

Series	Description	Size												Mounting			Page
	Parker Standard DIN / ISO	1/8	1/4	3/8	1/2	3/4	1	06	10	16	25	32	Subplate	Screw-in	Slip-in		
	Shuttle valves																
SSR								•	•					•		6-2	
	Check valves, direct operated																
RK / RB CS SPZBE SPV / SPZ C4V		•	•	•	•	•	•						•	•		6-4 6-7 6-9 6-11 6-13	
	Check valves, pilot operated																
CPS C4V				•		•			•		•	•	•			6-16 6-18	
	2/2 way seat valves																
D4S									•		•	•	•			6-21	
	Accessories																
	Plugs															6-31	

More check valves are presented in the following chapters:

Chapter 7: Sandwich Valves

Chapter 8: Slip-In Cartridge Valves

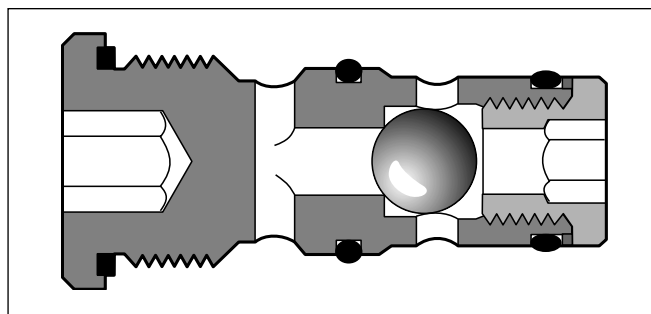
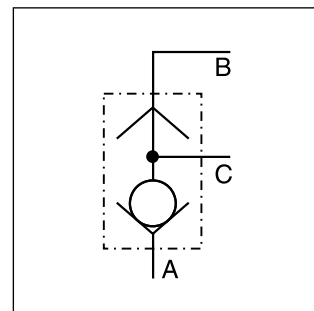
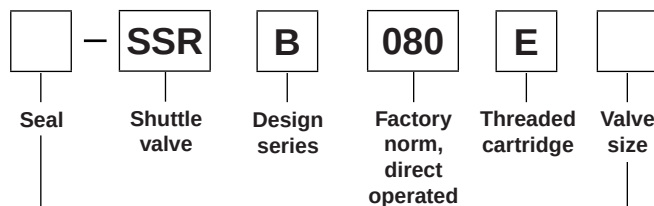
Chapter 9: SAE Flange Valves

Chapter 10: Valves for Pipe Mounting

The shuttle valve series SSR is designed as a threaded cartridge valve. All parts are assembled in one unit and easy to mount.

Features

- Little space required
- Leak-free
- Easy assembly

**6****Ordering code**

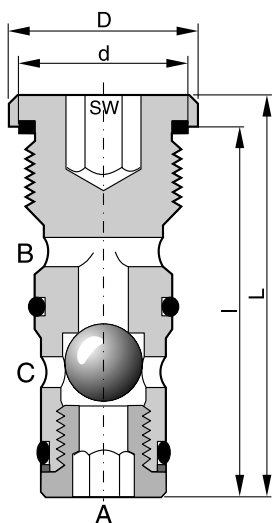
Code	Seal
omit	NBR
V	FPM

Code	Size
06	NG06
10	NG10

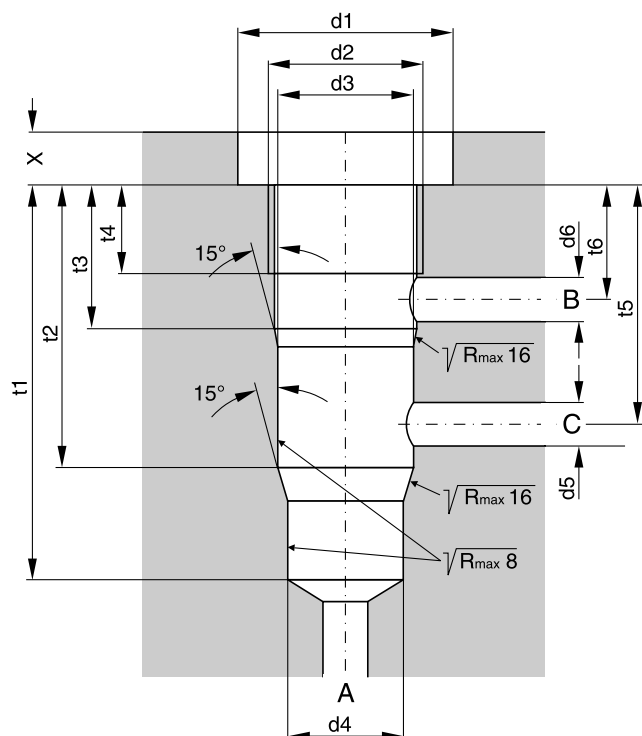
Bold letters =
Short-term availability

Technical data

General				
Design		Threaded cartridge valve		
Mounting position		Unrestricted		
Ambient temperature		[°C]	-40 ... +60	
Nominal size		NG06	NG10	
Weight		[kg]	0.5	0.8
Hydraulic				
Flow direction		See symbols		
Fluid		Hydraulic oil as per DIN 51524 ... 51525		
Viscosity, recommended permitted	[cSt] / [mm²/s]	30 ... 80		
	[cSt] / [mm²/s]	20 ... 380		
Fluid temperature		[°C]	-20 ... +60	
Filtration		ISO 4406 (1999); 18/16/13		
Nominal pressure		[bar]	350	
Flow		[l/min]	40	60



Dimensions	NG06	NG10
D	24	34
L	50	74
d	M18x1.5	M24x1.5
I	45	66
SW	8	12
Tightening torque ¹⁾ [Nm] ± 15 %	40	65

Mounting cavity

Dimensions	NG06	NG10
d1	25	35
d2	M18 x 1.5	M24 x 1.5
d3 ^{H7}	16	22
d4 ^{H7}	14	20
d5 _{max.}	6	9
d6 _{max.}	6	9
t1	45	68
t2	32	51
t3	16	20
t4	10	15
t5	27.5	40
t6	12	13.5

Seal kits

NG	NBR seals	FPM seals
06	SK-SSRB0E06	SK-SSRB0E06V
10	SK-SSRB0E10	SK-SSRB0E10V

¹⁾ Please note the material specification for tightening torque in chapter 12, "accessories"

Characteristics / Ordering Code

The check valves series RK and RB are designed to go into simple, threaded cavities. The connection is O-ring sealed on the 118° shoulder in the mounting cavity.

The valve body is supplied as a unit, with a spring loaded, hardened and polished semisphere of stainless bearing steel inside. The seat is also hardened and ground.

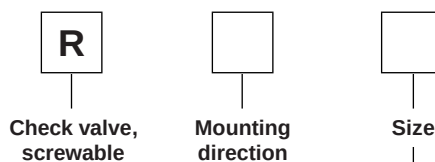


Type RK



Type RB

Ordering code



Code	Mounting direction
K	in the blocked direction
B	in open flow direction

Code	Flow [l/min]	Thread
0 ¹⁾	10	G1/8A
1	20	G1/4A
2	50	G3/8A
3	80	G1/2A

Bold letters =
Short-term availability

¹⁾ Only series RK available

Technical data

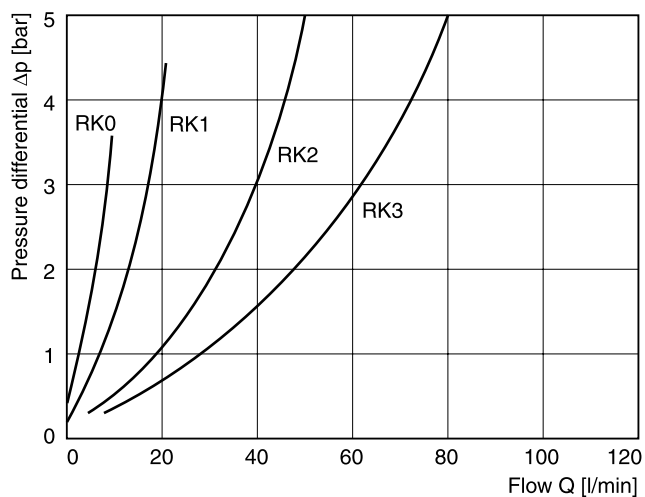
Series design with pipe thread

Code	RK0	RK1	RK2	RK3	RB1	RB2	RB3
Flow [l/min]	10	20	50	80	20	50	80
Operating pressure [bar]	700	700	700	500	700	700	500
Opening pressure [bar]	0.15	0.18	0.2	0.25	0.15	0.07	0.17
Thread (DIN ISO 228/1)	G1/8A	G1/4A	G3/8A	G1/2A	G1/4A	G3/8A	G1/2A
Tightening torque* ±20 % [Nm]	10	15	20	40	15	20	40
Weight [g]	5	5	15	15	5	15	20
Mounting position	unrestricted						
Fluid	Hydraulic oil in accordance with DIN 51524...51525						
Viscosity permitted [cSt]/[mm²/s]	4...1500 ; opt. 10...500 viscosity recommended						
Temperatures [°C]	Ambient and oil -40...+80, observe viscosity range						

* In case of strong vibration, it is recommended to secure the mounting threads.

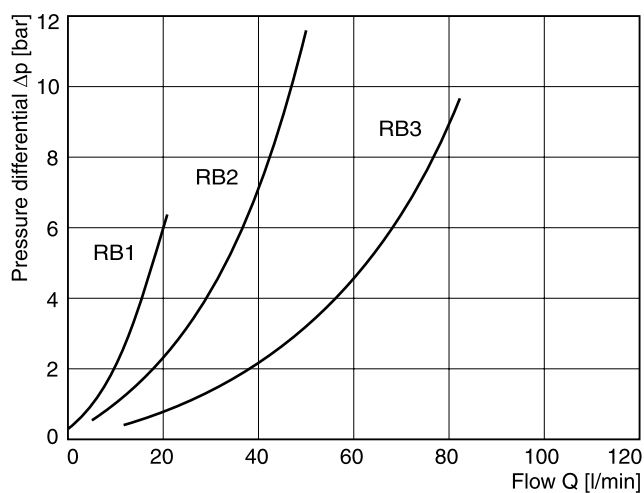
$\Delta p/Q$ performance curves

Type RK



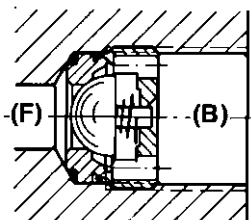
All characteristic curves measured with HLP46 at 50 °C.

Type RB



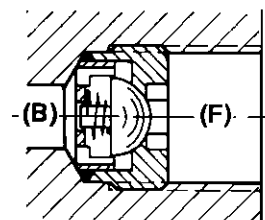
Mounting direction

Type RK



Screwed in, in the blocked direction

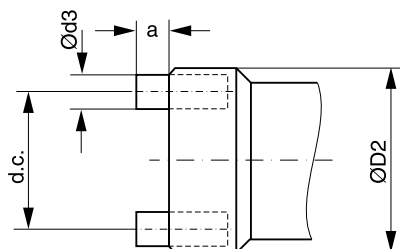
Type RB



Screwed in, in the open flow direction

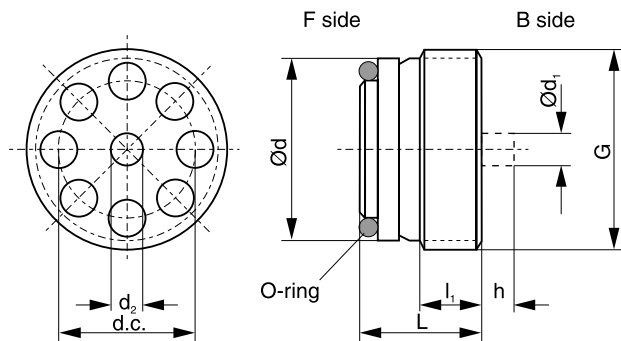
Mounting tool

Type RK



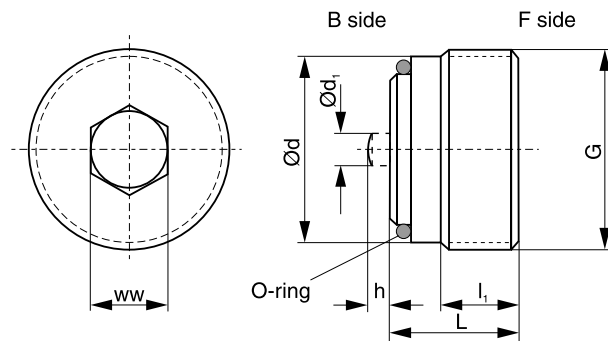
Type	Ordering number	D_2	a	d_3
RK0	5005216	8.6	2	1.5
RK1	5005217	11.5	2.5	2
RK2	5005218	15	2	2.5
RK3	5005219	18.8	4	3.5

