



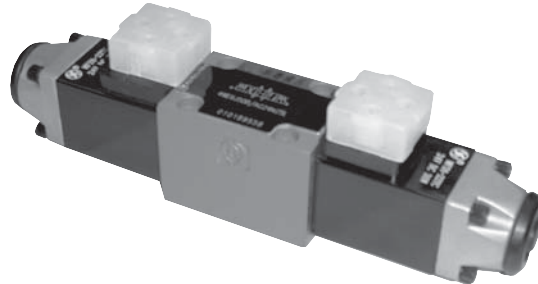
Catálogo de Productos



BEIJING HUADE HYDRAULIC INDUSTRIAL GROUP CO.,LTD.	Directional control valves, electrically operated Type WE 6...50B/...			RE 23177/12.2004
	Size 6	up to 31.5 MPa	up to 80L/min	Replaces: RE23177/05.2001

Features:

- Direct operated directional spool valve with solenoid operation in standard design
- Wet pin DC or AC solenoids
- high-power solenoid
- 53 kinds spool function
- Porting pattern to Din 24 340 form A, ISO 4401 and CETOP-RP 121H



Functional, section

Directional valves of type WE6 are solenoid operated directional spool valves. They control the start, stop and direction of a fluid flow.

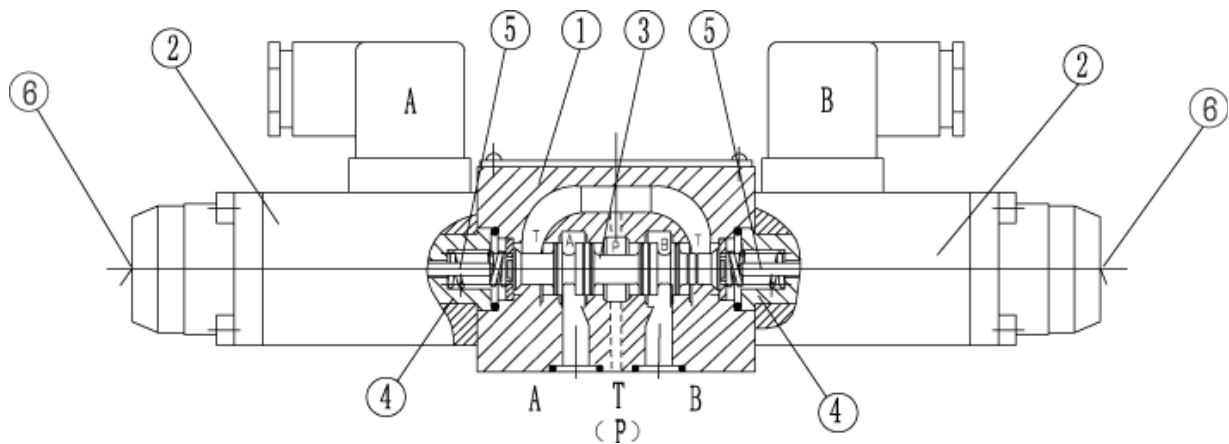
These directional valves basically consist of the housing (1), one or two solenoids (2), the control spool (3), and one or two return springs (4).

In the de-energized condition, the control spool (3) is held by the return springs (4) in the central or in the initial position (except for detented spools). The control spool (3) is actuated via wet pin solenoids(2). 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).

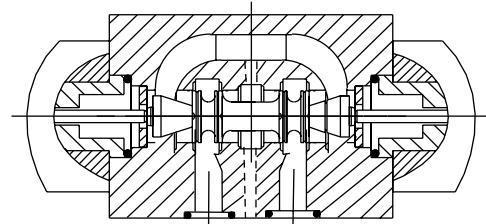
A manual override (6), optional, is provided for emergency operation of the control spool (3) without energization of the solenoid.



Type 4WE 6 E50B/

4WE6... 50B/O :

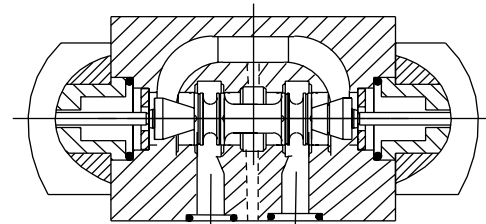
This version is a directional valve with 2 switching positions and 2 solenoids without detent. There is no defined switching position in the de-energized condition.



