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climate control  
electromechanical  
filtration  
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hydraulics  
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process control  
sealing & shielding



# ISOMAX DX ISO Valve Series

Catalogue PDE2568TCUK June 2016



ENGINEERING YOUR SUCCESS.



**Important !**

Before carrying out any service work, ensure that the valve and manifold have been vented. Remove the primary supply air hose to ensure total disconnection of the air supply before dismantling valves or blank connection blocks.



**NB !**

All technical data in this catalogue is typical only. The air quality is decisive for the valve life: see ISO 8573.



**WARNING**

**FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

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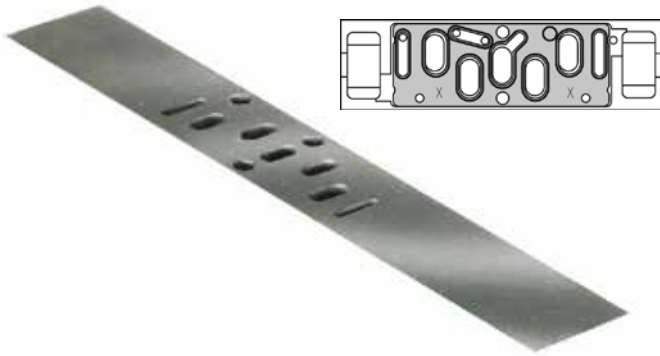
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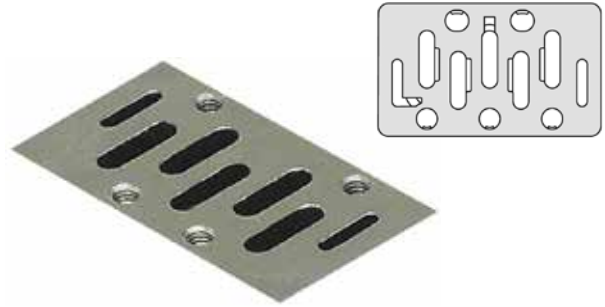
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**ISO Specifications**

**Individual connection**



**15407-1** (VDMA 24563)  ISO 15407-1



**5599-1**  ISO 5599-1

**External electrical connection subbase valves**

The ISO Standard 15407-1 specifies an interface pattern for a common subbase valve consisting of pressure passages 1, 3, 5, 2 & 4 and pilot passages 12 & 14. The width of the pattern and location of the 4 bolt holes are also specified. There are no specifications for the type of external electrical connection used to control the valve.

**Size :** 02 01

**External electrical connection subbase valves**

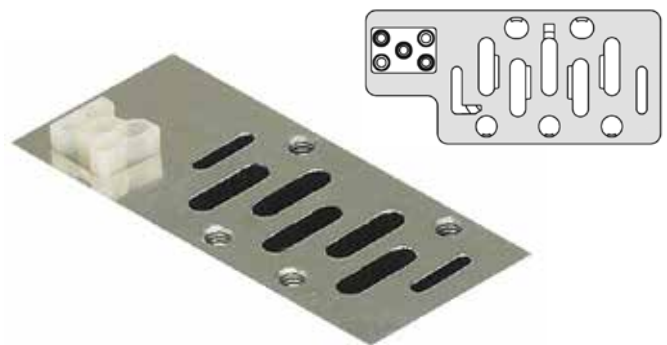
The ISO Standard 5599-1 specifies an interface pattern for a common subbase valve consisting of pressure passages 1, 3, 5, 2 & 4 and pilot passages 12 & 14. The width of the pattern and location of the 4 bolt holes are also specified. There are no specifications for the type of external electrical connection used to control the valve.

**Size :** 1 2 3

**Plug-in connection**



**15407-2**  ISO 15407-2



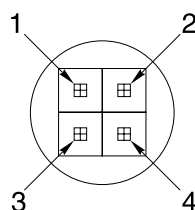
**5599-2**  ISO 5599-2

**Body-to-base plug-in subbase valves**

Same as 15407-1 for pneumatic pressure passages, 15407-2 standard also specifies a plug-in electrical connection.

**Size :** 01 02

- Pin 1 = 14 solenoid
- Pin 2 = 12 solenoid
- Pin 3 = Ground +
- Pin 4 = Common -

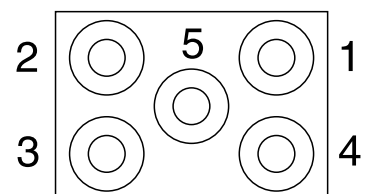


**Body-to-base plug-in subbase valves**

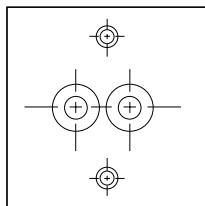
Same as 5599-1 for pneumatic pressure passages, 5599-2 standard also specifies a plug-in electrical connection.

**Sizes :** 1 2 3

- 1 = 12 solenoid
- 2 = 14 solenoid
- 3 = 12 solenoid
- 4 = 14 solenoid
- 5 = Ground

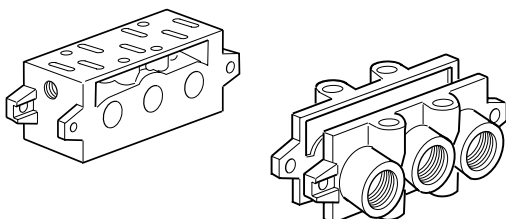


**CNOMO and VDMA Standards**



**CNOMO 06-05-01**

The solenoid pilot interface often used with ISO 5599-1 valves is the CNOMO interface. The CNOMO interface specifies the pressure and actuator port, and the screw holes for the mounting of this solenoid pilot. It is commonly used in European automotive plants, and its usage is becoming more prevalent for industrial ISO 5599-1 valves.



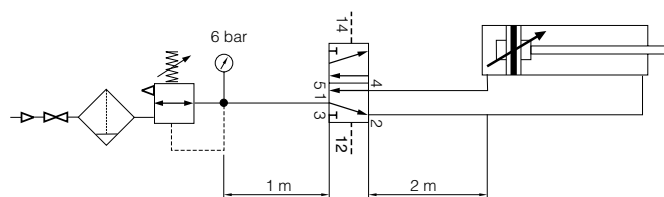
**VDMA 24345**

The VDMA 24345 is a standard for Manifolds and Subbase specifying a common base mounting footprint in addition to ISO 5599-1 Interface standard. (VDMA is a German organisation - Verband Deutscher Maschinen und Anlagen-Bauer - which is translated to Federation of German Machine and Unit Builders.)

**Choice of components for air supply to cylinders**

In the chart below can you find the suitable valves, tubes etc. for each cylinder size. If you have a tube length over 2 m, choose one tube size larger than in the chart.

Following data is valid:  
 Supply pressure: min 7,0 bar  
 Regulator pressure setting: 6,0 bar  
 Pipe length between air treatment unit and valve: max 1 m  
 Pipe length between valve and cylinder : max 2 m



Cylinder bore	<Ø20	Ø20-32	Ø40-50	Ø63	Ø80	Ø100	Ø125	Ø160	Ø200
Cylinder port	M5	G1/8	G1/4	G3/8	G3/8	G1/2	G1/2	G3/4	G3/4
Tubing Ext / Int	4 / 2.7	6 / 4	8 / 6	10 / 7	10 / 7 12 / 9	12 / 9 14 / 11	14 / 11	18 / 15	20 / 18
Size 02	G1/8	G1/8	G1/8	G1/8					
Size 01	G1/4	G1/4	G1/4	G1/4	G1/4				
Size 1	G1/4	G1/4	G1/4	G1/4	G1/4	G1/4			
Size 2			G3/8	G3/8	G3/8	G3/8	G3/8		
Size 3				G1/2	G1/2	G1/2	G1/2	G1/2	G1/2

Cylinder speed < 0.5 m/s
  Cylinder speed < 1 m/s
  Cylinder speed > 1 m/s



## ISOMAX - General Applications

### Market Application

- Automotive Handling
- Packaging
- Manufacturing
- General application



### Ceramic technology

All ISOMAX products use high-tech ceramic switching technology :

- **Excellent reliability :**

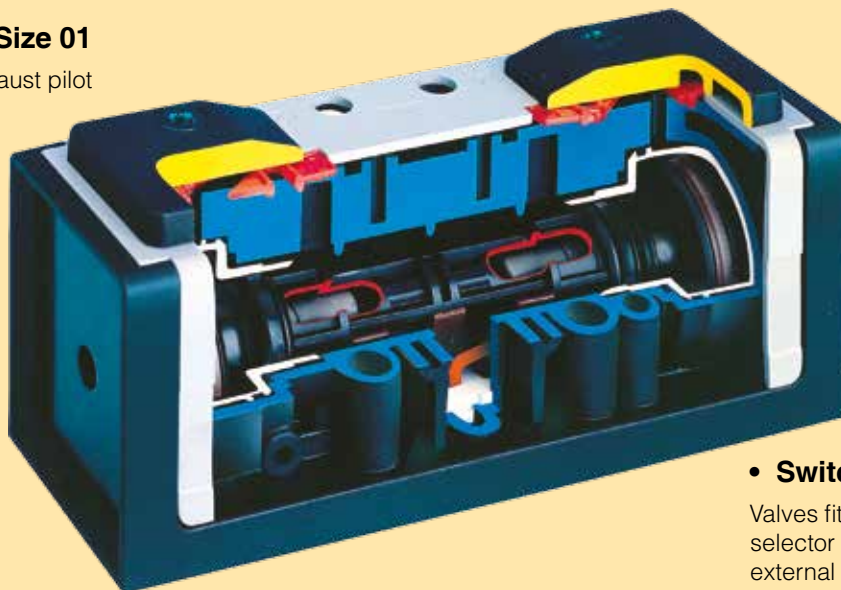
Long life in excess of 100 million operations\*.  
Operates with lubricated or non lubricated air.  
Low sensitivity to air quality changes ;  
switching without seal.  
Stiction free.

- **Size 02 & Size 01**

Solenoid exhaust pilot

- **High performances :**

Slide valve concept allows high flow / size ratio and short response time due to short slide stroke and low friction.



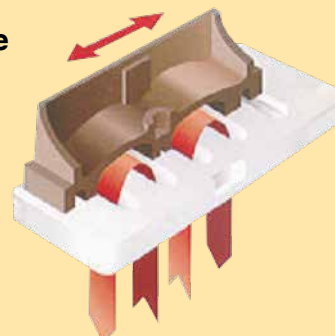
- **Switchable selector**

Valves fitted with switchable selector to give internal or external pilot supply

- **Stable long lasting performances**

Low friction switching : minimum wear of the valve member/seal assembly.

Ceramic plate



### Rust and corrosion resistant body

With the valve body in polyamide reinforced fiberglass and the casting in anodised aluminium, the Isomax range presents a comprehensive modern design to suit most industrial environments.

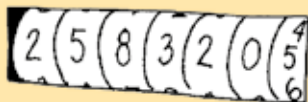
### Central M12 connection or M12 coil

All sizes of ISO 5599-1 are supplied with central M12 integrated connector, a M12 bridge cable or with a 30 x 30mm coil having M12 interface.

### External supply selection

In order to use actuator with low pressure, it is possible to connect an external pressure on port 14 to supply both solenoids. Selection is easily made by reversing the gasket under the operator.

### High reliability



Valves easily comply with the requirements for the component reliability in accordance with EU Machinery Directive standards EN292-2 and EN983.

### Maintenance

Spares are not required for the main valve or spool but solenoid operators can be replaced if required.

### Manual Override

Solenoids are available with locking or non-locking manual overrides so that valves can be operated when the electrical supply is turned off.

### Solenoid valves, CNOMO interface, 15mm solenoid

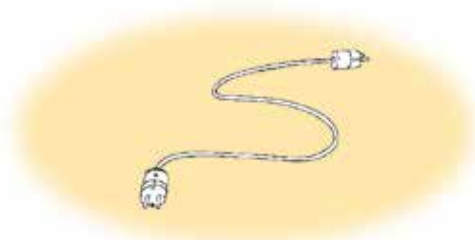


The standard valve is fitted with a 30mm solenoid having DIN 43650 Industrial form A connector for sizes 1, 2 and 3 15mm solenoid for sizes 01 and 02.

### Low noise level

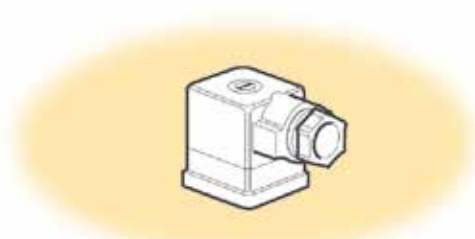
Size 01 and 02 valves fitted with the 15mm solenoid option use captured pilot exhaust which is channelled through the valve body and exhausts to atmosphere through channel 12

### High electrical encapsulation class



The solenoid valves are protected to IP65 with the standard cable plug. Available with DIN A or M12 connection.

### Wide choice of solenoid connectors/cable plugs

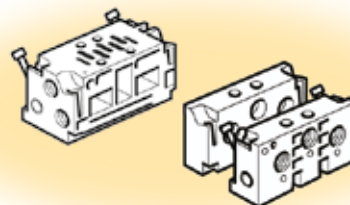


Solenoid connectors are available with or without LED and rectifier and may be selected fitted pre-wired with flying leads.

### Valves having ATEX approval

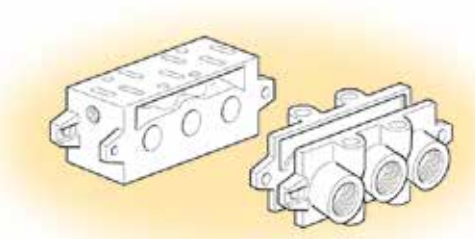
ATEX approved options are available for use in explosive atmospheres. Consult our Technical Sales Department for further information.

### Bottom or side ported manifold



Manifolds with common ducts for ports 1,3 and 5, outlet port 2 and 4, and supply port for 12 and 14 are available side or bottom ported. Those manifolds are common for Isomax and Isys ISO.