Type RK



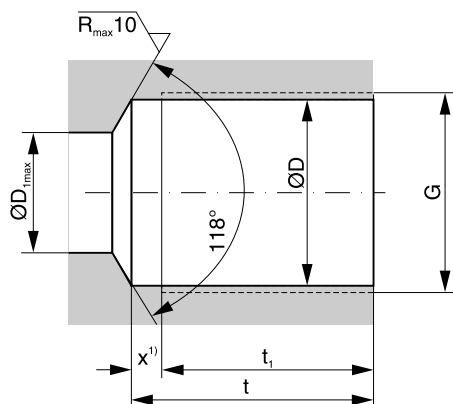
Type	Thread	L	l_1	d	d_1	d_2	h	d.c.	O-ring
RK0	G1/8A	7.2	4	8.6	1.8	1.6	1.3	6.8	6x1
RK1	G1/4A	9	4.5	11.5	2.4	2.2	1.5	8.8 _{-0.1}	9x1
RK2	G3/8A	11	6	15	3.2	3	2.5	11	11x1.5
RK3	G1/2A	13	7.5	18.5	4	3.8	3	14.2 _{-0.1}	14x1.5

Type RB



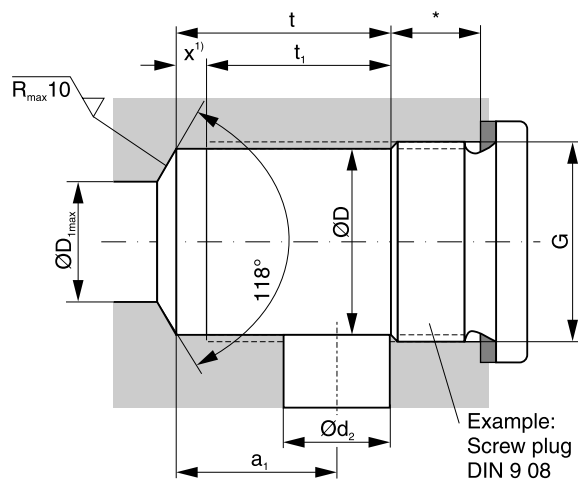
Type	Thread	L	l_1	d	d_1	h	ww	O-ring
RB1	G1/4A	9.8	5	11.6	2	1.3	5	9x1
RB2	G3/8A	11.5	7.0	15	2.8	2	6	11x1.5
RB3	G1/2A	13.15	7.5	18.5	3.2	2.5	8	14x1.5

Type RK



Type	Thread	D	D_1	t	$t_1^{2)}$	$x^{1)}$
RK0	G1/8	8.7	5	16	13.7	2.3
RK1 and RB1	G1/4	11.8	8	22	19	3
RK2 and RB2	G3/8	15.25	9	24.5	21.5	3
RK3 and RB3	G1/2	19	12	29	25.5	3.5

Type RB



Type	Thread	D	D_1	t	$t_1^{2)}$	$x^{1)}$	a_1	d_2
RK0	G1/8	8.7	5	12.3	10	2.3	9.5	5
RK1 and RB1	G1/4	11.8	8	14	11	3	11	6
RK2 and RB2	G3/8	15.25	9	17	14	3	13	8
RK3 and RB3	G1/2	19	12	22	18.5	3.5	16	12

Mounting cavity

- for connecting in combination with tube fitting
- for internal line channels

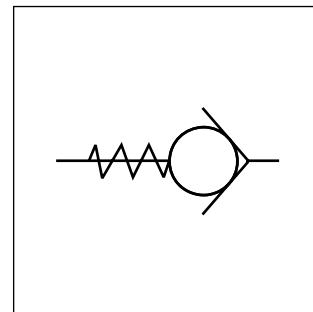
* Required depth depending on type of screw plug, connecting plate etc. used.

¹⁾ Thread runout x must be maintained. It may be smaller, but not larger (requirement for a perfect seal using the O-ring).

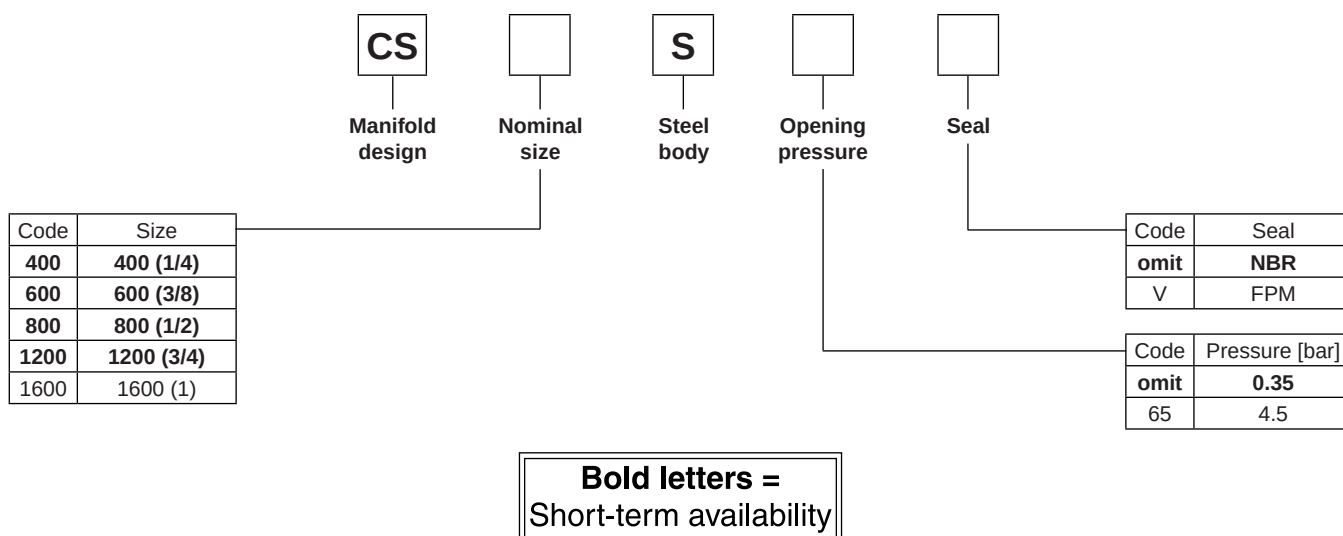
²⁾ Fully cut-out thread

Manatrol check valves of the series CS for subplate mounting provide free flow in one direction and block flow in the counter direction.

Specific Manatrol poppets and poppet guides ensure reliable functional integrity even at high flow rates and/or pulsations.



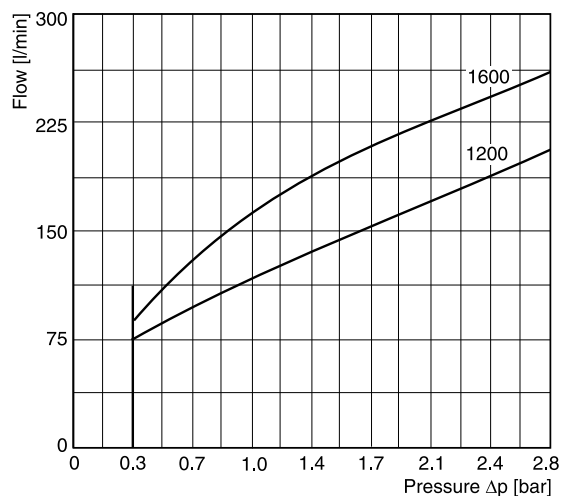
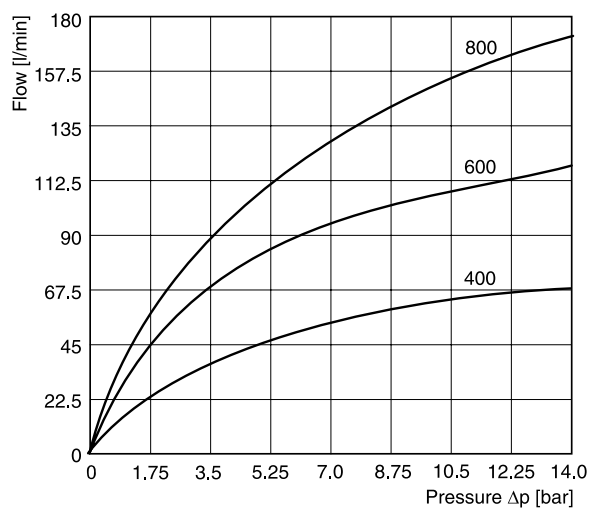
Ordering code



6

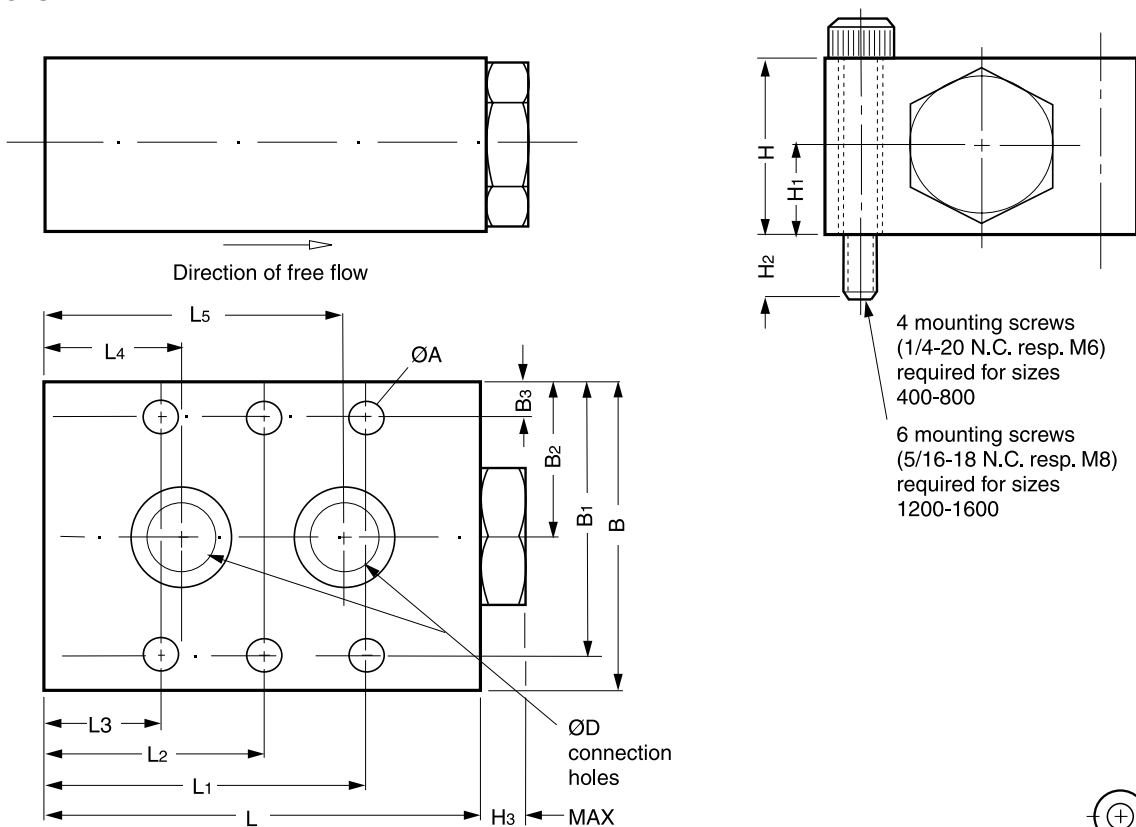
Technical data

Size		400	600	800	1200	1600
Operating pressure	[bar]	210	210	210	210	210
Pressure drop Δp	[bar]	10	10	10	1	1
Flow	[l/min]	65	110	155	112	160
MTTF _D value	[years]	150				

$\Delta p/Q$ performance curves

All characteristic curves measured with HLP46 at 50 °C.