WE6...50B/O

WE6... 50B/OF :

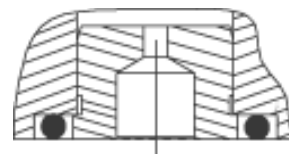
This version is a directional valve with 2 switching position, 2 solenoids and a detent. Thus, the relevant switching positions are fixed and continuous energization of the solenoid is not necessary.



WE6...50B/OF

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.

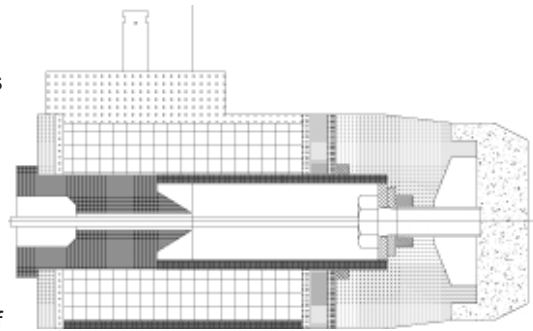


Solenoid

Wet pin solenoid life is much longer because gag bit moves in the oil ,just lessening hydraulic impact and abrasion , improving the speed of emanating heat.

The characteristics of DC solenoids :

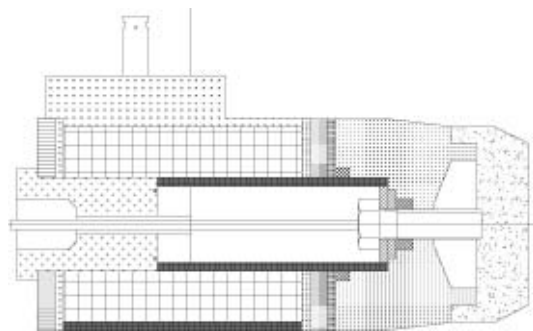
- Switching gently ,high frequency.
 - Coils are all safety wherever gag bit stays at any position of the solenoid .
 - Its response is not rapid for lower voltage ,go beyond voltage instantly,over loading or jamming of mechanism .
- AC power supply can be used through commuting.



DC solenoid

The characteristic of AC solinoids :

- The circuit of electrical control is easy.
- Action time is short.
- It is not necessary of special protect device for on-off.



AC solenoid

Ordering details

WE 6 50 B / / / / / / / / / *

3 Service ports = 3
4 Service ports = 4

Nominal size 6 =6

Further details in clear text

No code = mineral oils
V = phosphate ester

No code = without throttle insert
B08= Throttle, Φ 0.8 mm
B10 = Throttle, Φ 1.0 mm
B12= Throttle, Φ 1.2 mm