### Subbase installation VDMA

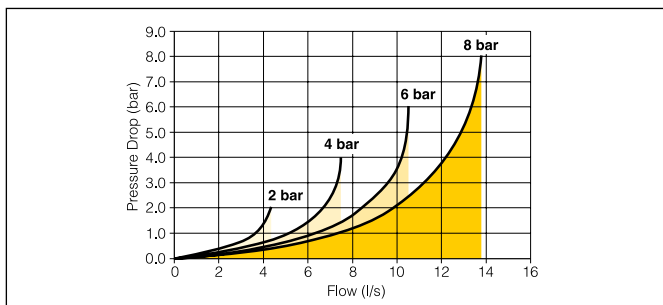


A large range of subbase, VDMA or not VDMA, bottom or side ported.

## ISOMAX Flow Characteristics

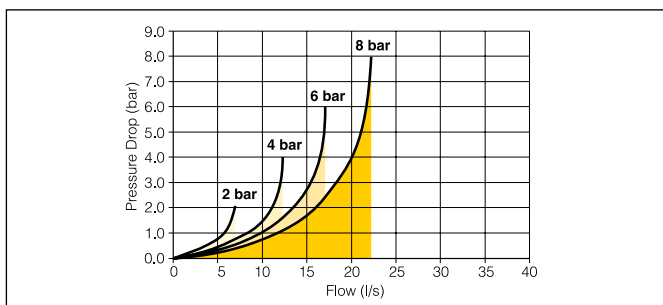
Flow capacities in accordance with ISO6358, for 5/2 function. 5/3 function are around 10 to 20% less.

### Technical Data ISOMAX Size 02



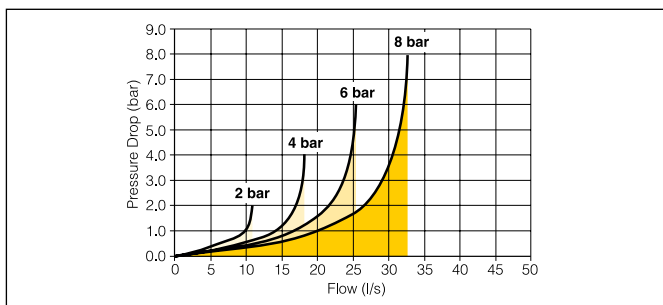
Operating pressure.	
5/2 Spring return	4,0 - 10 bar
5/2 Differential	3,0 - 10 bar
5/2 Double solenoid or pneumatic	2,0 - 10 bar
5/3 Double solenoid or pneumatic	4,0 - 10 bar
Working temperature.	
-10°C to + 60°C	
Flow (acc. to ISO 6358)	
c = 1,5 NI/s x bar	
b = 0,25	
Qn = 6,3 l/s	
Qmax = 10,6 l/s	

### Technical Data ISOMAX Size 01



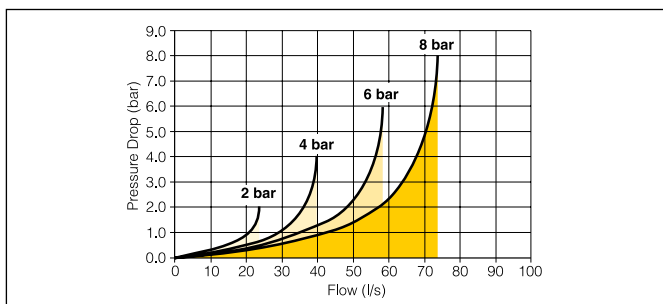
Operating pressure.	
5/2 Spring return	4,0 - 10 bar
5/2 Differential	3,0 - 10 bar
5/2 Double solenoid or pneumatic	2,0 - 10 bar
5/3 Double solenoid or pneumatic	4,0 - 10 bar
Working temperature.	
-10°C to + 60°C	
Flow (acc. to ISO 6358)	
c = 2,5 NI/s x bar	
b = 0,25	
Qn = 9,8 l/s	
Qmax = 17,1 l/s	

### Technical Data ISOMAX Size 1



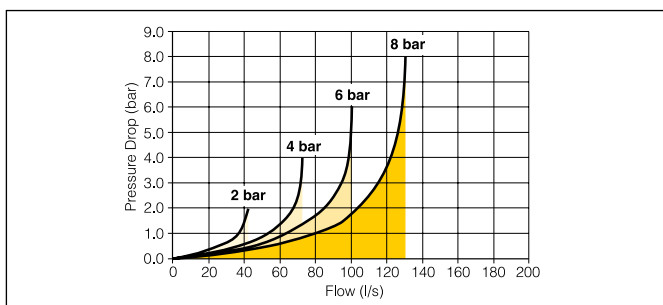
Operating pressure.	
5/2 Spring return	3,0 - 10 bar
5/2 Differential	2,0 - 10 bar
5/2 Double solenoid	1,0 - 10 bar
5/3 Double solenoid	3,5 - 10 bar
Pneumatic version	
12 bar	
Working temperature.	
-10°C to + 60°C	
Flow (acc. to ISO 6358)	
c = 3,8 NI/s x bar	
b = 0,35	
Qn = 17,2 l/s	
Qmax = 25,5 l/s	

### Technical Data ISOMAX Size 2



Operating pressure.	
5/2 Spring return	2,5 - 10 bar
5/2 Differential	2,0 - 10 bar
5/2 Double solenoid	1,0 - 10 bar
5/3 Double solenoid	3,0 - 10 bar
Pneumatic version	
12 bar	
Working temperature.	
-10°C to + 60°C	
Flow (acc. to ISO 6358)	
c = 8,2 NI/s x bar	
b = 0,35	
Qn = 38,3 l/s	
Qmax = 58,7 l/s	

### Technical Data ISOMAX Size 3



Operating pressure.	
5/2 Spring return	2,5 - 10 bar
5/2 Differential	2,0 - 10 bar
5/2 Double solenoid	1,0 - 10 bar
5/3 Double solenoid	3,0 - 10 bar
Pneumatic version	
12 bar	
Working temperature.	
-10°C to + 60°C	
Flow (acc. to ISO 6358)	
c = 14,5 NI/s x bar	
b = 0,35	
Qn = 64,0 l/s	
Qmax = 101,0 l/s	



## ISOMAX Material Specification and Characteristics


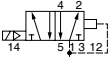
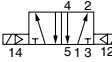
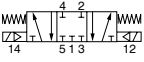
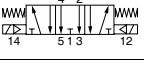
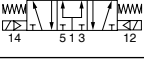
### Material Specification

Valve member - seat :	Self lubricating acetal - ceramic
Body :	Polyamide reinforced fibreglass
Casing - End plates :	Anodised aluminium - Painted zinc - Plated steel
Valve plate :	Zamak
Seals :	Nitrile
Springs :	Stainless steel
Screws :	Zinc plated steel
Top cover - Seal :	Polyamide reinforced fiberglass - Polyester

### Technical Characteristics

Fluid :	Air or inert gas filtered 40u class 5 according to ISO 8573-1 Dry class 4 according to ISO 8573-1 non-lubricated, or lubricated
Storage temperature :	-20° to + 70°
Vibration :	2g - from 2 to 150 Hz according to IEC 68-2-6
Shock :	15g - 11ms according to IEC 68-2-7


### Changeover time (ms) at 6 bar - Actua. / Return

Valve Function	Solenoid Operated Valves					Pneumatic Operated Valves				
	02	01	1	2	3	02	01	1	2	3
	15/25	25/35	40/55	60/105	85/160	15/25	25/35	30/45	50/95	80/160
	15/30	20/40	30/70	55/110	80/180	15/30	20/40	25/60	45/100	70/170
	12/12	15/15	25/25	30/30	40/40	12/12	14/14	20/20	25/25	35/35
	20/60	20/60	30/95	40/190	55/330	20/50	20/50	20/80	30/170	45/330
	20/60	20/60	25/70	40/140	60/270	20/50	20/50	20/65	30/140	50/270
			25/65	40/150				20/60	25/140	

**ISOMAX - ISO 15407-1 - Sizes 02 & 01**

**Pneumatic remote pilot or 15 mm DIN C solenoid valve operated**

**Order chart**



**For Electro-Pneumatic pilot valve only  
Solenoid valve operator definition**

**DX 01 - 6 21 - 95 1 M S**

Size	
<b>02</b>	Size 02 : 18 mm
<b>01</b>	Size 01 : 26 mm

Pilot	
<b>4</b>	Pneumatic
<b>6</b>	Electro-Pneumatic

Valve function	
<b>Internal pilot supply / Capture exhaust 12</b>	
<b>06</b>	5/2 double solenoid
<b>56</b>	5/2 double solenoid, 14 prioritised
<b>21</b>	5/2 single solenoid, spring return
<b>51</b>	5/2 single solenoid, differential return
<b>11</b>	5/3 double solenoid vented centre
<b>16</b>	5/3 double solenoid closed centre
<b>External pilot 14 supply / Capture exhaust 12</b>	
<b>05</b>	5/2 double solenoid
<b>59</b>	5/2 double solenoid, 14 prioritised
<b>23</b>	5/2 single solenoid, spring return
<b>54</b>	5/2 single solenoid, differential return
<b>09</b>	5/3 double solenoid vented centre
<b>19</b>	5/3 double solenoid closed centre

Connector	
<b>Blank</b>	Without any
<b>C</b>	Standard connector No cable
<b>S</b>	Connector with LED and protection - No cable
<b>S3</b>	Connector with LED and protection - 3 m cable
<b>S5</b>	Connector with LED and protection - 5 m cable

Voltage	
<b>L</b>	12 Vdc
<b>M</b>	24 Vdc
<b>N</b>	48 Vdc
<b>C</b>	24 Vac - 50 Hz
<b>D</b>	48 Vac - 50/60 Hz
<b>J</b>	110 Vac - 50/60 Hz
<b>A</b>	230 VAC - 50/60 Hz

Manual override	
<b>0</b>	Without any
<b>1</b>	Flush non locking
<b>2</b>	Flush non locking (extended 15 mm)
<b>3</b>	Flush locking
<b>5</b>	Flush locking (extended 15 mm)

Operator	
<b>For pneumatic pilot valve</b>	
<b>60</b>	Remote pneumatic pilot operated
<b>For electro-pneumatic pilot valve</b>	
<b>60</b>	Without 15 mm solenoid valve operator*
<b>95</b>	15 mm solenoid valve operator - DIN 43650 Form C


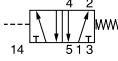
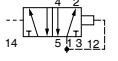
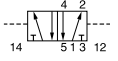
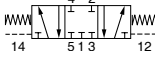
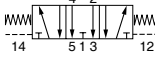
Shaded part numbers constituted with shaded voltage code are available from stock.  
 Shaded part numbers constituted by unshaded voltage code are available on request but are subject to a minimum order quantity. Otherwise, select « Blank » as voltage code and order coil separately.

\* 15 mm solenoid valve operator to be ordered separately

## ISOMAX - ISO 15407-1 - Sizes 02 & 01





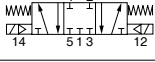
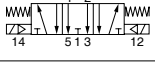
### Pneumatic remote pilot operated

Without valve spool manual override

Symbol	Description	Size	Weight (g)	Order code
	 5/2 Air pilot - Spring return	02 - 18 mm	90	<b>DX02-421-60</b>
		01 - 26mm	130	<b>DX01-421-60</b>
	 5/2 Air pilot - Differential	02 - 18 mm	90	<b>DX02-451-60</b>
		01 - 26mm	130	<b>DX01-451-60</b>
	 5/2 Double air pilot	02 - 18 mm	90	<b>DX02-406-60</b>
		01 - 26mm	130	<b>DX01-406-60</b>
	 5/3 Closed Centre	02 - 18 mm	90	<b>DX02-416-60</b>
		01 - 26mm	130	<b>DX01-416-60</b>
	 5/3 Vented Center	02 - 18 mm	90	<b>DX02-411-60</b>
		01 - 26mm	130	<b>DX01-411-60</b>

## ISOMAX - ISO 15407-1 - Sizes 02 & 01



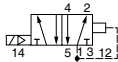
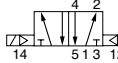
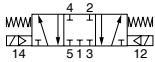
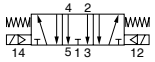
### 15 mm DIN C / 24 Vdc / 1,2 W solenoid valve operator

Symbol	Description	Size	Weight (g)	Order code
	 5/2 Single solenoid - Spring return	02 - 18 mm	130	<b>DX02-621-951M</b>
		01 - 26mm	170	<b>DX01-621-951M</b>
	 5/2 Single solenoid - Differential	02 - 18 mm	130	<b>DX02-651-951M</b>
		01 - 26mm	170	<b>DX01-651-951M</b>
	 5/2 Double solenoid	02 - 18 mm	130	<b>DX02-606-951M</b>
		01 - 26mm	170	<b>DX01-606-951M</b>
	 5/3 Closed Centre	02 - 18 mm	130	<b>DX02-616-951M</b>
		01 - 26mm	170	<b>DX01-616-951M</b>
	 5/3 Vented Center	02 - 18 mm	160	<b>DX02-611-951M</b>
		01 - 26mm	170	<b>DX01-611-951M</b>

Solenoid connectors & cable plugs to be ordered separately. See solenoid section

## ISOMAX - ISO 15407-1 - Sizes 02 & 01

### Without 15 mm DIN C solenoid valve operator


Symbol	Description	Size	Weight (g)	Order code
	 5/2 Single solenoid - Spring return	02 - 18 mm	130	<b>DX02-621-60</b>
		01 - 26mm	170	<b>DX01-621-60</b>
	 5/2 Single solenoid - Differential	02 - 18 mm	130	<b>DX02-651-60</b>
		01 - 26mm	170	<b>DX01-651-60</b>
	 5/2 Double solenoid	02 - 18 mm	130	<b>DX02-606-60</b>
		01 - 26mm	170	<b>DX01-606-60</b>
	 5/3 Closed Centre	02 - 18 mm	130	<b>DX02-616-60</b>
		01 - 26mm	170	<b>DX01-616-60</b>
	 5/3 Vented Center	02 - 18 mm	160	<b>DX02-611-60</b>
		01 - 26mm	170	<b>DX01-611-60</b>

