

Part number:

HYDROMA

HYDRAULICKÉ SYSTÉMY

**HIDROMA
SISTEMS**

UKŁADY HYDRAULICZNE

HYDROMA

ГИДРАВЛИЧЕСКИЕ СИСТЕМЫ

Direct operated pressure relief valve type DBD

**WK
450 610**

NS 6, 10, 20

do 63 MPa

do 250 dm³/min

10.2008

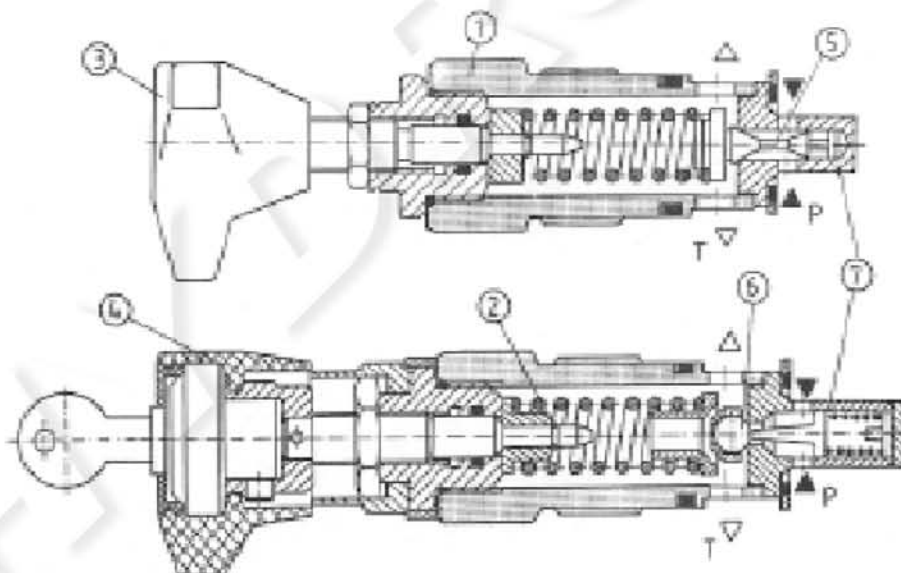
APPLICATION

Pressure relief valves serve to limit maximum pressure in a whole hydraulic system or in a specified part of it.

Direct operated pressure relief valves type DBD are available, according to anticipated mounted method, as cartridge valves, for threaded connections and for subplate mounting.



DESCRIPTION OF OPERATION



A moveable poppet (5) - in the valves for pressure up to 40 MPa and a ball (6) - in the valves size 10 for pressure up to 63 MPa represent the operating element. Cracking pressure setting is made by variation of the tension of spring (2) by means of a handknob (3),

