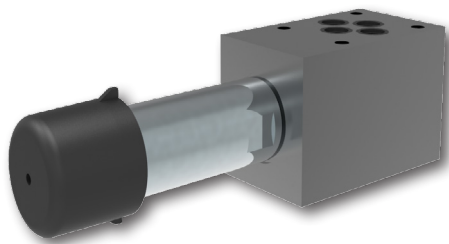


# VRN2-06/M(R)

Size 06 (D03) • Q<sub>max</sub> 40 l/min (11 GPM) • p<sub>max</sub> 320 bar (4600 PSI)



### Technical Features

- › Pressure reducing - relieving valve, spool type, pilot operated with mounting interface acc. to ISO 4401, DIN 24340 (CETOP 03)
- › Excellent stability throughout flow range with rapid response to dynamic pressure changes
- › Low hysteresis, accurate pressure control and low pressure drop
- › Reverse relief protection
- › Wide pressure range up to 320 bar
- › High flow capacity
- › Hardened precision parts
- › Adjustable by allen key or hand screw, optionally sealable (lockwire holes)
- › In the standard version, the valve housing is phosphated and steel parts are zinc-coated for 240 h protection acc. to ISO 9227

### Functional Description

This pilot operated pressure reducing valve is designed to reduce the system pressure at the consumer port. Its 3 way design provides reverse relief protection of the secondary circuit to the tank port. The pressure can be set by an adjustment screw and the valve is optionally equipped with lockwire holes for sealing. Valve bodies for vertical stacking assemblies are available with pressure reduction in ports A and P. Check valves incorporated into the valve bodies MA(B) enable the reverse flow to pass freely through the valve.

#### Model MA, MB, MC

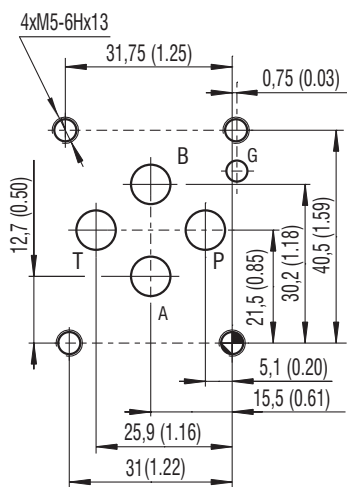
In models MA and MB, the flow enters the valve through port A1 (B1). The input pressure is reduced and routed to port A2 (B2). In model MB the reverse flow passes through a check valve. The MC type is identical to the MB type, but without the bypass check valve.

#### Model MP

In model MP, the pressure is reduced from port P2 to port P1.

All models support the connection of a pressure gauge to port M (thread G 1/4).

ISO 4401-03-02-0-05



Ports P, A, B, T - max. Ø 7.5 mm (0.29 in)



The volume flow, which is needed for control of output pressure and maintaining the adjusted value of reducing pressure, flows permanently through the pilot stage of valve.

