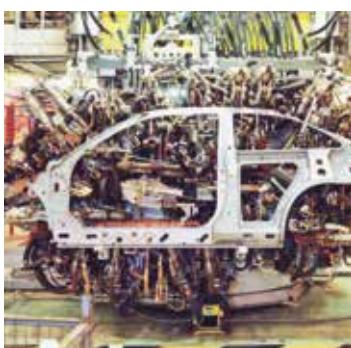




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# Poppet Valves

Heavy duty poppet valves  
G3/8, G1/2 - 2/2, 3/2

Catalogue PDE2630TCUK August 2015



ENGINEERING YOUR SUCCESS.

# Heavy Duty Poppet Valves

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**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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## Heavy Duty Poppet Valves

### Heavy duty poppet valves 2/2 & 3/2 - G<sup>3/8</sup>" & G<sup>1/2</sup>"

These valves use the well proven poppet principle to give high flow rates with short valve travel, both the 2/2 and 3/2 valves in the range are available in G3/8" and G1/2" port sizes. This means that each actuator is available in four configurations i.e. 3/8" ports 2/2 or 3/2 and G1/2" ports 2/2 or 3/2. All valves are normally closed.

The bodies are of block form construction for ease of mounting. Springs are stainless steel; internal seals being of nitrile rubber. The 2/2 body allows air in one direction only, 3/2 versions having the facility of exhausting air through the actuator unit. This exhaust vent is unthreaded on all valves except the pilot and solenoid types which allows the piping away of exhaust air.

All mechanisms are spring returned.

### Working medium, air quality

Working medium: Dry, filtered compressed air to ISO 8573-1 class 3.4.3.

### Recommended air quality for valves

For best possible service life and trouble free operation, ISO 8573-1 quality class 3.4.3 should be used. This means 5µm filter (standard filter) dew point +3°C for indoor operation (a lower dew point should be selected for outdoor operation) and oil concentration 1.0 mg oil/m<sup>3</sup>, which is what a standard compressor with a standard filter gives.

### ISO 8573-1 quality classes

Quality class	pollution particle size (µm)	max. concentration (mg/m <sup>3</sup> )	Water max. press. dew point (°C)	Oil max. concentration (mg/m <sup>3</sup> )
<b>1</b>	0,1	0,1	-70	0,01
<b>2</b>	1	1	-40	0,1
<b>3</b>	5	5	-20	1,0
<b>4</b>	15	8	+3	5,0
<b>5</b>	40	10	+7	25
<b>6</b>	-	-	+10	-

### Specification

#### Material

Body	Zinc die cast
Roller	Zinc plated steel
Mechanical arm	Zinc plated steel
Poppet	Stainless steel
Seals	Nitrile
Spring	Stainless steel
Bush	Aluminium
Piston	Aluminium

