16DSAN</b>
1/2"	Poly bowl - Adsorber	<b>P33FA14AGMN</b>
1/2"	Metal bowl sight glass - Adsorber	<b>P33FA14ASMN</b>
3/4"	Poly bowl - Adsorber	<b>P33FA16AGMN</b>
3/4"	Metal bowl sight glass - Adsorber	<b>P33FA16ASMN</b>

## Regulators

Port	Description	Order code
1/4"	8 bar relieving	<b>P31RA12BNNP</b>
1/4"	8 bar relieving + gauge	<b>P31RA12BNTP</b>
1/4"	8 bar (125 psi) Relieving	<b>P32RA12BNNP</b>
1/4"	8 bar (125 psi) Relieving + Gauge	<b>P32RA12BNGP</b>
3/8"	8 bar (125 psi) Relieving	<b>P32RA13BNNP</b>
3/8"	8 bar (125 psi) Relieving + Gauge	<b>P32RA13BNGP</b>
1/2"	8 bar (125 psi) Relieving	<b>P32RA14BNNP</b>
1/2"	8 bar (125 psi) Relieving + Gauge	<b>P32RA14BNGP</b>
1/2"	8 bar (125 psi) Relieving	<b>P33RA14BNNP</b>
1/2"	8 bar (125 psi) Relieving + Gauge	<b>P33RA14BNGP</b>
3/4"	8 bar (125 psi) Relieving	<b>P33RA16BNNP</b>
3/4"	8 bar (125 psi) Relieving + Gauge	<b>P33RA16BNGP</b>

## Lubricators

Port	Description	Order code
1/4"	Poly bowl - No drain	<b>P31LA12LGNN</b>
1/4"	Metal bowl - No drain	<b>P31LA12LMNN</b>
1/4"	Poly bowl - No drain	<b>P32LA12LGNN</b>
1/4"	Metal bowl - No drain	<b>P32LA12LSNN</b>
3/8"	Poly bowl - No drain	<b>P32LA13LGNN</b>
3/8"	Metal bowl - No drain	<b>P32LA13LSNN</b>
1/2"	Poly bowl - No drain	<b>P32LA14LGNN</b>
1/2"	Metal bowl - No drain	<b>P32LA14LSNN</b>
1/2"	Poly bowl - No drain	<b>P33LA14LGNN</b>
1/2"	Metal bowl - No drain	<b>P33LA14LSNN</b>
3/4"	Poly bowl - No drain	<b>P33LA16LGNN</b>
3/4"	Metal bowl - No drain	<b>P33LA16LSNN</b>

## Filter Regulators

Port	Description	Order code
1/4"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P31EA12EGMBNTP</b>
1/4"	8 bar (125 psi) Relieving - Poly bowl - Pulse drain	<b>P31EA12EGBBNTP</b>
1/4"	8 bar (125 psi) Relieving - Metal bowl - Manual drain	<b>P31EA12EMMBNTP</b>
1/4"	8 bar (125 psi) Relieving - Metal bowl - Pulse drain	<b>P31EA12EMBBNTP</b>
1/4"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P32EA12EGMBNGP</b>
1/4"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P32EA12EGABNGP</b>
1/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P32EA12ESMBNGP</b>
1/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P32EA12ESABNGP</b>
3/8"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P32EA13EGMBNGP</b>
3/8"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P32EA13EGABNGP</b>
3/8"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P32EA13ESMBNGP</b>
3/8"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P32EA13ESABNGP</b>
1/2"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P32EA14EGMBNGP</b>
1/2"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P32EA14EGABNGP</b>
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P32EA14ESMBNGP</b>
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P32EA14ESABNGP</b>
1/2"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P33EA14EGMBNGP</b>
1/2"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P33EA14EGABNGP</b>
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P33EA14ESMBNGP</b>
1/2"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P33EA14ESABNGP</b>
3/4"	8 bar (125 psi) Relieving - Poly bowl - Manual drain	<b>P33EA16EGMBNGP</b>
3/4"	8 bar (125 psi) Relieving - Poly bowl - Auto drain	<b>P33EA16EGABNGP</b>
3/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Manual drain	<b>P33EA16ESMBNGP</b>
3/4"	8 bar (125 psi) Relieving - Metal bowl sight glass - Auto drain	<b>P33EA16ESABNGP</b>

## Gauges

Port	Description	Order code
P31	Square Flush Mounting Gauge Kit	0-4 bar 0-10 bar <b>K4511SCR04B</b> <b>K4511SCR11B</b>
P31	40mm Round Gauge	0-30 psi / 0-2 bar 1/8" 0-60 psi / 0-4.1 bar 1/8" 0-160 psi / 0-10 bar 1/8" <b>P3D-KAB1AYN</b> <b>P3D-KAB1ALN</b> <b>P3D-KAB1ANN</b>
P32 / P33	50mm Round Gauge	0-60 psi / 0-4.1 bar 1/4" 0-160 psi / 0-10 bar 1/4" 0-300 psi / 0-20 bar 1/4" <b>P6G-ERB2040</b> <b>P6G-ERB2110</b> <b>P6G-ERB2200</b>

### Combined Soft Start Dump Valve and Remote Operated Dump Valve

Port	Description	Order code
1/4	Solenoid operated (not included)	<b>P31TA12SGN0000</b>
1/4	24VDC Solenoid & cable plug	<b>P31TA12SGNC2CN</b>
1/4	Air pilot operated	<b>P31TA12PPN</b>
1/2	Solenoid operated (not included)	<b>P32TA14SCN0000</b>
1/2	24VDC 30mm coil & cable plug incl.	<b>P32TA14SCNA2CN</b>
1/2	Air pilot operated	<b>P32TA14PPN</b>

### Remote Operated Dump Valve

Port	Description	Order code
1/4	Solenoid operated (not included)	<b>P31DA12SGN0000</b>
1/4	24VDC Solenoid & cable plug	<b>P31DA12SGNC2CN</b>
1/4	Air pilot operated	<b>P31DA12PPN</b>
1/2	Solenoid operated (not included)	<b>P32DA14SCN0000</b>
1/2	24VDC 30mm coil & cable plug incl.	<b>P32DA14SCNA2CN</b>
1/2	Air pilot operated	<b>P32DA14PPN</b>

### Soft Start Valve

Port	Description	Order code
1/4	Solenoid operated (not included)	<b>P31SA12SGN0000</b>
1/4	24VDC Solenoid & cable plug	<b>P31SA12SGNC2CN</b>
1/4	External air pilot (1/8 threaded)	<b>P31SA12PPN</b>
1/2	Solenoid operated (not included)	<b>P32SA14SCN0000</b>
1/2	24VDC 30mm coil & cable plug	<b>P32SA14SCNA2CN</b>
1/2	Internal air pilot operated	<b>P32SA14YON</b>
1/2	External air pilot (1/8 threaded)	<b>P32SA14PPN</b>

### Safety Lockout Valves

Model Type	Port Size	Thread type	Safety Lockout Valve Flow from left to right
<b>P31</b>	1/4	BSPP	<b>P31VA12LSAN</b>
<b>P32</b>	3/8	BSPP	<b>P32VA13LSAN</b>
	1/2	BSPP	<b>P32VA14LSAN</b>
<b>P33</b>	1/2	BSPP	<b>P33VA14LSAN</b>
	3/4	BSPP	<b>P33VA16LSAN</b>

Model Type	Port Size	Thread type	Safety Lockout Valve Flow from right to left
<b>P32</b>	3/8	BSPP	<b>P32VA13LSBN</b>
	1/2	BSPP	<b>P32VA14LSBN</b>
<b>P33</b>	1/2	BSPP	<b>P33VA14LSBN</b>
	3/4	BSPP	<b>P33VA16LSBN</b>















For thread type: NPT **9**

### Manifold Blocks

Model Type	In / Out Port Size	Auxiliary Port Size Top	Auxiliary Port Size Bottom	Thread Type	Order Code
<b>P31</b>	1/4	1/4	1/4	BSPP	<b>P31MA12022N</b>
<b>P32/P33</b>	3/4	1/4	1/2	BSPP	<b>P33MA16024N</b>

For thread type: NPT **9**

## Accessories Kits

Series	Description	Connection	Order Code	
P31 P32 P33	Panel Mount Nut (Plastic)		P31KA00MP P32KA00MP P33KA00MP	
P31 P32 P33	Panel Mount Nut (Aluminium)		P31KA00MM P32KA00MM P33KA00MM	
P31 P32 P33	5µ Element Kit		P31KA00ESE P32KA00ESE P33KA00ESE	
P31 P32 P33	1µ Element Kit		P31KA00ES9 P32KA00ES9 P33KA00ES9	
P31 P32 P33	0.01µ Element Kit		P31KA00ESC P32KA00ESC P33KA00ESC	
P31 P32 P33	Adsorber Element Kit		P31KA00ESA P32KA00ESA P33KA00ESA	
P32 / P33	Auto Drain Kit		P32KA00DA	
P32 / P33	Differential Pressure Indicator Kit		P32KA00RQ	
P31 P32 P33	Plastic Bowl with Bowl Guard & Manual Drain		P31KA00BGM P32KA00BGM P33KA00BGM	
P31	Plastic Bowl with Bowl Guard & Pulse Drain		P31KA00BGB	
P32 P33	Plastic Bowl with Bowl Guard & Auto Drain		P32KA00BGA P33KA00BGA	
P31	Metal Bowl without Sight Gauge & Pulse Drain		P31KA00BMB	
P32 P33	Metal Bowl with Sight Gauge & Manual Drain		P32KA00BSM P33KA00BSM	
P32 P33	Metal Bowl with Sight Gauge & Auto Drain		P32KA00BSA P33KA00BSA	
P31 P32 P33	Lubricator - Plastic Bowl with Bowl Guard & Close End		P31KA00BGN P32KA00BGN P33KA00BGN	
P31 P32 P33	Lubricator - Metal Bowl Without Sight Gauge, No Drain Lubricator - Metal Bowl With Sight Gauge, No Drain Lubricator - Metal Bowl With Sight Gauge, No Drain		P31KA00BMN P32KA00BSN P33KA00BSN	
P31 P32 P33	Regulator - Relieving Repair Kit		P31KA00RB P32KA00RB P33KA00RB	
P31 P32 P33	Regulator - Non Relieving Repair Kit		P31KA00RC P32KA00RC P33KA00RC	

## Pressure Switch

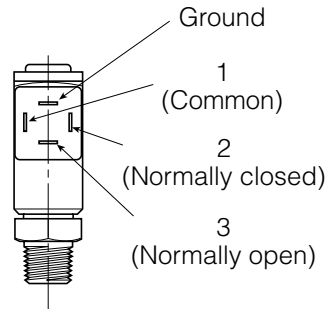
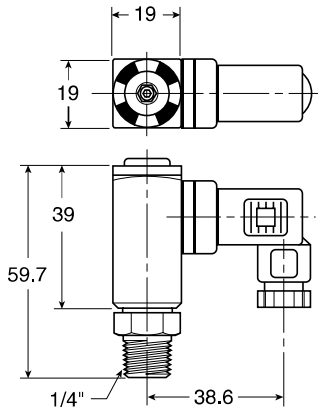


- Inline Mounting
- Dial indicator for easy pressure setting
- 5 amp rated snap action micro switch
- Heavy duty aluminium component
- Compact size
- DIN 43650HCM connector included
- IP65 Rated
- Field adjustable 2 - 10 bar
- +/- 2% repeatability
- Single pole / Double throw switch

The Pressure Switch monitors the air pressure in your pneumatic system. When the pressure in your system either drops below or exceeds the set point, an electrical output is generated.

Using a 3mm hex wrench, turn the adjusting screw on top of the unit clockwise to increase the pressure set point and counterclockwise to decrease the pressure setting. One complete revolution of the adjusting screw covers the complete adjustment range (2 - 10 bar).

Description	Order code	Weight (g)
G1/4	<b>P01913</b>	90



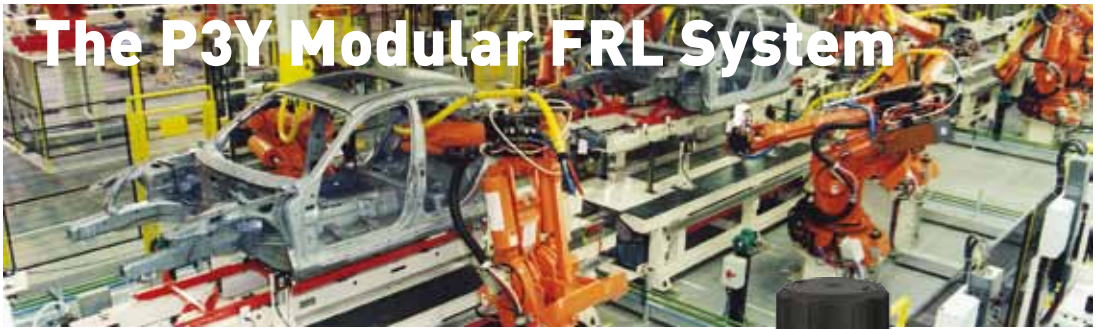
### Technical Information

Electrical:	5 amp, 12/24VDC, 125/250VAC
Maximum inlet pressure:	20 bar
Mechanical life:	10 <sup>6</sup> at standard operating conditions
Electrical connection:	DIN 43650HCM
Electrical protection:	IP65
Repeatability:	±2% at 20°C ambient
Temperature range:	-40°C to 80°C
Weight:	0,06 Kg

### Material Specification

Diaphragm:	Nitrile
Housing:	Anodised aluminium

## For the most demanding hi-flow industrial applications



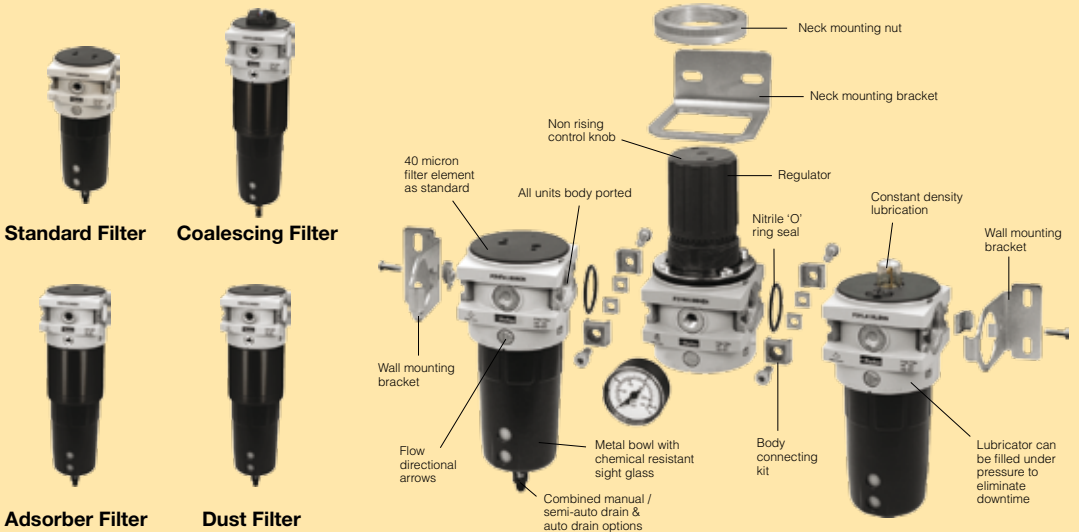
The P3Y system allows units to be connected together, without the use of pipe connectors, saving space; providing constant mounting centres; whilst maintaining a modern aesthetically pleasing appearance.

The P3Y Filters are specially designed to efficiently filter out rust, dirt, moisture and other impurities from compressed air lines. Operation is fully automatic with a minimum of pressure drop. Coalescing filters and adsorber filters for high purity air are also included in the P3Y series.

The P3Y Regulators are designed to provide quick response and accurate pressure regulation for the most demanding hi-flow industrial applications. The rolling diaphragm was designed for long trouble-free operation and will not rupture or tear under high cycle or other demanding applications.



### Selection of Filters



- Integral 3/4 or 1" ports (BSPP or NPT)
- High efficiency element as standard
- Excellent water removal efficiency
- Robust but lightweight aluminium construction
- Secondary pressure ranges 12 and 16 bar
- Rolling diaphragm for extended life
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation.



### Operating information

Working pressure:	Max 17.5 bar
Working temperature:	-10 °C to +60 °C

### Flow characteristics

Flow dm <sup>3</sup> /s	3/4"	1"
Filter	116	119
Dust Filter	137	145
Coalescing Filter	49	59
Adsorber Filter	47	50
Regulator	155	321
Filter Regulator	190	237
Lubricator	162	184

### Filters - 5 micron element

Port size	Description	Order Code
G3/4	Manual drain/Semi auto	<b>P3YFA16GSCN</b>
G3/4	Auto drain	<b>P3YFA16GSAN</b>
G1"	Manual drain / Semi auto	<b>P3YFA18GSCN</b>
G1"	Auto drain	<b>P3YFA18GSAN</b>
	Mounting bracket	<b>P3YKA00CW</b>

### Dust Filters - 1 micron element

Port size	Description	Order Code
G3/4	Manual drain/Semi auto	<b>P3YFA162SCN</b>
G3/4	Auto drain	<b>P3YFA162SAN</b>
G1"	Manual drain / Semi auto	<b>P3YFA182SCN</b>
G1"	Auto drain	<b>P3YFA182SAN</b>

### Regulators - relieving type - non relieving options available

Port size	Description	Order Code
G3/4	12 bar relieving	<b>P3YRA16BNEN</b>
G3/4	12 bar relieving + gauge	<b>P3YRA16BNFN</b>
G1"	12 bar relieving	<b>P3YRA18BNEN</b>
G1"	12 bar relieving + gauge	<b>P3YRA18BNFN</b>
G3/4	12 bar relieving, lockable	<b>P3YRA16BAEN</b>
G3/4	12 bar relieving, lockable + gauge	<b>P3YRA16BAFN</b>
G1"	12 bar relieving, lockable	<b>P3YRA18BAEN</b>
G1"	12 bar relieving, lockable + gauge	<b>P3YRA18BAFN</b>

### Pressure Gauges

	Order Code
0 - 10 bar	<b>KG8012</b>
0 - 16 bar	<b>KG8013</b>

### Coalescing Filters - 0.01 micron element

Port size	Description	Order Code
G3/4	Coalescing 0.01µm, manual/semi auto drain	<b>P3YFA16DSCN</b>
G3/4	Coalescing Filter 0.01µm, auto drain	<b>P3YFA16DSAN</b>
G1"	Coalescing 0.01µm, manual/semi auto drain	<b>P3YFA18DSCN</b>
G1"	Coalescing Filter 0.01µm, auto drain	<b>P3YFA18DSAN</b>

### Adsorber Filters

Port size	Description	Order Code
G3/4	Adsorber 0.01µm, manual drain	<b>P3YFA16ASCN</b>
G1"	Adsorber 0.01µm, manual drain	<b>P3YFA18ASCN</b>

### Lubricators

Port size	Description	Order Code
G3/4	Oil mist, fill under pressure	<b>P3YLA16LSNN</b>
G1"	Oil mist, fill under pressure	<b>P3YLA18LSNN</b>

### Filter/Regulators

- transparent bowl - 2 and 4 bar and non relieving options available

Port size	Description	Order Code
G3/4	12 bar, relieving manual/semi auto drain	<b>P3YEA16GSCBNEN</b>
G3/4	12 bar, relieving auto drain	<b>P3YEA16GSABNEN</b>
G3/4	12 bar, relieving manual/semi auto + gauge	<b>P3YEA16GSCBNFN</b>
G3/4	12 bar, relieving auto drain + gauge	<b>P3YEA16GSABNFN</b>
G1"	12 bar, relieving manual/semi auto drain	<b>P3YEA18GSCBNEN</b>
G1"	12 bar, relieving auto drain	<b>P3YEA18GSABNEN</b>
G1"	12 bar, relieving manual/semi auto + gauge	<b>P3YEA18GSCBNFN</b>
G1"	12 bar, relieving auto drain + gauge	<b>P3YEA18GSABNFN</b>



### Proportional Pressure Regulator

Port size	Description	Order Code
G3/4	Normally closed	<b>P3YPA16BD2VA2A</b>
G1"	Normally closed	<b>P3YPA18BD2VA2A</b>

### Combined Soft Start Dump Valve and Remote Operated Dump Valve

Port size	Description	Order Code
G3/4	Solenoid operated (not included)	<b>P3YTA16SCN0000</b>
G3/4	24VDC 22mm coil	<b>P3YTA16SCNB2CN</b>
G3/4	Air pilot operated	<b>P3YTA16PPN</b>
G1"	Solenoid operated (not included)	<b>P3YTA18SCN0000</b>
G1"	24VDC 22mm coil	<b>P3YTA18SCNB2CN</b>
G1"	Air pilot operated	<b>P3YTA18PPN</b>

### Soft Start Valve

Port size	Description	Order Code
G3/4	Soft start valve	<b>P3YSA16YON</b>
G1"	Soft start valve	<b>P3YSA18YON</b>

### Neck mounting bracket kit

Description	Order Code
Neck mounting bracket kit	<b>P3YKA00MS</b>

### Pilot Operated Regulator

Port size	Description	Order Code
G3/4	Pilot operated regulator	<b>P3YRA16BPN</b>
G1"	Pilot operated regulator	<b>P3YRA18BPN</b>

### Modular Ball Valve

Port size	Description	Order Code
G3/4	Modular Ball Valve	<b>P3YVA16LBN</b>
G1"	Modular Ball Valve	<b>P3YVA18LBN</b>

### Modular Manifold

Port size	Description	Order Code
G3/4	Modular Manifold	<b>P3YMA1V0N</b>
G1"	Modular Manifold	<b>P3YMA9V0N</b>

### Optional Port Block Kits

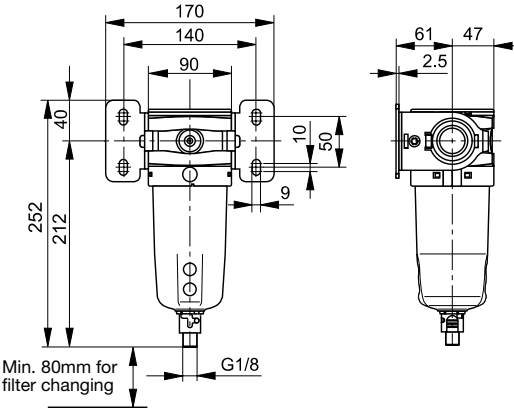
Port size	Description	Order Code
1 <sup>1</sup> / <sub>4</sub> "	Port block kit BSPP (G)	<b>P3YKA1ACP</b>
1 <sup>1</sup> / <sub>2</sub> "	Port block kit - NPT	<b>P3YKA9BCP</b>

### Wall mounting brackets

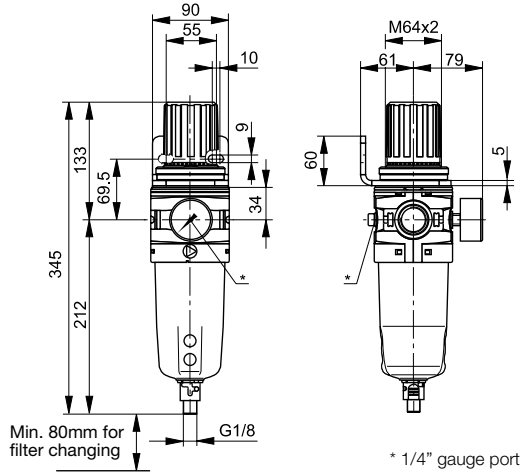
Description	Order Code
Wall mounting brackets	<b>P3YKA00CW</b>

**Dimensions (mm)**

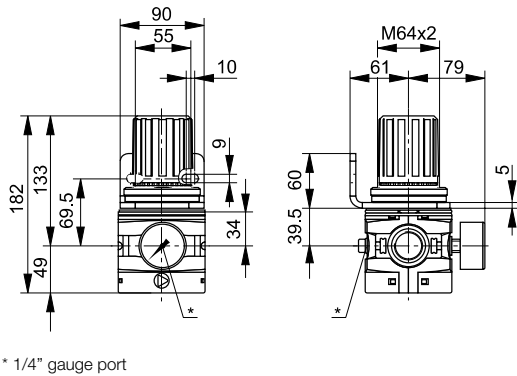
**Filters**



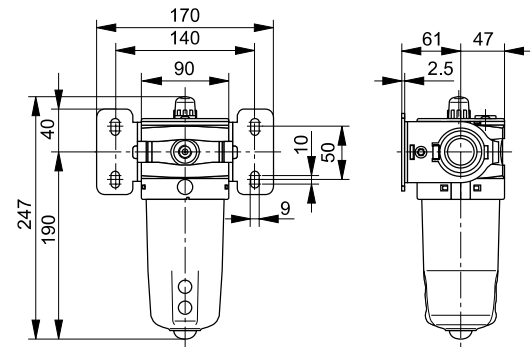
**Filter/Regulators**



**Regulators**



**Lubricators**



**Service kits**

Description	Order code
5 micron element kit	<b>P3YKA00ESE</b>
40 micron element kit	<b>P3YKA00ESG</b>
Bowl kit with combined manual/semi auto drain	<b>P3YKA00BSC</b>
Bowl kit with auto drain	<b>P3YKA00BSA</b>
Key Lock Kit	<b>P3XKA00AS</b>
Diaphragm kit (relieving type)	<b>P3YKA00RR</b>
Diaphragm kit (non-relieving type)	<b>P3YKA00RN</b>
Angle bracket + metal lock ring	<b>P3YKA00MS</b>
Panel mount nut	<b>P3YKA00MM</b>

The all metal P3Z Series FRLs are ideal for most medium sized ring main installations.



- Self relieving feature plus balanced poppet provides quick response and accurate pressure regulation.
- Threaded port flange available to G1-1/2" and G2"
- Proportional oil delivery over a wide range of air flows.

**Operating information**

Working pressure: 0 - 17.5 bar  
 Working temperature: 0 °C to +60 °C

**Flow characteristics**

**Flow** Filter >666.6 dm<sup>3</sup>/s  
 Regulator >666.6 dm<sup>3</sup>/s  
 Lubricator >666.6 dm<sup>3</sup>/s

For technical information see CD



**Filters**

Port size	Description	Order Code
-	40µ auto drain (float drain) without flange SAE	<b>P3ZFA00HMAN</b>
G1.1/2"	40µ auto drain (float drain) flange fitted to SAE	<b>P3ZFA1BHMAN</b>
G2"	40µ auto drain (float drain) flange fitted to SAE	<b>P3ZFA1CHMAN</b>



**Coalescing Filters**

Port size	Description	Order Code
-	0.01 micron, auto drain	<b>P3ZFA00DMAN</b>
G1.1/2"	0.01 micron, auto drain, flange fitted to SAE	<b>P3ZFA1BDMAN</b>
G2"	0.01 micron, auto drain, flange fitted to SAE	<b>P3ZFA1CDMAN</b>



**Dust Filters**

Port size	Description	Order Code
-	1µ manual semi auto drain (pressure relief) without flange SAE	<b>P3ZFA00MMAN</b>
G1.1/2"	1µ manual semi auto drain (pressure relief) flange fitted to SAE	<b>P3ZFA1BMMAN</b>
G2"	1µ manual semi auto drain (pressure relief) flange fitted to SAE	<b>P3ZFA1CMMAN</b>



**Adsorber Filters**

Port size	Description	Order Code
-	Combined manual & semi-auto drain	<b>P3ZFA00BMAN</b>
G1.1/2"	Combined manual & semi-auto drain	<b>P3ZFA1BMAN</b>
G2"	Combined manual & semi-auto drain	<b>P3ZFA1CBMAN</b>



**Regulators**

Port size	Description	Order Code
-	8 bar, relieving + gauge, without flange SAE	<b>P3ZRA00BNGN</b>
G1.1/2"	8 bar, relieving + gauge	<b>P3ZRA1BBNGN</b>
G2"	8 bar, relieving + gauge	<b>P3ZRA1CBNGN</b>
-	16 bar relieving + gauge, without flange SAE	<b>P3ZRA00BNJN</b>
G1.1/2"	16 bar, relieving + gauge	<b>P3ZRA1BBNJN</b>
G2"	16 bar, relieving + gauge	<b>P3ZRA1CBNJN</b>



**Lubricators**

Port size	Description	Order Code
-	Lubricator, without flange SAE	<b>P3ZLA00LSMN</b>
G1.1/2"	Lubricator	<b>P3ZLA1BLSMN</b>
G2"	Lubricator	<b>P3ZLA1CLSMN</b>
G2"	Central airline lubricator with electrical oil level control	<b>P3ZLA1CEMMW</b>
G2"	Central airline lubricator with aluminium bowl	<b>P3ZLA1CMMMW</b>



**Regulators Pilot Control**

Port size	Description	Order Code
-	16 bar, air pilot	<b>P3ZRA00BPPN</b>
G1.1/2"	16 bar, relieving + gauge	<b>P3ZRA1BBPPN</b>
G2"	16 bar, relieving + gauge	<b>P3ZRA1CBPPN</b>



**Options & Accessories**

Port size	Description	Order Code
G1.1/2"	Connection flange kit	<b>P3ZKA1BCP</b>
G2"	Connection flange kit	<b>P3ZKA1CCP</b>
-	Wall mounting kit	<b>P3ZKA00MW</b>
-	Coupling kit	<b>P3ZKA00CB</b>
-	Coupling 'O' ring kit (5 off)	<b>P3ZKA00CCY</b>
-	Porting block kit (1", 1/8" & 2 x 1/4" take off)	<b>P3ZMA1V0N</b>

## High Efficiency 0.01 µm Filtration

### Filtration Grade

<b>Filtration type</b>	Coalescing
<b>Particle removal (inc water &amp; oil aerosols)</b>	Down to 0.01 micron
<b>Max remaining oil content at 21°C</b>	0.01 mg/m <sup>3</sup> 0.01 ppm(w)
<b>Filter efficiency</b>	99.9999%
<b>Test methods used</b>	ISO 8573.2 ISO 8573.4 ISO 12500-1
<b>ISO 12500-1 Inlet Challenge concentration</b>	10 mg/m <sup>3</sup>
<b>Initial dry differential pressure</b>	<140 mbar (2psi)
<b>Initial saturated differential pressure</b>	<200 mbar (3psi)
<b>Change element every</b>	12 months
<b>Precede with filtration grade</b>	1 micron Moduflex Coalescer



### Product selection

Stated flows are for operation at 7 bar (g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure. For flows at other pressures apply the correction factors shown.

Port Size BSPT	Part Number	dm <sup>3</sup> /s	m <sup>3</sup> /hr	cfm	0.01 µm Replacement Element Kit
1/4"	P3TFA22CAAN	10	36	21	P3TKA00ESCA
3/8"	P3TFA23CBAN	20	72	42	P3TKA00ESCB
1/2"	P3TFA24CCAN	30	108	64	P3TKA00ESCC
3/4"	P3TFA26CDAN	60	216	127	P3TKA00ESCD
1 "	P3TFA28CEAN	110	396	233	P3TKA00ESCE
1.1/4"	P3TFA2ACEAN	110	396	233	P3TKA00ESCE
1.1/2"	P3TFA2BCFAN	160	576	339	P3TKA00ESCF
1.1/2"	P3TFA2BCGAN	220	792	466	P3TKA00ESCG
2"	P3TFA2CCHAN	330	1188	699	P3TKA00ESCH
2.1/2"	P3TFA2DCJAN	430	1548	911	P3TKA00ESCJ
3"	P3TFA2ECJAN	430	1548	911	P3TKA00ESCJ
2.1/2"	P3TFA2DCKAN	620	2232	1314	P3TKA00ESCK
3"	P3TFA2ECKAN	620	2232	1314	P3TKA00ESCK

### Correction factors

Line pressure bar g		psi g	Correction factor
1	15		0.38
2	29		0.53
3	44		0.65
4	58		0.76
5	73		0.85
6	87		0.93
7	100		1.00
8	116		1.07
9	131		1.13
10	145		1.19
11	160		1.25
12	174		1.31
13	189		1.36
14	203		1.41
15	218		1.46
16	232		1.51

To find the correction factor for 8.5 bar g (122psi g) =

$$\sqrt{\frac{\text{System Operating Pressure}}{\text{Nominal Pressure}}} = \sqrt{\frac{8.5 \text{ bar g}}{7 \text{ bar g}}} = 1.10$$

### Filter selection example

Selecting a filter model to match a system flow rate and pressure.

**Example:** System flow 1050 m<sup>3</sup>/hr at a pressure of 8.5 bar g

1. Obtain pressure correction factor from table or calculate factor using method shown. Correction factor for 8.5 bar g = 1.10
2. Divide system flow by correction factor to give equivalent flow rate at 7 bar g  
1050m<sup>3</sup>/hr ÷ 1.10 = 955 m<sup>3</sup>/hr (at 7 bar g)
3. Select a filter model from the above table with a flow rate above or equal to 955 m<sup>3</sup>/hr. Filter model selected : P3TFA2CCHAN
4. Select pipe connection & Thread type System uses 2" piping and BSP threads:  
Model P3TFA2CCHAN

High Efficiency 0.01 µm Filtration

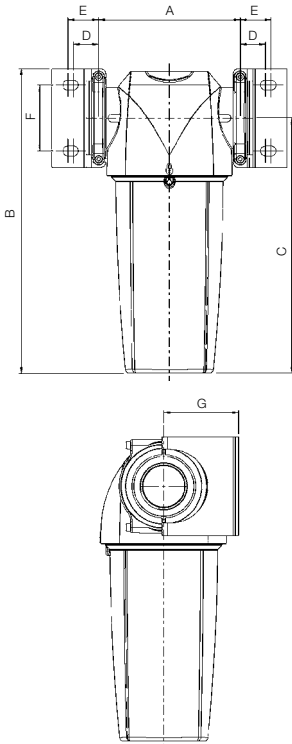
Technical data

Filter Grade	Drain type	Max operating pressure		Max recommended operating temp.		Min recommended operating temp.	
		bar g	psi g	80°C	176°F	1.5°C	35°F
0.01 micron	Auto	16	232	80°C	176°F	1.5°C	35°F

Weights and dimensions

Optional Accessories

Port Size BSPT	Part Number	A		B		C		D		E		F		G		Weight		Modular Connection Kit	Wall Mounting Bracket Kit
		mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kg	lbs		
1/4"	P3TFA22CAAN	76.0	3.0	181.5	7.2	153.0	6.0	18.0	0.71	24.5	0.96	30.0	1.18	52.0	2.05	0.4	0.9	P3TKA00CBA	P3TKA00MWA
3/8"	P3TFA23CBAN	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	P3TKA00CBB	P3TKA00MWB
1/2"	P3TFA24CCAN	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	P3TKA00CBB	P3TKA00MWB
3/4"	P3TFA26CDAN	129.0	5.1	275.0	10.8	232.5	9.2	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.2	4.8	P3TKA00CBD	P3TKA00MWD
1"	P3TFA28CEAN	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	P3TKA00CBD	P3TKA00MWD
1.1/4"	P3TFA2ACEAN	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	P3TKA00CBD	P3TKA00MWD
1.1/2"	P3TFA2BCFAN	170.0	6.7	432.5	17.0	382.5	15.1	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	4.5	9.9	P3TKA00CBF	P3TKA00MWF
1.1/2"	P3TFA2BCGAN	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	P3TKA00CBF	P3TKA00MWF
2"	P3TFA2CCHAN	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	P3TKA00CBF	P3TKA00MWF
2.1/2"	P3TFA2DCJAN	205.0	8.1	641.5	25.3	581.5	22.9	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	10.0	22.0	P3TKA00CBJ	P3TKA00MWJ
3"	P3TFA2ECJAN	205.0	8.1	641.5	25.3	581.5	22.9	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	10.0	22.0	P3TKA00CBJ	P3TKA00MWJ
2.1/2"	P3TFA2DCKAN	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	P3TKA00CBJ	P3TKA00MWJ
3"	P3TFA2ECKAN	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	P3TKA00CBJ	P3TKA00MWJ



**DPI Kit**  
**P3TKA00RQ**

**Incident Monitor**  
Used to indicate premature high differential pressure. Indicator can be retrofitted to existing housings without depressurising the system.



**Wall Mounting Bracket Kit**  
Mounting brackets provide additional support to filters installed in flexible piping systems or OEM equipment.



**Modular Connection Kit**  
Fixing clamp allows quick and simple connection of multiple filter housings.

**Drain Kits**

Auto drain	<b>P3TKA00DA</b>
Manual drain	<b>P3TKA00DM</b>

1 µm Filtration

Filtration Grade

<b>Filtration type</b>	Coalescing
<b>Particle removal (inc water &amp; oil aerosols)</b>	Down to 1 micron
<b>Max remaining oil content at 21°C</b>	0.06 mg/m <sup>3</sup> 0.05 ppm(w)
<b>Filter efficiency</b>	99.925%
<b>Test methods used</b>	ISO 8573.2 ISO 8573.4 ISO 12500-1
<b>ISO 12500-1 Inlet Challenge concentration</b>	40 mg/m <sup>3</sup>
<b>Initial dry differential pressure</b>	<70 mbar (2psi)
<b>Initial saturated differential pressure</b>	<140 mbar (3psi)
<b>Change element every</b>	12 months
<b>Precede with filtration grade</b>	1 micron Moduflex Coalescer



Product selection

Stated flows are for operation at 7 bar (g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure. For flows at other pressures apply the correction factors shown.

Port Size BSPT	Part Number	dm <sup>3</sup> /s	m <sup>3</sup> /hr	cfm	1 µm Replacement Element Kit
1/4"	P3TFA229AAN	10	36	21	P3TKA00ES9A
3/8"	P3TFA239BAN	20	72	42	P3TKA00ES9B
1/2"	P3TFA249CAN	30	108	64	P3TKA00ES9C
3/4"	P3TFA269DAN	60	216	127	P3TKA00ES9D
1 "	P3TFA289EAN	110	396	233	P3TKA00ES9E
1.1/4"	P3TFA2A9EAN	110	396	233	P3TKA00ES9E
1.1/2"	P3TFA2B9FAN	160	576	339	P3TKA00ES9F
1.1/2"	P3TFA2B9GAN	220	792	466	P3TKA00ES9G
2"	P3TFA2C9HAN	330	1188	699	P3TKA00ES9H
2.1/2"	P3TFA2D9JAN	430	1548	911	P3TKA00ES9J
3"	P3TFA2E9JAN	430	1548	911	P3TKA00ES9J
2.1/2"	P3TFA2D9KAN	620	2232	1314	P3TKA00ES9K
3"	P3TFA2E9KAN	620	2232	1314	P3TKA00ES9K

Correction factors

Line pressure		Correction factor
bar g	psi g	
1	15	0.38
2	29	0.53
3	44	0.65
4	58	0.76
5	73	0.85
6	87	0.93
7	100	1.00
8	116	1.07
9	131	1.13
10	145	1.19
11	160	1.25
12	174	1.31
13	189	1.36
14	203	1.41
15	218	1.46
16	232	1.51

Filter selection example

Selecting a filter model to match a system flow rate and pressure.

