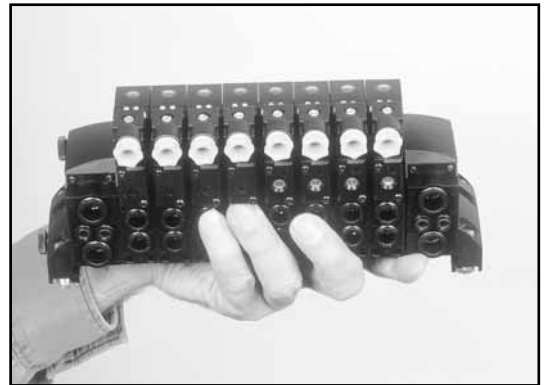


# MEGA SPOOL VALVE ISLANDS

MEGA pneumatic spool valve islands offer maximum performance along with flexibility, easy installation and simple operation.



Due to their design, MEGA spool valve islands' dimensions are optimised and identical, whatever the spool valves' function - and that at a flow rate of 900 l/min.

The different types of electrical connections offered provide a solution for every type of installation:

- cabinet installation for IP20 versions with connector size 15,
- direct incorporation in a machine for IP65 versions with connector size 15 or Multipol,
- fieldbus control for AS-interface and Profibus-DP versions.

The high performance and great variety of MEGA islands meet the requirements for automated installations in the assembly, packaging, food processing, automobile, textile, pharmaceutical and valve piloting etc.



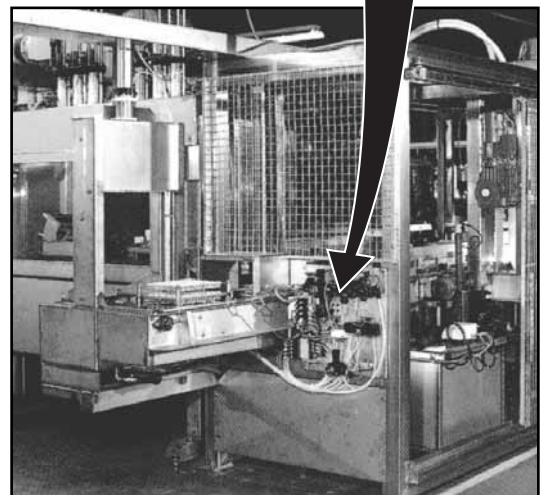
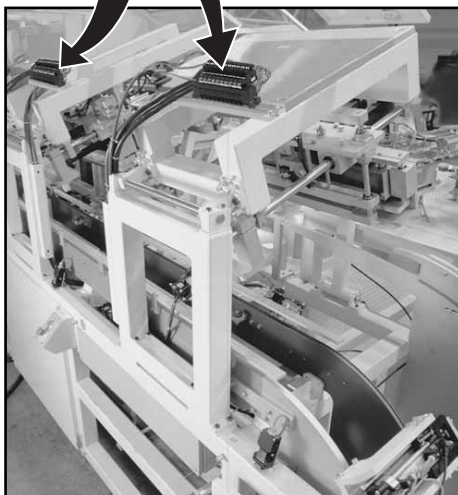
MEGA Profibus-DP spool valve island



MEGA Multipol-IP20(with connector size 15) spool valve island



MEGA Multipol-IP65 spool valve island

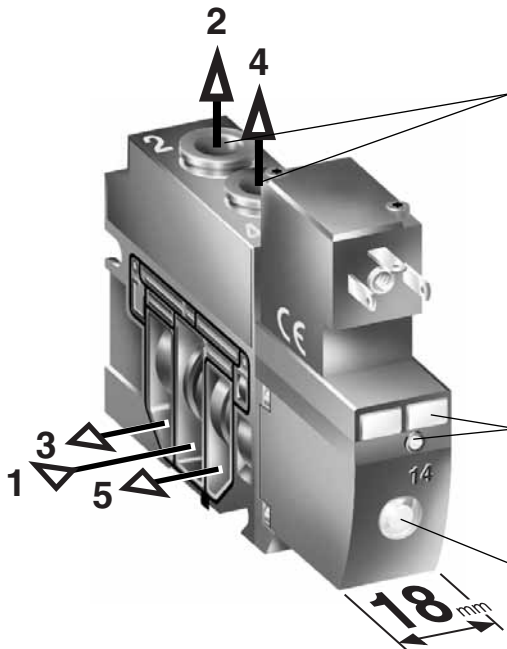


# The MEGA solenoid air operated spool valve

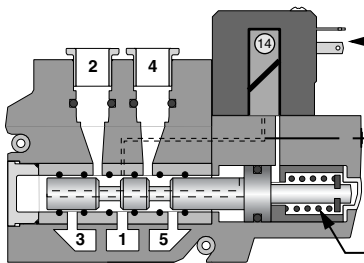
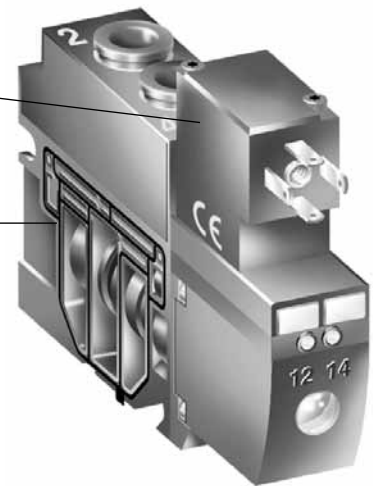
JOUCOMATIC offers a concept of solenoid air operated spool valves which can be fitted together to form islands. Due to its new patented design, the MEGA spool valve's major advantages are its reduced size, optimal performance and modular structure. It offers simple operation, as well as diagnostic analysis and maintenance features.

