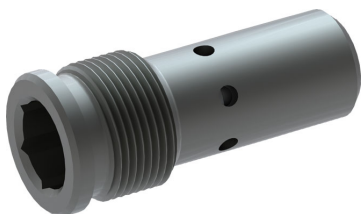


2-Way Flow-Control Cartridge, Size 1

$Q_{\max} = 5 \text{ l/min}$, $p_{\max} = 250 \text{ bar}$
 With fixed orifice, load compensated
 Series MRPA-2-1...



- Load-independent flow rate
- Compact design for cavity type GB – G ¼"
- Various fixed orifices (optimum integration in system)
- Exceptionally constant flow rate over the entire pressure range
- Very good reproducibility
- Can be used for LS-unloading
- Minimal wear and long service life

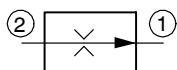
1 Description

Series MRPA... 2-way flow-control valves are size 1, high performance, load-compensated screw-in cartridges with a G ¼" mounting thread. By means of a fixed orifice, the flow rate to an actuator is kept constant regardless of load changes. The load compensation is done by the pressure-compensator piston, which maintains the pressure drop

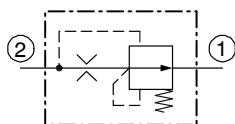
across the fixed orifice at a constant level. The flow-control cartridges can be supplied with various fixed orifices for optimum integration in the system. These 2-way flow-control cartridges are used for meter-in or meter-out flow-control circuits where flow rates must be kept constant regardless of pressure changes.

2 Symbol

Simplified



Detailed



3 Technical data

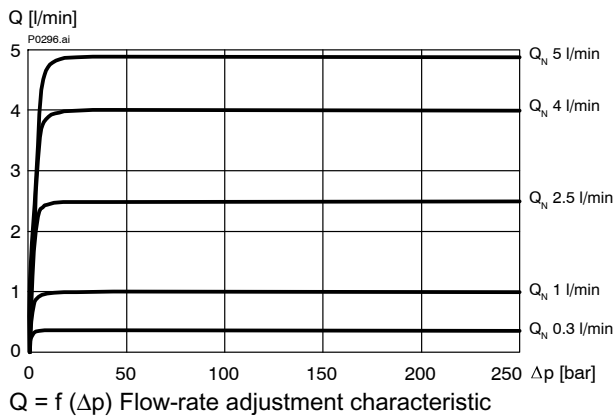
General characteristics	Description, value, unit
Designation	2-way flow-control cartridge
Design	with fixed orifice, load compensated
Mounting method	screw-in cartridge G ¼"
Tightening torque	15 Nm ± 10 %
Size	nominal size 1 mm, cavity type GB to Bucher standards
Weight	0.018 kg
Mounting attitude	unrestricted
Ambient temperature range	-25 °C ... +80 °C
MTTF _D values	150 years, see data sheet 400-P-010101-en

Hydraulic characteristics	Description, value, unit
Maximum operating pressure	250 bar
Maximum flow rate	5 l/min

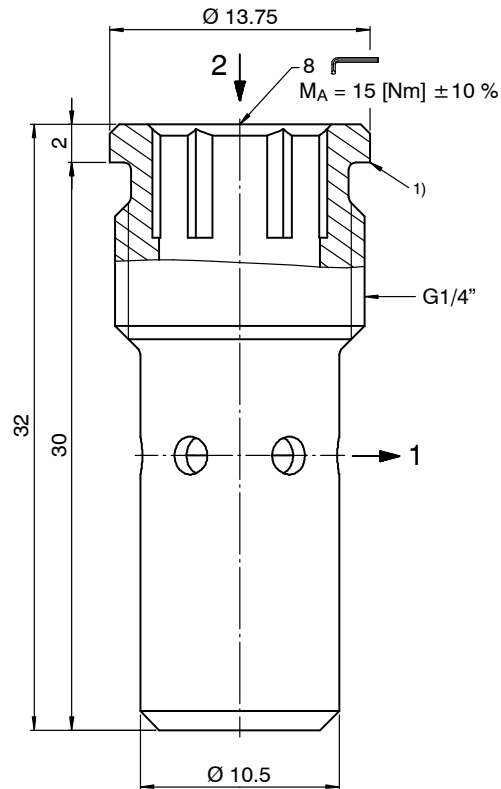
Hydraulic characteristics	Description, value, unit
Hysteresis Nominal	± 10 %
Nominal flow rate Q_N is constant (fixed orifice):	5.0 l/min ± 10 %, 4.0 l/min ± 10 %, 2.5 l/min ± 10 %, 1.0 l/min ± 10 % other flow rates - please consult BUCHER
Flow direction	2 → 1, see symbol / Note: 1 → 2 is not permitted!
Hydraulic fluid	HL and HLP mineral oil to DIN 51 524; for other fluids, please contact BUCHER
Hydraulic fluid temperature range	-25 °C ... +80 °C
Viscosity range	10...650 mm ² /s (cSt), recommended 15...250 mm ² /s (cSt)
Minimum fluid cleanliness Cleanliness class to ISO 4406 : 1999	class 20/18/15

4 Performance graphs

measured with oil viscosity 33 mm²/s (cSt)



5 Dimensions & sectional view



IMPORTANT!

- 1) The cutting edge guarantees leak-free sealing (metal-to-metal) from port 2 to 1.

6 Installation information



IMPORTANT!

When fitting the cartridges, use the specified tightening torque. No adjustments are necessary, since the cartridges are fitted with the required fixed orifice in the factory.



ATTENTION!

Only qualified personnel with mechanical skills may carry out any maintenance work. Generally, the only work that should ever be undertaken is to check, and possibly replace, the seals. When changing seals, oil or grease the new seals thoroughly before fitting them.

7 Ordering code

Ex.

M	R	P	A	-	2	-	1	-	50	-	_
---	---	---	---	---	---	---	---	---	----	---	---

- M = flow valve
- R = flow-control valve
- P = screw-in cartridge G 1/4"
- A ... Q = standard model - see relevant data sheets
- Z ... R = special features - please consult BUCHER
- 2 = 2-way model
- 1 = nominal size 1
nominal flow rate Q_N is constant:
- 50 = 5,0 l/min
- 40 = 4,0 l/min
- 25 = 2,5 l/min
- 10 = 1,0 l/min
- other flow rates - please consult BUCHER 2)
- 1 ... 9 = design stage (omit when ordering new units)



IMPORTANT!

2) With a nominal flow less than 1 l/min, the variation and the hysteresis together can be significantly above 10 %.

8 Related data sheets

Reference	(Old no.)	Description
400-P-040011	(i-32)	The form-tool hire programme
400-P-040311		Cavity type GB to Bucher standards
400-P-010101		MTTF _D values for hydraulic valves

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Classification: 430.300.330.305.300