VRP2-04

Size 04 (D02) • Q_{max} 20 l/min (5 GPM) • p_{max} 320 bar (4600 PSI)

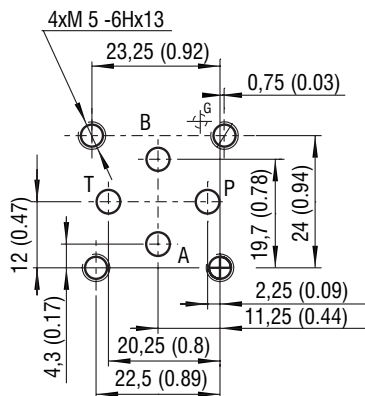## Technical Features

› Pressure reducing - relieving valve, spool type, direct acting, with mounting interface acc. to ISO 4401, DIN 24340 (CETOP 02)
› Excellent stability throughout flow range with rapid response to dynamic pressure changes
› Low hysteresis, accurate pressure control and low pressure drop
› Wide pressure range up to 320 bar
› Hardened precision parts
› Pressure reduction function in ports P, A, or B
› Adjustable by allen key or hand screw
› Good adjustment sensitivity with reduced drainage flow
› In the standard version, the valve housing is phosphated for basic surface corrosion protection and as preparation for painting. Steel parts are zinc-coated for 240 h salt spray protection acc. to ISO 9227
› Enhanced surface protection for mobile sector available for the valve housing and steel parts (ISO 9227, 520 h salt spray)

ISO 4401-02-01-0-05

4xM 5 -6Hx13
23,25 (0.92)
0,75 (0.03)
12 (0.47)
19,7 (0.78)
24 (0.94)
4,3 (0.17)
2,25 (0.09)
11,25 (0.44)
20,25 (0.8)
22,5 (0.89)

Ports P, A, B, T - max. ⌀ 4,5 mm (0.18 in)

Technical Data

Valve size		04 (D02)			
Max. flow	l/min (GPM)	20 (5.3)			
Max. operating pressure (ports P, A, B)	bar (PSI)	320 (4640)			
Max. operating pressure (port T)	bar (PSI)	210 (3050)			
Reduced pressure range (at Q = 5 l/min)	bar	10-25	20-63	30-160	50-210
	(PSI)	(150-360)	(290-910)	(440-2320)	(730-3050)
Fluid temperature range (NBR)	°C (°F)	-30 .... +100 (-22 ... +212)			
Fluid temperature range (FPM)	°C (°F)	-20 .... +120 (-4 ... +248)			
Weight - model "A"	kg (lbs)	0,82 (1.81)			
- model "B", "P"		0,60 (1.32)			
	Datasheet	Type			
General information	GI_0060	Products and operating conditions			
Mounting interface	SMT_0019	ISO 4401-02-01-0-05 DIN 24340 (CETOP 02)			
Spare parts	SP_8010				

Functional Description

The pressure valves VRP2 are directly operated reducing-relieving valves for vertical stacking assemblies designed as 3 way valves, which means it includes pressure protection of the secondary circuit. The valve consists of the valve body, control spool, spring, and adjustment element.
The body includes a port M with thread G 1/4 for attachment of a pressure measuring device or a by-pass free flow check valve.

Model A
In model A, the fluid enters the valve body from the primary circuit through port A1 and passes through the metering edge, where its pressure is reduced. The flow is passed to the output port A2 and on to the user. The reverse free flow from port A2 to port A1 passes through a check valve which is connected in parallel to the metering edge of the control spool.

Model B
In model B, the pressure reduction occurs from port P2 to port P1, but only if the flow in port B passes towards the user (not opposite).
The protection of the secondary circuit is therefore ensured for one flow direction only.

Model P
In model P, the pressure reduction occurs from port P2 to port P1, and is effective in both flow directions through the directional valve.
Therefore, the protection of the secondary circuit is ensured for both flow directions.
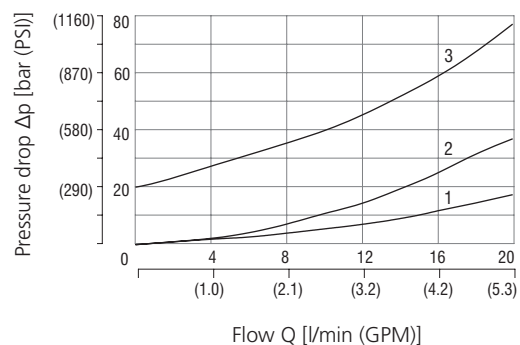
Characteristics measured at ν = 32 mm²/s (156 SUS)