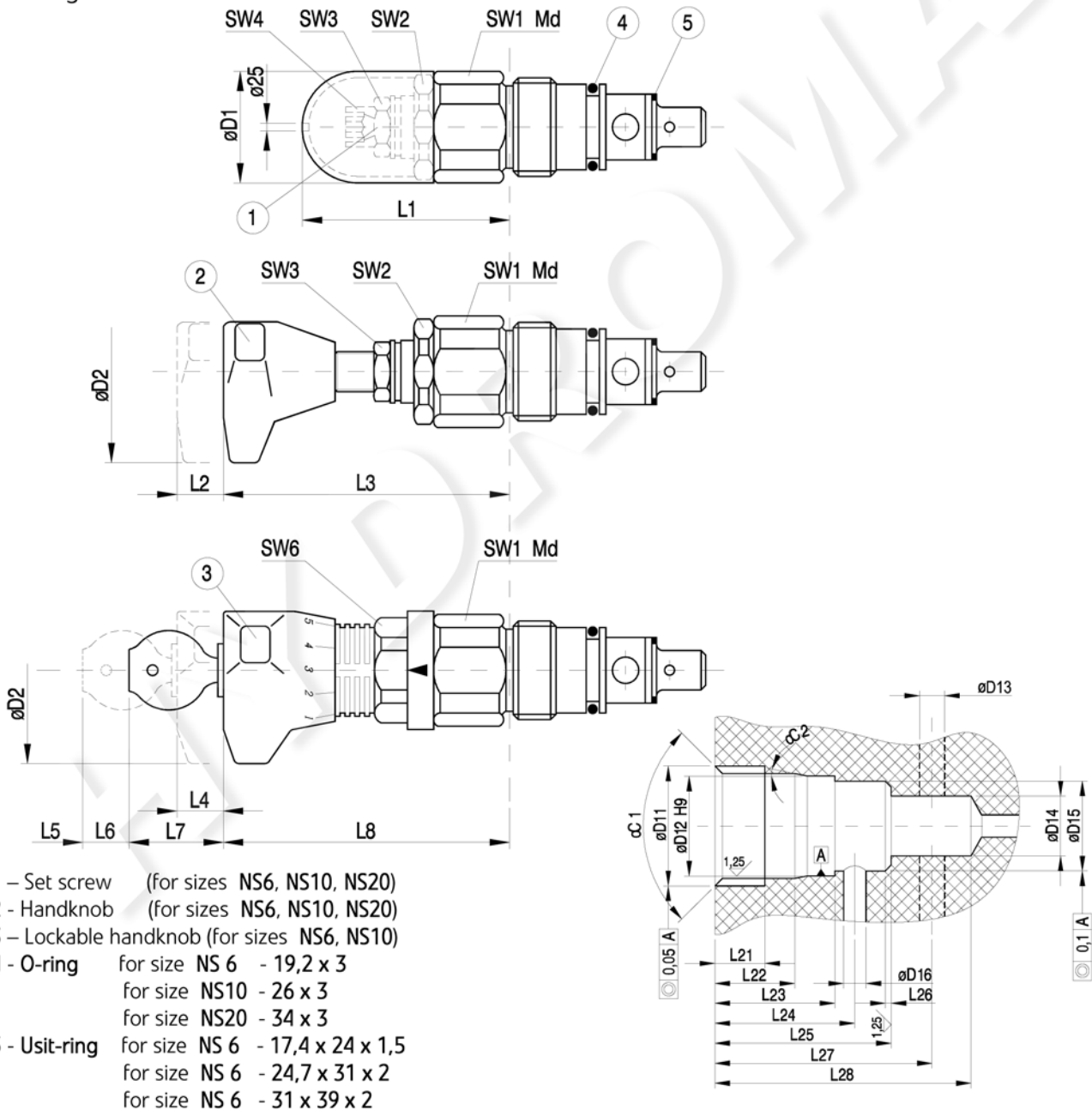
lockable handwheel (4) or set screw. Various ranges of pressure adjustment correspond to specific springs (exchangeable). A dumping element (7) is used to eliminate vibration of the valve.

TECHNICAL DATA

Hydraulic fluid	mineral oil or phosphate ester		
Nominal fluid viscosity	37 mm ² /s at temperature 55 °C		
Viscosity range	2,8 up to 380 mm ² /s		
Fluid temperature range (in a tank)	recommended	40 °C up to 55 °C	
	max	-20 °C up to +70 °C	
Ambient temperature range	- 20 °C up to +70 °C		
Maximum operating pressure	NS6	NS10	NS20
	40 MPa	63 MPa	40 MPa
Maximum pressure in port T	31,5 MPa		
Required filtration	up to 16 µm		
Recommended filtration	up to 10 µm		

