

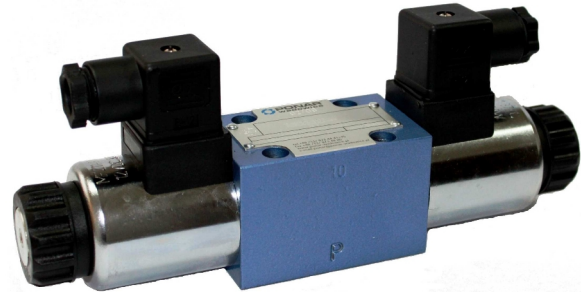
DATA SHEET - OPERATION MANUAL

APPLICATION

Directional spool valves type WE6... electrically operated are intended for change in direction of fluid flow in a hydraulic system and thus it allows to change direction of movement of a receiver - mostly piston rod of a cylinder or hydraulic motor as well to use functions: *on* and *off*. These directional spool valves are used for subplate mounting in any position in a hydraulic system.

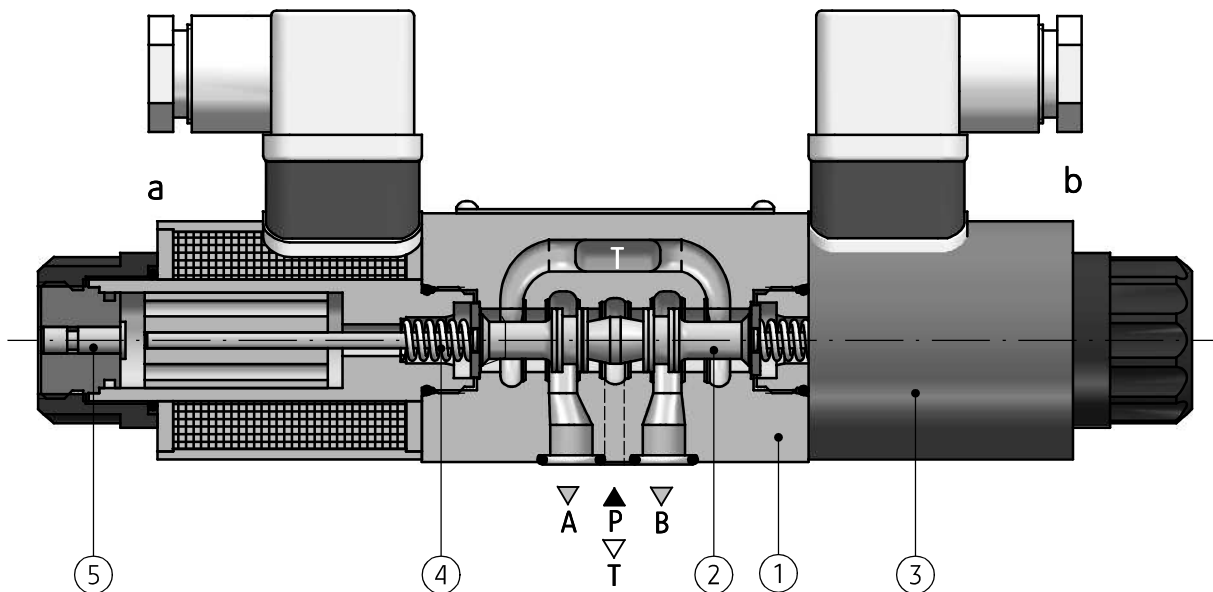
Directional spool valve is complied with the regulations of directive 2006/95/WE for the following voltages:

- 50 – 250 V for AC
- 75 – 250 V for DC



DESCRIPTION OF OPERATION

4WE6 E -32/G24NZ4

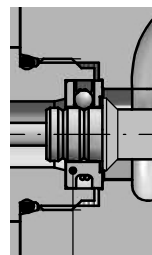


Main elements of directional spool valve type WE6... are: housing (1), solenoids (3), control spool (2), centering springs (4) and manual overrides (5). The spool (2) is shifted when it is moved into one of end positions by the force of solenoid (3) affecting it. The return of the spool into neutral position and centering are secured by the centering springs (4). The shape of the spool (control edge spacing) affects the configuration of connections among the ports: A, B, P and T. Function of ports:

- P - supply port
- T - oil return to the tank
- A, B - ports for a receiver

In case of emergency, the spool can be shifted manually by means of the override (5) - only for version with manual override.

