inosol

innovative solutions

Directional spool valves, directly operated, with manual and fluid logics actuation

Type WMM, WN and WP

- Size 10
- Component series 5X
- Maximum operating pressure 350 bar *[5076 psi]*
- Maximum flow 160 l/min *[42.3 US gpm]*

Features

- 4/3-, 4/2- or 3/2-way version
- Porting pattern according to ISO 4401-05-04-0-05 and NFPA T3.5.1 R2-2002 D05
- Types of actuation:
  - Hand lever
  - Pneumatic
  - Hydraulic

Contents

Ordering code

01	02	03	04	05		06		07	08	09	10	11
		10		**5X**	**/**		**/**					*****

01	3 main ports	**3**
	4 main ports	**4**

Types of actuation

02	**– Manual**	
	Hand lever	**WMM**
	– Fluidic	
	Pilot pressure 1.5 ... 10 bar *[22 ... 145 psi]*	**WN**
	Pilot pressure 8 ... 160 bar *[116 ... 2321 psi]*	**WP**

03	Size 10	**10**

04	Symbols e.g. C, E, EA, EB, etc; possible versions see page 3 ... 5	

05	Component series 50 ... 59 (50 ... 59: Unchanged installation and connection dimensions)	**5X**

06	**With** spring return	**no code**
	Without spring return (not for valves with 3 switching positions and version "WMM")	**O**
	With detent (not for versions "WN" and "WP")	**F**
	Without spring return with detent (not for valves with 3 switching positions and version "WMM")	**OF**

Corrosion protection

07	Standard corrosion protection	**no code**
	Improved corrosion protection (720 h salt spray test according to EN ISO 9227; only version "WMM")	**J4**

Throttle insert [1)]

08	**Without** throttle insert			**no code**
	With throttle insert:			
	Connection	Throttle Ø in mm *[inch]*		
		0.8 *[0.031]*	1.0 *[0.039]*	1.2 *[0.047]*
	P	**= B08**	**= B10**	**= B12**
	A	**= H08**	**= H10**	**= H12**
	B	**= R08**	**= R10**	**= R12**
	A and B	**= N08**	**= N10**	**= N12**
	T [2)]	**= X08**	**= X10**	**= X12**
	Further throttle insert diameters upon request.			

Seal material

09	NBR seals	**M**
	FKM seals	**V**
	Seals for HFC hydraulic fluids	**MH**
	Attention: Observe compatibility of seals with hydraulic fluid used!	

Pilot oil port

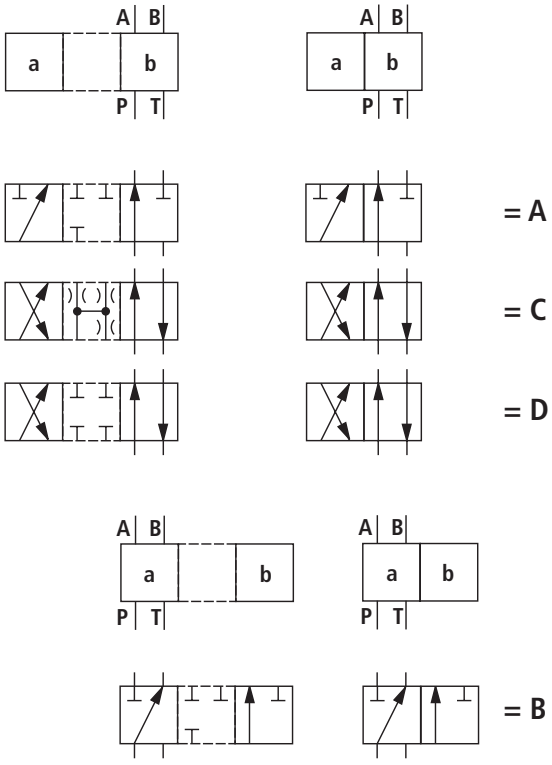
10	Whitworth pipe thread G1/4	**–**
	UNF thread 7/16" - 20 UNF (only versions "WN" and "WP")	**/12**

