RoboTech
Electro-hydraulic Control

WE

Direct acting directional spool valve with valve core position monitoring

Nominal sizes: NS 6 and NS 10
Series: 6X/3X
Max. operating pressure: NS 6: 350bar (NS 10: 315bar)
Rated flow: 120 l/min



Contents

Contents
Features
Ordering details
Spool function
Functions,section
Technical data
Electrical parameters
Unit dimensions

Features

- Electromagnetic control of fluid flow opening, stopping, and rev ersing
- Using high-voltage proximity switches for detection
- Short response time and high repeatability accuracy
- Accurately detect the reversing position of the valve core
- Non contact induction method, avoiding wear and extending s ervice life

Ordering details

RT	-	4	WE	6	E	6X	/		E	G24	N9	K4	QMBG24	/	M		*
01		02	03	04	05	06		07	08	09	10	11	12		13	14	15

01	RT	ReboTech
02	3	3 main oil ports
	4	4 main oil ports
03	WE	Directional valve
04	6	NS 6
	10	NS 10
05	E	See hydraulic symbol table for details
06	6X	NS 6 design serial number
	3X	NS 10 design serial number
07	No code	With spring return
	O	Without spring return
	OF	Without spring return, with positioning
08	E	High-power wet-type pin coil with detachable coil

Официальный представитель Rebotech на территории РФ:ООО "АРКУДА" rebotech.ru
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RT	-	4	WE	6	E	6X	/		E	G24	N9	K4	QMBG24	/	M		*
01		02	03	04	05	06		07	08	09	10	11	12		13	14	15

Supply voltage

09

G12	DC 12V
G24	DC 24V
W220	AC 220V 50/60Hz
W110	AC 110V 50/60Hz
*	For other voltage types, please refer to page 3.

Manual emergency operation

10

No code	Without manual emergency operation
N9	With implicit manual emergency operation

Electrical connection

11

K4	Sockets complying with the DIN EN 175301 - 803 standard (plugs need to be ordered separately)
Z4	Right-angle plugs (rectifier needed for AC), DIN EN 175301 - 803 compliant sockets.
Z5L	Right-angle plugs with lights (rectifier needed for AC), DIN EN 175301 - 803 compliant sockets.
K40	Two-wire Deutsch plug, DT04 - 2P

Spool position monitoring

12

No code	Without position switch
-	
QMAG24	Monitor the spool position "a".
QMBG24	Monitor the spool position "b".
QM0G24	Monitored rest position
-Position sensing switch model QS	
QSAG24W	Monitor the spool position "a".
QSBG24W	Monitor the spool position "b".
QS0G24W	Monitor the spool position "0".
QS0AG24W	Monitor the spool position " 0" and " a
QS0BG24W	Monitor the spool position " 0" and " b
QSABG24W	Monitor the spool position "a"and "b"