**Example:** System flow 1050 m<sup>3</sup>/hr at a pressure of 8.5 bar g

1. Obtain pressure correction factor from table or calculate factor using method shown. Correction factor for 8.5 bar g = 1.10
2. Divide system flow by correction factor to give equivalent flow rate at 7 bar g  
1050m<sup>3</sup>/hr ÷ 1.10 = 955 m<sup>3</sup>/hr (at 7 bar g)
3. Select a filter model from the above table with a flow rate above or equal to 955 m<sup>3</sup>/hr. Filter model selected : P3TFA2C9HAN
4. Select pipe connection & Thread type System uses 2" piping and BSP threads: Model P3TFA2C9HAN

To find the correction factor for 8.5 bar g (122psi g) =

$$\sqrt{\frac{\text{System Operating Pressure}}{\text{Nominal Pressure}}} = \sqrt{\frac{8.5 \text{ bar g}}{7 \text{ bar g}}} = 1.10$$

1 µm Filtration

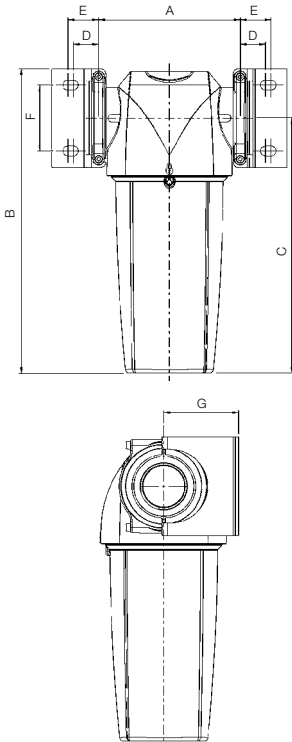
Technical data

Filter Grade	Drain type	Max operating pressure		Max recommended operating temp.		Min recommended operating temp.	
		bar g	psi g	°C	°F	°C	°F
1 micron	Auto	16	232	80°C	176°F	1.5°C	35°F

Weights and dimensions

Optional Accessories

Port Size BSPT	Part Number	A		B		C		D		E		F		G		Weight		Modular Connection Kit	Wall Mounting Bracket Kit
		mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kg	lbs		
1/4"	P3TFA229AAN	76.0	3.0	181.5	7.2	153.0	6.0	18.0	0.71	24.5	0.96	30.0	1.18	52.0	2.05	0.4	0.9	P3TKA00CBA	P3TKA00MWA
3/8"	P3TFA239BAN	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	P3TKA00CBB	P3TKA00MWB
1/2"	P3TFA249CAN	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	P3TKA00CBB	P3TKA00MWB
3/4"	P3TFA269DAN	129.0	5.1	275.0	10.8	232.5	9.2	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.2	4.8	P3TKA00CBD	P3TKA00MWD
1"	P3TFA289EAN	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	P3TKA00CBD	P3TKA00MWD
1.1/4"	P3TFA2A9EAN	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	P3TKA00CBD	P3TKA00MWD
1.1/2"	P3TFA2B9FAN	170.0	6.7	432.5	17.0	382.5	15.1	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	4.5	9.9	P3TKA00CBF	P3TKA00MWF
1.1/2"	P3TFA2B9GAN	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	P3TKA00CBF	P3TKA00MWF
2"	P3TFA2C9HAN	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	P3TKA00CBF	P3TKA00MWF
2.1/2"	P3TFA2D9JAN	205.0	8.1	641.5	25.3	581.5	22.9	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	10.0	22.0	P3TKA00CBJ	P3TKA00MWJ
3"	P3TFA2E9JAN	205.0	8.1	641.5	25.3	581.5	22.9	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	10.0	22.0	P3TKA00CBJ	P3TKA00MWJ
2.1/2"	P3TFA2D9KAN	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	P3TKA00CBJ	P3TKA00MWJ
3"	P3TFA2E9KAN	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	P3TKA00CBJ	P3TKA00MWJ



DPI Kit

P3TKA00RQ

Incident Monitor

Used to indicate premature high differential pressure. Indicator can be retrofitted to existing housings without depressurising the system.



Modular Connection Kit

Fixing clamp allows quick and simple connection of multiple filter housings.



Wall Mounting Bracket Kit

Mounting brackets provide additional support to filters installed in flexible piping systems or OEM equipment.

Drain Kits

Auto drain P3TKA00DA

Manual drain P3TKA00DM



### Oil Vapour Removal Filter

#### Filtration Grade

<b>Filtration type</b>	Oil vapour removal
<b>Particle removal (inc water &amp; oil aerosols)</b>	N/A
<b>Max remaining oil content at 21°C</b>	0.003 mg/m <sup>3</sup> 0.003 ppm(w)
<b>Filter efficiency</b>	N/A
<b>Test methods used</b>	ISO 8573.5
<b>ISO 12500-1 Inlet Challenge concentration</b>	N/A
<b>Initial dry differential pressure</b>	<200 mbar (3psi)
<b>Initial saturated differential pressure</b>	N/A
<b>Change element every</b>	When oil vapour is detected
<b>Precede with filtration grade</b>	0.01 micron Moduflex Coalescer filter



#### Product selection

Stated flows are for operation at 7 bar (g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure. For flows at other pressures apply the correction factors shown.

Port Size BSPT	Part Number	dm <sup>3</sup> /s	m <sup>3</sup> /hr	cfm	Oil vapour removal Replacement Element Kit
1/4"	P3TFA22AAMN	10	36	21	P3TKA00ESAA
3/8"	P3TFA23ABMN	20	72	42	P3TKA00ESAB
1/2"	P3TFA24ACMN	30	108	64	P3TKA00ESAC
3/4"	P3TFA26ADMN	60	216	127	P3TKA00ESAD
1"	P3TFA28AEMN	110	396	233	P3TKA00ESAE
1.1/4"	P3TFA2AAEMN	110	396	233	P3TKA00ESAE
1.1/2"	P3TFA2BAFMN	160	576	339	P3TKA00ESAF
1.1/2"	P3TFA2BAGMN	220	792	466	P3TKA00ESAG
2"	P3TFA2CAHMN	330	1188	699	P3TKA00ESAH
2.1/2"	P3TFA2DAJMN	430	1548	911	P3TKA00ESAJ
3"	P3TFA2EAJMN	430	1548	911	P3TKA00ESAJ
2.1/2"	P3TFA2DAKMN	620	2232	1314	P3TKA00ESAK
3"	P3TFA2EAKMN	620	2232	1314	P3TKA00ESAK

#### Correction factors

Line pressure bar g	psi g	Correction factor
1	15	0.38
2	29	0.53
3	44	0.65
4	58	0.76
5	73	0.85
6	87	0.93
7	100	1.00
8	116	1.07
9	131	1.13
10	145	1.19
11	160	1.25
12	174	1.31
13	189	1.36
14	203	1.41
15	218	1.46
16	232	1.51
17	247	1.56
18	261	1.60
19	275	1.65
20	290	1.70

To find the correction factor for 8.5 bar g (122psi g) =

$$\sqrt{\frac{\text{System Operating Pressure}}{\text{Nominal Pressure}}} = \sqrt{\frac{8.5 \text{ bar g}}{7 \text{ bar g}}} = 1.10$$

#### Filter selection example

Selecting a filter model to match a system flow rate and pressure.

**Example:** System flow 1050 m<sup>3</sup>/hr at a pressure of 8.5 bar g

1. Obtain pressure correction factor from table or calculate factor using method shown. Correction factor for 8.5 bar g = 1.10
2. Divide system flow by correction factor to give equivalent flow rate at 7 bar g  
1050m<sup>3</sup>/hr ÷ 1.10 = 955 m<sup>3</sup>/hr (at 7 bar g)
3. Select a filter model from the above table with a flow rate above or equal to 955 m<sup>3</sup>/hr. Filter model selected : P3TFA2CAHMN
4. Select pipe connection & Thread type System uses 2" piping and BSP threads: Model P3TFA2CAHMN

Oil Vapour Removal Filter

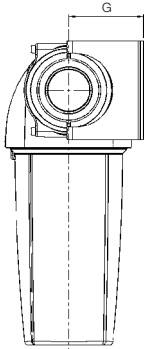
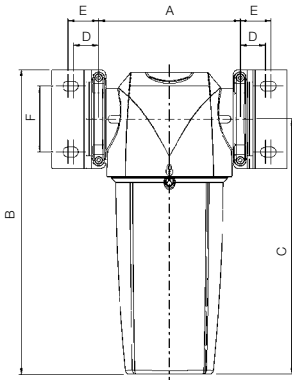
Technical data

Filter Grade	Drain type	Max operating pressure		Max recommended operating temp.		Min recommended operating temp.	
		bar g	psi g				
Oil vapour removal	Manual	20	290	100°C	212°F	1.5°C	35°F

Weights and dimensions

Optional Accessories

Port Size BSPT	Part Number	A		B		C		D		E		F		G		Weight		Modular Connection Kit	Wall Mounting Bracket Kit
		mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kg	lbs		
1/4"	P3TFA22AAMN	76.0	3.0	181.5	7.2	153.0	6.0	18.0	0.71	24.5	0.96	30.0	1.18	52.0	2.05	0.4	0.9	P3TKA00CBA	P3TKA00MWA
3/8"	P3TFA23ABMN	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	P3TKA00CBB	P3TKA00MWB
1/2"	P3TFA24ACMN	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	P3TKA00CBB	P3TKA00MWB
3/4"	P3TFA26ADMN	129.0	5.1	275.0	10.8	232.5	9.2	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.2	4.8	P3TKA00CBD	P3TKA00MWD
1"	P3TFA28AEMN	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	P3TKA00CBD	P3TKA00MWD
1.1/4"	P3TFA2AAEMN	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	P3TKA00CBD	P3TKA00MWD
1.1/2"	P3TFA2BAFMN	170.0	6.7	432.5	17.0	382.5	15.1	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	4.5	9.9	P3TKA00CBF	P3TKA00MWF
1.1/2"	P3TFA2BAGMN	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	P3TKA00CBF	P3TKA00MWF
2"	P3TFA2CAHMN	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	P3TKA00CBF	P3TKA00MWF
2.1/2"	P3TFA2DAJMN	205.0	8.1	641.5	25.3	581.5	22.9	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	10.0	22.0	P3TKA00CBJ	P3TKA00MWJ
3"	P3TFA2EAJMN	205.0	8.1	641.5	25.3	581.5	22.9	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	10.0	22.0	P3TKA00CBJ	P3TKA00MWJ
2.1/2"	P3TFA2DAKMN	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	P3TKA00CBJ	P3TKA00MWJ
3"	P3TFA2EAKMN	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	P3TKA00CBJ	P3TKA00MWJ



Modular Connection Kit

Fixing clamp allows quick and simple connection of multiple filter housings.



Wall Mounting Bracket Kit

Mounting brackets provide additional support to filters installed in flexible piping systems or OEM equipment.

Drain Kits

Auto drain **P3TKA00DA**

Manual drain **P3TKA00DM**

**High Efficiency Bulk Liquid Removal**

- Tested in accordance with ISO 8573.9
- Performance independently verified by Lloyds Register
- High liquid removal efficiencies at all flow conditions
- Low pressure losses for low operational costs
- Multiple port sizes for a given flow rate provides increased flexibility during installation
- Suitable for variable flow compressors
- Works with all types of compressor and compressor condensate
- Low maintenance
- 10 Year Housing Guarantee



**Typical Applications**

- Bulk liquid removal at any point in a compressed air system
- Protection of refrigeration and adsorption dryer pre-filtration
- Liquid removal from compressor inter-coolers / after-coolers
- Liquid separation within refrigeration dryers

**Product selection**

Stated flows are for operation at 7 bar (g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure.

**Correction factors**

Port Size	Part Number	dm³/s	m³/hr	cfm	Max operating pressure		Max Operating temperature	Min Operating temperature	Line pressure				
					bar g	psi g			bar g	psi g	Correction factor		
1/4"	<b>P3TFA22WAAN</b>	10	36	21	16	232	80 C	176 F	1.5 C	35 F	1	15	0.25
3/8"	<b>P3TFA23WBAN</b>	40	144	85	16	232	80 C	176 F	1.5 C	35 F	2	29	0.38
1/2"	<b>P3TFA24WCAN</b>	40	144	85	16	232	80 C	176 F	1.5 C	35 F	3	44	0.50
3/4"	<b>P3TFA26WDAN</b>	110	396	233	16	232	80 C	176 F	1.5 C	35 F	4	58	0.63
1"	<b>P3TFA28WEAN</b>	110	396	233	16	232	80 C	176 F	1.5 C	35 F	5	73	0.75
1.1/4"	<b>P3TFA2AWFAN</b>	350	1260	742	16	232	80 C	176 F	1.5 C	35 F	6	87	0.88
1.1/2"	<b>P3TFA2BWGAN</b>	350	1260	742	16	232	80 C	176 F	1.5 C	35 F	7	100	1.00
2"	<b>P3TFA2CWHAN</b>	350	1260	742	16	232	80 C	176 F	1.5 C	35 F	8	116	1.06
2.1/2"	<b>P3TFA2DWKAN</b>	800	2880	1695	16	232	80 C	176 F	1.5 C	35 F	9	131	1.12
3"	<b>P3TFA2EWKAN</b>	800	2880	1695	16	232	80 C	176 F	1.5 C	35 F	10	145	1.17
											11	160	1.22
											12	174	1.27
											13	189	1.32
											14	203	1.37
											15	218	1.41
											16	232	1.46

**Filter selection example**

Selecting a Water Separator model to match a system flow rate and pressure.

**Example:** System flow 1050 m³/hr at a pressure of 8 bar g

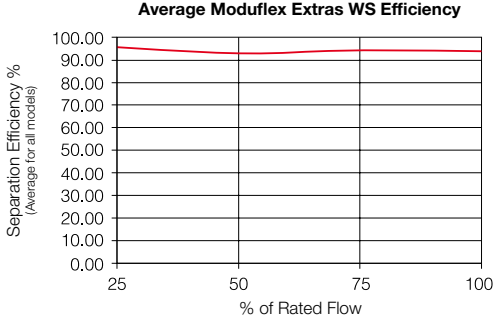
To find the correction factor for 8 bar g =

$$\sqrt{\frac{\text{System Operating Pressure}}{\text{Nominal Pressure}}} = \sqrt{\frac{8 \text{ bar g}}{7 \text{ bar g}}} = 1.06$$

1. Obtain pressure correction factor from table.  
Correction factor for 8 bar g = 1.06
2. Divide system flow by correction factor to give equivalent flow rate at 7 bar g  
1050m³/hr ÷ 1.06 = 984 m³/hr (at 7 bar g)
3. Select a filter model from the above table with a flow rate above or equal to 984 m³/hr. Suitable Water Separator models : P3TFA2AWFAN  
P3TFA2AWGAN  
P3TFA2AWHAN
4. Select pipe connection & Thread type  
System uses 1.1/2" piping and BSP threads: Model P3TFA2BWGAN

High Efficiency Bulk Liquid Removal

Separation Efficiency

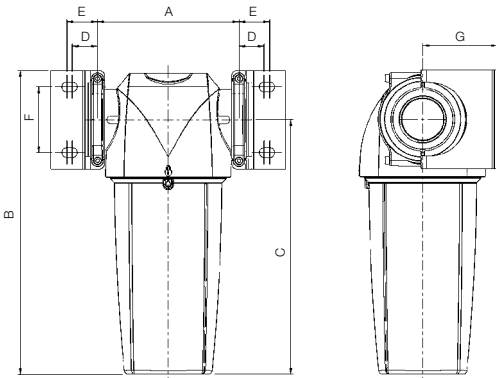


Tested with an inlet challenge concentration of 33ml/m3hr and in accordance with ISO 8573.9. Performance shown is an average for all models in range. Individual model performance available on request.

Weights and dimensions

Optional Accessories

Port Size BSPT	Part Number	A		B		C		D		E		F		G		Weight		Modular Connection Kit	Wall Mounting Bracket Kit
		mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	mm	ins	kg	lbs		
1/4"	P3TFA22WAAN	76.0	3.0	181.5	7.2	153.0	6.0	18.0	0.71	24.5	0.96	30.0	1.18	52.0	2.05	0.4	0.9	P3TKA00CBA	P3TKA00MWA
3/8"	P3TFA23WBAN	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	P3TKA00CBB	P3TKA00MWB
1/2"	P3TFA24WCAN	97.5	3.8	235.0	9.3	201.0	7.9	20.5	0.81	25.5	1.00	40.0	1.57	60.0	2.36	1.0	2.2	P3TKA00CBB	P3TKA00MWB
3/4"	P3TFA26WDAN	129.0	5.1	275.0	10.8	232.5	9.2	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.2	4.8	P3TKA00CBD	P3TKA00MWD
1"	P3TFA28WEAN	129.0	5.1	364.5	14.3	322.0	12.7	23.0	0.91	28.0	1.10	60.0	2.36	68.0	2.68	2.6	5.7	P3TKA00CBD	P3TKA00MWD
1.1/4"	P3TFA2BWFAN	170.0	6.7	432.5	17.0	382.5	15.1	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	4.5	9.9	P3TKA00CBF	P3TKA00MWF
1.1/2"	P3TFA2BWGAN	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	P3TKA00CBF	P3TKA00MWF
2"	P3TFA2CWHAN	170.0	6.7	524.5	20.6	474.5	18.7	32.0	1.26	39.0	1.54	84.0	3.31	92.0	3.62	5.3	11.6	P3TKA00CBF	P3TKA00MWF
2.1/2"	P3TFA2DWKAN	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	P3TKA00CBJ	P3TKA00MWJ
3"	P3TFA2EWKAN	205.0	8.1	832.0	32.8	772.0	30.4	35.5	1.40	42.5	1.67	100.0	3.94	135.0	5.31	12.0	26.4	P3TKA00CBJ	P3TKA00MWJ



Modular Connection Kit

Fixing clamp allows quick and simple connection of multiple filter housings.



Wall Mounting Bracket Kit

Mounting brackets provide additional support to filters installed in flexible piping systems or OEM equipment.

## Selection Criteria

To correctly select the dryer best suited for your application, the following details are required to ensure optimum performance and trouble free operation.

- **Maximum Inlet Flow.**
- **Minimum Inlet Pressure.**
- **Maximum Inlet Temperature.**

Once these operating parameters have been established, you can select the most economical Moduflex Dry Air System for your application.



## Technical Specifications

<b>Flow Range:</b>	85 L/min to 567 L/min at 7 bar
<b>Minimum Operating Pressure:</b>	4 bar
<b>Maximum Operating Pressure:</b>	12 bar
<b>Minimum Operating Temperature:</b>	1.5°C
<b>Maximum Inlet Temperature:</b>	50°C
<b>Noise Level (Average):</b>	≤ 70dB(A)
<b>Pressure Dewpoint</b>	<b>(Standard):</b> -40°C pdp
	<b>(Optional):</b> -70°C pdp
<b>Standard Electrical Supply:</b>	230/1ph/50Hz (Tolerance +/- 10%)
	115/1ph/60Hz (Tolerance +/- 10%)
<b>Controls:</b>	Electronic Control Timer
<b>Inlet Connections:</b>	G3/8
<b>Outlet Connections:</b>	G3/8

## Ordering Information

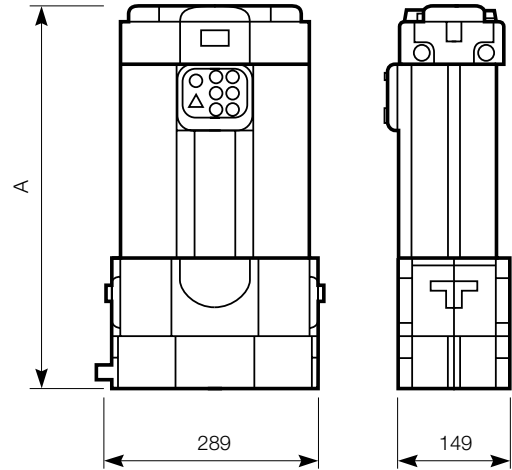
<b>P3</b>	<b>T</b>	<b>J</b>	<b>A</b>		<b>3</b>	<b>A</b>			<b>N</b>																														
				<table border="1"> <thead> <tr> <th colspan="2">Thread type</th> </tr> </thead> <tbody> <tr> <td><b>1</b></td> <td>BSPP</td> </tr> <tr> <td>9</td> <td>NPT</td> </tr> </tbody> </table>		Thread type		<b>1</b>	BSPP	9	NPT	<table border="1"> <thead> <tr> <th colspan="2">Size</th> </tr> </thead> <tbody> <tr> <td><b>1</b></td> <td></td> </tr> <tr> <td>2</td> <td></td> </tr> <tr> <td>3</td> <td></td> </tr> <tr> <td>4</td> <td></td> </tr> <tr> <td>5</td> <td></td> </tr> <tr> <td>6</td> <td></td> </tr> <tr> <td>7</td> <td></td> </tr> </tbody> </table>		Size		<b>1</b>		2		3		4		5		6		7		<table border="1"> <thead> <tr> <th colspan="2">Supply Voltage</th> </tr> </thead> <tbody> <tr> <td><b>A</b></td> <td>(230 V AC)</td> </tr> <tr> <td>C</td> <td>(24 V AC)</td> </tr> <tr> <td>J</td> <td>(110 V AC)</td> </tr> </tbody> </table>		Supply Voltage		<b>A</b>	(230 V AC)	C	(24 V AC)	J	(110 V AC)
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Standard nominal flow rate q<sub>N</sub> (NL/min) at pressure dew point -40°C

Model	Port Size	Max inlet temperature	Inlet Pressure (bar)								
			4	5	6	7	8	9	10	11	12
P3TJA13A1AN	3/8"	20°C	53	63	75	85	82	92	100	110	118
	3/8"	35°C	33	47	66	85	80	99	118	142	165
	3/8"	40°C	32	46	64	82	77	97	114	138	160
	3/8"	45°C	29	42	58	75	70	87	104	125	145
	3/8"	50°C	24	35	48	62	58	73	86	103	142
P3TJA13A2AN	3/8"	20°C	90	107	125	142	137	153	167	183	198
	3/8"	35°C	57	80	110	142	133	165	197	236	277
	3/8"	40°C	55	78	106	138	129	161	190	229	269
	3/8"	45°C	50	71	96	125	116	145	174	209	244
	3/8"	50°C	41	59	80	104	97	121	144	172	238
P3TJA13A3AN	3/8"	20°C	143	170	200	277	220	245	267	292	317
	3/8"	35°C	90	128	176	227	213	265	315	377	444
	3/8"	40°C	87	124	170	220	207	257	304	365	431
	3/8"	45°C	79	112	154	200	187	233	278	333	390
	3/8"	50°C	66	94	128	166	156	194	230	274	380
P3TJA13A4AN	3/8"	20°C	178	213	250	283	275	307	335	365	397
	3/8"	35°C	112	160	220	283	267	332	395	471	556
	3/8"	40°C	109	155	213	275	259	322	382	456	540
	3/8"	45°C	98	141	193	249	234	292	348	416	488
	3/8"	50°C	82	117	160	207	195	243	288	343	476
P3TJA13A5AN	3/8"	20°C	232	277	323	368	357	398	435	475	515
	3/8"	35°C	146	208	284	368	346	430	513	613	721
	3/8"	40°C	142	202	275	357	336	418	496	594	700
	3/8"	45°C	128	183	249	324	303	378	452	542	633
	3/8"	50°C	107	152	207	269	253	314	374	447	618
P3TJA13A6AN	3/8"	20°C	268	318	373	425	412	458	502	548	595
	3/8"	35°C	169	239	328	425	400	495	592	707	833
	3/8"	40°C	163	232	317	412	387	481	572	685	809
	3/8"	45°C	147	210	287	374	350	435	522	625	732
	3/8"	50°C	123	175	239	310	293	362	432	515	714
P3TJA13A7AN	3/8"	20°C	357	425	498	567	550	612	668	732	793
	3/8"	35°C	225	319	438	567	534	661	788	944	1110
	3/8"	40°C	218	310	423	550	517	643	762	915	1078
	3/8"	45°C	196	281	383	499	468	581	695	834	975
	3/8"	50°C	164	234	319	414	391	483	574	688	952

**Weights and Dimensions**

Model	Dimensions mm (ins) A	Weight kg (lbs)
<b>P3TJA13A1AN</b>	422 (16.6)	11 (24.2)
<b>P3TJA13A2AN</b>	500 (19.7)	13 (28.7)
<b>P3TJA13A3AN</b>	616 (24.2)	16 (35.3)
<b>P3TJA13A4AN</b>	692 (27.2)	18 (39.7)
<b>P3TJA13A5AN</b>	847 (33.3)	20 (44.1)
<b>P3TJA13A6AN</b>	906 (35.7)	23 (50.7)
<b>P3TJA13A7AN</b>	1098 (43.2)	28 (61.7)



**Service Kits**

Model	Service Kit
P3TJA13A1AN	<b>P3TKA00JA1</b>
P3TJA13A2AN	<b>P3TKA00JA2</b>
P3TJA13A3AN	<b>P3TKA00JA3</b>
P3TJA13A4AN	<b>P3TKA00JA4</b>
P3TJA13A5AN	<b>P3TKA00JA5</b>
P3TJA13A6AN	<b>P3TKA00JA6</b>
P3TJA13A7AN	<b>P3TKA00JA7</b>

**Mounting Kits**

Description	Kit
Fixed Wall Mounting Bracket	<b>P3TKA00MJ</b>
45° Tilt Wall Mounting Bracket	<b>P3TKA00MK</b>

- Very fast response times
- Accurate output pressure
- Micro parameter settings
- Selectable I/O parameters
- Quick, full flow exhaust
- LED display indicates output pressure
- No air consumption in steady state
- Multiple mounting options
- Protection to IP65
- P31P flows to 19 dm<sup>3</sup>/s (40 scfm)
- P32P flows to 57 dm<sup>3</sup>/s (120 scfm)



P31PA Series  
Bottom exhaust



P32PA Series  
Bottom exhaust

**Order Key**

<b>P 3</b>		<b>P A</b>					<b>2</b>				<b>1</b>	<b>A</b>
------------	--	------------	--	--	--	--	----------	--	--	--	----------	----------

**Port size**

Global Mini (1/4")	<b>1</b>
Global Compact (1/2")	<b>2</b>

**Thread type**

BSPP	<b>1</b>
NPT	<b>9</b>

**Port size**

Global Mini (1/4")	<b>2</b>
Global Compact (1/2")	<b>4</b>

**Version**

Bottom ported exhaust NC	<b>A</b>
Bottom ported forced exhaust (NO) *	<b>E</b>

**Pressure Range**

0 - 2 bar	<b>Z</b>
0 - 7 bar	<b>S</b>
0 - 10 bar	<b>D</b>

**Power supply**

24 volts	<b>2</b>
----------	----------

**Control Signal**

0-10 V	<b>V</b>
4-20 mA	<b>A</b>

**Output Signal**

Digital, PNP	1)	<b>D</b>
PNP or 0-10V	2)	<b>P</b>
NPN or 0-10V	3)	<b>N</b>
4-20mA fixed	4)	<b>M</b>

**Input connector**

M12 (4 pin)	<b>1</b>
-------------	----------

\* When the supply voltage is lost the unit will automatically exhaust the regulated pressure to 0 bar (atmospheric pressure)

- 1) Digital PNP output only, no analogue output selectable
- 2) Digital PNP and analogue 0-10V outputs selectable, by means of parameter 6. (Factory default 0-10V)
- 3) Digital NPN and analogue 0-10 V outputs selectable by means of parameter 6. (Factory default 0-10V)
- 4) Analogue 4-20mA output only.

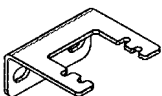
**Note:** On all analogue outputs the F.S. value can be adjusted by means of parameter 8

**P31P Mounting brackets**

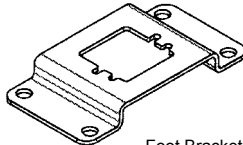
Order Code	Description
<b>P3HKA00ML</b>	L-Bracket mounting kit
<b>P3HKA00MC</b>	Foot bracket mounting kit

**P32P Mounting brackets**

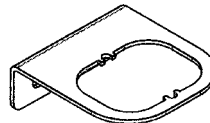
Order Code	Description
<b>P3KKA00ML</b>	L-Bracket mounting kit
<b>P3KKA00MC</b>	Foot bracket mounting kit



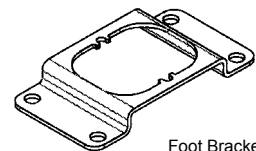
L-Bracket



Foot Bracket



L-Bracket



Foot Bracket

**Cables**

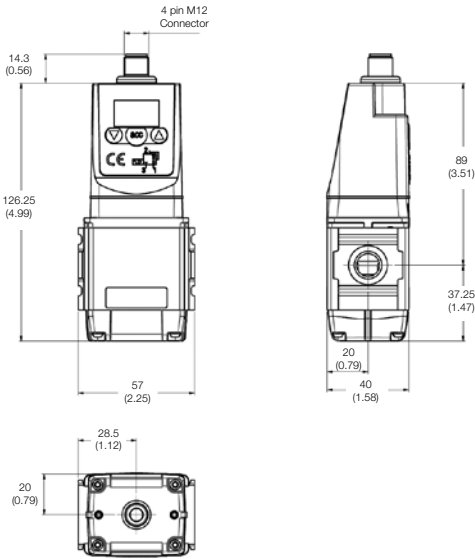
Order Code	Description
<b>P8L-MC04A2A-M12</b>	2 mtr. cable with moulded straight M12x1 connector
<b>P8L-MC04R2A-M12</b>	2 mtr. cable with moulded 90 degree M12x1 connector.

**Note:**

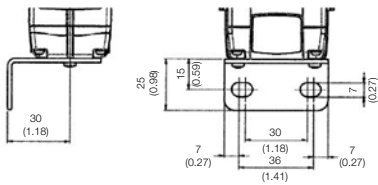
These brackets fit both Proportional Regulators and Combined Soft Start & Dump Valves.  
Dimensions see page: 61



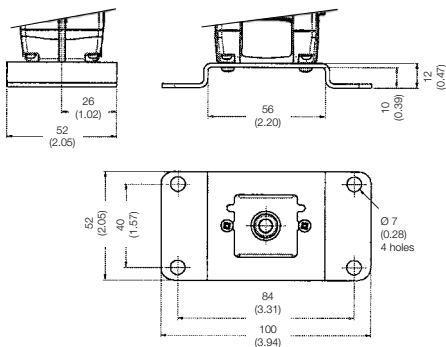
**P31P**



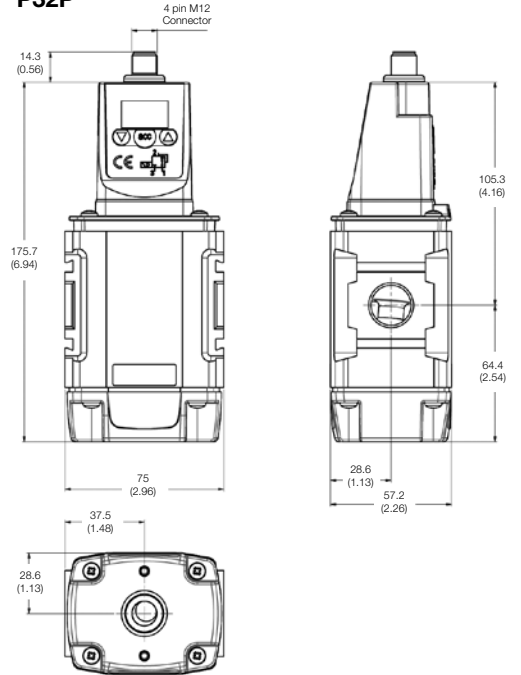
**L-Bracket**



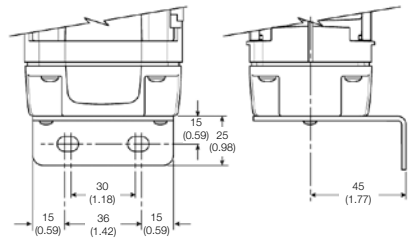
**Foot Bracket**



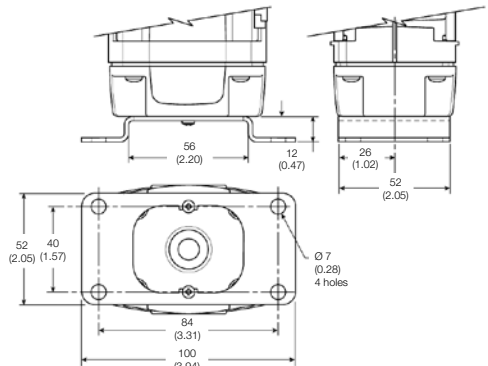
**P32P**



**L-Bracket**



**Foot Bracket**



Dimensions are in mm (Inches)

## Lucifer® EPP4 Basic and Comfort 1/4" and 1/2" Technical Data

Fluids:	Lubricated or non lubricated air and neutral gases Recommended filtration: 50 µm
Temperature range:	Ambient: 0 to +50 °C Fluid: 0 to +50 °C
Inlet pressure range:	1 to 12 bar (the inlet pressure must always be at least 1 bar above the regulated pressure)
Outlet pressure range:	0.05 to 10 bar
Hysteresis:	± 50 mbar (factory set up)
Air consumption at constant control signal:	0
Supply voltage:	24 V DC ± 15 % (Max. ripple 1 V)
Power consumption:	Max. 2.8 W with 24 V DC and constant changes of the control signal < 1.5 W without change of control signal
Control signal:	Analog 0 - 10 V; standard for 0 - 10 bar; adjustable for Comfort versions Analog 4 - 20 mA; standard for 0 - 10 bar; adjustable for Comfort versions
Outlet sensor signal: (Comfort versions only)	Analog 0 - 10 V ; standard for 0 - 10 bar; adjustable Analog 4 - 20 mA ; standard for 0 - 10 bar; adjustable Digital 0/24 V for alarm features: <ul style="list-style-type: none"> <li>■ Adjustable pressure error (+/-)</li> <li>■ Adjustable delay ON</li> <li>■ Adjustable delay OFF</li> <li>■ Adjustable logic (+/-)</li> </ul>
Max. flow:	G1/4: 70 m³/h G1/2: 150 m³/h
Indicative response time: Filling 2 to 4 bar: Filling 2 to 8 bar: Emptying 4 to 2 bar: Emptying 8 to 2 bar:	With a volume of 330 cm³ at the outlet of the regulator G1/4 ~ 50 msec G1/2 ~ 60 msec G1/4 ~ 100 msec G1/2 ~ 120 msec G1/4 ~ 70 msec G1/2 ~ 90 msec G1/4 ~ 130 msec G1/2 ~ 190 msec
Safety position:	In case of control signal failure or if it is less than 50mV, the regulated pressure drops automatically to 0 bar (atmospheric pressure). In case of voltage supply failure, the regulated pressure will be kept constant.
Electrical connection:	Basic: M12 - 4 pin; male connector power supply/control signal Comfort: M12 - 8 pin; male connector power supply/control signal M12 - 5 pin; male connector communication
Life expectancy:	> 50 Mio changes of control signal steps
Mounting position:	Indifferent (recommended position: upright; electronic part on top)
Resistance to vibrations:	30 g in all directions
Protection index:	IP 65
Assembly:	Silicone free
Electromagnetic compatibility:	In accordance with EN 61000-6-1: 2001 EN 61000-6-2: 2001 EN 61000-6-3: 2001 + A11 2004 edition (01/07/07) EN 61000-6-4: 2001

Note: Parker reserves the right to change specifications without notification.

## Lucifer® EPP4 Comfort 1/2" High Pressure, 1" and 2" Technical Data

Fluids:	Lubricated or non lubricated air and neutral gases Recommended filtration: 50 µm		
Temperature range:	Ambient: 0 to +50 °C Fluid: 0 to +50 °C		
Inlet pressure range:	1 to 12 bar - 1 to 14 bar - 1 to 21 bar (the inlet pressure must always be at least 1 bar above the regulated pressure)		
Outlet pressure range:	0.05 to 10 bar, 0.1 to 1 bar, 0.1 to 20 bar		
Hysteresis:	≤ 100 mbar if P inlet ≤ 10 bar ≤ 200 mbar if P inlet > 10 bar		
Air consumption at constant control signal:	None		
Supply voltage:	24 V DC ± 15 % (Max. ripple 1 V)		
Power consumption:	Max. 6 W with 24 V DC and constant changes of the control signal < 2 W without change of control signal		
Control signal:	Analog 0 - 10 V; standard for 0 - 10 bar; adjustable Analog 4 - 20 mA; standard for 0 - 10 bar; adjustable		
Outlet sensor signal:	Analog 0 - 10 V; standard for 0 - 10 bar; adjustable Analog 4 - 20 mA; standard for 0 - 10 bar; adjustable Digital 0/24 V for alarm features: <ul style="list-style-type: none"> <li>■ Adjustable pressure error (+/-)</li> <li>■ Adjustable delay ON</li> <li>■ Adjustable delay OFF</li> <li>■ Adjustable logic (+/-)</li> </ul>		
Max. flow:	G1/2": 150 m³/h - G1": 1 000 m³/h - G2">2 700 m³/h		
Indicative response time:	With a volume of 330 cm³ at the outlet of the regulator		
Filling 2 to 8 bar:	~120 msec	~250 msec	~250 msec
Emptying 8 to 2 bar:	~190 msec	~400 msec	~400 msec
Safety position:	In case of control signal failure or if it is less than 50mV, the regulated pressure drops automatically to 0 bar atmospheric pressure (for pressure ranges from 0-10bar, 100mV for pressure range over 10 bar). In case of voltage supply failure, the regulated pressure will be kept constant.		
Electrical connection:	M12 - 8 pin; male connector power supply/control signal M12 - 5 pin; male connector communication		
Life expectancy:	> 20 Mio changes of control signal steps		
Mounting position:	Indifferent (recommended position: upright; electronic part on top)		
Resistance to vibrations:	30 g in all directions		
Protection index:	IP 65		
Assembly:	Silicone free		
Electromagnetic compatibility:	In accordance with	EN 61000-6-1: 2001 EN 61000-6-2: 2001 EN 61000-6-3: 2001 + A11 2004 edition (01/07/07) EN 61000-6-4: 2001	

Note: Parker reserves the right to change specifications without notification.

## EPP4 Pressure Regulator Basic

### G 1/4" and G 1/2"

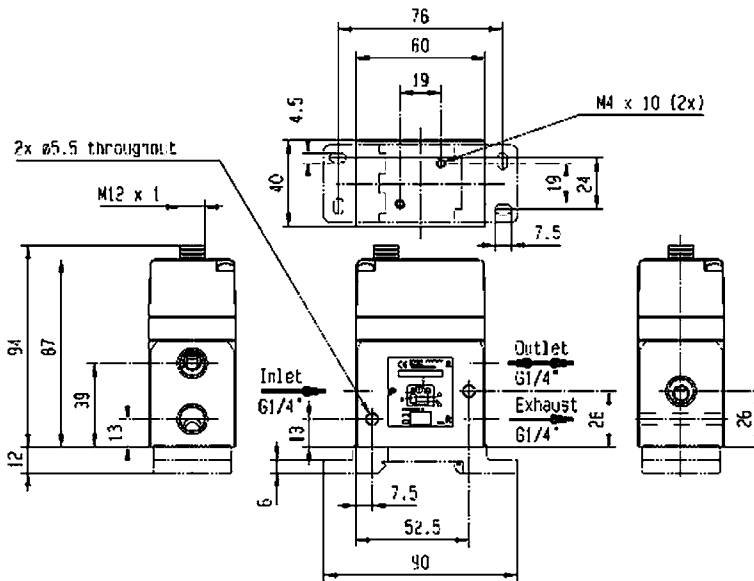
Reference	Pipe	Pressure range (bar)	Control signal (see options)
P4BG2001A002	G 1/4	0 - 10 V	0 - 10 bar
P4BG2001A003	G 1/4	4 - 20 mA	0 - 10 bar
P4BG2001A004	G 1/4	0 - 10 V	0 - 6 bar
P4BG2001A005	G 1/4	4 - 20 MA	0 - 6 bar
P4BG2001A006	G 1/4	0 - 10 V	0 - 5 bar
P4BG2001A007	G 1/4	4 - 20 MA	0 - 5 bar
P4BG2001A008	G 1/4	0 - 10 V	0 - 7 bar
P4BG2001A009	G 1/4	4 - 20 MA	0 - 7 bar
P4BG4001A002	G 1/2	0 - 10V	0 - 10 BAR
P4BG4001A003	G 1/2	4 - 20MA	0 - 10 BAR
P4BG4001A004	G 1/2	0 - 10V	0 - 6 BAR
P4BG4001A005	G 1/2	4 - 20MA	0 - 6 BAR
P4BG4001A008	G 1/2	0 - 10V	0 - 7 BAR
P4BG4001A009	G 1/2	4 - 20MA	0 - 7 BAR

Ask your agent for any specific calibration.  
 Ask your agent for the NPT version.  
 Cable + connector not included.

