3VRM 6-06

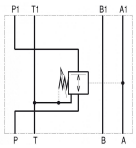
3-WAY DIRECT OPERATED PRESSURE REDUCING VALVE

| KE 3021 | 04/15 |

D_n 06 | P_n 32 MPa | Q_{max} 40 dm³/min

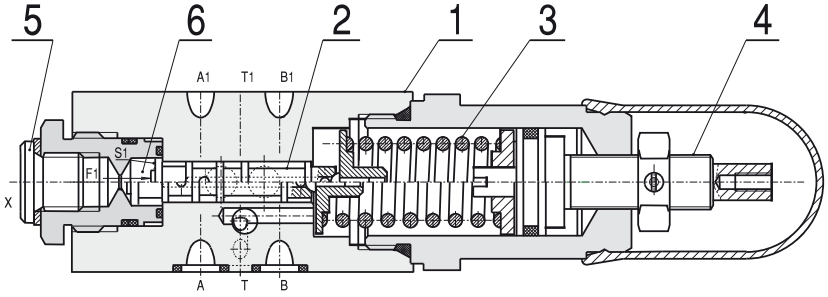
Three way direct operated pressure reducing valves 3VRM6 with adjustable output pressure are used for reducing of system pressure in a specific part of the system and provide protection against pressure surges.

Installation dimensions according to DIN 24340-A6-1, ISO 4401, CETOP 3 | Designed for installation in vertical stacking assemblies | Simple reduced pressure adjustment | Design of the valve allows sealing of pressure adjustment



DESCRIPTION OF FUNCTION

Direct operated pressure reducing valve 3VRM6 consists of the valve housing (**1**), control spool (**2**), spring (**3**), adjusting element (**4**) and the plug for external pilot pressure supply (port X) (**5**). In the initial position the valve is opened i.e. the hydraulic fuild can flow throught the valve. Required value of reduced pressure is adjusted by adjusting screw that preloads the spring. As the sensed pressure (sensed channel depends on the version of the valve - see ordering code) enters the space (**6**) behind the spool a force $F_1=p_6*S_1$ acting to the front of the spool evokes movement of the spool towards the spring up to the position where the F_1 and the force of the spring are balanced. The new balanced position of the spool corresponds with the pre-adjusted value of reduced pressure and the value of sensed pressure. As the sensed pressure exceeds the pre-adjusted value, the spool moves further towards the spring up to the position where the spool opens the flow to the tank and consequently the pressure reduction of the output is achieved (reduced pressure outlet depends on the version of the valve - see ordering code). Besides the external control, the plug (**5**) can also be used for reduced pressure measurement.



ORDERING CODE

3 V R M 6 – 0 6 – □□ □ □ □□ – □

3 3-way
V R Reducing valve
M Modular connection
6 Innovation stage
0 6 Size

PRESSURE RANGE
0 3 up to 3 MPa
1 2 up to 12 MPa
2 5 up to 25 MPa

DESIGN
1 sandwich plate P, A, B, T
2 panel connection

CONTROL METHOD
P from channel P1
A from channel A
B from channel B
X M external, metric threads
X G external, inch threads

INTERCONNECTION
D P – P1
F P – A

WAY OF PRESSURE SETTING
1 external square
2 handwheel
3 lockable wheel

INSTALLATION, SERVICE AND MAINTENANCE

Reducing valves 3VRM6 of desing no. 1 are primarily intended to be installed in vertical stacking assembles. Howerver, using a special cover plate they can also be used for panel installation. Valves of design no. 2 can only be used for panel installation. Valves are being mounted by 4 studs or screws M5 and can be installed in any working position. The reliabilty of the valves is conditional upon use of prescribed working fluid, especially its parameters such as purity and temperature. It is required that the contact surfaces of the valve must be clear and intact before installation. O-rings must not be disshaped or damaged by any means. Flatness deviation and roughness of the subplate shall not exceed 0,01/100 mm and Ra = 1,6 μm respectively. Reducing valves 3VRM6 do not require any special maintenance.