Dimensions



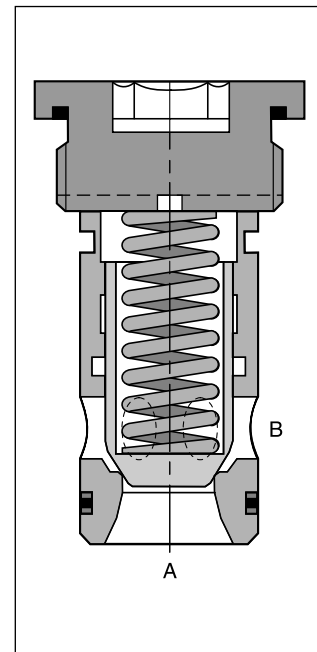
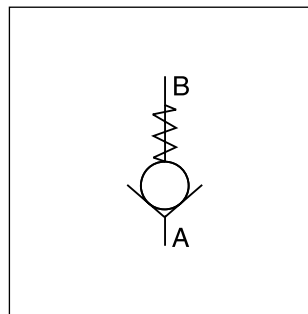
Size	$\varnothing D$	$\varnothing A$	L	L1	L2	L3	L4	L5	B3	B2	B1	B	H	H1	H2	H3	Weight [kg]
CS 400S	7.1	6.35	63.5	49.0	—	14.2	19.1	44.5	5.3	22.1	38.9	44.5	22.1	10.9	9.9	7.9	0.5
CS 600S	10.2	6.35	69.9	51.6	—	18.0	22.1	47.5	6.4	25.4	44.5	50.8	25.4	12.7	13.0	8.1	0.7
CS 800S	11.9	6.35	80.7	59.4	—	21.3	25.4	55.6	6.4	28.4	50.8	57.2	31.8	15.7	13.2	8.1	1.0
CS 1200S	17.3	8.5	103.9	89.9	51.8	13.7	25.1	79.2	7.9	34.8	61.7	69.9	44.5	22.1	14.5	10.7	2.3
CS 1600S	22.1	8.5	127.0	111.0	63.5	15.7	34.8	91.9	7.9	38.1	68.1	76.2	50.8	25.4	14.5	10.7	3.5

The check valves series SPZBE are slip-in cartridge valves. The function unit is fixed inside the manifold by a hexagonal plug with slot.

The design is based on CE series with same poppet and sleeve. The different mounting cavity has to be considered.

Features

- Little space required
- Leak-free from port B to A
- 4 different opening pressures



Ordering code

	-	SP	Z	BE	1010	E		
Seal		Check valve	Flow direction A to B	Design series, screwed cover	Factory norm, poppet, direct operated	Slip-in valve	Valve size	Opening pressure

Code	Seal
omit	NBR
V	FPM

Code	Size
16	NG16
25	NG25
32	NG32

Code	Pressure [bar]
L	0.1
N	0.5
S	1.6
U	4.0

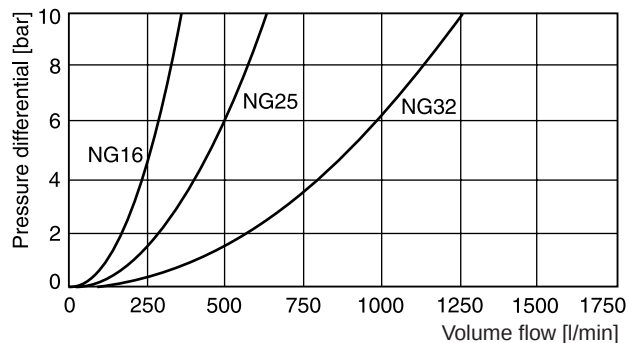
Bold letters =
Short-term availability

Technical data

General				
Design		Threaded cartridge valve		
Nominal size		NG16	NG25	NG32
Mounting position		Optional		
Ambient temperature		[°C] -40 ... +60		
MTTF _D value		[years] 150		
Weight		0.25	0.5	1.2
Hydraulic				
Flow direction		Port A to B		
Fluid		Hydraulic oil according to DIN 51524 ...51525		
Viscosity,	recommended	[cSt] / [mm²/s]	30 ... 80	
	permitted	[cSt] / [mm²/s]	20 ... 380	
Fluid temperature		[°C] -20 ... +60		
Filtration		ISO 4406 (1999); 18/16/13		
Nominal pressure		[bar] 350		
Opening pressure		[bar] 0.1; 0.5; 1.6 and 4.0		
Flow		250	450	900

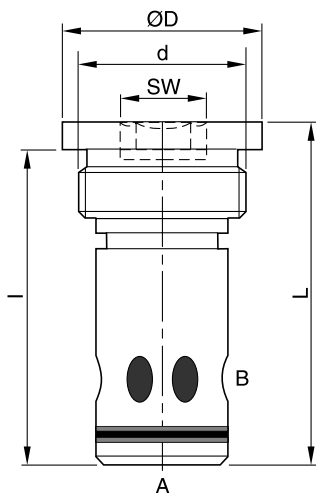
SPZBE UK.INDD CM 28.08.13

$\Delta p/Q$ performance curves



All characteristic curves measured with HLP46 at 50 °C.

Dimensions

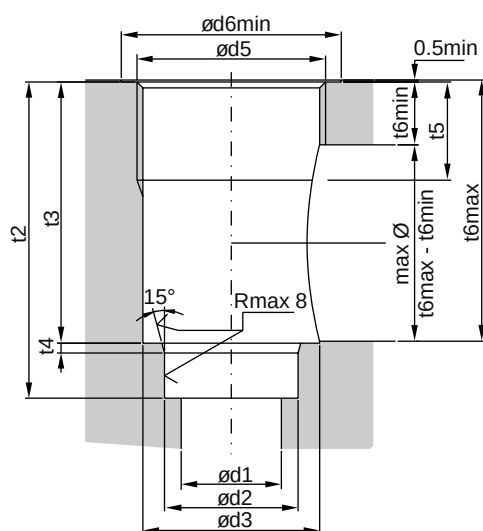


Dimensions	NG16	NG25	NG32
D	40	55	72
L	72.5	89	109.5
d	M33x2	G1½"	G2"
l	66	80.5	99.5
SW	17	24	32
Tightening torque ¹⁾ [Nm] ± 15 %	225	300	550

Springs

Spring Type	Ordering Number		
	NG16	NG25	NG32
L 0.1 bar	45051368	45051375	45051376
N 0.5 bar	45051369	45051374	45051377
S 1.6 bar	45051370	45051372	45051378
U 4.0 bar	45051371	45051373	45051379

Mounting cavity



Size	NG16	NG25	NG32
d1	18	25.5	36
d2 ^{H7}	25	34	45
d3	31	45	57
d5	M33x2	G1½"	G2"
d6 _{min}	41	56	73
t2 ^{+0.1}	66	80.5	99.5
t3	53	66.5	84.5
t4	2	2.5	2.5
t5	21	25	30
t6 _{min}	16	16	24
t6 _{max}	52.5	66	84

Seal kits

NG	NBR seals	FPM seals
16	SK-SPZBE10E16	SK-SPZBE10E16V
25	SK-SPZBE10E25	SK-SPZBE10E25V
32	SK-SPZBE10E32	SK-SPZBE10E32V

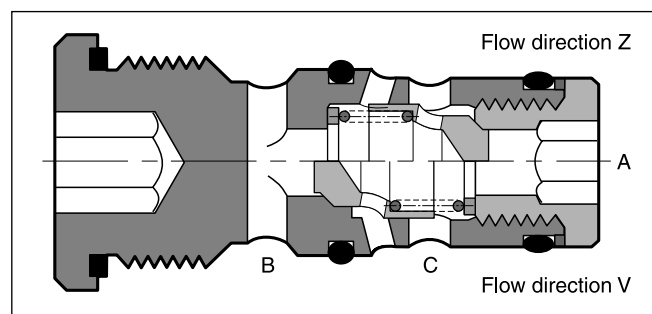
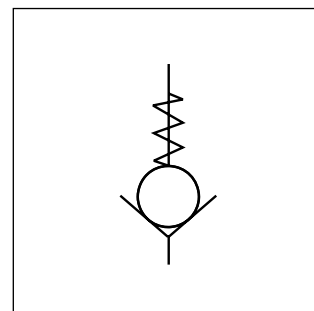
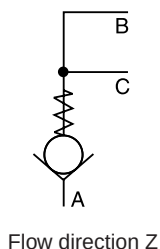
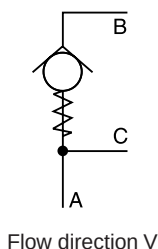
¹⁾ Please note the material specification for tightening torque in chapter 12, "accessories"

The check valve series SPV and SPZ are designed as threaded cartridge valves. All parts are assembled in one unit and easy to mount.

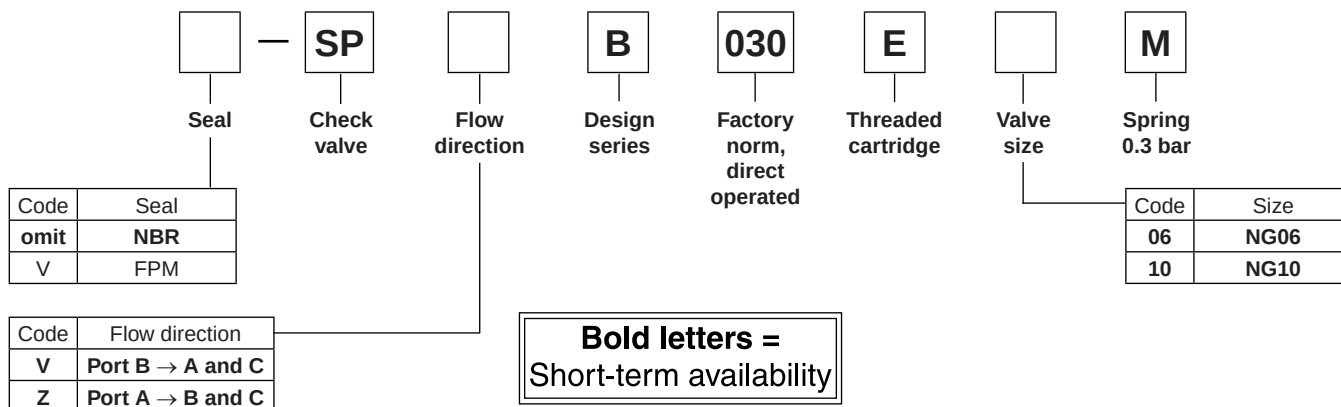
Features

- Little space required
- Leak-free
- Easy assembly

Ports



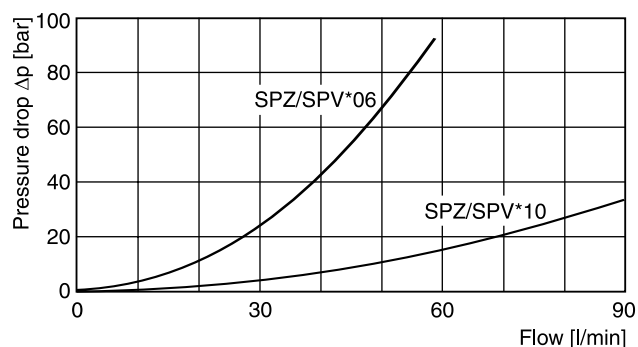
Ordering code



Technical data

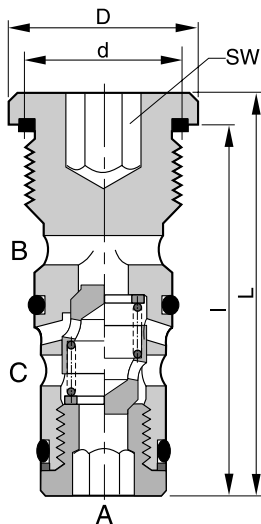
General			
Design		Threaded cartridge valve	
Nominal size		NG06	NG10
Mounting position		Unrestricted	
Ambient temperature [°C]		-40 ... +60	
Weight [kg]		0.5	0.8
Hydraulic			
Flow direction		See symbols	
Fluid		Hydraulic oil according to DIN 51524...51525	
Viscosity, permitted	[cSt] / [mm²/s]	20 ... 380	
	recommended [cSt] / [mm²/s]	30 ... 80	
Fluid temperature [°C]		-20 ... +60	
Filtration		ISO 4406 (1999); 18/16/13	
Nominal pressure [bar]		350	
Opening pressure [bar]		0.3	
Flow [l/min]		40	60

SPV-SPZ UK.INDD CM 28.08.13

$\Delta p/Q$ performance curve

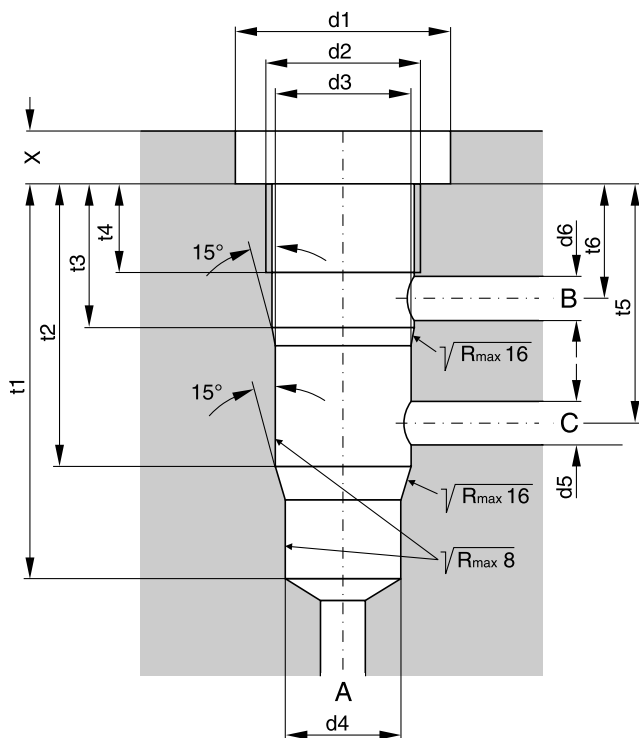
Characteristic curves measured with HLP46 at 50 °C.

