

Science

IMI FAS

16 mm FLATPROP EQIMAX Ultra high flow pressure compensated proportional valve

- 2/2 NC pressure compensated proportional valve
- Ultra high flow, high precision
- > 450 l/min flow with boosting PWM
- Low power consumption of 2,5 W
- Frictionless design enables high resolution and long lifetime
- Optimized performance for medical ventilators > 220 l/min @ 2 bar and > 260 l/min @ 3 bar



Technical features

Medium:

Oxygen, neutral gases

2/2 NC proportional, Pressure compensated

Orifice size: 5,1 mm

Operating pressure: 0 ... 7 bar (0 ... 101 psi)

Back pressure: < 10% of inlet pressure

Mounting: Cartridge

Size: 16 mm

M 3x6 mm (tightening torque

0,45 Nm)

Airflow characteristics: > 220 l/min @ 2.0 barg > 260 l/min @ 3.0 barg > 300 l/min @ 4.0 barg

> 5,0 l/min

Life expectancy:

≥ 100 Mio. cycles (with triangular

Internal leakage:

< 0,6 ml/min @ 7.0 barg > 2,0 ml/min @ 7.0 barg (with plasma treated gasket)

External leakage:

< 0,6 ml/min at P= 9,5 barg

Weight:

36 ± 4 g (0,08 lbs)

Ambient/media temperature: +5 ... +50°C (41 ... +122°F)

Material:

Body material in contact with media: Stainless steel Seal material in contact with media: Fluoroprene XP and FKM

Assembled without oil or grease

Electrical details

| Voltage/frequency | 6/12/24 V d.c. |
|----------------------------------|---------------------------|
| Resistance | 14,4/57/230 Ω ±3% |
| Power consumption | 2,5 W |
| Electrical insulation | 500 V a.c. |
| Insulation class | F (155°C) |
| Max. coil temperature | < 120°C valve flowing |
| Protection class acc. to EN60529 | IP51 |
| Duty cycle | 100% |
| Electrical connection | 300 mm AWG24 flying leads |
| | |

Following options on request

| NBR, EPDM, FKM seals |
|---|
| 264 mA/9,5 V d.c. or 500 mA/5 V coils |
| Gasket with plasma treatment |
| Extension of ambient range temperature |
| Electrical insulation up to 1000 V d.c. |
| Insulation class H 180°C |

File code: LS_DS_FLATPROP-EQIMAX_en/04/24



Technical data – standard models

| Symbol | Current | Resistance | Body Material | Seal Material | Model |
|--------|---------|------------|-----------------|---------------|--------------------------|
| | (mA) | (Ω) | | | |
| 12210 | 104 | 230 | Stainless steel | Fluoropren XP | 12-216C-0514F+EQIMAX+BDU |
| | 211 | 57 | Stainless steel | Fluoropren XP | 12-216C-0514F+EQIMAX+BED |
| | 417 | 14,4 | Stainless steel | Fluoropren XP | 12-216C-0514F+EQIMAX+BEK |
| 1' | | | | | |

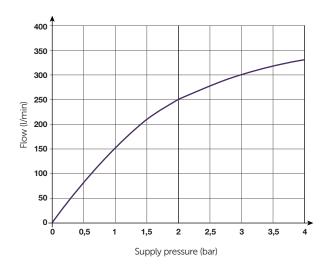
Technical data - standard coils

| Valve orifice | Coil resistance at 20°C (+68°F) <u>+</u> 3% [R20] | Current for maximum flow [nominal] | Voltage +20°C (+68°F) [nominal] | Power +20°C (+68°F) [nominal] | Max. required voltage for max flow *1) |
|---------------|--|------------------------------------|------------------------------------|----------------------------------|--|
| (mm) | (Ω) | (mA) | (V) | (W) | (V) |
| 5,10 | 14,4 | 417 | 6 | 2,5 | 9 |
| | 57 | 211 | 12 | 2,5 | 18 |
| | 230 | 104 | 24 | 2,5 | 36 |

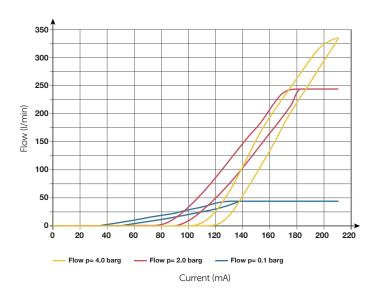
^{*1)} Please refer to instruction K12M.0001 for recommendation on drive signals

Additional information

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



Typical hysteresis curves Air, 20°C, without back pressure



Accessories



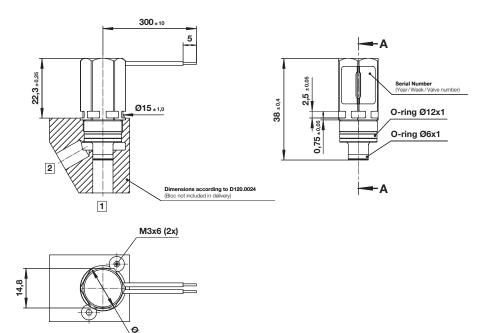


Dimensions

Dimensions in mm Projection/first angle



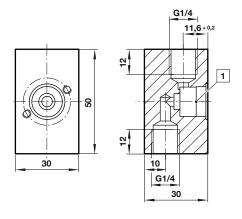




Cartridge fitting D120.0010

A-A ⊕ 0,2 A B 11,7 0,2 x 45° >8,5 4 7 7 7 ø14,8 ± □|0,1|A|B 0.8 RO,45 ⊕|0,05|A|B| В $3,7 \pm 0,1$ 0,7 ⊕ 0,1 A B 11,3 ⊥ 0,02 A 20,5 ⊕ 0,2 A B 12,8 ≥15,3 B-B - ø 0,01 CZ X R 0,45 8 11 △ 0,1 A B

Test manifold \$120.0152



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 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.