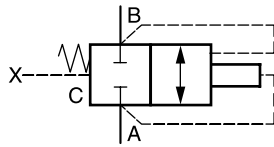


Contents

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C*B	Cover without stroke limiter	•	•	•	•	•	•	•	•	8-9
C*C	Cover for pilot system mounting	•	•	•	•	•	•	•	•	8-11
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C18DB112	2 way, with stroke limiter		•	•	•					8-103
C18DB121	2 way, with pilot valve			•	•					8-103

Port identifications - graphics



Description

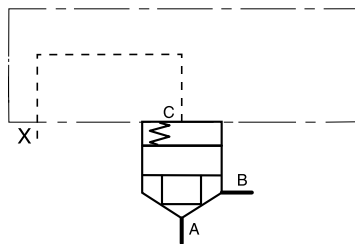
Depending on valve function and design, power ports A and B can be used for inlet or outlet.

The control port C is the connection between cover and cartridge unit.

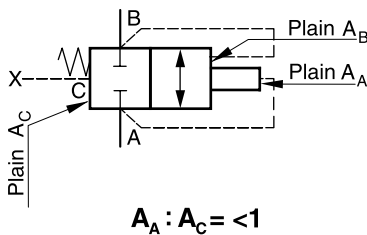
Further control ports

- X control oil connection, inlet
- Y control oil connection, outlet
- Z₁ control oil connection, preferred inlet
- Z₂ control oil connection, preferred outlet

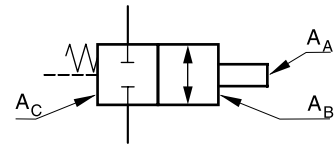
Port identifications - schematics



Area representation



Control surfaces - graphics



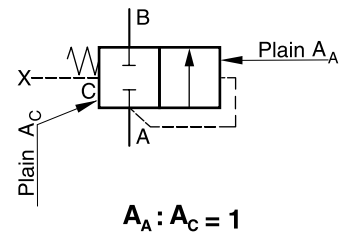
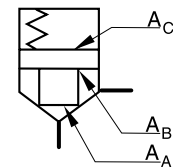
Description

A_A Area, which is subjected to the pressure at port A

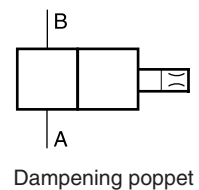
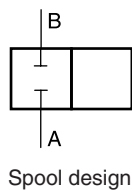
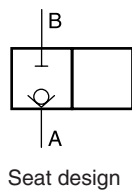
A_B Area, which is subjected to the pressure at port B

A_C Area, which is subjected to the pressure at port C

Control surfaces - schematics



Design representation

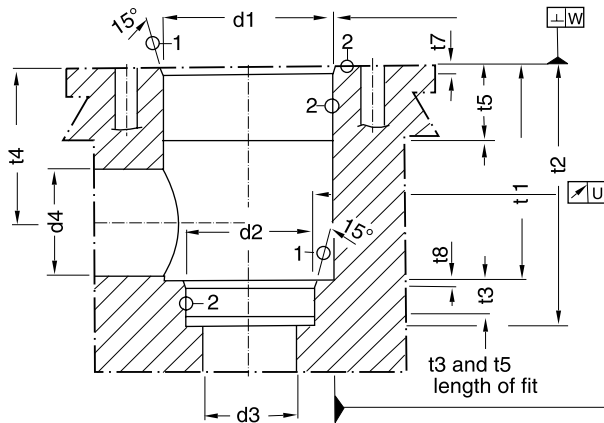
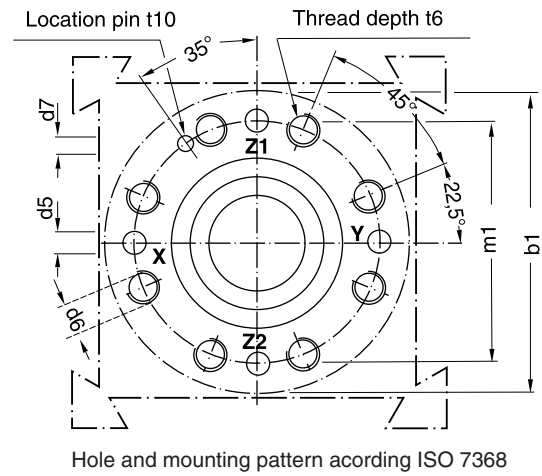
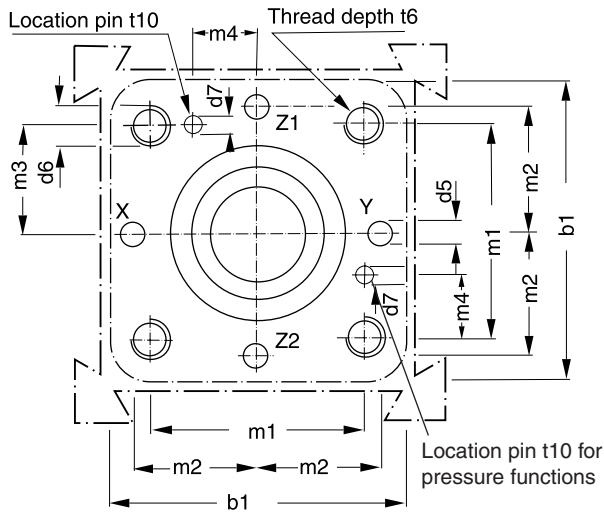


Dimensions

**2 Way Slip-In Cartridge Valves
Introduction**

Code: ISO 7368-B*-2-A/B
NG 16 to NG 63

Code: ISO 7368-B*-2-A
NG 80 to NG 100



Required surface finish:

① = $\sqrt{R_{\max} 16}$, ② = $\sqrt{R_{\max} 8}$

Cartridge manifold block series CB see chapter 12.

Nom. size	b1	d1 H7	d2 H7	d3	d3 max	d4	d4 max*	d5 max	d6	d7 H13	m1±0.2	m2±0.2	m3±0.2
16	65	32	25	16	18	16	25	4	M 8	4	46	25	23
25	85	45	34	25	25.5	25	32	6	M 12	6	58	33	29
32	102	60	45	32	36	32	40	8	M 16	6	70	41	35
40	125	75	55	40	43	40	50	10	M 20	6	85	50	42.5
50	140	90	68	50	56	50	63	10	M 20	8	100	58	50
63	180	120	90	63	74	63	80	12	M 30	8	125	75	62.5
80	250	145	110	80	93	80	100	16	M 24	10	200	-	-
100	300	180	135	100	115	100	125	20	M 30	10	245	-	-

Nom. size	m4±0.2	t1+0.1	t2+0.1	t3	t4	t4 max*	t5	t6	t7	t8	t10	U	W
16	10.5	43	56	11	34	29.5	20	20	2	2	10	0.03	0.05
25	16	58	72	12	44	40.5	30	25	2.5	2.5	10	0.03	0.05
32	17	70	85	13	52	48.0	30	35	2.5	2.5	10	0.03	0.1
40	23	87	105	15	64	59.0	30	45	3	3	10	0.05	0.1
50	30	100	122	17	72	65.5	35	45	4	3	10	0.05	0.1
63	38	130	155	20	95	86.5	40	65	4	4	10	0.05	0.2
80	-	175	205	25	130	120	40	50	5	5	10	0.05	0.2
100	-	210	245	29	155	142	50	53	5	5	10	0.05	0.2

* only together with d4_{max} and t4_{max}

Characteristics

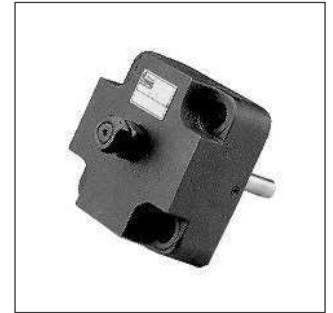
2 way slip-in cartridge valves are hydraulically controlled seat valves that are designed for compact block installation. Slip-in cartridge, cover, and pilot system are valve elements that permit single and combined functions.

Features

- Installation cavity and mounting pattern according to ISO 7368
- One sleeve only for all poppets
- 5 poppet shapes
- 5 poppet springs
- Optional seal between ports B and C
- Cover with adjustable stroke limitation for poppet
- Cover with mounting pattern for pilot valve assembly
- Combinations for complex functions
- Normally open cartridge (CE*F04)
- 8 nominal sizes NG16...NG100



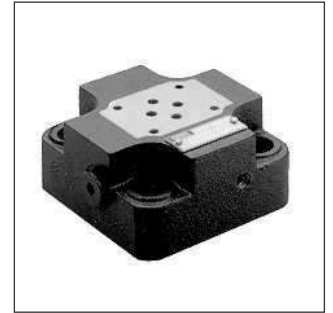
CE



C*B

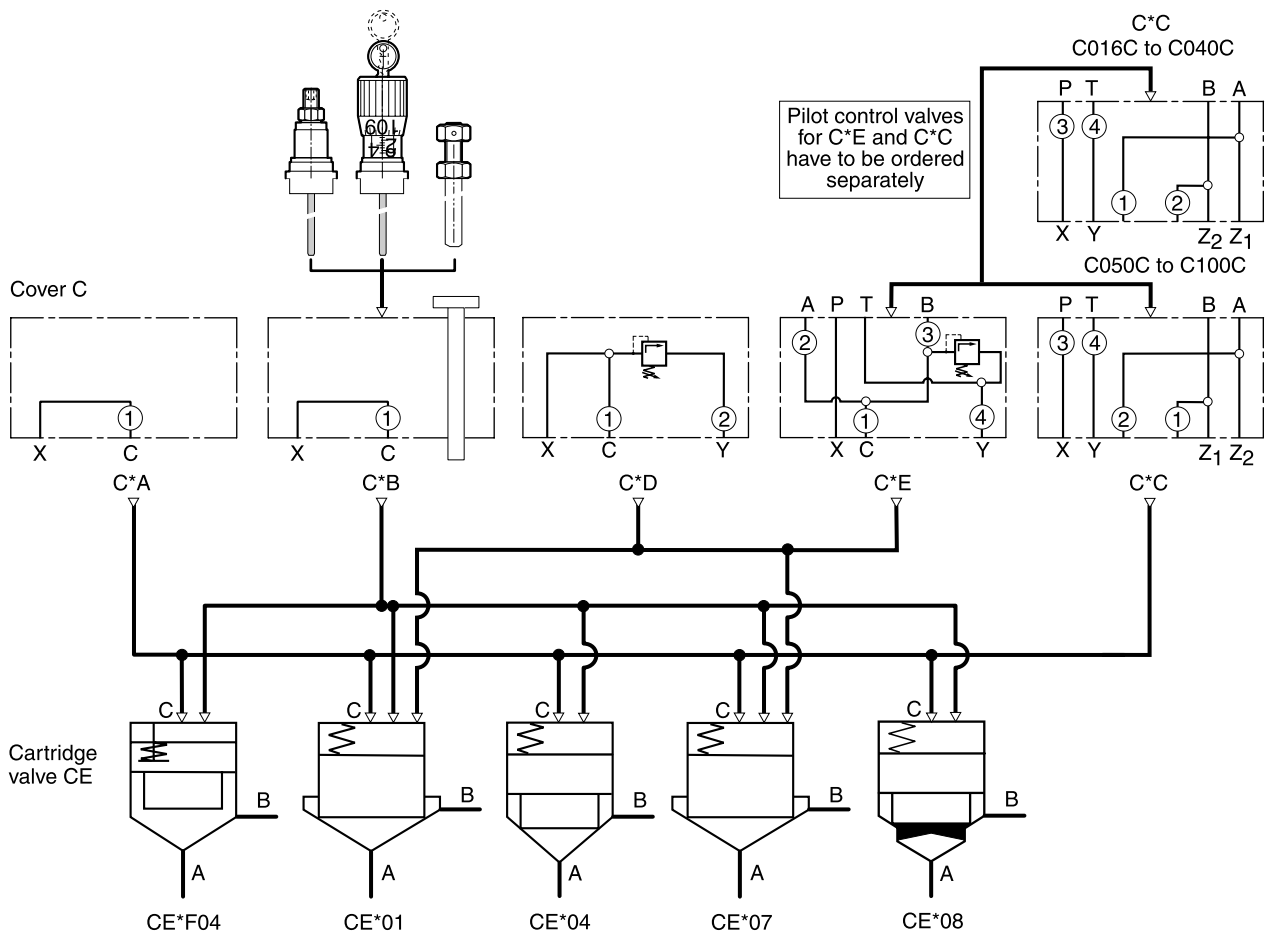


C*A



C*C

Pilot control



Ordering Code

CE

Cartridge

Nominal size

Design

Poppet area ratio

Spring

Orifice

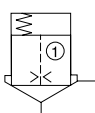
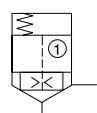
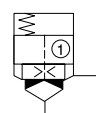
Seal

Design series
(not required for ordering)

Code	Size
016	NG16
025	NG25
032	NG32
040	NG40
050	NG50
063	NG63
080	NG80
100	NG100

Code	Seal
N	NBR
V	FPM

Code	Orifice
99	Without orifice, open
00	Plug

○ Orifice position

Code	Spring
L	Opening press. 0.1 bar
N	Opening press. 0.5 bar
S	Opening press. 1.6 bar
T	Opening press. 2.5 bar
U	Opening press. 4.0 bar

Code	Normal pos.	Description
C	Closed	No poppet sealing
S ¹⁾	Closed	With poppet sealing
F ²⁾	Open	No poppet sealing

¹⁾ Only for spring S, T and U.
Not for poppet code 01 (NG16 to NG63).

²⁾ Only with spring code L

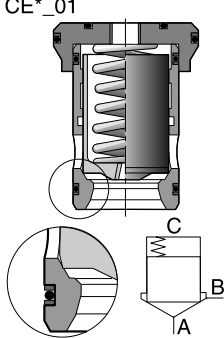
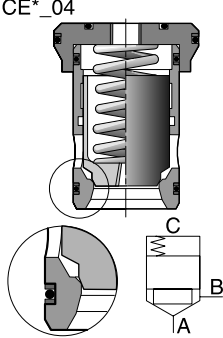
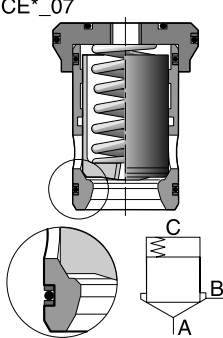
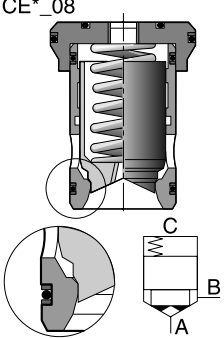
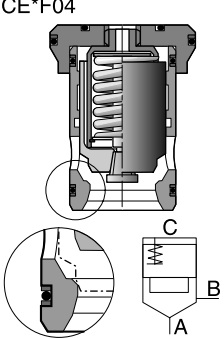
Code	Poppet area ratio
01	$A_A = A_C$
04	$A_A = 0.6A_C, A_B = 0.4A_C$
07 ³⁾	$A_A = 0.96A_C$
08	$A_A = 0.6A_C, A_B = 0.4A_C$ with dampening

³⁾ Not for NG80 and NG100

8

For spare parts see "Accessories" in this chapter.
For orifice recommendations see "Combination Examples" in this chapter.

Bold letters = Short-term availability

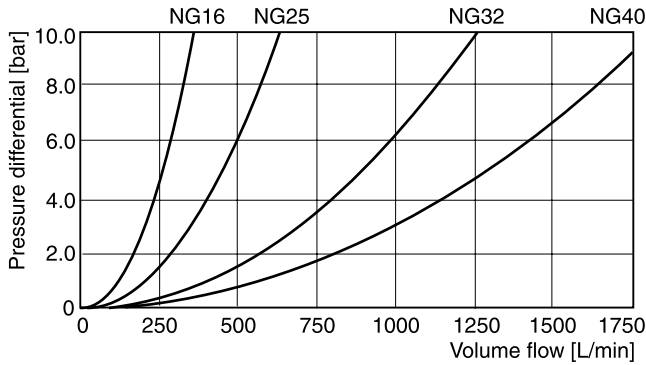
CE*_01	CE*_04	CE*_07	CE*_08	CE*F04
				
1 : 1 $A_A = A_C$	1 : 1.67 $A_A = 0.6 A_C$ $A_B = 0.4 A_C$	1 : 1.04 $A_A = 0.96 A_C$	1 : 1.67 $A_A = 0.6 A_C$ $A_B = 0.4 A_C$ dampening poppet	1 : 1.67 $A_A = 0.6 A_C$ $A_B = 0.4 A_C$ normally open

Technical Data / Performance Curves

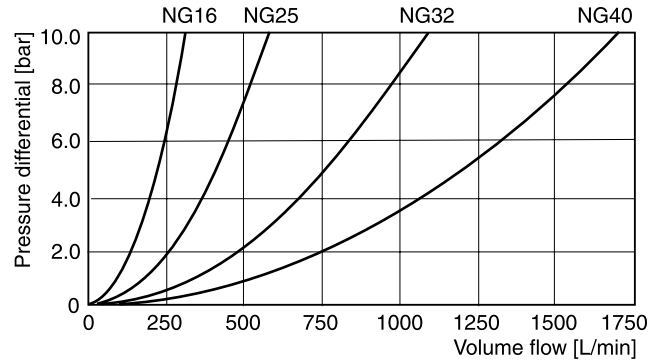
General		2 way slip-in cartridge valves according to ISO 7368									
Design type		Hydraulic									
Operation		unrestricted									
Mounting position		[C°] -40...+60									
Ambient temperature											
Nominal size											
Weight		cartridge	[kg]	16	25	32	40	50	63	80	100
				0.3	0.6	1.1	1.7	3.7	7.1	12.8	27
Hydraulic		Hydraulic fluid according to DIN 51 524...525									
Fluid											
Viscosity		recommended	[mm2/s]	30...80							
		max. permitted	[mm2/s]	20...380							
Fluid temperature		[C°] -20...+60									
Max. contamination		ISO 4406 : 1999 ; 18/16/13									
Operating pressure		without pilot valve	[bar]	420							
		port A, B, X, Z1, Z2	[bar]	350, 420 (depending on p _{max} of pilot valves)							
		port Y	[bar]	According to pilot system, max. 350 (depending on p _{max} of pilot valves)							
Nominal flow at Δp 5 bar		poppet 01, 04, 07	[l/min]	250	450	900	1350	1800	3600	5250	8000
		poppet 08	[l/min]	230	400	800	1250	1625	3400	5000	7500
Pilot volume requirement		at poppet 01	[cm³]	2.0	6.5	10.2	17.4	34.5	77.4	190.1	342.6
		at poppet 04	[cm³]	2.0	6.5	12.2	20.3	39.4	94.6	190.1	363.4
		at poppet 07	[cm³]	2.0	6.5	10.2	17.4	34.5	77.4	—	—
		at poppet 08	[cm³]	2.0	7.4	15.3	23.2	49.2	111.8	217.3	415.3
Opening pressure		flow direction A → B	[bar]	Poppet 01 / 07 spring: L = 0.1 N = 0.5 S = 1.6 T = 2.5 U = 4.0							
				Poppet 04 / 08 spring: L = 0.2 N = 0.9 S = 2.7 T = 4 U = 6.6							
		flow direction B → A	[bar]	Poppet 01 / 07 not possible							
				Poppet 04 / 08 spring: L = 0.3 N = 1.3 S = 4.0 T = 6.3 U = 10.0							

Performance curves (without spring and poppet seal, C-chamber unloaded)

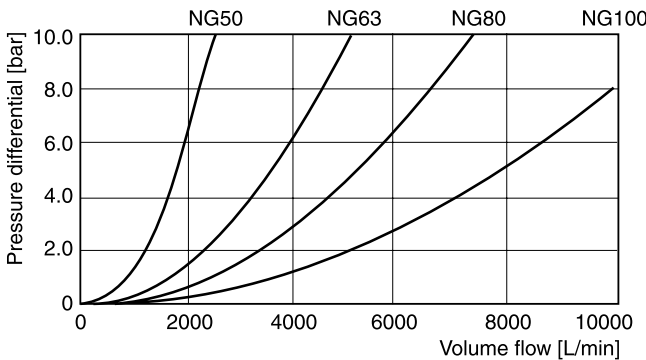
Poppet 01, 04, 07



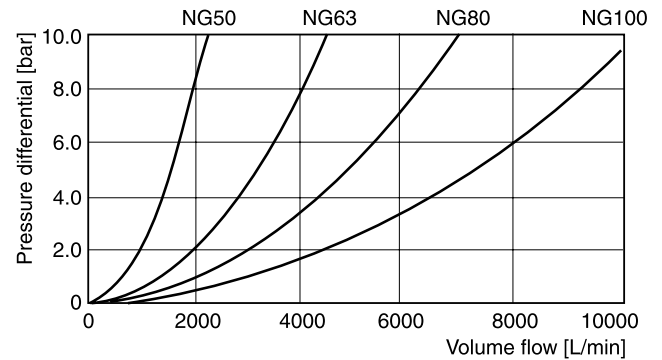
Poppet 08



Poppet 01, 04, 07



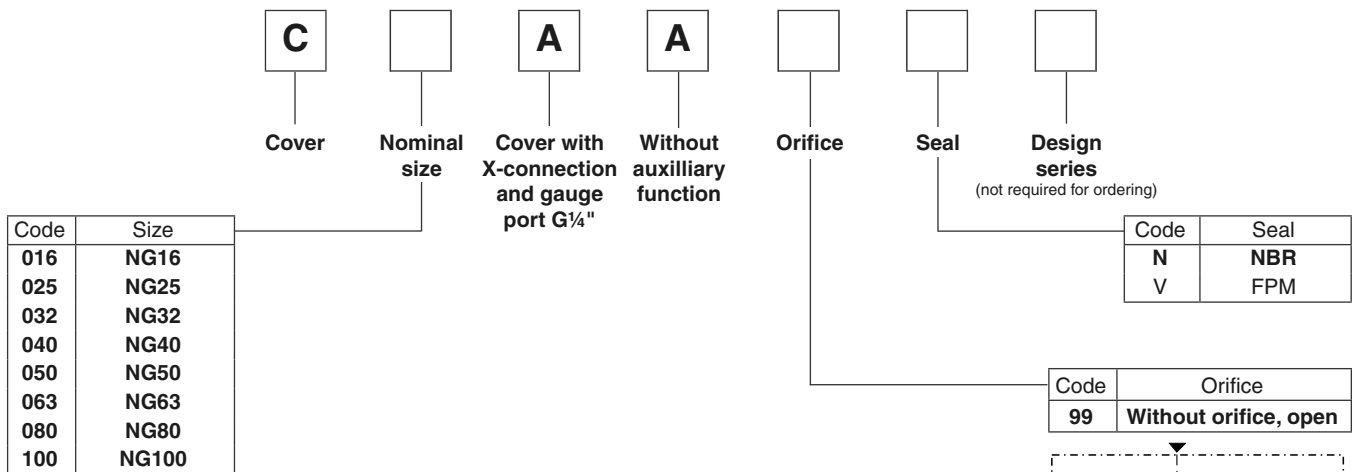
Poppet 08



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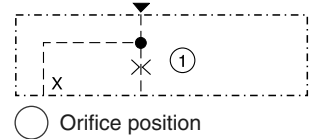


Ordering Code / Dimensions



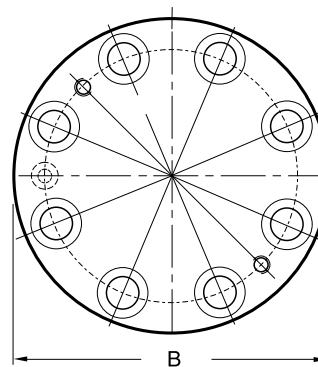
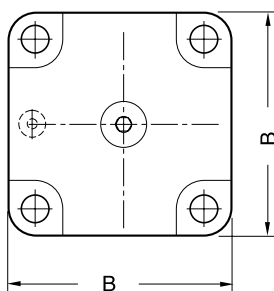
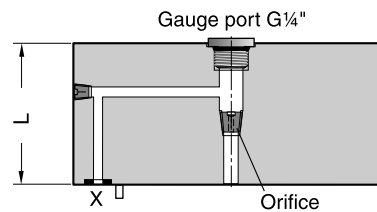
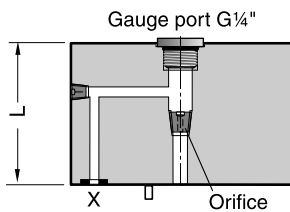
Bold letters = Short-term availability

For orifice recommendations, bolt and seal kits see "Accessories" in this chapter.



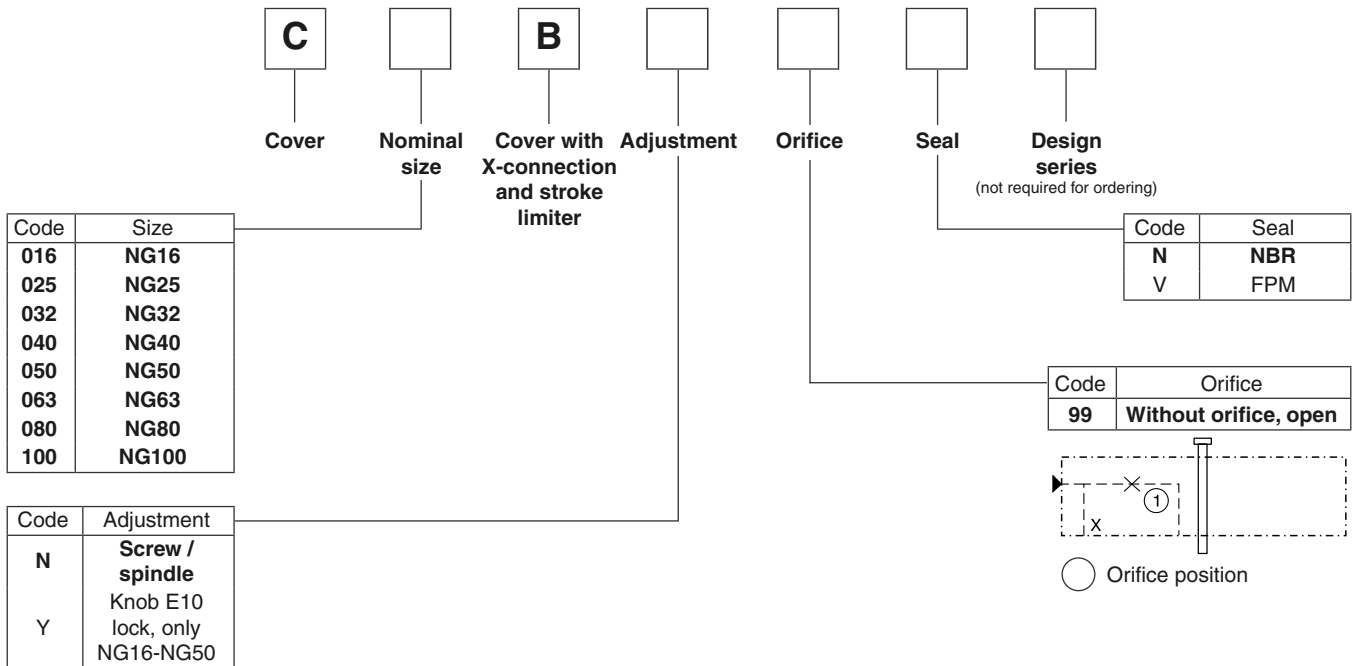
Dimensions
NG16 to NG63

NG80 to NG100



Size	B	L	Orifice thread	Weight [kg]
NG16	65	36	1/16 NPT	0.9
NG25	85	45	1/16 NPT	1.9
NG32	102	50	1/16 NPT	2.9
NG40	125	60	1/8 NPT	5.3
NG50	140	70	1/8 NPT	8.5
NG63	180	85	1/8 NPT	15.5
NG80	Ø250	105	1/8 NPT	34
NG100	Ø300	120	1/8 NPT	58

8

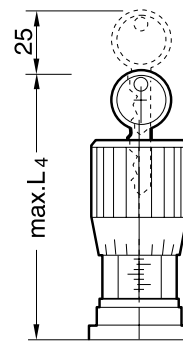
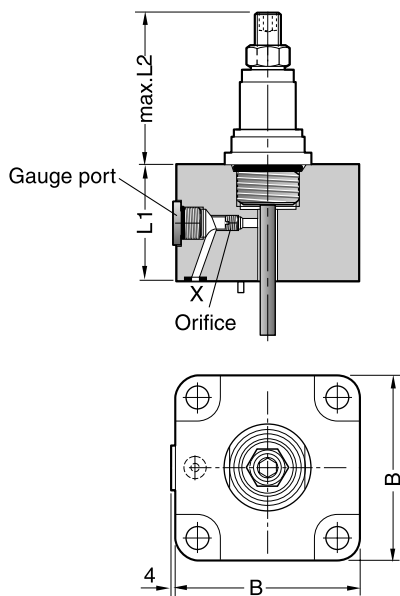


Bold letters = Short-term availability

For orifice recommendations, bolt and seal kits see "Accessories" in this chapter.

**Dimensions NG16 - NG25
Adjustment N**

Adjustment Y

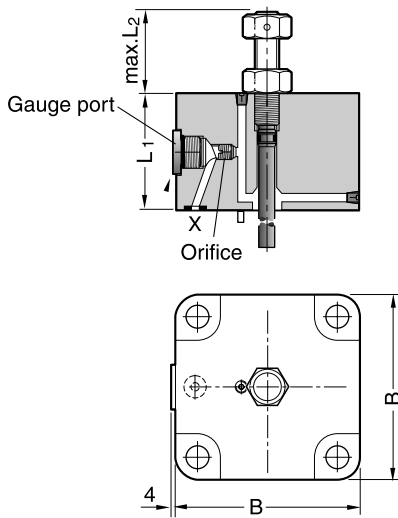


Size	B	L1	L2 max.	L4 max.	Gauge port	Orifice thread	Weight [kg]
NG16	65	36	72	100	G 1/4"	M6	0.9
NG25	85	45	72	100			1.9

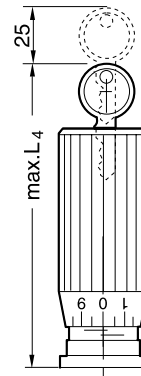
CE-C_UK.INDD RH_23.01.08

Dimensions

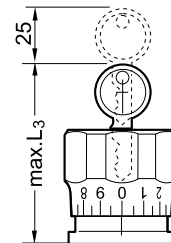
**Dimensions NG32 - NG50
Adjustment N**



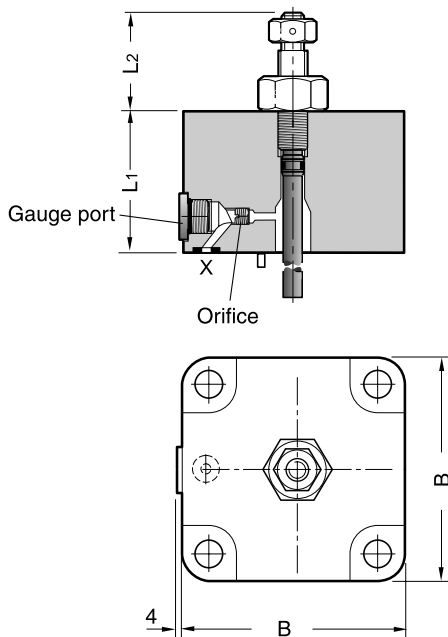
Adjustment Y (NG32)



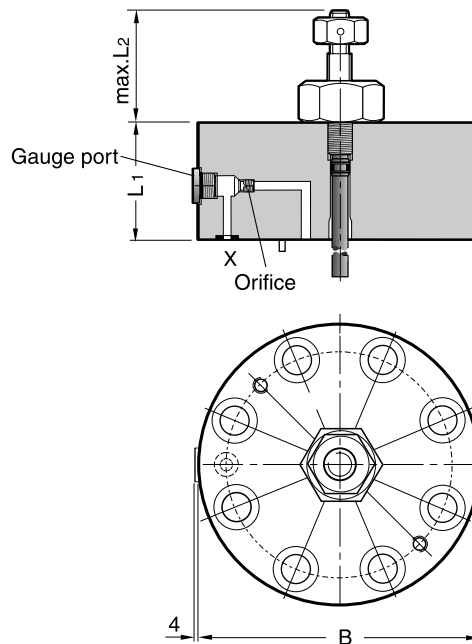
Adjustment Y (NG40/50)



**Dimensions NG63
Adjustment N**



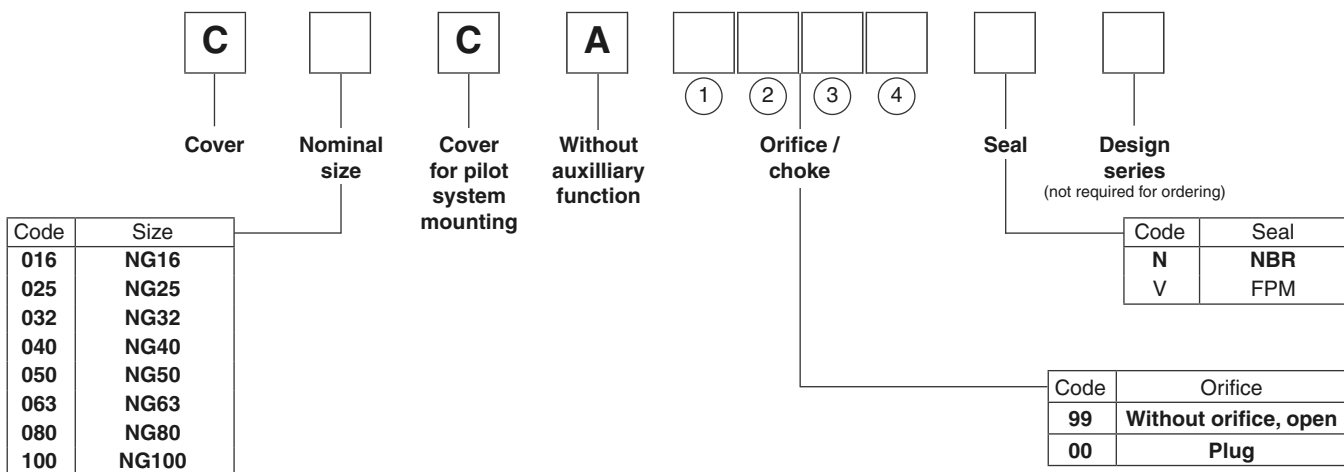
**Dimensions NG80-100
Adjustment N**



8

Size	B	L1	L2 max.	L3	L4 max.	Gauge port	Orifice thread	Weight [kg]
NG32	102	50	48	—	141	G1/4"	1/16 NPT	2.91
NG40	125	60	50	123	—		1/16 NPT	5.39
NG50	140	70	50	127	—		1/16 NPT	8.41
NG63	180	85	65	—	—		1/8 NPT	15.1
NG80	Ø250	105	95	—	—		1/8 NPT	34.0
NG100	Ø300	120	120	—	—	1/8 NPT	60.0	

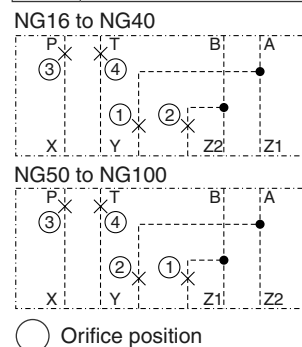
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Attention:

For NG50 and larger:

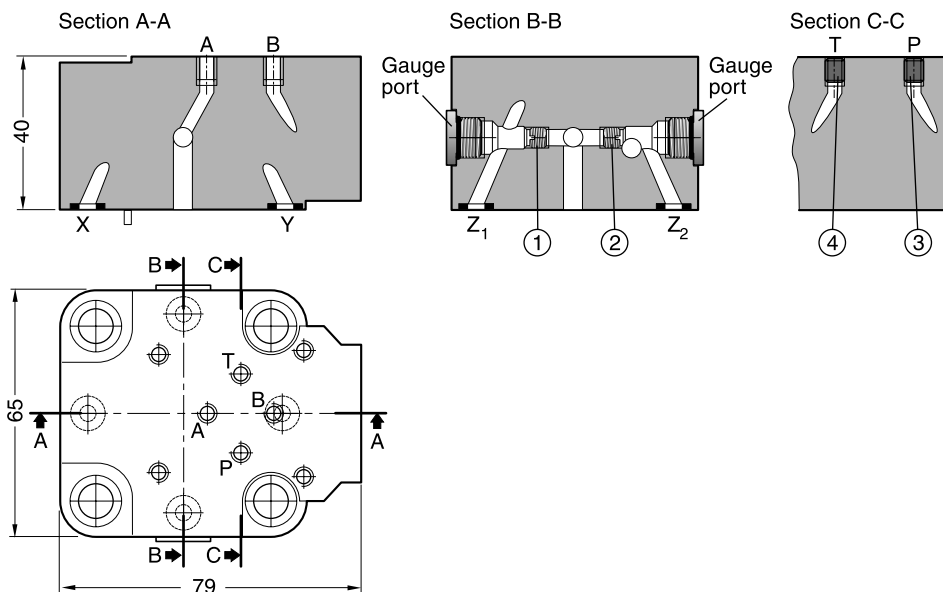
If pilot system NG06 is used, mount adapter plate PADA 1007/A-B/B-A or PADA 1007/A-A/B-B (NG10 to NG06) on cover, complete type see chapter 12.



Bold letters = Short-term availability

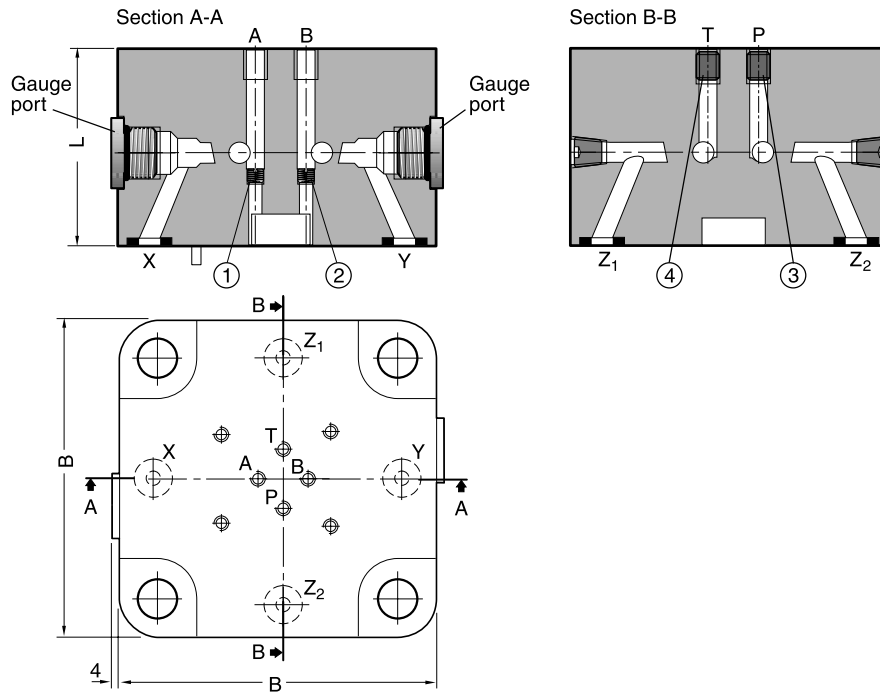
For orifice recommendations, bolt and seal kits see "Accessories" in this chapter.

Dimensions NG16

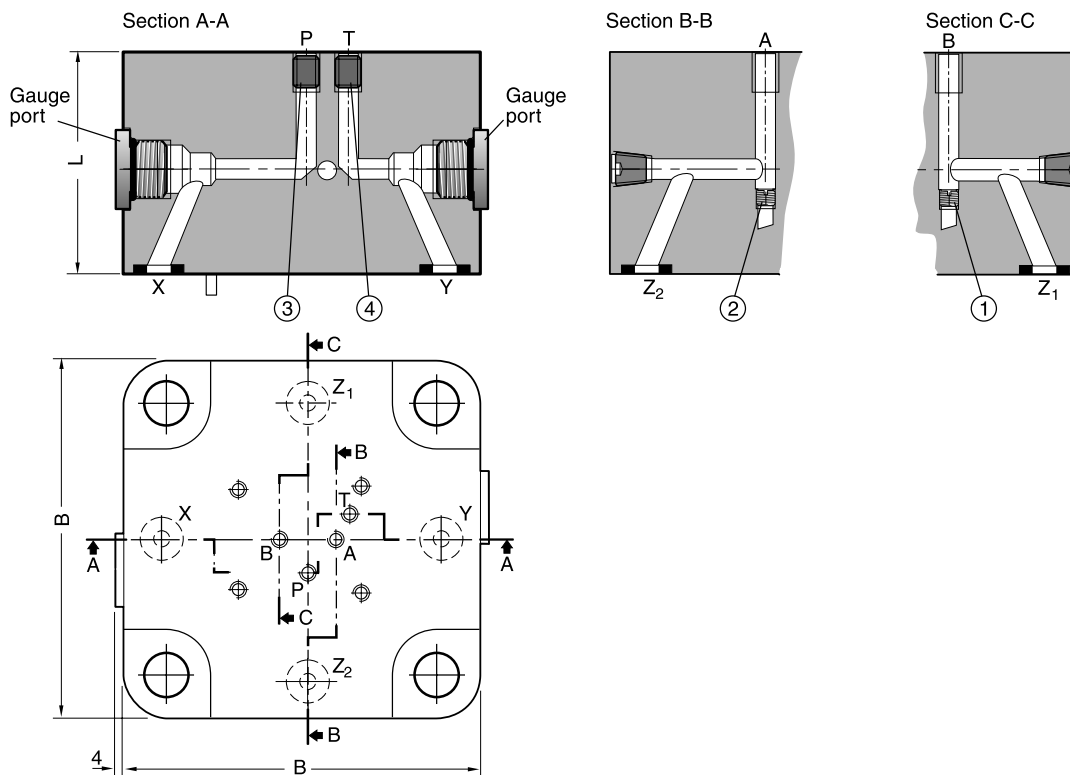


Dimensions

Dimensions NG25 to NG40

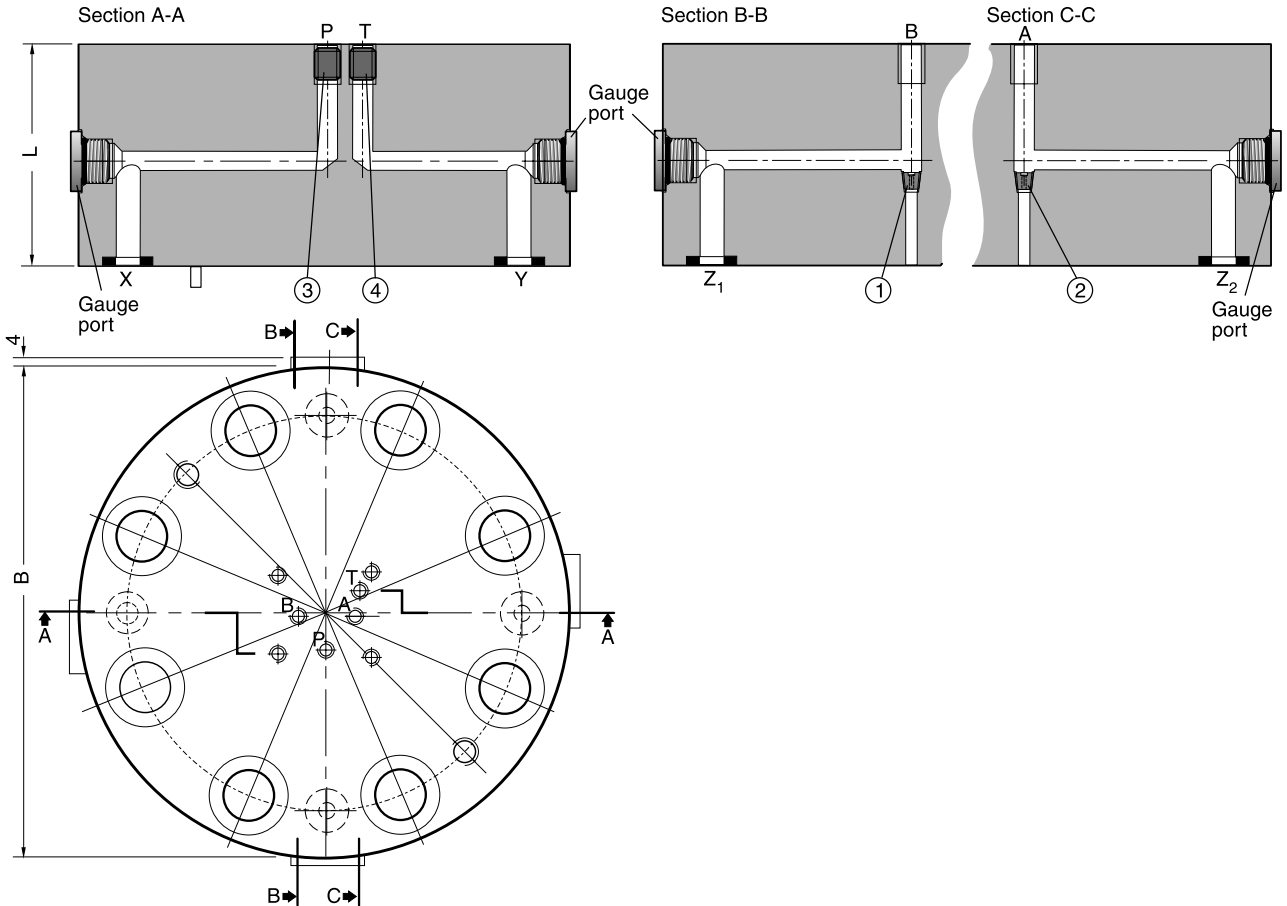


Dimensions NG50 to NG63



8

Dimensions NG80 to NG100



8

Size	B	L	Gauge port	Weight [kg]	Orifice thread			
					①	②	③	④
NG16	79 ¹⁾	40	G 1/4"	1.0	M5	M5	M5	M5
NG25	85	45		1.9	M5	M5	M6	M6
NG32	102	50		2.9	M5	M5	M6	M6
NG40	125	60		5.3	M5	M5	M6	M6
NG50	140	70		8.5	M6	M6	M8	M8
NG63	180	85		15.3	M6	M6	M8	M8
NG80	Ø250	105		34	1/16 NPT	1/16 NPT	1/8 NPT	1/8 NPT
NG100	Ø300	120		60	1/16 NPT	1/16 NPT	1/8 NPT	1/8 NPT

¹⁾ Width 65mm

Ordering Code / Dimensions

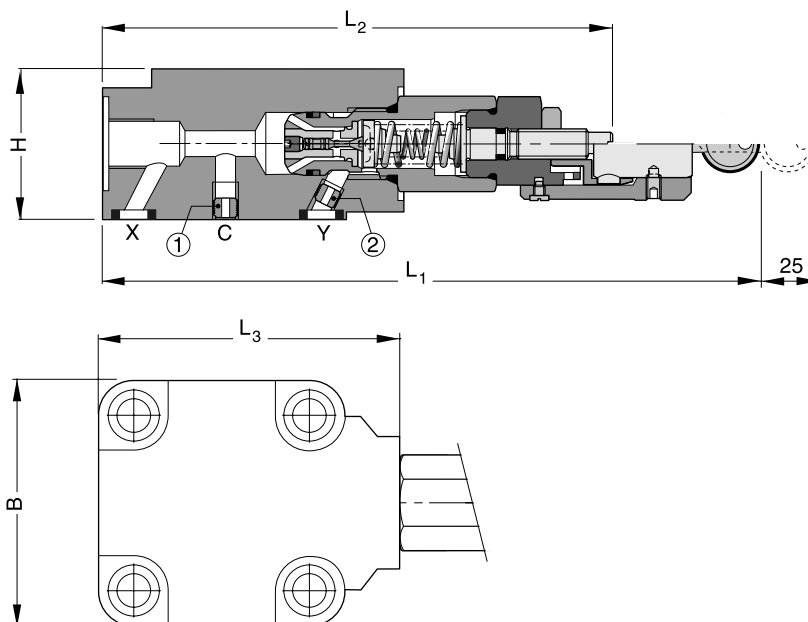
C		D			①	②		
Cover	Nominal size	Cover with pressure relief valve	Pressure range	Pressure adjustment	Orifice / choke		Seal	Design series <small>(not required for ordering)</small>
Code	Size						Code	Seal
016	NG16						N	NBR
025	NG25						V	FPM
032	NG32							
Code	Pressure range [bar]						Code	Orifice
07	75						99	Without orifice, open
17	175							
25	250							
35	350							
Code	Adjustment							
S	Screw with lock nut							
L	Knob E10 lock							

Bold letters = Short-term availability

For orifice recommendations, bolt and seal kits see "Accessories" in this chapter.