15mm solenoid valve operator, solenoid connectors & cable plug to be ordered separately. See solenoid section

**ISOMAX - ISO 5599-1 - Sizes 1, 2 & 3**

**Pneumatic remote pilot or CNOMO operator - DIN or M12 connection**

**Order chart**



**For Electro-Pneumatic pilot valve only  
Solenoid valve operator definition**

**DX 1 - 6 51 - B L 49**

Size	
1	Size 1
2	Size 2
3	Size 3

Pilot	
4	Pneumatic
6	Electro-Pneumatic

Valve function	
Internal pilot supply	
06	5/2 double solenoid
56	5/2 double solenoid, 14 prioritised
21	5/2 single solenoid, spring return
51	5/2 single solenoid, differential return
11	5/3 double solenoid vented centre
13	5/3 double solenoid pressurised center *
16	5/3 double solenoid closed centre
External pilot 14 supply / Capture exhaust 12	
05	5/2 double solenoid
59	5/2 double solenoid, 14 prioritised
23	5/2 single solenoid, spring return
54	5/2 single solenoid, differential return
09	5/3 double solenoid vented centre
14	5/3 double solenoid pressurised center *
19	5/3 double solenoid closed centre

Voltage	
Blank	Operator only (without coil)

M12 connection	
19	24 Vdc

DIN connector	
45	12 Vdc
49	24 Vdc
40	12 Vac - 50/60 Hz
42	24 Vac - 50/60 Hz
53	110 Vac - 50Hz / 120 Vac - 60Hz
57	230 Vac - 50/60 Hz

Solenoid enclosure	
CNOMO 30 x 30 Operator for Low Power Coil	
L	Operator with coil
N	Operator only without coil

M12 connector	
2	One connector per distributor
6	One built-in connector per coil

Manual override	
On Pneumatic Valves or Electric Valves without operator	
60	Without direct spool override
70	With direct spool override

On electric operator *	
A	Without any
B	Non locking - Flush - Metal
C	Locking - Flush - Plastic


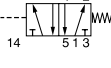
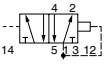
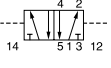
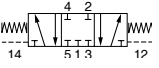
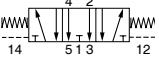
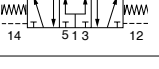
\* Without direct valve spool manual override

Shaded part numbers constituted with shaded voltage code are available from stock.  
 Shaded part numbers constituted by unshaded voltage code are available on request but are subject to a minimum order quantity. Otherwise, select « Blank » as voltage code and order coil separately.

## ISOMAX - ISO 5599-1 - Sizes 1, 2 & 3

### Pneumatic remote pilot operated


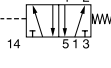
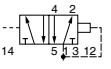
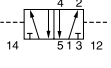
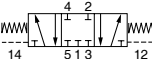
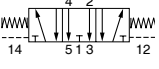
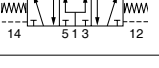
With direct valve spool manual override

Symbol	Description	Size	Weight (g)	Order code
 	5/2 Air pilot - Spring return	1 - 43 mm	350	<b>DX1-421-70</b>
		2 - 56 mm	600	<b>DX2-421-70</b>
		3 - 71 mm	1100	<b>DX3-421-70</b>
	5/2 Air pilot - Differential	1 - 43 mm	350	<b>DX1-451-70</b>
		2 - 56 mm	600	<b>DX2-451-70</b>
		3 - 71 mm	1100	<b>DX3-451-70</b>
	5/2 Double air pilot	1 - 43 mm	350	<b>DX1-406-70</b>
		2 - 56 mm	600	<b>DX2-406-70</b>
		3 - 71 mm	1100	<b>DX3-406-70</b>
	5/3 Closed Center	1 - 43 mm	350	<b>DX1-416-70</b>
		2 - 56 mm	600	<b>DX2-416-70</b>
		3 - 71 mm	1100	<b>DX3-416-70</b>
	5/3 Vented Center	1 - 43 mm	350	<b>DX1-411-70</b>
		2 - 56 mm	600	<b>DX2-411-70</b>
		3 - 71 mm	1100	<b>DX3-411-70</b>
	5/3 Pressurised Center	1 - 43 mm	350	<b>DX1-413-70</b>
		2 - 56 mm	600	<b>DX2-413-70</b>

## ISOMAX - ISO 5599-1 - Sizes 1, 2 & 3

### Pneumatic remote pilot operated

Without direct valve spool manual override




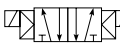
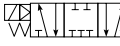


Symbol	Description	Size	Weight (g)	Order code
 	5/2 Air pilot - Spring return	1 - 43 mm	350	<b>DX1-421-60</b>
		2 - 56 mm	600	<b>DX2-421-60</b>
		3 - 71 mm	1100	<b>DX3-421-60</b>
	5/2 Air pilot - Differential	1 - 43 mm	350	<b>DX1-451-60</b>
		2 - 56 mm	600	<b>DX2-451-60</b>
		3 - 71 mm	1100	<b>DX3-451-60</b>
	5/2 Double air pilot	1 - 43 mm	350	<b>DX1-406-60</b>
		2 - 56 mm	600	<b>DX2-406-60</b>
		3 - 71 mm	1100	<b>DX3-406-60</b>
	5/3 Closed Center	1 - 43 mm	350	<b>DX1-416-60</b>
		2 - 56 mm	600	<b>DX2-416-60</b>
		3 - 71 mm	1100	<b>DX3-416-60</b>
	5/3 Vented Center	1 - 43 mm	350	<b>DX1-411-60</b>
		2 - 56 mm	600	<b>DX2-411-60</b>
		3 - 71 mm	1100	<b>DX3-411-60</b>
	5/3 Pressurised Center	1 - 43 mm	350	<b>DX1-413-60</b>
		2 - 56 mm	600	<b>DX2-413-60</b>



## ISOMAX - ISO 5599-1 - Sizes 1, 2 & 3

### CNOMO operator with 30 x 30 DIN Form A / 24 Vdc / 2,7 W solenoid

With non locking manual override on solenoid valve operator - Without direct valve spool manual override




Symbol	Description	Size	Weight (g)	Order code	
		5/2 Single solenoid - Spring return	1 - 43 mm	500	<b>DX1-621-BL49</b>
		2 - 56 mm	750	<b>DX2-621-BL49</b>	
		3 - 71 mm	1250	<b>DX3-621-BL49</b>	
	5/2 Single solenoid - Differential	1 - 43 mm	500	<b>DX1-651-BL49</b>	
		2 - 56 mm	750	<b>DX2-651-BL49</b>	
		3 - 71 mm	1250	<b>DX3-651-BL49</b>	
	5/2 Double solenoid	1 - 43 mm	650	<b>DX1-606-BL49</b>	
		2 - 56 mm	900	<b>DX2-606-BL49</b>	
		3 - 71 mm	1400	<b>DX3-606-BL49</b>	
	5/3 Closed Center	1 - 43 mm	560	<b>DX1-616-BL49</b>	
		2 - 56 mm	900	<b>DX2-616-BL49</b>	
		3 - 71 mm	1400	<b>DX3-616-BL49</b>	
	5/3 Vented Center	1 - 43 mm	650	<b>DX1-611-BL49</b>	
		2 - 56 mm	900	<b>DX2-611-BL49</b>	
		3 - 71 mm	1400	<b>DX3-611-BL49</b>	
	5/3 Pressurised Center	1 - 43 mm	650	<b>DX1-613-BL49</b>	
		2 - 56 mm	900	<b>DX2-613-BL49</b>	

Solenoid connectors & cable plug to be ordered separately. See solenoid section

## ISOMAX - ISO 5599-1 - Sizes 1, 2 & 3

### CNOMO operator without coil

With non locking manual override on solenoid valve operator - Without direct valve spool manual override


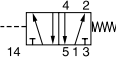
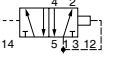
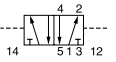
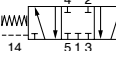
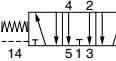
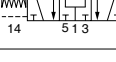
Symbol	Description	Size	Weight (g)	Order code	
		5/2 Single solenoid - Spring return	1 - 43 mm	400	<b>DX1-621-BN</b>
		2 - 56 mm	650	<b>DX2-621-BN</b>	
		3 - 71 mm	1150	<b>DX3-621-BN</b>	
	5/2 Single solenoid - Differential	1 - 43 mm	400	<b>DX1-651-BN</b>	
		2 - 56 mm	650	<b>DX2-651-BN</b>	
		3 - 71 mm	1150	<b>DX3-651-BN</b>	
	5/2 Double solenoid	1 - 43 mm	550	<b>DX1-606-BN</b>	
		2 - 56 mm	800	<b>DX2-606-BN</b>	
		3 - 71 mm	1300	<b>DX3-606-BN</b>	
	5/3 Closed Center	1 - 43 mm	550	<b>DX1-616-BN</b>	
		2 - 56 mm	800	<b>DX2-616-BN</b>	
		3 - 71 mm	1300	<b>DX3-616-BN</b>	
	5/3 Vented Center	1 - 43 mm	550	<b>DX1-611-BN</b>	
		2 - 56 mm	800	<b>DX2-611-BN</b>	
		3 - 71 mm	1300	<b>DX3-611-BN</b>	
	5/3 Pressurised Center	1 - 43 mm	550	<b>DX1-613-BN</b>	
		2 - 56 mm	800	<b>DX2-613-BN</b>	

30 x 30 DIN Form A or 22 x 30 DIN Form B coil & coil connectors to be ordered separately. See solenoid section

## ISOMAX - ISO 5599-1 - Sizes 1, 2 & 3

### Valve alone without operator


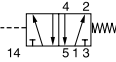
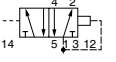
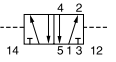
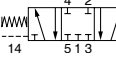
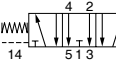
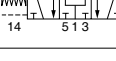
With direct valve spool manual override

Symbol	Description	Size	Weight (g)	Order code
 	5/2 Single pilot - Spring return	1 - 43 mm	350	<b>DX1-621-70</b>
		2 - 56 mm	600	<b>DX2-621-70</b>
		3 - 71 mm	1100	<b>DX3-621-70</b>
	5/2 Single pilot - Differential	1 - 43 mm	350	<b>DX1-651-70</b>
		2 - 56 mm	600	<b>DX2-651-70</b>
		3 - 71 mm	1100	<b>DX3-651-70</b>
	5/2 Double pilot	1 - 43 mm	350	<b>DX1-606-70</b>
		2 - 56 mm	600	<b>DX2-606-70</b>
		3 - 71 mm	1100	<b>DX3-606-70</b>
	5/3 Closed Center	1 - 43 mm	350	<b>DX1-616-70</b>
		2 - 56 mm	600	<b>DX2-616-70</b>
		3 - 71 mm	1100	<b>DX3-616-70</b>
	5/3 Vented Center	1 - 43 mm	350	<b>DX1-611-70</b>
		2 - 56 mm	600	<b>DX2-611-70</b>
		3 - 71 mm	1100	<b>DX3-611-70</b>
	5/3 Pressurised Center	1 - 43 mm	350	<b>DX1-613-70</b>
		2 - 56 mm	600	<b>DX2-613-70</b>

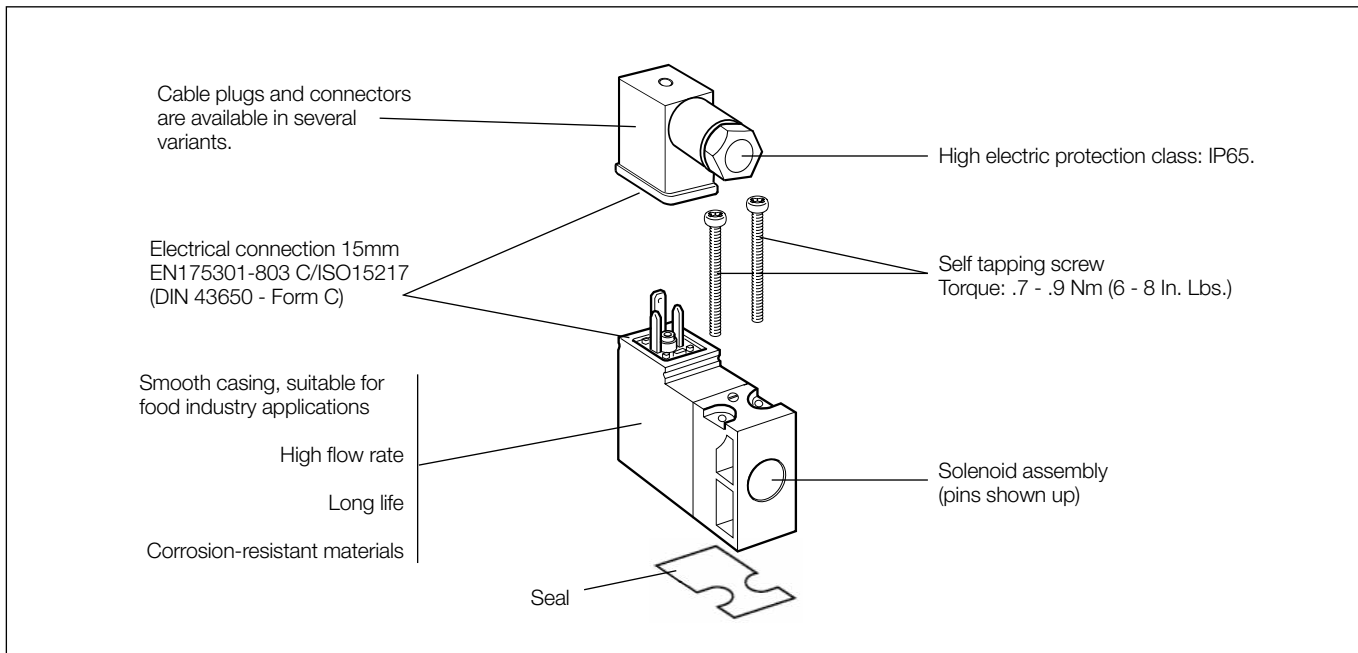
## ISOMAX - ISO 5599-1 - Sizes 1, 2 & 3

### Valve alone without operator


Without direct valve spool manual override

Symbol	Description	Size	Weight (g)	Order code
 	5/2 Single pilot - Spring return	1 - 43 mm	350	<b>DX1-621-60</b>
		2 - 56 mm	600	<b>DX2-621-60</b>
		3 - 71 mm	1100	<b>DX3-621-60</b>
	5/2 Single pilot - Differential	1 - 43 mm	350	<b>DX1-651-60</b>
		2 - 56 mm	600	<b>DX2-651-60</b>
		3 - 71 mm	1100	<b>DX3-651-60</b>
	5/2 Double pilot	1 - 43 mm	350	<b>DX1-606-60</b>
		2 - 56 mm	600	<b>DX2-606-60</b>
		3 - 71 mm	1100	<b>DX3-606-60</b>
	5/3 Closed Center	1 - 43 mm	350	<b>DX1-616-60</b>
		2 - 56 mm	600	<b>DX2-616-60</b>
		3 - 71 mm	1100	<b>DX3-616-60</b>
	5/3 Vented Center	1 - 43 mm	350	<b>DX1-611-60</b>
		2 - 56 mm	600	<b>DX2-611-60</b>
		3 - 71 mm	1100	<b>DX3-611-60</b>
	5/3 Pressurised Center	1 - 43 mm	350	<b>DX1-613-60</b>
		2 - 56 mm	600	<b>DX2-613-60</b>

