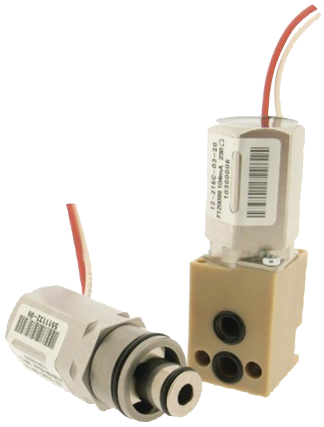
- **2/2 NC proportional valve**
- **High precision miniature proportional valve**
- **Flat plunger and spring for frictionless operation**
- **Highly repeatable with over 100 million cycles**
- **Accurate control of flows ranging from a few ml/min to 80 l/min**



## 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.

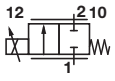
## Electrical details

| | |
|---|---|
| **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:** | IP 51 |
| **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 |



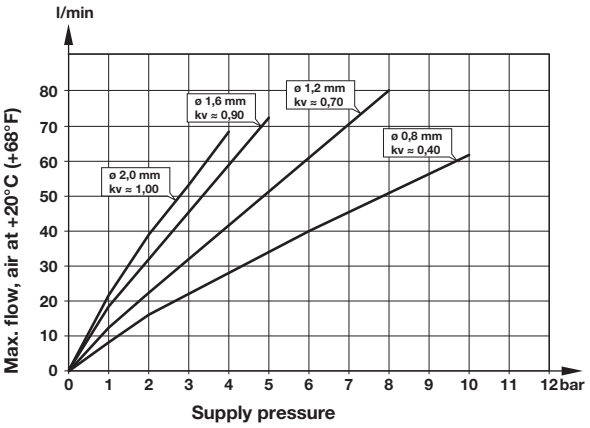
*1) Cv = 0.07 kv

## Technical data - Standard coils

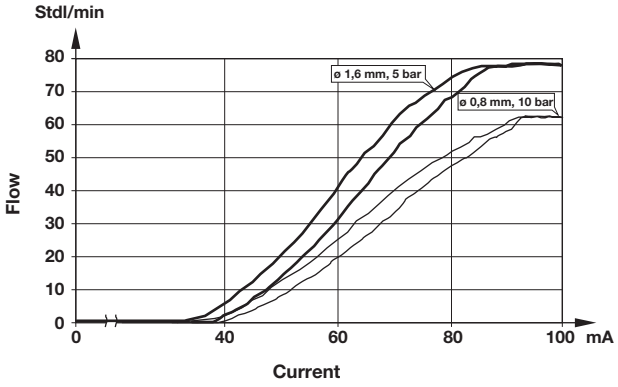
| Valve orifice (mm) | Coil resistance at 20°C (+68°F) ± 3% [R20] (Ω) | Current for maximum flow [nominal] (mA) | Voltage +20°C (+68°F) [nominal] (V) | Power +20°C (+68°F) [nominal] (W) | Max. required voltage for max flow (V) *1) |
|---|---|---|---|---|---|
| 0,8 ... 2,0 | 14,4 | 417 | 6 | 2,5 | 9 |
| | 57 | 211 | 12 | | 18 |
| | 130 | 138 | 18 | | 27 |

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

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




## Hysteresis
## Typical curves for orifice sizes 0,8 mm and 1,6 mm
## 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.

