


DBV Pressure Relief Valves

Technical data


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 Tell: 021-33488178
 Fax: 021-33488105

Internal diameter		NW 10	NW 16	NW 25	NW 32
Pilot control range $p_{\min} \dots p_{\max}$	[bar]	8...320			
Flow (max)	[l/min]	60	100	250	500
Control volume V	[cm ³]	0,5	1.15	3.1	7.85
Viscosity range	[cSt]	15...200			
Temperature range $\delta_{\min} \dots \delta_{\max}$	[°C]	-15...70			
Ambient temperature range $\delta_{\min} \dots \delta_{\max}$	[°C]	-10...45			
Opening pressure	[bar]	0.5			
Filtration	[μ]	25			
Electrical data		Solenoid			
Power consumption P	[W]	30			
Rated current J (at 24 V)	[mA]	1250			
Resistance R (at 25 °C and 24 V)	[ohms]	19			
Response time at 150 bar	[ms]	20			
Rated voltage U	[V =]	24			
Special voltages U	[V]	12 =, 48 =, 98 =, 196 =, 110/50 Hz, 200/50 Hz			
Duty cycle	[%]	100			
Degree of protection of solenoid		P 54			
Electrical connection of solenoid		Plug with PG 9			
Manual emergency operation		Standard			
Control solenoid voltages	[V]	24 =, 220/50 Hz			
Hysteresis		With dither ± 1 % of P_{\max} Frequency about 100 Hz	Without dither ± 4 % of P_{\max}		

DBV Pressure Relief Valves

Design and mode of operation

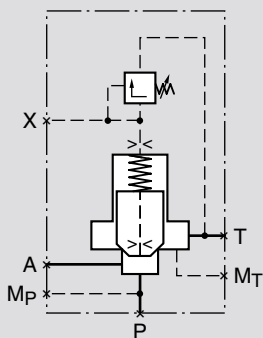
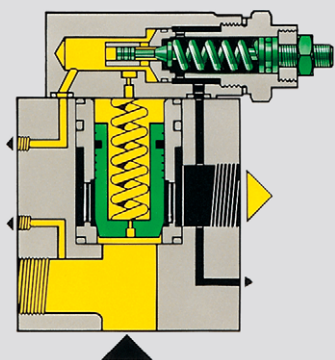
Voith pressure relief valves are designed according to the proven cartridge principle. They guarantee trouble-free operation with short response times, low pressure drop and minimum pressure peaks.

Simplified sectional view

- A Working line
- P Inlet
- M_P Pump pressure
- M_T Measuring connection for return pressure
- T Outlet
- y, x, z Control lines

Types

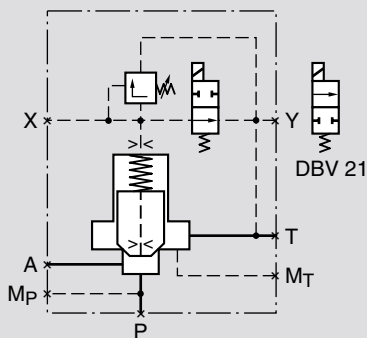
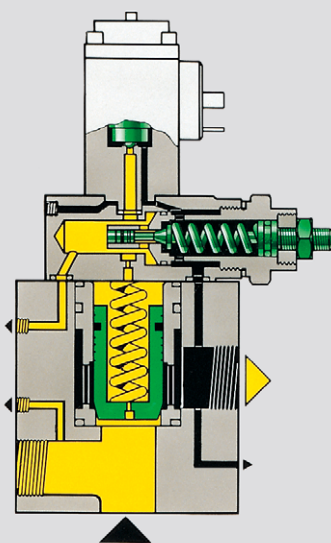
DBV 10