Electrical connection see back

N= With manual override
No code= Without manual override

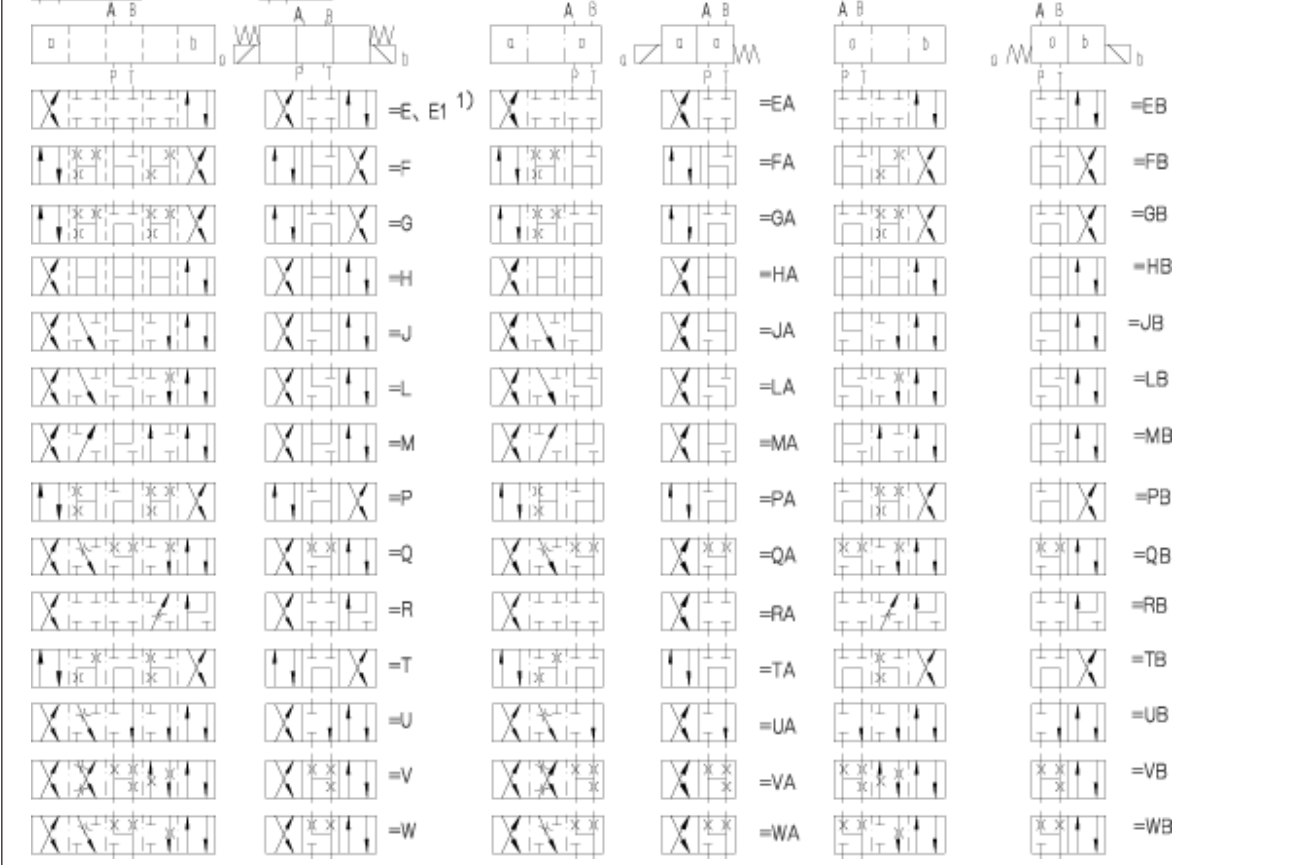
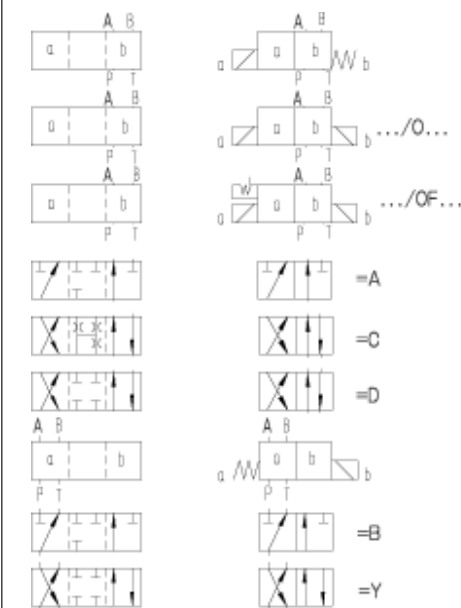
W220 -50= 220 V AC, 50 Hz
G24= 24 V DC
W220R = AC 110V 220V
W110R = AC solenoid with plug Z5

A = standard solenoid
B = high-power solenoid

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

B = Technology of Beijing Huade Hydraulic

50= Series 50 to 59
(50 to 59: unchanged installation and connection dimensions)



Technical data

Hydraulic

Solenoid		Standard solenoid A	High-power solenoid B
Operating press., max.	Port A, B, P (MPa)	up to 31.5	up to 35
	Port T (MPa)	up to 16 (=) up to 10 (~)	up to 16
Flow, max. q_v	(L/min)	up to 60	up to 80 (=); up to 60 (~)
Flow area (switching position 0):		for symbol Q, 6% of nominal cross section	for symbol W, 3% of nominal cross section
Hydraulic fluid		mineral oils, phosphate ester	
Fluid temperature range	(°C)	- 30 to + 80	
Viscosity range	(mm ² /s)	2.8 to 500	
Weight (Kg)	Valve with 1 solenoid	1.2	1.35
	Valve with 2 solenoids	1.6	1.6

With symbol A and B, port T must be used as drain port, if the operating pressure is higher than the permissible tank pressure.