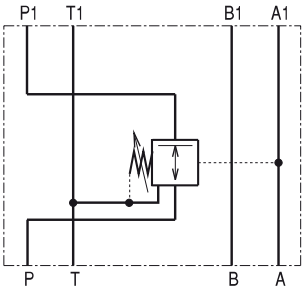
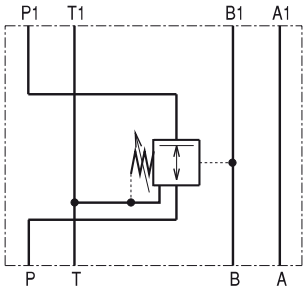
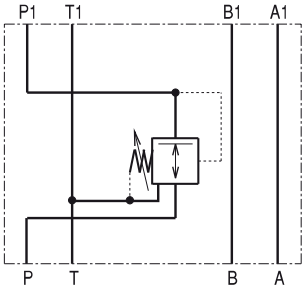
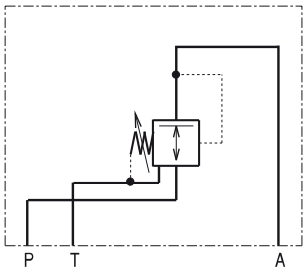
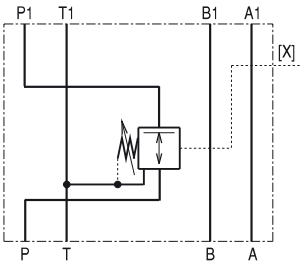
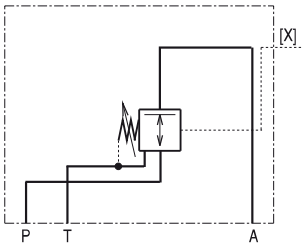
DELIVERY

Reducing valves 3VRM6 are delivered assembled including O-rings. Spare parts, mounting screws, cover plate or fittings for external control are not included in the package. These must be ordered separately.

TECHNICAL DATA

Technical data	**Symbol**	**Unit**	**Value**		
Nominal size	D_n	mm	6		
Input pressure nominal	P_{1n}	MPa	32		
maximal	P_{1max}	MPa	32		
Pressure in port T	P_T	MPa	2		
Pressure range		MPa	up to	up to	up to
			3	12	25
Output pressure minimal	p_{2min}	MPa	0,2	1,5	10
with Q = 10 dm^3/min maximal	p_{2max}	MPa	3	12	25
Flow nominal	Q_n	dm^3/min	15		
maximal	Q_{max}	dm^3/min	40		
Reduced outpul pressure (p_2) versus flow Q characteristics			see characteristics $p_2 = f(Q)$		
Reduced output pressure (p_2) versus input presure p_1 characteristics			see characteristics $p_2 = f(p_1)$		
Recommended hydraulic fluid			Hydraulic oils of power classes (HL, HLP) according to DIN 51524		
Hydraulic fluid temperature range	t_{PO}		-20 ... +70		
Ambient temperature range	t_A		-20 ... +80		
Hydraulic fluid viscosity range	v	mm^2/s	$10 \cdot 10^{-6}$ up to $400 \cdot 10^{-6}$		
Maximum degree of fluid contamination			Class 21/18/15 according to ISO 4406 (1999)		
Weight	m	kg	1,3		

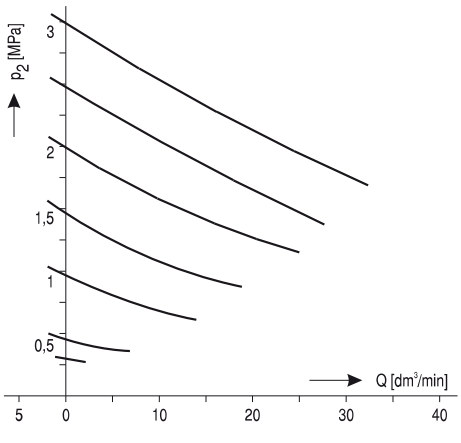
TYPES AND SYMBOLS

Control from channel A	interconnection P-P1	Control from channel B	interconnection P-P1
3VRM6-06/03.xDA-1 3VRM6-06/12.xDA-1 3VRM6-06/25.xDA-1		3VRM6-06/03.xDB-1 3VRM6-06/12.xDB-1 3VRM6-06/25.xDB-1	
Control from channel P	**interconnection P-P1**	**Control from channel A**	**interconnection P-A**
3VRM6-06/03.xDP-1 3VRM6-06/12.xDP-1 3VRM6-06/25.xDP-1		3VRM6-06/03.xFA-2 3VRM6-06/12.xFA-2 3VRM6-06/25.xFA-2	
External control	**interconnection P-P1**	**External control**	**interconnection P-A**
3VRM6-06/03.xDXM-1 3VRM6-06/12.xDXM-1 3VRM6-06/25.xDXM-1 3VRM6-06/03.xDXG-1 3VRM6-06/12.xDXG-1 3VRM6-06/25.xDXG-1		3VRM6-06/03.xFXM-2 3VRM6-06/12.xFXM-2 3VRM6-06/25.xFXM-2 3VRM6-06/03.xFXG-2 3VRM6-06/12.xFXG-2 3VRM6-06/25.xFXG-2	