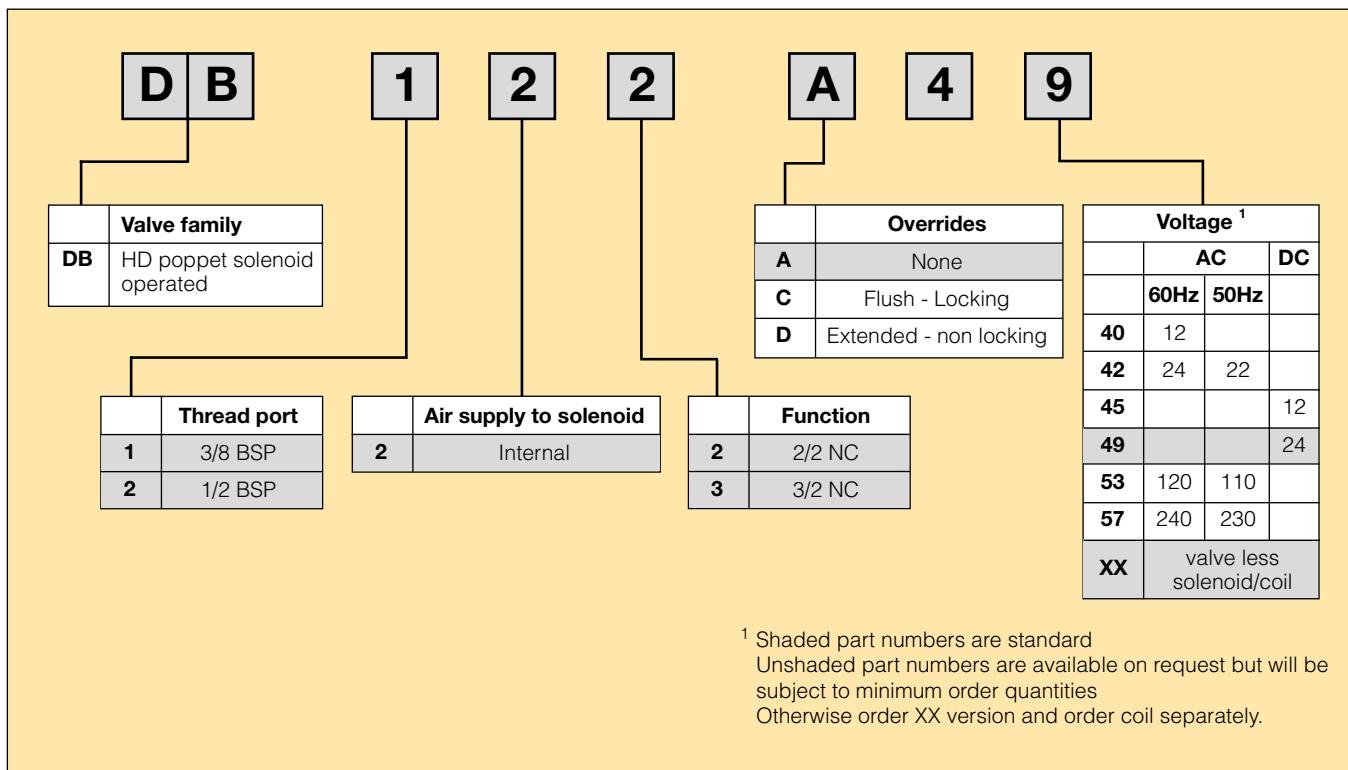
### Operating information

Working pressure	0 - 10 bar
Working temperature	-10°C to +80°C
Solenoid version	-10°C to +50°C
Minimum pilot pressure	1.9 bar @ 6 bar supply
Response time (solenoid energised)	14 msecs
Response time (solenoid de-energised)	75 msecs

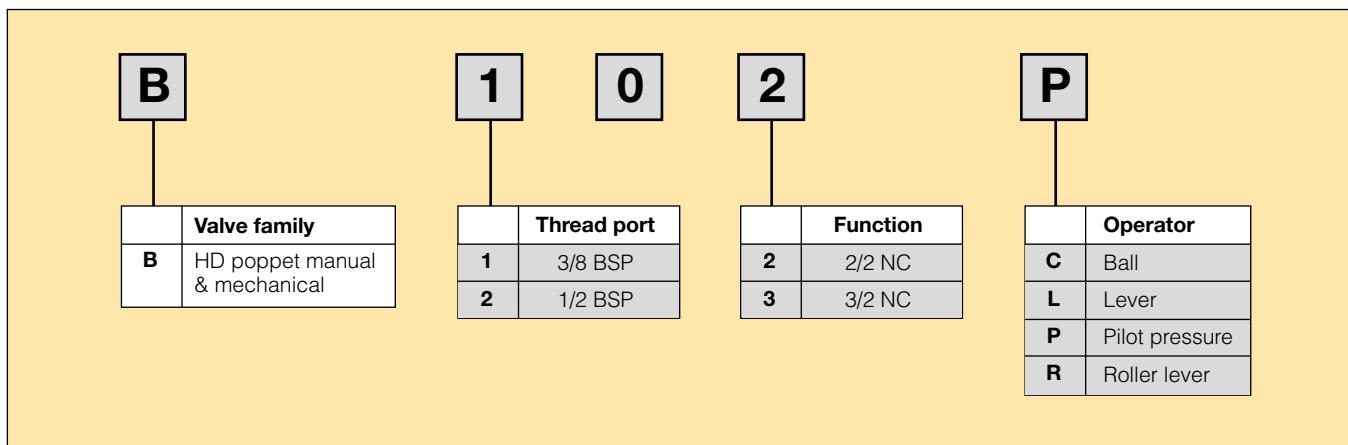
Flow capacities in accordance with ISO6358