Dimensions



Dimensions	NG06	NG10
D	24	34
L	50	74
d	M18x1.5	M24x1.5
I	45	66
SW	8	12
Tightening torque ¹⁾ [Nm] ± 15 %	40	65

Mounting cavity



Dimensions	NG06	NG10
d1	25	35
d2	M18 x 1.5	M24 x 1.5
d3 ^{H7}	16	22
d4 ^{H7}	14	20
d5 _{max.}	6	9
d6 _{max.}	6	9
t1	45	68
t2	32	51
t3	16	20
t4	10	15
t5	27.5	40
t6	12	13.5

Seal kits

NG	NBR seals	FPM seals
06	SK-SPV/ZB0E06	SK-SPV/ZB0E06V
10	SK-SPV/ZB0E10	SK-SPV/ZB0E10V

¹⁾ Please note the material specification for tightening torque in chapter 12, "accessories"

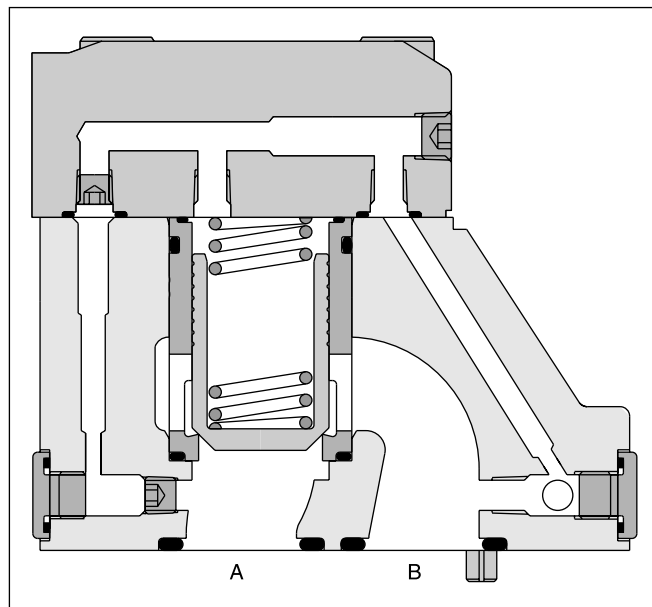
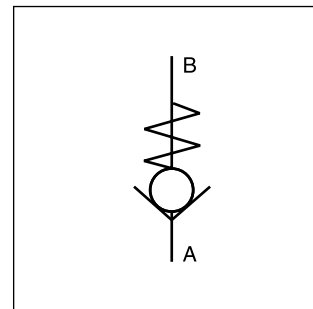
Direct operated check valves C4V allow free flow from A to B. The counter direction is blocked. The C4V series are equipped with a leak-free seat type cartridge.

Function

The pressure arising in port A lifts the poppet from the valve seat and releases the flow to B. In the counter direction, the spring and the pressure on top of the cartridge hold the poppet onto the seat and block the flow.



C4V06



C4V10

Ordering code

C4V	—	5	3	0	B		
Check valve direct operated	Nominal size	Max. pressure 350 bar	Subplate mounting	Approx. cracking pressure	Design series	Seal	Options

Code	Nominal size
03	NG10
06	NG25
10	NG32

Code	Seal
1	NBR
5	FPM

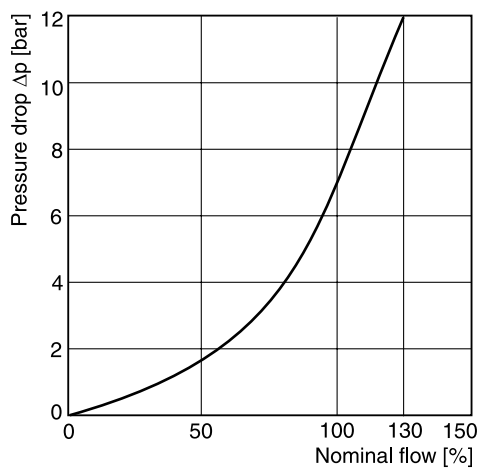
Code	Approx. cracking pressure [bar]	
	C4V03	C4V06/10
1	2.8	3.5
2	0.5	0.5
3	0.3	0.3
4	2.2	2.2
5	—	9.0
6	1.2	1.2
7	3.0	—

Technical Data / Performance Curves

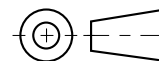
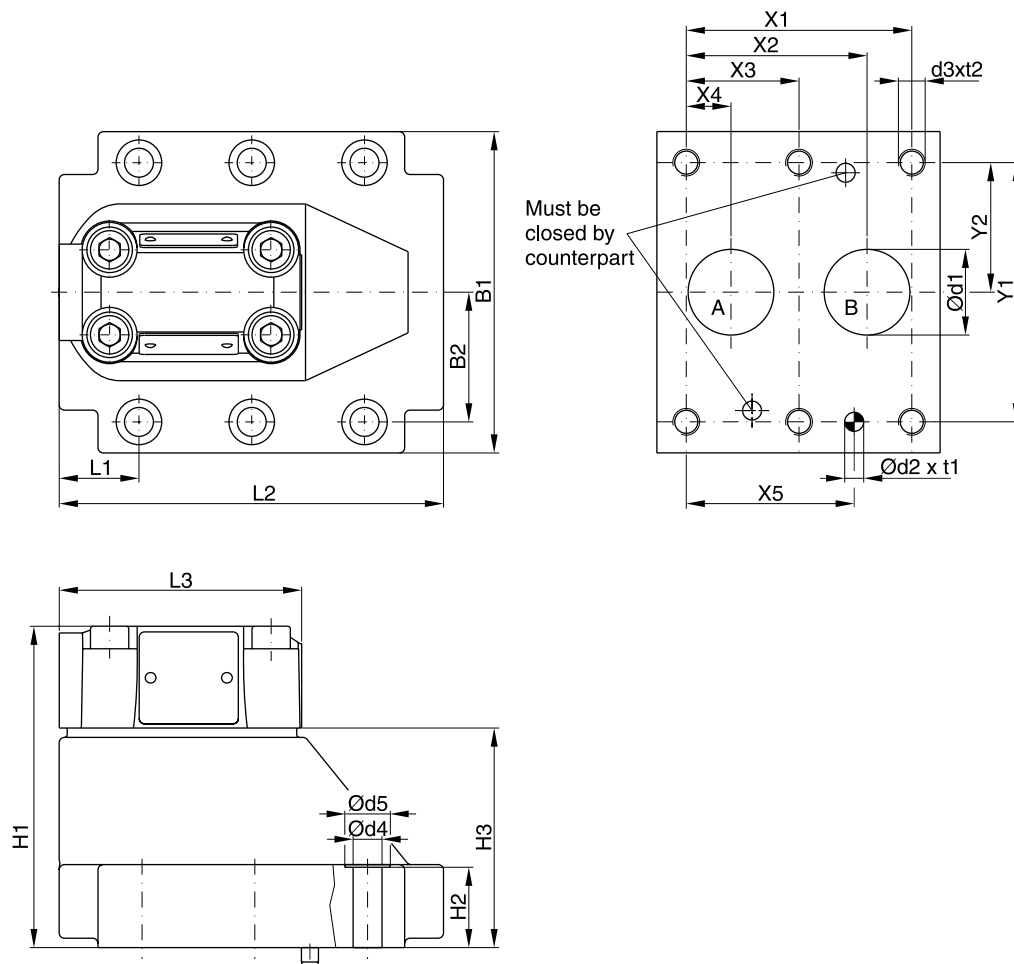
Technical data

General					
Nominal size			NG10	NG25	NG32
Subplate mounting			ISO 5781		
Mounting position			unrestricted		
Ambient temperature [°C]			-20...+80		
MTTF _D value [years]			150		
Weight [kg]			2.8	4.6	6.1
Hydraulic					
Max. operating pressure [bar]			350		
Nominal flow [l/min]			150	270	450
Fluid			Hydraulic oil according to DIN 51524 ...51525		
Viscosity,	permitted	[cSt] / [mm²/s]	20...380		
	recommended	[cSt] / [mm²/s]	30...50		
Fluid temperature	permitted	[mm²/s]	-20...+70		
	recommended	[mm²/s]	30...50		
Filtration			ISO 4406 (1999); 18/16/13		

6

 $\Delta p/Q$ performance curve

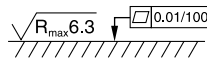
Characteristic curve measured with HLP46 at 50 °C.



NG	ISO-code	x1	x2	x3	x4	x5	y1	y2	B1	B2	H1	H2	H3	L1	L2
10	5781-06-07-0-00	42.9	35.8	—	7.2	31.8	66.7	33.4	87.3	33.4	83	21	45	29	94.8
25	5781-08-10-0-00	60.3	49.2	—	11.1	44.5	79.4	39.7	105	39.7	109.5	29	71.5	34.7	126.8
32	5781-10-13-0-00	84.2	67.5	42.1	16.7	62.7	96.8	48.4	120	48.4	120	29	82	30.6	144.3

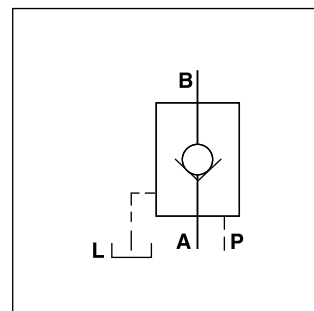
Tolerance for all dimensions ± 0.2

NG	ISO-code	d1max	d2	t1	d3	t2	d4	d5
10	5781-06-07-0-00	15	7.1	8	M10	16	10.8	17
25	5781-08-10-0-00	23.4	7.1	8	M10	18	10.8	17
32	5781-10-13-0-00	32	7.1	8	M10	20	10.8	17

NG	ISO-code	Bolt kit			Kit		Surface finish
					NBR	FPM	
10	5781-06-07-0-00	BK 505	4x M10 x 35 ISO 4762-12.9	63 Nm ± 15 %	S26-58507-0	S26-58507-5	
25	5781-08-10-0-00	BK 485	4x M10 x 45 ISO 4762-12.9	63 Nm ± 15 %	S26-58475-0	S26-58475-5	
32	5781-10-13-0-00	BK 506	6x M10 x 45 ISO 4762-12.9	63 Nm ± 15 %	S26-58508-0	S26-58508-5	

Pilot operated check valves of the series CPS allow free flow in one direction (A to B).

The counter-flow direction (B to A) is blocked. By applying pilot pressure, the poppet can be lifted from its seat against the pressure in port B. Thus flow in the counter-direction is also possible. There are 1 and 2 stage poppets available with pilot ratios of 5 : 1 and 40 : 1, to suit different operating conditions. The CPS needs to be externally drained via port L.

