



Parker Moduflex Valve System

Catalogue PDE2536TCUK



ENGINEERING YOUR SUCCESS.



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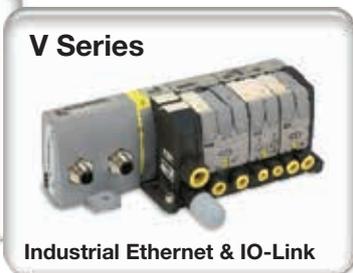
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Moduflex Valve System

The Moduflex Valve System redefines 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

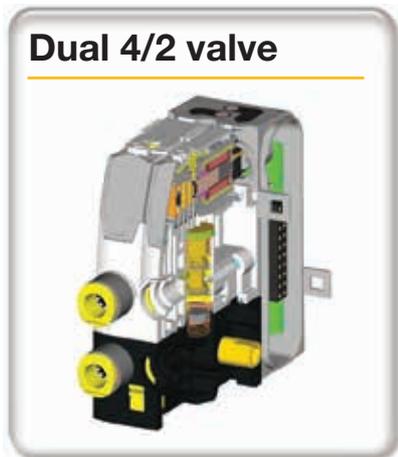
From stand-alone valves to communicant ready valve islands, from cylinder flow controls to vacuum generators with integrated blow-off, the Moduflex Valve System meets the requirements of the whole automation spectrum.

Light-weight

A communicant valve manifold with 8 pneumatic outputs weighs a mere 800grams, making the Moduflex Valve System the perfect choice for end of arm tooling application.

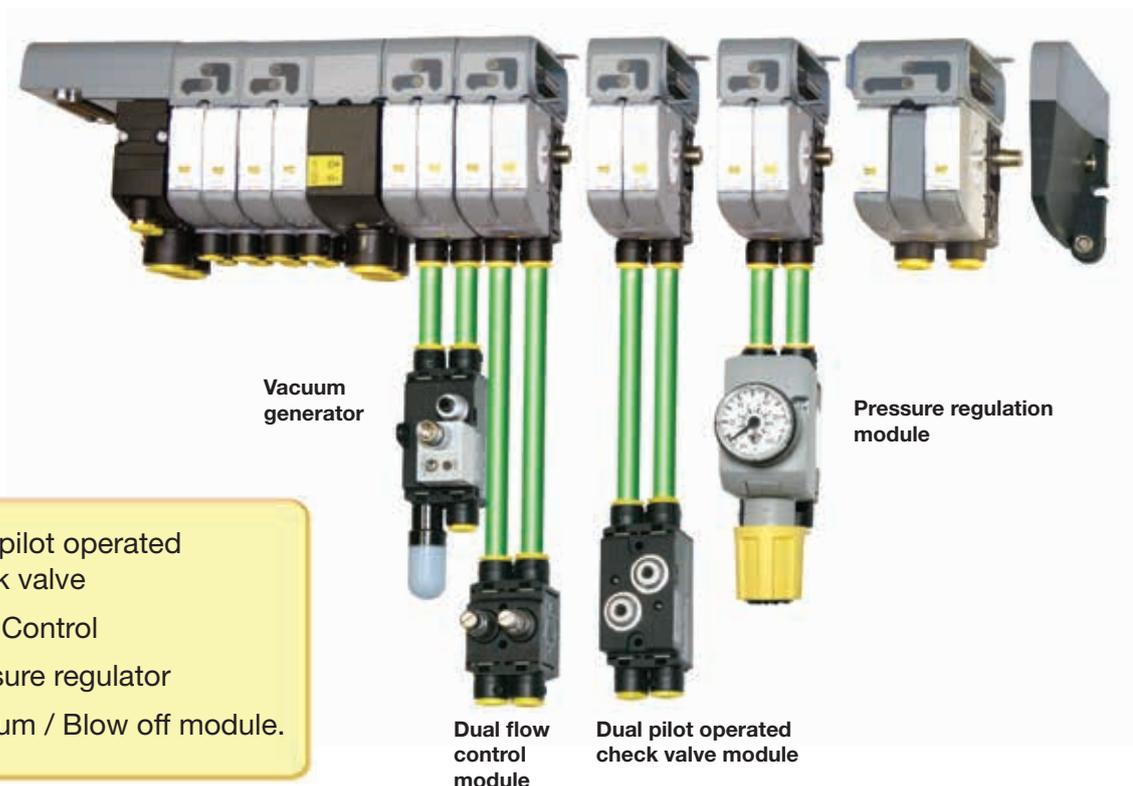
Moduflex Valve technology

Two technology platforms enable the compact design and high performance of the Moduflex Valve System. The compact dual 4/2 and 3/2 valves utilise well proven Parker seal technology. The standard 4/2 valves adopt the long life super durable ceramic switching technology.



Moduflex Complete Control

With the introduction of the dual 4/2 size 1 valves, Moduflex now offers unrivalled ability of matching valves to exact flow requirements, ensuring cost and space are minimised. 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.

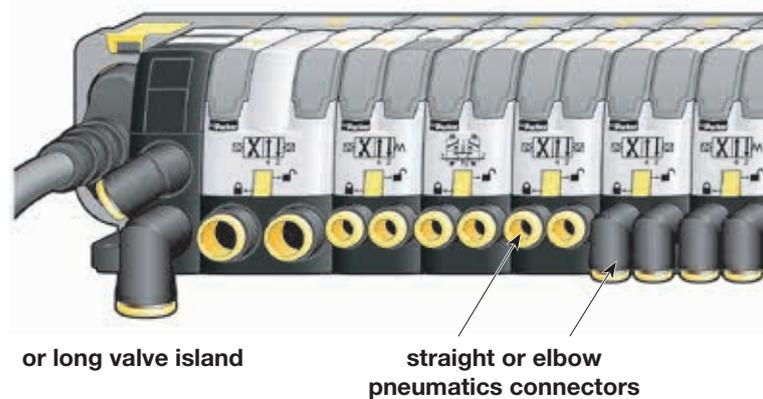
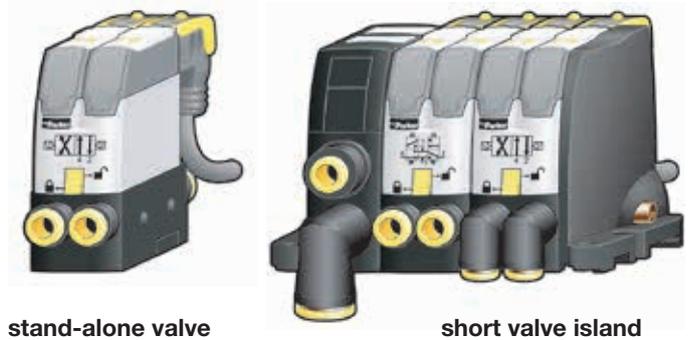
Moduflex Valve System - P2M

With high performance technology, Moduflex opens a new era in the field of electro-pneumatic automation. Valves are easily assembled into compact islands that conform to any application requirement.

Adaptive pneumatic

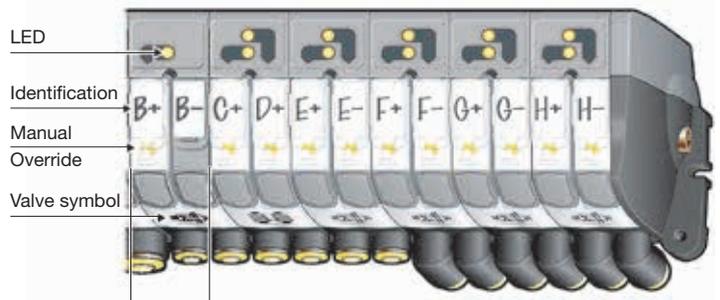
With the Moduflex Valve design, pneumatic automation is now totally flexible.

- Valves may be stand-alone or assembled into short or long islands, depending on application.
- IP 65-67 water and dust protection allows the valve to be installed near the cylinders for shorter response time and lower air consumption.
- The IP40 water and dust protection allows an optimised electrical connection for applications into cabinet or soft and none aggressive environments.
- Valve island electrical connections may be integrated.
- Push-in pneumatic connectors may be straight or elbow, for 4, 6, 8 or 10 mm OD tubes.
- A given island may incorporate different valve sizes in order to fulfill each cylinder flow requirement. A single island will accommodate all cylinders, up to 100 mm bore size.
- Island modifications are easy: add or remove a valve, change a valve function, change tubing size or change piloting in minutes.
- Manual overrides are also adaptive: locking for set up, non-locking for production.



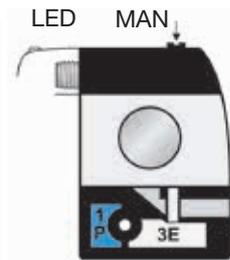
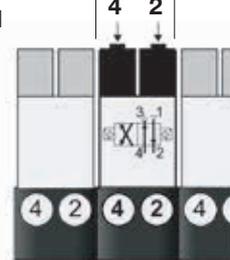
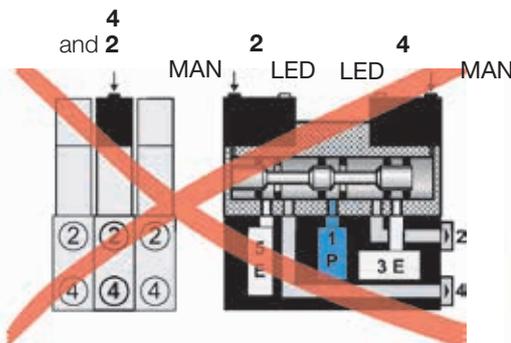
Easy man-machine dialog

- Moduflex incorporates LED indicators, manual overrides (MAN), in conjunction with valve symbols and identification.
- As compared to traditional 5/2 valve islands, Moduflex offers a more user friendly dialogue: each marking, LED and MAN are all lined up with the corresponding cylinder output.



Island with traditional 5/2 spool valves:
Before any action, LED and MAN have to be carefully related to the corresponding output.

Man-machine dialogue is difficult.



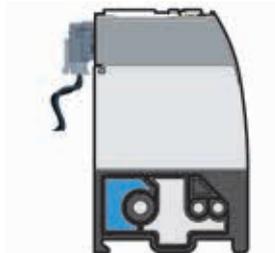
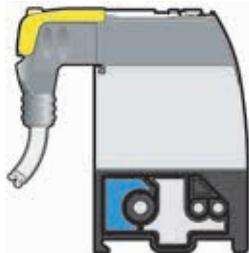
Island with Moduflex 4/2 slides valves:
Each marking, LED and MAN line up with the corresponding output.

Man-machine dialogue is easy.

Adaptive design

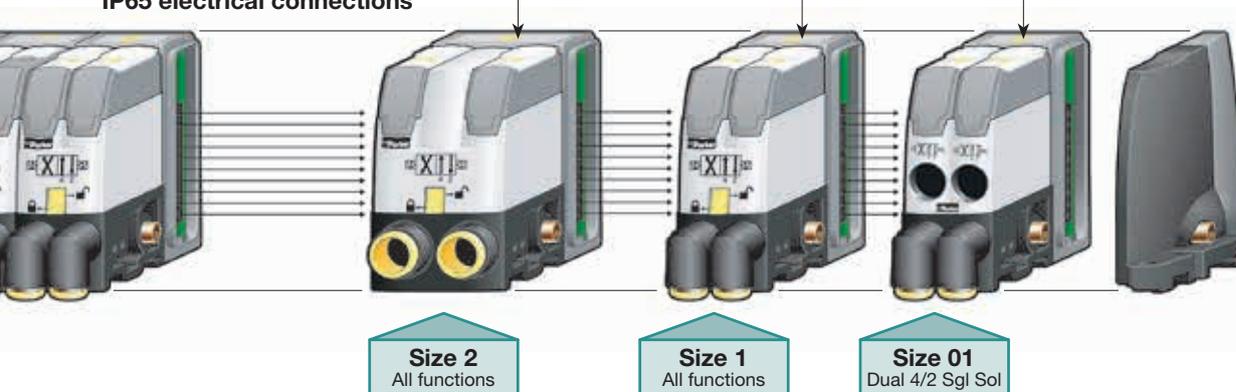
individual electrical connector
Lockable M8 Connector - IP67

or Clip Connector - IP40



or Valve Bank with integrated IP65 electrical connections

3 valves sizes in the same valve bank



Flows and tube connections



Optimal nominal section for a full flow with appropriate fitting

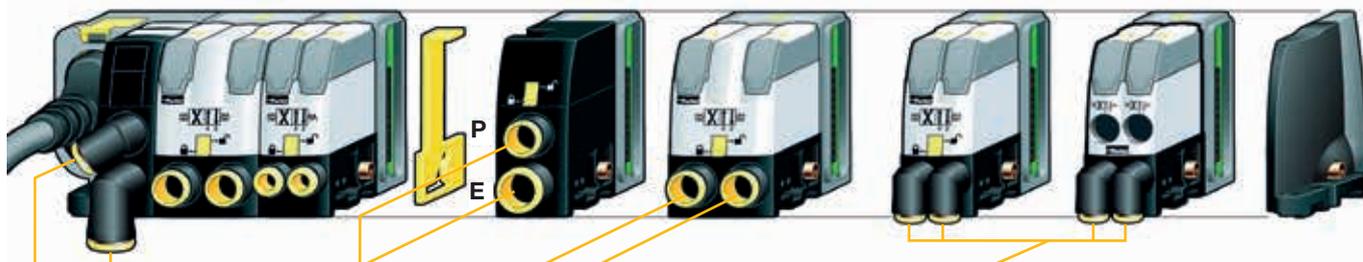
3 valve sizes lead to a global choice of tube sizes, thus covering all usual applications

Tube size to cylinder
Cylinder bore size

| Size 2 | |
|---|-----------------|
| Nominal section 40 mm ² | |
| Qn 800 NI/mn* Qmax 1340 NI/mn* | |
| * For 3/2 functions Qn 450 NI/mn Qmax 805 NI/mn | |
| Ø Ext. 10 mm | Ø Ext. 8 mm |
| Ø 63 to Ø 100 mm | Ø 40 to Ø 63 mm |

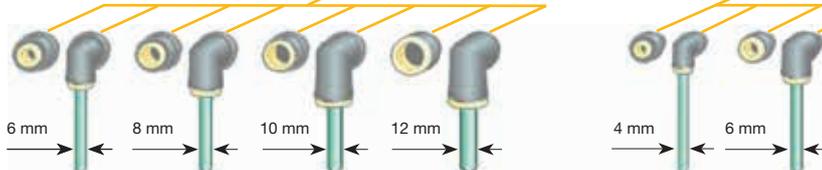
| Size 1 | |
|---|----------------|
| Nominal section 12 mm ² | |
| Qn 310 NI/mn* Qmax 510 NI/mn* | |
| * For 3/2 functions Qn 235 NI/mn Qmax 415 NI/mn | |
| Ø Ext. 6 mm | Ø Ext. 4 mm |
| Ø 25 to Ø 40 mm | Ø 6 to Ø 25 mm |

| Size 01 | |
|-----------------------------------|--|
| Nominal section 4 mm ² | |
| Qn 165 NI/mn* Qmax 275 NI/mn* | |
| Ø Ext. 4 mm | |
| Ø 6 to Ø 25 mm | |



Adaptive pneumatic connection

Valve outputs are equipped with clip-on push-in tube connectors with a choice of straight or elbow in different sizes



Typical cylinder speeds are shown on next pages. Module size, tube diameter and length, cylinder size, load and exhaust collection are taken into account.

Moduflex Valve System - P2M

Cylinder working speed charts

The charts below give the cylinder working speeds at 6 bar, under different conditions:

- non loaded or 50 % loaded double acting cylinder;
- exhaust piped through 2 m. long tubing, or exhaust muffled.

cylinder working speeds, in cm/s

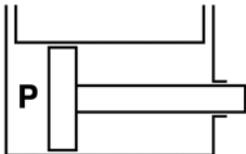
standard conditions:

- 1 double acting cylinder
- 1 working pressure: P = 6 bar

specific conditions:

- exhaust piped through tube 2 m long, with next ID above ID tube from valve to cylinder.

- non loaded cylinder



| valve module | tube ID | tube OD | tube length | Cylinder bore size | | | | | | | |
|---------------|------------|---------|-------------|--------------------|---------|---------|---------|---------|---------|---------|--|
| | | | | 25 mm | 32 mm | 40 mm | 50 mm | 63 mm | 80 mm | 100 mm | |
| Size 1 | 2 x 4 mm | 4 mm | 1 m. | 43 cm/s | 28 cm/s | | | | | | |
| | | | 3 m. | 27 | 17 | | | | | | |
| | 2.7 x 4 mm | 4 mm | 1 m. | 85 | 52 | 33 cm/s | | | | | |
| | | | 3 m. | 55 | 34 | 21 | | | | | |
| | 4 x 6 mm | 6 mm | 1 m. | 167 | 100 | 62 | 41 cm/s | 27 cm/s | | | |
| | | | 2 m. | 157 | 86 | 54 | 37 | 23 | | | |
| 4 m. | | | 125 | 73 | 46 | 31 | 19 | | | | |
| | | 8 m. | 94 | 57 | 36 | 24 | 14 | | | | |
| Size 2 | 5.5 x 8 mm | 8 mm | 1 m. | | | 146 | 102 | 67 | 40 cm/s | 25 cm/s | |
| | | | 3 m. | | | 122 | 84 | 54 | 32 | 20 | |
| | 6 x 8 mm | 8 mm | 1 m. | | | | 125 | 78 | 46 | 30 | |
| | | | 3 m. | | | | 105 | 65 | 39 | 25 | |
| | 7 x 10 mm | 10 mm | 1 m. | | | | 135 | 88 | 53 | 33 | |
| | | | 3 m. | | | | 120 | 77 | 47 | 30 | |
| | 8 x 10 mm | 10 mm | 1 m. | | | | | 94 | 57 | 40 | |
| | | | 3 m. | | | | | 85 | 53 | 37 | |

cylinder working speeds, in cm/s

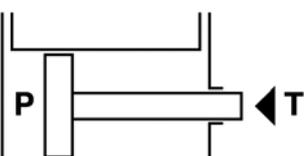
standard conditions:

- 1 double acting cylinder
- 1 working pressure: P = 6 bar

specific conditions:

- exhaust piped through tube 2 m long, with next ID above ID tube from valve to cylinder.

- 50% loaded cylinder



| valve module | tube ID | tube OD | tube length | Cylinder bore size | | | | | | | |
|---------------|------------|---------|-------------|--------------------|---------|---------|---------|---------|---------|---------|--|
| | | | | 25 mm | 32 mm | 40 mm | 50 mm | 63 mm | 80 mm | 100 mm | |
| Size 1 | 2 x 4 mm | 4 mm | 1 m. | 32 cm/s | 20 cm/s | | | | | | |
| | | | 3 m. | 21 | 13 | | | | | | |
| | 2.7 x 4 mm | 4 mm | 1 m. | 65 | 43 | 25 cm/s | | | | | |
| | | | 3 m. | 43 | 27 | 16 | | | | | |
| | 4 x 6 mm | 6 mm | 1 m. | 100 | 85 | 53 | 36 cm/s | 22 cm/s | | | |
| | | | 2 m. | 93 | 75 | 44 | 30 | 19 | | | |
| 4 m. | | | 83 | 62 | 36 | 24 | 15 | | | | |
| | | 8 m. | 68 | 46 | 27 | 18 | 11 | | | | |
| Size 2 | 5.5 x 8 mm | 8 mm | 1 m. | | | 83 | 67 | 44 | 27 cm/s | 18 cm/s | |
| | | | 3 m. | | | 79 | 54 | 35 | 21 | 15 | |
| | 6 x 8 mm | 8 mm | 1 m. | | | | 77 | 51 | 32 | 21 | |
| | | | 3 m. | | | | 69 | 43 | 26 | 17 | |
| | 7 x 10 mm | 10 mm | 1 m. | | | | 88 | 59 | 37 | 24 | |
| | | | 3 m. | | | | 81 | 51 | 30 | 21 | |
| | 8 x 10 mm | 10 mm | 1 m. | | | | | 63 | 39 | 27 | |
| | | | 3 m. | | | | | 58 | 35 | 25 | |

Moduflex Valve System - P2M

Field of application :

- stand-alone valve modules **S** series
- valve island modules, **T** series and **V** series

Note : a complete machine cycle includes:

- the cylinder displacement times that can be deducted from the cylinder speeds given below
- the cylinders starting times that depend on the cylinder strokes and thus could not be included in the charts below.