Dimensions

8



Size	B	H	L1 max.	L2 max.	L3 max.	Orifice thread ①	Orifice thread ②
NG16	65	40	160	125	82	M5	M5
NG25	85	45	166	132	88	M5	M6
NG32	102	50	183	152	105	M5	M6

CE-C_UK.INDD RH_23.01.08



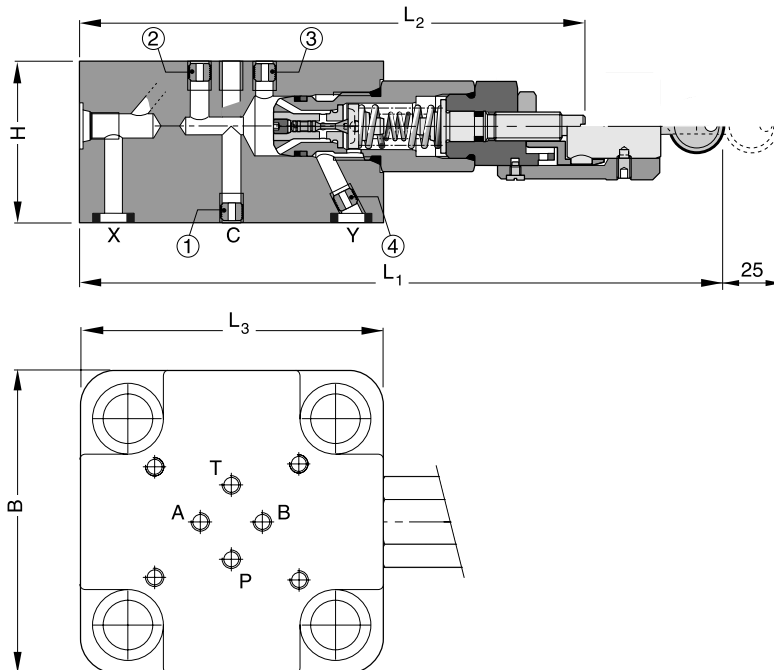
Ordering Code / Dimensions

C		E			①	②	③	④		
Cover	Nominal size	Cover with pressure relief and pilot system mounting	Pressure range	Pressure adjustment	Orifice / choke				Seal	Design series <small>(not required for ordering)</small>
Code	Size		Code	Pressure range [bar]					Code	Seal
016	NG16		07	75					N	NBR
025	NG25		17	175					V	FPM
032	NG32		25	250						
			35	350					Code	Orifice
									99	Without orifice, open
Code	Adjustment									
S	Screw with lock nut									
L	Knob E10 lock									

Bold letters = Short-term availability

For orifice recommendations, bolt and seal kits see "Accessories" in this chapter.

Dimensions



Size	B	H	L1 max.	L2 max.	L3 max.	Orifice thread			
						①	②	③	④
NG16	65	40	160	125	82	M5	M5	M5	M5
NG25	85	45	166	132	88	M5	M5	M6	M6
NG32	102	50	183	152	105	M5	M5	M6	M6

CE-C_UK.INDD RH_23.01.08

Pressure relief valve DSD*P*, subplate mounting NG06

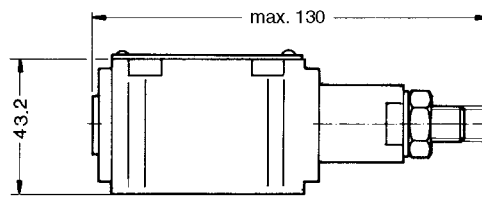
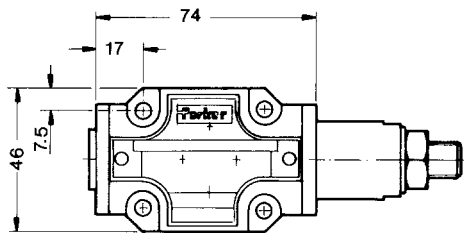
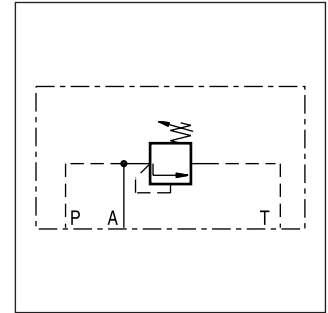
V-DSDA100 **P07**

Pressure adjustment

Pressure range

Code	Adjustment
2	Hexagon screw with lock nut
61	Knob E10 lock

Code	Pressure range [bar]
E	175
K	350



Pressure relief valve ZUD*AT*Z*, sandwich plate NG06

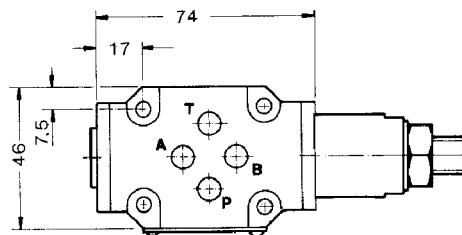
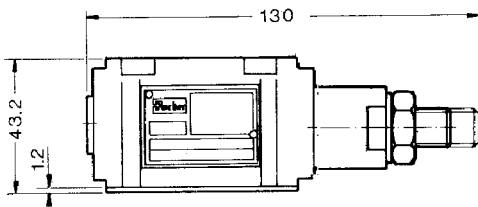
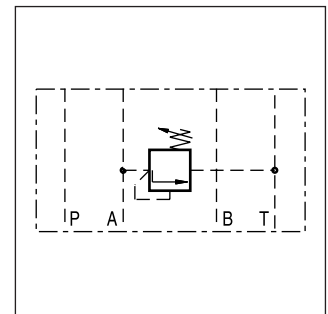
V-ZUDB1AT **Z07**

Pressure adjustment

Pressure range

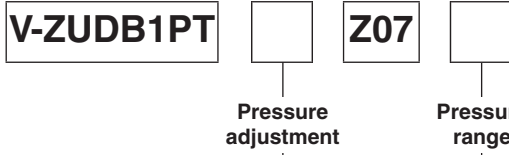
Code	Adjustment
2	Hexagon screw with lock nut
61	Knob E10 lock

Code	Pressure range [bar]
E	175
K	350



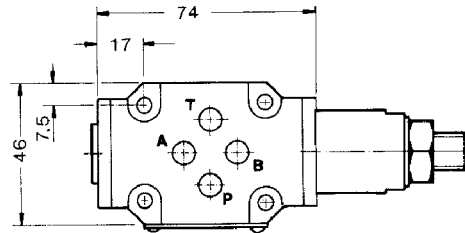
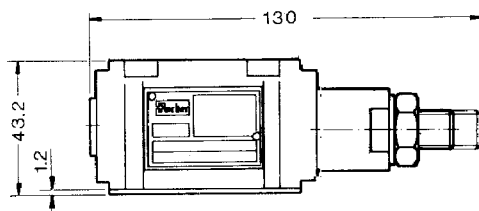
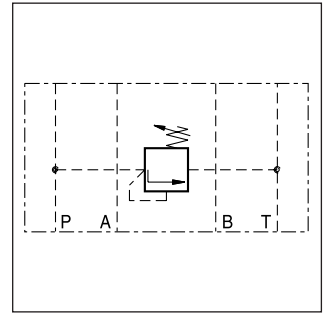
**Bold letters =
 Short-term availability**

Pressure relief valve ZUD*PT*Z*, sandwich plate mounting NG06

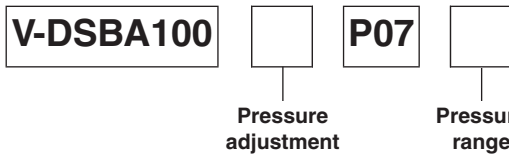


Code	Adjustment
2	Hexagon screw with lock nut
61	Knob E10 lock

Code	Pressure range [bar]
E	175
K	350

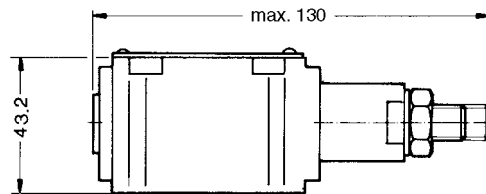
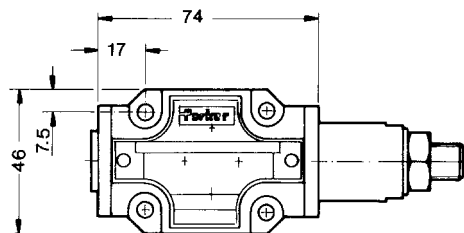
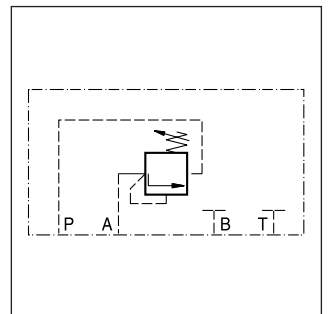


Preload valve DSB*P*, subplate mounting NG06



Code	Adjustment
2	Hexagon screw with lock nut
61	Knob E10 lock

Code	Pressure range [bar]
B	70



**Bold letters =
Short-term availability**

Pilot Valves

Accessories

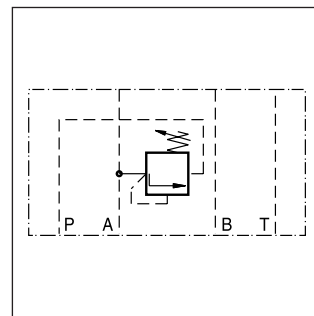
Preload valve DSB*Z*, sandwich plate mounting NG06

V-DSBA100

Z07

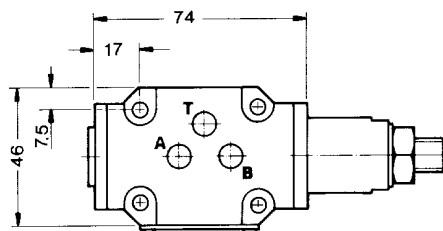
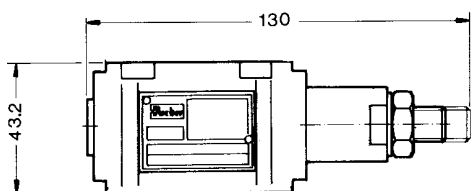
Pressure adjustment

Pressure range



Code	Adjustment
2	Hexagon screw with lock nut
61	Knob E10 lock

Code	Pressure range [bar]
B	70



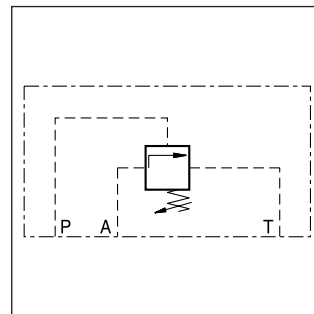
Unloading valve DAF*P*, subplate mounting NG06

V-DAFA100

P07

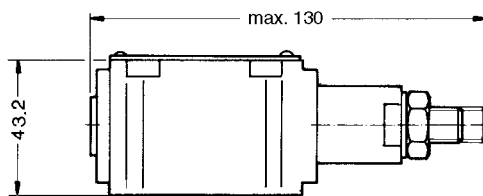
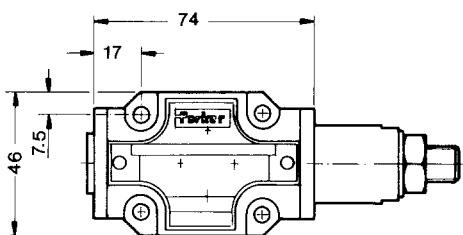
Pressure adjustment

Pressure range



Code	Adjustment
2	Hexagon screw with lock nut
61	Knob E10 lock

Code	Pressure range [bar]
E	175
K	350



Bold letters = Short-term availability

8

Unloading valve DAF*Z*, sandwich plate mounting NG06

V-DAFA100

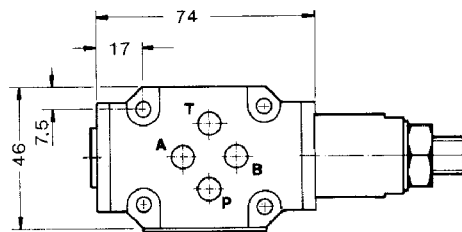
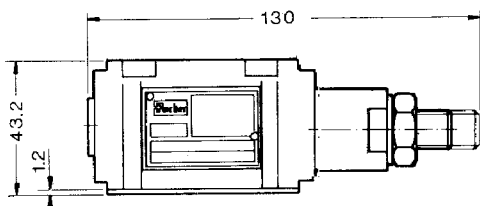
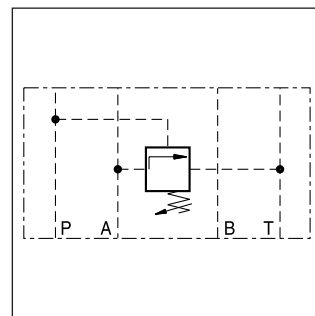
Z07

Pressure adjustment

Pressure range

Code	Adjustment
2	Hexagon screw with lock nut
61	Knob E10 lock

Code	Pressure range [bar]
E	175
K	350



Pressure sequence valve DNL*P*, subplate mounting NG06

V-DNLA100

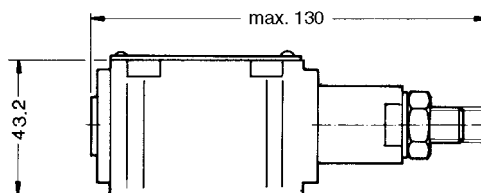
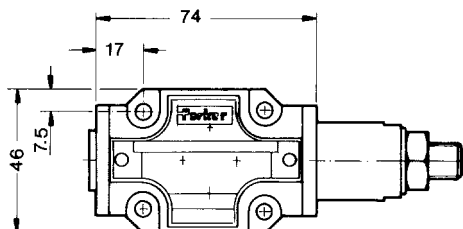
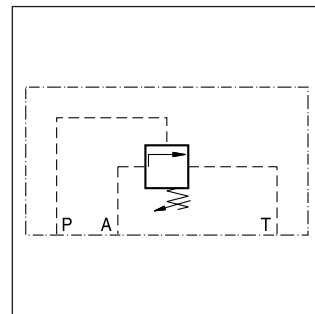
P07

Pressure adjustment

Pressure range

Code	Adjustment
2	Hexagon screw with lock nut
61	Knob E10 lock

Code	Pressure range [bar]
E	175
K	350

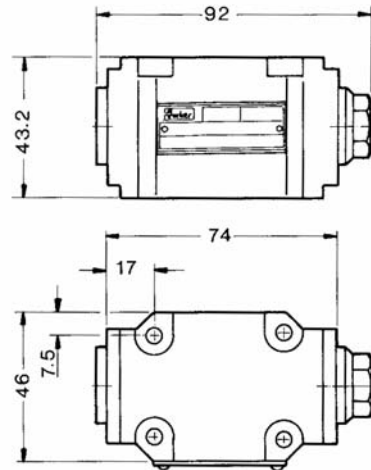
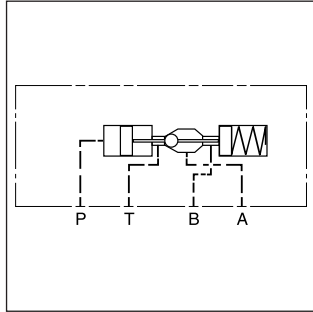


Bold letters = Short-term availability

Check valve, hydraulically pilot operated NG06
 Size NG6 with pilot control, for subplate assembly

Ordering code

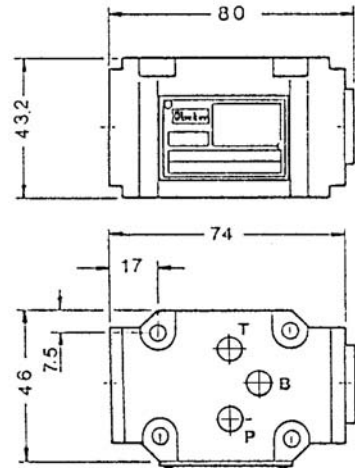
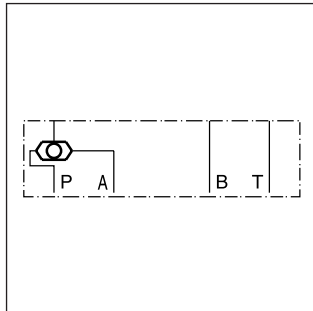
SVLA1006P07



Shuttle valve - sandwich plate NG06
 Size NG6, sandwich plate assembly

Ordering code

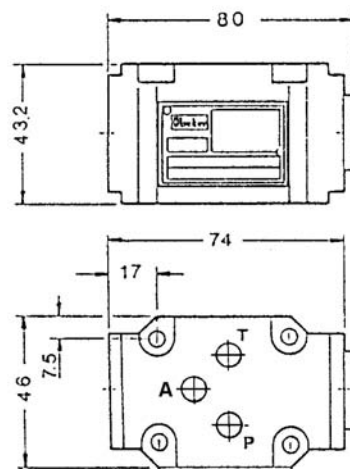
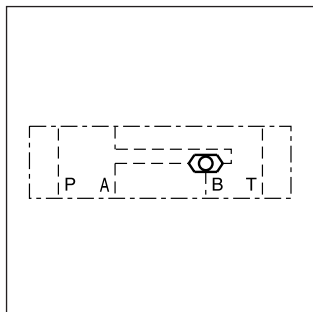
ZSRA1PP0Z07



Shuttle valve - sandwich plate NG06
 Size NG6, sandwich plate assembly

Ordering code

ZSRB1AA0Z07



8

Symbol	Type	Size	Hight
	PADA 1007-AA-BB	NG10-NG06	—
	PADA 1007/A-B/B-A	NG10-NG06	—
	H06-1044	NG06	30
	H06-1039	NG06	30
	H06-504	NG06	30
	H06-711	NG06	30
	H06-1274	NG06	30
	H06-1040	NG06	30

Attention:

Details for cover-, sandwich- and adaptor plates see chapter 12.

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Symbol	Type	Size	Hight
	H06DO-1291	NG06	10
	H06DU-814	NG06	71.3
<p>All ports can be equipped with orifices or plugs (1/16NPT)</p>	CS06040N	NG06	40
<p>All ports can be equipped with orifices or plugs (1/16NPT)</p>	CS06082N	NG06	—
<p>All ports can be equipped with orifices or plugs (1/16NPT)</p>	CS06080N	NG06	—
	D51DC071D	NG06	—
	D51VP071C D51VP101D	NG06 NG10	—

Attention:

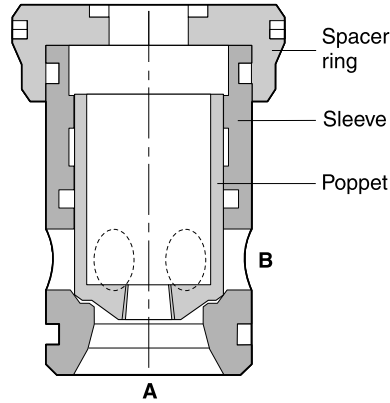
Details for cover-, sandwich- and adaptor plates see chapter 12.

**Bold letters =
Short-term availability**

8

Spare Parts

Poppets, cages, spacer rings



Size	16	25	32	40	50	63	80	100
Poppet 01	RK-45036369	RK-45036379	RK-45036392	RK-45036409	RK-45036421	RK-45036437	RK-35036449	RK-35036467
Poppet 04	RK-45036370	RK-45036380	RK-45036395	RK-45036406	RK-45036422	RK-45036436	RK-35036460	RK-35036468
Poppet 07	RK-35037531	RK-45036964	RK-45036965	RK-45036966	RK-45036967	RK-45036968	—	—
Poppet 08	RK-45036368	RK-45036381	RK-45036391	RK-45036408	RK-45036424	RK-45036438	RK-35036459	RK-35036469
Sleeve	RK-35038871	RK-35038872	RK-35038873	RK-35036403	RK-35036417	RK-35036432	RK-25036452	RK-25036470
Spacer ring	RK-35036364	RK-35036375	RK-35036393	RK-35036402	RK-35036416	RK-35036435	RK-25036453	RK-25036471

Springs, seals, fitting bolts

Size	16	25	32	40	50	63	80	100
Spring ³⁾								
Type L; 0.1 bar ¹⁾	FK-CE016-L	FK-CE025-L	FK-CE032-L	FK-CE040-L	FK-CE050-L	FK-CE063-L	FK-CE080-L	FK-CE100-L
Type N; 0.5 bar ¹⁾	FK-CE016-N	FK-CE025-N	FK-CE032-N	FK-CE040-N	FK-CE050-N	FK-CE063-N	FK-CE080-N	FK-CE100-N
Type P; 0.8 bar ²⁾	FK-CE016-P	FK-CE025-P	FK-CE032-P	—	—	—	—	—
Type S; 1.6 bar ¹⁾	FK-CE016-S	FK-CE025-S	FK-CE032-S	FK-CE040-S	FK-CE050-S	FK-CE063-S	FK-CE080-S	FK-CE100-S
Type U; 4.0 bar ¹⁾	FK-CE016-U	FK-CE025-U	FK-CE032-U	FK-CE040-U	FK-CE050-U	FK-CE063-U	FK-CE080-U	FK-CE100-U
Seal kits								
FPM	SK-CBE160V	SK-CBE250V	SK-CBE320V	SK-CBE400V	SK-CBE500V	SK-CBE630V	SK-CBE800V	SK-CBE1000V
NBR	SK-CBE160	SK-CBE250	SK-CBE320	SK-CBE400	SK-CBE500	SK-CBE630	SK-CBE800	SK-CBE1000
Bolt kits	BK414	BK391	BK415	BK416	BK417	BK418	BK419	BK509
(DIN 912 12.9)	4x M8x40	4x M12x50	4x M16x55	4x M20x70	4x M20x75	4x M30x100	8x M24x120	8x M30x130
Recommended torque [Nm]	27	94	234	460	460	1570	790	1570

¹⁾ not for poppet 02

²⁾ only for poppet 02

³⁾ 1 spring kit contains 10 springs.

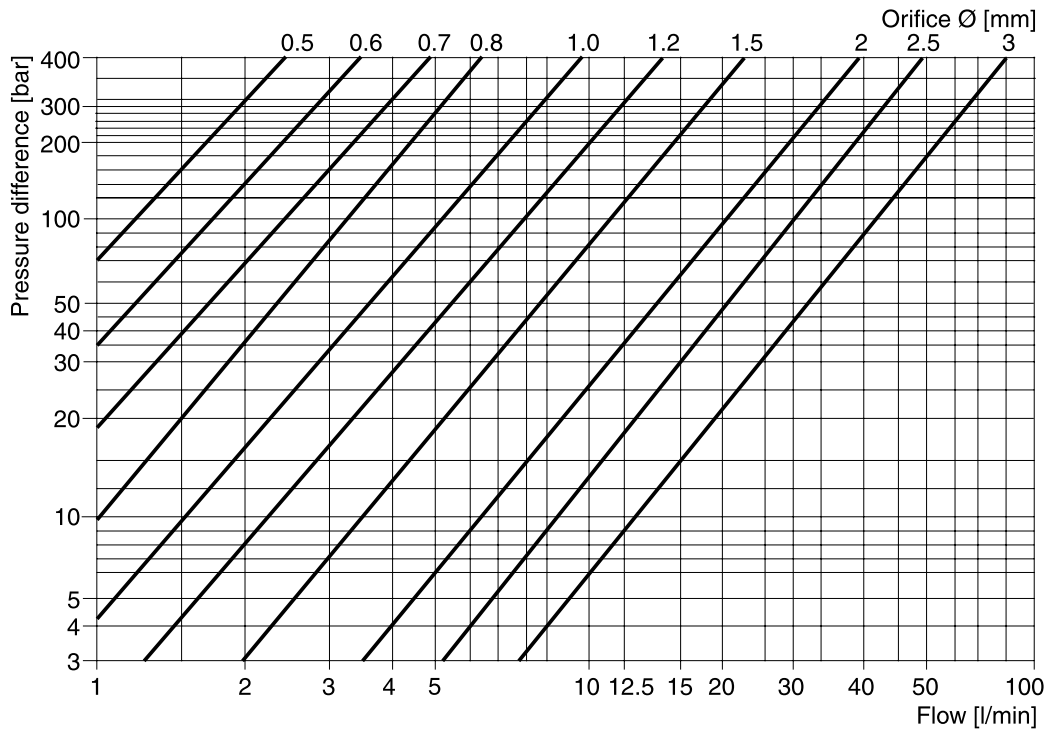
Ordering code example:

FK-CE016-U ⇒ 10 pcs., spring for NG16, type U



Orifice Diagram / Orifice Kits

Diagram to choose the orifice Ø



Orifices

Values measured at a viscosity of 40 cST and a temperature of 50°C.

There are different orifices available to realize different opening / closing velocities.
The control volume of each nominal valve size can be found at the CE series.

8

Orifice kits, sorted by thread with different diameters

Orifice kit	Orifice kit, sorted by thread with different diameters, consisting of 2 pieces of each marked diameter													
	Ø	0.0	0.8	0.9	1.0	1.1	1.2	1.3	1.5	1.8	2.0	2.2	2.5	3.0
DK-M4	x	x	x	x	x	x	x	x	x	-	x	-	-	-
DK-M5	x	x	x	x	x	x	x	x	x	-	x	-	-	-
DK-M6	x	x	x	x	x	x	x	x	x	-	x	-	-	-
DK-M8	x	-	-	x	-	x	-	x	x	x	x	x	x	-
DK-M10x1	x	-	-	x	-	x	-	x	x	x	x	-	x	x
DK-1/16NPT	x	x	x	x	x	x	x	x	x	-	x	-	-	-
DK-1/8NPT	x	-	-	x	-	x	-	x	x	x	x	-	x	x

Orifice kits, thread with one defined diameter 20pcs per box

Orifice kits of one size:

Ordering Code Examples

DK-M4-08 ⇒ 20 pcs, orifice size 0.8mm

DK-M5-10 ⇒ 20 pcs, orifice size 1.0mm

DK-M8-12 ⇒ 20 pcs, orifice size 1.2mm

Orifice gauge: Order no. DK-05-30

Removal CE016 to CE063

The extracting tools consist of tee bar, slide hammer, support handle, and expanding collet (fig. 1).

At first the spacer ring is removed. Next, spring and poppet are withdrawn. Finally, the expanding collet is inserted into the sleeve and braced by means of the tee bar. Using the slide hammer, collet and sleeve are extracted from the cavity.

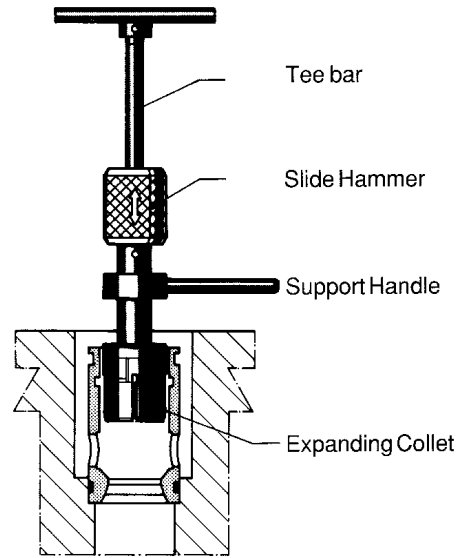


Figure 1

Ordering Code

Valve size	Order no.:
CE016	090 4600 09779
CE025	090 4600 09780
CE032	090 4600 09781
CE040	090 4600 09782
CE050	090 4600 09783
CE063	090 4600 09784
CE016 to CE063	090 4600 09785

Removal CE080 to CE100

The extracting tools consist of spacer ring puller (fig. 4), puller (fig. 3), and puller thrust plate. At first the spacer ring is removed. Next the puller is inserted into the sleeve and aligned by the puller thrust plate. Tightening the nut then extracts the sleeve from the cavity.

Ordering Code

Valve size	Order no.:
CE080	090 4600 10628
CE100	090 4600 10629

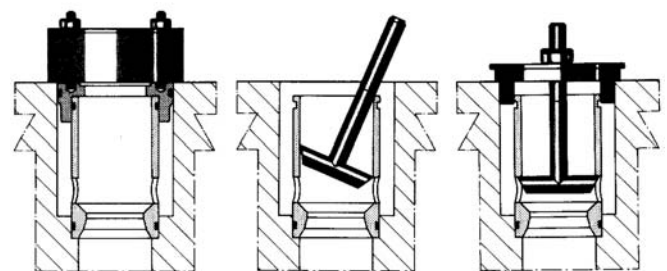


Figure 2

Figure 3

Figure 4

Characteristics

The pressure relief valve series R consists of a manual adjustment pilot stage and a cartridge main stage.

The pressure relief valve series RS consists of a manual adjusted pilot stage with a directional valve for an electrically controlled vent function and a cartridge main part.

The R/RS*E model codes embrace the pilot valves, covers and cartridges that are also offered as separate items. See combination examples for details.

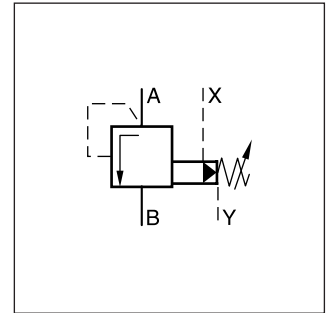
Features

- Pilot operated with manual adjustment
- Cavity and mounting pattern according to ISO 7368
- 4 pressure stages
- 2 switching types (series RS*E)
- 2 adjustment modes
 - Hexagon screw with lock nut
 - Key lock
- Remote control via port X
- 6 sizes, NG16 to NG63

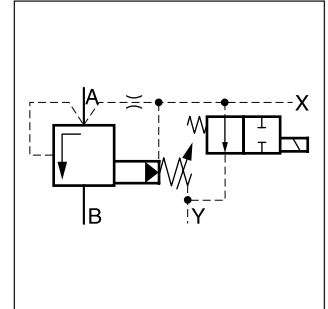
Pilot Operated Pressure Relief Valves Series R / RS*E



RS*E

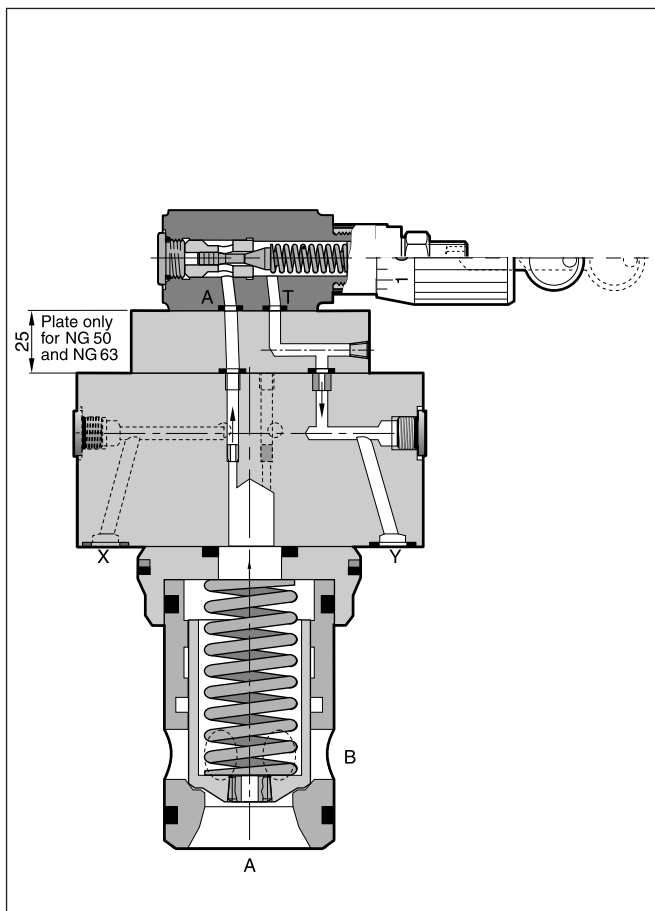


R*E

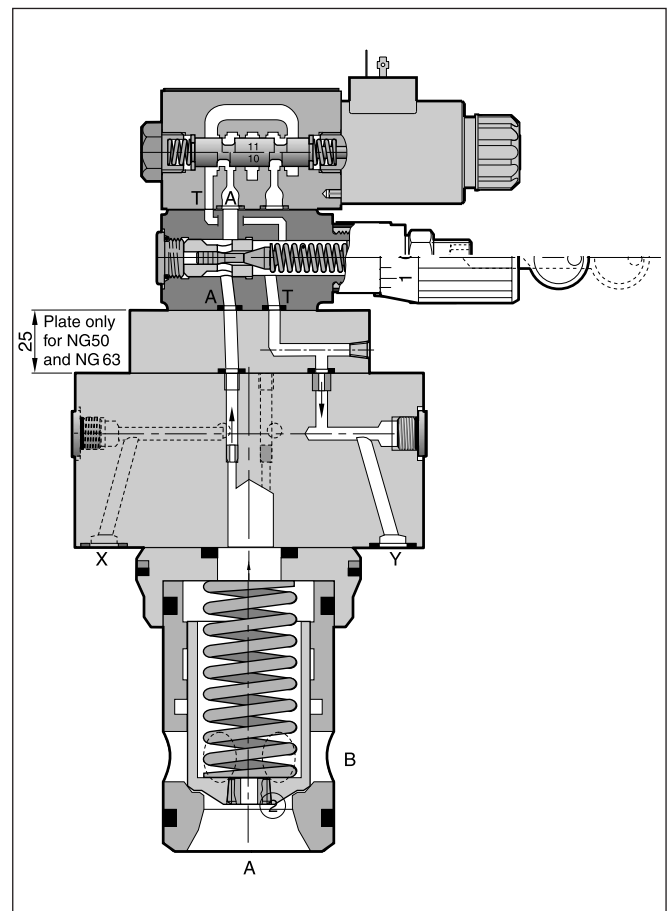


RS*E

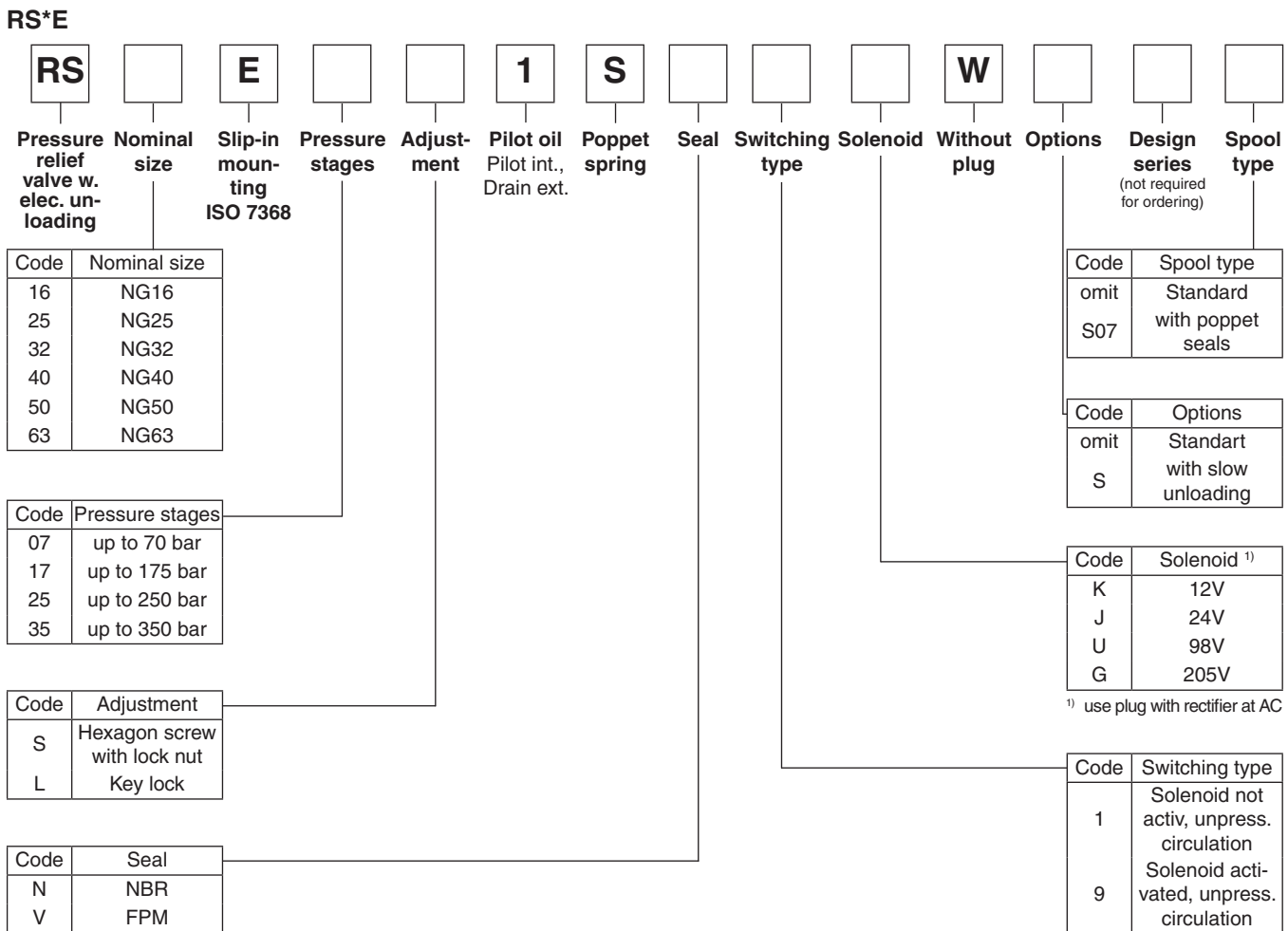
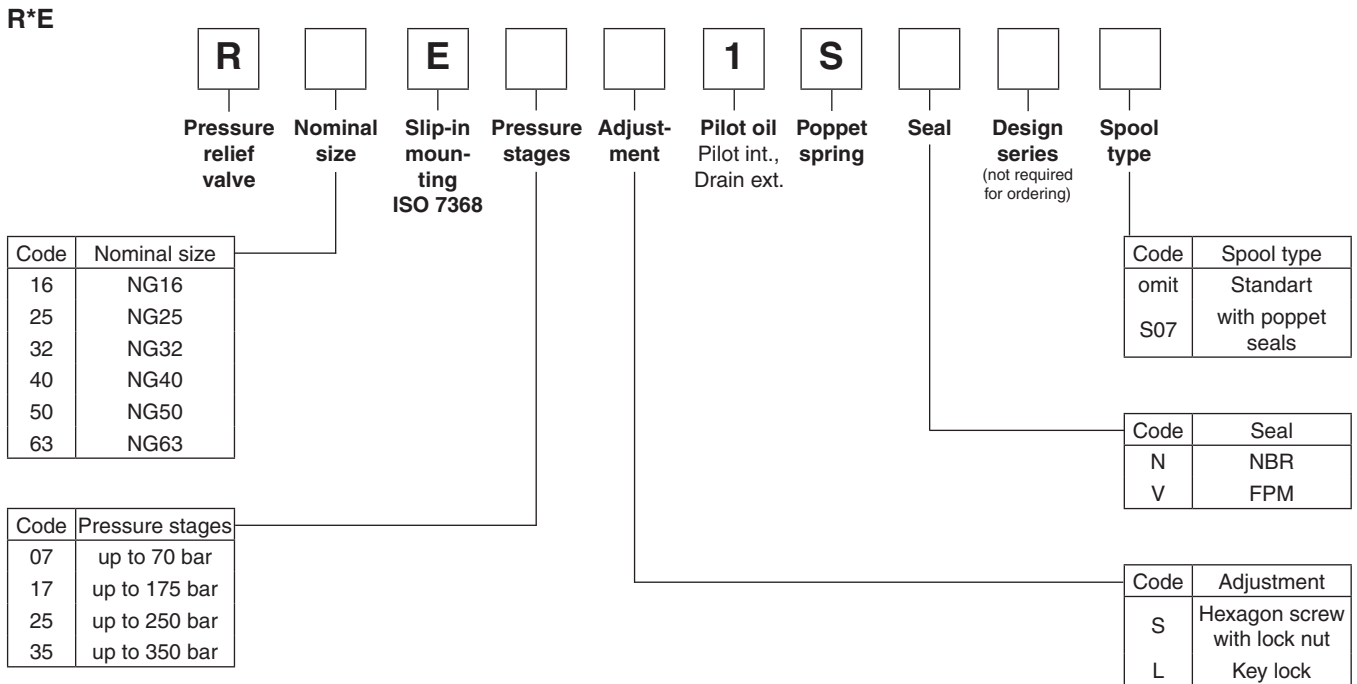
R*E



RS*E



Ordering Code



8

Technical Data

R*E

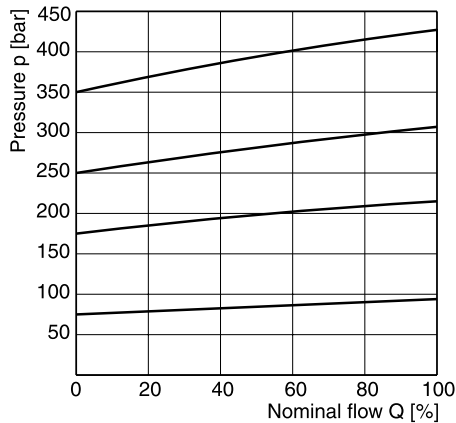
General							
		16	25	32	40	50	63
Nominal size							
Interface		Slip-in mounting acc. ISO 7368					
Mounting position		as desired, horizontal mounting preferred					
Ambient temperature	[°C]	-20...+80					
Weight	[kg]	2.2	3.5	4.9	8.0	13.7	22.8
Hydraulic							
Max. operating pressure	[bar]	Ports A and X up to 350, Ports B and Y depressurized					
Pressure stages	[bar]	75, 175, 250, 350					
Nominal flow	[l/min]	220	500	950	1400	2300	4000
Fluid		Hydraulic oil according to DIN 51524 ... 525					
Viscosity, recommended	[cSt] / [mm²/s]	30 ... 50					
permitted	[cSt] / [mm²/s]	20 ... 380					
Fluid temperature	[°C]	-20 ... +70					
Filtration		ISO 4406 - (1999) ; 18/16/13					

RS*E

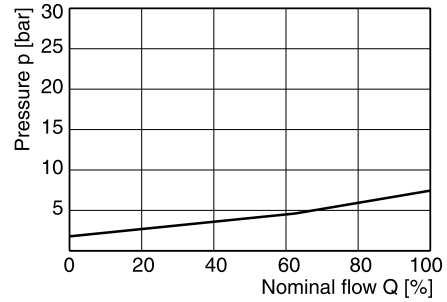
General							
		16	25	32	40	50	63
Nominal size							
Interface		Slip-in mounting acc. ISO 7368					
Mounting position		as desired, horizontal mounting preferred					
Ambient temperature	[°C]	-20...+80					
Weight	[kg]	2.7	5.2	6.4	9.5	15.2	24.3
Hydraulic							
Max. operating pressure	[bar]	Ports A and X 350, ports B and Y depressurized					
Pressure stages	[bar]	75, 175, 250, 350					
Nominal flow	[l/min]	220	500	950	1400	2300	4000
Fluid		Hydraulic oil according to DIN 51524 ... 525					
Viscosity, recommended	[cSt] / [mm²/s]	30 ... 50					
permitted	[cSt] / [mm²/s]	20 ... 380					
Fluid temperature	[°C]	-20 ... +70					
Filtration		ISO 4406 - (1999) ; 18/16/13					
Electrical (solenoid)							
Duty ratio	[%]	100 ED; CAUTION: coil temperature up to 180 °C possible					
Max. switching frequency	[1/h]	16000					
Protection class		IP 65 in according with EN 60529 (plugged and mounted)					
Direct current	Code	K	J	U	G		
Supply voltage	[V]	12	24	98	205		
Power	[W]	31	31	31	31		
Current	[A]	2.5	1.25	0.31	0.15		
Solenoid connection		Connector as per EN 175301-803					
Wiring min.	[mm²]	3 x 1.5 recommended					
Wiring length max.	[m]	50 recommended					



p/Q performance curve ¹⁾

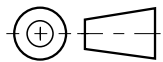
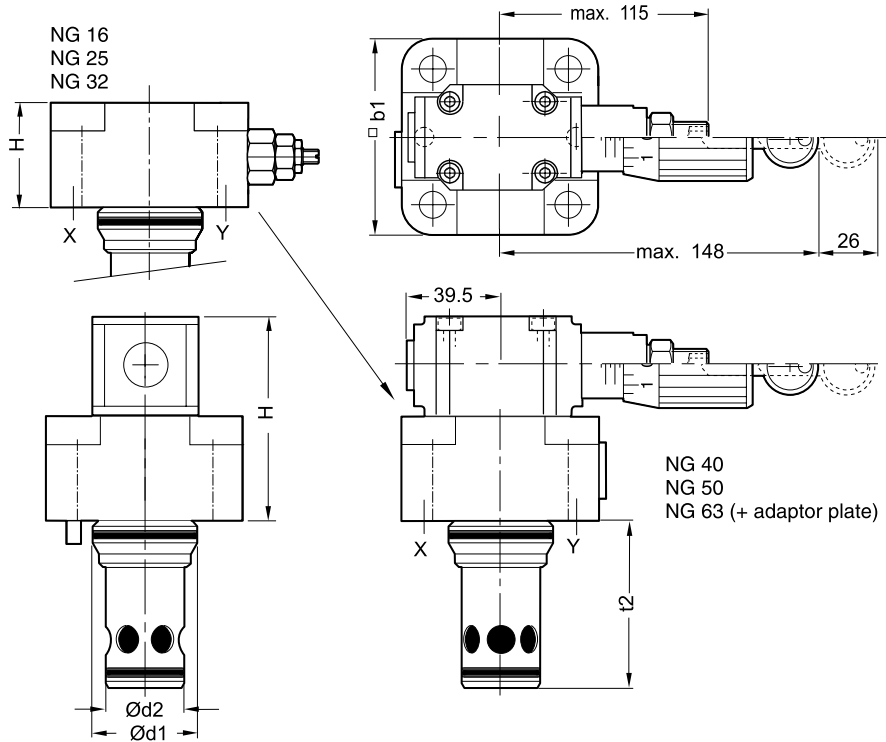


Minimum pressure curve



¹⁾ The performance curves are measured with external drain. For internal drain the tank pressure has to be added to curve.