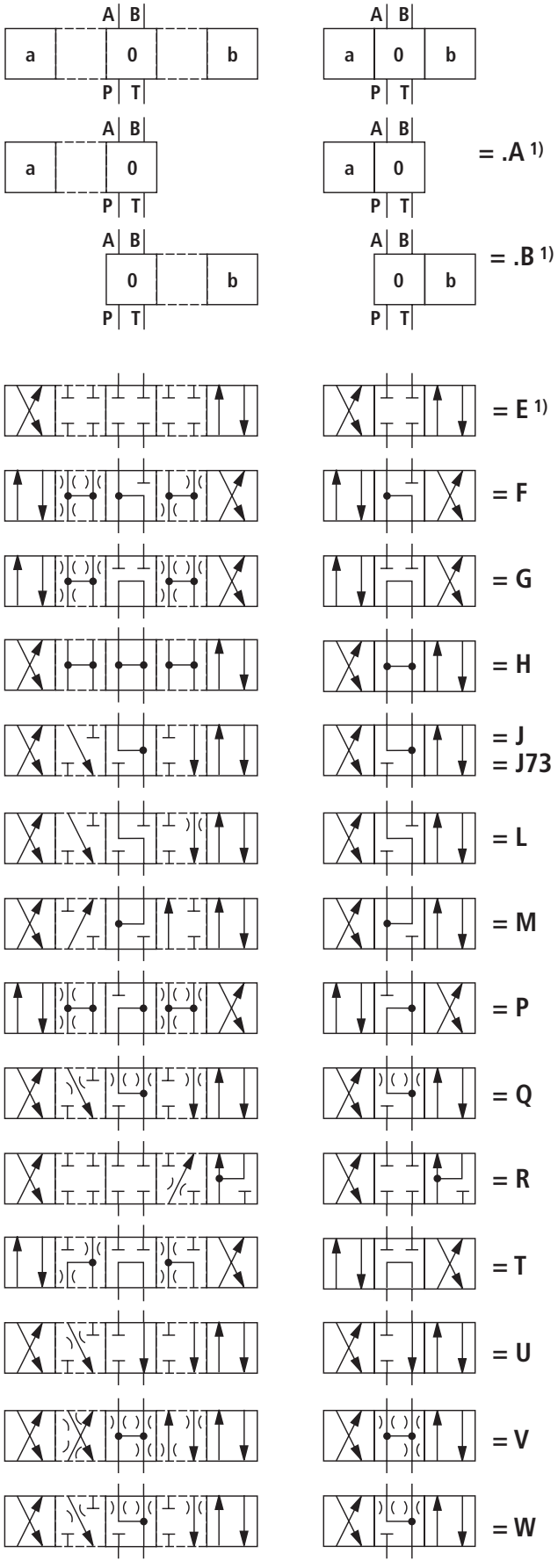
11	Further details in the plain text	

1) If the admissible valve performance limits are exceeded, throttle inserts must be installed (performance limits see page 9).

2) If throttle inserts are used in channel T, the pressure in the working ports and for connection to the tank chambers must not exceed 210 bar.