**Ordering code**

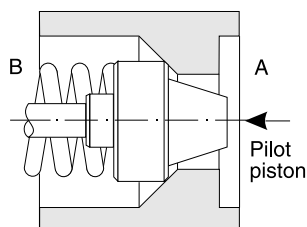
CP	S		S		M	
Pilot operated check valve	Manifold mounting	Port size	Steel body	Pilot ratio	Steel poppet	Seal

Code	Port size
600	600 (3/8")
1200	1200 (3/4")

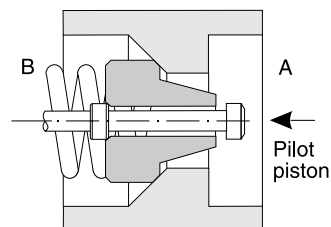
Code	Seal
omit	NBR
V	FPM

Code	Ratio	Stage
5	5:1	1
40	40:1	2

Bold letters =
Short-term availability

Pilot ratios**Poppet 1 stage**

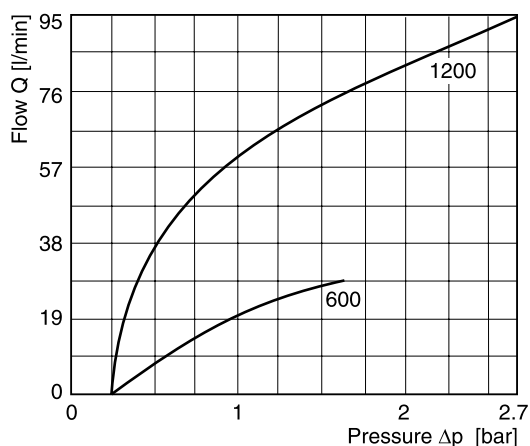
Surface ratio 5 : 1 (pilot spool: poppet surface) for quick response time without decompression.

Poppet 2 stage

Surface ratio 40 : 1 (pilot spool: decompression pin surface) for low shock or oscillation performance from decompression.

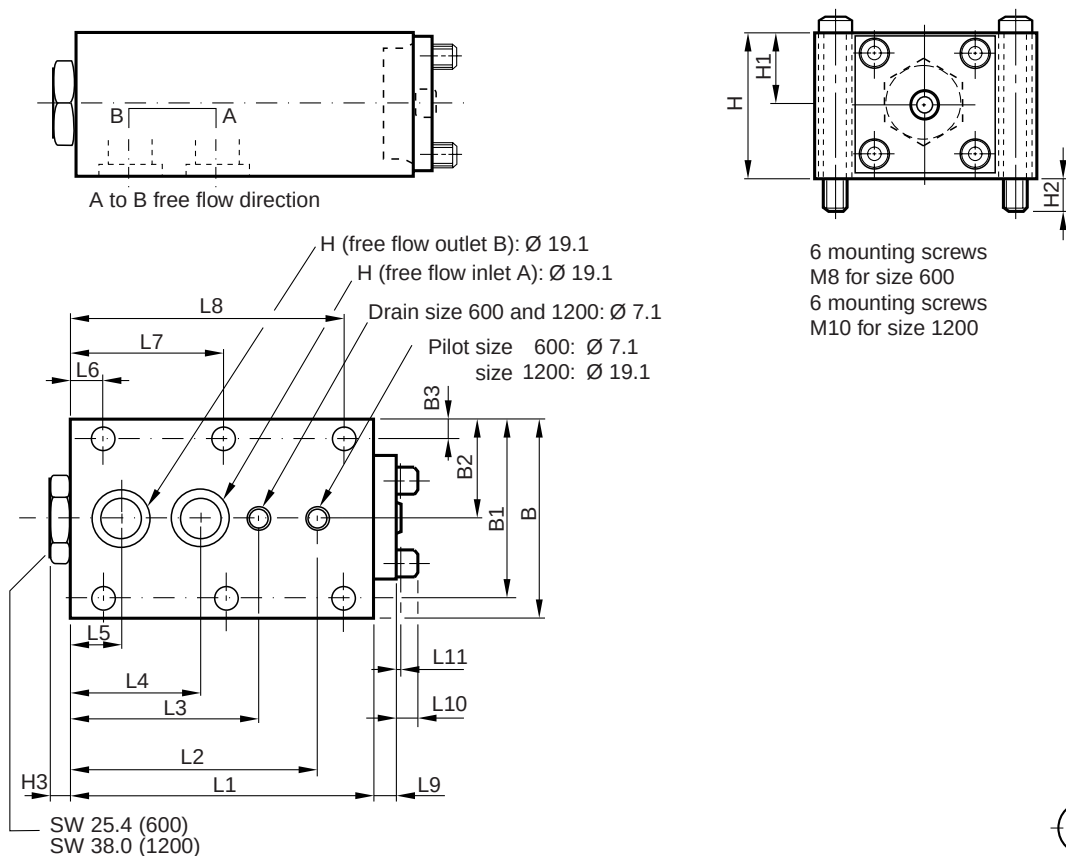
Technical data

Size		600	1200
Max. operating pressure	[bar]	210	210
Max. pilot pressure	[bar]	210	70
Flow Q_{max} at Δp 2.7 bar	[l/min]	30	95
Weight	[kg]	4	7

$\Delta p/Q$ performance curves

All characteristic curves measured with HLP46 at 50 °C.

Dimensions



Size	L3	L2	L1	L9	L11	H	H1	H2	H3	L10	L8	L7	L6	B3	B2	B1	B	ØH	L5	L4
CPS600S	76.2	101.6	120.7	10.7	1.0	50.8	25.4	12.7	7.9	—	108.0	60.2	12.7	8.6	38.1	67.3	76.2	11.2	21.3	53.3
CPS1200S	93.7	127.0	152.4	11.4	1.0	63.5	31.8	12.7	10.2	7.9	136.4	76.2	15.7	10.2	50.8	91.2	101.6	19.1	25.4	63.5

Hydraulically pilot operated check valves C4V 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.

Up to four different pilot control ratios are available (see ordering code).

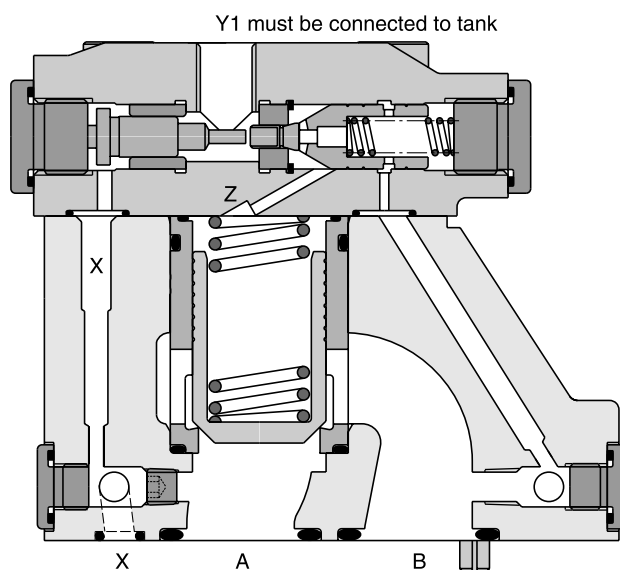
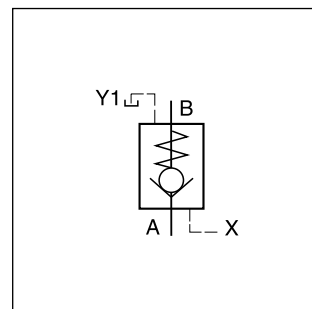
Function

When no pressure is applied to the X-port, the flow from B to A is blocked, because the pressure in B is also in effect 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 SVL valve series provides leak-free separation of port A and B in the closed position.

Valves with position control are available on request.



Ordering code

C4V		5	9			B		
Check valve pilot operated	Nominal size	Max. pressure 350 bar	Y1-port G $\frac{1}{4}$ "	Opening ratio	Approx. cracking pressure	Design series	Seal	Options

Code	Nominal size
03	NG10
06	NG25
10	NG32

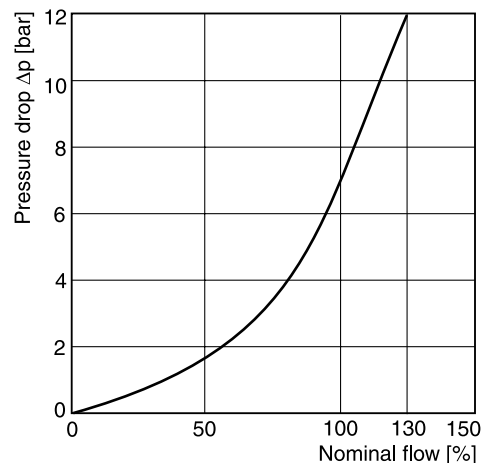
Code	Opening ratio
1	1 : 1
3	3 : 1
8	8 : 1
9	10 : 1

Code	Seal
1	NBR
5	FPM

Code	Approx. cracking pressure [bar]			
	Flow A to B		Flow B to A	
	C4V03	C4V06/10	C4V03	C4V06/10
2	1.0	1.0	1.5	1.7
4	4.0	3.5	5.5	6.0
6	2.0	2.2	3.0	3.8

Technical data

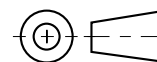
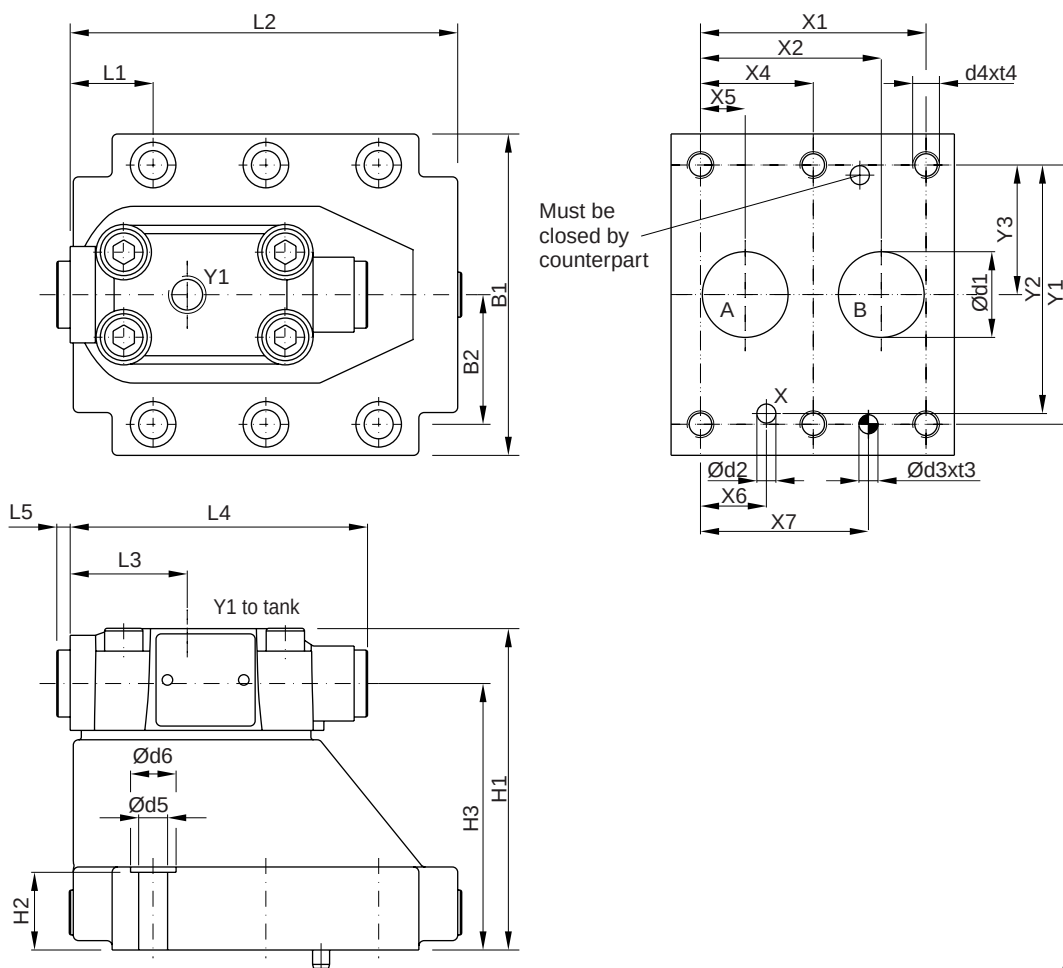
General										
Nominal size			NG10		NG25		NG32			
Subplate mounting			ISO 5781							
Mounting position			Unrestricted							
Ambient temperature			[°C]		-20...+80					
MTTF _D value			[years]		150					
Weight			[kg]		2.8		4.6		6.1	
Hydraulic										
Max. operating pressure			[bar]		350					
Nominal flow			[l/min]		150		270		450	
Fluid			Hydraulic oil according to DIN 51524 ...51525							
Viscosity,	recommended	[cSt] / [mm²/s]		30...50						
	permitted	[cSt] / [mm²/s]		20...380						
Fluid temperature	recommended	[°C]		30...50						
	permitted	[°C]		-20...+70						
Filtration			ISO 4406 (1999); 18/16/13							

 $\Delta p/Q$ flow curve

Characteristic curve measured with HLP46 at 50 °C.

