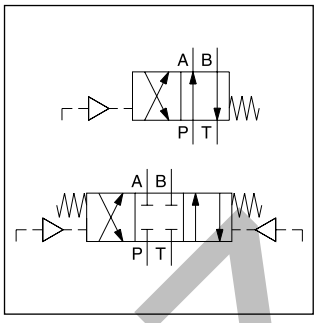
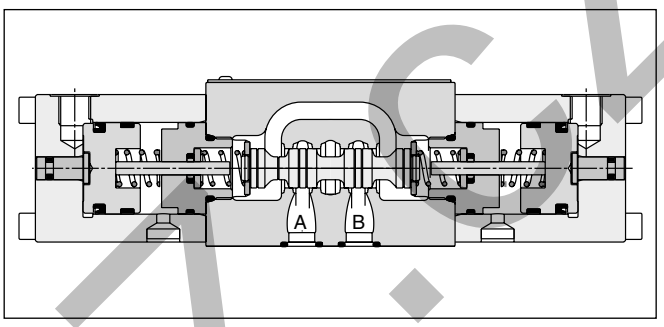
2

Pneumatically controlled directional control valves of series D1VA are based on the standard D1VW design.

The main spool is operated via an auxiliary spool of larger diameter. Thus enables low operating pressures from 3 to 5 bar.

Pneumatic connection via thread G1/8 in the end caps.



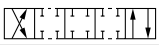
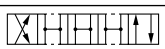
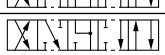
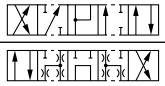
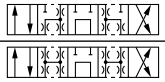


Technical data

General		
Design		Directional spool valve
Actuation		Pneumatic
Size		DIN NG06 / CETOP 03 / NFPA D03
Mounting interface		DIN 24340 A06, ISO 4401, NFPA D03, CETOP RP 121-H
Mounting position		unrestricted, preferably horizontal
Ambient temperature	[°C]	-25...+60
$MTTF_D$ value	[years]	150
Weight	[kg]	1.3
Hydraulic		
Max. operating pressure	[bar]	P, A B: 350; T: 105
Fluid		Hydraulic oil according to DIN 51524
Fluid temperature	[°C]	-20 ... +70 (NBR: -25...+70)
Viscosity permitted	[cSt] / [mm²/s]	2.8...400
Viscosity recommended	[cSt] / [mm²/s]	30...80
Filtration		ISO 4406 (1999); 18/16/13
Flow max.	[l/min]	60 [1)]
Leakage at 350 bar (per flow path)	[ml/min]	up to 60 [1)]
Operating pressure w/o tank pressure with max tank	[bar] [bar]	min. 3 min. 5
Static / Dynamic		
Step response		The response times depend on the pilot oil pressure and on the speed of the increase / decrease of the pilot pressure.
Recommended values are (act./deact.) depending on pilot pressure and pipe length	[ms]	13/28

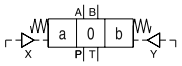
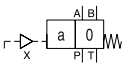
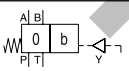
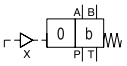
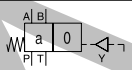
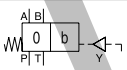
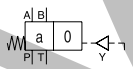
[1)] Depending on spool.

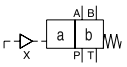
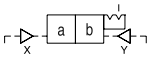
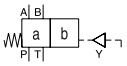
D	1	V	A				4L	
Directional control valve	**Size DIN NG06 CETOP 03 NFPA D03**	**3-chamber design**	**Pneumatically operated**	**Spool type**	**Spool position**	**Seals**	**Indirect actuation via pilot spool; G1/8**	**Design series** (not required for ordering)

3 position spools	
Code	Spool type a 0 b
001	
002	
004	
006	
008 [1]	
009 [1]	

2 position spools	
Code	Spool type a b
020	
026	
030	

Code	Seals
N	**NBR**
V	FPM

3 position spools			
Code	Spool position		
C			**3 positions. Spring offset in position “0“. Operated in position “a“ or “b“.**
	Standard	Spool type 008, 009	
E	 Operated in position “a“.	 Operated in position “b“.	2 positions. Spring offset in position “0“.
F	 Spring offset in position “b“.	 Spring offset in position “a“.	2 positions. Operated in position “0“.
K	 Operated in position “b“.	 Operated in position “a“.	2 positions. Spring offset in position “0“.
M	 Spring offset in position “a“.	 Spring offset in position “b“.	2 positions. Operated in position “0“.