OVERALL AND CONNECTION DIMENSIONS

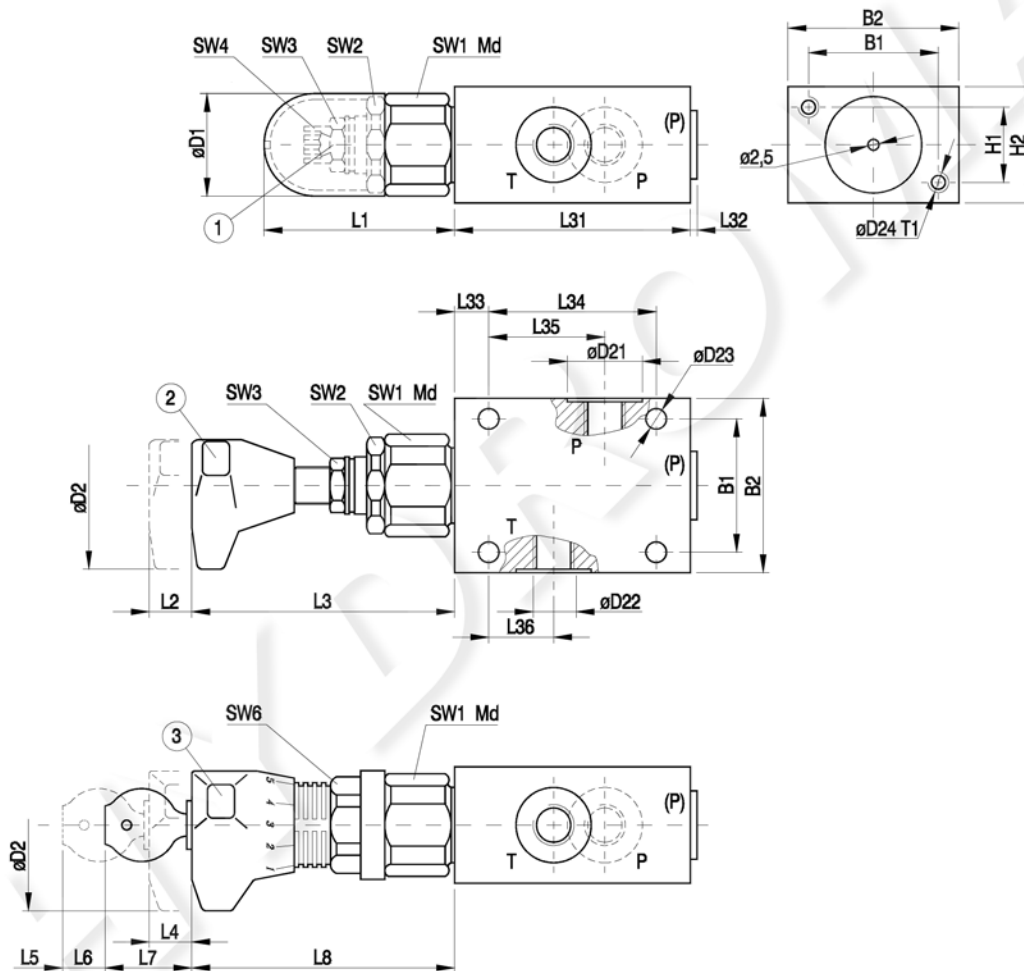
Cartridge version



Valve	Weight [kg]	D1	D2	L1	L2	L3	L4	L5	L6	L7	L8	SW1	Md [Nm]	SW2	SW3	SW4	SW6
Size 6	0.4	34	60	72	11	20	11	20	11	30	94	32	80	30	19	6	3
Size 10	0.5	38	60	68	11	79	11	20	11	30	90	36	140	30	19	6	30
Size 20	1	48	60	65	11	77	-	-	-	-	-	46	170	36	19	6	-

Seat	D11	D1	D1	D14	D15	D1	L21	L22	L23	L24	L25	L26	L27	L28	α_1	α_2
Size 6	M28x1.5	25	6	15	24.9	6	15	19	30	35	45	0.5x45°	56.5±5	65	90	15
Size 10	M35x1.5	32	10	18.5	31.9	10	18	23	35	41	52	0.5x45°	67.5±7	80	90	15
Size 20	M45x1.5	40	20	24	39.9	20	21	27	45	54	70	0.5x45°	91.5±8	110	90	20