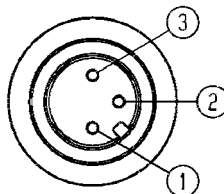
# EPP4 Pressure Regulator Basic G 1/4"



## Dimensions

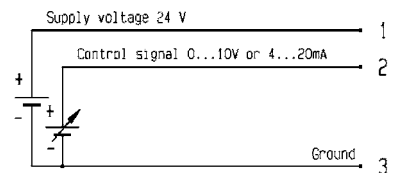


The male connector adopted on the EPP4 is a standard 4 pole M12, without the pin number 4:



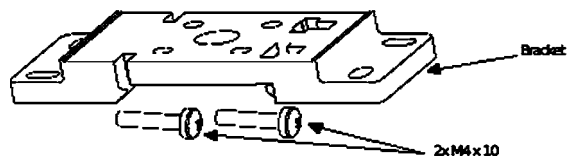
The female connector to mount is the 4 pole M12 connector (IEC 61076-2-101 model LF) where the pin number 4 is not connected.

## ELECTRICAL CONNECTION



## Accessories

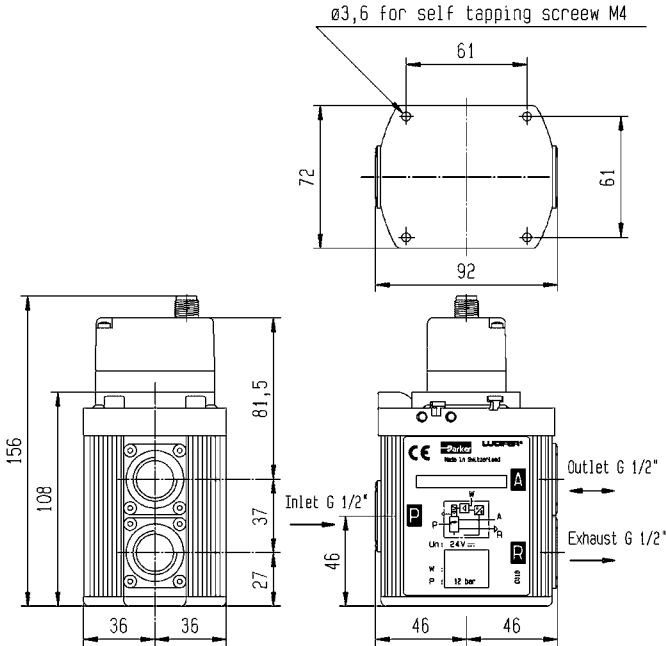
Mounting bracket  
(automatically supplied with each EPP4)



# EPP4 Pressure Regulator Basic G 1/2"



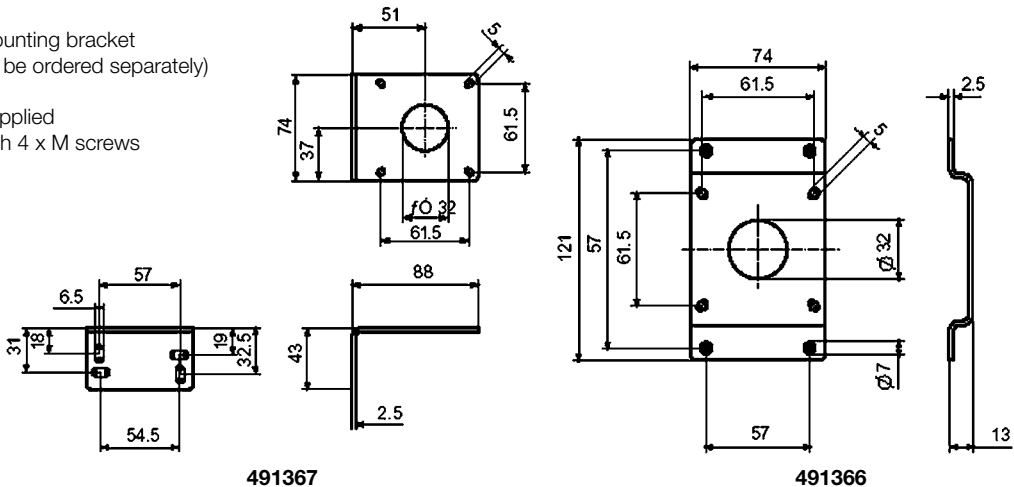
## Dimensions



## Accessories

Mounting bracket  
(to be ordered separately)

Supplied  
with 4 x M screws



## Lucifer® EPP4 Comfort Options

### Calys Software

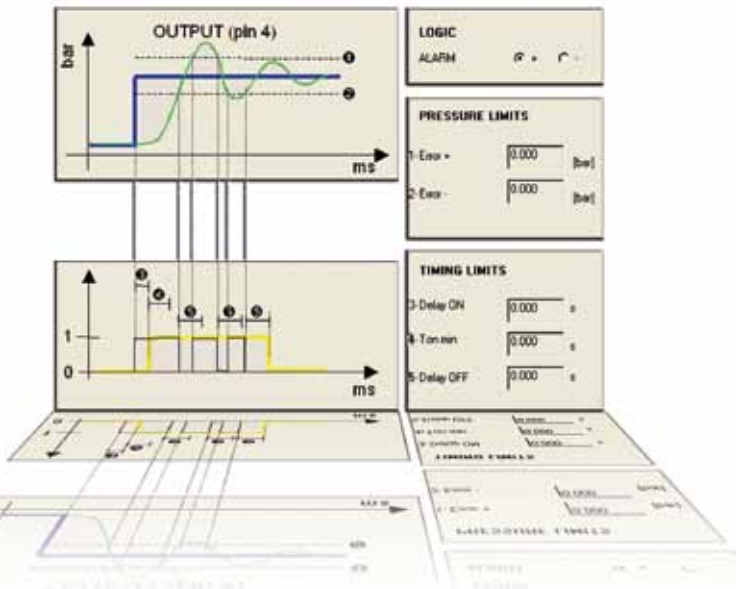
Calys is a software to set all relevant parameters of the Lucifer® EPP4 Comfort.

The cable 496449 (option) is needed to let the EPP4 communicate with any configured PC, this software supplied free of charge with each cable unit.



Calys offers the following features:

- Live monitoring (control signal, regulated pressure, supply voltage,...)
- Recording of the main parameters (control signal, regulated pressure, supply voltage,...) in an Excel file
- Free calibration for the inputs and outputs
- Adjustable alarm (positive-negative, pressure limits, delays)
- Configuration files easy to duplicate
- Complete and interactive help file
- Data in 4 different pressure units
- Menus in 4 languages (English, German, French and Italian)
- Cable 496449 with RS-232 and USB connection



### Power Supply / Control Signal Cable

- 2 m cable with moulded M12-8 pins connector

**Order the PC software  
(including cable) under  
reference 496449**

**Order the power supply /  
control signal cable under  
reference 496796**

## Lucifer® EPP4 Comfort 1/4" and 1/2"

### References

Codes	Pipe	Pressure range (bar)		Control signal (see options)	Display
P4CG2001C001	G 1/4	0	10	0-10 V	-
P4CG2001C002	G 1/4	0	10	4-20 mA	-
P4CG2001C005	G 1/4	0	7	0-10 V	-
P4CG2001C006	G 1/4	0	7	4-20 mA	-
P4CG2002C001	G 1/4	0	10	0-10 V	included
P4CG2002C002	G 1/4	0	10	4-20 mA	included
P4CG2002C007	G 1/4	0	7	0-10 V	included
P4CG2002C008	G 1/4	0	7	4-20 mA	included
P4CN2001C001	1/4 NPT	0	10	0-10 V	-
P4CN2001C002	1/4 NPT	0	10	4-20 mA	-
P4CN2002C001	1/4 NPT	0	10	0-10 V	included
P4CN2002C002	1/4 NPT	0	10	4-20 mA	included
<hr/>					
P4CG4001C001	G 1/2	0	10	0-10 V	-
P4CG4001C002	G 1/2	0	10	4-20 mA	-
P4CG4001C005	G 1/2	0	7	0-10 V	-
P4CG4001C006	G 1/2	0	7	4-20 mA	-
P4CG4002C001	G 1/2	0	10	0-10 V	included
P4CG4002C002	G 1/2	0	10	4-20 mA	included
P4CG4002C005	G 1/2	0	7	0-10 V	included
P4CG4002C006	G 1/2	0	7	4-20 mA	included
P4CN4001C001	1/2 NPT	0	10	0-10 V	-
P4CN4001C002	1/2 NPT	0	10	4-20 mA	-
P4CN4002C001	1/2 NPT	0	10	0-10 V	included
P4CN4002C002	1/2 NPT	0	10	4-20 mA	included

Other specific settings or specialties (external pressure supply, integrated exhaust of the pilot valves, etc...) are available, please contact us.

If you need more informations on the rest of the Lucifer® EPP4 range, please consult:

- 8683UK -> EPP4 Basic 1/4"
- 8684UK -> EPP4 Basic 1/2"
- 2202UK -> EPP4 Comfort 1/2"HP, 1" & 2"



## Lucifer® EPP4 Comfort 1/2" HP, 1" and 2"

### References

Codes	Pipe	Max inlet pressure (bar)	Pressure range (bar)		Control signal (see options)	Dimensional Drawing
P4CG4101D001	G1/2	15	0	12	0-10V	1
P4CG4201D005	G1/2	21	0	16	0-10V	2
P4CG4201D003	G1/2	21	0	20	0-10V	2
P4CG4201D004	G1/2	21	0	20	4-20mA	2
P4CG6101C009	G1	12	0	3.5	4-20mA	3
P4CG6101C011	G1	12	0	5	0-10V	3
P4CG6101C010	G1	12	0	6	4-20mA	3
P4CG6101C001	G1	12	0	10	0-10V	3
P4CG6101C002	G1	12	0	10	4-20mA	3
P4CG6201D003	G1	21	0	20	0-10V	3
P4CG9101C012	G2	12	0	4	4-20mA	4
P4CG9101C010	G2	12	0	6	4-20mA	4
P4CG9101C001	G2	12	0	10	0-10V	4
P4CG9101C002	G2	12	0	10	4-20mA	4

Other specific settings or specialties (external pressure supply, integrated exhaust of the pilot valves, etc...) are available, please contact us.



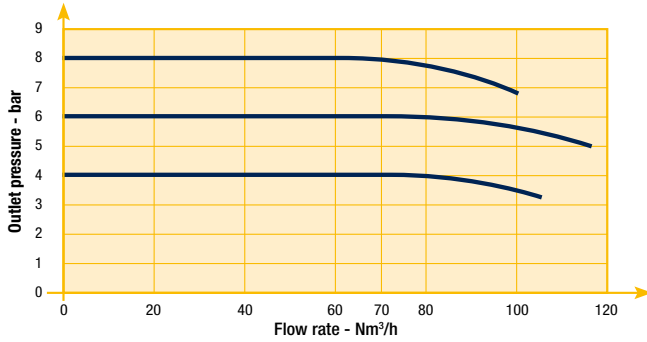
If you need more informations on the rest of the Lucifer® EPP4 range, please consult:

- 8683UK -> EPP4 Basic 1/4"
- 8684UK -> EPP4 Basic 1/2"
- 2201UK -> EPP4 Comfort 1/4" & 1/2"

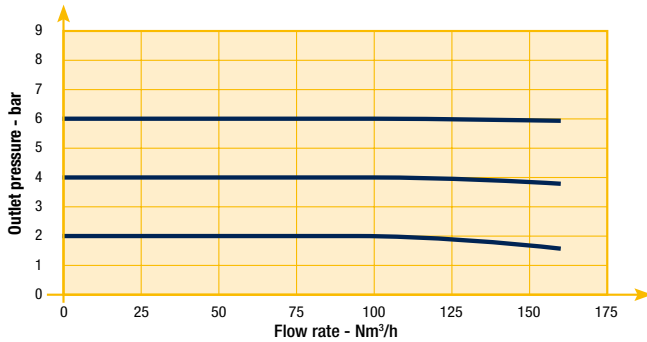
## Lucifer® EPP4 Basic and Comfort 1/4" and 1/2"

### Technical Characteristics

#### Flow Curve 1/4"



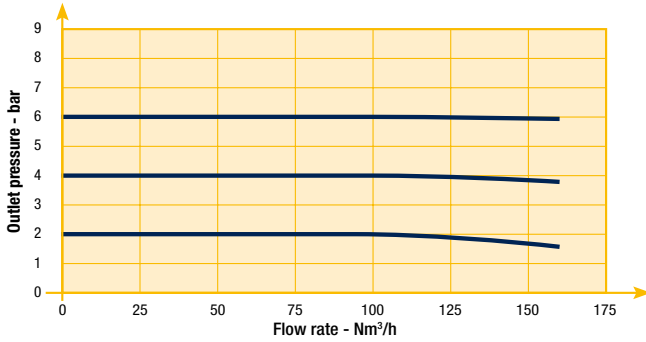
#### Flow Curve 1/2"



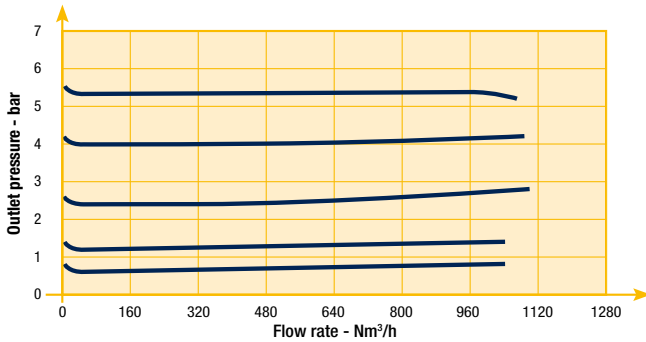
# Lucifer® EPP4 Comfort 1/2" HP, 1" and 2"

## Technical Characteristics

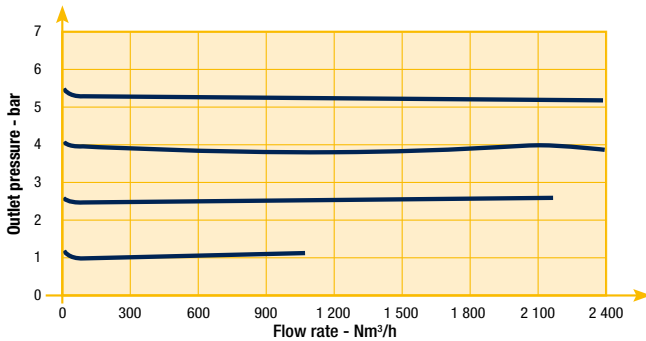
### Flow Curve 1/2"



### Flow Curve 1"



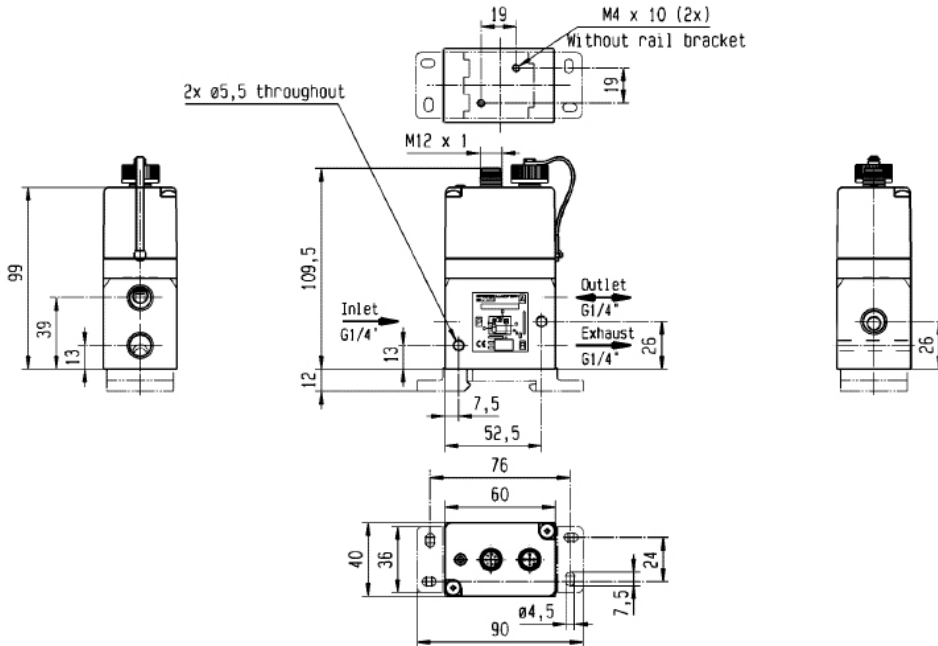
### Flow Curve 2"



Lucifer® EPP4 Comfort Range 1/4"

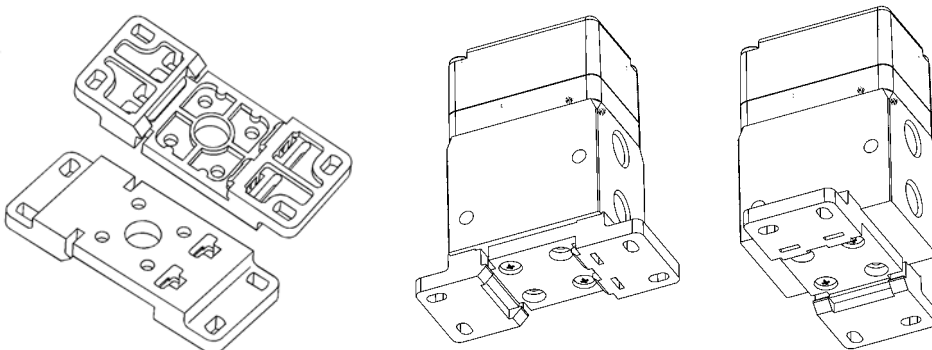


Dimensions



Accessories

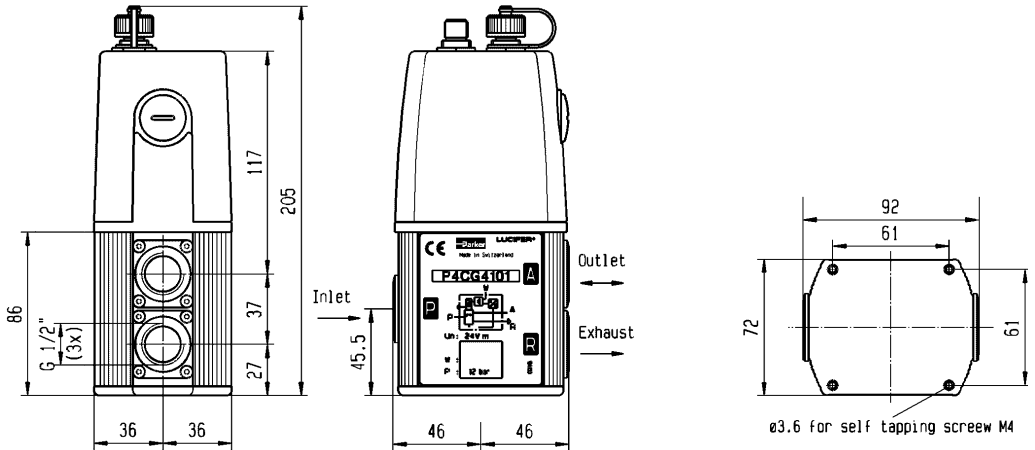
Mounting bracket  
(supplied as a standard with each Lucifer® EPP4 1/4")



**Lucifer® EPP4 Comfort Range 1/2"**

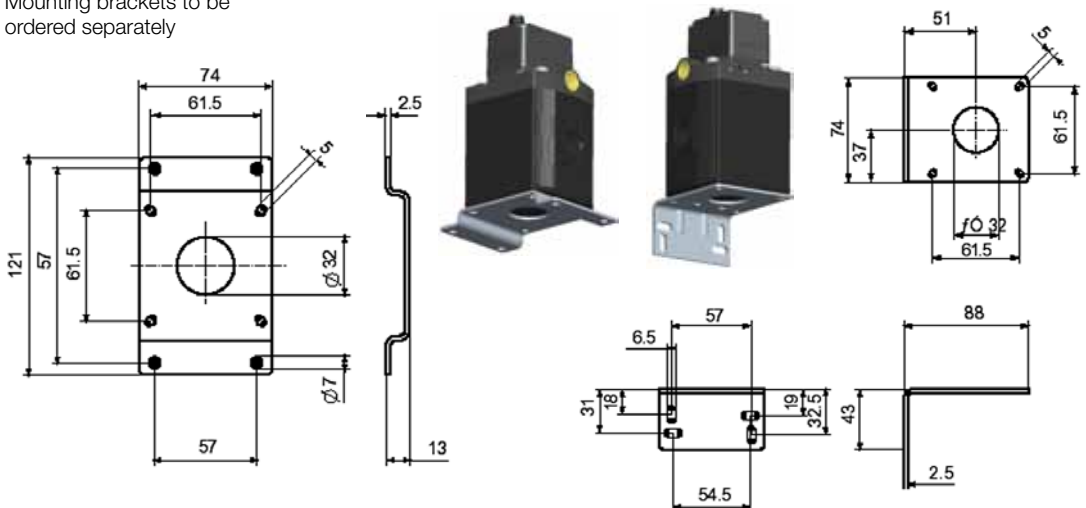


**Dimensions**



**Accessories**

Mounting brackets to be ordered separately



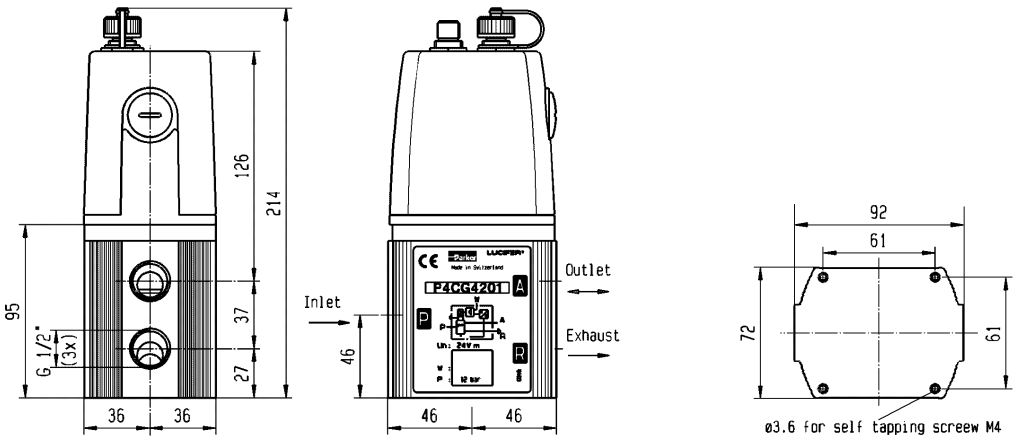
**Order reference 491366**

**Order reference 491367**

**Lucifer® EPP4 Comfort Range 1/2"**  
**High Pressure 20 bar**

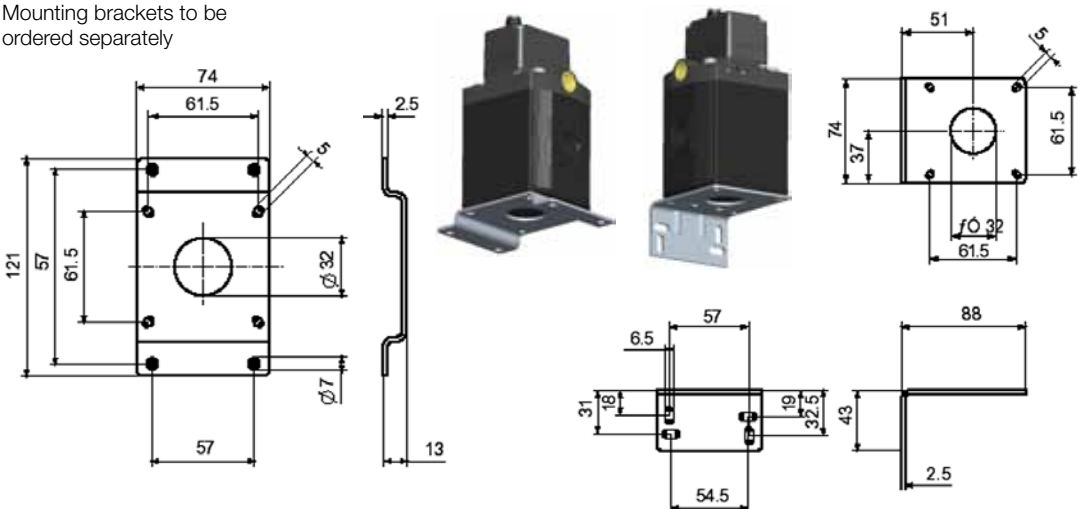


**Dimensions**



**Accessories**

Mounting brackets to be ordered separately



Order reference 491366

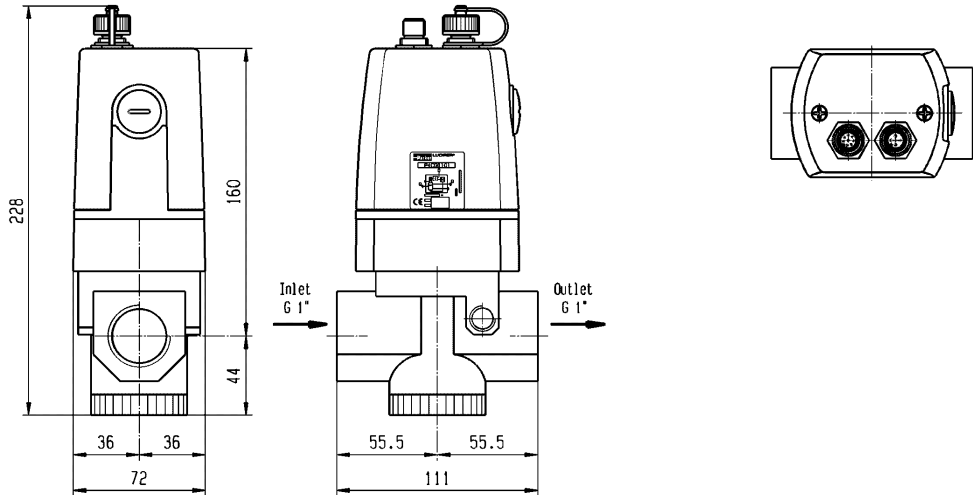
Order reference 491367



## Lucifer® EPP4 Comfort Range 1"



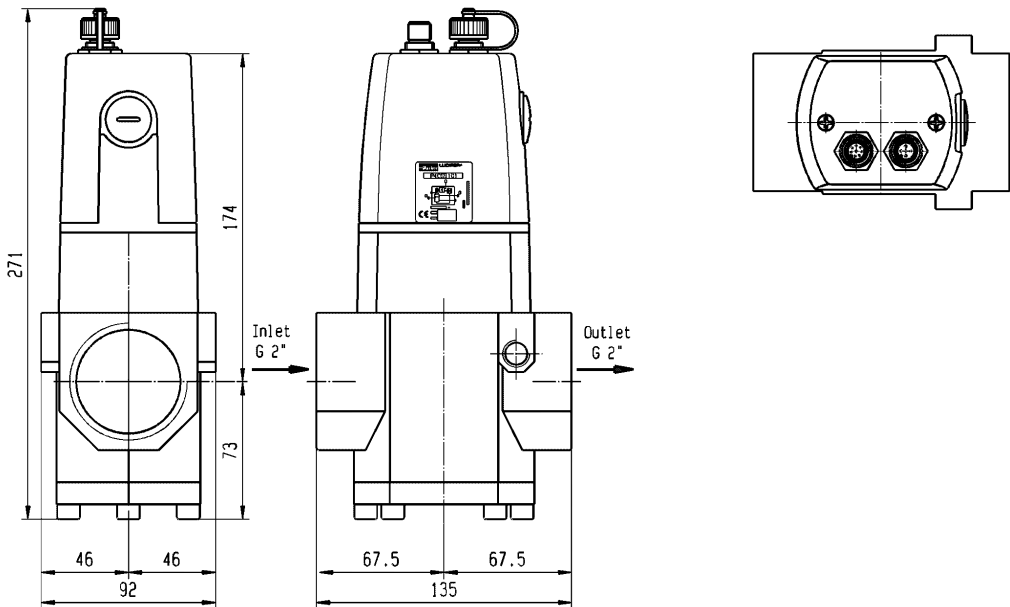
### Dimensions



## Lucifer® EPP4 Comfort Range 2"



### Dimensions



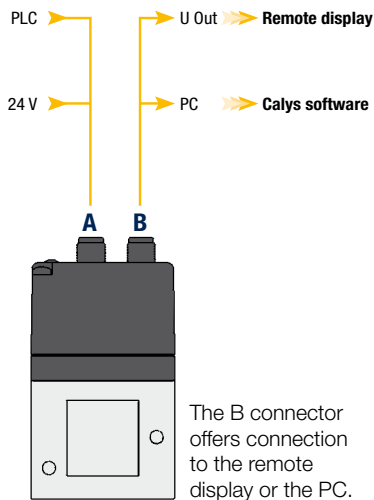


## Lucifer® EPP4 Comfort Options

### Additional Features

The EPP4 Comfort offers two main options - a remote display and a software to easily set the regulator's parameters.

These are the key feature options for a comfortable use.



- A remote display connected to the pressure regulator offers flexible monitoring.
- A panel mounting kit is available to install the remote display.
- Calys is an easy-to-use software package designed to allow the user to match his regulators performance directly to his specific application.
- A power supply and control signal cable.

## Lucifer® EPP4 Comfort Options

### Remote Display

This option includes the Remote Display and 1.5 meter connecting cable.

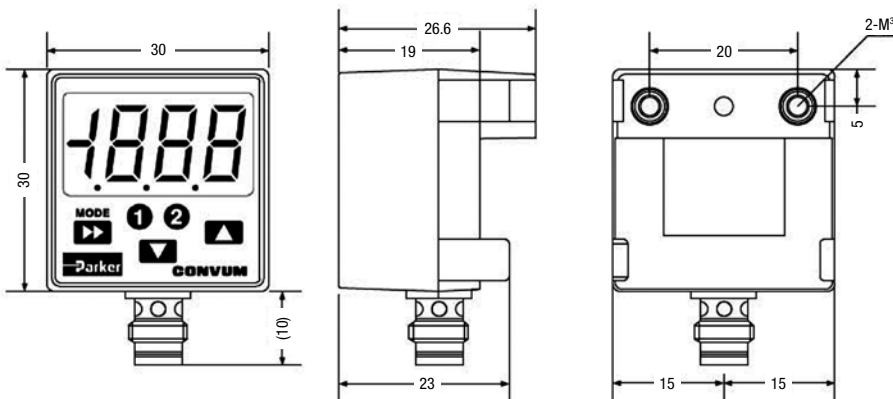
Compact and highly readable remote LED display:

- Bar and PSI scales
- Security lock
- 1.5 m cable
- Mounting brackets



**Order the Remote Display under reference 496490**

### Panel Mounting Kit



**Order the Panel Mounting Kit under reference 496610**


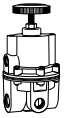
Highly accurate units, suitable for applications such as instrumentation where precision regulation is required.

- High repeatability
- High relief capacity on R220 model
- High flow capacity on R230 model



#### Operating information

Max operating pressure	10 bar
Max operating temperature	66°C
Repeatability:	R210 model 0.3 mbar
	R220 model 0.3 mbar
	R230 model 0.6 mbar
For technical information see CD	

	Port size	Reduced Pressure range	Flow l/min	Relief capacity l/min	Order code
	G1/4	0.13 - 2.7	396	57	<b>R210G02A</b>
	G1/4	0.13 - 8.1	396	57	<b>R210G02C</b>
	G1/4	0.13 - 8.1	396	282	<b>R220G02C</b>
	G1/4	0 - 0.13	2280	114	<b>R230G02E</b>
	G1/4	0 - 2	2280	114	<b>R230G02B</b>
	G1/4	0.13 - 4	2280	114	<b>R230G02C</b>
	G1/4	0.13 - 10	2280	114	<b>R230G02D</b>

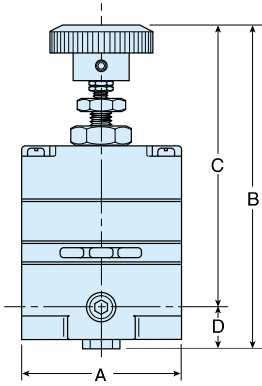
#### Mounting brackets

Series	Order code
R210 / R220	<b>446-707-045</b>
R230	<b>446-707-025</b>

 Indicates stocked product.

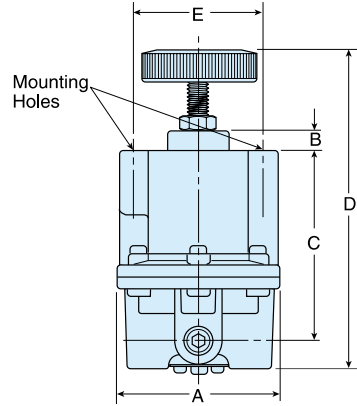
Dimensions (mm)

R210 / 220 High Precision Regulator



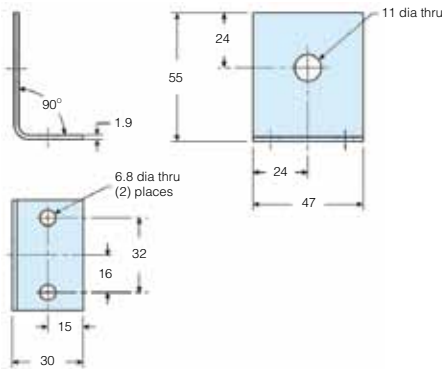
A	C	D	E
52mm	110mm	97mm	13.5mm

R230 High Flow Precision Regulator

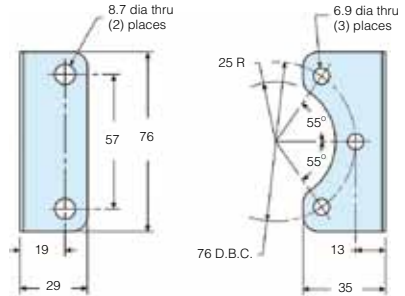


A	B	C	D	E
76mm	10mm	86mm	154mm	57mm

Mounting bracket - 446-707-045



Mounting bracket - 446-707-025



- Compact body ported units
- Port sizes G1/8 and G1/4
- Unique deflector plate ensuring maximum water and particulate removal
- Solid control piston with lip seal for extended life.
- Proportional oil delivery over a wide range of air flows.



### Operating information

Working pressure:	Max 10 bar
Working temperature:	0 °C to +52 °C

### Flow characteristics

<b>Flow</b>	Filter	11 l/s
	Regulator	9,3 l/s
	Filter Regulator	9,3 l/s
	Lubricator	10 l/s

For technical information see CD

### Filters - 5 micron element, transparent bowl

Port size	Description	Order Code
G1/8	Manual drain	<b>14F01BB1</b>
G1/8	Auto drain	<b>14F05BB1</b>
G1/4	Manual drain	<b>14F11BB1</b>
G1/4	Auto drain	<b>14F15BB1</b>
	Mounting bracket	<b>PS417BP</b>

### Coalescing Filters - 0.01 micron element

Port size	Description	Order Code
<b>Poly bowl</b>		
G1/8	Manual drain	<b>10F01ED1</b>
G1/8	Auto drain	<b>10F05ED1</b>
G1/4	Manual drain	<b>10F11ED1</b>
G1/4	Auto drain	<b>10F15ED1</b>
	Mounting bracket	<b>PS417BP</b>

### Regulators - relieving type - non relieving options available

Port size	Description	Order Code
G1/8	2 bar	<b>14R010FC1</b>
G1/8	4 bar	<b>14R011FC1</b>
G1/8	8 bar	<b>14R013FC1</b>
G1/4	2 bar	<b>14R110FC1</b>
G1/4	4 bar	<b>14R111FC1</b>
G1/4	8 bar	<b>14R113FC1</b>
	Mounting bracket (Includes panel mounting nut)	<b>PS417BP</b>

### Filter/Regulators

- transparent bowl - 2 and 4 bar and non relieving options available

Port size	Description	Order Code
G1/8	2 bar, manual drain	<b>14E01B10FC1</b>
G1/8	2 bar, auto drain	<b>14E05B10FC1</b>
G1/4	2 bar, manual drain	<b>14E11B10FC1</b>
G1/4	2 bar, auto drain	<b>14E15B10FC1</b>
G1/8	4 bar, manual drain	<b>14E01B11FC1</b>
G1/8	4 bar, auto drain	<b>14E05B11FC1</b>
G1/4	4 bar, manual drain	<b>14E11B11FC1</b>
G1/4	4 bar, auto drain	<b>14E15B11FC1</b>
G1/8	8 bar, manual drain	<b>14E01B13FC1</b>
G1/8	8 bar, auto drain	<b>14E05B13FC1</b>
G1/4	8 bar, manual drain	<b>14E11B13FC1</b>
G1/4	8 bar, auto drain	<b>14E15B13FC1</b>
	Mounting bracket (Includes panel mounting nut)	<b>PS417BP</b>

### Lubricators - transparent bowl

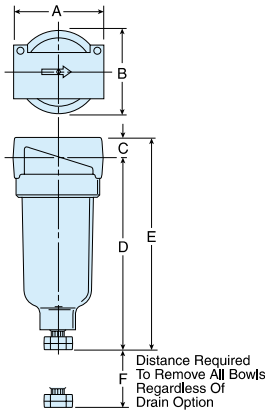
Port size	Order Code
G1/8	<b>04L00GB1</b>
G1/4	<b>04L10GB1</b>
	Mounting bracket
	<b>PS419</b>

### Pressure Gauges

	Order Code
0 - 2 bar	<b>P3D-KAB1AYN</b>
0 - 4 bar	<b>P3D-KAB1ALN</b>
0 - 8 bar	<b>P3D-KAB1ANN</b>

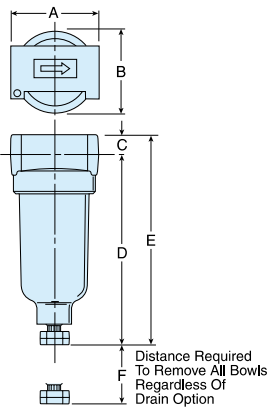
Dimensions (mm)

Filters



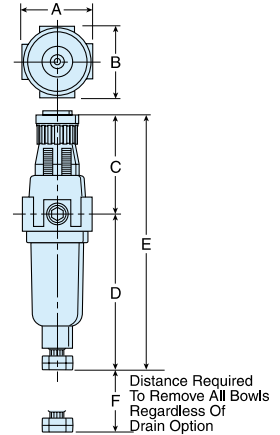
A	B	C	D	D'	E	E'	F
43	39	10	97	99	107	108	41

Coalescing Filters



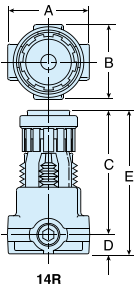
A	B	C	D	D'	E	E'	F
43	39,6	10	97	93	107	103	41

Filter/Regulators



A	B	C	D	D'	E	E'	F
41	40	61	96	92	158	154	41

Regulators



14R	A	B	C	D	E
	42	40	63,5	10	731

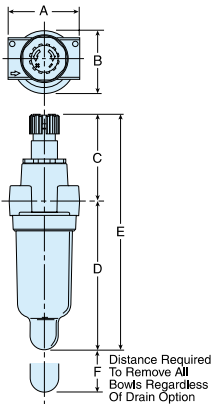
  

14R**L*	A	B	C	D	E
	42	40	57,9	10	68

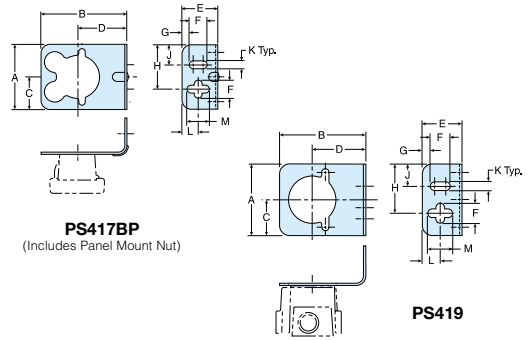
14RM	A	B	C	D	E	F	G	H	J
	38	38	60	13	73	30	15	8	18

Lubricators



A	B	C	D	D'	E	E'	F
44	40	55	92	96	147	151	41

Mounting Bracket Kits



PS417BP - 10F, 14F, 14R, 14E

A	B	C	D	E	F	G	H	J	K	L	M
46	60	23	34	25	13	5	31	14	6	11	16

PS419 - 04L

A	B	C	D	E	F	G	H	J	K	L	M
46	55	23	34	25	13	5	31	14	6	11	16

Service kits

Description	Order Code
5 micron particulate element	PS403P
0.01 micron coalescing element	PS446P
Poly bowl with manual drain	PS404P
Poly bowl with pulse drain	PS408BP
Lubricator bowl	PS421P
<b>Regulator</b>	
Relieving type	PS422P
Non-relieving type	PS428P

The range of Stainless Steel FRLs are ideal for use in the food industry, the petrochemical or process industries or any application in a particularly harsh or aggressive environment.