**Monostable spool valve**

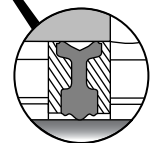
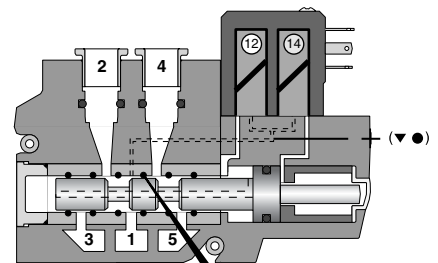
**Bistable spool valve**  
(with integral twin pilot)



- Reduced time for cabling**  
Outlets with instant fittings for flexible hose O.D 6 or 8 mm.
- Small size**  
Integral twin pilot with low power coil (1.5 W)  
Same size as monostable valve
- Flexibility**  
Selector sealing for internal or external pilot pressure supply
- Operating assistance**  
ID labels  
Impulse-type or locking push/turn-type manual override
- Visual indication**  
Indication of spool position



- Flat terminals to DIN 46244  
A2.8 x 0.5
- Manual override (▼●)
- Spring or differential return



The spool valve's high flow rate of **900 l/min.** as compared to its low volume is obtained due to the newly designed, small-sized multifunctional seal with oscillating effect.

The MEGA's excellent performance ratings allow for supplying pressure to **all types of cylinders**

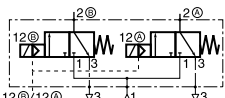
- with barrels of **up to 80 mm** for standard applications, or
- with barrels of **125 mm** for speeds of 200 to 350 mm/sec.

**RANGE OF MEGA SPOOL VALVES**

- Air or solenoid air operated versions
- 2 x 3/2 NC, 5/2 and 5/3 versions (all of the same size)
- Monostable or bistable function

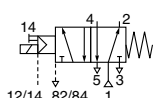
For characteristics and codes see page 6

**2 x 3/2 NC monostable (spring return)**



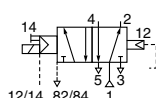
Type: **K**

**5/2 monostable (spring return)**



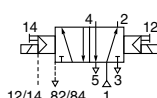
Type: **S**

**5/2 monostable (differential return)**



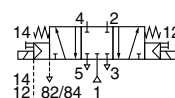
Type: **M**

**5/2 bistable**



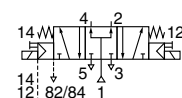
Type: **J**

**5/3 centre closed (W1)**



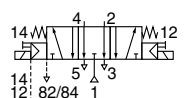
Type: **G**

**5/3 centre open to pressure (W2)**



Type: **B**

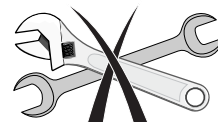
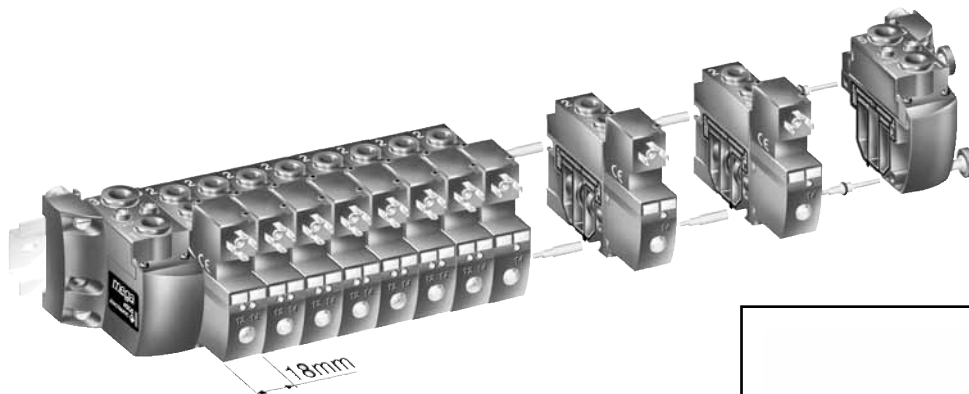
**5/3 centre open to exhaust (W3)**



Type: **E**

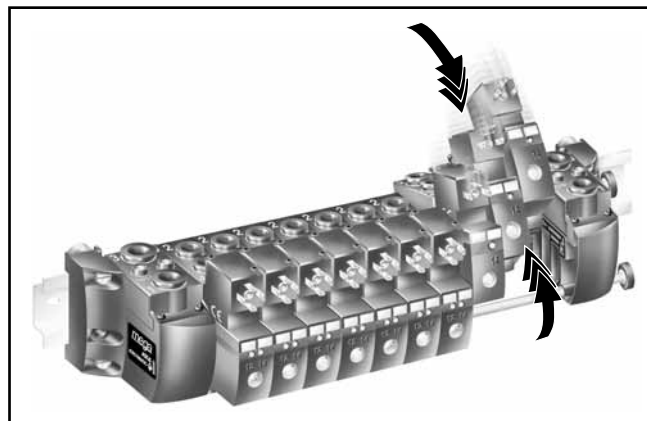
# MODULAR DESIGN

MEGA spool valve islands: functional, modular units which are adapted to your needs and save time with quick and easy assembly without tools. The islands are delivered either pre-assembled, tested and ready for installation, or in individual components to be fitted together on-site.



