

KRACHT



Pressure Relief Valves

DBD

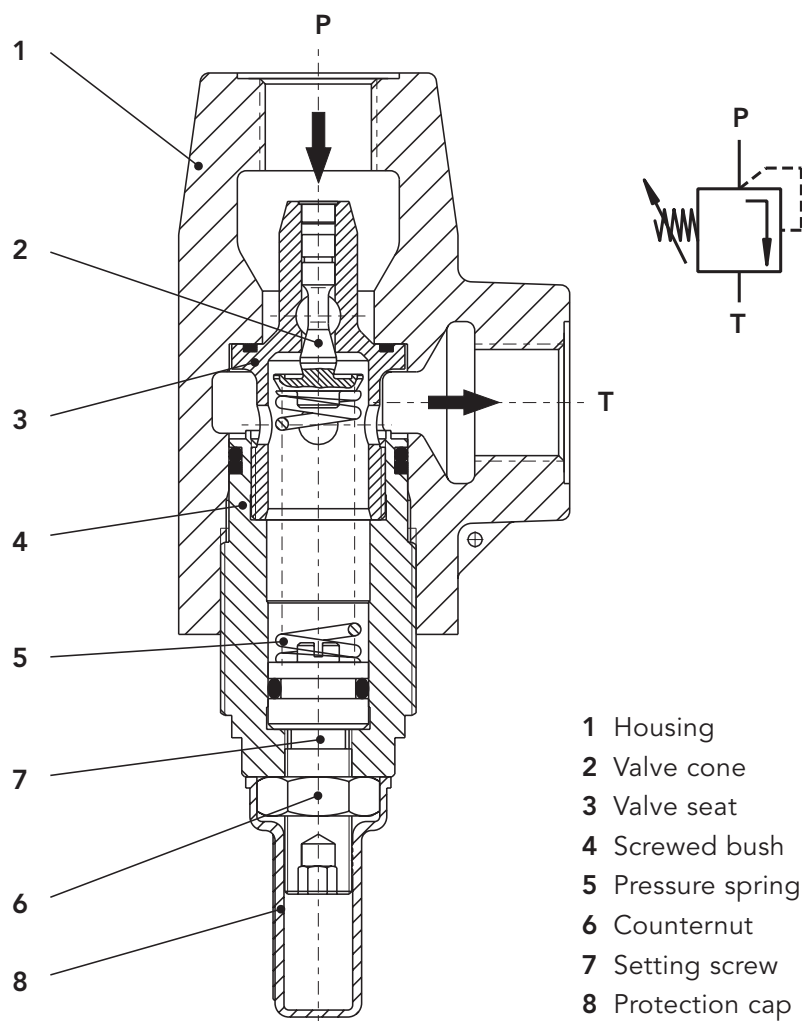
directly-operated

Description

The pressure relief valve DBD is a directly-operated poppet valve for installation in the pipelines or as a clamp-in valve. The valve is used to safeguard the pressure of hydraulic systems up to $p_{max} = 400$ bar.

For line installation, the housing has two connections with Whitworth pipe threads. Without housing, the valve cartridge can alternatively be screwed into the specified bore contour in any body desired.

Construction



Valve cone **2** is pressed by compressed spring **5** into valve seat **3**, thus blocking pump connection **P** from Tank connection **T**. When opening pressure **p** is reached, valve cone **2** opens and the operating fluid flows from **P** to **T**.

The opening pressure is set via Setscrew **7**. To accomplish that, counternut **6** must be opened and, after adjustment, retightened.

Characteristics acc. to VDI 3276

Nominal size		06	08	10	20
Flow rate (l/min)	max.	40	40	80	200
Working pressure (bar)	max.	400	400	400	315