Sealing material

13

M	NBR seals
V	FKM seals

Throttle insert

14

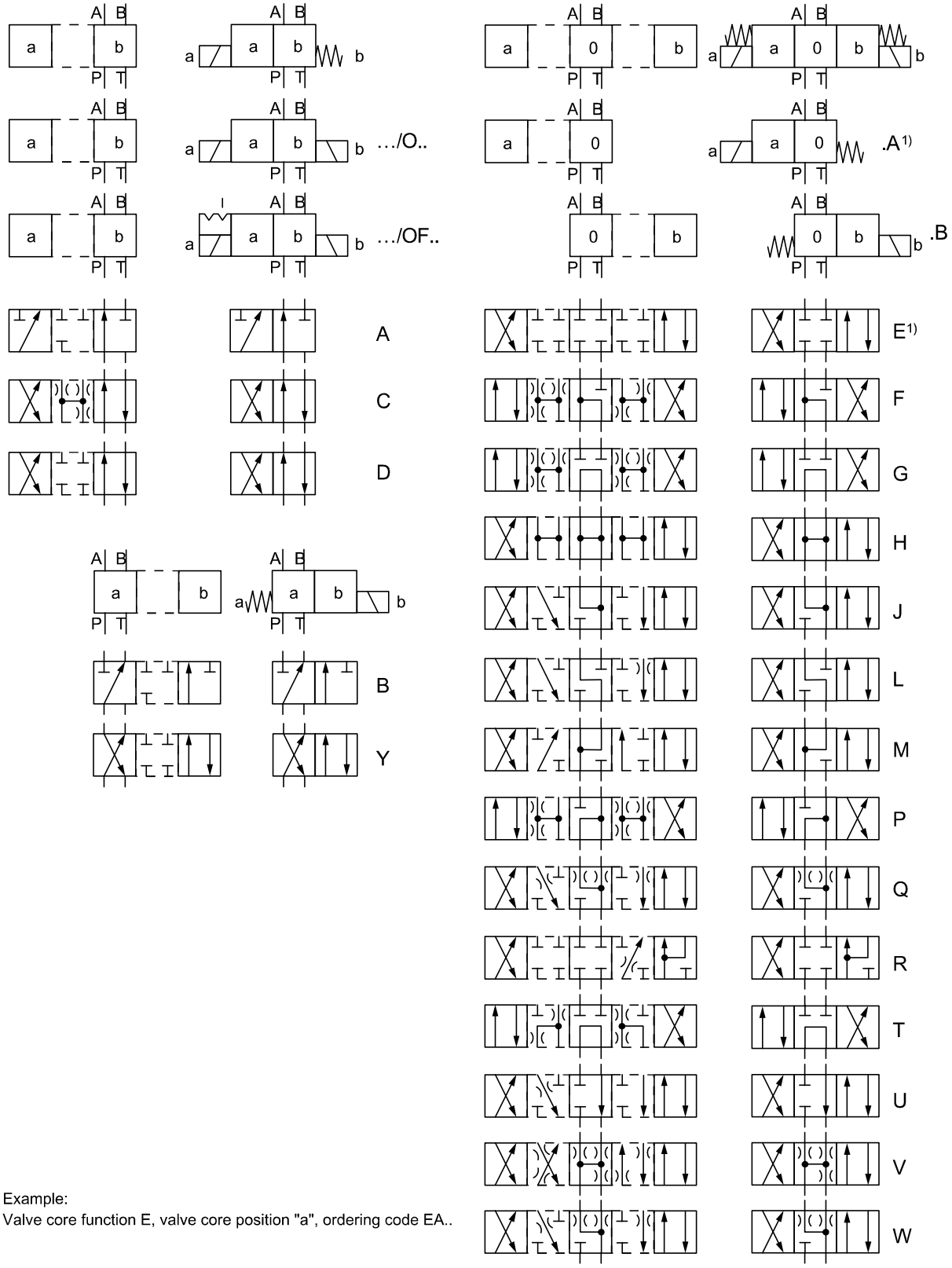
No code	Without throttle insert (standard)
With throttle insert (When the allowable performance limits are exceeded, please refer to...).	

Port	Throttle orifice diameter Ø (mm)								
	0.6	0.8	1.0	1.2	1.5	2.0	2.5	3.0	4.0
P	=B06	=B08	=B10	=B12	=B15	=B20	=B25	=B30	=B40
A	=H06	=H08	=H10	=H12	=H15	=H20	=H25	=H30	=H40
B	=R06	=R08	=R10	=R12	=R15	=R20	=R25	=R30	=R40
A and B	=N06	=N08	=N10	=N12	=N15	=N20	=N25	=N30	=N40
T	=X06	=X08	=X10	=X12	=X15	=X20	=X25	=X30	=X40

15

*	Further details in clear text

Functions, section



Example:
Valve core function E, valve core position "a", ordering code EA..

Functions, section

Functions and designs

The WE - series directional valves are solenoid - driven directional spool valves and can be used as electromagnetic components. These valves control the start, stop, and flow direction of the fluid.

The basic components of this directional valve are the valve body (1), the spool (2), the transition connector (or transition block) (3), the sensor (4), the electromagnetic coil (5), and the return spring (6).

When the electromagnetic coil (5) is energized, the spool (2) moves from the rest position to the desired end position. In this way, the required flow direction can be achieved according to the selected spool function. After the electromagnetic coil (5) is de - energized, the spool (2) will be pushed back to the center position or the initial position (except for valves with an "OF" positioner and valves without a spring).

