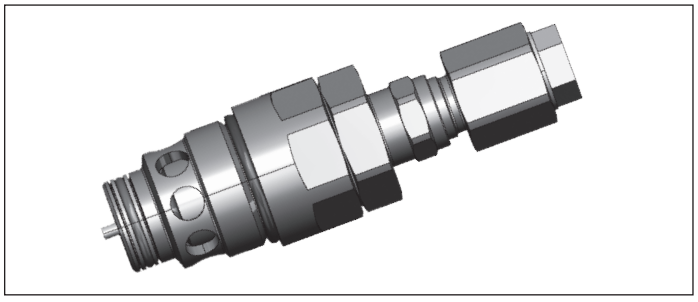
rexroth
A Bosch Company

Pressure relief pilot operated poppet type and anti-cavitation valve - External drain Special cavity, FK - LM

RE 18319-18
Edition: 07.2020

VMR3-32

VMR3.EFK/ELM

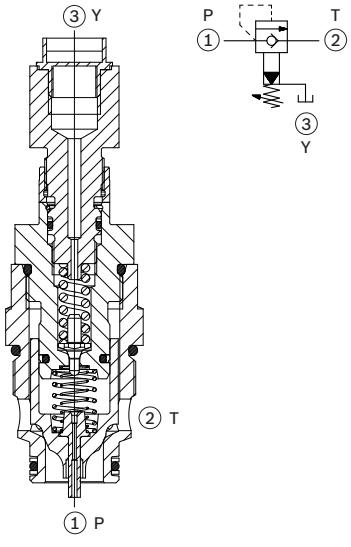


Description

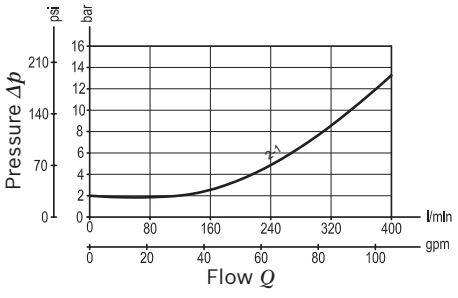
Flow is blocked from 1 to 2 until pressure increases to meet the selected valve setting, lifting the conical, pilot-stage poppet from its seat. This action exhausts oil above the main-stage poppet (low-leakage, seat type), allowing it to shift and provide relief flow through 2 to tank.
The anti-cavitation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

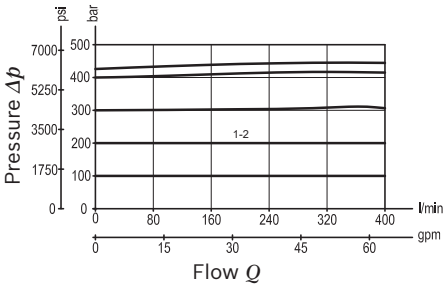
Technical data		
Max. operating pressure port 1 (P)	420 bar (6000 psi)	
Max. pressure admitted port 2 (T)	50 bar (725 psi)	
Max counter pressure port 3 Y (added to the pressure adjustment at a ratio of 1:1)	420 bar (6000 psi)	
Max. flow	400 l/min (105.67 gpm)	
Max. internal leakage[1)]	75 drops/min.	
Fluid temperature range	-20 to 120 °C (-4 to 248 °F) (Viton)	
Installation torque[2)]	150 Nm (110.36 ft-lbs)	
Weight	0.46 kg (1.01 lbs) for FK	
	0.54 kg (1.19 lbs) for LM	
Special cavity	FK - LM (see data sheet 18325-75)	
Lines bodies and standard assemblies	Please refer to section “Hydraulic integrated circuit” or consult factory	
Seal kit (Viton)	Code: RG32R2040540100 material no: R930077563	for FK
	Code: RGLMR2040540100 material no: R930078462	for LM
Fluids	Mineral-based or synthetics with lubricating properties at viscosities of 10 to 380 mm²/s (cSt)	
Recommended degree of fluid contamination	Nominal value max. 10µm (NAS 9) / ISO 4406 20/18/15	
Installation position	No restrictions	
Other Technical Data	See data sheet 18350-50	
MTTFD	150 years see RE 18350-51	
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