General Characteristics

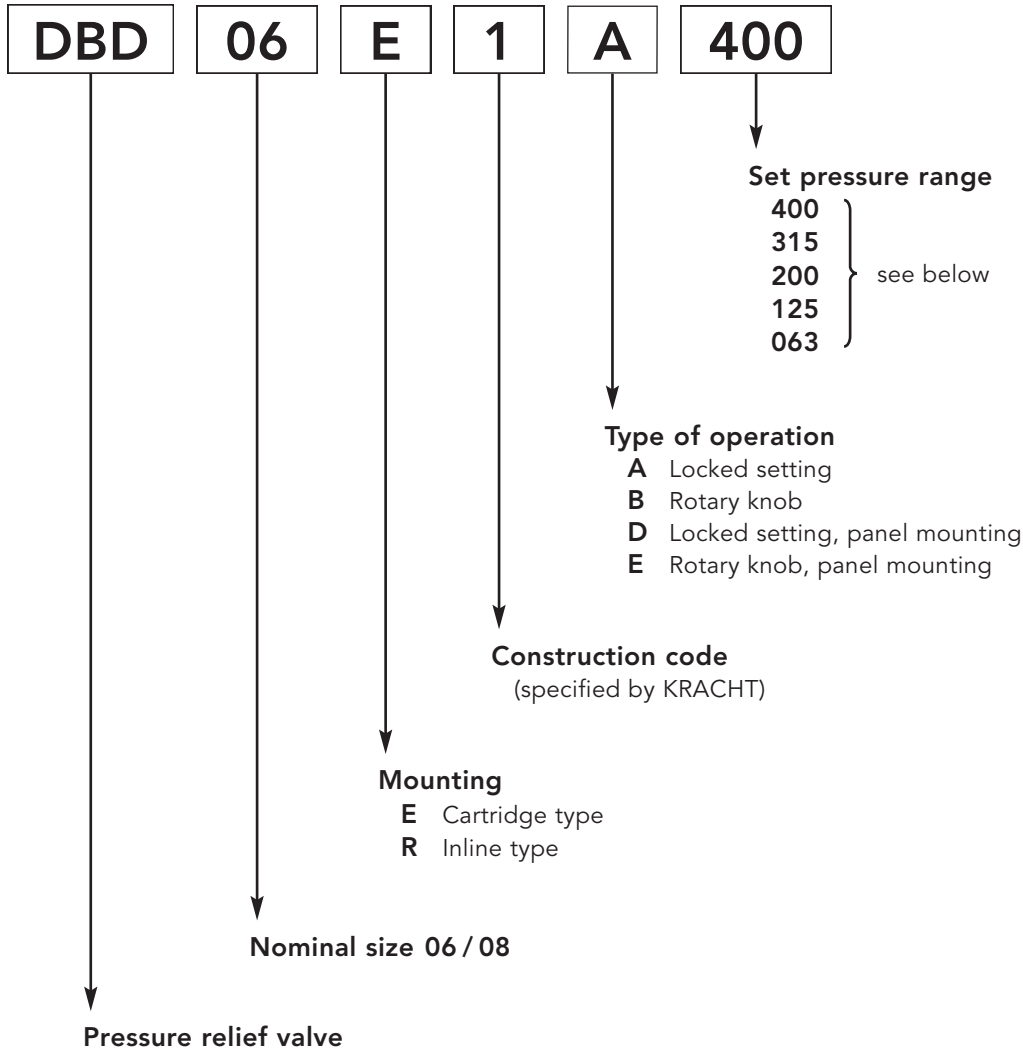
Construction	Poppet type			
Mounting	Cartridge type Inline type Connection KP 1 (DBD 10)			
Connection	NG 06 G 1/4	NG 08 G 3/8	NG 10 G 1/2	NG 20 G 1
Dimensions	Page 8 – 11			
Weight	Page 8 – 11			
Mounting position	optional			
Ambient Temperature	$\vartheta_{u \max}$	= 60 °C		

Hydraulic Characteristics

		NG 06	NG 08	NG 10	NG 20
Set pressure range	$p_{v \min}$	10	10	5	10
	$p_{v \max}$	400	400	400	315
Inlet pressure	$p_{e \min}$	20	20	15	20
	$p_{e \max}$	410	410	410	325
Outlet pressure	$p_{R \max}$	210	210	210	210
Fluid temperature	$\vartheta_{m \min}$	= - 20 °C			
	$\vartheta_{m \max}$	= 80 °C			
Viscosity	ν_{\min}	= 10 mm ² /s			
	ν_{\max}	= 600 mm ² /s			
p_v -Q-curve	Page 7				
Shock absorption	Poppet with damping				
Hydraulic fluids	Hydraulic oils to DIN 51524/25 (other fluids on request)				
Filtration	μ_m	≤ 20			