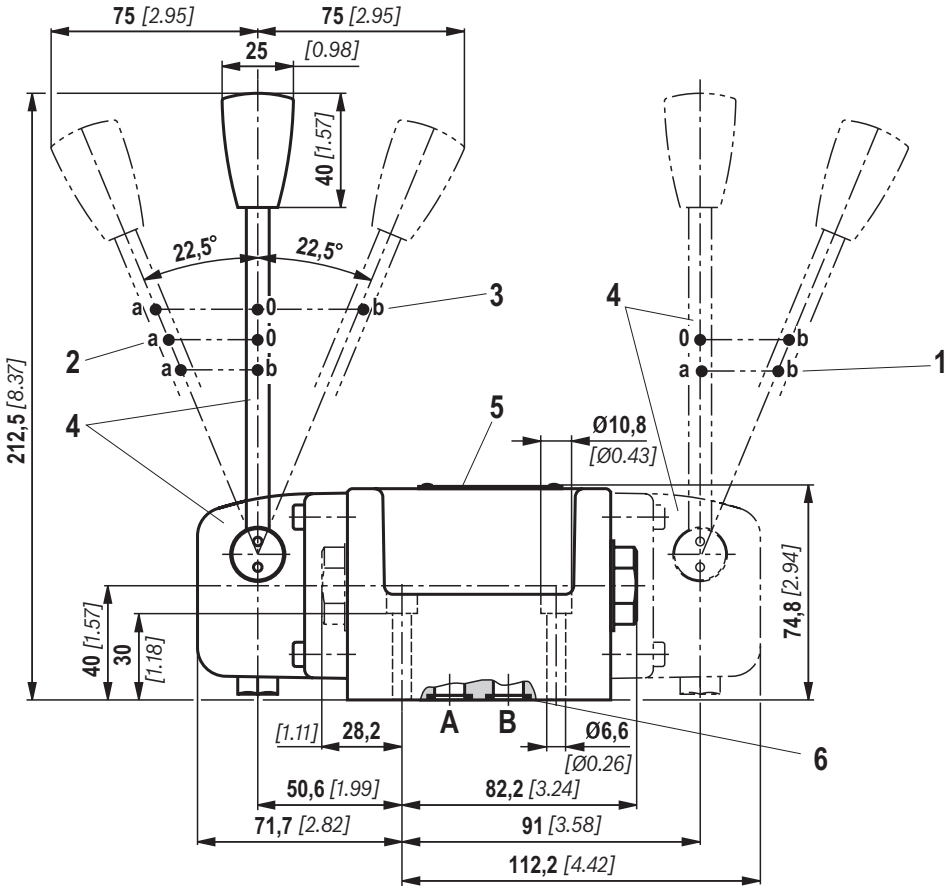
Symbols

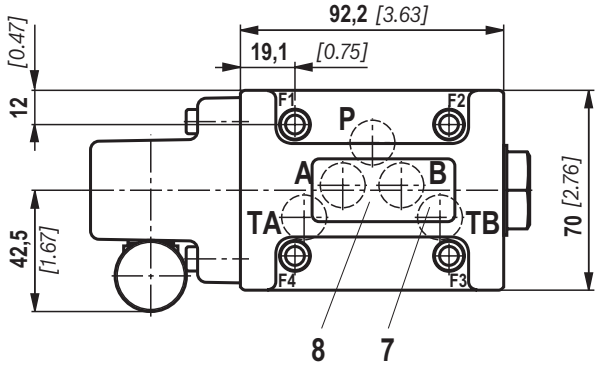


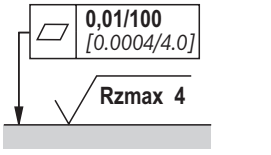


1) **Example:**
– Symbol E with switching position "a": Ordering code ..**EA**..
– Symbol E with switching position "b": Ordering code ..**EA**..

Dimensions: Type WMM
(dimensions in mm *[inch]*)







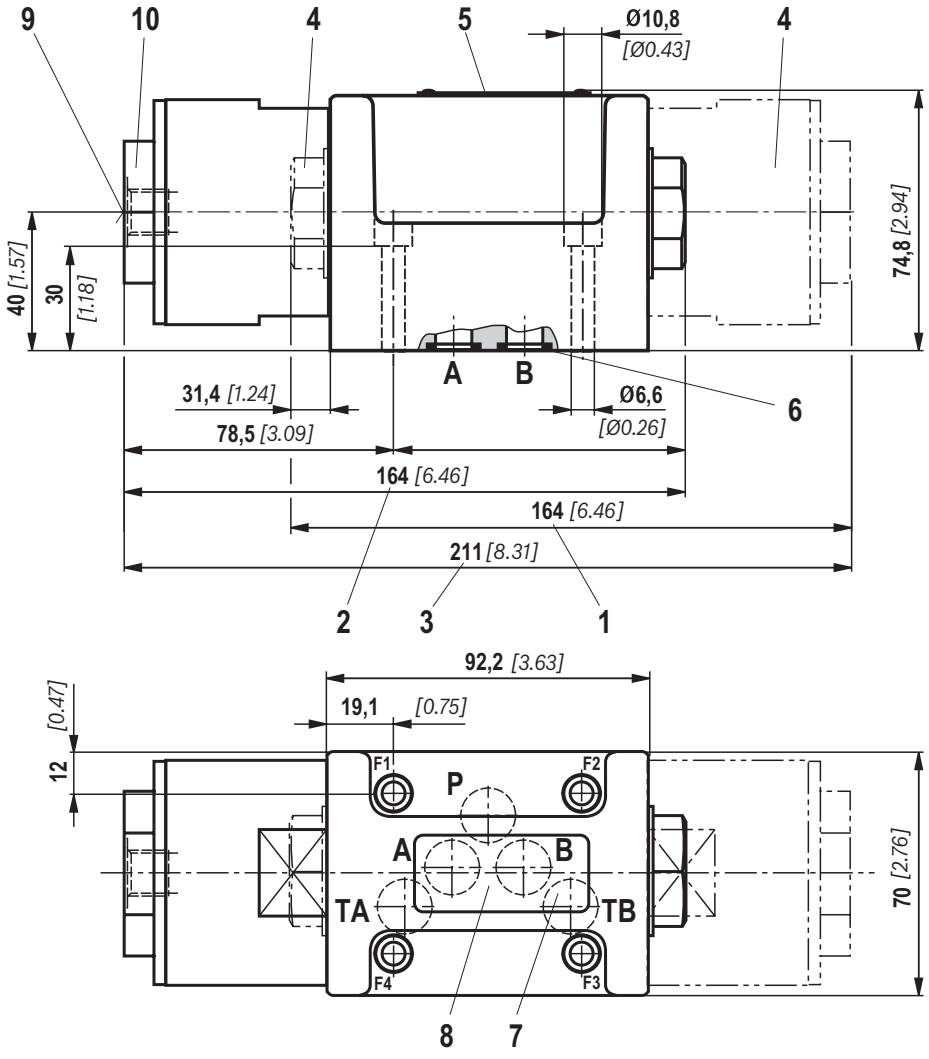
Required surface quality of the valve contact surface