2 position spools		
Code	Spool position	
B		**Spring offset in position “b“. Operated in position “a“.**
D		**Detent, operated in position “a“ or “b“. No centre or offset position.**
H		**Spring offset in position “a“. Operated in position “b“.**

Bold letters =
Short-term availability

[1] Consider specific spool position.

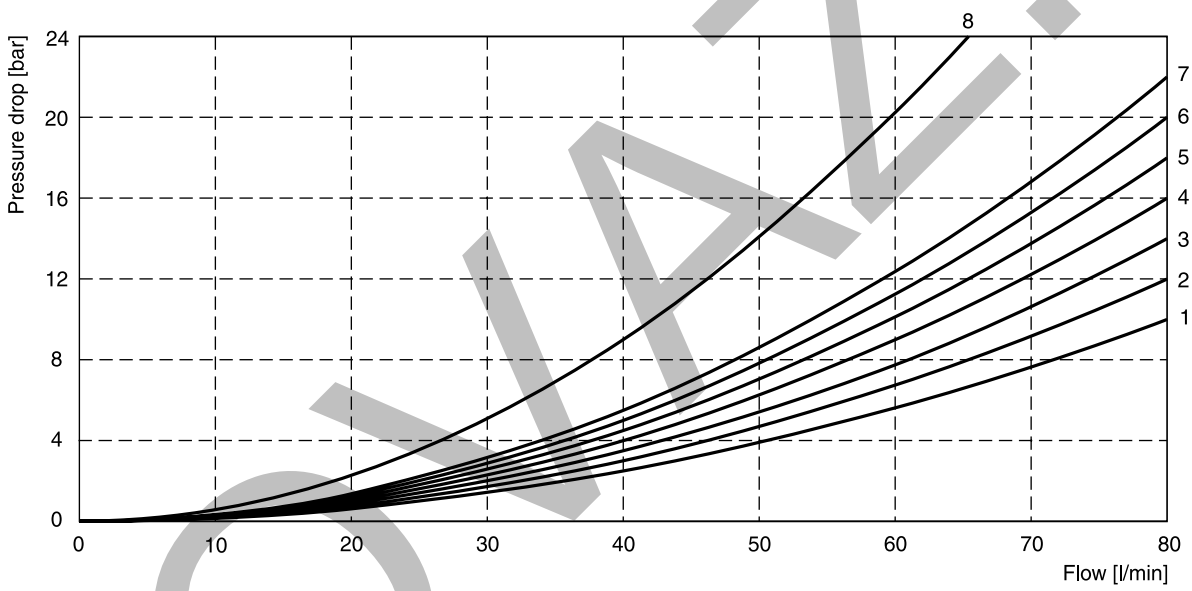
Further spool types and styles on request.

2

The flow curve diagram shows the flow versus pressure drop curves for all spool types. The relevant curve number for each spool type, operating position and flow direction is given in the table below.

	Position „b“		Position „a“		Position „0“				
Spool	P->A	B->T	P->B	A->T	P->A	P->B	A->T	B->T	P->T
001	2	2	2	2	–	–	–	–	–
002	1	4	1	4	1	1	5	5	2
004	2	3	2	3	–	–	7	7	–
006	1	4	1	4	7	7	–	–	–
020	4	4	2	3	–	–	–	–	–
026	4	–	4	–	–	–	–	–	–
030	2	3	1	2	–	–	–	–	–
	P->B	A->T	P->A	B->T	P->A	P->B	A->T	B->T	P->T
008	4	5	4	5	–	–	–	–	8
009	5	5	6	7	–	–	–	–	7