	<b>B102-B103</b>	<b>B202-B203</b>
Flow;	C = 7,54	C = 10,75 Nl/s x bar
	b = 0,29	b = 0,24
	Qn = 33 l/s	Qn = 43 l/s
	Qmax = 54 l/s	Qmax = 75 l/s
	Cv = 2,65	Cv = 3,20

## Part number configurator for solenoid valves



## Part number configurator for manual &amp; mechanical operated poppet valves

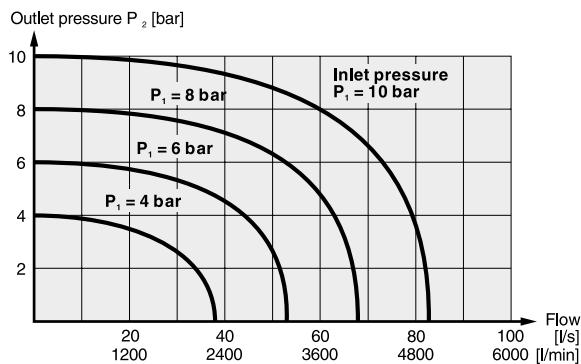
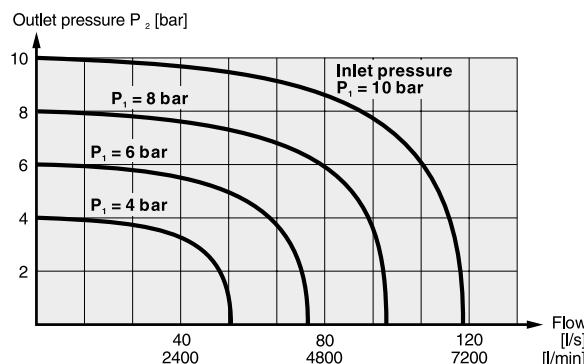


**Flow characteristics**

Flow capacities in accordance with ISO6358

Flow measured with valve on manifold

All pressures = effective pressure

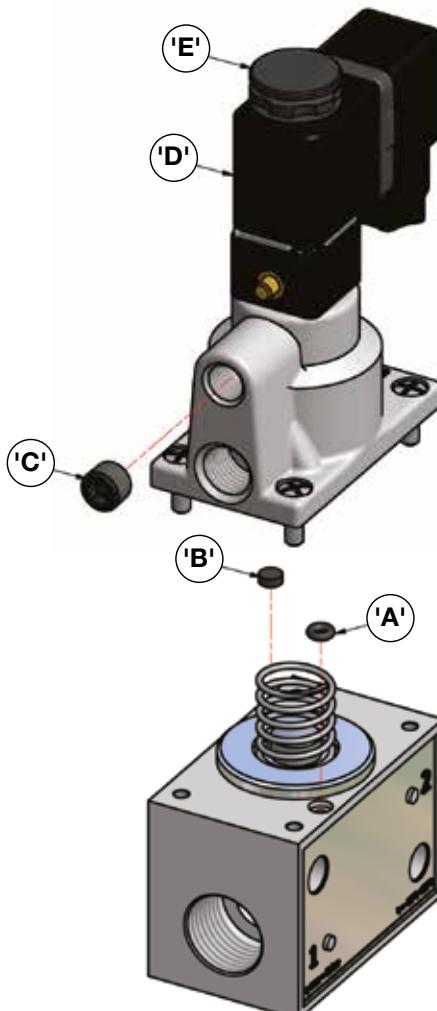
**B102****B202****Electrical Information**