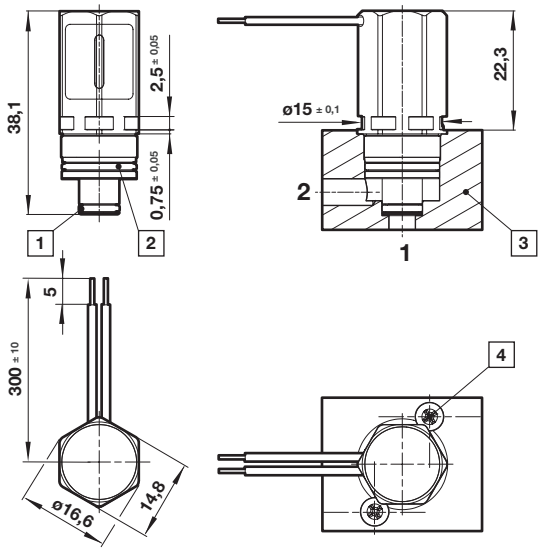
## Accessories

**Manifold for cartridge version with G1/4 ports in aluminium**

**Page 3**

S120.0152

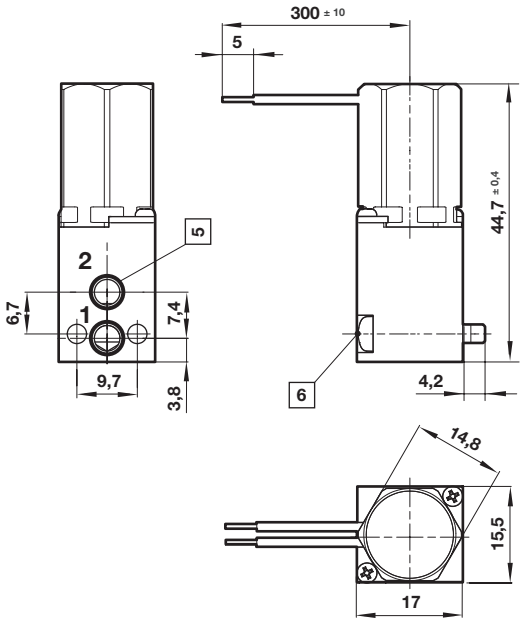
## FLATPROP cartridge mounting




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

## FLATPROP with manifold on request

Dimensions in mm
Projection/First angle

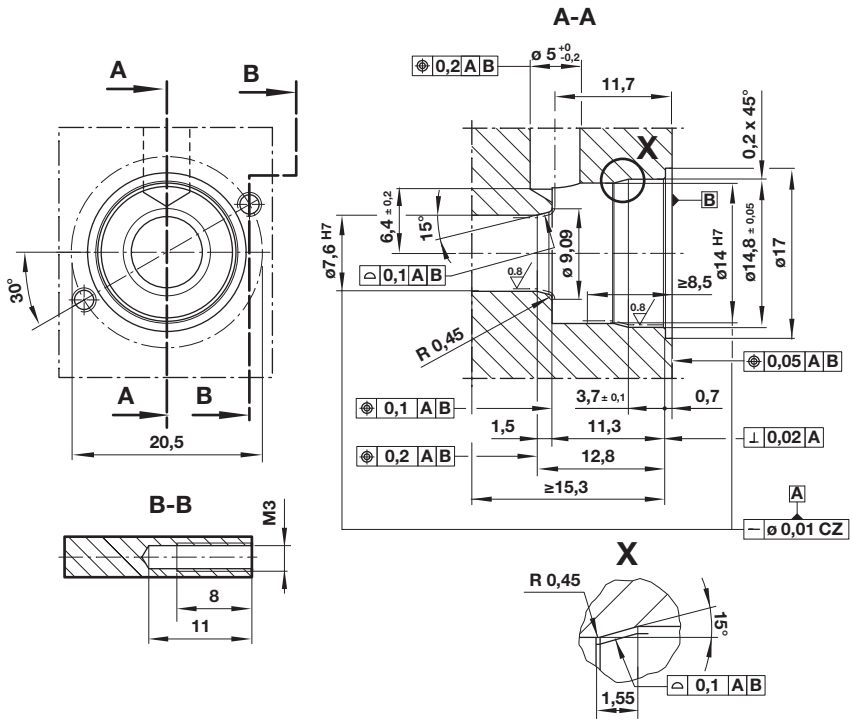


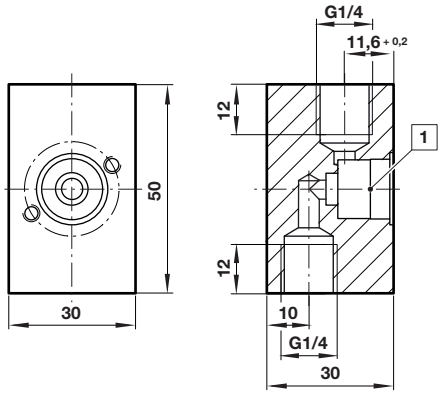

5 'O' ring Ø 4 x 1 (2x)
6 Screws Torx M3 x 18 (2x)

## Cartridge fitting
## D120.0010

## Test manifold
## S120.0152

Dimensions in mm
Projection/First angle




1 Interface geometry see Cartridge fitting D120.0010

## 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 Precision Engineering, Fluid Automation Systems s.a.

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.