CHARACTERISTICS $p_2 = f(Q)$

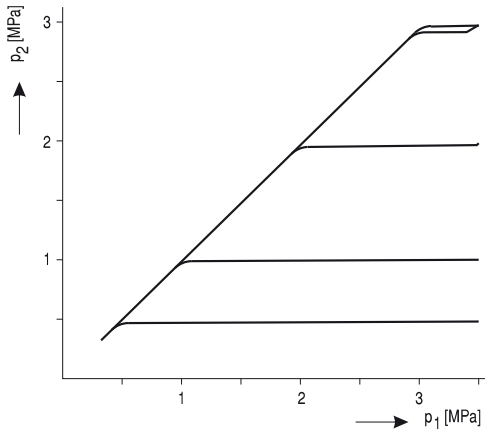
measured with t = 51°C,
Oil: HL, HLP according to DIN 51524

3VRM6-06/03..



P1 – T	P – P1	flow direction of interconnection D
A – T	P – A	flow direction of interconnection F

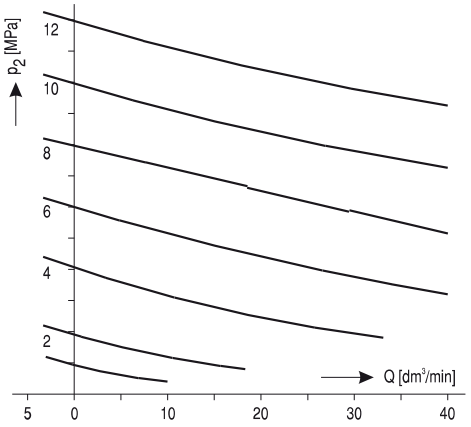
CHARACTERISTICS $p_2 = f(p_1)$

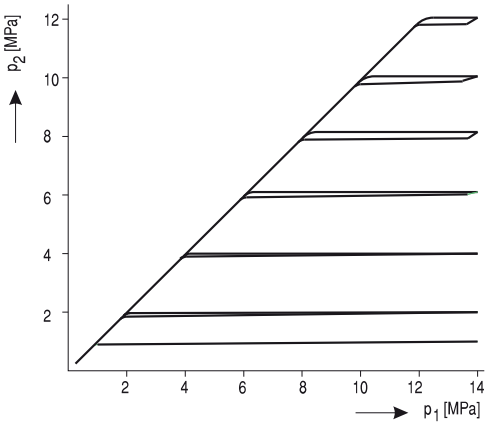


CHARACTERISTICS $P_2 = f(Q)$

CHARACTERISTICS $P_2 = f(p_1)$

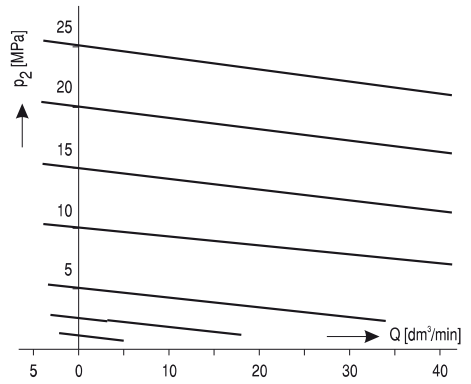
3VRM6-06/12..

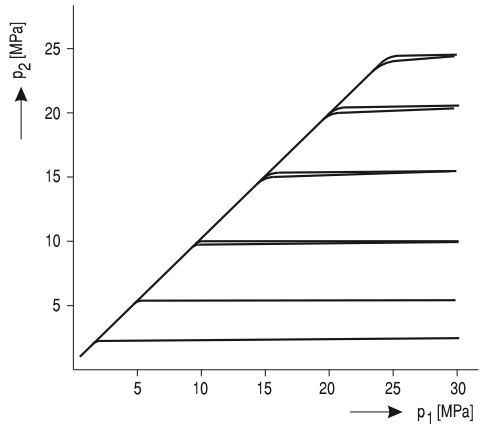




P1 – T	P – P1	flow direction of interconnection D
A – T	P – A	flow direction of interconnection F

3VRM6-06/25..