## 15 mm N.C. Solenoid Operator - DIN Form C for ISOMAX 15407-1 Sizes 02 & 01



### Technical data

	<b>NC, Standard</b>	<b>NC, Food<sup>1)</sup></b>	<b>NC, Mobile<sup>2)</sup></b>
Working pressure	0 to 10 bar	0 to 10 bar	0 to 10 bar
Working temperature	-15 °C to +60 °C	-15 °C to +60 °C	-40 °C to +70 °C
Orifice	1,0 mm	1,0 mm	1,0 mm
Flow Qmax	33 Nl/min	33 Nl/min	22 Nl/min
Power, hold	DC 1,2 W / AC 1,6 VA *	DC 1,2 W / AC 1,6 VA *	DC 1,4 W
Power, surge	DC 1,2 W / AC 3,5 VA *	DC 1,2 W / AC 3,5 VA *	DC 1,4 W
Connection time	100%	100%	100%
Voltage tolerance	+10%/-15%	+10%/-15%	+25%/-30%
Electric connection:	Form C/ISO15217		
Port pattern:	To future CNOMO standard		
Protection:	IP 65		
Approval:	Some valves are UL 429 recognised and marked with the following symbol 		
Working media:	All neutral media, such as compressed air, water, hydraulic oil and many gases.		
1) Design:	Completely smooth exterior, suitable for food industry.		
2) Mobile standard	According to European standard EN 50 155.		

\* Power, hold for 230VAC 2.4VA  
Power, surge for 230VAC 5.5VA

### Transients

Interrupting the current through the solenoid coil produces momentary voltage peaks which, under unfavourable conditions, can amount to several hundred times the rated operating voltage. Normally, these transients do not cause problems, but to achieve the maximum life of relays in the circuit (and particularly of transistors, thyristors and integrated circuits) it is desirable to provide protection by means of voltage-dependent resistors (varistors). All cable plugs with a yellow LED also incorporate such protection.

### Service life

With compressed air at 6 bar, 20 °C and complying with the requirements for compressed air quality as set out in ISO8573-1 norm (class 4 for dry and class 5 for filtered air), the valves should have a life of at least 50 million cycles.

### Materials

#### Operator

Body, coil casing	Thermoplastic
Internal metal parts	Steel
Screws	Stainless steel
Bottom plug	Thermoplastic
Sealing materials	FPM (Viton™) and nitrile rubber

#### Cable head

Sheath	Thermoplastic
Retaining screw	Stainless steel, zinc-plated steel

### 15mm DIN Form C (8mm spacing) pilot solenoid valve

For use with 15mm pilot solenoid valve PVL-B2 body

	Manual Overrides		Flush (Not Extended)		Extended		
	Voltage	W (g)	Without Manual Override	Blue Override, non locking	Yellow Override, Locking	Blue Override, non locking	Yellow Override, Locking
	12 Vdc	38	<b>P2E-KV32B0</b>	<b>P2E-KV32B1</b>	<b>P2E-KV32B2</b>	<b>P2E-KV32B3</b>	<b>P2E-KV32B4</b>
	24 Vdc	38	<b>P2E-KV32C0</b>	<b>P2E-KV32C1</b>	<b>P2E-KV32C2</b>	<b>P2E-KV32C3</b>	<b>P2E-KV32C4</b>
	48 Vdc	38	<b>P2E-KV32D0</b>	<b>P2E-KV32D1</b>	<b>P2E-KV32D2</b>	<b>P2E-KV32D3</b>	<b>P2E-KV32D4</b>
	24 Vac 50Hz	38	<b>P2E-KV31C0</b>	<b>P2E-KV31C1</b>	<b>P2E-KV31C2</b>	<b>P2E-KV31C3</b>	<b>P2E-KV31C4</b>
	48 Vac 50/60Hz	38	<b>P2E-KV34D0</b>	<b>P2E-KV34D1</b>	<b>P2E-KV34D2</b>	<b>P2E-KV34D3</b>	<b>P2E-KV34D4</b>
	115 Vac 50Hz	38	<b>P2E-KV31F0</b>	<b>P2E-KV31F1</b>	<b>P2E-KV31F2</b>	<b>P2E-KV31F3</b>	<b>P2E-KV31F4</b>
	120 Vac 60 Hz						
	230 Vac 50Hz	38	<b>P2E-KV31J0</b>	<b>P2E-KV31J1</b>	<b>P2E-KV31J2</b>	<b>P2E-KV31J3</b>	<b>P2E-KV31J4</b>
	240 Vac 60 Hz						

### 15 mm N.C. Solenoid Operator - Mobile version

	Voltage	W (g)	Without Manual Override	Not Extended Blue Override
			Order code	non locking flush Order code
	12 Vdc	38	<b>P2E-MV35B0</b>	<b>P2E-MV35B1</b>
	24 Vdc	38	<b>P2E-MV35C0</b>	<b>P2E-MV35C1</b>
	37,5 Vdc	38	<b>P2E-MV35W0</b>	<b>P2E-MV35W1</b>
	48 Vdc	38	<b>P2E-MV35D0</b>	<b>P2E-MV35D1</b>
	72 Vdc	38	<b>P2E-MV35T0</b>	<b>P2E-MV35T1</b>
	78 Vdc	38	<b>P2E-MV35Y0</b>	<b>P2E-MV35Y1</b>
	96 Vdc	38	<b>P2E-MV35V0</b>	<b>P2E-MV35V1</b>
	110 Vdc	38	<b>P2E-MV35E0</b>	<b>P2E-MV35E1</b>

### Suppressor and LED indicators

For 8 mm solenoid pin spacing -  
 For mounting between the solenoid valve and the cable plug

Description	Electrical voltage	W (g)	Order code
	LED indicator	24 VAC/DC	3 <b>P8V-CR26C</b>
		115 VAC 50 Hz 120 VAC 60 Hz	3 <b>P8V-CR24F</b>
		230 VAC 50 Hz 240 VAC 60 Hz	3 <b>P8V-CR24J</b>

Mounting screws included with the solenoid valve operator

### 15 mm N.C. Solenoid Operator - Food Industry version

	Manual Overrides		Flush (Not Extended)		Extended		
	Voltage	W (g)	Without Manual Override	Blue Override, non locking	Yellow Override, Locking	Blue Override, non locking	Yellow Override, Locking
	24 Vdc	38	<b>P2E-QV32C0</b>	<b>P2E-QV32C1</b>	<b>P2E-QV32C2</b>	<b>P2E-QV32C3</b>	<b>P2E-QV32C4</b>
	48 Vdc	38	<b>P2E-QV32D0</b>	<b>P2E-QV32D1</b>	<b>P2E-QV32D2</b>		
	24 Vac 50 Hz	38	<b>P2E-QV31C0</b>	<b>P2E-QV31C1</b>	<b>P2E-QV31C2</b>	<b>P2E-QV31C3</b>	<b>P2E-QV31C4</b>
	48 Vac 50/60Hz	38	<b>P2E-QV34D0</b>	<b>P2E-QV34D1</b>	<b>P2E-QV34D2</b>		
	115 Vac 50Hz/	38	<b>P2E-QV31F0</b>	<b>P2E-QV31F1</b>	<b>P2E-QV31F2</b>	<b>P2E-QV31F3</b>	<b>P2E-QV31F4</b>
	120 Vac 60Hz						
	230 Vac 50Hz	38	<b>P2E-QV31J0</b>	<b>P2E-QV31J1</b>	<b>P2E-QV31J2</b>	<b>P2E-QV31J3</b>	<b>P2E-QV31J4</b>
	240 Vac 60Hz/						

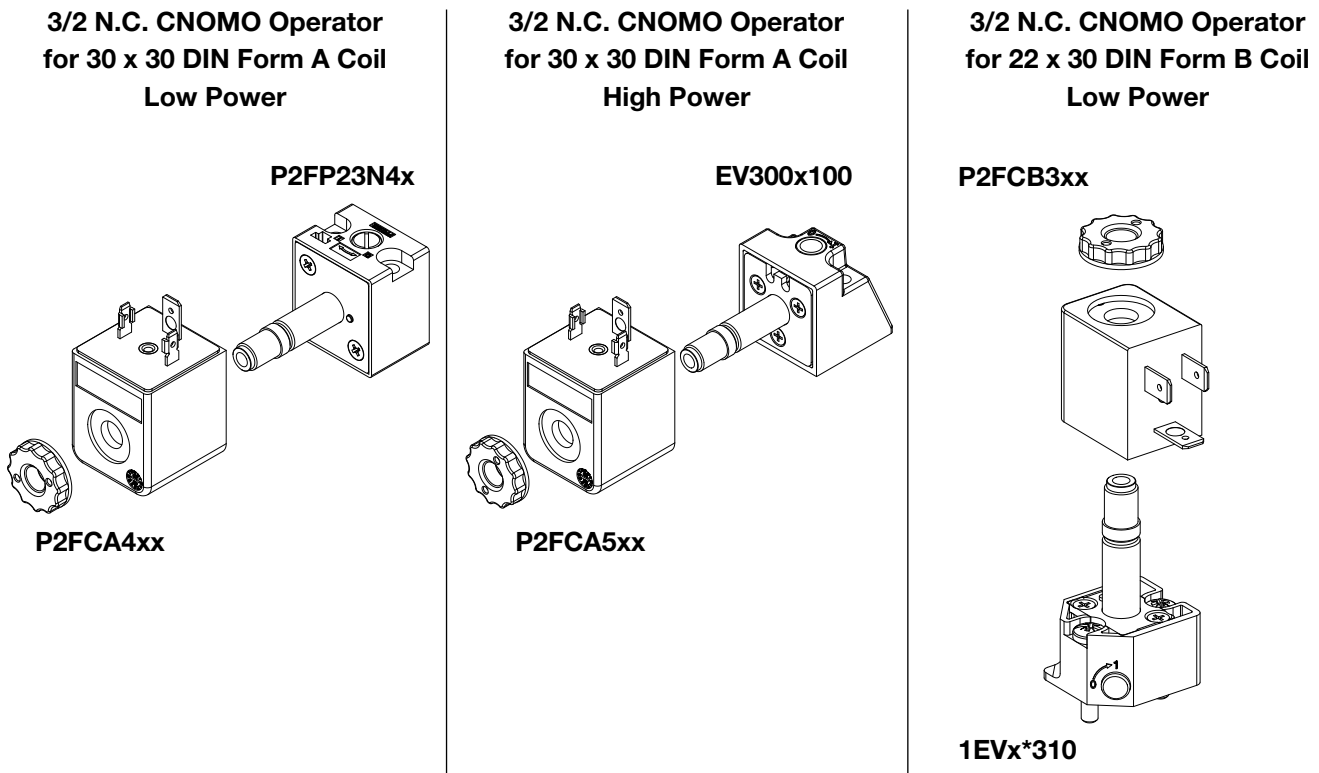
Mounting screws included with the solenoid valve operator

### Solenoid Connectors 15 mm DIN Form C / ISO15217

Description	Characteristic	Visualisation	Cable length	W (g)	Order code	
	Standard IP65	No LED	No cable	20	<b>P8C-C</b>	
		24 Vdc LED	No cable	20	<b>P8C-C26C</b>	
		110 Vac LED	No cable	20	<b>P8C-C21E</b>	
	Standard IP65	No LED	No cable	15	<b>P8C-D</b>	
			No cable	2 meters	115	<b>P8L-C2</b>
			No cable	5 meters	240	<b>P8L-C5</b>
		24 Vdc/Vac LED	No cable	15	<b>P8C-D26C</b>	
			No cable	2 meters	170	<b>P8L-C226C</b>
			No cable	5 meters	240	<b>P8L-C526C</b>
			No cable	10 meters	440	<b>P8L-CA26C</b>
		110 Vac LED	No cable	115	<b>P8C-D21E</b>	
			No cable	2 meters	115	<b>P8L-C221E</b>
			No cable	5 meters	230	<b>P8L-C521E</b>

In accordance with the EU Machine Directive, EN 983, solenoid valves with manual override should have spring-return operating arms for safety.

