

## WSE6

Directional poppet valves in variations  
**2/2, 3/2, 3/3, 3/4, 4/2, 4/3 and 4/4**  
 solenoid operated, direct acting

up to 25 l/min  
 up to 250 bar

### FUNCTION

HYDAC Solenoid poppet valves of series WSE6 are directional valves for oil hydraulic installations up to 250 bar.

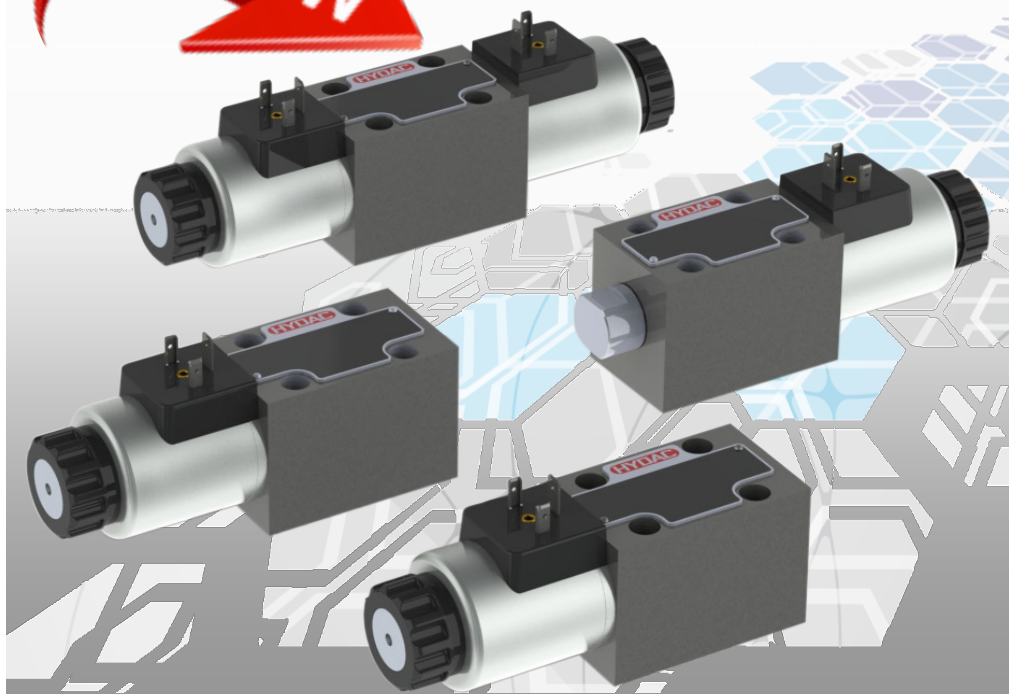
When the solenoid is energized, depending on the symbol, one or more cone-type poppet elements are actuated coordinated, that the corresponding flow paths are enabled.

The reset is realized in the same way. Strong springs ensure a secure rest position and high tightness. By the modular design principle of key components a high variety of symbols can be realized.

Therefore these valves could be used as adequate alternative to the non-leakage-free spool valves.

The specially grinded poppet-type closing elements are pressure-compensated and therefore tight in both directions (in case of pressure return the valves are not intending to open).

An emergency manual override allows the switching of the valve without solenoid erection (up to 70 bar tank pressure).

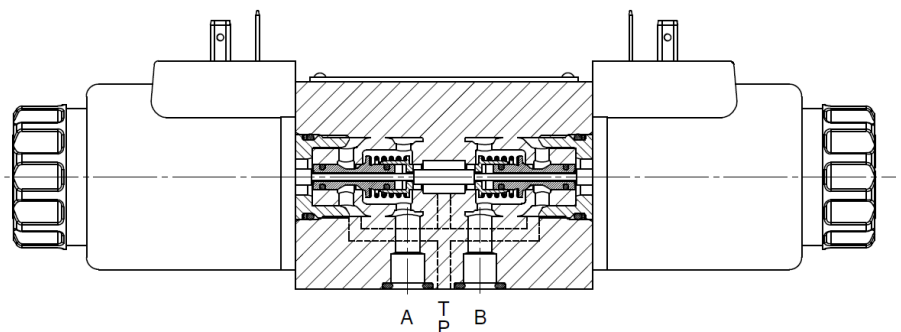


### FEATURES

- Direct acting directional poppet valve, solenoid operated
- Patented functional principle
- Pressure compensated
- Leakage-free
- reliable switching
- Hardened seat elements (Housing and poppet)
- Plate mounted valve with hole pattern according to ISO4401
- in case of coil change no opening of pressure tight chamber necessary