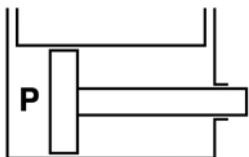
cylinder working speeds, in cm/s

standard conditions:

- 1 double acting cylinder
- 1 working pressure: P = 6 bar

specific conditions:

- muffled exhaust (non collected)
- non loaded cylinder



| valve module | tube ID | tube OD | tube length | Cylinder bore size | | | | | | | | |
|---------------|------------|---------|-------------|--------------------|---------|---------|---------|---------|-------|--------|----|---------|
| | | | | 25 mm | 32 mm | 40 mm | 50 mm | 63 mm | 80 mm | 100 mm | | |
| Size 1 | 2 x 4 mm | 4 mm | 1 m. | 43 cm/s | 27 cm/s | | | | | | | |
| | | | 3 m. | 27 | 17 | | | | | | | |
| | 2.7 x 4 mm | 4 mm | 1 m. | 88 | 54 | 34 cm/s | | | | | | |
| | | | 3 m. | 55 | 34 | 22 | | | | | | |
| | 4 x 6 mm | 6 mm | 1 m. | 170 | 98 | 62 | 42 cm/s | 26 cm/s | | | | |
| | | | 2 m. | 150 | 85 | 55 | 37 | 23 | | | | |
| | | | 4 m. | 125 | 70 | 45 | 31 | 19 | | | | |
| | | | | 8 m. | 95 | 56 | 35 | 24 | 15 | | | |
| | | | | 5.5 x 8 mm | 8 mm | 1 m. | | | 181 | 126 | 80 | 48 cm/s |
| 3 m. | | | | | | | | 134 | 91 | 58 | 35 | 22 |
| 6 x 8 mm | 8 mm | 1 m. | | | | 139 | 89 | 54 | 34 | | | |
| | | 3 m. | | | | 112 | 70 | 43 | 27 | | | |
| 7 x 10 mm | 10 mm | 1 m. | | | | 148 | 94 | 57 | 37 | | | |
| | | 3 m. | | | | 125 | 81 | 49 | 31 | | | |
| 8 x 10 mm | 10 mm | 1 m. | | | | | | 102 | 60 | 42 | | |
| | | 3 m. | | | | | | 90 | 55 | 38 | | |

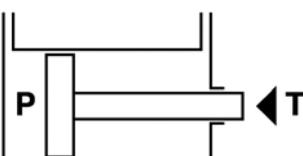
cylinder working speeds, in cm/s

standard conditions:

- 1 double acting cylinder
- 1 working pressure: P = 6 bar

specific conditions:

- muffled exhaust (non collected)
- 50% loaded cylinder



| valve module | tube ID | tube OD | tube length | Cylinder bore size | | | | | | | | |
|---------------|------------|---------|-------------|--------------------|---------|---------|---------|---------|-------|--------|----|---------|
| | | | | 25 mm | 32 mm | 40 mm | 50 mm | 63 mm | 80 mm | 100 mm | | |
| Size 1 | 2 x 4 mm | 4 mm | 1 m. | 35 cm/s | 22 cm/s | | | | | | | |
| | | | 3 m. | 23 | 14 | | | | | | | |
| | 2.7 x 4 mm | 4 mm | 1 m. | 67 | 44 | 27 cm/s | | | | | | |
| | | | 3 m. | 44 | 28 | 17 | | | | | | |
| | 4 x 6 mm | 6 mm | 1 m. | 100 | 87 | 56 | 38 cm/s | 23 cm/s | | | | |
| | | | 2 m. | 93 | 77 | 46 | 31 | 19 | | | | |
| | | | 4 m. | 83 | 63 | 37 | 25 | 16 | | | | |
| | | | | 8 m. | 69 | 46 | 28 | 18 | 12 | | | |
| | | | | 5.5 x 8 mm | 8 mm | 1 m. | | | 102 | 85 | 54 | 33 cm/s |
| 3 m. | | | | | | | | 87 | 61 | 40 | 24 | 16 |
| 6 x 8 mm | 8 mm | 1 m. | | | | 91 | 59 | 37 | 25 | | | |
| | | 3 m. | | | | 77 | 46 | 29 | 19 | | | |
| 7 x 10 mm | 10 mm | 1 m. | | | | 98 | 63 | 40 | 26 | | | |
| | | 3 m. | | | | 87 | 54 | 33 | 22 | | | |
| 8 x 10 mm | 10 mm | 1 m. | | | | | | 68 | 43 | 30 | | |
| | | 3 m. | | | | | | 61 | 38 | 27 | | |

Moduflex Valve System - P2M

Two technology platforms

The well proven Parker seal technology



For 3/2 and dual 4/2 functions

Ceramic switching technology

For single 4/2 functions



Configurable manual override
For locking, non-locking or condemned manual override

24 V DC solenoid valve

Pneumatic symbol

Locking system for clip-on fittings

Straight or elbow clip-on push-in fittings
For size 1: 4 or 6 mm OD tubing
For size 2: from 6 to 12 mm OD tubing

Pneumatic valve body

Visualisation LED's
For easy man-machine dialog

Clip connector - IP40
Economic connection for traditional wiring

M8 - 3 pins for lockable connector - IP67
For traditional wiring

4 mm orientable push-in fitting
For pneumatic remote pilot

Internal connection
Up to 19 solenoids

Associating tie-rod
For easy module assembly

Auxiliary channels
Independent pilot pressure and exhaust

Material Specification

| | |
|------------------|---------------------------------|
| Plastics: | Polyamide reinforced fibreglass |
| Screws: | Zinc plated steel |
| Seals: | Nitrile rubber |
| Valve mechanism: | Aluminium alloy |
| Plate: | Ceramic |

Certification

| | |
|--------------------------|--|
| EMC / CE mark: | According to EN 61 000-6-2 |
| Dust & water protection: | According to EN 60529 - NEMA 4 |
| - S & T series: | M8 connector: IP67 Clip connector: IP40 |
| - V series: | IP65* |

* For 25 Pins D-Sub connection: IP40 or IP65 depending on the cable

Moduflex specifications answer most industries automation requirements.

Applications run from clean room electronic manufacturing to process industries in aggressive environments.

Pneumatic specifications

| General Specification | | | | | |
|---|--------------------------|--|-----------------|-------------------|-------------------|
| Fluid | | Air or Inert gas, Filtered 40µ (class 5 according to ISO 8573-1) Dry (class 4 according to ISO 8573-1) or Lubricated (with lubricated air, we recommend external pilot supply with non lubricated air) | | | |
| Operating Pressure | | -0,9 to 8,0 bar | | | |
| Piloting Pressure | 3/2 N.C. or N.O. | 3,5 to 8,0 bar | | | |
| for operating pressures below, use external pilot by configuring the head module accordingly (function available on standard head module) | 4/2 single solenoid | 3,0 to 8,0 bar | | | |
| | 4/2 double solenoid | 3,0 to 8,0 bar | | | |
| Pilot supply | S Series | Internal | | | |
| | T & V Series | Mixed internal/external (configurable on the standard head module) | | | |
| Exhaust collection | | All collectable (including pilot solenoid valve exhaust) | | | |
| Life cycle (all sizes) | 3/2 N.C. or N.O. | 60 million operations (with dry air, 2 Hz, 20°C, 6 bar) | | | |
| | Single and Dual 4/2 | 100 million operations (with dry air, 2 Hz, 20°C, 6 bar) | | | |
| Operating temperatures | Clip connector | -15°C to 60°C | | | |
| | Lockable connector | | | | |
| | Multiwiring connector | | | | |
| | Industrial Communication | 0°C to 55°C | | | |
| Stocking temperatures | | -40°C to 70°C | | | |
| Vibration resistance | | 2G - From 2 to 150 Hz (According to IEC 68 - 2 - 6) | | | |
| Impact resistance | | 15G - 11 ms (According to IEC 68 - 2 - 27) | | | |
| Flow specifications | | Dual 4/2 | Dual 3/2 | Single 3/2 | Single 4/2 |
| Size 1 | Q max. (NI/mn) | 275 | 415 | 415 | 510 |
| | Qn (NI/mn) | 165 | 235 | 235 | 310 |
| Size 2 | Q max. (NI/mn) | - | 805 | 805 | 1340 |
| | Qn (NI/mn) | - | 450 | 440 | 800 |

Moduflex Valve System - P2M

Electrical specifications

| Pilot solenoid Specifications | |  |  |
|---|---------------------|---|---|
| Electric Connector | | M8 | Clip connector |
| Rated Voltage | | 24 Vdc | |
| Electric Connection | | Not polarized | Polarized |
| Allowable voltage fluctuation | | -15% to +10% (at 20°C) | +/- 10% (at 20°C) |
| Coil insulation type | | Class B | Class F |
| Power consumption | | Without lockable connector: 1W | 1W |
| | | With lockable connector: 1,2W | |
| Visualisation and surge protection | | Included into lockable connector | |
| Manual override | | Configurable: Locking or non-locking, isolated if required | |
| Response Time of the complete valve (with connector) | 3/2 N.C. or N.O. | Actuating: 10 ms Return: 15 ms | |
| | 4/2 single solenoid | | |
| | 4/2 double solenoid | 10 ms | |
| Duty factor | | ED 100% | |
| Dust and Water protection | S & T Series | IP67 (with lockable connector) | IP40 (with clip connector) |
| | V Series | Guillotine connector of fieldbus: IP65 Sub-D 25: IP40 or IP65 (depending on the cable) | |

Communication module specifications

| Ethernet Protocols | | Profinet IO | EtherNet/IP | Modbus/TCP | EtherCAT | PowerLink | CC-Link IE |
|-----------------------------------|------------------|--|-------------|------------|-----------------------------|-----------|------------|
| Ethernet specifications | | According to protocol specifications | | | | | |
| Speed communication | | 10/100 Mb - Half / Full duplex | | | | | 1 Gb |
| Service Web Page | | YES | | | N/A | | |
| Logic power supply | | 24 Vdc - According to protocol specifications | | | | | |
| Topology (Internal 2 port switch) | | Line / Ring | | | Line | | |
| Aux. power | Voltage | 20,4 Vdc to 26,4 Vdc | | | | | |
| | OSSD compability | Yes (Test Pulsed supported) | | | | | |
| Galvanic isolation | | 2,5 kV (Logic and auxiliary power) | | | | | |
| Max. current limit | Total | 2 A | | | | | |
| | Per channel | 150 mA | | | | | |
| Protection | | Polarity inversion & short circuit | | | | | |
| IO-Link | | Standard Version | | | -SPC Version | | |
| IO-Link specifications | | According to IO-Link V1.1.2 | | | | | |
| Speed communication | | Com2 - 38 kBd | | | | | |
| Logic power supply | | Module powered by IO-Link master according to IO-Link V1.1.2 | | | | | |
| Aux. power | Voltage | 20,4 Vdc to 26,4 Vdc | | | | | |
| | OSSD compability | No | | | Yes (Test Pulsed supported) | | |
| Galvanic isolation | | Yes | | | | | |
| Max. current limit | Total | 4A | | | 2A | | |
| | Per channel | 150 mA | | | | | |
| Protection | | Polarity inversion & short circuit | | | | | |
| All Protocols | EMC/CE mark | According to EN 61000-6-2 & EN 50081-2 | | | | | |

Technical characteristics

Vacuum module

Fluid
Compressed air or inert gas, filtered 40µ mini., not lubricated

Working pressure
1 to 8 bar

Working temperature
-15°C to +60°C

Materials

| | |
|-----------------|-------------------------------------|
| Body: | Polyamide 6,6 reinforced fibreglass |
| Poppet: | Nitrile |
| Nozzle: | Brass |
| Clip connector: | Treated steel |

Pressure sensor

Fluid
Air or inert gas, filtered 40µ mini., not lubricated

Working temperature
0°C to +50°C

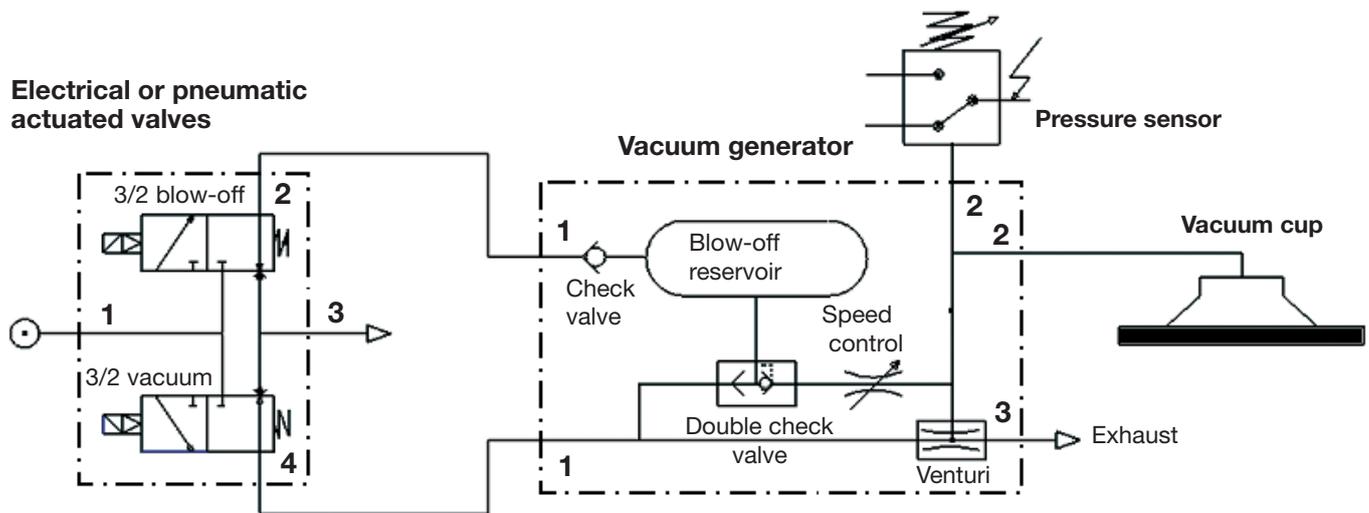
Supply
10,8 to 30 V DC

Digital output
PNP 125 mA

Materials

| | |
|-------|---------------|
| Body: | Polycarbonate |
|-------|---------------|

Connection drawing



Specific characteristics

Maximum vacuum

Vacuum level: 90% at 6,5 bar

Air consumption

Consumption: 46 NI/min at 5 bar

Vacuum flow

Flow: 25NI/min at 0 % vacuum and 6,5 bar

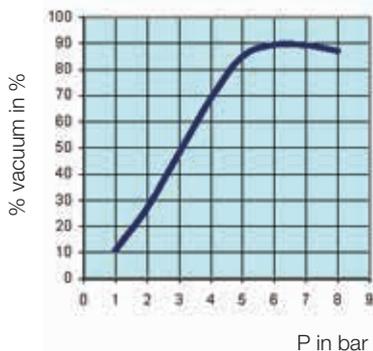
Evacuation time in s/l to reach different vacuum levels % (at P = 6,5 bar)

| Vacuum % | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
|----------------|-------------|-------------|-------------|-------------|-------------|------------|-----------|-----------|-----------|----------|
| Time in s | 0,0 / 0,0 | 0,3 / 0,3 | 0,4 / 0,5 | 0,8 / 0,9 | 1,4 / 1,5 | 2,0 / 2,2 | 2,7 / 3,2 | 3,7 / 4,9 | 5,9 / 9,8 | 10,7 / - |
| Flow in NI/min | 24,9 / 23,2 | 22,1 / 20,3 | 19,3 / 17,3 | 16,6 / 14,4 | 13,8 / 11,5 | 11,0 / 8,5 | 8,2 / 5,6 | 5,5 / 2,7 | 2,7 / 0,0 | 0,0 / - |

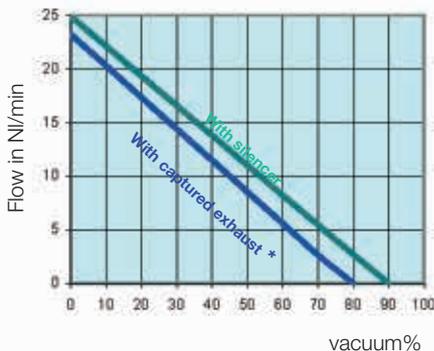
With silencer / With captured exhaust *

Performances

Vacuum level

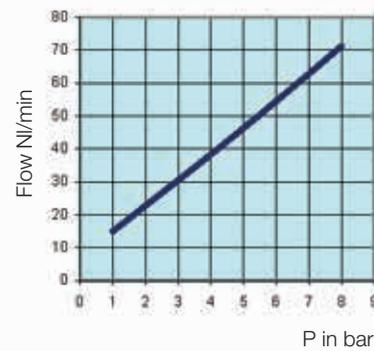


Vacuum flow



* 1 m exhaust - tube Ø6 mm
3 m exhaust - tube Ø8 mm

Air consumption



Moduflex Valve System - P2M

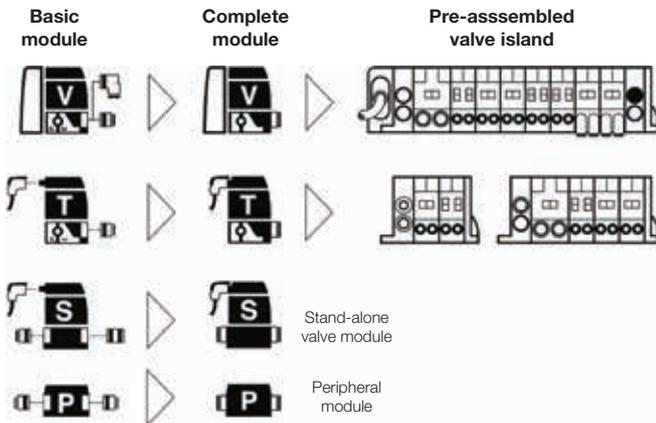
Operating information

| | |
|--------------------------------------|-----------------|
| Working pressure | -0,9 to 8 bar |
| Pilot pressure | 3 to 8 bar * |
| Working temperature | -15 °C to 60 °C |
| Protection individual M8 connectors | IP 67 NEMA4 |
| Protection individual clip connector | IP40 |
| 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 |
|---------------|--------------|-----------|-----------|-----------|------------|
| Size 1 | Qmax. | 275 l/min | 415 l/min | 415 l/min | 510 l/min |
| | Qn | 165 l/min | 235 l/min | 235 l/min | 310 l/min |
| Size 2 | Qmax. | - | 805 l/min | 805 l/min | 1340 l/min |
| | Qn | - | 450 l/min | 440 l/min | 800 l/min |

Total ordering flexibility

In addition to the complete product adaptability, the Moduflex valve range offers ordering flexibility for V, T, S and P series with 3 different designs; from all components separately ordered (basic module) to pre-assembled and tested valve island.



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 in-line e-Configurator software is an easy way for a clear definition of the requested valve island configuration.