Power consumption	Inrush	Hold
AC	VA	8.5VA
DC	4.8 Watt	
Rating	100% continuous	
Isolation class	F	
Protection class	IP 65 (P 54) DIN 40 050	
Connection	DIN 43 650 Form B	
Solenoid response	millisecs at 7 bar	

**External pilot supply option**

Solenoid pilot operated valves have an internal pilot air supply, but provisions for external pilot supply is provided. To use with external supply interchange 'O'-ring (Item 'A') and Plug (Item 'B') to block off the internal pilot supply. Remove hexagon socket plug (Item 'C') from the external pilot supply port, connecting an air supply as desired.

Orientation of the solenoid coil (Item 'D') can be altered through 90° increments by loosening the diffuser nut (Item 'E').



## Heavy Duty Poppet Valves

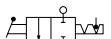
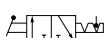
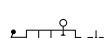
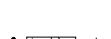
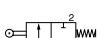
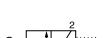
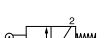
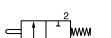
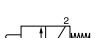
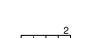
### Main data for mechanically operated valves, Heavy duty poppet series (NC only)

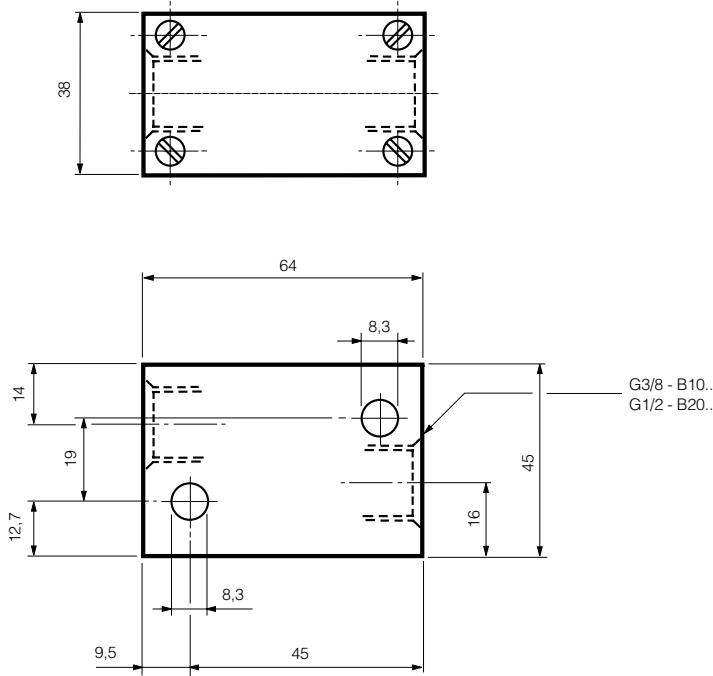
Symbol	Type	Connection	Actuator	Return	Voltage	Weight Kg	Order code
	2/2	G3/8	Solenoid pilot	Spring	24VDC Less solenoid	0.70 0.65	<b>DB122A49</b> <b>DB122AXX</b>
	3/2	G3/8	Solenoid pilot	Spring	24VDC Less solenoid	0.70 0.65	<b>DB123A49</b> <b>DB123AXX</b>
	2/2	G1/2	Solenoid pilot	Spring	24VDC Less solenoid	0.70 0.65	<b>DB222A49</b> <b>DB222AXX</b>
	3/2	G1/2	Solenoid pilot	Spring	24VDC Less solenoid	0.70 0.65	<b>DB223A49</b> <b>DB223AXX</b>
	2/2	G3/8	Air pilot	Spring		0.61	<b>B102P</b>
	3/2	G3/8	Air pilot	Spring		0.61	<b>B103P</b>
	2/2	G1/2	Air pilot	Spring		0.61	<b>B202P</b>
	3/2	G1/2	Air pilot	Spring		0.61	<b>B203P</b>