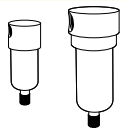
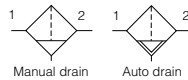
- Suitable for Marine & Offshore applications
- Chemical / Petroleum and process industries
- Coalescing filters are designed for removing oil and water aerosols down to 0.01µ
- Suitable for food industry applications

**Operating information**

Max operating pressure	20 bar
	12 bar when fitted with auto-drain
Max operating temperature	Regulator 65°C
	Filter + Regulator 80°C,
	50°C when fitted with auto-drain

For technical information see CD

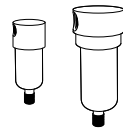
**Particulate Filter**



Port size	Flow l/min @ 7 bar	Filter element	Order code with manual drain	Order code with auto drain
G1/4	660	20µ	<b>PF504G02DHSS</b>	
G1/2	1800	40µ	<b>PF10G04DJSS</b>	<b>PF10G04DJRSS</b>

\* For 5µ filter element substitute **H** or **J** with **G**

**Coalescing Filter**



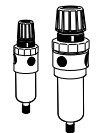
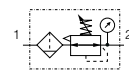
Port size	Flow l/min @ 7 bar	Filter element	Order code with manual drain	Order code with auto drain
G1/4	240	0.3µ	<b>PF501G02DHSS</b>	
G1/2	480	0.01µ	<b>PF11G04DJSS</b>	<b>PF11G04DJRSS</b>

**Regulator**



Port size	Flow l/min @ 7 bar	Order code fitted with 0-8.5 bar spring
G1/4	450	<b>PR364G02CSS</b>
All metal version		<b>PR354G02CSS</b>
1/2	2820	<b>PR10G04CSS</b>
All metal version		<b>PR11G04CSS</b>

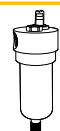
**Filter/Regulator**



Port size	Flow l/min @ 7 bar	Order code fitted with 0-8.5 bar spring
G1/4	450	<b>PB548G02DHCSS</b>
All metal version		<b>PB558G02DHCSS</b>
1/2	1800	<b>PB11G04DJCSS</b>
All metal version		<b>PB12G04DJCSS</b>

Panel mounting nut for G1/4: **PR05X51SS**  
G1/2: **PR10X51SS**

**Lubricator**



Port size	Flow l/min @ 7 bar	Order code
G1/2	3000	<b>PL10G04DSS</b>

**Connectors**



Port size	Order code
G1/4	<b>AC-2SS</b>
G1/2	<b>AC-4SS</b>

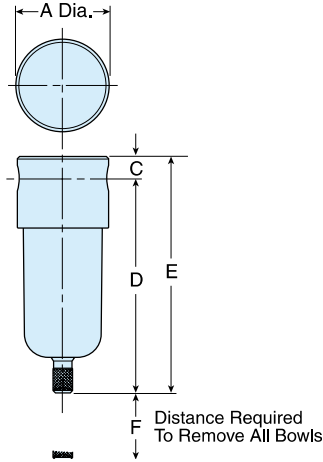
**Stainless steel pressure gauge M1/4G40S-10 (0 to 10 bar)**

Indicates stocked product.

**Dimensions (mm) - 1/4"**

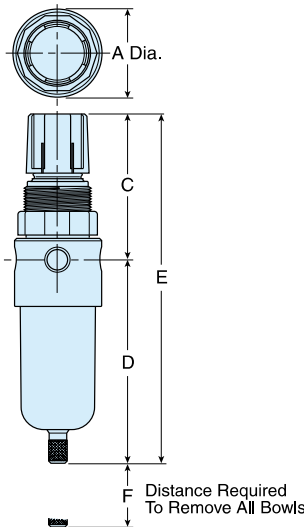
**Filters**

**Coalescing Filters**



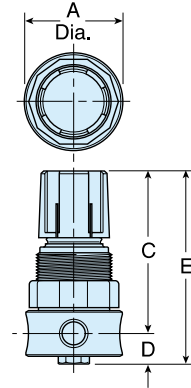
A	C	D	E	F
40mm	8mm	94mm	102mm	40mm

**Filter/Regulators**



A	C	D	E	F
40mm	67mm	92mm	159mm	40mm

**Regulators**



A	C	D	E
40mm	65mm	13mm	78mm

**Service kits**

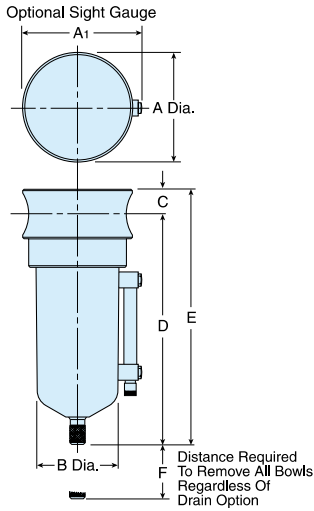
Port size	Description	Order Code
<b>Filter</b>		
1/4	20 micron particulate element	<b>EK504Y</b>
1/4	5 micron particulate element	<b>EK504VY</b>
1/2	40 micron particulate element	<b>EK55J</b>
1/2	5 micron particulate element	<b>EK55G</b>
<b>Coalescing Filter</b>		
1/4	0.3 micron coalescing element	<b>EKF501H</b>
1/2	0.01 micron coalescing element	<b>EKF71</b>
<b>Regulator</b>		
1/4	Relieving type	<b>RKR364YSS</b>
1/4	Non-relieving type	<b>RKR36KYSS</b>
1/2	Relieving type	<b>RKR10YSS</b>
1/2	Non-relieving type	<b>RKR10KYSS</b>
<b>Filter/Regulator</b>		
1/4	20 micron particulate element	<b>EK504Y</b>
1/4	5 micron particulate element	<b>EK504VY</b>
1/2	40 micron particulate element	<b>EKF10Y</b>
1/2	5 micron particulate element	<b>EKF10VY</b>
<b>Lubricator</b>		
	Sight dome kit	<b>RKL10SS</b>



Dimensions (mm) - 1/2"

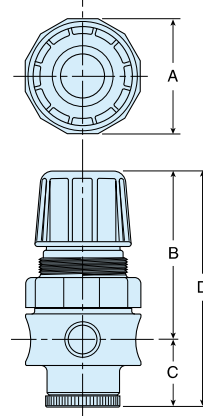
Filters

Coalescing Filters



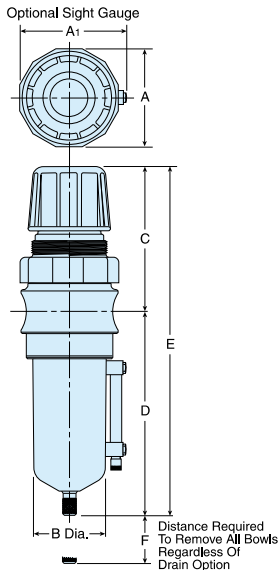
A	A <sub>1</sub>	B	C	D	E	F
60mm	64mm	44mm	14mm	127mm	141mm	54mm

Regulators



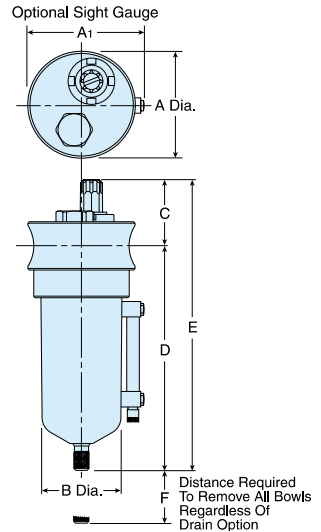
A	C	D	E
60mm	91mm	35mm	126mm

Filter/Regulators



A	A <sub>1</sub>	B	C	D	E	F
60mm	64mm	44mm	91mm	127mm	218mm	54mm

Lubricators



A	A <sub>1</sub>	B	C	D	E	F
60mm	64mm	44mm	46mm	127mm	173mm	89mm

**Protect your most important assets: your employees and their equipment!**

The AirGuard offers simple but efficient protection to pneumatic systems in the event of a broken compressed-air hose or pipe. The air supply is immediately shut off by the AirGuard, should the volume of air exceed a set value. This "value" is factory preset and is set to allow normal air consumption when using air tools.

Should the air consumption exceeds the set value, e.g. the air line is severed, then the internal piston instantly shuts off the main flow. An integral bleed hole allows some air to flow though. This enables the line pressure to automatically reset the AirGuard once the main line break is repaired.

**Management Responsibility:**

It is the duty of management to ensure a safe working environment for their employees and that the equipment complies with the **Machinery Directive EN983** or **"PUWER"** (the Provision and Use of Work Equipment Regulations)

**EU Standard EN983-1996 (5.3.4.3.2) currently states:**

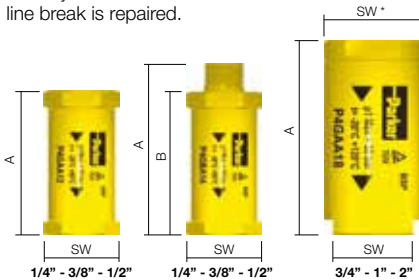
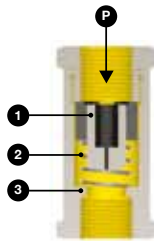
"Failure of flexible hose assemblies and plastic piping: If the failure of a flexible hose assembly constitutes a whiplash hazard or a fluid ejection hazard, it shall be restrained or shielded".

**Complies with the 2009 ISO4414 (5.4.5.11.1)**

"When failure of a hose assembly of plastic piping constitutes a whiplash hazard, it shall be restrained or shielded by suitable means and/or an air fuse for compressed air shall be mounted".

**Function:**

(P) is the inlet. Air passes the piston (1) and continues through the seat (3). The air flow, passing the piston, is slowed down by means of length wise grooves on the outer side of the piston. If the flow is too high, the air cannot pass the piston quickly enough, and the piston is forced against the spring (2) and towards the seat. The maximum flow is shown in the graph. If the value indicated is exceeded e.g. if the hose suddenly breaks - the air supply is automatically shut off. An integral bleed hole allows some air to flow though. This enables the line pressure to automatically reset the AirGuard once the main line break is repaired.



**Special Applications**

Stainless Steel AirGuard available in 1/2" size

Some branches of industry with a high hazard potential, such as chemical and pharmaceutical as well as clean room and offshore technologies place extremely high demands on both the safety of their employees and the protection of their facilities. Compressed air is typically used as an energy transfer medium in these industries and is no means without its dangers: compressed air hoses can rupture or burst, as can fixed pipes. This may expose personnel working in such areas to extreme hazards as well as potential damage to expensive facilities and costly production downtime.



**Technical Data and Ordering Information**

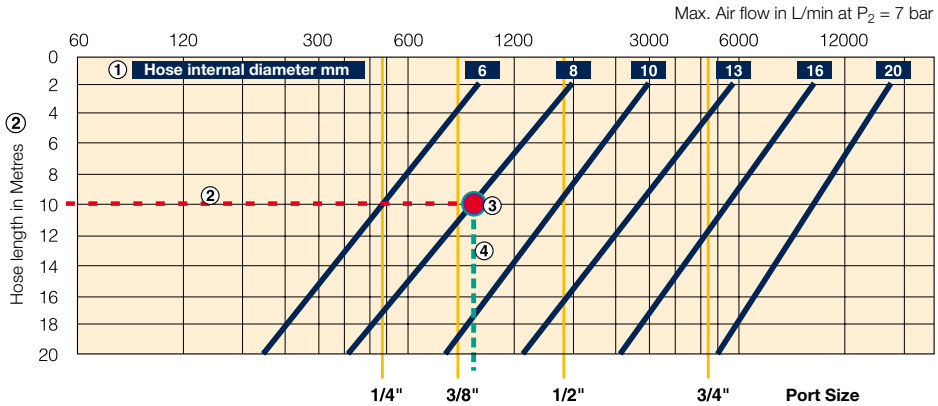
Thread connection BSP	dimensions (mm)			Weight (g)	Maximum inlet pressure	Temperature range	Material	P1 inlet thread	P2 outlet thread	Order Code
	A	B	SW							
1/4"	48	-	22	30	18 bar (255 PSIG)	-20°C to 80°C (-4°F to 176°F)	Housing: aluminium Piston: polyoxy- methylene	female	female	P4GAA12
1/4"	58	49	22	36				male	female	P4GBA12
3/8"	59	-	27	58				female	female	P4GAA13
3/8"	71	59	27	62				male	female	P4GBA13
1/2"	65	-	30	78				female	female	P4GAA14
1/2"	80	65	30	85				male	female	P4GBA14
1/2"	62	-	28	132	35 bar (500 PSIG)	-20°C to 120°C (-4°F to 248°F)	Housing: stainless steel Piston: polyoxy- methylene	female	female	P4GCA14
3/4"	76	-	30 / 36*	107				female	female	P4GAA16
1"	100	-	41 / 50*	300				female	female	P4GAA18
2"	130	-	70 / 80*	775				female	female	P4GAA1C

Note: NPT version available on request - 1/4" high flow version available on request.



### How to select the optimal size of an AirGuard

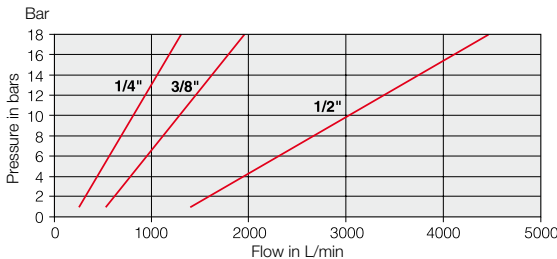
Information based on an inlet pressure of 7 bar



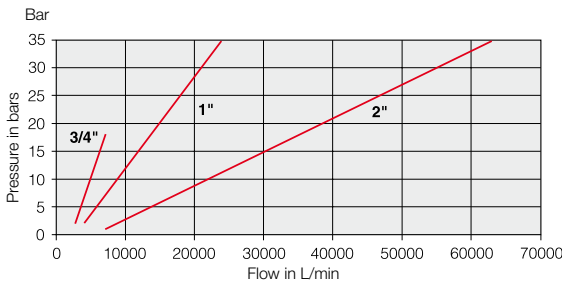
- Determine the internal diameter of the hose, tube or pipe being used ① (see specification Hose-internal Diameter in blue box, blue diagonal line).
- Determine the length of the hose, tube or pipe ② (Hose length in meters).
- Define the intersection of point a and b, and mark a vertical line downwards. ③ - ④ (In the example the red/green dot and the green dashed line).
- The next vertical yellow line, left of the intersection line ④ (example: green dashed) tells the correct AirGuard size (in inches).
- Important: Every flow value to the right of the respective vertical line (yellow) would activate the AirGuard in case of a bursting hose, pipe or tube. All AirGuard sizes right of the intersection line (green) are too big and will not close up.
- Example:** Which air fuse should be used for a hose, pipe or tube bearing 8 mm inner diameter and 10 meters of length - follow the 10 meter line (red ②) to the intersection point (red/green dot ③). Now the next left yellow line marks the correct size.
- Result:** The correct size in our example is the AirGuard 3/8"

### Closing Flow Graphs

#### 1/4", 3/8" and 1/2" flow rates



#### 3/4", 1" and 2" flow rates



### Dimensioning of compressed air hoses and equipment

Connection Size	Hose length 0 to 10 meters			Hose length 10 to 20 meters		
	Inner diameter Minimum mm	Minimum pressure bar	Flow at 6 bar l/min	Inner diameter minimum	Minimum pressure bar	Flow at 6 bar l/min
1/4"	7	4	480	8	4	480
3/8"	10	4	1100	12	4	1100
1/2"	12	4	2000	14	4	2000
3/4"	18	4	3800	20	4	3800
1"	24	4	6500	26	4	6500
2"	45	4	16000	50	4	16000

If the pressure is lower than stated in the table, a hose with a larger internal diameter must be used.

To select the correct size AirGuard, the pneumatic tool or equipment must have a maximum flow requirement to the left of the red line.

e.g.: 15 bar @20000 L/m = 2" size AirGuard  
8 bar @1000 L/m = 3/8" size AirGuard

A range of speed controls, flow controls and back pressure sensors designed to be mounted directly onto the cylinder in the optimum position for maximum performance.



- "Push-in" or threaded connection
- Multifunction options
- Fit directly to cylinder ports
- Swivelling pilot banjo
- Pneumatic, Electric or Electronic back pressure sensor

### Operating information

#### Working pressure;

PWR-L, PWR-H, PWR-A, PWR-B	1-10 bar
PWB-A, PWS-M, PWS-E, PWS-P	0-10 bar
PWA-L	0,2-10 bar

Working temperature	: -15°C to +60°C
PWR-L	-15°C to +70°C

#### Pilot pressure at 6 bar supply;

PWB-A and PWR-HB	(1/8", 1/4" versions)	: 4 bar
	(1/2" and 3/8" versions)	: 2,9 bar
PWS-P111		: 4,4 bar
PWS-M1012		: 1,5 bar
PWS-E101 and E111		: 0,7 bar

For technical information see CD

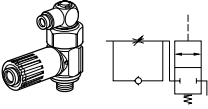
## 2/2 Blockers

Symbol	Connection for pilot port	Thread for cylinder connection	Connection for tube Ø, mm	Tightening torque Nm	Qmax input at 6 bar, l/min*	Order code
<b>With push-in connection</b>						
	Push-in *, Ø4 mm	G1/8	6	8	500	<b>PWB-A1468</b>
		G1/4	6	12	600	<b>PWB-A1469</b>
			8	12	650	<b>PWB-A1489</b>
		G3/8	8	30	1600	<b>PWB-A1483</b>
			10	30	1750	<b>PWB-A1493</b>
		G1/2	12	35	2050	<b>PWB-A1412</b>
<b>With threaded connection</b>						
	Push-in *, Ø4 mm	G1/8	G1/4	8	500	<b>PWB-A1898</b>
		G1/4	G1/4	12	650	<b>PWB-A1899</b>
		G3/8	G3/8	30	1750	<b>PWB-A1833</b>
		G1/2	G1/2	35	2050	<b>PWB-A1822</b>

\* M5 without banjo

Indicates stocked product.


## Multifunction flow control + blockers

Symbol	Connection for pilot port	Thread for cylinder connection	Connection for tube Ø, mm	Tightening torque Nm	Qmax input at 6 bar, l/min*	Order code
<b>With push-in connection</b>						
	Push-in, Ø4 mm	G1/8	4	8	330	<b>PWR-HB1448</b>
			6	8	500	<b>PWR-HB1468</b>
		G1/4	6	12	500	<b>PWR-HB1469</b>
			8	12	600	<b>PWR-HB1489</b>
		G3/8	8	30	1200	<b>PWR-HB1483</b>
			10	30	1300	<b>PWR-HB1493</b>
G1/2	10	35	1400	<b>PWR-HB1492</b>		

\* Screw closed


## Compact flow regulator with push-in connection

For direct port cylinder mounting

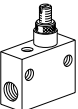

Symbol	Thread for cylinder connection	Push-in connection Ø, mm	Order code
<b>With push-in connection and locknut (not M5)</b>			
	M5	4	<b>PTF8PB4M5</b>
	G1/8	4	<b>PTF4PB4-1/8</b>
		6	<b>PTF4PB6-1/8</b>
		8	<b>PTF4PB6-1/4</b>
	G1/4	6	<b>PTF4PB6-1/4</b>
		8	<b>PTF4PB8-3/8</b>
	G3/8	10	<b>PTF4PB10-3/8</b>
12		<b>PTF4PB12-1/2</b>	

## Flow regulator with adjustable exhaust restriction

For direct port cylinder mounting

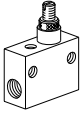

Symbol	Thread for cylinder connection	Push-in connection Ø, mm	Order code
<b>With push-in connection Allen key adjustment and locknut</b>			
	M5	4	<b>PTFL8PB4M5</b>
	G1/8	4	<b>PTFL4PB4-1/8</b>
		6	<b>PTFL4PB6-1/8</b>
		8	<b>PTFL4PB8-1/8</b>
	G1/4	6	<b>PTFL4PB6-1/4</b>
		8	<b>PTFL4PB8-1/4</b>
		10	<b>PTFL4PB10-1/4</b>
	G3/8	8	<b>PTFL4PB8-3/8</b>
		10	<b>PTFL4PB10-3/8</b>
	G1/2	12	<b>PTFL4PB12-1/2</b>

## Flow control valves with by-pass

Symbol	Thread	Number of turns	Qmax input at 6 bar, l/min	Order code	
		G1/8	13	240	<b>VQB12-Q-O-5</b>
		G1/4	13	1320	<b>VQB22-Q-O-5</b>
		G1/2	13	3600	<b>VQB42-Q-O-5</b>

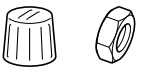
 Indicates stocked product.

## Flow control valves with by-directional control

Symbol	Thread	Number of turns	Q <sub>max</sub> input at 6 bar, l/min	Order code	
		G1/8	13	72	VQB12-OX-5*
		G1/8	13	240	VQB12-O-5
		G1/4	13	1320	VQB22-O-5
		G1/2	13	3600	VQB42-O-5

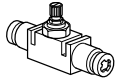
\* Extra fine adjustment

## Knob and nut for panel mounting

To suit	Order code
 VQB12	9128177212
VQB22	9128177222
VQB42	9128177242

## Inline speed controls, PWR-L series


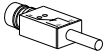

For inline mounting

With push-in connection,  
knob adjustment and locknut

4	PWR-L1444
6	PWR-L1466
8	PWR-L1488
10	PWR-L1499
12	PWR-L1411

## Plug-in sensors


For use with banjo sockets


Sensing function	Output function	Output connection	Output characteristics	Order code
 Exhaust back pressure decay	Pneumatic	Push-in Ø 4 mm	NO valve flow rate at 6 bar 1,5 l/s	PWS-P111
	Electrical ~ I <sub>e</sub> = 3 A	3 wires 0,5 mm <sup>2</sup> length 2 m	CO contact 12 to 230 V ~ / 10 VA* 12 to 48 VDC/ 5 W*	PWS-M1012
	Solid state	3 wires 0,1 mm <sup>2</sup> length 2 m	PNP type 10/30 VDC** 75 mA	NC PWS-E101
				NO PWS-E111

\* Suitable for low currents : 250 V ~ / 4 mA ; 24 VDC / 10 mA \*\* Including ripple

## Banjo sockets for plug-in sensors

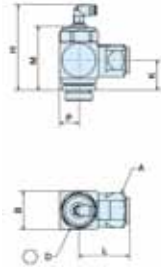
With sensor locking clip, for direct port cylinder mounting

Thread size for cylinder port	Female thread	Tool required	Order code
 M5	M5	8 mm flat spanner	PWS-B155
G1/8	G1/8	5 mm Allen key	PWS-B188
G1/4	G1/4	8 mm Allen key	PWS-B199
G3/8	G3/8	10 mm Allen key	PWS-B133
G1/2	G1/2	12 mm Allen key	PWS-B122

 Indicates stocked product.

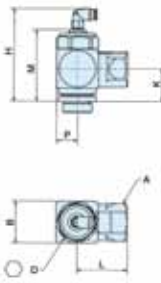
## Dimensions (mm)

## Blocker with push-in connection



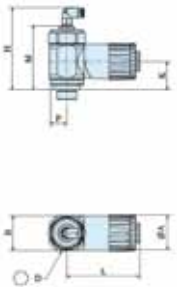
Order code	A	B	D	H	K	L	P	M
<b>PWB-A1468</b>	∅ 22	21	21	59,0	16,5	39	11	43
<b>PWB-A1469</b>	∅ 22	21	21	59,0	16,5	39	11	43
<b>PWB-A1489</b>	∅ 22	21	21	59,0	16,5	39	11	43
<b>PWB-A1483</b>	□ 27	30	27	66,5	22,5	39	15	52
<b>PWB-A1493</b>	□ 27	30	27	66,5	22,5	39	15	52
<b>PWB-A1412</b>	□ 27	30	27	66,5	22,5	39	15	52

## Blocker with threaded connection



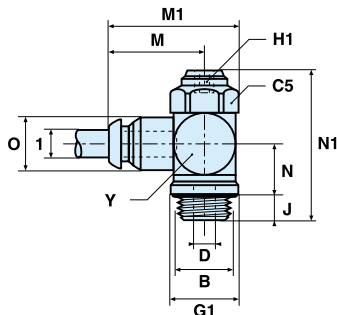
Order code	A	B	D	H	K	L	C	P	M
<b>PWB-A1898</b>	∅ 22	21	21	59,0	16,5	43,5	∅24	11	43
<b>PWB-A1899</b>	∅ 22	21	21	59,0	16,5	43,5	∅24	11	43
<b>PWB-A1833</b>	□ 27	30	27	66,5	22,5	36,0	□27	15	52
<b>PWB-A1822</b>	□ 27	30	27	66,5	22,5	36,0	□27	15	52

## Blocker/Flow regulator



Order code	∅A	B	D	H	K	L	P
<b>PWR-HB1448</b>	22,5	21	21	59	16,5	47,0	12,5
<b>PWR-HB1468</b>	22,5	21	21	59	16,5	47,0	12,5
<b>PWR-HB1469</b>	22,5	21	21	59	16,5	47,0	12,5
<b>PWR-HB1489</b>	22,5	21	21	59	16,5	47,0	12,5
<b>PWR-HB1483</b>	29,0	30	27	64,5	22,5	60,0	15,0
<b>PWR-HB1493</b>	29,0	30	27	64,5	22,5	60,0	15,0
<b>PWR-HB1492</b>	29,0	30	27	64,5	22,5	60,0	15,0

## PTF4/8PB - Flow regulator with push-in connection

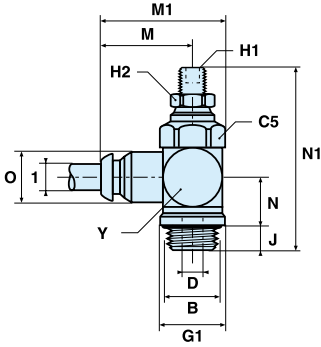


Order code	C5	D	G1	H1	J	M	M1	N	N1	O	Y
<b>PTF8PB4M5**</b>	8	1,65	10,0	1,5	4	19,5	24,5	6,3	22,0	10	10
<b>PTF4PB4-1/8</b>	14	3,00	14,4	2,0	6	22,0	30,1	10,7	34,5	10	14
<b>PTF4PB6-1/8</b>	14	3,20	14,4	2,0	6	23,5	31,6	10,7	34,5	12	14
<b>PTF4PB6-1/4</b>	17	5,20	18,4	4,0	7	25,0	34,9	13,8	41,0	12	17
<b>PTF4PB8-1/8</b>	14	3,20	14,4	2,0	6	25,0	33,1	10,7	34,5	14	14
<b>PTF4PB10-3/8</b>	22	6,00	21,6	4,0	7	34,0	46,7	17,3	51,0	17	22
<b>PTF4PB12-1/2</b>	27	8,50	26,5	4,0	9	36,5	52,1	20,1	61,0	20	27

Exhaust flow control

Dimensions (mm)

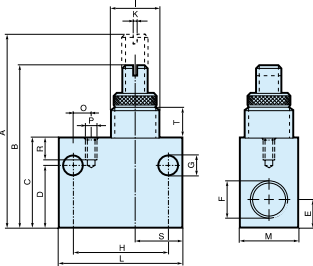
PTFL4/8PB - Flow regulator with push-in connection



Exhaust flow control

Order code	C5	D	G1	H1	H2	J	M	M1	N	N1	O	Y
PTFL8PB4M5**	8	1,65	10,0	1,5	8	4	19,5	24,5	6,3	28,5	10	10
PTFL4PB4-1/8	14	3,00	14,4	2,0	7	6	22,0	30,1	10,7	43,7	10	14
PTFL4PB6-1/8	14	3,20	14,4	2,0	7	6	23,5	31,6	10,7	43,7	12	14
PTFL4PB6-1/4	17	5,20	18,4	4,0	11	7	25,0	34,9	13,8	51,8	12	17
PTFL4PB8-1/8	14	3,20	14,4	2,0	7	6	25,0	33,1	10,7	43,7	14	14
PTFL4PB8-1/4	17	5,20	18,4	4,0	11	7	28,5	38,3	13,8	51,8	14	17
PTFL4PB8-3/8	22	6,00	21,6	4,0	11	7	29,5	42,2	17,3	63,7	14	22
PTFL4PB10-3/8	22	6,00	21,6	4,0	11	7	34,0	46,7	17,3	63,7	17	22
PTFL4PB12-1/2	27	8,50	26,5	4,0	14	9	36,5	52,1	20,1	76,1	20	27

Flow Control Valves

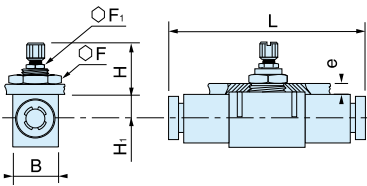


Order code	A	B	C	D	E	F	G	H	I
VQB12-(Q)-OX-549	42	22	15	6,5	G1/8	5,8	24	M12x1	
VQB12-(Q)-O-5	49	42	15	6,5	G1/8	5,8	24	M12x1	
VQB22-(Q)-O-5	64	53	30	21	8,5	G1/4	7,0	32	M16x1
VQB42-(Q)-O-5	99	85	50	36	16,5	G1/2	7,0	50	M24x1,5

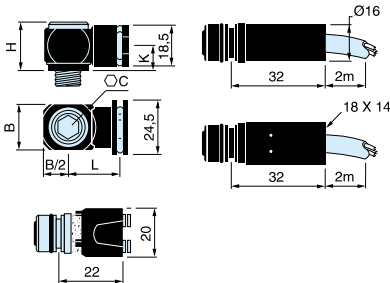
Order code	K	L	M	O	P	R	S	T
VQB12-(Q)-OX-51,2	32	15	-	-	-	13,5	8,8	
VQB12-(Q)-O-5	1,2	32	15	-	-	13,5	8,8	
VQB22-(Q)-O-5	1,2	42	20	6,0	M4	7	16,0	10,0
VQB42-(Q)-O-5	1,8	62	30	19,5	M4	7	20,5	15,2

Speed Controls, PWR-L Series



Order code	B	F	F1	e	H+	H-	H1	L	Q
PWR-L1444	12,0	14	*	6	25,5	21,5	6,5	39,0	10,5
PWR-L1466	17,0	19	*	7	32,5	27,5	7,5	54,0	17,0
PWR-L1488	18,5	24	11	7	34,5	28,5	9,0	60,5	19,0
PWR-L1499	24,0	30	14	7	38,5	29,5	11,5	76,0	25,0
PWR-L1411	28,0	32	14	8	42,0	32,0	12,5	86,0	28,0

Back Pressure Sensors - Modular



Order code	C	B	H	K	L
PWS-B155	8	11	16,5	10	17
PWS-B188	5	16	20,0	10	20
PWS-B199	8	21	20,0	10	22
PWS-B133	10	28	22,0	12	25
PWS-B122	12	33	26,0	14	26



### Quick Exhaust Valves

- Increases piston speeds, super sensitive diaphragm.
- May be used as differential shuttle valve.

### Shuttle Valves

- Allows two separate signals to be applied to the air pilot.
- 0,6 bar differential, Viton seals as standard.

### Non Return Valves

- Aluminium or polymer bodies
- Compact



#### Operating information

##### Shuttle valve •••005

Working pressure	1,3 - 17 bar
Working temperature; Standard	-10 °C to +180 °C

##### Quick exhaust valve P4Q

Working pressure:	0,2 - 10 bar
Working temperature; Standard:	-10 °C to +80 °C

##### VB

Working pressure	Max 10 bar
Working temperature	-20 °C to +70 °C

##### PWA-L

Working pressure	0,2 - 10 bar
Working temperature;	-15 °C to +60 °C

For technical information see CD

### Shuttle Valves

Symbol	Port size	Order code
	M5	<b>M33005</b>
	G1/8	<b>B43005B</b>
	G1/4	<b>B53005A</b>

### Non Return Valves

#### Aluminium VB Series

Symbol	Port size	Order code
	G1/8	<b>VB12-Q-NQ-5</b>
	G1/4	<b>VB22-Q-NQ-5</b>
	G1/2	<b>VB42-Q-NQ-5</b>

### Quick Exhaust Valves P4Q Series

Symbol	Port size	Order code
	<b>Standard Version</b>	
	G1/4	<b>P4Q-BA12</b>
	G3/8	<b>P4Q-BA13</b>
	G1/2	<b>P4Q-CA14</b>
	G3/4	<b>P4Q-CA16</b>
	<b>High Temperature Version (Fluorocarbon diaphragm)</b>	
	G3/8	<b>P4Q-BV13</b>
	G1/2	<b>P4Q-CV14</b>
	G3/4	<b>P4Q-CV16</b>

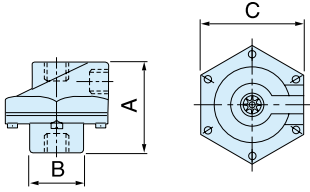
#### Line mounted non-return valves

Symbol	Push-in connection	Flow rate 6 bar, l/s Ø, mm	Order code
		4	3,33 <b>PWA-L1444</b>
		6	11,00 <b>PWA-L1466</b>
		8	26,67 <b>PWA-L1488</b>

Indicates stocked product.

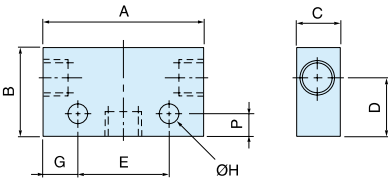
Dimensions (mm)

Quick Exhaust Valves



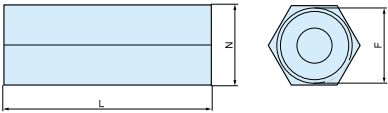
Order code	Port Size	A	B	C
P4Q-B*12	G1/4	52	25	62
P4Q-B*13	G3/8	52	25	62
P4Q-B*14	G1/2	73	38	86
P4Q-B*16	G3/4	73	38	86

Shuttle Valves



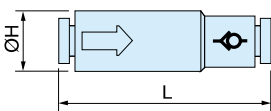
Order code	Port Size	A	B	C	D	E	F	G	H
M33005	M5	27,5	24	15	16,0	15	6	6,3	3,2
B43005B	G1/8	44,0	24	15	16,0	25	6	9,5	4,5
B53005A	G1/4	52,0	30	22	20,5	35	10	8,5	5,5

Non Return Valves - VB - Female



Order code	F	L	N
VB12-Q-NQ-5	G1/8	31	14
VQB22-Q-NQ-5	G1/4	40	17
VB42-Q-NQ-5	G1/2	59	27

Non Return Valves - Push-in



Order code	ØH	L
PWA-L1444	11,0	43,0
PWA-L1466	13,0	49,5
PWA-L1488	13,5	55,0

- Use with plastic or metal tubing
- Positive hold by a flexible grab ring
- Ready to use fitting
- Plastic push button
- Taper thread fittings for general use
- Parallel thread fittings for use with plastic bodied valves
- Other versions available, refer to CD



**Ordering information**

Prestolok fittings are sold in packs. The package quantities are indicated adjacent to the part numbers. When ordering, order by the quantity required. For example : to obtain 20 Prestolok 2 Equal Union 4mm Tees, purchase order should state:-

**Qty 20**

**EPB4**

**Note**

Orders received for Prestolok fittings in quantities other than pack quantity multiples will be rounded up to the nearest multiple

**Operating information**

**Prestolok Micro**

Working pressure 0,01 to 16 bar  
Working temperature -25 °C to +80 °C

**Prestolok 2**

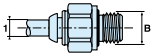
Working pressure 0,01 to 25 bar  
Working temperature -25 °C to +70 °C

**Prestolok**

Working pressure 0,01 to 25 bar  
Working temperature -25 °C to +100 °C

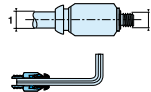
For technical information see CD

**Male straight connectors - Parallel thread**



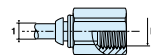
Tube Ø1	Thread B	Order code	Box Qty
4	M5x,0,8	F8PMB4M5	30
6	M5x,0,8	F8PMB6M5	20
4	1/8	F4PMB4-1/8	20
4	1/4	F4PMB4-1/4	20
6	1/8	F4PMB6-1/8	30
6	1/4	F4PMB6-1/4	30
8	1/8	F4PB8-1/8	40
8	1/4	F4PB8-1/4	30
8	3/8	F4PB8-3/8	20
10	1/4	F4PB10-1/4	20
10	3/8	F4PB10-3/8	20
10	1/2	F4PB10-1/2	10
12	1/4	F4PB12-1/4	10
12	3/8	F4PB12-3/8	10
12	1/2	F4PB12-1/2	10
14	3/8	F4PB14-3/8	10
14	1/2	F4PB14-1/2	10

**Male straight connectors**



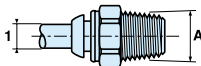
Tube Ø1	Thread B	Order code	Box Qty
4	M5x,0,8	F28PMB4M5	30
6	M5x,0,8	F28PMB6M5	20

**Female connectors**



Tube Ø1	Thread B	Order code	Box Qty
4	M5x0,8	G8PMB4M5	10
4	1/8	G4PMB4-1/8	20
4	1/4	G4PMB4-1/4	10
6	1/8	G4PMB6-1/8	20
6	1/4	G4PMB6-1/4	10
8	1/8	G4PB8-1/8	10
8	1/4	G4PB8-1/4	10

**Male Connector - BSPT**



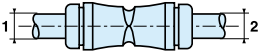
Tube Ø1	Thread A	Order code	Box Qty
4	1/8	F3PMB4-1/8	40
4	1/4	F3PMB4-1/4	30
6	1/8	F3PMB6-1/8	40
6	1/4	F3PMB6-1/4	40
8	1/8	F3PB8-1/8	40
8	1/4	F3PB8-1/4	40
8	3/8	F3PB8-3/8	30
10	1/4	F3PB10-1/4	20
10	3/8	F3PB10-3/8	20
10	1/2	F3PB10-1/2	10
12	1/4	F3PB12-1/4	10
12	3/8	F3PB12-3/8	10
12	1/2	F3PB12-1/2	10
14	3/8	F3PB14-3/8	10
14	1/2	F3PB14-1/2	10

## Equal union



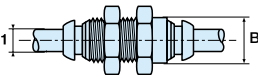
Tube Ø1	Plastic Order code	Box Qty	Metal Order code	Box Qty
4	HPMK4	20	HPB4	30
6	HPMK6	30	HPB6	20
8	HPK8	30	HPB8	20
10	HPK10	20	HPB10	10
12	HPK12	10	HPB12	10
14	HPK14	10	HPB14	5

## Unequal union



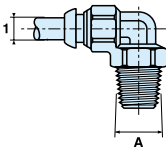
Tube Ø1	Tube Ø2	Plastic Order code	Box Qty
6	4	HPMK6-4	20
8	4	HPK8-4	20
8	6	HPK8-6	20
10	6	HPK10-6	10
10	8	HPK10-8	10
12	10	HPK12-10	10

## Bulkhead equal union



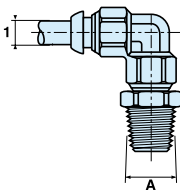
Tube Ø1	Thread B	Metal (Micro) Order code	Box Qty	Metal Order code	Box Qty
4	M11x0.75	WPMB4	10	WPB4	10
6	M13x1	WPMB6	10	WPB6	10
8	M15x1.25			WPB8	10
10	M18x1			WPB10	5
12	M23x1.5			WPB12	5
14	M24x1.5			WPB14	3

## Compact elbow - BSPT



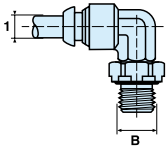
Tube Ø1	Thread A	Metal Order code	Box Qty
4	1/8	C3PB4-1/8	20
6	1/8	C3PB6-1/8	10
6	1/4	C3PB6-1/4	10
8	1/8	C3PB8-1/8	10
8	1/4	C3PB8-1/4	10
10	1/4	C3PB10-1/4	10
10	3/8	C3PB10-3/8	10
12	3/8	C3PB12-3/8	5
12	1/2	C3PB12-1/2	5
14	3/8	C3PB14-3/8	5
14	1/2	C3PB14-1/2	5