Moduflex Valve System - P2M

V series

Integrated connection field bus or multi-connector valve island



T series

Individual connector valve islands
Solenoid clip or lockable connector or remote air pilot



S series

Stand alone valves
Solenoid clip or lockable connector or remote air pilot



P series

Peripheral modules
Flow control, check valves, pressure regulator, vacuum



Pages 16-21



Pages 22-23



Pages 24-25



Pages 26-27



Pages 28-29



Page 30



Page 31

Moduflex Valve in-line e-Configurator



<http://www.parker.com/pde/P2M>

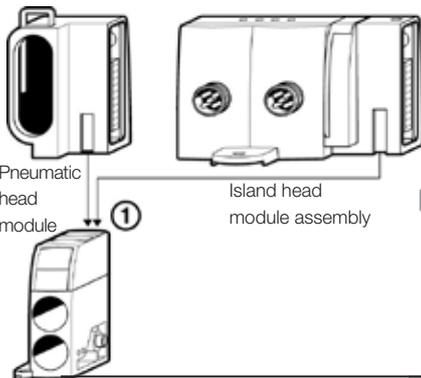
Integrated connections valve islands: V series

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 node may either be a cable multi-connector or a Fieldbus communication node: the next pages show multi-connector cable and a complete choice of bus protocols.



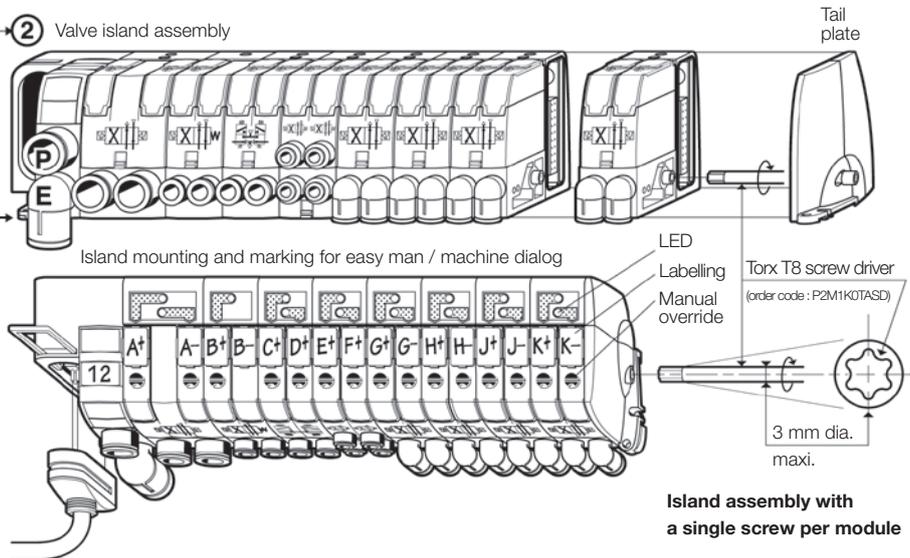
Valve island electrical head module: multi-connector or communication nodes



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 etc. 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 communication node to be chosen from the next pages.



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.

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" dialogue.

The resulting valve island length is expressed by the drawing below, while further size details and mountings are presented on the 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 31 shows the ordering chart for modules supplied with their connectors.

3 - Assembled island ordering:

An In-Line configurator, available from the product web-page "<http://www.parker.com/pde/P2M>", allows to specify a valve island that may be delivered assembled.

Communication node:

- Ethernet nodes, width: 126 mm
- IO-Link, width: 94 mm

Multi-connector head module:

- guillotine, width: 47 mm
- sub-D 25, width: 56 mm

Valve modules

- size 1:
- width: 25 mm

Valve module

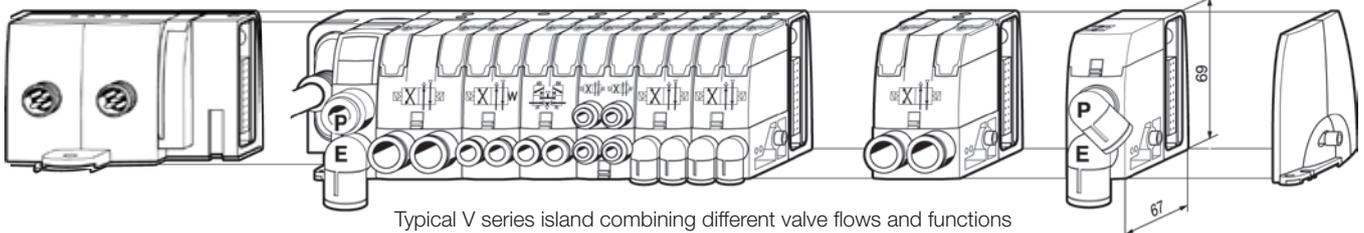
- size 2:
- width: 37.5 mm

Intermediate

- module:
- width: 25 mm

Tail

- plate:
- width: 16 mm



Basic modules (without connector)

| Valve Modules | | | | Size 1 | | Size 2 | |
|---|---|--|------------|--------------------|------------|--------------------|--|
| Size 1 | Symbol | Description | Weight [g] | Order code | Weight [g] | Order code | |
|  |  | 4/2 Solenoid spring | 94 | P2M1V4ES2CV | 100 | P2M2V4ES2CV | |
| |  | 4/2 Double solenoid | 103 | P2M1V4EE2CV | 110 | P2M2V4EE2CV | |
| |  | 2 x 3/2 NC + NC with exhaust check valves | 106 | P2M1VDEE2CV | 115 | P2M2VDEE2CV | |
| |  | 2 x 3/2 NO + NO with exhaust check valves | 106 | P2M1VCEE2CV | 115 | P2M2VCEE2CV | |
| |  | 2 x 3/2 NC + NO with exhaust check valves | 106 | P2M1VEEE2CV | 115 | P2M2VEEE2CV | |
| |  | 2 x 4/2 Solenoid spring with exhaust check valves | 114 | P2M1VJEE2CV | | | |
| |  | 3/2 NC with exhaust check valves | 102 | P2M1V3ES2CV | 110 | P2M2V3ES2CV | |
| |  | 4/3 Centre exhaust 2 x 3/2 NC + NC without exhaust check valves | 106 | P2M1VGEE2CV | | P2M2VGEE2CV | |

Island head and intermediate module sets

| Valve Modules | | | Size 2 | |
|---|--|----|------------------|------------|
| Description | | | Weight [g] | Order code |
|   | Valve island pneumatic head and tail module set | 64 | P2M2HXT01 | |
| | Valve island intermediate supply module with a set of 4 configuration plates | 68 | P2M2BXV0A | |

Clip-On pneumatic connectors *

| Valve Modules | | | Size 1 | | Size 2 | |
|---|--------------------|------------|----------------|------------|----------------|----------------|
| Description | Tube OD | Weight [g] | Order code | Weight [g] | Order code | |
|  | G1/8" | 2 | FMDG1-1 | | | |
| | | 2 | FMD04-1 | | | |
| | | 3 | FMD06-1 | | | |
| | Straight connector | | | | 3 | FMD06-2 |
| | | | | | 4 | FMD08-2 |
| | | | | | 5 | FMD10-2 |
| | | | | 6 | FMD12-2 | |
|  | G1/8" | 3 | CMDG1-1 | | | |
| | | 3 | CMD04-1 | | | |
| | | 5 | CMD06-1 | | | |
| | Elbow connector | | | | 5 | CMD06-2 |
| | | | | | 6 | CMD08-2 |
| | | | | 7 | CMD10-2 | |
| | | | | 8 | CMD12-2 | |
| Silencer | | | | 5 | MMDVA2 | |
| Plug | | | | 5 | PMDXX2 | |

* Fittings and plugs pack quantity: 10

V series valve island: Electrical multi-connector head module

| Description | Protection | Cable length | Weight [g] | Order code | |
|---|------------------------------|--|------------|------------------|-------------------|
|  | Multi-connection head module | | 38 | P2M2HEV0A | |
| | | Guillotine connector with flying leads multi-cable | 2 m | 335 | P8LMH20M2A |
| | | | 5 m | 802 | P8LMH20M5A |
| | | | 9 m | 1425 | P8LMH20M9A |
|  | Multi-connection head module | | 60 | P2M2HEV0D | |
| | | Sub-D 25 connector with flying leads multi-cable | 3 m | 435 | P8LMH25M3A |
| | | | 9 m | 1425 | P8LMH25M9A |
| | | | 9 m | 1425 | P8LMH25B9A |

Valve Island V Series with IO-Link connection

The P2M Moduflex IO-Link 24 DO node allows a very simple and cost efficient connection to any IO-Link master, centralised into the PLC or decentralised through an industrial Ethernet network.

Designed in both Class A and Class B versions with an isolated auxiliary power, it can easily be adapted to all power supply architectures and follow machine directives




P2M IO-link 24 DO Class A node with independent Auxiliary Power Supply



The P2M IO-Link 24 DO Class A node can handle a Moduflex Valve bank having up to 19 pilot solenoid valves.

Thanks to its 2 x M12 A coded male connectors, it can be connected to any IO-Link Class A masters and separately receive its auxiliary power supply for valves from an independent source.

The P2M IO-Link 24 DO Class A node exists in 3 versions with the Auxiliary Power M12 connector pin out adapted to any sourcing through a standard M12 cable:

- P2M2HBVL12400A13 / -SPC version: 24 Vdc / 0 Vdc on pins 1 & 3 – Standard version
- P2M2HBVL12400A43 / -SPC version: 24 Vdc / 0 Vdc on pins 4 & 3 – Compatible with Siemens wiring
- P2M2HBVL12400A42 / -SPC version: 24 Vdc / 0 Vdc on pins 4 & 2 – Compatible with Rockwell wiring

P2M IO-link 24 DO Class B node



The P2M IO-Link 24 DO Class B node can handle a Moduflex Valve bank having up to 19 pilot solenoid valves.

Thanks to its single M12 A coded male connectors, it can be connected to any IO-Link Class B masters receiving its auxiliary power supply for valves on pins 2 & 5 from the only cable simplifying the connection.

Diagnostic



The P2M IO-Link 24 DO node offers a local diagnostic through 4 LED's located on the visible top side, showing:

- IO-Link com status
- Node error
- Output error
- Auxiliary power

Additional useful diagnostic information can be read by the PLC through the network simplifying diagnostic and allowing predictive maintenance (all details in the user manual)

Safe Power Capable version (-SPC)

Auxiliary power of -SPC version of P2M IO-Link 24 DO node can be supplied from a safe output device following machinery directives. This includes:

- Output Signal Switch Device (OSSD) test pulse compatible
- Galvanic isolation between 0 Vdc Logic and Aux power
- PP or PM cabling modes

For more details, refer to the "Communication nodes – connection and configuration" section.

V series valve island: Communication node for IO-Link

Communication node for 19 outputs (Moduflex Pilot Valves)
(The last 5 outputs of this 24 DO node can't be used with Moduflex Valve)

| Description | IO-Link Class | M12 A coded Connector connection | | | Weight (g) | Order code |
|--|---------------|----------------------------------|------------|-------------------|------------|-----------------------------|
| | | IO-Link | Aux. Power | Aux. Power Pinout | | |
|  P2M IO-Link Communication Node | Class A | 3 Pin's | 3 Pin's | 1 & 3 | 160 | P2M2HBVL12400A13 |
| | | 3 Pin's | 3 Pin's | 4 & 3 | 160 | P2M2HBVL12400A43 |
| | | 3 Pin's | 5 Pin's | 4 & 2 | 160 | P2M2HBVL12400A42 |
| | Class B | 5 Pin's | | 2 & 5 | 140 | P2M2HBVL12400B25 |
|  P2M IO-Link Communication Node Safe Power Capable | Class A | 3 Pin's | 3 Pin's | 1 & 3 | 165 | P2M2HBVL12400A13-SPC |
| | | 3 Pin's | 3 Pin's | 4 & 3 | 165 | P2M2HBVL12400A43-SPC |
| | | 3 Pin's | 5 Pin's | 4 & 2 | 165 | P2M2HBVL12400A42-SPC |
| | Class B | 5 Pin's | | 2 & 5 | 145 | P2M2HBVL12400B25-SPC |

IODD file can be downloaded from IODD Finder or the Moduflex web site:

<https://ioddfinder.io-link.com>

www.parker.com/pde/io-link

Accessories

| Description | Connector type | Weight (g) | Order code |
|---|------------------------------------|------------|-------------------|
|  Quick connect straight connector for both IO-Link communication and auxiliary power supply | M12 - 5 Pin's Female - A Coding | 25 | P8CS1205AA |

Valve Island V Series with Industrial Ethernet connection

The P2M Industrial Ethernet 24 DO node allows a very simple and cost efficient connection to the most popular Industrial Ethernet networks.

Designed with an isolated auxiliary power, it can easily be adapted to all power supply architectures and follow machine directives.



Product Set-Up



The P2M Industrial Ethernet 24 DO node offers an IP addressing through 3 rotary switches located on the top side.

The 3 rotary switches allow also a Factory Reset, IP address storage, and DHCP mode addressing.

As soon as supported by protocol, this IP address can be modified through an imbedded web page.



For an application requiring a regular disconnection / reconnection of the node, Profinet and EtherNet/IP protocols allow respectively a Fast Start-Up (FSU) and Quick Connect mode. This mode can be enable or disable .

Technology / Integrated Ethernet Switch



The P2M Industrial Ethernet 24 DO node offers 2 Ethernet ports allowing a line topology without external switch. The Ring topology can also be supported (enable/disable) for Profinet, EtherNet/IP and Modbus TCP/IP.

The integrated Ethernet switch support Class C Services allowing used in an isochronous real time (IRT) structure.

Diagnostic



The P2M Industrial Ethernet 24 DO node offers a local diagnostic through 7 LED's located on the visible top side, showing:

- Logic status
- Ethernet activity on both ports
- Standard Status due to protocol
- Output error / Auxiliary power



This local information as well as trouble shooting and predictive maintenance diagnostics (Power monitoring, Life cycle counting, ...) are available in PLC through the network and reported on imbedded web page.

When PLC is in "STOP", the web page allows to force ON/OFF solenoids state. This function has a password protection.

Safe Power Capable

Auxiliary power of P2M Industrial Ethernet 24 DO node can be supplied from a safe output device following machinery directives. This includes:

- Output Signal Switch Device (OSSD) test pulse compatible
- Galvanic isolation between 0 Vdc Logic and Aux power
- PP or PM cabling modes

For more details, refer to the "Communication nodes – connection and configuration" section.

Moduflex Valve System - P2M

V series valve island: Communication node for Industrial Ethernet

Industrial Ethernet node for 19 outputs (Moduflex Pilot Valves)
 (The last 5 outputs of this 24 DO node can't be used with Moduflex Valve)



| Description | Protocol | Eth. ports | Aux. Power | Weight (g) | Order code |
|--|-------------|-----------------|-------------|------------|-----------------------|
| P2M industrial Ethernet Communication Node | Profinet IO | 2 x M12 D-coded | M12 A-coded | 190 | P2M2HBVN12400 |
| | EtherNet/IP | 2 x M12 D-coded | M12 A-coded | 190 | P2M2HBVE12400 |
| | EtherCAT | 2 x M12 D-coded | M12 A-coded | 190 | P2M2HBVT12400 |
| | PowerLink | 2 x M12 D-coded | M12 A-coded | 190 | P2M2HBVW12400 |
| | Modbus /TCP | 2 x M12 D-coded | M12 A-coded | 190 | P2M2HBVM12400 |
| | CC-Link IE | 2 x M12 X-coded | M12 A-coded | 190 | P2M2HBVK12400* |

*) Coming soon
 Configuration file can be download from the dedicated product web page:
www.parker.com/pde/P2M_IE

Accessories



| Description | Connector type | Weight (g) | Order code |
|--|------------------------------------|------------|-------------------|
| Quick connect straight connector for module power supply | M12 - 5 Pin's Female - A Coding | 25 | P8CS1205AA |

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.

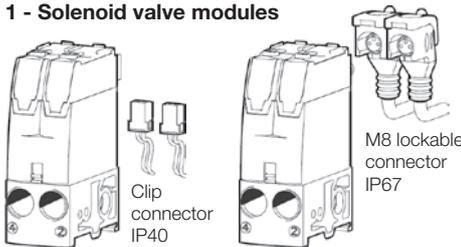
The pneumatic connectors may be clipped or unclipped at any stage.

With a LED, a manual override and a labelling for each valve pilot (see above illustration), the island front face eases the "man / machine" dialogue.

The resulting valve island length is expressed by the drawing below, while further size details and mountings are presented on dimensions pages.

Valve pilot connections

1 - Solenoid valve modules



In its IP40 version, each solenoid shows Clip connection integrating LED and voltage surge protection. The clip connector with flying leads may be ordered separately with independent or interconnected common.

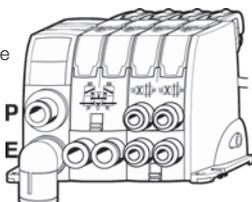
In its IP67 version, each solenoid shows a M8 connection. Lockable connectors, IP67 protected, with LED voltage surge protection and flying lead cable may be ordered for the required length.

2 - Air pilot valve modules



No connector has to be ordered: each pneumatic pilot port includes its integrated movable elbow 4 mm OD tube push-in connector.

Typical T series short island for single or double acting small cylinders.

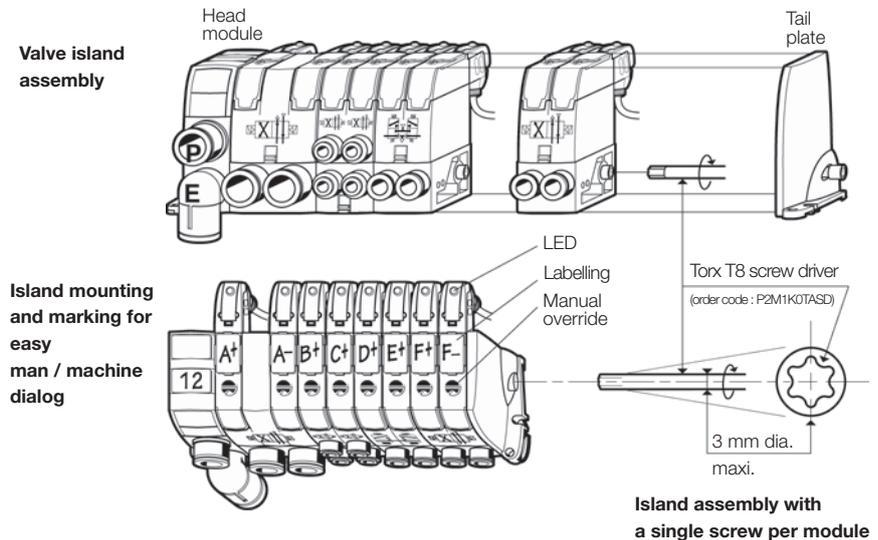


Valve island configuration

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 etc."

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.



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:

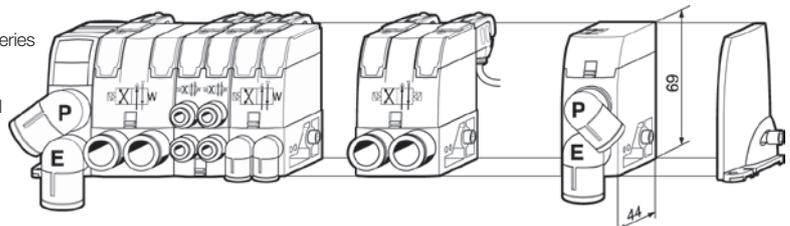
Page 27 shows the ordering chart for modules supplied with their connectors.

3 - Assembled island ordering:

Page 30 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.



