Moduflex Valve System®

Flexibility for pneumatic users

Whether configured from basic components or ordered as a pre-assembled and tested valve island, ***Moduflex flexibility*** *is unmatched in the market place.*

Clip Connector IP40

Innovative

The 6 patents awarded to the Moduflex Valve System reflect that innovation is core to the Parker design process. Maintaining a clear understanding of our customer's expectations has defined the individuality of the Moduflex, and clearly differentiated it as a leading automation solution.

Adaptive

No other system can be adapted so simply once specified. Unique, captive fitting release system, quick release electrical connectors and single mechanical screw connection between manifolds offer the ultimate capability for late system design changes.

Multi-Functional

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

Moduflex Valve 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.

V Series

T Series

Lockable Connector IP67

New for 2015

Clip Connector IP40

S Series

Lockable Connector IP67

New for 2015

Clip Connector IP40

P Series

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

Light-weight

An As-i compatible valve manifold with 8 electrical inputs and 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.

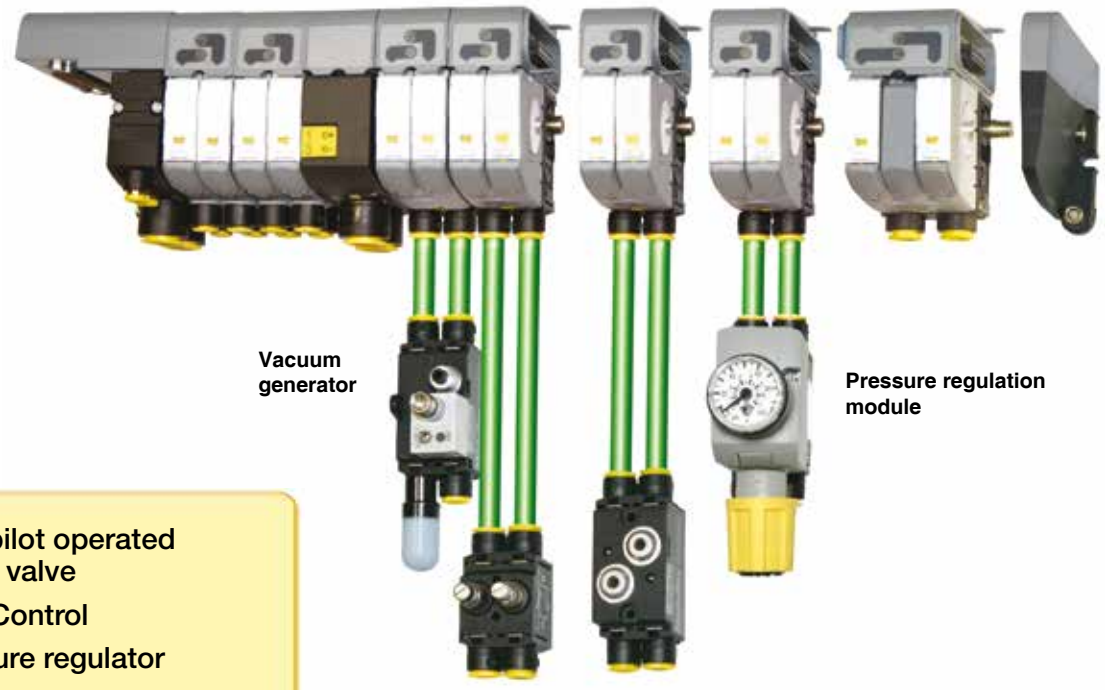
The compact dual 4/2 and 3/2 valves utilize well proven Parker seal technology. The standard 4/2 valves adopt the long life super durable ceramic switching technology.

Dual 4/2 valve

4/2 Valve

Moduflex Complete Control

With the introduction of the dual 4/2 size 1 valves, Moduflex now offers unrivaled ability of matching valves to exact flow requirements, ensuring cost and space are minimized.
In addition, Moduflex Valve System offers all the necessary control peripherals to provide a complete automation solution.
Moduflex is the complete control package.



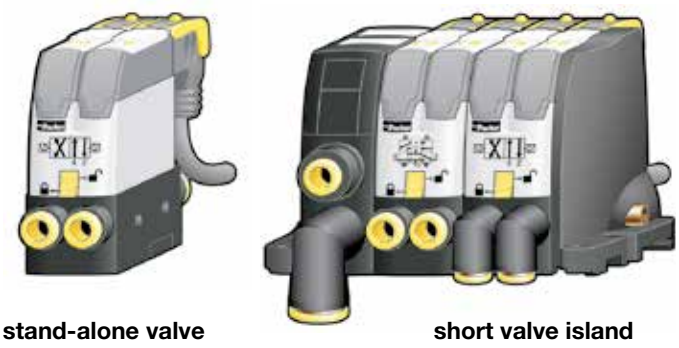
- Dual pilot operated check valve
- Flow Control
- Pressure regulator
- Vacuum / Blow off module.

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 valve to be installed near the cylinders for shorter response time and lower air consumption.
- The IP40 water and dust protection allows an optimized electrical connection for applications into cabinet or soft and none agressive 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 fullfill each cylinder flow requirement. A single island will accomodate all cylinders, up to 100 mm bore size.
- Island modifications are easy : add or remove a valve, change a valve function, change tubing size, change piloting in minutes.
- Manual overrides are also adaptive : locking for set up, non-locking for production, ...

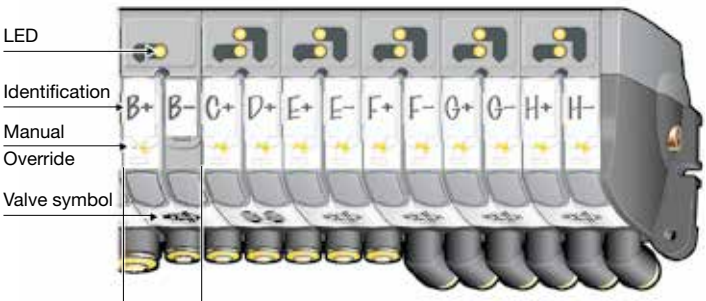


stand-alone valve **short valve island**

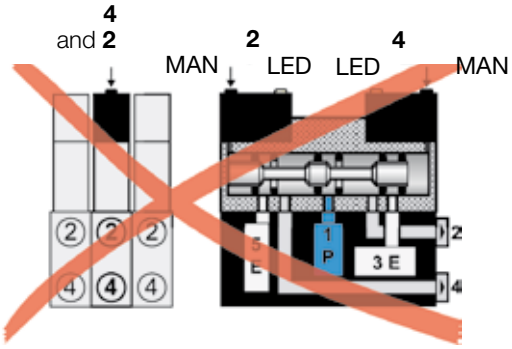
or long valve island **straight or elbow pneumatics connectors**

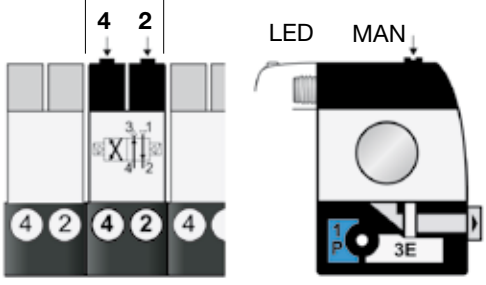
Easy man-machine dialog

- 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 dialog : 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 dialog is difficult.





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

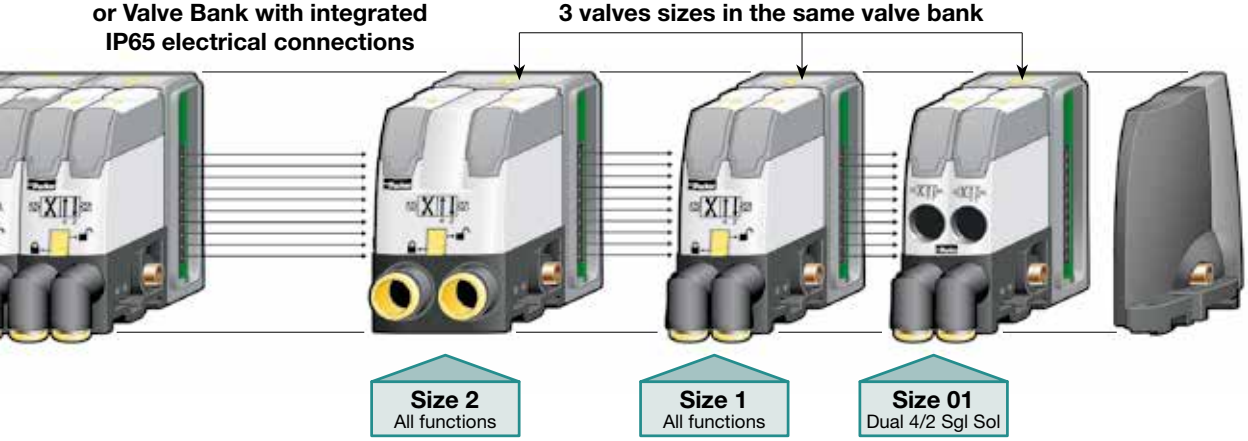
Man-machine dialog is easy.

