

Solenoid operated spool valve stainless

Flange construction

- ◆ 4/2-way impulse valve
- ◆ 4/3-way with spring centred mid position
- ◆ 4/2-way with spring reset
- ◆ $Q_{max} = 50 \text{ l/min}$
- ◆ $p_{max} = 350 \text{ bar}$

DESCRIPTION

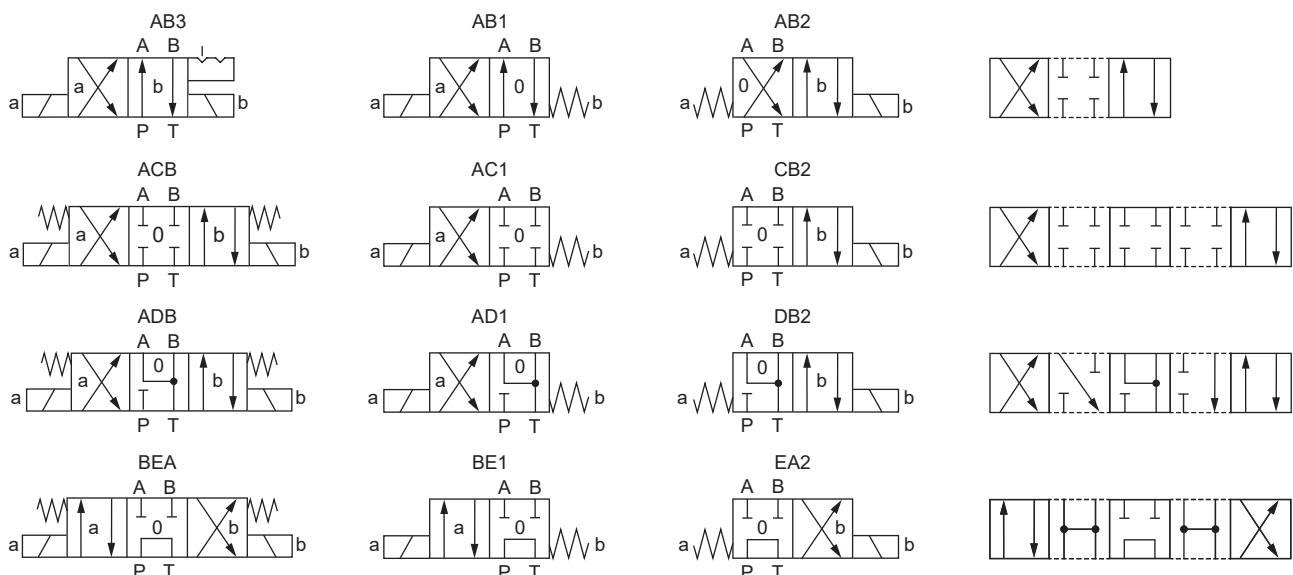
Direct operated solenoid spool valve with 4 connections in 5 chamber design. With the solenoids deenergised, the spool is held in the center position by the spring (4/3), or switched back to the offset position (4/2). With the impulse spool (4/2), the spool is held in the switching position by the detent. The pressure tight encapsulated Ex-protection solenoid coil prevents an explosion on the inside penetrating to the outside as well as an ignitable surface temperature.

CERTIFICATES

	Surface	Mining	Standard -25 °C to...	Z604 -40 °C to...
ATEX / UKEX	x	x	x	x
IECEX	x	x	x	x
CCC	x	x	x	x
EAC	x	x	x	x
Australia	x	x	x	x
MA		x	x	
USA / Canada	x		x	x
PESO	x		x	x

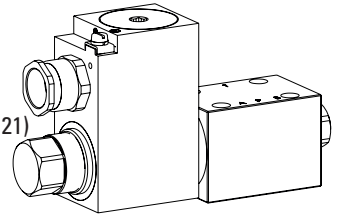
The certificates can be found on www.wandfluh.com

SYMBOL



NG6 ISO 4401-03

Ex db IIC T6, T4 Gb (Zone 1)
 Ex tb III C T80 °C, T130 °C Db (Zone 21)
 Ex db I Mb
 ⓧ II 2 G Ex db IIC T6, T4
 ⓧ II 2 D Ex tb III C T80 °C, T130 °C
 ⓧ I M2 Ex db I Mb
 Class I, Division 1, Group A, B, C, D T4
 Class II & III, Division I, Group E, F, G T4



APPLICATION

These valves are suitable for applications in explosion-hazard areas, open cast and also in mines. The stainless execution is especially suitable for the use in wet and salty environment. Spool valves are mainly used for controlling direction of movement and stopping of hydraulic cylinders and motors.