Typical T series islands combining different valve flows and functions

Basic modules (without connector)

| Valve Modules | | Size 1 | | | | Size 2 | |
|---|---|-------------|-----------------|--------------------|--------------------|--------------------|--------------------|
| Symbol | Description | Actuator | Pilot connector | W (g) | Order code | W (g) | Order code |
| | 4/2 Spring return | Solenoid | M8 Lockable | 68 | P2M1T4ES2C | 74 | P2M2T4ES2C |
| | | Air pilot | Clip | 68 | P2M1T4ES2CW | 74 | P2M2T4ES2CW |
| | 4/2 Double pilot | Solenoid | M8 Lockable | 77 | P2M1T4EE2C | 83 | P2M2T4EE2C |
| | | Air pilot | Clip | 77 | P2M1T4EE2CW | 83 | P2M2T4EE2CW |
| | 2 x 3/2 NC + NC with exhaust check valves | Solenoid | M8 Lockable | 80 | P2M1TDEE2C | 94 | P2M2TDEE2C |
| | | Air pilot | Clip | 80 | P2M1TDEE2CW | 94 | P2M2TDEE2CW |
| Solenoid | | M8 Lockable | 80 | P2M1TDPP | 73 | P2M2TDPP | |
| Air pilot | | Clip | 70 | P2M1TDPP | 84 | P2M2TDPP | |
| 2 x 3/2 NO + NO with exhaust check valves | Solenoid | M8 Lockable | 80 | P2M1TCEE2C | 94 | P2M2TCEE2C | |
| | Air pilot | Clip | 80 | P2M1TCEE2CW | 94 | P2M2TCEE2CW | |
| | Solenoid | M8 Lockable | 80 | P2M1TCPP | 84 | P2M2TCPP | |
| | Air pilot | Clip | 70 | P2M1TCPP | 84 | P2M2TCPP | |
| 2 x 3/2 NC + NO with exhaust check valves | Solenoid | M8 Lockable | 80 | P2M1TEEE2C | 94 | P2M2TEEE2C | |
| | Air pilot | Clip | 80 | P2M1TEEE2CW | 94 | P2M2TEEE2CW | |
| | Solenoid | M8 Lockable | 80 | P2M1TEPP | 84 | P2M2TEPP | |
| | Air pilot | Clip | 70 | P2M1TEPP | 84 | P2M2TEPP | |
| | 2 x 4/2 Spring return with exhaust check valves | Solenoid | M8 Lockable | 88 | P2M1TJEE2C | | |
| | | Air pilot | Clip | 88 | P2M1TJEE2CW | | |
| | 3/2 NC with exhaust check valves | Solenoid | M8 Lockable | 76 | P2M1T3ES2C | 90 | P2M2T3ES2C |
| | | Air pilot | Clip | 76 | P2M1T3ES2CW | 90 | P2M2T3ES2CW |
| | 4/3 Centre exhaust 2 x 3/2 NC + NC without exhaust check valves | Solenoid | M8 Lockable | 80 | P2M1T3PS | 70 | P2M2T3PS |
| | | Air pilot | Clip | 71 | P2M1T3PS | 70 | P2M2T3PS |
| 4/3 Centre exhaust 2 x 3/2 NC + NC without exhaust check valves | Solenoid | M8 Lockable | 80 | P2M1TGEE2C | 94 | P2M2TGEE2C | |
| | Air pilot | Clip | 80 | P2M1TGEE2CW | 94 | P2M2TGEE2CW | |
| | | Air pilot | | 70 | P2M1TGPP | 84 | P2M2TGPP |

Island head and intermediate module sets

| Valve Modules | | Size 2 | |
|---------------|--|--------|------------------|
| Description | | W (g) | Order code |
| P2M2HXT01 | Valve island pneumatic head and tail module set | 64 | P2M2HXT01 |
| P2M2BXT0A | Valve island intermediate supply module with a set of 4 configuration plates | 64 | P2M2BXT0A |

Clip-On pneumatic connectors *

| Valve Modules | | Size 1 | | Size 2 | |
|---------------|---------|--------|----------------|--------|----------------|
| Description | Tube OD | W (g) | Order code | W (g) | Order code |
| | G1/8" | 2 | FMDG1-1 | | |
| | 4 mm | 2 | FMD04-1 | | |
| | 6 mm | 3 | FMD06-1 | 3 | FMD06-2 |
| | 8 mm | | | 4 | FMD08-2 |
| | 10 mm | | | 5 | FMD10-2 |
| | 12 mm | | | 6 | FMD12-2 |
| | G1/8" | 3 | CMDG1-1 | | |
| | 4 mm | 3 | CMD04-1 | | |
| | 6 mm | 5 | CMD06-1 | 5 | CMD06-2 |
| | 8 mm | | | 6 | CMD08-2 |
| | 10 mm | | | 7 | CMD10-2 |
| | 12 mm | | | 8 | CMD12-2 |
| Silencer | | | | 5 | MMDVA2 |
| Plug | | 3 | PMDXX1 | 5 | PMDXX2 |

Electrical connectors

| Description | Connector type | Cable length | W (g) | Order code | |
|--|--|---------------------|---------|--------------------|-------------------|
| M8 lockable connector | Individual lockable connector – IP67 | 2 meters | 62 | P8LS08L226C | |
| | | 5 meters | 155 | P8LS08L526C | |
| | | 9 meters | 180 | P8LS08L926C | |
| | | 2 Flying leads | | | |
| Clip connector | Clip connector – IP40 | 1 meter | 8 | P8LW021C | |
| | | 2 meter | 12 | P8LW022C | |
| | Individual: Including 2 flying leads | 2 x Clip connectors | 1 meter | 12 | P8LW021C02 |
| | | 4 x Clip connectors | 1 meter | 20 | P8LW021C04 |
| | Multiple: Including 1 common (0 Vdc) and 1 flying lead per connector | 8 x Clip connectors | 1 meter | 36 | P8LW021C08 |
| | | | | | |
| Straight cable quick connect to thread connector, IP67 protected | M8 | | 12 | P8CS0803J | |
| | M12 | | 15 | P8CS1204J | |



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.

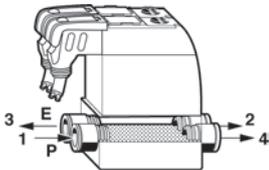


Valve functions

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 etc."

Valve main connections

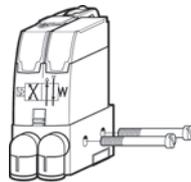
- Outlets to cylinders (ports 2 and 4) on one side.
- Supply P (port 1) and exhaust E (port 3) on the other side. At port 3, exhaust may be collected or receive a clip-on muffler.



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.

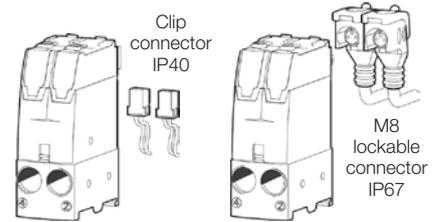
Optional foot mounting



The brackets are then extended.

Valve pilot connections

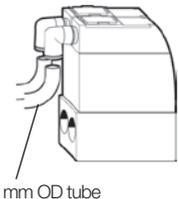
1- Solenoid valve modules



In its IP40 version, each solenoid shows Clip connection integrating LED and voltage surge protection. The clip connector with flying leads may be ordered separately with independent or interconnected common. In its IP67 version, each solenoid shows a M8 connection. Lockable connectors, IP67 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 movable elbow 4 mm OD tube push-in connector.



Modules and island ordering

Choice between 2 approaches:

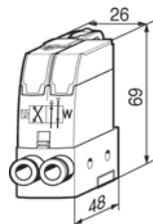
1 - Basic modules ordering:

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.

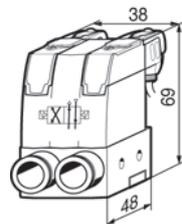
2 - Complete modules ordering:

Page 28 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)

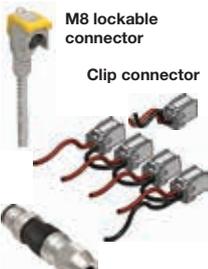
| Valve Modules | | | | | Size 1 | | Size 2 | |
|---|---|---|--|-----------------|--------------------|--------------------|--------------------|--------------------|
| Symbol | Description | Actuator | Pilot connector | W (g) | Order code | W (g) | Order code | |
|  |  | 4/2 Spring return | Solenoid | M8 Lockable | 72 | P2M1S4ES2C | 78 | P2M2S4ES2C |
| | | | Clip | | 72 | P2M1S4ES2CW | 78 | P2M2S4ES2CW |
| | Air pilot | | 67 | P2M1S4PS | 73 | P2M2S4PS | | |
| | |  | 4/2 Double pilot | Solenoid | M8 Lockable | 87 | P2M1S4EE2C | 93 |
| | Clip | | | | 87 | P2M1S4EE2CW | 93 | P2M2S4EE2CW |
| | Air pilot | | 77 | P2M1S4PP | 73 | P2M2S4PP | | |
|  | |  | 2 x 3/2 NC + NC with exhaust check valves | Solenoid | M8 Lockable | 85 | P2M1SDEE2C | 91 |
| | Clip | | | | 85 | P2M1SDEE2CW | 91 | P2M2SDEE2CW |
| | Air pilot | | 75 | P2M1SDPP | 81 | P2M2SDPP | | |
| | |  | 2 x 3/2 NO + NO with exhaust check valves | Solenoid | M8 Lockable | 85 | P2M1SCEE2C | 91 |
| | Clip | | | | 85 | P2M1SCEE2CW | 91 | P2M2SCEE2CW |
| | Air pilot | | 75 | P2M1SCPP | 81 | P2M2SCPP | | |
|  | |  | 2 x 3/2 NC + NO with exhaust check valves | Solenoid | M8 Lockable | 85 | P2M1SEEE2C | 91 |
| | Clip | | | | 85 | P2M1SEEE2CW | 91 | P2M2SEEE2CW |
| | Air pilot | | 75 | P2M1SEPP | 81 | P2M2SEPP | | |
| | |  | 3/2 NC with exhaust check valves | Solenoid | M8 Lockable | 80 | P2M1S3ES2C | 86 |
| | Clip | | | | 80 | P2M1S3ES2CW | 86 | P2M2S3ES2CW |
| | Air pilot | | 70 | P2M1S3PS | 76 | P2M2S3PS | | |
|  | | 4/3 Centre exhaust 2 x 3/2 NC + NC without exhaust check valves | Solenoid | M8 Lockable | 85 | P2M1SGEE2C | 91 | P2M2SGEE2C |
| | Clip | | | 85 | P2M1SGEE2CW | 91 | P2M2SGEE2CW | |
| Air pilot | | 75 | P2M1SGPP | 81 | P2M2SGPP | | | |

Clip-On pneumatic connectors *

| Valve Modules | | | | | Size 1 | | Size 2 | |
|---|--------------------|-------|------------|----------------|------------|----------------|--------|--|
| Description | Tube OD | W (g) | Order code | W (g) | Order code | | | |
|  | Straight connector | G1/8" | 2 | FMDG1-1 | | | | |
| | | 4 mm | 2 | FMD04-1 | | | | |
| | | 6 mm | 3 | FMD06-1 | 3 | FMD06-2 | | |
| | | 8 mm | | | 4 | FMD08-2 | | |
| | | 10 mm | | | 5 | FMD10-2 | | |
| | | 12 mm | | | 6 | FMD12-2 | | |
|  | Elbow connector | G1/8" | 3 | CMDG1-1 | | | | |
| | | 4 mm | 3 | CMD04-1 | | | | |
| | | 6 mm | 5 | CMD06-1 | 5 | CMD06-2 | | |
| | | 8 mm | | | 6 | CMD08-2 | | |
| | | 10 mm | | | 7 | CMD10-2 | | |
| | | 12 mm | | | 8 | CMD12-2 | | |
|  | Silencer | | 3 | MMDVA1 | 5 | MMDVA2 | | |
|  | Plug | | 3 | PMDXX1 | 5 | PMDXX2 | | |

* Fittings and plugs pack quantity: 10

Electrical connectors

| Description | Connector type | Cable length | W (g) | Order code | | |
|---|--|---|---------------------|--------------------|-------------------|-------------------|
|  | Individual lockable connector – IP67 Including LED and surge protection | 2 Flying leads | 62 | P8LS08L226C | | |
| | | 5 meters | 155 | P8LS08L526C | | |
| | | 9 meters | 180 | P8LS08L926C | | |
| | Clip connector – IP40 | 1 x Clip connector | 1 meter | 8 | P8LW021C | |
| | | Individual: Including 2 flying leads | 2 meter | 12 | P8LW022C | |
| | | Multiple: Including 1 common (0 Vdc) and 1 flying lead per connector | 2 x Clip connectors | 1 meter | 12 | P8LW021C02 |
| | | 4 x Clip connectors | 1 meter | 20 | P8LW021C04 | |
| | | 8 x Clip connectors | 1 meter | 36 | P8LW021C08 | |
| Straight cable quick connect to thread connector, IP67 protected | M8 | 12 | P8CS0803J | | | |
| | M12 | 15 | P8CS1204J | | | |

Peripheral Valve Modules: P series

Four additional peripheral modules complete the valve system in order to facilitate the installation of specific cylinder controls:

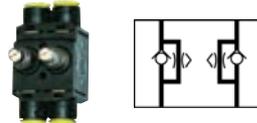
- Dual flow control, for cylinder speed adjusting;
- Dual pilot operated check valve, for cylinder positioning;
- Pressure regulator, for cylinder thrust adjusting;
- Vacuum generator, for vacuum pad controls.



Module function selection

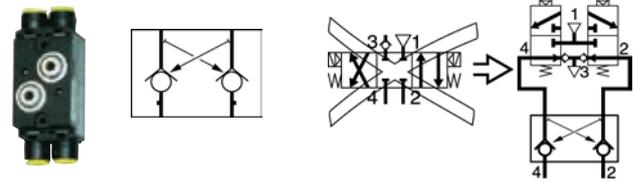
Dual flow control

By controlling the exhaust flows of a double acting cylinder, this module can adjust both speeds: forwards and backwards.



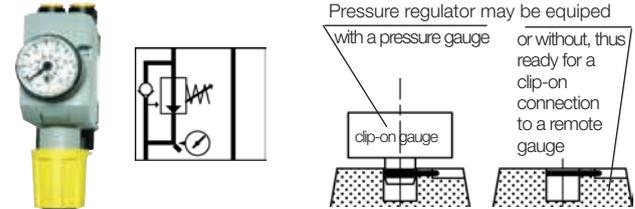
Dual pilot operated check valve

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

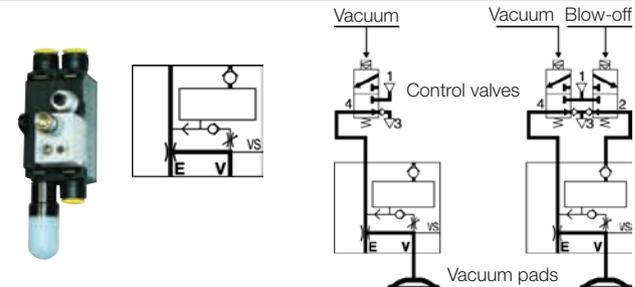
The thrust developed by a cylinder often requires adjustment by controlling the pressure to the front or back of the piston. This pressure regulator module enables manual adjustment of pressure on one side of the piston, with visual indication provided by the pressure gauge.



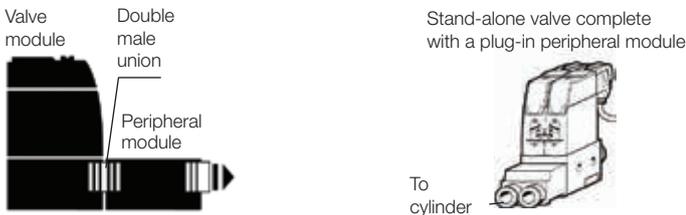
Vacuum generator

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.

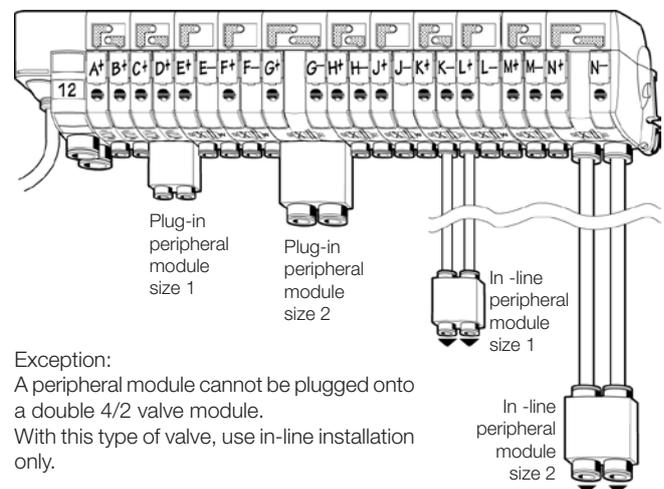


Module installation selection



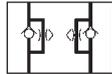
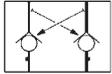
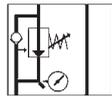
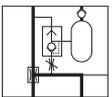
Peripheral modules may either be mounted:

- 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)

| Peripheral Modules | | Size 1 | | Size 2 | | | |
|---|-----------------------|----------------|-----------------|------------|-----------------|-----|-----------------|
| Symbol | Description | Weight (g) | Order code | Weight (g) | Order code | | |
|  | Dual flow control | 50 | P2M1PXFA | 50 | P2M2PXFA | | |
|  | Dual P.O. check valve | 50 | P2M1PXCA | 50 | P2M2PXCA | | |
|  | Pressure regulator | Pressure range | Gauge | | | | |
| | | 0 - 2 bar | 0 - 4 bar | 135 | P2M1PXSR | 135 | P2M2PXSR |
| | | | Without | 105 | P2M1PXST | 165 | P2M2PXST |
| | | 0 - 4 bar | 0 - 7 bar | 135 | P2M1PXSM | 135 | P2M2PXSM |
| | | | Without | 105 | P2M1PXSL | 165 | P2M2PXSL |
| | | 0 - 8 bar | 0 - 11 bar | 135 | P2M1PXSG | 135 | P2M2PXSG |
| | Without | 105 | P2M1PXSN | 165 | P2M2PXSN | | |
|  | 90% Vacuum generator | 30 | P2M1PXVA | | | | |

Clip-On pneumatic connectors *

| Valve Modules | | Size 1 | | Size 2 | | |
|---|--------------------|------------|---------------|----------------|---------------|----------------|
| Description | Tube OD | Weight (g) | Order code | Weight (g) | Order code | |
|  | Straight connector | G1/8" | 2 | FMDG1-1 | | |
| | | 4 mm | 2 | FMD04-1 | | |
| | | 6 mm | 3 | FMD06-1 | 3 | FMD06-2 |
| | | 8 mm | | | 4 | FMD08-2 |
| | | 10 mm | | | 5 | FMD10-2 |
| | | 12 mm | | | 6 | FMD12-2 |
|  | Elbow connector | G1/8" | 3 | CMDG1-1 | | |
| | | 4 mm | 3 | CMD04-1 | | |
| | | 6 mm | 5 | CMD06-1 | 5 | CMD06-2 |
| | | 8 mm | | | 6 | CMD08-2 |
| | | 10 mm | | | 7 | CMD10-2 |
| | | 12 mm | | | 8 | CMD12-2 |
|  | Double male union | 5 | HMDXX1 | 8 | HMDXX2 | |
| | Silencer | 3 | MMDVA1 | | | |
| | Plug | 3 | PMDXX1 | 5 | PMDXX2 | |

* Fittings and plugs pack quantity: 10

Clip-on accessories

| Description | Connection | Pressure range | Weight (g) | Order code |
|---|-----------------|----------------|------------|---------------------|
|  | Clip-on | 0 to 4 bar | 30 | P2M1K0GT |
| | | 0 to 7 bar | 30 | P2M1K0GL |
| | | 0 to 11 bar | 30 | P2M1K0GN |
| Analogue (1 - 5 Vdc) Vacuum Sensor | Diam. 4 mm tube | 0 to -1 bar | 25 | MPS-V8T4-AG |
| Flying lead 2 meter cable | Diam. 6 mm tube | 0 to -1 bar | 25 | MPS-V8T-AG |
| Dig. PNP / Ana (4 - 20 mA) Vacuum Sensor | G 1/8" male | 0 to -1 bar | 45 | MPS-V34G-PCI |
| 15 cm cable - M8 4 pin's connector | | | | |

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.