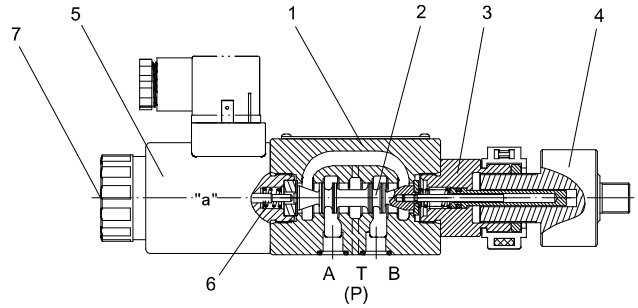
The manual emergency operation mechanism (7) allows manual switching of the valve when the coil is not energized.

Without Spring Return "O" (Only Applicable to Spool Functions A, C, and D)

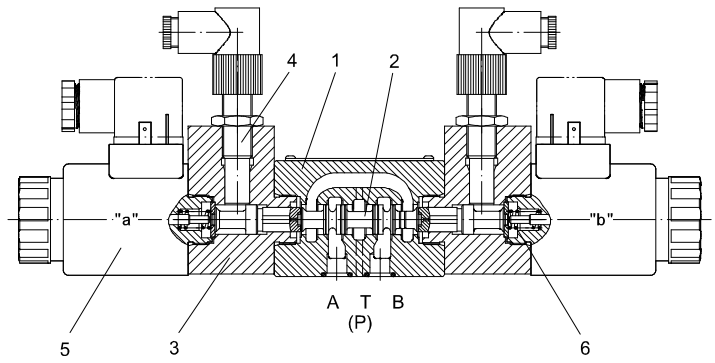
This type of directional valve has two spool positions and an electromagnetic coil, but no positioner. For the valve without spring return at the spool (2), there is no definite initial position when the power is cut off.

Without Spring Return but with "OF" Positioner (Only Applicable to Spool Functions A, C, and D)

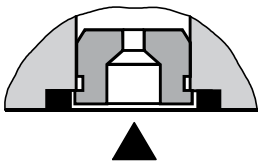
This type of directional valve features two spool positions and two electromagnetic coils, and is equipped with a positioner. The actuator is used to fix the spool (2) at the relevant spool position. Therefore, during operation, there is no need to continuously apply current to the electromagnetic coils, which contributes to energy - efficient operation.



Type RT-4WE6D6X/EG24N9K4QMBG24/M



Type RT-4WE6E6X/EG24N9K4QSABG24W/M



According to the main working conditions, if there is a possibility of flow exceeding the performance limit of the valve during the switching process, a throttling plug will be required

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

General

NS			6	10
Installation position			Optional	
Storage temperature range		℃	-20 to +80	
Ambient temperature range		℃	-20 to+50	
Weight	Single solenoid valve	Kg	1.5	4.3
	Double solenoid valve	Kg	2.0	5.9

Hydraulic (HLP46 at 40 °C ± 5 °C)

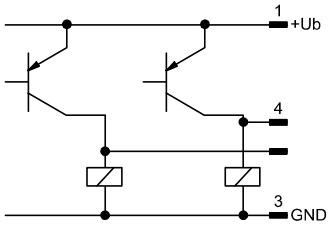
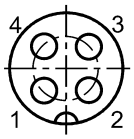
Max. operating pressure	Ports A, B, P	bar	315	
	Port T	bar	210	
Max.flow	DC	l/min	80	120
	AC		60	120
Oil temperature range		℃	-20 to +80	
Viscosity range		mm^2/s	20 to 500	
Degree of contamination			ISO4406: 1999 20/18/15	

Electrical

Voltage type			DC	AC
Rated voltage		V	12,24,48,96,110,205, 220	110,220 50/60Hz
Permissible voltage fluctuation		%	+10~-15	
Rated power		W	30	-
Holding power		VA	-	50
Starting power		VA	-	220
Switching time	Opened	ms	25 to 45	10 to 20
	Closed	ms	10 to 25	15 to 40
Maximum switching frequency		time/h	15000	7200
Maximum switching frequency	4WRA		Sockets complying with the DIN EN 175301 - 803 standard.	
Protection class (according to EN60529 standard)	K4,Z5 sockets conforming to DIN EN 175301-803 standard		IP65	
	K40 Two - wire Deutsch plug, DT04 - 2P		IP67	
Maximum coil temperature		℃	150	180

