

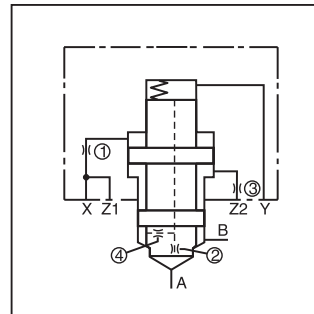
General Description

Series C18DB 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.

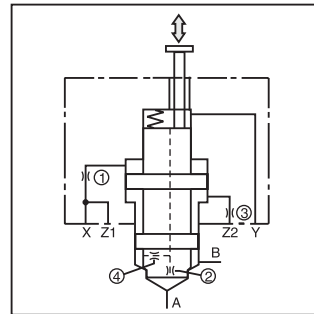
Series C18DB is offered as hydraulically controlled valve (C18DB107), with additional stroke limiter (C18DBN112) and with the mounting pattern for a pilot valve (C18DB121).

Features

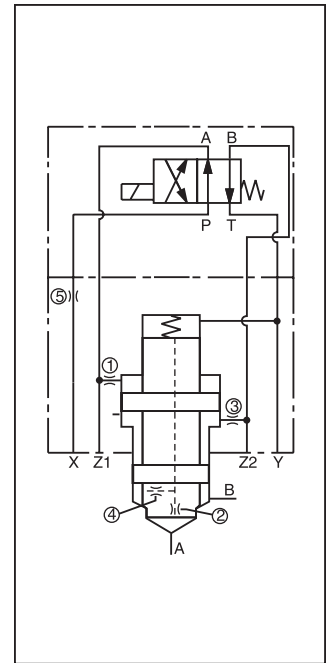
- Cavity and mounting pattern according to ISO 7368.
- Active design with separate control areas.
- Sealing between control surfaces and connection B.
- Up to 5 sizes:
 - C18DB107 5 sizes NG25 up to NG63
 - C18DBN112 3 sizes NG25 up to NG40
 - C18DB121 2 sizes NG32 up to NG40