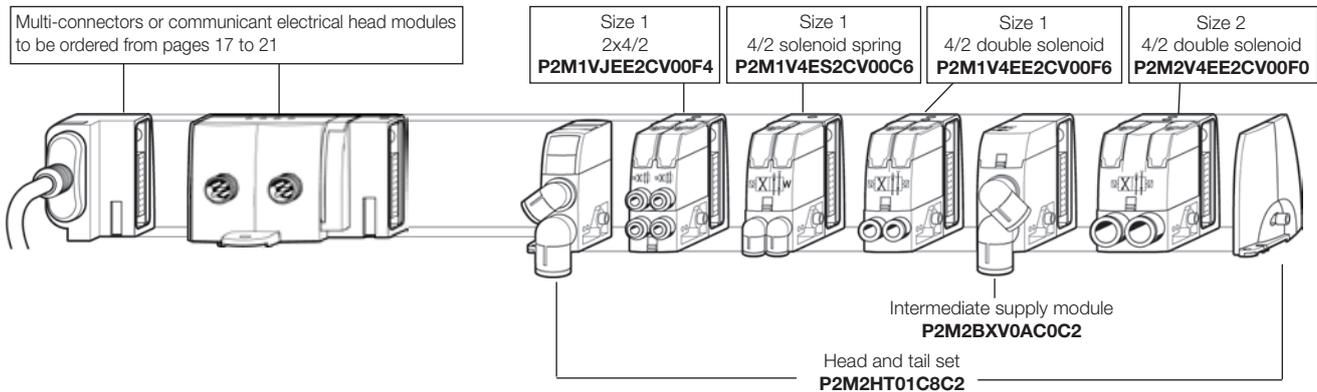
Basic modules

Ordered from the previous pages, the basic modules are to be equipped with their connectors. The 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 better fit the machine needs.



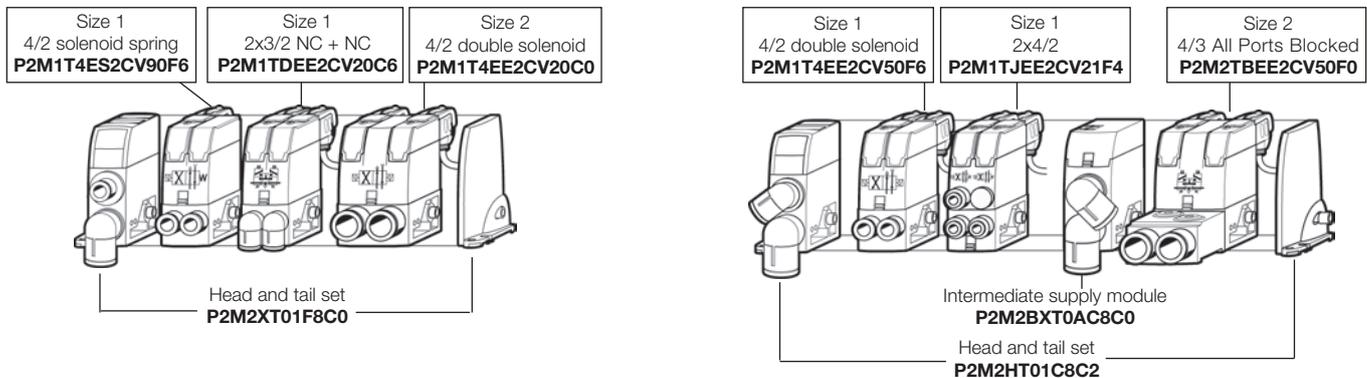
V series

See opposite page for complete module order code chart



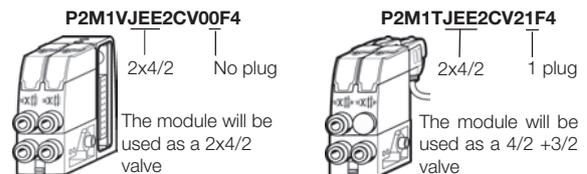
T series

See opposite 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. To order, use the top chart from opposite page.



S and P series

See page 28 and 29 for complete module order code charts.

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

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

Minimum ordering quantity: 10 pieces

| Voltage | |
|---------|-----------------|
| 00 | Pneumatic pilot |
| 2C | 24VDC |

| Pilot Connection & Cable Length | |
|-----------------------------------|--|
| Valvetronic V Series IP65 | |
| V 0 | V Series - Integrated Valvetronic Gallery |
| T Series - M8 Connector | |
| 0 0 | No cable (also for pneumatic remote pilot) |
| V 2 | 2 meter cable - M8 connector |
| V 5 | 5 meter cable - M8 connector |
| V 9 | 10 meter cable - M8 connector |
| T Series - Clip Connector | |
| W 0 | No cable |
| W 1 | 1 meter cable - Clip connector |
| W 2 | 2 meter cable - Clip connector |
| T Series - Pneumatic Remote Pilot | |
| 0 0 | 4 mm OD tubing |

| Pneumatic connectors Ports 2 & 4 | |
|----------------------------------|-------------------|
| Size 1 modules | |
| F4 | Straight 4 mm OD |
| C4 | Elbow 4 mm OD |
| F6 | Straight 6 mm OD |
| C6 | Elbow 6 mm OD |
| Size 2 modules | |
| F6 | Straight 6 mm OD |
| C6 | Elbow 6 mm OD |
| F8 | Straight 8 mm OD |
| C8 | Elbow 8 mm OD |
| F0 | Straight 10 mm OD |
| C0 | Elbow 10 mm OD |

| Size | |
|------|--------|
| 1 | Size 1 |
| 2 | Size 2 |

| Series | |
|--------|------------------------|
| V | Integrated connections |
| T | Individual connectors |

| Valve Function - Solenoid Versions * | |
|--------------------------------------|--|
| 4 ES | 4/2 Solenoid spring |
| 4 EE | 4/2 Double solenoid |
| D EE | 2 x 3/2 NC + 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) |

| Plug configurations | |
|---------------------|---------|
| 0 | No plug |

| Only for JEE 2x4/2 modules (1) | |
|--------------------------------|--------------------------|
| 0 | 0 plug (2x 4/2) |
| 1 | 1 plug (4/2 + 3/2) |
| 2 | 2 plugs (2x3/2 or 1x4/2) |
| 3 | 3 plugs (1x3/2) |

| Valve Function - Solenoid Versions * | |
|--------------------------------------|--|
| J EE | 2x4/2 with exhaust check valve with plug configuration |

Size 1 only

* For T Series - Pneumatic Pilot: Replace "ES" or "EE" by "PS" or "PP"

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

| Head and intermediate module | |
|------------------------------|---|
| | HXT01 V and T series Pneumatic head and tail set |
| | BXV0A V series intermediate supply module with a set of 4 configuration plates |
| | BXT0A T series intermediate supply module with a set of 4 configuration plates |

| Pressure port connector | |
|-------------------------|-------------------|
| F6 | Straight 6 mm OD |
| C6 | Elbow 6 mm OD |
| F8 | Straight 8 mm OD |
| C8 | Elbow 8 mm OD |
| F0 | Straight 10 mm OD |
| C0 | Elbow 10 mm OD |
| F2 | Straight 12 mm OD |
| C2 | Elbow 12 mm OD |
| PP | Plug |
| MM | Muffler |

| Exhaust port connector | |
|------------------------|-------------------|
| F6 | Straight 6 mm OD |
| C6 | Elbow 6 mm OD |
| F8 | Straight 8 mm OD |
| C8 | Elbow 8 mm OD |
| F0 | Straight 10 mm OD |
| C0 | Elbow 10 mm OD |
| F2 | Straight 12 mm OD |
| C2 | Elbow 12 mm OD |
| PP | Plug |
| MM | 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



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

Minimum ordering quantity: 10 pieces

| Voltage | |
|---------|-----------------|
| 00 | Pneumatic pilot |
| 2C | 24VDC |

| Pilot Connection & Cable Length | | |
|---------------------------------|---|--------------------------------|
| M8 Connector | | |
| 0 | 0 | No cable |
| V | 2 | 2 meter cable - M8 connector |
| V | 5 | 5 meter cable - M8 connector |
| V | 9 | 10 meter cable - M8 connector |
| Clip Connector | | |
| W | 0 | No cable |
| W | 1 | 1 meter cable - Clip connector |
| W | 2 | 2 meter cable - Clip connector |
| Pneumatic Remote Pilot | | |
| 0 | 0 | 4 mm OD tubing |

| Size | |
|------|--------|
| 1 | Size 1 |
| 2 | Size 2 |

| Series | |
|--------|---------------------------|
| S | Stand alone valve modules |

| 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 | Size 1 modules | |
| B | Elbow & elbow | | |
| C | Straight & muffler | 4 | |
| D | Elbow & muffler | 6 | |
| | | 0 | |
| | | Size 2 modules | |
| | | 6 | 6 mm OD |
| | | 8 | 8 mm OD |
| | | 0 | 10 mm OD |

* Pneumatic Pilot: Replace "ES" or "EE" by "PS" or "PP"

Size 1
4/2 solenoid spring
P2M1S4ES2CV5CC6



Size 1
2x3/2 NC + NC
P2M1SD EE2CV2BC6



Size 2
4/2 double solenoid
P2M2S4EE2CV9CC8



Size 2
2x3/2 NC + NC
P2M2SD EE2CV2CC0



Size 2
4/3 All Ports Blocked
P2M2SB EE2CV2AF0

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

Order Code: **P 2 M 1 P X F A J J F 6**

| Size | |
|------|--------|
| 1 | Size 1 |
| 2 | Size 2 |

| Peripheral module function | |
|----------------------------|------------------------------|
| F A | Dual flow control |
| C A | Dual P.O. check valve |
| Pressure regulators | |
| S R | 0-2 bar, with pressure gauge |
| S M | 0-4 bar, with pressure gauge |
| S G | 0-8 bar, with pressure gauge |

| Inlet port pneumatic connectors | |
|---------------------------------|-------------------|
| Size 1 modules | |
| F4 | Straight 4 mm OD |
| C4 | Elbow 4 mm OD |
| F6 | Straight 6 mm OD |
| C6 | Elbow 6 mm OD |
| Size 2 modules | |
| F6 | Straight 6 mm OD |
| C6 | Elbow 6 mm OD |
| F8 | Straight 8 mm OD |
| C8 | Elbow 8 mm OD |
| F0 | Straight 10 mm OD |
| C0 | Elbow 10 mm OD |

| Outlet port pneumatic connectors | |
|----------------------------------|-------------------|
| Size 1 modules | |
| F4 | Straight 4 mm OD |
| C4 | Elbow 4 mm OD |
| F6 | Straight 6 mm OD |
| C6 | Elbow 6 mm OD |
| Size 2 modules | |
| F6 | Straight 6 mm OD |
| C6 | Elbow 6 mm OD |
| F8 | Straight 8 mm OD |
| C8 | Elbow 8 mm OD |
| F0 | Straight 10 mm OD |
| C0 | Elbow 10 mm OD |

Vacuum generator peripheral module

Minimum ordering quantity: 10 pieces

Order Code: **P 2 M 1 P X V A F 6 A F 6 C M A**

| Size | |
|------|--------|
| 1 | Size 1 |

| Peripheral module function | |
|----------------------------|------------------|
| V A | Vacuum generator |

| Exhaust port (3) * | |
|--------------------|------------------|
| F4 | Straight 4 mm OD |
| C4 | Elbow 4 mm OD |
| F6 | Straight 6 mm OD |
| C6 | Elbow 6 mm OD |
| MA | Clip-on muffler |

| Pressure & Blow-off port connectors | |
|-------------------------------------|---------------------------|
| JJ | Clip-on double male union |
| F4 | Straight 4 mm OD |
| C4 | Elbow 4 mm OD |
| F6 | Straight 6 mm OD |
| C6 | Elbow 6 mm OD |
| F1 | Straight threaded 1/8" |
| C1 | Elbow threaded 1/8" |

| Vacuum and Vacuum Sensor port connectors | |
|--|------------------------|
| F4 | Straight 4 mm OD |
| C4 | Elbow 4 mm OD |
| F6 | Straight 6 mm OD |
| C6 | Elbow 6 mm OD |
| F1 | Straight threaded 1/8" |
| C1 | Elbow threaded 1/8" |

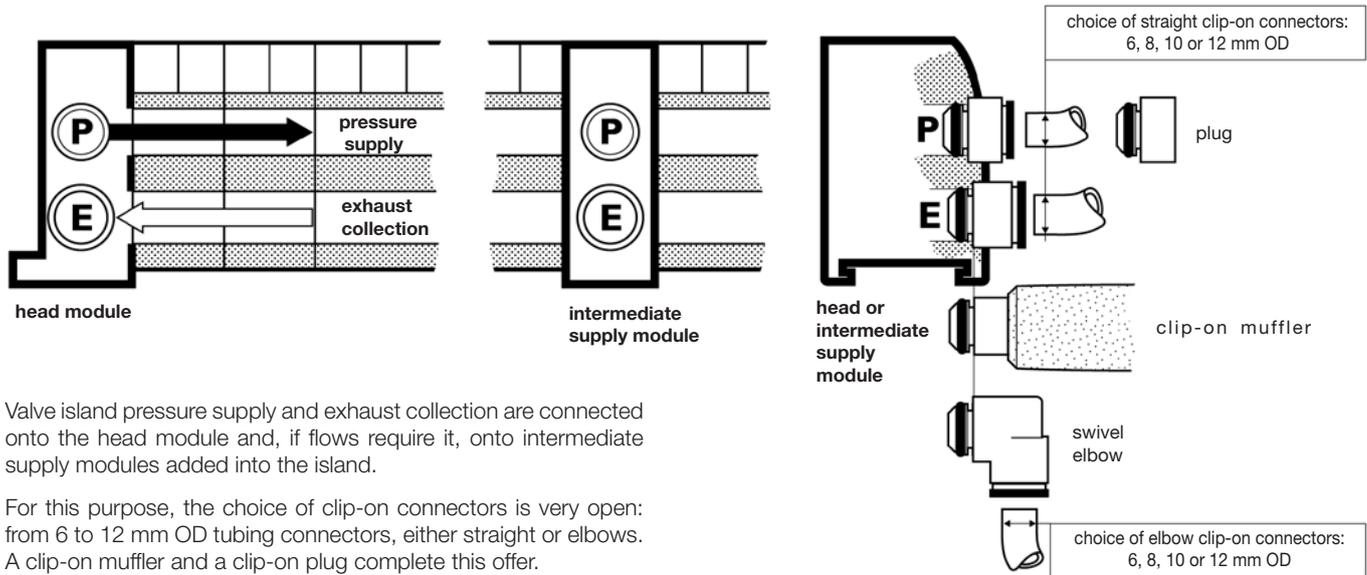
| Vacuum and Vacuum Sensor port connectors | |
|--|--|
| A | 2 similar connectors |
| B | 1 connector on vacuum port 1 plug on vacuum sensor port |
| D | 1 Connector on Vacuum Port 1 Dig/Ana Vacuum Sensor MPS-V34G-PCI |
| E | 1 Connector on Vacuum Port 1 Analog Vacuum Sensor MPS-V8T-AG |

Moduflex Valve System - P2M

Island head module port sizing

Moduflex is totally flexible: islands may have up to 19 valves for the V Series and is not limited for the T series with a choice of 3 valve sizes, depending on the required flow. Thus, each island has specific needs for the size of its pressure supply and its exhaust collection.

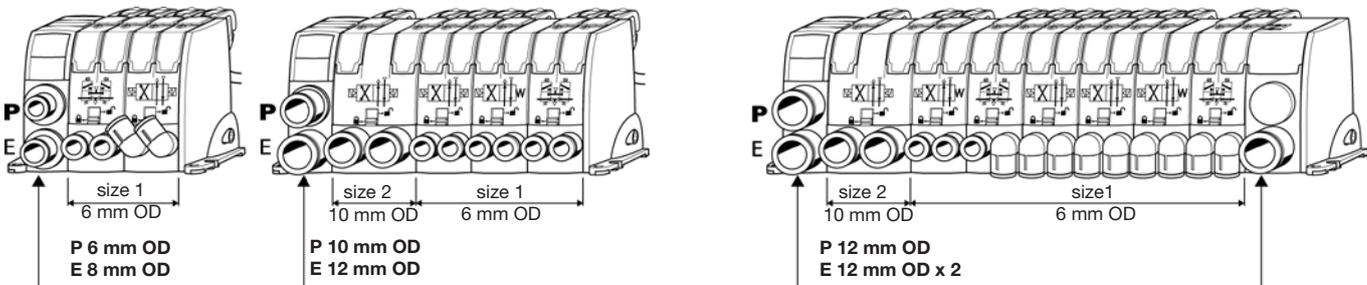
Choice of connections to an island P and E ports



Valve island pressure supply and exhaust collection are connected onto the head module and, if flows require it, onto intermediate supply modules added into the island.

For this purpose, the choice of clip-on connectors is very open: from 6 to 12 mm OD tubing connectors, either straight or elbows. A clip-on muffler and a clip-on plug complete this offer.

Sizing recommendations



The 3 valve islands above present typical situations for sizing islands pressure supply and exhaust collection.

In a given island, valves do not deliver their flow at the same moment. Thus, the number of valves in an island is not the major factor to consider. More important is the size of the largest valve and of the largest output tubes to the cylinders.

| ID section areas of standard tubings | | | |
|--------------------------------------|--------------------|-------------|---------------------|
| 2 x 4 mm: | 3 mm ² | 5.5 x 8 mm: | 24 mm ² |
| 2.7 x 4 mm: | 6 mm ² | 6 x 8 mm: | 28 mm ² |
| 4 x 6 mm: | 12 mm ² | 7 x 10 mm: | 40 mm ² |
| | | 8 x 10 mm: | 50 mm ² |
| | | muffler: | 100 mm ² |
| | | | equivalent |

We would recommend the following:

- air supply connection at least equivalent to largest output tube to cylinders;
- exhaust collection at least twice the section area of the largest output tube to cylinders.

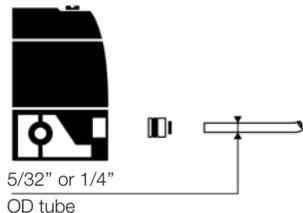
For islands with high flows, the following options are possible:

- use tubes up to 12 mm OD or mufflers providing exhaust collection is not necessary;
- provide additional P and/or E connection ports by inclusion of intermediate supply modules, thus keeping tube size small.

At the machine commissioning stage, the supply and exhaust connections can be easily modified until the required performance is achieved.

Recommendations for building machines with imperial OD tubes (US usual standard)

size 1 modules



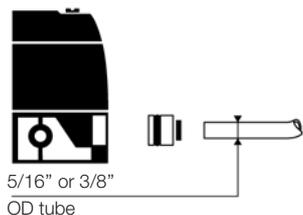
Moduflex is a global product available in the US with the two standards that are commonly used in this country:

- metric OD tubes with the metric connectors shown in this catalogue,
- imperial OD tubes with specific connectors for the US.