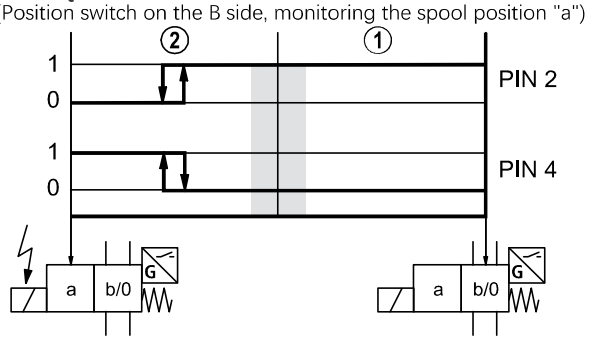
Electrical connections

Position induction switches model QM/QR/QS: Electrical connection

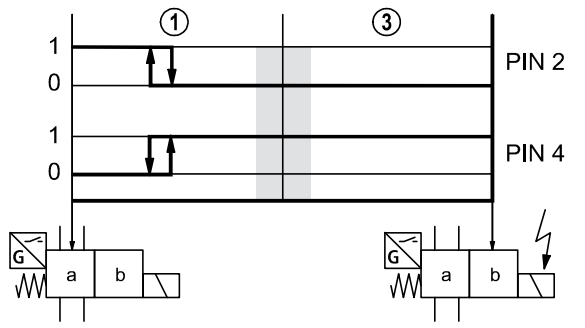
Connection voltage	24V +30%/-15%, DC voltage
Residual permissibler ripple	⩽10%
Load capacity	Max. 200mA
Output conversion 	PNP transistor output. The load is between the conversion output and GND.
Pin 	1.+24V 2. Conversion output：200mA 3.0V, GND 4.Conversion output：200mA

Position induction switch model QM: Switching logic

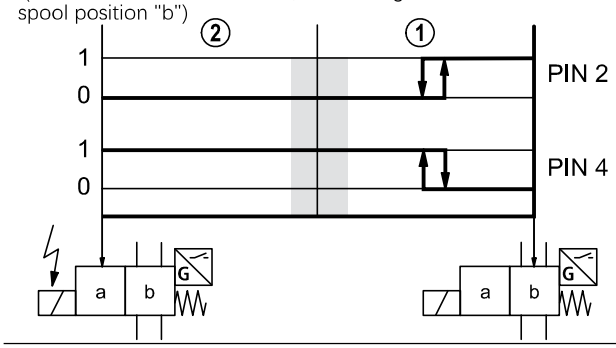
Model QMA
(Position switch on the B side, monitoring the spool position "a")



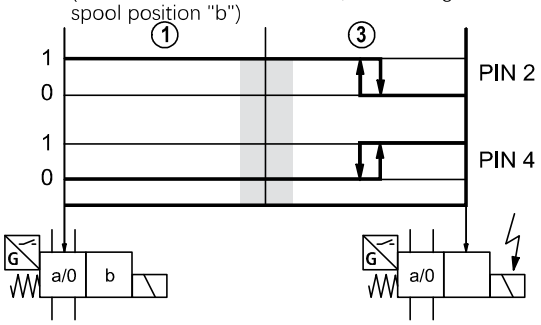
Model QMA
(Position switch on the A side, monitoring the spool position "a")



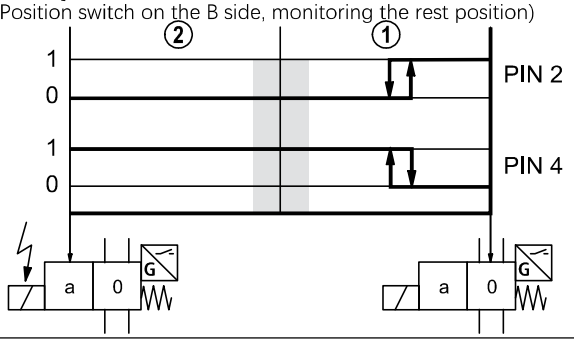
Model QMB
(Position switch on the B side, monitoring the spool position "b")



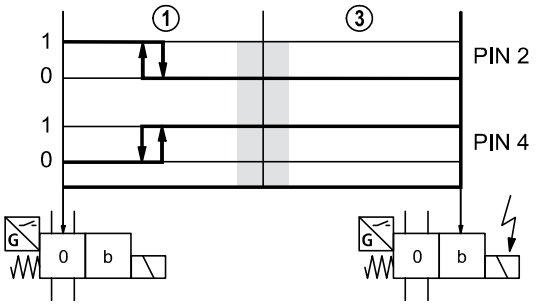
Model QMB
(Position switch on the A side, monitoring the spool position "b")



