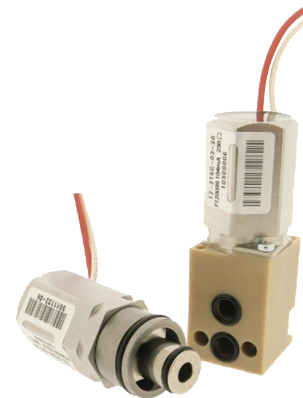


## 16 mm FLATPROP Direct acting proportional valve

- 2/2 NC proportional valve
- High precision miniature proportional valve
- Flat plunger and spring for frictionless operation
- Highly repeatable with over 100 million cycles
- Accurate control of flows ranging from a few ml/min to 80 l/min



### Technical features

#### Medium:

Air, oxygen or neutral gases

#### Orifices:

Orifice sizes 0,8 to 2,0 mm (0,03" to 0,078")

#### Filtration:

A filtration of 10 micrometer is required before the inlet for valves with an orifice size comprised between 0,8 to 2,0 mm

#### Operation:

Direct acting 2-way valve  
Normally closed

#### Hysteresis:

Typical: <10% of full scale current

#### Cleanliness:

Oxygen compatible

#### Operating pressure:

0 ... 12 bar (0 ... 174 psi)

#### Mounting:

Cartridge

#### Size:

16 mm

#### Life expectancy:

≥ 100 Mio. cycles

#### Internal & external leakage:

< 10-2 mbar l/s (≈0.6 ml/min) at pmax

#### Protection class (acc. to EN60529):

IP51

#### Weight:

< 50 g (0,11 lbs)

#### Ambient/media temperature:

+10 ... +50°C (+50 ... +122°F)

#### Materials:

Body: Stainless steel only or stainless steel/brass  
PEEK (only when mounted on sub-based)  
Seal: FPM, NBR, EPDM

#### Manifolds

Contact your local fluid control specialist for information about our manifolding capabilities which include laminated polymer manifolds.

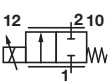
### Electrical details

Voltage/frequency	See technical data -standard coils
Power consumption	See technical data -standard coils
Insulation class	F (155°C)
Electrical insulation	1000 V a.c.
Protection degree	IP51
Duty cycle	100%
Electrical connection	300 mm A WG24 flying leads

### Following options on request

Other orifice size available
Specific coils
Wider temperature range
OEM specification
Lower leak rate
Manifold mount

## Technical data – standard models

Symbol	Orifice (mm)	Operating pressure (bar)	kv factor *1)	Current (mA)	Resistance (Ω)	Body Material	Seal Material	Model
	0,8	0 ... 10	0,33	211	57	Stainless Steel	FPM	12-216C-01-41+D3WFIL+BED
	1,2	0 ... 8	0,55	211	57	Stainless Steel	FPM	12-216C-02-41+D3WFIL+BED
	1,6	0 ... 5	0,8	211	57	Stainless Steel	FPM	12-216C-03-41+D3WFIL+BED
	2,0	0 ... 4	1	211	57	Stainless Steel	FPM	12-216C-04-41+D3WFIL+BED

\*1)  $C_v = 0,07 \text{ kv}$

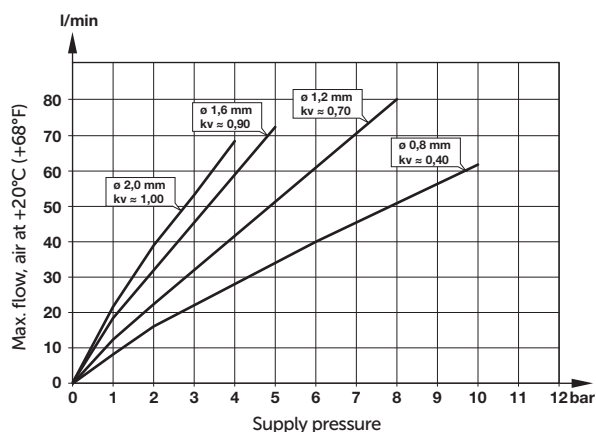
## Technical data – standard coils

Valve orifice (mm)	Coil resistance at 20°C (+68°F) ± 3% [R20] (Ω)	Current for maximum flow [nominal] (mA)	Voltage +20°C (+68°F) [nominal] (V)	Power +20°C (+68°F) [nominal] (W)	Max. required voltage for max flow *2) (V)
0,8 ... 2,0	14,4	417	6	2,5	9
	57	211	12		18
	130	138	18		27

\*2) Please refer to instruction K12M.0001 for recommendation on drive signals

## Additional information

### Typical flows vs. supply pressure Air, 20°C, without back pressure



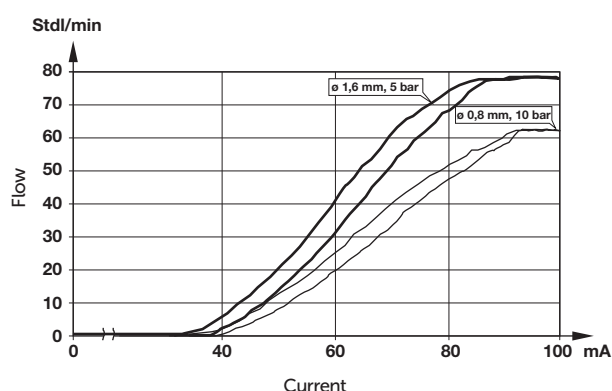
#### Note:

Flow vs. supply pressure curves are for informative purposes only and shall be used only for the pre-selection of the orifice size. Preliminary testing is recommended to take into account all application specific requirements and to select the most adequate orifice.

For further information contact your local fluidic specialist.

