

Pressure relief pilot operated poppet type and anti-cavitation valve Special cavity, FB

VMR1-16

VMR1.100.NG

RE 18318-35

Edition: 04.2022

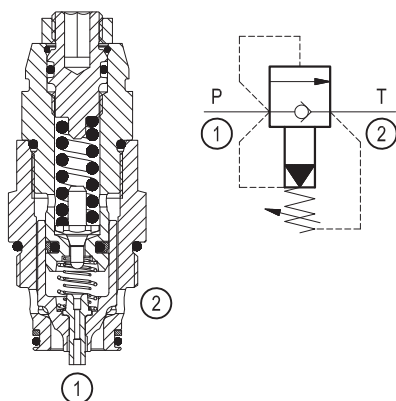
Replaces: 01.2019



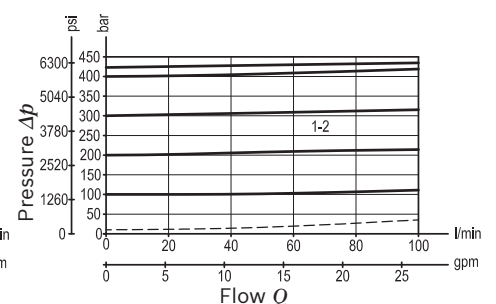
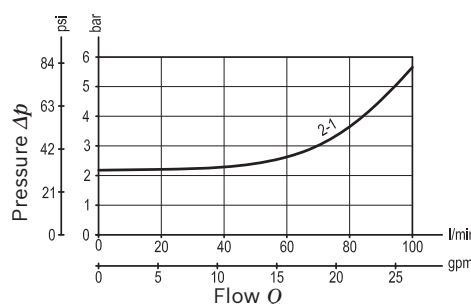
Description

Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the conical, pilot-stage poppet from its seat. This action exhausts oil above the main-stage poppet (low-leakage, seat type), allowing it to shift and provide relief flow through 2 to tank. Pressure at 2 is additive to the relief setting of the valve.

The anti-cavitation function makes up for lacking oil volumes caused, for example, by leakage when pressure valves respond or in the case of leading loads. If the pressure at main port 1 is lower than the one at main port 2, the spool will be lifted out of its seat. Hydraulic fluid flows from main port 2 to main port 1.



Characteristic curve



Technical data	
Max. operating pressure port 1 (P)	420 bar (6000 psi)
Max. pressure admitted port 2 (T)	50 bar (725 psi)
Max. flow	100 l/min (26 gpm)
Max. internal leakage ¹⁾	15 drops/min.
Fluid temperature range	-30 to 100 °C (-22 to 212 °F) (Buna N) -20 to 120 °C (-4 to 248 °F) (Viton)
Installation torque ²⁾	90 Nm (67 ft-lbs)
Weight	0.17 kg (0.37 lbs)
MTTFd	150 years see RE 18350-51
Special cavity	FB (see data sheet 18325-75)
Lines bodies and standard assemblies	Please refer to section "Hydraulic integrated circuit" or consult factory
Seal kit (Buna N)	Code: RG16R2010520100 material no: R931002592
Seal kit (Viton)	Code: RG16R2040520100 material no: R931002593
Fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 380 mm ² /s (cSt)
Recommended degree of fluid contamination	Nominal value max. 10μm (NAS 8) / ISO 4406 20/18/15
Installation position	No restrictions
Other Technical Data	See data sheet 18350-50
Without surface protection	In case of need of surface protection, please consult factory.

1) At 80% of pressure setting.

2) Torque value valid for installation in cast iron and steel manifolds.
In case of different body materials, please consult factory.

Ordering code

VMR1.100.NG	*
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and anti-cavitation valve

	SPRINGS		O-RING
	Adj. press. range bar (psi)	Pressure increase bar/turn (psi/turn)	Material
020	100-420 (1450-6090)	300 (4350)	Buna N (NBR)
030	100-420 (1450-6090)	300 (4350)	Viton (FKM)

* Valves are delivered without specific pressure set at the factory and with adjustment device not tighten. Fine setting to be done by customer. For case of request of factory set valve, please consult factory.

Preferred types

Type	Material number
VMR1.100.NG.020	R931002529
VMR1.100.NG.030	R931002539

Type	Material number

Dimensions