**3/2 N.C. CNOMO Operator for 30 x 30 DIN Form A or 22 x 30 DIN Form B coils**






**Technical data - Solenoid operator & Coil combinations**


		3/2 N.C. CNOMO Operators		
		30 x 30 DIN Form A Coil		22 x 30 DIN Form B Coil
		Low Power	High Power	Low Power
Working pressure		0 to 10 bar		
Ambient temperature		-10°C to 60°C (1)	-10°C to 60°C (1)	-25°C to 60°C (1)
Orifice		1.3/1.5mm	1.3/1.5mm	1.2/1.3mm
Nominal Flow Qn		0.84 dm³/s	0.84 dm³/s	0.7 dm³/s
Power	AC Voltages	2,5W	4,5W	3 W
	DC Voltages	3VA	5VA	50 Hz : 5 VA / 60 Hz : 4,2 VA
Voltage tolerance		+/- 10%		
Duty cycle		100%		
Insulation class		F		
Electric connection		DIN A		DIN B
Protection IP65		IP65		
Shock		According to IEC 68-2-6 (2G - from 2 to 150 Hz)		
Vibration		According to IEC 68 - 2 - 7 (15G - 11 m/s)		
Working media		All neutral media such as compressed air and inert gases		




### 3/2 N.C. CNOMO Operator - Without Coil

Description	Manual override	W (g)	Order code
 Solenoid operator for 30 x 30 DIN Form A Coil Dedicated to Low Power 2,5W / 3VA Coil	No manual override	65	<b>P2FP23N4A</b>
	Pulse non locking	65	<b>P2FP23N4B</b>
	Locking	65	<b>P2FP23N4C</b>
 Solenoid operator for 30 x 30 DIN Form A Coil Dedicated to High Power 4,5W / 5VA Coil	No manual override	65	<b>EV3000100</b>
	Pulse non locking	65	<b>EV3001100</b>
	Locking	65	<b>EV3003100</b>
 Solenoid operator for 22 x 30 DIN Form B Coil Dedicated to Low Power 2,5W / 4,5VA Coil	No manual override	65	<b>1EV0*310</b>
	Pulse non locking	65	<b>1EV1*310</b>
	Locking	65	<b>1EV3*310</b>



### 30 x 30 DIN Form A and 22 x 30 DIN Form B Coils for CNOMO Operator

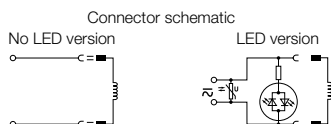
Voltage	W (g)	30 x 30 DIN Form A		22 x 30 DIN Form B		
		Order code	Order code	Order code	Order code	
	12 Vdc	105	<b>P2FCA445</b>	<b>P2FCA545</b>	93	<b>P2FCB345</b>
	24 Vdc	105	<b>P2FCA449</b>	<b>P2FCA549</b>	93	<b>P2FCB349</b>
	48 Vdc	105	<b>P2FCA453</b>	<b>P2FCA551</b>	93	<b>P2FCB351</b>
	12 Vac 50/60 Hz	105	<b>P2FCA440</b>	<b>P2FCA540</b>	93	<b>P2FCB340</b>
	24 Vac 50/60 Hz	105	<b>P2FCA445</b>	<b>P2FCA545</b>	93	<b>P2FCB345</b>
	48 Vac 50/60 Hz	105	<b>P2FCA449</b>	<b>P2FCA549</b>	93	<b>P2FCB349</b>
	110 Vac 50 Hz / 120 Vac 60 Hz	105	<b>P2FCA453</b>	<b>P2FCA553</b>	93	<b>P2FCB353</b>
	230 Vac 50 Hz / 240 Vac 60 Hz	105	<b>P2FCA457</b>	<b>P2FCA557</b>	93	<b>P2FCB357</b>

### Spare Solenoid Nuts

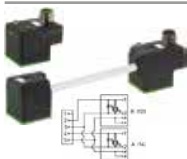
Description	Usage	W (g)	Order code	
	Plastic knurled nut	For valve requiring Captured exhaust	5	<b>P2FNPA</b>
	Diffuser plastic nut	For valve requiring Vented exhaust	5	<b>P2FNDA</b>

### 30 x 30 DIN Form A and 22 x 30 DIN Form B Solenoid Connectors

Description	Characteristic	Visualisation	Cable length	W (g)	Order code
 30 x 30 DIN Form A connector With standard screw	Standard IP65	No LED	No cable	15	<b>3EV290V10</b>
		24 Vdc/Vac LED	No cable	30	<b>3EV290V20-24</b>
			5 meters	355	<b>3EV290V20-24L5</b>
		110 Vac LED	No cable	30	<b>3EV290V20-110</b>
			5 meters	470	<b>3EV290V20-110L5</b>
		230 Vac LED	No cable	30	<b>3EV290V20-230</b>
 22 x 30 DIN Form B connector With standard screw	Standard IP65	No LED	No cable	15	<b>3EV10V10</b>
			24 Vdc/Vac LED	No cable	20
		5 meters		350	<b>3EV10V20-24L5</b>
		110 Vac LED	No cable	25	<b>3EV10V20-110</b>
			5 meters	355	<b>3EV10V20-110L5</b>
		230 Vac LED	No cable	25	<b>3EV10V20-230</b>
			5 meters	360	<b>3EV10V20-230L5</b>




### M12 Adaptor for 30 x 30 DIN Form A Coil

Description	Characteristics	Visualisation	Cable	W (g)	Order code
 M12 Connector for one coil	24 V AC/DC - 4A	LED	No cable	30	<b>P8C-A626C</b>
			M12 Connector for two coils	24 V AC/DC - 4A	LED


**Note:** Solenoid pilot operators are fitted to the ISO valve range.  
 Order the above part numbers for spares.  
 The operators are supplied with mounting screws and interface 'O' rings.  
**Coils and connectors must be ordered separately.**

## ISO 15407-1 Subbases & Manifolds


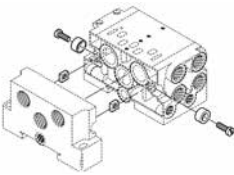
### Side ported individual subbase - ISO 15407-1 - Sizes 02 & 01

Description	Size	Port Size	Weight (g)	Order code
 <p><b>Individual Subbase</b> Can be used for External pilot supply or Single or Double pneumatic remote pilot</p>	02 - 18 mm	1/8 BSPP	70	<b>PL02-01-70</b>
		1/8 NPT	70	<b>PL02-01-80</b>
	01 - 26 mm	1/4 BSPP	120	<b>PL01-02-70</b>
		1/4 NPT	120	<b>PL01-02-80</b>

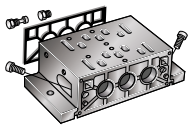
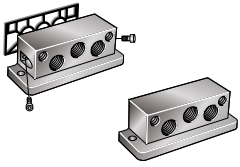

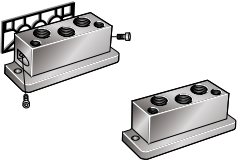

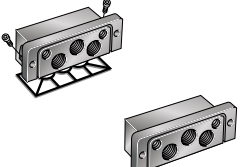

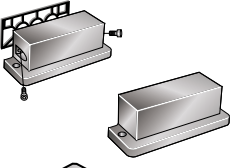

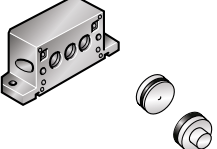
### Front ported manifold & End plate - ISO 15407-1 - Sizes 02 & 01

Description	Size	Port Size	Weight (g)	Order code
 <p><b>Two position manifold base</b> Can be used for External pilot supply Cannot be used for remote pilot</p>	02 - 18 mm	1/8 BSPP	140	<b>PJLP02-201-70</b>
		1/8 NPT	140	<b>PJLP02-201-80</b>
	01 - 26 mm	1/4 BSPP	700	<b>PJLP01-202-70</b>
		1/4 NPT	700	<b>PJLP01-202-80</b>
<p><b>Two position manifold base</b> Can be used for External pilot supply using #14 or Single or Double pneumatic remote pilot</p>	01 - 26 mm	1/4 BSPP	730	<b>PJL01-202-70</b>
		1/4 NPT	730	<b>PJL01-202-80</b>
<p><b>End plate kit</b></p>	02 - 18 mm	1/4 BSPP	150	<b>PEJ02-02-70</b>
		1/4 NPT	150	<b>PEJ02-02-80</b>
	01 - 26 mm	3/8 BSPP	520	<b>PEJ01-03-70</b>
		3/8 NPT	520	<b>PEJ01-03-80</b>

## Accessories

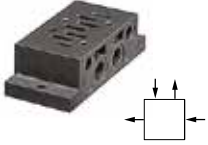
Description	Size	Weight (g)	Order code
 <p><b>Blanking plate</b></p>	02 - 18 mm	40	<b>DX02BLK</b>
	01 - 26 mm	50	<b>DX01BLK</b>
<p><b>Blanking plug</b></p>	02 - 18 mm	10	<b>D02BD0</b>
	01 - 26 mm	20	<b>D01BD0</b>
 <p><b>Front Ported Manifold Assembling Kit</b> Including 10 Bolts, 10 Washers &amp; 10 Nuts</p>	02 - 18 mm & 01 - 26 mm	120	<b>DX02M2MB</b>

## Bottom ported manifold & End plate - ISO 15407-1 - Sizes 02 & 01



Description		Size	Port Size	Weight (g)	Order code	
	<b>Two valve position manifold</b>	Int. pilot supply	02 - 18 mm	1/8 BSPP	200	<b>P2V-AM511PB</b>
			01 - 26 mm	1/4 BSPP	400	<b>P2V-BM512PB</b>
	Including seal, fitting screws and plugs.	Ext. pilot supply	02 - 18 mm	1/8 BSPP	200	<b>P2V-AM511NB</b>
			01 - 26 mm	1/4 BSPP	400	<b>P2V-BM512NB</b>
	<b>Side ported</b>	Left end plate	02 - 18 mm	1/4 BSPP	180	<b>P2V-AM512GS</b>
		Including seal and fitting screws	01 - 26 mm	3/8 BSPP	210	<b>P2V-BM513GS</b>
		Right end plate	02 - 18 mm	1/4 BSPP	180	<b>P2V-AM512HS</b>
			01 - 26 mm	3/8 BSPP	210	<b>P2V-BM513HS</b>
	<b>Top ported</b>	Left end plate	02 - 18 mm	1/4 BSPP	180	<b>P2V-AM512GT</b>
		Including seal and fitting screws	01 - 26 mm	3/8 BSPP	210	<b>P2V-BM513GT</b>
		Right end plate	02 - 18 mm	1/4 BSPP	180	<b>P2V-AM512HT</b>
			01 - 26 mm	3/8 BSPP	210	<b>P2V-BM513HT</b>
	<b>Bottom ported</b>	Left end plate	02 - 18 mm	1/4 BSPP	180	<b>P2V-AM512GB</b>
		Including seal and fitting screws	01 - 26 mm	3/8 BSPP	220	<b>P2V-BM513GB</b>
		Right end plate	02 - 18 mm	1/4 BSPP	180	<b>P2V-AM512HB</b>
			01 - 26 mm	3/8 BSPP	220	<b>P2V-BM513HB</b>
	<b>End cover</b>	Left end plate	02 - 18 mm		190	<b>P2V-AM500G0</b>
		Including seal and fitting screws	01 - 26 mm		240	<b>P2V-BM500G0</b>
		Right end plate	02 - 18 mm		190	<b>P2V-AM500H0</b>
			01 - 26 mm		240	<b>P2V-BM500H0</b>
<b>Size manifolds adaptor plate</b>		01 to 02		330	<b>P2V-AM500BE</b>	
	<b>Plug</b>	Left end plate	02 - 18 mm		4	<b>P2V-AK0P</b>
			01 - 26 mm		10	<b>P2V-BK0P</b>

## ISO 5599-1 Subbase & Manifolds


### VDMA Side Ported Subbases

Description	Size	Port size	Weight (g)	Order code
 <p><b>Subbases VDMA</b> Side port according to VDMA</p>	1 - 43mm	G1/4	160	<b>P2N-VS512SD</b>
	2 - 56mm	G3/8	280	<b>P2N-WS513SD</b>
	3 - 71mm	G1/2	350	<b>P2N-YS514SD</b>


### VDMA Bottom Ported Manifold

Description	Size	Port size	Weight (g)	Order code
 <p><b>VDMA Form C</b> Bottom port according to VDMA</p>	1 - 43mm	G1/4	240	<b>P2N-VM512MB</b>
	2 - 56mm	G3/8	360	<b>P2N-WM513MB</b>
	3 - 71mm	G1/2	700	<b>P2N-YM514MB</b>
<p><b>VDMA Transition plate</b> Size 1 to Size 3 <b>Kit includes:</b> Transition plate only</p> 	1 to 3	G1/4		<b>P2N-VM500AK</b>
<p><b>VDMA Form D - End plate</b> According to VDMA</p> 	1 - 43mm	G3/8	210	<b>P2N-VM513ES</b>
	2 - 56mm	G1/2	360	<b>P2N-WM514ES</b>
	3 - 71mm	G1	680	<b>P2N-YM518ES</b>
<p><b>VDMA Isolation - Main galley</b> According to VDMA</p> <p><b>Kit includes:</b> (1) Isolator plug.</p>	1 - 43mm			<b>P2N-VK0P</b>
	2 - 56mm			<b>P2N-WK0P</b>
	3 - 71mm			<b>P2N-YK0P</b>


### Accessories

Description	Size	Port size	Weight (g)	Order code
 <p><b>Blanking plate</b></p> <p><b>Kit includes:</b> (1) Blanking plate, (1) Gasket and (4) Mounting bolts</p>	1 - 43mm	G1/4	100	<b>P2N-AA5B</b>
	2 - 56mm	G3/8	150	<b>P2N-BA5B</b>
	3 - 71mm	G1/2	200	<b>P2N-CA5B</b>










## Side ported subbases

Description	Size	Port size	Weight (g)	Order code BSP	Order code NPT
 <p><b>Single subbase</b> 1 3 5 2 4 ports &amp; 12 14</p>	1 - 43mm	G1/4	160	<b>PL1-1/4-70</b>	<b>PL1-1/4-80</b>
		G3/8	160	<b>PL1-3/8-70</b>	
	2 - 56mm	G3/8	280	<b>PL2-3/8-70</b>	<b>PL2-3/8-80</b>
		G1/2		<b>P2N-HS514SS</b>	
	3 - 71mm	G1/2		<b>PL3-1/2-70</b>	<b>PL3-1/2-80</b>
		G3/4		<b>P2N-JS516SD</b>	