Dimensions R*E



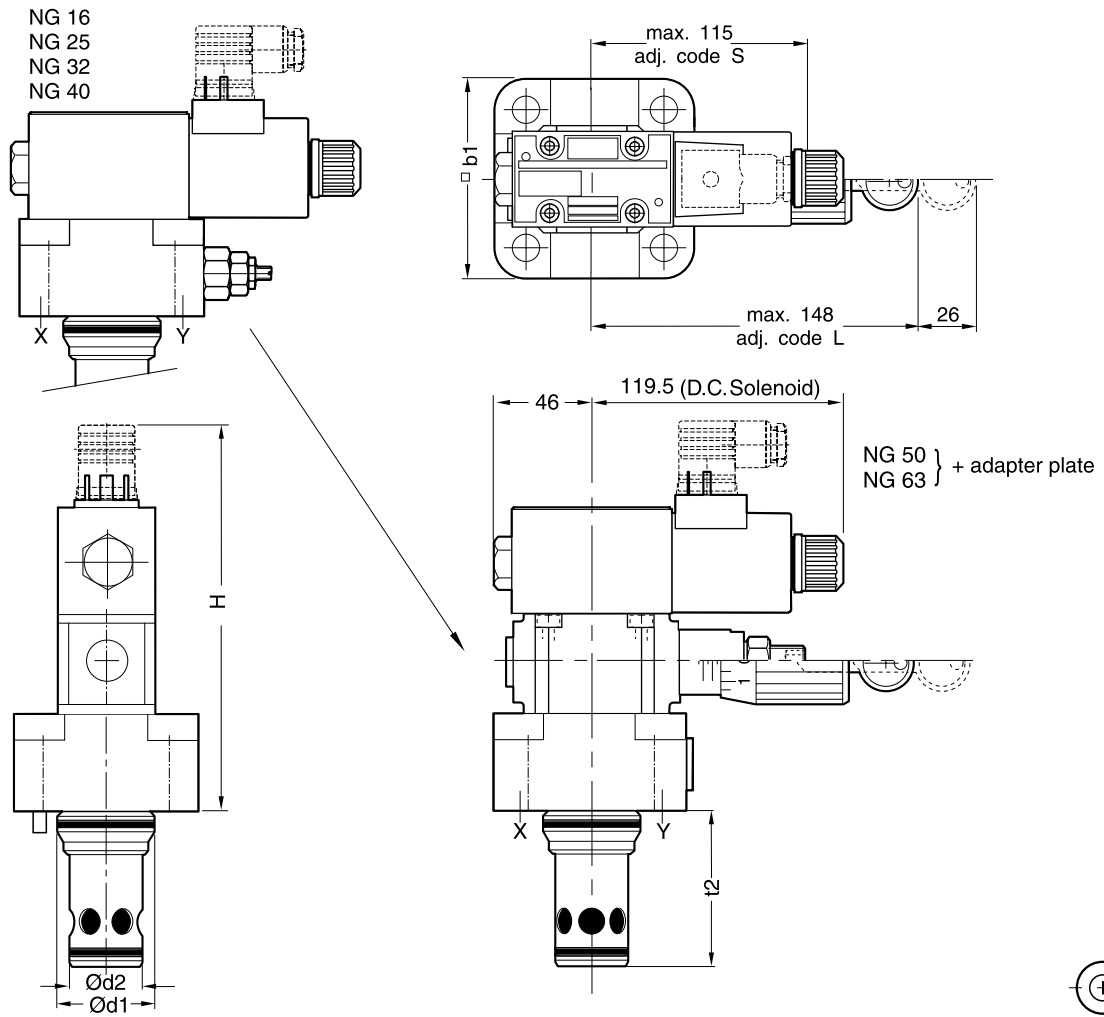
Size	H	b ₁	d ₁	d ₂	t ₂
NG16	40	79 ¹⁾	32	25	58
NG25	45	85	45	34	72
NG32	50	102	60	45	85
NG40	103	125	75	55	105
NG50	138	140	90	68	122
NG63	153	180	120	90	155

¹⁾ width 65mm

NG	Bolt kit - DIN912 12.9	[Nm]	O Kit	
			NBR	FPM
16	BK-M8x50-4pcs	33	SK-R16E	SK-R16EV
25	BK-M12x50-4pcs	115	SK-R25E	SK-R25EV
32	BK-M16x55-4pcs	281	SK-R32E	SK-R32EV
40	BK-M20x70-4pcs	553	SK-R40E	SK-R40EV
50	BK-M20x75-4pcs	553	SK-R50E	SK-R50EV
63	BK-M30x100-4pcs	1910	SK-R63E	SK-R63EV

R-RS_E_UK.INDD RH_23.01.08

RS*E



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Size	H	b ₁	d ₁	d ₂	t ₂
NG16	135	79 ¹⁾	32	25	56
NG25	140	85	45	34	72
NG32	145	102	60	45	85
NG40	196	125	75	55	105
NG50	231	140	90	68	122
NG63	246	180	120	90	155

¹⁾ width 65mm

NG	Bolt kit - DIN912 12.9	[Nm]	Kit	
			NBR	FPM
16	BK-M8x50-4pcs	33	SK-RS16E	SK-RS16EV
25	BK-M12x50-4pcs	115	SK-RS25E	SK-RS25EV
32	BK-M16x55-4pcs	281	SK-RS32E	SK-RS32EV
40	BK-M20x70-4pcs	553	SK-RS40E	SK-RS40EV
50	BK-M20x75-4pcs	553	SK-RS50E	SK-RS50EV
63	BK-M30x100-4pcs	1910	SK-RS63E	SK-RS63EV

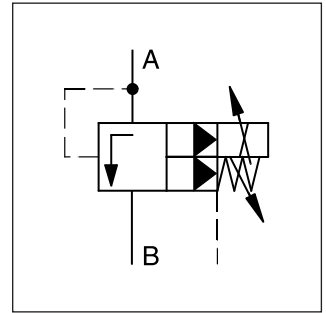
Characteristics

**Proportional Pressure Relief Valve
Series RE*E*W**

The proportional pressure relief valve series RE*E*W consists of a proportional pilot stage and a slip-in cartridge main stage. A mechanical maximum pressure stage is optionally available. For sizes NG25 and NG32 a screw-in cartridge is used, for sizes NG40, NG50 and NG63 an additional sandwich unit.

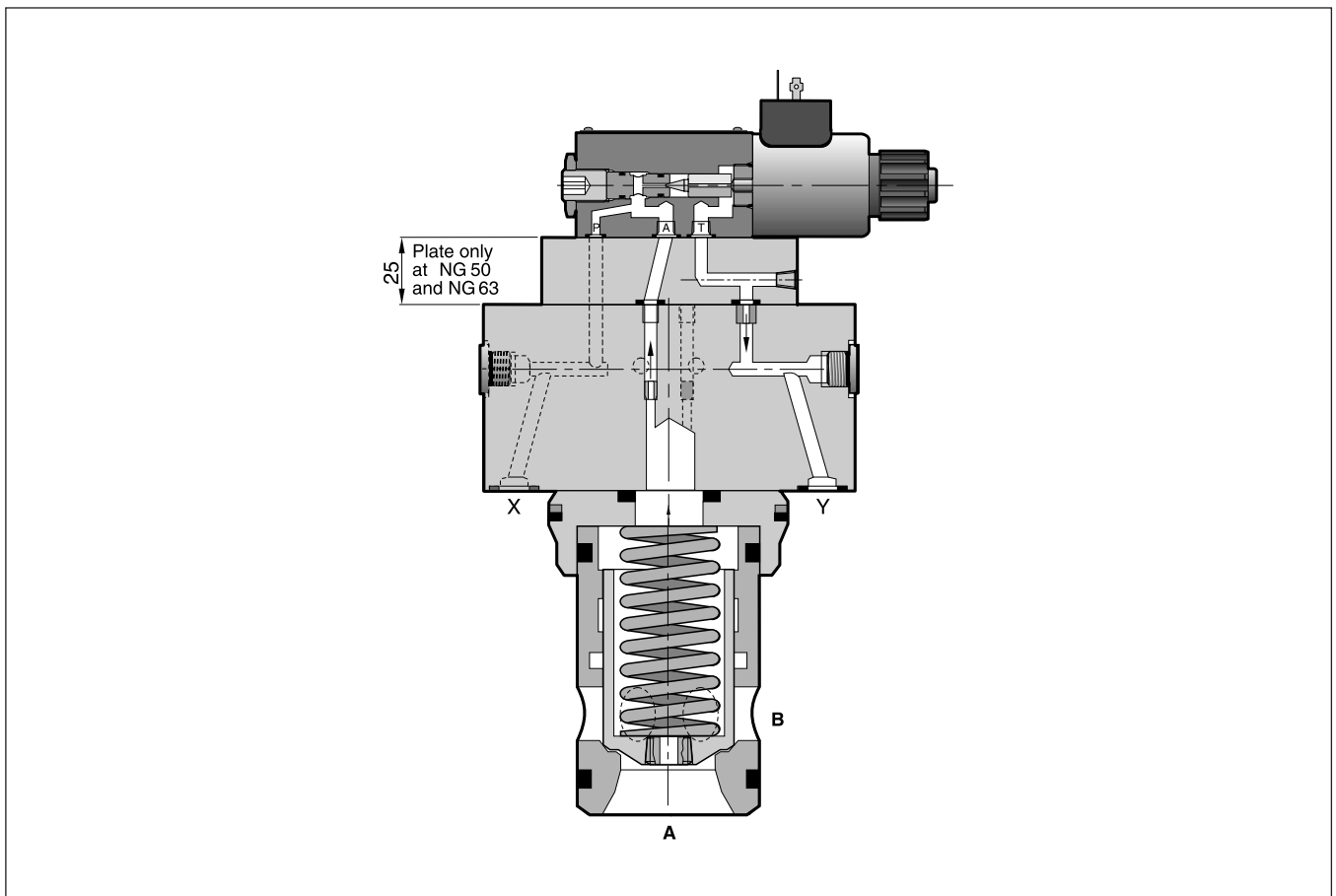
The RE*W model code embraces the pilot valves, covers and cartridges that are also offered as separate items. See combination examples for details.

In combination with the digital power amplifier PC-D00A-400 the valve parameters can be saved, changed and duplicated.



Features

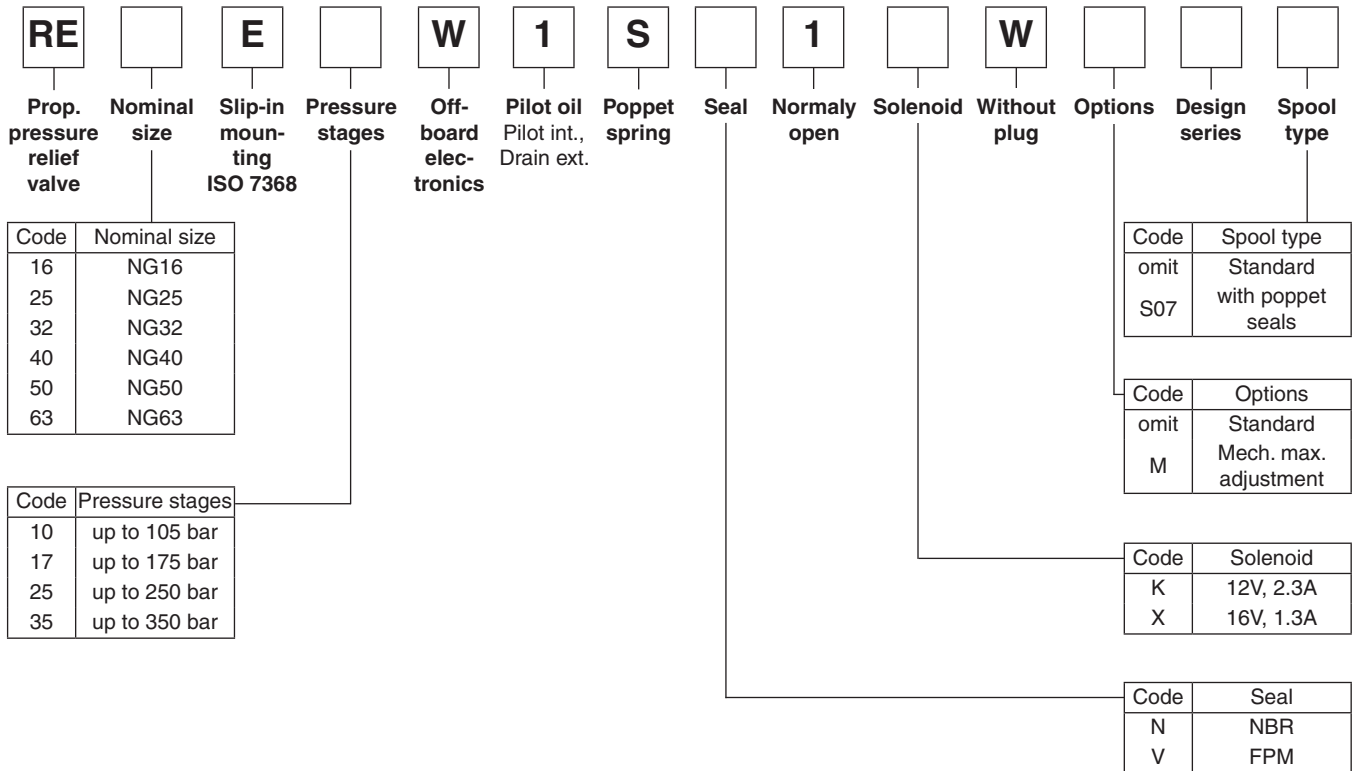
- Pilot operated with proportional solenoid
- Continuous adjustment by proportional solenoid
- Optional mechanical max. pressure stage
- Cavity and mounting pattern according to ISO 7368
- 4 pressure stages
- 6 sizes, NG16 to NG63



8

Ordering Code / Technical Data

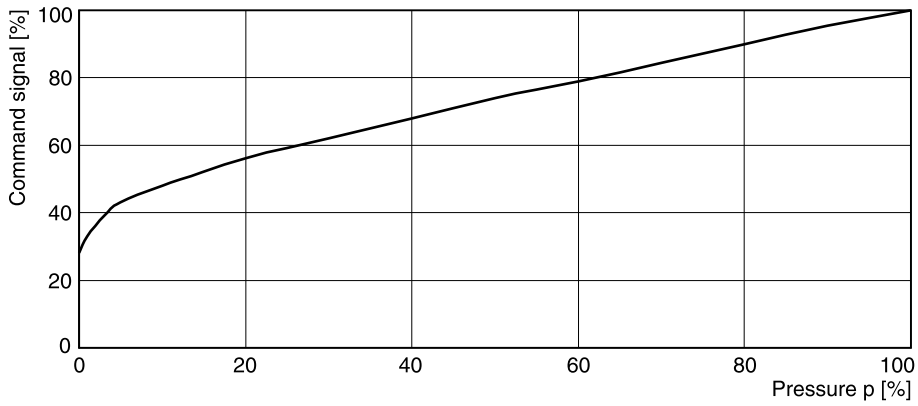
Ordering code



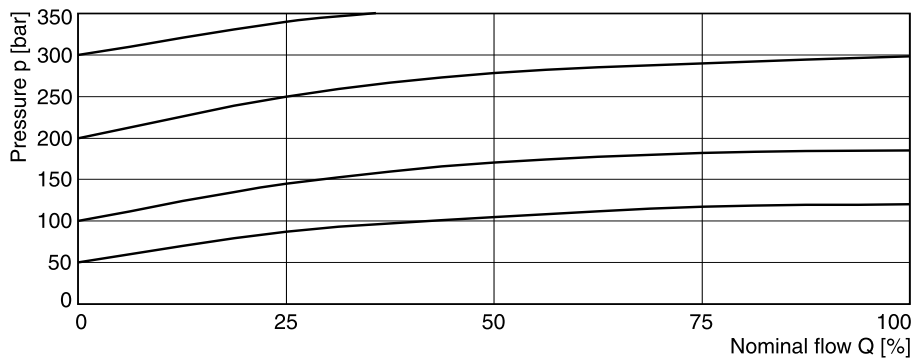
Technical data

General		16	25	32	40	50	63
Nominal size							
Interface		Slip-in mounting acc. ISO 7368					
Mounting position		as desired, horizontal mounting preferred					
Ambient temperature	[°C]	-20...+80					
Weight	[kg]	2.7	5.2	6.4	9.5	15.2	24.3
Hydraulic							
Max. operating pressure	[bar]	Ports A and X 350, ports B and Y depressurized					
Pressure stages	[bar]	105, 175, 250, 350					
Nominal flow	[l/min]	220	500	950	1400	2300	4000
Fluid		Hydraulic oil according to DIN 51524 ... 525					
Viscosity, recommended	[cSt] / [mm²/s]	30 ... 50					
permitted	[cSt] / [mm²/s]	20 ... 380					
Fluid temperature	[°C]	-20 ... +70					
Filtration		ISO 4406 - (1999) ; 18/16/13					
Electrical (prop. solenoid)							
Duty ratio	[%]	100 ED					
Protection class		IP65 in accordance with EN 60529 (plugged and mounted)					
Nominal voltage	[V]	12 (max. current 2.3A), 16 (max. current 1.3A)					
Coil resistance	[Ohm]	4 at 20°C					
Solenoid connectors		Connector as per EN 175301-803					
Power amplifier, recommended		PCD00A-400					

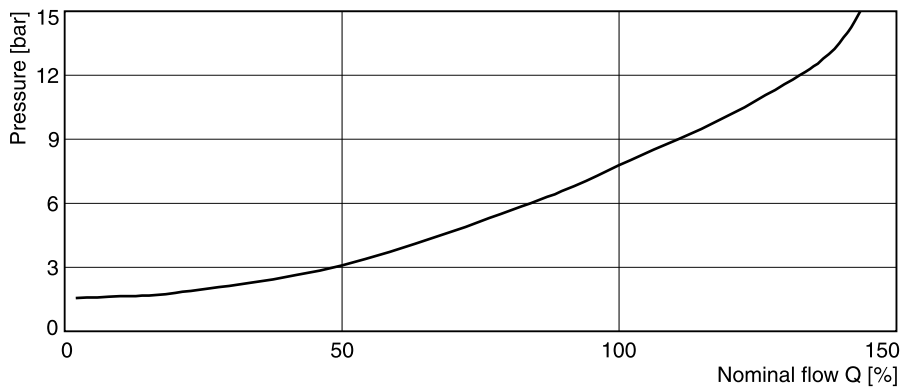
Signal/pressure curve



p/Q performance curve

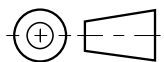
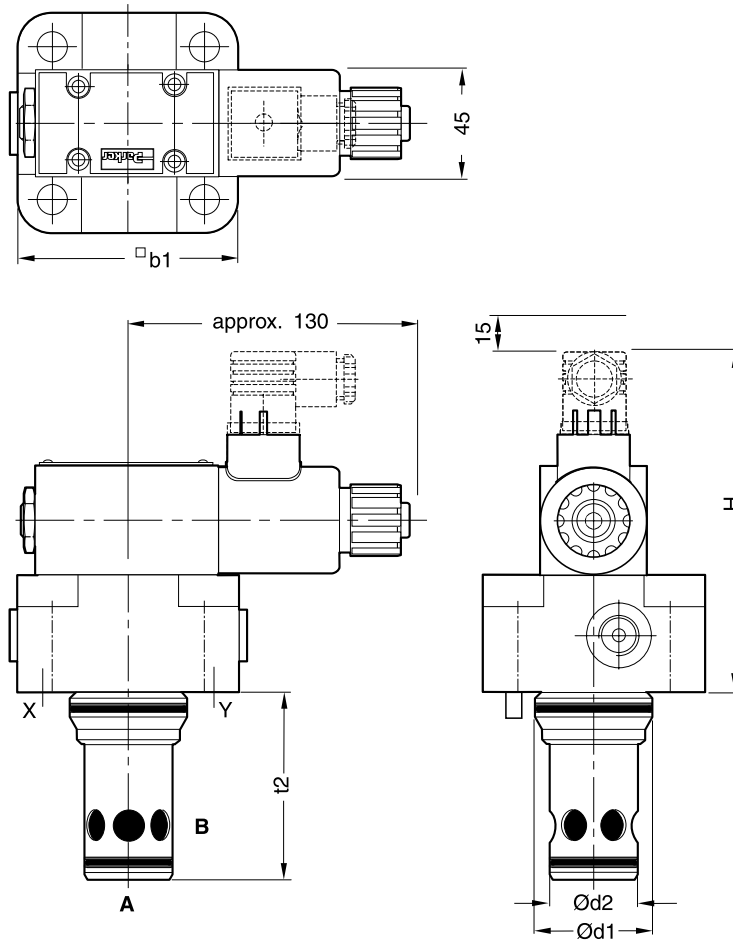


Minimum pressure curve



The performance curves are measured with external drain. For internal drain the tank pressure has to be added to curve.

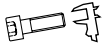

Dimensions



NG	H	b ₁	d ₁	d ₂	t ₂
16	135	79 ¹⁾	32	25	56
25	140	85	45	34	72
32	145	102	60	45	85
40	137 (179) ²⁾	125	75	55	105
50	172 (214) ²⁾	140	90	68	122
63	187 (229) ²⁾	180	120	90	155

¹⁾ width 65mm

²⁾ with mech. max. adjustment

NG	Bolt kit -  DIN912 12.9	 [Nm]	O Kit	
			NBR	FPM
16	BK-M8x50-4pcs	33	SK-RE16E	SK-RE16EV
25	BK-M12x50-4pcs	115	SK-RE25E	SK-RE25EV
32	BK-M16x55-4pcs	281	SK-RE32E	SK-RE32EV
40	BK-M20x70-4pcs	553	SK-RE40E	SK-RE40EV
50	BK-M20x75-4pcs	553	SK-RE50E	SK-RE50EV
63	BK-M30x100-4pcs	1910	SK-RE63E	SK-RE63EV

RE_E_W_UK.INDD RH_23.01.08

Characteristics

Proportional Pressure Relief Valve, OBE Series RE*E*T

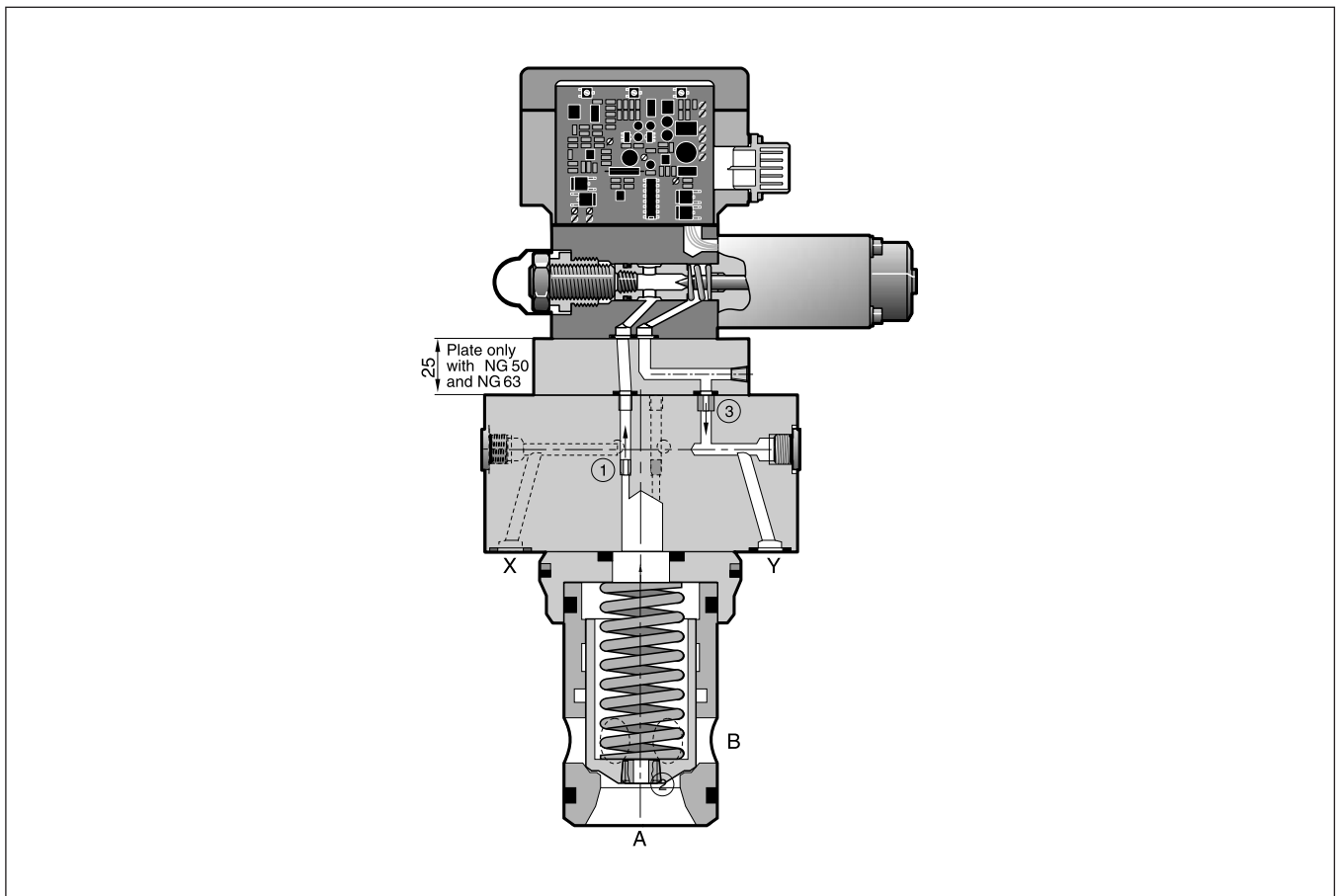
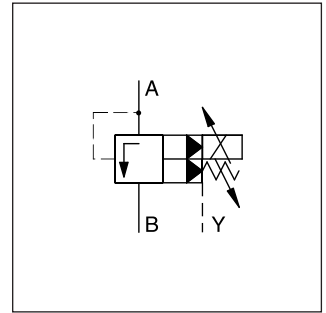
The proportional pressure relief valve series RE*E*T consists of a proportional pilot stage with onboard electronics and a slip-in cartridge main stage. A mechanical maximum pressure stage is optionally available. For sizes NG25 and NG32 a screw-in cartridge is used, for sizes NG40, NG50 and NG63 an additional sandwich unit.

The valve comes factory set with linearized characteristics.

The RE*T model code embraces the pilot valves, covers and cartridges that are also offered as separate items. The pilot valve with onboard electronics (RE06M*T) is not shown in the combination examples.

Features

- Pilot operated pressure relief valve
- Onboard electronics
- Optional mechanical max. pressure stage
- Factory setting
- Ramp time adjustment
- Linearized characteristics
- 4 pressure stages
- Cavity and mounting pattern according to ISO 7368
- 6 sizes, NG16 to NG63



Ordering Code / Technical Data

Ordering code

RE		E		T	1	S		1		0			
Prop. pressure relief valve w. elec. unloading	Nominal size	Slip-in mounting ISO 7368	Pressure stages	On-board electronics	Pilot oil Pilot int., Drain ext.	Poppet spring	Seal	Normally open	Command signal	Electr. attachments	Options	Design series	Spool type

Code	Nominal size
16	NG16
25	NG25
32	NG32
40	NG40
50	NG50
63	NG63

Code	Pressure stages
10	up to 105 bar
17	up to 175 bar
25	up to 250 bar
35	up to 350 bar

Code	Seal
N	NBR
V	FPM

Code	Spool type
omit	Standard with poppet seals
S07 ¹⁾	

¹⁾ not for NG16

Code	Options
omit	Standart
M	Mech. max. adjustment

Code	Com. signal
F	Voltage input 0...+10V with ref. output +10V
R	Current input 4...20mA

Technical data

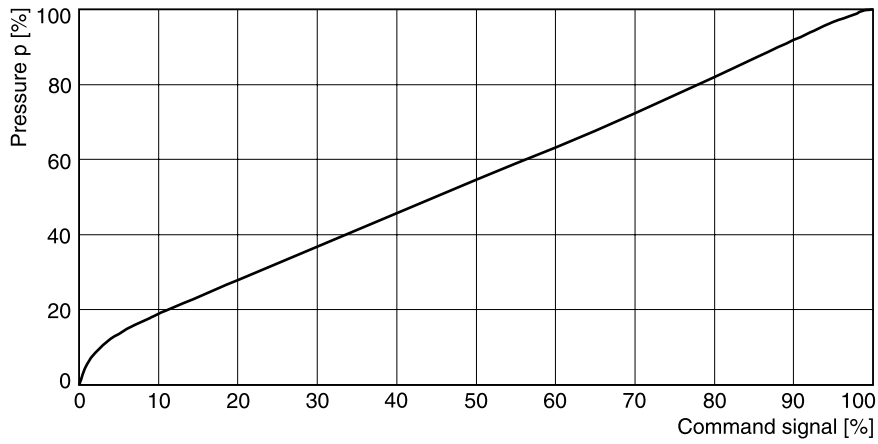
General							
Nominal size		16	25	32	40	50	63
Interface		Slip-in mounting acc. ISO 7368					
Mounting position		as desired, horizontal mounting preferred					
Ambient temperature	[°C]	-20...+80					
Weight	[kg]	2.7	5.2	6.4	9.5	15.2	24.3
Hydraulic							
Max. operating pressure	[bar]	Ports A and X 350, ports B and Y depressurized					
Pressure stages	[bar]	105, 175, 250, 350					
Nominal flow	[l/min]	220	500	950	1400	2300	4000
Fluid		Hydraulic oil according to DIN 51524 ... 525					
Viscosity, recommended	[cSt] / [mm ² /s]	30 ... 50					
permitted	[cSt] / [mm ² /s]	20 ... 380					
Fluid temperature	[°C]	-20 ... +70					
Filtration		ISO 4406 - (1999) ; 18/16/13					
Electrical (prop. solenoid)							
Duty ratio	[%]	100 ED					
Protection class		IP65 in accordance with EN 60529 (plugged and mounted)					
Supply voltage	[V]	14.5...30					
Ripple in supply voltage	[%]	max. 5					
Current consumption	[A]	max. 2.8					
Input range							
	voltage input	[V] 0...+10 max. / 10kOhm					
	current input	[mA] 0...+20 / 500Ohm					
Adjustment range of ramp time	[s]	0...5					
Installation cross-section	[mm ²]	Min. 1, shielded					
cable length	[m]	Max. 50					
Electrical connection		No. 5004072; 6pole + PE / connector EN 175201-804 / cable ~ 8...10mm					

RE_E_T_UK.INDD RH_23.01.08

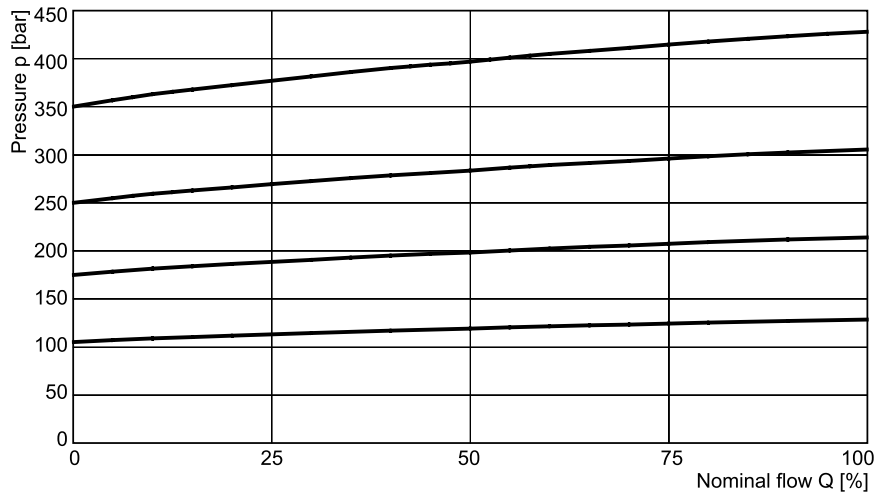
8



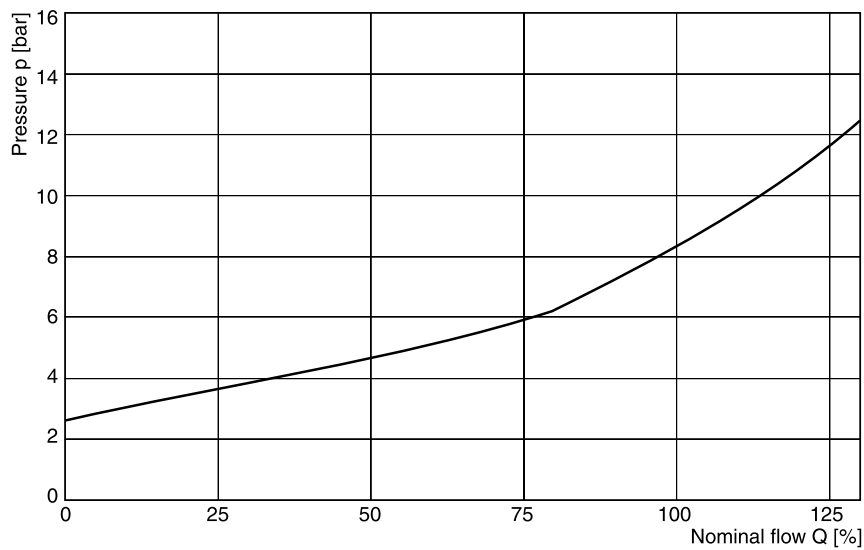
Command pressure curve RE*E*T



p/Q performance curve RE*E*T

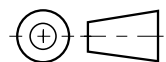
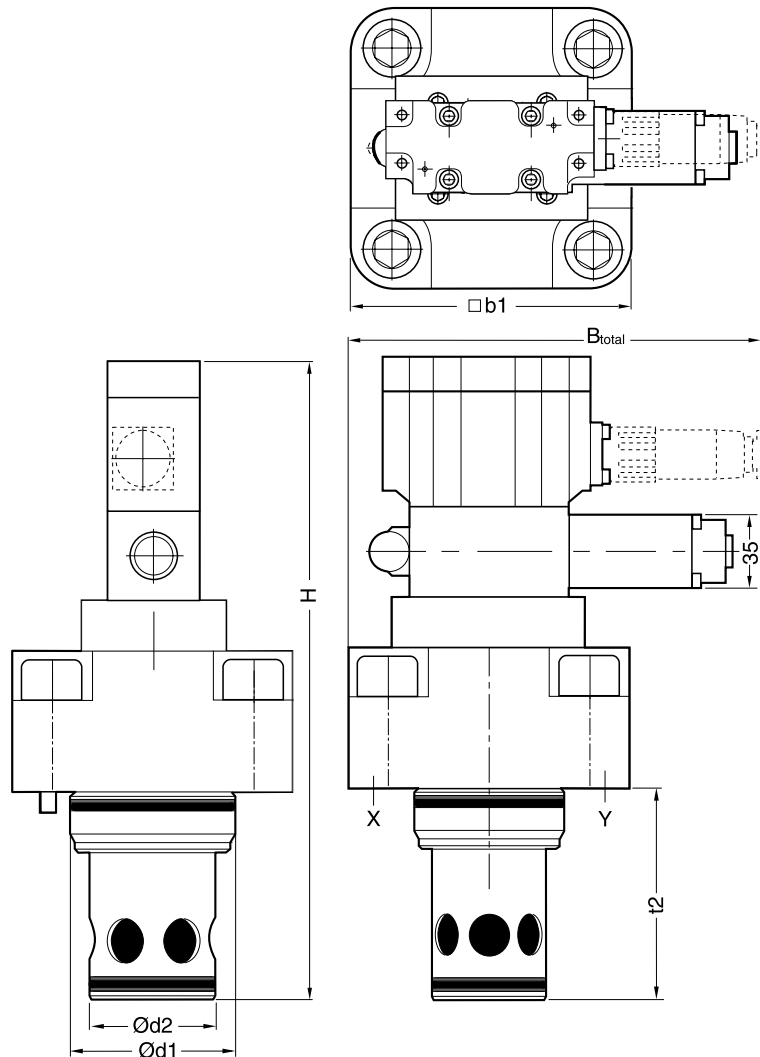


Minimum pressure curve RE*E*T



The performance curves are measured with external drain. For internal drain the tank pressure has to be added to curve.

Dimensions

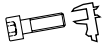



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NG	H	b ₁	d ₁	d ₂	t ₂
16	177	79 ¹⁾	32	25	56
25	122	85	45	34	72
32	127	102	60	45	85
40	137 (179) ²⁾	125	75	55	105
50	172 (214) ²⁾	140	90	68	122
63	187 (229) ²⁾	180	120	90	155

¹⁾ width 65mm

²⁾ with mech. max. adjustment

NG	Bolt kit -  DIN912 12.9	 [Nm]	Kit	
			NBR	FPM
16	BK-M8x50-4pcs	33	SK-RE16E	SK-RE16EV
25	BK-M12x50-4pcs	115	SK-RE25E	SK-RE25EV
32	BK-M16x55-4pcs	281	SK-RE32E	SK-RE32EV
40	BK-M20x70-4pcs	553	SK-RE40E	SK-RE40EV
50	BK-M20x75-4pcs	553	SK-RE50E	SK-RE50EV
63	BK-M30x100-4pcs	1910	SK-RE63E	SK-RE63EV

RE_E_T_UK.INDD RH_23.01.08

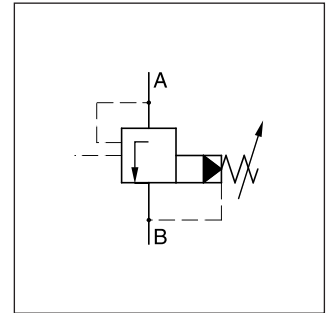
The unloading valve series UR*E consists of a mechanical pilot stage and a slip-in cartridge main stage. These valves are used to unload a circuit at low pressure. The mechanically adjustable pressure signal to unload the main stage has to be applied to port X. The pressure differential between opening and closing is 13%. In addition the series US*E is vented by electrical operation. The UR*E/US*E model codes embrace the pilot valves, covers and cartridges that are also offered as separate items. See combination examples for details.