Type Key DBD 06/08

Ordering example



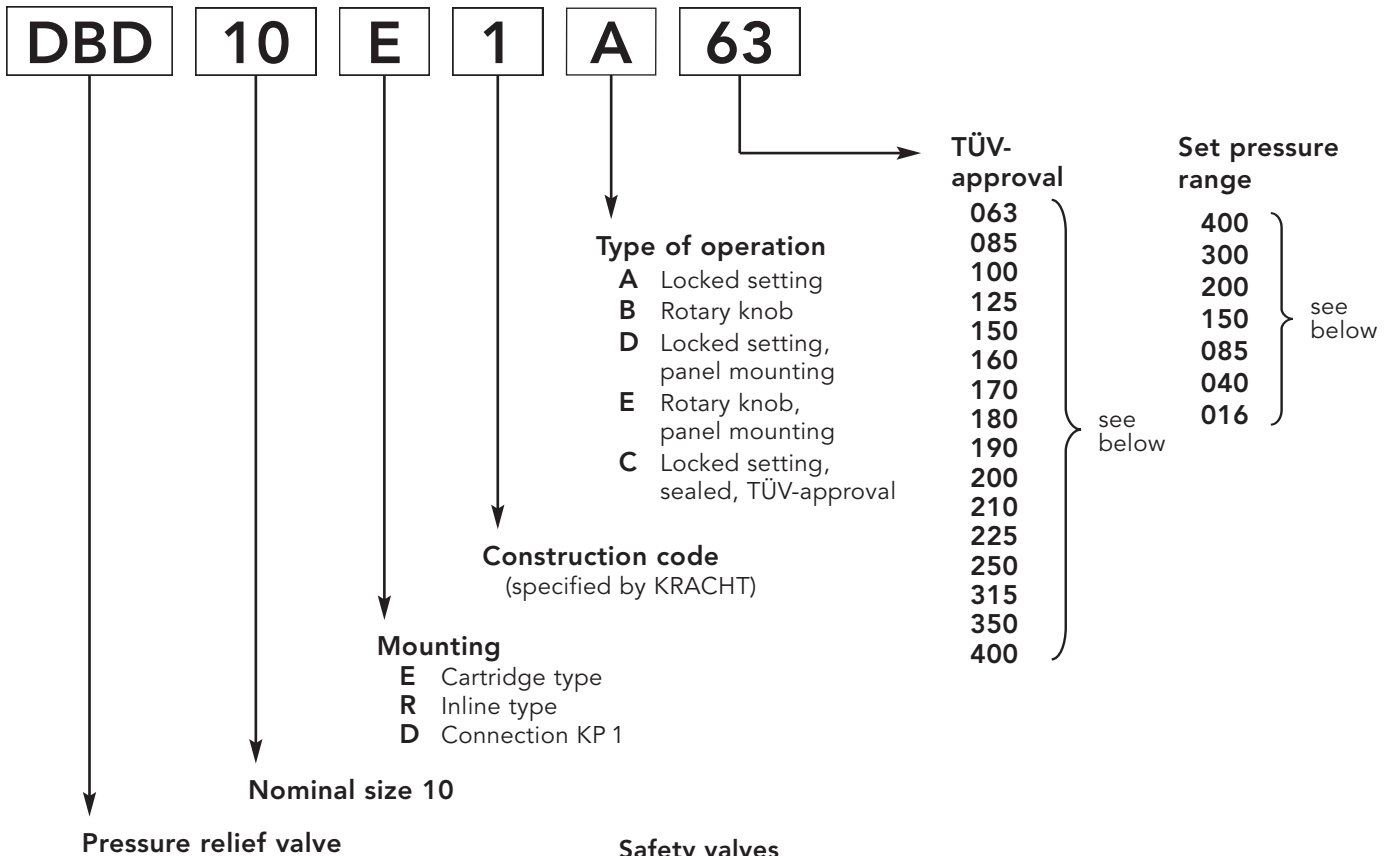
Set pressure range

	Pressure range in bar		Flow in l/min	
	from p _v 1	up to p _v 2	Q _{max} 1 at p _v 1	Q _{max} 2 at p _v 2
400	80	400	15	40
315	60	315	10	30
200	35	200	8	25
125	20	125	5	15
063	10	63	5	10

p_v1 = minimum pressure of the set pressure range
 p_v2 = maximum pressure of the set pressure range

Type Key DBD 10

Ordering example



Safety valves acc. to AD leaflet with TÜV-approval

Code	TÜV-approval registered mark	Cracking pressure bar	Full open bar	Full open flow rate l/min
063	TÜV.SV.83-267.6.F.36.63	63	69.3	36
085	TÜV.SV.83-267.6.F.60.85	85	93.5	60
100	TÜV.SV.83-267.6.F.48.100	100	110	48
125	TÜV.SV.83-267.6.F.70.125	125	137.5	70
150	TÜV.SV.83-267.6.F.80.150	150	165	80
160	TÜV.SV.83-267.6.F.90.160	160	176	90
170	TÜV.SV.83-267.6.F.90.170	170	187	90
180	TÜV.SV.83-267.6.F.90.180	180	198	90
190	TÜV.SV.83-267.6.F.82.190	190	209	82
200	TÜV.SV.83-267.6.F.82.200	200	220	82
210	TÜV.SV.83-267.6.F.110.210	210	231	110
225	TÜV.SV.83-267.6.F.20.225	225		20
250	TÜV.SV.83-267.6.F.20.250	250		20
315	TÜV.SV.83-267.6.F.20.315	315		20
350	TÜV.SV.83-267.6.F.20.350	350		20
400	TÜV.SV.83-267.6.F.20.400	400		20