## Adjustable male elbow - BSPT



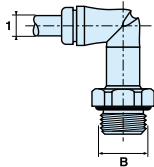
Tube Ø1	Thread A	Plastic Order code	Box Qty	Metal Order code	Box Qty
4	1/8	C63PMK4-1/8	30	C63PB4-1/8	20
4	1/4	C63PMK4-1/4	20	C63PB4-1/4	20
6	1/8	C63PMK6-1/8	20	C63PB6-1/8	20
6	1/4	C63PMK6-1/4	20	C63PB6-1/4	20
8	1/8	C63PK8-1/8	20	C63PB8-1/8	20
8	1/4	C63PK8-1/4	20	C63PB8-1/4	10
8	3/8	C63PK8-3/8	10	C63PB8-3/8	10
10	1/4	C63PK10-1/4	10	C63PB10-1/4	10
10	3/8	C63PK10-3/8	10	C63PB10-3/8	10
10	1/2	C63PK10-1/2	10		
12	1/4	C63PK12-1/4	10	C63PB12-1/4	10
12	3/8	C63PK12-3/8	10	C63PB12-3/8	10
12	1/2	C63PK12-1/2	10	C63PB12-1/2	5
14	3/8	C63PK14-3/8	10	C63PB14-3/8	5
14	1/2	C63PK14-1/2	10	C63PB14-1/2	5

Compact adjustable male elbow - Parallel



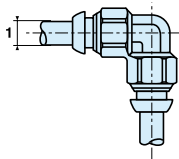
Tube Ø1	Thread B	Plastic Order code	Box Qty	Metal Order code	Box Qty
4	M5x0,8	C68SPK4M5	20	C68SPB4M5	10
4	1/8	C64SPK4-1/8	20	C64SPB4-1/8	10
4	1/4	C64SPK4-1/4	20		
6	1/8	C64SPK6-1/8	20	C64SPB6-1/8	10
6	1/4	C64SPK6-1/4	20	C64SPB6-1/4	10
8	1/8	C64SPK8-1/8	20	C64SPB8-1/8	10
8	1/4	C64SPK8-1/4	20	C64SPB8-1/4	10
8	3/8	C64SPK8-3/8	10	C64SPB8-3/8	10
10	1/4			C64SPB10-1/4	10
10	3/8			C64SPB10-3/8	10
12	1/4			C64SPB12-1/4	10
12	3/8			C64SPB12-3/8	5
12	1/2			C64SPB12-1/2	5

Adjustable extended male elbow - Parallel



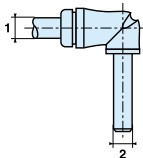
Tube Ø1	Thread B	Plastic Order code	Box Qty
4	1/8	C64LPMK4-1/8	10
4	1/4	C64LPMK4-1/4	10
6	1/8	C64LPMK6-1/8	10
6	1/4	C64LPMK6-1/4	10

Equal union elbow



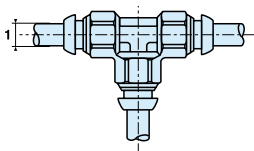
Tube Ø1	Plastic Order code	Box Qty	Metal Order code	Box Qty
4	EPMK4	20	EPB4	20
6	EPMK6	20	EPB6	20
8	EPK8	20	EPB8	10
10	EPK10	10	EPB10	10
12	EPK12	10	EPB12	10
14	EPK14	10	EPB14	5

Compact plug in elbow



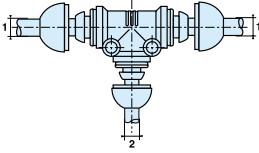
Tube Ø1	Tube Ø2	Plastic Order code	Box Qty
4	4	T2ESPMK4	20
6	6	T2ESPMK6	20
4	6	T2ESPMK4-6	30
8	8	T2ESPK8	20

Equal union tee



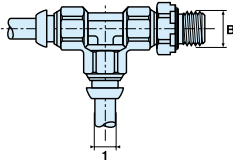
Tube Ø1	Plastic Order code	Box Qty	Metal Order code	Box Qty
4	JPMK4	20	JPB4	10
6	JPMK6	20	JPB6	10
8	JPK8	10	JPB8	10
10	JPK10	10	JPB10	10
12	JPK12	10	JPB12	5
14	JPK14	5	JPB14	5

## Unequal union tee



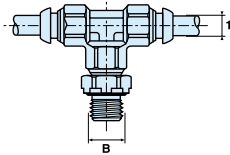
Tube Ø1	Tube Ø2	Plastic Order code	Box Qty
6	4	JPK6-6-4	10
8	6	JPK8-8-6	10
10	8	JPK10-10-8	10
12	10	JPK12-12-10	10
4	6	JPK4-4-6	10
6	8	JPK6-6-8	10
8	10	JPK8-8-10	10
10	12	JPK10-10-12	5

## Adjustable male run tee - Parallel



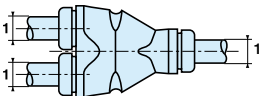
Tube Ø1	Thread B	Plastic Order code	Box Qty	Metal Order code	Box Qty
4	M5x0,8	R68PMK4M5	10	R68PB4M5	10
6	M5x0,8	R68PMK6M5	10	R68PB6M5	10
4	1/8	R64PMK4-1/8	10	R64PB4-1/8	10
4	1/4	R64PMK4-1/4	10	R64PB4-1/4	10
6	1/8	R64PMK6-1/8	10	R64PB6-1/8	10
6	1/4	R64PMK6-1/4	10	R64PB6-1/4	10
8	1/8	R64PK8-1/8	10	R64PB8-1/8	10
8	1/4	R64PK8-1/4	10	R64PB8-1/4	10
8	3/8	R64PK8-3/8	10	R64PB8-3/8	10
10	1/4	R64PK10-1/4	10	R64PB10-1/4	5
10	3/8	R64PK10-3/8	5	R64PB10-3/8	5
12	1/4	R64PK12-1/4	5	R64PB12-1/4	5
12	3/8	R64PK12-3/8	5	R64PB12-3/8	5
14	3/8	R64PK14-3/8	5	R64PB14-3/8	3
14	1/2	R64PK14-1/2	5	R64PB14-1/2	3

## Adjustable male branch tee - Parallel



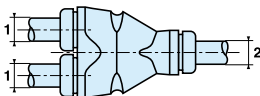
Tube Ø1	Thread B	Plastic Order code	Box Qty	Metal Order code	Box Qty
4	M3x0,5	S68PMK4M3	10		
4	M5x0,8	S68PMK4M5	10	S68PB4M5	10
6	M5x0,8	S68PMK6M5	10	S68PB6M5	10
4	1/8	S64PMK4-1/8	10	S64PB4-1/8	10
4	1/4	S64PMK4-1/4	10	S64PB4-1/4	10
6	1/8	S64PMK6-1/8	10	S64PB6-1/8	10
6	1/4	S64PMK6-1/4	10	S64PB6-1/4	10
8	1/8	S64PK8-1/8	10	S64PB8-1/8	10
8	1/4	S64PK8-1/4	10	S64PB8-1/4	5
8	3/8	S64PK8-3/8	10	S64PB8-3/8	5
10	1/4	S64PK10-1/4	10	S64PB10-1/4	5
10	3/8	S64PK10-3/8	5	S64PB10-3/8	5
12	1/4	S64PK12-1/4	5	S64PB12-1/4	5
12	3/8	S64PK12-3/8	5	S64PB12-3/8	5
14	3/8	S64PK14-3/8	5	S64PB14-3/8	3
14	1/2	S64PK14-1/2	5	S64PB14-1/2	3

## Equal union Y connector



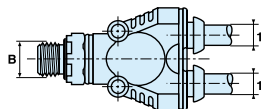
Tube Ø1	Plastic Order code	Box Qty
4	YJPMK4	20
6	YJPMK6	10
8	YJPK8	10
10	YJPK10	10

## Unequal union Y connector



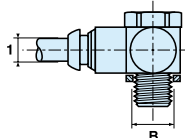
Tube Ø1	Tube Ø2	Plastic Order code	Box Qty
3	4	YJPMK4-3	10
3	6	YJPMK6-3	10
4	6	YJPMK6-4	10
6	8	YJPK6-8	10
8	10	YJPK8-10	5

**Adjustable male Y connector - Parallel**



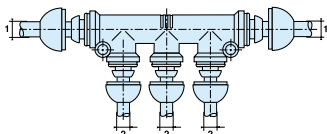
Tube Ø1	Thread B	Plastic Order code	Box Qty
4	M5x0,8	YJ68PMK4M5	10
6	M5x0,8	YJ68PMK6M5	10
4	1/8	YJ64PK4-1/8	10
4	1/4	YJ64PK4-1/4	10
6	1/8	YJ64PK6-1/8	10
6	1/4	YJ64PK6-1/4	10
8	1/8	YJ64PK8-1/8	5
8	1/4	YJ64PK8-1/4	5

**Single banjo - assembled - Parallel**



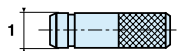
Tube Ø1	Tube Ø2	Metal Order code	Box Qty
4	M5x0,8	COR8PB4M5	20
4	1/8	COR4PB4-1/8	10
6	1/8	COR4PB6-1/8	20
6	1/4	COR4PB6-1/4	20
8	1/8	COR4PB8-1/8	10
8	1/4	COR4PB8-1/4	20
10	3/8	COR4PB10-3/8	10

**Multiple tee - 5 connections**



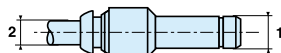
Tube Ø1	Tube Ø2	Plastic Order code	Box Qty
6	4	J5PK6-4	10
8	4	J5PK8-4	5
8	6	J5PK8-6	5
10	6	J5PK10-6	5

**Plug**



Tube Ø1	Plastic Order code	Box Qty	Metal Order code	Box Qty
4	FNPK4	50	FNPB4	50
6	FNPK6	50	FNPB6	50
8	FNPK8	50	FNPB8	50
10	FNPK10	50	FNPB10	30
12	FNPK12	30	FNPB12	20
14	FNPK14	30	FNPB14	20

**Tube end reducer**



Tube Ø1	Tube Ø2	Plastic Order code	Box Qty	Metal Order code	Box Qty
4	3	TR2PMK4-3	20		
6	4	TR2PK6-4	40	TRPB6-4	20
8	4	TR2PK8-4	40	TRPB8-4	20
8	6	TR2PK8-6	30	TRPB8-6	10
10	4	TR2PK10-4	30	TRPB10-4	10
10	6	TR2PK10-6	30	TRPB10-6	10
10	8	TR2PK10-8	20	TRPB10-8	10
12	6	TR2PK12-6	20	TRPB12-6	10
12	8	TR2PK12-8	20	TRPB12-8	10
12	10	TR2PK12-10	10	TRPB12-10	10
14	8	TR2PK14-8	20	TRPB14-8	10
14	10	TR2PK14-10	10	TRPB14-10	10
14	12	TR2PK14-12	10	TRPB14-12	5

## LF3000: Polymer Instant Fittings - Threaded

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

## 3101 Male Stud Fitting BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	3101 04 19
4	G1/8	3101 04 10
4	G1/4	3101 04 13
6	M5 x 0.8	3101 06 19
6	G1/8	3101 06 10
6	G1/4	3101 06 13
6	G3/8	3101 06 17
8	G1/8	3101 08 10
8	G1/4	3101 08 13
8	G3/8	3101 08 17
10	G1/4	3101 10 13
10	G3/8	3101 10 17
10	G1/2	3101 10 21
12	G3/8	3101 12 17
12	G1/2	3101 12 21
14	G3/8	3101 14 17
14	G1/2	3101 14 21

## 3199 Male Stud Elbow, BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	3199 04 19
4	G1/8	3199 04 10
4	G1/4	3199 04 13
6	M5 x 0.8	3199 06 19
6	G1/8	3199 06 10
6	G1/4	3199 06 13
6	G3/8	3199 06 17
8	G1/8	3199 08 10
8	G1/4	3199 08 13
8	G3/8	3199 08 17
8	G1/2	3199 08 21
10	G1/4	3199 10 13
10	G3/8	3199 10 17
10	G1/2	3199 10 21
12	G1/4	3199 12 13
12	G3/8	3199 12 17
12	G1/2	3199 12 21
14	G3/8	3199 14 17
14	G1/2	3199 14 21

## 3175 Male Stud Fitting BSPT



ØD	C	Order code
4	R1/8	3175 04 10
4	R1/4	3175 04 13
6	R1/8	3175 06 10
6	R1/4	3175 06 13
6	R3/8	3175 06 17
6	R1/2	3175 06 21
8	R1/8	3175 08 10
8	R1/4	3175 08 13
8	R3/8	3175 08 17
10	R1/4	3175 10 13
10	R3/8	3175 10 17
10	R1/2	3175 10 21
12	R3/8	3175 12 17
12	R1/2	3175 12 21
14	R3/8	3175 14 17
14	R1/2	3175 14 21

## 3169 Extended Male Stud Elbow, BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	3169 04 19
4	G1/8	3169 04 10
4	G1/4	3169 04 13
6	M5 x 0.8	3169 06 19
6	G1/8	3169 06 10
6	G1/4	3169 06 13
8	G1/8	3169 08 10
8	G1/4	3169 08 13
8	G3/8	3169 08 17
10	G1/4	3169 10 13
10	G3/8	3169 10 17
10	G1/2	3169 10 21
12	G1/4	3169 12 13
12	G3/8	3169 12 17
12	G1/2	3169 12 21
14	G3/8	3169 14 17
14	G1/2	3169 14 21

## 3114 Female Stud Fitting BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	3114 04 19
4	G1/8	3114 04 10
4	G1/4	3114 04 13
6	G1/8	3114 06 10
6	G1/4	3114 06 13
8	G1/8	3114 08 10
8	G1/4	3114 08 13
10	G1/4	3114 10 13
10	G3/8	3114 10 17
10	G1/2	3114 10 21
12	G3/8	3114 12 17
12	G1/2	3114 12 21
14	G3/8	3114 14 17

## 3129 Extended Male Stud Elbow, BSPT



ØD	C	Order code
4	R1/8	3129 04 10
4	R1/4	3129 04 13
6	R1/8	3129 06 10
6	R1/4	3129 06 13
8	R1/8	3129 08 10
8	R1/4	3129 08 13
8	R3/8	3129 08 17
10	R1/4	3129 10 13
10	R3/8	3129 10 17
10	R1/2	3129 10 21
12	R1/4	3129 12 13
12	R3/8	3129 12 17
12	R1/2	3129 12 21
14	R3/8	3129 14 17
14	R1/2	3129 14 21



## LF3000: Polymer Instant Fittings - Threaded

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

## 3109 Male Stud Elbow, BSPT



ØD	C	Order code
4	R1/8	3109 04 10
4	R1/4	3109 04 13
4	R3/8	3109 04 17
6	R1/8	3109 06 10
6	R1/4	3109 06 13
6	R3/8	3109 06 17
8	R1/8	3109 08 10
8	R1/4	3109 08 13
8	R3/8	3109 08 17
8	R1/2	3109 08 21
10	R1/8	3109 10 10
10	R1/4	3109 10 13
10	R3/8	3109 10 17
10	R1/2	3109 10 21
12	R1/4	3109 12 13
12	R3/8	3109 12 17
12	R1/2	3109 12 21
14	R3/8	3109 14 17
14	R1/2	3109 14 21

## 3198 Male Stud Branch Tee BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	3198 04 19
4	G1/8	3198 04 10
4	G1/4	3198 04 13
6	M5 x 0.8	3198 06 19
6	G1/8	3198 06 10
6	G1/4	3198 06 13
8	G1/8	3198 08 10
8	G1/4	3198 08 13
8	G3/8	3198 08 17
10	G1/4	3198 10 13
10	G3/8	3198 10 17
10	G1/2	3198 10 21
12	G1/4	3198 12 13
12	G3/8	3198 12 17
12	G1/2	3198 12 21
14	G3/8	3198 14 17
14	G1/2	3198 14 21

## 3192 Female Stud Elbow BSPP



ØD	C	Order code
4	G1/8	3192 04 10
4	G1/4	3192 04 13
6	G1/8	3192 06 10
6	G1/4	3192 06 13
8	G1/8	3192 08 10
8	G1/4	3192 08 13
8	G3/8	3192 08 17
10	G1/4	3192 10 13
10	G3/8	3192 10 17
10	G1/2	3192 10 21
12	G1/2	3192 12 21

## 3133 45° Male Elbow, BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	3133 04 19
4	G1/8	3133 04 10
6	M5 x 0.8	3133 06 19
6	G1/8	3133 06 10
6	G1/4	3133 06 13
8	G1/8	3133 08 10
8	G1/4	3133 08 13
8	G3/8	3133 08 17
10	G1/4	3133 10 13
10	G3/8	3133 10 17
10	G1/2	3133 10 21
12	G1/4	3133 12 13
12	G3/8	3133 12 17
12	G1/2	3133 12 21

## 3108 Male Stud Branch Tee, BSPT



ØD	C	Order code
4	R1/8	3108 04 10
4	R1/4	3108 04 13
6	R1/8	3108 06 10
6	R1/4	3108 06 13
8	R1/8	3108 08 10
8	R1/4	3108 08 13
8	R3/8	3108 08 17
10	R1/4	3108 10 13
10	R3/8	3108 10 17
10	R1/2	3108 10 21
12	R1/4	3108 12 13
12	R3/8	3108 12 17
12	R1/2	3108 12 21
14	R3/8	3108 14 17
14	R1/2	3108 14 21

## 3113 45° Male Elbow, BSPT



ØD	C	Order code
4	R1/8	3113 04 10
6	R1/8	3113 06 10
6	R1/4	3113 06 13
8	R1/8	3113 08 10
8	R1/4	3113 08 13
8	R3/8	3113 08 17
10	R1/4	3113 10 13
10	R3/8	3113 10 17
10	R1/2	3113 10 21
12	R1/4	3113 12 13
12	R3/8	3113 12 17
12	R1/2	3113 12 21

## LF3000: Polymer Instant Fittings - Threaded

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

## 3193 Male Stud Run Tee, BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	3193 04 19
4	G1/8	3193 04 10
4	G1/4	3193 04 13
6	M5 x 0,8	3193 06 19
6	G1/8	3193 06 10
6	G1/4	3193 06 13
8	G1/8	3193 08 10
8	G1/4	3193 08 13
8	G3/8	3193 08 17
10	G1/4	3193 10 13
10	G3/8	3193 10 17
10	G1/2	3193 10 21
12	G1/4	3193 12 13
12	G3/8	3193 12 17
12	G1/2	3193 12 21
14	G3/8	3193 14 17
14	G1/2	3193 14 21

## 3131 Male Standpipe BSPP



ØD	C	Order code
4	M5 x 0.8	3131 04 19
4	G1/8	3131 04 10
4	G1/4	3131 04 13
6	G1/8	3131 06 10
6	G1/4	3131 06 13
8	G1/8	3131 08 10
8	G1/4	3131 08 13
8	G3/8	3131 08 17
10	G1/4	3131 10 13
10	G3/8	3131 10 17
10	G1/2	3131 10 21
12	G3/8	3131 12 17
12	G1/2	3131 12 21
14	G3/8	3131 14 17
14	G1/2	3131 14 21

## 3103 Male Stud Run Tee, BSPT



ØD	C	Order code
4	R1/8	3103 04 10
4	R1/4	3103 04 13
6	R1/8	3103 06 10
6	R1/4	3103 06 13
8	R1/8	3103 08 10
8	R1/4	3103 08 13
8	R3/8	3103 08 17
10	R1/4	3103 10 13
10	R3/8	3103 10 17
10	R1/2	3103 10 21
12	R1/4	3103 12 13
12	R3/8	3103 12 17
12	R1/2	3103 12 21
14	R3/8	3103 14 17
14	R1/2	3103 14 21

## 3158 "Y" piece, BSPP



ØD	C	Order code
4	M5 x 0.8	3158 04 19
4	G1/8	3158 04 10
4	G1/4	3158 04 13
6	M5 x 0.8	3158 06 19
6	G1/8	3158 06 10
6	G1/4	3158 06 13
8	G1/8	3158 08 10
8	G1/4	3158 08 13
8	G3/8	3158 08 17
10	G1/4	3158 10 13
10	G3/8	3158 10 17
10	G1/2	3158 10 21
12	G3/8	3158 12 17
12	G1/2	3158 12 21

## 3121 Male Standpipe BSPT



ØD	C	Order code
4	R1/8	3121 04 10
4	R1/4	3121 04 13
6	R1/8	3121 06 10
6	R1/4	3121 06 13
8	R1/8	3121 08 10
8	R1/4	3121 08 13
8	R3/8	3121 08 17
10	R1/4	3121 10 13
10	R3/8	3121 10 17
10	R1/2	3121 10 21
12	R3/8	3121 12 17
12	R1/2	3121 12 21
14	R1/2	3121 14 21

## 3132 Male Double "Y" BSPP



ØD	C	Order code
4	G1/8	3132 04 10
4	G1/4	3132 04 13
6	G1/8	3132 06 10
6	G1/4	3132 06 13

## LF3000: Polymer Instant Fittings - Threaded

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

### 3118 Single Banjo, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	3118 04 19
4	G1/8	3118 04 10
6	M5 x 0.8	3118 06 19
6	G1/8	3118 06 10
6	G1/4	3118 06 13
8	G1/8	3118 08 10
8	G1/4	3118 08 13
8	G3/8	3118 08 17
10	G1/4	3118 10 13
10	G3/8	3118 10 17
10	G1/2	3118 10 21
12	G3/8	3118 12 17
12	G1/2	3118 12 21

### 3189 Oscillating Compact Elbow, BSPP



ØD	C	Order code
4	G1/8	3189 04 10
6	G1/8	3189 06 10
6	G1/4	3189 06 13
8	G1/8	3189 08 10
8	G1/4	3189 08 13
8	G3/8	3189 08 17
10	G1/4	3189 10 13
10	G3/8	3189 10 17
12	G1/4	3189 12 13
12	G3/8	3189 12 17

### 3149 Double Banjo, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	3149 04 19
4	G1/8	3149 04 10
4	G1/4	3149 04 13
6	G1/8	3149 06 10
6	G1/4	3149 06 13
6	G3/8	3149 06 17
8	G1/4	3149 08 13
8	G3/8	3149 08 17
10	G3/8	3149 10 17

### 3391 Self-Sealing Male Stud Fitting, BSPP



ØD	C	Order code
4	G1/8	3391 04 10
6	G1/8	3391 06 10
8	G1/8	3391 08 10
8	G1/4	3391 08 13
10	G3/8	3391 10 17

### 3119 Double banjo, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	3119 04 19
4	G1/8	3119 04 10
6	G1/8	3119 06 10
6	G1/4	3119 06 13
8	G1/4	3119 08 13
8	G3/8	3119 08 17
10	G3/8	3119 10 17

### 3124 Single Banjo with Female, BSPP & M5



ØD	C	Order code
4	M5 x 0.8	3124 04 19
4	G1/8	3124 04 10
6	G1/4	3124 06 13
8	G3/8	3124 08 17

## LF3000: Polymer Instant Fittings - Union

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

## 3102 Equal Elbow



ØD	Order code
4	3102 04 00
6	3102 06 00
8	3102 08 00
10	3102 10 00
12	3102 12 00
14	3102 14 00

## 3140 Single "Y" piece - Equal &amp; Unequal



ØD1	ØD2	Order code
4	4	3140 04 00
4	6	3140 04 06
6	6	3140 06 00
6	8	3140 06 08
8	8	3140 08 00

## 3104 Tee - Equal &amp; Unequal



ØD1	ØD2	Order code
4	4	3104 04 00
4	6	3104 04 06
6	4	3104 06 04
6	6	3104 06 00
6	8	3104 06 08
8	6	3104 08 06
8	8	3104 08 00
8	10	3104 08 10
10	8	3104 10 08
10	10	3104 10 00
10	12	3104 10 12
12	10	3104 12 10
12	12	3104 12 00
14	8	3104 14 08
14	14	3104 14 00

## 3144 Multiple "Y" piece - Equal &amp; Unequal



ØD1	ØD2	Order code
4	4	3144 04 04
4	6	3144 04 06
6	6	3144 06 06
6	8	3144 06 08

## 3304 Unequal Multiple Tee



ØD1	ØD2	Order code
6	4	3304 06 04
8	4	3304 08 04
8	6	3304 08 06
10	6	3304 10 06
10	8	3304 10 08

## 3106 Tube/Tube Connector - Equal &amp; Unequal



ØD1	ØD2	Order code
4	4	3106 04 00
4	6	3106 04 06
4	8	3106 04 08
6	6	3106 06 00
6	8	3106 06 08
6	10	3106 06 10
8	8	3106 08 00
8	10	3106 08 10
8	12	3106 08 12
10	10	3106 10 00
10	12	3106 10 12
12	12	3106 12 00
12	14	3106 12 14
14	14	3106 14 00

## 3306 Unequal Multiple Elbow



ØD1	ØD2	Order code
6	4	3306 06 04
8	4	3306 08 04
8	6	3306 08 06
10	6	3306 10 06
10	8	3306 10 08

## 3107 Cross - Equal &amp; Unequal



ØD1	ØD2	Order code
4	4	3107 04 00
4	6	3107 04 06
6	6	3107 06 00
6	8	3107 06 08
8	8	3107 08 00

## LF3000: Polymer Instant Fittings - Union

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

### 3310 Manifold with LF3000



ØD1	ØD2	Order code
4	G1/4	<b>3310 04 13</b>
6	G1/4	<b>3310 06 13</b>
8	G3/8	<b>3310 08 17</b>
10	G1/2	<b>3310 10 21</b>
12	G1/2	<b>3310 12 21</b>

### 3182 Plug-In Equal Compact Elbow



ØD1	ØD2	Order code
4	4	<b>3182 04 00</b>
6	6	<b>3182 06 00</b>
8	8	<b>3182 08 00</b>
10	10	<b>3182 10 00</b>
12	12	<b>3182 12 00</b>

### 3151 Female Plug with Instant Connection



ØD	Order code
4	<b>3151 04 00</b>
6	<b>3151 06 00</b>
8	<b>3151 08 00</b>
10	<b>3151 10 00</b>
12	<b>3151 12 00</b>

### 3188 Plug-In Equal Compact Tee



ØD1	ØD2	Order code
4	4	<b>3188 04 00</b>
6	6	<b>3188 06 00</b>
8	8	<b>3188 08 00</b>
10	10	<b>3188 10 00</b>
12	12	<b>3188 12 00</b>

### 3116 Equal Bulkhead Connector



ØD	Order code
4	<b>3116 04 00</b>
6	<b>3116 06 00</b>
8	<b>3116 08 00</b>
10	<b>3116 10 00</b>
12	<b>3116 12 00</b>
14	<b>3116 14 00</b>

### 3183 Plug-In Equal Run Tee



ØD1	ØD2	Order code
4	4	<b>3183 04 00</b>
6	6	<b>3183 06 00</b>
8	8	<b>3183 08 00</b>
10	10	<b>3183 10 00</b>
12	12	<b>3183 12 00</b>

### 3136 Female Bulkhead Connector



ØD	C	Order code
4	G1/8	<b>3136 04 10</b>
4	G1/4	<b>3136 04 13</b>
6	G1/8	<b>3136 06 10</b>
6	G1/4	<b>3136 06 13</b>
6	G3/8	<b>3136 06 17</b>
8	G1/8	<b>3136 08 10</b>
8	G1/4	<b>3136 08 13</b>
10	G3/8	<b>3136 10 17</b>
12	G3/8	<b>3136 12 17</b>
12	G1/2	<b>3136 12 21</b>

### 3166 Reducer



ØD1	ØD2	Order code
4	6	<b>3166 04 06</b>
4	8	<b>3166 04 08</b>
4	10	<b>3166 04 10</b>
6	8	<b>3166 06 08</b>
6	10	<b>3166 06 10</b>
6	12	<b>3166 06 12</b>
6	14	<b>3166 06 14</b>
8	10	<b>3166 08 10</b>
8	12	<b>3166 08 12</b>
8	14	<b>3166 08 14</b>
10	12	<b>3166 10 12</b>
10	14	<b>3166 10 14</b>
12	14	<b>3166 12 14</b>

### 3139 Equal Bulkhead Elbow



ØD	Order code
4	<b>3139 04 00</b>
6	<b>3139 06 00</b>
8	<b>3139 08 00</b>
10	<b>3139 10 00</b>
12	<b>3139 12 00</b>
14	<b>3139 14 00</b>

### 3168 Increaser



ØD1	ØD2	Order code
6	4	<b>3168 06 04</b>
8	6	<b>3168 08 06</b>
10	8	<b>3168 10 08</b>
12	10	<b>3168 12 10</b>

**LF3000: Polymer Instant Fittings - Union**

-20°C to +80°C  
20 bar max. (vacuum 755 mmHg)

**3126 Blanking Plugs**



ØD	Order code
4	3126 04 00
6	3126 06 00
8	3126 08 00
10	3126 10 00
12	3126 12 00
14	3126 14 00

**3320 Multi-Connector Male Screw Body**



o.d. tube	Number of outlets	Order code
4	2	3320 04 00 02
4	4	3320 04 00 04
4	7	3320 04 00 07
4	12	3320 04 00 12
6	2	3320 06 00 02
6	4	3320 06 00 04
6	7	3320 06 00 07
8	2	3320 08 00 02

**Clip Strips for Tubes**



ØD	Order code
4	Clip 04 00
6	Clip 06 00
8	Clip 08 00
10	Clip 10 00
12	Clip 12 00
14	Clip 14 00

**3321 Multi-Connector Female Screw Body**



o.d. tube	Number of outlets	Order code
4	2	3321 04 00 02
4	4	3321 04 00 04
4	7	3321 04 00 07
4	12	3321 04 00 12
6	4	3321 06 00 04
6	7	3321 06 00 07
8	2	3321 08 00 02

**3100 Carstick**



ØD	Order code
4	3100 04 00
6	3100 06 00
8	3100 08 00
10	3100 10 00
12	3100 12 00
14	3100 14 00

**3329 Multi-Connector Screw Cap**



Number of outlets	Order code
2	3329 00 01
4 - 7	3329 00 02
12	3329 00 03

**3379 DIN Rail Connector for 2 tubes in line**



ØD	Order code
4	3379 04 00
6	3379 06 00
8	3379 08 00

**3381 DIN Rail Connector for 3 Tubes**



ØD	Order code
4	3381 04 00
6	3381 06 00
8	3381 08 00

**Multi-Connector Assembly Photo**



## Function Fittings: Flow Control Regulators in Polymer

0°C to +70°C  
from 1 to 10 bar max.

## 7060 Compact BSPP - exhaust (A)



ØD	C	Order code
4	G1/8	7060 04 10
6	G1/8	7060 06 10
6	G1/4	7060 06 13
8	G1/8	7060 08 10
8	G1/4	7060 08 13
8	G3/8	7060 08 17
10	G1/4	7060 10 13
10	G3/8	7060 10 17
12	G3/8	7060 12 17
12	G1/2	7060 12 21

## 7061 Compact BSPP - supply (B)



ØD	C	Order code
4	G1/8	7061 04 10
6	G1/8	7061 06 10
6	G1/4	7061 06 13
8	G1/8	7061 08 10
8	G1/4	7061 08 13
8	G3/8	7061 08 17
10	G1/4	7061 10 13
10	G3/8	7061 10 17
12	G1/2	7061 12 21

## 7062 Compact BSPP - bi-directional (C)



ØD	C	Order code
4	G1/8	7062 04 10
6	G1/8	7062 06 10
6	G1/4	7062 06 13
8	G1/8	7062 08 10
8	G1/4	7062 08 13
8	G3/8	7062 08 17

## 7660 Miniature BSPP &amp; M5 - exhaust (A)



ØD	C	Order code
4	M5 x 0.8	7660 04 19
4	G1/8	7660 04 10
6	M5 x 0.8	7660 06 19
6	G1/8	7660 06 10
6	G1/4	7660 06 13
8	G1/8	7660 08 10
8	G1/4	7660 08 13
8	G3/8	7660 08 17

## 7662 Miniature BSPP &amp; M5 - bi-directional (C)



ØD	C	Order code
4	M5 x 0.8	7662 04 19
4	G1/8	7662 04 10
6	M5 x 0.8	7662 06 19
6	G1/8	7662 06 10
6	G1/4	7662 06 13

## 7669 Miniature BSPP &amp; M5 - supply (B)



ØD	C	Order code
4	M5 x 0.8	7669 04 19
4	G1/8	7669 04 10
6	M5 x 0.8	7669 06 19
6	G1/8	7669 06 10
6	G1/4	7669 06 13
8	G1/8	7669 08 10
8	G1/4	7669 08 13
8	G3/8	7669 08 17

7010 Recessed Adjust.Screw,  
BSPP & M5 - exhaust (A)

ØD	C	Order code
4	M5 x 0.8	7010 04 19
4	G1/8	7010 04 10
6	M5 x 0.8	7010 06 19
6	G1/8	7010 06 10
6	G1/4	7010 06 13
8	G1/8	7010 08 10
8	G1/4	7010 08 13
8	G3/8	7010 08 17
10	G1/4	7010 10 13
10	G3/8	7010 10 17
10	G1/2	7010 10 21
12	G3/8	7010 12 17
12	G1/2	7010 12 21

7011 Recessed Adjust.Screw,  
BSPP & M5 - supply (B)

ØD	C	Order code
4	M5 x 0.8	7011 04 19
4	G1/8	7011 04 10
6	M5 x 0.8	7011 06 19
6	G1/8	7011 06 10
6	G1/4	7011 06 13
8	G1/8	7011 08 10
8	G1/4	7011 08 13
8	G3/8	7011 08 17
10	G1/4	7011 10 13
10	G3/8	7011 10 17

7012 Recessed Adjust.Screw,  
BSPP & M5 - bi-directional (C)

ØD	C	Order code
4	M5 x 0.8	7012 04 19
4	G1/8	7012 04 10
6	M5 x 0.8	7012 06 19
6	G1/8	7012 06 10
6	G1/4	7012 06 13
8	G1/8	7012 08 10
8	G1/4	7012 08 13
8	G3/8	7012 08 17

## Function Fittings: Flow Control Regulators in Polymer

0°C to +70°C  
from 1 to 10 bar max.

### 7040 Compact Swivel Elbow, BSPP - exhaust (A)



ØD	C	Order code
6	G1/8	7040 06 10
6	G1/4	7040 06 13
8	G1/8	7040 08 10
8	G1/4	7040 08 13
8	G3/8	7040 08 17
10	G1/4	7040 10 13
10	G3/8	7040 10 17
12	G3/8	7040 12 17
12	G1/2	7040 12 21

### 7772 - In-line with instant connection, Bi-directional (C)



ØD	Order code
4	7772 04 00
6	7772 06 00
8	7772 08 00

### 7041 Compact Swivel Elbow, BSPP - supply (B)



ØD	C	Order code
6	G1/4	7041 06 13
8	G1/8	7041 08 10
8	G1/4	7041 08 13

### 7771 In-line with Threaded Connections, BSPP, One-Way Adjust (A)



C	Order code
G1/8	7771 10 10
G1/4	7771 13 13
G3/8	7771 17 17
G1/2	7771 21 21

### 7640 Miniature BSPP & Metric - exhaust (A)



ØD	C	Order code
4	M5 x 0,8	7640 04 19
4	G1/8	7640 04 10
6	M5 x 0,8	7640 06 19
6	G1/8	7640 06 10

### 7776 - In-line with instant connection, One-Way Adjust (A), Panel Mountable



ØD	Order code
4	7776 04 00
6	7776 06 00
8	7776 08 00
10	7776 10 00
12	7776 12 00

### 7649 Miniature BSPP & Metric - supply (B)



ØD	C	Order code
4	M5 x 0,8	7649 04 19
4	G1/8	7649 04 10
6	M5 x 0,8	7649 06 19
6	G1/8	7649 06 10

### 7770 - In-line with instant connection, One-Way Adjust (A)



ØD	Order code
4	7770 04 00
6	7770 06 00
8	7770 08 00
10	7770 10 00
12	7770 12 00



## Function Fittings: Flow Control Regulators in Brass

0°C to +70°C  
from 1 to 10 bar max.

### 7100 Compact with instant connection, BSPP - exhaust (A)



ØD	C	Order code
4	G1/8	7100 04 10
6	G1/8	7100 06 10
6	G1/4	7100 06 13
8	G1/8	7100 08 10
8	G1/4	7100 08 13
8	G3/8	7100 08 17
10	G1/4	7100 10 13
10	G3/8	7100 10 17
12	G3/8	7100 12 17
12	G1/2	7100 12 21
14	G1/2	7100 14 21

### 7101 Compact with instant connection, BSPP - supply (B)



ØD	C	Order code
4	G1/8	7101 04 10
6	G1/8	7101 06 10
6	G1/4	7101 06 13
8	G1/8	7101 08 10
8	G1/4	7101 08 13
8	G3/8	7101 08 17

### 7110 Compact with Threaded Fitting, BSPP - exhaust (A)



C	Order code
G1/8	7110 10 10
G1/4	7110 13 13
G3/8	7110 17 17
G1/2	7110 21 21
G1/8	7111 10 10
G1/4	7111 13 13

### 7111 Compact with Threaded Fitting, BSPP - supply (B)



C	Order code
G1/8	7111 10 10
G1/4	7111 13 13

### 7170 In-line Flow Regulator, BSPP & M5



C	Order code
M5	7170 19 19
G1/8	7170 10 10
G1/4	7170 13 13
G3/8	7170 17 17
G1/2	7170 21 21

Body in aluminium

### 7130 Recessed Adjust.Screw, BSPP & M5 - exhaust (A)



ØD	C	Order code
4	G1/8	7130 04 10
4	M5 x 0.8	7130 04 19
6	G1/8	7130 06 10
6	G1/4	7130 06 13
6	M5 x 0.8	7130 06 19
8	G1/8	7130 08 10
8	G1/4	7130 08 13
8	G3/8	7130 08 17
10	G1/4	7130 10 13
10	G3/8	7130 10 17
10	G1/2	7130 10 21
12	G3/8	7130 12 17
12	G1/2	7130 12 21

### 7140 Threaded Recessed Adjust.Screw, BSPP & M5 - exhaust (A)



C	Order code
M5 x 0.8	7140 19 19
G1/8	7140 10 10
G1/4	7140 13 13
G3/8	7140 17 17
G1/2	7140 21 21

### 7160 with Universal Brass Compression Fitting, Recessed Adjust. Screw, BSP - exhaust (A)



ØD	C	Order code
4	G1/8	7160 04 10
6	G1/8	7160 06 10
6	G1/4	7160 06 13
8	G1/8	7160 08 10
8	G1/4	7160 08 13
10	G1/4	7160 10 13
10	G3/8	7160 10 17
10	G1/2	7160 10 21
12	G3/8	7160 12 17
12	G1/2	7160 12 21

### 7762 with Universal Brass Compression Fitting, external adjust, BSPP - exhaust (A)



ØD	C	Order code
8	G1/8	7762 08 10
10	G1/4	7762 10 13
14	G3/8	7762 14 17
18	G1/2	7762 18 21

## Function Fittings

from 1 to 10 bar max.

