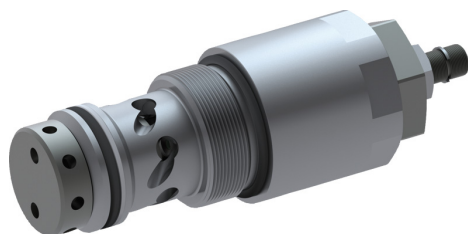


2-Way Flow-Control Cartridge, Size 16

$Q_{max} = 200 \text{ l/min}$, $p_{max} = 350 \text{ bar}$

With fixed orifice, load compensated, adjustable compensator spring

Series MRPB-2-16...



- Load-independent flow rate
- Compact design for cavity type EF – M42 x 2 to Bucher standards
- Various flow-rate control ranges
- Optimum integration in system thanks to adjustable pressure-compensator spring
- Reliable operation over the whole pressure and flow range (even with high pressure differentials)
- Available with hand-knob or tamper-proof cap
- All exposed parts with zinc-nickel plating
- Can be fitted in a line-mounting body

1 Description

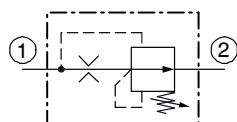
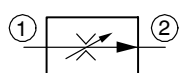
Series MRPB... 2-way flow-control valves are size 16, high performance, load-compensated screw-in cartridges with an M42 x 2 mounting thread. By means of a fixed orifice and an integral pressure-compensator function, the flow rate to an actuator is kept constant regardless of load changes. The load compensation 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 that determine the flow-control range. Using the adjustable pressure-compensator spring, the required flow rate (the range depends on the fixed orifice) is adjusted built in the system. The

spring is adjusted by means of an adjusting screw or a hand-knob. To safeguard valve settings, the adjusting spindle can be sealed with a tamper-proof cap. These 2-way flow-control cartridges are used in mobile and industrial applications where a constant flow rate must be maintained under conditions of varying load. All external parts of the cartridge are zinc-nickel plated to DIN 50 979 and are thus suitable for use in the harshest operating environments. If you intend to manufacture your own cavities or are designing a line-mounting installation, please refer to the section "Related data sheets".

2 Symbol

Simplified

Detailed



3 Technical data

| General characteristics | Description, value, unit |
|---------------------------|--|
| Designation | 2-way flow-control |
| Design | with fixed orifice, load compensated, adjustable compensator spring, with mechanical operation |
| Mounting method | screw-in cartridge M42 x 2 |
| Tightening torque | 200 Nm ± 10 % |
| Size | nominal size 16 mm, cavity type EF to Bucher standards |
| Weight | 1.10 kg |
| Mounting attitude | unrestricted |
| Ambient temperature range | -25 °C ... +80 °C |
| MTTF _D values | 150 years, see data sheet 400-P-010101-en |

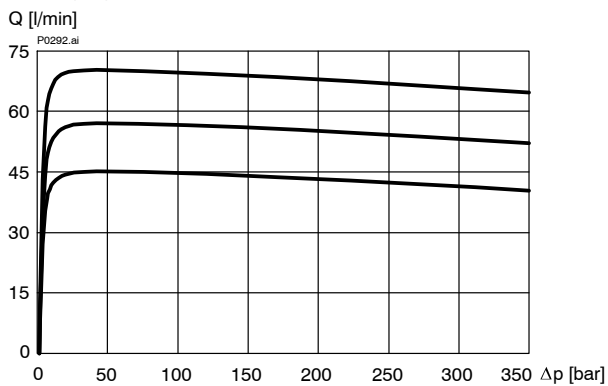
Reference: 400-P-411101-EN-01

| Hydraulic characteristics | Description, value, unit |
|---|--|
| Maximum operating pressure | 350 bar |
| Maximum flow rate | 200 l/min |
| Nominal flow rate Q_N | 200, 140, 110, 70 l/min |
| Flow direction | 1 → 2, see symbols |
| 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 |

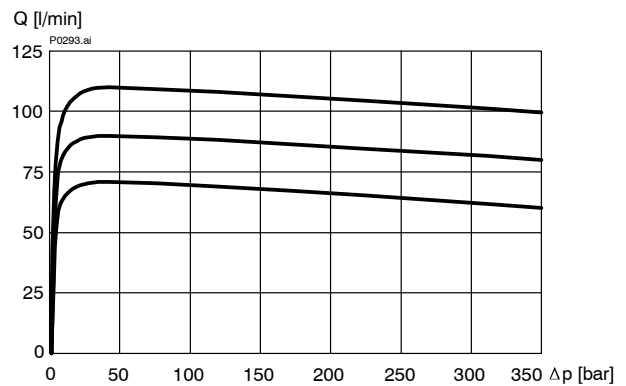
4 Performance graphs

measured with oil viscosity 33 mm²/s (cSt)