Cartridge version

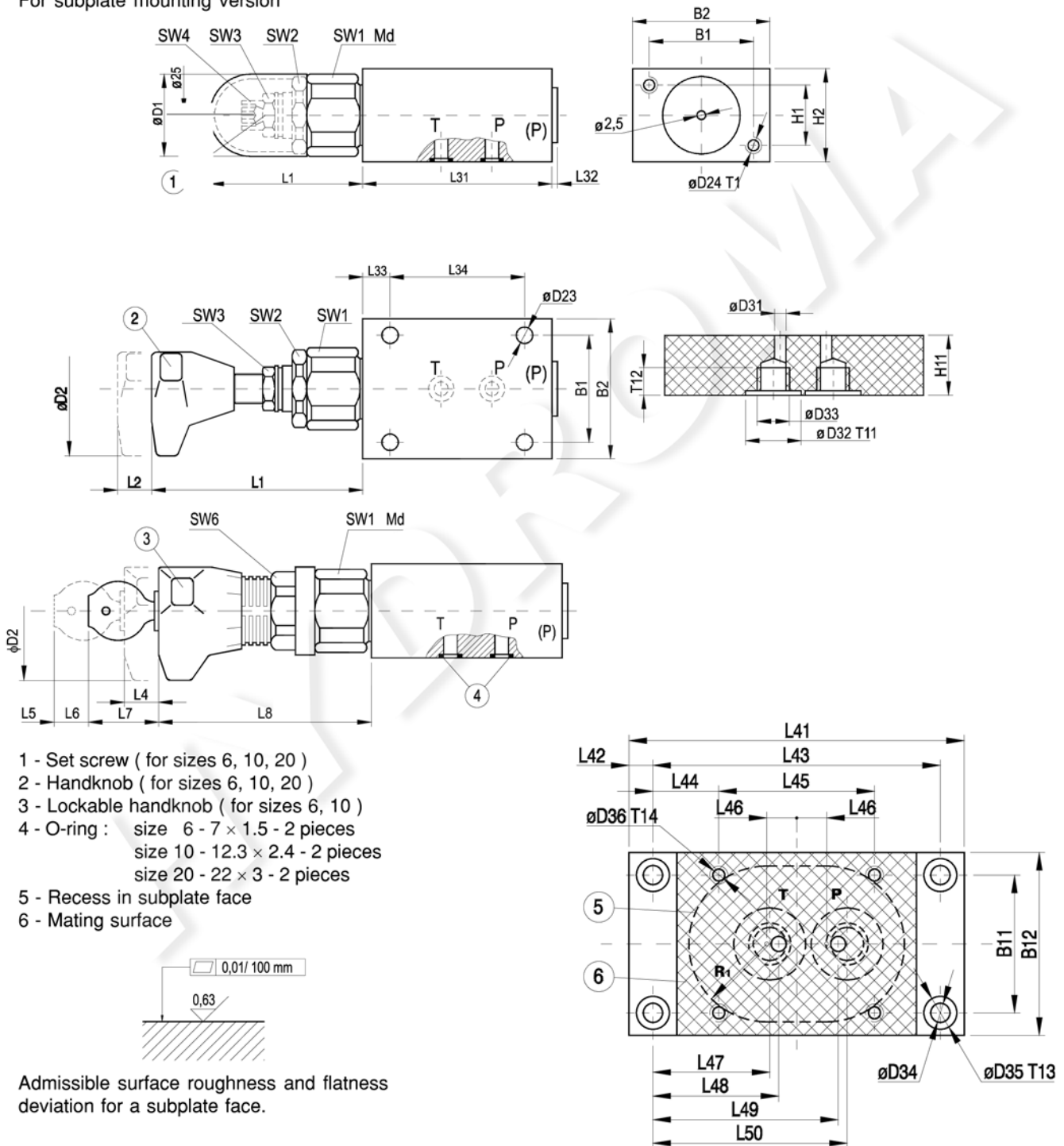


- 1 - Set screw (for sizes 6, 10, 20)
- 2 - Handknob (for sizes 6, 10, 20)
- 3 - Lockable handknob (for sizes 6, 10)

