

BEIJING HUADE HYDRAULIC INDUSTRIAL GROUP CO.,LTD.	4/3 and 4/2 directional control valves with hand lever, Type WMM (New Series)			RE 22331/12.2004
	Size10	up to 31.5 MPa	up to 120L/min	

Features:

- Direct actuated directional spool valve with hand lever
- With spring return or detent, optional
- For subplate mounting
- Porting pattern to Din 24 340 form A, ISO 4401 and CETOP-RP 121H



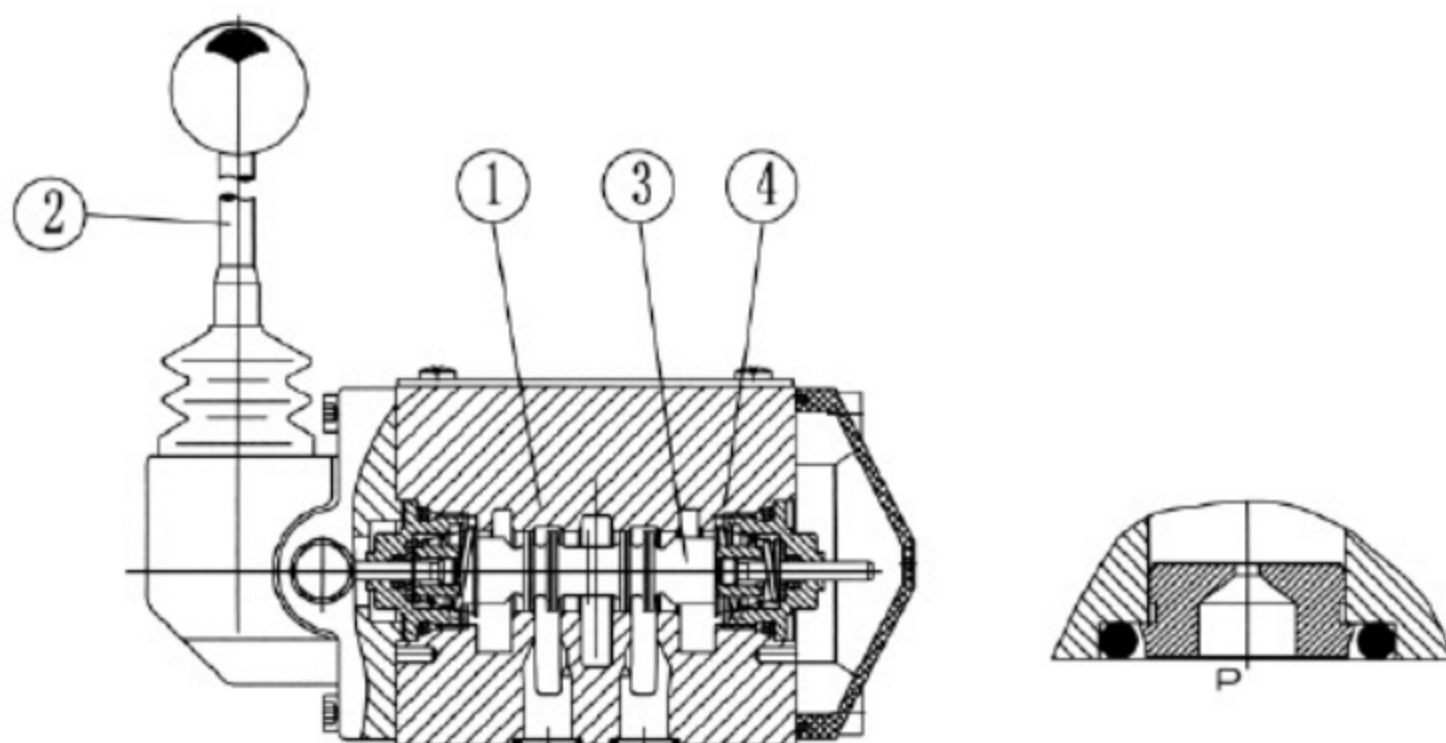
Function,section

The type WMM valves are hand lever actuated directional spool valves. They control the start, stop and direction of a flow.

The directional valves basically comprise of a housing (1), hand lever(2), control spool (3), as well as one or two return springs (4). In the unoperated condition the control spool (3) is held in the neutral or its initial position by the return springs (4). The control spool(3) is actuated via the hand lever (2), this acts via a joint and the pin(5) directly onto the control spool (3). The spool is thereby moved out of its rest position into its required switched position. After the hand lever (2) has been returned to the switched position zero, the spool (3) is returned to the neutral position via the return springs (4).