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

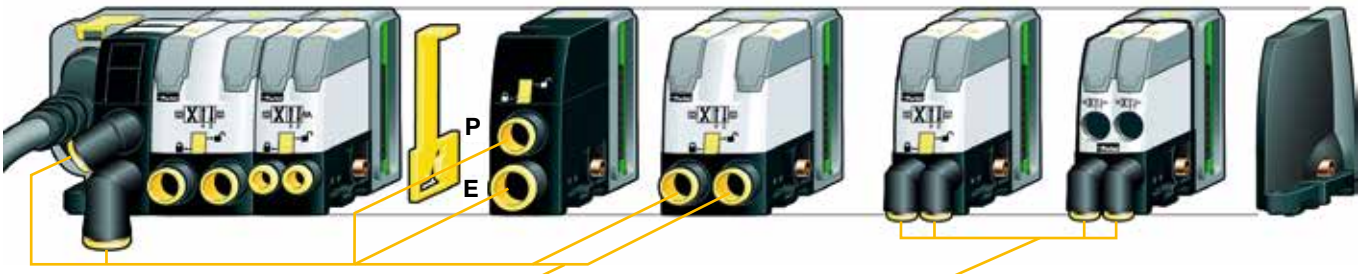


Flows and tube connections

Optimal nominal section for a full flow with appropriate fitting

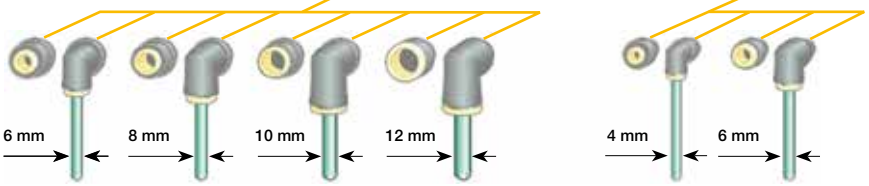
3 valve sizes lead to a global choice of tube sizes, thus covering all usual applications

	Size 2 Nominal section 40 mm²		Size 1 Nominal section 12 mm²		Size 01 Nominal section 4 mm²
	Qn 800 Nl/mn* Qmax 1340 Nl/mn* *) For 3/2 functions Qn 450 Nl/mn Qmax 805 Nl/mn		Qn 310 Nl/mn* Qmax 510 Nl/mn* *) For 3/2 functions Qn 235 Nl/mn Qmax 415 Nl/mn		Qn 165 Nl/mn* Qmax 275 Nl/mn*
Tube size to cylinder	**Ø Ext. 10 mm**	Ø Ext. 8 mm	**Ø Ext. 6 mm**	Ø Ext. 4 mm	**Ø Ext. 4 mm**
Cylinder bore size	Ø 63 to Ø 100 mm	Ø 40 to Ø 63 mm	Ø 25 to Ø 40 mm	Ø 6 to Ø 25 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.

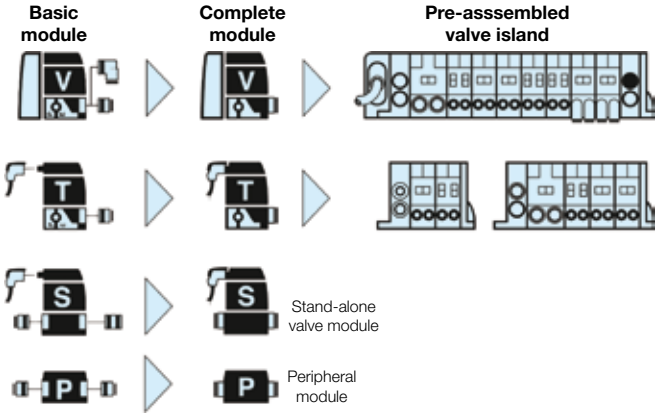
Operating information

Working pressure	-0,9 to 8 bar
Pilot pressure	3 to 8 bar *
Working temperature	-15 °C to 60 °C
Protection individual connectors	IP 67 NEMA4
Protection integrated connectors	IP 65
Voltage	24 V DC
* Single and double 3/2	3,5 to 8 bar

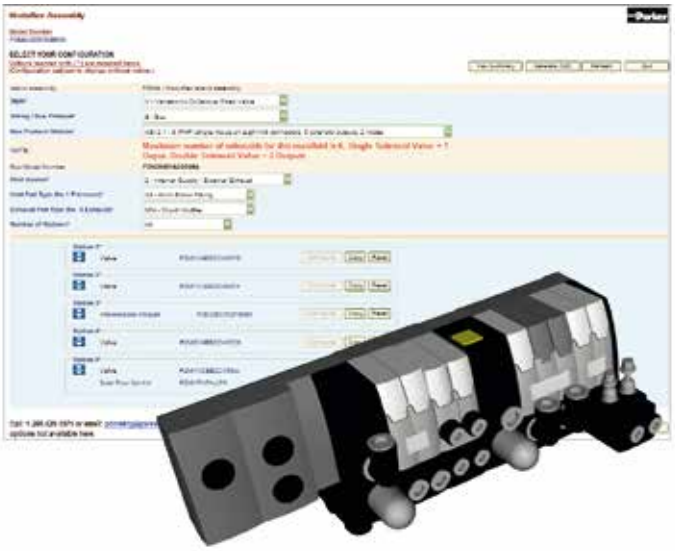
		Dual 4/2	Dual 3/2	3/2	4/2
Size 1	**Qmax.**	275 l/min	415 l/min	415 l/min	510 l/min
	Qn	165 l/min	235 l/min	235 l/min	310 l/min
Size 2	**Qmax.**	-	805 l/min	805 l/min	1340 l/min
	Qn	-	450 l/min	440 l/min	800 l/min

Total ordering flexibillity

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



The Moduflex Valve Island in-line e-Configurator software is the easy way to, step by step, configure and order the required valve island for the application.



Ordering options

1 - Basic modules ordering

Using this option, all basic components are separately ordered :

- Head and Tail set
- Valve modules
- Intermediate module kit
- Peripheral modules
- Pneumatic connectors, mufflers and plugs
- Electrical connection or fieldbus module

The complete bill of material needed for the valve island assembly can be easily details using page 1 of the Moduflex Valve Configurator software report.

2 - Complete modules ordering

Using this option, modules are defined, ordered and supplied, pneumatic connectors and electrical connection equiped. 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.

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

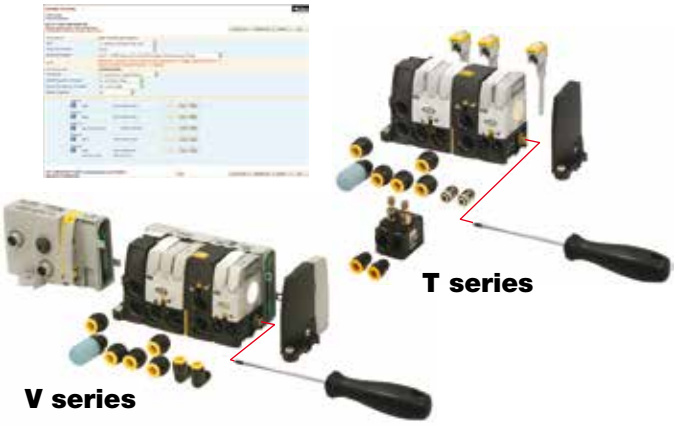
S series

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

P series

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

Moduflex Valve in-line e-Configurator



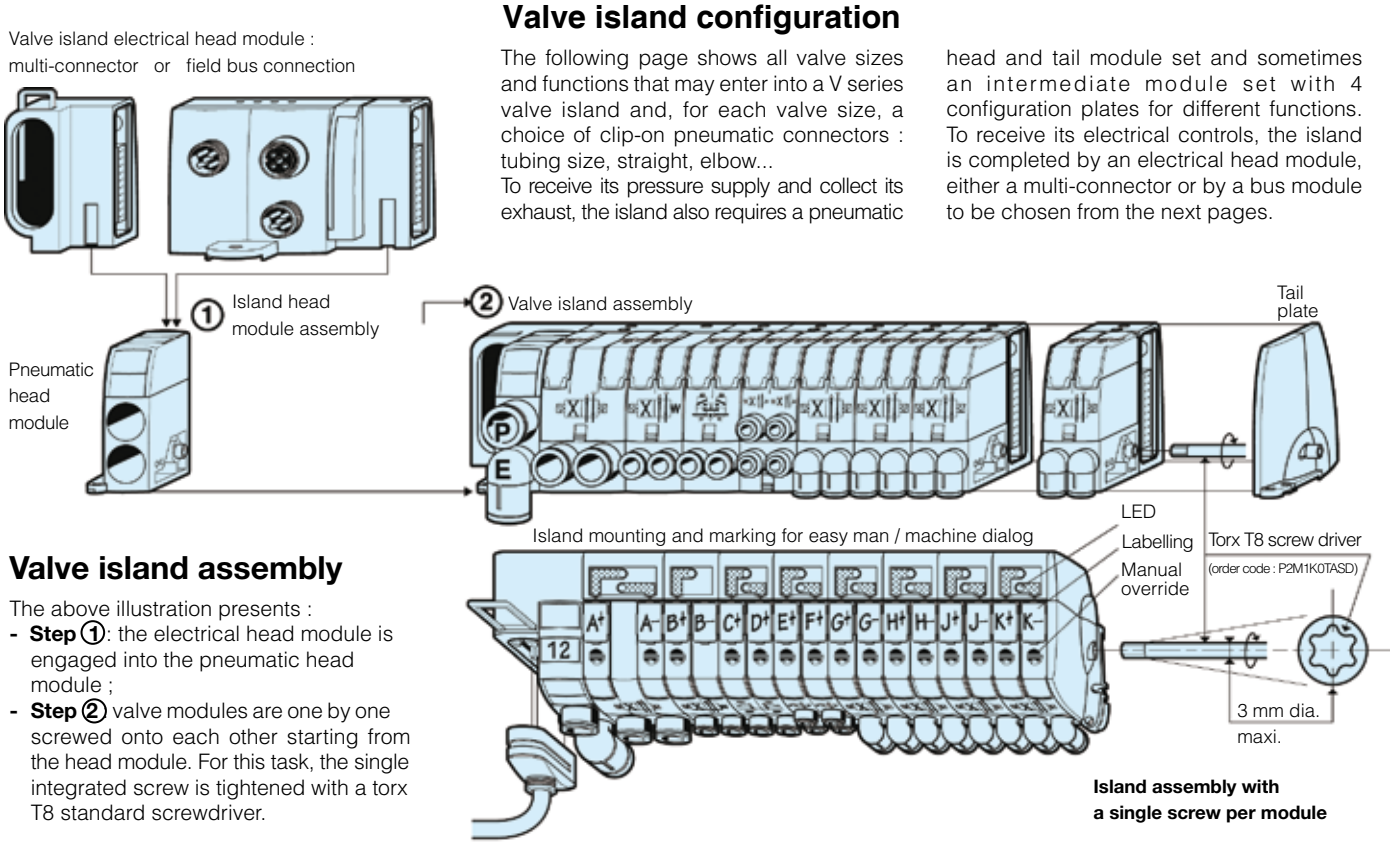
Integrated connections valve islands : V series

In a V series Moduflex valve island, electrical controls are all received by the head module and transmitted to the concerned valve modules through the modular integrated circuit.