### 7880 Blocking Fitting, Male Thread BSPP, with instant connection



ØD	C	Order code
6	G1/8	7880 06 10
6	G1/4	7880 06 13
8	G1/4	7880 08 13
8	G3/8	7880 08 17
10	G3/8	7880 10 17
12	G1/2	7880 12 21

### 7881 Blocking Fitting, Male, Threaded Port, BSPP



C1	C2	Order code
G1/8	G1/4	7881 13 10
G1/4	G1/4	7881 13 13
G3/8	G3/8	7881 17 17
G1/2	G1/2	7881 21 21

### 7883 Blocking Fitting, Male Thread BSPP, with instant connection & flow regulator



ØD	C	Order code
4	G1/8	7883 04 10
6	G1/8	7883 06 10
6	G1/4	7883 06 13
8	G1/4	7883 08 13
8	G3/8	7883 08 17

### 7996 Non-Return Valve with instant connection



ØD	Order code
4	7996 04 00
6	7996 06 00
8	7996 08 00
10	7996 10 00
12	7996 12 00

### 7994 Non-Return Valve with instant connection, BSPP & M5 -exhaust (A)



ØD	C	Order code
4	M5 x 0.8	7994 04 19
4	G1/8	7994 04 10
6	G1/8	7994 06 10
6	G1/4	7994 06 13
8	G1/8	7994 08 10
8	G1/4	7994 08 13
10	G3/8	7994 10 17
12	G3/8	7994 12 17
12	G1/2	7994 12 21

### 7984 Non-Return Valve with instant connection, BSPP & M5 -supply (B)



ØD	C	Order code
4	M5 x 0,8	7984 04 19
4	G1/8	7984 04 10
6	G1/8	7984 06 10
6	G1/4	7984 06 13
8	G1/8	7984 08 10
8	G1/4	7984 08 13
10	G3/8	7984 10 17
12	G3/8	7984 12 17
12	G1/2	7984 12 21

### 7818 Sensor Fitting with instant connection, pneumatic, BSPP & M5



C	Order code
M5 x 0,8	7818 04 19
G1/8	7818 04 10
G1/4	7818 04 13
G3/8	7818 04 17
G1/2	7818 04 21

### 7818 Sensor Fitting, Threaded Fittings, pneumatic, BSPP & M5



C	Order code
G1/8	7818 19 10
G1/4	7818 19 13

### 7828 Sensor Fitting, Pneumatic/Electric BSPP & M5



C	Order code
M5 x 0,8	7828 00 19
G1/8	7828 00 10
G1/4	7828 00 13
G3/8	7828 00 17
G1/2	7828 00 21

## Function Fittings

from 1 to 10 bar max.

### 7300 Pressure Regulator Fitting with instant connection, BSPP



ØD	C	Order code
4	G1/8	7300 04 10
6	G1/8	7300 06 10
6	G1/4	7300 06 13
8	G1/8	7300 08 10
8	G1/4	7300 08 13
8	G3/8	7300 08 17
10	G1/4	7300 10 13
10	G3/8	7300 10 17

### 7861 Soft Start Valve with Threaded Fitting, BSPP - for system isolating valve



C	Order code
G1/4	7861 13 13
G3/8	7861 17 17
G1/2	7861 21 21

### 7318 Pressure Reducer, with instant connection, BSPP



ØD	C	Order code
6	G1/8	7318 06 10
6	G1/4	7318 06 13
8	G1/4	7318 08 13
10	G1/4	7318 10 13
10	G3/8	7318 10 17

### 7800 3/2 Manual Switch Operated Valve, with instant connection BSPP & M5 (supply)



ØD	C	Order code
4	M5 x 0.8	7800 04 19
4	G1/8	7800 04 10
6	M5 x 0.8	7800 06 19
6	G1/8	7800 06 10
6	G1/4	7800 06 13
8	G1/8	7800 08 10
8	G1/4	7800 08 13
10	G1/4	7800 10 13

### 7316 Pressure Reducer, In-Line with instant connection



ØD	Order code
6	7316 06 00
8	7316 08 00
10	7316 10 00

### 7801 3/2 Manual Switch Operated Valve, with instant connection BSPP & M5 (control)



ØD	C	Order code
4	G1/8	7801 04 10
6	G1/8	7801 06 10
6	G1/4	7801 06 13
8	G1/8	7801 08 10
8	G1/4	7801 08 13
10	G1/4	7801 10 13

### 7860 Soft Start Valve with instant connection, BSPP - for System isolating valve



ØD	C	Order code
8	G1/4	7860 08 13
10	G1/4	7860 10 13
10	G3/8	7860 10 17
12	G3/8	7860 12 17
12	G1/2	7860 12 21

### 7970 Elbow Quick Exhaust Valve, BSPP



C	Order code
M5	7970 19 19
G1/8	7970 10 10
G1/4	7970 13 13
G3/8	7970 17 17
G1/2	7970 21 21
G3/4	7970 27 27
G1"	7970 34 34

### 7870 Soft Start Valve with instant connection, BSPP - for Control valve



ØD	C	Order code
8	G1/4	7870 08 13
10	G1/4	7870 10 13
10	G3/8	7870 10 17

### 7971 In-Line Quick Exhaust Valve male BSPT, female BSPP



C	Order code
G1/8	7971 10 10
G1/4	7971 13 13
G3/8	7971 17 17
G1/2	7971 21 21

## Function Fittings

from 1 to 10 bar max.

## 0669 Sleeve Valve, Double Female, BSPP &amp; M5



C	DN	Order code
M5 x 0.8	2	0669 02 19
G1/8	4	0669 04 10
G1/4	7	0669 07 13
G3/8	10	0669 10 17
G1/2	14	0669 14 21
G3/4	19	0669 19 27

## 0670 Threaded Silencer, BSPP

-20° to +150°C  
12 bar

C	Order code
G1/8	0670 00 10
G1/4	0670 00 13
G3/8	0670 00 17
G1/2	0670 00 21
G3/4	0670 00 27

## 7913 Mini Ball Valves, 3/2 version, with vent, with instant connection



ØD	Order code
4	7913 04 00
6	7913 06 00
8	7913 08 00
10	7913 10 00
12	7913 12 00

## 0673 Threaded Silencer, Male BSPP &amp; M5

-20° to +150°C  
12 bar

C	Order code
M5 x 0.8	0673 00 19
G1/8	0673 00 10
G1/4	0673 00 13
G3/8	0673 00 17
G1/2	0673 00 21

## 7914 Mini Ball Valves 3/2 version, with vent, with BSPP thread &amp; instant connection



ØD	C	Order code
6	G1/8	7914 06 10
8	G1/4	7914 08 13
10	G3/8	7914 10 17
12	G1/2	7914 12 21

## 0672 Flow-Control Silencer, Male BSPP

-20° to +150°C  
12 bar

C	Order code
G1/8	0672 00 10
G1/4	0672 00 13
G3/8	0672 00 17
G1/2	0672 00 21

## 7910 Mini Ball Valves, 2/2 version, with instant connection



ØD	Order code
4	7910 04 00
6	7910 06 00
8	7910 08 00
10	7910 10 00
12	7910 12 00

## 0674 Threaded Silencer, Male BSPP &amp; M5

-10° to +80°C  
10 bar

C	Order code
M5 x 0.8	0674 00 19
G1/8	0674 00 10
G1/4	0674 00 13
G3/8	0674 00 17
G1/2	0674 00 21
G3/4	0674 00 27

## 7911 Mini Ball Valves, 2/2 Version with BSPP thread &amp; instant connection



ØD	C	Order code
6	G1/8	7911 06 10
8	G1/4	7911 08 13
10	G3/8	7911 10 17
12	G1/2	7911 12 21

## 0677 Silencer, Miniature, BSPP

-20° to +150°C  
12 bar

C	Order code
G1/8	0677 00 10
G1/4	0677 00 13
G3/8	0677 00 17
G1/2	0677 00 21
G3/4	0677 00 27
G1"	0677 00 34

## Universal Compression Fittings

-40°C to +250°C / 550 bar max.  
(depending on the tubing material)

### 0105 Male Stud Coupling, BSPT



ØD	C	Order code
6	R1/8	0105 06 10
6	R1/4	0105 06 13
8	R1/8	0105 08 10
8	R1/4	0105 08 13
8	R3/8	0105 08 17
10	R1/4	0105 10 13
10	R3/8	0105 10 17
12	R3/8	0105 12 17
12	R1/2	0105 12 21
16	R1/4	0105 16 13
18	R1/2	0105 18 21

### 0106 Equal Straight Coupling



ØD	Order code
4	0106 04 00
5	0106 05 00
6	0106 06 00
8	0106 08 00
10	0106 10 00
12	0106 12 00
14	0106 14 00
16	0106 16 00
18	0106 18 00
22	0106 22 00

### 0109 Male Stud Elbow, BSPT



ØD	C	Order code
6	R1/8	0109 06 10
6	R1/4	0109 06 13
8	R1/8	0109 08 10
8	R1/4	0109 08 13
10	R1/4	0109 10 13
10	R3/8	0109 10 17
12	R1/4	0109 12 13
12	R1/2	0109 12 21
16	R1/4	0109 16 21

### 0104 Equal Tee



ØD	Order code
4	0104 04 00
6	0104 06 00
8	0104 08 00
10	0104 10 00
12	0104 12 00
14	0104 14 00
15	0104 15 00
16	0104 16 00
18	0104 18 00
22	0104 22 00

### 0101 Male Stud Coupling, BSPP and Metric Thread



ØD	C	Order code
6	G1/8	0101 06 10
6	G1/4	0101 06 13
8	G1/8	0101 08 10
8	G1/4	0101 08 13
10	G1/4	0101 10 13
10	G3/8	0101 10 17
12	G3/8	0101 12 17
16	G1/2	0101 16 21

### 0102 Equal Elbow



ØD	Order code
6	0102 06 00
8	0102 08 00
10	0102 10 00
12	0102 12 00
14	0102 14 00
15	0102 15 00
16	0102 16 00
18	0102 18 00
20	0102 20 00
22	0102 22 00

### 0118 Single Banjo, BSPP



ØD	C	Order code
6	G1/8	0118 06 10
6	G1/4	0118 06 13
8	G1/8	0118 08 10
8	G1/4	0118 08 13
10	G1/4	0118 10 13
10	G3/8	0118 10 17
12	G3/8	0118 12 17
16	G1/2	0118 16 21

### 0122 Tailpiece Adaptor for Rubber Hose



ØD1	ØD2	Order code
4	4	0122 04 04
5	4	0122 05 04
6	4	0122 06 04
8	6	0122 08 06
10	7	0122 10 07
12	10	0122 12 10
14	13	0122 14 13
15	13	0122 15 13
16	13	0122 16 13
18	16	0122 18 16

## LF3600: Chemical Nickel-Plated Brass Instant Fittings

-20°C to +150°C  
30 bar max.

### 3601 Male Stud, BSPP & M5



ØD	C	Order code
4	M5 x 0,8	3601 04 19
4	G1/8	3601 04 10
4	G1/4	3601 04 13
6	M5 x 0,8	3601 06 19
6	G1/8	3601 06 10
6	G1/4	3601 06 13
8	G1/8	3601 08 10
8	G1/4	3601 08 13
8	G3/8	3601 08 17
10	G1/4	3601 10 13
10	G3/8	3601 10 17
10	G1/2	3601 10 21
12	G1/4	3601 12 13
12	G3/8	3601 12 17
12	G1/2	3601 12 21
14	G3/8	3601 14 17
14	G1/2	3601 14 21

### 3699 Male Stud Elbow, BSPP & M5



20 bar max.

ØD	C	Order code
4	M5 x 0,8	3699 04 19
4	G1/8	3699 04 10
4	G1/4	3699 04 13
6	G1/8	3699 06 10
6	G1/4	3699 06 13
8	G1/8	3699 08 10
8	G1/4	3699 08 13
8	G3/8	3699 08 17
10	G1/4	3699 10 13
10	G3/8	3699 10 17
12	G1/4	3699 12 13
12	G3/8	3699 12 17
12	G1/2	3699 12 21
14	G3/8	3699 14 17
14	G1/2	3699 14 21

### 3675 Male Stud, BSPT



ØD	C	Order code
4	R1/8	3675 04 10
4	R1/4	3675 04 13
6	R1/8	3675 06 10
6	R1/4	3675 06 13
8	R1/8	3675 08 10
8	R1/4	3675 08 13
8	R3/8	3675 08 17
10	R1/4	3675 10 13
10	R3/8	3675 10 17
10	R1/2	3675 10 21
12	R1/4	3675 12 13
12	R3/8	3675 12 17
12	R1/2	3675 12 21
14	R3/8	3675 14 17
14	R1/2	3675 14 21

### 3609 Male Stud Elbow, BSPT



20 bar max.

ØD	C	Order code
4	R1/8	3609 04 10
4	R1/4	3609 04 13
6	R1/8	3609 06 10
6	R1/4	3609 06 13
8	R1/8	3609 08 10
8	R1/4	3609 08 13
8	R3/8	3609 08 17
10	R1/4	3609 10 13
10	R3/8	3609 10 17
12	R1/4	3609 12 13
12	R3/8	3609 12 17
12	R1/2	3609 12 21
14	R3/8	3609 14 17
14	R1/2	3609 14 21

### 3614 Female Stud, BSPP & Metric



ØD	C	Order code
4	M5 x 0,8	3614 04 19
4	G1/8	3614 04 10
4	G1/4	3614 04 13
6	G1/8	3614 06 10
6	G1/4	3614 06 13
8	G1/8	3614 08 10
8	G1/4	3614 08 13
10	G3/8	3614 10 17
12	G3/8	3614 12 17
12	G1/2	3614 12 21

### 3669 Extended Male Stud Elbow, BSPP & M5



ØD	C	Order code
4	M5 x 0,8	3669 04 19
4	G1/8	3669 04 10
6	G1/8	3669 06 10
6	G1/4	3669 06 13
8	G1/8	3669 08 10
8	G1/4	3669 08 13
10	G1/4	3669 10 13
10	G3/8	3669 10 17
12	G1/4	3669 12 13
12	G3/8	3669 12 17
14	G1/2	3669 14 21

## LF3600: Chemical Nickel-Plated Brass Instant Fittings

-20°C to +150°C  
30 bar max.

## 3698 Male Stud Branch Tee, BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	3698 04 19
4	G1/8	3698 04 10
6	G1/8	3698 06 10
6	G1/4	3698 06 13
8	G1/8	3698 08 10
8	G1/4	3698 08 13
10	G1/4	3698 10 13
12	G3/8	3698 12 17
14	G1/2	3698 14 21

## 3606 Equal Tube to Tube Connector



ØD	Order code
4	3606 04 00
6	3606 06 00
8	3606 08 00
10	3606 10 00
12	3606 12 00
14	3606 14 00

## 3693 Male Stud Run Tee, BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	3693 04 19
4	G1/8	3693 04 10
6	G1/8	3693 06 10
6	G1/4	3693 06 13
8	G1/8	3693 08 10
8	G1/4	3693 08 13
10	G1/4	3693 10 13
12	G3/8	3693 12 17
14	G1/2	3693 14 21

## 3616 Equal Bulkhead Connector



ØD	Order code
4	3616 04 00
6	3616 06 00
8	3616 08 00
10	3616 10 00
12	3616 12 00
14	3616 14 00

## 3618 Single Banjo, BSPP &amp; M5



ØD	C	Order code
4	M5 x 0.8	3618 04 19
4	G1/8	3618 04 10
6	M5 x 0.8	3618 06 19
6	G1/8	3618 06 10
6	G1/4	3618 06 13
8	G1/8	3618 08 10
8	G1/4	3618 08 13
10	G3/8	3618 10 17

## 3636 Female Bulkhead Connector, BSPP



ØD	C	Order code
4	G1/8	3636 04 10
6	G1/8	3636 06 10
6	G1/4	3636 06 13
8	G1/8	3636 08 10
8	G1/4	3636 08 13
10	G3/8	3636 10 17
12	G3/8	3636 12 17
12	G1/2	3636 12 21

## 3602 Equal Elbow



ØD	Order code
4	3602 04 00
6	3602 06 00
8	3602 08 00
10	3602 10 00
12	3602 12 00
14	3602 14 00

## 3639 Equal Bulkhead Elbow



ØD	Order code
4	3639 04 00
6	3639 06 00
8	3639 08 00
10	3639 10 00
12	3639 12 00
14	3639 14 00

## 3604 Equal Tee



ØD	Order code
4	3604 04 00
6	3604 06 00
8	3604 08 00
10	3604 10 00
12	3604 12 00
14	3604 14 00

**LF3600: Chemical Nickel-Plated Brass Instant Fittings**

-20°C to +150°C  
30 bar max.

**3666 Plug-In Reducer**

ØD2



ØD1	ØD2	Order code
4	6	<b>3666 04 06</b>
4	8	<b>3666 04 08</b>
6	8	<b>3666 06 08</b>
6	10	<b>3666 06 10</b>
6	12	<b>3666 06 12</b>
8	10	<b>3666 08 10</b>
8	12	<b>3666 08 12</b>
8	14	<b>3666 08 14</b>
10	12	<b>3666 10 12</b>
10	14	<b>3666 10 14</b>
12	14	<b>3666 12 14</b>

**3668 Plug-In Increaser**

ØD1	ØD2	Order code
6	4	<b>3668 06 04</b>

**3626 Blanking Plug**

ØD	Order code
4	<b>3626 04 00</b>
6	<b>3626 06 00</b>
8	<b>3626 08 00</b>
10	<b>3626 10 00</b>
12	<b>3626 12 00</b>
14	<b>3626 14 00</b>



## Pneumatic Accessories in Nickel-Plated Brass

-10°C to +80°C  
60 bar max.

## 0900 Straight Male, Unequal Adaptor, BSPT



C1	C2	Order code
R1/8	R1/8	0900 00 10
R1/4	R1/4	0900 00 13
R3/8	R3/8	0900 00 17
R1/2	R1/2	0900 00 21
R3/4	R3/4	0900 00 27
R1"	R1"	0900 00 34
R1/8	R1/4	0900 10 13
R1/8	R3/8	0900 10 17
R1/4	R3/8	0900 13 17
R1/4	R1/2	0900 13 21
R3/8	R1/2	0900 17 21
R1/2	R3/4	0900 21 27
R3/4	R1"	0900 27 34

## 0905 Reducer Male to Female BSPP &amp; M5



C1	C2	Order code
G1/8	M5 x 0.8	0905 19 10
G1/4	G1/8	0905 10 13
G3/8	G1/8	0905 10 17
G3/8	G1/4	0905 13 17
G1/2	G1/4	0905 13 21
G1/2	G3/8	0905 17 21
G3/4	G3/8	0905 17 27
G3/4	G1/2	0905 21 27

## 0901 Equal/Unequal Adaptor, BSPP &amp; M5



C1	C2	Order code
M5 x 0,8	M5 x 0,8	0901 00 19
M5 x 0,8	G1/8	0901 19 10

## 0906 Increaser Male to Female BSPP &amp; M5



C1	C2	Order code
M5 x 0,8	G1/8	0906 10 19
G1/8	G1/4	0906 10 13
G1/8	G3/8	0906 10 17
G1/4	G3/8	0906 13 17
G1/4	G1/2	0906 13 21
G3/8	G1/2	0906 17 21

## 0902 Straight Female, Equal/Unequal Adaptor, BSPP &amp; M5



C1	C2	Order code
M5 x 0.8	G1/8	0902 19 10
M5 x 0.8	M5 x 0.8	0902 00 19
G1/8	G1/8	0902 00 10
G1/4	G1/4	0902 00 13
G3/8	G3/8	0902 00 17
G1/2	G1/2	0902 00 21
G3/4	G3/4	0902 00 27
G1/8	G1/4	0902 10 13
G1/4	G3/8	0902 13 17

## 0907 Female Extended Adaptor Male/Female BSPP



C	Order code
G1/8	0907 00 10
G1/4	0907 00 13

## 0904 Reducer Male BSPT to Female BSPP



C1	C2	Order code
R1/4	G1/8	0904 10 13
R3/8	G1/8	0904 10 17
R3/8	G1/4	0904 13 17
R1/2	G1/4	0904 13 21
R1/2	G3/8	0904 17 21
R3/4	G3/8	0904 17 27
R3/4	G1/2	0904 21 27

## 0912 Equal Female Stud Elbow, BSPP &amp; M5



C	Order code
M5 x 0.8	0912 00 19
G1/8	0912 00 10
G1/4	0912 00 13
G3/8	0912 00 17
G1/2	0912 00 21
G3/4	0912 00 27

## 0913 Equal Female Stud Elbow BSPP, Male BSPT



C1	C2	Order code
G1/8	R1/8	0913 00 10
G1/4	R1/4	0913 00 13
G3/8	R3/8	0913 00 17
G1/2	R1/2	0913 00 21
G3/4	R3/4	0913 00 27

## Pneumatic Accessories in Nickel-Plated Brass

-10°C to +80°C  
60 bar max.\*

## 0914 Equal Male Stud Elbow, BSPT



C	Order code
R1/8	0914 00 10
R1/4	0914 00 13
R3/8	0914 00 17
R1/2	0914 00 21
R3/4	0914 00 27

## 0915 Equal Female Tee, BSPP &amp; M5



C	Order code
M5 x 0.8	0915 00 19
G1/8	0915 00 10
G1/4	0915 00 13
G3/8	0915 00 17
G1/2	0915 00 21
G3/4	0915 00 27

## 0916 Male Stud Branch Tee, Female BSPP &amp; Male BSPT



C1	C2	Order code
G1/8	R1/8	0916 00 10
G1/4	R1/4	0916 00 13
G3/8	R3/8	0916 00 17
G1/2	R1/2	0916 00 21
G3/4	R3/4	0916 00 27

## 0908 Equal Female Cross, BSPP



C	Order code
G1/8	0908 00 10
G1/4	0908 00 13
G3/8	0908 00 17
G1/2	0908 00 21

## 0909 Equal Cross, Female BSPP, Male BSPT



C1	C2	Order code
G1/8	R1/8	0909 00 10
G1/4	R1/4	0909 00 13
G3/8	R3/8	0909 00 17
G1/2	R1/2	0909 00 21

## 0920 Female Bulkhead Connector - BSPP &amp; M5



C1	C2	Order code
M5 x 0.8	M10 x 1	0920 00 19
G1/8	M16 x 1.5	0920 00 10
G1/4	M20 x 1.5	0920 00 13
G3/8	M26 x 1.5	0920 00 17
G1/2	M28 x 1.5	0920 00 21

## 0931 Tailpiece Adaptor for Rubber Hose, Male BSPP



ØD	C	Order code
6	G1/8	0931 06 10
6	G1/4	0931 06 13
7	G1/8	0931 07 10
7	G1/4	0931 07 13
7	G3/8	0931 07 17
8	G1/8	0931 08 10
8	G1/4	0931 08 13
8	G3/8	0931 08 17
10	G1/4	0931 10 13
10	G3/8	0931 10 17
10	G1/2	0931 10 21
15	G3/8	0931 15 17
15	G1/2	0931 15 21
18	G1/2	0931 18 21

## 0919 Internal Hexagon Head Plug, BSPP &amp; M5



C	Order code
M5 x 0.8	0919 00 19
G1/8	0919 00 10
G1/4	0919 00 13
G3/8	0919 00 17
G1/2	0919 00 21
G3/4	0919 00 27
G1"	0919 00 34

## 0220 Brass Hexagon Headed Plug, BSPP &amp; M5



C	Order code
M5 x 0.8	0220 19 00
G1/8	0220 10 00
G1/4	0220 13 00
G3/8	0220 17 00
G1/2	0220 21 00

## 0138 Sealing Copper Washers



ØD	C	Order code
10	G1/8	0138 10 00
13	G1/4	0138 13 00
17	G3/8	0138 17 00
21	G1/2	0138 21 00
27	G3/4	0138 27 00
33	G1"	0138 33 00

\*Technical specifications of nickel-plated brass accessories

## Pneumatic Accessories

Technical specifications of aluminium anodised manifolds

-10°C to +80°C  
20 bar max.

### 0605 Fluoropolymer Tape



Order code

**0605 12 12**

-250° to +260°C

### 3311 Female Manifold BSPP & M5



C1	C2	Number of Outlets	Order code
G1/8	M5 x 0.8	7	<b>3311 19 10 07</b>
G1/4	G1/8	2	<b>3311 10 13 02</b>
G1/4	G1/8	3	<b>3311 10 13 03</b>
G1/4	G1/8	4	<b>3311 10 13 04</b>
G1/4	G1/8	5	<b>3311 10 13 05</b>
G1/4	G1/8	6	<b>3311 10 13 06</b>
G3/8	G1/4	2	<b>3311 13 17 02</b>
G3/8	G1/4	3	<b>3311 13 17 03</b>
G3/8	G1/4	4	<b>3311 13 17 04</b>
G3/8	G1/4	5	<b>3311 13 17 05</b>
G3/8	G1/4	6	<b>3311 13 17 06</b>

### 3313 Double Female Manifold BSPP



C1	C2	Number of Outlets	Order code
G1/4	G1/8	2	<b>3313101302</b>
G1/4	G1/8	3	<b>3313101303</b>
G1/4	G1/8	4	<b>3313101304</b>
G1/4	G1/8	5	<b>3313101305</b>
G3/8	G1/4	2	<b>3313131702</b>
G3/8	G1/4	3	<b>3313131703</b>
G3/8	G1/4	4	<b>3313131704</b>
G3/8	G1/4	5	<b>3313131705</b>
G1/2	G1/4	3	<b>3313132103</b>
G1/2	G1/4	4	<b>3313132104</b>
G1/2	G1/4	5	<b>3313132105</b>

### 3312 Female Cross Manifold BSPP & M5



C	Order code
M5 x 0.8	<b>3312 00 19</b>
G1/8	<b>3312 00 10</b>
G1/4	<b>3312 00 13</b>
G3/8	<b>3312 00 17</b>
G1/2	<b>3312 00 21</b>

## Stainless Steel Instant Fittings

### 3805 Male Stud, BSPT



ØD	C	Order code
4	M5 x 0.8	3805 04 19
4	R1/8	3805 04 10
4	R1/4	3805 04 13
6	R1/8	3805 06 10
6	R1/4	3805 06 13
8	R1/8	3805 08 10
8	R1/4	3805 08 13
8	R3/8	3805 08 17
10	R1/4	3805 10 13
10	R3/8	3805 10 17
12	R1/4	3805 12 13
12	R3/8	3805 12 17
12	R1/2	3805 12 21

### 3801 Male Stud, BSPP



ØD	C	Order code
4	M5 x 0.8	3801 04 19
4	G1/8	3801 04 10
6	M5 x 0.8	3801 06 19
6	G1/8	3801 06 10
6	G1/4	3801 06 13
8	G1/8	3801 08 10
8	G1/4	3801 08 13
8	G3/8	3801 08 17
10	G1/4	3801 10 13
10	G3/8	3801 10 17
12	G1/4	3801 12 13
14	G3/8	3801 12 17

### 3879 Male Stud Elbow, BSPP



20 bar max.

ØD	C	Order code
4	G1/8	3879 04 10
4	G1/4	3879 04 13
6	G1/8	3879 06 10
6	G1/4	3879 06 13
8	G1/8	3879 08 10
8	G1/4	3879 08 13
8	G3/8	3879 08 17
10	G1/4	3879 10 13
10	G3/8	3879 10 17
12	G1/4	3879 12 13
12	G3/8	3879 12 17
12	G1/2	3879 12 21

### 3816 Equal Bulkhead Union



IP51

ØD	Order code
4	3816 04 00
6	3816 06 00
8	3816 08 00
10	3816 10 00
12	3816 12 00

### 3889 Male Stud Elbow, BSPT



20 bar max.

-20°C to +120°C  
30 bar max.

ØD	C	Order code
4	R1/8	3889 04 10
4	R1/4	3889 04 13
6	R1/8	3889 06 10
6	R1/4	3889 06 13
8	R1/8	3889 08 10
8	R1/4	3889 08 13
8	R3/8	3889 08 17
10	R1/4	3889 10 13
10	R3/8	3889 10 17
12	R1/4	3889 12 13
12	R3/8	3889 12 17
12	R1/2	3889 12 21

### 3802 Equal Elbow



ØD	Order code
4	3802 04 00
6	3802 06 00
8	3802 08 00
10	3802 10 00
12	3802 12 00

### 3804 Equal Tee



ØD	Order code
4	3804 04 00
6	3804 06 00
8	3804 08 00
10	3804 10 00
12	3804 12 00

### 3806 Equal Straight Union



ØD	Order code
4	3806 04 00
6	3806 06 00
8	3806 08 00
10	3806 10 00
12	3806 12 00

### 3866 Plug-In Reducer



ØD1	ØD2	Order code
4	6	3866 04 06
4	8	3866 04 08
6	8	3866 06 08
6	10	3866 06 10
8	10	3866 08 10
8	12	3866 08 12
10	12	3866 10 12

## Stainless Steel Function Fittings

### 7810 Flow Regulator, threaded, BSPP - exhaust (A)



0° to +70°C  
1 to 10 bar

C1	Order code
M5 x 0.8	<b>7810 19 19</b>
G1/8	<b>7810 10 10</b>
G1/4	<b>7810 13 13</b>
G3/8	<b>7810 17 17</b>
G1/2	<b>7810 21 21</b>

### 7899 Quick Exhaust Valve, Double Female, BSPP



-10° to +120°C (1/8, 1/4)  
-20° to +80°C (3/8, 1")  
2 to 10 bar

C		Order code
G1/8	7	<b>7899 00 10</b>
G1/4	7	<b>7899 00 13</b>
G3/8	9	<b>7899 00 17</b>
G1/2	12	<b>7899 00 21</b>
G3/4	18	<b>7899 00 27</b>
G1"	18	<b>7899 00 34</b>

### 7812 Flow Regulator, threaded, BSPP - bi-directional (C)



0° to +70°C  
1 to 10 bar

C1	Order code
M5 x 0.8	<b>7812 19 19</b>
G1/8	<b>7812 10 10</b>
G1/4	<b>7812 13 13</b>
G3/8	<b>7812 17 17</b>
G1/2	<b>7812 21 21</b>

### 0682 Threaded Silencer, Male BSPP



-20° to +180°C  
12 bar max.

C	Order code
G1/8	<b>0682 00 10</b>
G1/4	<b>0682 00 13</b>
G3/8	<b>0682 00 17</b>
G1/2	<b>0682 00 21</b>
G3/4	<b>0682 00 27</b>

### 7820 Flow Regulator, In-line, threaded connections BSPP, one way adjust (A)



-15° to +120°C  
1 to 16 bar

C		Order code
G1/8	7	<b>7820 00 10</b>
G1/4	7	<b>7820 00 13</b>
G3/8	9	<b>7820 00 17</b>
G1/2	12	<b>7820 00 21</b>

### 7822 Flow Regulator, In-line, threaded connections BSPP, bi-directional (C)



-15° to +120°C  
1 to 40 bar

C		Order code
G1/8	7	<b>7822 00 10</b>
G1/4	7	<b>7822 00 13</b>
G3/8	9	<b>7822 00 17</b>
G1/2	12	<b>7822 00 21</b>

### 4890 Non-return valve, Female-Female, BSPP



-20° to +180°C  
0,5 to 40 bar

C		Order code
G1/8	10	<b>4890 10 10</b>
G1/4	10	<b>4890 13 13</b>
G3/8	15	<b>4890 17 17</b>
G1/2	15	<b>4890 21 21</b>
G3/4	20	<b>4890 27 27</b>
G1"	25	<b>4890 34 34</b>

**Stainless Steel Accessories**

-20°C to +180°C  
150 bar max.

**1843 Equal Elbow, Female BSPP**



C	Order code
G1/8	1843 10 10
G1/4	1843 13 13
G3/8	1843 17 17
G1/2	1843 21 21

**1864 Male NPT to Female BSPP Adaptor**



C1	C2	Order code
1/8	G1/8	1864 11 10
1/4	G1/4	1864 14 13
3/8	G3/8	1864 18 17
1/2	G1/2	1864 22 21

**1844 Equal Male Stud Elbow, BSPP**



C1	C2	Order code
G1/8	R1/8	1844 10 10
G1/4	R1/4	1844 13 13
G3/8	R3/8	1844 17 17
G1/2	R1/2	1844 21 21

**1867 Male BSPT to Female NPT Adaptor**



C1	C2	Order code
R1/8	1/8	1867 10 11
R1/4	1/4	1867 13 14
R3/8	3/8	1867 17 18
R1/2	1/2	1867 21 22

**1845 Equal Tee, Triple Female, BSPP**



C	Order code
G1/8	1845 10 10
G1/4	1845 13 13
G3/8	1845 17 17
G1/2	1845 21 21

**1863 Reducer BSPT to Female BSPP**



C1	C2	Order code
R1/4	G1/8	1863 13 10
R3/8	G1/8	1863 17 10
R3/8	G1/4	1863 17 13
R1/2	1/4	1863 21 13
R1/2	3/8	1863 21 17

**1855 Double Female Sleeve, BSPP**



C	Order code
G1/8	1855 10 10
G1/4	1855 13 13
G3/8	1855 17 17
G1/2	1855 21 21

**1823 Tailpiece Adaptor for Rubber Hose, Male BSPT**



ØD	C	Order code
7	R1/8	1823 07 10
7	R1/4	1823 07 13
10	R1/4	1823 10 13
10	R3/8	1823 10 17
13	R3/8	1823 13 17
16	R1/2	1823 16 21

**1817 Bulkhead Adaptor, BSPP**



C	Order code
G1/8	1817 00 10
G1/4	1817 00 13
G3/8	1817 00 17
G1/2	1817 00 21

**0285 Plug, Internal Hexagon Headed, BSPT**



C	Order code
R1/8	0285 10 00
R1/4	0285 13 00
R3/8	0285 17 00
R1/2	0285 21 00
R3/4	0285 27 00

## Pneumatic Tubing

-20°C to +80°C  
35 bar max.

### 1025P Semi-Rigid Nylon Tubing, 25 m Rolls



o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at ambient temp. in mm	Order code
4	2.7	30	1025P04 00 27
4	2.7	30	1025P04 01 27
4	2.7	30	1025P04 02 27
4	2.7	30	1025P04 03 27
4	2.7	30	1025P04 04 27
4	2.7	30	1025P04 05 27
4	2.7	30	1025P04 06 27
6	4	35	1025P06 00
6	4	35	1025P06 01
6	4	35	1025P06 02
6	4	35	1025P06 03
6	4	35	1025P06 04
6	4	35	1025P06 05
6	4	35	1025P06 06
8	6	55	1025P08 00
8	6	55	1025P08 01
8	6	55	1025P08 02
8	6	55	1025P08 03
8	6	55	1025P08 04
8	6	55	1025P08 05
8	6	55	1025P08 06
10	7.5	75	1025P10 00 75
10	7.5	75	1025P10 01 75
10	7.5	75	1025P10 04 75
12	9	75	1025P12 00 09
12	9	75	1025P12 01 09
12	9	75	1025P12 04 09
14	11	100	1025P14 00 11
14	11	100	1025P14 01 11
14	11	100	1025P14 04 11

### 2005P-2010P Semi-rigid Nylon, 500m & 1000m Reels



o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at ambient temp. in mm	Order code
4	2.7	30	2010P04 00 27
4	2.7	30	2010P04 01 27
4	2.7	30	2010P04 04 27
6	4	35	2010P06 00
6	4	35	2010P06 01
6	4	35	2010P06 04
8	6	55	2005P08 00
8	6	55	2005P08 01
8	6	55	2005P08 04
10	8	90	2005P10 00
10	8	90	2005P10 01
10	8	90	2005P10 04

### 1010P Multitube Semi-Rigid Nylon



o.d. PVC sheath mm	o.d. x i.d. semi rigid nylon	R minimum bend radius at 20°C mm	Number of tubes	Order code
13.5	4 x 2.7	35	4	1010P04 00M04
16	4 x 2.7	45	7	1010P04 00M07
18.5	6 x 4	55	4	1010P06 00M04
22	6 x 4	60	7	1010P06 00M07
19.2	8 x 6	45	2	1010P08 00M2

### 1100P Semi-Rigid Nylon Tubing, 100 m Rolls



o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at ambient temp. in mm	Order code
4	2.7	30	1100P04 00 27
4	2.7	30	1100P04 01 27
4	2.7	30	1100P04 02 27
4	2.7	30	1100P04 03 27
4	2.7	30	1100P04 04 27
4	2.7	30	1100P04 05 27
4	2.7	30	1100P04 06 27
6	4	35	1100P06 00
6	4	35	1100P06 01
6	4	35	1100P06 02
6	4	35	1100P06 03
6	4	35	1100P06 04
6	4	35	1100P06 05
6	4	35	1100P06 06
8	6	55	1100P08 00
8	6	55	1100P08 01
8	6	55	1100P08 02
8	6	55	1100P08 03
8	6	55	1100P08 04
8	6	55	1100P08 05
8	6	55	1100P08 06
10	7.5	75	1100P10 00 75
10	7.5	75	1100P10 01 75
10	7.5	75	1100P10 04 75
12	9	75	1100P12 00 09
12	9	75	1100P12 01 09
12	9	75	1100P12 04 09
14	12	100	1100P14 00
14	12	100	1100P14 01
14	12	100	1100P14 04

Pneumatic Tubing

-20°C to +70°C  
9 bar max.

1025U Flexible Polyurethane Tubing, 25 m Rolls

1100U Flexible Polyurethane Tubing, 100m Rolls



o.d. tubing mm	i.d. tubing mm	Minimum bend radius for tube at ambient temp. in mm		Order code	
		Polyester	Polyether		
4	2.5	10		1025U04 01	■
4	2.5	10		1025U04 02	■
4	2.5	10		1025U04 03	■
4	2.5	10		1025U04 04	■
4	2.5	10		1025U04 05	■
4	2.5	10		1025U04 06	■
4	2.5	10	10	1025U04R08	■
6	4	15		1025U06 01	■
6	4	15		1025U06 02	■
6	4	15		1025U06 03	■
6	4	15		1025U06 04	■
6	4	15		1025U06 05	■
6	4	15		1025U06 06	■
6	4	15	20	1025U06R08	■
8	5.5	20		1025U08 01	■
8	5.5	20		1025U08 02	■
8	5.5	20		1025U08 03	■
8	5.5	20		1025U08 04	■
8	5.5	20		1025U08 05	■
8	5.5	20		1025U08 06	■
8	5.5	20	25	1025U08 R08	■
10	7	25		1025U10 01	■
10	7	25		1025U10 04	■
10	7	25	35	1025U10 R08	■
12	8	35		1025U12 01	■
12	8	35		1025U12 04	■
12	8	35	40	1025U12R08	■
14	9.5	45		1025U14 01 95	■
14	9.5	45		1025U14 04 95	■
14	9.5	45	50	1025U14R08 95	■

o.d. tubing mm	i.d. tubing mm	Minimum bend radius for tube at ambient temp. in mm		Order code	
		Polyester	Polyether		
4	2.5	10		1100U04 01	■
4	2.5	10		1100U04 02	■
4	2.5	10		1100U04 03	■
4	2.5	10		1100U04 04	■
4	2.5	10		1100U04 05	■
4	2.5	10		1100U04 06	■
4	2.5	10	10	1100U04R08	■
6	4	15		1100U06 01	■
6	4	15		1100U06 02	■
6	4	15		1100U06 03	■
6	4	15		1100U06 04	■
6	4	15		1100U06 05	■
6	4	15		1100U06 06	■
6	4	15	20	1100U06R08	■
8	5.5	20		1100U08 01	■
8	5.5	20		1100U08 02	■
8	5.5	20		1100U08 03	■
8	5.5	20		1100U08 04	■
8	5.5	20		1100U08 05	■
8	5.5	20		1100U08 06	■
8	5.5	20	25	1100U08R08	■
10	7	25		1100U10 01	■
10	7	25		1100U10 04	■
10	7	25	35	1100U10R08	■
12	8	35		1100U12 01	■
12	8	35		1100U12 04	■
12	8	35	40	1100U12R08	■
14	9.5	45		1100U14 01 95	■
14	9.5	45		1100U14 04 95	■
14	9.5	45	50	1100U14R08 95	■

2003U-2005U-2010U Polyurethane Tubing, 300m, 500m & 1000m Reels

1100U Anti-Static Polyurethane Tubing



o.d. tubing mm	i.d. tubing mm	Minimum bend radius for tube at ambient temp. in mm		Order code	
		Polyester	Polyether		
4	2.7	30		2010U04 01	■
4	2.7	30		2010U04 04	■
6	4	35		2010U06 01	■
6	4	35		2010U06 04	■
8	6	55	55	2005U08R08	■
8	6	55		2005U08 01	■
8	6	55		2005U08 04	■
10	8	90	90	2005U10R08	■
10	8	90		2005U10 01	■
10	8	90		2005U10 04	■



Resistivity: 10<sup>3</sup> to 10<sup>6</sup> Ω


o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at 20°C in mm	Order code	
4	2.5	10	1100U04A01	■
6	4	15	1100U06A01	■
8	5.5	25	1100U08A01	■
10	7	35	1100U10A01	■
12	8	45	1100U12A01	■




## Pneumatic Tubing

-20°C to +70°C  
9 bar max.