Reducing - relieving pressure related to flow rate

Relieving function A-T / Reducing function P-A

Pressure p [bar (PSI)]
Flow Q [l/min (GPM)]
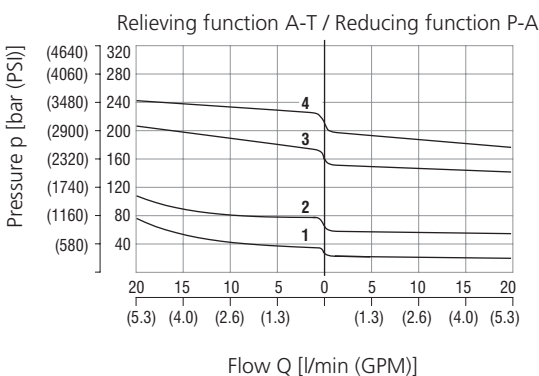
	Pressure range
4	21
3	16
2	6
1	2

Pressure drop related to flow rate
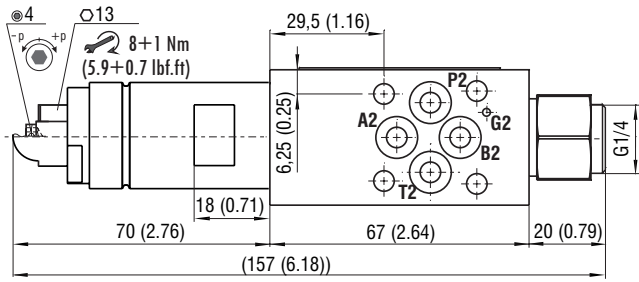
Pressure drop Δp [bar (PSI)]
Flow Q [l/min (GPM)]

1 - Pressure drop of check valve
2 - Pressure drop of reducing valve at min. adjustable pressure range
3 - Pressure drop of relief valve at min. adjustable safety pressure

	Direction	
	Model A	Models P, B
3	A2–T	P1–T
2	A1–A2	P2–P1
1	A2–A1	

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A Voith Company

Type „A"

Model S (T)

Model RS
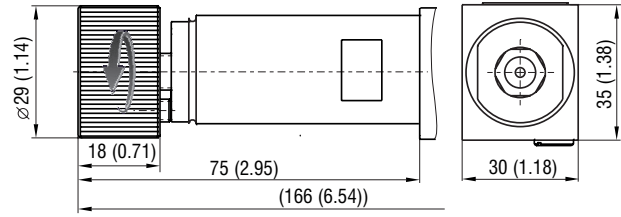
Type „B" and „P"

Model S (T)

Model RS

0,01/100 mm

0,8 (Rmax. 6,3)
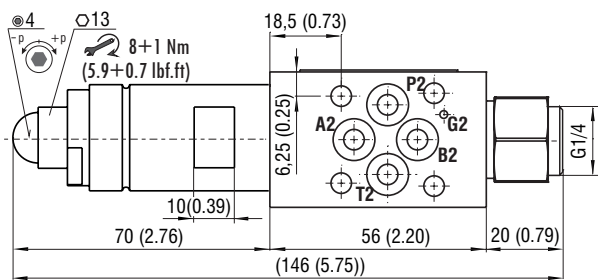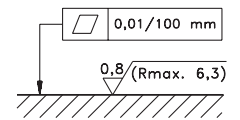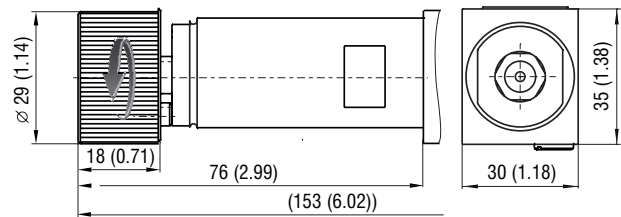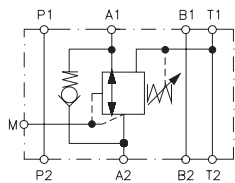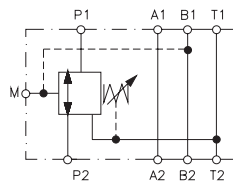
Required surface quality of
the counterpart
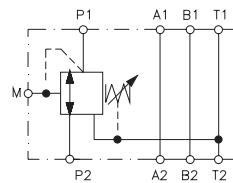
Functional symbols

VRP2-04-A*

VRP2-04-B*

VRP2-04-P*

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

VRP2 - 04 - ☐☐ / ☐☐ - ☐

Pressure reducing - relieving valve, spool type, direct acting, modular

Valve size
ISO 4401-02-01-0-05, DIN 24340 (CETOP 02), size 04

Model

Pressure reduction	Pressure sensing	
on port A2	at port A2	A
on port P1	at port B1	B
on port P1	at port P1	P

	Surface treatment
No designation	standard
A	zinc-coated (ZnCr-3), ISO 9227 (240 h)
B	zinc-coated (ZnNi), ISO 9227 (520 h)

	Seals
No designation	NBR
V	FPM (Viton)

	Reduced pressure range (at Q = 5 l/min)
2	10 - 25 bar (150 - 360 PSI)
6	20 - 63 bar (290 - 910 PSI)
16	30 - 160 bar (440 - 2320 PSI)
21	50 - 210 bar (730 - 3050 PSI)

	Adjustment option
S	allen key (hex. 4), without protective cap
T	allen key (hex. 4), with protective cap
RS	hand screw, metal