## Bottom ported subbases

Description	Size	Port size	Weight (g)	Order code BSP	Order code NPT
 <p><b>Single subbase</b> 1 3 5 2 4 ports &amp; 12 14</p>	1 - 43mm	G1/4	370	<b>PD1-1/4-70</b>	<b>PD1-1/4-80</b>
	2 - 56mm	G3/8	590	<b>PD2-3/8-70</b>	<b>PD2-3/8-80</b>
	3 - 71mm	G1/2	590	<b>PD3-1/2-70</b>	

## Size 1 bottom ported manifold

Description	Size	Port size	Weight (g)	Order code
  <p><b>Manifold</b> with bottom ports low profile</p>	1 - 43mm	G1/4	20	<b>P2N-AM512MB</b>
  <p><b>Connecting block</b> Top or bottom ported connecting block for above manifold "low profile"</p>	1 - 43mm	G3/8	150	<b>P2N-AM513GT</b>
  <p><b>End</b> End piece for above manifold "low profile"</p>	1 - 43mm	no	6	<b>P2N-AM500J</b>
  <p><b>Intermediate supply</b> Top or bottom ported intermediate supply for above manifold "low profile"</p>	1 - 43mm	G3/8	140	<b>P2N-AM513BT</b>
 <p><b>Isolation plugs</b> isolating seal for above manifold "low profile"</p>	1 - 43mm		070	<b>P2N-AK0P</b>

## Sizes 1 & 2 side ported manifold

Description	Size	Port size	Weight (g)	Order code
  <p><b>Manifold</b> Manifold with side port</p>	1 - 43mm	G1/4	240	<b>P2N-EM512MD</b>
	2 - 56mm	G3/8	210	<b>P2N-FM513MD</b>
  <p><b>End</b> Side ported connecting kit for above manifold with side ports</p>	1 - 43mm	G3/8	360	<b>P2N-EM513ES</b>
	2 - 56mm	G1/2	290	<b>P2N-FM514ES</b>



**Sandwich regulator for Plug-in or not Plug-in ISO 15407 (Sizes 02 & 01) and 5599 (Sizes 1, 2 & 3)**

**Order chart**

ISO Size	
<b>ISO 15407</b>	
<b>PS56</b>	Size 02 (HB - 18 mm)
<b>PS55</b>	Size 01 (HA - 26 mm)
<b>ISO 5599</b>	
<b>PS40</b>	Size 1 (H1 - 43 mm)
<b>PS41</b>	Size 2 (H2 - 56 mm)
<b>PS42</b>	Size 3 (H3 - 71 mm)

Connecting version	
<b>37</b>	ISO-1 : For Non Plug-in Valve
<b>38</b>	ISO-2 : For Plug-in Valve

Regulator function	
<b>1</b>	Common Pressure Regulator
<b>2</b>	Independent Pressure Regulator

Function Description  
see below

PS40
37
1
6
6
CP

ISO Version	
<b>P</b>	For ISO 15407
<b>CP</b>	For ISO 5599

Port 4	Port 2
<b>Port Regulator / Gauge*</b>	
<b>0</b>	Line By-Pass Plate**
<b>1</b>	0-2 Bar - without gauge
<b>2</b>	0-4 Bar - without gauge
<b>3</b>	0-8 Bar - without gauge
<b>4</b>	0-2 Bar - with gauge
<b>5</b>	0-4 Bar - with gauge
<b>6</b>	0-8 Bar - with gauge

\* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both port #4 and Port #2 (Example: 166)

\*\* For H1, H2 & H3 only. Pressure Line By-Pass Option can only be used with Independent Pressure Regulators

**Pressure Regulators functions**

**Common port regulation**

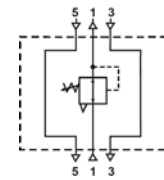
Provides adjustable regulated air pressure to the valves #1 port which gives the same regulated pressure to both the #2 and #4 port of the manifold or subbase. The regulator is always on the 14 end of the valve.



For HB & HA



For H1, H2 & H3



Part number code 1 X X

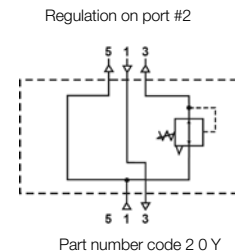
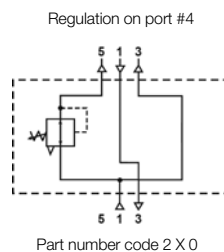
**Independent port regulation**

**Single Port Regulator**

Provides regulated pressure to both ports. Pressure regulation can occur out of the #2 or #4 port of the valve. Full line pressure would be provided with a pass plate.



For H1, H2 & H3



**Dual Port Regulator**

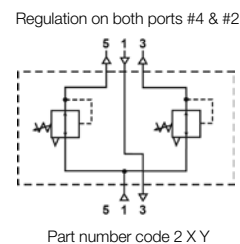
When using an independent Pressure Sandwich Regulator, the cylinder outlet ports are reversed. The 12 end energizes the #2 port. The 3-position CE and PC functions are also reversed.



For HB & HA



For H1, H2 & H3



## Sandwich regulator with Gauge

	ISO Size	Regulator function	Pressure On port 4 and / or port 2	w (g)	Order code	
					ISO-1 Non Plug-in	ISO-2 Plug-in
	02 - 18 mm	Common	0 to 4 bar	180	<b>PS5637155P</b>	<b>PS5638155P</b>
		Independent	0 to 8 bar		<b>PS5637166P</b>	<b>PS5638166P</b>
	01 - 26 mm	Common	0 to 4 bar	240	<b>PS5637255P</b>	<b>PS5638255P</b>
		Independent	0 to 8 bar		<b>PS5637266P</b>	<b>PS5638266P</b>
	01 - 26 mm	Common	0 to 4 bar	240	<b>PS5537155P</b>	<b>PS5538155P</b>
		Independent	0 to 8 bar		<b>PS5537166P</b>	<b>PS5538166P</b>
	1 - 43 mm	Common	0 to 4 bar	340	<b>PS4037155CP</b>	<b>PS4038155CP</b>
		Independent	0 to 8 bar		<b>PS4037166CP</b>	<b>PS4038166CP</b>
	1 - 43 mm	Common	0 to 4 bar	340	<b>PS4037255CP</b>	<b>PS4038255CP</b>
		Independent	0 to 8 bar		<b>PS4037266CP</b>	<b>PS4038266CP</b>
	2 - 56 mm	Common	0 to 4 bar	520	<b>PS4137155CP</b>	<b>PS4138155CP</b>
		Independent	0 to 8 bar		<b>PS4137166CP</b>	<b>PS4138166CP</b>
	2 - 56 mm	Common	0 to 4 bar	520	<b>PS4137255CP</b>	<b>PS4138255CP</b>
		Independent	0 to 8 bar		<b>PS4137266CP</b>	<b>PS4138266CP</b>
	3 - 71 mm	Common	0 to 4 bar	1180	<b>PS4237155CP</b>	<b>PS4238155CP</b>
		Independent	0 to 8 bar		<b>PS4237166CP</b>	<b>PS4238166CP</b>
	3 - 71 mm	Common	0 to 4 bar	1180	<b>PS4237255CP</b>	<b>PS4238255CP</b>
		Independent	0 to 8 bar		<b>PS4237266CP</b>	<b>PS4238266CP</b>

## How to Configure Sandwich Regulator / Valve Combinations

### Ordering Components

- Manifold or Subbase Kit required.
- Sandwich Regulator Kit configured for Internal Pilot as standard.
- Order valve as External Pilot.

### Internal Pilot Configuration

Pressure in Base Port 1 feeds regulator configured for Internal Pilot which feeds valve configured for External Pilot.

### External Pilot Configuration - H1, H2, H3

An External Pilot pressure in port 12 or 14 of the base feeds through the Sandwich Regulator 12 or 14 galley directly to the 12/14 pilot of the valve. This configuration takes an External Pilot from the 12 port of the base and passes it through the regulator to feed the 12 galley of the valve.

## Sandwich Regulator Accessories

	Description	Pressure range	w (g)	Order code
	Gauge kit Including: Gauge 1/8" female to 1/8" female coupling 1/8" male to 1/8" male long nipple	0 to 8 bar	80	<b>PS5651160P</b>

## Sandwich Flow Control

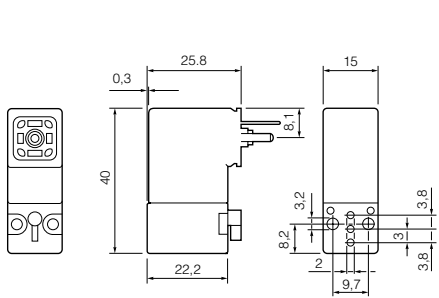
	ISO Size	w (g)	Order code	
			ISO-1 Non Plug-in	ISO-2 Plug-in
	02 - 18 mm	180	<b>PS5635P</b>	<b>PS5642P</b>
	01 - 26 mm	240	<b>PS5535P</b>	<b>PS5542P</b>
	1 - 43 mm	340	<b>PS4035CP</b>	<b>PS4042CP</b>
	2 - 56 mm	520	<b>PS4135CP</b>	<b>PS4142CP</b>
	3 - 71 mm	1180	<b>PS4235CP</b>	<b>PS4242CP</b>

### Note:

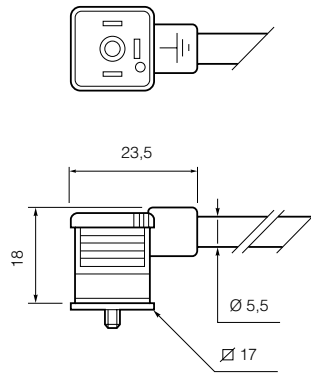
- Both adjustment screws are located on the same 12 end of the unit
- Sandwich Flow Control mounts with its own studs, which means the valve uses standard bolts for mounting
- Sandwich Flow Control is not to be used as a shut off device and is not bubble tight when needles are fully turned down

**15 mm DIN Form C solenoid operators and connectors**

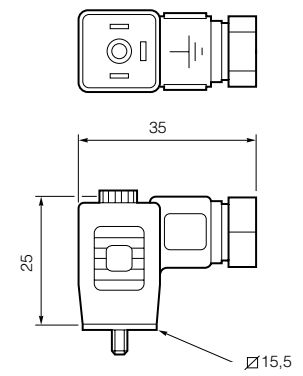
**P2E Operator**



**Connector with standard screw**

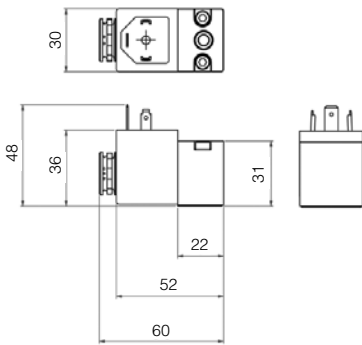


**Connector with large headed screw**

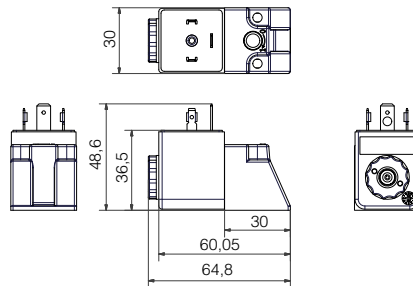


**CNOMO 22 x 30 solenoid operators and connectors**

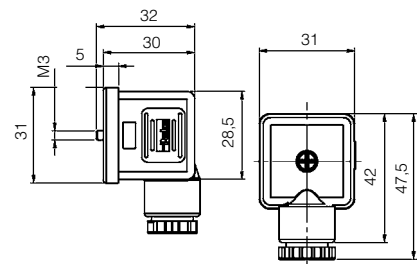
**P2F Operator with 30 x 30 DIN form A coil**



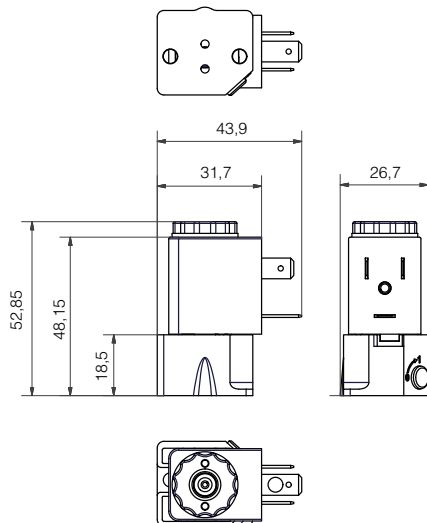
**EV30 Operator with 30 x 30 DIN form A coil**



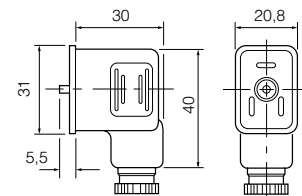
**30 x 30 DIN form A connector**



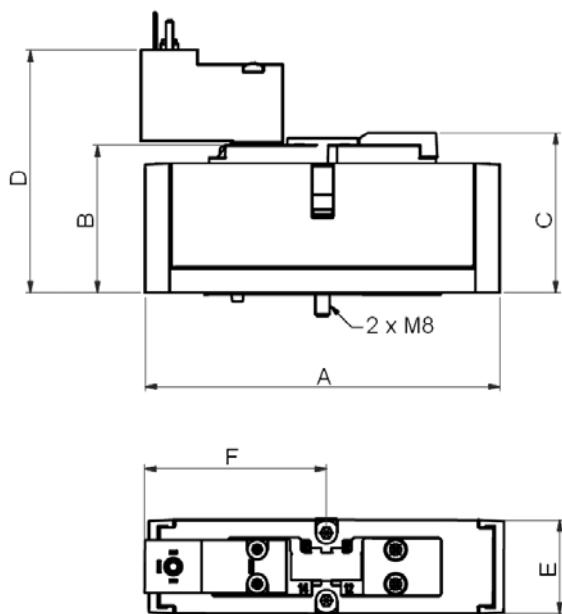
**EV310 Operator with 22 x 30 DIN form B coil**