Set pressure range

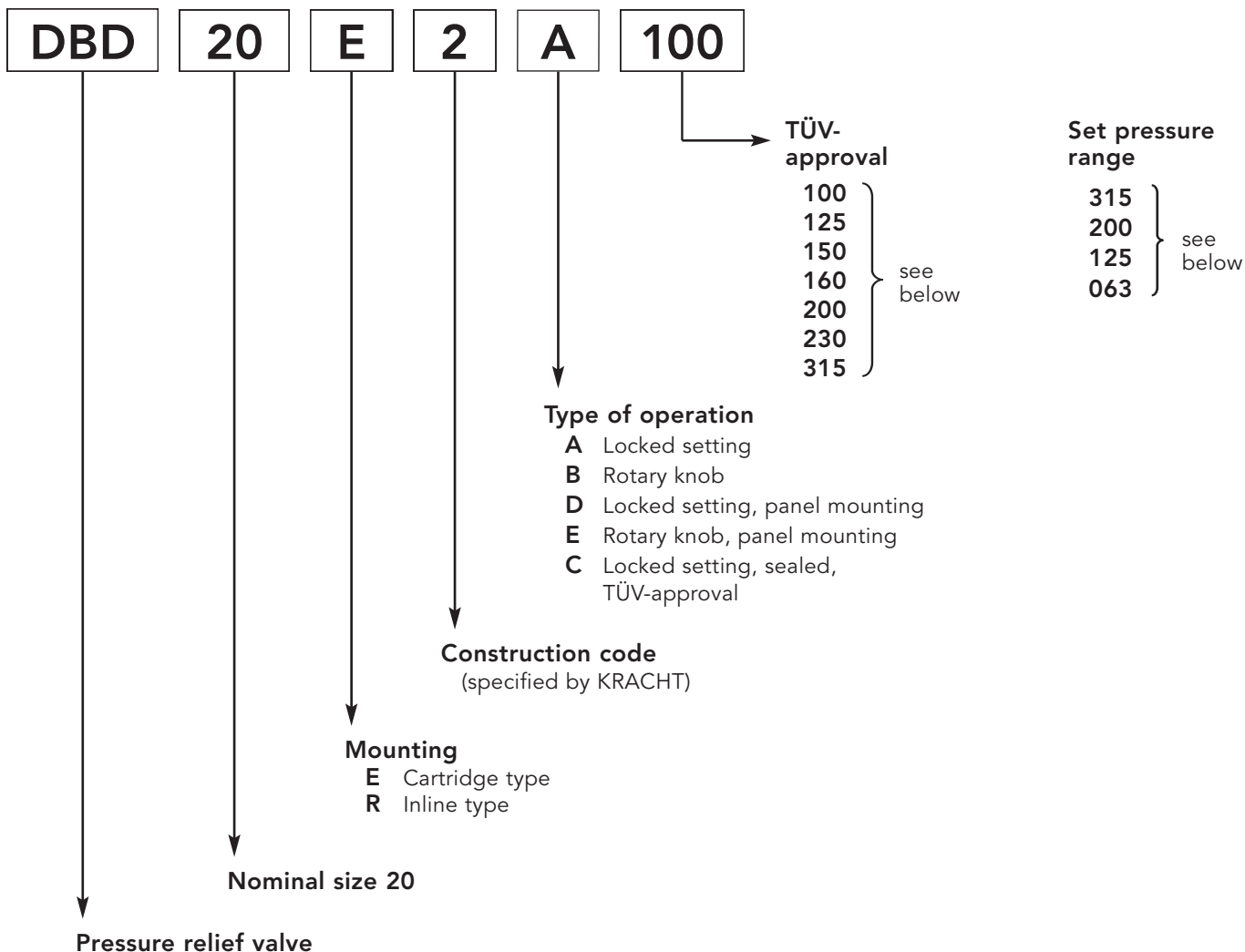
	Pressure range in bar		Flow in l/min	
	from p _{v1}	up to p _{v2}	Q _{max} 1 at p _{v1}	Q _{max} 2 at p _{v2}
400	60	400	55	80
300	10	300	15	75
200	10	200	15	70
150	10	150	10	55
085	10	85	10	45
040	10	40	10	30
016	5	16	5	20

p_{v1} = minimum pressure of the set pressure range
 p_{v2} = maximum pressure of the set pressure range

Note: Each of the valves with TÜV-approval registered mark is single tested and sealed by TÜV.

Type Key DBD 20

Ordering example



Safety valves acc. to AD leaflet with TÜV-approval

Set pressure range

	Pressure range in bar		Flow in l/min	
	from p_{v1}	up to p_{v2}	Q_{max1} at p_{v1}	Q_{max2} at p_{v2}
315	70	315	60	200
200	50	200	50	170
125	30	125	40	130
063	10	63	40	90

