

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

VMR1-16

VMR1.100.NG

RE 18318-35

Edition: 01.2019

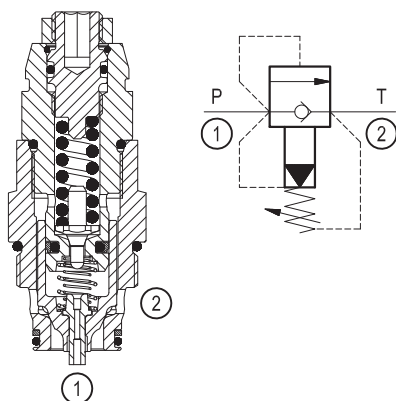
Replaces: 12.2016



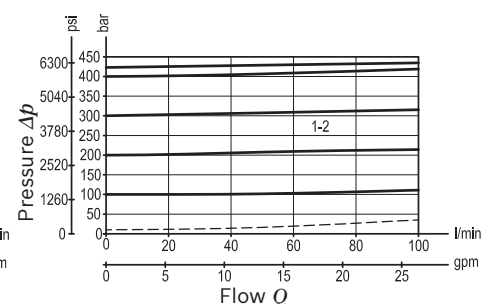
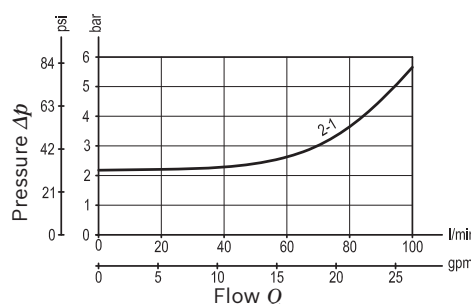
Description

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	*
-------------	---

Pressure relief pilot operated poppet type
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)

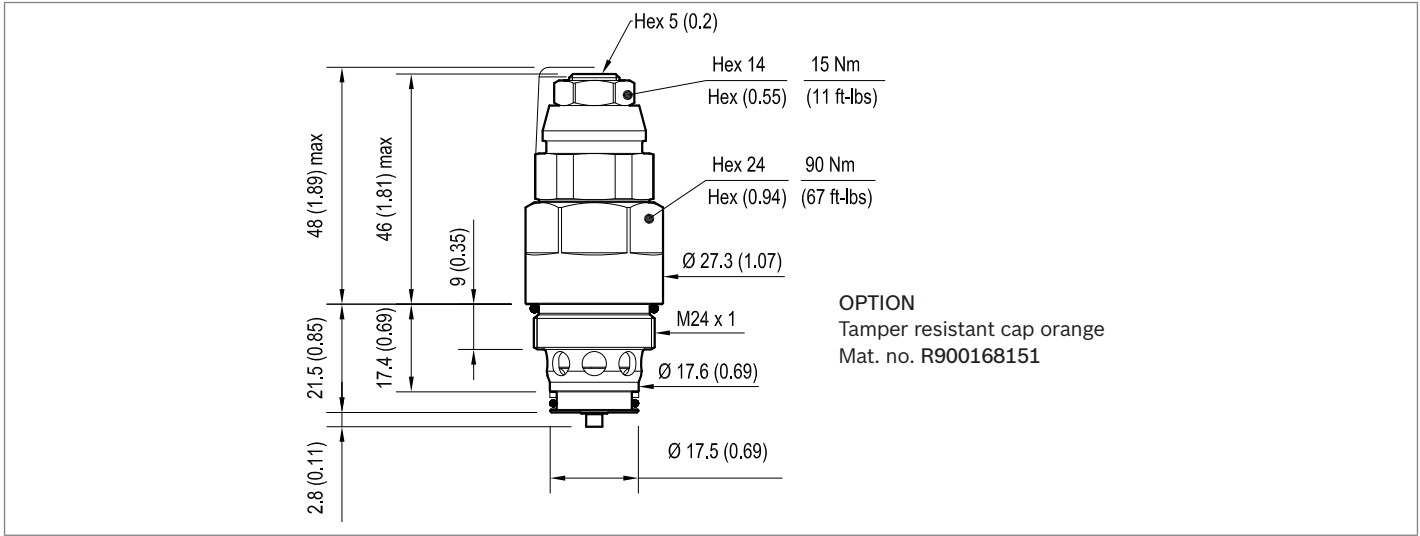
* Valves are delivered without specific pressure set at the factory and with adjustment device not tighten. Fine setting to be done by customer. For case of request of factory set valve, please consult factory.

Preferred types

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

Type	Material number

Dimensions



Bosch Rexroth Oil Control S.p.A.
Via Leonardo da Vinci 5
P.O. Box no. 5
41015 Nonantola – Modena, Italy
Tel. +39 059 887 611
Fax +39 059 547 848
compact-hydraulics-cv@boschrexroth.com
www.boschrexroth.com/compacthydraulics

© This document, as well as the data, specifications and other information set forth in it, are the exclusive property of Bosch Rexroth Oil Control S.p.a.. It may not be reproduced or given to third parties without its consent. The data specified above only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that our products are subject to a natural process of wear and aging. Subject to change.