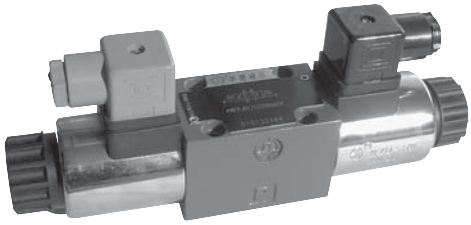
BEIJING HUADE HYDRAULIC INDUSTRIAL GROUP CO.,LTD.	Directional control valves, electrically operated Type WE 4			RE23140/12.2004
	size 4	up to 21 MPa	up to 25 L/min	Replaces: RE23140/05.2001

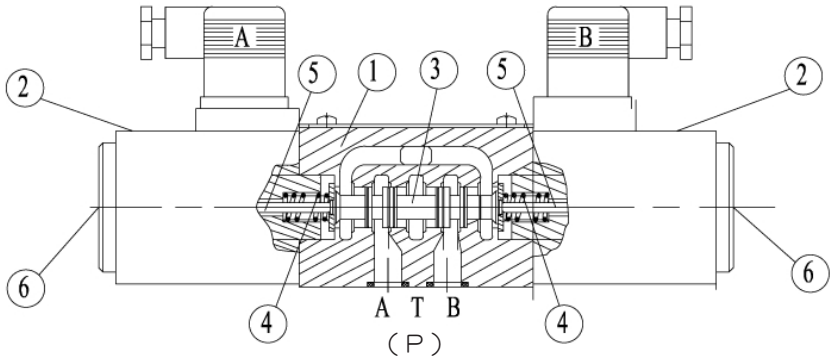
Features:

- Directional valves of type WE4 are solenoid operated directional spool valves
- Wet pin solenoids of direct or alternating current
- Porting pattern to ISO 4401 and CETOP-RP 121H



Function,section

Type 4WE4E 10B/



Directional valves of type WE4 are solenoid operated directional spool valves. They control the start, stop and direction of a fluid flow.

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

The control spool (3) is held by the return spring (4) in the central or in the initial position (except for detented spools).The control spool (3) is actuated via wet pin solenoids (2). In the energized condition.The force of the solenoid (2) acts via the plunger (5) on the control spool (3) and shifts the same from its rest position to the desired end position.Thus, the required flow pattern from P to A and B to T or P to B and A to T is selected. When the solenoid (2) is de-energized, the control spool (3) is returned to its neutral position by the return spring (4).A covered manual override is provided so that the control spool (3)can be operated without energizing the solenoid.

A

Type 4WE4 C 10B/O...

D

This version is a directional valve with 2 switching positions and 2 solenoids without detent and springs. There is no defined switching position in the de-energized condition.

A

Type 4WE4 C 10B/OF...

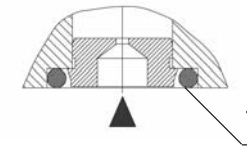
D

This version is a directional valve with 2 switching position,2 solenoids and a detent.Thus, the relevant switching positions are fixed and continuous energization of the solenoid is not necessary

Throttle inserts

The use of throttle inserts is only required, if, due to the operating conditions,flows are to be expected,which are higher than the stated maximum performance limits of the valve.

It is inserted in the P channel of the directional valve.



Type 4WE 4-10B/...B..

O-ring 7 x 1.5

Ordering details

	WE	4		10	B	/	A						*

3 service ports = 3
4 service ports = 4

Nominal size 4 = 4

Symbols see below

Series 10 to 19 = 10
(10 to 19 unchanged installation and connection dimentions)

The technology of Beijing Huade Hydraulic = B

Spring return = No code
Without spring return = O
Without spring return with detent = OF

Standard solenoid = A

12 V DC =12
220 V AC 50 Hz = W220-50
24 V DC =G24
DC solenoid commuting automatically =W110/220R

Further details in clear text

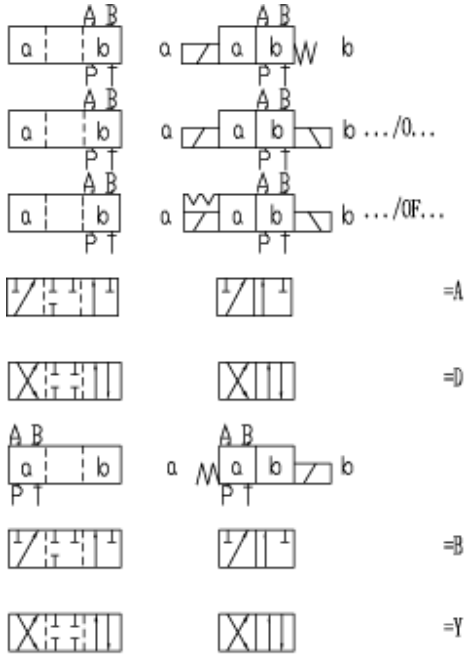
No code = mineral oils
V = phospate ester

No code = without cartridge throttle
B08 = throttle Φ 0.8 mm
B10 = throttle Φ 1.0 mm
B12 = throttle Φ 1.2 mm