### 1420U Flexible Polyurethane Twin Tubing

	o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at 20°C in mm	Order code
	4	2.5	10	1420U04 11
	4	2.5	10	1420U04 44
	4	2.5	10	1420U04 41
	6	4	15	1420U06 11
	6	4	15	1420U06 44
	6	4	15	1420U06 41
	8	5.5	20	1420U08 11
	8	5.5	20	1420U08 44
	8	5.5	20	1420U08 41


### 1460U Polyurethane Recoil Tubing, without connectors, 2 m long

	o.d. tubing mm	i.d. tubing mm	Order code
	8	5	1460U08 04
	10	7	1460U10 04
	12	8	1460U12 04


### 1461U Polyurethane Recoil Tubing, without connectors, 4 m long

	o.d. tubing mm	i.d. tubing mm	Order code
	8	5	1461U08 04
	10	7	1461U10 04
	12	8	1461U12 04


### 1462U Polyurethane Recoil Tubing, without connectors, 6 m long

	o.d. tubing mm	i.d. tubing mm	Order code
	8	5	1462U08 04
	10	7	1462U10 04
	12	8	1462U12 04


### 0694 Instant Fitting, with protection spring, BSPP

	ØD	C	Order code
	8	G1/4	0694 08 13
	10	G1/4	0694 10 13
	12	G3/8	0694 12 17


### 1025U Anti-Spark Single Layer Polyurethane Tubing, 25 m Rolls

	o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at 20°C in mm	Order code
	4	2.5	10	1025U04K01
	6	4	15	1025U06K01
	8	5.5	20	1025U08K01
	10	7	25	1025U10K01
	12	8	35	1025U12K01


### 1470U Polyurethane Recoil Tubing, 2 m long, with Threaded Stem BSPT Thread

	o.d. tubing mm	i.d. tubing mm	BSPT thread	Order code
	8	5	R1/4	1470U08 03 13
	8	5	R1/4	1470U08 04 13
	8	5	R1/4	1470U08 05 13


### 1471U Polyurethane Recoil Tubing, 4 m long, with Threaded Stem BSPT Thread

	o.d. tubing mm	i.d. tubing mm	BSPT thread	Order code
	8	5	R1/4	1471U08 03 13
	8	5	R1/4	1471U08 04 13
	8	5	R1/4	1471U08 05 13

### 1472U Polyurethane Recoil Tubing, 6 m long, with Threaded Stem BSPT Thread

	o.d. tubing mm	i.d. tubing mm	BSPT thread	Order code
	8	5	R1/4	1472U08 03 13
	8	5	R1/4	1472U08 04 13
	8	5	R1/4	1472U08 05 13

### 1025V Braided PVC Hose, 25 m Rolls

	o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at 20°C in mm	Order code
0° to +70°C 15 bar	8	4	10	1025V08 00 04
	11	6	12	1025V11 00 06
	13	7	14	1025V13 00 07
	14	8	16	1025V14 00 08
	16	10	25	1025V16 00 10
	18	12	30	1025V18 00 12
	23	15	40	1025V23 00 15
	26	19	60	1025V26 00 19

## Pneumatic Tubing

### 1005T Fluoropolymer FEP 140 Tubing, 5m Rolls



-40°C to +150°C  
37 bars max.

o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at ambient temp. in mm	Order code
4	2.5	40	1005T04 00 25
6	4	50	1005T06 00
8	6	70	1005T08 00
10	8	120	1005T10 00
12	10	180	1005T12 00

### 1025T Fluoropolymer FEP 140 Tubing, 25m Rolls



-40°C to +150°C  
37 bar max.

o.d. tubing mm	i.d. tubing mm	R minimum bend radius for tube at ambient temp. in mm	Order code
4	2.5	40	1025T04 00 25
6	4	50	1025T06 00
8	6	70	1025T08 00
10	8	120	1025T10 00
12	10	180	1025T12 00

### 1040H Self-Fastening Hose, in 40m rolls



-20°C to +100°C  
16 bar max.

DN	i.d. tubing mm	R minimum bend radius at 20°C (mm)	Order code
6	6.3	60	1040H56 02
6	6.3	60	1040H56 03
8	9.5	70	1040H60 02
8	9.5	70	1040H60 03
12	12.7	120	1040H62 02
12	12.7	120	1040H62 03
16	15.9	140	1040H66 02
16	15.9	140	1040H66 03
20	19.1	170	1040H69 02
20	19.1	170	1040H69 03

### 1080H Self-Fastening Hose, in 80m rolls



-20°C to +100°C  
16 bars max.

DN	i.d. tubing mm	R minimum bend radius at 20°C (mm)	Order code
16	15.9	140	1080H66 02
16	15.9	140	1080H66 03
20	19.1	170	1080H69 02
20	19.1	170	1080H69 03

### 1100H Self-Fastening Hose, in 100m rolls



-20°C to +100°C  
16 bar max.

DN	i.d. tubing mm	R minimum bend radius at 20°C (mm)	Order code
6	6.3	60	1100H56 02
6	6.3	60	1100H56 03
8	9.5	70	1100H60 02
8	9.5	70	1100H60 03
12	12.7	120	1100H62 02
12	12.7	120	1100H62 03

### 3000 Tube Cutter



Order code

3000 71 00

### 3000 71 11 Tube Cutter



Order code

3000 71 11

### Clip Strips for Tubes



ØD	Order code
4	CLIP 04 00
6	CLIP 06 00
8	CLIP 08 00
10	CLIP 10 00
12	CLIP 12 00
14	CLIP 14 00

**Safety Couplers & Probes**  
**Passage 5,5mm - ISO B6 profile**

-20°C to +60°C  
 16 bar max.  
 ISO 4414

**9405U Male Body, BSPT**



C	Order code
R1/4	<b>9405U06 13</b>
R3/4	<b>9405U06 17</b>
R1/2	<b>9405U06 21</b>

**9087U Male Thread, BSPP**



C	Order code
G1/4	<b>9087U06 13</b>
G1/8	<b>9087U06 17</b>
G1/2	<b>9087U06 21</b>

**9414U Female Body, BSPP**



C	Order code
G1/4	<b>9414U06 13</b>
G3/8	<b>9414U06 17</b>
G1/2	<b>9414U06 21</b>

**9086 Female Thread, BSPP**



C	Order code
G1/4	<b>9086 23 13</b>
G3/8	<b>9086 23 17</b>
G1/2	<b>9086 23 21</b>

**9421U with Hosetail**



ØD	Order code
6	<b>9421U06 06</b>
8	<b>9421U06 08</b>
10	<b>9421U06 10</b>

**9094U with Hosetail**



ØD	Order code
6	<b>9094U06 06</b>
8	<b>9094U06 08</b>
10	<b>9094U06 10</b>

**9416U Female Body, Panel Mountable, BSPP**



C	Order code
G1/4	<b>9416U06 13</b>

**9080U with LF3000 Outlet & Protection Spring**



ØD	Order code
8	<b>9080U06 08</b>
10	<b>9080U06 10</b>

**9410U with LF3000 Outlet & Protection Spring**



ØD	Order code
8	<b>9410U06 08</b>
10	<b>9410U06 10</b>

**9440U Female Y Body, BSPP**



C	Order code
G3/8	<b>9440U06 17</b>

## Safety Couplers & Probes

### Passage 8mm - ISO B8 profile

-20°C to +60°C  
16 bar max.  
ISO 4414

#### 9405U Male Body, BSPT



C	Order code
G1/4	9405U08 13
G3/4	9405U08 17
G1/2	9405U08 21

#### 9087U Male Thread, BSPP



C	Order code
G1/4	9087U08 13
G3/8	9087U08 17
G1/2	9087U08 21

#### 9414U Female Body, BSPP



C	Order code
G1/4	9414U08 13
G3/4	9414U08 17
G1/2	9414U08 21

#### 9086 Female Thread, BSPP



C	Order code
G1/4	9086 30 13
G3/8	9086 30 17
G1/2	9086 30 21

#### 9421U with Hosetail



ØD	Order code
8	9421U08 08
10	9421U08 10
13	9421U08 13

#### 9094U with Hosetail



ØD	Order code
8	9094U08 08
10	9094U08 10
13	9094U08 13

#### 9416U Female Body, Panel Mountable, BSPP



C	Order code
G3/8	9416U08 17

#### 9080U with LF3000 Outlet & Protection Spring



ØD	Order code
10	9080U08 10
12	9080U08 12

#### 9410U with LF3000 Outlet & Protection Spring



ØD	Order code
10	9410U08 10
12	9410U08 12

#### 9440U Female Y Body, BSPP



C	Order code
G1/2	9440U08 21

## Safety Couplers & Probes Passage 7,2mm - EURO Interchange

-20°C to +60°C  
 16 bar max.  
 ISO 4414

### 9401E Male Body, BSPP



C	Order code
G1/4	<b>9401E07 13</b>
G3/8	<b>9401E07 17</b>
G1/2	<b>9401E07 21</b>

### 9087E Male Thread, BSPP



C	Order code
G1/4	<b>9087E07 13</b>
G3/8	<b>9087E07 17</b>
G1/2	<b>9087E07 21</b>

### 9414E Female Body, BSPP



C	Order code
G1/4	<b>9414E07 13</b>
G3/8	<b>9414E07 17</b>
G1/2	<b>9414E07 21</b>

### 9086 Female Thread, BSPP



C	Order code
G1/4	<b>9086 25 13</b>
G3/8	<b>9086 25 17</b>
G1/2	<b>9086 25 21</b>

### 9421E with Hosetail



ØD	Order code
8	<b>9421E07 08</b>
10	<b>9421E07 10</b>
13	<b>9421E07 13</b>

### 9094E with Hosetail



ØD	Order code
8	<b>9094E07 08</b>
10	<b>9094E07 10</b>
13	<b>9094E07 13</b>

### 9416E Female Body, Panel Mountable, BSPP



C	Order code
G3/8	<b>9416E07 17</b>

### 9080E with LF3000 Outlet & Protection Spring



ØD	Order code
10	<b>9080E07 10</b>
12	<b>9080E07 12</b>

### 9410E with LF3000 Outlet & Protection Spring



ØD	Order code
10	<b>9410E07 10</b>
12	<b>9410E07 12</b>

### 9440E Female Y Body, BSPP



C	Order code
G1/2	<b>9440E07 21</b>

## Safety Couplers & Probes

### Passage 5,5mm - ARO Interchange

-20°C to +60°C  
16 bar max.  
ISO 4414

#### 9401A Male Body, BSPP



C	Order code
G1/4	<b>9401A06 13</b>
G3/8	<b>9401A06 17</b>
G1/2	<b>9401A06 21</b>

#### 9087A Male Thread, BSPP



C	Order code
G1/4	<b>9087A06 13</b>
G3/8	<b>9087A06 17</b>
G1/2	<b>9087A06 21</b>

#### 9414A Female Body, BSPP



C	Order code
G1/4	<b>9414A06 13</b>
G3/8	<b>9414A06 17</b>
G1/2	<b>9414A06 21</b>

#### 9086 Female Thread, BSPP



C	Order code
G1/4	<b>9086 22 13</b>
G3/8	<b>9086 22 17</b>
G1/2	<b>9086 22 21</b>

#### 9421A with Hosetail



ØD	Order code
6	<b>9421A06 06</b>
8	<b>9421A06 08</b>
10	<b>9421A06 10</b>

#### 9094A with Hosetail



ØD	Order code
6	<b>9094A06 06</b>
8	<b>9094A06 08</b>
10	<b>9094A06 10</b>

#### 9416A Female Body, Panel Mountable, BSPP



C	Order code
G1/4	<b>9416A 06 13</b>

#### 9080A with LF3000 Outlet & Protection Spring



ØD	Order code
8	<b>9080A06 08</b>
10	<b>9080A06 10</b>

#### 9410A with LF3000 Outlet & Protection Spring



ØD	Order code
8	<b>9410A06 08</b>
10	<b>9410A06 10</b>

#### 9440A Female Y Body, BSPP



C	Order code
G3/8	<b>9440A06 17</b>

## Blow Gun Nozzles

-15°C to +50°C  
 10 bar max.  
 OSHA & CE

### 0659 Standard Blowgun, with angled nozzle, BSPP



C	Order code
G1/4	<b>0659 00 13</b>

### 0690 Standard Nozzle



ØD	C	Order code
2.5	M12 x 1,25	<b>0690 01 00</b>

### 0656 Progressive Control, lower connection, BSPP



C	Order code
G1/4	<b>0656 66 13</b>

### 0690 Long Straight Tube Nozzle



ØD	C	Order code
2.5	M12 x 1,25	<b>0690 03 00</b>

### 0652 Progressive Control, lower connection, BSPP



C	Order code
G1/4	<b>0652 66 13</b>

### 0690 Air Screen Nozzle



ØD	C	Order code
2	M12 x 1,25	<b>0690 09 00</b>

### 0654 Safety Blowgun, with angled nozzle, BSPP



C	Order code
G1/4	<b>0654 00 13</b>

### 0623 Lever Operated Air Gun with Removable Nozzle



ØD	C	Order code
2	G1/4	<b>0623 10 35</b>

### 0657 Progressive Control, upper connection, BSPP



C	Order code
G1/4	<b>0657 66 13</b>

### 0690 Long-Angled Tube Nozzle



ØD	C	Order code
2.5	M12 x 1,25	<b>0690 05 00</b>

### 0655 Progressive Control, upper connection, BSPP



C	Order code
G1/4	<b>0655 66 13</b>

### 0690 Coenda Effect Nozzle



C	Order code
M12 x 1,25	<b>0690 08 00</b>

### 0690 Booster Nozzle



ØD	C	Order code
2.5	M12 x 1,25	<b>0690 10 00</b>

## Pneumatic Ball Valves & Action Valves

### 0402 Standard In-Line Ball Valve - Double Female, BSPP



-20° to +80°C  
40 bar

C	DN	Order code
G1/8	4	<b>0402 04 10</b>
G1/8	7	<b>0402 07 10</b>
G1/4	7	<b>0402 07 13</b>
G3/4	10	<b>0402 10 17</b>
G1/2	13	<b>0402 13 21</b>
G3/4	20	<b>0402 20 27</b>
G1"	23	<b>0402 23 34</b>

### 0439 Lockable Ball Valves, Double Female with vent, BSPP



-20° to +80°C  
40 bar

ØD	C	Order code
4	G1/8	<b>0439 04 10</b>
7	G1/4	<b>0439 07 13</b>
10	G3/8	<b>0439 10 17</b>
13	G1/2	<b>0439 13 21</b>
18	G3/4	<b>0439 18 27</b>
23	G1"	<b>0439 23 34</b>

### 0401 Standard In-Line Ball Valve, Male Female BSPP



-20° to +80°C  
40 bar

ØD	C	Order code
4	G1/8	<b>0401 04 10</b>
7	G1/4	<b>0401 07 13</b>
10	G3/8	<b>0401 10 17</b>
13	G1/2	<b>0401 13 21</b>
18	G3/4	<b>0401 18 27</b>
23	G1"	<b>0401 23 34</b>

### 0448 Panel Mountable Female, BSPP, right angle porting



-20° to +80°C  
40 bar

ØD	C	Order code
4	G1/8	<b>0448 04 10</b>
6	G1/4	<b>0448 06 13</b>
9	G3/8	<b>0448 09 17</b>
12	G1/2	<b>0448 12 21</b>

### 4902 In-Line Ball Valves, Fluoropolymer Series, BSPP



-20° to +130°C  
30 bar

C	DN	PN	Order code
G1/4	10	30	<b>4902 10 13</b>
G3/8	10	30	<b>4902 10 17</b>
G1/2	15	30	<b>4902 15 21</b>
G3/4	20	30	<b>4902 20 27</b>
G2.1/2	25	30	<b>4902 25 34</b>
G2.1/2	32	25	<b>4902 32 42</b>
G2.1/2	40	25	<b>4902 40 49</b>
G2.1/2	50	25	<b>4902 50 48</b>
G2.1/2	65	25	<b>4902 65 47</b>
G3"	80	25	<b>4902 80 46</b>
G4"	100	25	<b>4902 01 45</b>

### 0438 Female, 3 port 2 way Lockable Ball Valve, BSPP



-20° to +80°C  
40 bar

ØD	C	Order code
9	G3/8	<b>0438 09 17</b>
12	G1/2	<b>0438 12 21</b>
18	G3/4	<b>0438 18 27</b>
23	G1"	<b>0438 23 34</b>

### 0492 Double Female



-20° to +80°C  
12 bar

C	DN	Order code
G1/4	4	<b>0492 04 13</b>
G1/4	4	<b>0492 04 13 64</b>
G3/8	7	<b>0492 07 17</b>
G1/2	10	<b>0492 10 21</b>
G3/4	13	<b>0492 13 27</b>

### 0489 In-Line Vented Ball Valves, BSPP, with threaded exhaust



-20° to +80°C  
40 bar

ØD	C	Order code
7	G1/4	<b>0489 07 13</b>
10	G3/8	<b>0489 10 17</b>
13	G1/2	<b>0489 13 21</b>
18	G3/4	<b>0489 18 27</b>
23	G1"	<b>0489 23 34</b>

### 0491 Male & Female, BSPP



-20° to +80°C  
12 bar

C	DN	Order code
G1/4	4	<b>0491 04 13</b>
G1/4	4	<b>0491 04 13 64</b>
G3/8	7	<b>0491 07 17</b>
G1/2	10	<b>0491 10 21</b>
G3/4	13	<b>0491 13 27</b>

### 0449 In-Line Vented Ball Valves, BSPP, panel mountable



-20° to +80°C  
40 bar

ØD	C	Order code
7	G1/4	<b>0449 07 13</b>
10	G3/8	<b>0449 10 17</b>
13	G1/2	<b>0449 13 21</b>



## Pneumatic Ball Valves & Action Valves

### 0469 Double Female Vented Ball Valves BSPP



-20° to +80°C  
40 bar

ØD	C	Order code
4	G1/8	<b>0469 04 10</b>
7	G1/4	<b>0469 07 13</b>
10	G3/8	<b>0469 10 17</b>
13	G1/2	<b>0469 13 21</b>
18	G3/4	<b>0469 18 27</b>
23	G1"	<b>0469 23 34</b>

### 4298 Mini-Solenoid Valve, 1W/ 1,2VA



Voltage	Order code
24V ---	<b>4298 01 01</b>
24V ~	<b>4298 01 02</b>
110V ~	<b>4298 02 01</b>
220V ~	<b>4298 02 02</b>

### 4810 Ball Valve, Double Female BSPP



C	DN	PN	Order code
G1/4	8	64	<b>4810 08 13</b>
G3/8	10	64	<b>4810 10 17</b>
G1/2	15	64	<b>4810 15 21</b>
G3/4	20	40	<b>4810 20 27</b>
G1"	25	40	<b>4810 25 34</b>

### 4298 Namur Sub-Base for Solenoid Pilot Valve



C	Order code
M5 x 0.8	<b>4298 00 01</b>

### 4202 Axial Valve, normally closed, double female, BSPP, FKM Seal



-20° to +135°C  
10 bar

C	DN	Order code
G3/8	10	<b>4202 10 17 20</b>
G1/2	15	<b>4202 15 21 20</b>
G3/4	20	<b>4202 20 27 20</b>
G1"	25	<b>4202 25 34 20</b>
G1"1/4	32	<b>4202 32 42 20</b>
G1"1/2	40	<b>4202 40 49 20</b>
G2"	50	<b>4202 50 48 20</b>

The Ball Valves, Universal Series, can be adapted to various applications in semi-standard versions.

### 4212 Axial Valve, normally open, double female, BSPP, FKM Seal



-20° to +135°C  
8 bar

C	DN	Order code
G3/8	10	<b>4212 10 17 20</b>
G1/2	15	<b>4212 15 21 20</b>
G3/4	20	<b>4212 20 27 20</b>
G1"	25	<b>4212 25 34 20</b>
G1"1/4	32	<b>4212 32 42 20</b>
G1"1/2	40	<b>4212 40 49 20</b>
G2"	50	<b>4212 50 48 20</b>

### 4222 Axial Valve, double acting, double female, BSPP, FKM Seal



-20° to +135°C  
10 bar

ØD	C	Order code
10	G3/8	<b>4222 10 17 20</b>
15	G1/2	<b>4222 15 21 20</b>
20	G3/4	<b>4222 20 27 20</b>
25	G1"	<b>4222 25 34 20</b>
32	G1.1/4"	<b>4222 32 42 20</b>
40	G1.1/2"	<b>4222 40 49 20</b>
50	G2"	<b>4222 50 48 20</b>

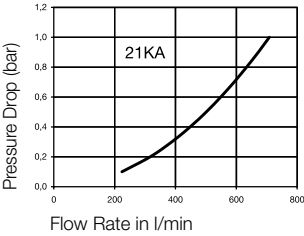
## Rectus Series 21KA - DN 5.0

Mini industrial coupling, the world's most commonly used profile. Above average flow performance for liquid and gaseous media. Large band width in materials and valve variants.

### Advantages

- Single handed operation
- Small dimensions
- All versions interchangeable

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.  
 \*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

#### Coupling

Back Body Brass  
 Valve Body Brass  
 Sleeve Aluminium, elox.  
 Valve Brass  
 Spring and Locking Ring AISI 301  
 Locking Balls AISI 420  
 Seals NBR

#### Plug

Brass

### Coupling - Male Thread BSPP

Thread A	Order code	Box Qty
1/8"	<b>21KAAW10MPXS_99</b>	20
1/4"	<b>21KAAW13MPXS_99</b>	20

### Plug - Male Thread BSPP

Thread A	Order code	Box Qty
1/8"	<b>21SFAW10MXX</b>	20
1/4"	<b>21SFAW13MXX</b>	20

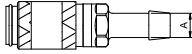
### Coupling - Female Thread BSPP

Thread A	Order code	Box Qty
1/8"	<b>21KAIW10MPXS_99</b>	20
1/4"	<b>21KAIW13MPXS_99</b>	20

### Plug - Female Thread BSPP

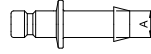
Thread A	Order code	Box Qty
1/8"	<b>21SFIW10MXX</b>	20

### Coupling - Hose Barb



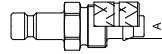
Thread A	Order code	Box Qty
6 mm	<b>21KATF06MPXS_99</b>	20
8 mm	<b>21KATF08MPXS_99</b>	20

### Plug - Hose Barb



Thread A	Order code	Box Qty
6 mm	<b>21SFTF06MXX</b>	20
8 mm	<b>21SFTF08MXX</b>	20

### Plug - Plastic Hose Connection



Thread A	Order code	Box Qty
4x6 mm	<b>21SFKO06MXX</b>	20
6x8 mm	<b>21SFKO08MXX</b>	20

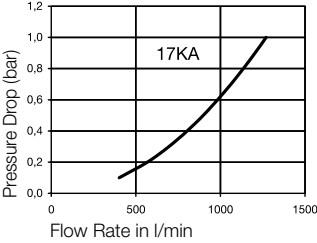
## Rectus Series 17KA - DN 5.0

English profile industrial coupling. Specially suited to compressed air applications. Brass/steel design developed for industry. Schrader (DN 5.0) Interchange.

### Advantages

- Single handed operation
- Small dimensions, light weight
- UltraFlo technology with high flow valve

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.

\*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

#### Coupling

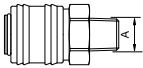
Back Body	Brass, Nickel Plated
Valve Body	Steel Hardened, Nickel Pl.
Sleeve	Steel Hardened, Nickel Pl.
Valve	Brass
Inner Sleeve	Brass
Spring Plate	Brass
Spring and Locking Ring	AISI 303
Locking Balls	AISI 420
Seals	NBR

#### Plug

Steel Hardened, Nickel Pl.

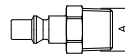
### Coupling - Male Thread BSPT

Thread A	Order code	Box Qty
1/4"	<b>17KAAK13SPNS_99</b>	10
3/8"	<b>17KAAK17SPNS_99</b>	10
1/2"	<b>17KAAK21SPNS_99</b>	10



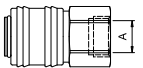
### Plug - Male Thread BSPT

Thread A	Order code	Box Qty
1/8"	<b>17SFAK10SXN</b>	20
1/4"	<b>17SFAK13SXN</b>	20



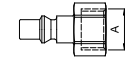
### Coupling - Female Thread BSPP

Thread A	Order code	Box Qty
1/4"	<b>17KAIW13SPNS_99</b>	10
1/2"	<b>17KAIW21SPNS_99</b>	10

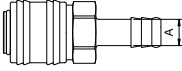


### Plug - Female Thread BSPP

Thread A	Order code	Box Qty
1/8"	<b>17SFIW10SXN</b>	20
1/4"	<b>17SFIW13SXN</b>	20



**Coupling - Hose Barb**



Thread A	Order code	Box Qty
8 mm	<b>17KATF08SPNS_99</b>	10
10 mm	<b>17KATF10SPNS_99</b>	10

**Plug - Hose Barb**



Thread A	Order code	Box Qty
8 mm	<b>17SFTF08SXN</b>	20
10 mm	<b>17SFTF10SXN</b>	20

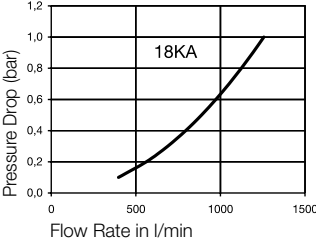
## Rectus Series 18KA - DN 5.5

ISO 6150 C industrial coupling with UltraFlo technology. Robust design. The steel sleeve counters oscillating forces. System has limited use for liquids (steel sleeve/ zinc die cast valve).

### Advantages

- Single handed operation
- Plug design optimised through greater insert depth
- Innovative valve technology with high flow valve

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.  
 \*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

#### Coupling

Back Body	Brass, Nickel Plated
Valve Body	Brass, Nickel Plated
Sleeve	Steel Hardened, Nickel Pl.
Valve	Zinc Diecasting, Nickel Pl.
Inner Sleeve	Brass
Spring Plate	Brass
Spring / Locking Ring	AISI 301
Locking Balls	AISI 420
Seals	NBR

#### Plug

Steel Hardened, Nickel Pl.

### Coupling - Male Thread BSPT

Thread A	Order code	Box Qty
1/4"	<b>18KAAK13MPNS</b>	5
3/8"	<b>18KAAK17MPNS_03</b>	5

### Plug - Male Thread BSPT

Thread A	Order code	Box Qty
1/4"	<b>18SFAK13SXNS</b>	20
3/8"	<b>18SFAK17SXNS_01</b>	5

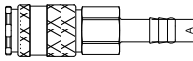
### Coupling - Female Thread BSPP

Thread A	Order code	Box Qty
1/4"	<b>18KAIW13MPNS_01</b>	5
3/8"	<b>18KAIW17MPNS_02</b>	5
1/2"	<b>18KAIW21MPNS_01</b>	5

### Plug - Female Thread BSPP

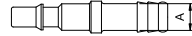
Thread A	Order code	Box Qty
1/4"	<b>18SFIW13SXNS</b>	20
3/8"	<b>18SFIW17SXNS</b>	20

**Coupling - Hose Barb**



Thread A	Order code	Box Qty
8 mm	<b>18KATF08MPNS_03</b>	5
10 mm	<b>18KATF10MPNS_02</b>	5

**Plug - Hose Barb**



Thread A	Order code	Box Qty
6 mm	<b>18SFTF06SXNS</b>	20
8 mm	<b>18SFTF08SXNS</b>	20
10 mm	<b>18SFTF10SXNS</b>	20

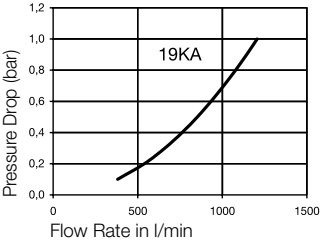
## Rectus Series 19KA - DN 5.5

English industrial profile with UltraFlo technology. Compact dimensions. Robust coupling for compressed air applications. The steel sleeve counters oscillating forces.

### Advantages

- Single handed operation
- Plug design optimised through greater insert depth
- UltraFlo technology with high flow valve

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.

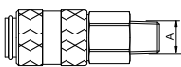
\*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

#### Coupling

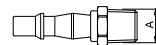
Back Body	Brass, Nickel Plated
Valve Body	Brass, Nickel Plated
Sleeve	Steel Hardened, Nickel Pl.
Valve	Zinc Diecasting, Nickel Pl.
Inner Sleeve	Brass
Spring Plate	Brass
Spring / Locking Ring	AISI 301
Locking Balls	AISI 420
Seals	NBR
<b>Plug</b>	Steel Hardened, Nickel Pl.

### Coupling - Male Thread BSPT



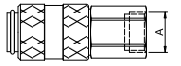
Thread A	Order code	Box Qty
1/4"	<b>19KAAK13MPNS_99</b>	10
3/8"	<b>19KAAK17MPNS_99</b>	10
1/2"	<b>19KAAK21MPNS_99</b>	10

### Plug - Male Thread BSPT



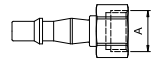
Thread A	Order code	Box Qty
1/4"	<b>19SFAK13SXN</b>	20
3/8"	<b>19SFAK17SXN</b>	20

### Coupling - Female Thread BSPP



Thread A	Order code	Box Qty
1/4"	<b>19KAIW13MPNS_99</b>	10
1/2"	<b>19KAIW21MPNS_99</b>	10

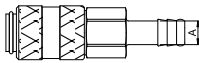
### Plug - Female Thread BSPP



Thread A	Order code	Box Qty
1/4"	<b>19SFIW13SXN</b>	20
3/8"	<b>19SFIW17SXN</b>	20

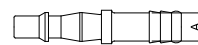


**Coupling - Hose Barb**



Thread A	Order code	Box Qty
8 mm	<b>19KATF08MPNS_99</b>	10
10 mm	<b>19KATF10MPNS_99</b>	10

**Plug - Hose Barb**



Thread A	Order code	Box Qty
6 mm	<b>19SFTF06SXN</b>	20
8 mm	<b>19SFTF08SXN</b>	20
10 mm	<b>19SFTF10SXN</b>	20

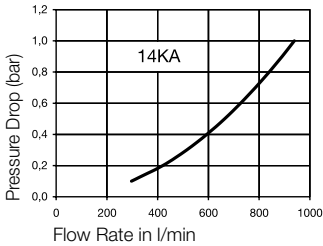
## Rectus Series 14KA - DN 5.5

Robust brass coupling. Numerous connection options.  
Preferred application: compressed air technology and water connections. ARO 210 Interchangeable.

### Advantages

- Single handed operation
- Optimised plug design through greater insert depth

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR)  
depending on the medium.

\*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

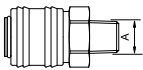
#### Coupling

Back Body Brass  
Valve Body Brass  
Sleeve Thermoplastic  
Valve Brass  
Spring and Locking Ring AISI 301

#### Plugs

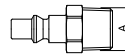
AISI 420  
Seals NBR  
Steel Hardened,  
Nickel Plated

### Coupling - Male Thread BSPP



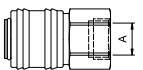
Thread A	Order code	Box Qty
1/4"	<b>14KAAW13MPXS_99</b>	20
3/8"	<b>14KAAW17MPXS_99</b>	20
1/2"	<b>14KAAW21MPXS_99</b>	20

### Plug - Male Thread BSPT



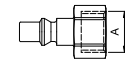
Thread A	Order code	Box Qty
1/4"	<b>22SFAK13SXN</b>	20
3/8"	<b>22SFAK17SXN</b>	20
1/2"	<b>22SFAK21SXN</b>	10

### Coupling - Female Thread BSPP



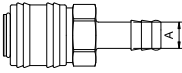
Thread A	Order code	Box Qty
1/4"	<b>14KAIW13MPXS_99</b>	20
1/2"	<b>14KAIW21MPXS_99</b>	20

### Plug - Female Thread BSPP



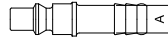
Thread A	Order code	Box Qty
1/4"	<b>22SFIW13SXN</b>	20
3/8"	<b>22SFIW17SXN</b>	20

**Coupling - Hose Barb**



Thread A	Order code	Box Qty
8 mm	<b>14KATF08MPXS_99</b>	20
10 mm	<b>14KATF10MPXS_99</b>	20

**Plug - Hose Barb**



Thread A	Order code	Box Qty
6 mm	<b>22SFTF06SXX</b>	20
8 mm	<b>22SFTF08SXX</b>	20
10 mm	<b>22SFTF10SXX</b>	20

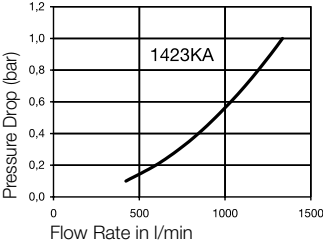
## Rectus Series 1423KA - DN 5.5

Rectus Tema premium 1/4" industrial coupling - the know-how from both brands combined in one system. Conforming to ISO 6150 B. High grade valve technology for optimum flow performance. Especially robust 2-component plastic sleeve.

### Advantages

- Single handed operation
- High flow valve
- Minimum coupling forces

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +40°C (NBR) depending on the medium.

\*At a temperature below -20°C and above +40°C special seals are available on request.

### Material

#### Coupling

Back Body	Brass, Nickel Plated
Valve Body	Steel, QPQ treated
Sleeve	PA6 + TPE
Valve	Brass
Spring	AISI 301
Locking Ring and Locking Balls	AISI 420
Seals	NBR

#### Plug

Steel Hardened, Nickel Plated

### Coupling - Male Thread BSPT

Thread A	Order code	Box Qty
3/8"	<b>1423KAAK17SPN_99</b>	10
1/2"	<b>1423KAAK21SPN_99</b>	10

### Plug - Male Thread BSPT

Thread A	Order code	Box Qty
1/4"	<b>23SFAK13SXN</b>	20
3/8"	<b>23SFAK17SXN</b>	20

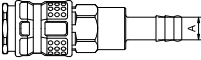
### Coupling - Female Thread BSPP

Thread A	Order code	Box Qty
1/2"	<b>1423KAIW21SPN_99</b>	10

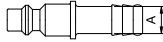
### Plug - Female Thread BSPP

Thread A	Order code	Box Qty
1/4"	<b>23SFIW13SXN</b>	20
3/8"	<b>23SFIW17SXN</b>	20

**Coupling - Hose Barb**

	Thread A	Order code	Box Qty
	9 mm	<b>1423KATF09SPN_99</b>	10
	13 mm	<b>1423KATF13SPN_99</b>	10

**Plug - Hose Barb**

	Thread A	Order code	Box Qty
	6 mm	<b>23SFTF06SXX</b>	20
	8 mm	<b>23SFTF08SXX</b>	20
	10 mm	<b>23SFTF10SXX</b>	20

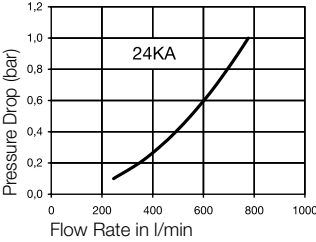
## Rectus Series 24KA - DN 5.5

1/4" Industrial brass coupling conforming to ISO 6150B and US Mil. Spec 4109. Notable for brass mass design and corresponding sleeve design. Hardened steel plug counters vibrations and effects of external forces.

### Advantages

- Single handed operation

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.  
\*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

#### Coupling

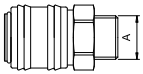
Back Body: Brass  
Valve Body: Brass  
Sleeve: Thermoplastic  
Valve: Brass  
Spring and Locking Ring: AISI 301

Pins: AISI 420  
Seals: NBR

#### Plug

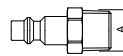
Steel Hardened, Nickel Plated

### Coupling - Male Thread BSPP



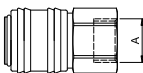
Thread A	Order code	Box Qty
1/4"	<b>24KAAW13MPXS_99</b>	20
3/8"	<b>24KAAW17MPXS_99</b>	20
1/2"	<b>24KAAW21MPXS_99</b>	20

### Plug - Male Thread BSPT



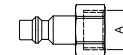
Thread A	Order code	Box Qty
1/4"	<b>23SFAK13SXN</b>	20
3/8"	<b>23SFAK17SXN</b>	20

### Coupling - Female Thread BSPP



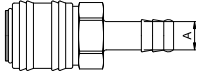
Thread A	Order code	Box Qty
1/4"	<b>24KAIW13MPXS_99</b>	20
3/8"	<b>24KAIW17MPXS_99</b>	20
1/2"	<b>24KAIW21MPXS_99</b>	20

### Plug - Female Thread BSPP



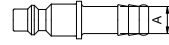
Thread A	Order code	Box Qty
1/4"	<b>23SFIW13SXN</b>	20
3/8"	<b>23SFIW17SXN</b>	20

**Coupling - Hose Barb**



Thread A	Order code	Box Qty
8 mm	<b>24KATF08MPXS_99</b>	20
10 mm	<b>24KATF10MPXS_99</b>	20

**Plug - Hose Barb**



Thread A	Order code	Box Qty
6 mm	<b>23SFTF06SXN</b>	20
8 mm	<b>23SFTF08SXN</b>	20
10 mm	<b>23SFTF10SXN</b>	20

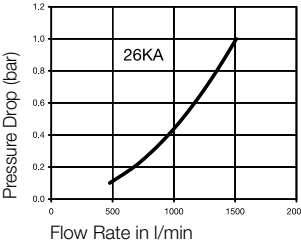
## Rectus Series 26KA - DN 7.2

European standard industrial profile. Universal brass coupling. Ergonomic sleeve design prevents dirt on the valve body. Series 26 plugs in brass. Series 25 steel plugs recommended for oscillating forces.

### Advantages

- Single handed operation
- European standard
- Small mass size

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.  
 \*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

#### Coupling

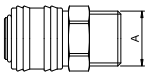
Back Body	Brass
Valve Body	Brass
Sleeve	Thermoplastic
Valve	Brass
Spring and Locking Ring	AISI 301
Locking Pins	AISI 420
Seals	NBR

#### Plug

Brass

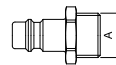
### Coupling - Male Thread BSPP

Thread A	Order code	Box Qty
1/4"	<b>26KAAW13MPXS_99</b>	20
3/8"	<b>26KAAW17MPXS_99</b>	20
1/2"	<b>26KAAW21MPXS_99</b>	20



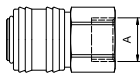
### Plug - Male Thread BSPP

Thread A	Order code	Box Qty
1/4"	<b>26SFAW13MXX</b>	20
3/8"	<b>26SFAW17MXX</b>	20



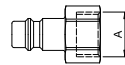
### Coupling - Female Thread BSPP

Thread A	Order code	Box Qty
1/4"	<b>26KAIW13MPXS_99</b>	20
1/2"	<b>26KAIW21MPXS_99</b>	20



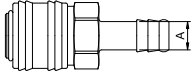
### Plug - Female Thread BSPP

Thread A	Order code	Box Qty
1/4"	<b>26SFIW13MXX</b>	20
3/8"	<b>26SFIW17MXX</b>	20



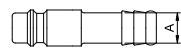


**Coupling - Hose Barb**



Thread A	Order code	Box Qty
6 mm	<b>26KATF06MPXS_99</b>	20
8 mm	<b>26KATF08MPXS_99</b>	20
9 mm	<b>26KATF09MPXS_99</b>	20

**Plug - Hose Barb**



Thread A	Order code	Box Qty
6 mm	<b>26SFTF06MXX</b>	20
8 mm	<b>26SFTF08MXX</b>	20
9 mm	<b>26SFTF09MXX</b>	20

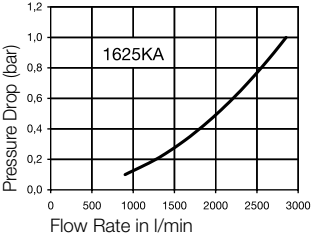
## Rectus Series 1625KA - DN 7.8

RectusTema premium European standard industrial coupling – the know-how from both brands combined in one system. Extremely robust 2-component plastic sleeve. Suitable for compressed air applications with above average air consumption.

### Advantages

- Single handed operation
- High grade valve technology with optimum flow performance
- Minimum coupling forces

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +40°C (NBR)  
depending on the medium.  
\*At a temperature below -20°C and above +40°C special seals are available on request.