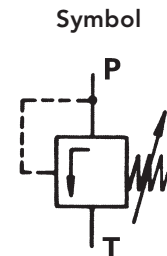
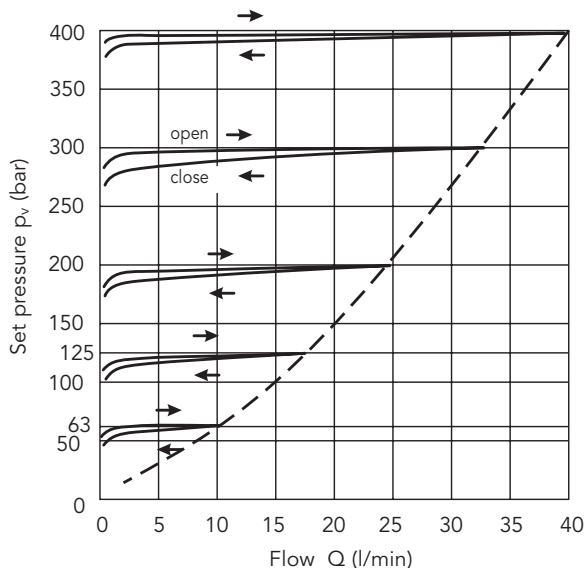
p_{v1} = minimum pressure of the set pressure range
 p_{v2} = maximum pressure of the set pressure range

Code	TÜV-approval registered mark	Cracking pressure bar	Full open bar	Full open flow rate l/min
100	TÜV.SV.83-391.10.F.90.100	100	110	90
125	TÜV.SV.83-391.10.F.120.125	125	137,5	120
150	TÜV.SV.83-391.10.F.135.150	150	165	135
160	TÜV.SV.83-391.10.F.150.160	160	176	150
200	TÜV.SV.83-391.10.F.200.200	200	220	200
230	TÜV.SV.83-391.10.F.150.230	230		150
315	TÜV.SV.83-391.10.F.20.315	315		20

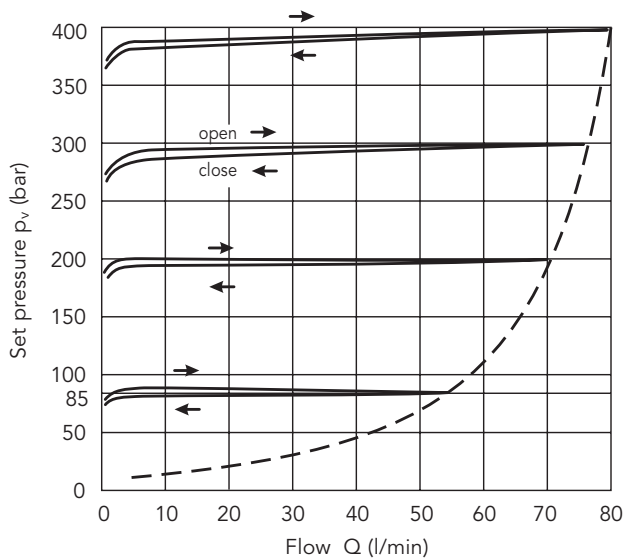
Note: Each of the valves with TÜV-approval registered mark is single tested and sealed by TÜV.