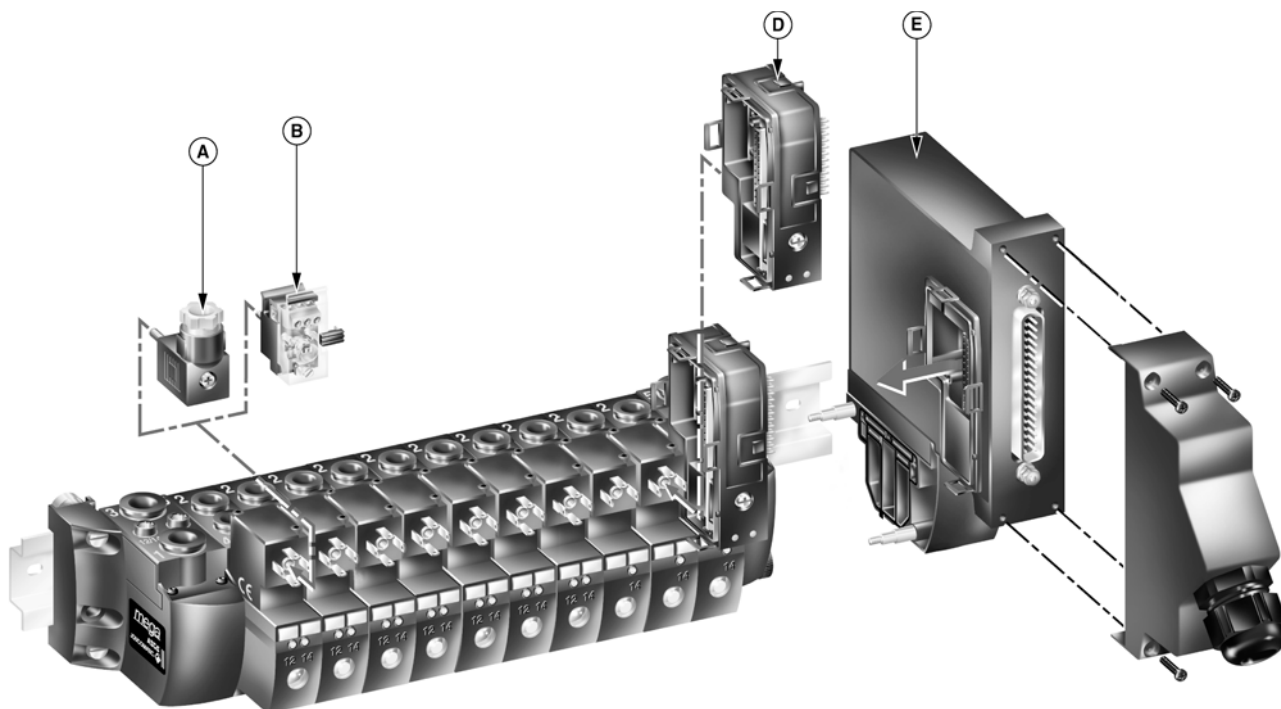
The product's design offers various possibilities to assemble MEGA islands:

- 16 spool valves at maximum (for more, consult us).
- Mixture of all types of spool valves and connection sizes (O.D. 6 mm and 8 mm).
- Internal or external pilot pressure supply.
- Accessory intermediate pressure modules to supply the island with more than one pressure level including vacuum.
- On-site extension due to easy assembly: every spool valve and accessory is supplied with 2 connecting bolts.



# CHOICE OF ELECTRICAL CONNECTION

With the MEGA spool valve island you can choose between different types of connectors and electrical connection modules.



- (A) Individual connection with connectors size 15 – IP65
- (B) Individual connection with connectors size 15 – IP20

- (D) Interconnection module for MULTIPOL-IP65 and AS interface
- (E) Connection module for MULTIPOL-IP65, PROFIBUS-DP or AS interface protocol (MULTIPOL-IP65 showing)

The versions shown opposite can be assembled with these components.

# COMBINATIONS

MEGA spool valve islands are available in different versions to meet the needs of the most varied of systems no matter if IP20 protection is required for installation in a cabinet or IP65 protection for direct incorporation in a machine either with single standard connector coupling, multiwire cable connection or field bus control.

■ **DISTRIBUTEUR A COMMANDE PNEUMATIQUE**

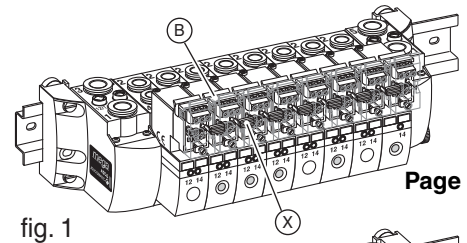
Raccordement à coupleurs pour tube Ø6 ou 8mm ext' ??????

Page 12-11

■ **INDIVIDUAL CONNECTORS**

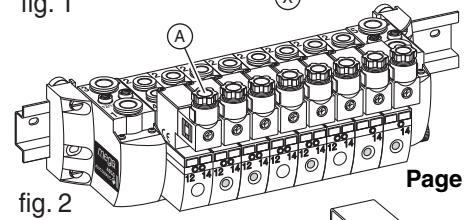
Connectors size 15 available in the following versions:

- **IP20 rated connectors** (fig. 1) with integral LED and peak voltage suppression, screw terminals for installation in a cabinet. Partially integrated connection system as the common power supply for all solenoid pilots is established with jumpers (X) between each connector.