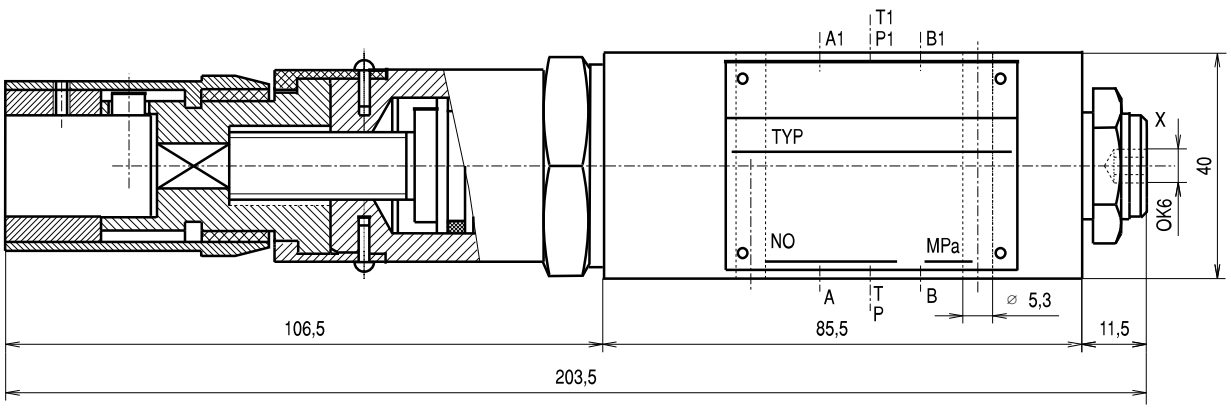
P1 – T	P – P1	flow direction of interconnection D
A – T	P – A	flow direction of interconnection F

DIMENSIOS

3VRM6-06....DB-1

pressure setting - lockable wheel

width 46 mm

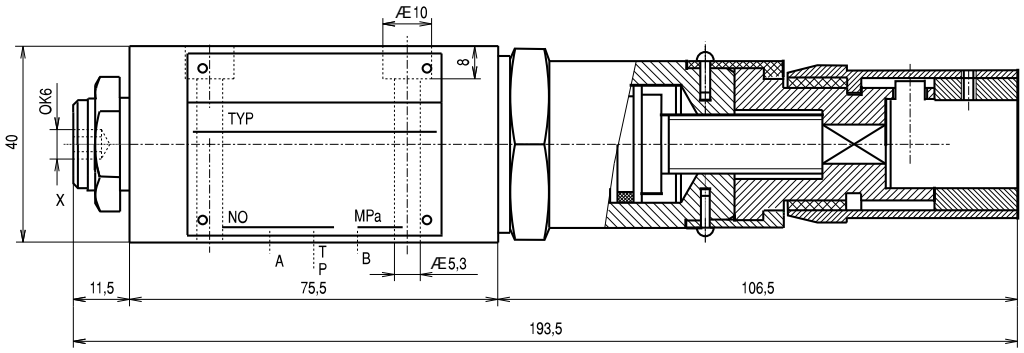


DIMENSIONS

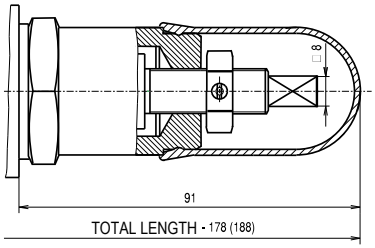
3VRM6-06....DA.. **3VRM6-06....DP..**
3VRM6-06....DX.. **3VRM6-06....FX..** **3VRM6-06....FA..**

Note: The recess for the screw heads are manufactured only in panel installation connection

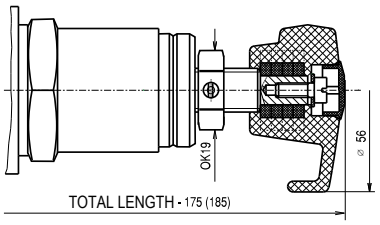
pressure setting - lockable wheel width 46 mm