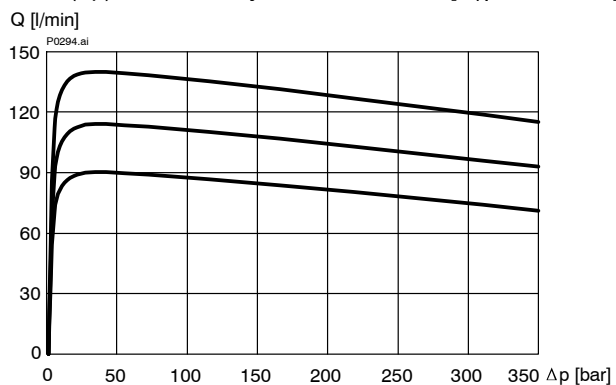
$Q = f(\Delta p)$ Flow-rate adjust. characteristic [$Q_N = 70$ l/min]



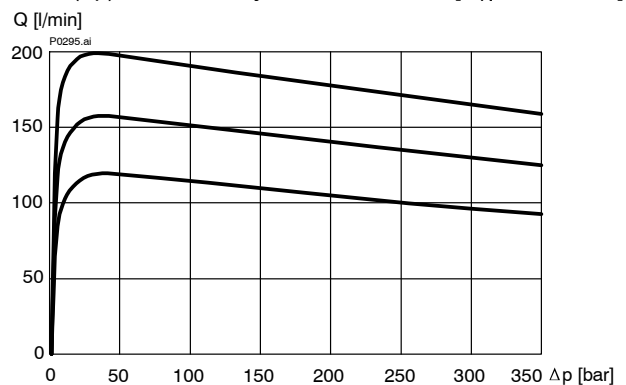
$Q = f(\Delta p)$ Flow-rate adjust. characteristic [$Q_N = 110$ l/min]



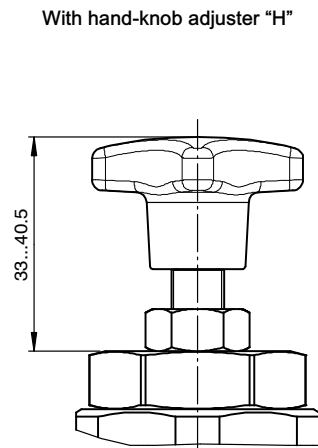
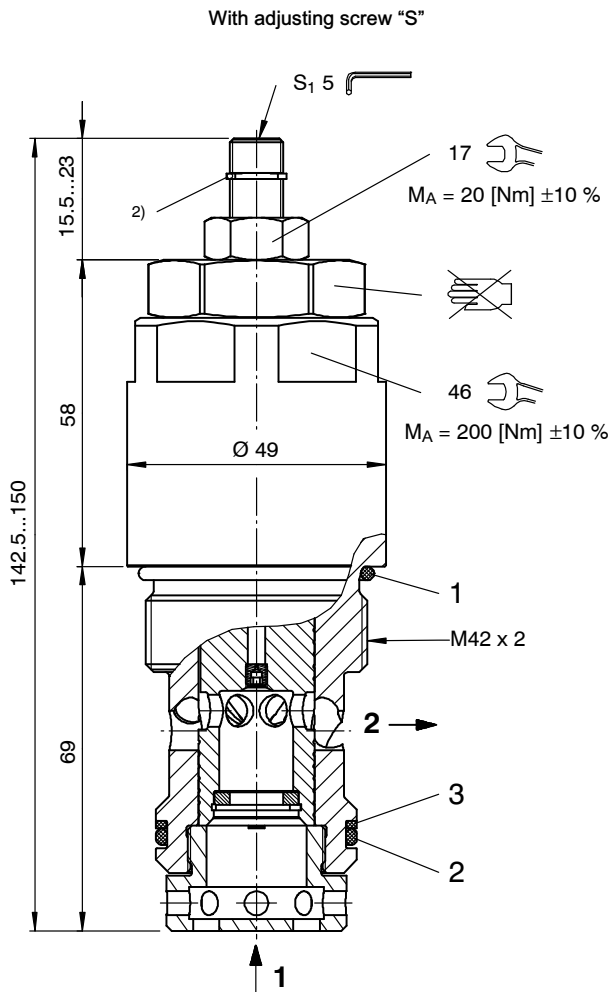
$Q = f(\Delta p)$ Flow rate adjust. characteristic [$Q_N = 140$ l/min]



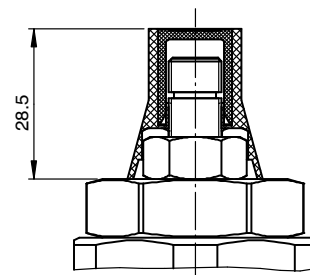
$Q = f(\Delta p)$ Flow-rate adjust. characteristic [$Q_N = 200$ l/min]



5 Dimensions & sectional view



Adjusting screw with tamper-proof cap
(order separately in plain language)



6 Installation information



IMPORTANT!