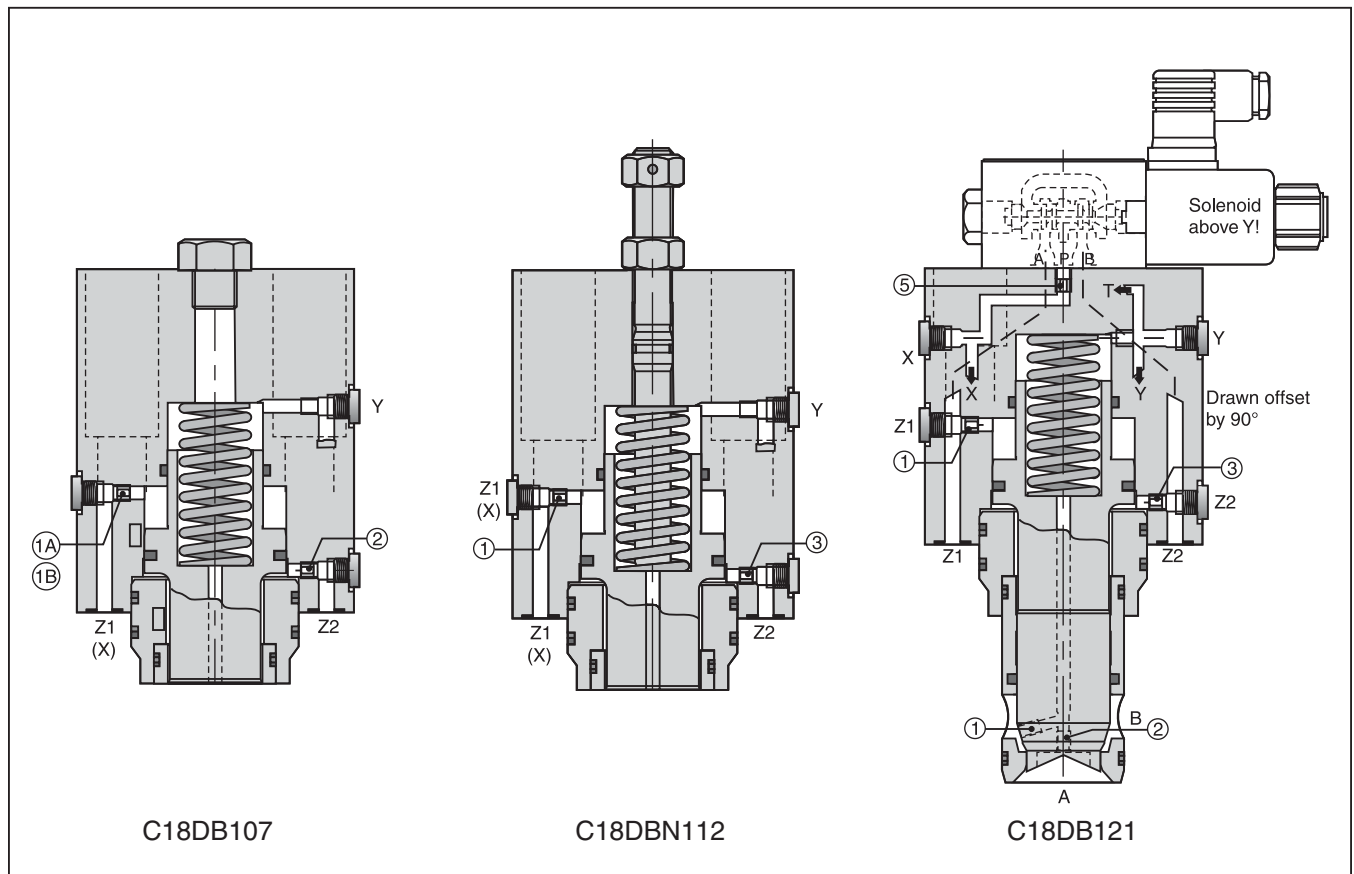
C18DB107



C18DBN112



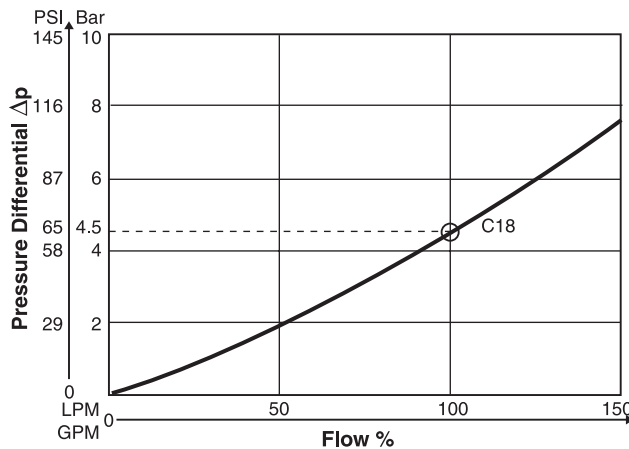
C18DB121

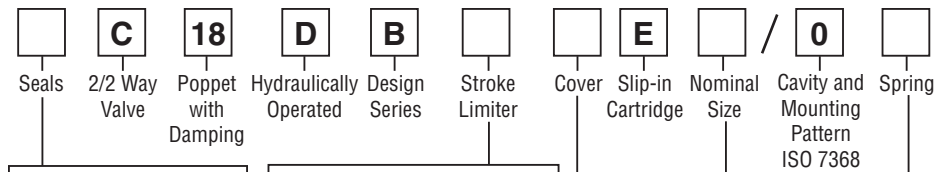


Specifications

General					
Size	NG25	NG32	NG40	NG50	NG63
Interface	2-way slip-in cartridge valve according to ISO 7368				
Mounting Position	Unrestricted				
Operation	Hydraulic				
Ambient Temperature	-40°C to +60°C (-40°F to +140°F)				
Hydraulic					
Maximum Operating Pressure	350 Bar (5075 PSI)				
Nominal Flow, $\Delta p = 5$ Bar (73 PSI)	450 LPM (119 GPM)	900 LPM (238 GPM)	1300 LPM (344 GPM)	1800 LPM (476 GPM)	3600 LPM (952 GPM)
Fluid	Hydraulic oil according to DIN 51524 ... 525				
Viscosity Recommended	30 to 80 cSt (mm ² /s)				
Viscosity Permitted	20 to 380 cSt (mm ² /s)				
Fluid Temperature Recommended	+30°C to +50°C (+86°F to +122°F)				
Fluid Temperature Permitted	-20°C to +60°C (-4°F to +140°F)				
Filtration	NAS 1638 class 9, to be achieved by $\beta_{10} > 75$ ISO 18/16/13				
Control Volume Spring Chamber Surface C	6.45 (cm ³)	12.21 (cm ³)	20.32 (cm ³)	39.40 (cm ³)	94.56 (cm ³)
Control Surface	FC	100%			
	FSt	123.8%	108.6%	121.5%	117.0%