The head module may either be a cable multi-connector or a Fieldbus communication module : the next pages show multi-connector cable and a complete choice of bus protocoles.

Valve island configuration

The following page shows all valve sizes and functions that may enter into a V series valve island and, for each valve size, a choice of clip-on pneumatic connectors : tubing size, straight, elbow...
To receive its pressure supply and collect its exhaust, the island also requires a pneumatic head and tail module set and sometimes an intermediate module set with 4 configuration plates for different functions.
To receive its electrical controls, the island is completed by an electrical head module, either a multi-connector or by a bus module to be chosen from the next pages.



Island assembly with a single screw per module

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.

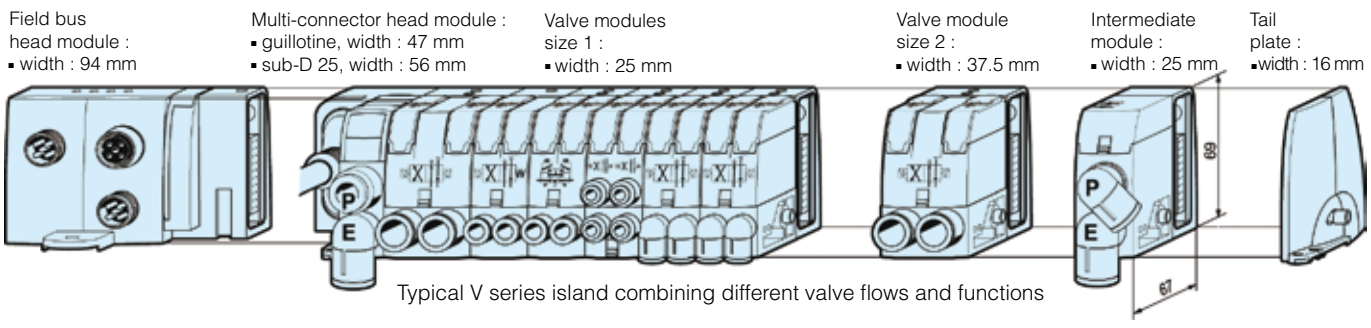
With a LED, a manual override and a labelling for each valve pilot (see illustration), the island front face eases the "man / machine" dialog.

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

Modules and island ordering

Choice between 3 approaches :
1 - Basic modules ordering :
The following page shows these modules supplied without connector, together with the choice of clip-on connectors separately supplied (10 units packs). This approach gives the maximum flexibility.

2 - Complete modules ordering :
Page 265 shows the ordering chart for modules supplied with their connectors.
3 - Assembled island ordering :
Page 268 shows the valve island configurator CD-Rom to specify a valve island that may be delivered assembled.



Typical V series island combining different valve flows and functions

Basic modules (without connector)

Valve Modules

Size 1

Size 2

Symbol	Description	Size 1 Weight (g)	Size 1 Order code	Size 2 Weight (g)	Size 2 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**	115	**P2M2VGEE2CV**

Island head and intermediate module sets

Valve Modules

P2M2HXT01

P2M2BXV0A

Description	Size 2 Weight (g)	Size 2 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

Description	Tube OD	Size 1 Weight (g)	Size 1 Order code	Size 2 Weight (g)	Size 2 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				5	**MMDVA2**
Plug		3	**PMDXX1**	5	**PMDXX2**

* Fittings and plugs pack quantity : 10

Electrical multi-connection and field bus head modules

Multiconnector or field bus head module to be chosen from next pages.

V series valve island : Electrical multi-connector head module

Description		Protection	Cable length	Weight (g)	Order code
Guillotine type	Multi-connection head module			38	**P2M2HEV0A**
	Guillotine connector with flying leads multi-cable	IP65	2 m	335	**P8LMH20M2A**
			5 m	802	**P8LMH20M5A**
			9 m	1425	**P8LMH20M9A**
Standard Sub-D 25 type	Multi-connection head module			60	**P2M2HEV0D**
	Sub-D 25 connector with flying leads multi-cable	IP40	3 m	435	**P8LMH25M3A**
			9 m	1425	**P8LMH25M9A**
		IP65	9 m	1425	**P8LMH25B9A**

V series valve island : Electrical field bus head modules for AS-i protocol

Standard AS-i protocol (up to 31 nodes) electrical head modules

Electrical module for **8 outputs** max.

- V series islands may have up to 8 solenoid pilots
- 2 nodes per module, 4 I / 4 O per node

Input connections	Weight(g)	Order code
no input	150	**P2M2HBVA10800**
8 M8 inputs	200	**P2M2HBVA10808A**
8 inputs on 4 M12	200	**P2M2HBVA10808B**

Electrical module for **4 outputs** max.

- V series islands may have up to 4 solenoid pilots
- 1 node per module, 4 I / 4 O

No inputs	150	**P2M2HBVA10400**
4 inputs on 4 M12	200	**P2M2HBVA10404B**

AS-i version 2-1 protocol (up to 62 nodes) electrical head modules

Electrical module for **6 outputs** max.

- V series islands may have up to 6 solenoid pilots
- 2 nodes per module, 4 I / 3 O per node

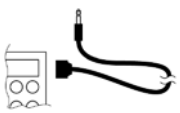
none	150	**P2M2HBVA20600**
8 M8 Inputs	200	**P2M2HBVA20608A**
8 inputs on 4 M12	200	**P2M2HBVA20608B**

AS-i head module accessories

P8CS0803J

P8CSY1212A

Description	Connector type	Weight (g)	Order code
Cable quick connect connector	M8 Male	25	**P8CS0803J**
	M12 Male - A coding	25	**P8CS1204J**
« Y » shape	M12 Male - 2 x M12 Female	25	**P8CSY1212A**



Addressing cable 1 meter	M12 Male - Jack	100	**P8LS12JACK**

V series valve island : Electrical field bus head modules for device bus

Electrical modules for 16 outputs
(The V series modules may have up to 16 solenoid pilot valves)

Description	Bus Protocol	Bus In / Bus Out	Power supply	Weight (g)	Order code
Moduflex Bus Communication module	**Profibus DP**	M12 - B coding	M12 - A coding	250	**P2M2HBVP21600**
	For GSD file, go to http://www.parker.com/pneu/moduflex				
	DeviceNet	M12 - A coding	M12 - A coding	250	**P2M2HBVD21600**
			M12 - B coding	250	**P2M2HBVD11600**
	For EDS file, go to http://www.parker.com/pneu/moduflex				
	CANopen	M12 - A coding	M12 - A coding	250	**P2M2HBVC21600**
			M12 - B coding	250	**P2M2HBVC11600**
	For EDS file, go to http://www.parker.com/pneu/moduflex				
	InterBus-S	M23 - 9 Pins	M12 - A coding	300	**P2M2HBVS11600**

Device Bus connection accessories

P2M2HBVP21600

P8CS1205AA

Description	Bus Protocol	Connector type	Weight (g)	Order code
Power supply female straight connector	All	M12 - A coding	25	**P8CS1205AA**
	DeviceNet CANopen	M12 - B coding	25	**P8CS1205AB**
Bus IN female connector	DeviceNet CANopen	M12 - A coding	25	**P8CS1205AA**
	Profibus DP	M12 - B coding	25	**P8CS1205AB**
Bus OUT male connector	DeviceNet CANopen	M12 - A coding	25	**P8CS1205BA**
	Profibus DP	M12 - B coding	25	**P8CS1205BB**
Line termination	DeviceNet CANopen	M12 - A coding	25	**P8BPA00MA**
	Profibus DP	M12 - B coding	25	**P8BPA00MB**

M12 - A coding connector

M12 - B coding connector

Individual connection valve islands : T series

In a T series valve island, electrical controls are individually connected to each valve module, onto its solenoid pilot.

As an alternative, air pilot valve modules are also available, to be controlled by individual pneumatic signals.

Valve island assembly

As shown by the above illustration, the valve modules are one by one screwed onto each other, starting from the head module. For this task, the single integrated screw is tightened with a torx T8 standard screwdriver.
The pneumatic connectors may be clipped or unclipped at any stage.
With a LED, a manual override and a labelling for each valve pilot (see above illustration), the island front face eases the "man / machine" dialog.
The resulting valve island length is expressed by the drawing below, while further size details and mountings are presented on dimensions pages.

Valve pilot connections

1 - Solenoid valve modules

Electrical connectors

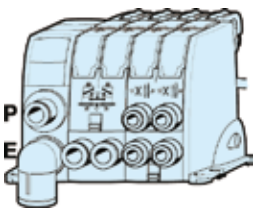
In its IP40 version, each solenoid shows Clip connection integrating LED and voltage surge protection. The clip connector with flying leads may be ordered separately with independent or interconnected common.
In its IP67 version, each solenoid shows a M8 connection. Lockable connectors, IP67 protected, with LED voltage surge protection and flying lead cable may be ordered for the required length.