Electrical

Solenoid		Standard solenoid A		High-power solenoid B	
		—	~	—	~
Available voltages	(V)	12, 24, 110	110, 220/50Hz	12, 24, 110	110, 220/50Hz
Power requirement	(W)	26	—	30	—
Holding power	(VA)	—	46	—	35
Switch-on	(VA)	—	130	—	220
Duty cycle		continuous	continuous	continuous	continuous
Switching time	ON (ms)	20–45	10–25	20–45	10–20
	OFF (ms)	10–25	10–25	10–25	15–40
Environment temperature	(°C)	+ 50			
Coil temperature	(°C)	+ 150			
Switching frequency	(cycles/h)	15000	7200	15000	7200
Type of protection to			DIN 40 050	IP65	

When connecting the electrics, the protective conductor (PE) must be connected according to relevant regulations.

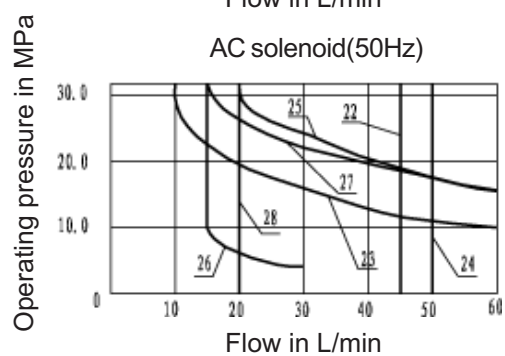
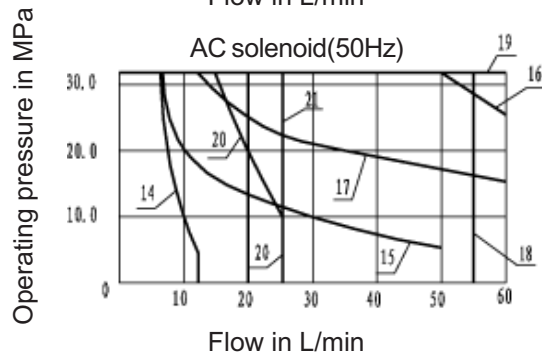
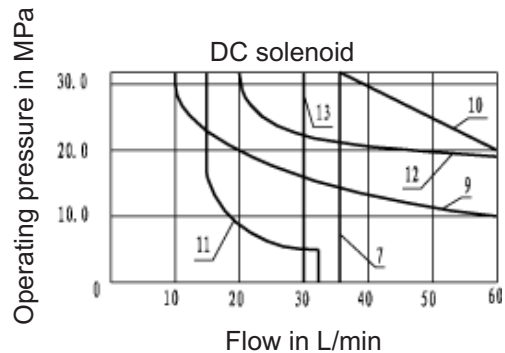
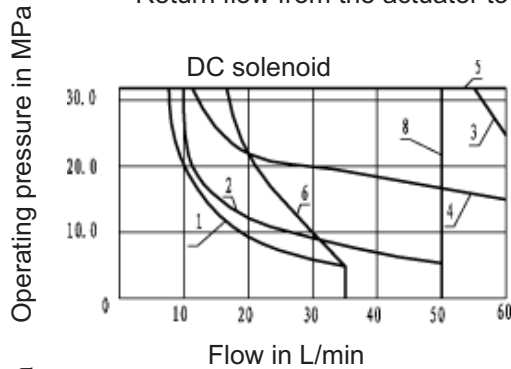
Switching limits

The switching limits are valid for use with two directions of flow (e.g. from P to A with simultaneous return flow from B to T). Due to the flow forces within the valve, the permissible switching capacity limits can be much lower with only one direction of flow (e.g. from P to A, and port B blocked)!