### Hysteresis

Typical curves for orifice sizes 0,8 mm and 1,6 mm  
Air, 20°C, without back pressure



## Accessories

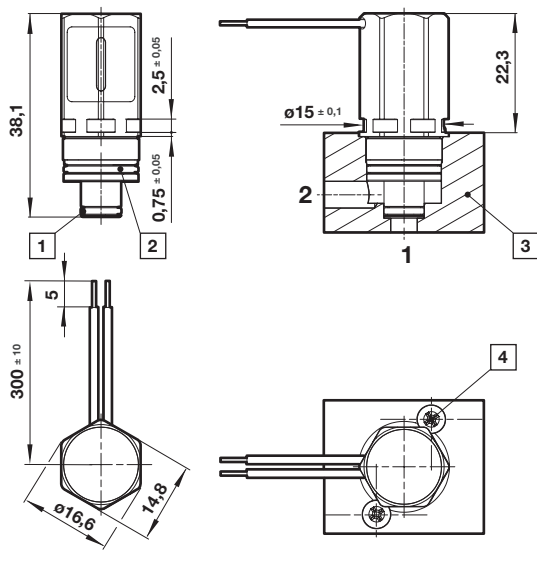
Manifold for cartridge version with  
G1/4 ports in aluminium



Page 3

S120.0152

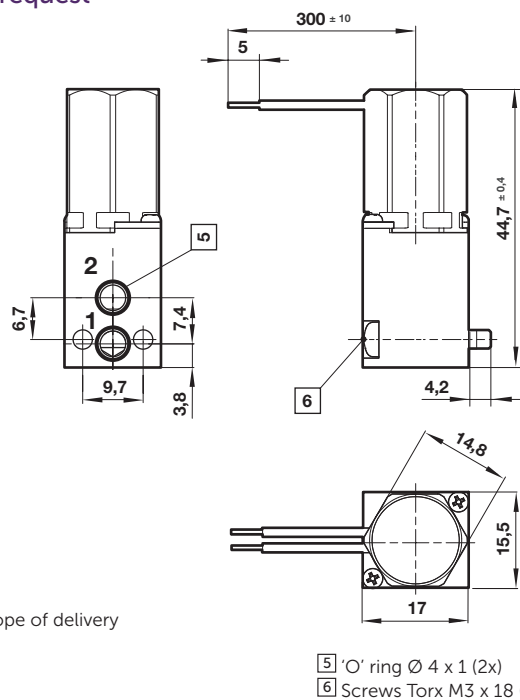
## FLATPROP cartridge mounting



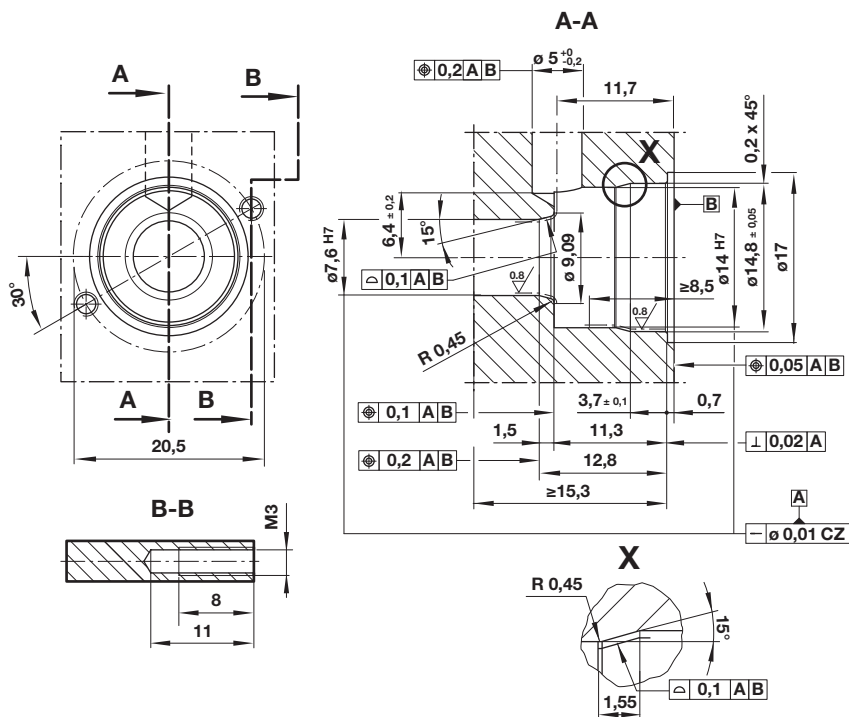
- 1 'O' ring Ø 6 x 1
- 2 'O' ring Ø 12 x 1
- 3 Manifold, not in scope of delivery
- 4 Screws Torx M3 x 6

## FLATPROP with manifold on request

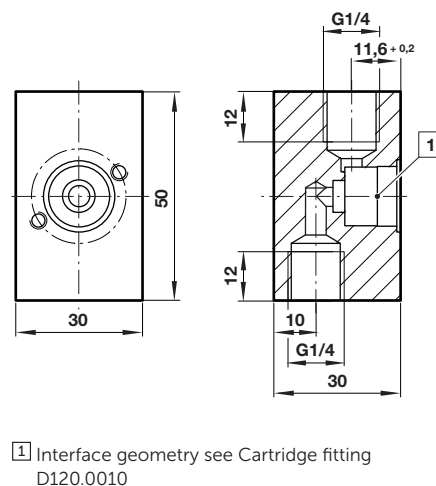
Dimensions in mm  
Projection/first angle



### Cartridge fitting D120.0010



## Test manifold S120.0152



## Warning

These products are intended for use in air, oxygen and neutral gas systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features**«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult IMI Plc., FAS MEDIC SA.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.