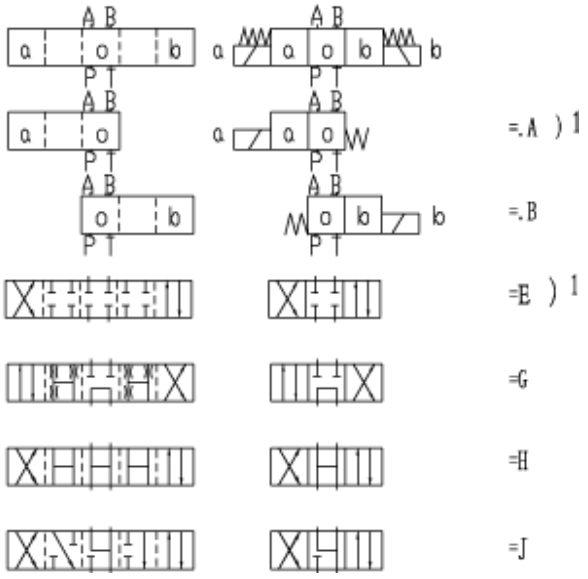
Z4 = normal plug
Z5 = Large angled plug
Z5L= Large angled plug with indicator light

N9= With covered hand override
No = Without covered hand override

Symbols



1) Example: Spool E with switching position "a" ordering details..EA

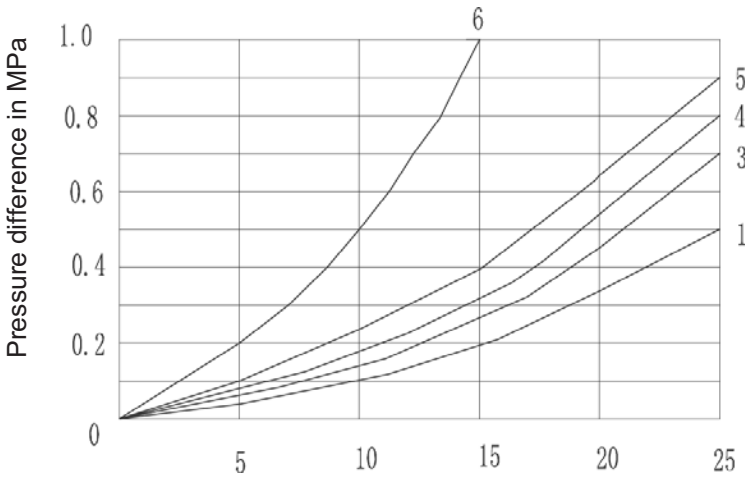


Technical data

Hydraulic technical data			
Max. operating pressure - Ports A, B, P		(MPa)	up to21.0
- Port T		(MPa)	10.0 ,With symbols A or B port T must be used as leakage port when the operating pressure is above the permissible tank pressure
Max. flow		(L/min)	up to 25
Pressure fluid			Mineral oil phospate ester
Viscosity range		(mm^2/s)	2.8 to 500
Pressure fluid temperature range		(℃)	- 30 to + 80
Degree of contamination		(um)	<=20(recommendation 10)
Weight		(Kg)	- Valve with 1 solenoid 0.9 - Valve with 2 solenoids 1.3
Electrical technical data			
Available voltages		(V)	12、24、220、110R、220R
Power consumption		(W)	22
Duty			continuous
Switching time	ON	(ms)	20 to 30
	OFF	(ms)	10 to 20
Max. ambient temperature		(℃)	+50
Max. coil temperature		(℃)	+150
Protection to DIN 40 050			IP65
Switching frequency		(cycles/h)	15000

With electric connection the protective conductor (PE) must be connected according to the relevant regualtions.

Characteristic curves (measured at ν = 41 mm^2/s and t = 50 ℃)



Symbol	Flow direction				
	P→A	P→B	A→T	B→T	P→T
A	5	5	-	-	-
B	5	5	-	-	-
D,Y	5	5	4	4	-
E	4	4	3	3	-
G	3	3	4	4	6
H	1	1	1	1	-
J	5	5	3	3	-

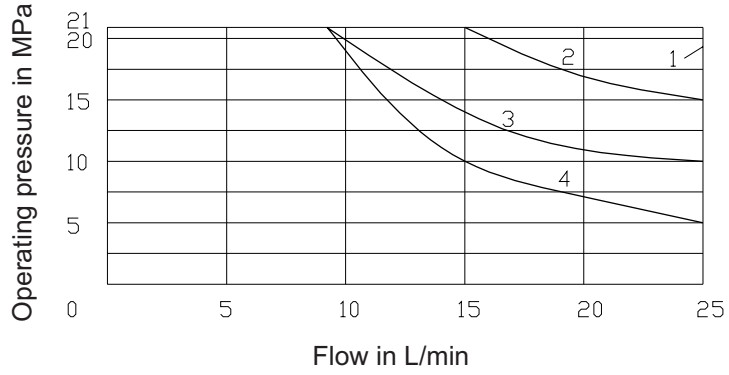
Characteristic curves (measured at ν = 41 mm²/s and t = 50°C)

Attention!