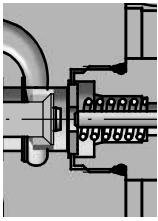
When the situation is anticipated, directional spool valve must be mounted in the way as to be available.



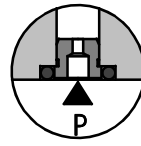
6

Version WE6.../OF... - only for spools: A, C, D. 2-position directional spool valve without return springs with detent. The spool (2) is positioned and supported with detent (6), and its shift results from supplying voltage to one solenoid (3).

DESCRIPTION OF OPERATION



Version WE6.../O...- only for spools: **A, C, D**. 2-position directional spool valve without return springs. The spool is positioned and supported with attached solenoid. There is no neutral position as the spool is not positioned.



Version WE6.../...**B**... - directional spool valve designation like that, has throttle insert in port **P**.

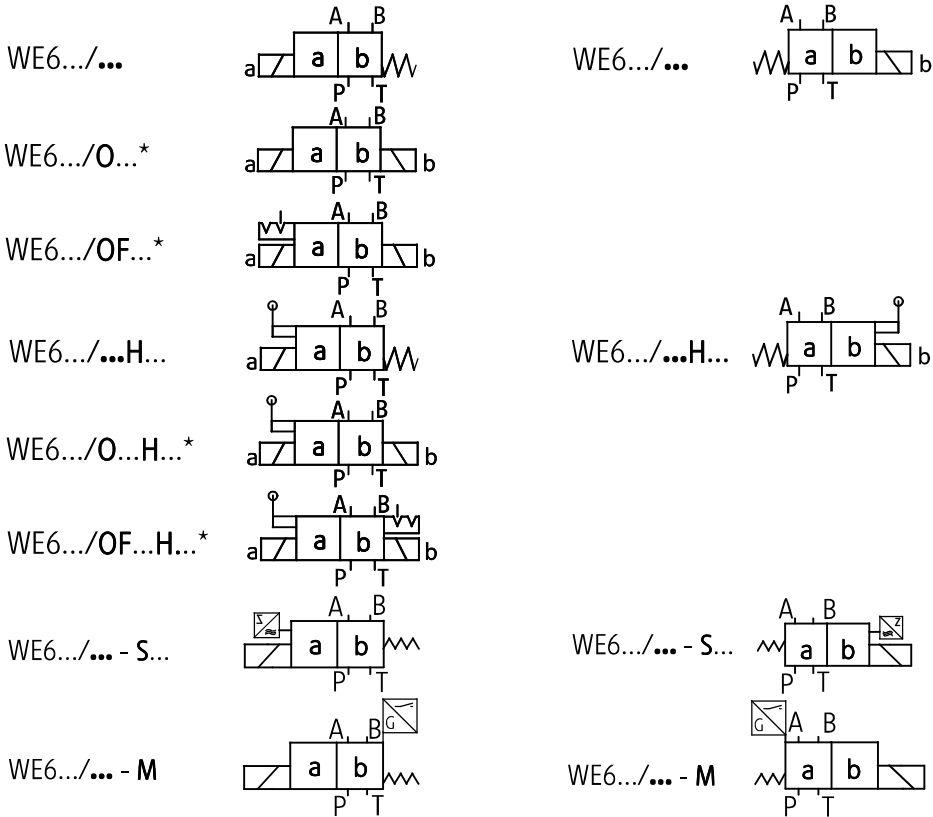
TECHNICAL DATA

Hydraulic fluid	mineral oil						
Required fluid cleanliness class	ISO 4406 class 20/18/15						
Nominal fluid viscosity	37 mm ² /s at temperature 55 °C						
Viscosity range	2,8 up to 380 mm ² /s						
Fluid temperature range (in a tank)	recommended	40°C up to 55°C					
	max	-20°C up to +70°C					
Ambient temperature range	- 20°C up to +50°C						
Maximum operating pressure	ports P, A, B	35 MPa					
	port T	21 MPa					
Flow section for spool W in central position (schemes on page 4)	3 % nominal flow						
Weight	with 1 solenoid	WE6...- 1,5 kg			WE6...H...- 2,8 kg		