Model QM0
(Position switch on the B side, monitoring the rest position)



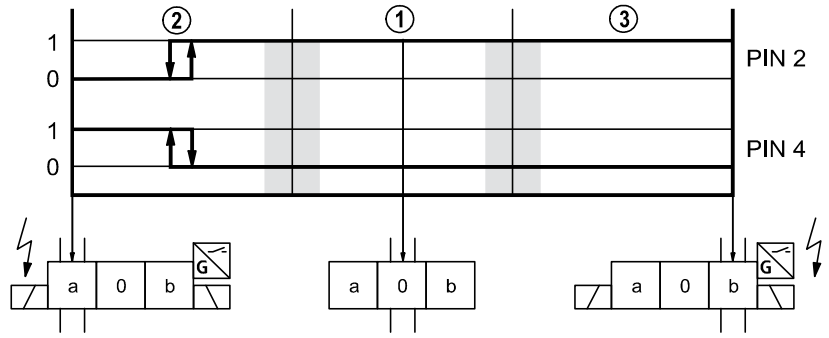
Model QM0
(Position switch on the A side, monitoring the rest position)



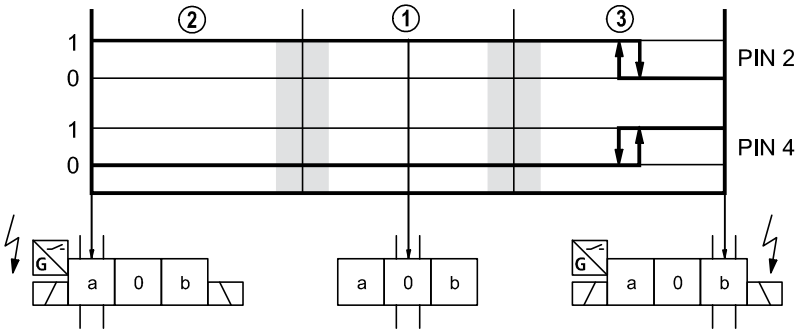
Electrical connections

Position induction switch model QS: Switching logic

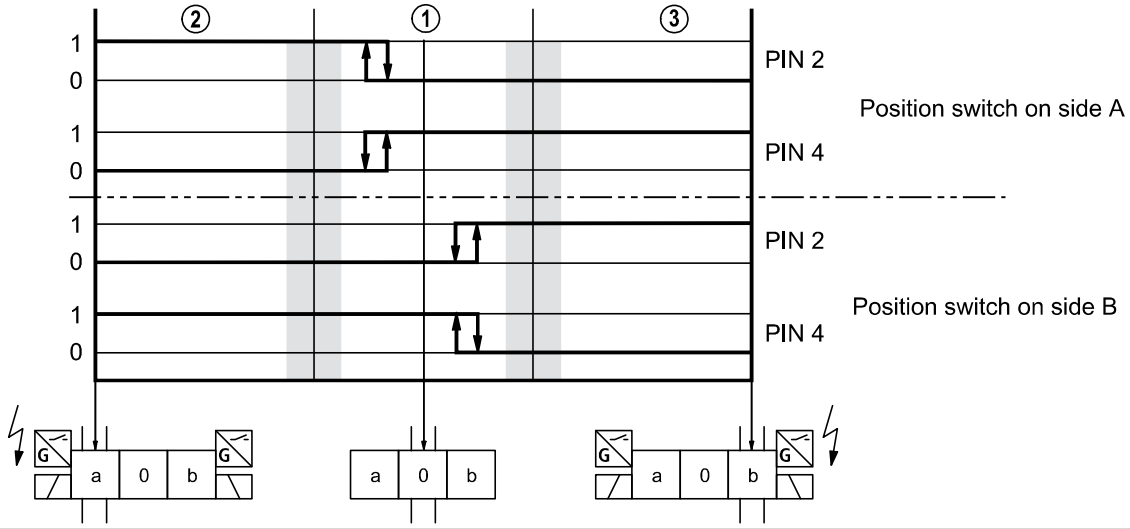
Model QSAG24W (Valve with three spool positions, e.g., symbols E, J, G...)
(Proximity sensor on the B side, monitoring the spool position "a")