2 - Air pilot valve modules

4 mm OD tube

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

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

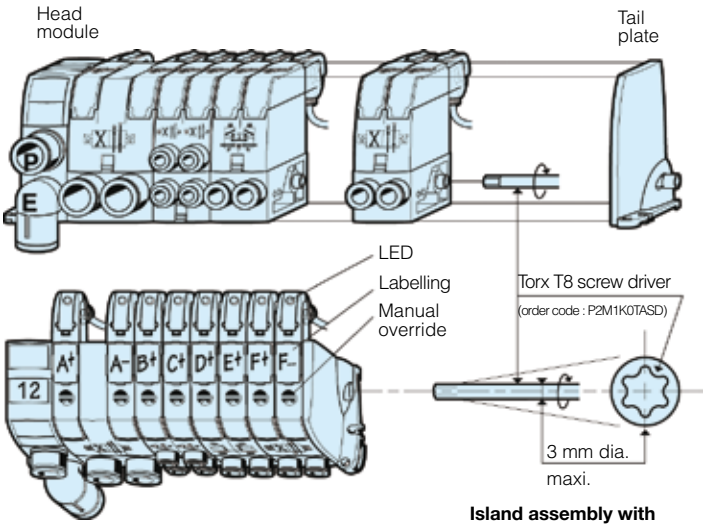


Valve island configuration

The following page presents all valve sizes and functions that may enter into a T series valve island and, for each valve size, a choice of clip-on pneumatic connectors : tubing size, straight, elbow...
To receive its pressure supply and collect its exhaust, the island also requires a pneumatic head and tail module set and sometimes an intermediate module set including 4 configuration plates for different functions.
Valve modules may either be solenoid versions or air pilot versions. Mixing both versions into the same valve island is possible.

Valve island assembly

Island mounting and marking for easy man / machine dialog



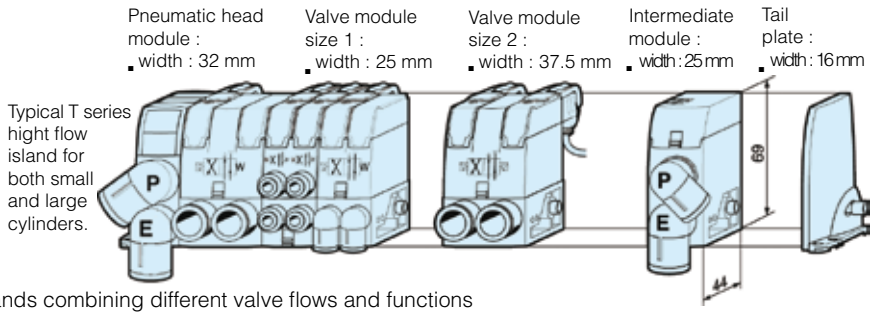
Island assembly with a single screw per module

Modules and island ordering

Choice between 3 approaches :
1 - Basic modules ordering :
The following page shows these modules supplied without connector, together with the choice of clip-on connectors separately supplied (10 units packs). This approach gives the maximum flexibility.

2 - Complete modules ordering :
Page 265 shows the ordering chart for modules supplied with their connectors.
3 - Assembled island ordering :
Page 268 shows the valve island configurator CD-Rom to specify a valve island that may be delivered assembled.

Typical T series hight 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
Dual 4/2


Size 1


Size 2

Symbol	Description	Actuator	Pilot connector	W (g)	Size 1 Order code	W (g)	Size 2 Order code
	4/2 Spring return	Solenoid	M8 Lockable	68	**P2M1T4ES2C**	74	**P2M2T4ES2C**
			Clip	68	**P2M1T4ES2CW**	74	**P2M2T4ES2CW**
		Air pilot		63	**P2M1T4PS**	69	**P2M2T4PS**
	4/2 Double pilot	Solenoid	M8 Lockable	77	**P2M1T4EE2C**	83	**P2M2T4EE2C**
			Clip	77	**P2M1T4EE2CW**	83	**P2M2T4EE2CW**
		Air pilot		67	**P2M1T4PP**	73	**P2M2T4PP**
	2 x 3/2 NC + NC with exhaust check valves	Solenoid	M8 Lockable	80	**P2M1TDEE2C**	94	**P2M2TDEE2C**
			Clip	80	**P2M1TDEE2CW**	94	**P2M2TDEE2CW**
		Air pilot		70	**P2M1TDPP**	84	**P2M2TDPP**
	2 x 3/2 NO + NO with exhaust check valves	Solenoid	M8 Lockable	80	**P2M1TCEE2C**	94	**P2M2TCEE2C**
			Clip	80	**P2M1TCEE2CW**	94	**P2M2TCEE2CW**
		Air pilot		70	**P2M1TCPP**	84	**P2M2TCPP**
	2 x 3/2 NC + NO with exhaust check valves	Solenoid	M8 Lockable	80	**P2M1TEEE2C**	94	**P2M2TEEE2C**
			Clip	80	**P2M1TEEE2CW**	94	**P2M2TEEE2CW**
		Air pilot		70	**P2M1TEPP**	84	**P2M2TEPP**
	2 x 4/2 Spring return with exhaust check valves	Solenoid	M8 Lockable	88	**P2M1TJEE2C**		
			Clip	88	**P2M1TJEE2CW**		
		Air pilot		78	**P2M1TJPP**		
	3/2 NC with exhaust check valves	Solenoid	M8 Lockable	76	**P2M1T3ES2C**	90	**P2M2T3ES2C**
			Clip	76	**P2M1T3ES2CW**	90	**P2M2T3ES2CW**
		Air pilot		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**
			Clip	80	**P2M1TGEE2CW**	94	**P2M2TGEE2CW**
		Air pilot		70	**P2M1TGPP**	84	**P2M2TGPP**

Island head and intermediate module sets

Valve Modules


P2M2HXT01


P2M2BXT0A

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

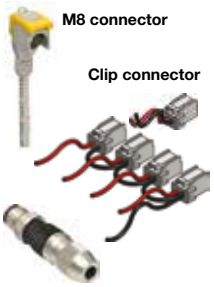
Clip-On pneumatic connectors *

Valve Modules

* Fittings and plugs pack quantity : 10

Description	Tube OD	W (g)	Size 1 Order code	W (g)	Size 2 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				5	**MMDVA2**
Plug		3	**PMDXX1**	5	**PMDXX2**

Electrical connectors


M8 connector

Clip connector

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

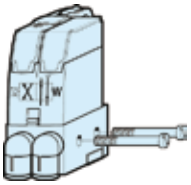
Valve main connections

- 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

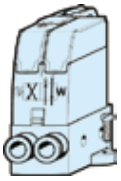
All valves may be mounted either with side screws or with their integrated retractable brackets.

Side screw mounting



The brackets are then retracted.

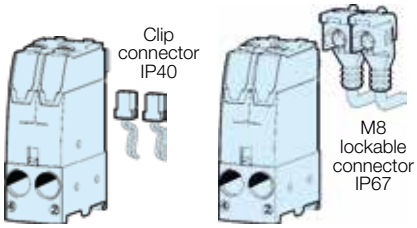
Optional foot mounting



The brackets are then extended.

Valve pilot connections

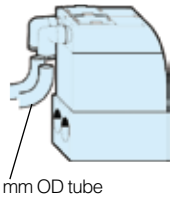
1- Solenoid valve modules



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 swivable elbow 4 mm OD tube push-in connector.



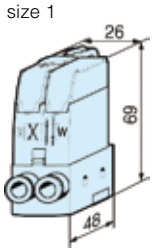
Modules and island ordering

Choice between 2 approaches :

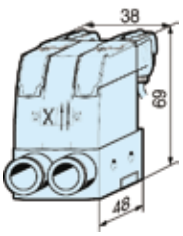
1 - Basic modules ordering :
The following page shows these modules supplied without connector, together with the choice of clip-on connectors separately supplied (10 units packs). This approach gives the maximum flexibility.

2 - Complete modules ordering :
Ordering chart for modules supplied with their pneumatic and electrical connectors and muffler.

Valve module size 1



Valve module size 2



Valve Modules

	Symbol	Description	Actuator	Pilot connector	W (g)	Size 1 Order code	W (g)	Size 2 Order code
 Size 1		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	**P2M2S4EE2C**
				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	**P2M2SDEE2C**
				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	**P2M2SCEE2C**
				Clip	85	**P2M1SCEE2CW**	91	**P2M2SCEE2CW**
			Air pilot		75	**P2M1SCPP**	81	**P2M2SCPP**
 Size 2		2 x 3/2 NC + NO with exhaust check valves	Solenoid	M8 Lockable	85	**P2M1SEEE2C**	91	**P2M2SEEE2C**
				Clip	85	**P2M1SEEE2CW**	91	**P2M2SEEE2CW**
			Air pilot		75	**P2M1SEPP**	81	**P2M2SEPP**
		3/2 NC with exhaust check valves	Solenoid	M8 Lockable	80	**P2M1S3ES2C**	86	**P2M2S3ES2C**
				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

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

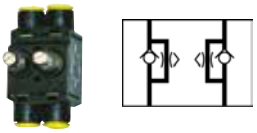
Peripheral Valve Modules : P series

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 positionning;
- Pressure regulator, for cylinder thrust adjusting;
- Vacuum generator, for vacuum pad controls.

Module function selection

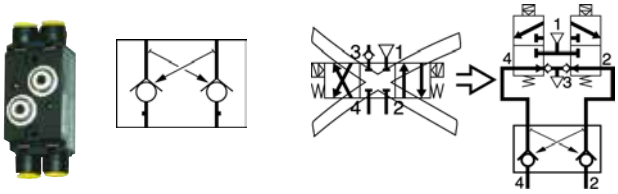
Dual flow control

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



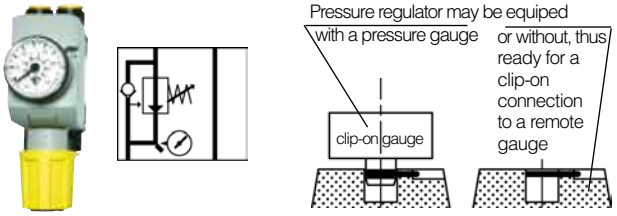
Dual pilot operated check valve

Combined with a double 3/2 NC + NC valve, this module will block flows and stop cylinder movement as soon as the valve outputs are both exhausted. Better than a 3 position closed centre valve, it provides accurate positionning when mounted close to the cylinder.