### APPLICATIONS

- Control of direction and position – fully exchangeable to solenoid spool valves
- Energy efficient switching
- Accumulator charging circuits
- Clamping functions
- Tooling machines, hydraulic presses, test benches and mobile market



## SPECIFICATIONS\*

Operating pressure:	port A,B,P; pmax= 250 bar port T; pmax= 70 bar
Flow rate:	max. 25 l/min
Media operating temp. range:	min. -20°C up to max. +80°C
Ambient temperature range:	min. -20°C up to max. +55°C
Operating fluid:	Hydraulic oil to DIN 51524 Part 1 to 3
Viscosity range:	10 mm <sup>2</sup> /s up to 500 mm <sup>2</sup> /s is recommended
Filtration:	contamination level max. to ISO 4406 class 20/18/15
Max. switching frequency:	3.600/h
MTTF <sub>d</sub> :	min. 150 years – see ISO13849 for hydraulic parts
Installation:	optional
Manual override:	up to ca. 50 bar tank pressure possible
Material:	Steel (corrosion protected)
Seal material:	Standard FKM
Weight:	1,5 kg (one coil), 2,0 Kg (two coils)
<b>Electrics</b>	
Type of voltage:	DC
Voltage tolerance:	±10%
Nominal power:	30W (24V / 1,25A)
Coil duty rating:	100%
Electrical port:	Plug according to DIN 43650
Protection class:	IP 65 according to EN 60529; DIN 40050 only in case of correct mounted plug and connector

\* Please also see hints and conditions for valves in brochure 53.000

## TYPECODE

4WSE 6 E H01 - 12 DG / V / PXX / RV

**Number of ports 2, 3, 4** \_\_\_\_\_

**Name** \_\_\_\_\_  
Directional poppet valve

**Nominal size** \_\_\_\_\_  
6 = Nominal size 6

**Functional symbol** \_\_\_\_\_  
C, E, H, X, E+H, J+M, E2, BE2, E4, BE4

**Series** \_\_\_\_\_  
H01 = determined by manufacturer

**Nominal voltage** \_\_\_\_\_  
24 = 24 Volt DC  
0 = without coil

**Types of connectors** \_\_\_\_\_  
DG: DIN plug type A nach EN 175301-803

**Seal material** \_\_\_\_\_  
V = FKM (Standard)

**Slip-in orifice** \_\_\_\_\_  
P, A, B, T = port  
XX = diameter (e.g. 14 = 14 mm)  
Preferred: 0,5, 0,7, 1, 1,4, 2 mm

**Check valve in port P** \_\_\_\_\_  
Cracking pressure 0,6 bar

Other voltages, ports and seals on demand

## SYMBOLS

2/2 Solenoid poppet valves	
Type	Symbol
E2	
BE2	
E4	
BE4	

3/2, 3/3 und 3/4 Solenoid poppet valves	
Type	Symbol
X	
C	
E	
E+H	

4/2, 4/3 und 4/4 Solenoid poppet valves	
Type	Symbol
X	
C	
E	
H	
E+H	
J+M	

+: Both magnets energized for „+“ Position  
Other symbols on demand!