Switching limits of the solenoid type A

DC solenoid				AC solenoid (50Hz)			
Char. curve	Symbol	Char. curve	Symbol	Char. curve	Symbol	Char. curve	Symbol
1	A,B***	7	G	14	A,B***	22	H
2	A,B	8	H	15	A,B	23	J,L,Q,U,W
3	C,D,Y	9	J,L,Q,U,W	16	C,D,Y	24	M
4	E	10	R**	17	E	25	R**
5	M,C/O,E1	11	V	18	E1	26	V
	D/O,C/O,F,D/O,F	12	A/O,A/O,F	19	C/O,D/O	27	A
6	F,P	13	T	20	F,P	28	T
				21	G		

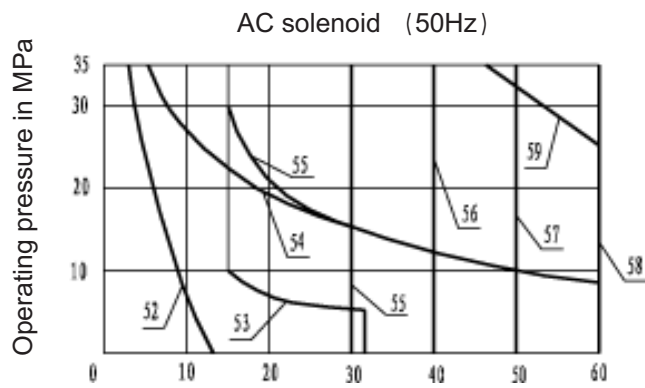
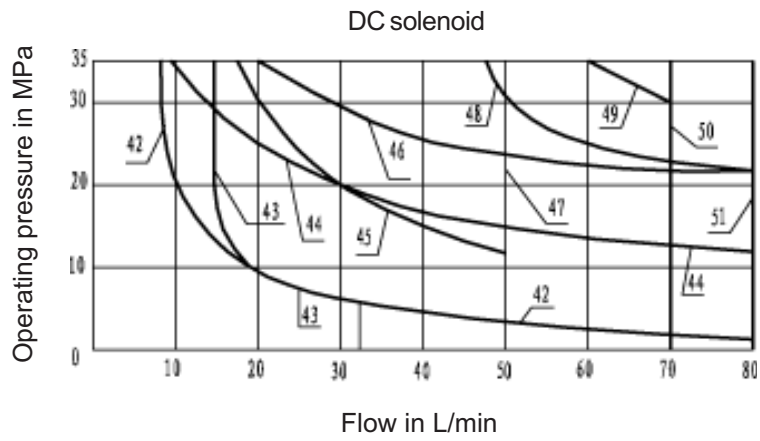
Return flow from the actuator to the tank-T ; *Without manual override



Switching limits of the solenoid type B

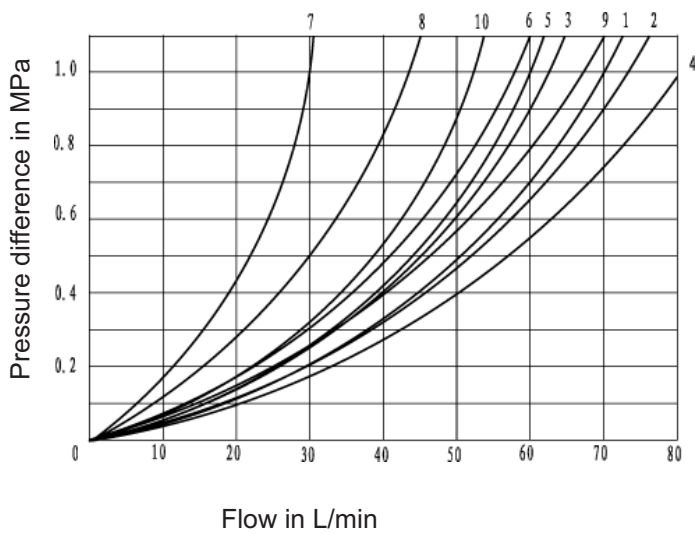
DC solenoid		AC solenoid (50Hz)	
Char. curve	Symbol	Char. curve	Symbol
42	A,B***	52	A,B***
43	V	53	V
44	A,B	54	A,B
45	F,P	55	F,P
46	J,L,U	56	G,T
47	G,H,T	57	H
48	A/O,A/O,F,Q,W	58	A/O,D/O,F,C/O,C/O,F
49	G,D,Y		D/O,D/O,F,E,J,L,E1
50	M		M,Q,R**,U,W
51	E,R**,C/D,C/O,F,E1	59	C,D,Y
	D/O,D/O,F		