Features

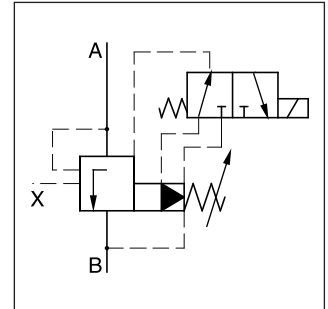
- Pilot operated unloading valve
- Cavity and mounting pattern according to ISO 7368
- 4 pressure stages
- 2 switching types (series US*E)
- 2 adjustment modes
 - hexagon screw with lock nut
 - Key lock
- 6 sizes NG16 to NG63



US*E

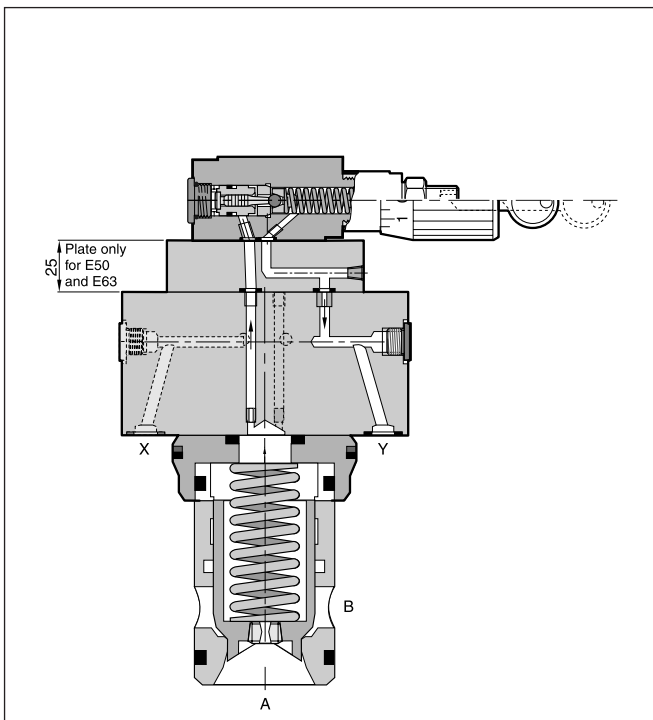


UR*E

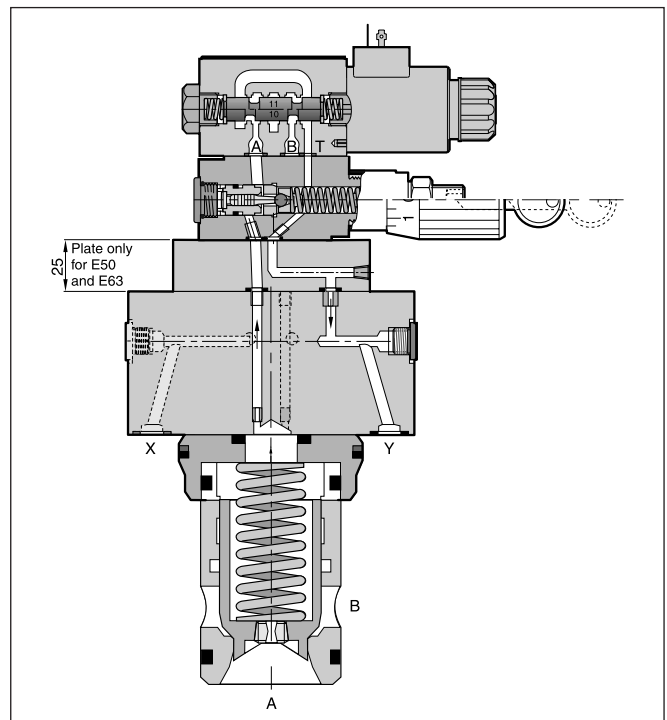


US*E

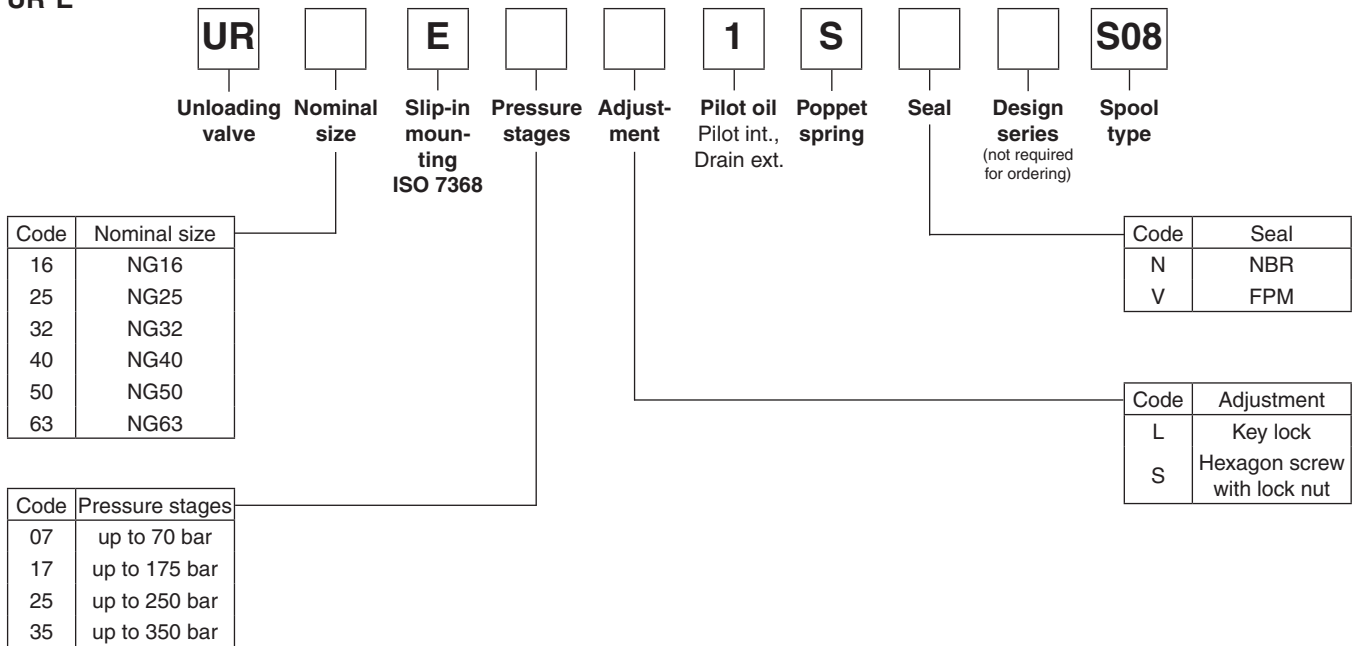
UR*E



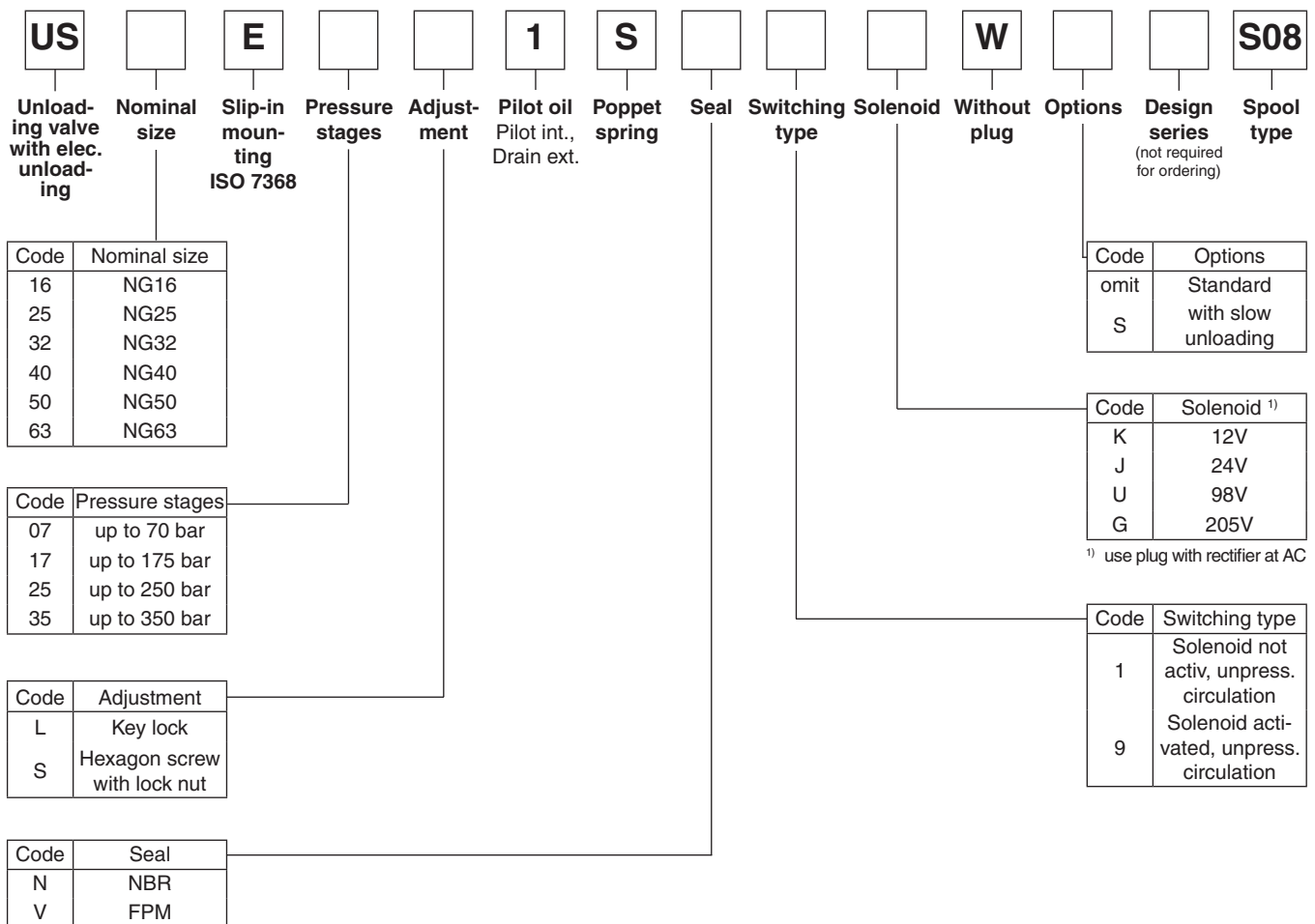
US*E



UR*E



US*E



8

UR*E

General							
Nominal size		16	25	32	40	50	63
Interface		Slip-in mounting acc. ISO 7368					
Mounting position		as desired, horizontal mounting preferred					
Ambient temperature	[°C]	-20...+80					
Weight	[kg]	2.2	3.5	4.9	8.0	13.7	22.8
Hydraulic							
Max. operating pressure	[bar]	Ports A and X up to 350, Port B and Y depressurized					
Pressure stages	[bar]	75, 175, 250, 350					
Pressure differential	[%]	13					
Nominal flow	[l/min]	220	500	950	1400	2300	4000
Fluid		Hydraulic oil according to DIN 51524 ... 525					
Viscosity, recommended	[cSt] / [mm²/s]	30 ... 50					
permitted	[cSt] / [mm²/s]	20 ... 380					
Fluid temperature	[°C]	-20 ... +70					
Filtration		ISO 4406 - (1999) ; 18/16/13					

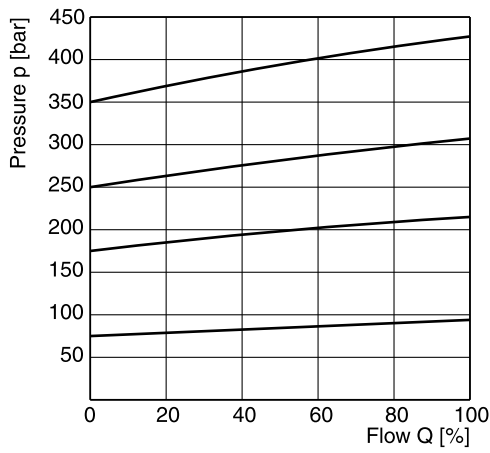
US*E

General							
Nominal size		16	25	32	40	50	63
Interface		Slip-in mounting acc. ISO 7368					
Mounting position		as desired, horizontal mounting preferred					
Ambient temperature	[°C]	-20...+80					
Weight	[kg]	2.7	5.2	6.4	9.5	15.2	24.3
Hydraulic							
Max. operating pressure	[bar]	Ports A and X 350, port B and Y depressurized					
Pressure stages	[bar]	75, 175, 250, 350					
Pressure differential	[%]	13					
Nominal flow	[l/min]	220	500	950	1400	2300	4000
Fluid		Hydraulic oil according to DIN 51524 ... 525					
Viscosity, recommended	[cSt] / [mm²/s]	30 ... 50					
permitted	[cSt] / [mm²/s]	20 ... 380					
Fluid temperature	[°C]	-20 ... +70					
Filtration		ISO 4406 - (1999) ; 18/16/13					
Electrical (solenoid)							
Duty ratio	[%]	100 ED; CAUTION: coil temperature up to 180 °C possible					
Max. switching frequency	[1/h]	16000					
Protection class		IP 65 in according with EN 60529 (plugged and mounted)					
Direct current	Code	K	J	U	G		
Supply voltage	[V]	12	24	98	205		
Power	[W]	31	31	31	31		
Current	[A]	2.5	1.25	0.31	0.15		
Solenoid connection		Connector as per EN 175301-803					
Wiring min.	[mm²]	3 x 1.5 recommended					
Wiring length max.	[m]	50 recommended					

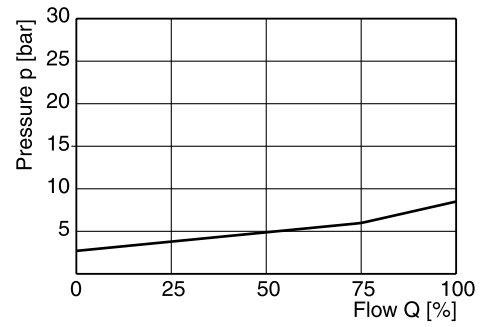


p/Q performance curve

Series UR/US*E ¹⁾

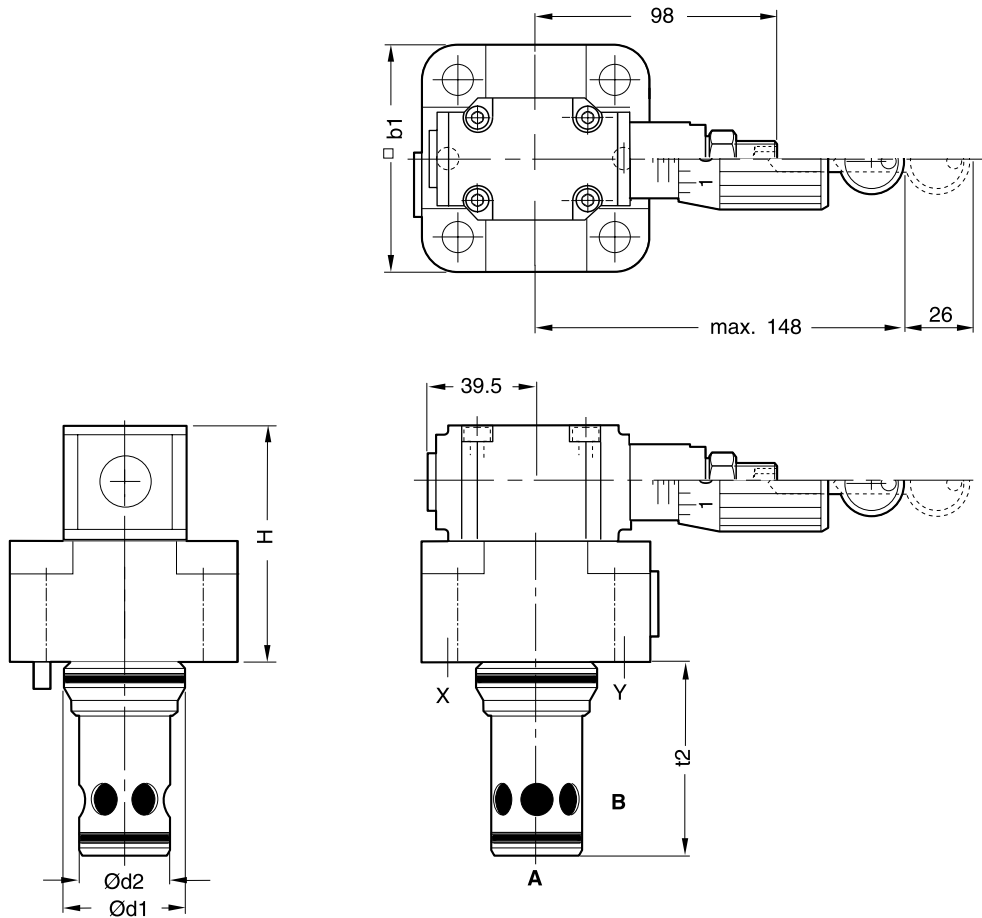


Minimum pressure curve



¹⁾ The performance curves are measured with external drain.
 For internal drain the tank pressure has to be added to curve.

UR*E





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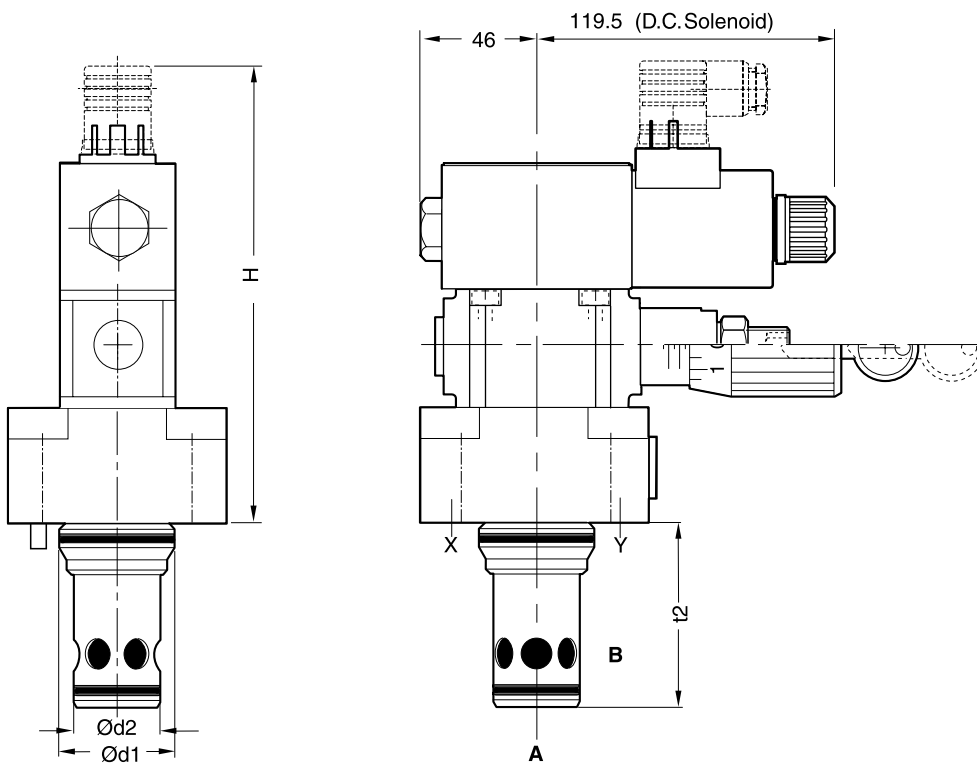
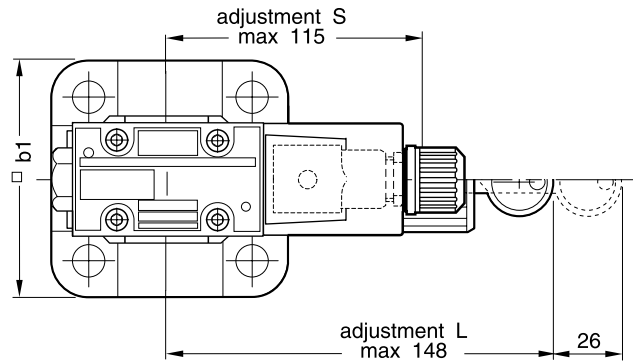


NG	H	b ₁	d ₁	d ₂	t ₂
16	40	79 ¹⁾	32	25	58
25	45	85	45	34	72
32	50	102	60	45	85
40	103	125	75	55	105
50	138	140	90	68	122
63	153	180	120	90	155

¹⁾ width 65mm

NG	Bolt kit -  DIN912 12.9	 [Nm]	Kit	
			NBR	FPM
16	BK-M8x50-4pcs	33	SK-R16E	SK-R16EV
25	BK-M12x50-4pcs	115	SK-R25E	SK-R25EV
32	BK-M16x55-4pcs	281	SK-R32E	SK-R32EV
40	BK-M20x70-4pcs	553	SK-R40E	SK-R40EV
50	BK-M20x75-4pcs	553	SK-R50E	SK-R50EV
63	BK-M30x100-4pcs	1910	SK-R63E	SK-R63EV

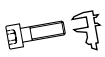


US*E



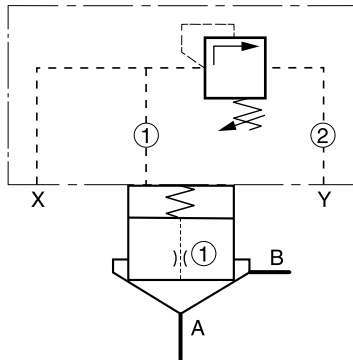
8

NG	H	b ₁	d ₁	d ₂	t ₂
16	177	79 ¹⁾	32	25	56
25	181	85	45	34	72
32	186	102	60	45	85
40	196	125	75	55	105
50	231	140	90	68	122
63	246	180	120	90	155

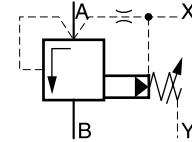
¹⁾ width 65mm

NG	Bolt kit -  DIN912 12.9	 [Nm]	Kit 	
			NBR	FPM
16	BK-M8x50-4pcs	33	SK-RS16E	SK-RS16EV
25	BK-M12x50-4pcs	115	SK-RS25E	SK-RS25EV
32	BK-M16x55-4pcs	281	SK-RS32E	SK-RS32EV
40	BK-M20x70-4pcs	553	SK-RS40E	SK-RS40EV
50	BK-M20x75-4pcs	553	SK-RS50E	SK-RS50EV
63	BK-M30x100-4pcs	1910	SK-RS63E	SK-RS63EV

Pressure relief valve with screw-in cartridge within the control cover



NG16 - NG32



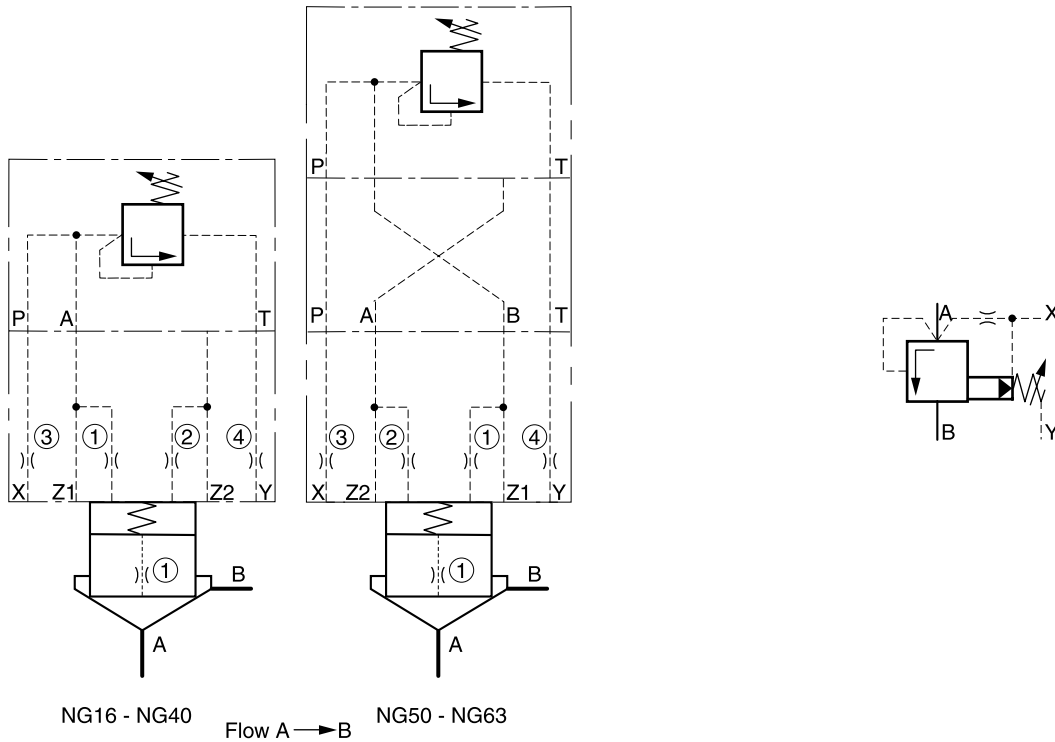
Adaptor plates see chapter 12

Description	Type		
	NG16	NG25	NG32
Cover incl. pressure valve ¹⁾	C016Dxx9999x	C025Dxx9999x	C032Dxx9999x
Cover orifice ①	M5xØ1.0	M5xØ1.1	M5xØ1.2
Cover orifice ②	M5xØ1.2	M6xØ1.3	M5xØ1.4
Cartridge ²⁾	CE016C01*	CE025C01*	CE032C01*
Poppet orifice ①	1/16NPT x Ø0.8	1/16NPT x Ø0.9	1/16NPT x Ø1.0
Spring	1.6 bar, type S (order no. see spare parts)		
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs

Shown orifice Ø and springs are recommendations.
xxØ00 = plug
xxØ99 = open

¹⁾ Complete type see ordering code C*D
²⁾ Complete type see ordering code CE*

Pressure relief valve with separate pilot



8

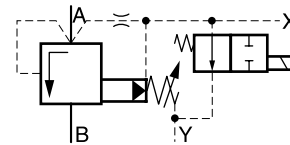
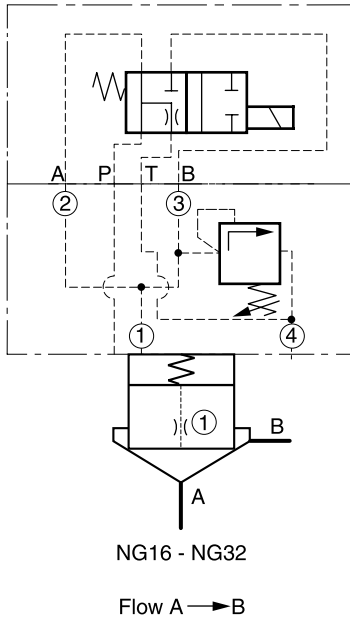
Adaptor plates see chapter 12

Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
Pressure valve ¹⁾	V-DSDA100xP07x					
Adaptor plate ²⁾	without			PADA1007/A-B/B-A		
Cover ³⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ^①	M5xØ1.1	M5xØ1.3	M5xØ1.4	M5xØ1.5	M6xØ1.6	M6xØ1.7
Cover orifice ^②	M5xØ00				M6xØ00	
Cover orifice ^③	M5xØ99	M6xØ99			M8xØ99	
Cover orifice ^④	M5xØ1.3	M6xØ1.5	M6xØ1.7	M6xØ1.8	M8xØ2.0	M8xØ2.2
Cartridge ⁴⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*
Poppet orifice ^①	1/16NPT x Ø0.9	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.4	1/16NPT x Ø1.5
Spring	1.6 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	BK-M5x45-4pcs					

Shown orifice Ø and springs are recommendations.
 xxØ00 = plug
 xxØ99 = open

¹⁾ Complete type see pilot valves
²⁾ Included O-rings and mounting bolts
³⁾ Complete type see ordering code C*C
⁴⁾ Complete type see ordering code CE*

Pressure relief valve with electrical vent function, normally open and screw-in cartridge within control cover



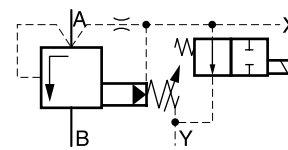
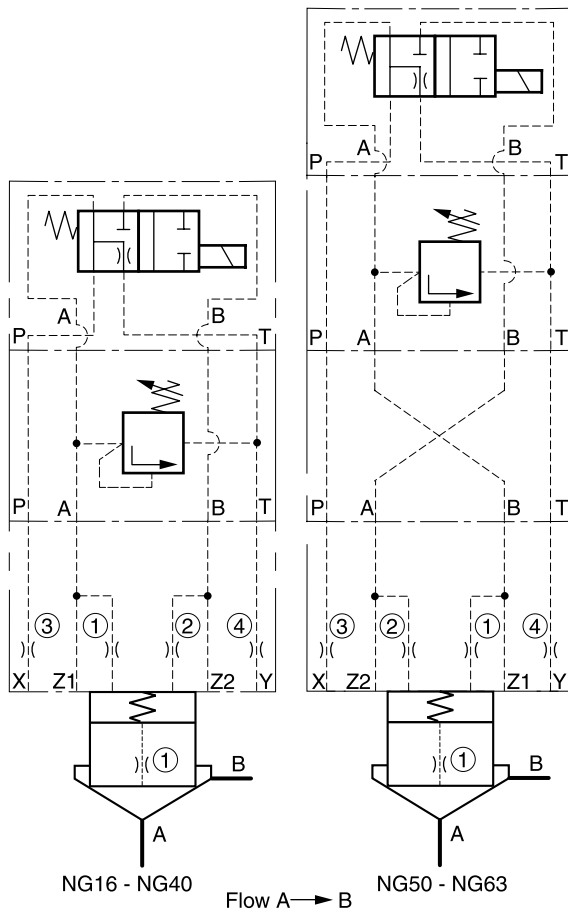
Adaptor plates see chapter 12

Description	Type		
	NG16	NG25	NG32
4/2 DC valve ¹⁾	D1VW104K*		
Cover incl. pressure valve ²⁾	C016Exx99999999x	C025Exx99999999x	C032Exx99999999x
Cover orifice ①	M5xØ1.0	M5xØ1.1	M5xØ1.2
Cover orifice ②	M5xØ99	M6xØ99	
Cover orifice ③	M5xØ00	M6xØ00	
Cover orifice ④	M5xØ1.2	M6xØ1.3	M6xØ1.4
Cartridge ³⁾	CE016C01*	CE025C01*	CE032C01*
Poppet orifice ①	1/16NPT x Ø0.8	1/16NPT x Ø0.8	1/16NPT x Ø1.0
Spring	1.6 bar, type S (order no. see spare parts)		
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs
Bolt kit 4/2 DC valve	BK-M5x30-4pcs		

Shown orifice Ø and springs are recommendations.
xxØ00 = plug
xxØ99 = open

¹⁾ Complete type see chapter "Directional Control Valves", series D1VW.
²⁾ Complete type see ordering code C*E
³⁾ Complete type see ordering code CE*

Pressure relief valve with electrical vent function, normally open and pilot in sandwich design



Adaptor plates see chapter 12

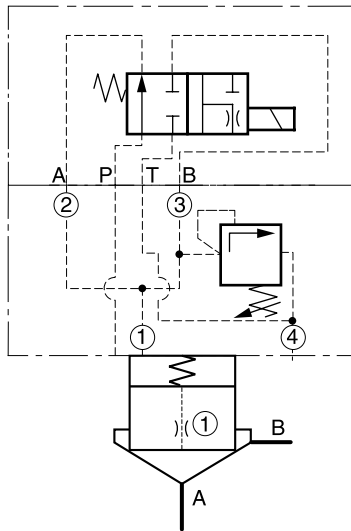
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Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
4/2 DC valve ¹⁾	D1VW104K*					
Pressure valve ²⁾	V-ZUDB1ATxZ07x					
Adaptor plate ³⁾ NG10-NG06	without			PADA1007/A-B/B-A		
Cover ⁴⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ^①	M5xØ1.1	M5xØ1.3	M5xØ1.4	M5xØ1.5	M6xØ1.6	M6xØ1.7
Cover orifice ^②	M5xØ00				M6xØ00	
Cover orifice ^③	M5xØ99	M6xØ99			M8xØ99	
Cover orifice ^④	M5xØ1.3	M6xØ1.5	M6xØ1.5	M6xØ1.8	M8xØ2.0	M8xØ2.2
Cartridge ⁵⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*
Poppet orifice ^①	1/16NPT x Ø0.9	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.4	1/16NPT x Ø1.5
Spring	1.6 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	TK1482					

Shown orifice Ø and springs are recommendations.
 xxØ00 = plug
 xxØ99 = open

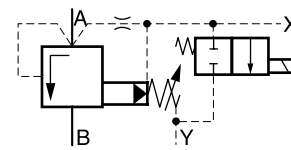
- ¹⁾ Complete type see chapter "Directional Control Valves", series D1VW.
- ²⁾ Complete types see pilot valves
- ³⁾ Included O-rings and mounting bolts
- ⁴⁾ Complete type see ordering code C*C
- ⁵⁾ Complete type see ordering code CE*

Pressure relief valve with electrical vent function, normally closed and screw-in cartridge within control cover



NG16 - NG32

Flow A → B



Adaptor plates see chapter 12

Description	Type		
	NG16	NG25	NG32
4/2 DC valve ¹⁾	D1VW105K*		
Cover incl. pressure valve ²⁾	C016Exx99999999x	C025Exx99999999x	C032Exx99999999x
Cover orifice ①	M5xØ1.0	M5xØ1.1	M5xØ1.4
Cover orifice ②	M5xØ99	M6xØ99	
Cover orifice ③	M5xØ00	M6xØ00	
Cover orifice ④	M5xØ1.2	M6xØ1.3	M6xØ1.4
Cartridge ³⁾	CE016C01*	CE025C01*	CE032C01*
Poppet orifice ①	1/16NPT x Ø0.8	1/16NPT x Ø0.8	1/16NPT x Ø1.0
Spring	1.6 bar, type S (order no. see spare parts)		
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs
Bolt kit 4/2 DC valve	BK-M5x30-4pcs		

Shown orifice Ø and springs are recommendations.

xxØ00 = plug

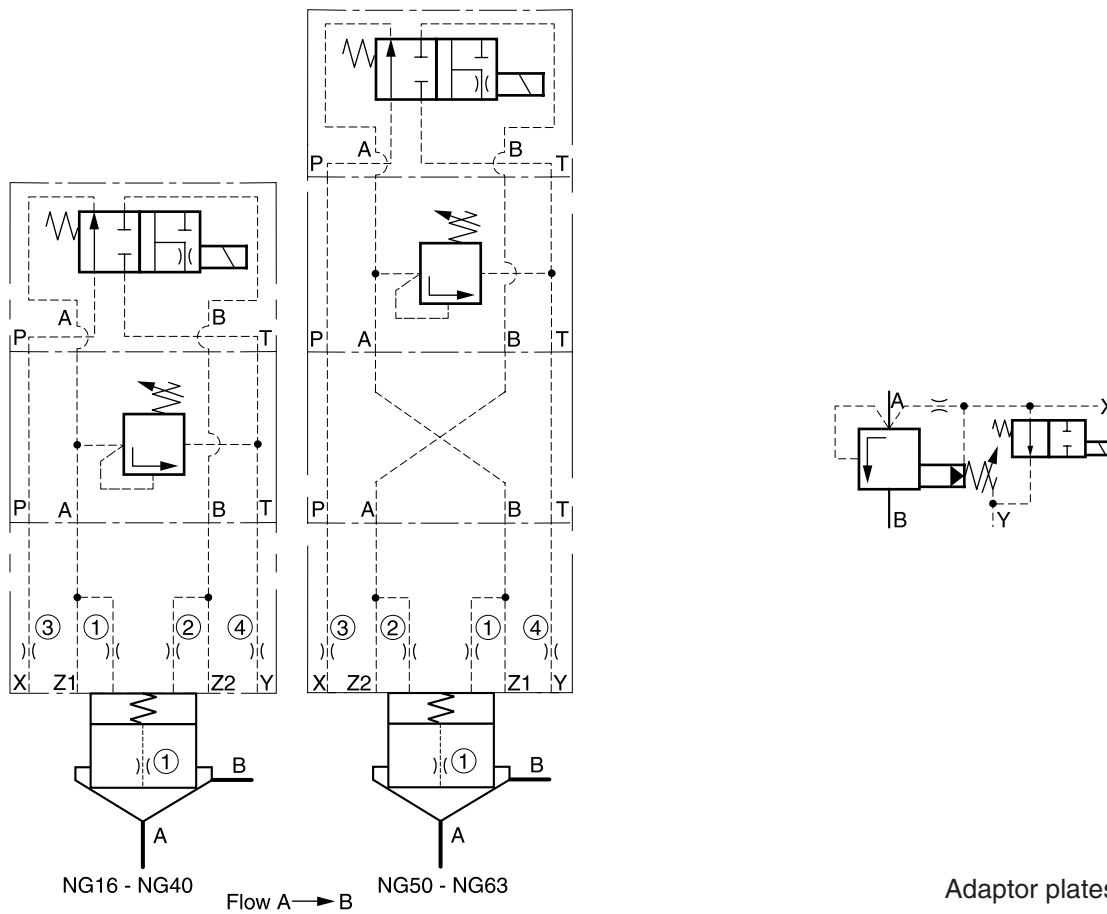
xxØ99 = open

¹⁾ Complete type see chapter "Directional Control Valves", series D1VW.

²⁾ Complete type see ordering code C*E

³⁾ Complete type see ordering code CE*

Pressure relief valve with electrical vent function, normally closed and pilot in sandwich design



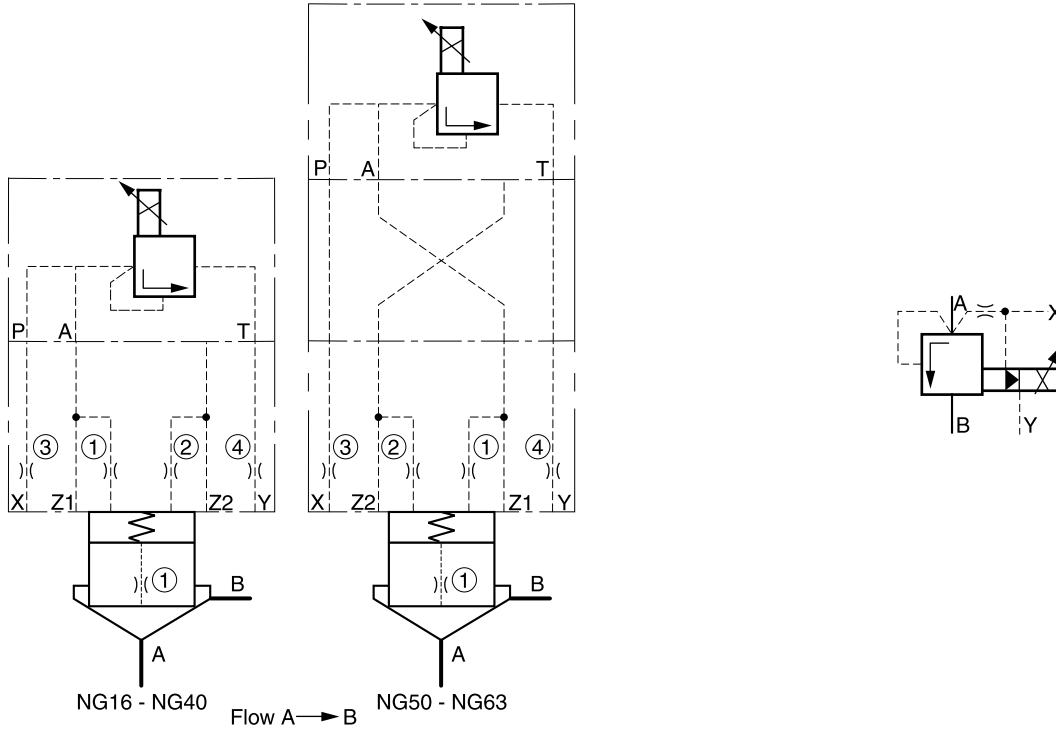
8

Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
4/2 DC valve ¹⁾	D1VW105K*					
Pressure valve ²⁾	V-ZUDB1ATxZ07x					
Adaptor plate ³⁾	without			PADA1007/A-B/B-A		
Cover ⁴⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice	① M5xØ1.1	M5xØ1.3	M5xØ1.4	M5xØ1.5	M6xØ1.6	M6xØ1.7
Cover orifice	②	M5xØ00			M6xØ00	
Cover orifice	③	M5xØ99	M6xØ99		M8xØ99	
Cover orifice	④	M5xØ1.3	M6xØ1.5	M6xØ1.7	M6xØ1.8	M8xØ2.0
Cartridge ⁵⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*
Poppet orifice	①	1/16NPT x Ø0.9	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.5
Spring	1.6 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	TK1482					

Shown orifice Ø and springs are recommendations.
 xxØ00 = plug
 xxØ99 = open

- ¹⁾ Complete type see chapter "Directional Control Valves", series D1VW.
- ²⁾ Complete types see pilot valves
- ³⁾ Included O-rings and mounting bolts
- ⁴⁾ Complete type see ordering code C*C
- ⁵⁾ Complete type see ordering code CE*

Proportional pressure relief valve



Adaptor plates see chapter 12

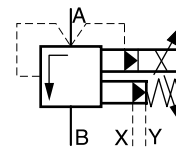
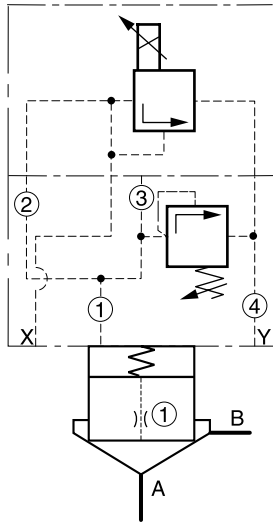
Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
Pressure valve ¹⁾	RE06MxW2V1KW					
Adaptor plate ²⁾	without				PADA1007/A-B/B-A	
Cover ³⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ^①	M5xØ1.1	M5xØ1.3	M5xØ1.4	M5xØ1.4	M6xØ1.5	
Cover orifice ^②	M5xØ00				M6xØ00	
Cover orifice ^③	M5xØ99	M6xØ99			M8xØ99	
Cover orifice ^④	M5xØ1.2	M6xØ1.4	M6xØ1.5	M6xØ1.5	M8xØ1.6	
Cartridge ⁴⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*
Poppet orifice ^①	1/16NPT x Ø0.9	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.4	
Spring	0.5 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	BK-M5x30-4pcs					

Shown orifice Ø and springs are recommendations.
 xxØ00 = plug
 xxØ99 = open

¹⁾ Complete type see chapter "Pressure Valves", series RE06M*W.
²⁾ Inclusive O-Rings and mounting bolts
³⁾ Complete type see ordering code C*C
⁴⁾ Complete type see ordering code CE*

Pressure Relief Functions

Proportional pressure relief valve with mechanical maximum pressure protection (screw-in cartridge within control cover)



Flow A → B

8

Adaptor plates see chapter 12

Description	Type		
	NG16	NG25	NG32
Prop. DC valve ¹⁾	RE06MxW2V1xW		
Cover incl. pressure valve ²⁾	C016Exx99999999x	C025Exx99999999x	C032Exx99999999x
Cover orifice (1)	M5xØ1.0	M5xØ1.1	M5xØ1.4
Cover orifice (2)	M5xØ99		
Cover orifice (3)	M5xØ00		
Cover orifice (4)	M5xØ1.2	M6xØ1.3	M6xØ1.7
Cartridge ³⁾	CE016C01*	CE025C01*	CE032C01*
Poppet orifice (1)	1/16NPT x Ø0.8	1/16NPT x Ø0.9	1/16NPT x Ø1.2
Spring	1.6 bar, type S (order no. see spare parts)		
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs
Bolt kit 4/2 DC valve	BK-M5x30-4pcs		

Shown orifice Ø and springs are recommendations.

xxØ00 = plug

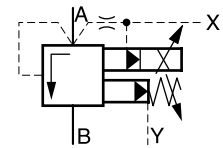
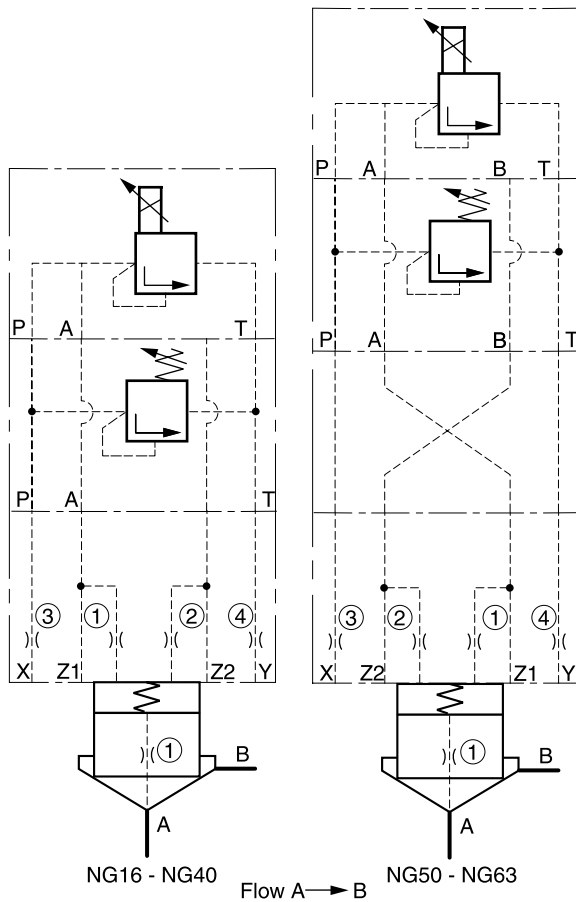
xxØ99 = open

¹⁾ Complete type see chapter "Pressure Valves", series RE06M*W.

