

Pressure relief pilot operated poppet type and anti-cavitation valve - External drain

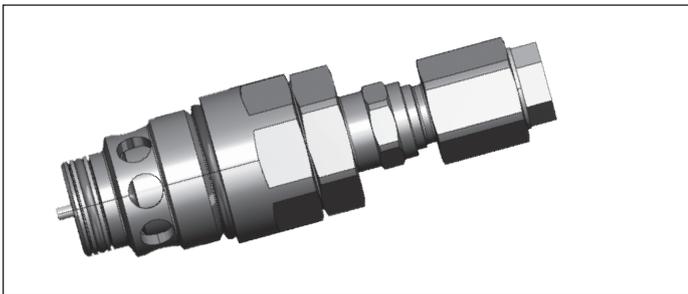
Special cavity, FC - LG

VMR2-22

VMR2.EFC/ELG

RE 18319-17

Edition: 07.2020



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.

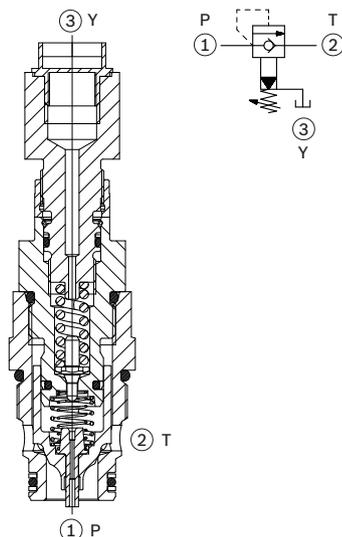
The anti-cavitation function makes up for lacking oil volumes caused, for example, by leakage when pressure valves respond or in the case of leading loads. If the pressure at main port 1 is lower than the one at main port 2, the spool will be lifted out of its seat. Hydraulic fluid flows from main port 2 to main port 1. The spring chamber is drained to tank at port 3 allowing a consistent relief setting independent of back-pressure at port 2.

Technical data

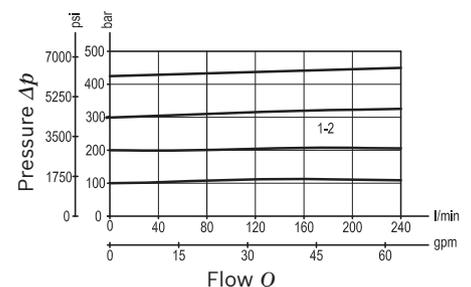
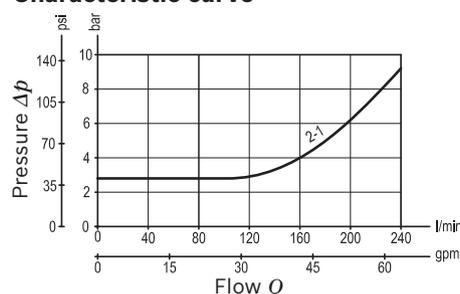
Max. operating pressure port 1 (P)	420 bar (6000 psi)
Max. pressure admitted port 2 (T)	50 bar (725 psi)
Max counter pressure port 3 Y (added to the pressure adjustment at a ratio of 1:1)	420 bar (6000 psi)
Max. flow	240 l/min (63,40 gpm)
Max. internal leakage ¹⁾	45 drops/min.
Fluid temperature range	-20 to 120 °C (-4 to 248 °F) (Viton)
Installation torque ²⁾	100 Nm (73,76 ft-lbs) for FC 120 Nm (88,51 ft-lbs) for LG
Weight	0.36 kg (0.79 lbs) for FC 0.45 kg (0.99 lbs) for LG
Special cavity	FC - LG (see data sheet 18325-75)
Lines bodies and standard assemblies	Please refer to section "Hydraulic integrated circuit" or consult factory
Seal kit (Viton)	Code: RG22R2040540100 material no: R930077562 for FC Code: RGLGR2040520100 material no: R930054948 for LG
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 9) / ISO 4406 20/18/15
Installation position	No restrictions
MTTFD	150 years see RE 18350-51
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.