	FA/B	Approximately 60% / 40% related on surface C			
Opening Pressure Flow Direction B to A	L=0.25 Bar (3.6 PSI), N=1.25 Bar (18.1 PSI), S=4.0 Bar (58.0 PSI), U=10.0 Bar (145.0 PSI)				
Opening Pressure Flow Direction A to B	L=0.16 Bar (2.3 PSI), N= 0.85 Bar (12.3 PSI), S=2.7 Bar (39.2 PSI), U=6.6 Bar (95.7 PSI)				

Performance Curve





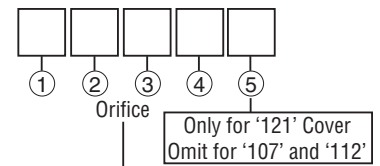
Code	Description
Omit	Nitrile
V	Fluorocarbon

Code	Description
Omit	Cover 107 and 121, No Stroke Limiter
N	Cover 112, with Stroke Limiter, Adjustment Spindle and Lock Nut

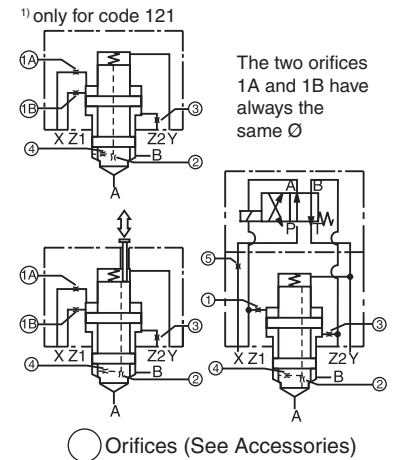
Code	Description
107	Standard, without Add. Function
112	With Stroke Limiter, only NG25, NG32 and NG40
121	Designed for DC Pilot Valves NG32 and NG40 only

Code	Description
25	NG25
32	NG32
40	NG40
50	NG50
63	NG63

Code	Description
S	1.6 Bar (23.2 PSI)
U	4.0 Bar (58.0 PSI)



Code	Description ¹⁾
99	Without Orifice, Open Orifice Options
00	Plug, Closed Orifice Options



Weight:

C18DB*25	3.2 kg (7.1 lbs.)
C18DB*32	6.7 kg (14.8 lbs.)
C18DB*40	8.7 kg (19.2 lbs.)
C18DB*50	13.8 kg (30.4 lbs.)
C18DB*63	26.3 kg (58.0 lbs.)

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.