Pressure regulator

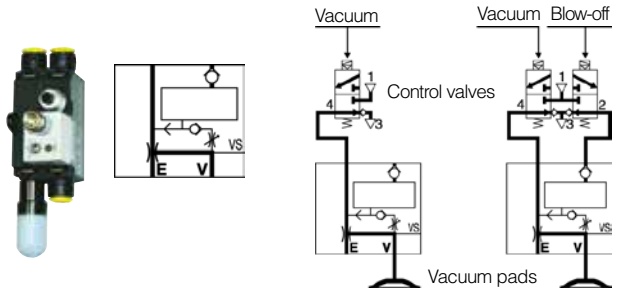
The thrust developped by a cylinder often requires adjustment by controlling the pressure to the front or back of the piston. This pressure regulator module enables manual adjustment of pressure on one side of the piston, with visual indication provided by the pressure gauge.



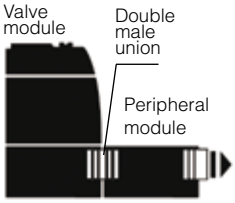
Vacuum generator

This multi-purpose module controls vacuum pads with a choice between two basics schematics :
- Controlled with only one 3/2 NC valve, the vacuum generator provides vacuum to the pads during valve actuation and then blow-off supplied from an integrated chamber.
- Controlled with a double 3/2 NC + NC, the vacuum generator provides vacuum during the first valve actuation, and then strong blow-off from the second valve.

Integrated blow-off flow controller. Optional plug-in vacuum sensor.

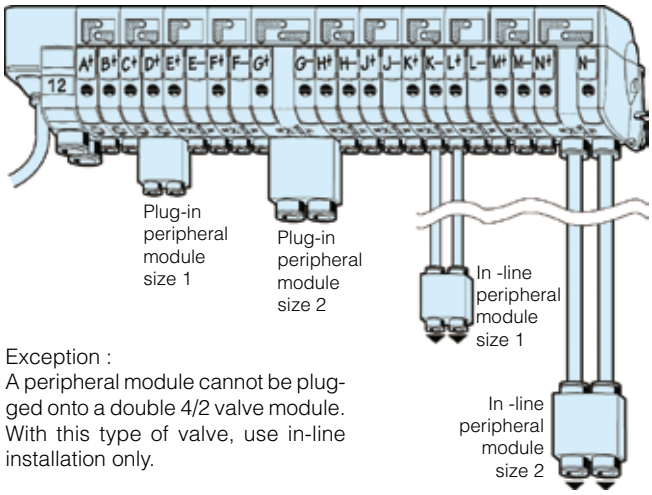


Module installation selection



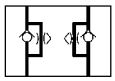
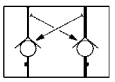
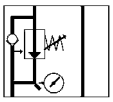
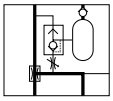
Stand alone valve complete with a plug-in peripheral module

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: 0 - 2 bar; Gauge: 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

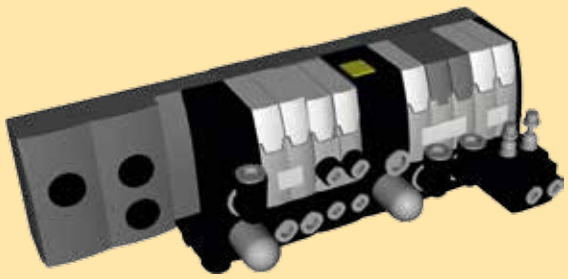
	Description	Connection	Pressure range	Weight (g)	Order code
	Clip-on pressure gauge for pressure regulator modules, size 1 or size 2	Clip-on	0 to 4 bar	30	**P2M1K0GT**
			0 to 7 bar	30	**P2M1K0GL**
			0 to 11 bar	30	**P2M1K0GN**
	Analog (1 - 5 Vdc) Vacuum Sensor Flying lead 2 meter cable	Diam. 4 mm tube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

Moduflex Valve Island e-Configurator

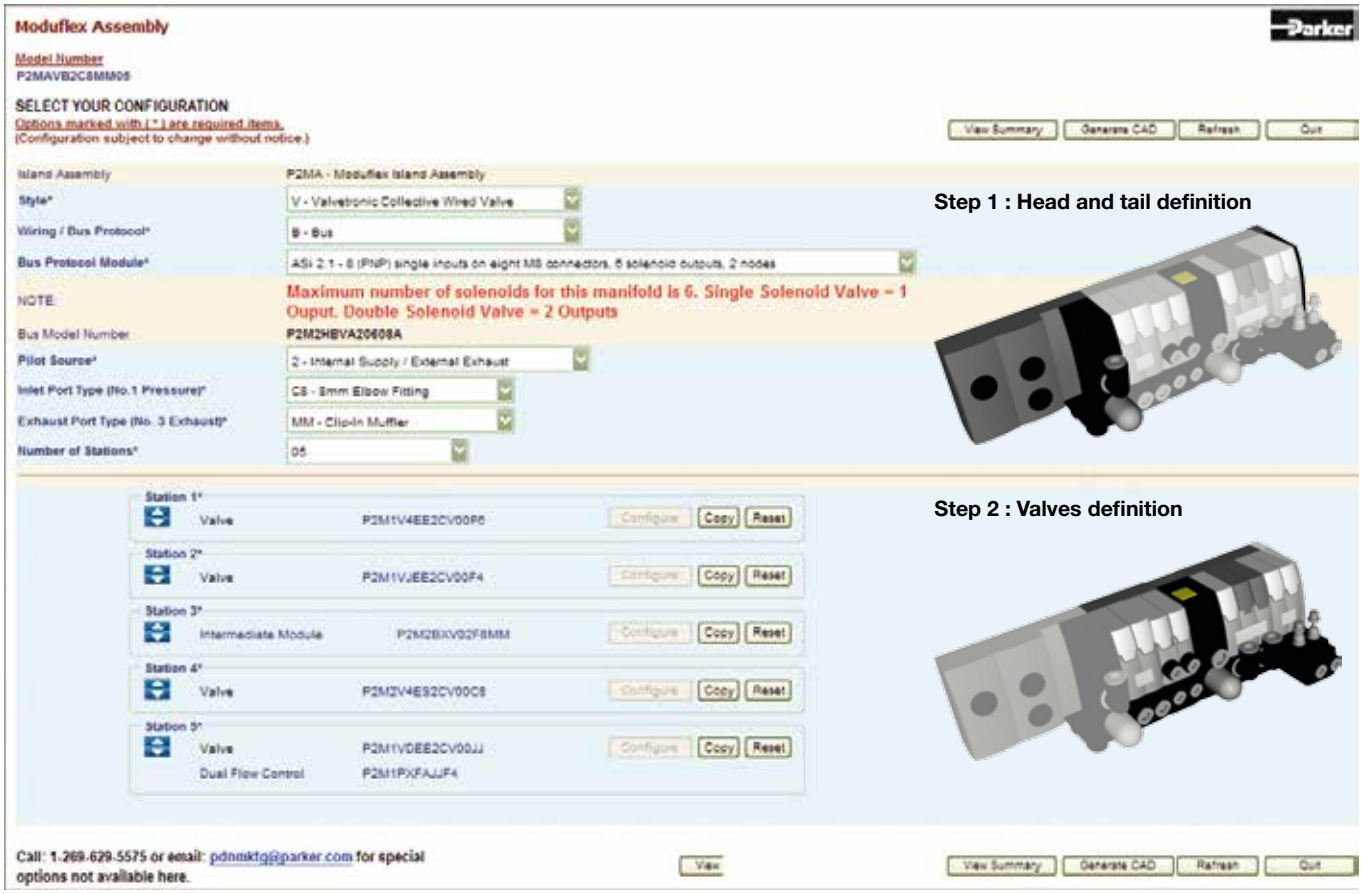
The comprehensive **Moduflex Valve CAD e-Configurator** enable online Moduflex Valve Island configuration giving Bill of Material and 3D or 2D CAD downoad

Go to http://www.parker.com/pde/cad to start

Stacking Air Valve
Moduflex P2M Series



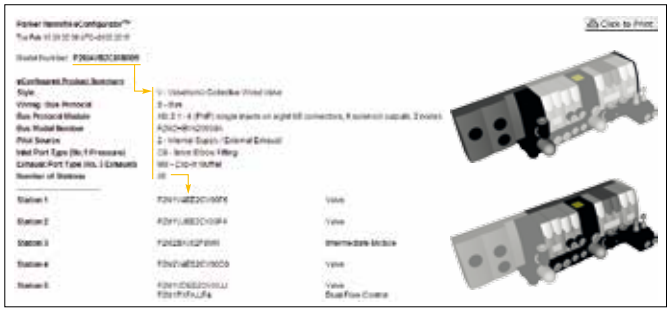
Valve island configuration practice :



Get the bill of material

By clicking on View Summary button :

1. View the bill of material :
   - Head and Tail Set
   - Valves detail
2. Click to Print



Download 2D or 3D CAD

By clicking on Generate CAD button :

1. Select to view, download or e-mail your CAD file
2. Select your best file format
3. Submit Request

1 - Multi-connector or sub-D 25 valve island

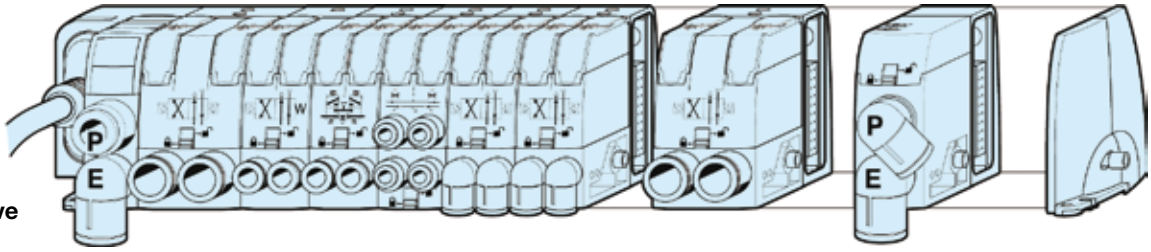
Multi-connector or sub-D 25 electrical head module width : 15 mm