²⁾ Complete type see ordering code C*C

³⁾ Complete type see ordering code CE*

Proportional pressure relief valve with mechanical maximum pressure protection in sandwich design



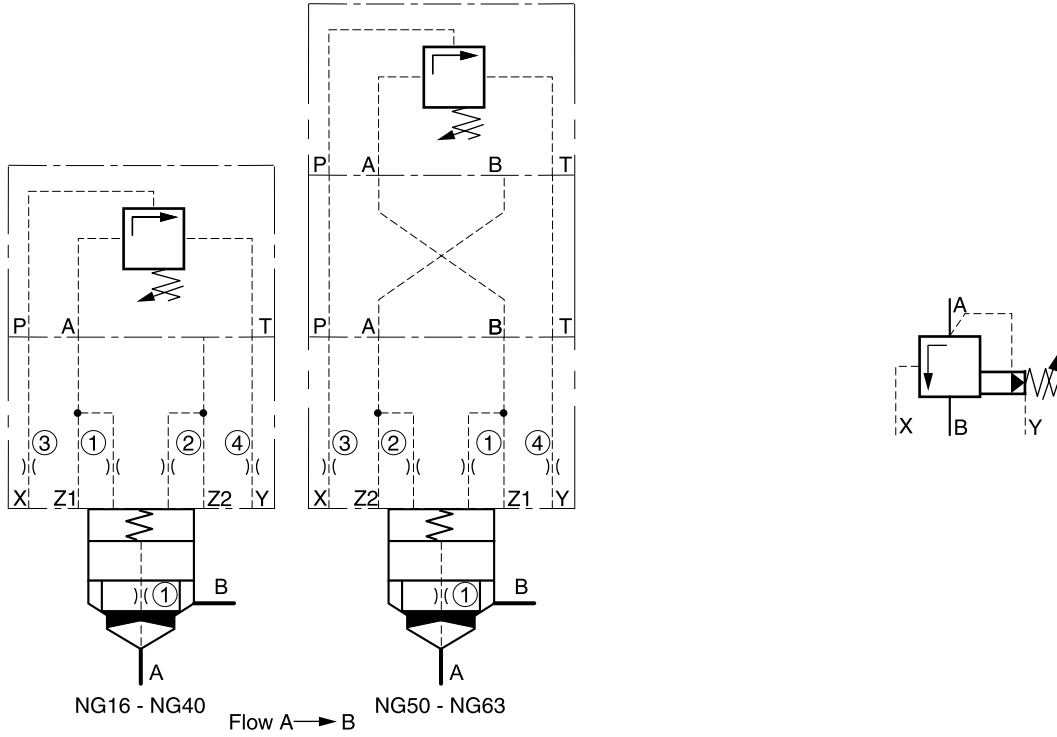
Adaptor plates see chapter 12

Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
Pressure valve ¹⁾	RE06MxW2V1KW					
Max. pressure valve ²⁾	V-ZUDB1PTxZ07x					
Adaptor plate ³⁾ NG10-NG06	without			PADA1007/A-B/B-A		
Cover ⁴⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ^①	M5xØ1.1	M5xØ1.3		M5xØ1.4	M6xØ1.6	
Cover orifice ^②	M5xØ00				M6xØ00	
Cover orifice ^③	M5xØ99	M6xØ99			M8xØ99	
Cover orifice ^④	M5xØ1.2	M6xØ1.4		M6xØ1.5	M8xØ1.6	
Cartridge ⁵⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*
Poppet orifice ^①	1/16NPT x Ø0.9	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.4	
Spring	0.5 bar, type N (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	TK1482					

Shown orifice Ø and springs are recommendations.
xxØ00 = plug
xxØ99 = open

- ¹⁾ Complete type see chapter "Pressure Valves", series RE06*W.
- ²⁾ Complete types see pilot valves
- ³⁾ Included O-rings and mounting bolts
- ⁴⁾ Complete type see ordering code C*C
- ⁵⁾ Complete type see ordering code CE*

Unloading valve



NG16 - NG40

Flow A → B

NG50 - NG63

8

Adaptor plates see chapter 12

Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
Unloading valve ¹⁾	V-DAFA100xP07					
Adaptor plate ²⁾ NG10-NG06	without				PADA1007/A-B/B-A	
Cover ³⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ^①	M5xØ1.4	M5xØ1.5	M5xØ1.6	M5xØ1.7	M6xØ1.8	M6xØ1.9
Cover orifice ^②	M5xØ00				M6xØ00	
Cover orifice ^③	M5xØ99	M6xØ99			M8xØ99	
Cover orifice ^④	M5xØ1.5	M6xØ1.6	M6xØ1.7	M6xØ1.8	M8xØ1.9	M8xØ2.0
Cartridge ⁴⁾	CE016C08*	CE025C08*	CE032C08*	CE040C08*	CE050C08*	CE063C08*
Poppet orifice ^①	1/16NPT x Ø0.9	1/16NPT x Ø1.0	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.4
Spring	1.6 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	BK-M5x45-4pcs					

Shown orifice Ø and springs are recommendations.

xxØ00 = plug

xxØ99 = open

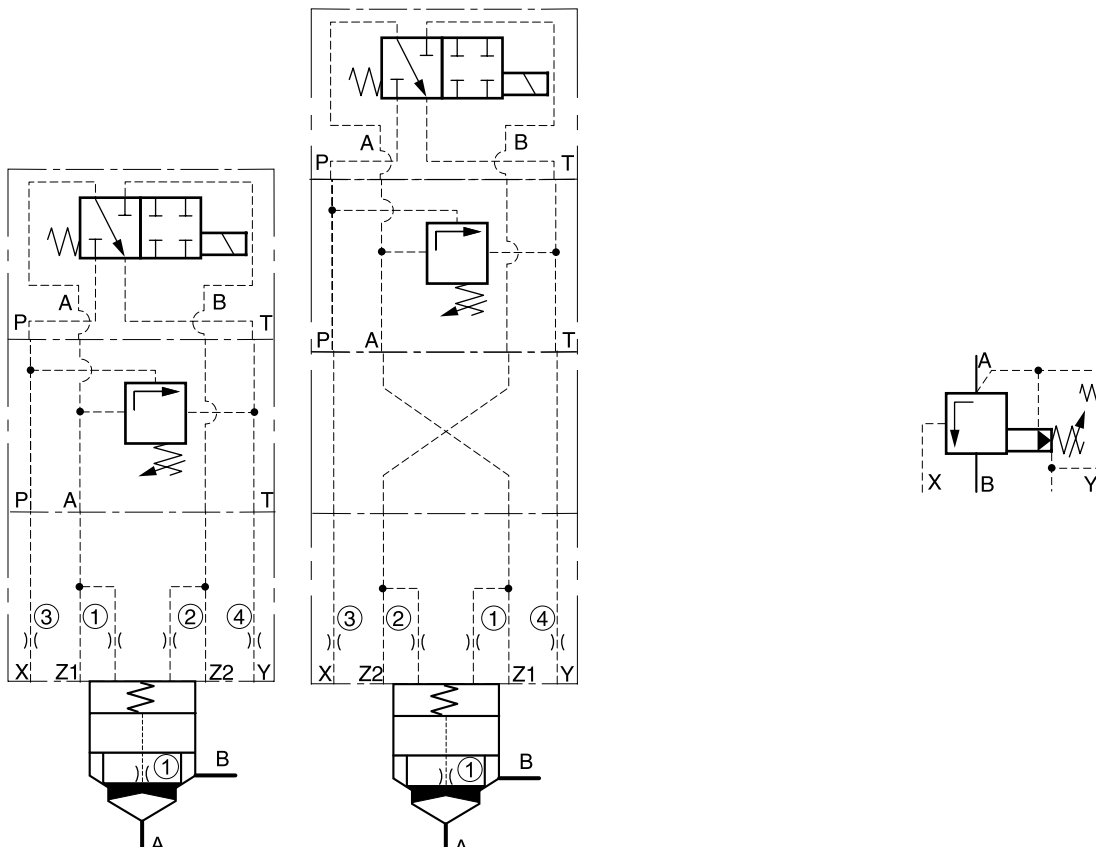
¹⁾ Complete types see pilot valves

²⁾ Included O-rings and mounting bolts

³⁾ Complete type see ordering code C*C

⁴⁾ Complete type see ordering code CE*

Unloading valve with electrical vent function, normally open



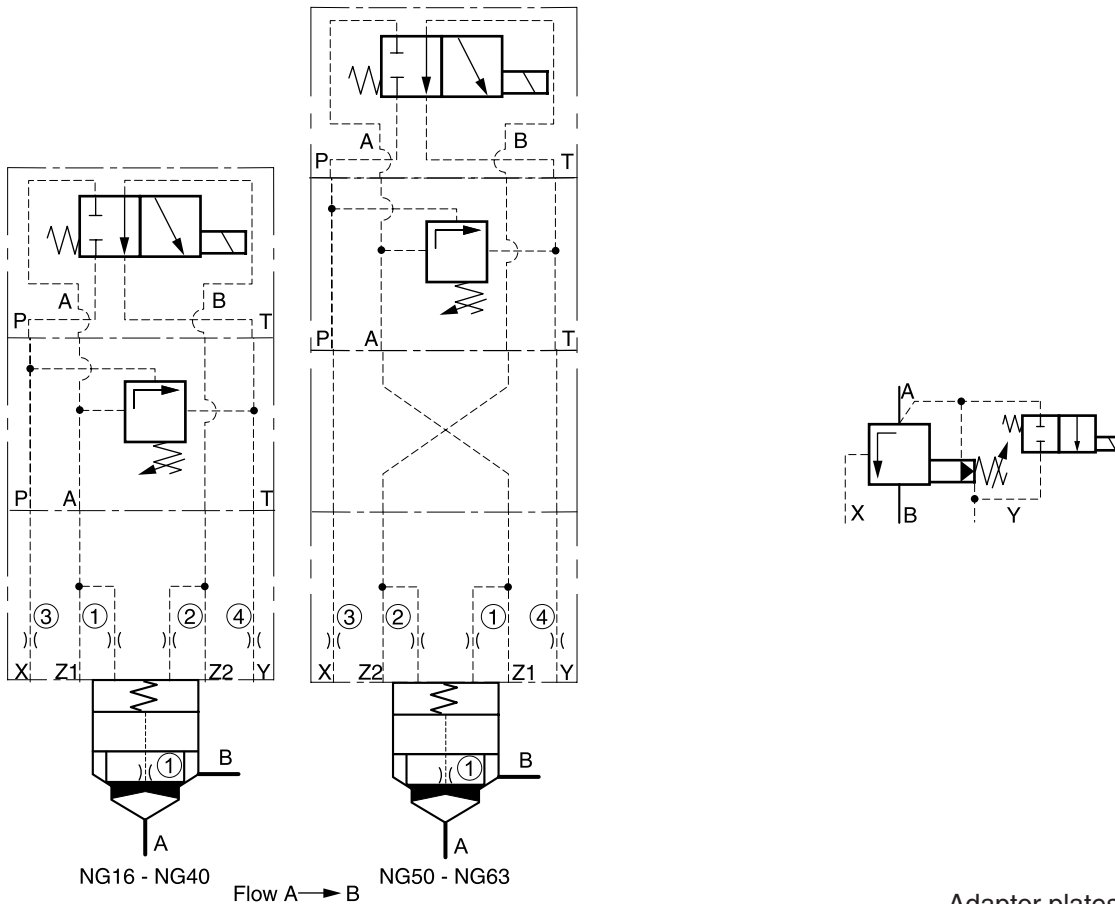
Adaptor plates see chapter 12

Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
4/2 DC valve ¹⁾	D1VW76K*					
Pressure valve ²⁾	V-DAFA100xZ07x					
Adaptor plate ³⁾ NG10-NG06	without			PADA1007/A-B/B-A		
Cover ⁴⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ①	M5xØ1.4	M5xØ1.5	M5xØ1.6	M5xØ1.7	M6xØ1.8	M6xØ1.9
Cover orifice ②	M5xØ00				M6xØ00	
Cover orifice ③	M5xØ99	M6xØ99			M8xØ99	
Cover orifice ④	M5xØ1.5	M6xØ1.6	M6xØ1.7	M6xØ1.8	M8xØ1.9	M8xØ2.2
Cartridge ⁵⁾	CE016C08*	CE025C08*	CE032C08*	CE040C08*	CE050C08*	CE063C08*
Poppet orifice ①	1/16NPT x Ø0.9	1/16NPT x Ø1.0	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.4
Spring	1.6 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	BK-M5x75-4pcs					

Shown orifice Ø and springs are recommendations.
 xxØ00 = plug
 xxØ99 = open

- ¹⁾ Complete type see chapter "Directional Control Valves", series D1VW.
- ²⁾ Complete types see pilot valves
- ³⁾ Included O-rings and mounting bolts
- ⁴⁾ Complete type see ordering code C*C
- ⁵⁾ Complete type see ordering code CE*

Unloading valve with electrical vent function, normally closed



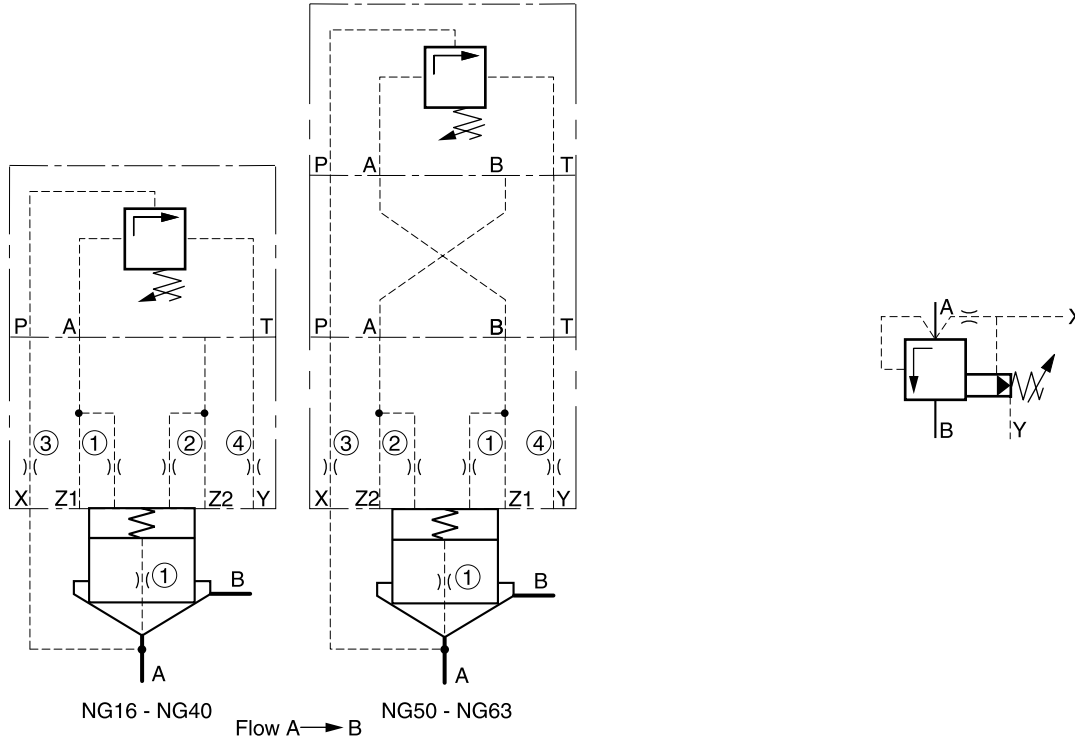
Adaptor plates see chapter 12

Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
4/2 DC valve ¹⁾	D1VW78K*					
Pressure valve ²⁾	DAFA100xZ07x					
Adaptor plate ³⁾ NG10-NG06	without			PADA1007/A-B/B-A		
Cover ⁴⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ^①	M5xØ1.4	M5xØ1.5	M5xØ1.6	M5xØ1.7	M6xØ1.8	M6xØ1.9
Cover orifice ^②	M5xØ00				M6xØ00	
Cover orifice ^③	M5xØ99	M6xØ99			M8xØ99	
Cover orifice ^④	M5xØ1.5	M6xØ1.6	M6xØ1.7	M6xØ1.8	M8xØ1.9	M8xØ2.2
Cartridge ⁵⁾	CE016C08*	CE025C08*	CE032C08*	CE040C08*	CE050C08*	CE063C08*
Poppet orifice ^①	1/16NPT x Ø0.9	1/16NPT x Ø1.0	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.4
Spring	1.6 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	BK-M5x75-4pcs					

Shown orifice Ø and springs are recommendations.
 xxØ00 = plug
 xxØ99 = open

- ¹⁾ Complete type see chapter "Directional Control Valves", series D1VW.
- ²⁾ Complete types see pilot valves
- ³⁾ Included O-rings and mounting bolts
- ⁴⁾ Complete type see ordering code C*C
- ⁵⁾ Complete type see ordering code CE*

Pressure sequence valve



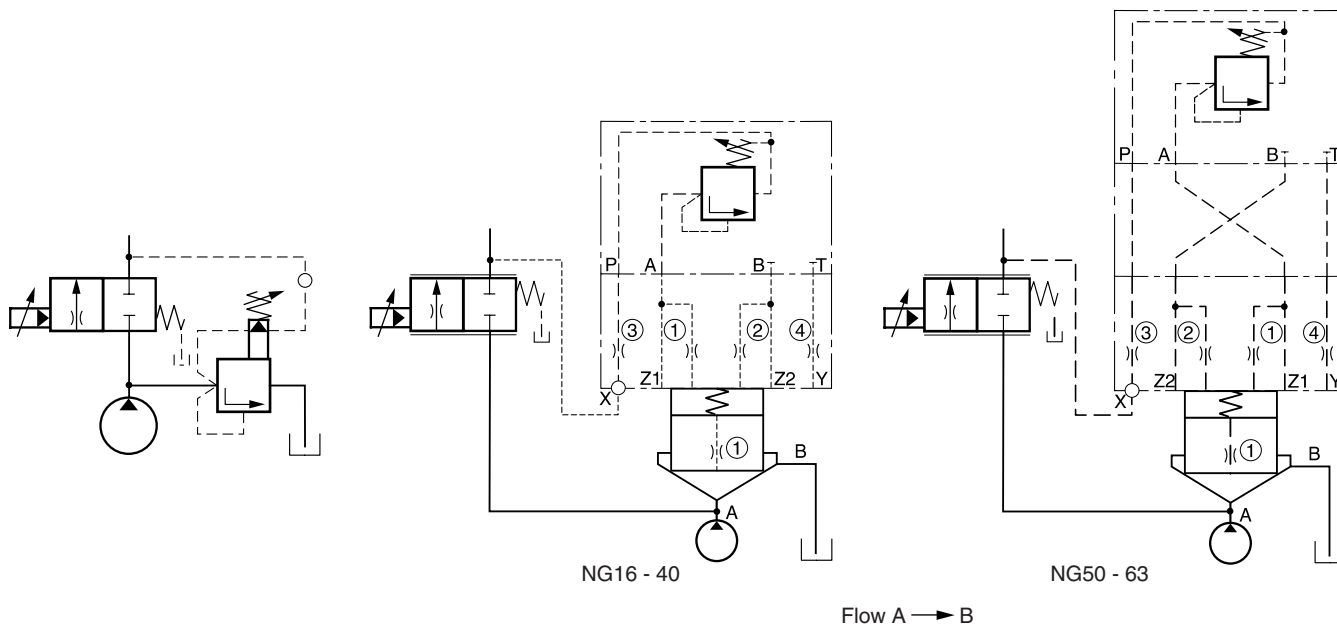
Adaptor plates see chapter 12

Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
Press. sequ. valve ¹⁾	DNLA100xP07x					
Adaptor plate ²⁾ NG10-NG06	without			PADA1007/A-B/B-A		
Cover ³⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ^①	M5xØ1.1	M5xØ1.3	M5xØ1.4	M5xØ1.5	M6xØ1.6	M6xØ1.7
Cover orifice ^②	M5xØ00			M6xØ00		
Cover orifice ^③	M5xØ0.9	M6xØ1.1	M6xØ1.2	M6xØ1.3	M8xØ1.4	M8xØ1.5
Cover orifice ^④	M5xØ1.3	M6xØ1.5	M6xØ1.7	M6xØ1.8	M8xØ2.0	M8xØ2.2
Cartridge ⁴⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*
Poppet orifice ^①	1/16NPT x Ø00					
Spring	1.6 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	BK-M5x45-4pcs					

Shown orifice Ø and springs are recommendations.
 xxØ00 = plug
 xxØ99 = open

¹⁾ Complete types see pilot valves
²⁾ Included O-rings and mounting bolts
³⁾ Complete type see ordering code C*C
⁴⁾ Complete type see ordering code CE*

3 way compensator (in combination with proportional throttle valve)



8

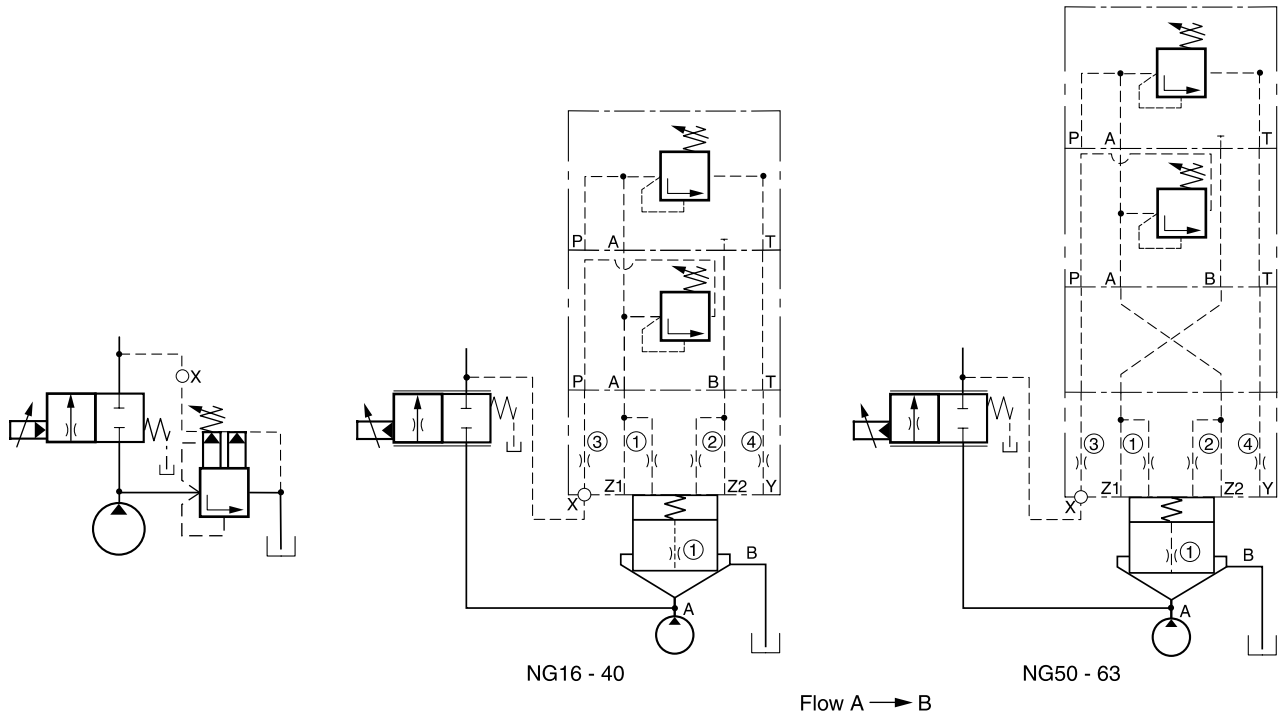
Adaptor plates see chapter 12

Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
Preload valve ¹⁾	DSBA100xP07x					
Adaptor plate ²⁾ NG10-NG06	without			PADA1007/A-B/B-A		
Cover ³⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ^①	M5xØ1.1	M5xØ1.3	M5xØ1.4	M5xØ1.5	M6xØ1.6	M6xØ1.7
Cover orifice ^②	M5xØ00			M6xØ00		
Cover orifice ^③	M5xØ99	M6xØ99			M8xØ99	
Cover orifice ^④	M5xØ1.3	M6xØ1.5	M6xØ1.7	M6xØ1.8	M8xØ2.0	M8xØ2.2
Cartridge ⁴⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*
Poppet orifice ^①	1/16NPT x Ø0.9	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.4	1/16NPT x Ø1.5
Spring	1.6 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	BK-M5x45-4pcs					

Shown orifice Ø and springs are recommendations.
 xxØ00 = plug
 xxØ99 = open

¹⁾ Complete type see pilot valves
²⁾ Included O-rings and mounting bolts
³⁾ Complete type see ordering code C*C
⁴⁾ Complete type see ordering code CE*

3 way compensator with mechanical maximum pressure protection (in combination with proportional throttle valve)



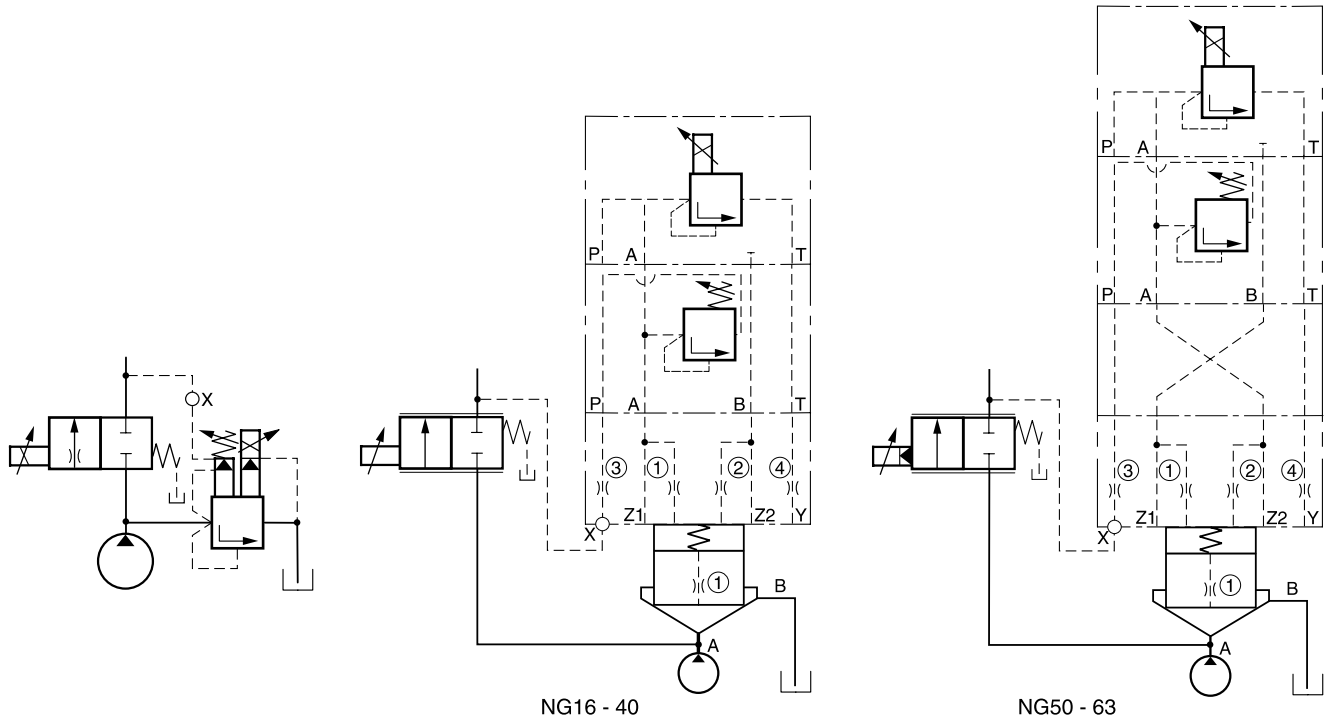
Adaptor plates see chapter 12

Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
Pressure valve ¹⁾	DSDA100xP07x					
Preload valve ¹⁾	DSBA100xZ07x					
Adaptor plate ²⁾ NG10-NG06	without			PADA1007/A-B/B-A		
Cover ³⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ^①	M5xØ1.1	M5xØ1.3	M5xØ1.4	M5xØ1.5	M6xØ1.6	M6xØ1.7
Cover orifice ^②	M5xØ00			M6xØ00		
Cover orifice ^③	M5xØ99	M6xØ99			M8xØ99	
Cover orifice ^④	M5xØ1.3	M6xØ1.5	M6xØ1.7	M6xØ1.8	M8xØ2.0	M8xØ2.2
Cartridge ⁴⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*
Poppet orifice ^①	1/16NPT x Ø0.9	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.4	1/16NPT x Ø1.5
Spring	1.6 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	TK1482					

Shown orifice Ø and springs are recommendations.
 xxØ00 = plug
 xxØ99 = open

¹⁾ Complete type see examples pilot valve
²⁾ Included O-rings and mounting bolts
³⁾ Complete type see ordering code C*C
⁴⁾ Complete type see ordering code CE*

3 way compensator with proportional pressure relief function (in combination with proportional throttle valve)



NG16 - 40

NG50 - 63

Flow A → B

Adaptor plates see chapter 12

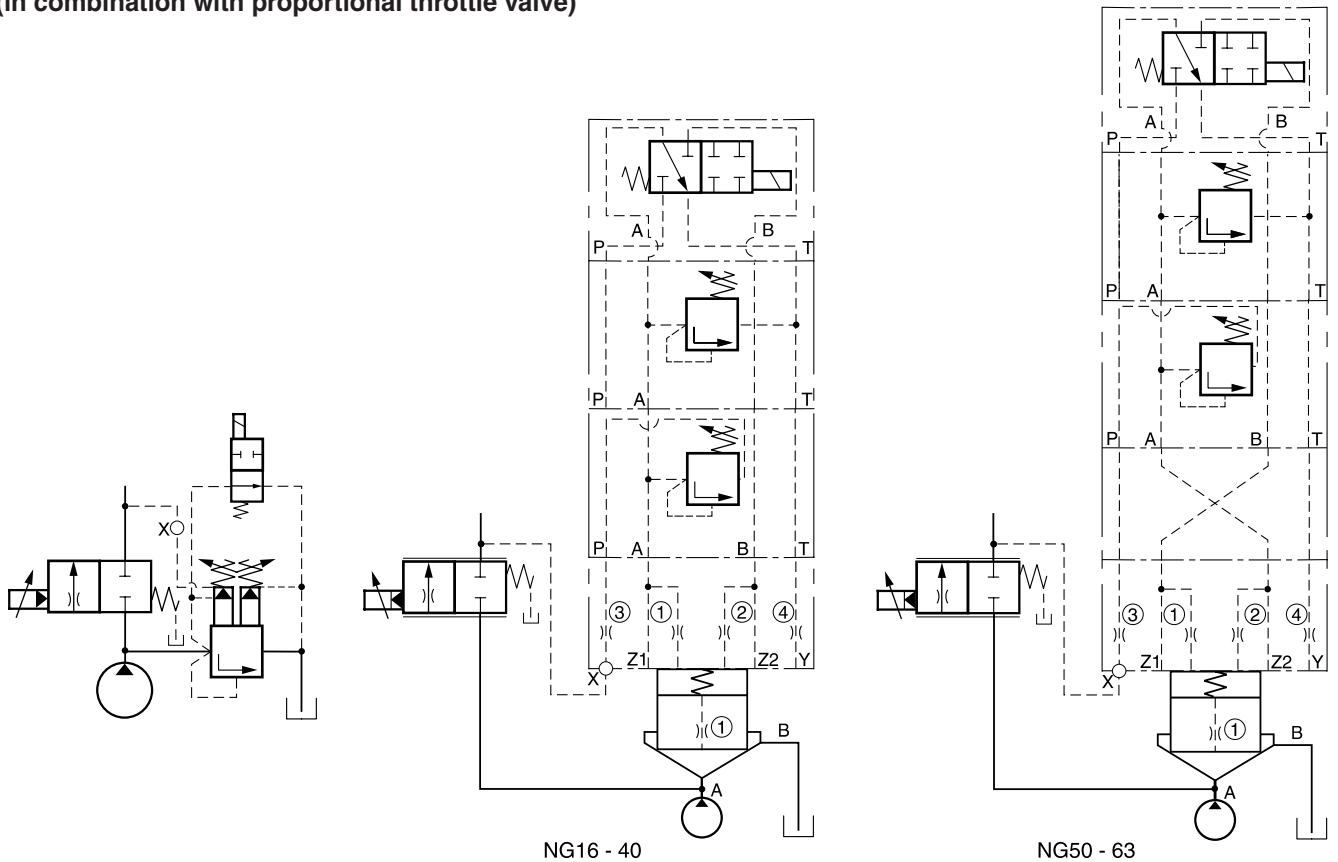
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Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
Prop. press. valve ¹⁾	RE06MxW2V1KW*					
Preload valve ²⁾	DSBA100xZ07x					
Adaptor plate ³⁾ NG10-NG06	without			PADA1007/A-B/B-A		
Cover ⁴⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ^①	M5xØ1.1	M5xØ1.3	M5xØ1.4	M5xØ1.5	M6xØ1.6	M6xØ1.7
Cover orifice ^②	M5xØ00			M6xØ00		
Cover orifice ^③	M5xØ99	M6xØ99			M8xØ99	
Cover orifice ^④	M5xØ1.3	M6xØ1.5	M6xØ1.7	M6xØ1.8	M8xØ2.0	M8xØ2.2
Cartridge ⁵⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*
Poppet orifice ^①	1/16NPT x Ø0.9	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.4	1/16NPT x Ø1.5
Spring	1.6 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	TK1482					

Shown orifice Ø and springs are recommendations.
xxØ00 = plug
xxØ99 = open

- ¹⁾ Complete type see chapter "Pressure Valves", series RE06W.
- ²⁾ Complete type see pilot valves
- ³⁾ Included O-rings and mounting bolts
- ⁴⁾ Complete type see ordering code C*C
- ⁵⁾ Complete type see ordering code CE*

3 way compensator with mechanical max. pressure protection and electrical vent function, normally open (in combination with proportional throttle valve)



NG16 - 40

NG50 - 63

Flow A → B

Adaptor plates see chapter 12



Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
4/2 DC valve ¹⁾	D1VW76K*					
Press. valve ²⁾	ZUDB1ATxZ07x					
Preload valve ²⁾	DSBA100xZ07x					
Adaptor plate ³⁾ NG10-NG06	without			PADA1007/A-B/B-A		
Cover ⁴⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ^①	M5xØ1.1	M5xØ1.3	M5xØ1.4	M5xØ1.5	M6xØ1.6	M6xØ1.7
Cover orifice ^②	M5xØ00				M6xØ00	
Cover orifice ^③	M5xØ99	M6xØ99			M8xØ99	
Cover orifice ^④	M5xØ1.3	M6xØ1.5	M6xØ1.7	M6xØ1.8	M8xØ2.0	M8xØ2.2
Cartridge ⁵⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*
Poppet orifice ^①	1/16NPT x Ø0.9	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.4	1/16NPT x Ø1.5
Spring	1.6 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	TK1473					

Shown orifice Ø and springs are recommendations.

xxØ00 = plug
xxØ99 = open

¹⁾ Complete type see chapter "Directional Control Valves", series D1VW.

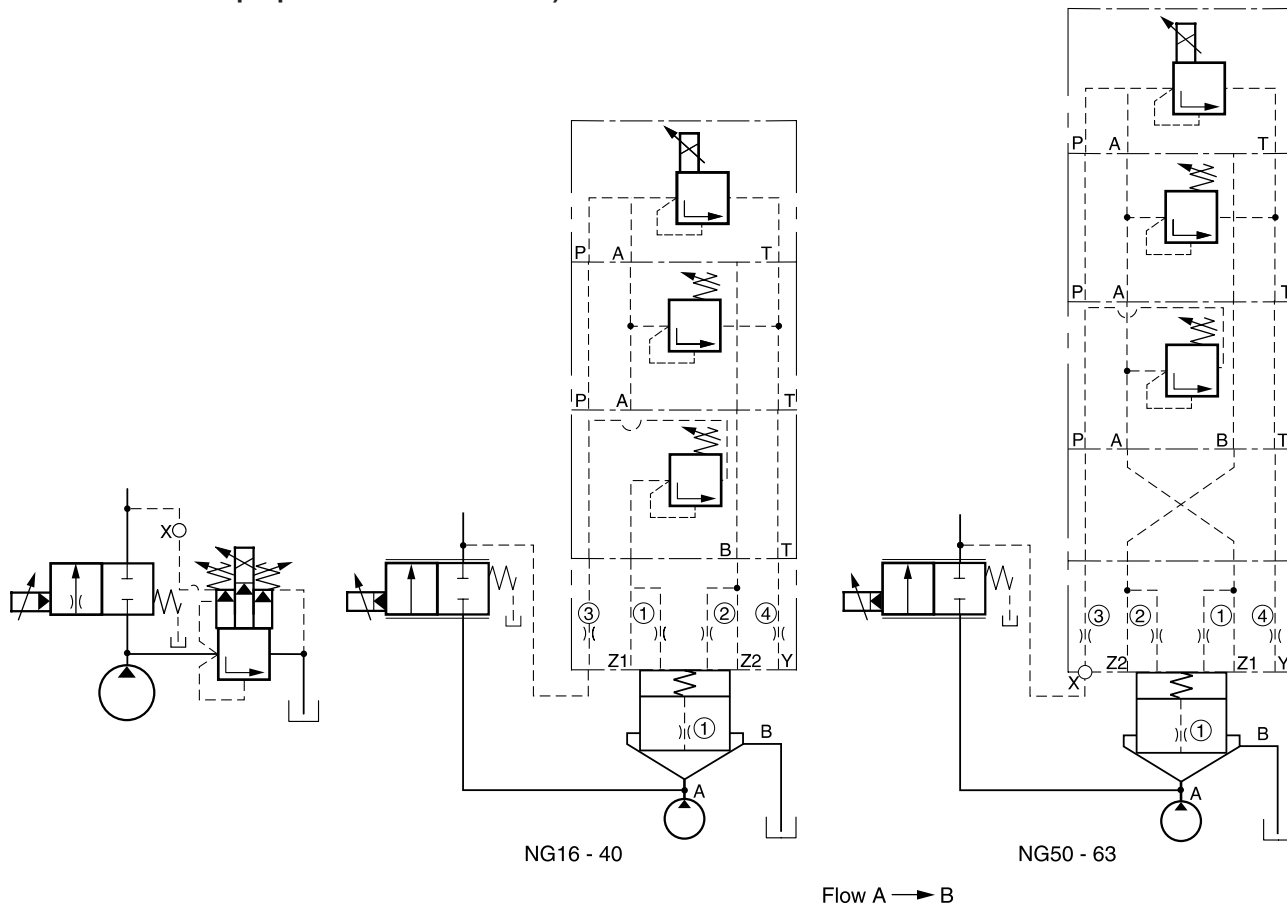
²⁾ Complete type see pilot valves

³⁾ Included O-rings and mounting bolts

⁴⁾ Complete type see ordering code C*C

⁵⁾ Complete type see ordering code CE*

3 way compensator with proportional pressure relief function and mechanical maximum pressure protection (in combination with proportional throttle valve)



Adaptor plates see chapter 12

Description	Type					
	NG16	NG25	NG32	NG40	NG50	NG63
Prop. press. valve ¹⁾	RE06MxW2V1KW*					
Press. valve ²⁾	ZUDB1ATxZ07x					
Preload valve ²⁾	DSBA100xZ07x					
Adaptor plate ³⁾ NG10-NG06	without			PADA1007/A-B/B-A		
Cover ⁴⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*
Cover orifice ①	M5xØ1.1	M5xØ1.3	M5xØ1.4	M5xØ1.5	M6xØ1.6	M6xØ1.7
Cover orifice ②	M5xØ00			M6xØ00		
Cover orifice ③	M5xØ99	M6xØ99		M8xØ99		
Cover orifice ④	M5xØ1.3	M6xØ1.5	M6xØ1.7	M6xØ1.8	M8xØ2.0	M8xØ2.2
Cartridge ⁵⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*
Poppet orifice ①	1/16NPT x Ø0.9	1/16NPT x Ø1.1	1/16NPT x Ø1.2	1/16NPT x Ø1.3	1/16NPT x Ø1.4	1/16NPT x Ø1.5
Spring	1.6 bar, type S (order no. see spare parts)					
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs
Bolt kit pilot	TK1473					

Shown orifice Ø and springs are recommendations.
 xxØ00 = plug
 xxØ99 = open

- ¹⁾ Complete type see chapter "Pressure Valves", series RE06W*.
- ²⁾ Complete type see pilot valves
- ³⁾ Included O-rings and mounting bolts
- ⁴⁾ Complete type see ordering code C*C
- ⁵⁾ Complete type see ordering code CE*

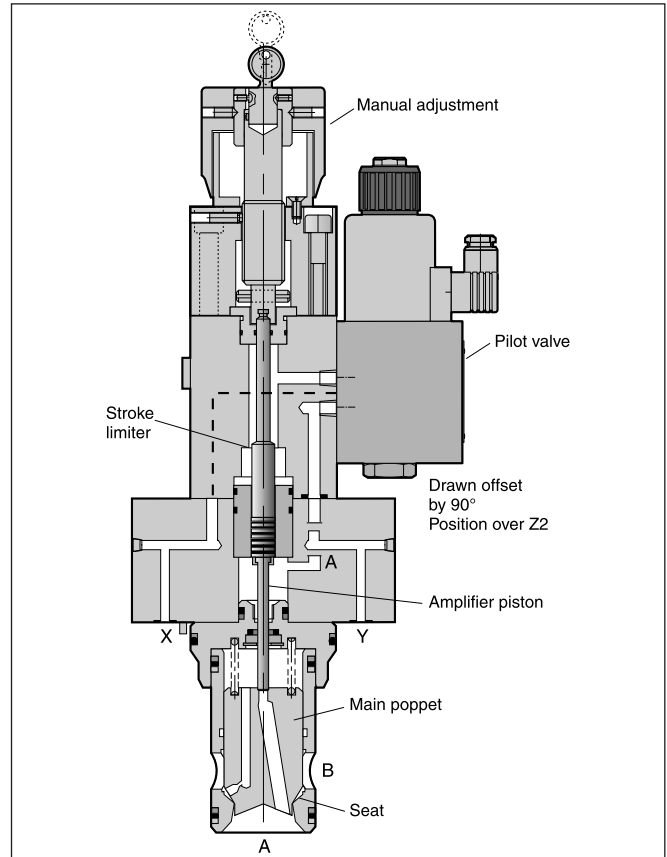
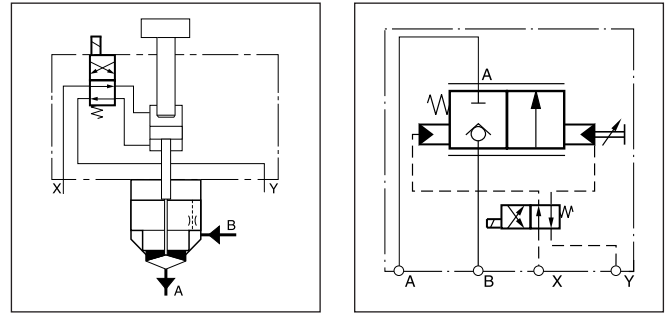
Characteristics

Accumulator discharge valves are preferably used in hydraulic systems where high volume flow rates are discharged from accumulators over a short operating period (in the range of milliseconds).

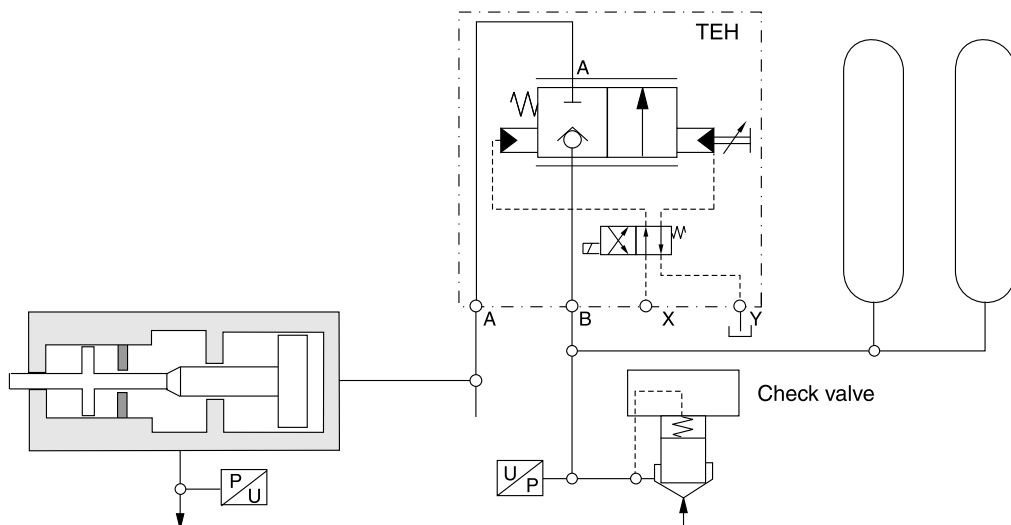
Typical applications are injection moulding and die casting machines as well as hydraulic presses.