- ①
- ②

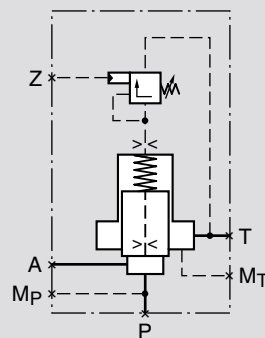
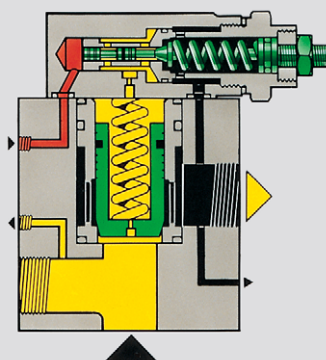
DBV 20

DBV 21



- ①
- ②
- ④
- ⑥
- ⑤
- ⑦

DBV 30



- ①
- ③

Features

- ① Stepless mechanical adjustment of pressure limitation
- ② Control by external pilot relief via existing port "x".
- ③ Control by external pilot pressure via existing port "z".
- ④ Control by pressure relief via an electro-magnetic 2/2-way valve (de-energized = off pressure).
- ⑤ Control by pressure relief via an electro-magnetic 2/2-way valve (de-energized = pressure).
- ⑥ Pressure limitation and control by stepless electromagnetic 2/2-way valve (de-energized = off pressure).
- ⑦ Pressure limitation and control by stepless electromagnetic 2/2-way valve (de-energized = pressure).
- ⑧ New!
Pressure relief valves for accumulator charging applications.
(See brochure G 818.)

DBV 40 **DBV 41**

① ①

③ ③

④ ⑤

⑥ ⑦

DBV 50

①

⑧

DBV 60 **DBV 61**

① ①

④ ⑤

⑥ ⑦

⑧ ⑧

DBV Pressure Relief Valves

Technical data

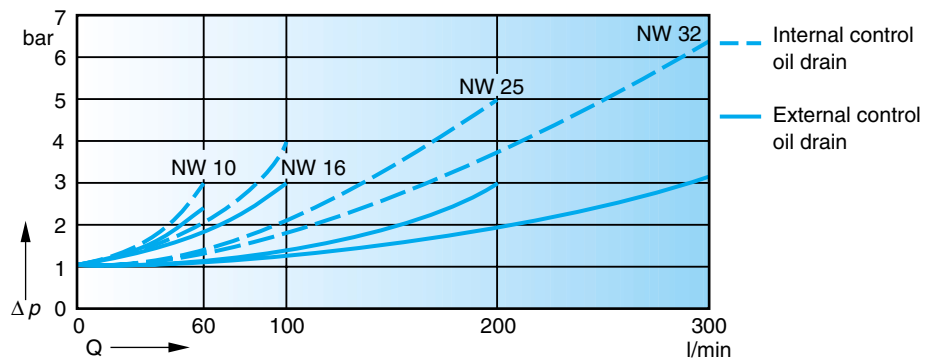
Ventil	NW	a	b	c	d	e	e'	e''	e'''	f	f'	g	h	i	k	l	m ¹⁾	s ²⁾	A, T	M _T M _P ³⁾	P
E 10	10	40	20	88	80	80	90	95	105	177	187	58	64	38.1	17.5	44	18.64-3.53	M 8 x 50	G 1/2	G 1/4	SAE
E 16	16	37	24	100	82	90	100	105	115	187	197	58	64	47.6	22.2	52	24.99-3.53	M 10 x 35	G 3/4	G 1/4	SAE
E 25	25	37	24	119	90	128	130	128	130	210	212	58	64	52.4	26.2	64	32.92-3.53	M 10 x 40	G 1	G 1/4	SAE
E 32	32	48	31	137	120	145	150	145	150	227	232	58	72	70	36	75	37.22-3.53	M 12 x 45	G 1 1/2	G 1/4	SAE