VMR3.E	*	.VG	*

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

Cavity **FK**

Cavity **LM**

	SPRINGS	
	Maximum set pressure bar (psi)	Pressure increase bar/turn (psi/turn)
000	420 (6090)	157 (2277)

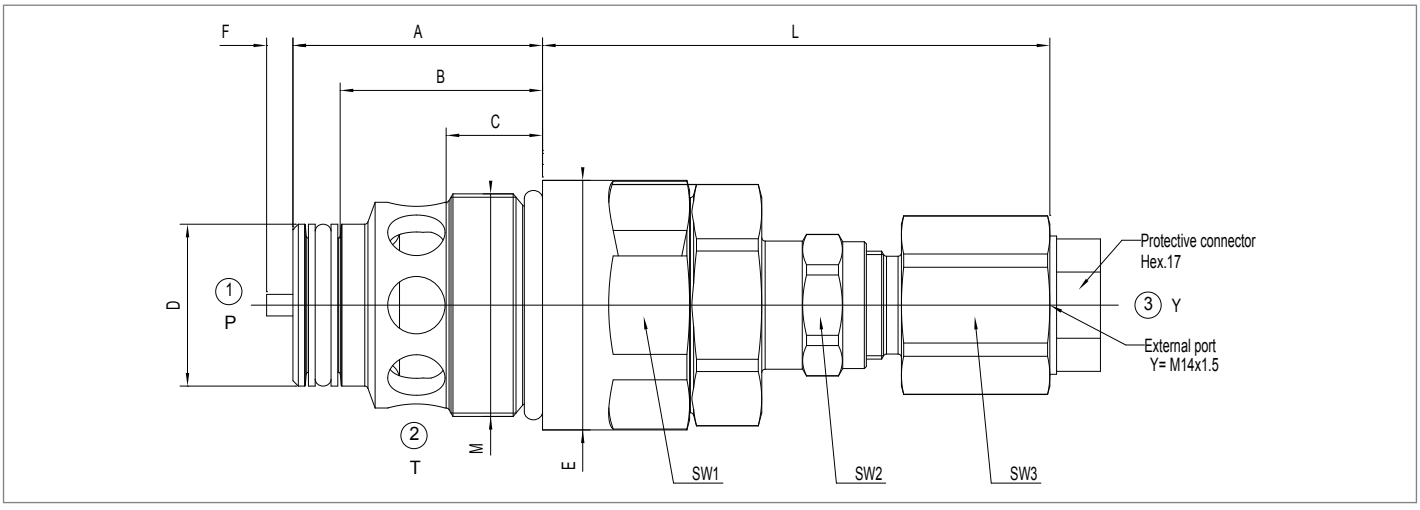
* Valves are delivered set at pressure setting <25 bar and with adjustment device not tighten. Fine setting to be done by customer. For case of request of factory set valve, please consult factory.

Preferred types

Type	Material number
VMR3.EFK.VG.000	R930073918
VMR3.ELM.VG.00	R930079173

Type	Material number

Dimensions



									Wrench size			Tightening torque [Nm (ft-lbs)]	
Type	**A**	**B**	**C**	**L**	**F**	**D**	**E**	**M**	**SW1**	**SW2**	**SW3**	**SW1**	**SW2**
FK	37 (1.46)	30 (1.18)	14 (0.55)	76 (2.99)	4 (0.16)	24 (0.95)	37 (1.46)	M33x1	34 (1.34)	19 (0.75)	24 (0.95)	150 (110.63)	15 (11)
LM	44 (1.73)	36 (1.42)	19 (0.75)	69 (2.72)	3.4 (0.13)	33 (1.30)	41 (1.61)	M36x1.5	36 (1.42)	19 (0.75)	24 (0.95)	150 (110.63)	15 (11)

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