Valve	B1	B2	D1	D2	D21	D22	L23	L24	H1	H2	L1	L2	L3	L4	L5
Size 6	45	60	34	60	25	G1/4	6.6	M6	25	40	72	11	83	11	20
Size 10	60	80	38	60	34	G1/2	9	M8	40	60	68	11	79	11	20
Size 20	70	100	48	60	47	G1	9	M8	50	70	65	11	77	-	-

Valve	L6	L7	L8	L31	L32	L33	L34	L35	L36	SW1	SW2	SW3	SW4	SW6	T1	Weight
Size 6	11	30	94	80	3	15	55	40	20	32	30	19	6	30	10	1.6 kg
Size 10	11	30	90	100	4	20	70	49	21	36	30	19	6	11	20	3.7 kg
Size 20	-	-	-	135	5.5	20	100	65	34	46	36	19	6	-	20	7.0 kg

For subplate mounting version



Valve	B1	B2	D1	D2	D23	D24	H1	H2	L1	L2	L3	L4	L5
Size 6	60	45	34	60	6.6	M6	25	40	72	11	83	11	20
Size 10	80	60	38	60	9	M8	40	60	68	11	79	11	20
Size 20	100	70	48	-	9	M8	50	70	65	11	77	-	-

L6	L7	L8	L31	L32	L33	L34	SW1	SW2	SW3	SW4	SW6	T1	Weight (kg)
11	30	94	80	3	15	55	32	30	19	6	30	10	1.6
11	30	90	100	4	20	70	36	30	19	6	30	20	3.7
11			135	5.5	20	100	46	36	19	6		20	7.0

Subplate	Type	Weight	B11	B12	D31	D32	D33	D34	D35	D36	H11	L41
Size 6	G300/01	1.5	45	60	6	25	G1/4	7	11	M6	25	110
Size 10	G302/01	2.0	60	80	10	34	G1/2	7	11	M8	25	135
Size 20	G304/01	5.5	70	100	20	47	G1	11.5	17.5	M8	40	170

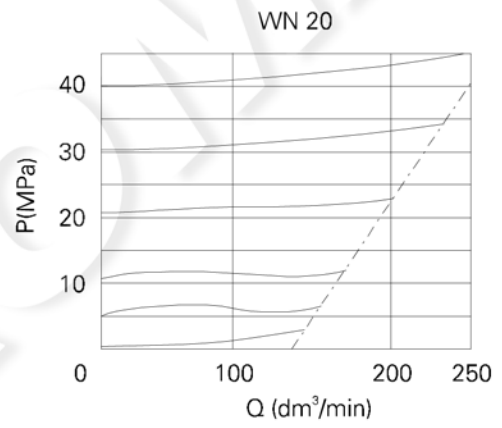
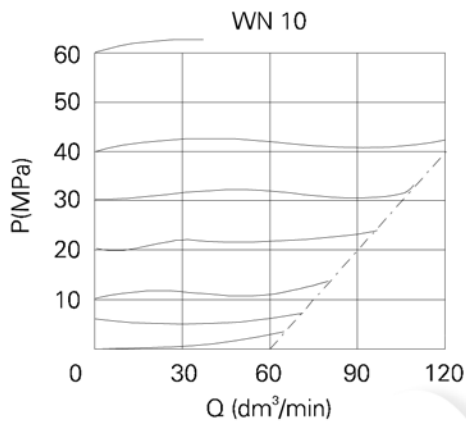
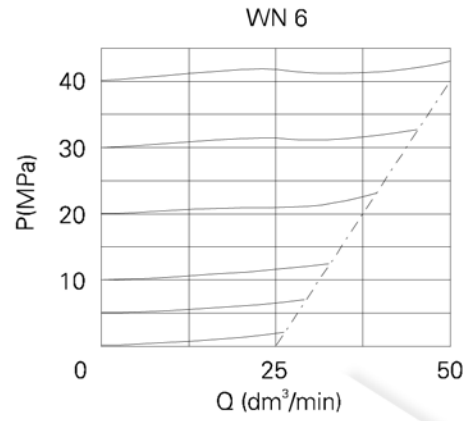
L42	L43	L44	L45	L46	L47	L48	L49	L50	T11	T12	T13	T14	R1
8	94	22	55	10	39	42	62	65	1	15	9	15	25
10	115	27.5	70	12.5	40.5	48.5	72.5	80.5	1	16	9	15	30
15	140	20	100	20	42	54	85	97	1	20	13	22	40