C4V pilot oper. UK.INDD CM 18.07.13

Dimensions

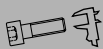
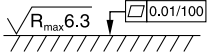
Hydraulically Pilot Operated Check Valve
Series C4V

NG	ISO-code	x1	x2	x3	x4	x5	x6	x7	y1	y2	y3	y4	y5	y6
10	5781-06-07-0-00	42.9	35.8	—	—	7.2	21.5	31.8	66.7	58.8	33.4	—	—	—
25	5781-08-10-0-00	60.3	49.2	—	—	11.1	20.6	44.5	79.4	73	39.7	—	—	—
32	5781-10-13-0-00	84.2	67.5	—	42.1	16.7	24.6	62.7	96.8	92.8	48.4	—	—	—

Tolerance for all dimensions ± 0.2

NG	ISO-code	B1	B2	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4	L5	L6
10	5781-06-07-0-00	87.3	33.4	83	21	62.5	—	—	—	29.4	95.2	43.7	111	5	—
25	5781-08-0-0-00	105	39.7	109.5	29	89	—	—	—	35.1	127.2	43.7	111	5	—
32	5781-10-13-0-00	120	48.4	120	29	99.5	—	—	—	31	144.7	43.7	111	5	—

NG	ISO-code	d1max	d2max	d3	t3	d4	t4	d5	d6
10	5781-06-07-0-00	15	7	7.1	8	M10	16	10.8	17
25	5781-08-10-0-00	23.4	7.1	7.1	8	M10	18	10.8	17
32	5781-10-13-0-00	32	7.1	7.1	8	M10	20	10.8	17

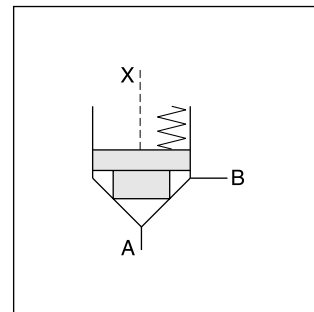
NG	ISO-code	Bolt kit			Kit		Surface finish
					NBR	FPM	
10	5781-06-07-0-00	BK 505	4x M10 x 35 ISO 4762-12.9	63 Nm $\pm 15\%$	S26-58507-0	S26-58507-5	
25	5781-08-10-0-00	BK 485	4x M10 x 45 ISO 4762-12.9	63 Nm $\pm 15\%$	S26-58475-0	S26-58475-5	
32	5781-10-13-0-00	BK 506	6x M10 x 45 ISO 4762-12.9	63 Nm $\pm 15\%$	S26-58508-0	S26-58508-5	

C4V pilot oper. UK.INDD CM 18.07.13

Seat valves series D4S are designed for directional control functions. A large variety of poppets, springs and covers – including shuttle valves, stroke limiters, solenoid valves (VV01) and position control – allow to design individual hydraulic solutions for nominal flow up to 600 l/min.

A complete program of 2/2-way seat valves is offered under Parker brand:

subplate mounted valves	series D4S	chapter 6
SAE flange valves	series D5S	chapter 9
slip-in cartridges	series CAR	on request

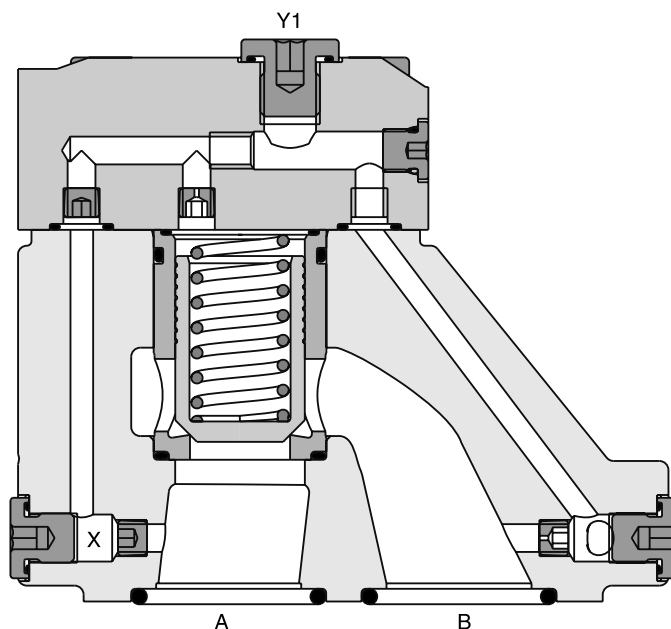


Features

- Subplate mounting according to ISO 5781
- Leak-free seat valve design
- Numerous pilot options
- 6 poppet types
- D4S03 - NG10
- D4S06 - NG25
- D4S10 - NG32

6

D4S10-9DC



Pilot oil Y = internal from B

Ordering Code

Directional Seat Valve
Series D4S

D4S

9

B

Seat valve

Nominal size

Subplate mounting
ISO 6264,
Y1 port G $\frac{3}{4}$ "

Pilot connection

Cap version

Sleeve

Spool type

Spring

Switching type

Solenoid voltage

Design series

Seals

Options

Code	Nominal size
03	NG10
06	NG25
10	NG32

Code	Pilot oil line in body	A-X	B-Y
1	internal from A	●	○
2	external from X	●	○
A ¹⁾	internal from A	●	●
B	external from X	●	●
C	internal from A + B	●	●
D	internal from B	●	●
G	external from Y	●	●

Code	Ports	X	Y	Z	X-Y	Y1	VV01
Standard							
1	Pilot oil = pilot drain	○	●	●	○	●	—
C	Pilot oil = pilot drain	●	○	●	○	●	—
With solenoid valve (VV01)							
2	Ext. PD from cap	○	○	●	●	○	●
5	Ext. to subplate	○	○	●	●	●	○
6	Internal pilot drain	○	○	●	●	●	○
With stroke limiter (not for D4S03)							
3	Pilot oil = pilot drain	●	●	—	—	—	—
4	Pilot oil = pilot drain	●	●	—	—	—	—

○ open bore ● closed bore ● orifice Ø 1.2

Code	Sleeve
1	AA = 95 %, AB = 5 %
3	AA = 60 %, AB = 40 %

Code	Size	Poppet type	Sleeve
1	03, 06, 10	With closed bottom and 15° chamfer (pZ max. = pA + 20 bar)	1
2	03	With 0.8 dia. orifice at the bottom and 15° chamfer	1
	06, 10	With 1.2 dia. orifice at the bottom and 15° chamfer	1
4	03, 06, 10	With closed bottom and 45° chamfer	1, 3
A ²⁾	06, 10	Safety spool (for position control only)	3
B ²⁾	06, 10	Throttle spool, 10° chamfer	3
C ²⁾	06, 10	Throttle spool, 3° chamfer	3

Code	Spring (approx. cracking pressure [bar])					
	Sleeve Code 1		Sleeve Code 3			
	A → B		A → B		B → A	
	D5S03	D5S06/10	D5S03	D5S06/10	D5S03	D5S06/10
1	2.8	3.5	6.5	6.5	9.5	11.0
2	0.5	0.5	1.0	1.0	1.5	1.7
3	0.3	0.3	0.6	0.6	0.9	1.0
4	2.2	2.2	4.0	3.5	5.5	6.0
5	—	9.0	—	16.0	—	28.0
6	1.2	1.2	2.0	2.2	3.0	3.8
7	3.0	—	8.0	—	12.0	—

Code	Options
omit	Standard
013	Cover for end position control

Code	Seals
1	NBR
5	FPM

Code	Solenoid voltage
omit	Standard w/o vent function
G0R	12 V=
G0Q	24 V=
GAR ⁴⁾	98 V=
GAG ⁴⁾	205 V=
W30	110 V / 50 Hz 120 V / 60 Hz
W31	230 V / 50 Hz 240 V / 60 Hz

Code	Switching type
omit	Standard w/o vent function
09	VV01 with manual override
10	VV01 without manual override
11	VV01 with manual override
12	VV01 without manual override
CA	Shuttle valve
DA	Shuttle valve
CB	VV01 code 09 and shuttle valve code CA
CD	VV01 code 11 and shuttle valve code CA
DB	VV01 code 09 and shuttle valve code DA
DD	VV01 code 11 and shuttle valve code DA
BH	VV01 code 10 and shuttle valve code CA and position control ³⁾ with amplifier
BK	VV01 code 12 and shuttle valve code CA and position control ³⁾ with amplifier
BN	VV01 code 10 and shuttle valve code DA and position control ³⁾ with amplifier
BQ	VV01 code 12 and shuttle valve code DA and position control ³⁾ with amplifier
BC	VV01 code 10 and position control ³⁾ with amplifier
BE	VV01 code 12 and position control ³⁾ with amplifier
BA	Position control ³⁾ with amplifier
BF	Position control ³⁾ with amplifier and shuttle valve code CA
BL	Position control ³⁾ with amplifier and shuttle valve code DA

Examples see end of chapter

¹⁾ With VV01 only.

²⁾ Springs 2, 3 and 6 only.

³⁾ Position control for D4S06/10 only. Spring 2 or 4. Spool A and sleeve 3. Valve open: proximity switch damped.

⁴⁾ To be used in combination with rectifier plugs at 120 VAC/230 VAC power supply.

D4S UK.INDD CM 29.05.13



6-22

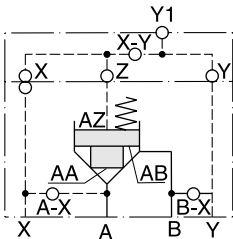
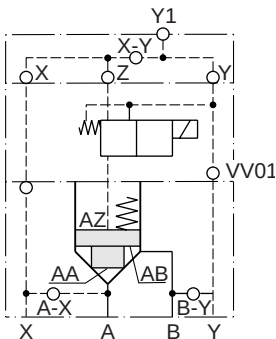
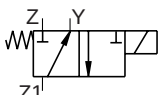
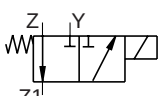
Parker Hannifin Corporation
Hydraulics Group

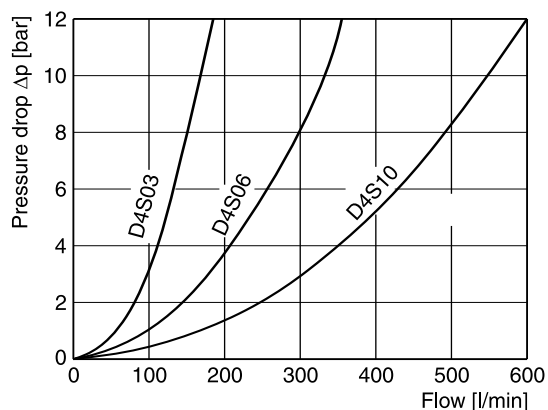
Technical Data

General								
Size		NG10		NG25		NG32		
Mounting interface		Subplate mounting according to ISO 6264						
Mounting position		unrestricted						
Ambient temperature		[°C]	-20...+50					
MTTF _D value		[years]	150					
Weight		[kg]	2.7		4.5		6.0	
Hydraulic								
Operating pressure		[bar]	Ports A, B up to 350; Port Y 140 (with VV01)					
Nominal flow		[l/min]	180		360		600	
Fluid		Hydraulic oil according to DIN 51524...51525						
Fluid temperature		[°C]	-20...+80					
Viscosity	permitted	[cSt] / [mm²/s]	10...650					
Viscosity	recommended	[cSt] / [mm²/s]	30					
Filtration		ISO 4406 (1999); 18/16/13						
Electrical (solenoid)								
Duty ratio		100 % ED; CAUTION: coil temperature up to 150 °C possible						
Protection class		IP65 in accordance with EN 60529 (with correctly mounted plug-in connector)						
Code		G0R	G0Q	GAR	GAG	W30	W31	
Supply voltage		[V]	12 V =	24 V =	98 V =	205 V =	110 at 50 Hz 120 at 60 Hz	230 at 50 Hz 240 at 60 Hz
Tolerance supply voltage		[%]	±10	±10	±10	±10	±5	±5
Current consumption		hold	[A]	2.72	1.29	0.33	0.13	0.6 / 0.55
		in rush	[A]	2.72	1.29	0.33	0.13	2.5 / 2.4
Power consumption		hold	[W]	32.7	31	31.9	28.2	70 / 70 VA
		in rush	[W]	32.7	31	31.9	28.2	280 / 290 VA
Solenoid connection		Connector as per EN175301-803, solenoid identification as per ISO 9461						
Wiring min.		[mm²]	3 x 1.5 recommended					
Wiring length max.		[m]	50 recommended					