pressure setting - external square



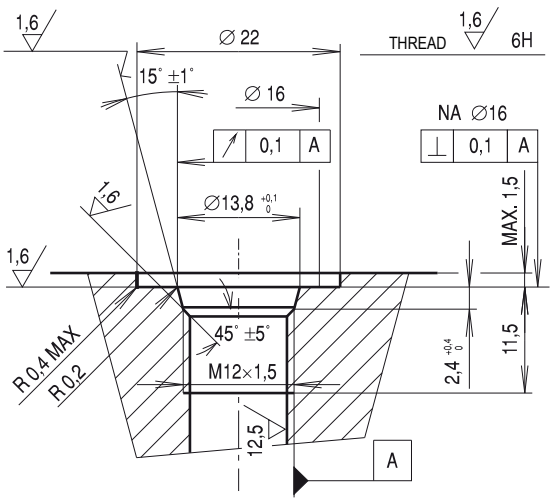
pressure setting - handwheel



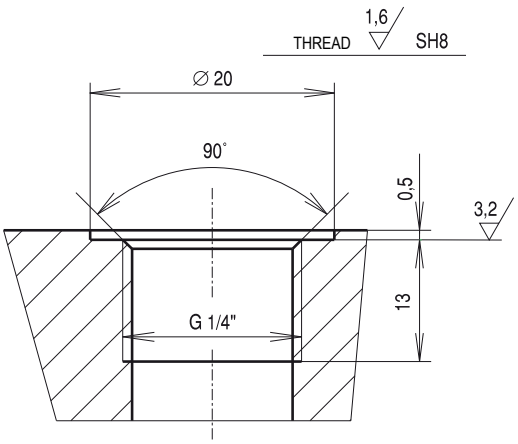
Note: The figure in brackets apply to the total length of the valve 3VRM6-06....DB-1

EXTERNAL CONTROL CHAMBER DIMENSIONS

Channel M12×1,5 (according to ISO 6149)

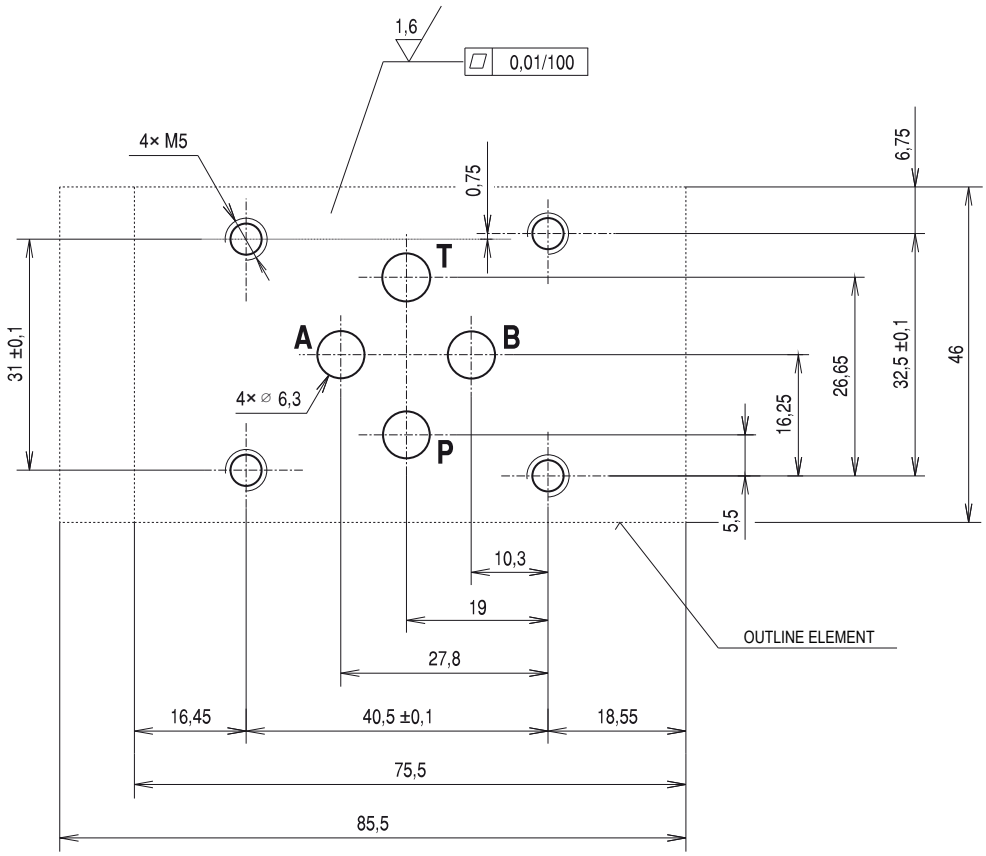


Channel G1/4"



INSTALLATION DIMENSIONS

(according to ISO 4401, DIN 24 340, CETOP 3, ČSN 11 9111)



NOTES

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