Order electrical connectors for solenoids separately. See page 10

## Heavy Duty Poppet Valves

### Main data for mechanically operated valves, Heavy duty poppet series (NC only)

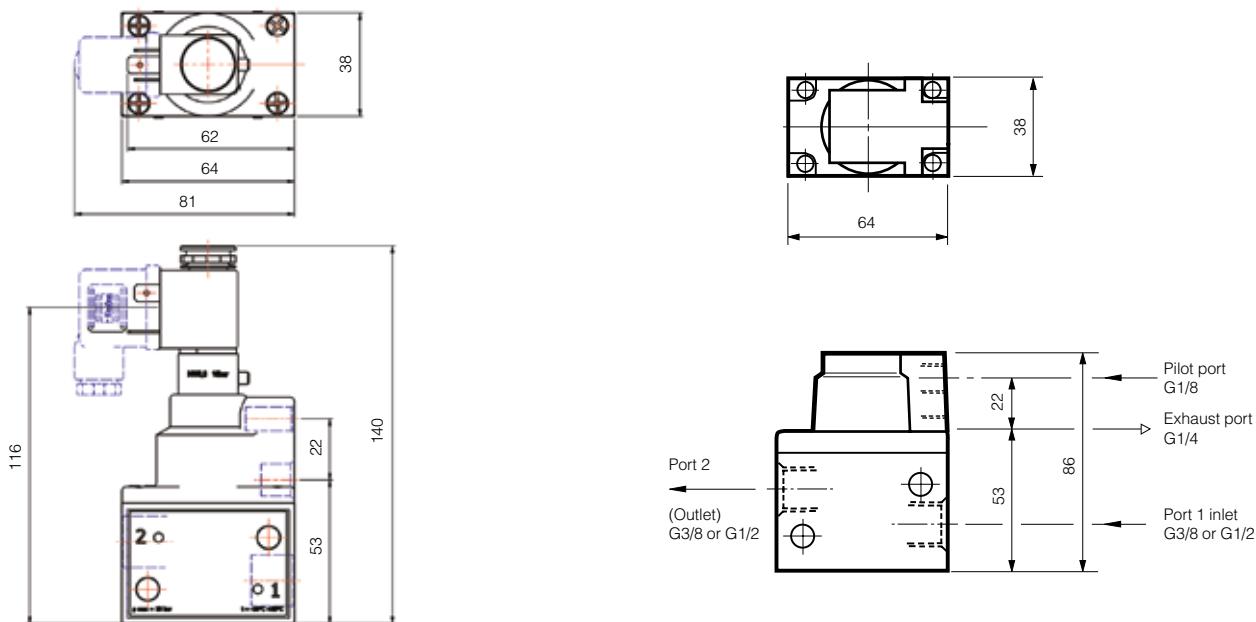
Symbol	Type	Connection	Actuator	Return	Operating force at 6 bar, N	Weight Kg	Order code
	2/2	G3/8	Lever	Lever	22	0.65	<b>B102L</b>
	3/2	G3/8	Lock down lever	Lever	22	0.65	<b>B103L</b>
	2/2	G1/2	Lock down lever	Lever	22	0.65	<b>B202L</b>
	3/2	G1/2	Lock down lever	Lever	22	0.65	<b>B203L</b>
	2/2	G3/8	Roller lever	Spring	36	0.642	<b>B102R</b>
	3/2	G3/8	Roller lever	Spring	36	0.630	<b>B103R</b>
	2/2	G1/2	Roller lever	Spring	36	0.614	<b>B202R</b>
	3/2	G1/2	Roller lever	Spring	36	0.604	<b>B203R</b>
	2/2	G3/8	Ball	Spring	220	0.542	<b>B102C</b>
	3/2	G3/8	Ball	Spring	220	0.532	<b>B103C</b>
	2/2	G1/2	Ball	Spring	220	0.530	<b>B202C</b>
	3/2	G1/2	Ball	Spring	220	0.520	<b>B203C</b>