Model QSBG24W (Valve with three spool positions, e.g., symbols E, J, G...)
(Proximity sensor on the A side, monitoring the spool position "b")

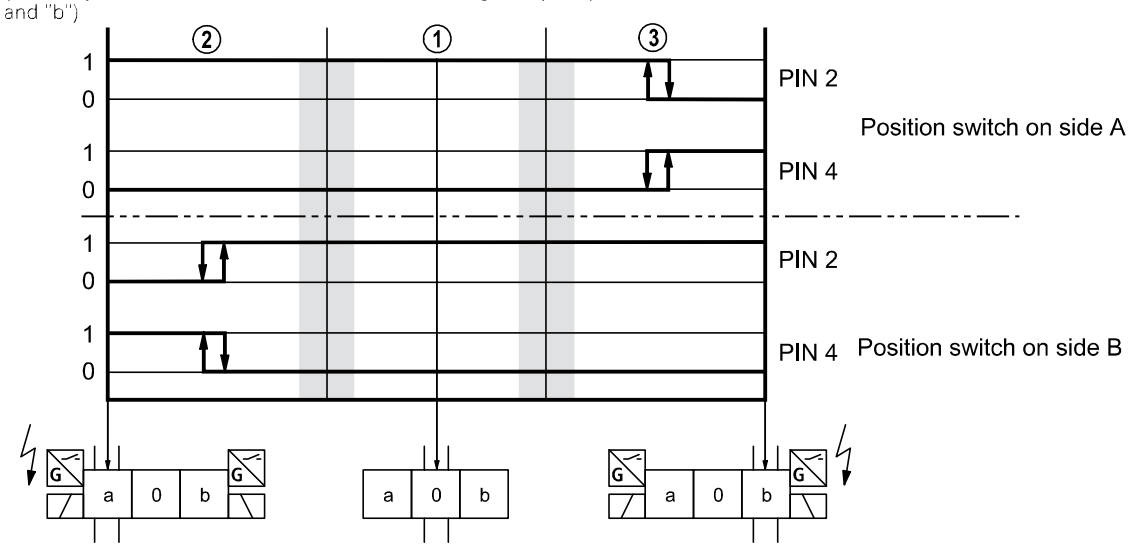


Model QS0G24W (Valve with three spool positions, e.g., symbols E, J, G...)
(Proximity sensor on the A side, monitoring the rest position)