Page 12-15

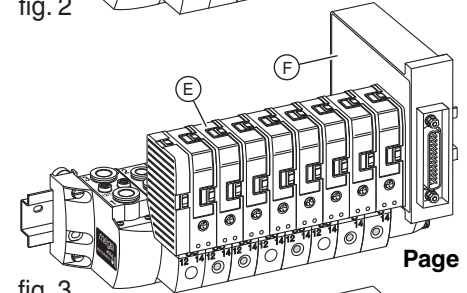
- **IP65 rated connectors** (fig. 2). Standard version with cable gland for cables with max. 6 mm O.D. or with cable ends with or without integral LED and peak voltage suppression.



Page 12-15

■ **MULTIWIRE CONNECTOR: MULTIPOL IP65** (fig. 3)

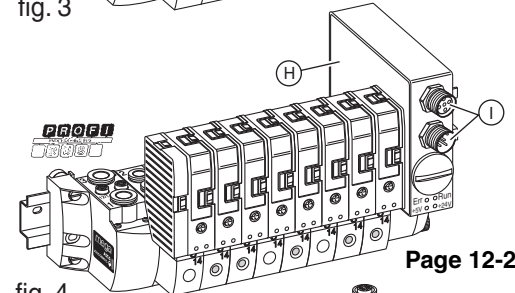
IP65 version of connector described above. IP65 protection allows for direct incorporation of the island into a machine. The island is supplied with interconnection modules (E) and a connection module (F). The cable and waterproof IP65 housing are available as accessories.



Page 12-19

■ **PROFIBUS-DP PROTOCOL** (fig. 4)

Pneumatic spool valve island for data exchange via field bus and Profibus-DP protocol. The Profibus (H) module allows to control up to 16 bistable spool valves. Easy Profibus-DP cable connection with M12 connectors (I).

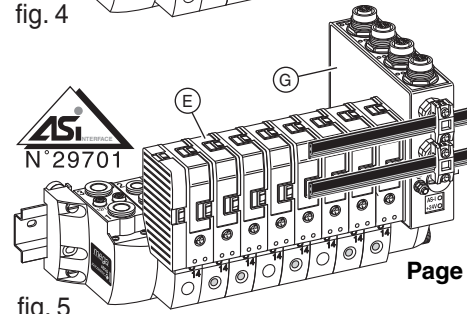


Page 12-23

■ **AS INTERFACE PROTOCOL** (fig. 5)

Pneumatic spool valve island for the transmission of data with a standard AS interface protocol. This protocol uses a simple vampire-type connector for instant connection of flat profiled cables.

Together with the interconnection modules (E), the AS-Interface module (G) with or without M12 sensor inputs allows to control 8 monostable or 4 bistable spool valves. An island can be provided with 1, 2 or 3 AS-Interface units.

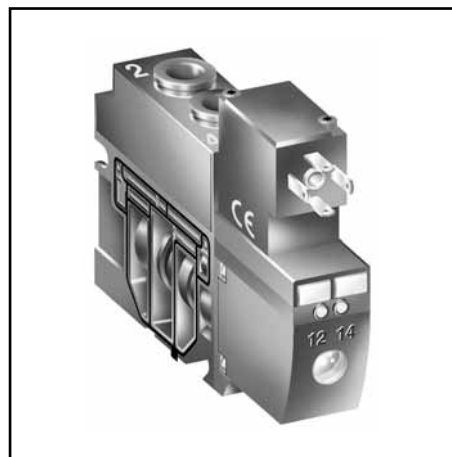


Page 12-27

## JOINABLE SOLENOID AIR OPERATED MEGA SPOOL VALVES

### FEATURES

- Space saving due to new patented design and integral twin pilot.
- High flow rate, reduced dimensions.
- Low power consumption.
- Quick installation and easy maintenance with visual indication of the spool position, identification and reference labels as well as manual override.
- Low weight for block installation.



### GENERAL

**Fluid** Air or neutral gas, filtered at 30µm, lubricated or not  
**Operating pressure** -0.95 to 8 bar (with external supply)  
 3 to 8 bar (with internal supply)  
**Ambient temperature** -10°C to +50°C

### Connection

- Spool valve (ports 2 - 4) instant fittings for flexible hose 6 or 8 mm O.D.
- End covers (ports 1 - 3 - 5) G1/4 thread or instant fittings 10 mm O.D.

### Flow (Qv at 6 bar)

see table below

### Function

2x3/2 NC, monostable or bistable 5/2, 5/3

### Pilot control

solenoid air operated with internal or external pressure supply

### Pilot pressure

2 or 3 bar to 8 bar (see table below)

### Vibration fatigue limit

to EN 60068-2-6 standard

### CONSTRUCTION

**Body and end covers** glass-fibre reinforced synthetic material

**Internal parts** aluminium, stainless steel, zinc-plated steel, brass and synthetic material.

**Seals** NBR (nitrile) and PUR (polyurethane)

**Manual operator** Impulse-type or locking push/turn-type

Internal or external pilot pressure supply by selecting seal

Integral electrical pilot to NFC79300 (VDE 0580).

Encapsulated coil with flat terminals to DIN 46244 A 2.8 x 0.5 (spacing : 9.4 mm).

The bistable version is provided with an integral twin pilot placed on one side of the valve with a single electrical connector for reduced dimensions.