Characteristic curve



Ordering code

VMR2.E	*	.VG	*
--------	---	-----	---

Pressure relief pilot operated poppet type and anti-cavitation valve - External drain

Cavity **FC**
Cavity **LG**

SPRINGS	
Maximum set pressure bar (psi)	Pressure increase bar/turn (psi/turn)
000	420 (6090) 272 (3945) for FC

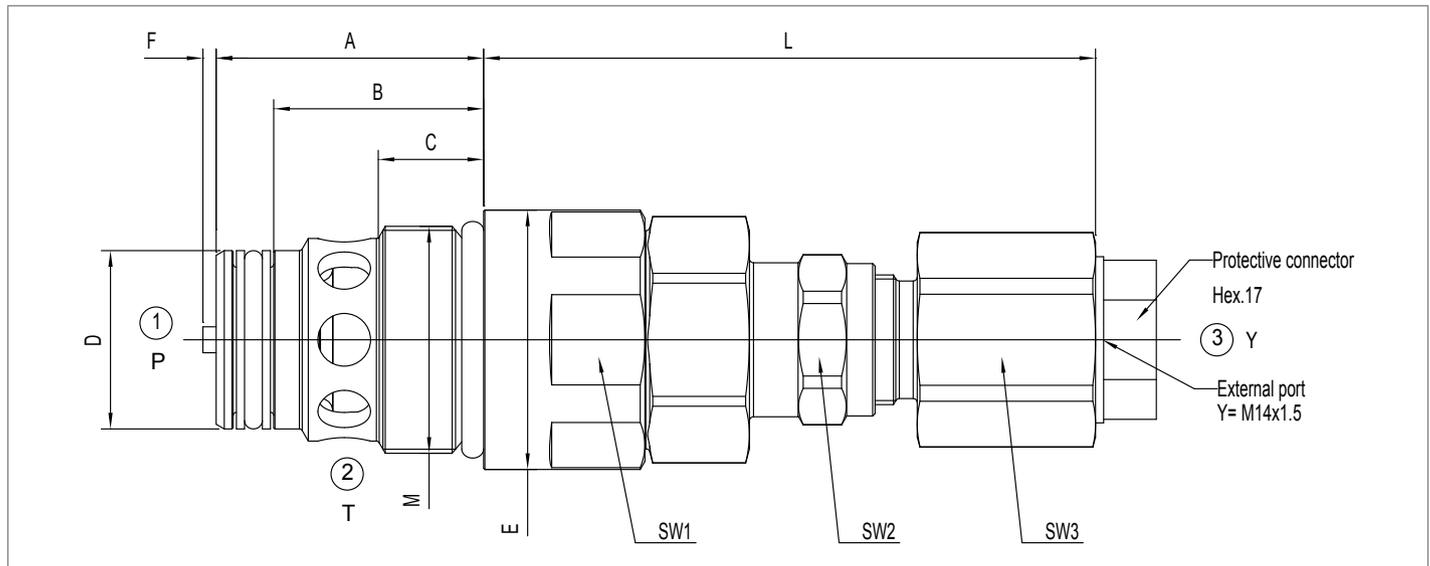
* Valves are delivered set at pressure setting <25 bar and with adjustment device not tighten. Fine setting to be done by customer. For case of request of factory set valve, please consult factory.

Preferred types

Type	Material number
VMR2.EFC.VG.000	R930073917
VMR2.ELG.VG.000	R930076123

Type	Material number

Dimensions



Type	A	B	C	L	F	D	E	M	Wrench size			Tightening torque [Nm (ft-lbs)]	
									SW1	SW2	SW3	SW1	SW2
FC	33 (1.30)	26 (1.02)	13 (0.51)	76 (2.99)	1.7 (0.07)	22 (0.87)	32 (1.26)	M28x1	30 (1.18)	19 (0.75)	24 (0.95)	100 (74)	15 (11)
LG	38.5 (1.52)	30.4 (1.18)	15 (0.59)	95 (3.74)	-	27 (1.06)	34.5 (1.36)	M30x1.5	30 (1.18)	19 (0.75)	24 (0.95)	120 (88.51)	15 (11)

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.