p_v -Q-Curves Viscosity = 34 mm²/s

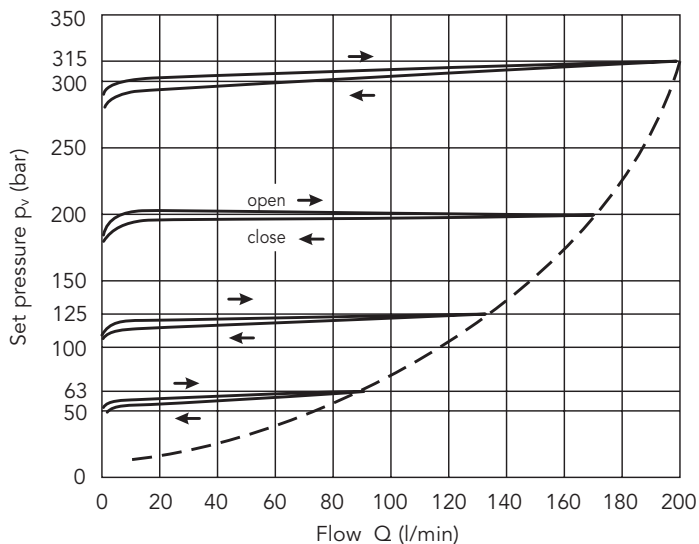
Nominal size 06/08



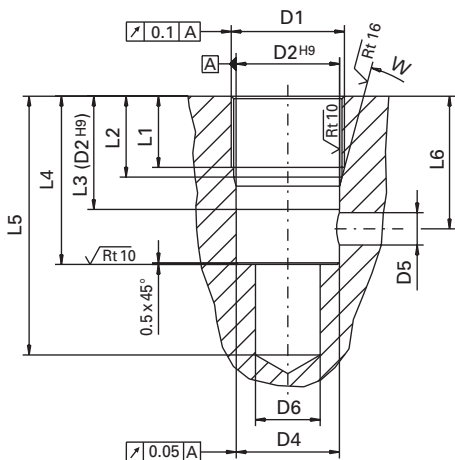
Nominal size 10



Nominal size 20



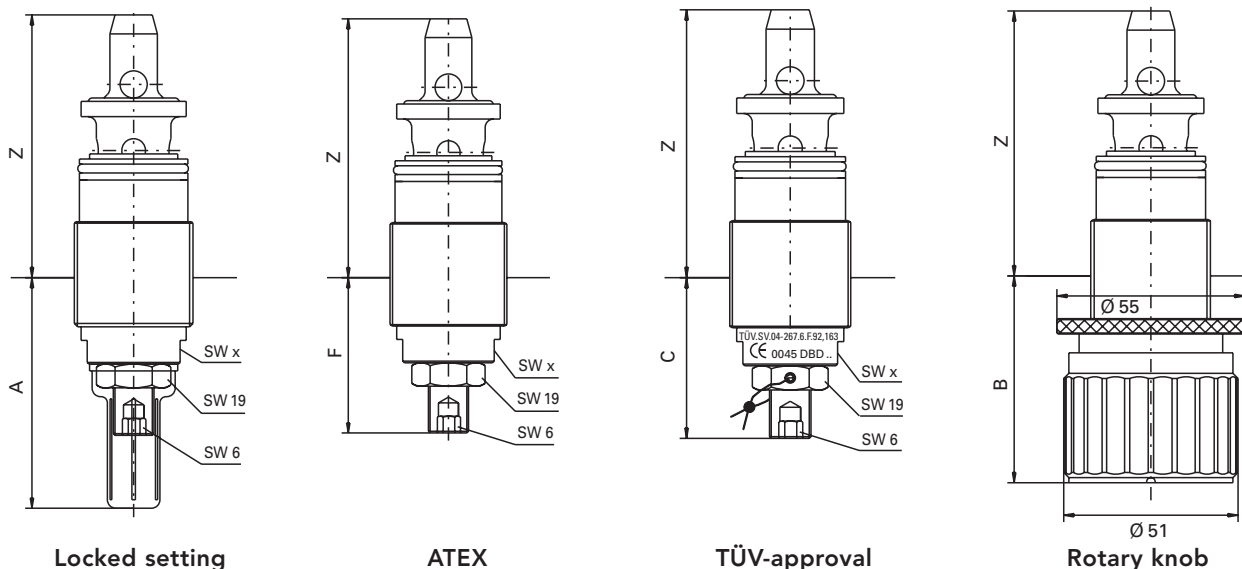
Dimensions – Cartridge Type (in mm)



	D1	D2H9	D4	D6	D5 max	L1	L2 max	L3	L4	L5	L6	W
DBD 06	M 28x1,5	25	24,9	15	8	15	19	31	45	65	35	15°
DBD 10	M 35x1,5	32	31,9	20	12	22	25	35	52	80	41	15°
DBD 20	M 45x1,5	40	39,9	24	16	21	27	45	70	110	53	20°

Dimensions DBD 08 like DBD 06

Dimensions – Cartridge (in mm)



	A	B max	C max	F max	Adjustable stroke	SW x	Z	Weight Version A
DBD 06 E 1	68	65,5	–	44,5	11	22	64	0,3 kg
DBD 10 E 1	69	66,5	46,5	46,5	9	27	77,5	0,5 kg
DBD 20 E 2	81	98	78	78	15	36	108	1,0 kg

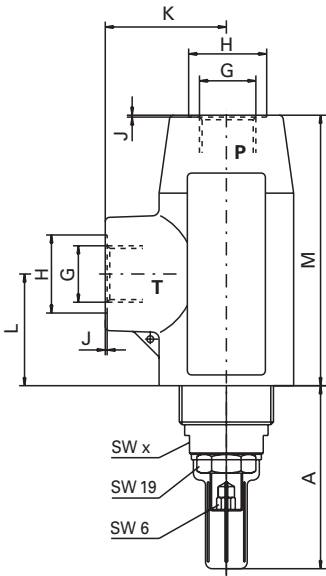
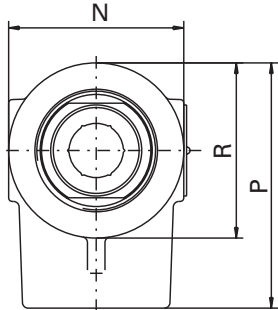
Dimensions DBD 08 like DBD 06

Type selection – Cartridge

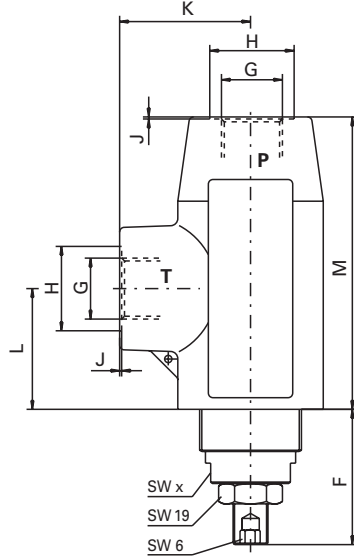
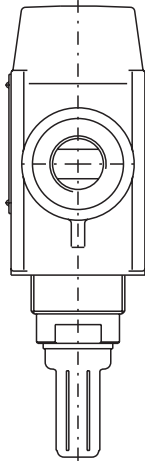
	A	B	C	A ATEX	B ATEX
DBD 06 E 1	X	X	–	X	(X)
DBD 08 E 1	X	X	–	X	(X)
DBD 10 E 1	X	X	X	X	X
DBD 20 E 2	X	X	X	X	(X)