### ELECTRICAL CHARACTERISTICS

voltage (*)	insulation class	protection degree	spool valve	consumption	electrical connection
24 V DC	F	IP 65	monostable	1.6 W	2 flat terminals + earth
			bistable	1.5 W	3 flat terminals + earth

(\*) Monostable version, in alternative current, available

### SPECIFICATIONS

type	function symbol	operators		flow at 6 bar (l/min) (ANR)	pilot pressure (bar)	(M)	catalogue number (24 V DC) spool valve without connector ports 2-4 with instant fittings 6mm O.D. 8mm O.D.		
		pilot (14)	return (12)						
K	2x3/2 NC		Solenoid air	Spring	450	4...8	▼	57800041	57800013
							●	57800042	57800014
S	5/2		Solenoid air	Spring	900 (550)	3...8	▼	57800030	57800002
							●	57800036	57800008
M	5/2		Solenoid air	Differential	900 (550)	3...8	▼	57800031	57800003
							●	57800037	57800009
J	5/2		Solenoid air	Solenoid air	900 (550)	2...8	▼	57800029	57800001
							●	57800035	57800007
G	5/3		Centre closed W1 solenoid air operated		600 (550)	3...8	▼	57800032	57800004
			●	57800038			57800010		
B	5/3		Centre open to pressure W2 solenoid air operated		700 (550)	3...8	▼	57800033	57800005
			●	57800039			57800011		
E	5/3		Centre open to exhaust W3 solenoid air operated		750 (550)	3...8	▼	57800034	57800006
			●	57800040			57800012		

(M) Manual override

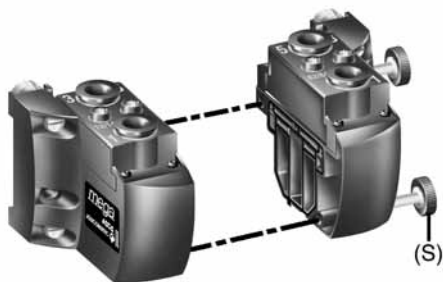
▼ : impulse-type ● : locking, push/turn-type

(550) : Max. flow rate of 550l/min for the version with instant fittings for flexible hose O.D. 6mm.

For air operated version see page 11

**ACCESSORIES FOR ISLAND ASSEMBLY** see following pages

## END COVERS



The end covers assure the following functions:

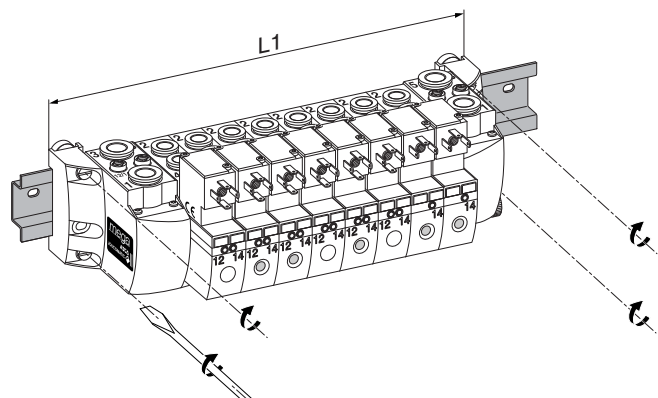
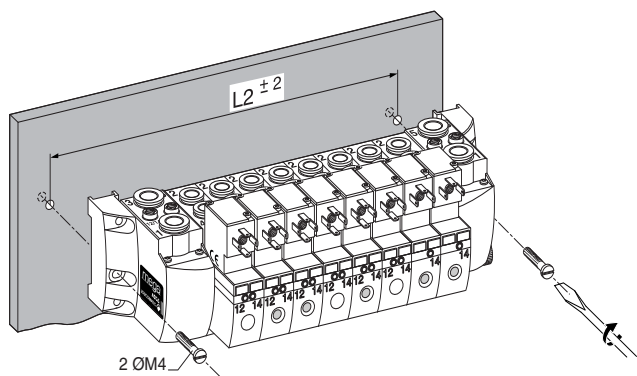
- **Island assembly:** the bolts are fixed into the covers. The island is tightened by hand with the knurled screws (S). There is no need for tools.
- **Choice of island mounting:**
  - on machine frame (2 Ø 4.2),
  - on DIN EN 50022 rail (for cabinet installation).
- **Pneumatic connection** of the channelled ports of the island (1 – 3/5 – 12/14 etc.)

### ■ Island assembly (see page X021-12- 4)

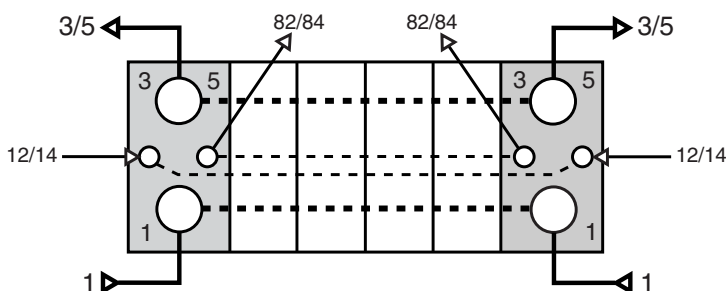
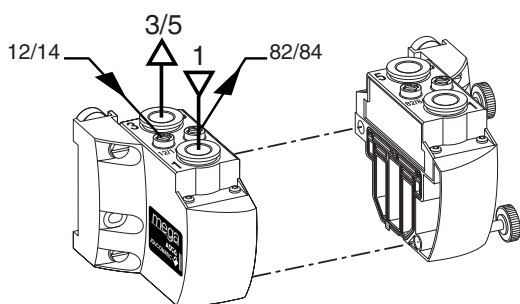
### ■ Choice of island mounting