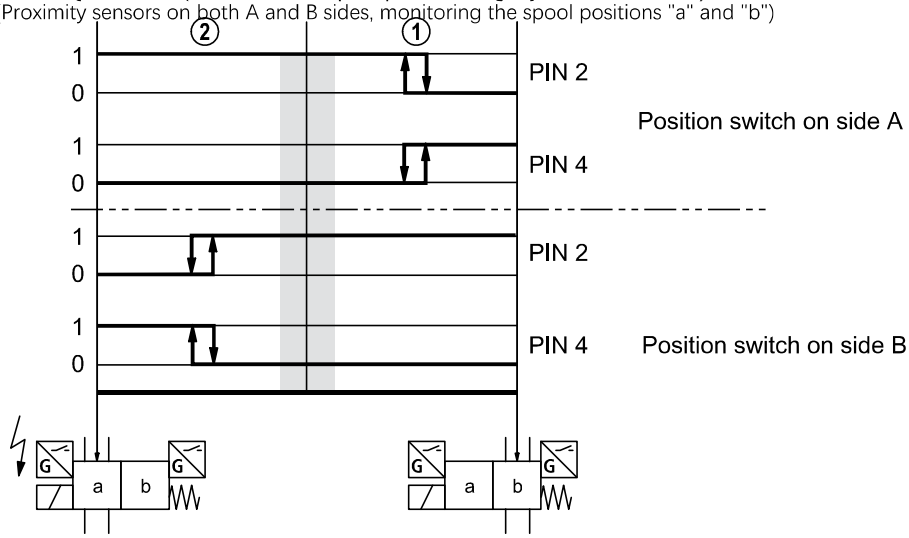


Electrical connections

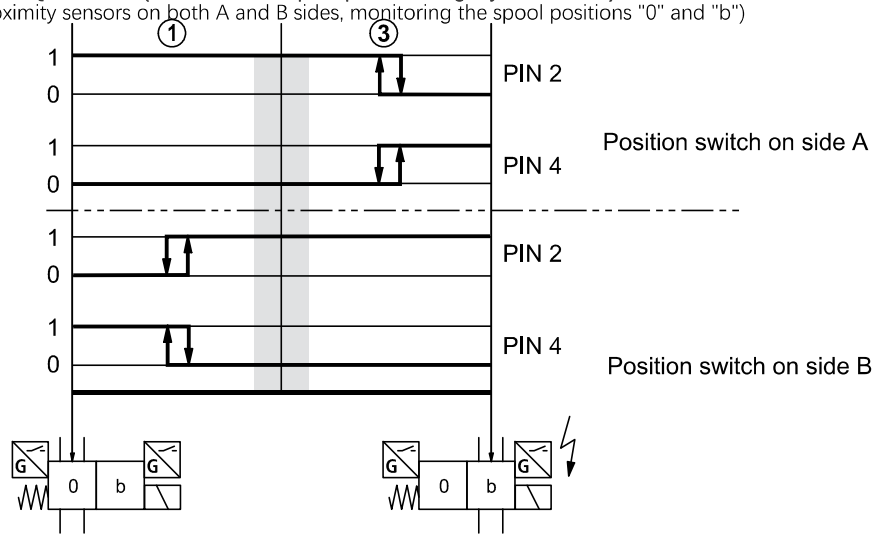
Model QSABG24W (Valve with three spool positions, e.g., symbols E, J, G...)
(Proximity sensors on both A and B sides, monitoring the spool positions "a" and "b")



AModel QSABG24W (Valve with two spool positions, e.g., symbols A, B, D, Y...)
(Proximity sensors on both A and B sides, monitoring the spool positions "a" and "b")

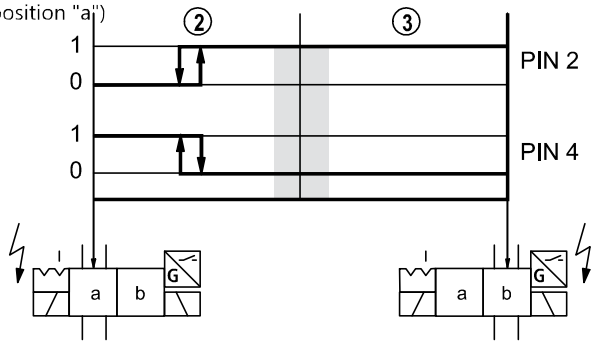


Model QS0BG24W (Valve with two spool positions, e.g., symbols E, B...)
(Proximity sensors on both A and B sides, monitoring the spool positions "0" and "b")

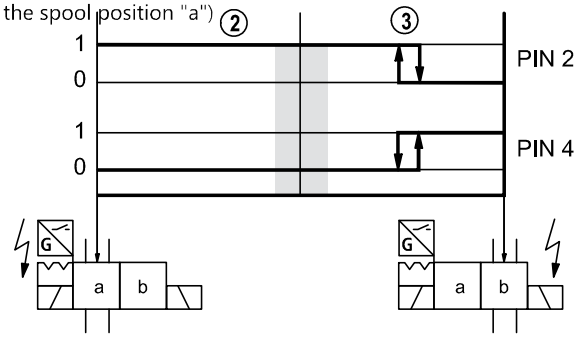


Electrical connections

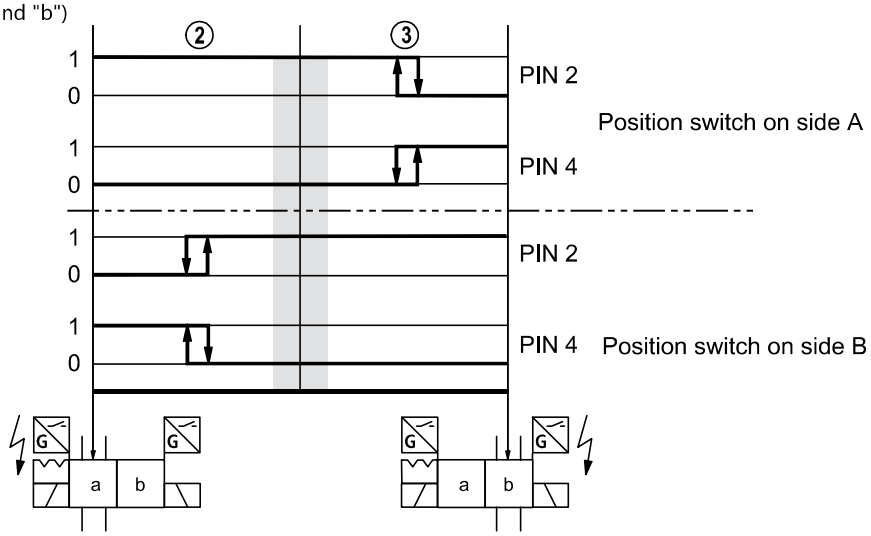
Model OF QSAG24W
(Proximity sensor on the B side, monitoring the spool position "a")