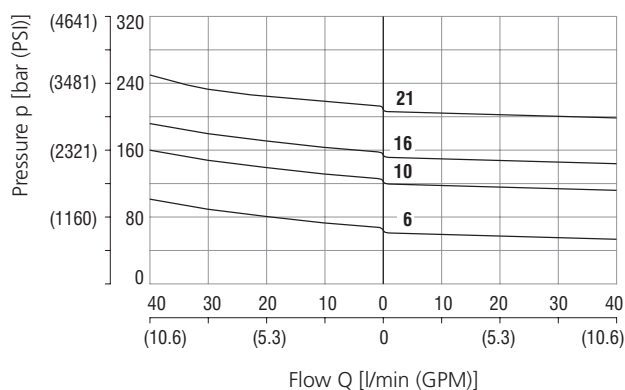
### Technical Data

| Valve size / Cartridge cavity           |             | Size 06 / QF3                               |
|---|-------------|---|
| Max. flow                               | l/min (GPM) | 40 (10.6)                                   |
| Max. control flow                       | l/min (GPM) | 0.25 (0.07)                                 |
| Max. operating pressure (ports P, A, B) | bar (PSI)   | 320 (4640)                                  |
| Max. operating pressure (port T)        | bar (PSI)   | 160 (2320)                                  |
| Fluid temperature range (NBR)           | °C (°F)     | -30 ... +100 (-22 ... 212)                  |
| Fluid temperature range (FPM)           | °C (°F)     | -20 ... +120 (-4 ... 248)                   |
| Weight - models MA, MB                  | kg (lbs)    | 1.20 (2.65)                                 |
| - models MC, MP                         |             | 1.10 (2.43)                                 |
| - model RA1                             |             | 1.10 (2.43)                                 |
|   | Datasheet   | Type  |
| General information                     | GI_0060     | Products and operating conditions           |
| Mounting interface                      | SMT_0019    | ISO 4401-03-02-0-05<br>DIN 24340 (CETOP 03) |
| Spare parts                             | SP_8010     |   |

### Characteristics measured at v = 32 mm<sup>2</sup>/s (156 SUS)

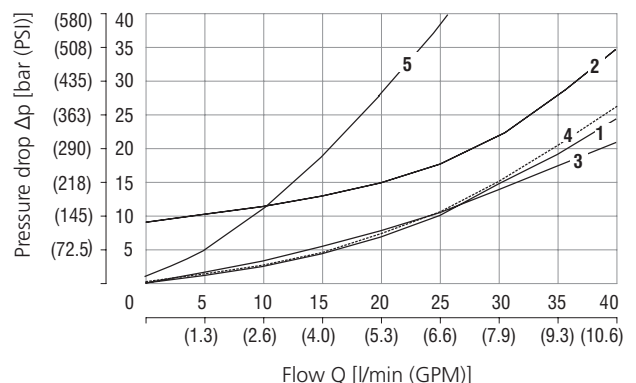
#### Reducing - relieving pressure related to flow rate

Relieving function A-T / Reducing function P-A



#### Pressure drop related to flow rate

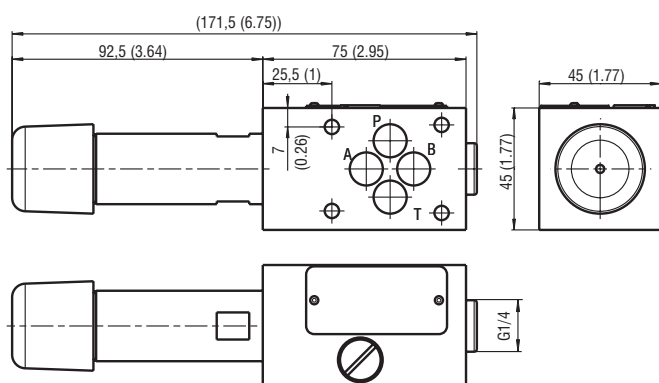
Flow direction P-A Fully open valve through section



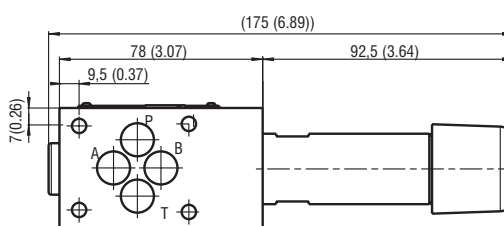
| Flow direction | 1              | 2                    | 3   | 4     | 5  |
|----------------|----------------|----------------------|---|-------|--|
|                | A1-A2<br>B1-B2 | A2-T<br>B2-T<br>P1-T | A2-A1<br>B2-B1<br>flow through check valve<br>and fully opened main spool | P2-P1 | A2-A1<br>B2-B1<br>flow through<br>check valve only |