Type H-4WMM../F.. (with detent)

These valves are either 2 or 3 position directional control valves which are fitted with a detent , which operates in all of the switched positions.



Type 4WMM

Cartridge throttle

Ordering details



3-way = 3
4-way = 4

Size 10 =10

Further etails in clear text

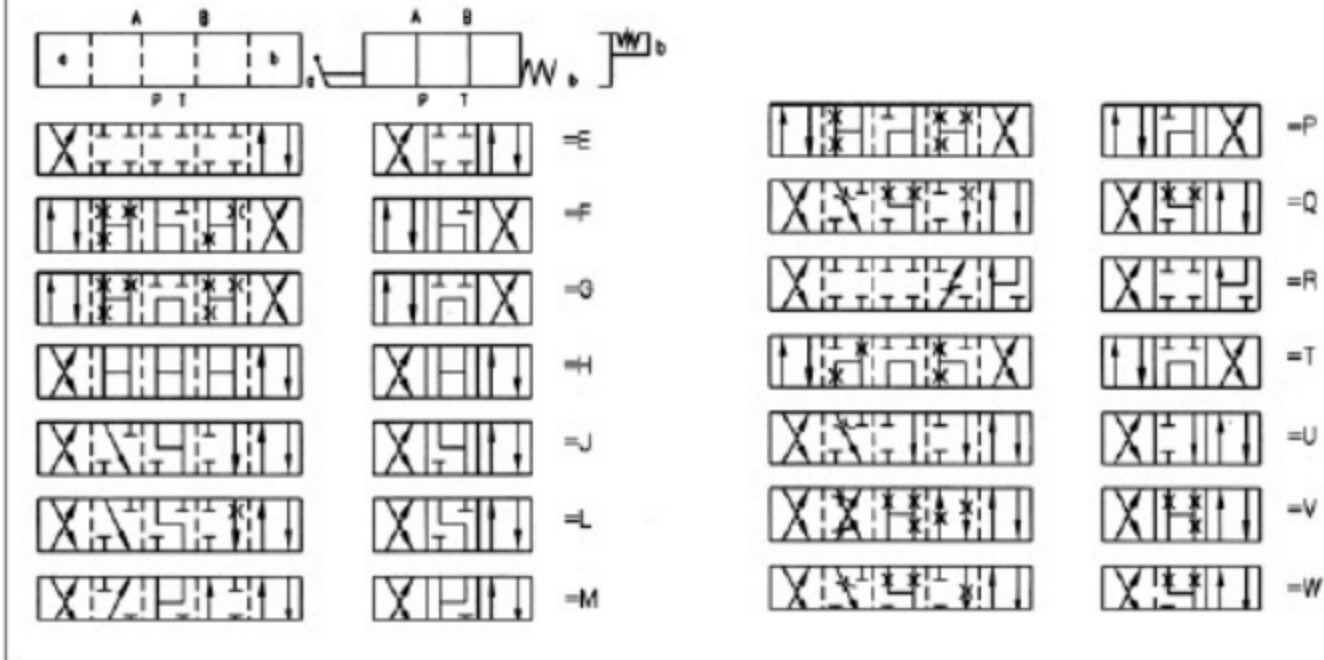
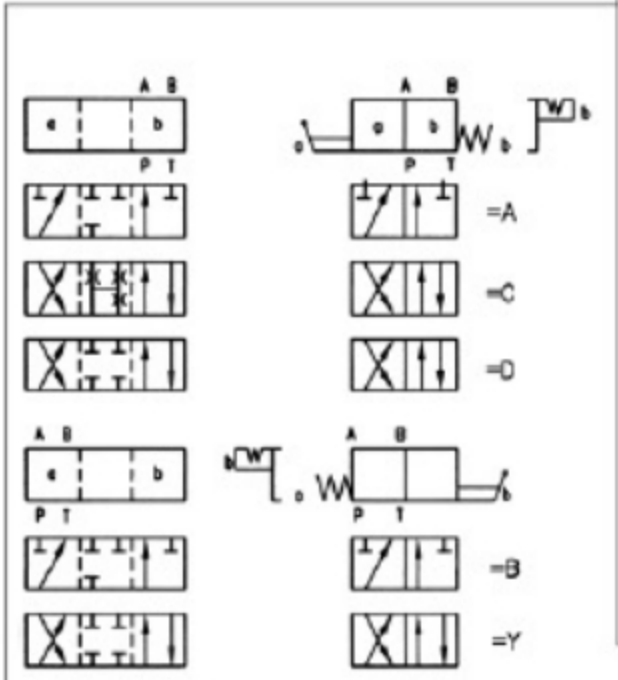
No code = mineral oils
V = phosphate ester