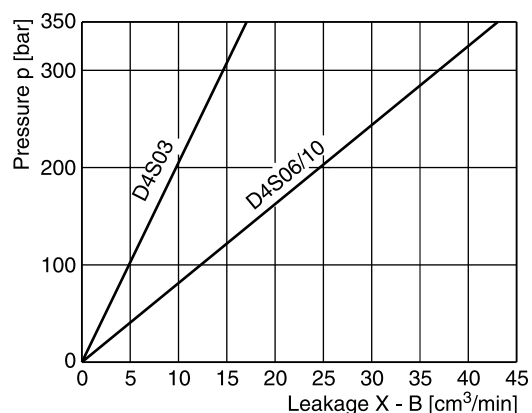
6

D4S pilot configuration

D4S direct operated	D4S with vent valve VV01	VV01
		de-energized open  de-energized closed 

$\Delta p/Q$ performance curves

Leakage

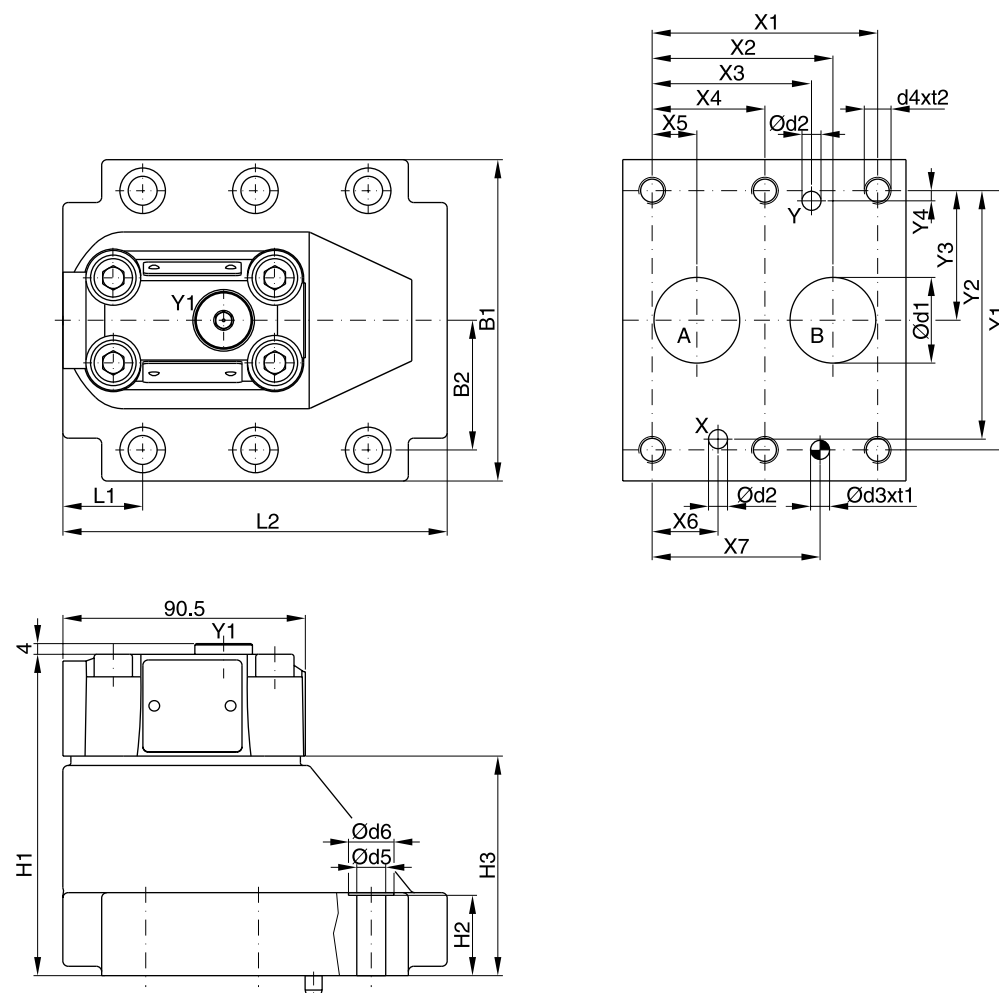


All characteristic curves measured with HLP46 at 50 °C.

6

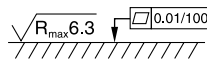
Selection of Cartridges

Sleeve 1, poppet 1	Sleeve 1, poppet 2	Sleeve 1, poppet 4	Sleeve 3, poppet 4	Sleeve 3, poppet A	Sleeve 3, poppet B/C
Z	Z	Z	Z	Z	Z
A	A	A	A	A	A
1 : 1.05 $A_A = 0.95 A_C$ $A_B = 0.05 A_C$ 15° chamfer	1 : 1.05 $A_A = 0.95 A_C$ $A_B = 0.05 A_C$ 15° chamfer orifice	1 : 1.05 $A_A = 0.95 A_C$ $A_B = 0.05 A_C$ 45° chamfer	1 : 1.67 $A_A = 0.6 A_C$ $A_B = 0.4 A_C$ 45° chamfer	1 : 1.67 $A_A = 0.6 A_C$ $A_B = 0.4 A_C$ 45° chamfer safety spool	1 : 1.67 $A_A = 0.6 A_C$ $A_B = 0.4 A_C$ 45° chamfer throttle spool

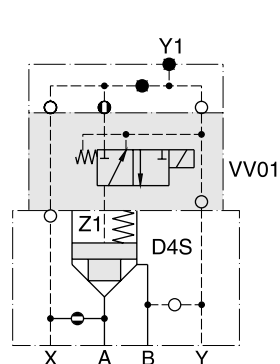
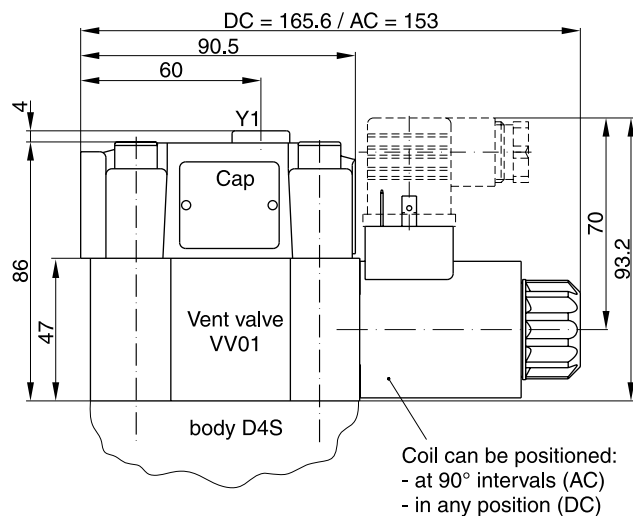
Dimensions**Directional Seat Valve
Series D4S****6**

NG	ISO-code	X1	X2	X3	X4	X5	X6	X7	Y1	Y2	Y3	Y4
10	6264-06-09-*-97	42.9	35.8	21.5	—	7.2	21.5	31.8	66.7	58.8	33.4	7.9
25	6264-08-13-*-97	60.3	49.2	39.7	—	11.1	20.6	44.5	79.4	73	39.7	6.4
32	6264-10-17-*-97	84.2	67.5	59.5	42.1	16.7	24.6	62.7	96.8	92.8	48.4	3.8

NG	ISO-code	B1	B2	H1	H2	H3	L1	L2	D1	D2	D3	t1	D4	t2	D5	D6
10	6264-06-09-*-97	87.3	33.35	83	21	45	29	94.8	15	7	7.1	8	M10	16	10.8	17
25	6264-08-13-*-97	105	39.7	109.5	29	71.5	34.7	126.8	23.4	7.1	7.1	8	M10	18	10.8	17
32	6264-10-17-*-97	120	48.4	120	29	82	30.6	144.3	32	7.1	7.1	8	M10	20	10.8	17

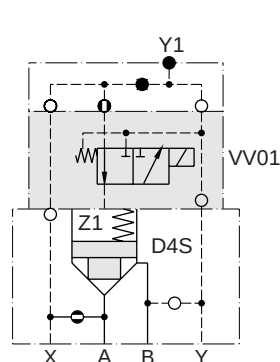
NG	ISO-code	Bolt kit			Kit		Surface finish
					NBR	FPM	
10	6264-06-07-*-97	BK 505	4x M10 x 35 ISO 4762-12.9	63 Nm ±15 %	S26-58507-0	S26-58507-5	
25	6264-08-11-*-97	BK 485	4x M10 x 45 ISO 4762-12.9	63 Nm ±15 %	S26-58475-0	S26-58475-5	
32	6264-10-15-*-97	BK 506	6x M10 x 45 ISO 4762-12.9	63 Nm ±15 %	S26-58508-0	S26-58508-5	

D4S UK.INDD CM 29.05.13

Dimensions D4S with VV01

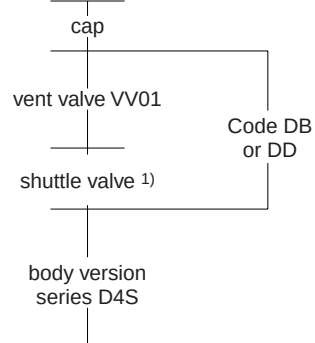
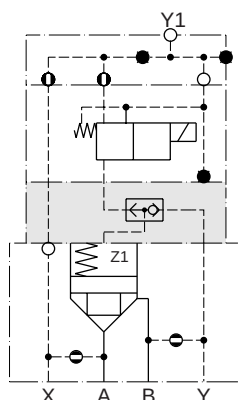
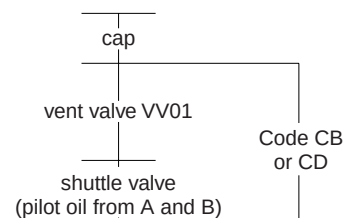
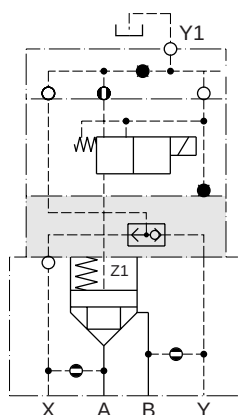
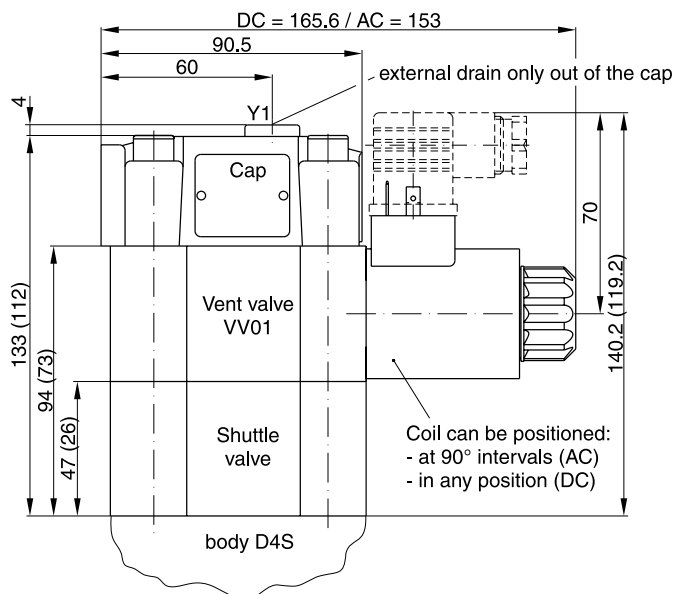
with manual override without manual override

D4S.....09/10
Solenoid energized:
D4S blocked
Solenoid de-energized:
Flow from A-B or B-A



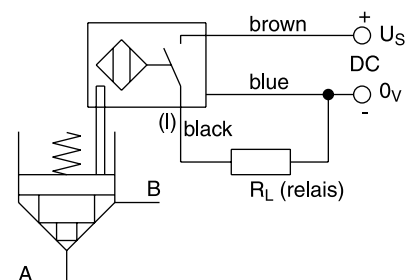
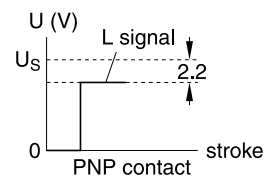
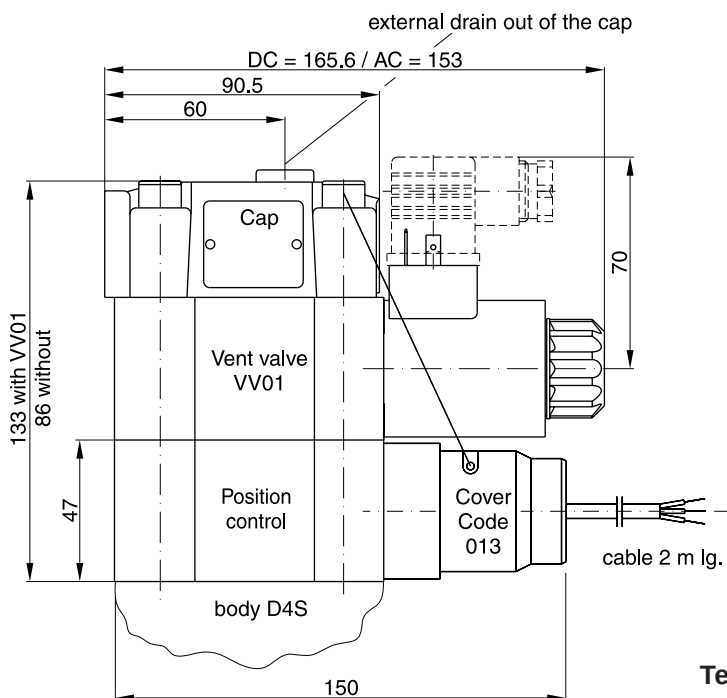
with manual override without manual override

D4S.....11/12
Solenoid energized:
Flow from A-B or B-A
Solenoid de-energized:
D4S blocked

Dimensions D4S with shuttle valve

() Dimensions in brackets are for version VV01 with shuttle valve code DB or DD.