Machine builders exporting to the US may propose to their clients one of the following solutions.

- Machines equipped with Moduflex components connected with metric tubes found in this catalogue. Parker will provide products locally for maintenance.
- Or machines equipped with Moduflex components connected with imperial size OD tubes. In this case, use the following procedure to order Moduflex and to build the machine.

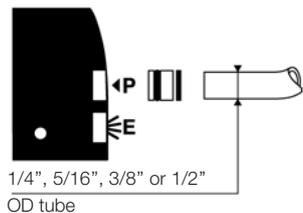
size 2 modules



Imperial OD tube and metric OD tube comparison

| metric standard tube OD | imperial US standard tube OD | metric equivalent | Moduflex clip-on connectors |
|-------------------------|------------------------------|-------------------|--|
| 4 mm | 5/32" | 4 mm | imperial and metric connectors identical |
| 6 mm | 1/4" | 6,35 mm | specific imperial connector |
| 8 mm | 5/16" | 8 mm | imperial and metric connectors identical |
| 10 mm | 3/8" | 9,53 mm | specific imperial connector |
| 12 mm | 1/2" | 12,7 mm | specific imperial connector |

head and intermediate island modules



Moduflex selection for imperial size OD tubes

Such components will easily be obtained with the following procedure:

- 1 - select the required basic modules (with no connector).

- 2 - Select from the list below the clip-on connectors for the required imperial OD tubes.

- 3 - ports in order to obtain complete modules.



pneumatic connectors for size 1 modules

| | | Pack Quant. | elbow version Weight (g) per unit | Order code | straight version Weight (g) per unit | Order code |
|--------------------------------|----------------|-------------|-----------------------------------|----------------|--------------------------------------|----------------|
| clip-on tube push-in connector | 5/32"= 4 mm OD | 10 | 5 | CMD04-1 | 2 | FMD04-1 |
| | 1/4"OD | 10 | 5 | CMD07-1 | 3 | FMD07-1 |



pneumatic connectors for size 2 modules head and intermediate island modules

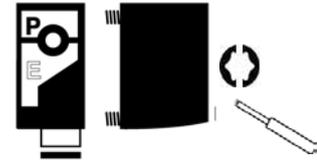
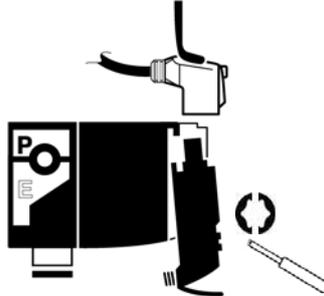
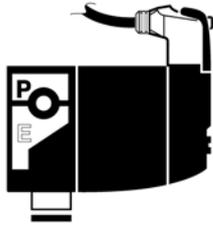
| | | Pack Quant. | elbow version Weight (g) per unit | Order code | straight version Weight (g) per unit | Order code |
|--------------------------------|----------------|-------------|-----------------------------------|----------------|--------------------------------------|----------------|
| clip-on tube push-in connector | 1/4"OD | 10 | 5 | CMD07-2 | 3 | FMD07-2 |
| | 5/16"= 8 mm OD | 10 | 6 | CMD08-2 | 4 | FMD08-2 |
| | 3/8"OD | 10 | 7 | CMD09-2 | 5 | FMD09-2 |
| | 1/2"OD | 10 | 8 | CMD13-2 | 6 | FMD13-2 |

Maintenance procedure

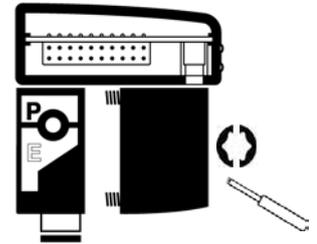
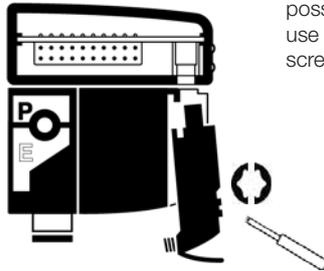
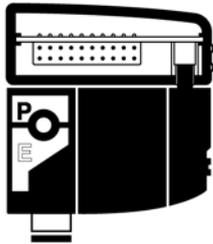
The latest generations of compact pneumatic valves have a life expectancy which generally exceeds the equipment they control. Therefore, although maintenance is seldom required,

when necessary the solenoid pilot, valve or connector can be easily replaced without removing the island base, as shown below.

S and T series



V series



Please, use a Torx T8 screw driver. Also possible to use a 3.5 mm screwdriver.

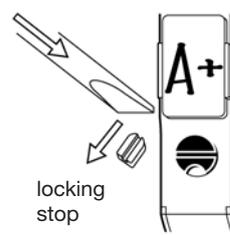
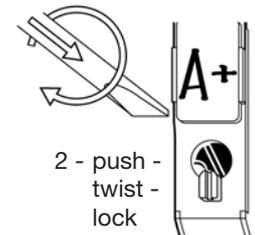
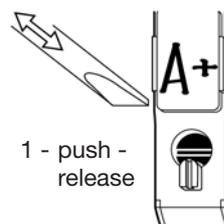
With only one universal solenoid pilot for all configurations, maintenance is simple

24V DC is now a global standard for all machines.

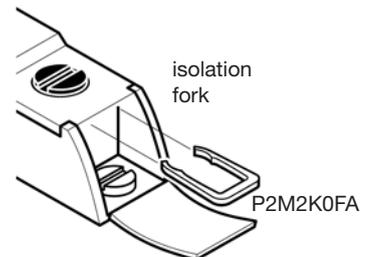
The Moduflex 24V DC unique solenoid pilot is supplied with the multi-function manual override that can be adapted to all requirements, as explained by the drawings.

Because all Moduflex valve and island configurations are supplied with this unique solenoid pilot, maintenance operations remain very simple.

Multi-function adaptable manual override

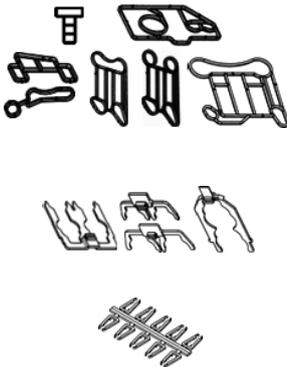


3 - remove lock capability



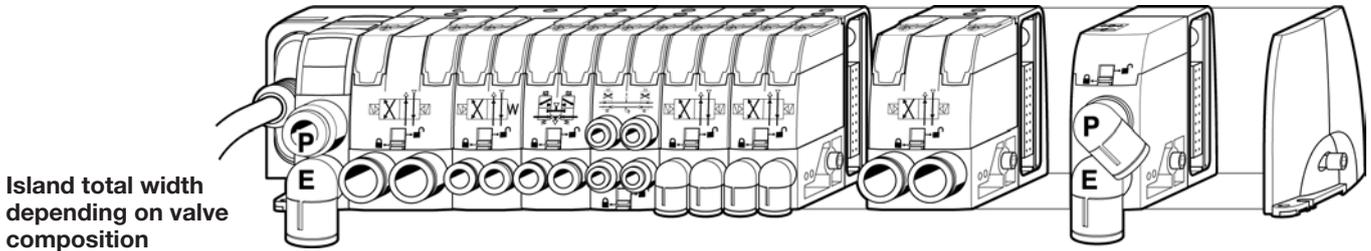
4 - manual override is totally isolated

Maintenance components

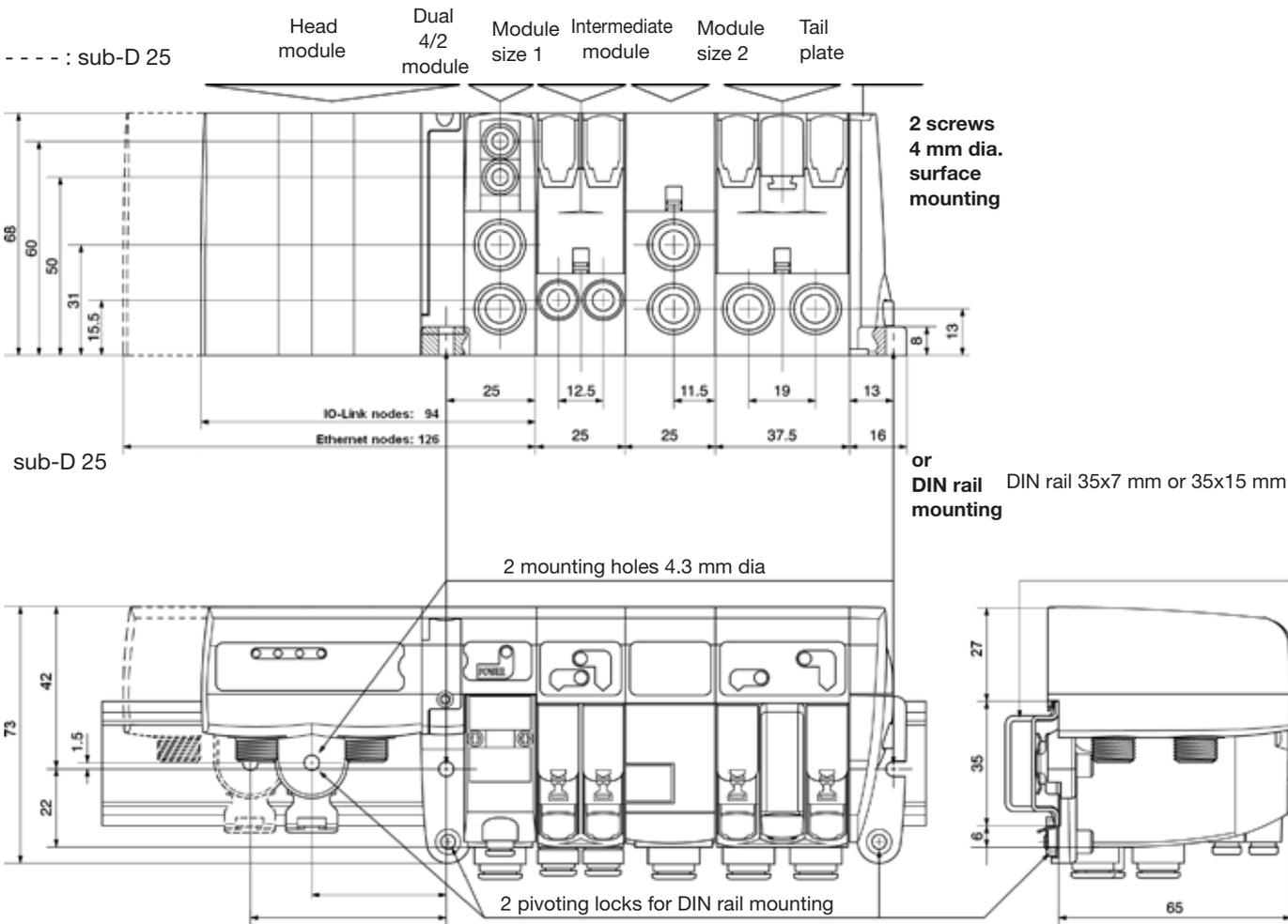
| | Valve pilot | Connection | Weight (g) | Order code |
|--|---|---|--------------------------------------|--------------------|
|  <p>P2D8V32C5</p> | Solenoid pilot | M8 - 3 Pins - IP67 | 15 | P2D8V32C5 |
| | | Clip connector - 2 pins - IP40 With LED and voltage surge suppression | 15 | P2D2W3226C5 |
| |  <p>P2M2K0PA</p> | Pneumatic pilot | 4 mm OD tubing push-in elbow fitting | 10 |
| size 1 valve modules without solenoid pilot and without sub-base | | | Weight (g) | Order code |
|  <p>P2M1X4EE</p> | 4/2 | monostable | 26 | P2M1X4ES |
| | | bistable | 25 | P2M1X4EE |
| | 3/2 | double NC + NC | 28 | P2M1XDEE |
| | | double NO + NO | 28 | P2M1XCEE |
| | | double NC + NO | 28 | P2M1XEEE |
| | | single NC | 25 | P2M1X3ES |
| | 4/3 CE | double 3/2 NC + NC without exhaust check valve | 28 | P2M1XGEE |
| size 2 valve modules without solenoid pilot and without sub-base | | | Weight (g) | Order code |
|  <p>P2M2X4EE</p> | 4/2 | monostable | 28 | P2M2X4ES |
| | | bistable | 30 | P2M2X4EE |
| | 3/2 | double NC + NC | 32 | P2M2XDEE |
| | | double NO + NO | 32 | P2M2XCEE |
| | | double NC + NO | 32 | P2M2XEEE |
| | | single NC | 28 | P2M2X3ES |
| | 4/3 CE | double 3/2 NC + NC without exhaust check valve | 32 | P2M2XGEE |
| Set of maintenance parts | | | Weight (g) | Order code |
|  | Seals | Set of various seals: 3 under solenoid pilot seals 3 inter island base seals 2 for dual 4/2 valves (2 parts) 2 for single and dual 3/2 – Size 1 – valves 2 for single 4/2 – Size 1 – valves 2 for size 2 valves (all functions) | 8 | P2M2K0JA |
| | Fitting locking clips | Set of 14 clips: 4 for dual 4/2 valves 6 for size 1 valves 2 for size 2 valves 2 for intermediate supply modules | 10 | P2M2K0CA |
| | Manual override forks | Set of 10 isolating forks for pilot solenoid manual override | 8 | P2M2K0FA |

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 |
|---|---|-----------------------------|-------------------------------|----------------------------------|



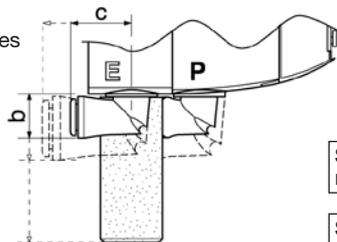
Island total width depending on valve composition



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. See pages 39 and 40 for dimensions.

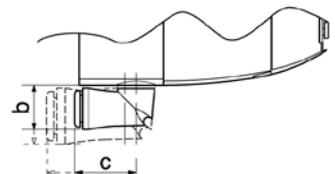
Island head and intermediate modules

| | 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

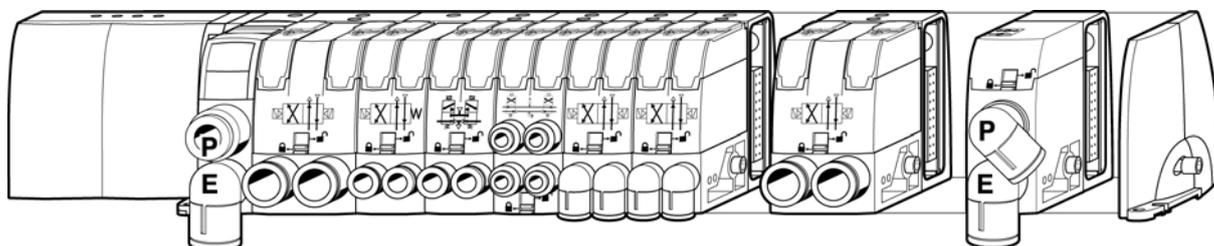
| | OD tube | a | b | c |
|----------------|---------|----|----|----|
| Size 1 modules | 4 mm | 8 | 10 | 12 |
| | 6 mm | 8 | 13 | 16 |
| Size 2 modules | 8 mm | 9 | 16 | 19 |
| | 10 mm | 13 | 18 | 22 |



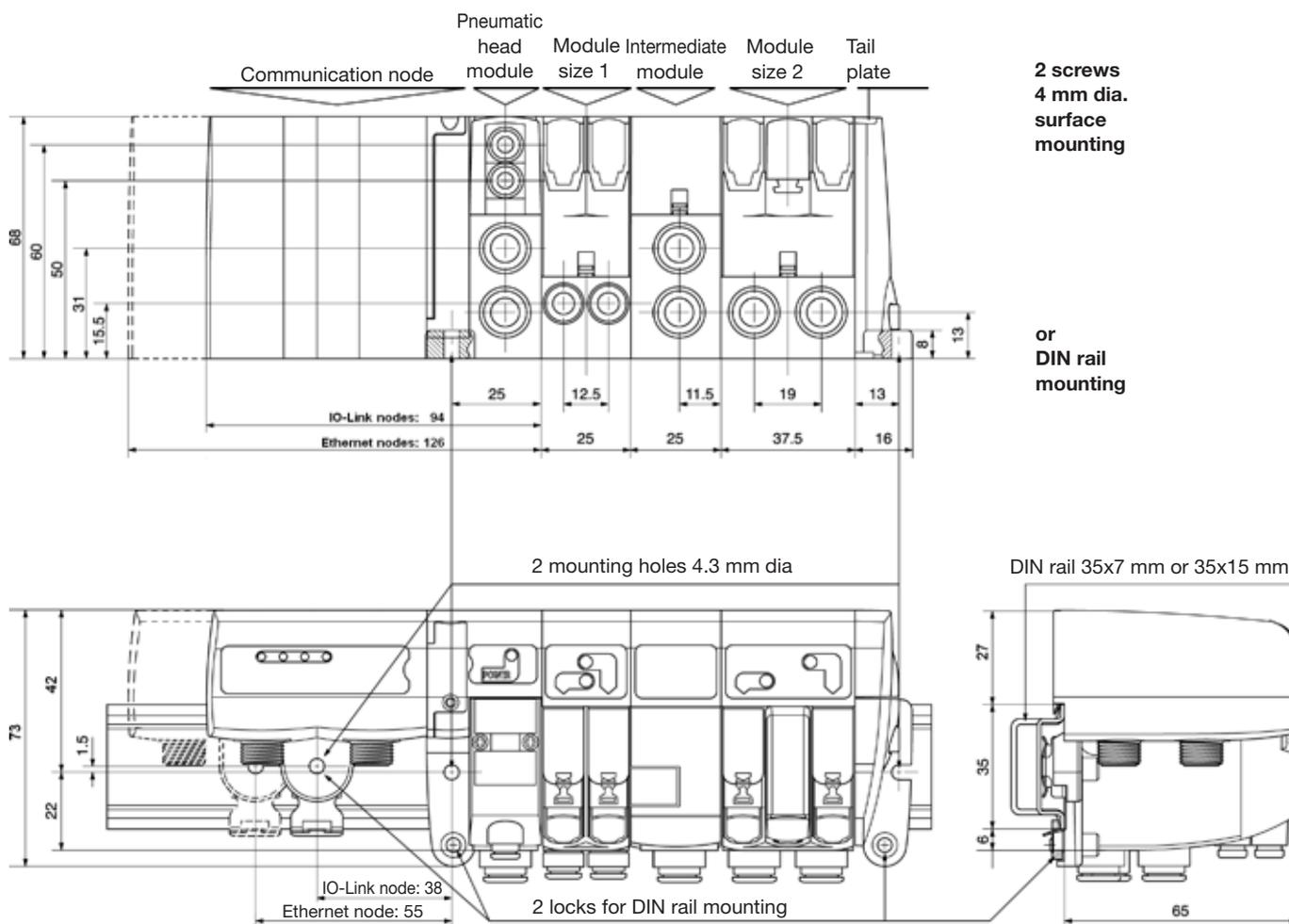
2 - Industrial Communication Valve Islands

Island total width depending on valve composition

| | | | | |
|--|---|-----------------------------------|-------------------------------------|--|
| Communication nodes IO-Link: width 62 mm Ethernet nodes: width 94 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 |
|--|---|-----------------------------------|-------------------------------------|--|