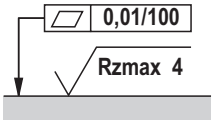
1 Valves with 2 switching positions, symbol B and .B
2 Valves with 2 switching positions, symbol A, C, D .A
3 Valves with 3 switching positions
4 Cover and hand lever
5 Name plate
6 Identical seal rings for port A, B, P, TA, TB
7 Additional port TB can optionally be used
8 Porting pattern according to ISO 4401-05-04-0-05 and NFPA T3.5.1 R2-2002 D05

☞ **Notes**

- Deviating from ISO 4401, port T is called TA in this data sheet; port T1 is called TB.
- For valves with 2 switching positions and symbols B and .B, the hand lever is installed on valve side B.
- The dimensions are nominal dimensions which are subject to tolerances.

Dimensions: Type WM
(dimensions in mm *[inch]*)



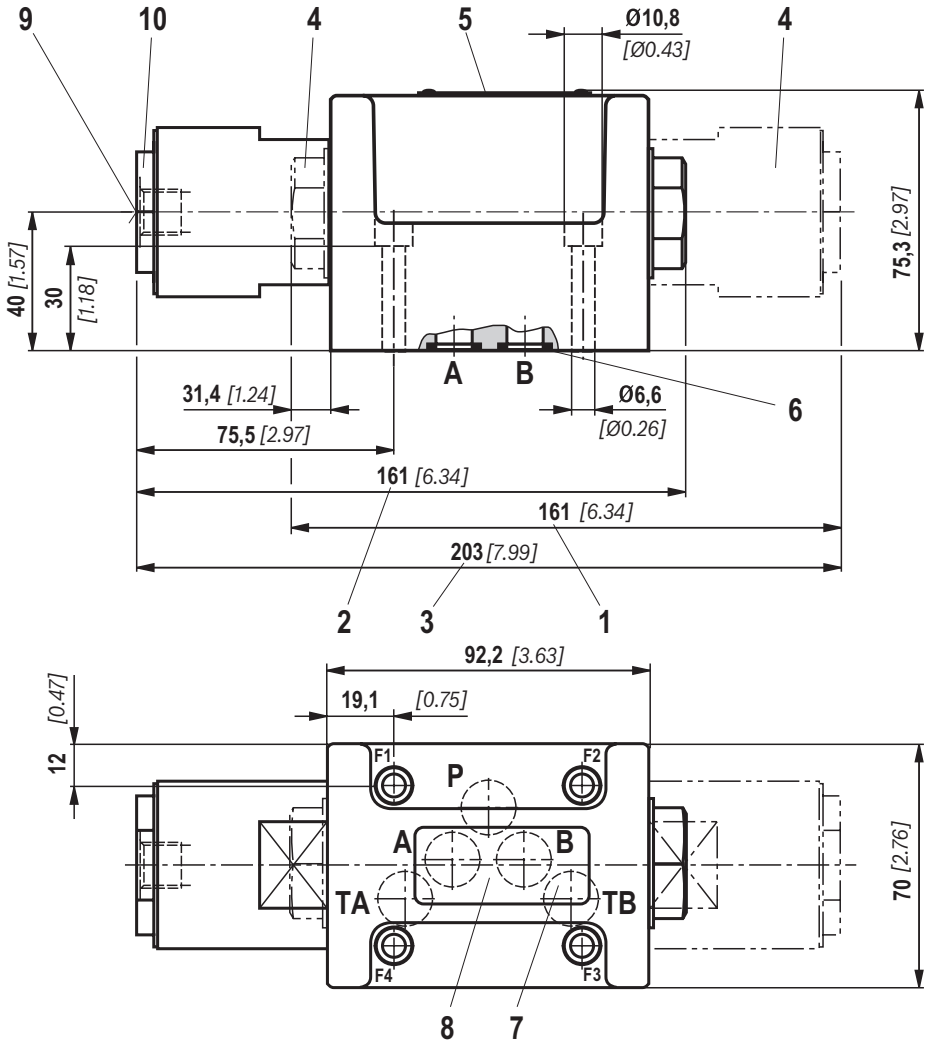


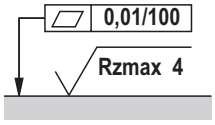
Required surface quality of the valve contact surface

1 Valves with 2 switching positions, symbol B and .B
2 Valves with 2 switching positions, symbol A, C, D .A
3 Valves with 3 switching positions
4 Cover and plug screw
5 Name plate
6 Identical seal rings for port A, B, P, TA, TB
7 Additional port TB can optionally be used
8 Porting pattern according to ISO 4401-05-04-0-05 and NFPA T3.5.1 R2-2002 D05
9 Pilot oil port G1/4 (version "–")
Pilot oil port 7/16" - 20 UNF (version "/12")
10 Socket

Notes
- Deviating from ISO 4401, port T is called TA in this data sheet; port T1 is called TB.
- The dimensions are nominal dimensions which are subject to tolerances.
- When screwing in/releasing the connection tube on the pilot oil port (9), the bushing (10) must be secured against twisting by using an open-end wrench.

Dimensions: Type WP
(dimensions in mm *[inch]*)





Required surface quality of the valve contact surface

1 Valves with 2 switching positions, symbol B and .B
2 Valves with 2 switching positions, symbol A, C, D, EA...