ACTUATION

Actuation	Switching solenoid, wet pin push type, pressure tight
Execution	MKY45 / 18x60 (data sheet 1.1-183) MKY45 / 18x60 K9 (data sheet 1.1-183S)
Connection	Cable gland for cable Ø 6,5...14 mm

Attention! The UC execution is always supplied without cable gland



ELECTRICAL SPECIFICATIONS

Protection class	IP65 / 66 / 67
Relative duty factor	100 % DF
Switching frequency	12'000 / h
Voltage tolerance	± 10 % with regard to nominal voltage
Standard nominal voltage	12 VDC, 24VDC, 115 VAC, 230 VAC AC = 50 to 60 Hz ± 2 %, with built-in two-way rectifier
Standard nominal power	9 W, 15 W
Temperature class	Nominal power 9 W: T1...T6 Nominal power 15 W: T1...T4

Note! Other electrical specifications see data sheet 1.1-183, 1.1-183S


SURFACE TREATMENT

-The valve body, the cover and the socket head screws are made of stainless steel

-The slip-on coil and the armature tube are zinc nickel coated

Optionally K10:

-The coil is made of stainless steel

SEALING MATERIAL

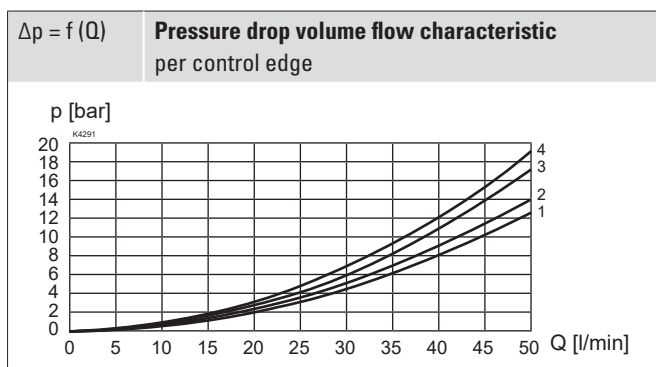
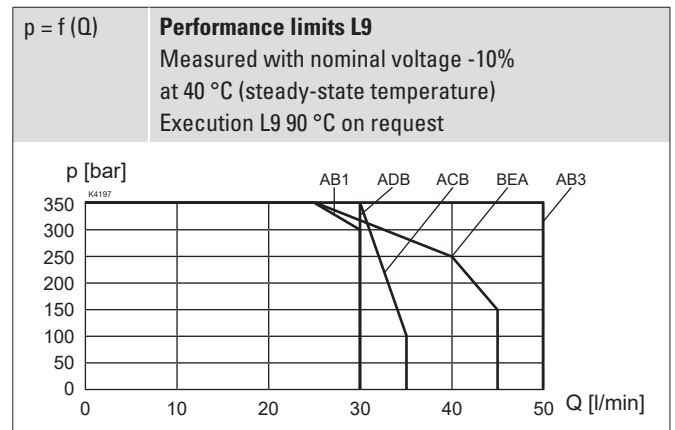
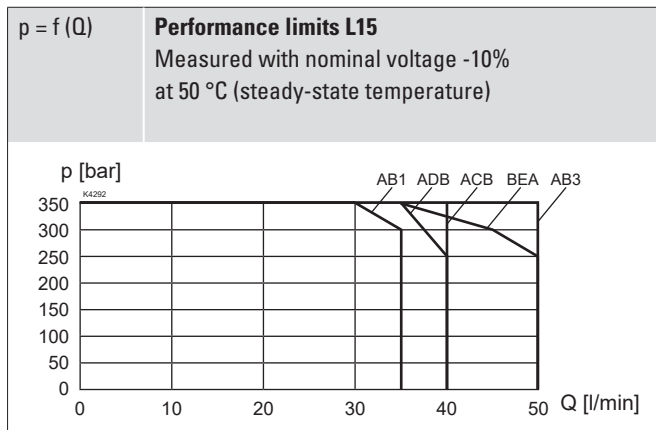
NBR or FKM (Viton) as standard, choice in the type code

COMMISSIONING

Attention! The solenoid coil must only be put into operation, if the requirements of the operating instructions supplied are observed to their full extent. In case of non-observance, no liability can be assumed.


PERFORMANCE SPECIFICATIONS

Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$

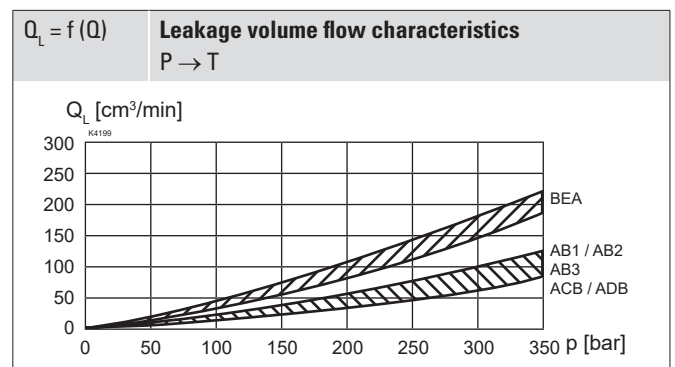


Symbol	Volume flow direction				
	P-A	P-B	P-T	A-T	B-T
AB1 / AB3	2	2	-	3	3
ACB	1	1	-	2	2
ADB	1	1	-	1	1
BEA	1	1	4	2	2