**22 x 30 DIN form B connector**



**ISOMAX - ISO 15407-1 - Sizes 02 & 01**



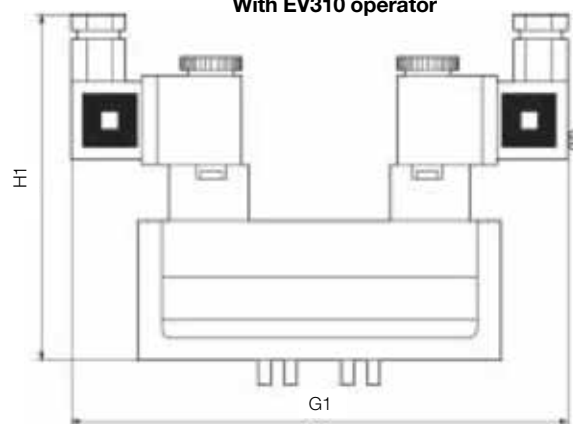
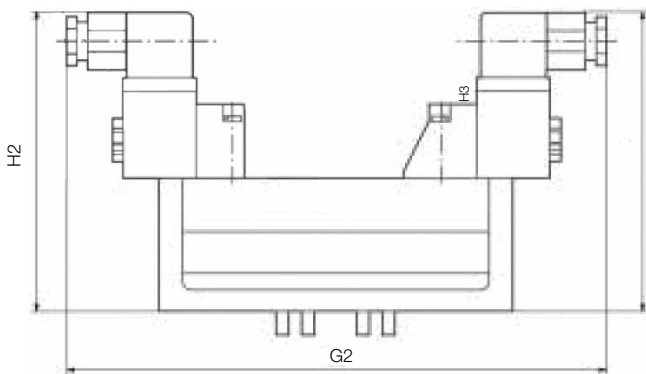
	A	B	C	D	E	F
<b>ISOMAX 02</b>	80	41	44,5	67,8	18	51,2
<b>ISOMAX 01</b>	100	42	45,5	68,8	26	51,2

**ISOMAX - ISO 5599-1 - Sizes 1, 2 & 3**

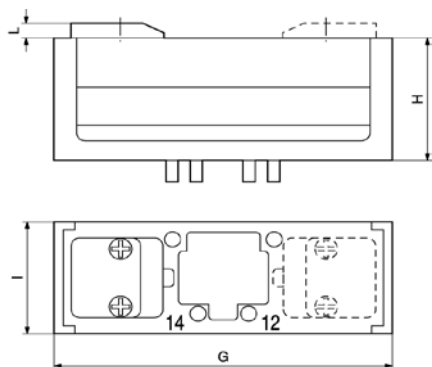
With P2F operator

With EV30 operator

With EV310 operator

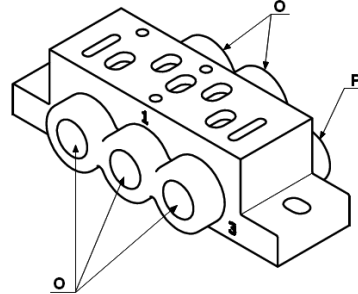
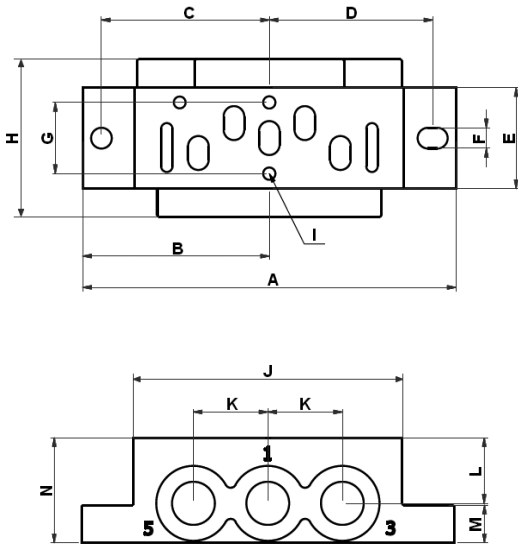


Pneumatically actuated



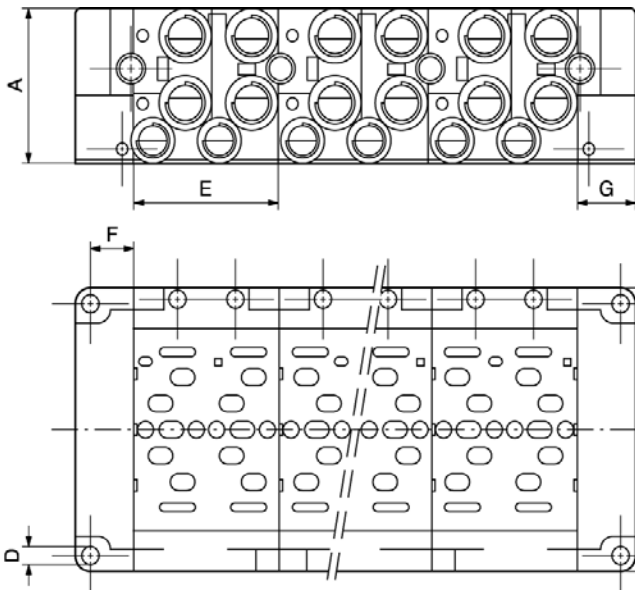
	G	G1	G2	H	H1	H2	I	L
<b>Size 1</b>	120	164	202,5	47	115	119	42	5
<b>Size 2</b>	140	179,5	218	58,5	126,5	130	54	5
<b>Size 3</b>	170	198	235,5	71	139	142,5	68	5

**Side ported individual subbase - ISO 15407-1 - Sizes 02 & 01**



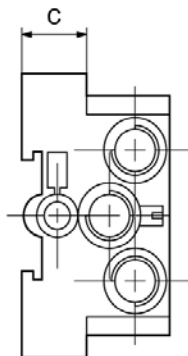
		Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
PL02-01-70	BSPP	02	80	40	35	33.75	19	5.5	12.5	27	M8	50	16	14	8	22.5	1/8	1/8
PL02-01-80	NPT	02	80	40	35	33.75	19	5.5	12.5	27	M8	50	16	14	8	22.5	1/8	1/8
PL01-02-70	BSPP	01	100	50	45	43.75	27	5.5	19	42,5	M8	72	20	17,5	10	28	1/4	1/8
PL01-02-80	NPT	01	100	50	45	43.75	27	5.5	19	42,5	M8	72	20	17,5	10	28	1/4	1/8

**Front ported manifold & End plate - ISO 15407-1 - Sizes 02 & 01**



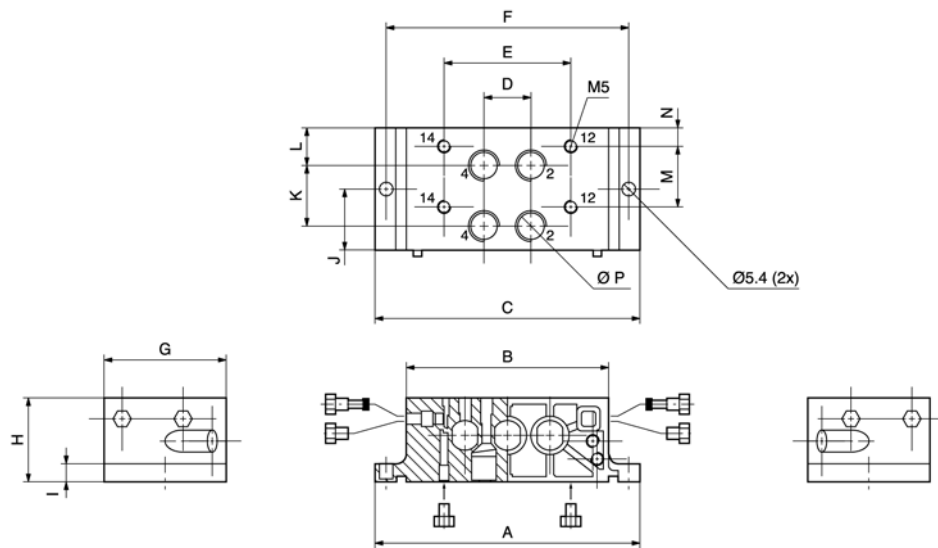
		Size	A	B	C	D	E	F	G	H
PJLP02-201-70	BSPP	02	38,5	80	-	-	38	-	-	-
PJLP02-201-80	NPT	02	38,5	80	-	-	38	-	-	-
PJLP01-202-70	BSPP	01	55	100	-	-	54	-	-	-
PJLP01-202-80	NPT	01	55	100	-	-	54	-	-	-
PJL01-202-70	BSPP	01	55	100	-	-	54	-	-	-
PJL01-202-80	NPT	01	55	100	-	-	54	-	-	-
PEJ02-02-70	BSPP	02	38,5	80	12	Ø4,2	-	14	18	70
PEJ02-02-80	NPT	02	38,5	80	12	Ø4,2	-	14	18	70
PEJ01-03-70	BSPP	01	55	100	24	Ø5,5	-	17	22	90
PEJ01-03-80	NPT	01	55	100	24	Ø5,5	-	17	22	90

PJLP01-201-70  
PJLP01-202-70



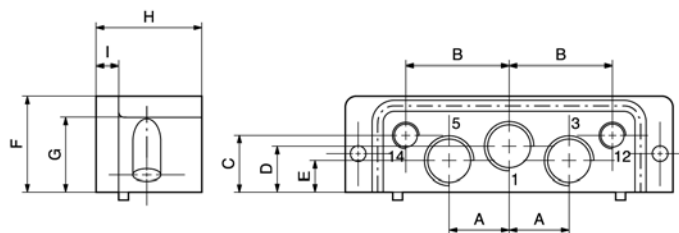


**Bottom ported manifold - ISO 15407-1 - Sizes 02 & 01**



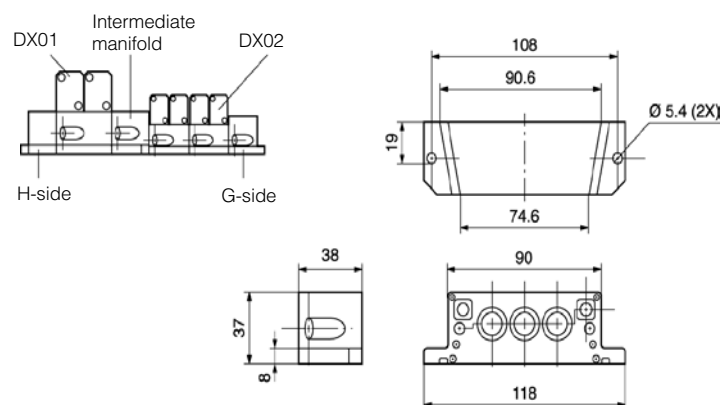
	Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
<b>P2V-AM511PB</b>	02	102	74	74,6	16	43	92	38	26	7	19	19	11	19	5	G1/8
<b>P2V-BM512PB</b>	01	118	90	90,6	21	56,5	108	54	37	8	27	27	16,5	27	8	G1/4

**Bottom ported End plate - ISO 15407-1 - Sizes 02 & 01**



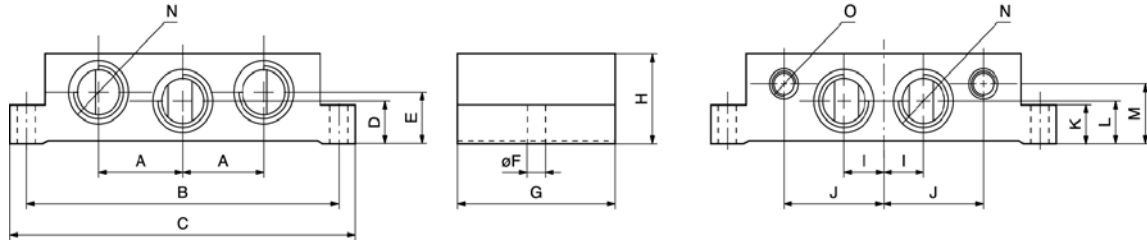
	Size	Port size 1,2,3	Port size 12, 14	A	B	C	D	E	F	G	H	I
<b>P2V-AM512XX and P2V-AM512XX</b>	02	G1/4	G1/8	17	29	21	18,5	9,5	35,5	28	33	7
<b>P2V-BM513XX and P2V-BM513XX</b>	01	G3/8	G1/8	21,5	37	20	16	11	34,5	28	38	8

**Transfer plate size 01 to size 02 for above bottom ported manifold**



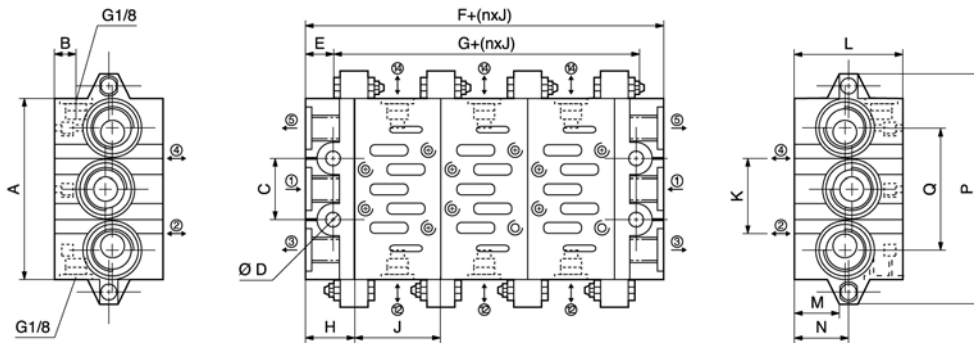
ISO 5599-1 Subbase & Manifolds

VDMA Side Ported Subbases



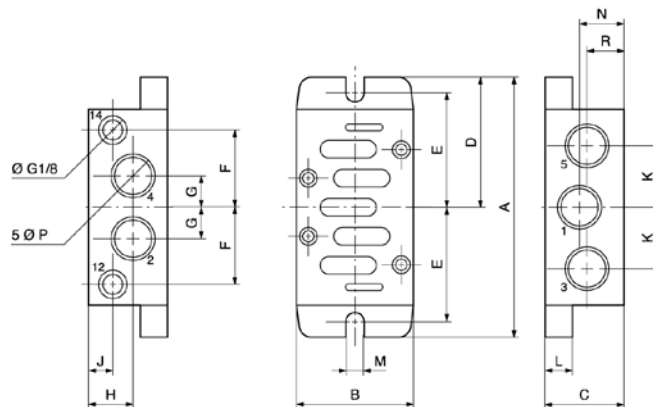
Order code	ISO Size	Port Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
P2N-VS512SD	1	G1/4	21,5	98	110	11	20	5,5	48	32	12	29	10	11	23	G1/4	G1/8
P2N-WS513SD	2	G3/8	28	112	124	14	26	6,6	56	40	15	37	13	14	30	G3/8	G1/8
P2N-YS514SD	3	G1/2	34	136	149	17	17	6,6	71	32	16	45	18	17	22	G1/2	G1/8