	with 2 solenoids	WE6...- 2,1 kg			WE6...H...- 3,4 kg		
Supply voltage of solenoids	DC			AC (plug-in connector with rectifier)			AC direct supply
	12V	24V	110V	230V-50Hz	220V- 50Hz	110V- 50Hz	230V- 50Hz
Supply voltage tolerance	±10%						±10%
Power requirement (DC)	30 W						-
Holding power (AC)	-						50 VA
Switch-on power (AC)	-						300 VA
Switching time	ON up to 60 ms						ON up to 40 ms
	OFF up to 40 ms						OFF up to 25 ms
Maximum switching frequency	15000 on/h						12000 on/h
Degree of protection	IP 65						
Solenoid coil temperature	max 150 °C						

DIAGRAMS

Diagrams for 2-position directional spool valves

versions with positions a, b



NOTE:

(*) - versions: WE6.../O...;.../OF...; .../O...H...; .../OF...H...
only with spools - diagram A, C, D

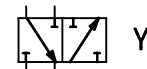
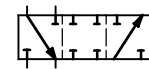
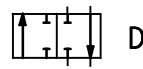
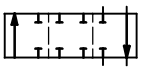
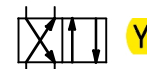
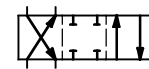
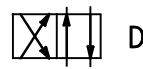
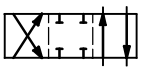
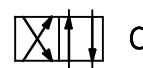
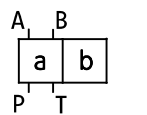
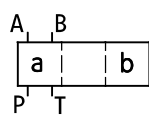
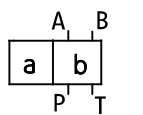
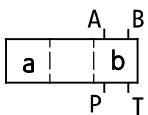
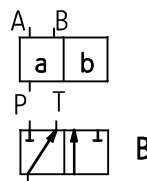
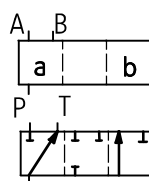
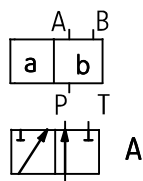
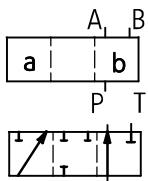
Diagrams for spools