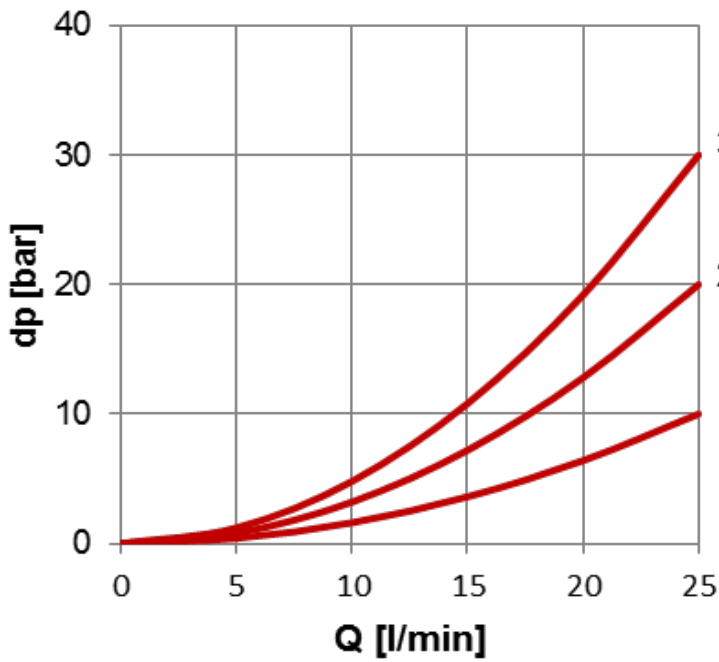
**Hidden manual override in standard!**

## STANDARD MODELS

Type	Material
2WSE 6 E2 H01-0/V	4146440
2WSE 6 E2 H01-24DG/V	4115519
2WSE 6 BE2 H01-0/V	4146441
2WSE 6 BE2 H01-24DG/V	4115520
2WSE 6 E4 H01-0/V	4146442
2WSE 6 E4 H01-24DG/V	4115404
2WSE 6 BE4 H01-0/V	4146444
2WSE 6 BE4 H01-24DG/V	4115515
3WSE 6 X H01-0/V	4146456
3WSE 6 X H01-24DG/V	4115522
3WSE 6 C H01-0/V	4146457
3WSE 6 C H01-24DG/V	4115521
3WSE 6 E H01-0/V	4146458
3WSE 6 E H01-24DG/V	4115565
3WSE 6 E+H H01-0/V	4146459
3WSE 6 E+H H01-24DG/V	4115566
4WSE 6 X H01-0/V	4146461
4WSE 6 X H01-24DG/V	4115567
4WSE 6 C H01-0/V	4146462
4WSE 6 C H01-24DG/V	4115568
4WSE 6 E H01-0/V	4146463
4WSE 6 E H01-24DG/V	4097698
4WSE 6 H H01-0/V	4146475
4WSE 6 H H01-24DG/V	4115569
4WSE 6 E+H H01-0/V	4146476
4WSE 6 E+H H01-24DG/V	4097621
4WSE 6 J+M H01-0/V	4146477
4WSE 6 J+M H01-24DG/V	4115574

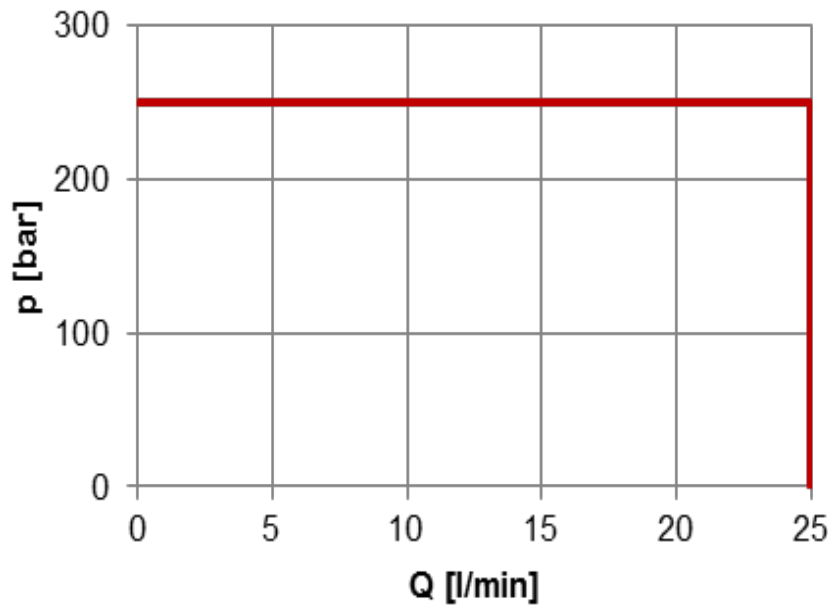
## PERFORMANCE

Per control edge, measured at  $v = 36 \text{ mm}^2/\text{s}$  und  $t = 45^\circ\text{C}$