Return flow from the actuator to the tank-T ; *Without manual override



Characteristic curves (measured at $v = 41 \text{ mm}^2/\text{s}$ and $t = 50 \text{ }^\circ\text{C}$)

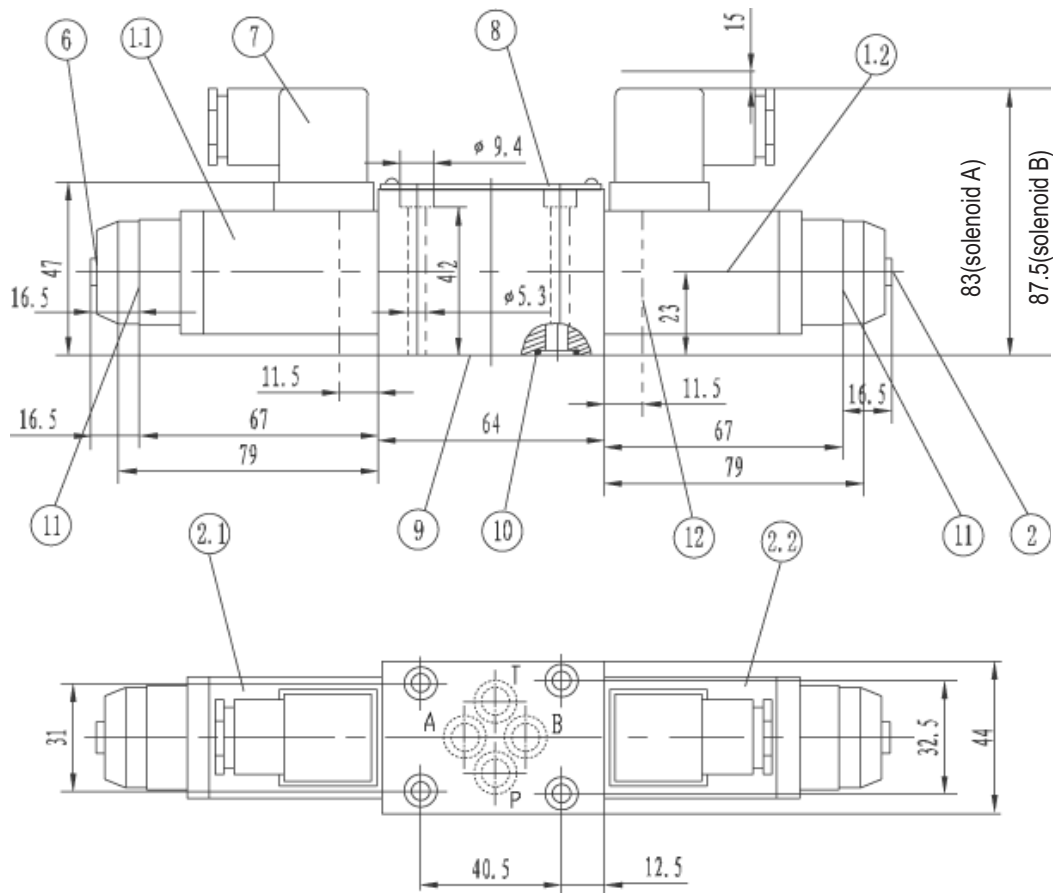
7 Symbol "R" in switching position A → B
 8 Symbol "G" and "T" in central position P → T



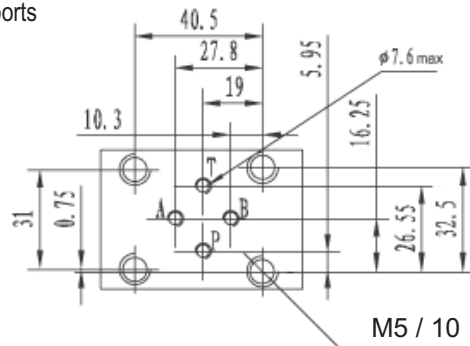
Symbol	Direction of flow			
	P → A	P → B	A → T	B → T
A,B	3	3	-	-
C	1	1	3	1
D,Y	5	5	3	3
E	3	3	1	1
F	1	3	1	1
T	10	10	9	9
H	2	4	2	2
J,Q	1	1	2	1
L	3	3	4	9
M	2	4	3	3
P	3	1	1	1
R	5	5	4	-
V	1	2	1	1
W	1	1	2	2
U	3	3	9	4
G	6	6	9	9