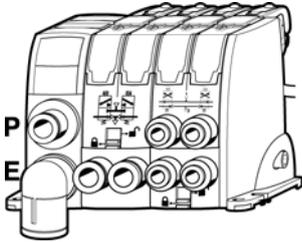


Moduflex Valve island with Ethernet & IO-Link communication node

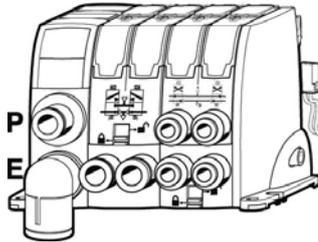


Island total width depending on valve composition

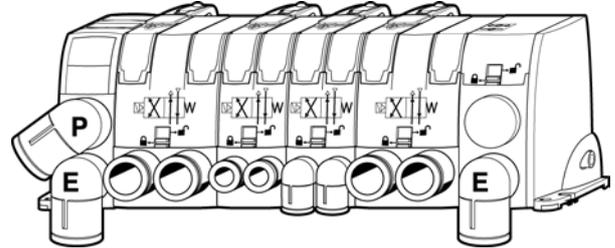
With IP67 Lockable connector



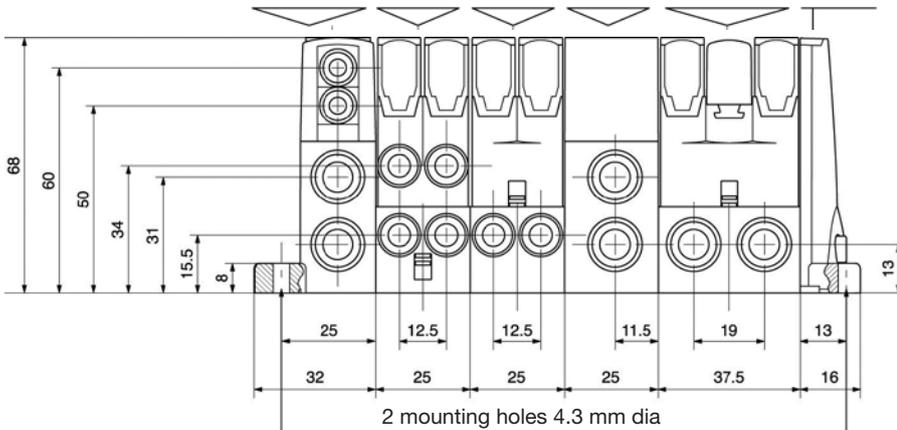
With IP40 Clip connector



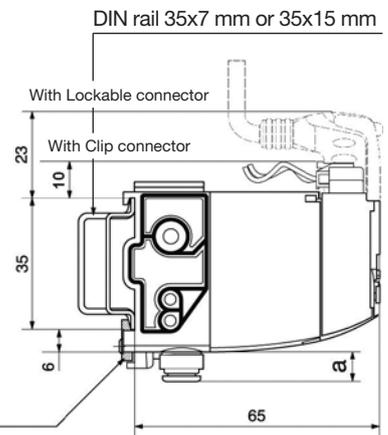
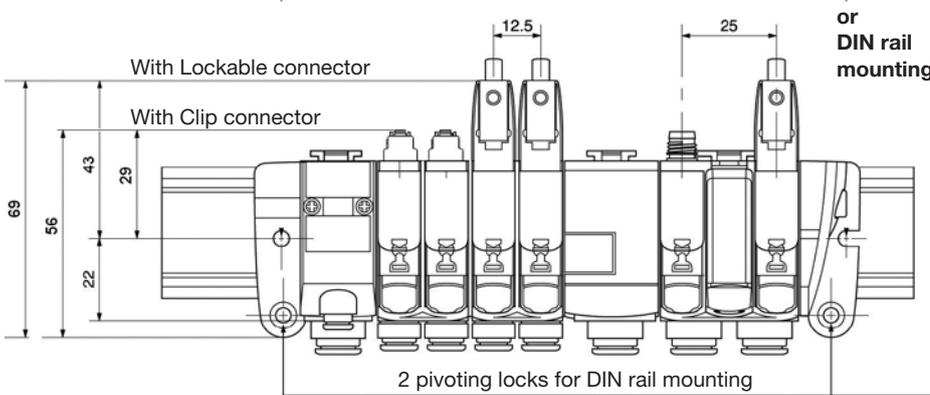
Pneumatic head and tail module width ⇒ 48 mm
 Modules size 1 25 mm
 Modules size 2 37.5 mm
 Intermediate module 25 mm



Pneumatic head module Dual 4/2 module Module size 1 Intermediate module Module size 2 Tail plate



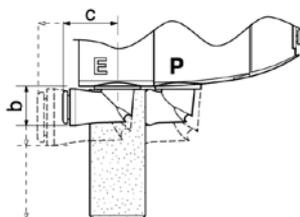
**2 screws
4 mm dia.
surface
mounting**



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.

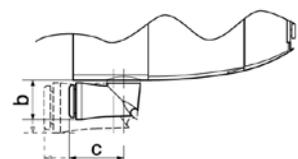
Island head and intermediate modules

| | 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 | |



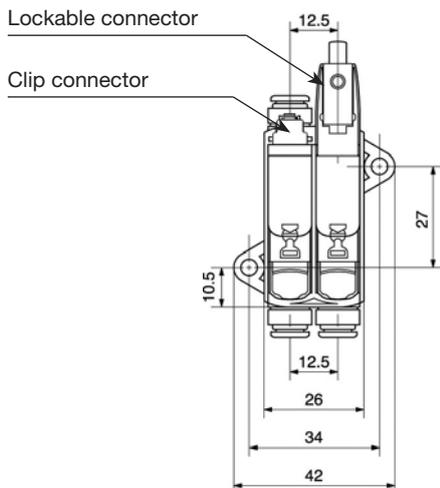
Island valves modules

| | 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 |

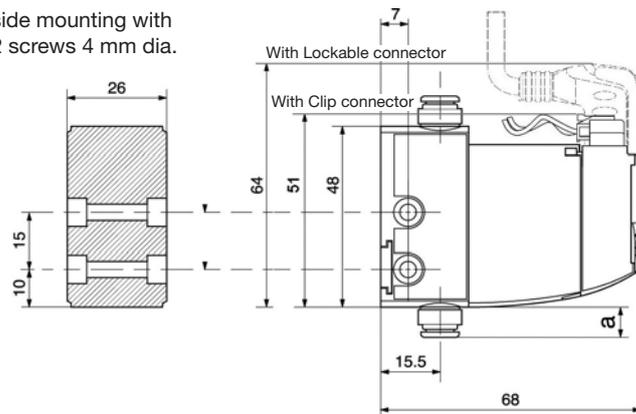


Stand-alone valve size 1

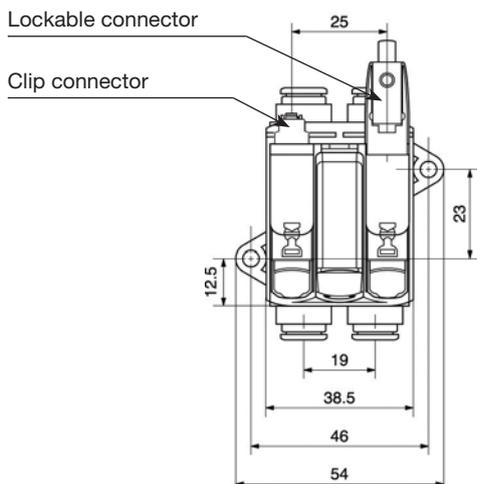
surface mounting with screws
4 mm dia. into retractable brackets 3 mm thick



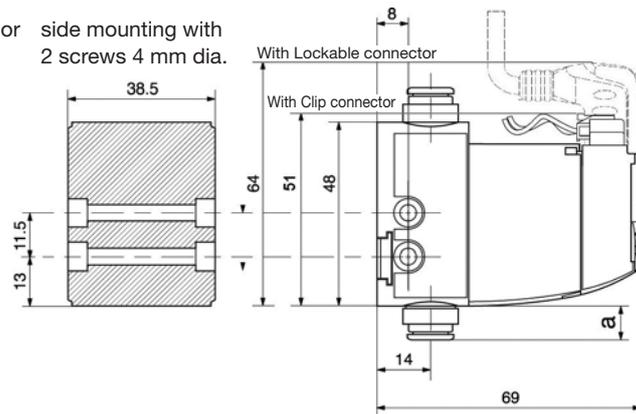
or side mounting with 2 screws 4 mm dia.



Stand-alone valve size 2



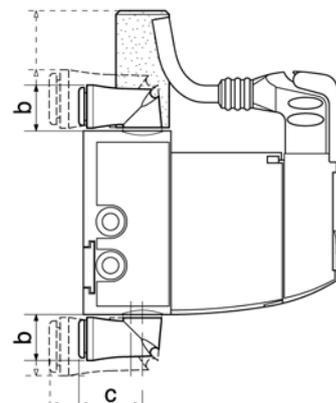
or side mounting with 2 screws 4 mm dia.



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.

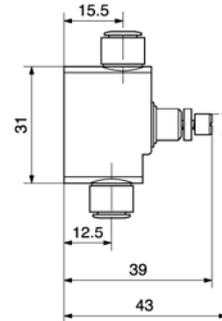
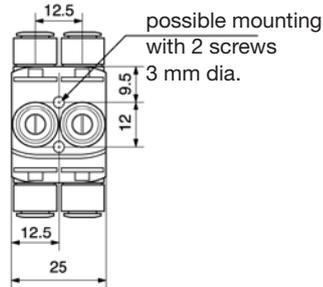
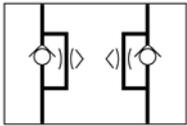
| | | a | b | c |
|----------------|---------------|----|----|----|
| Size 1 modules | 4 mm tube OD | 8 | 10 | 12 |
| | 6 mm tube OD | 8 | 13 | 16 |
| | Muffler | | 31 | |
| Size 2 modules | 8 mm tube OD | 9 | 16 | 19 |
| | 10 mm tube OD | 13 | 18 | 22 |
| | Muffler | | 40 | |



Reminder: peripheral modules may either be plugged in the valve output ports or mounted in line separate from the valve

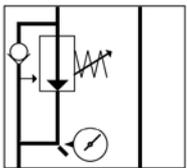


Dual flow control module size 1

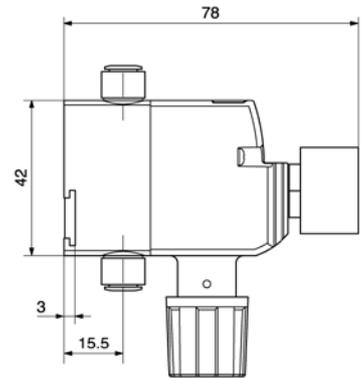
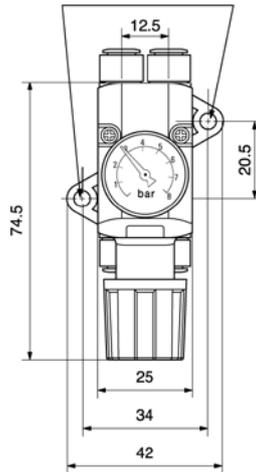


Pressure regulation module size 1

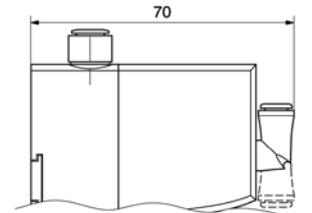
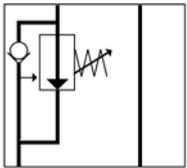
- with gauge



mounting with 2 screws 4 mm dia. on retractable brackets

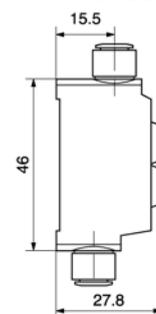
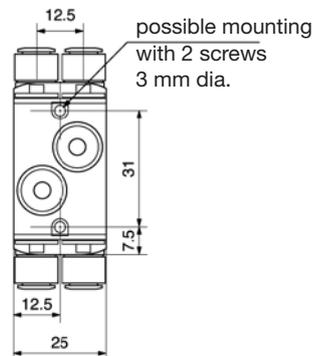
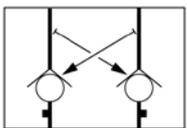


- without gauge

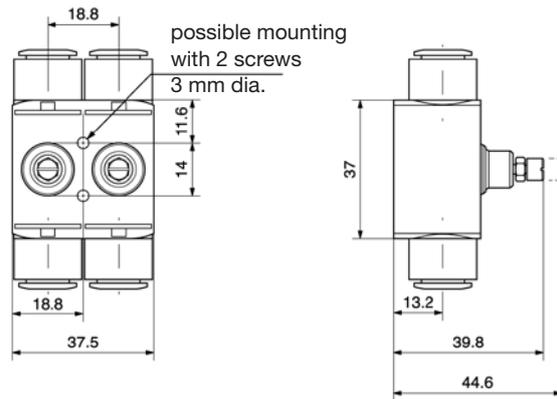
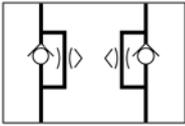


swivel elbow push-in connector 4 mm OD tube

Dual P.O. check valve module size 1

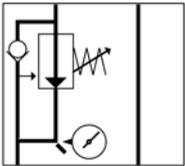


Dual flow control module size 2

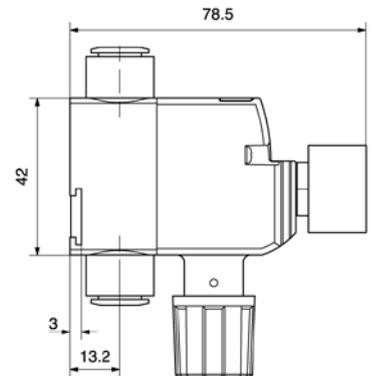
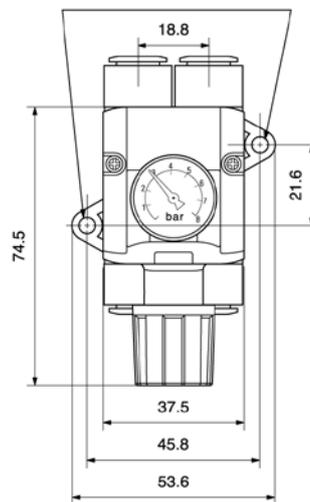


Pressure regulation module size 2

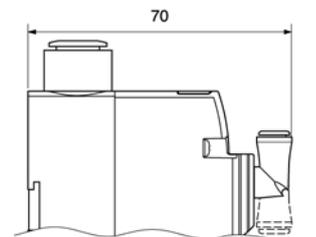
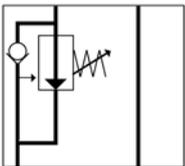
- with gauge



mounting with 2 screws 4 mm dia.
on retractable brackets

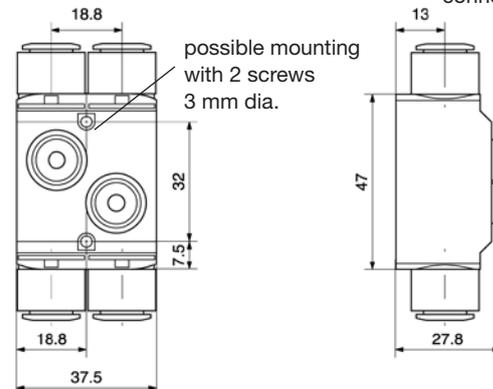
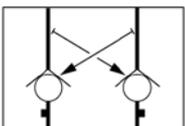


- without gauge



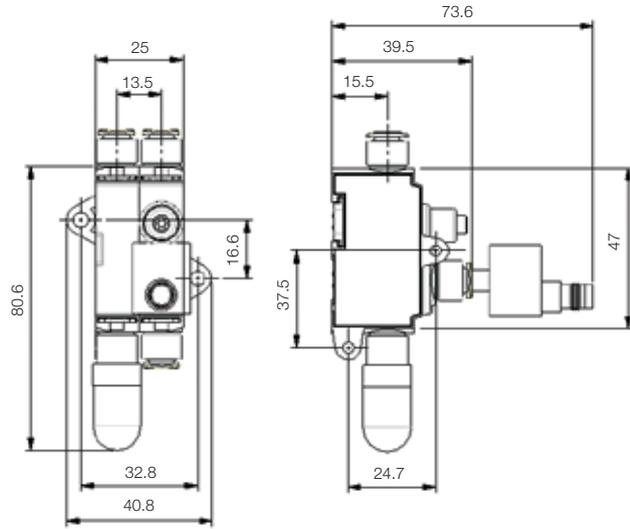
swivel elbow push-in
connector 4 mm OD tube

Dual P.O. check valve module size 2

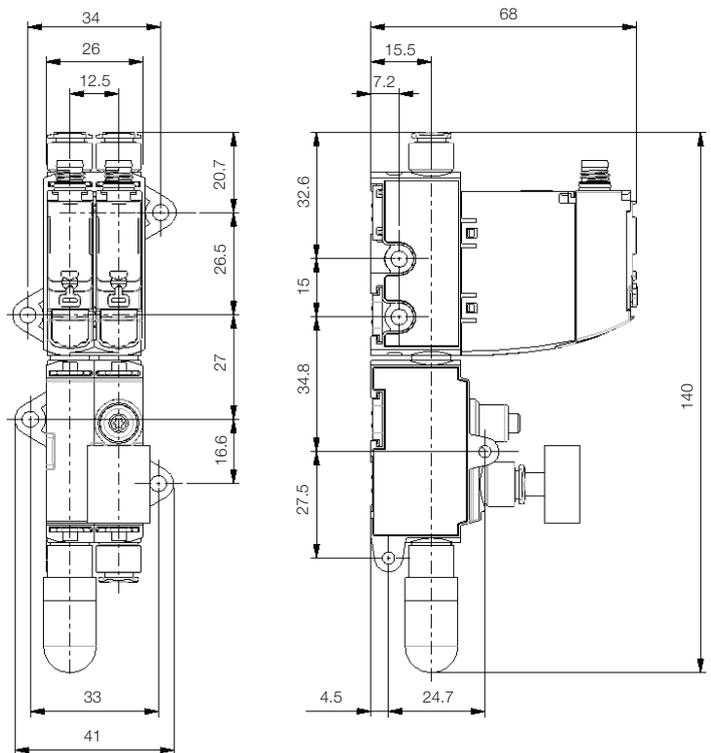


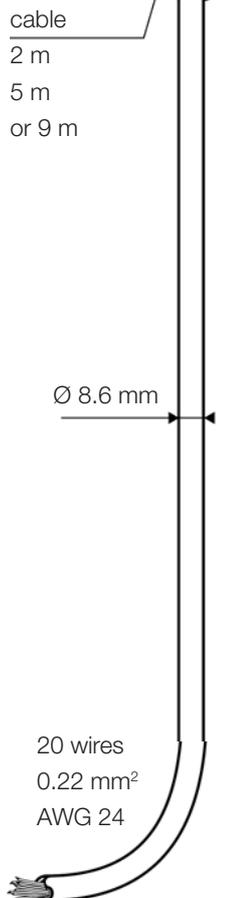
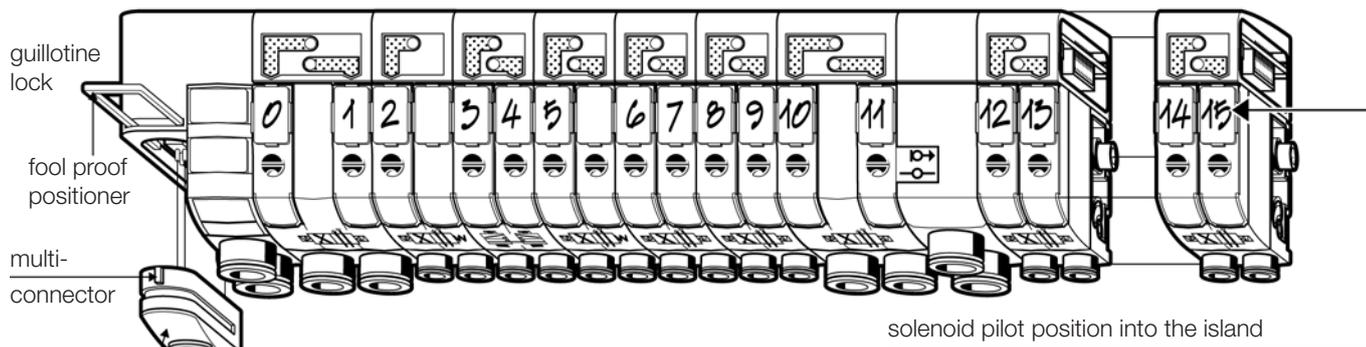
Vacuum generator module

In-line



With Moduflex valve





The valve island head multi-connector

On the island head module, the multi-connector integrates the HE10 connector standard in its 20 pin version. Its plug-in function is secured in position with a guillotine lock with easy access from the front of the island. Just like the whole island, the multi-connector follows the IP65 protection standard.