X = Type available
 (X) = Type possible
 – = Type not available

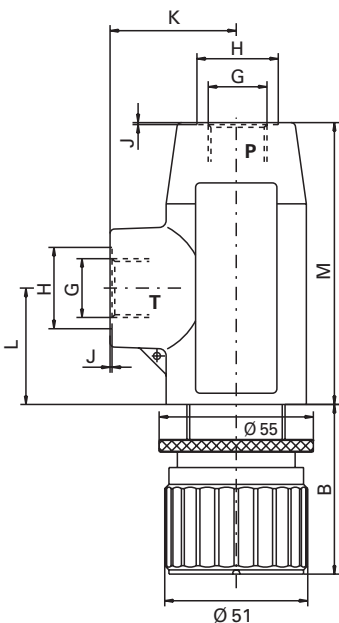
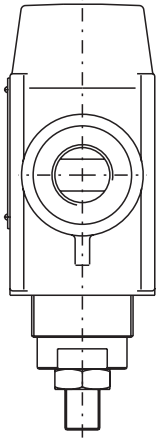
Dimensions – Inline Type (in mm)



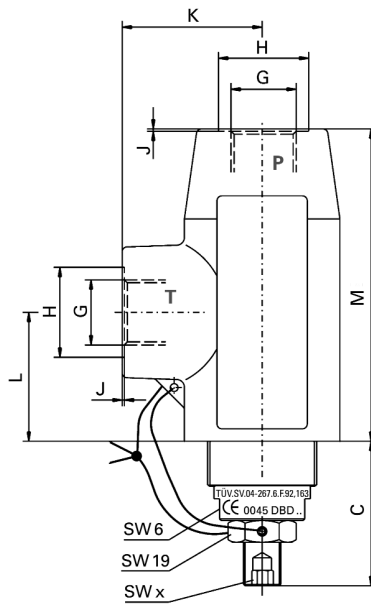
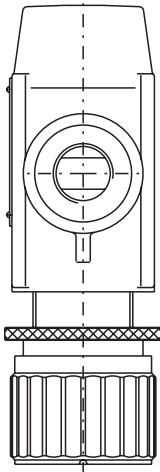
Locked setting



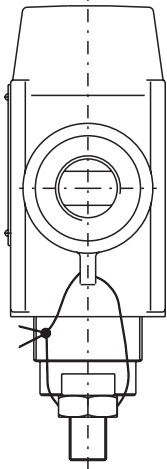
ATEX



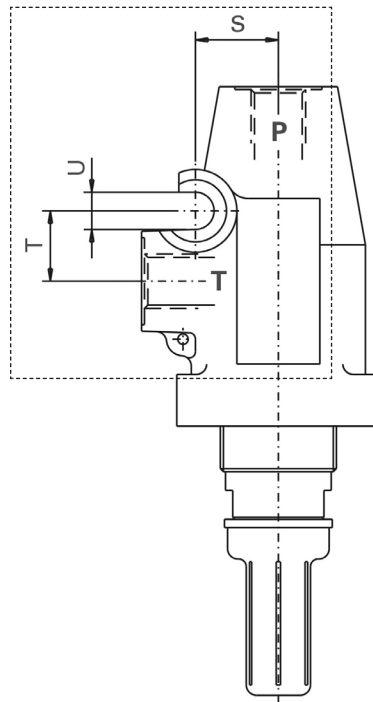
Rotary knob



TÜV-approval



Special Dimensions – Inline Type DBD 06 and DBD 08 (in mm)



	A	B	C	F	G	H Ø	J	K	L	M	N	P	R	S**	SWx	T	U** Ø	Weight Vers. A
DBD 06 R 1	68	65.5	–	44.5	G 1/4*1	21	0,7	33	35	82	43	57,5	Ø 49	20	22	17	9	0.8 kg
DBD 10 R 3	69	66.5	46.5	46.5	G 1/2*2	29	0,7	45	41.5	100.5	50	70	Ø 50	–	27	–	–	1.4 kg
DBD 20 R 2	81	98	78	78	G 1	42	1,0	49	53	130	65	81.5	Ø 65	–	36	–	–	2.9 kg

Dimensions DBD 08 like DBD 06

*1 optional connection type G 3/8 possible, Type: **DBD 08 R 1** ...

*2 optional connection type G 3/4 possible, Type: **DBD 10 R 5** ...