The given operating limits are valid for the use with two flow directions (e.g. from P to A and simultaneous return flow from B to T).

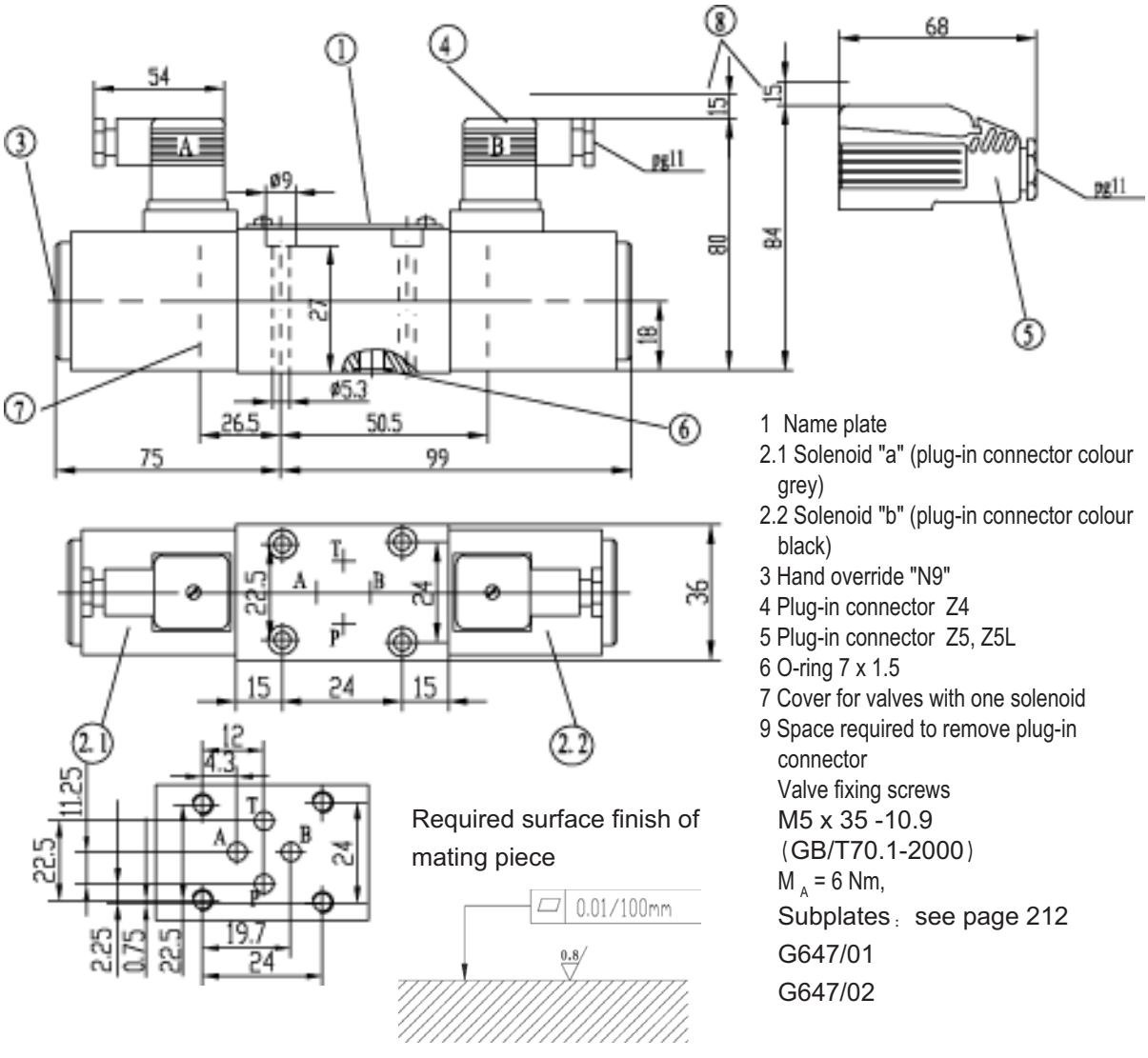
Due to the flow forces active inside the valves the permissible operating limit may be significantly lower if only one flow direction from P to A and closed port B) is used!

The operating limits were measured with solenoids at operating temperature,10% under voltage and without tank back pressure.



Char. curve	Symbol
1	D,D/O,D/OF,H,Y
2	E,J
3	G
4	A,B

Unit dimensions (Dimensions in mm)



1 Name plate
2.1 Solenoid "a" (plug-in connector colour grey)
2.2 Solenoid "b" (plug-in connector colour black)
3 Hand override "N9"
4 Plug-in connector Z4
5 Plug-in connector Z5, Z5L
6 O-ring 7 x 1.5
7 Cover for valves with one solenoid
9 Space required to remove plug-in connector

Valve fixing screws
M5 x 35 -10.9
(GB/T70.1-2000)
M_A = 6 Nm,

Subplates: see page 212
G647/01
G647/02