3 Valves with 3 switching positions
4 Cover and plug screw for valves with 2 switching positions, symbol B, Y, EB...
5 Name plate
6 Identical seal rings for port A, B, P, TA, TB
7 Additional port TB can optionally be used
8 Porting pattern according to ISO 4401-05-04-0-05 and NFPA T3.5.1 R2-2002 D05
9 Metric pilot oil port: G1/4
UNC pilot oil port: 7/16" - 20 UNF
10 Socket

Notes

- Deviating from ISO 4401, port T is called TA in this data sheet; port T1 is called TB.
- The dimensions are nominal dimensions which are subject to tolerances.
- When screwing in/releasing the connection tube on the pilot oil port (9), the bushing (10) must be secured against twisting by using an open-end wrench.

Dimensions

Subplates according to data sheet 45054 (separate order)
G 66/01 (G3/8) [1)]
G 67/01 (G1/2) [1)]
G 534/01 (G3/4) [1)]
G 66/12 (SAE-6; 9/16-18) [2)]
G 67/12 (SAE-8; 3/4-16) [2)]
G 534/12 (SAE-12; 1-1/16-12) [2)]

1) For version "J4" upon request
2) Upon request

Valve mounting screws (separate order)
4 metric hexagon socket head cap screws
ISO 4762 - M6 x 40 - 10.9-flZn-240h-L
(Friction coefficient μ_{total} = 0.09 to 0.14);
Tightening torque M_A = 12.5 Nm *[9.2 ft-lbs]* ± 10%,
material no. **R913000058**
or
4 hexagon socket head cap screws
ISO 4762 - M6 x 40 - 10.9 (self procurement)
(Friction coefficient μ_{total} = 0.12 to 0.17);
Tightening torque M_A = 15.5 Nm *[11.4 ft-lbs]* ± 10%

4 UNC hexagon socket head cap screws
1/4-20 UNC x 1-1/2" ASTM-A574
(Friction coefficient μ_{total} = 0.19 to 0.24);
Tightening torque M_A = 25 Nm *[18.4 ft-lbs]* ± 15%,
(Friction coefficient μ_{total} = 0.12 to 0.17);
Tightening torque M_A = 19 Nm *[14.0 ft-lbs]* ± 10%,
material no. **R978800710**

With different friction coefficients, the tightening torques are to be adjusted accordingly.