When fitting the cartridges, use the specified tightening torque. Set the required flow rate with the adjusting screw (s_1). After you have set the valve, lock the adjusting screw with the lock nut.



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.



IMPORTANT!

Valve settings can be sealed by fitting the tamper-proof cap. To fit the cap, the snap ring ²⁾ has to be removed. Subsequent adjustment is only possible by destroying the tamper-proof cap.

Seal kit NBR no. DS-418-N ¹⁾

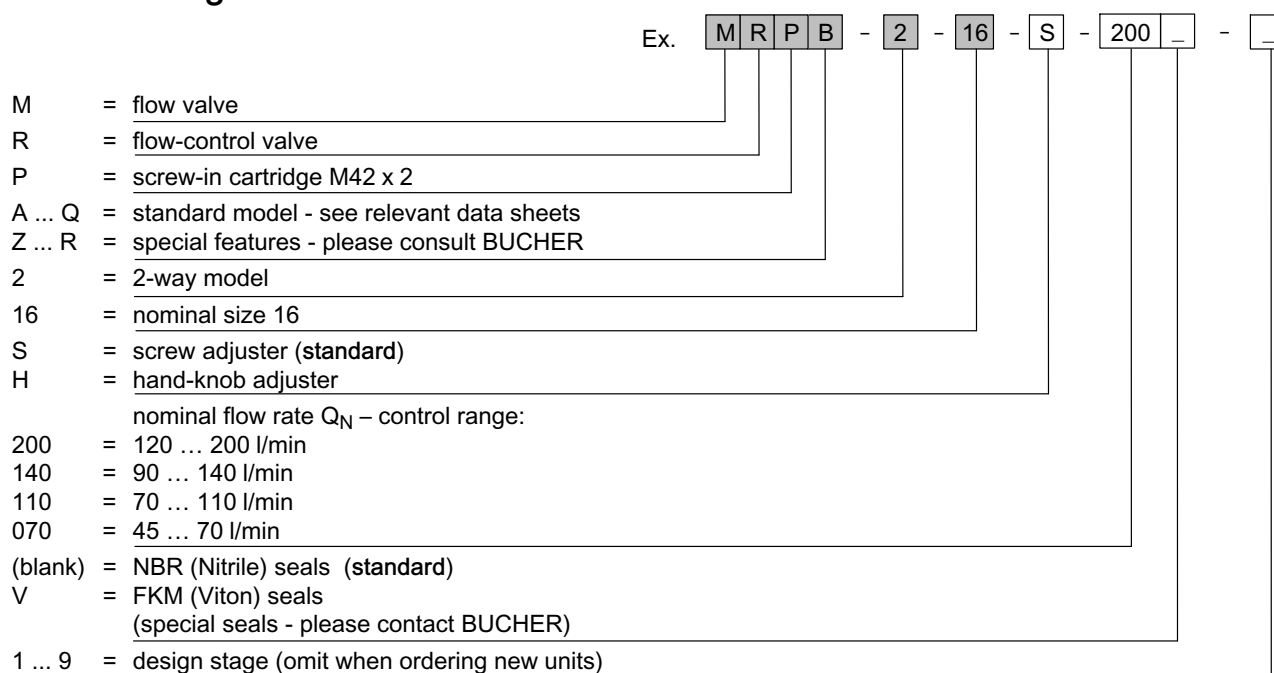
| Item | Qty. | Description |
|------|------|---|
| 1 | 1 | O-ring no. 129 \varnothing 39,34 x 2,62 N90 |
| 2 | 1 | O-ring no. 125 \varnothing 32,99 x 2,62 N90 |
| 3 | 1 | Backup ring \varnothing 32,0 x 2,0 x 1,4 F10751 |



IMPORTANT!

¹⁾ Seal kit with FKM (Viton) seals, no. DS-418-V

7 Ordering code



IMPORTANT!

When required, the tamper-proof cap (the adjustment seal) must be ordered separately in plain language.

8 Related data sheets

| Reference | (старый номер) | Description |
|--------------|----------------|---|
| 400-P-040011 | (i-32) | The form-tool hire programme |
| 400-P-080127 | | Cavity type EF to Bucher standards |
| 400-P-750131 | | Line-mounting body, type GEFA (G 1") |
| 400-P-010101 | | MTTF _D values for hydraulic valves |

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Classification: 430.300.330.305.330