**Mechanically operated valves - 2/2, 3/2 valves****Basic body dimensions****Solenoid pilot operated spring return**

DB122, DB123, DB222, DB223

**Air pilot operated spring return**

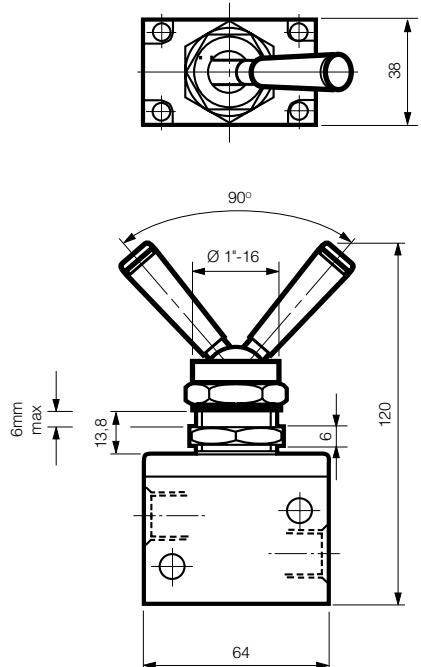
B102P, B103P, B202P, B203P



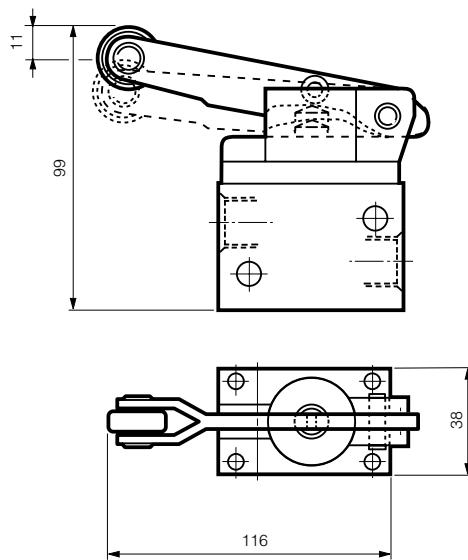
All dimensions in mm unless otherwise stated

**Mechanically operated valves - 2/2, 3/2 valves****Lock down lever**

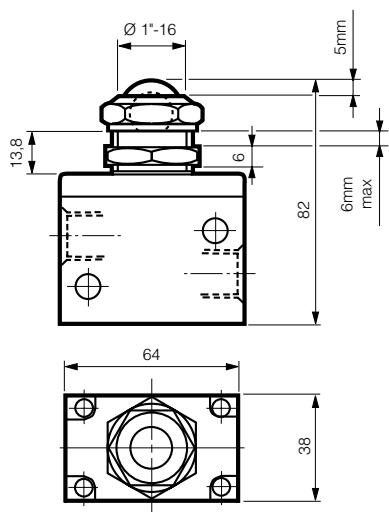
B102L, B103L, B202L, B203L

**Roller lever operated spring return**

B102R, B103R, B202R, B203R

**Ball operated spring return**

B102C, B103C, B202C, B203C



All dimensions in mm unless otherwise stated

## 22mm solenoid operator part numbers and spares

### Solenoid coils for 22mm solenoid operators

Voltage	Order code Form B	Weight (Kg)
12V 60Hz	<b>P2FCB440</b>	0.093
24V 50/60Hz	<b>P2FCB442</b>	0.093
12V DC	<b>P2FCB445</b>	0.093
12V DC Mobile	<b>P2FCB447</b>	0.093
24v DC Mobile	<b>P2FCB448</b>	0.093
24V DC	<b>P2FCB449</b>	0.093
48V DC	<b>P2FCB451</b>	0.093
110V/50Hz, 120V/60Hz	<b>P2FCB453</b>	0.093
230V/50Hz, 230V/60Hz	<b>P2FCB457</b>	0.093

