Function and con f guration

Type WE valves are solenoid operated directional spool valves. They control the start, stop and direction of f ow.

The directional control valves consist of housing (1), one or two solenoids (2), the control spool (3), and one or two return springs (4).

In the de-energized condition the control spool (3) is held in the neutral or initial position by means of return springs (4) (except for impulse spools).

The control spool (3) is actuated via wet pin solenoids (2).

To ensure proper operation, care must be taken that the pressure chamber of the solenoid is f lled with oil.

The control spool(3) is moved to the expected position by solenoid(2) and pushing rod(5). This gives free- f ow from P to A and B to T or P to B and A to T.

When solenoid (2) is de-energized, the control spool (3) is returned to its initial position by means of the return springs (4).

The solenoids may also control the control spool (3) by an optional override button(6) under the de-energized condition.

Type 4WE 6.. L6X/O..
(only for symbols A, C and D)

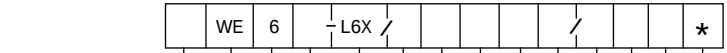
This version refers to directional valves with two spool positions and two solenoids without detent.

In the de-energized condition, there is no de f ned spool position.

Type 4WE 6.. L6X/OF...
(impulse spool, only for symbols A, C and D)

This version refers to directional valves with two

Ordering code



3 ways = 3
(For spool A and B)
4 ways = 4

Directional valve with
wet pin solenoids

Nominal size 6 =6

Symbols e.g. C, E etc.

Series L60 to L69 =L6X
(L60 to L69: unchanged installation
and connection dimensions)

With spring return = No code
Without spring return =O
Without spring return, and with detent =OF

Standard solenoid =E

12V DC =G12
24V DC =G24
220V AC 50/60 Hz =W220
Plug recti f cation 220V =W220R
110V AC 50/60 Hz =W110
Plug recti f cation 110V =W110R
Other voltage see technical data

With manual override button = N

Z4 = square plugs
(not applicable for the integer)
Z5L = With light and protect the diodes
K4 = DIN4365 sockets without plugs
K7 = Deutsch connector assembly,
without plugs [1)]
DL = Central connection with LED lamp
(M22 × 1.5 interface)

No code = Without throttle insert
B08 = Throttle Φ0.8 mm
B10 = Throttle Φ1.0 mm
B12 = Throttle Φ1.2 mm
B15 = Throttle Φ1.5mm
B20 = Throttle Φ2.0 mm
B25 = Throttle Φ2.5 mm
B30 = Throttle Φ3.0 mm

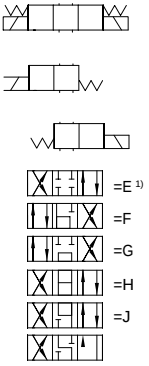
No code = NBR seals
V = FKM seals

No code=Without locating hole
/60= With locating hole
/62=With locating pin hole
ISO 8752-3 × 8-St

Further details
in clear text

Note:
1) K7 Deutsch connector assembly
Only for 12V and 24V.

Symbols



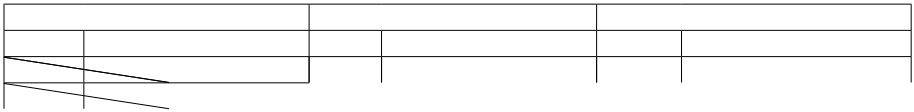
Technical data

Fixing position			Optional
Environment temperature range			-30 to +50 (NBR seal)
			-20 to +50 (FKM seal)
Weight	Single solenoid	kg	1.5
	Double solenoids	kg	2.0
Max.operating pressure	Port A,B,P	bar	350
	Port T	bar	210 (DC),160 (AC), when the operating pressure exceed the permission value, port T must be used as drain port for spool symbol A and B
Max. flow-rate		L/min	80 (DC), 60 (AC)
Flow cross section (switching neutral position)		mm^2	for symbol Q 6% of nominal cross section
		mm^2	for symbol W 3% of nominal cross section
Fluid			Mineral oil suitable for NBR and FKM seal
			Phosphate ester for FKM seal
Fluid temperature range			-30 to +80 (NBR seal)
			-20 to +80 (FKM seal)
Viscosity range		mm^2/s	2.8 to 500
Degree of contamination			Maximum permissible degree of fuid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406 0 i Ũ ɜ Ũ

Electric data

Performance limits (Measured at ϑ_{oil}=40 ± 5 , using HLP46)

The specified switching performance limits are valid with two directions of flow (e.g. from P to A and simultaneous return flow from B to T).
Due to the flow forces acting within the valve, the permissible switching performance limit can be significantly lower with only one direction of flow (e.g. from P to A, with port B being closed)!
The switching performance limit was determined with the solenoid at operating temperature, at 15 % under-voltage and without tank pre-loading.