Head and tail pneumatic module set width : 48 mm

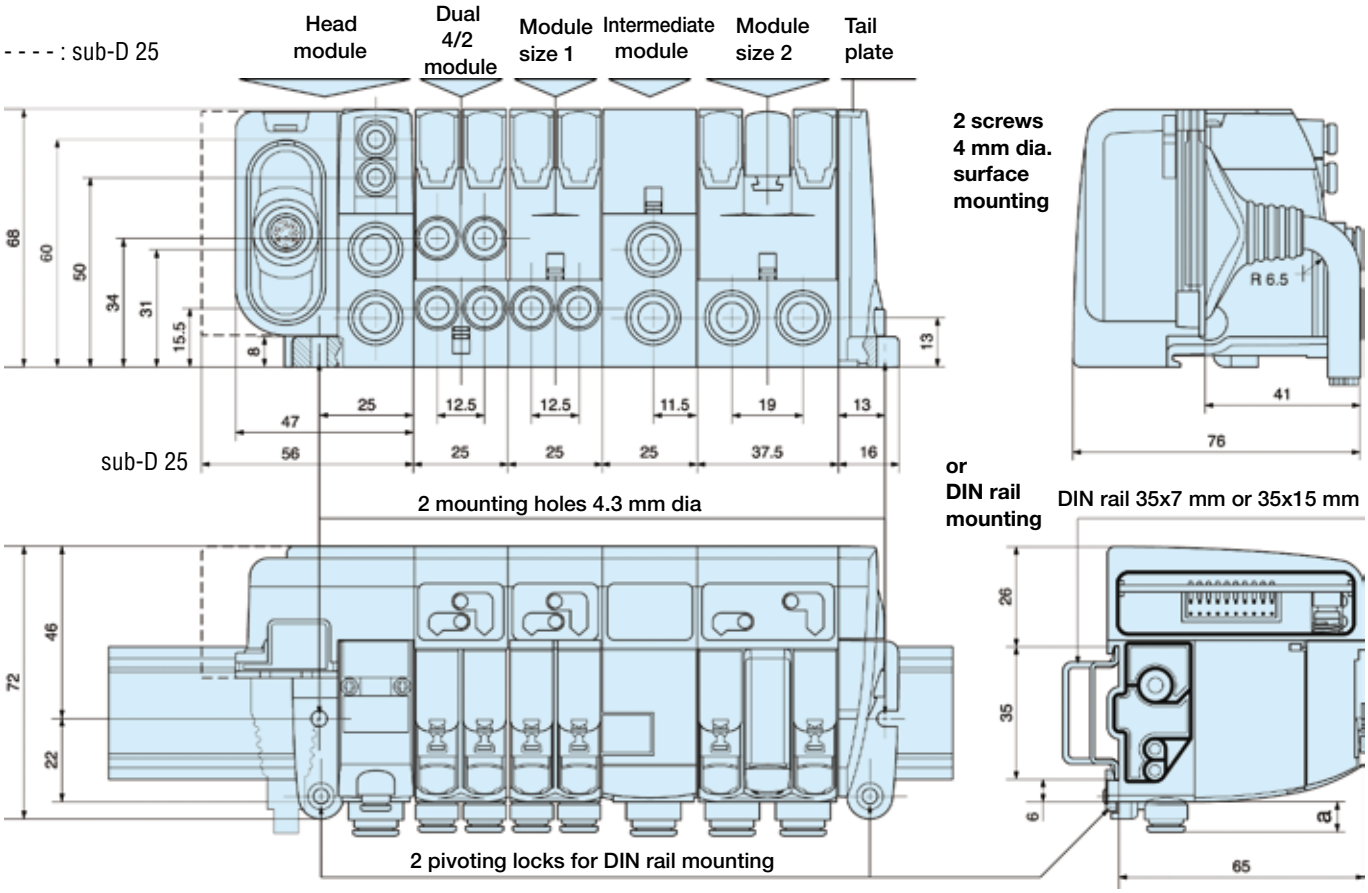
Modules size 1 width : 25 mm

Modules size 2 width : 37.5 mm

Intermediate module width : 25 mm



Island total width depending on valve composition



2 screws 4 mm dia. surface mounting

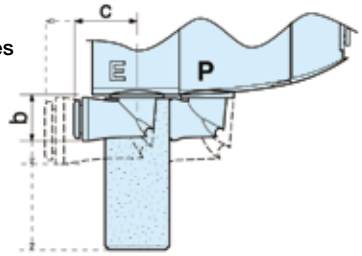
or DIN rail mounting

DIN rail 35x7 mm or 35x15 mm

Special case : 4/3 closed centre function within island version : Add the dimensions of the dual P.O. check valve module plugged into the island.

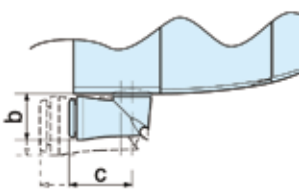
Island head and intermediate modules

	a	b	c
6 mm tube OD	8	13	16
8 mm tube OD	9	16	19
10 mm tube OD	13	18	22
12 mm tube OD	13	19	25
muffler		40	

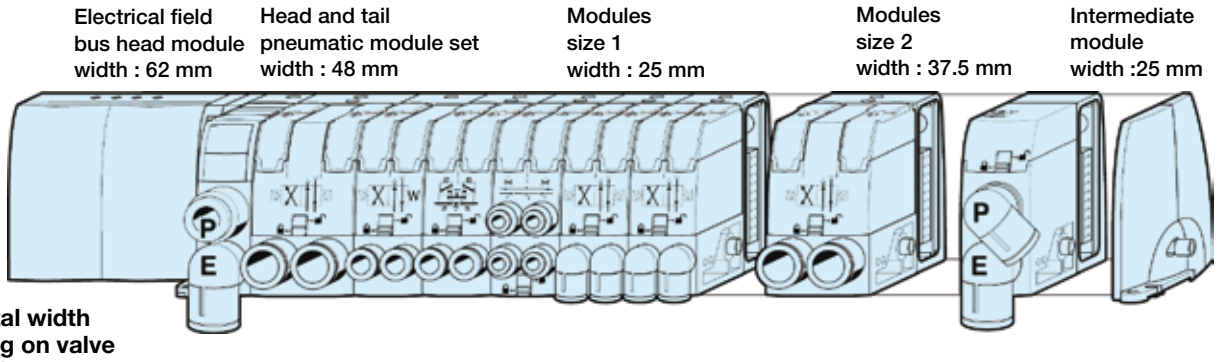


Island valves modules

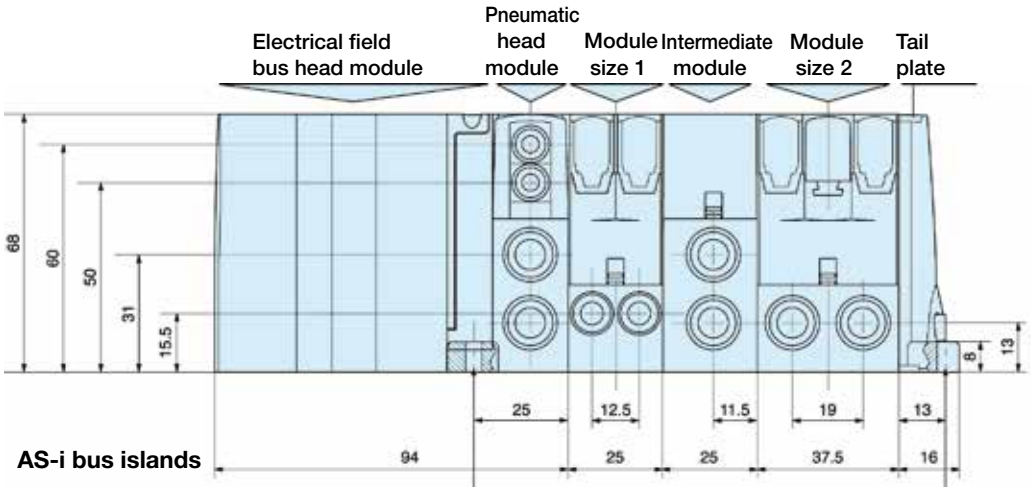
	OD tube	a	b	c
Size 1 modules	4 mm	8	10	12
	6 mm	8	13	16
Size 2 modules	8 mm	9	16	19
	10 mm	13	18	22