Flow curves

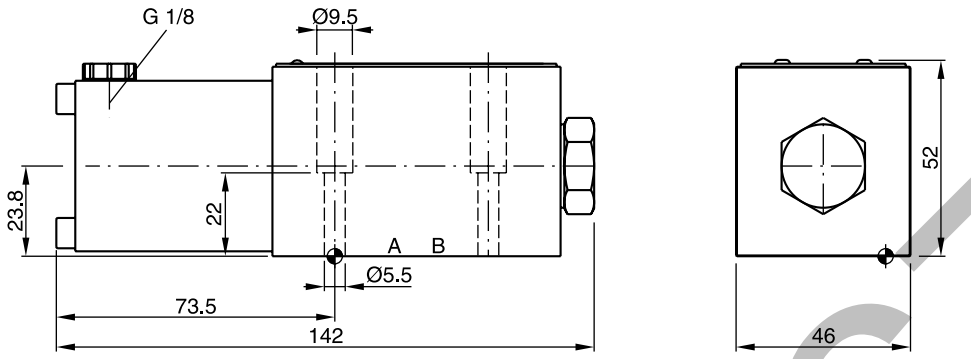


All characteristic curves measured with HLP46 at 50 °C.

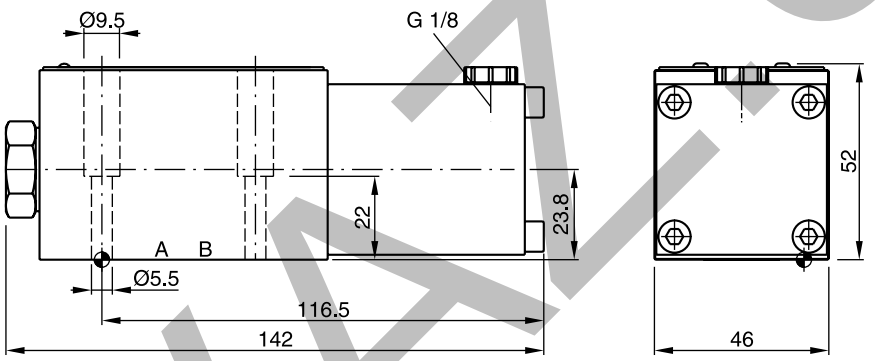
Shift limits

Spool	Shift limit [l/min]
001 002 004 006 020 030	60
008 009	40
026	20

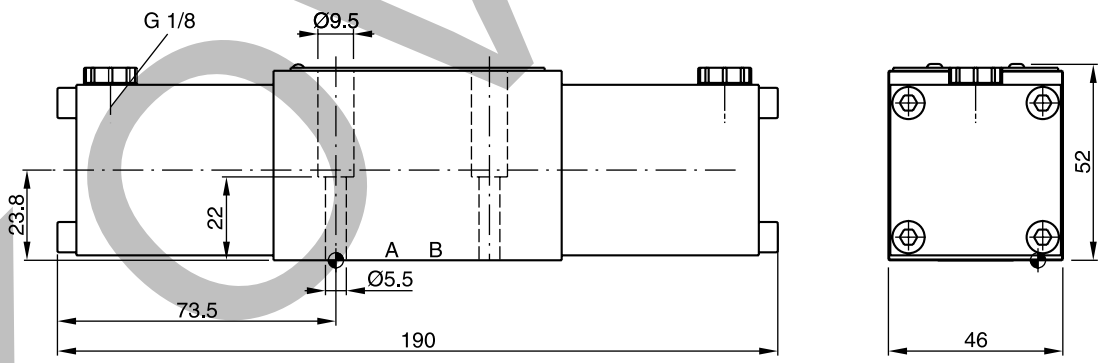
B, E, F -style



H, K, M -style



C, D -style



Surface finish	Kit			Kit
R_{max}6.3 ⏥ 0.01/100	BK375	4x M5x30 ISO 4762-12.9	7.6 Nm ±15 %	**NBR: SK-D1VA-N-91** FPM: SK-D1VA-V-91