On machine frame

On DIN EN 50022 rail



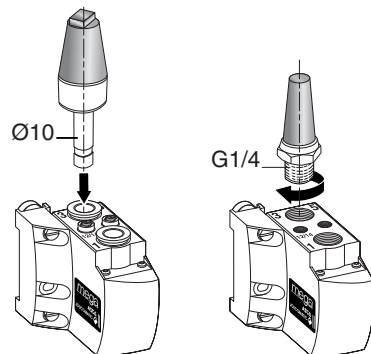
### ■ Pneumatic connection



port nos.	connection size	
	Type: Q	Type: G
1	Instant fittings for flexible hose Ø 10mm O.D.	G1/4
3/5		
12/14	Instant fittings for flexible hose Ø 4mm O.D.	M5
82/84		

- Port 1 : Pressure supply for island
- Port 3/5 : Exhausts 3 and 5 channelled and connectable
- Port 12/14 : **External** pilot pressure supply. Necessary for use with vacuum or if the general supply pressure is below 3 bar.
- Port 82/84 : Channelling and connection of the pilot exhausts for installation of the island in protected environments (food-processing industries, laboratories etc.)

Possibility of direct connection of a silencer to each exhaust 3/5



### ■ Order codes for end covers

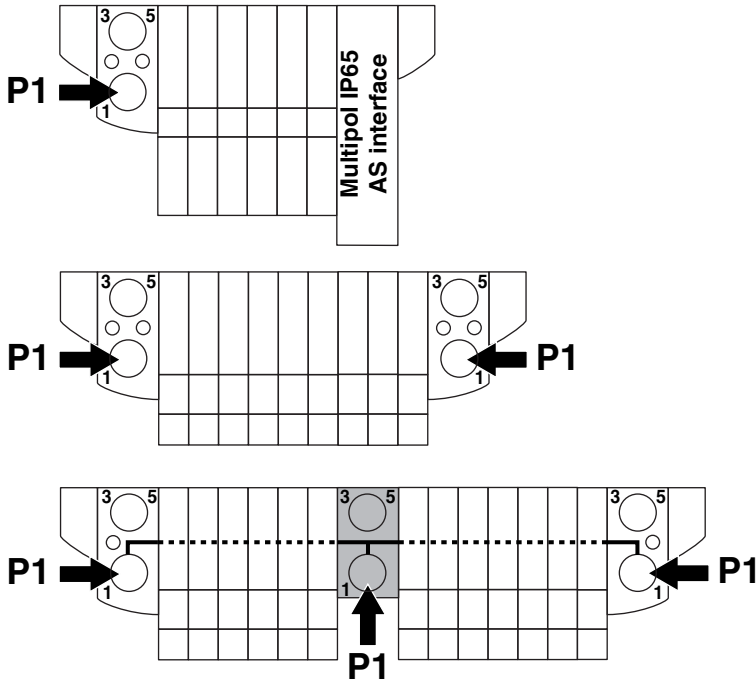
description	port connections 1 - 3/5 (*)	type	catalogue number
1 set of 2 end covers for islands for <b>frame</b> mounting	Instant fittings for 10mm O.D. hose	Q	88157901
	G1/4 thread	G	88157903
1 set of 2 end covers for islands for <b>DIN rail</b> mounting	Instant fittings for 10mm O.D. hose	Q	88157859
	G1/4 thread	G	88157861

(\*) For port connections 12/14 and 82/84 see above table

## SUPPLY WITH 1, 2 OR 3 DIFFERENT PRESSURES

A MEGA island is especially designed to be supplied with more than one pressure level.

### Supply with 1 pressure (P1)

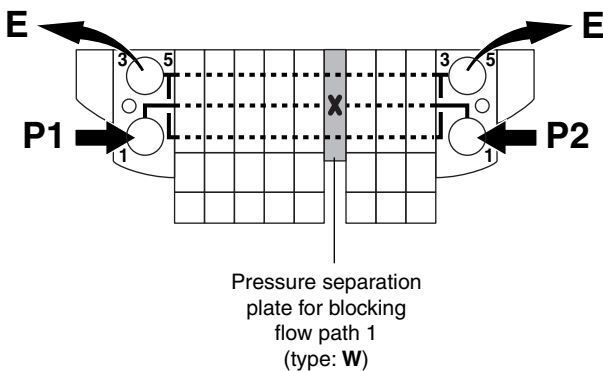


- Multipol IP65 islands and AS interface islands with 8 spool valves at maximum are provided with a **single** standard end cover on the left side for pressure supply. The islands can be equipped with 2 end covers for pressure supply from the left and/or right side (see definition tables for the two versions). An island with more than 8 spool valves is provided with 2 end covers.
- All other island versions are provided with 2 end covers for choice of pressure supply side. For more than 8 spool valves or for simultaneous operation of 5 spool valves, the unit must be supplied with pressure from both sides.
- Units with more than 12 spool valves must be supplied with pressure from three sides using an intermediate pressure supply module which should be placed in the middle.