working and indirect positions

working positions

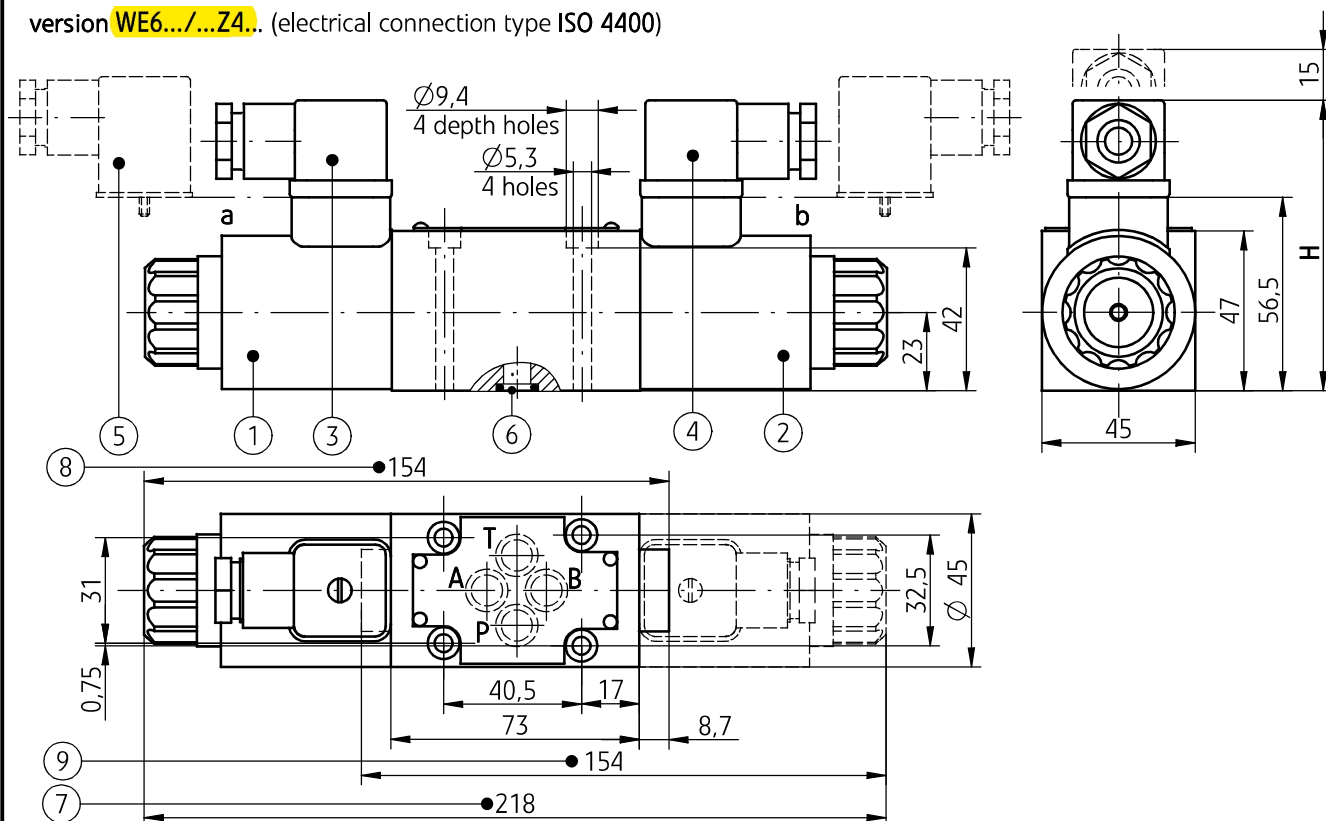
working and indirect positions

working positions



OVERALL AND CONNECTION DIMENSIONS

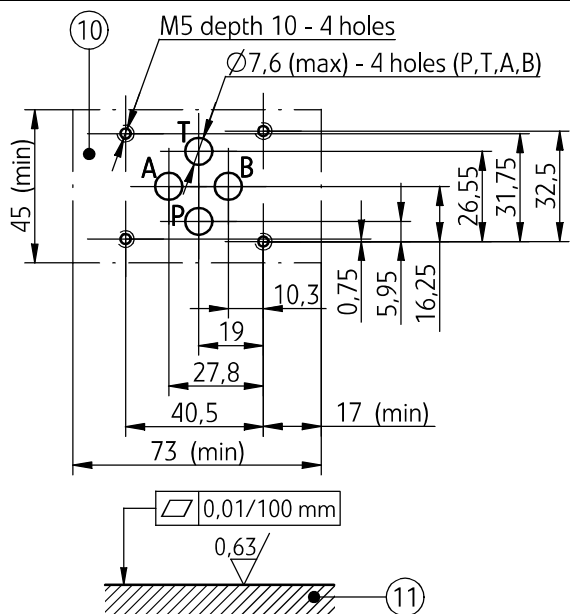
version WE6.../...Z4... (electrical connection type ISO 4400)