The amplifier piston is pressed down onto the main poppet by pilot pressure in the X-line and pushes the main poppet into the seat. By switching the pilot valve the pilot pressure pushes the amplifier piston against the manual adjusted stroke limiter. The main poppet is forced by pressure in the B-line to follow the amplifier piston immediately and opens the adjusted area for flow from B to A. In the neutral position, the flow from B to A is blocked. With pilot pressure in X flow from A to B is blocked as well. Without pilot pressure oil can pass from A to B through the orifice in the poppet.

Throttle Valve with Shut-Off Valve Series TEH



Example accumulator system for an injection cylinder



TEH_UK.INDD RH_13.03.08

Ordering Code / Technical Data

Ordering code

TEH		E	L	0	9		2		W		
Throttle valve with shut-off function	Nominal size	Cartridge valve ISO 7368	Manual adjustment with DIN-lock	Spool form	Flow code	Flow direction	Pilot oil guide external/external	Seals	Plug socket without plug	Solenoid voltage	Design series (not required for ordering)

Code	Nominal size
032	NG32
040	NG40
050	NG50
063	NG63
080	NG80
100	NG100

Code	Flow direction
A	A to B
B	B to A

Code	Solenoid
J	24V= / 1.25A
U	98V= / 0.31A*
G	205V= / 0.15A*

* For 110V 50Hz or 220V 50Hz use plug with rectifier.

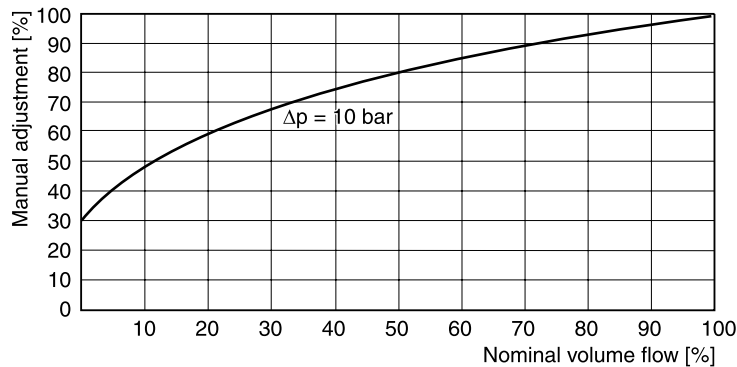
Code	Seal
N	NBR
V	FPM

Bold letters = Short-term availability

Technical data

General		Throttle valve, slip-in cartridge according to ISO 7368					
Design		Throttle valve, slip-in cartridge according to ISO 7368					
Nominal size		NG32	NG40	NG50	NG63	NG80	NG100
Mounting position		unrestricted					
Ambient temperature	[°C]	-20...+80					
Weight	[kg]	9	13	22	38	62	85
Extracting tools		See accessories					
Hydraulics							
Max. operating pressure	[bar]	Ports A, B and X up to 350, port Y: max. 10					
Fluid		Hydraulic oil as per DIN 51 524...525					
Fluid temperature	[°C]	0...60					
Viscosity, recommended	[cSt]/[mm ² /s]	30...80					
permitted	[cSt]/[mm ² /s]	20...380					
Filtration		ISO 4406 : 1999; 18/16/13					
Nominal flow $\Delta p = 10$ bar	[l/min]	950	1400	2300	4000	6000	9500
Pilot valve		4/2 flow control valve, see chapter 2					
		Type D1DW			Type D3W		

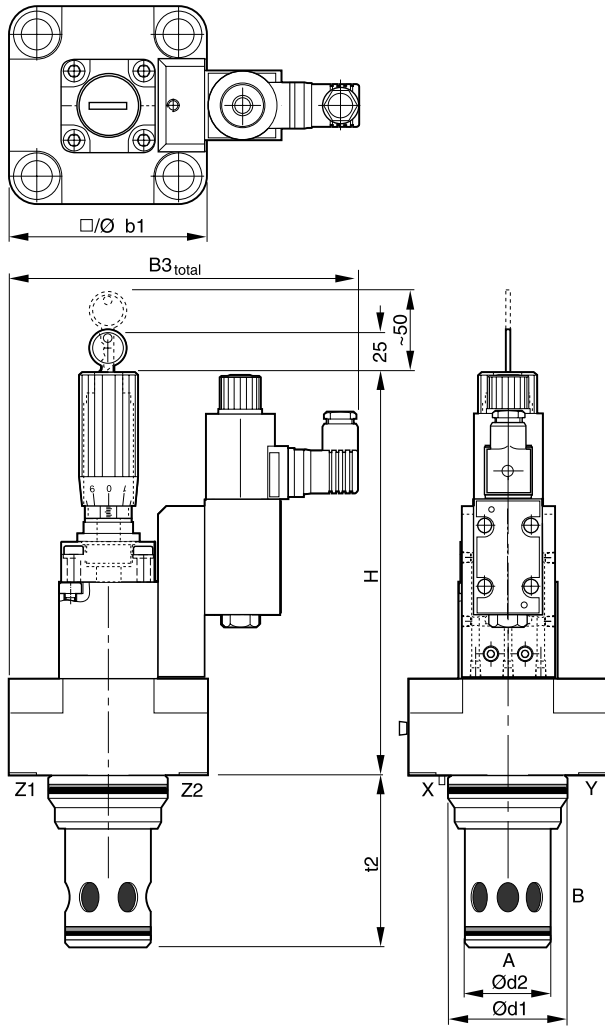
Characteristic curve



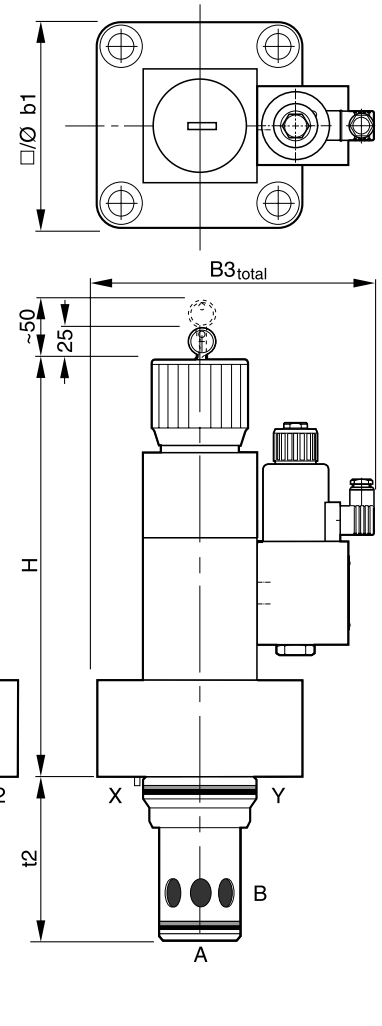
Dimensions

**Throttle Valve with Shut-Off Valve
Series TEH**

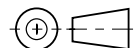
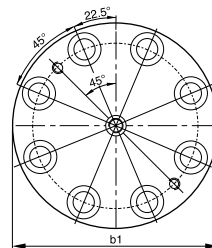
TEH NG32...50





TEH NG63...100



Size	32	40	50	63	80	100
H	255	265	275	407	427	442
b1	102	125	140	180	$\varnothing 250$	$\varnothing 300$
d1 ^{H7}	60	75	90	120	145	180
d2 ^{H7}	45	55	68	90	110	135
t2 ^{+0.1}	85	105	122	155	205	245
B3 _{total}	205	216	224	255	290	315



8

NG	Bolt kit -  DIN912 12.9		Kit	
			NBR	FPM
32	BK-M16x55-4pcs	281 Nm	SK-TEH032EN-20	SK-TEH032EV-20
40	BK-M16x55-4pcs	553 Nm	SK-TEH040EN-20	SK-TEH040EV-20
50	BK-M20x75-4pcs	553 Nm	SK-TEH050EN-20	SK-TEH050EV-20
63	BK-M30x100-4pcs	1910 Nm	SK-TEH063EN-20	SK-TEH063EV-20
80	BK-M24x120-8pcs	935 Nm	SK-TEH080EN-20	SK-TEH080EV-20
100	BK-M30x140-8pcs	1910 Nm	SK-TEH100EN-20	SK-TEH100EV-20

The 2/2 way proportional throttle valves series TDA are used to control large oil flows.

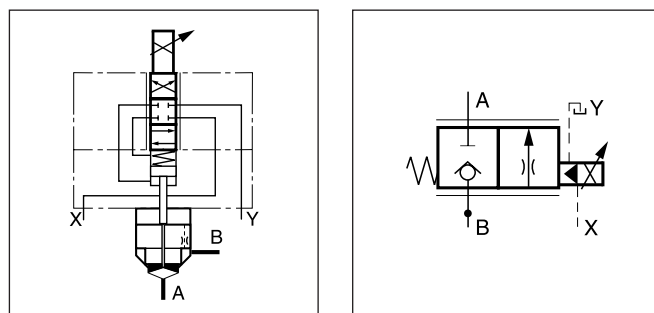
Features

- Cavity and mounting pattern according to ISO 7368
- Fail-safe function at power failure
- Leak-free from port B to A
- Pressure differential up to 350 bar possible
- 8 sizes NG16 up to NG100

Function

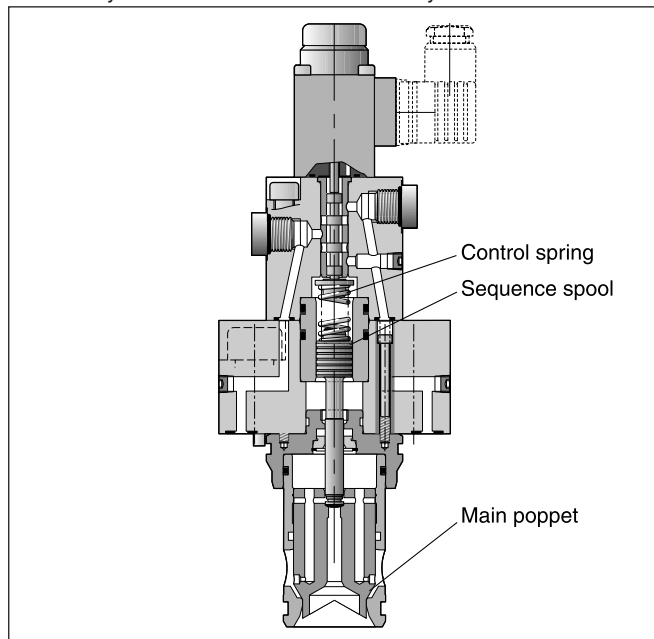
The TDA valve has a 3-stage design consisting of the first solenoid operated pilot stage with a spool in sleeve design, the second pilot stage with the control spring and the sequence spool and as main stage the poppet in the sleeve. The proportional solenoid operates the pilot spool against the feedback of the control spring and controls the position of the sequence spool. The main poppet follows the position of the sequence spool and provides an open area for flow from B to A (optional A to B) in proportion to the solenoid current. The poppet is positioned independent of the differential pressure, which can become as high as the maximum working pressure.

In combination with the digital power amplifier PC-D00A-400 the valve parameters can be saved, changed and duplicated.



Function symbol

Short symbol



Ordering Code

TDA		E	W	0	9		2			W	
Proportional throttle valve	Nominal size	Slip-in valve DIN ISO 7368	Design	Poppet shape	Nominal flow	Flow direction	Piloting	Seal	Solenoid voltage	Plug socket without plug	Design series (not required for ordering)

Code	Nominal size
016	NG16
025	NG25
032	NG32
040	NG40
050	NG50
063	NG63
080	NG80
100	NG100

Code	Solenoid voltage
X	16 VDC
L	6 VDC

Code	Seal
N	NBR
V	FPM

Code	Flow direction
A	A to B
B	B to A

**Bold letters =
Short-term availability**

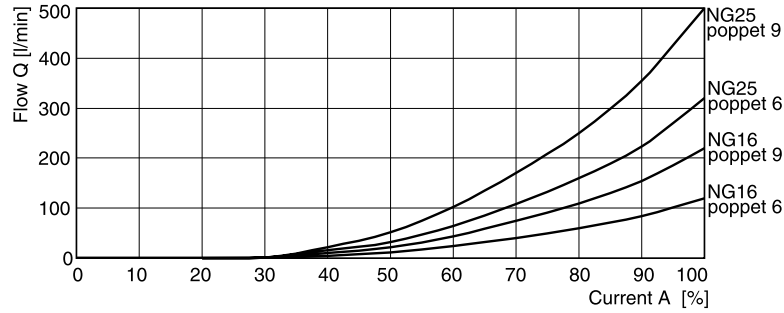
Technical Data

General									
Design		Proportional throttle valve, slip-in cartridge according to ISO 7368							
Nominal size		16	25	32	40	50	63	80	100
Mounting position		unrestricted							
Ambient temperature	[°C]	-20...+80							
Weight	[kg]	3.1	4.3	5.8	9.2	15	33	63	87
Extracting tool		see accessories							
Hydraulics									
Max. operating pressure	[bar]	Ports A, B and X up to 350, port Y: max. 10							
Fluid		Hydraulic oil as per DIN 51524...525							
Fluid temperature	[°C]	0 ... +60							
Viscosity	recommended [cSt]/[mm²/s] permitted [cSt]/[mm²/s]	30 ... 80 20 ... 380							
Filtration		ISO 4406: 1999; 18/16/13							
Nominal flow at Δp=10bar	[l/min]	220	500	950	1400	2300	4000	6000	9500
Flow direction		see ordering code							
Pilot pressure, min.	[bar]	> 25% of system pressure							
Min. operating pressure	[bar]	Port A → B ca. 10; Port B → A ca. 15							
Pilot oil	supply drain	Depending on flow direction A or B using X or external X External using Y max. 10bar							
Pilot oil at p = 100bar	[l/min]	Port X → Y <1.5							
Opening point		At 30% of nominal current							
Manufacturing tolerance	[%]	±5 of Qnom							
Static/dynamic									
Hysteresis	[%]	< 3							
Repeatability	[%]	< 1							
Response time at px=50bar	[ms]	20	25	30	35	45	55	65	80
Electrical (proportional solenoid)									
Duty ratio		100% ED							
Protection class		IP65 according to EN 60529 (plugged and mounted)							
Solenoid	Code	L				X			
at size		16-50		63-100		16-50		63-100	
Solenoid voltage	[V]	6				16			
Nominal current (100% ED)	[A]	2.6				1.05			
Nominal resistance	[Ohm]	2.2		2.5		11.3		14	
Power amplifier, recommended		PCD 00A-400							
Solenoid connection		Connector as per EN 175301-803							

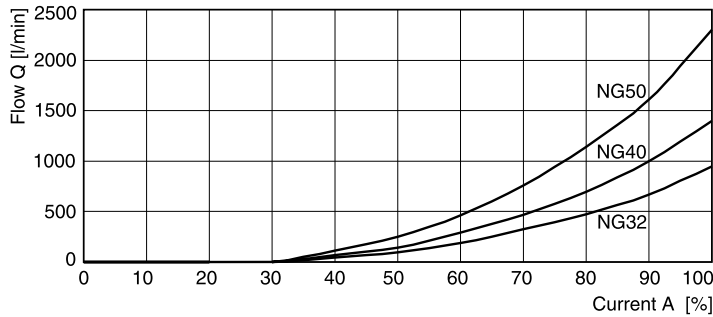
The pilot pressure in X-line must be at least 25% (NG16-40) or 45% (NG50-100) of the pressure in the draining-off line of the cartridge to make sure that the main poppet closes safely without malfunction.

8

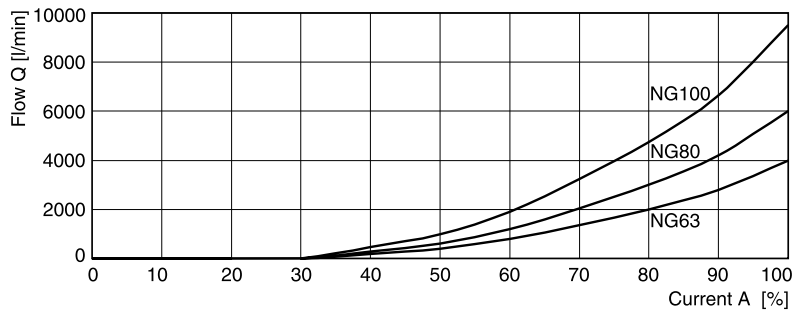
**Solenoid current / flow curves
 NG16-25 ($\Delta p=10\text{bar}$)**



NG32-50 ($\Delta p=10\text{bar}$)

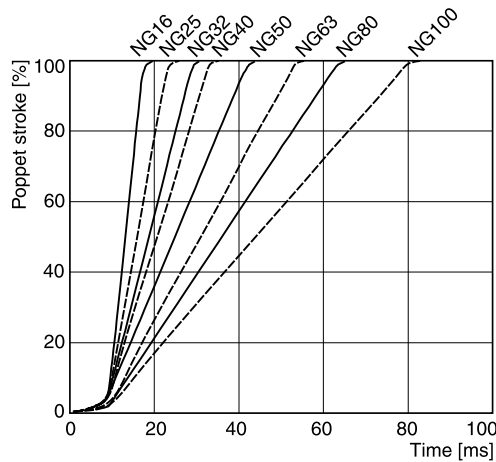


NG63-100 ($\Delta p=10\text{bar}$)



$$\Delta p_{\text{actual}} = \left(\frac{Q_{\text{actual}}}{Q_{\text{nominal}}} \right)^2 \cdot \Delta p_{\text{nominal}}$$

Poppet stroke / time curve

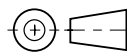
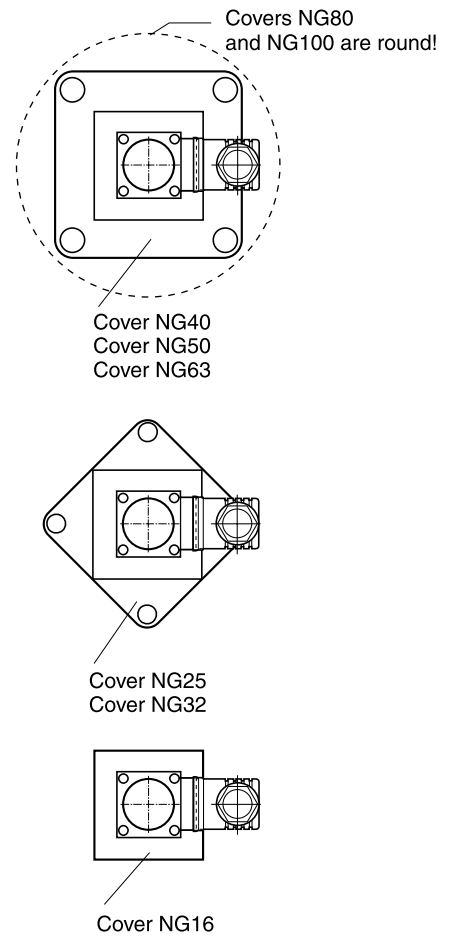
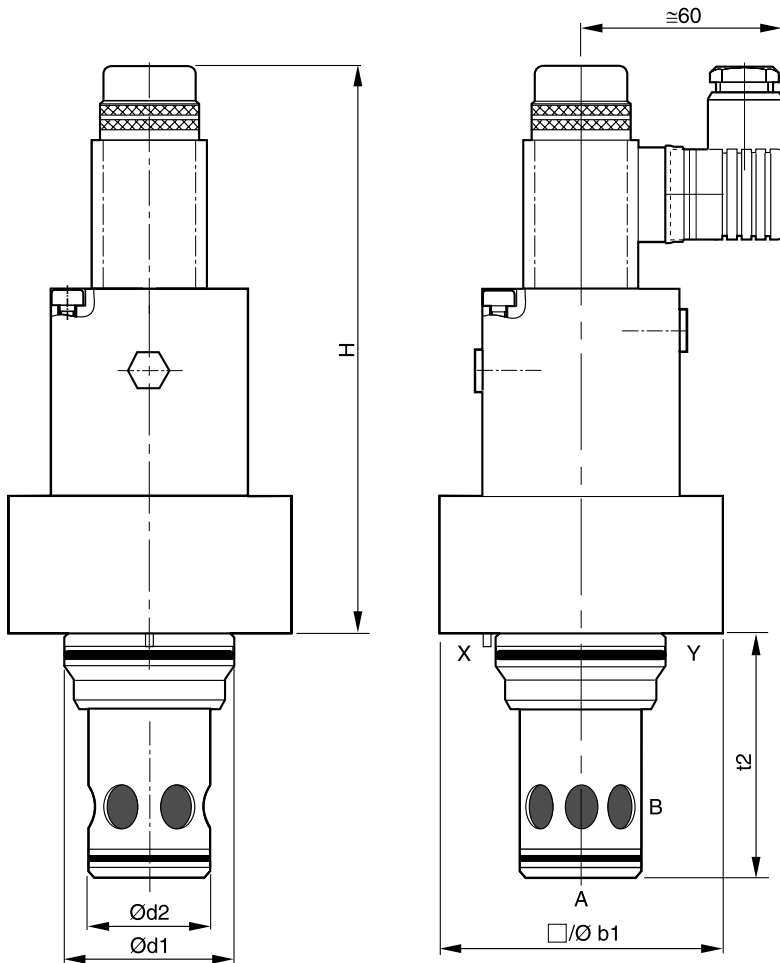


8

Dimensions

Valves

Valve covers



8

Size	16	25	32	40	50	63	80	100
H	168	173	178	262	198	287	327	342
b1	65	85	102	125	140	180	Ø250	Ø300
d1 ^{H7}	32	45	60	75	90	120	145	180
d2 ^{H7}	25	34	45	55	68	90	110	135
t2 ^{+0.1}	56	72	85	105	122	155	205	245

NG	Bolt kit - DIN912 12.9		Kit	
			NBR	FPM
16	BK-M8x100-4pcs	33 Nm	SK-TDA016EN-20	SK-TDA016EV-20
25	BK-M12x50-4pcs	115 Nm	SK-TDA025EN-20	SK-TDA025EV-20
32	BK-M16x55-4pcs	281 Nm	SK-TDA032EN-20	SK-TDA032EV-20
40	BK-M20x70-4pcs	553 Nm	SK-TDA040EN-20	SK-TDA040EV-20
50	BK-M20x75-4pcs	553 Nm	SK-TDA050EN-20	SK-TDA050EV-20
63	BK-M30x100-4pcs	1910 Nm	SK-TDA063EN-20	SK-TDA063EV-20
80	BK-M24x120-8pcs	935 Nm	SK-TDA080EN-20	SK-TDA080EV-20
100	BK-M30x140-8pcs	1910 Nm	SK-TDA100EN-20	SK-TDA100EV-20

TDA_UK.INDD RH_23.01.08

Characteristics

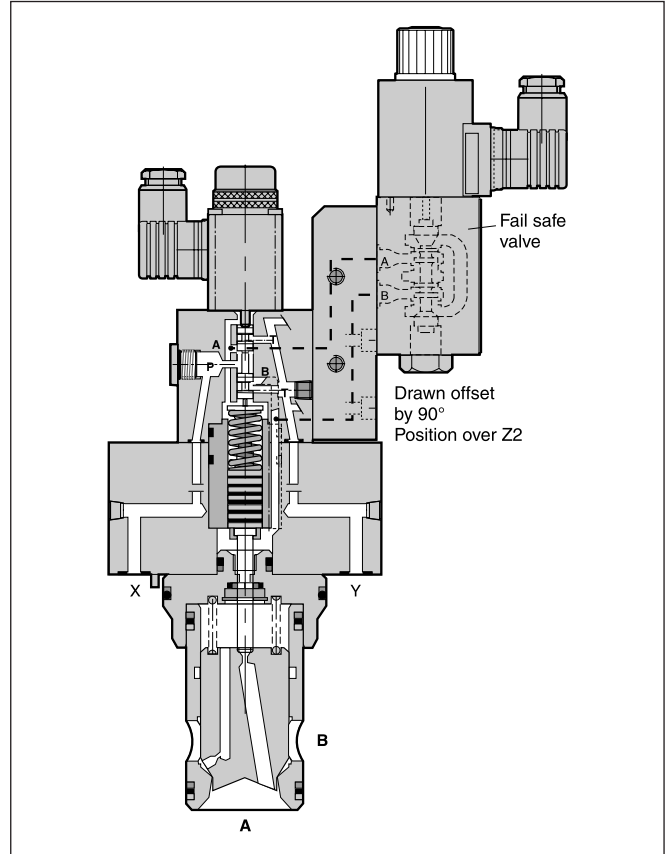
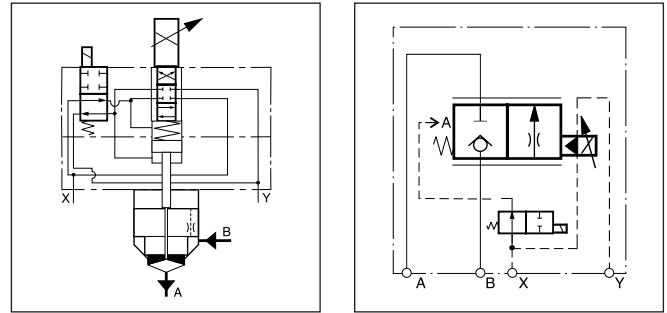
Accumulator discharge valves are preferably used in hydraulic systems where high flow rates are discharged from hydraulic accumulators over a short operating period (in the range of milliseconds).

Typical applications are injection molding and die casting machines as well as hydraulic presses.

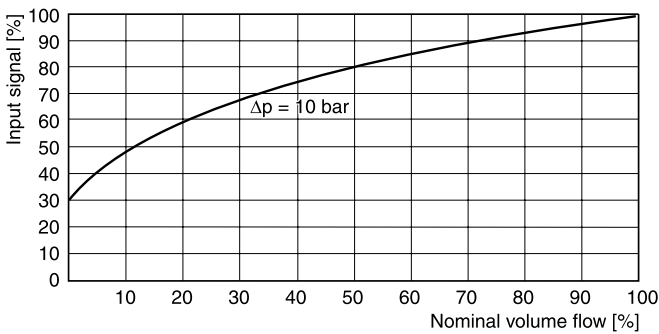
Basically the function of an accumulator discharge valve corresponds to the function of a TDA throttle valve. In addition a directional valve is integrated in the pilot circuit to meet the relevant safety regulations.

The directional valve provides the safety function. When the solenoid is deenergized and the spring is in the end position, pilot pressure from X presses the control piston into lower end position and, the main poppet is closed. As a result the flow from B to A or from the reservoir system to the machine is blocked.

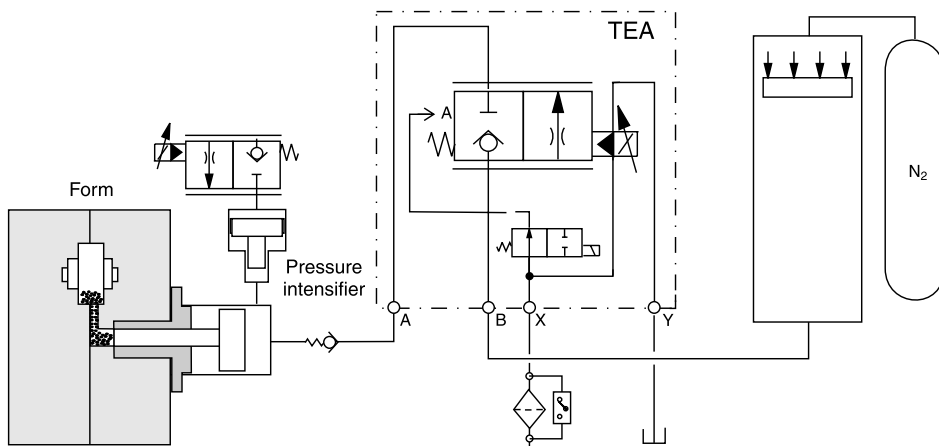
Proportional Throttle Valve with Shut-Off Valve Series TEA



Characteristic curve



Example accumulator system in a die casting machine



Ordering Code / Technical Data

Ordering code

TEA		E	W	0	9		2			W		
Prop. throttle valve with shut-off function	Nominal size	Cartridge valve ISO 7368	Design	Spool form	Flow code	Flow direction	Pilot oil guide	Seals	Prop. solenoid voltage	Plug socket without plug	Solenoid voltage	Design series (not required for ordering)

Code	Nominal size
032	NG32
040	NG40
050	NG50
063	NG63
080	NG80
100	NG100

Code	Flow direction
A	A to B
B	B to A

Code	Solenoid
J	24V= / 1.25A
U	98V= / 0.31A*
G	205V= / 0.15A*

* For 110V 50Hz or 220V 50Hz use plug with rectifier.

Code	Prop. solenoid voltage
L	6 VDC
X	16 VDC

Code	Seal
N	NBR
V	FPM

Bold letters = Short-term availability

Technical data

General	Proportional throttle valve, slip-in cartridge according to ISO 7368					
Design	unrestricted					
Nominal size	NG32	NG40	NG50	NG63	NG80	NG100
Mounting position	unrestricted					
Ambient temperature	[°C] -20...+80					
Weight	[kg] 9	13	22	38	62	85
Extracting tools	See accessories					
Hydraulics						
Max. operating pressure	[bar] Ports A, B and X up to 350, port Y: max 10					
Fluid	Hydraulic oil as per DIN 51 524 ... 525					
Fluid temperature	[°C] 0...+60					
Viscosity, recommended permitted	[cSt]/[mm²/s] 30...80 [cSt]/[mm²/s] 20...380					
Filtration	ISO 4406 : 1999; 18/16/13					
Nominal flow Δp= 10 bar	[l/min] 950	1400	2300	4000	6000	9500
Pilot pressure, min.	[bar] > 25% of system pressure					
Pilot oil supply	Depending on flow direction A or B using X or external X					
Pilot oil at p = 100bar	[l/min] Port X → Y <1.5					
Opening point	At 30% of nominal current					
Manufacturing tolerance	[%] ±5 of Qnom					
Hysteresis	[%] < 3					
Repeatability	[%] < 1					
Response time at px=50bar	[ms] 30	35	45	55	65	80
Electrical (proportional solenoid)						
Duty ratio	100% ED					
Protection class	IP65 according to EN 60529 (plugged and mounted)					
Solenoid at size	Code	L		X		
		16-50	63-100	16-50	63-100	
Solenoid voltage	[V]	6		16		
Nominal current (100% ED)	[A]	2.6		1.05		
Nominal resistance	[Ohm]	2.2	2.5	11.3	14	
Power amplifier, recommended	PCD 00A-400					
Solenoid connection	Connector as per EN 175301-803					
Pilot valve	4/2 flow control valve, see chapter 2					
	Type D1DW			Type D3W		

TEA_UK.INDD RH_13.03.08

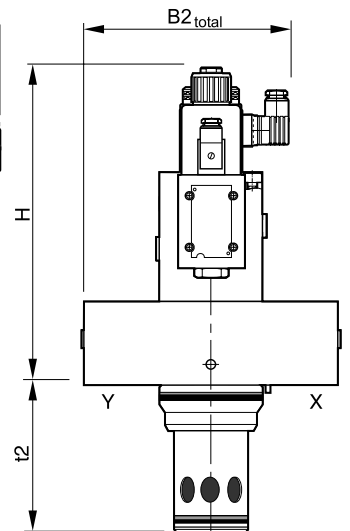
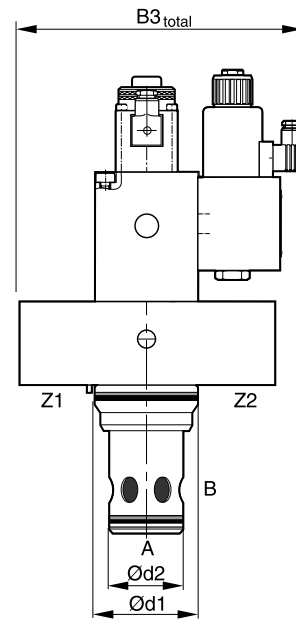
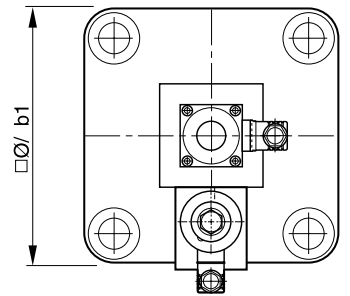
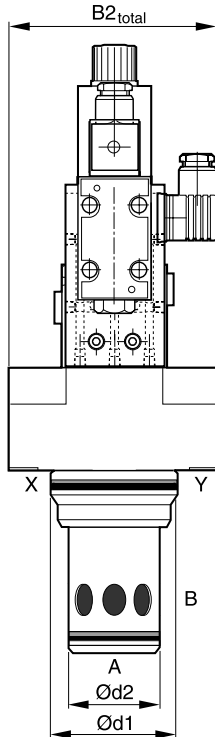
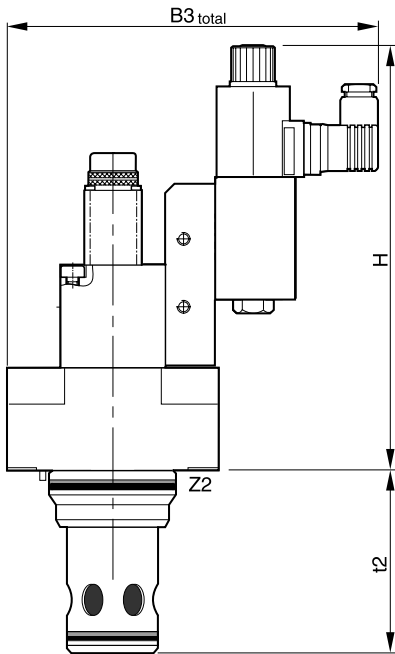
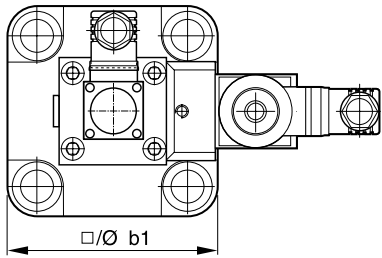


Dimensions

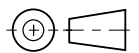
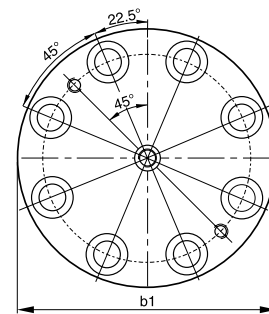
**Proportional Throttle Valve with Shut-Off Valve
Series TEA**

TEA NG32...50



TEA NG63...100



Size	32	40	50	63	80	100
H	250	260	270	312	337	352
b1	102	125	140	180	Ø250	Ø300
d1 ^{H7}	60	75	90	120	145	180
d2 ^{H7}	45	55	68	90	110	135
t2 ^{+0.1}	85	105	122	155	205	245
B2 _{total}	106	118	125	158	193	218
B3 _{total}	205	216	224	255	290	315



8

NG	Bolt kit -  DIN912 12.9		Kit	
			NBR	FPM
32	BK-M16x55-4pcs	281 Nm	SK-TEA032EN-20	SK-TEA032EV-20
40	BK-M16x55-4pcs	553 Nm	SK-TEA040EN-20	SK-TEA040EV-20
50	BK-M20x75-4pcs	553 Nm	SK-TEA050EN-20	SK-TEA050EV-20
63	BK-M30x100-4pcs	1910 Nm	SK-TEA063EN-20	SK-TEA063EV-20
80	BK-M24x120-8pcs	935 Nm	SK-TEA080EN-20	SK-TEA080EV-20
100	BK-M30x140-8pcs	1910 Nm	SK-TEA100EN-20	SK-TEA100EV-20

TEA_UK.INDD RH_13.03.08

Characteristics

**Proportional Throttle Valve
Series TDL**

The 2/2 way proportional throttle valves series TDL are used in applications where high flow has to be precisely controlled with a very fast response time. Typical applications are die casting, injection moulding and hydraulic presses.

Function

The TDL valve has a 3-stage design consisting of the DFplus pilot valve, the hydraulic follow-up system with LVDT and the main stage with poppet and sleeve.

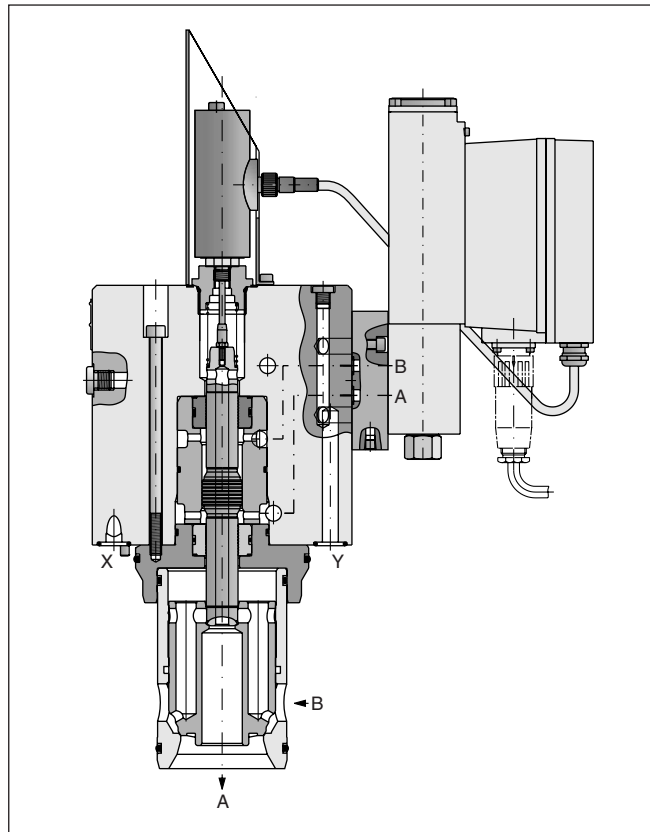
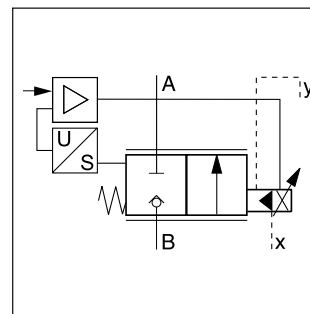
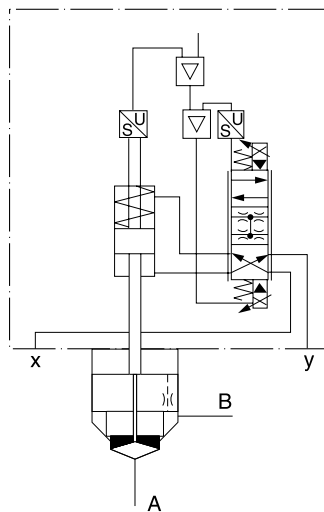
With the DFplus pilot valve the TDL achieves extremely fast response times: from 14ms (NG40) up to 22ms (NG100) with an adjustment precision of 0.5% of the nominal adjusted flow. The follow-up spool enables the poppet to be positioned independent of the differential pressure, which can become as high as the maximum working pressure.

The optimum dynamics are achieved at a control pressure >50 bar. The TDL has integrated electronics controlling both the position of the follow-up piston and the spool position of the DFplus pilot valve. All this makes the TDL a completely factory set unit with minimum or no need for on-site setting.