Unit dimensions

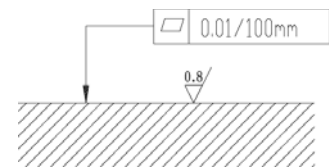
(Dimensions in mm)



The connection dimensions of service ports



Required surface finish of mating piece

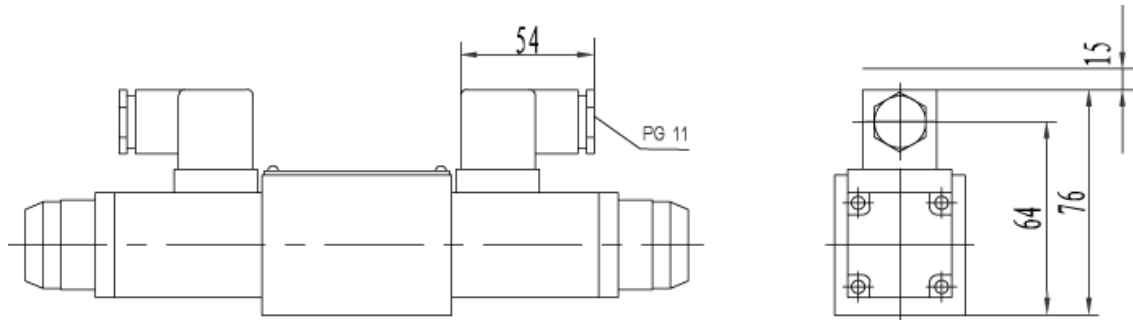


- 1.1 Solenoid "a" (colour of the plug-in connector: grey)
- 1.2 Solenoid "b" (colour of the plug-in connector: black)
- 2 Manual override "N"
- 7 Plug Z4
- 8 Nameplate
- 9 Service port
- 10 O-ring 9.25x1.78
- 11 Solenoid without manual override
- 12 Cover for valve with one solenoid

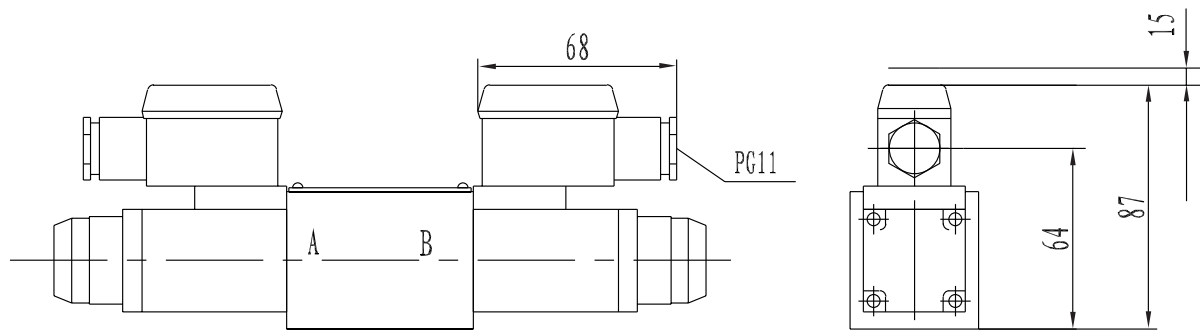
Valve fixing screws
 4-M5x50-10.9 (GB/T70.1-2000)
 $M_A=9N.m$

Subplates:
 G341/01(G1/4 ") G341/02(M14x1.5)
 G342/01(G3/8 ") G342/02(M18x1.5)
 G502/01(G1/2 ") G502/02(M22x1.5)
 see page 205

Z4 Individual connections



Z5 large angled plug (could with rectifier)



Z5L large angled plug with indicator light