Option of connection Z4...	Control voltage	Dimension H
plug-in-connector ISO 4400 (DIN 43650 - A)	12V DC, 24V DC, 110V DC	86
plug-in-connector ISO 4400 (DIN 43650 - A) with rectifier	110V AC, 220V AC, 230V AC	93

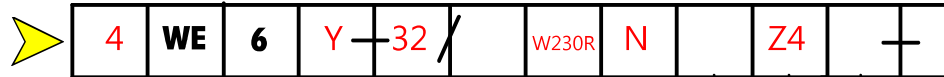
NOTES:

- versions WE6... with DC solenoids with other electrical connectors, see page 7
- versions with AC solenoids with direct supply, see page 8



- Solenoid on side a
- Solenoid on side b
- Plug-in-connector on side a - ISO 4400 type (DIN 43650 - A)
- Plug-in-connector on side b - ISO 4400 type (DIN 43650 - A)
- Plug-in-connector - ISO 4400 type (DIN 43650 - A) with rectifier
- O-ring 9,2 x 1,8 - 4 pcs/set
- Directional spool valve dimension with 2 solenoids on side a, b:
 - 3-position directional spool valve springs centered (spool diagrams: E, F, G, H, J, L, M, P, U, W - according to page 4)
 - 2-position directional spool valve without return springs
 - 2-position directional spool valve without springs and with detent (spool diagrams: A, C, D, D1 - according to page 5)
- Directional spool valve dimension with 1 solenoid - on side a
 - 2-position springs centered (spool diagrams: A, C, D, D1, EA, FA, GA, HA, JA, LA, MA, PA, UA, WA - according to pages 4, 5)
- Directional spool valve dimension with 1 solenoid - on side b
 - 2-position springs centered (spool diagrams: B, Y, Y1, EB, FB, GB, HB, JB, LB, MB, PB, UB, WB - according to pages 4, 5)
- Porting pattern for directional spool valve - configuration of connection holes in accordance with the standard ISO 4401 - identified by ISO 4401-03-02-0-94 (nominal size CETOP 03) fixing screws M5 x 50 - 10.9 in accordance with PN - EN ISO 4762 - 4 pcs/set; tightening torque Md = 9 Nm
- Subplate surface required

HOW TO ORDER



Number of service ports

3-way - only for spools A, B = **3**

4-way - for the other spools = **4**

Nominal size (NS)

NS6 = **6**

Spool symbol

spool diagrams - according to **page 4, 5**

Series number

(30-39) - connection and installation dimensions unchanged = 3X
series 32 = **32**

Spool positioning

spring centering = **no designation**

without springs return (only fo spools A, C, D) = 0

without springs return with detent (only fo spools A, C, D) = OF

Control voltage for solenoids

12V DC = G12

24V DC = **G24**

110V DC = G110

110V AC 50Hz (plug-in-connector with rectifier) = W110R

220V AC 50Hz (plug-in-connector with rectifier) = W220R

230V AC 50Hz (plug-in-connector with rectifier) = **W230R**

230V AC 50 Hz (direct supply with AC current) = W230-50

Manual override

solenoids with manual override = **N**

solenoids without manual override (only for version with inductive switch type M) = no designation

Manual lever control

no manual control lever = **no designation**

with a manual control lever psitioned vertically = H

with a manual control lever psitioned at an angle = HS

Electrical connection

plug-in-connector type ISO 4400 (DIN 43650 - A) without LED = **Z4**

plug-in-connector type ISO 4400 with LED = Z4L

withput plug-in-connector, with 2-poles male AMP Junior Timer type connector (exists for ...G12... and ...G24... options only) = J

withput plug-in-connector, with DEUTSCH type connector (exists for ...G24... option only) = D

Throttle insert (in port P)

without throttle insert = **no designation**

throttle insert ϕ 0,8 = B 08

throttle insert ϕ 1,0 = B 10

throttle insert ϕ 1,2 = B 12