2 - Field bus connected islands



Island total width depending on valve composition

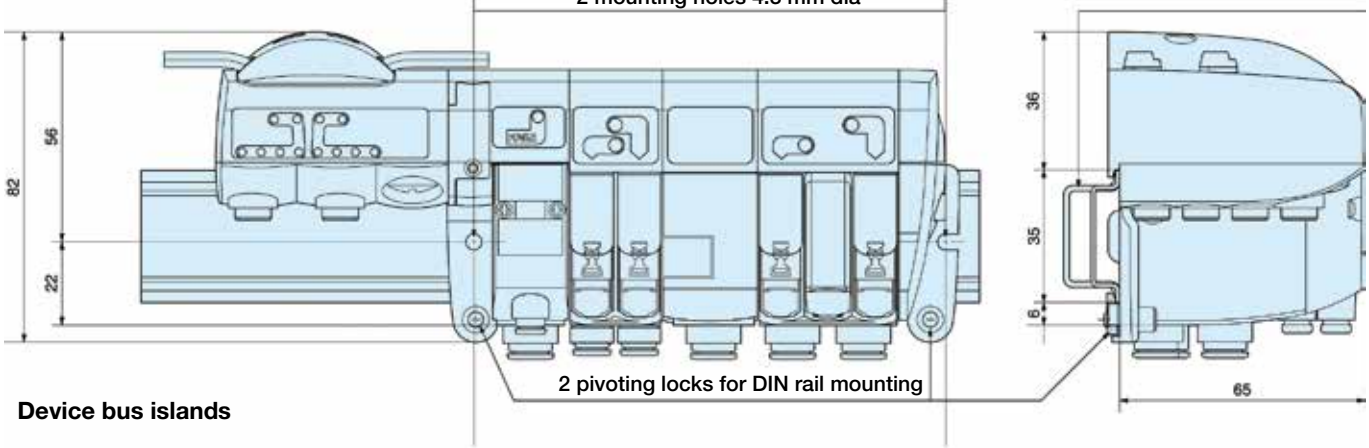


2 screws 4 mm dia. surface mounting

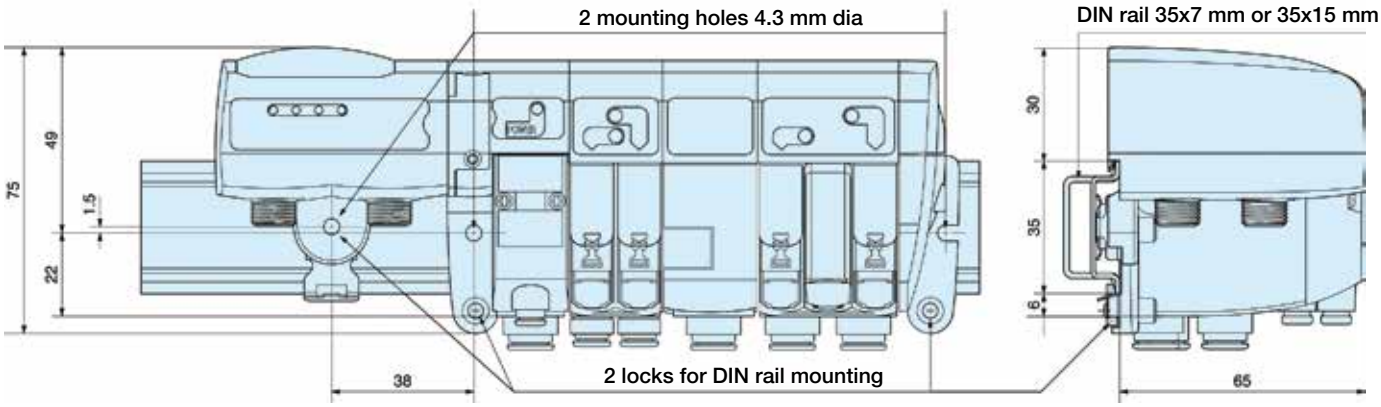
or DIN rail mounting

DIN rail 35x7 mm or 35x15 mm

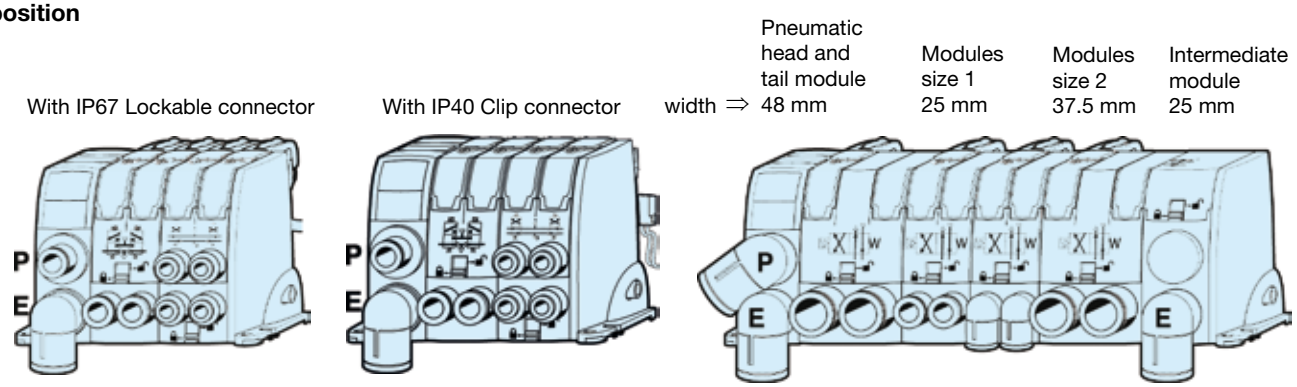
AS-i bus islands

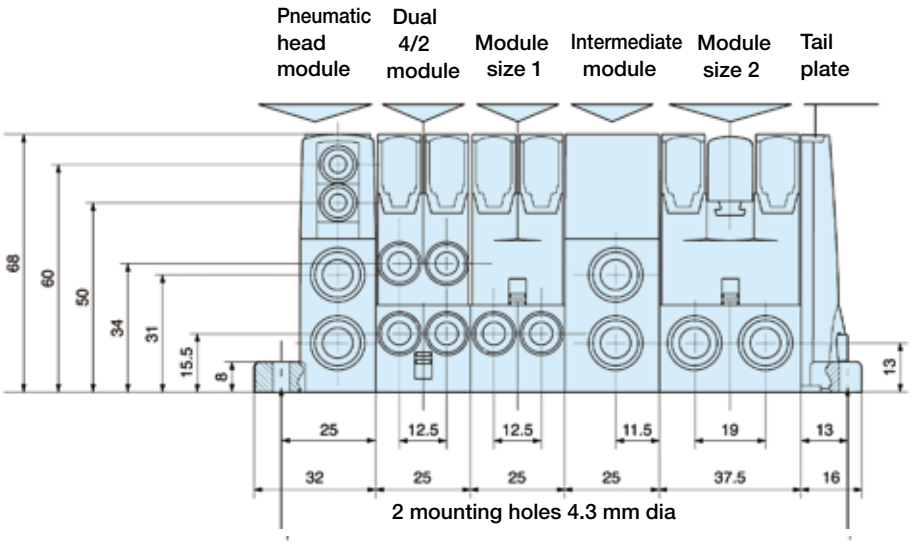


Device bus islands



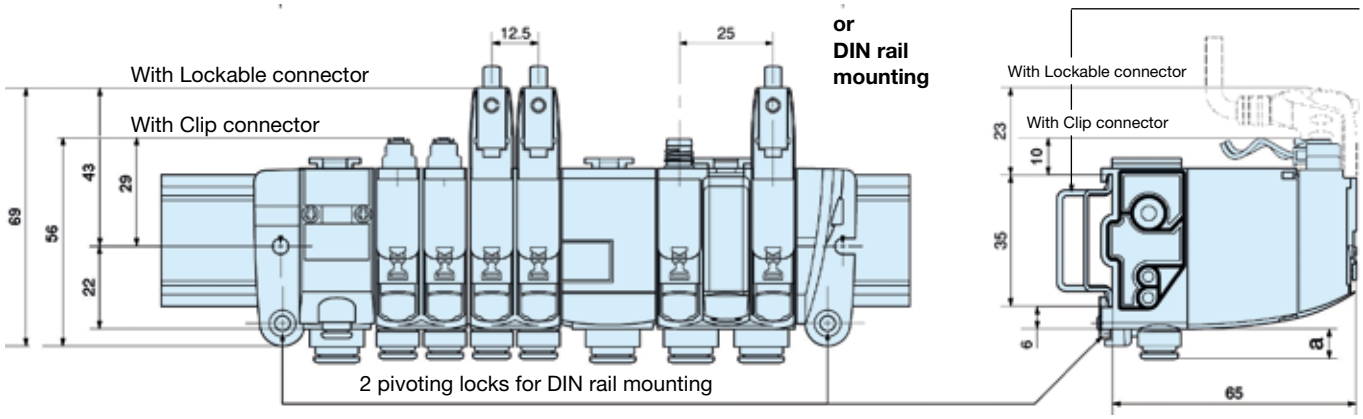
Island total width depending on valve composition





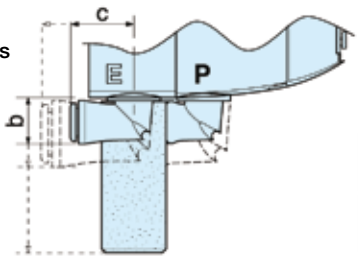
2 screws 4 mm dia. surface mounting

or DIN rail mounting



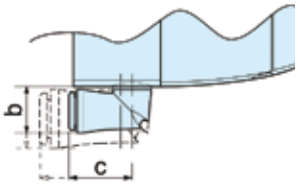
Special case : 4/3 closed centre function within island version :
Add the dimensions of the dual P.O. check valve module plugged into the island.

Island head and intermediate modules



	a	b	c
6 mm tube OD	8	13	16
8 mm tube OD	9	16	19
10 mm tube OD	13	18	22
12 mm tube OD	13	19	25
muffler		40	

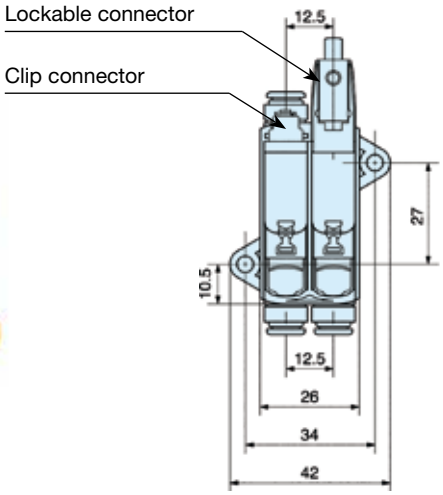
Island valves modules



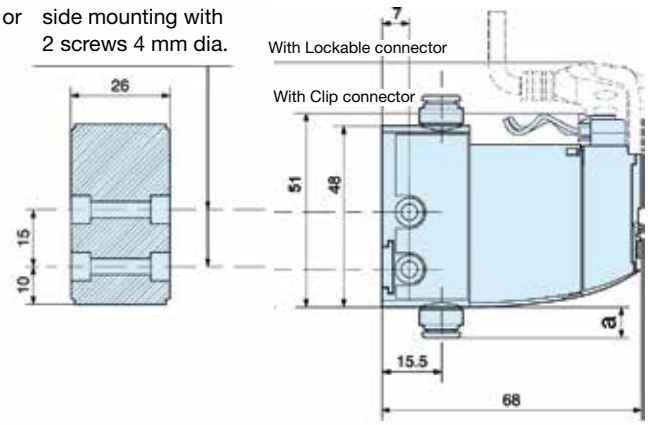
	OD tube	a	b	c
Size 1 modules	4 mm	8	10	12
	6 mm	8	13	16
Size 2 modules	8 mm	9	16	19
	10 mm	13	18	22