	Bolts mounting the valve	Torque (Nm)	Standard
Size 6	M6 x 50 - 10.9	10	PN - 74 / M-82302 (DIN 912)
Size 10	M8 x 70 - 10.9	25	
Size 20	M8 x 90 - 10.9	25	

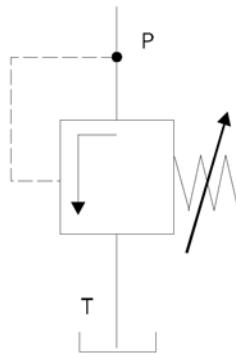
Note : Subplate and mounting bolts must be ordered separately.

PERFORMANCE CURVES, measured at $v = 41 \text{ mm}^2/\text{s}$ and $T = 323 \text{ K}$

Operating pressure in flow-function.



SCHEMES



HOW TO ORDER

DBD				/		★
Adjustment method Set screw = S Hand knob = H Lockable hand knob (for sizes NS6, NS10 only) = A						
Nominal size (NS) NS6 = 6 NS10 = 10 NS20 = 20						
Mounting method Cartridge version = K For threaded connection = G For subplate mounting = P						
Series number (10-19) - connection and installation dimensions unchanged = 1X series 13 = 13						
Operating pressure range up to 2,5 MPa = 25 up to 5 MPa = 50 up to 10 MPa = 100 up to 20 MPa = 200 up to 31,5 MPa = 315 up to 40 MPa = 400 up to 63 MPa = 630 (for size NS10 only)						
Sealing NBR (for fluids on mineral oil base) = no designation FPM (for fluids on phosphate ester base) = V						
Further requirements in clear text (to be agreed with the manufacturer)						

NOTES:

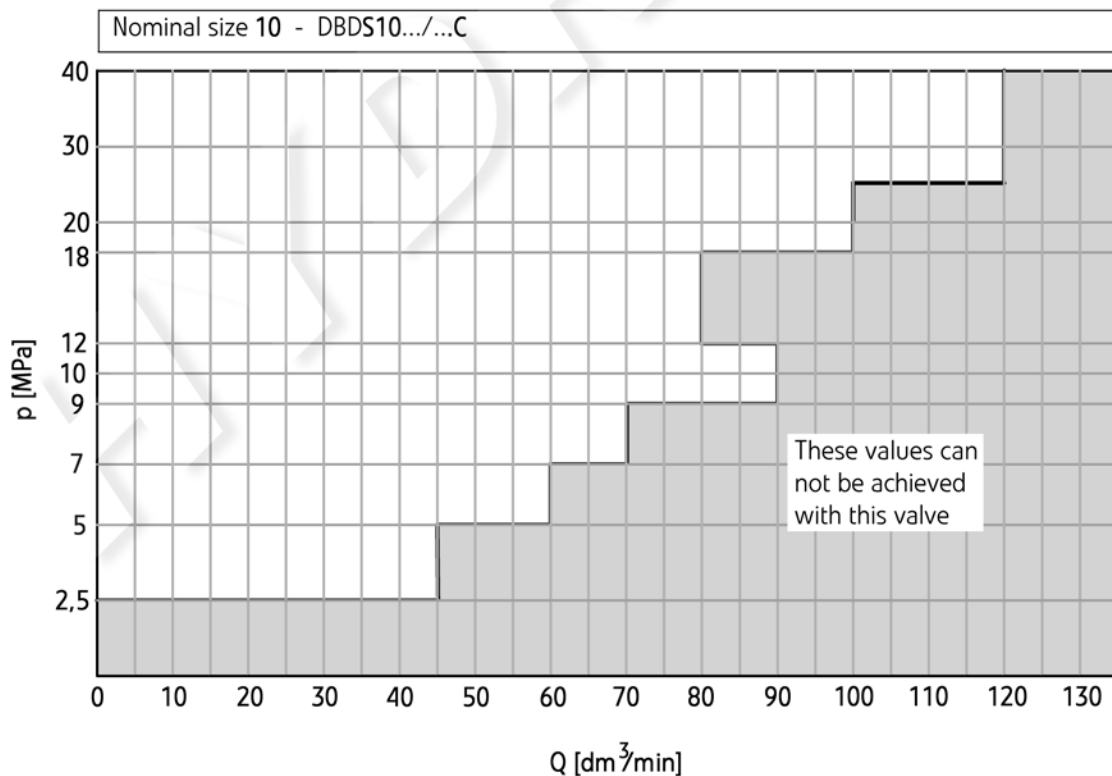
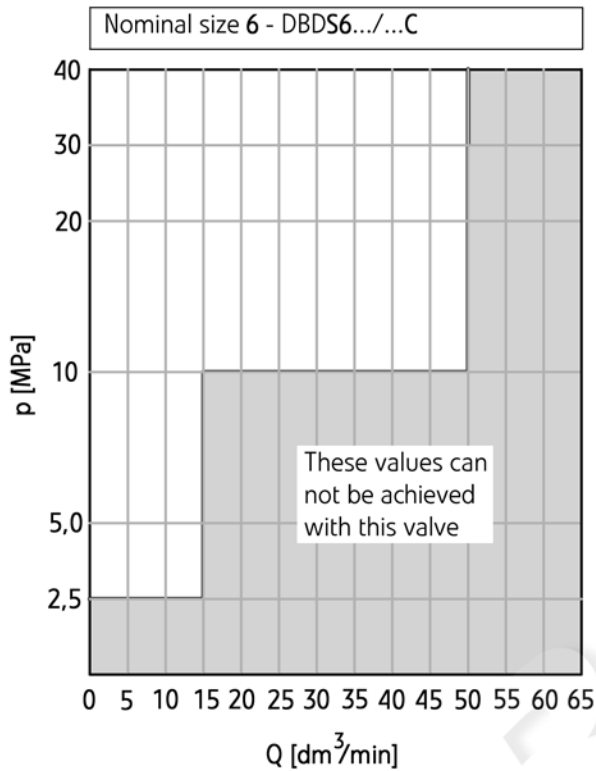
The valve should be ordered according to the above coding.
 Coding example: DBD S6 K 13/400

**Valve type DBD... used as a safety valve
DBDS6.../...C and DBDS10.../...C with CE approval
per Pressure Directive 97/23/WE**

PERFORMANCE CURVES

measured at viscosity $\nu = 41 \text{ mm}^2/\text{s}$ and temperature $t = 50^\circ\text{C}$

Flow curves p - Q



HOW TO ORDER

		DBDS			/		C
Nominal size (NS)							
NS6	= 6						
NS10	= 10						
Mounting method							
Cartridge version	= K						
For threaded connection	= G						
For subplate mounting	= P						
Series number							
(10-19) - connection and installation dimensions unchanged	= 1X						
series 13	= 13						
Set pressure							
Sealing							
NBR (for fluids on mineral oil base)	= no designation						
FPM (for fluids on phosphate ester base)	= V						

NOTE:

The valve should be ordered according to the above coding.

CAUTION !

The valve made as safety valve DBDS.../...C is proper for working fluid mineral oil type HLP40 + HLP60 (50% of each) that is for fluid from group 2 as per art. 9 point 2.2 of Directive 97/23/WE.

Drain line must be upressurized (free flow to a tank)