Ports	Symbol	a				b		0 (+)				
		P-A	A-T	B-T	P-T	P-B	A-T	P-A	B-T	P-B	A-T	P-T
2	E2	2										
2	BE2						2					
2	E4				2							
2	BE4											2
3	X	2									2	
3	C		2					2				
3	E	2					1					
3	E+H	2					1	(2)			(1)	(3)
4	X	2		1						2	1	
4	C					2	1	2	1			
4	E	2		1		2	1					
4	H	2		1		2	1	3	3	3	3	2
4	E+H	2		1		2	1	(2)	(1)	(2)	(1)	(1)
4	J+M	2		2		2	2	(2)	2	(2)	2	

### Application limits (for all types)





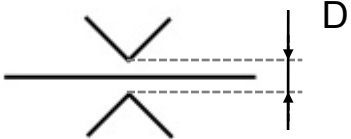
Min. Switch-on current  $I_{ON}$ :

$$I_{ON} \geq 0,7 \times I_N$$

Max. permitted switch-off current  $I_{OFF}$ :

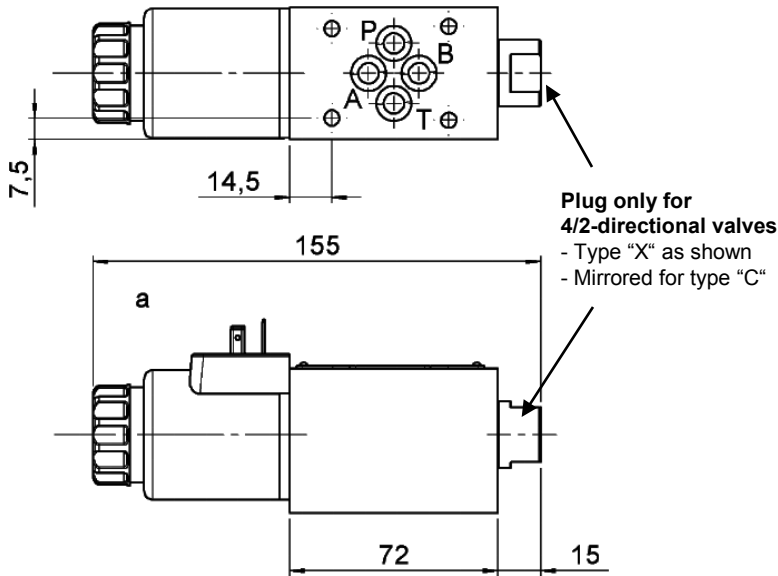
$$I_{OFF} \leq 0,07 \times I_N$$

### Additional elements

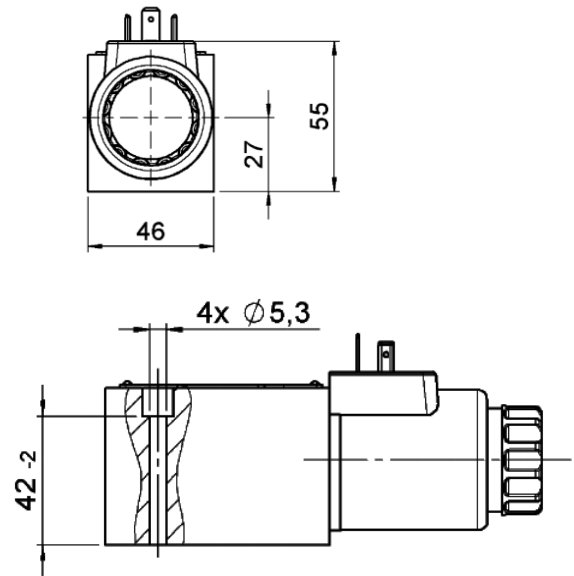
Option check valve	Option slip-in orifices
<ul style="list-style-type: none"> <li>Possible in port P</li> <li>Cracking pressure 0,6 bar</li> </ul>  	<ul style="list-style-type: none"> <li>Slip-in orifices possible in all ports (P, A, B, T)</li> <li>Diameter- preference series: <math>D = 0,5 \text{ mm}; 0,7 \text{ mm}; 1 \text{ mm}; 1,4 \text{ mm}; 2 \text{ mm}</math></li> </ul> <p>Other diameters on request</p> 