Stand-alone valve size 1

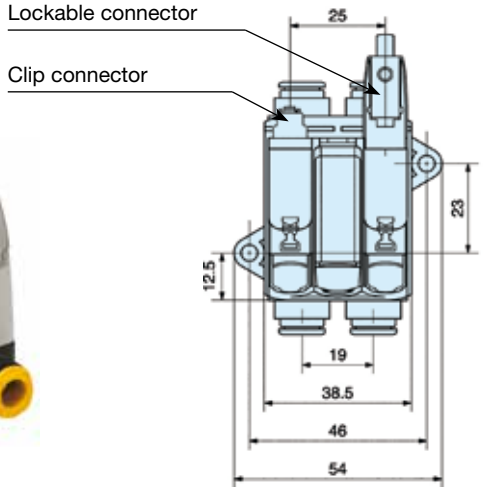
surface mounting with screws
4 mm dia. into retractable brackets 3 mm thick



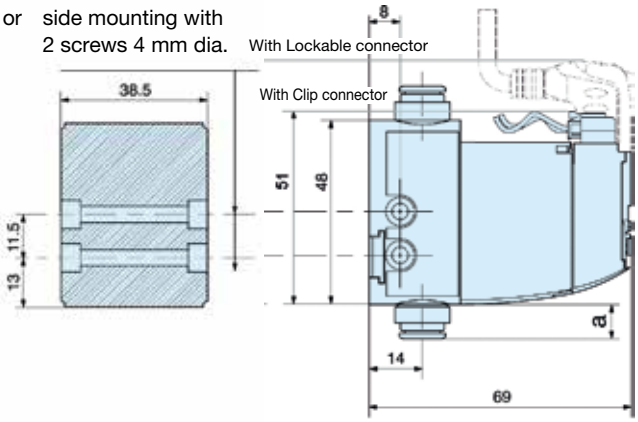
or side mounting with
2 screws 4 mm dia.



Stand-alone valve size 2



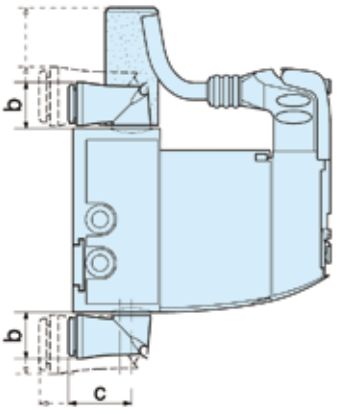
or side mounting with
2 screws 4 mm dia.



Dimensions and mountings of the stand-alone valves 4/2, double and single 3/2, 4/3 vented centre and 4/3 pressure centre.

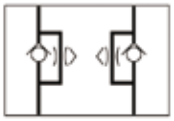
Special case : 4/3 closed centre. Add the dual P.O. check valve module that has been plugged in the basic valve.

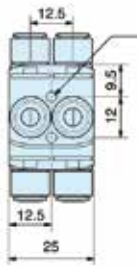
		a	b	c
Size 1 modules	4 mm tube OD	8	10	12
	6 mm tube OD	8	13	16
	muffler		31	
Size 2 modules	8 mm tube OD	9	16	19
	10 mm tube OD	13	18	22
	muffler		40	



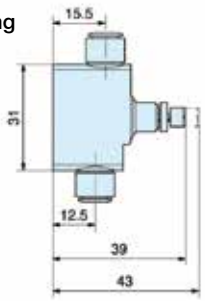
Reminder : peripheral modules may either be plugged in the valve output ports or mounted in line separate from the valve

Dual flow control module size 1





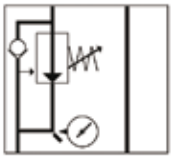
possible mounting
with 2 screws
3 mm dia.

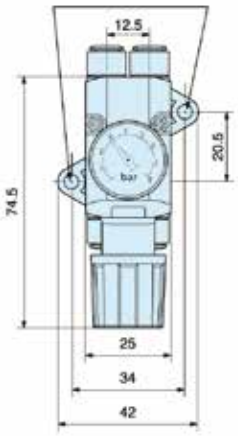


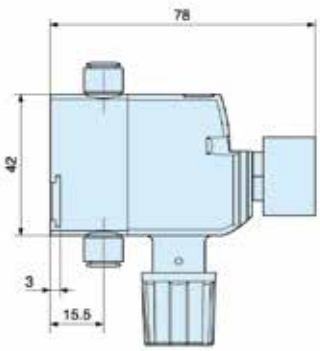
Pressure regulation module size 1

mounting with 2 screws 4 mm dia.
on retractable brackets

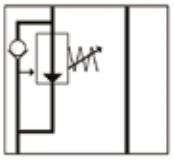
- with gauge

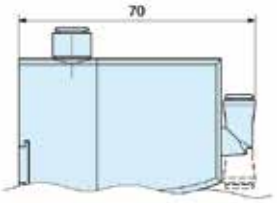






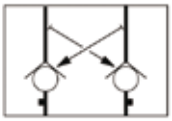
- without gauge

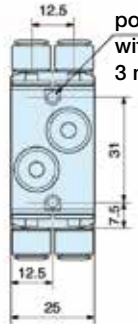




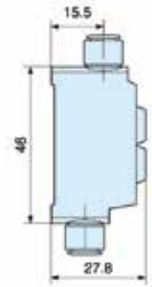
swivel elbow push-in
connector 4 mm OD tube

Dual P.O. check valve module size 1

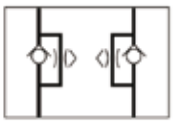


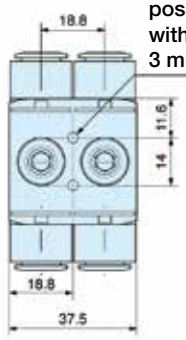


possible mounting
with 2 screws
3 mm dia.

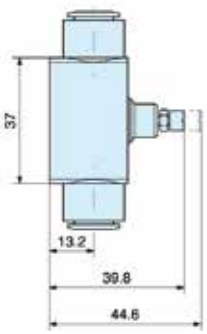


Dual flow control module size 2



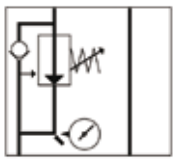


possible mounting
with 2 screws
3 mm dia.

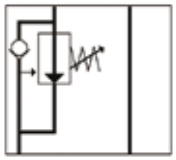


Pressure regulation module size 2

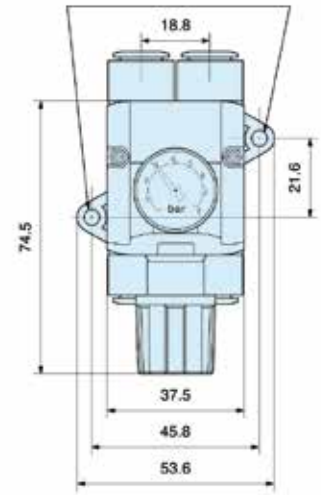
- with gauge

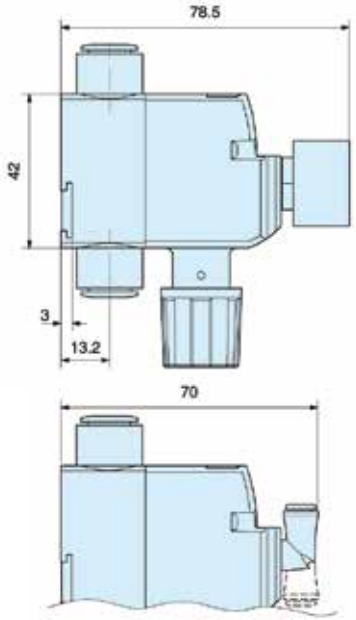


- without gauge



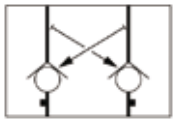
mounting with 2 screws 4 mm dia.
on retractable brackets

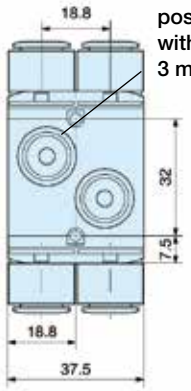




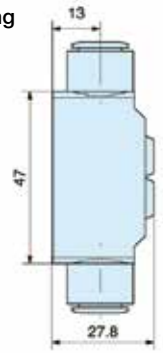
swivel elbow push-in
connector 4 mm OD tube

Dual P.O. check valve module size 2



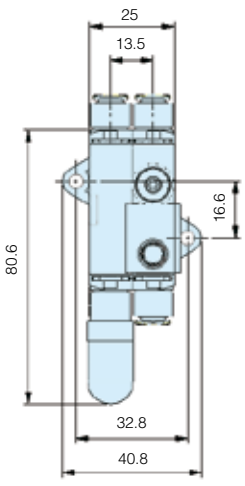


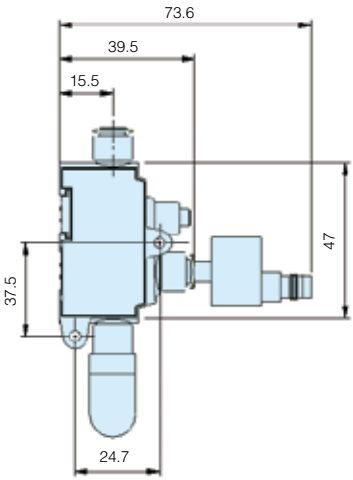
possible mounting
with 2 screws
3 mm dia.



Vacuum generator module

In-line





With Moduflex valve