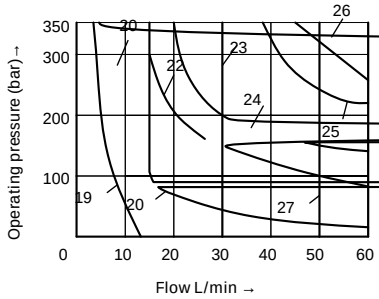


Notes: [1] With manual override; [2] Return flow from actuator to tank.

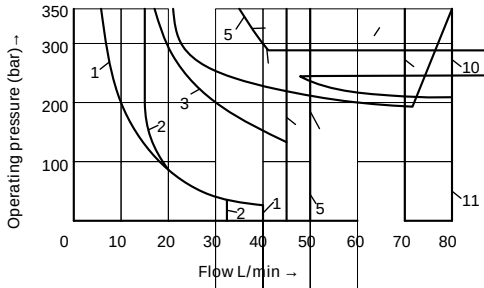
Solenoid DC	
Curve	Solenoid voltage(V)
1 to 10	12, 24, 48, 96, 205

Solenoid AC		
Curve	Solenoid voltage	
11 to 18	W110	110V, 50Hz
	W127	127V, 50Hz
	W230	230V, 50Hz

Performance limits (Measured at ϑ_{oil} =40 ± 5 , using HLP46)

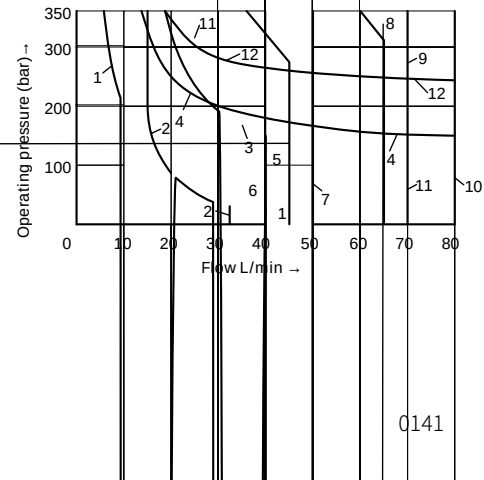


Solenoid AC		
Curve	Solenoid voltage	
19 to 28	W110	110V, 60Hz
	W230	230V, 60Hz

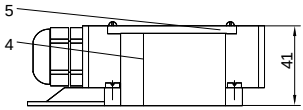


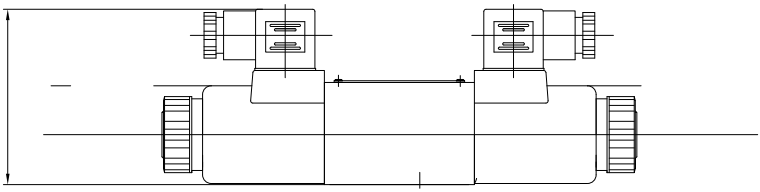
Solenoid DC	
Curve	Solenoid voltage
1 to 10 $_{1)}$	110, 180

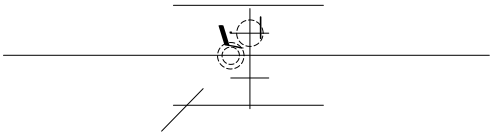
Curve	Spool symbol	Curve	Spool symbol	Curve	Spool symbol
1	A,B	6	T	$10_{1)}$	E, R, C/O, C/OF, D/O, D/OF, Q, W
2	V	7	H	$10_{2)}$	R, C/O, C/OF, D/O, D/OF, Q, W
3	F, P	8	C,D		
4	J, L, U	9	M	11	A/O, A/OF
5	G			12	E

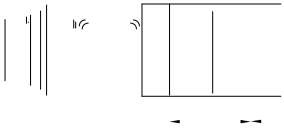


Solenoid AC	
Curve	Solenoid voltage
1 to 12, see$10_{2)}$	220


5
4
41







© This brochure can be reproduced, edited, reproduced or