** Special dimensions DBD 06 and DBD 08

Type Selection – Inline Type

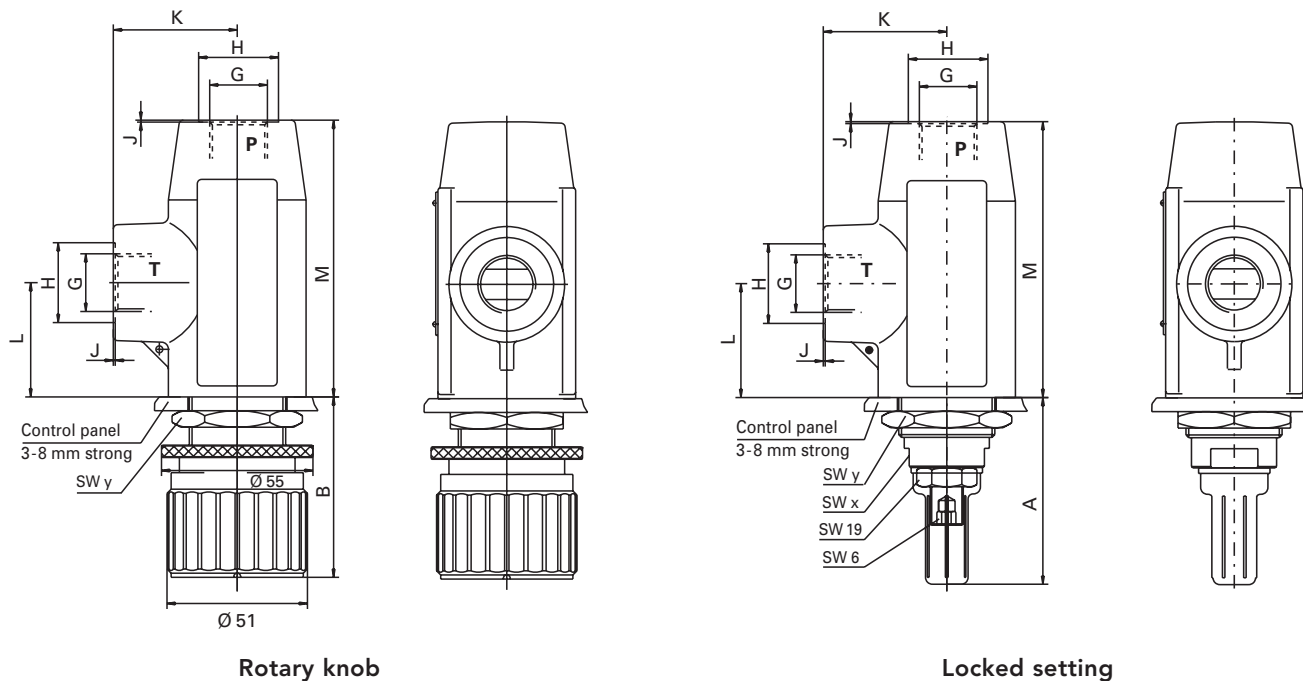
	A	B	C	D	E	A ATEX	B ATEX	D ATEX	E ATEX
DBD 06 R 1	X	X	–	X	X	X	(X)	(X)	(X)
DBD 08 R 1	X	X	–	X	X	X	(X)	(X)	(X)
DBD 10 R 3	X	X	X	X	X	X	(X)	(X)	X
DBD 20 R 2	X	X	X	X	X	X	(X)	(X)	(X)

X = Type available

(X) = Type possible

– = Type not available

Dimensions – Panel Mounting (in mm)



	A	B	G	H Ø	J	K	L	M	P	SW x	SW y
DBD 06	68	65.5	G 1/4*1	21	0.7	33	35	82	57.5	22	36
DBD 10	69	66.5	G 1/2*2	29	1.0	45	41.5	100,5	70	27	41
DBD 20	81	98	G 1	42	1.0	49	53	130	81.5	36	55

Dimensions DBD 08 like DBD 06

*1 optional connection type G 3/8 possible, Type: **DBD 08 R 1** ...

*2 optional connection type G 3/4 possible, Type: **DBD 10 R 5** ...

Product Portfolio

Transfer Pumps

Transfer pumps for lubricating oil supply equipment, low pressure filling and feed systems, dosing and mixing systems.

Mobile Hydraulics

Single and multistage high pressure gear pumps, hydraulic motors and valves for construction machinery, vehicle-mounted machines.

Flow Measurement

Gear and turbine flow meters and electronics for volume and flow metering technology in hydraulics, processing and laquering technology.

Industrial Hydraulics / Test Bench Construction

Cetop directional control and proportional valves, hydraulic cylinders, pressure, quantity and stop valves for pipe and slab construction, hydraulic accessories for industrial hydraulics (mobile and stationary use).

Technology Test benches / Fluid Test benches.



Pressure Relief Valves DBD/GB/04.11

KRACHT