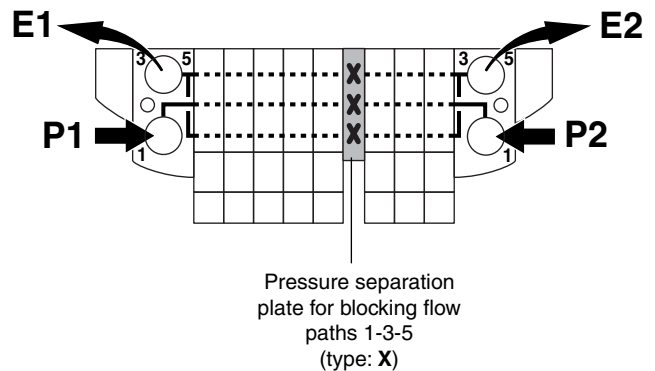
### Supply with 2 different pressures (P1-P2)

A pressure separation plate must be used (see different types)

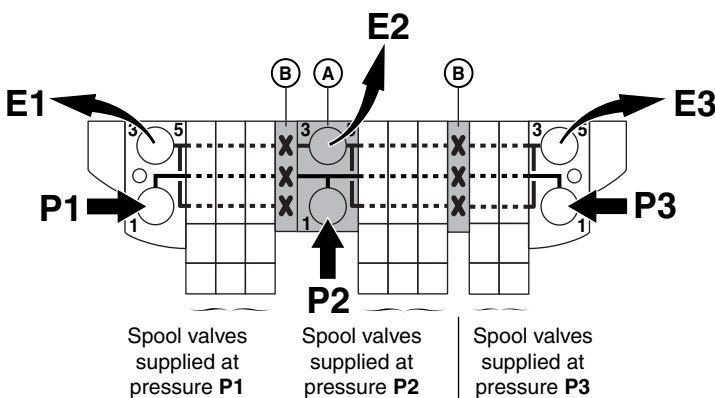
- Supply with 2 different pressures with **common** exhausts



- Supply with 2 different pressures with **separate** exhausts



### Supply with 3 different pressures (P1-P2-P3)

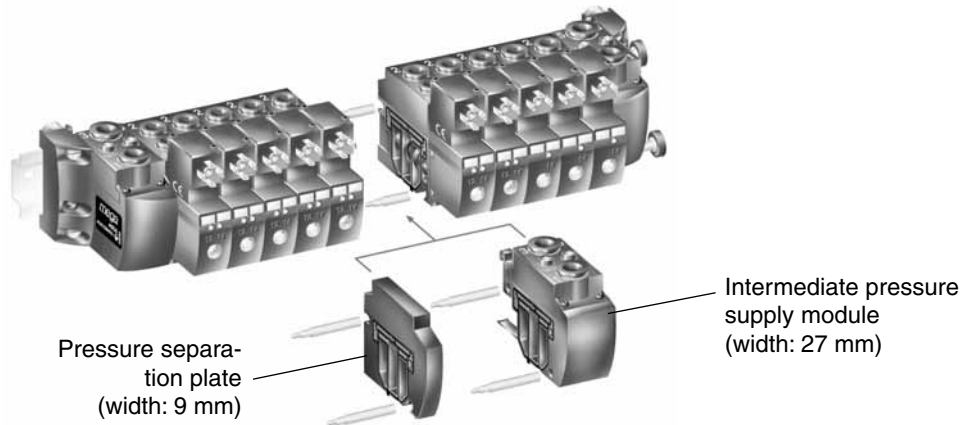


For this configuration use:

- 1 intermediate pressure supply module (A).
- 2 pressure separation plates (B). Choose between the following versions:
  - Ports 1 – 3 – 5 blocked to separate off the exhausts (type X).
  - Port 1 blocked to channel the exhaust of the whole island (type W).

**PRESSURE SEPARATION PLATE AND INTERMEDIATE PRESSURE SUPPLY MODULE**

To obtain the configurations described on the opposite page, these accessories must be incorporated in the right order.



**STANDARD VERSIONS FOR ISLANDS WITH CONNECTORS SIZE 15**

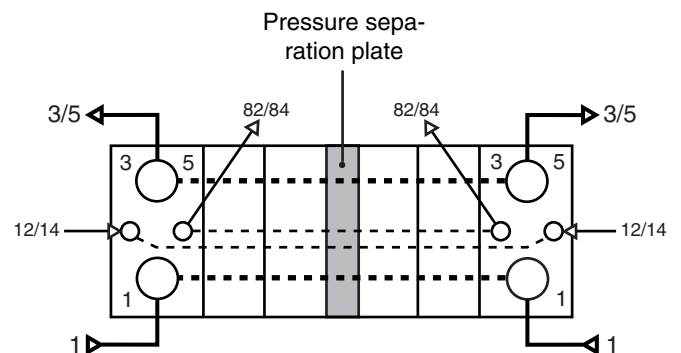
		description	type	catalogue number
	Intermediate pressure supply module	Ports 1 and 3 / 5 with instant fittings 10 mm O.D. (1)	<b>D</b>	<b>88157819</b>
		Ports 1 and 3 / 5 with G1/4 thread (1)	<b>D</b>	<b>88157821</b>
	Pressure separation plate	Total blocking of ports 1 - 3 - 5 (no connection)	<b>X</b>	<b>88157815</b>
		Blocking of ports 3 - 5 (port 1 connection maintained)	<b>Y</b>	<b>88157817</b>
		Blocking of port 1 (ports 3 and 5 connections maintained)	<b>W</b>	<b>88157816</b>
		No blocking (ports 1, 3 and 5 connections maintained)	<b>V</b>	<b>88157818</b>
		Blocking of port 5 (ports 1 and 3 connection maintained)	<b>T</b>	<b>88157964</b>
		Blocking of port 3 (ports 1 and 5 connections maintained)	<b>R</b>	<b>88157965</b>

(1) An exhaust silencer can be mounted to port 3 / 5 (see following page)