Features

- Pilot operated 2/2 way proportional throttle valve
- Cavity and mounting pattern according to ISO 7368
- For speed and position control
- Fast step response
- Flow direction B to A
- Completely adapted unit with integrated electronics
- Fail safe position
- 5 sizes NG40 up to NG100

Function symbol



Ordering Code / Performance Curves

Ordering code

TDL		E	H	9	9	B	2			0	
Proportional throttle valve with LVDT	Nominal size	Slip-in cartridge	Closed pilot circle, fast valve type, integrated electronics	Sinus poppet	Nominal flow	Flow direction B → A	Pilot supply external, drain external	Seal	Electronic	Standard electronics	Serial number <small>(not required for ordering)</small>

Code	Nominal size
040	NG40
050	NG50
063	NG63
080	NG80
100	NG100

Code	Electronic
B	Supply voltage 0...+10V
S	Supply 4...+20mA

Code	Seal
N	NBR
V	FPM

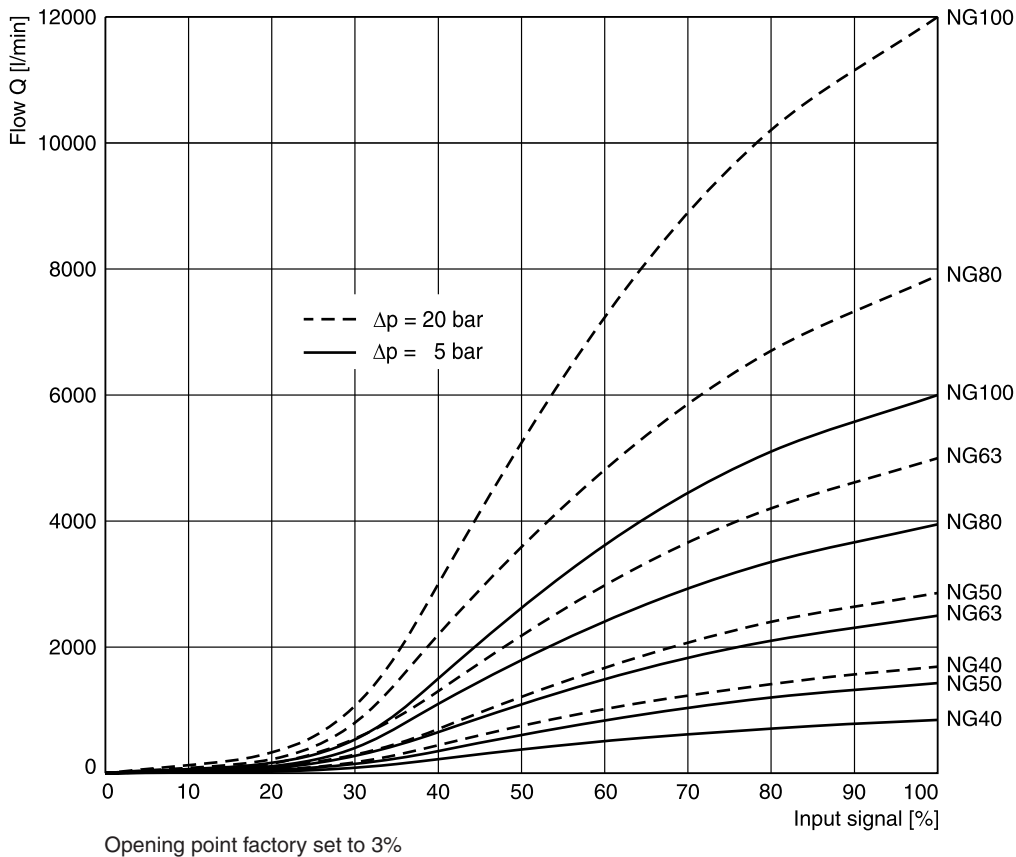
Please order plugs separately

Bold letters =
Short-term availability

Performance curves

Characteristic flow/signal line

($\Delta p = 5/20$ bar constant, viscosity 25mm²/s)



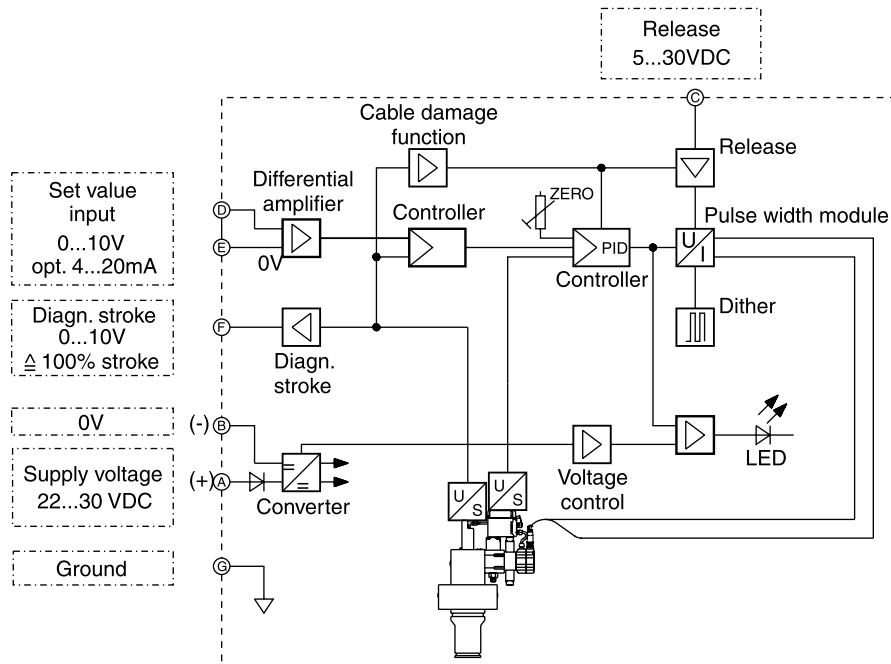
TDL_UK.INDD RH_13.03.08

General		Proportional throttle valve, slip-in cartridge according to ISO 7368				
Design		unrestricted				
Nominal size	DIN	NG40	NG50	NG63	NG80	NG100
Mounting position		unrestricted				
Ambient temperature	[°C]	-20...+50				
Weight	[kg]	15	26	52	105	157
Extracting tool		see accessories				
Hydraulic						
Max. operating pressure	[bar]	Ports A, B and X up to 350, port Y: max. 10				
Fluid		Hydraulic oil as per DIN 51 524 ... 525				
Fluid temperature	[°C]	0 ... +60				
Viscosity	recommended permitted	[cSt]/[mm²/s]	30 ... 80			
		[cSt]/[mm²/s]	20 ... 380			
Filtration		ISO 4406 : 1999; 18/16/13				
Nominal flow at Δp=20 bar	[l/min]	2500	4100	6800	9500	13500
Flow direction		B to A				
Pilot pressure, min.	[bar]	50% of system pressure				
Pilot oil supply drain		Depending on flow direction B via X, or external X				
Leakage oil pilot control		Always external via Y, max. 10 bar				
Release off	[l/min]	X → Y at p = 175 bar				
Enable on	[l/min]	NG40 to 63 <1.2; NG80 to 100 <2.0				
Min. supply pressure port B	[bar]	NG40 to 63 <2.5; NG80 to 100 <4.0				
Max. pilot fluid flow	[l/min]	13	24	42	54	65
Static/dynamic						
Hysteresis	[%]	< 1				
Repeatability	[%]	< 0.5				
Resp. time t at p _x > 50 bar	[ms]	12	16	20	17.5	22
Electrical						
Protection class		IP65				
Supply voltage	[V]	22...30, ripple < 5% eff., surge free				
Permitted waviness	[%]	Max. 5				
Power consumption	[A]	Max. 2.8				
Input signal range:						
Voltage input		0...+10V / 100kΩ				
Current input		12...+20mA / 250Ω				
Release input	[V]	5...30				
Installation section diameter		Min 1.0 mm² shielded				
Line length	[m]	Max. 50				

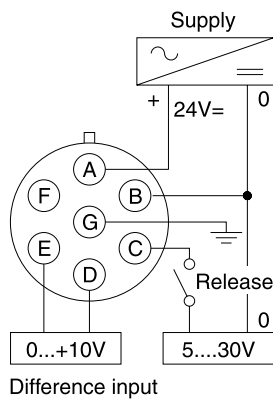
Flow at different Δp

$$Q_{\text{actual}} = Q_{\text{nominal}} \cdot \sqrt{\Delta p_{\text{actual}} / 20}$$

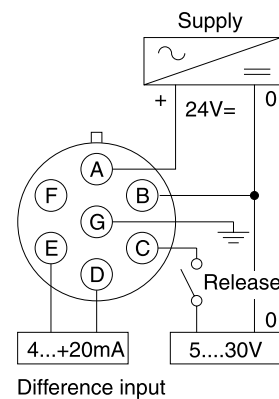
Block circuit diagram electronics



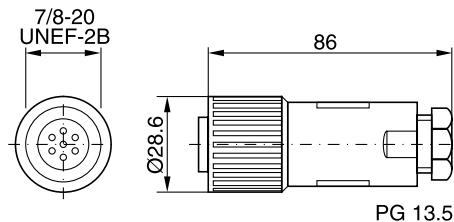
**Connection diagrams
Electronics code B**



Electronics code S

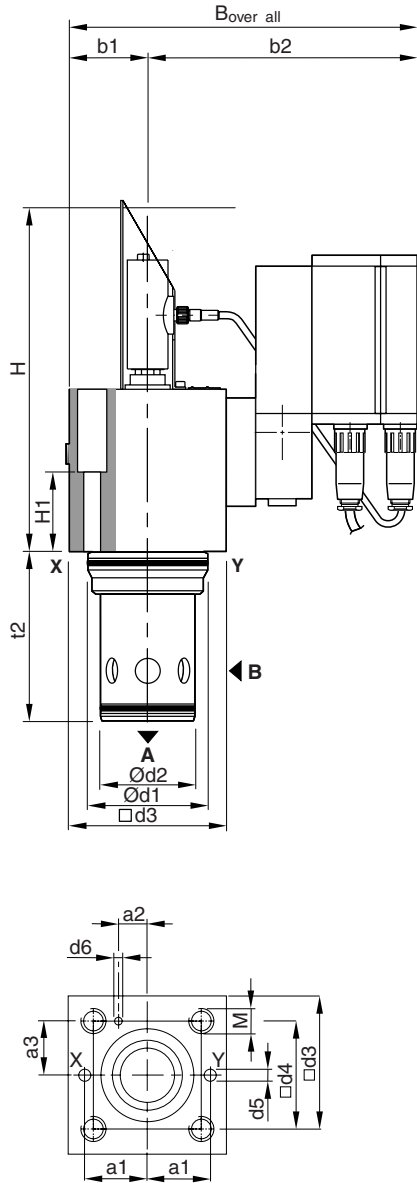


**Connector
(EMV conforming)**

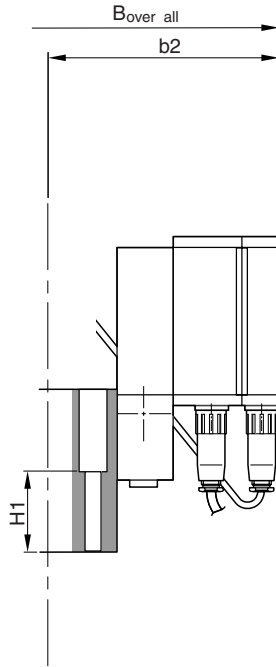


ID no. 5004072
Please order plugs separately

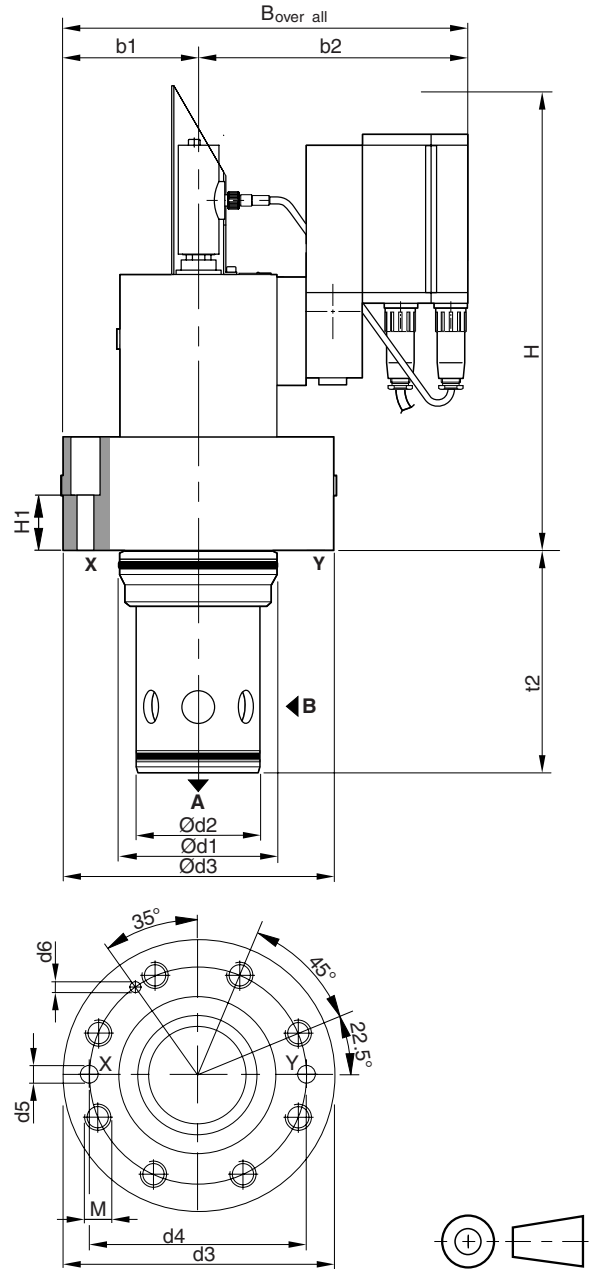
Pilot valve NG50-63



Pilot valve NG40



Pilot valve NG80-100



8

NG	B _{o.a.}	H	H1	t _{2+0.1}	a1	a2	a3	b1	b2	Ød1 _{H7}	Ød2 _{H7}	d3	d4	Ød5	Ød6	M
40	275	280	90	105	50 ±0.2	23 ±0.2	42 ±0.2	62.5	210	75	55	125	85 ±0.2	max. 10	6+0.22x10	M20x45
50	355	330	130	122	58 ±0.2	30 ±0.2	50 ±0.2	70	285	90	68	140	100 ±0.2	max. 10	8+0.22x10	M20x45
63	395	325	115	155	75 ±0.2	38 ±0.2	62.5 ±0.2	90	305	120	90	180	125 ±0.2	max. 12	8+0.22x10	M30x65
80	385	425	80	205	-	-	-	125	260	145	110	250	200 ±0.2	max. 16	10+0.22x10	M24x55
100	425	440	89	245	-	-	-	150	275	180	135	300	245 ±0.2	max. 20	10+0.22x10	M30x65

NG	Bolt kit - DIN912 12.9		Kit	
			NBR	FPM
40	BK-M20x1200-4pcs	553 Nm	SK-TDL040EN-38	SK-TDL040EV-38
50	BK-M20x160-4pcs	553 Nm	SK-TDL050EN-38	SK-TDL050EV-38
63	BK-M30x180-4pcs	1910 Nm	SK-TDL063EN-38	SK-TDL063EV-38
80	BK-M24x120-8pcs	935 Nm	SK-TDL080EN-38	SK-TDL080EV-38
100	BK-M30x140-8pcs	1910 Nm	SK-TDL100EN-38	SK-TDL100EV-38

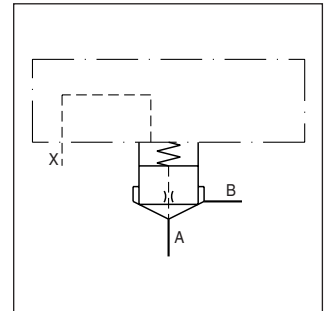
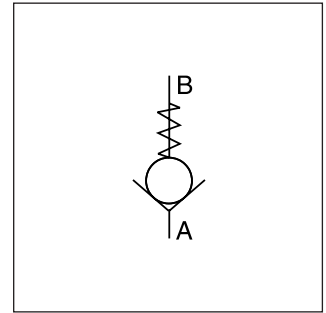
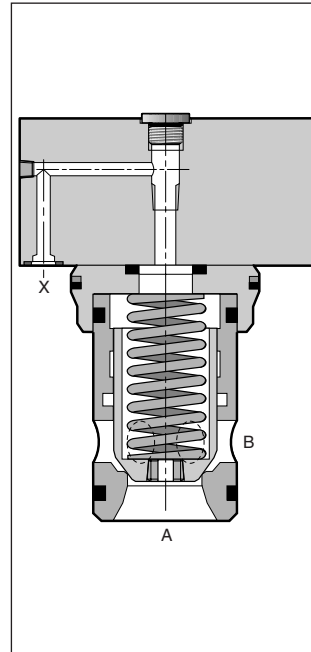
TDL_UK.INDD RH_13.03.08

Characteristics / Ordering Code

Check valves of the series C1DB consist of a slip-in valve, that is designed for a compact block installation.

Features

- Installation hole and mounting pattern according to ISO 7368
- 4 different springs
- 8 sizes NG16 to NG100

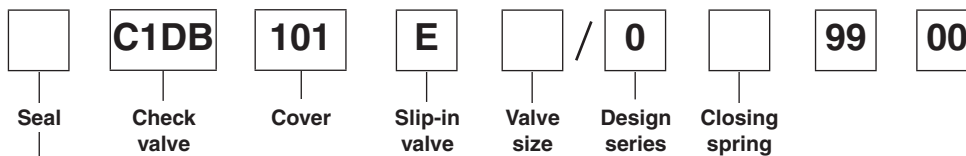


Technical data

Design	2 way cartridge valve, according to ISO 7368 : 1989								
Actuation	Hydraulic								
Mounting position	unrestricted								
Environmental temperature	[°C]	-40 ... +60							
Nominal size	NG	16	25	32	40	50	63	80	100
Weight	[kg]	1.2	2.5	3.9	7	11.4	21.8	45	74
Hydraulics									
Flow direction	See symbols								
Pressure medium	Hydraulic oil as per DIN 51 524 ... 536								
Viscosity	recommended	[cSt]/[mm²/s]	30 ... 80						
	permitted	[cSt]/[mm²/s]	20 ... 380						
Pressure fluid temperature	[°C]	-20 ... +60							
Permissible contamination	ISO 4406 (1999); 18/16/13								
Nominal pressure	[bar]	350							
Flow	[l/min]	250	450	900	1300	1800	3600	5250	8000
Opening pressure, spring	[bar]	L = 0.1; N = 0.5; S = 1.6; U = 4.0							

8

Ordering code



Code	Seal
omit	NBR
V	FPM

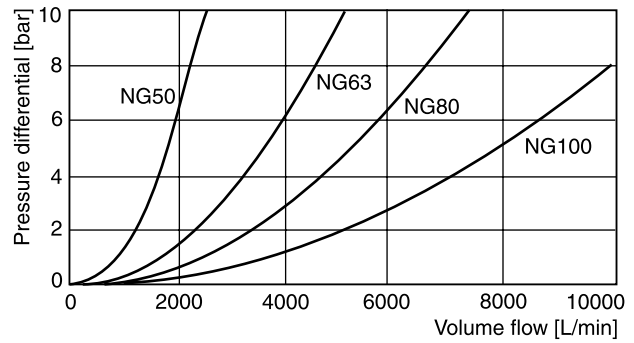
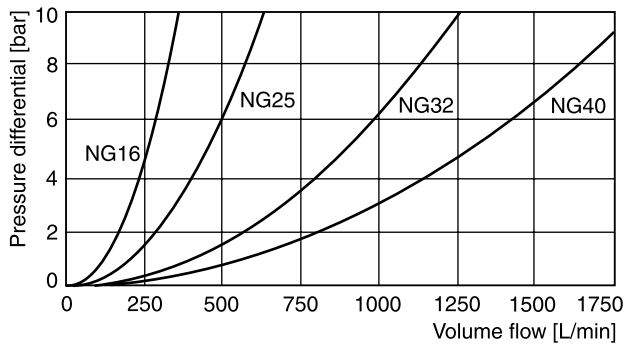
Code	Size
16	NG16
25	NG25
32	NG32
40	NG40
50	NG50
63	NG63
80	NG80
100	NG100

Code	Spring
L	0.1 bar
N	0.5 bar
S	1.6 bar
T	2.5 bar
U	4.0 bar

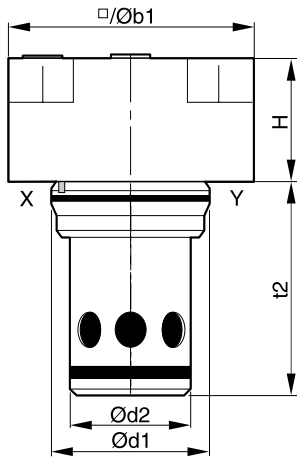
Bold letters =
Short-term availability

Performance Curves / Dimensions

Performance curves



Dimensions



Size	16	25	32	40	50	63	80	100
H	40	45	50	60	70	85	105	120
b1	65	85	102	125	140	180	250	300
d1 ^{H7}	32	45	60	75	90	120	145	180
d2 ^{H7}	25	34	45	56	68	90	110	135
t2 ^{+0.1}	55.5	72	85	105	122	155	205	245

8

NG	Bolt kit - DIN912 12.9	[Nm]	Kit	
			NBR	FPM
10	BK-M8x50-4pcs	33	SK-CB-E160	SK-CB-E160V
25	BK-M12x50-4pcs	115	SK-CB-E250	SK-CB-E250V
32	BK-M16x55-4pcs	281	SK-CB-E320	SK-CB-E320V
40	BK-M20x70-4pcs	553	SK-CB-E400	SK-CB-E400V
50	BK-M20x75-4pcs	553	SK-CB-E500	SK-CB-E500V
63	BK-M30x100-4pcs	1910	SK-CB-E630	SK-CB-E630V
80	BK-M24x120-8pcs	935Nm	SK-CB-E630	SK-CB-E630V
100	BK-M30x140-8pcs	1910Nm	SK-CB-E630	SK-CB-E630V

Springs

Spring Type	Ordering Number							
	NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
L (0.1 bar)	45051368	45051375	45051376	45051382	45051384	45051388	45051395	45051400
N (0.5 bar)	45051369	45051374	45051377	45051381	45051385	45051389	45051396	45051401
S (1.6 bar)	45051370	45051372	45051378	45051380	45051386	45051390	45051397	45051402
U (4.0 bar)	45051371	45051373	45051379	45051383	45051387	45051391	45051398	45051403

Characteristics

**Hydraulically Pilot Operated Check Valve
Series SVLB**

Hydraulically pilot operated check valves allow free flow from A to B. The counter-flow direction is blocked.

When pressure is applied to control port X, the ring chamber flow from B to A is released. The pilot control ratio is 6:1.

Function

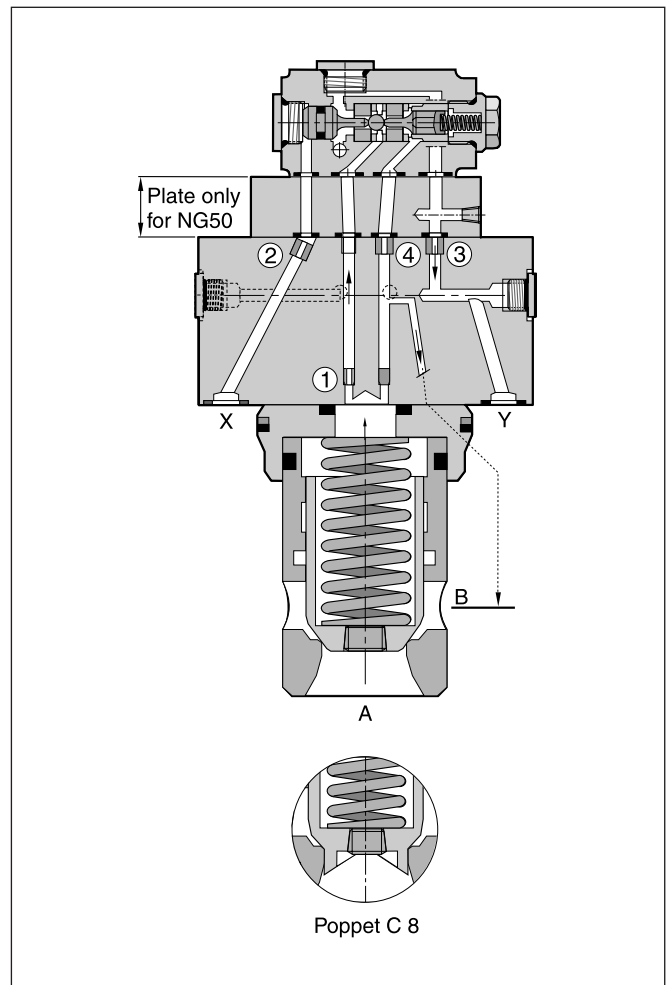
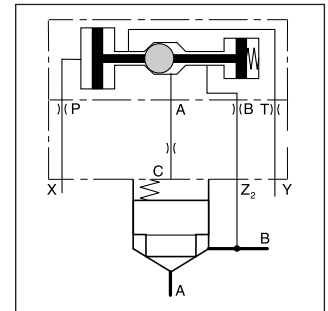
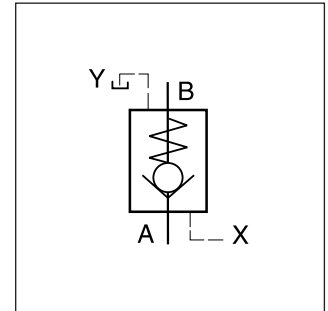
When no pressure is applied to the X-port, the flow from B to A is blocked, because the pressure in B is also effective on top of the poppet.

Pressurizing the X-port relieves the area on top of the poppet to the drain port and allows flow from B to A.

The seat design of the SVLB valve series provides leak-free separation of port A and B in the closed position.

Features

- Pilot operated check valve
- Cavity and mounting pattern acc. to ISO 7368
- Dampening poppet optional
- 5 sizes NG16 to NG50



Ordering Code / Characteristics

Ordering code

	SVL	B	10		6	E			
Seal	Hydr. operated check valve	Slip-in mounting	Design style acc. to ISO 7368	Poppet type	Pilot control ratio 6:1	Slip-in cartridge valve	Valve size	Closing spring	Design series <small>(not required for ordering)</small>
Code	Seal							Code	Spring
omit	NBR							N	0.5 bar
V	FPM							S	1.6 bar
								T	2.5 bar
								U	4.0 bar
Code	Poppet type							Code	Size
4	04							16	NG16
8 ¹⁾	08							25	NG25
								32	NG32
								40	NG40
								50	NG50

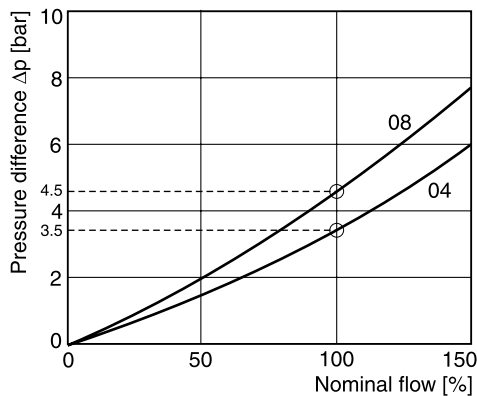
Bold letters = Short-term availability

¹⁾ with damping nose

Technical data

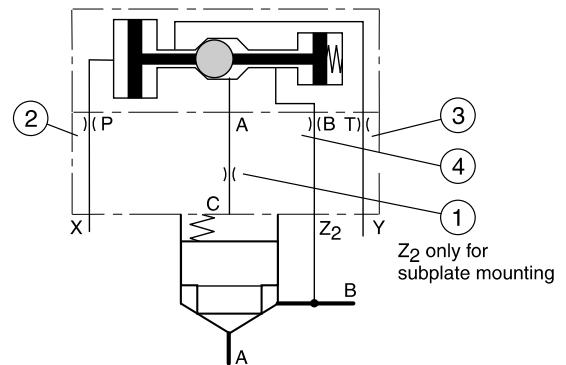
General						
Nominal size		NG16	NG25	NG32	NG40	NG50
Interface		Slip-in mounting acc. ISO 7368				
Mounting position		unrestricted				
Ambient temperature	[°C]	-20...+80				
Weight	[kg]	2.3	3.2	4.6	7.8	12.0
Hydraulics						
Max. operating pressure	[bar]	350				
Nominal flow	[l/min]	250	450	900	1300	1800
Fluid		Hydraulic oil acc. to DIN 51524...525				
Viscosity	recommended [cSt]/[mm²/s]	30...50				
	permitted [cSt]/[mm²/s]	20...380				
Fluid temperature	[C°]	-20...+70				
Filtration		ISO 4406 (1999); 18/16/13				

Δp/Q flow curve

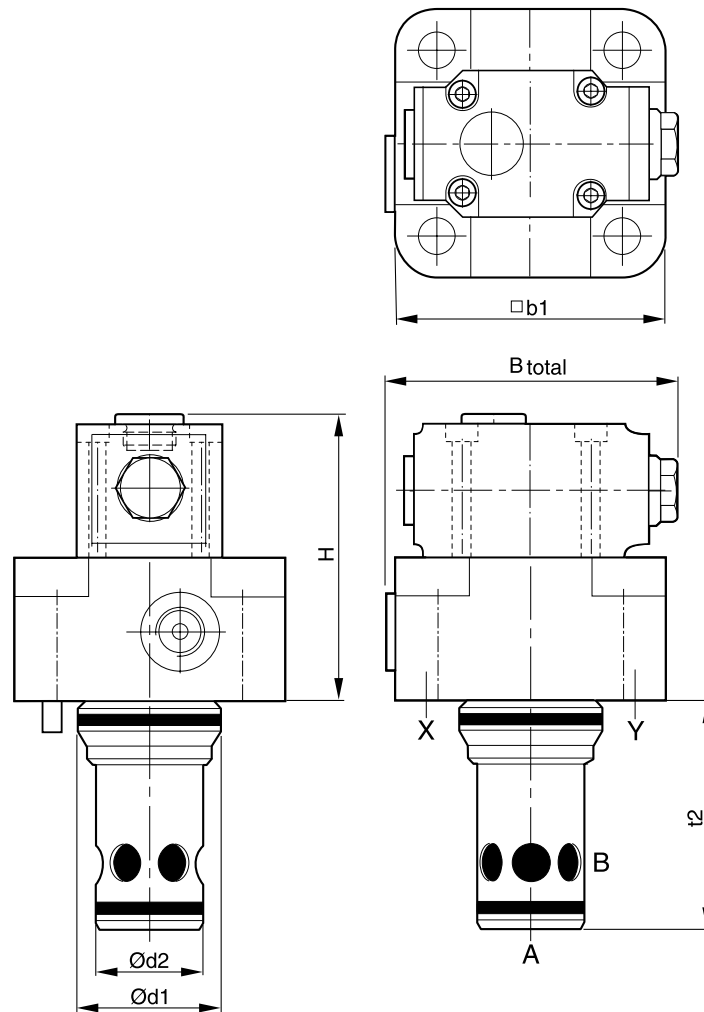


Poppet type 04, 08, without spring

Standard orifices






E16	E25	E32	E40	E50
open (M5)	open (M5)	open (M5)	open (M5)	open (M6)
Ø1.2 (M5)	Ø1.2 (M6)	Ø1.2 (M6)	Ø1.2 (M6)	Ø1.2 (M8)
open (M5)	open (M6)	open (M6)	open (M6)	open (M8)
Ø1.0 (M5)	Ø1.2 (M5)	Ø1.3 (M5)	Ø1.5 (M5)	Ø2.0 (M6)



8

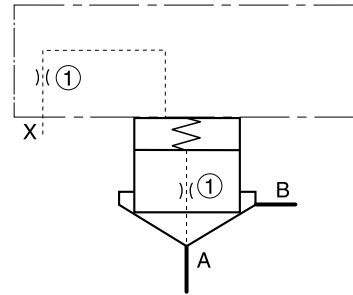
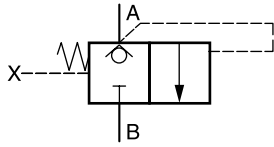
Size	16	25	32	40	50
H	84	88	93	103	138
b1	79*	85	102	125	140
d1 ^{H7}	32	45	60	75	90
d2 ^{H7}	25	34	45	55	68
t2 ^{+0.1}	56	72	85	105	122
Bges.	99	94	103	125	140

* width 65mm

NG	Bolt kit -  DIN912 12.9	 [Nm]	Kit 	
			NBR	FPM
16	BK-M8x50-4pcs	33	SK-SVLB10-E16	SK-SVLB10-E16V
25	BK-M12x50-4pcs	115	SK-SVLB10-E25	SK-SVLB10-E25V
32	BK-M16x55-4pcs	281	SK-SVLB10-E32	SK-SVLB10-E32V
40	BK-M20x70-4pcs	553	SK-SVLB10-E40	SK-SVLB10-E40V
50	BK-M20x75-4pcs	553	SK-SVLB10-E50	SK-SVLB10-E50V

2 Way Function

2 way seat valve, flow A ⇒ B

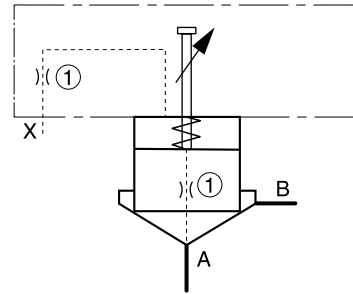
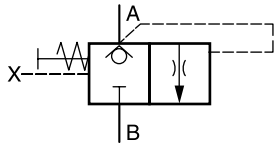


Description	Type							
	NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
Cover ¹⁾	C016AA*	C025AA*	C032AA*	C040AA*	C050AA*	C063AA*	C080AA*	C100AA*
Cover orifice (1)	1/16xØ0.8	1/16xØ1.0	1/16xØ1.2	1/8xØ1.5	1/8xØ1.8	1/8xØ2.0	1/8xØ2.2	1/8xØ2.5
Cartridge ²⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*	CE080C01*	CE100C01*
Poppet orifice (1)	1/16xØ00							
Spring	1.6 bar, type S (Order no. see spare parts)							
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs	BK-M24x120-8pcs	BK-M30x130-8pcs

Shown orifice Ø and springs are recommendations.
xxØ00 = plug
xxØ99 = open

¹⁾ Complete type see ordering code C*A
²⁾ Complete type see ordering code CE*

2 way seat valve with stroke limiter, flow A ⇒ B



8

Description	Type							
	NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
Cover ¹⁾	C016B**	C025B**	C032B**	C040B**	C050B**	C063B**	C080B**	C100B**
Cover orifice (1)	M6xØ0.8	M6xØ1.0	1/16xØ1.2	1/16xØ1.5	1/16xØ1.8	1/8xØ2.0	1/8xØ2.2	1/8xØ2.5
Cartridge ²⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*	CE080C01*	CE100C01*
Poppet orifice (1)	1/16xØ00							
Spring	1.6 bar, type S (Order no. see spare parts)							
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs	BK-M24x120-8pcs	BK-M30x130-8pcs

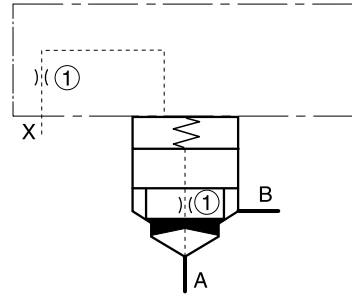
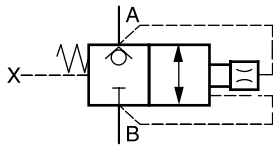
Shown orifice Ø and springs are recommendations.
xxØ00 = plug
xxØ99 = open

¹⁾ Complete type see ordering code C*B
²⁾ Complete type see ordering code CE*

Adaptor plates see chapter 12

2 Way Function

2 way functions with dampening poppet, flow A ⇌ B

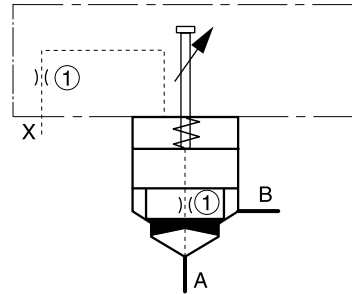
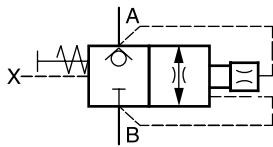


Description	Type							
	NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
Cover ¹⁾	C016AA*	C025B*	C032AA*	C040AA*	C050AA*	C063AA*	C080AA*	C100AA*
Cover orifice ①	1/16xØ0.8	1/16xØ1.0	1/16xØ1.2	1/8xØ1.5	1/8xØ1.8	1/8xØ2.0	1/8xØ2.2	1/8xØ2.5
Cartridge ²⁾	CE016C08*	CE025C08*	CE032C08*	CE040C08*	CE050C08*	CE063C08*	CE080C08*	CE100C08*
Poppet orifice ①	1/16xØ00							
Spring	1.6 bar, type S (Order no. see spare parts)							
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs	BK-M24x120-8pcs	BK-M30x130-8pcs

Shown orifice Ø and springs are recommendations.
xxØ00 = plug
xxØ99 = open

¹⁾ Complete type see ordering code C*A
²⁾ Complete type see ordering code CE*

2 way functions with stroke limiter and dampening poppet, flow A ⇌ B



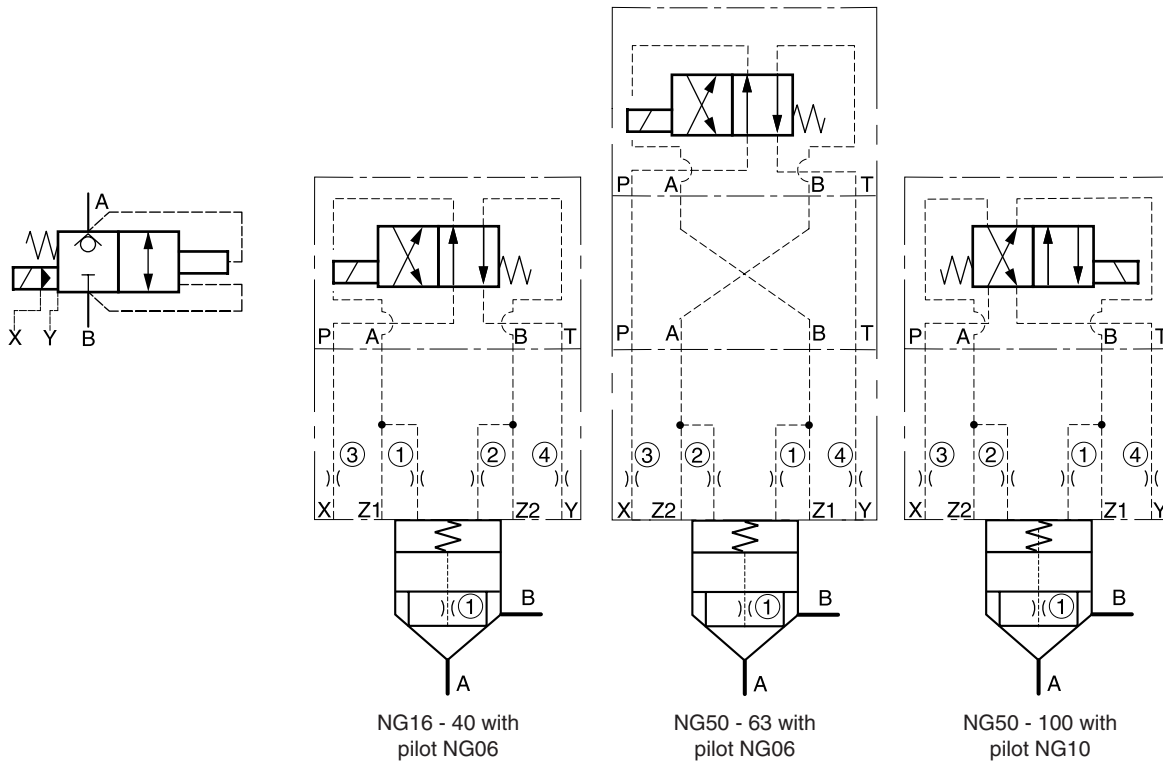
Description	Type							
	NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
Cover ¹⁾	C016B*	C025B*	C032B*	C040B*	C050B*	C063B*	C080B*	C100B*
Cover orifice ①	M6xØ0.8	M6xØ1.0	1/16xØ1.2	1/16xØ1.5	1/16xØ1.8	1/8xØ2.0	1/8xØ2.2	1/8xØ2.5
Cartridge ²⁾	CE016C08*	CE025C08*	CE032C08*	CE040C08*	CE050C08*	CE063C08*	CE080C08*	CE100C08*
Poppet orifice ①	1/16xØ00							
Spring	1.6 bar, type S (Order no. see spare parts)							
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs	BK-M24x120-8pcs	BK-M30x130-8pcs

Shown orifice Ø and springs are recommendations.
xxØ00 = plug
xxØ99 = open

¹⁾ Complete type see ordering code C*B
²⁾ Complete type see ordering code CE*

Adaptor plates see chapter 12

2 way seat valve with pilot normally closed, flow A ⇌ B



Description	Type									
	Pilot NG06					Pilot NG10				
	NG16	NG25	NG32	NG40	NG50	NG63	NG50	NG63	NG80	NG100
4/2-DC valve ¹⁾	D1VW20B*					D3W20H*				
Adaptor plate ²⁾	without				PADA1007/A-B/B-A		without			
Cover ³⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*	C050CA*	C063CA*	C080CA*	C100CA*
Cover orifice ①	M5xØ0.8	M5xØ1.0	M5xØ1.2	M5xØ1.5	M6xØ1.8	M6xØ2.0	M6xØ1.8	M6xØ2.0	1/16xØ2.2	1/16xØ2.5
Cover orifice ②	M5xØ00				M6xØ00			1/16xØ00		
Cover orifice ③	M5xØ1.0	M6xØ1.2	M6xØ1.5	M6xØ1.8	M8xØ2.0	M8xØ2.2	M8xØ2.0	M8xØ2.2	M10x1xØ2.5	M10x1xØ3.0
Cover orifice ④	M5xØ99	M6xØ99			M8xØ99C				M10x1xØ99	
Cartridge ⁴⁾	CE016C04*	CE025C04*	CE032C04*	CE040C04*	CE050C04*	CE063C04*	CE050C04*	CE063C04*	CE080C04*	CE100C04*
Poppet orifice ①	1/16NPTxØ00									
Spring	1.6 bar, type S (Order no. see spare parts)									
Bolt kit cover	BK-M8x40 -4pcs	BK-M12x50 -4pcs	BK-M16x55 -4pcs	BK-M20x70 -4pcs	BK-M20x75 -4pcs	BK-M30x100 -4pcs	BK-M24x120 -8pcs	BK-M30x130 -8pcs	BK-M24x120 -8pcs	BK-M30x140 -8pcs
Bolt kit pilot	BK-M5x30-4pcs					BK-M6x40-4pcs				

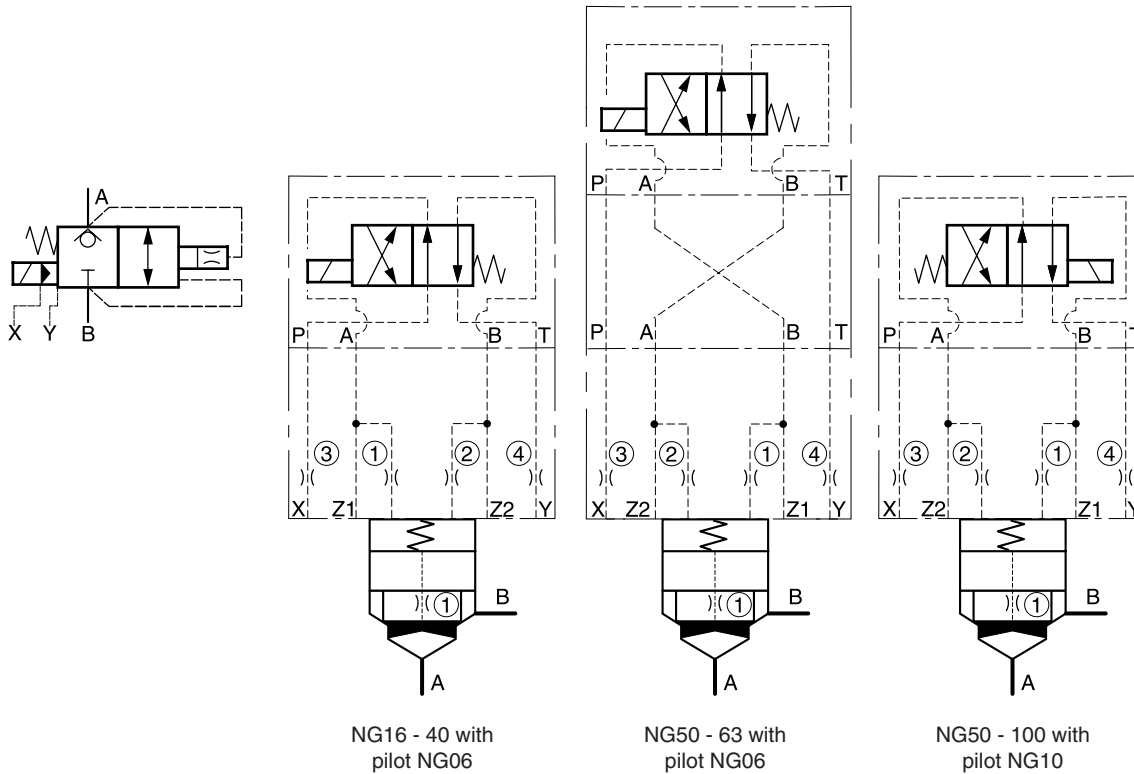
Shown orifice Ø and springs are recommendations.
xxØ00 = plug
xxØ99 = open

- ¹⁾ Complete type see chapter "Directional Control Valves", series D1VW, D3W.
- ²⁾ NG10-NG06 inclusive O-rings and mounting bolts
- ³⁾ Complete type see ordering code C*C
- ⁴⁾ Complete type see ordering code CE*

Adaptor plates see chapter 12

2 Way Function

2 way seat valve with pilot and dampening poppet, normally closed, flow A ⇌ B



NG16 - 40 with pilot NG06

NG50 - 63 with pilot NG06

NG50 - 100 with pilot NG10

8

Description	Type									
	Pilot NG06					Pilot NG10				
	NG16	NG25	NG32	NG40	NG50	NG63	NG50	NG63	NG80	NG100
4/2-DC valve ¹⁾	D1VW20B*					D3W20H*				
Adaptor plate ²⁾	without				PADA1007/A-B/B-A			without		
Cover ³⁾	C016CA*	C025CA*	C032CA*	C040CA*	C050CA*	C063CA*	C050CA*	C063CA*	C080CA*	C100CA*
Cover orifice ①	M5xØ0.8	M5xØ1.0	M5xØ1.2	M5xØ1.5	M6xØ1.8	M6xØ2.0	M6xØ1.8	M6xØ2.0	1/16xØ2.2	1/16xØ2.5
Cover orifice ②	M5xØ00				M6xØ00			1/16xØ00		
Cover orifice ③	M5xØ1.0	M6xØ1.2	M6xØ1.5	M6xØ1.8	M8xØ2.0	M8xØ2.2	M8xØ2.0	M8xØ2.2	M10x1xØ2.5	M10x1xØ3.0
Cover orifice ④	M5xØ99	M6xØ99			M8xØ99C				M10x1xØ99	
Cartridge ⁴⁾	CE016C08*	CE025C08*	CE032C08*	CE040C08*	CE050C08*	CE063C08*	CE050C08*	CE063C08*	CE080C08*	CE100C08*
Poppet orifice ①	1/16NPTxØ00									
Spring	1.6 bar, type S (Order no. see spare parts)									
Bolt kit cover	BK-M8x40 -4pcs	BK-M12x50 -4pcs	BK-M16x55 -4pcs	BK-M20x70 -4pcs	BK-M20x75 -4pcs	BK-M30x100 -4pcs	BK-M24x120 -8pcs	BK-M30x130 -8pcs	BK-M24x120 -8pcs	BK-M30x140 -8pcs
Bolt kit pilot	BK-M5x30-4pcs					BK-M6x40-4pcs				

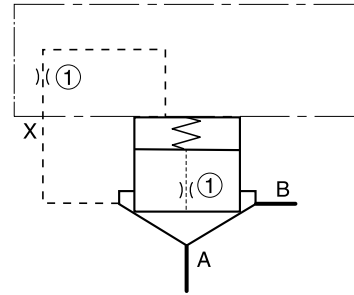
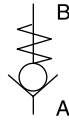
Shown orifice Ø and springs are recommendations.
xxØ00 = plug
xxØ99 = open

- ¹⁾ Complete type see chapter "Directional Control Valves", series D1VW, D3W.
- ²⁾ NG10-NG06 inclusive O-rings and mounting bolts
- ³⁾ Complete type see ordering code C*C
- ⁴⁾ Complete type see ordering code CE*

Adaptor plates see chapter 12

Check Function

Check valve, flow A ⇒ B



Description	Type							
	NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
Cover ¹⁾	C016AA*	C025AA*	C032AA*	C040AA*	C050AA*	C063AA*	C080AA*	C100AA*
Cover orifice ①	M5xØ00				M6xØ99		1/16xØ99	
Cartridge ²⁾	CE016C01*	CE025C01*	CE032C01*	CE040C01*	CE050C01*	CE063C01*	CE080C01*	CE100C01*
Poppet orifice ①	1/16NPTxØ00							
Spring	1.6 bar, type S (Order no. see spare parts)							
Bolt kit cover	BK-M8x40-4pcs	BK-M12x50-4pcs	BK-M16x55-4pcs	BK-M20x70-4pcs	BK-M20x75-4pcs	BK-M30x100-4pcs	BK-M24x120-8pcs	BK-M30x130-8pcs

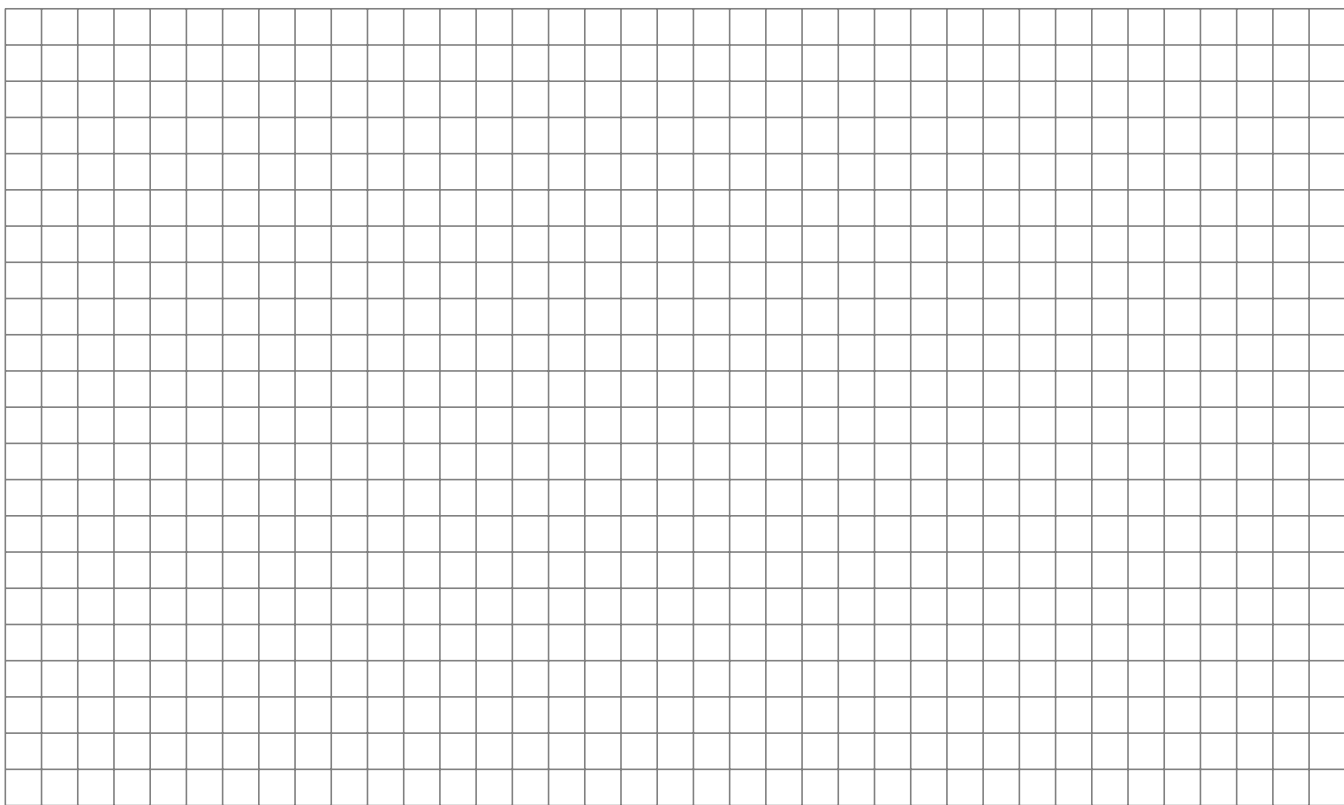
Shown orifice Ø and springs are recommendations.
xxØ00 = plug
xxØ99 = open

¹⁾ Complete type see ordering code C*A
²⁾ Complete type see ordering code CE*

Adaptor plates see chapter 12

Notes

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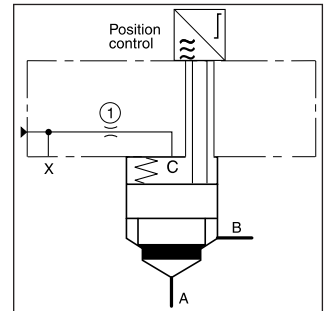
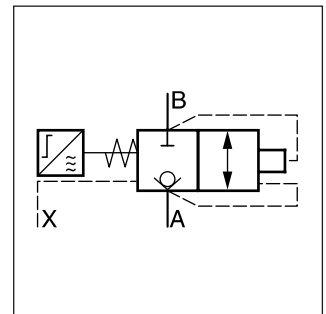
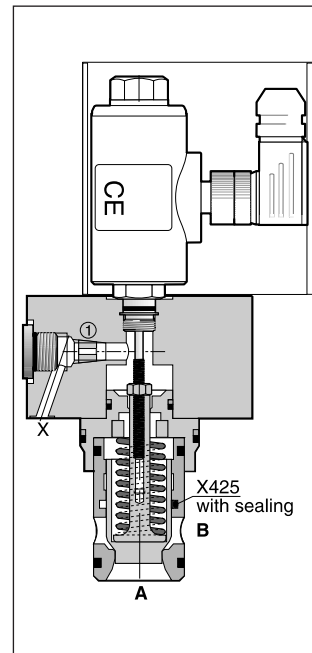


The 2/2 way seat valves series C10 D*C are equipped with an inductive switch to monitor the closed position. After the poppet is lifted from the seat, the design of the poppet ensures that only a minimum amount of oil can pass the seat before the inductive switch changes the signal.