### Material

#### Coupling

Back Body	Brass, Nickel Plated
Valve Body	Steel, QPQ treated
Sleeve	PA6 + TPE
Valve	Brass
Spring	AISI 301
Locking Ring and Locking Balls	AISI 420
Seals	NBR

#### Plug

Steel Hardened, Zinc Plated

### Coupling - Male Thread BSPT

	Thread A	Order code	Box Qty
	3/8"	<b>1625KAAK17SPN_99</b>	10
	1/2"	<b>1625KAAK21SPN_99</b>	10

### Plug - Male Thread BSPT

	Thread A	Order code	Box Qty
	1/4"	<b>25SFAK13SXZ</b>	20
	3/8"	<b>25SFAK17SXZ</b>	20
	1/2"	<b>25SFAK21SXZ</b>	10

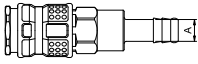
### Coupling - Female Thread BSPP

	Thread A	Order code	Box Qty
	1/2"	<b>1625KAIW21SPN_99</b>	10

### Plug - Female Thread BSPP

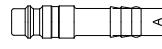
	Thread A	Order code	Box Qty
	1/4"	<b>25SFIW13SXZ</b>	20
	3/8"	<b>25SFIW17SXZ</b>	20

## Coupling - Hose Barb



Thread A	Order code	Box Qty
9 mm	<b>1625KATF09SPN_99</b>	10
13 mm	<b>1625KATF13SPN_99</b>	10

## Plug - Hose Barb



Thread A	Order code	Box Qty
9 mm	<b>25SFTF09SXZ</b>	20
13 mm	<b>25SFTF13SXZ</b>	20

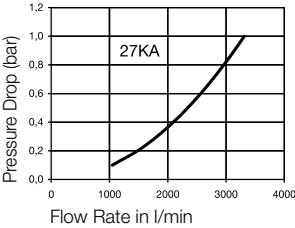
## Rectus Series 27KA - DN 10

1/2" European industrial profile with UltraFlo technology. High flow performance. Notable for robust design with steel sleeve in use with large pneumatic consumers. Also available in brass.

### Advantages

- Single handed operation
- High flow valve - low pressure drop
- No damage to the valve body from binding design

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.

\*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

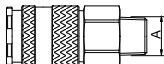
#### Coupling

Back Body	Brass, Nickel Plated
Valve Body	Brass, Nickel Plated
Sleeve	Steel Hardened, Nickel Pl.
Valve	Brass
Inner Sleeve	Brass
Spring Plate	Brass
Spring and Locking Ring	AISI 301
Locking Balls	AISI 420
Seals	NBR

#### Plug


Steel Hardened, Nickel Pl.

### Coupling - Male Thread BSPT



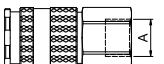
Thread A	Order code	Box Qty
3/8"	<b>27KAAK17MPNS_04</b>	2
1/2"	<b>27KAAK21MPNS_07</b>	2

### Plug - Male Thread BSPT




Thread A	Order code	Box Qty
1/4"	<b>27SFAK13SXNS_01</b>	10
3/8"	<b>27SFAK17SXNS_01</b>	10
1/2"	<b>27SFAK21SXNS_01</b>	10

### Coupling - Female Thread BSPP



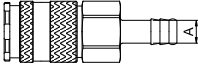
Thread A	Order code	Box Qty
3/8"	<b>27KAIW17MPNS_05</b>	5
1/2"	<b>27KAIW21MPNS_06</b>	5

### Plug - Female Thread BSPP




Thread A	Order code	Box Qty
3/8"	<b>27SFIW17SXNS_02</b>	10
1/2"	<b>27SFIW21SXNS_02</b>	10

## Coupling - Hose Barb

	Thread A	Order code	Box Qty
	10 mm	<b>27KATF10MPNS_06</b>	2
	13 mm	<b>27KATF13MPNS_06</b>	2

## Plug - Hose Barb

	Thread A	Order code	Box Qty
	8 mm	<b>27SFTF08SXNS</b>	20
	10 mm	<b>27SFTF10SXNS_01</b>	20
	13 mm	<b>27SFTF13SXNS_02</b>	10

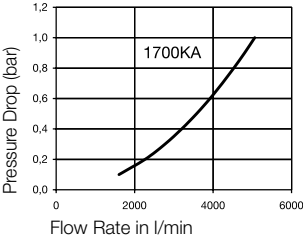
## Rectus Series 1700KA - DN 10

Premium industrial coupling in nominal diameter 10 with high grade valve technology and unprecedented flow values and minimum coupling forces. Especially suited to compressed air applications with above average air consumption.

### Advantages

- Single handed operation
- High flow valve
- Minimum coupling forces

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.

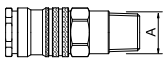
\*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

#### Coupling

Back Body	Brass, Nickel Plated
Valve Body	Steel, QPQ treated
Sleeve	Brass, Nickel Plated
Valve	Brass
Locking Ring and Locking Balls	AISI 301
Spring	AISI 420
Seals	NBR
<b>Plug</b>	Steel Hardened, Zinc Plated

### Coupling - Male Thread BSPT



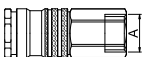
Thread A	Order code	Box Qty
3/8"	<b>1700KAAK17SPN_99</b>	5
1/2"	<b>1700KAAK21SPN_99</b>	5
3/4"	<b>1700KAAK26SPN_99</b>	5

### Plug - Male Thread BSPT



Thread A	Order code	Box Qty
1/4"	<b>27SFAK13SXNS_01</b>	10
3/8"	<b>27SFAK17SXNS_01</b>	10
1/2"	<b>27SFAK21SXNS_01</b>	10

### Coupling - Female Thread BSPP



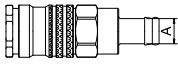
Thread A	Order code	Box Qty
3/8"	<b>1700KAIW17SPN_99</b>	5
1/2"	<b>1700KAIW21SPN_99</b>	5
3/4"	<b>1700KAIW26SPN_99</b>	5

### Plug - Female Thread BSPP



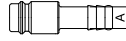
Thread A	Order code	Box Qty
3/8"	<b>27SFIW17SXNS_02</b>	10
1/2"	<b>27SFIW21SXNS_02</b>	10

## Coupling - Hose Barb



Thread A	Order code	Box Qty
10 mm	<b>1700KATF10SPN_99</b>	5
13 mm	<b>1700KATF13SPN_99</b>	5
16 mm	<b>1700KATF16SPN_99</b>	5

## Plug - Hose Barb



Thread A	Order code	Box Qty
8 mm	<b>27SFTF08SXNS</b>	20
10 mm	<b>27SFTF10SXNS_01</b>	20
13 mm	<b>27SFTF13SXNS_02</b>	10

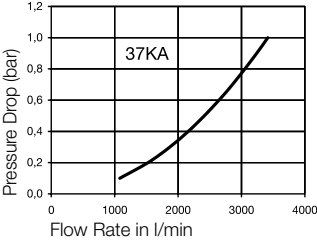
## Rectus Series 37KA - DN 11

1/2" Coupling-system according to US-MIL-Spec.  
C-4109 made of brass. Plug design optimised through greater insert depth.

### Advantages

- Single handed operation
- Tough construction

### Chart / Air



### Working Pressure

PB = 35 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +100°C (NBR) depending on the medium.

\*At a temperature below -20°C and above +100°C special seals are available on request.

### Material

#### Coupling

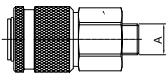
Back Body Brass  
Valve Body Brass  
Sleeve Brass  
Valve Brass  
Spring and Locking Ring AISI 301

Pins AISI 420  
Seals NBR

#### Plug

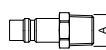
Steel Hardened, Nickel Plated

### Coupling - Male Thread BSPP



Thread A	Order code	Box Qty
3/8"	<b>37KAAW17MPXS</b>	2
1/2"	<b>37KAAW21MPXS</b>	2
3/4"	<b>37KAAW26MPXS</b>	2

### Plug - Male Thread BSPT



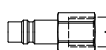
Thread A	Order code	Box Qty
1/2"	<b>37SFAK21SXNS</b>	10
3/4"	<b>37SFAK26SXNS</b>	5

### Coupling - Female Thread BSPP



Thread A	Order code	Box Qty
3/8"	<b>37KAIW17MPXS</b>	2
1/2"	<b>37KAIW21MPXS</b>	2
3/4"	<b>37KAIW26MPXS</b>	2

### Plug - Female Thread BSPP



Thread A	Order code	Box Qty
1/2"	<b>37SFIW21SXNS_01</b>	5
3/4"	<b>37SFIW26SXNS</b>	5



**Plug - Hose Barb**

Thread A	Order code	Box Qty
13 mm	<b>37SFTF13SXNS</b>	10
16 mm	<b>37SFTF16SXNS</b>	10
19 mm	<b>37SFTF19SXNS</b>	5

## Rectus Self-Venting Series 14KE - DN 5.5

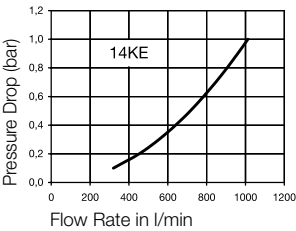
The connection is made the same way as with all other quick connect coupling series, by simply pushing the plug in the coupling. The audible latching when the plug is securely in place signifies that the coupling is locked. The sleeve must be pulled back to release the first locking system before it can be disconnected. This closes the coupling valve. The compressed downstream air can now escape from the plug (hose). Pulling the sleeve back a second time releases the second locking system. The connection can now be safely undone. This self-venting coupling, designed for bleeding off trapped air, is not suitable for direct connection to compressed air tools.



### Advantages

- The system fulfils the requirements of ISO 4414
- increased safety standards in the work place
  - the plastic sleeve does not scratch working surfaces

### Chart / Air



### Caution

Not recommended for direct connection to compressed air tools. Reliable functioning can only be guaranteed in conjunction with original Rectus plugs made of steel.

### Working Pressure

PB = 12 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +60°C (NBR) depending on the medium.  
 \*At a temperature below -20°C and above +60°C special seals are available on request.

### Material

#### Coupling

- Back Body
- Valve Body
- Sleeve
- Valve
- Spring
- Locking Balls
- Seals
- Pins

- Brass, Nickel Plated
- Brass, Nickel Plated
- Thermoplastic
- Brass
- AISI 301
- AISI 420
- NBR
- AISI 420

#### Plug

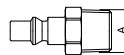
Steel Hardened, Nickel Pl.

### Coupling - Male Thread BSPT



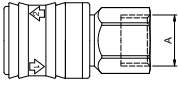
Thread A	Order code	Box Qty
1/4"	<b>14KEAK13MPNS_99</b>	10
1/2"	<b>14KEAK21MPNS_99</b>	10

### Plug - Male Thread BSPT



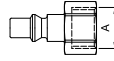
Thread A	Order code	Box Qty
1/4"	<b>22SFAK13SXXN</b>	20
3/8"	<b>22SFAK17SXXN</b>	20
1/2"	<b>22SFAK21SXXN</b>	10

**Coupling - Female Thread BSPP**



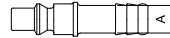
Thread A	Order code	Box Qty
1/4"	<b>14KEIW13MPNS_99</b>	10
1/2"	<b>14KEIW21MPNS_99</b>	10

**Plug - Female Thread BSPP**



Thread A	Order code	Box Qty
1/4"	<b>22SFIW13SXN</b>	20
3/8"	<b>22SFIW17SXN</b>	20

**Plug - Hose Barb**



Thread A	Order code	Box Qty
6 mm	<b>22SFTF06SXN</b>	20
8 mm	<b>22SFTF08SXN</b>	20
10 mm	<b>22SFTF10SXN</b>	20

## Rectus Self-Venting Series 24KE - DN 5.5

The connection is made the same way as with all other quick connect coupling series, by simply pushing the plug in the coupling. The audible latching when the plug is securely in place signifies that the coupling is locked. The sleeve must be pulled back to release the first locking system before it can be disconnected. This closes the coupling valve. The compressed downstream air can now escape from the plug (hose). Pulling the sleeve back a second time releases the second locking system. The connection can now be safely undone. This self-venting coupling, designed for bleeding off trapped air, is not suitable for direct connection to compressed air tools.

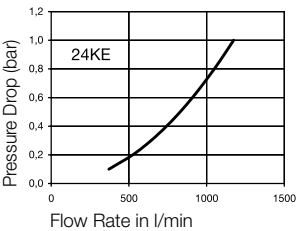


### Advantages

The system fulfils the requirements of ISO 4414

- increased safety standards in the work place
- the plastic sleeve does not scratch working surfaces

### Chart / Air



### Caution

Not recommended for direct connection to compressed air tools. Reliable functioning can only be guaranteed in conjunction with original Rectus plugs made of steel.

### Working Pressure

PB = 12 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +60°C (NBR) depending on the medium.

\*At a temperature below -20°C and above +60°C special seals are available on request.

### Material

#### Coupling

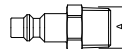
Back Body	Brass, Nickel Plated
Valve Body	Brass, Nickel Plated
Sleeve	Thermoplastic
Valve	Brass
Spring and Locking Ring	AISI 301
Locking Balls	AISI 420
Seals	NBR
Pins	AISI 420
<b>Plug</b>	Steel Hardened, Nickel Pl.

### Coupling - Male Thread BSPT



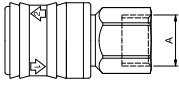
Thread A	Order code	Box Qty
1/4"	<b>24KEAK13MPNS_99</b>	10
1/2"	<b>24KEAK21MPNS_99</b>	10

### Plug - Male Thread BSPT



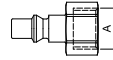
Thread A	Order code	Box Qty
1/4"	<b>23SFAK13SXN</b>	20
3/8"	<b>23SFAK17SXN</b>	20

## Coupling - Female Thread BSPP



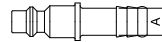
Thread A	Order code	Box Qty
1/4"	<b>24KEIW13MPNS_99</b>	10
1/2"	<b>24KEIW21MPNS_99</b>	10

## Plug - Female Thread BSPP



Thread A	Order code	Box Qty
3/8"	<b>23SFIW13SXN</b>	20
1/2"	<b>23SFIW17SXN</b>	20

## Plug - Hose Barb



Thread A	Order code	Box Qty
6 mm	<b>23SFTF06SXN</b>	20
8 mm	<b>23SFTF08SXN</b>	20
10 mm	<b>23SFTF10SXN</b>	20

## Rectus Self-Venting Series 26KE - DN 7.4

The connection is made the same way as with all other quick connect coupling series, by simply pushing the plug in the coupling. The audible latching when the plug is securely in place signifies that the coupling is locked. The sleeve must be pulled back to release the first locking system before it can be disconnected. This closes the coupling valve. The compressed downstream air can now escape from the plug (hose). Pulling the sleeve back a second time releases the second locking system. The connection can now be safely undone. This self-venting coupling, designed for bleeding off trapped air, is not suitable for direct connection to compressed air tools.

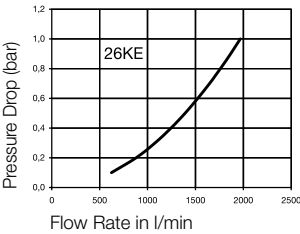


### Advantages

The system fulfils the requirements of ISO 4414

- increased safety standards in the work place
- the plastic sleeve does not scratch working surfaces

### Chart / Air



### Caution

Not recommended for direct connection to compressed air tools. Reliable functioning can only be guaranteed in conjunction with original Rectus plugs made of steel.

### Working Pressure

PB = 12 bar, maximum static working pressure with safety factor of 4 to 1.

### Working Temperature\*

-20°C up to +60°C (NBR) depending on the medium.

\*At a temperature below -20°C and above +60°C special seals are available on request.

### Material

#### Coupling

- Back Body
- Valve Body
- Sleeve
- Valve
- Spring
- Locking Balls
- Seals
- Pin

- Brass, Nickel Plated
- Brass, Nickel Plated
- Thermoplastic
- Brass
- AISI 301
- AISI 420
- NBR
- AISI 420

#### Plug

Steel Hardened, Nickel Pl.

### Coupling - Male Thread BSPP



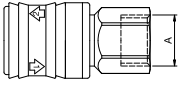
Thread A	Order code	Box Qty
1/4"	<b>26KEAW13MPNS_99</b>	10
1/2"	<b>26KEAW21MPNS_99</b>	10

### Plug - Male Thread BSPT



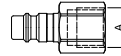
Thread A	Order code	Box Qty
1/4"	<b>25SFAK13SXZ</b>	20
3/8"	<b>25SFAK17SXZ</b>	20
1/2"	<b>25SFAK21SXZ</b>	10

## Coupling - Female Thread BSPP



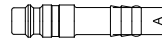
Thread A	Order code	Box Qty
1/4"	<b>26KEIW13MPNS_99</b>	5
3/8"	<b>26KEIW17MPNS_99</b>	5

## Plug - Female Thread BSPP



Thread A	Order code	Box Qty
1/4"	<b>25SFIW13SXZ</b>	20
3/8"	<b>25SFIW17SXZ</b>	20

## Plug - Hose Barb



Thread A	Order code	Box Qty
9 mm	<b>25SFTF09SXZ</b>	20
13 mm	<b>25SFTF13SXZ</b>	20

**Rectus self-venting Series 27KE - DN 10**

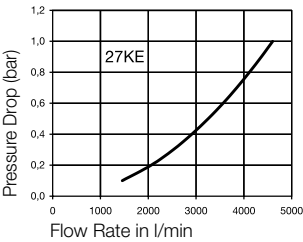
With nominal diameter 10, one of the largest range in a new generation of couplings with ventilation technology. Two-stage uncoupling prevents occurrence of the whiplash effect. Connected in the same manner as all standard couplings – single hand operation. The venting takes place without any danger to the operators during the disconnecting process – no danger of being hit by a whipping hose that is still pressurized. The system fulfils the requirements stipulated in ISO 4414 for increased safety standards in the working place.



**Advantages**

- The system fulfils the requirements of ISO 4414
- increased safety standards in the work place
  - the plastic sleeve does not scratch working surfaces

**Chart / Air**



**Caution**

Not recommended for direct connection to compressed air tools. Reliable functioning can only be guaranteed in conjunction with original Rectus plugs made of steel.

**Working Pressure**

PB = 12 bar, maximum static working pressure with safety factor of 4 to 1.

**Working Temperature\***

-20°C up to +60°C (NBR) depending on the medium.  
\*At a temperature below -20°C and above +60°C special seals are available on request.

**Material**

**Coupling**

Back Body: Brass, Nickel Plated  
Valve Body: Steel, Nickel Plated  
Sleeve: Polyamide, Fiber Glass Reinforced

Valve: Brass  
Spring: AISI 301  
Locking Balls: AISI 420  
Seals: NBR

**Plug**

Steel Hardened, Nickel Pl.

**Coupling - Male Thread BSPT**



Thread A	Order code	Box Qty
1/4"	<b>27KEAK21MPNS_99</b>	2
3/4"	<b>27KEAK26MPNS_99</b>	2

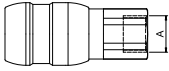
**Plug - Male Thread BSPT**



Thread A	Order code	Box Qty
1/4"	<b>27SFAK13SXNS_01</b>	10
3/8"	<b>27SFAK17SXNS_01</b>	10
1/2"	<b>27SFAK21SXNS_01</b>	10



## Coupling - Female Thread BSPP



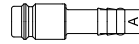
Thread A	Order code	Box Qty
1/2"	<b>27KEIW21MPNS_99</b>	2
3/4"	<b>27KEIW26MPNS_99</b>	2

## Plug - Female Thread BSPP



Thread A	Order code	Box Qty
3/8"	<b>27SFIW17SXNS_02</b>	10
1/2"	<b>27SFIW21SXNS_02</b>	10

## Plug - Hose Barb



Thread A	Order code	Box Qty
8 mm	<b>27SFTF08SXNS</b>	20
10 mm	<b>27SFTF10SXNS_01</b>	20
13 mm	<b>27SFTF13SXNS_02</b>	10

## Blow Guns

### Plastic - with Aluminium Extension Nozzle



Thread	Order code	Box Qty
1/4"	<b>AK13S_99</b>	20

### Aluminium with Standard Nozzle



Thread	Order code	Box Qty
1/4"	<b>AA13</b>	20

### Plastic, Aluminium Nozzle, Plug 26SF Series



Thread	Order code	Box Qty
26SF	<b>AK26SFS_99</b>	20

### Aluminium, Standard Nozzle, Plug 26SF Series



Thread	Order code	Box Qty
26SF	<b>AA26SF</b>	20

## Hose Tail Barb, Brass

### Male Thread



Connection	Order code	Box Qty
G 1/4, 8 mm	<b>GT13/08</b>	20
G 3/8, 13 mm	<b>GT17/13</b>	20
G 1/2, 9 mm	<b>GT21/09</b>	20
G 1/2, 13 mm	<b>GT21/13</b>	20

## 3 Way Manifold Assembly

### Brass, with Couplings 26KA Series



Connection	Order code	Box Qty
G 1/4 i.	<b>DM13I</b>	20
G 3/8 i.	<b>DM17I</b>	20
G 1/2 i.	<b>DM21I</b>	20

## PA12 Tubing

### 26 Series Coupling and Plug with Spring Guard



Connection /mm	Length	Order code	Box Qty
6,3 x 7,9	5,0 m	<b>SP08/050/K+S</b>	1
9,5 x 11,8	7,5 m	<b>SP12/075/K+S</b>	1

## PU Tubing

### with Straight Extensions 508 mm and 127 mm



Connection /mm	Length	Order code	Box Qty
6,3 x 9,5	6,0 m	<b>PU10/060/DV</b>	1
8,0 x 12,0	7,5 m	<b>PU12/075/DV</b>	1

- Twistlok action
- Wide choice of adaptors
- Non whip adaptors
- Rugged design



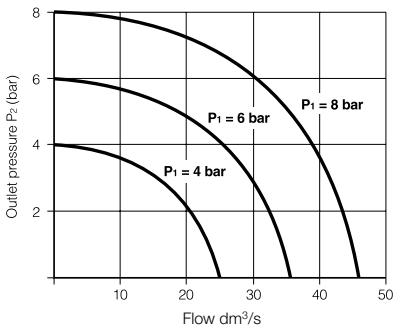
**Twistlok Units**

Designed for single hand connection or disconnection. A twist on the cap will release the adaptor and the airline is automatically resealed. When coupled the check unit allows the adaptors to swivel, to eliminate kinking of the hose.

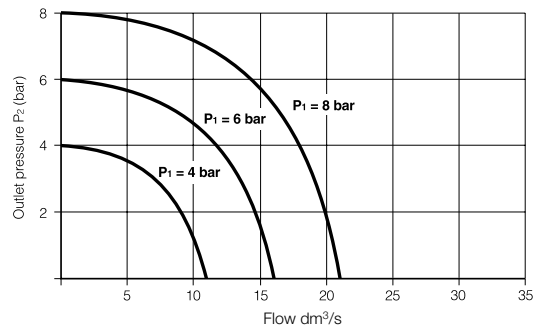
Operating and additional information			Materials	
	<b>Standard</b>	<b>Heavy Duty</b>	Body	Aluminium
Pressure range	Partial vacuum to 17 bar	Partial vacuum to 17 bar	Washer holder	Brass chrome plated
Temperature range	-10°C to +80°C	-10°C to +80°C	Spring	Stainless steel
Fluids	Air	Air	Deflector	Brass
Q max	23.6 dm³/s	51.9 dm³/s	Sleeve	Steel zinc plated
Cv	1.07	1.9	Seals	Nitrile (viton on request)
			Adaptors	Plated mild steel

**Flow Rates**

**Pressure vs Flow  
Schrader Standard 1/4 Female Coupling**



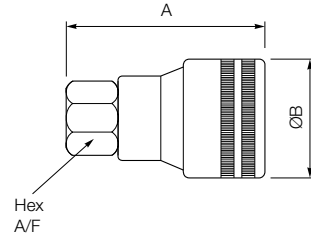
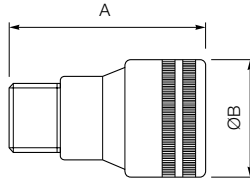
**Pressure vs Flow  
Schrader Heavy Duty 1/2 Female Coupling**



Twistlok Standard Check Units

Profile

Symbol

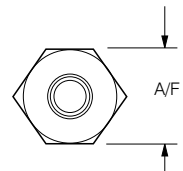
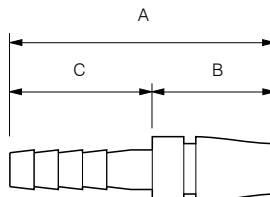
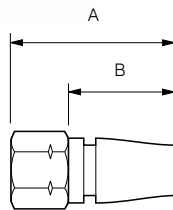
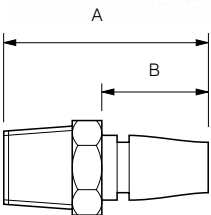


Order Code	Pack Qty	Connection	Weight (g)	Dimensions (mm)		
				A	ØB	Hex A/F
8952DL-12	1	G1/4 Female (BSPP)	120	45	30	17,5
9793D-12	1	R1/4 Male (BSPT)	132	55	30	18,0
9792D-12	1	R3/8 Male (BSPT)	138	55	30	18,0

Standard Adaptors

Profile

Symbol

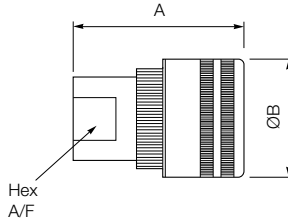


Order Code	Pack Qty	Connection	Weight (g)	Dimensions (mm)			
				A	B	C	Hex A/F
8051B-11	1	R1/8 Male (BSPT)	15	42	24,5	-	14,0
8050B-11	1	R1/4 Male (BSPT)	20	44	24,5	-	14,0
2047B	1	G1/8 Female (BSPP)	26	42	24,5	-	14,0
8278L-11	1	G1/4 Female (BSPP)	34	46	31,0	-	17,5
8787-11	1	1/4" (6mm) Hose Tail	22	57	30,0	27	14,0
9750-11	1	5/16" (8mm) Hose Tail	24	57	30,0	27	14,0
8788-11	1	3/8" (10mm) Hose Tail	24	57	30,0	27	14,0
9031	1	G1/4 Female Non-whip (BSPP)	48	55	31,0	-	17,5

**Twistlok Heavy Duty Check Units**

**Profile**

**Symbol**

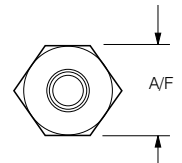
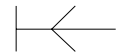
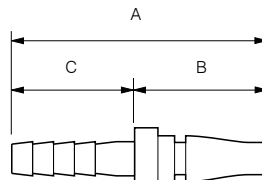
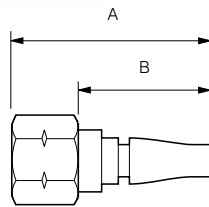
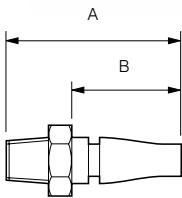


Order Code	Pack Qty	Connection	Weight (g)	Dimensions (mm)		
				A	ØB	Hex A/F
1054EL-12	1	G1/4 Female (BSPP)	168	58	37	17,5
1095EL-12	1	G3/8 Female (BSPP)	160	58	38	24,0
1461EL-12	1	G1/2 Female (BSPP)	180	58	37	25,5
1462EL-12	1	G3/4 Female (BSPP)	220	63	37	33,0

**Heavy Duty Adaptors**

**Profile**

**Symbol**



Order Code	Pack Qty	Connection	Weight (g)	Dimensions (mm)			
				A	B	C	Hex A/F
8624B-11	1	R1/4 Male (BSPT)	44	48,0	28	-	17,5
9739-11	1	R3/8 Male (BSPT)	60	48,0	28	-	22,0
8807-11	1	R1/2 Male (BSPT)	86	54,0	28	-	22,0
1462B-11	1	G3/4 Male (BSPP)	102	55,0	28	-	27,0
1261L-11	1	G1/4 Female (6mm) (BSPP)	44	43,0	28	-	17,5
1096B-11	1	G3/8 Female (8mm) (BSPP)	64	47,0	28	-	22,0
1097-11	1	3/8" (10mm) Hose Tail	46	71,0	33	38	-
1098-11	1	1/2" (12mm) Hose Tail	64	71,0	33	38	-
9042	1	G3/8 Female Non-whip (BSPP)	90	57,5	28	-	22,0

# Air Preparation & Airline Accessories

PDE2611TCUK



Parker is the world leader in motion and control technologies, providing systematic, precision-engineered solutions for a wide variety of, industrial markets. Throughout the world, Parker Hannifin is working together with companies to make their machines more reliable and more productive. Parker products are in operation on satellites orbiting the earth; in machine tools and mobile plant; on oil rigs and refineries; in hospitals and laboratories. In fact, wherever there

are machines that depend on motion or fluid control, you will find innovative and reliable Parker components and systems.

### Global Air Preparation System



- Space saving integral gauge (P31 size only)
- Manifold style regulators available
- OSHA compliant shut-off valves
- Soft-Start & Quick Dump valves
- Electronic Proportional Regulator

### Moduflex Dry Air System



- Designed in accordance with ASME VIII Div.1, approved to CSA/UL/CRN and fully CE Marked
- (PED, EMC, LVD) as standard.
- Flexible installation utilising the multiple in-line inlet & outlet connection ports.
- Can be Floor, Bench or Wall/Canopy mounted.
- Noise level less than 70dB(A).

### Stainless Steel FRLs



- 316 Stainless steel FRL design to withstand harsh, corrosive environments
- Suitable for Marine & Offshore applications
- Chemical / Petroleum and process industries
- Coalescing filters are designed for removing oil and water aerosols down to 0.01µ

### Moduflex Proportional Technology



- Very fast response times
- Accurate output pressure
- Micro parameter settings
- Selectable I/O parameters
- Quick, full flow exhaust.
- LED display indicates output pressure
- Auto enable function

### Moduflex AirGuard Protection System



- Maintenance friendly, Repair possible while plant is still operating.
- Reliable and tamperproof, No adjustment necessary.
- Complies with EU current standard EN 983 - § 5.3.4.3.2.
- Complies with the 2009 ISO4414 (5.4.5.11.1)

### P3X Moduflex Lite Series



- Integral 1/2 or 3/4 ports
- High efficiency 5 micron element as standard
- Excellent water removal efficiency
- Secondary pressure ranges 8 and 16 bar
- Rolling diaphragm for extended life
- Membrane dryers

### Moduflex Compressed Air Filters



- Tested in accordance with ISO 8573.9
- High liquid removal efficiencies at all flow conditions
- Low pressure losses for low operational costs
- Multiple port sizes for a given flow rate provides increased flexibility during installation
- Suitable for variable flow compressors

### Miniature FRL Series



- Compact body ported units.
- Port sizes G<sup>1</sup>/<sub>8</sub> and G<sup>1</sup>/<sub>4</sub>.
- Unique deflector plate ensuring maximum water and particulate removal.
- Solid control piston with lip seal for extended life.
- Proportional oil delivery over a wide range of air flows.

### High Precision Regulators



- High repeatability
- High relief capacity on R220 model
- High flow capacity on R230 model

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 00800 27 27 5374.



**AEROSPACE**

**Key Markets**

- Aircraft engines
- Business & general aviation
- Commercial transports
- Land-based weapons systems
- Military aircraft
- Missiles & launch vehicles
- Regional transports
- Unmanned aerial vehicles

**Key Products**

- Flight control systems & components
- Fluid conveyance systems
- Fluid metering delivery & atomization devices
- Fuel systems & components
- Hydraulic systems & components
- Inert nitrogen generating systems
- Pneumatic systems & components
- Wheels & brakes



**CLIMATE CONTROL**

**Key Markets**

- Agriculture
- Air conditioning
- Food, beverage & dairy
- Life sciences & medical
- Precision cooling
- Processing
- Transportation

**Key Products**

- COP controls
- Electronic controllers
- Filter driers
- Hand shut-off valves
- Hose & fittings
- Pressure regulating valves
- Refrigerant distributors
- Safety relief valves
- Solenoid valves
- Thermostatic expansion valves



**ELECTROMECHANICAL**

**Key Markets**

- Aerospace
- Factory automation
- Food & beverage
- Life science & medical
- Machine tools
- Packaging machinery
- Paper machinery
- Plastics machinery & converting
- Primary metals
- Semiconductor & electronics
- Textile
- Wire & cable

**Key Products**

- AC/DC drives & systems
- Electric actuators
- Controllers
- Gantry robots
- Gearheads
- Human machine interfaces
- Industrial PCs
- Inverters
- Linear motors, slides and stages
- Precision stages
- Stepper motors
- Servo motors, drives & controls
- Structural extrusions



**FILTRATION**

**Key Markets**

- Food & beverage
- Industrial machinery
- Life sciences
- Marine
- Mobile equipment
- Oil & gas
- Power generation
- Process
- Transportation

**Key Products**

- Analytical gas generators
- Compressed air & gas filters
- Condition monitoring
- Engine air, fuel & oil filtration & systems
- Hydraulic, lubrication & coolant filters
- Process, chemical, water & microfiltration filters
- Nitrogen, hydrogen & zero air generators



**FLUID & GAS HANDLING**

**Key Markets**

- Aerospace
- Agriculture
- Bulk chemical handling
- Construction machinery
- Food & beverage
- Fuel & gas delivery
- Industrial machinery
- Mobile
- Oil & gas
- Transportation
- Welding

**Key Products**

- Brass fittings & valves
- Diagnostic equipment
- Fluid conveyance systems
- Industrial hose
- PTFE & PFA hose, tubing & plastic fittings
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



**HYDRAULICS**

**Key Markets**

- Aerospace
- Aerial lift
- Agriculture
- Construction machinery
- Forestry
- Industrial machinery
- Mining
- Oil & gas
- Power generation & energy
- Truck hydraulics

**Key Products**

- Diagnostic equipment
- Hydraulic cylinders & accumulators
- Hydraulic motors & pumps
- Hydraulic systems
- Hydraulic valves & controls
- Power take-offs
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



**PNEUMATICS**

**Key Markets**

- Aerospace
- Conveyor & material handling
- Factory automation
- Food & beverage
- Life science & medical
- Machine tools
- Packaging machinery
- Transportation & automotive

**Key Products**

- Air preparation
- Compact cylinders
- Field bus valve systems
- Grippers
- Guided cylinders
- Manifolds
- Miniature fluidics
- Pneumatic accessories
- Pneumatic actuators & grippers
- Pneumatic valves and controls
- Rodless cylinders
- Rotary actuators
- Tie rod cylinders
- Vacuum generators, cups & sensors



**PROCESS CONTROL**

**Key Markets**

- Chemical & refining
- Food, beverage & dairy
- Medical & dental
- Microelectronics
- Oil & gas
- Power generation

**Key Products**

- Analytical sample conditioning products & systems
- Fluoropolymer chemical delivery fittings, valves & pumps
- High purity gas delivery fittings, valves & regulators
- Instrumentation fittings, valves & regulators
- Medium pressure fittings & valves
- Process control manifolds



**SEALING & SHIELDING**

**Key Markets**

- Aerospace
- Chemical processing
- Consumer
- Energy, oil & gas
- Fluid power
- General industrial
- Information technology
- Life sciences
- Military
- Semiconductor
- Telecommunications
- Transportation

**Key Products**

- Dynamic seals
- Elastomeric o-rings
- EMI shielding
- Extruded & precision-cut, fabricated elastomeric seals
- Homogeneous & inserted elastomeric shapes
- High temperature metal seals
- Metal & plastic retained composite seals
- Thermal management

**ENGINEERING YOUR SUCCESS.**



**Need  
something ?**

**It's**



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On the opening page are displayed the options available.

On the opening page are displayed the options available.

- 1. Search.** You may search by Part Number, Name or Product type.
- 2. Getting Started.** This displays a guide to Adobe Acrobat 4.0.
- 3. View Bookshelf.** Simple to use navigation, click on the product type and the overview of all products in that type will open. Click on the product you require and the Technical Catalogue will be displayed
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- 5. Contact us.** Lists the main Sales Offices around Europe with Telephone and Fax numbers

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# Parker Worldwide

## Europe, Middle East, Africa

### AE – United Arab Emirates,

Dubai  
Tel: +971 4 8127100  
parker.me@parker.com

### AT – Austria, Wiener Neustadt

Tel: +43 (0)2622 23501-0  
parker.austria@parker.com

### AT – Eastern Europe, Wiener Neustadt

Tel: +43 (0)2622 23501 900  
parker.easteurope@parker.com

### AZ – Azerbaijan, Baku

Tel: +994 50 2233 458  
parker.azerbaijan@parker.com

### BE/LU – Belgium, Nivelles

Tel: +32 (0)67 280 900  
parker.belgium@parker.com

### BY – Belarus, Minsk

Tel: +375 17 209 9399  
parker.belarus@parker.com

### CH – Switzerland, Etoy

Tel: +41 (0)21 821 87 00  
parker.switzerland@parker.com

### CZ – Czech Republic, Klecany

Tel: +420 284 083 111  
parker.czechrepublic@parker.com

### DE – Germany, Kaarst

Tel: +49 (0)2131 4016 0  
parker.germany@parker.com

### DK – Denmark, Ballerup

Tel: +45 43 56 04 00  
parker.denmark@parker.com

### ES – Spain, Madrid

Tel: +34 902 330 001  
parker.spain@parker.com

### FI – Finland, Vantaa

Tel: +358 (0)20 753 2500  
parker.finland@parker.com

### FR – France, Contamine s/Arve

Tel: +33 (0)4 50 25 80 25  
parker.france@parker.com

### GR – Greece, Athens

Tel: +30 210 933 6450  
parker.greece@parker.com

### HU – Hungary, Budapest

Tel: +36 1 220 4155  
parker.hungary@parker.com

### IE – Ireland, Dublin

Tel: +353 (0)1 466 6370  
parker.ireland@parker.com

### IT – Italy, Corsico (MI)

Tel: +39 02 45 19 21  
parker.italy@parker.com

### KZ – Kazakhstan, Almaty

Tel: +7 7272 505 800  
parker.easteurope@parker.com

### NL – The Netherlands, Oldenzaal

Tel: +31 (0)541 585 000  
parker.nl@parker.com

### NO – Norway, Asker

Tel: +47 66 75 34 00  
parker.norway@parker.com

### PL – Poland, Warsaw

Tel: +48 (0)22 573 24 00  
parker.poland@parker.com

### PT – Portugal, Leca da Palmeira

Tel: +351 22 999 7360  
parker.portugal@parker.com

### RO – Romania, Bucharest

Tel: +40 21 252 1382  
parker.romania@parker.com

### RU – Russia, Moscow

Tel: +7 495 645-2156  
parker.russia@parker.com

### SE – Sweden, Spånga

Tel: +46 (0)8 59 79 50 00  
parker.sweden@parker.com

### SK – Slovakia, Banská Bystrica

Tel: +421 484 162 252  
parker.slovakia@parker.com

### SL – Slovenia, Novo Mesto

Tel: +386 7 337 6650  
parker.slovenia@parker.com

### TR – Turkey, Istanbul

Tel: +90 216 4997081  
parker.turkey@parker.com

### UA – Ukraine, Kiev

Tel: +380 44 494 2731  
parker.ukraine@parker.com

### UK – United Kingdom, Warwick

Tel: +44 (0)1926 317 878  
parker.uk@parker.com

### ZA – South Africa, Kempton Park

Tel: +27 (0)11 961 0700  
parker.southafrica@parker.com

## North America

### CA – Canada, Milton, Ontario

Tel: +1 905 693 3000

### US – USA, Cleveland

Tel: +1 216 896 3000

## Asia Pacific

### AU – Australia, Castle Hill

Tel: +61 (0)2-9634 7777

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Tel: +86 21 2899 5000

### HK – Hong Kong

Tel: +852 2428 8008

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Tel: +91 22 6513 7081-85

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Tel: +81 (0)3 6408 3901

### KR – South Korea, Seoul

Tel: +82 2 559 0400

### MY – Malaysia, Shah Alam

Tel: +60 3 7849 0800

### NZ – New Zealand, Mt Wellington

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Tel: +886 2 2298 8987

## South America

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### BR – Brazil, Sao Jose dos Campos

Tel: +55 800 727 5374

### CL – Chile, Santiago

Tel: +56 2 623 1216

### MX – Mexico, Apodaca

Tel: +52 81 8156 6000

### European Product Information Centre

Free phone: 00 800 27 27 5374

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