No code = Without throttle insert
B08 = Throttle ϕ 0.8 mm
B10 = Throttle ϕ 1.0 mm
B12 = Throttle ϕ 1.2 mm

No code = Spring return,without detent
F = Without spring return,with detent

B = Technology of Beijing Huade Hydraulic

30 = Series 30 (30 to 39: unchanged installation and connection dimensions)



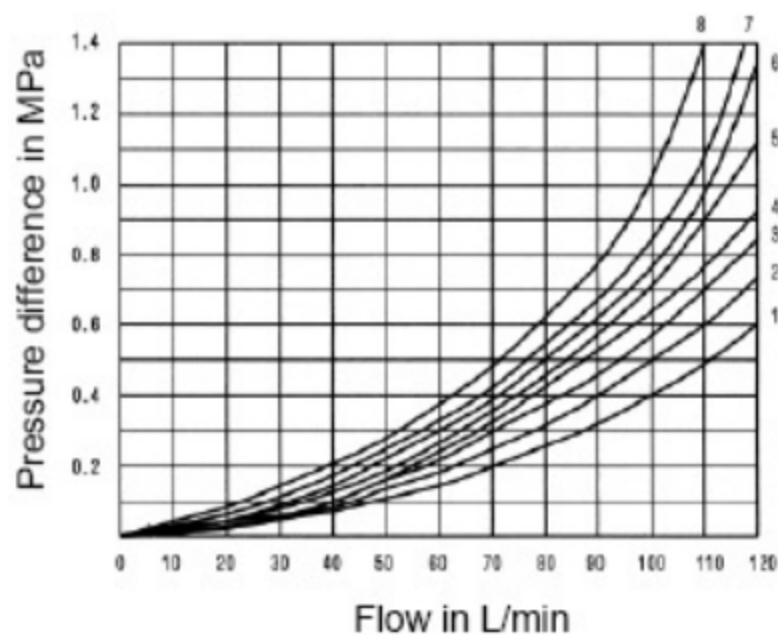
Example:
Spool E on side "a", Order example:...EA...
Spool E on side "b", Order example:...EB...

Technical data (For applications outside these parameters, please consult us!)

Size	10	
Maximum working pressure	port A, B, P (MPa)	to 31.5
	port T (MPa)	to 15
Maximum flow (L/min)	to 120	
Flow cross section (control position 0)	for symbol Q, 6% of nominal cross section	
	for symbol W, 3% of nominal cross section	
Pressure fluid	Mineral oils(for NBR seal) or phosphate ester(for FPM seal)	
Fluid temperature range (°C)	-30~+80	
Viscosity range (mm ² /s)	2.8~500	
Weight (kg)	approx.3.3	
Control power on handle (N)	with detent approx.16~23	
	without detent approx.20~27	

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

Characteristic curves:

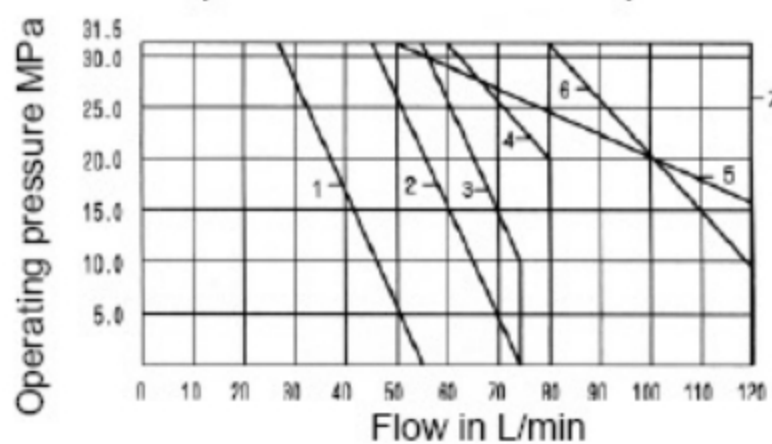


Spool	Shifted position			
	P → A	P → B	A → T	B → T
A	4	3	-	-
B	3	4	-	-
C	3	3	4	4
D	3	3	5	5
Y	4	4	6	6
E	2	2	4	4
F	1	2	3	4
G, T	4	4	7	7
H	1	1	5	5
J	2	2	3	3
L	3	3	2	4
M	1	1	4	4
P	3	1	5	5
Q	2	2	2	2
R	3	4	3	-
U	3	3	5	2
V	2	2	3	3
W	3	3	3	3

Characteristic curves:

Characteristic curves:	Spool
1	A, B
2	A/O
3	H
4	F, G, P, R, T
5	J, L, Q, U, W
6	C, D, E, M, V, Y
7	C/O, C/O/F, D/O/D/O/F