**Construction details of pressure separation plate**

catalogue number	type	flow path				
		1	3	5	12/14	82/84
<b>88157815</b>	<b>X</b>	*	*	*	*	▽
<b>88157817</b>	<b>Y</b>	▽	*	*	▽	▽
<b>88157816</b>	<b>W</b>	*	▽	▽	*	▽
<b>88157818</b>	<b>V</b>	▽	▽	▽	▽	▽
<b>88157964</b>	<b>T</b>	▽	▽	*	▽	▽
<b>88157965</b>	<b>Z</b>	▽	*	▽	▽	▽

\* : blocked      ▽ : remains opened



Port 1 : pressure supply  
 Port 3/5 : exhausts 3 and 5  
 Ports 12/14 : external pilot pressure supply  
 Ports 82/84 : connection of exhausts of pilot loop

**SPECIAL VERSIONS FOR MULTIPOL – IP65 ISLANDS, PROFIBUS-DP AND AS-INTERFACE ISLANDS**

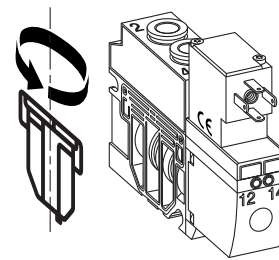
These islands require specific units consisting of a pressure separation plate and an intermediate pressure supply module to ensure that the electrical supply between the interconnection modules (E) and the different accessories is maintained (see pages 4 and 29).



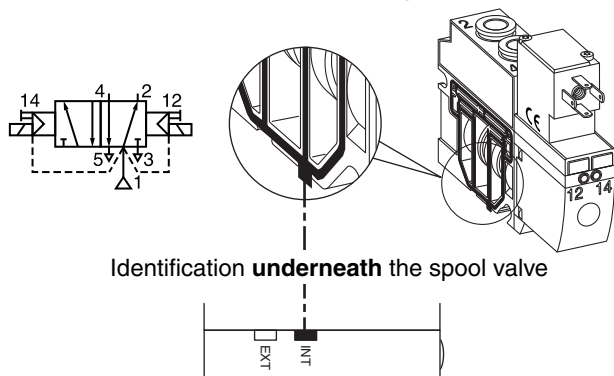
## PRESSURE SUPPLY OF PILOT VALVES

A MEGA spool valve is equipped on one side with a spacer sealing which also provides for a selecting function:

- The spool valve can be adapted to either internal or external pilot pressure supply simply by rotating this sealing.
- The position selected for each spool valve can be **identified from the outside** even after the spool valves have been assembled to islands.
- **Internal and external** pressure supply can be mixed on one island.
- If the components are supplied separately, the spool valves are delivered with the sealing placed in INT for internal pressure supply.

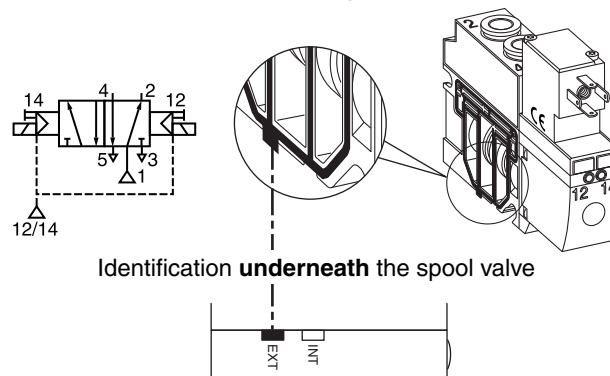


### Internal pressure supply to pilot valves



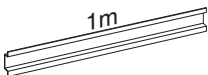
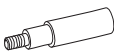

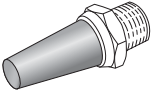
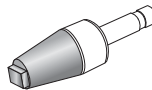

In this configuration:  
The pilot valves are directly supplied with pressure by using the supply pressure (1) in the middle of the spool valve.  
The common pressure supply (spool valve and pilot valves) is 3 to 8 bar (2 to 8 bar with bistable 5/2 spool valves).

### External pressure supply to pilot valves



In this configuration:  
- The spool valves on an island can be supplied with low pressure and vacuum.  
- The pilots and the spool valves on an island can be supplied with pressure over 2 **separate** lines.  
Supply pressure of pilot valves: 3 to 8 bar (2 to 8 bar with bistable 5/2 spool valves)  
Supply pressure of spool valves: -0.950 bar to +8 bar.  
Connection of pilot pressure supply 12/14 at either one of the 2 end covers.

## MOUNTING AND PNEUMATIC ACCESSORIES

accessory	description	catalogue number
 1m	DIN EN50022 rail	1 m <b>88157858</b>
		5 x 1 m <b>33400033</b>
 x10	Set of 10 connecting bolts 18 mm long (for 5 spool valves) (Note: Each spool valve is delivered with connecting bolts)	<b>88157893</b>
 x10	Set of 10 instant reducing fittings 8 / 6 mm O.D. (1)	<b>88157887</b>
	Exhaust silencer, male thread (2)	Plastic body <b>34600407</b>
		Sintered bronze body <b>34600002</b>
	Sintered bronze exhaust silencer for direct mounting to ports with instant fittings 10 mm O.D. (3)	<b>88157826</b>
	Set of 17 clip-on ID labels for spool valves and VCS connectors (Note: each component is supplied with 2 ID labels at delivery)	<b>88157851</b>

- (1) For mounting to ports 2 – 4 of spool valves with 8 mm O.D. instant fittings for 6 mm O.D. flexible tube  
 (2) Exhaust silencer for ports 3/5 of G1/4 threaded end covers (see page 7)  
 (3) Exhaust silencer for ports 3/5 of end covers with instant fittings 10 mm O.D. (see page 7)