The poppet has a 60/40 area ratio ($A_A = 0.6 A_C$, $A_B = 0.4 A_C$) and is capable for flow from A to B and B to A.

Features

- German trade association certificate, No. 00 077
- Cavity and mounting pattern acc. to ISO 7368
- Monitored closed position
- Inductive switch CE conform
- Optional poppet sealing
- 6 sizes NG16 up to NG63



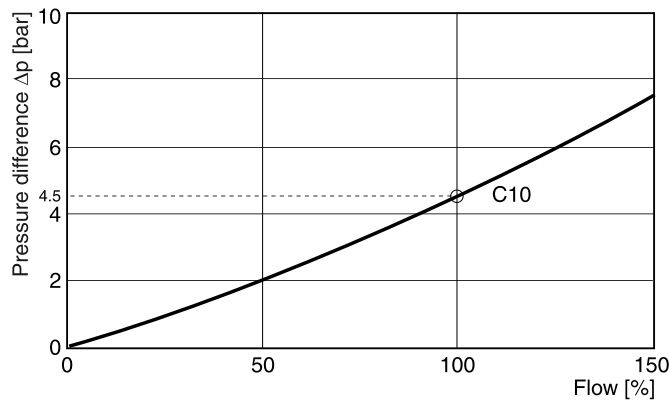
Ordering code

	C	10	D	E	C	101	E	/	0					00	
Seal	2/2 way valve	Poppet shape	Hydraulically operated	Design series	Inductive monitoring German trade association certificate 00 077	Cover	Slip-in cartridge	Nominal size	Cavity and mounting pattern DIN ISO 7368	Spring	Orifice	Orifice	Orifice	Poppet seal	Poppet seal
Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code	Code
omit	NBR	omit	omit	omit	omit	omit	omit	omit	omit	omit	omit	omit	omit	omit	omit
V	FPM	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Code	Size	Code	Size	Code	Size	Code	Size	Code	Size	Code	Size	Code	Size	Code	Size
16	NG16	16	NG16	16	NG16	16	NG16	16	NG16	16	NG16	16	NG16	16	NG16
25	NG25	25	NG25	25	NG25	25	NG25	25	NG25	25	NG25	25	NG25	25	NG25
32	NG32	32	NG32	32	NG32	32	NG32	32	NG32	32	NG32	32	NG32	32	NG32
40	NG40	40	NG40	40	NG40	40	NG40	40	NG40	40	NG40	40	NG40	40	NG40
50	NG50	50	NG50	50	NG50	50	NG50	50	NG50	50	NG50	50	NG50	50	NG50
63	NG63	63	NG63	63	NG63	63	NG63	63	NG63	63	NG63	63	NG63	63	NG63
Code	Spring	Code	Spring	Code	Spring	Code	Spring	Code	Spring	Code	Spring	Code	Spring	Code	Spring
L	Opening press. 0.1 bar	L	Opening press. 0.1 bar	L	Opening press. 0.1 bar	L	Opening press. 0.1 bar	L	Opening press. 0.1 bar	L	Opening press. 0.1 bar	L	Opening press. 0.1 bar	L	Opening press. 0.1 bar
N	Opening press. 0.5 bar	N	Opening press. 0.5 bar	N	Opening press. 0.5 bar	N	Opening press. 0.5 bar	N	Opening press. 0.5 bar	N	Opening press. 0.5 bar	N	Opening press. 0.5 bar	N	Opening press. 0.5 bar
S	Opening press. 1.6 bar	S	Opening press. 1.6 bar	S	Opening press. 1.6 bar	S	Opening press. 1.6 bar	S	Opening press. 1.6 bar	S	Opening press. 1.6 bar	S	Opening press. 1.6 bar	S	Opening press. 1.6 bar
U	Opening press. 4.0 bar	U	Opening press. 4.0 bar	U	Opening press. 4.0 bar	U	Opening press. 4.0 bar	U	Opening press. 4.0 bar	U	Opening press. 4.0 bar	U	Opening press. 4.0 bar	U	Opening press. 4.0 bar

Technical Data / Flow Diagram

General		16	25	32	40	50	63
Size							
Interface		2 way slip-in cartridge valves DIN ISO 7368					
Mounting position		unrestricted					
Operation		Hydraulic					
Ambient temperature	[C°]	-40...+60					
Weight	[kg]	1.5	2.7	4.3	7.4	12	23
Hydraulic							
Max. operating press., connection A, B, X	[bar]	350					
Nominal flow Δp 5 bar	[l/min]	220	450	900	1300	1800	3600
Fluid		Hydraulic oil acc. to DIN 51 524...525					
Fluid temperature, recommended	[C°]	+30...+50					
permitted	[C°]	-20...+60					
Viscosity recommended	[cSt]/[mm ² /s]	30...80					
permitted	[cSt]/[mm ² /s]	20...380					
Filtration		NAS 1638 class 9, to be achieved by $\beta_{10} > 75$					
Control volume at max. stroke	[cm ³]	2.03	6.45	12.21	20.32	39.40	94.56
Control surface (surface C = 100%) A/B	[%]	approx. 60 / 40 related on surface C					
Opening pressure							
flow direction B→A	[bar]	Spring: L = 0.25; N = 1.25; S = 4.0; U = 10.0					
flow direction A→B	[bar]	Spring: L = 0.16; N = 0.85; S = 2.7; U = 6.6					
Electrical (Inductive switch)		See position control					

Flow diagram

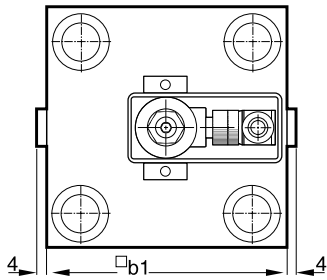


Orifice recommendation and thread

Orifice	NG16	NG25	NG32	NG40	NG50	NG63
No.: 1	1/16 Ø0.8	1/16 Ø1.2	1/16 Ø1.5	1/8 Ø2.0	1/8 Ø2.5	1/8 Ø3.0

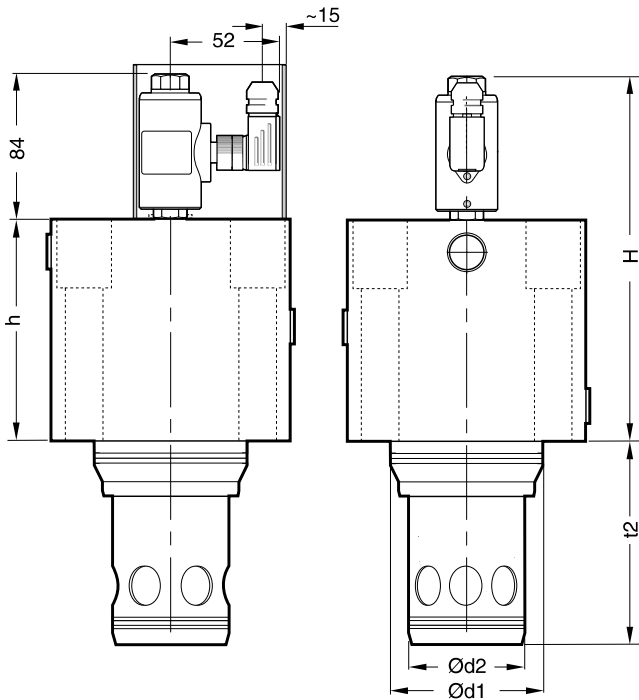
Orifices Ø in mm, thread in NPT

Dimensions

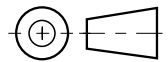


Nominal size	H	h	b1	d1	d2	t2 ^{+0.1}
16	130	40	79 ¹⁾	32	25	56
25	135	45	85	45	34	72
32	140	50	102	60	45	85
40	150	60	125	75	55	105
50	160	70	140	90	68	122
63	175	85	180	120	90	155

¹⁾ width 65 mm



Cavity and mounting pattern acc. to ISO 7368



8

Seal and bolt kits

Nominal size		16	25	32	40	50	63
Seal kit	FPM	SK-CBE16V	SK-CBE25V	SK-CBE32V	SK-CBE40V	SK-CBE50V	SK-CBE63V
	NBR	SK-CBE16	SK-CBE25	SK-CBE32	SK-CBE40	SK-CBE50	SK-CBE63
Bolt kit	[DIN 912 12.9]	BK-M8x40- 4pcs	BK-M12x50- 4pcs	BK-M16x55- 4pcs	BK-M20x70- 4pcs	BK-M20x75- 4pcs	BK-M30x100- 4pcs
Recommended torque	[Nm]	27	94	234	460	460	1570

Attention!

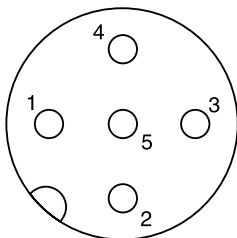
The switch may only be adjusted by the valve manufacturer. The exchange of individual modules is not permitted.

Position Control

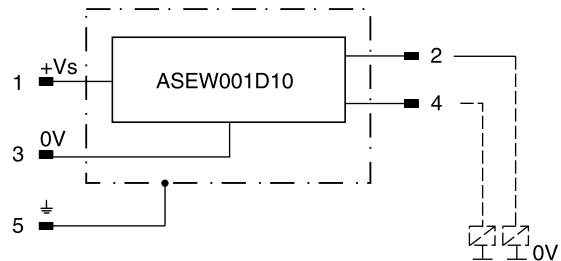
Electrical characteristics of position control as per IEC 61076-2-101 (M12x1)

Protection class		IP 65 in accordance with EN 60529 (plugged and mounted)
Ambient temperature	[°C]	0...+50
Supply voltage / ripple	[V]	18...42 / 10%
Current consumption without load	[mA]	≤ 30
Max. output current per channel, ohmic	[mA]	400
Min. output load per channel, ohmic	[kOhm]	100
Max. output drop at 0.2A	[V]	≤ 1.1
Max. output drop at 0.4A	[V]	≤ 1.6
EMC		EN50081-1 / EN50082-2
Max. tolerance ambient field strength	[A/m]	<1200
Min. distance to next AC solenoid	[m]	>0.1
Interface		M12x1
Wiring min.	[mm²]	5 x 0.25 brad shield recommended
Wiring length max.	[m]	50 recommended

M12 pin assignment



- 1 + Supply 18...42V
- 2 Normally open
- 3 0V
- 4 Normally closed
- 5 Earth ground



8

Extract from the German trade association certificate



Fachausschuss Maschinenbau,
Hebezeuge, Hütten- und
Walzwerksanlagen
Prüf- und Zertifizierungsstelle
im BG-PRÜFZERT

Hauptverband der gewerblichen
Berufsgenossenschaften

00 077

Bescheinigungs-Nummer

Name und Anschrift
des Bescheinigungsinhabers:
(Auftraggeber)

Parker Hannifin GmbH
Hydraulic Controls Division
Gutenbergstr. 38 - 40, D- 41564 Kaarst

Name und Anschrift
des Herstellers:

Parker Hannifin GmbH
Hydraulic Controls Division
Gutenbergstr. 38 - 40, D- 41564 Kaarst

Zeichen des Auftraggebers:

Zeichen der Prüf- und Zertifizierungsstelle:
MHHW 612.1:612.28-UB Gb/bt

Ausstellungsdatum:
03.Januar 2007

Produktbezeichnung:

2/2- Wegesitzventil mit Überwachung
Einbauventil nach DIN 24342 (entspricht DIN ISO 7368)

Typ:

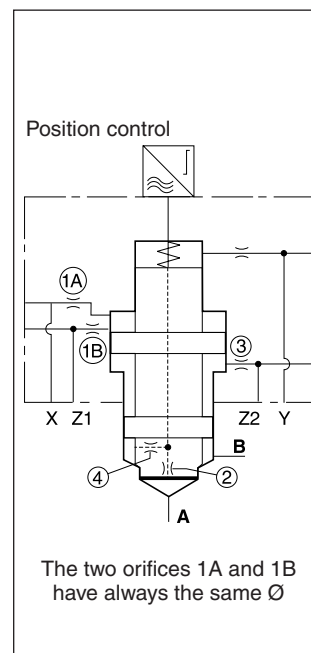
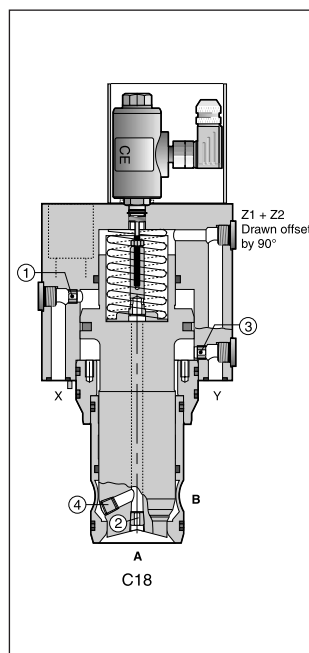
C10 DEC 101.....

Das geprüfte Baumuster entspricht den einschlägigen Bestimmungen der Richtlinie 98/37/EG (**Maschinen**).

Active 2/2 way monitored seat valves with cartridge design according to ISO 7368 are preferably used for safety circuits: mainly for safety guards, mould form tools and locking mechanisms for presses and injection moulding machines. Pilot pressure actively opens and closes the main poppet - independent of pressure in the main ports.

Features

- German trade association certificate, No. 00 078
- Cavity and mounting pattern acc. to ISO 7368
- Monitored closed position
- Inductive switch CE conform
- Active design with separate control surfaces
- Sealing between control surfaces and connection B
- 5 sizes NG25 up to NG63



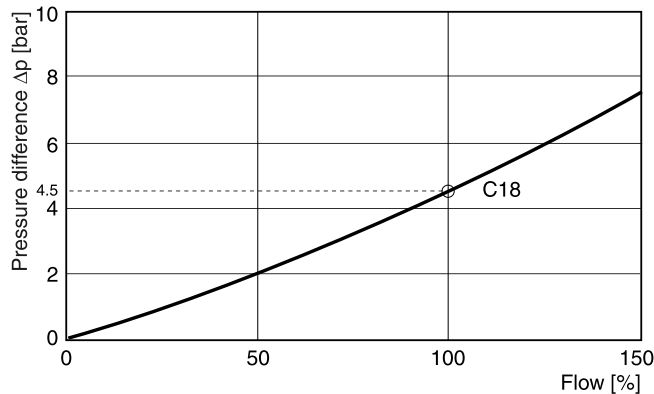
Ordering code

□	C	18	D	E	C	107	E	□ / 0	□	□ □ □ □	
Seal	2/2 way valve	Poppet shape	Hydraulically operated	Design series	Inductive monitoring German trade association certificate 00 077	Cover	Slip-in cartridge	Nominal size	Cavity and mounting pattern DIN ISO 7368	Spring	Orifice
Code	Seal									Code	Orifice
omit	NBR									99	Without orifice, open
V	FPM										
Code	Size										
25	NG25										
32	NG32										
40	NG40										
50	NG50										
63	NG63										
Code	Spring										
S	Opening press. 1.6 bar										
U	Opening press. 4.0 bar										

Technical Data / Flow Diagram

General		25	32	40	50	63
Size						
Interface		2 way slip-in cartridge valves DIN ISO 7368				
Mounting position		unrestricted				
Operation		Hydraulic				
Ambient temperature	[C°]	-40...+60				
Weight	[kg]	3.2	6.7	8.7	13.8	26.3
Hydraulic						
Max. operating pressure, all connections	[bar]	350				
Nominal flow, Δp 5 bar	[L/min]	450	900	1300	1800	3600
Fluid		Hydraulic oil acc. to DIN 51 524...525				
Fluid temperature	recommended [C°]	+30...+50				
	permitted [C°]	-20...+60				
Viscosity	recommended [cSt]/[mm²/s]	30...80				
	permitted [cSt]/[mm²/s]	20...380				
Filtration		NAS 1638 class 9, to achieved by β10 > 75				
Control volume spring chamber, surface C	[cm³]	6.45	12.21	20.32	39.40	94.56
Control surface	FC [%]	100				
	FSt [%]	123.8	108.6	121.5	117	121
	FA/B [%]	approx. 60 / 40 related on surface C				
Opening pressure	flow direction B→A [bar]	Spring: L = 0.25; N = 1.25; S = 4.0; U = 10.0				
	flow direction A→B [bar]	Spring: L = 0.16; N = 0.85; S = 2.7; U = 6.6				
Electrical (inductive switch)		See position control				

Flow diagram



Orifice thread

Orifice	NG25	NG32	NG40	NG50	NG63
1	M6	M6	M6	*1/16	*1/8
2	M6	M6	M6	*1/16	*1/16
3	M6	M6	M6	*1/16	*1/8
4	M6	M6	M6	*1/16	*1/16

*Thread in NPT

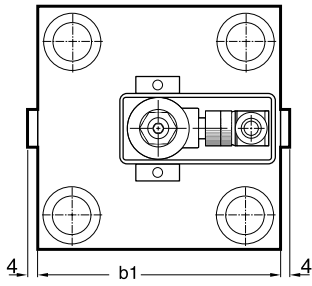
Orifice recommendation

Orifice	NG25	NG32	NG40	NG50	NG63
① - ④	Ø 1.2	Ø 1.5	Ø 2.0	Ø 2.5	Ø 3.0

Depending on function, plugs must be used.

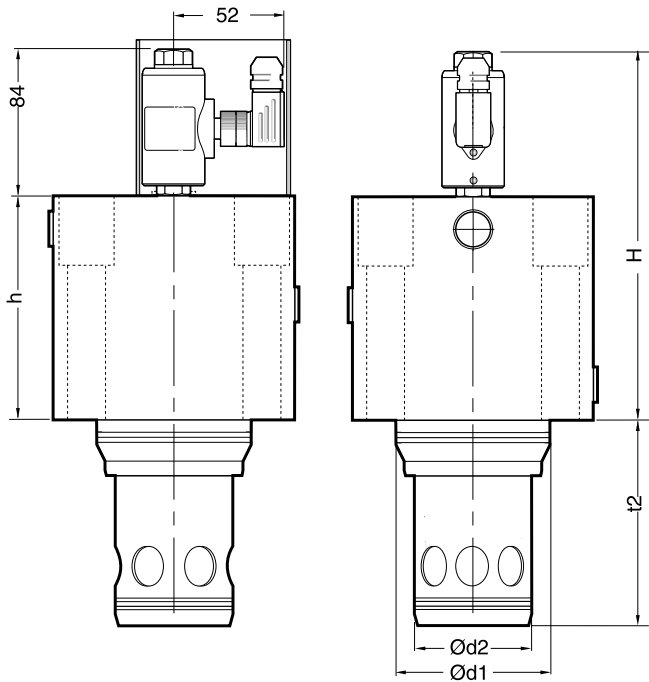
Dimensions / Connection Diagrams / Kits

Dimensions

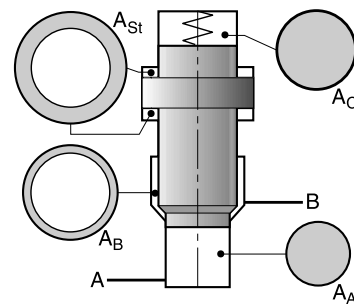


Cavity hole and mounting pattern acc. to ISO 7368. See series CE and C.

Nominal size	25	32	40	50	63
H	174	174	194	214	234
h	90	90	110	130	150
b1	85	102	125	140	180
d1	45	60	75	90	120
d2	34	45	55	68	90
t2 +0.1	72	85	105	122	155

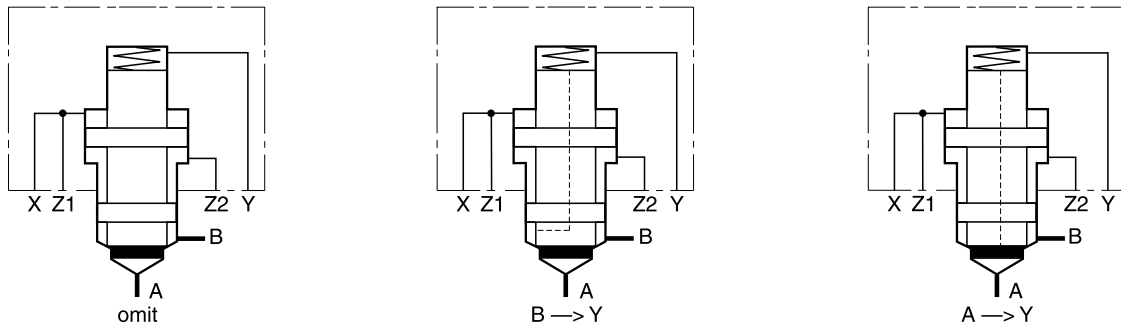


Control surfaces



NG	AA [%]	AB [%]	AC [%]	Ast [%]
25	60	40	100	124
32	60	40	100	109
40	60	40	100	121
50	60	40	100	117
63	60	40	100	121

Pilot guide inside the poppet



Seal and bolt kits

Nominal size		25	32	40	50	63
Seal kit	FPM	SK-C13DB10-E25V	SK-C13DB10-32V	SK-C13DB-E40V	SK-C13DB10-E50V	SK-C13DB10-E63V
	NBR	SK-C13DB10-E25	SK-C13DB10-32	SK-C13DB10-E40	SK-C13DB10-E50	SK-C13DB10-E63
Bolt kit	[DIN 912 12.9]	BK-M12x50-4pcs	BK-M16x90-4pcs	BK-M20x110-4pcs	BK-M20x120-4pcs	BK-M30x160-4pcs
Recommended torque	[Nm]	94	234	460	460	1570

Attention!

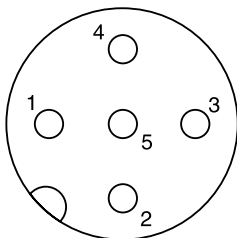
The switch may only be adjusted by the valve manufacturer. The exchange of individual modules is not permitted.

Position Control

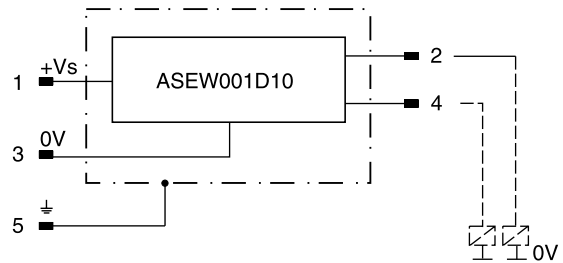
Electrical characteristics of position control as per IEC 61076-2-101 (M12x1)

Protection class		IP 65 in accordance with EN 60529 (plugged and mounted)
Ambient temperature	[°C]	0...+50
Supply voltage / ripple	[V]	18...42 / 10%
Current consumption without load	[mA]	≤ 30
Max. output current per channel, ohmic	[mA]	400
Min. output load per channel, ohmic	[kOhm]	100
Max. output drop at 0.2A	[V]	≤ 1.1
Max. output drop at 0.4A	[V]	≤ 1.6
EMC		EN50081-1 / EN50082-2
Max. tolerance ambient field strength	[A/m]	<1200
Min. distance to next AC solenoid	[m]	>0.1
Interface		M12x1
Wiring min.	[mm²]	5 x 0.25 braed shield recommended
Wiring length max.	[m]	50 recommended

M12 pin assignment



- 1 + Supply 18...42V
- 2 Normally open
- 3 0V
- 4 Normally closed
- 5 Earth ground



8

Extract from the German trade association certificate



Fachausschuss Maschinenbau,
Hebezeuge, Hütten- und
Walzwerksanlagen
Prüf- und Zertifizierungsstelle
im BG-PRÜFZERT

Hauptverband der gewerblichen
Berufsgenossenschaften

00 078

Bescheinigungs-Nummer

Name und Anschrift
des Bescheinigungsinhabers:
(Auftraggeber)

Parker Hannifin GmbH
Hydraulic Controls Division
Gutenbergstr. 38 - 40, D- 41564 Kaarst

Name und Anschrift
des Herstellers:

Parker Hannifin GmbH
Hydraulic Controls Division
Gutenbergstr. 38 - 40, D- 41564 Kaarst

Zeichen des Auftraggebers:

Zeichen der Prüf- und Zertifizierungsstelle:
MHHW 612.1:612.28-UB Gb/bt

Ausstellungsdatum:
03.Januar 2007

Produktbezeichnung:

2/2- Wegesitzventil mit Überwachung
aktiv gesteuerte Einbauventile nach DIN 24342 (entspricht DIN ISO 7368)

Typ:

C18 DEC 107.....

Das geprüfte Baumuster entspricht den einschlägigen Bestimmungen der Richtlinie 98/37/EG (**Maschinen**).

Characteristics

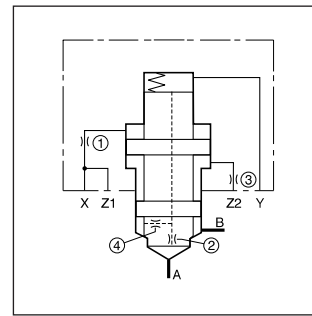
**2 Way Slip-In Cartridge Valves
Series C18 DB**

Active 2/2 way seat valves with cartridge design according to ISO 7368 are preferably used where opening and closing should be controlled by pilot pressure only - independent of the pressure in the main ports.

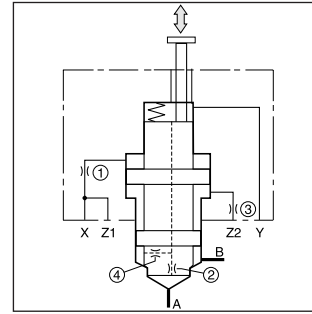
The C18 DB series is offered as hydraulically controlled valve (C18 DB 107), with additional stroke limiter (C18 DBN 112) and with the mounting pattern for a pilot valve (C18 DB 121).

Features

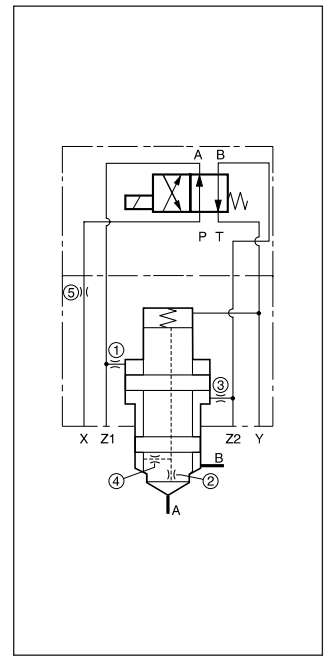
- Cavity and mounting pattern acc. to ISO 7368
- Active design with separate control areas
- Sealing between control surfaces and connection B
- Up to 5 sizes:
 - C18 DB 107 - 5 sizes NG25 up to NG63
 - C18 DBN 112 - 3 sizes NG25 up to NG40
 - C18 DB 121 - 2 sizes NG32 up to NG40



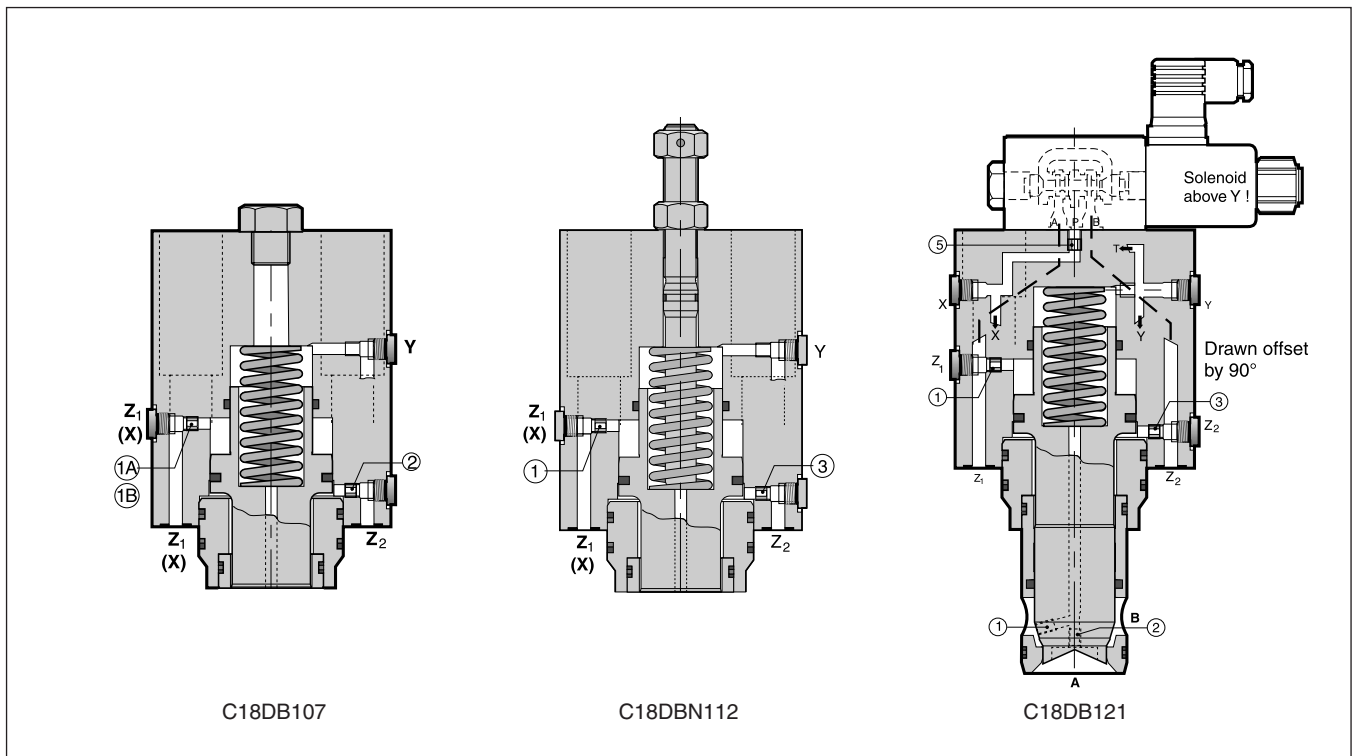
C18DB107



C18DBN112



C18DB121



C18DB107

C18DBN112

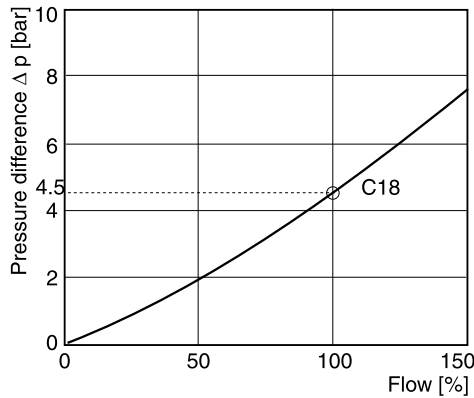
C18DB121

Ordering Code

	C	18	D	B			E	/	0		①	②	③	④	⑤ ¹⁾																															
Seal	2/2 way valve	Poppet with damping	Hydraulically operated	Design series	Stroke limiter	Cover	Slip-in cartridge	Nominal size	Cavity and mounting pattern DIN ISO 7368	Spring	Orifice																																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>Code</th><th>Seal</th></tr> <tr><td>omit</td><td>NBR</td></tr> <tr><td>V</td><td>FPM</td></tr> </table>		Code	Seal	omit	NBR	V	FPM	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>Code</th><th>Stroke limiter</th></tr> <tr><td>omit</td><td>Cover 107 and 121, no stroke limiter</td></tr> <tr><td>N</td><td>Cover 112, with stroke limiter, adjustment spindle and lock nut</td></tr> </table>			Code	Stroke limiter	omit	Cover 107 and 121, no stroke limiter	N	Cover 112, with stroke limiter, adjustment spindle and lock nut	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>Code</th><th>Cover</th></tr> <tr><td>107</td><td>Standard, without add. function</td></tr> <tr><td>112</td><td>With stroke limiter, only NG25, 32 and 40</td></tr> <tr><td>121</td><td>Designed for DC pilot valves only NG32 and 40</td></tr> </table>		Code	Cover	107	Standard, without add. function	112	With stroke limiter, only NG25, 32 and 40	121	Designed for DC pilot valves only NG32 and 40	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>Code</th><th>Spring</th></tr> <tr><td>S</td><td>Opening press. 1.6 bar</td></tr> <tr><td>U</td><td>Opening press. 4.0 bar</td></tr> </table>					Code	Spring	S	Opening press. 1.6 bar	U	Opening press. 4.0 bar	<p>¹⁾ only for code 121</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>Code</th><th>Orifice</th></tr> <tr><td>99</td><td>Without orifice, open</td></tr> </table> <p>The two orifices 1A and 1B have always the same Ø</p> <p>○ Orifice (see accessories)</p>					Code	Orifice	99	Without orifice, open
Code	Seal																																													
omit	NBR																																													
V	FPM																																													
Code	Stroke limiter																																													
omit	Cover 107 and 121, no stroke limiter																																													
N	Cover 112, with stroke limiter, adjustment spindle and lock nut																																													
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Code	Orifice																																													
99	Without orifice, open																																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th>Code</th><th>Size</th></tr> <tr><td>25</td><td>NG25</td></tr> <tr><td>32</td><td>NG32</td></tr> <tr><td>40</td><td>NG40</td></tr> <tr><td>50</td><td>NG50</td></tr> <tr><td>63</td><td>NG63</td></tr> </table>		Code	Size	25	NG25	32	NG32	40	NG40	50	NG50	63	NG63																																	
Code	Size																																													
25	NG25																																													
32	NG32																																													
40	NG40																																													
50	NG50																																													
63	NG63																																													

General						
Size		25	32	40	50	63
Design type		2 way slip-in cartridge valves DIN ISO 7368				
Mounting position		unrestricted				
Operation		Hydraulic				
Ambient temperature	[C°]	-40...+60				
Weight	[kg]	3.2	6.7	8.7	13.8	26.3
Hydraulic						
Operating pressure, all connections	[bar]	350				
Nominal flow, Δp 5 bar	[L/min]	450	900	1300	1800	3600
Fluid		Hydraulic oil acc. to DIN 51 524...525				
Fluid temperature	recommended [C°]	+30...+50				
	permitted [C°]	-20...+60				
Viscosity	recommended [mm²/s]	30...80				
	permitted [mm²/s]	20...380				
Contamination		NAS 1638 class 9, to achieved by β10 > 75				
Control volume spring chamber, surface C	[cm³]	6.45	12.21	20.32	39.40	94.56
Control surface	FC	100				
	FSt	123.8	108.6	121.5	117	121
	FA/B	approx. 60 / 40 related on surface C				
Opening pressure	flow direction B→A	[bar] Spring: L = 0.25; N = 1.25; S = 4.0; U = 10.0				
	flow direction A→B	[bar] Spring: L = 0.16; N = 0.85; S = 2.7; U = 6.6				

Flow diagram



8

Orifice thread

Orifice	NG25	NG32	NG40	NG50	NG63
1	M6	M6	M6	*1/16	*1/8
2	M6	M6	M6	*1/16	*1/16
3	M6	M6	M6	*1/16	*1/8
4	M6	M6	M6	*1/16	*1/16
5	—	M6	M6	—	—

*Thread in NPT

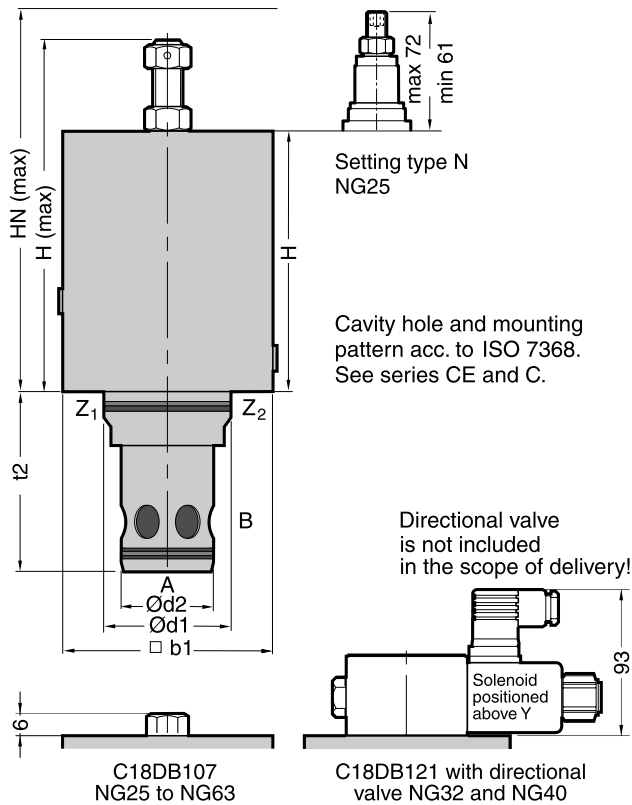
Orifice recommendation

Orifice	NG25	NG32	NG40	NG50	NG63
① - ⑤	Ø 1.2	Ø 1.5	Ø 2.0	Ø 2.5	Ø 3.0

Depending on function, plugs and orifices must be used.

Dimensions / Kits

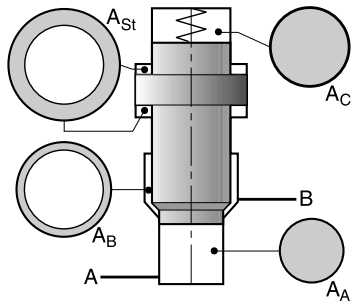
Dimensions



Nominal size	25	32	40	50	63
H max	234	142	208	189	241
HN max	162	197	227	202	222
h	90	125	140	130	150
b1	85	102	125	140	180
d1	45	60	75	90	120
d2	34	45	55	68	90
t2 + 0.1	72	85	105	122	155

8

Control surfaces



NG	Aa [%]	Ab [%]	Ac [%]	Ast [%]
25	60	40	100	124
32	60	40	100	109
40	60	40	100	121
50	60	40	100	117
63	60	40	100	121

Seal kits

Nominal size		25	32	40	50	63
Seal kit	FPM	SK-C13DB10-E25V	SK-C13DB10-32V	SK-C13DB-E40V	SK-C13DB10-E50V	SK-C13DB10-E63V
	NBR	SK-C13DB10-E25	SK-C13DB10-32	SK-C13DB10-E40	SK-C13DB10-E50	SK-C13DB10-E63

Mounting kits

Nominal size		25	32	40	50	63
Cover code 107 consisting of:	[DIN 912 12.9]	BK-M12x50-4pcs	BK-M16x90-4pcs	BK-M20x110-4pcs	BK-M20x120-4pcs	BK-M30x160-4pcs
Cover code 112 consisting of:	[DIN 912 12.9]	BK-M12x50-4pcs	BK-M16x90-4pcs	BK-M20x110-4pcs	—	—
Cover code 121 consisting of:	[DIN 912 12.9]	—	BK-M16x90-4pcs	BK-M20x110-4pcs	—	—
Recommended torque	[Nm]	94	234	460	460	1570

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