VDMA Bottom Ported Manifold



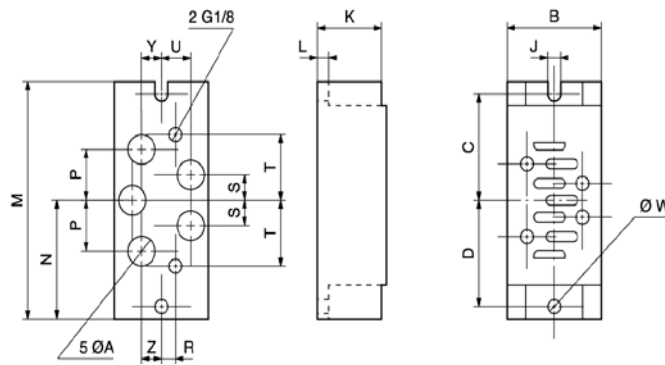
Order code	ISO Size	Port 1, 3, 5	Port 2, 4	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
P2N-VM512MB	1	G3/8	G1/4	85	8,5	28	7	11	44	22	22	43	26	46	21	24	56	110
P2N-WM513MB	2	G1/2	G3/8	100	9	35	9	13	52	26	26	56	30	47	22	24	68	135
P2N-YM514MB	3	G1	G1/2	140	10	52	12	15	60	30	30	71	38	56	31	34	104	190

Side ported subbases



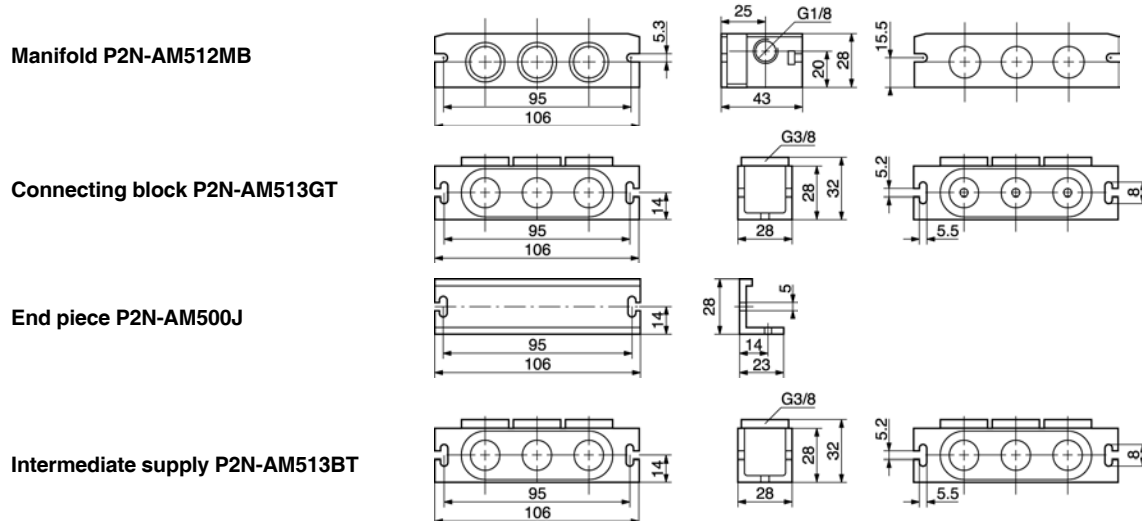
Order code	ISO Size	ØP	A	B	C	D	E	F	G	H	J	K	L	M	N	R
PL1-1/4-70	1	G1/4	110	46	29	55	49	30	11	17,75	17,75	22	6	5,5	17,75	17,75
PL2-3/8-70	2	G3/8	124	56	37	62	55	37	14,5	22,5	14	28	6	5,5	22,5	14,5
P2N-JS516SD	3	G3/4	149	71	60	74,5	68	45	21	33	10	40	18	6,6	37,5	22,5

Bottom ported subbases

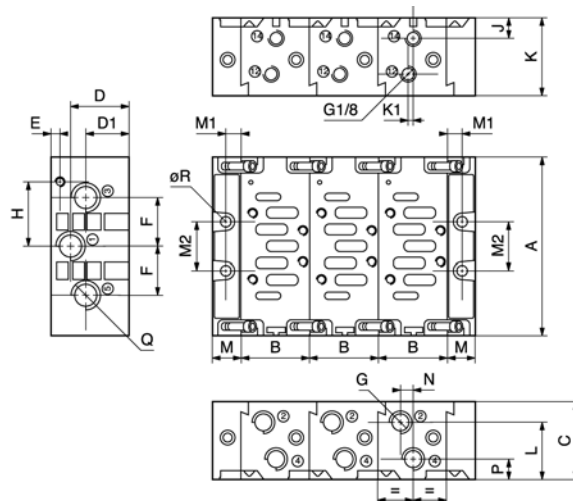


Order code	ISO Size	A	B	C	D	J	K	L	M	N	P	R	S	T	U	W	Y	Z
PD1-1/4-70	1	G1/4	46	49	49	5,5	29	6	110	55	22	10	11	30	10	5,5	10	10
PD2-3/8-70	2	G3/8	56	55	55	5,5	37	6	124	62	29	10	14,5	37	12,5	5,5	12,5	12,5
PD3-1/2-70	3	G1/2	77	68	68	6,6	32	18	149	74,5	34	10	17	45	17	6,5	17	17

Size 1 bottom ported manifold



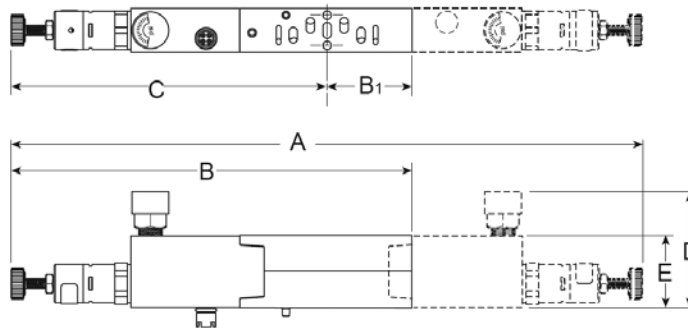
Sizes 1 & 2 side ported manifold



Order code	A	B	C	D	D1	E	F	G	H	J	K	K1	L	M	M1	M2	N	P	Q	R
P2N-EM ...	110	43	48	35,5	26,5	5,5	28	G1/4	36	15,5	35	3	32	20	11	28	12	12,5	G3/8	6
P2N-FM ...	129	56	60	44,5	35,5	6	34,5	G3/8	45	16	41,5	3	41	24	13	35	12,5	16	G1/2	8

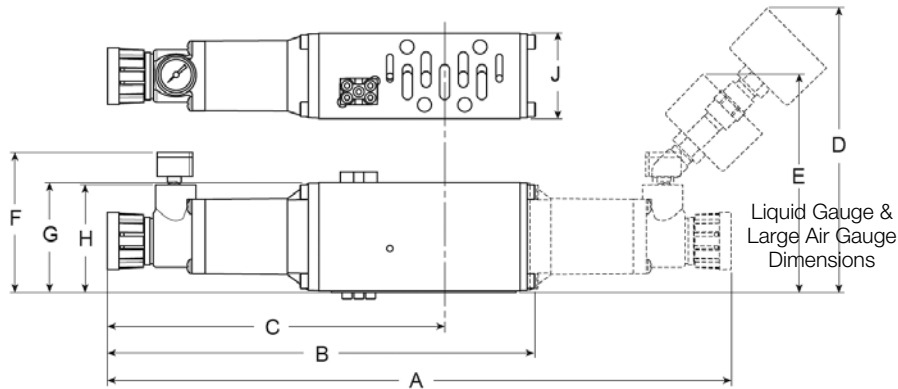
**Sandwich Regulator with Gauge**

**HA / HB Series**



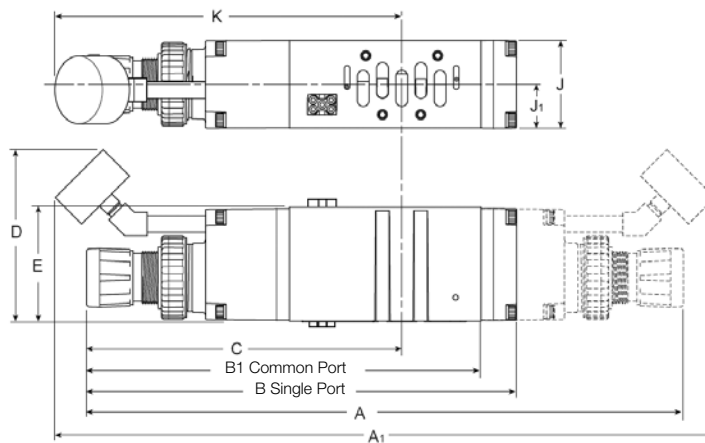
	<b>A</b>	<b>B</b>	<b>B1</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>HB</b>	261	156	26	130	66	30
<b>HA</b>	254	163	36	127	69	30

**H1 Series**



	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>J</b>
<b>H1</b>	301	207	163	138	108	72	53	52	41

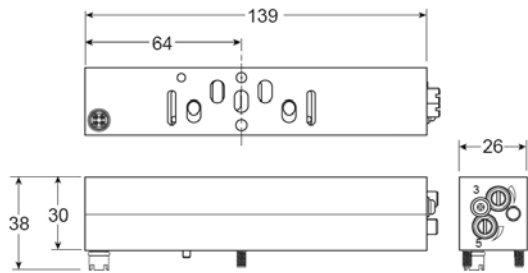
**H2 / H3 Series**



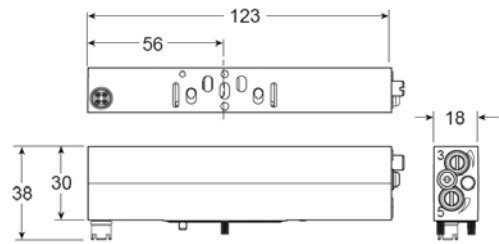
	<b>A</b>	<b>A1</b>	<b>B</b>	<b>B1</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>J</b>	<b>J1</b>	<b>K</b>
<b>H2</b>	372	411	268	250	196	107	71	55	27	216
<b>H3</b>	398	436	293	271	213	107	75	64	32	231

**Sandwich Flow Control**

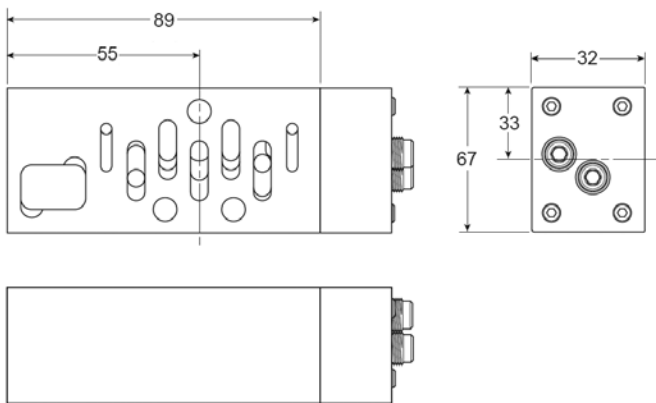
**HA Series**



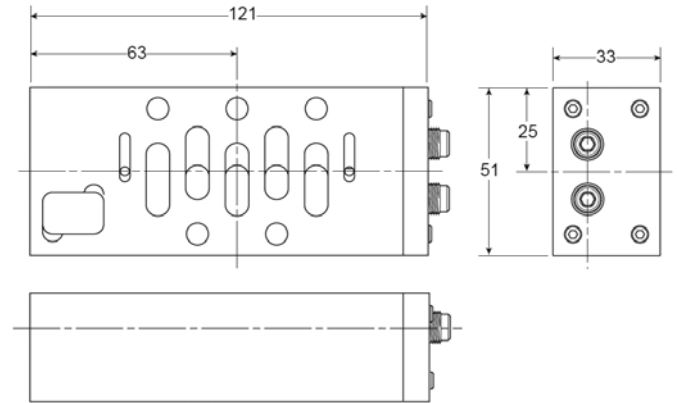
**HB Series**



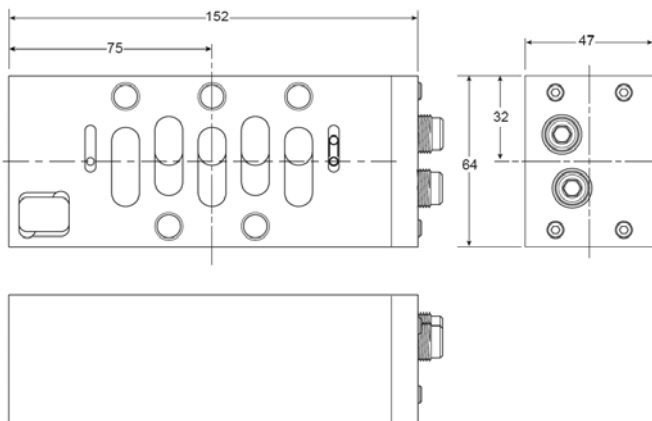
**H1 Series**



**H2 Series**



**H3 Series**









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