¹⁾ Pilot oil from A and B, from B to A check valve function.

Dimensions D4S position control**Position control by proximity switch (incl. amplifier)**

Valve open: proximity switch activated.

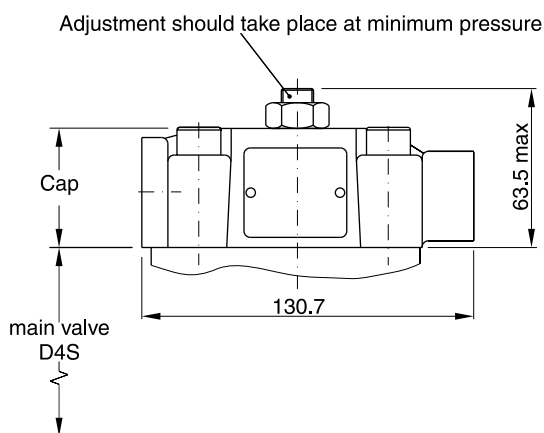
This proximity switch is pressure proof and has no wearing parts.

Note

Position control for D4S06 and D4S10 only.

Technical data (proximity switch)

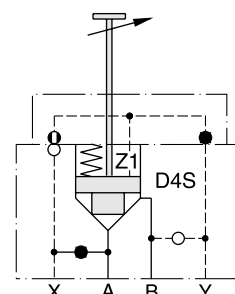
Function		PNP, contact
Supply voltage (Us)	[VDC]	10...30
Supply voltage ripple	[%]	≤ 10
Current consumption	[mA]	max. 8
Residual voltage L-signal	[V]	Us - 2.2 at I _{max}
Output current (I)	[mA]	≤ 200
Protection class		IP67
Ambient temperature	[C°]	-25...+70
Wire cross section	[mm ²]	3 x 0.5

Dimensions D4S stroke limiter

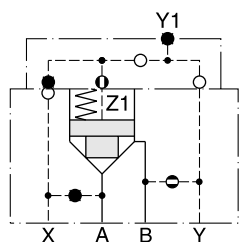
Note:

Stroke limiter not for use with D4S03, vent valve VV01, shuttle valve and position control.

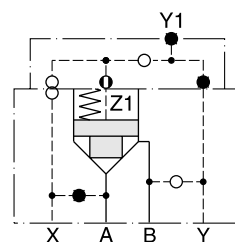
Example: D4S⁰⁶₁₀-.233B.



D4S direct operated

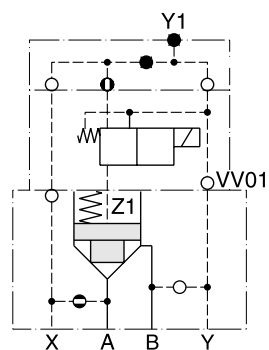


D4S...DC
Pilot oil Y = internal from B

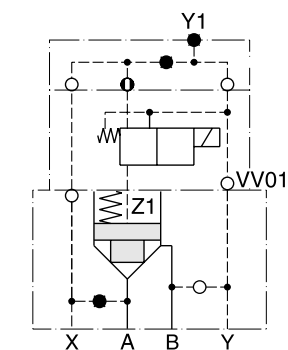


D4S...21
Pilot oil X = external

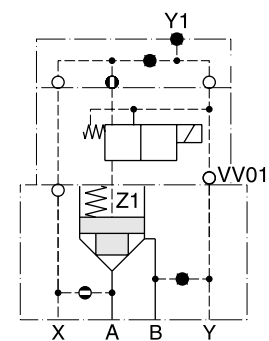
D4S with VV01



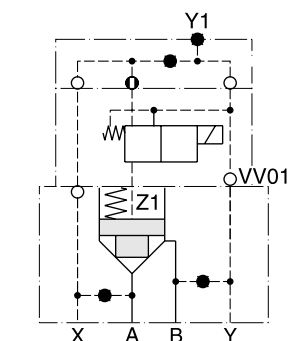
D4S...16...
09 } with VV01
10 }
11 }
12 }
Pilot oil X = internal from A
Drain Y = internal to B



D4S...26...
09 } with VV01
10 }
11 }
12 }
Pilot oil X = external
Drain Y = internal to B

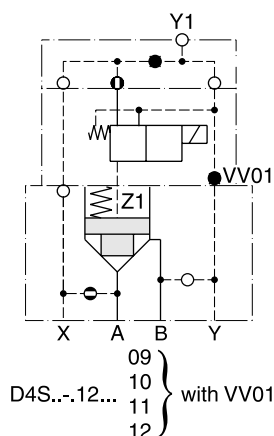


D4S...A5...
09 } with VV01
10 }
11 }
12 }
Pilot oil X = internal from A
Drain Y = external to subplate

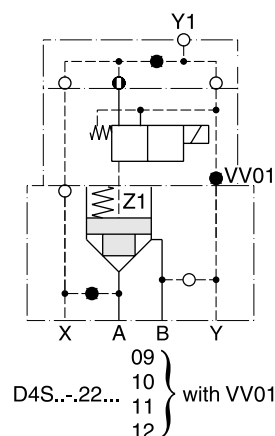


D4S...B5...
09 } with VV01
10 }
11 }
12 }
Pilot oil X = external
Drain Y = external to subplate

D4S with VV01

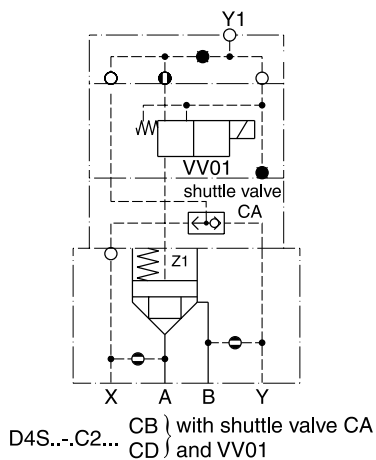


Pilot oil X = internal from A
Drain Y1 = external out of the cap

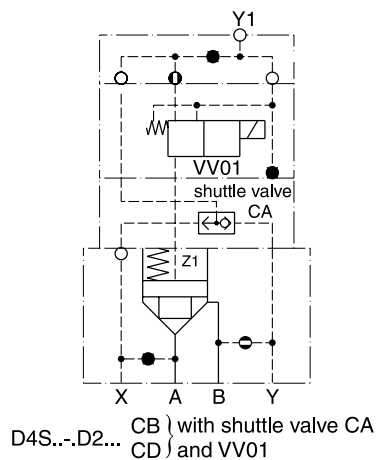


Pilot oil X = external
Drain Y1 = external out of the cap

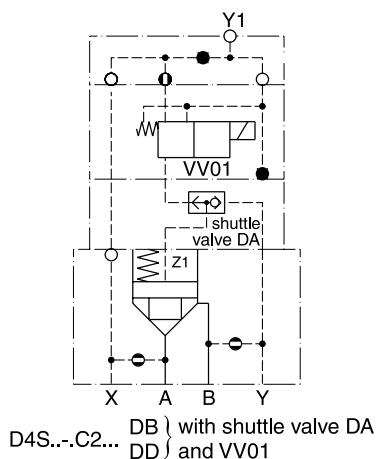
D4S with shuttle valve



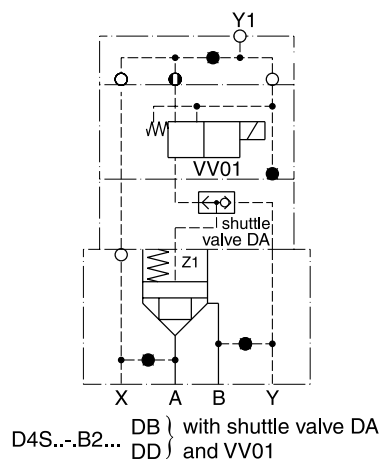
Pilot oil = internal from A and B
Drain Y1 = external out of the cap



Pilot oil = internal from B and
external from X
Drain Y1 = external out of the cap

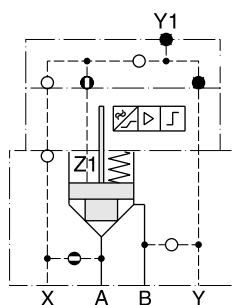


Pilot oil = internal from A and B
(B-A = Check valve function)
Drain Y1 = external out of the cap

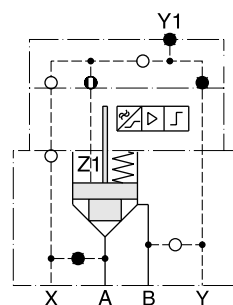


Pilot oil = external from X and Y
Drain Y1 = external out of the cap

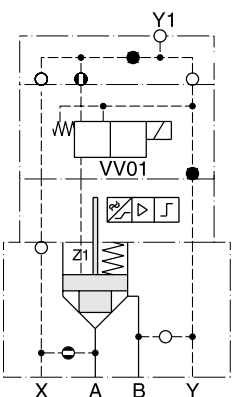
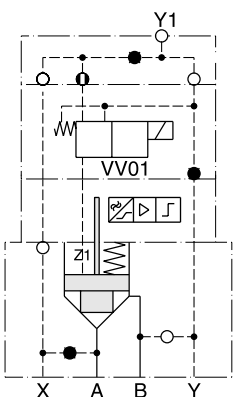
D4S with position control

D4S...113A.BA
(with position control)

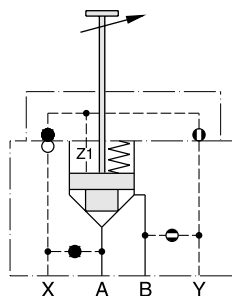
Pilot oil X = internal from A

D4S...213A.BA
(with position control)

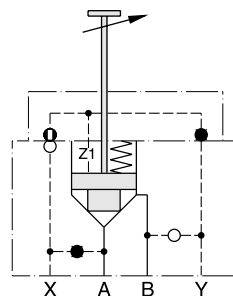
Pilot oil X = external

D4S...123A, BC } with position control
BE } and VV01Pilot oil X = internal from A
Drain Y1 = external out of the capD4S...223A, BC } with position control
BE } and VV01Pilot oil X = external
Drain Y1 = external out of the cap

D4S with stroke limiter

D4S...D434, with stroke limiter
Pilot oil Y = internal from B

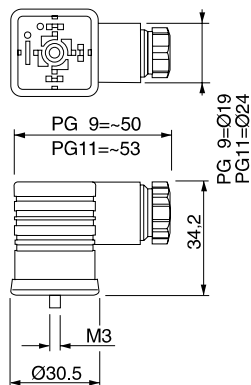
Note: for D4S06 and D4S10 only

D4S...233B, with stroke limiter
Pilot oil X = external

Note: for D4S06 and D4S10 only

Description	Threaded cable joint	Body colour coding	Figures switching	Order no.
Plug DIN 43650, design type AF, protection class IP 65 Voltages up to 250 V	PG 9	black, B grey, A	Fig. 1	5001710 5001711
	PG11	black, B grey, A	Fig. 1	5001716 5001717

Fig. 1



For other plugs see chapter 2, "Accessories"

This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light gray lines. There are no margins, text, or other markings on the page.