### Spare Solenoid Nuts

Valves with vented exhaust are fitted with diffuser plastic nut

#### Order Code

**P2FND**

### Spare Solenoid Operators

**Solenoid pilot operator 22mm NC, Normal duty (Max Operating pressure 10bar, Temp -10°C to +50°C)**

Order code (with locking bi-stable m/o)	Weight Kg
<b>P2FP13N4C</b>	0.05
Order code (with Non-locking monostable m/o)	Weight Kg
<b>P2FP13N4D</b>	0.05
Order code (with no m/o)	Weight Kg
<b>P2FP13N4A</b>	0.05

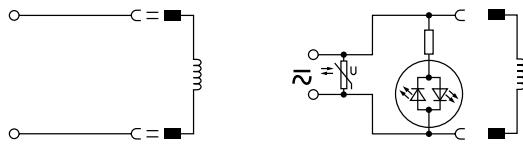
#### Note.

The operators are supplied with mounting screws and interface 'O' rings.

**Coils and connectors must be ordered separately.**

### Solenoid Connectors / Cable Plugs EN175301-803

Description	Order code 22mm Industrial Form B
With standard screw	Standard IP65 without flying lead
	<b>3EV10V10</b>
With LED and protection 24V AC/DC	<b>3EV10V20-24</b>
	<b>3EV10V20-110</b>
With LED and protection 110V AC	<b>3EV10V20-230</b>
	<b>3EV10V20-24L5</b>
With cable	24V AC/DC, 5m cable LED and protection IP65
	<b>3EV10V20-110L5</b>
110V AC/DC, 5m cable LED and protection IP65	<b>3EV10V20-230L5</b>

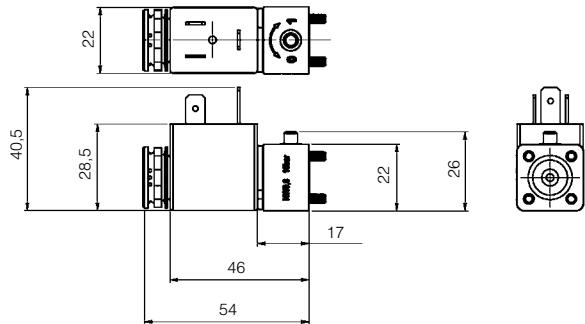
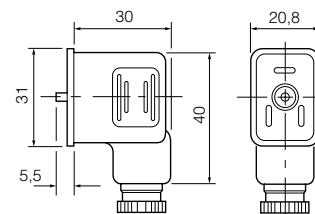


**3EV10V10**

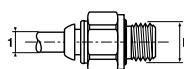
<b>3EV10V20-24</b>	<b>3EV10V20-24L5</b>
<b>3EV10V20-110</b>	<b>3EV10V20-110L5</b>
<b>3EV10V20-230</b>	<b>3EV10V20-230L5</b>

**Cable Plug Dimensions (mm)**

Solenoid operators P2E-•V...

**Cable plugs Form B****3EV10V10****Accessories****Sintered bronze series silencers**

Port	Order code	Pack Qty
G1/4	<b>P6M-BAA2</b>	1

**Male straight connectors - Parallel thread**

Tube Ø1	Thread B	Order code	Box Qty
4	1/8	<b>F4PMB4-1/8</b>	20
6	1/8	<b>F4PMB6-1/8</b>	30
6	1/4	<b>F4PMB6-1/4</b>	30
8	1/8	<b>F4PB8-1/8</b>	40
8	1/4	<b>F4PB8-1/4</b>	30
8	3/8	<b>F4PB8-3/8</b>	20
10	1/4	<b>F4PB10-1/4</b>	20
10	3/8	<b>F4PB10-3/8</b>	20
10	1/2	<b>F4PB10-1/2</b>	10
12	1/4	<b>F4PB12-1/4</b>	10
12	3/8	<b>F4PB12-3/8</b>	10
12	1/2	<b>F4PB12-1/2</b>	10
14	3/8	<b>F4PB14-3/8</b>	10
14	1/2	<b>F4PB14-1/2</b>	10

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