## DIMENSIONS

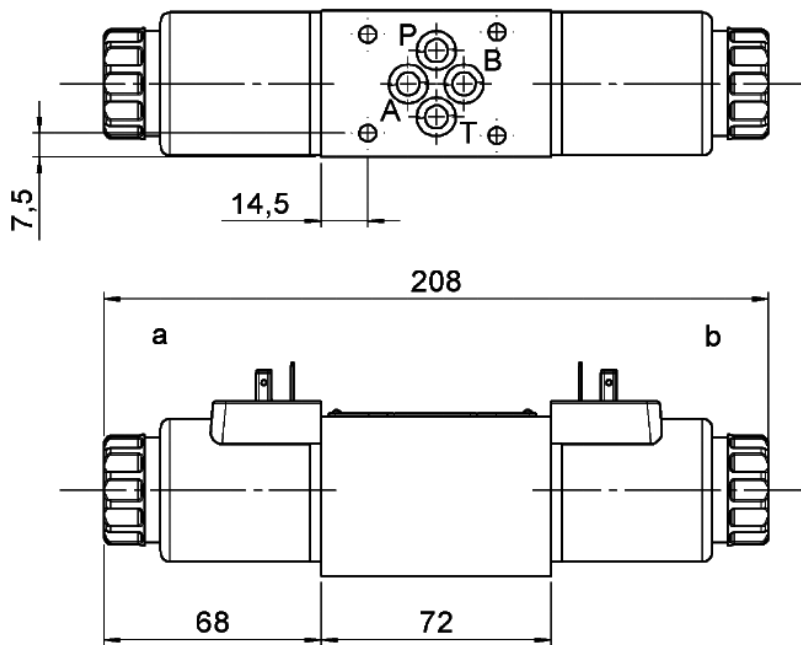
Valve with one coil



Clamping length  
Side view (all types)



Valves with two coils



\* : valid for spool types BE2, BE4, X, C, H, J+M

Tightening screws:

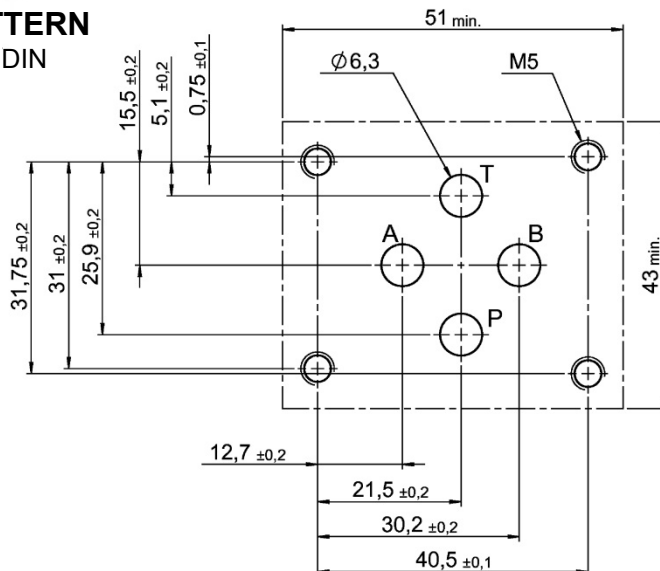
M5 x 50 ISO4762 - 10.9

Torque: 6 + 1 Nm

Plug and tightening screws (4 pieces) are not included in delivery

## HOLE PATTERN

According to DIN  
24340-A6 /  
ISO 4401-03  
(CETOP) 03



Annotation

The technical information in this brochure are relating to the operating conditions and applications.

At deviant applications and/or operating conditions please contact the technical dept.

Technical information are subject to technical modifications.

HYDAC Fluidtechnik GmbH  
Justus-von-Liebig-Str. 5  
66280 Sulzbach / Saar  
Tel.: 06897 / 509 -0  
Fax: 06897 / 509 -598  
Email: flutec@hydac.com