## Dimensions in millimeters (inches)

### Model MA

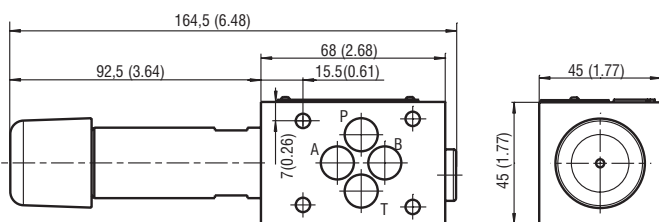


### Models MB, MC

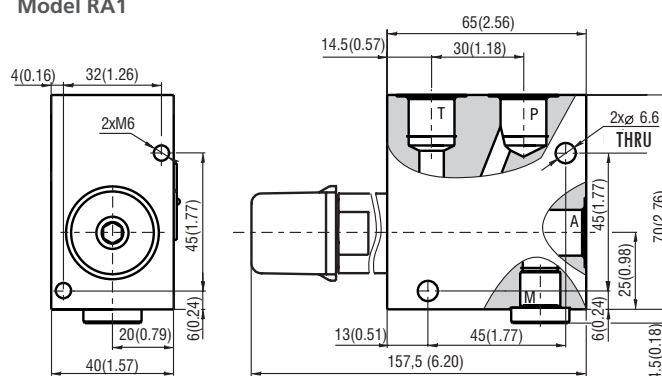


| Dimensions in mm (in) |           |     |   |           |
|-----------------------|-----------|-----|---|-----------|
| Port                  | A         | P   | T | M         |
| Thread                | G 3/8     |     |   | G 1/4     |
| Depth of thread       | 12 (0.47) |     |   | 12 (0.47) |
| Counterbore           | Ø23       | Ø20 |   |           |
| Depth of counterbore  | 1         | 1   | 1 | 1         |

### Model MP

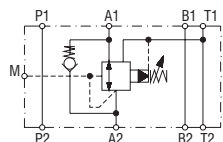


### Model RA1

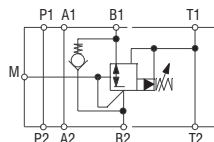


## Functional Symbols

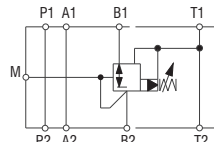
### VRN2-06/MA



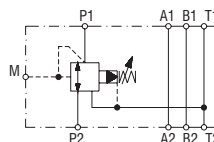
### VRN2-06/MB



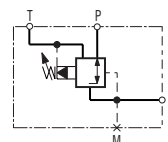
### VRN2-06/MC



### VRN2-06/MP



### VRN2-06/RA1



- ① valve side  
② subplate or manifold side

**Notice:** The orientation of the symbol on the name plate corresponds with the valve function.

## Ordering Code

VRN2-06/ [ ] - [ ] [ ] [ ] - [ ]

**Pressure reducing - relieving valve, spool type, pilot operated, modular**

### Valve size

ISO 4401-03-02-0-05, DIN 24340 (CETOP 03), size 06

### Model Pressure reduction

modular valve, on port A2 (with by-pass check valve) **MA**  
 modular valve, on port B2 (with by-pass check valve) **MB**  
 modular valve, on port B2 (without by-pass check valve) **MC**  
 modular valve, on port P1 **MP**  
 in-line valve, three ports, thread G 3/8 (P, T, A) **RA1**

### Pressure range

up to 63 bar (913 PSI) **6**  
 up to 100 bar (1450 PSI) **10**  
 up to 160 bar (2321 PSI) **16**  
 up to 210 bar (3045 PSI) **21**

### No designation

Surface treatment  
 standard  
**A** zinc-coated (ZnCr-3), ISO 9227 (240 h)  
**B** zinc-coated (ZnNi), ISO 9227 (520 h)

### No designation

Seals  
**V** NBR  
 FPM (Viton)

**S** Adjustment option\*  
**T** allen key (hex. 6), without protective cap  
**RS** allen key (hex. 6), with protective cap  
**RP** hand screw, metal  
**L** hand screw, plastic  
 allen key (hex. 6), with protective cap, sealable (lockwire holes)

\*for dimensions of adjustment options see data sheet No.5153