Note! With the L15 execution for ambient temperatures up to 70 °C, the performance specifications have been evaluated with an ambient temperature of 50 °C



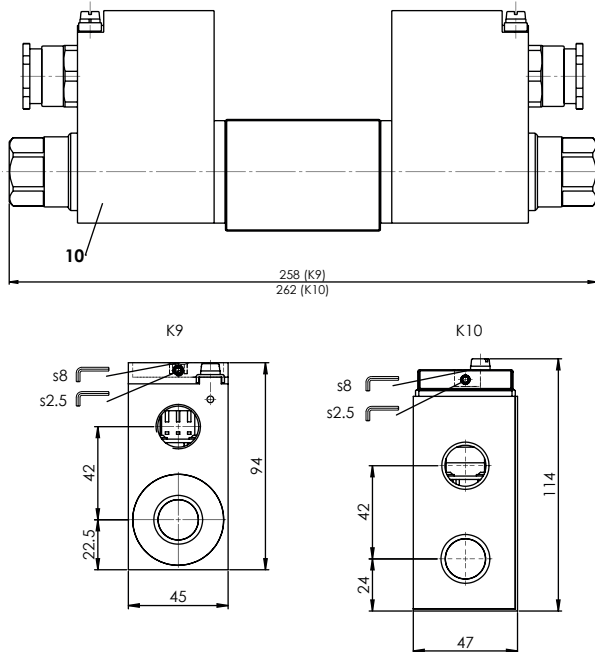
Attention! For valves for the temperature ranges „-40 °C to...“ (Z604) the leakage volume flow can be up to eight times higher.



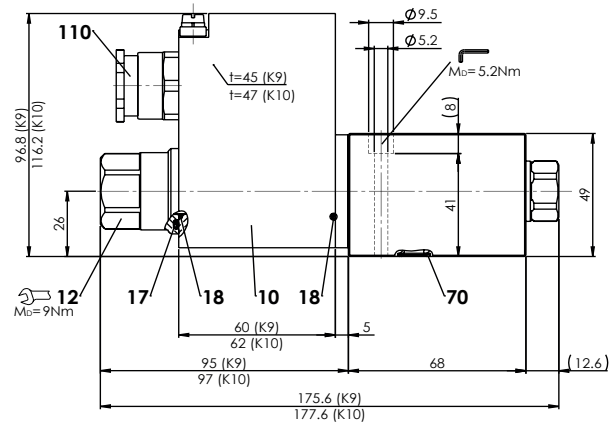
DIMENSIONS

4/3-way spool valve (spring centring)

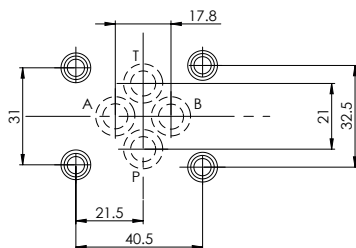
4/2-way spool valve (impulse)



4/2-way spool valve (spring reset)



Dimensions of the solenoid coil, refer to data sheet 1.1-183, 1.1-183S

HYDRAULIC CONNECTION

STANDARDS

Explosion protection	Directive 2014 / 34 / EU (ATEX)
Flameproof enclosure	EN / IEC / UL 60079-1, 31
Cable entry	EN 60079-0, 1, 7, 15, 31
Mounting interface	ISO 4401-03
Protection class	EN 60 529
Contamination efficiency	ISO 4406

ACCESSORIES

Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.0-50
Relative duty factor	Data sheet 1.1-430

PARTS LIST

Position	Article	Description
10	263.6...	Solenoid coil MK.45 / 18 x 60
12	154.220.	Knurled nut Ex M18 x 1,5 x 30-K..
110	111.1080	Cable gland M20 x 1,5
	251.2218	Seal kit WDYFA

Seal kit consisting of:

17	O-ring	ID 25,07 x 2,62
18	O-ring	ID 17,17 x 1,78
70	O-ring	ID 9,25 x 1,78

INSTALLATION NOTES

Mounting type	Flange mounting 4 fixing holes for socket head screws M5 x 50
Mounting position	Any, preferably horizontal
Tightening torque	Fixing screws $M_0 = 5,1$ Nm (screw quality A4) $M_0 = 9$ Nm knurled nut

Note!


The length of the fixing screw depends on the base material of the connection element.

Attention!


For stack assembly please observe the remarks in the operating instructions

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