Cable specification:

8,6 mm dia., UL, 20 wires, 0.22 mm², AWG 24.

Minimum static radius : 6.5 mm.

Available with 2 m, 5 m and 9 m lengths.

Multi-connector addressing

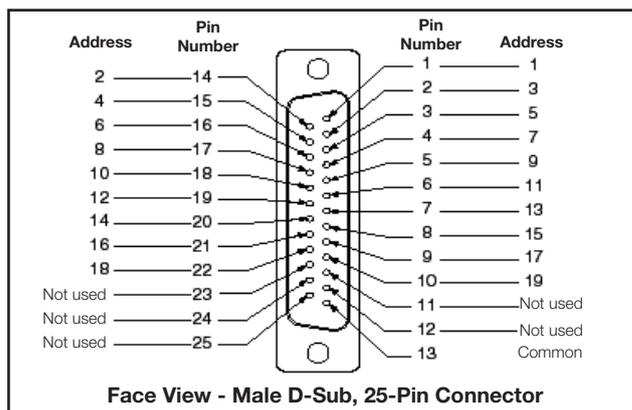
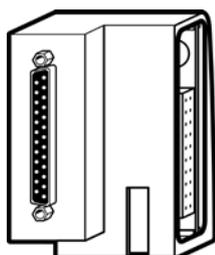
When assembling a V series island, modules are automatically connected to the head module through the modular principle of the integrated electrical connections.

The colour code addressing given below conforms to the DIN 47100 standard.

To each wire colour code corresponds a solenoid pilot position in the island.

| colour code | | colour code | | colour code | |
|-------------|----------------|-------------|---------------|-------------|--------|
| 0 | pink - brown | 7 | white - green | 14 | grey |
| 1 | white - pink | 8 | red - blue | 15 | yellow |
| 2 | grey - brown | 9 | grey - pink | 16 | green |
| 3 | white - grey | 10 | violet | 17 | brown |
| 4 | yellow - brown | 11 | red | 18 | white |
| 5 | white - yellow | 12 | blue | | |
| 6 | brown - green | 13 | pink | common: | black |

Sub-D 25 addressing



IO-Link module connection and diagnostic functions



IO-Link module connection

Standard male M12 – type A

Usage of standard manufactured cables available from your usual electrical supplier is recommended.

Note: Auxiliary power for solenoids can be wired separately allowing users to turn outputs off while the communications remains active.

Configuration

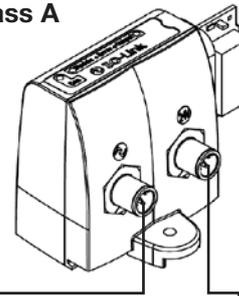
IODD file can be downloaded from IODD Finder or the Moduflex web site:

<https://ioddfinder.io-link.com>
www.parker.com/pde/io-link

Class B



Class A



Legend

| Symbol | Description |
|--------|--------------------------------|
| L+ | IO-Link Power Supply "+" |
| L- | IO-Link Power Supply "-" |
| C/Q | IO-Link communication |
| Aux + | Auxilliary Power Supply 24 Vdc |
| Aux - | Auxilliary Power Supply 0 Vdc |

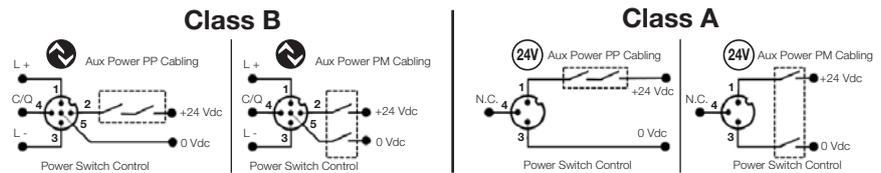
| M12 Pin's | Class A | | |
|-----------|-----------|-----------|-----------|
| | 3 Pin's | | 5 Pin's |
| | P2M...A13 | P2M...A43 | P2M...A42 |
| 1 | Aux + | Not used | Not used |
| 2 | - | - | Aux - |
| 3 | Aux - | Aux - | Not used |
| 4 | n.c. | Aux + | Aux + |
| 5 | - | - | Not used |

Case of use with SAFE cabling

The Moduflex IO-Link Module can be powered from a 24Vdc auxilliary source in PP or PM mode as grounds are isolated.

IO-Link nodes Class A & B -SPC version are compatible with SAFE OSSD power source for valve control (Aux + / Aux -).

For further details, please refer to the user manual N. 30048690201W05.



Shone here cabling for P2M2HBVL12400A13 / -SPC

IO-Link module diagnostic functions

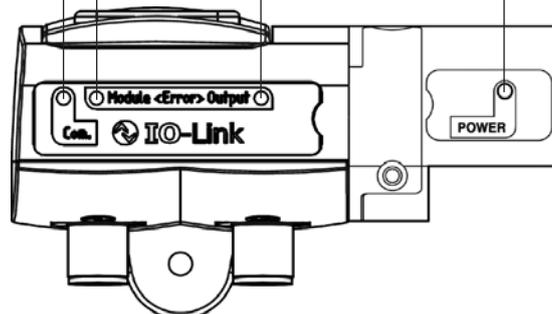
The P2M IO-Link node offers additional useful module status information:

- Pilot overload or short circuit
- Auxiliary Voltage out of tolerance
- Cycle counter for every pilot
- Module temperature

For deeper information on product technical information and node diagnostic functionalities, please refer to the User Manual available from the product web page:

www.parker.com/pde/io-link

| COM Green LED | | | Module – Error Red LED | | | Error – Output Red LED | | | POWER Green LED | | |
|---------------|---------------------------------|------------------------------------|------------------------|--|-------------------------------------|------------------------|---|---|-----------------|--|------------------------------|
| LED Status | Description | Solving | LED Status | Description | Solving | LED Status | Description | Solving | LED Status | Description | Solving |
| OFF | IO-Link L+ / L- not powered | Check connection | OFF | Standard mode | NA | OFF | Standard mode | NA | OFF | AUX power failure | Check Auxiliary Power Supply |
| ON | IO-Link L+ / L- powered IO mode | Set IO-Link mode in IO-Link master | ON | 24 Vdc AUX power missing or any active malfunction | Check power supply or change module | ON | Any driver error (overload, over temperature, etc.) | Fix solenoid issue then acknowledge error | ON | Standard | NA |
| Blinking | IO-Link communication active | NA | | | | | | | Blinking | Aux Power is out of range, alarm level | Check Auxiliary Power Supply |

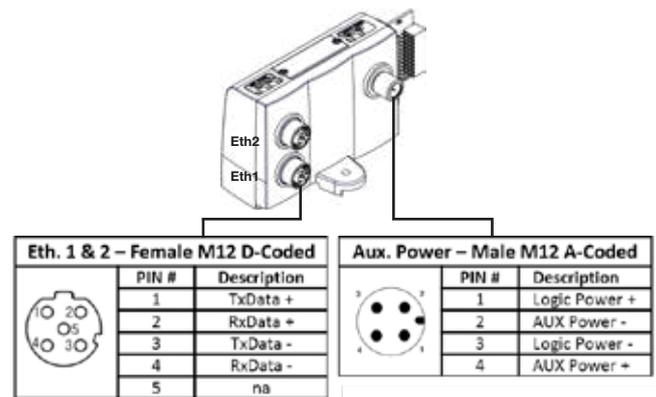


Industrial Ethernet node connection and diagnostic functions

Ethernet Ports and Auxiliary Power Connection

Ethernet ports: 2 x Standard Female M12 D-Coded – 5 pins
 Auxiliary Power: Standard Male M12 A-Coded – 4 pins.

Usage of standard manufactured cables available from your usual electrical supplier is recommended.



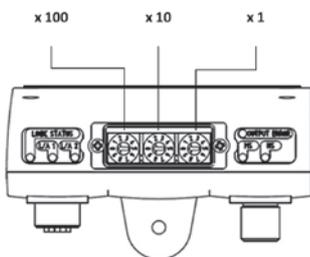
Configuration File

The configuration files can be download from the product web page: www.parker.com/pde/P2M_IE.

IP Address Setting

The IP-Address of the device can be assigned via:

- Rotary Switches, DHCP, Web page, Ipconfig Tool or TCP/IP Interface Object, depending on protocol version:



| Description | EtherNet/IP Profinet IO Modbus TCP/IP | Ethernet PowerLink | EtherCAT | CC-Link IE |
|---|---|-----------------------|------------|------------|
| IP-Address setting stored into the NV-memory of the P2M node | 000 | 000 | N/A | 000 |
| IP-Address setting determined by the 3 rotary switches: | | | | |
| • IP Address: 192.168.1.xxx | | | | |
| • Subnet Mask: 255.255.255.0 | 001 – 254 | 001 – 239 | N/A | 001 – 120 |
| • Default Gateway for 001: 192.168.1.2 | | | | |
| • Default Gateway for 002 - 254: 192.168.1.1 | | | | |
| The device will obtains its address via DHCP | 888 | N/A | N/A | N/A |
| Reset to factory status | 999 | 999 | 999 | 999 |
| Invalid. The module will not start (see Local Visual Diagnostic section for details) | All others | All others | All others | All others |

Case of Use with SAFE Power Source for Valve Control

The P2M Industrial Ethernet 24 DO nodes can support a SAFE OSSD power source for valve control (Aux + / Aux -). It can also be connected in both PP or PM mode.

For further details, please refer to the Ethernet node user manual available from the product web page:

- www.parker.com/pde/P2M_IE

Local and network diagnostic functions

Local diagnostic

The P2M Industrial Ethernet node offers a local diagnostic via 7 LED's. Pls refer to user manual with interpretation given by this table.

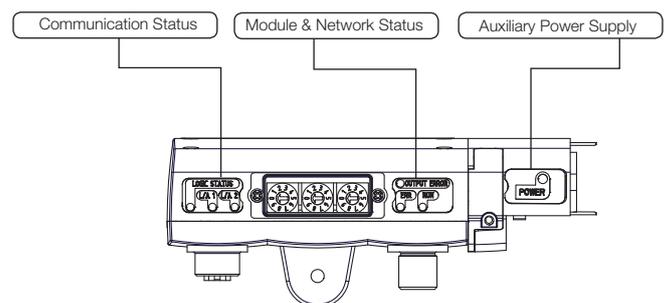
Network diagnostic

The P2M Industrial Ethernet node offers additional useful module status information:

- Pilot overload or short circuit
- Auxiliary Voltage out of tolerance
- Cycle counter for every pilot
- Module temperature
- ...

For deeper information on product technical information and a complete interpretation of node diagnostic functionalities, please refer to the User Manual available from the product web page:

www.parker.com/pde/P2M_IE



Moduflex Valve System



V series

Integrated connection industrial comms or multi-connector valve island



T series

Individual connector valve islands Solenoid clip or lockable connector or remote air pilot



S series

Stand alone valves Solenoid clip or lockable connector or remote air pilot



P series

Peripheral modules Flow control, check valves, pressure regulator, vacuum



1

Industrial Communication Node head module

| Protocol | Class | Nb of DO's | Part Number |
|---------------------|-----------------------|------------|-------------------------|
| IO-Link | Class A - Power 1 - 3 | 24 DO* | P2M2HBVL12400A13 / -SPC |
| | Class A - Power 4 - 2 | 24 DO* | P2M2HBVL12400A42 / -SPC |
| | Class A - Power 4 - 3 | 24 DO* | P2M2HBVL12400A43 / -SPC |
| Industrial Ethernet | Class B - Power 2 - 5 | 24 DO* | P2M2HBVL12400B25 / -SPC |
| | Profinet IO | 24 DO* | P2M2HBVN12400 |
| | EtherNet/IP | 24 DO* | P2M2HBVE12400 |
| | EtherCAT | 24 DO* | P2M2HBVT12400 |
| | PowerLink | 24 DO* | P2M2HBVW12400 |
| Modbus TCP/IP | 24 DO* | 24 DO* | P2M2HBVM12400 |
| | CC-Link IE | 24 DO* | Coming soon |

* Only the first 19 DO usable with Moduflex Valve

Electrical multi-connector head module

| Description | Protection | Cable length | Part Number |
|------------------------|------------|--------------|-------------|
| Guillotine type | IP65 | 2 m | P2M2HEVOA |
| | | 5 m | P2M2HEV0A |
| | | 9 m | P2M2HEV0A |
| Standard Sub-D 25 type | IP40 | 3 m | P2M2HEV0D |
| | | 9 m | P2M2HEV0D |
| | | 9 m | P2M2HEV0D |

Island head and intermediate module sets

| Description | Size 2 | |
|--|-----------|-----------|
| | V series | T series |
| Valve island pneumatic head and tail module set | P2M2HXT01 | P2M2HXT01 |
| Valve island intermediate supply module with a set of 4 configuration plates | P2M2BXV0A | P2M2BXT0A |

Electrical connectors

| Description | Connector type | Cable length | Part Number |
|---|---|--------------|-------------|
| Individual lockable connector - IP67 Including LED and surge protection 2 Flying leads | M8 / 2 x Flying leads | 2 m | P8LS08L226C |
| | | 5 m | P8LS08L526C |
| | | 9 m | P8LS08L926C |
| Clip connector - IP40 Individual : Including 2 flying leads Multiple : Including 1 common (0 Vdc) and 1 flying lead per connector | 1 x Clip connector 2 x Clip connectors 4 x Clip connectors 8 x Clip connector | 1 m | P8LW021C |
| | | 1 m | P8LW021C02 |
| Straight cable quick connect to thread connector, IP67 protected - Y = shape | M8 M12 M12 Male - 2 x M12 Female | 1 m | P8CS0803J |
| | | 1 m | P8CS1204J |
| | | | P8CSY1212A |

2



24 V --- P= - 0.9 bar / +8 bar

| Protection | Size 1 | | | | | Size 2 | | | | |
|------------|-------------|------------|------------|-------------|-------------|-------------|------------|------------|-------------|-------------|
| | IP65 | IP67 | IP40 | IP65 | IP67 | IP40 | IP65 | IP67 | IP40 | |
| 4/2 | V | T | S | T | S | V | T | S | T | S |
| | P2M1V4ES2CV | P2M1T4ES2C | P2M1S4ES2C | P2M1T4ES2CW | P2M1S4ES2CW | P2M2V4ES2CV | P2M2T4ES2C | P2M2S4ES2C | P2M2T4ES2CW | P2M2S4ES2CW |
| | P2M1V4EE2CV | P2M1T4EE2C | P2M1S4EE2C | P2M1T4EE2CW | P2M1S4EE2CW | P2M2V4EE2CV | P2M2T4EE2C | P2M2S4EE2C | P2M2T4EE2CW | P2M2S4EE2CW |
| | P2M1VJEE2CV | P2M1TJEE2C | P2M1SJEE2C | P2M1TJEE2CW | P2M1SJEE2CW | | | | | |
| | P2M1VDEE2CV | P2M1TDEE2C | P2M1SDEE2C | P2M1TDEE2CW | P2M1SDEE2CW | P2M2VDEE2CV | P2M2TDEE2C | P2M2SDEE2C | P2M2TDEE2CW | P2M2SDEE2CW |
| | P2M1VCEE2CV | P2M1TCEE2C | P2M1SCEE2C | P2M1TCEE2CW | P2M1SCEE2CW | P2M2VCEE2CV | P2M2TCEE2C | P2M2SCEE2C | P2M2TCEE2CW | P2M2SCEE2CW |
| 3/2 | P2M1VEEE2CV | P2M1TEEE2C | P2M1SEEE2C | P2M1TEEE2CW | P2M1SEEE2CW | P2M2VEEE2CV | P2M2TEEE2C | P2M2SEEE2C | P2M2TEEE2CW | P2M2SEEE2CW |
| | P2M1V3ES2CV | P2M1T3ES2C | P2M1S3ES2C | P2M1T3ES2CW | P2M1S3ES2CW | P2M2V3ES2CV | P2M2T3ES2C | P2M2S3ES2C | P2M2T3ES2CW | P2M2S3ES2CW |
| | | | | | | | | | | |

3

3 valve sizes lead to a global choice of tube sizes, thus covering all usual applications

Adaptive pneumatic connection

Valve islands are equipped with clip-on pneumatic connections with straight or elbow in different sizes

Clip-On pneumatic connectors

| Connector type | Tube OD | Size 1 | Size 2 |
|--------------------|---------|---------|---------|
| Straight connector | G1/8 | FMDG1-1 | |
| | 4mm | FMD04-1 | |
| | 6mm | FMD06-1 | FMD06-2 |
| | 8mm | | FMD08-2 |
| | 10mm | | FMD10-2 |
| | 12mm | | FMD12-2 |
| Elbow connector | G1/8 | CMDG1-1 | |
| | 4mm | CMD04-1 | |
| | 6mm | CMD06-1 | CMD06-2 |
| | 8mm | | CMD08-2 |
| | 10mm | | CMD10-2 |
| | 12mm | | CMD12-2 |
| Double male union | | HMDXX1 | HMDXX2 |
| Silencer | | MMDVA1 | MMDVA2 |
| Plug | | PMDXX1 | PMDXX2 |

4

Basic peripheral modules (without connector)

| Module | Size 1 | Size 2 | |
|-----------------------|----------------|-------------------|-------------------|
| Dual flow control | P2M1PXFA | P2M2PXFA | |
| Dual P.O. check valve | P2M1PXCA | P2M2PXCA | |
| Pressure regulator | Pressure range | Gauge | |
| | 0 - 2 bar | 0 - 4 bar | P2M1PXSR P2M2PXSR |
| | Without | 0 - 7 bar | P2M1PXST P2M2PXST |
| | 0 - 4 bar | 0 - 7 bar | P2M1PXSM P2M2PXSM |
| Without | 0 - 11 bar | P2M1PXSL P2M2PXSL | |
| Without | 0 - 11 bar | P2M1PXSG P2M2PXSG | |
| Without | Without | P2M1PXSN P2M2PXSN | |
| 90% Vacuum generator | P2M1PXVA | | |

Clip-on accessories

| Description | Connection | Pressure range | Part Number |
|--|------------|----------------|--------------|
| Clip-on pressure gauge for pressure regulator modules, size 1 or size 2 | Clip-on | 0 to 4 bar | P2M1K0GT |
| | | 0 - 7 bar | P2M1K0GL |
| | | 0 - 11 bar | P2M1K0GN |
| Analog (1 - 5 Vdc) Vacuum Sensor Flying lead 2 m cable | 4 mm tube | 0 to -1 bar | MPS-V8T4-AG |
| | 6 mm tube | 0 to -1 bar | MPS-V8T-AG |
| Dig. PNP / Ania (4 - 20 mA) Vacuum Sensor 15 cm cable - M8 4 pin's connector | G1/8" male | 0 to -1 bar | MPS-V34G-PCI |

www.parker.com/pde/p2m



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