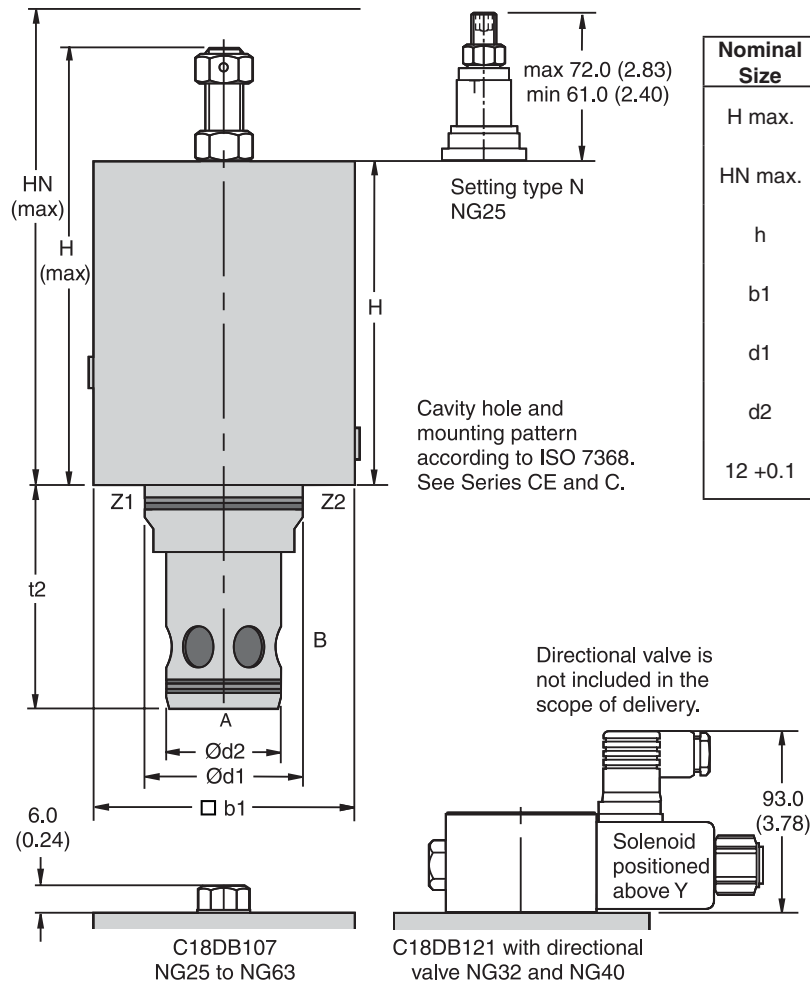
Seal Kits

Nominal Size		25	32	40	50	63
Seal Kit	Fluorocarbon	SK-C13DB10-E25V	SK-C13DB10-32V	SK-C13DB-E40V	SK-C13DB10-E50V	SK-C13DB10-E63V
	Nitrile	SK-C13DB10-E25	SK-C13DB10-32	SK-C13DB10-E40	SK-C13DB10-E50	SK-C13DB10-E63

Mounting Kits

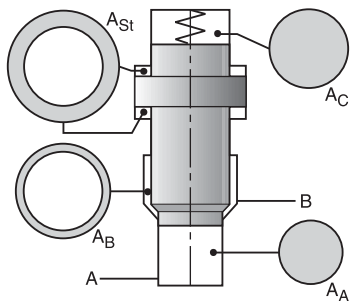
Nominal size		25	32	40	50	63
Cover code 107 Consisting of:		BK391 (BK77)	BK-M16x90-4pcs BK529	BK-M20x110-4pcs BK481	BK-M20x120-4pcs	BK-M30x160-4pcs
Cover code 112 Consisting of:		BK391 (BK77)	BK-M16x90-4pcs BK529	BK-M20x110-4pcs BK481	—	—
Cover code 121 Consisting of:		—	BK-M16x90-4pcs BK529	BK-M20x110-4pcs BK481	—	—
Recommended Torque	Nm (lb.-ft.)	94 (69.3)	234 (172.6)	460 (339.3)	460 (339.3)	1570.0 (1157.9)

Inch equivalents for millimeter dimensions are shown in (**)



Nominal Size	25	32	40	50	63
H max.	234.0 (9.21)	142.0 (5.59)	208.0 (8.19)	189.0 (7.44)	241.0 (9.49)
HN max.	162.0 (6.38)	197.0 (7.76)	227.0 (8.94)	202.0 (7.95)	222.0 (8.74)
h	90.0 (3.54)	125.0 (4.92)	140.0 (5.51)	130.0 (5.12)	150.0 (5.91)
b1	85.0 (3.35)	102.0 (4.02)	125.0 (4.92)	140.0 (5.51)	180.0 (7.09)
d1	45.0 (1.77)	60.0 (2.36)	75.0 (2.95)	90.0 (3.54)	120.0 (4.72)
d2	34.0 (1.34)	45.0 (1.77)	55.0 (2.17)	68.0 (2.68)	90.0 (3.54)
12 +0.1	72.0 (2.83)	85.0 (3.35)	105.0 (4.13)	122.0 (4.80)	155.0 (6.10)

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