Assignment nominal width

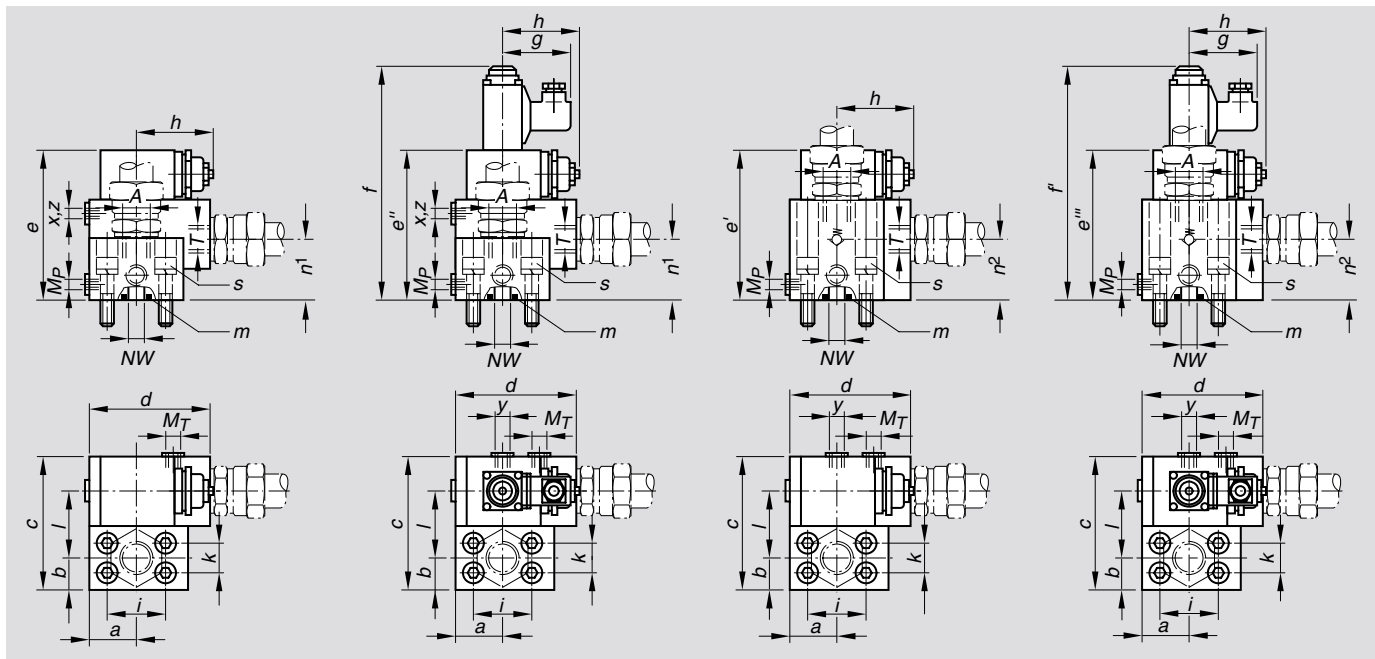
Valve	Pump size
E 10	IP.3
E 16	IP.4
E 25	IP.5
E 32	IP.6, IP.7

- 1) O-ring
- 2) Bolt DIN 912 material 10.9
- 3) Allocation as per "Functions", page 37

Δp-Q-characteristic [t = 50 °C, v = 35 cSt]





DBV 10 DBV 30 DBV 20 DBV 21 DBV 40 DBV 41 DBV 50 DBV 60 DBV 61



DBV Pressure Relief Valves

Variants

Standard variants														
Type	Size		Pressure adjustment		Control oil drain		Electrical relief		Pressure range		Hysteresis		Voltage	
DBV 10	NW 10	E 10	fixed	F	internal	O	Solenoid	M	bar	140	of system pressure	10 %	24 V =	24 ⁴⁾
DBV 20*	NW 16	E 16			not for DBV 50, DBV 60, DBV 61		only for DBV 20, 21, DBV 40, 41, DBV 60, 61		bar	320				
DBV 21**	NW 25	E 25												
DBV 30	NW 32	E 32												
DBV 40*														
DBV 41**														
DBV 50														
DBV 60*														
DBV 61**														
Special variants														
			Hand-wheel	H	External	Y	Control Solenoid	R ⁴⁾			of system pressure	15 %	12 V =	12
													185 V =	185
													110 V 50 Hz	110
													220 V 50 Hz	220 ⁴⁾
Ordering-code														