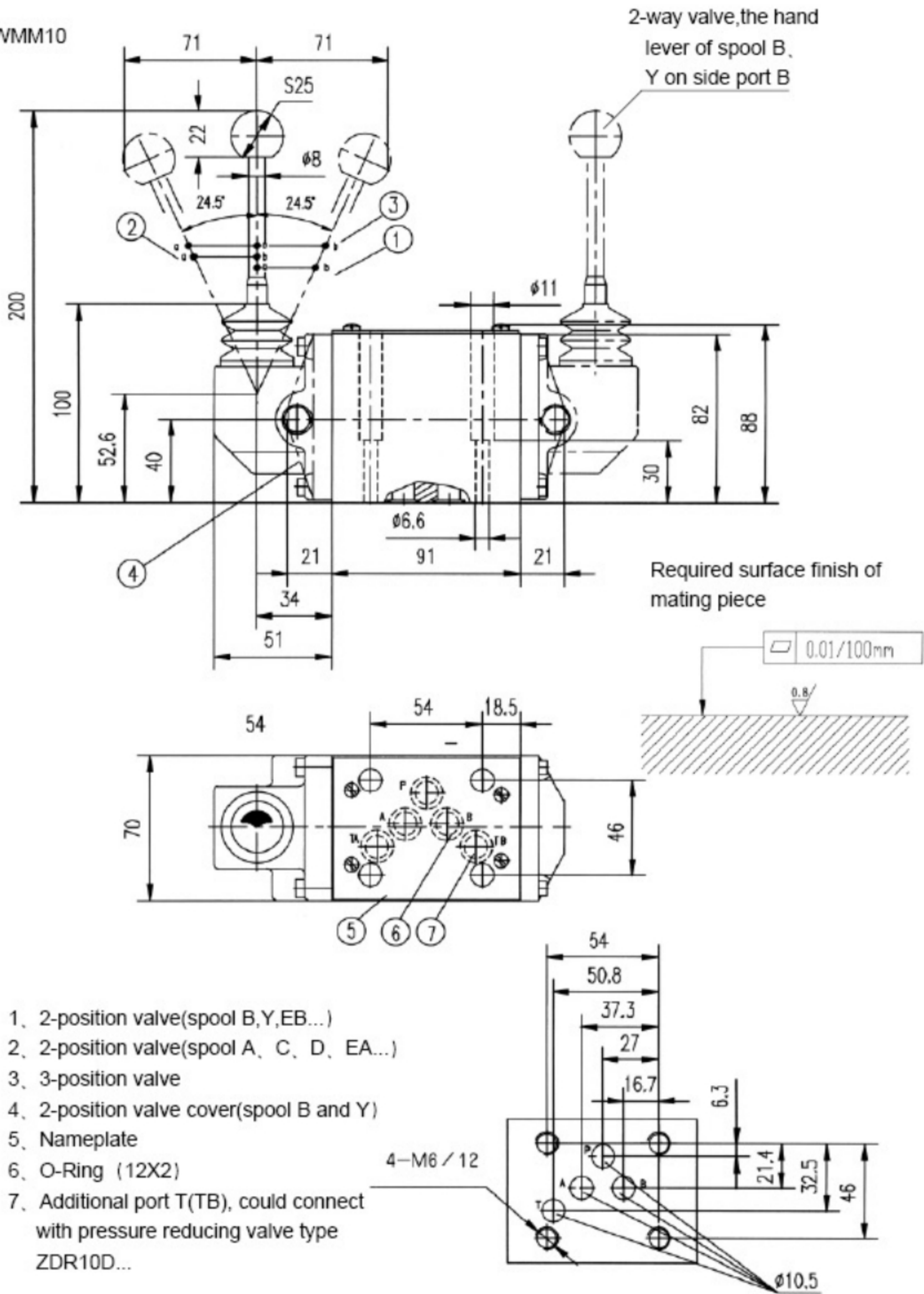
7 Spool "R" at controller position A to B
8 Spool "G" and "T" at middle position P to T



Unit dimensions:

(Dimensions in mm)

Type WMM10



- 1, 2-position valve(spool B, Y, EB...)
- 2, 2-position valve(spool A, C, D, EA...)
- 3, 3-position valve
- 4, 2-position valve cover(spool B and Y)
- 5, Nameplate
- 6, O-Ring (12X2)
- 7, Additional port T(TB), could connect with pressure reducing valve type ZDR10D...

Subplate: see page 206

G66/01 (G3/8"); G66/02 (M18X1.5)

G67/01 (G1/2"); G67/02 (M22X1.5)

G534/01 (G3/4"); G534/02 (M27X2)