Model OF QSAG24W
(Proximity sensor on the A side, monitoring the spool position "a")



Model OF...QSABG24W
(Proximity sensors on the A and B sides, monitoring the spool positions "a" and "b")

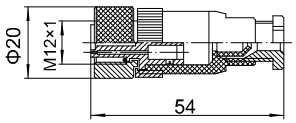


0 Open contact (0V)
1 Closed contact (24V)

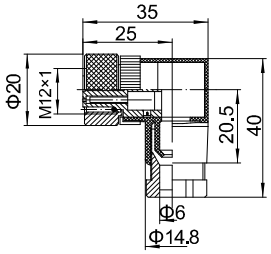
① Rest position
② Coil " a" has been switched
③ Coil " b" has been switched

Connector plug

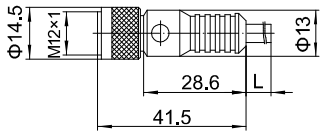
Right angle connector



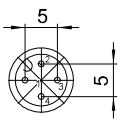
Right-angle connector



Cable connector (M12x1), appearance (cable length 2m)



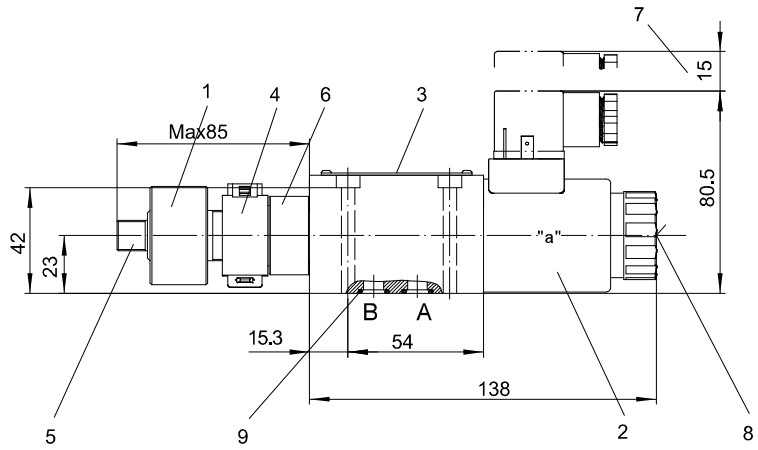
Needle diagram
Viewing from the pin side

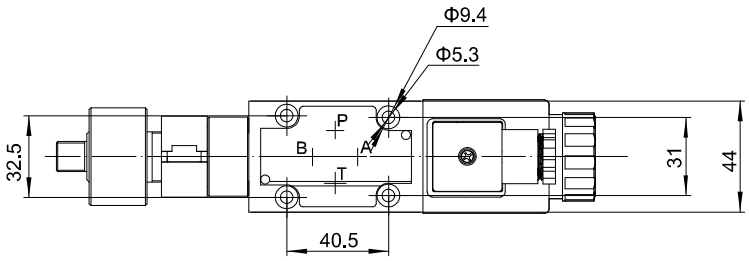


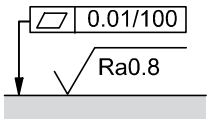
1 brown
2 white
3 blue
4 black

Dimensions NS 6 (dimensions in mm)

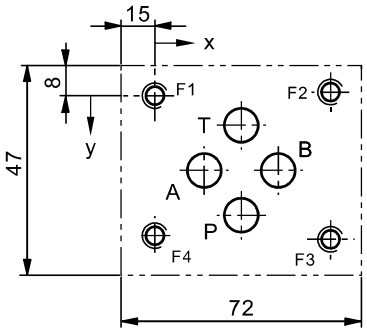
Model 4WE6D / QMBG24/







Requirements for installation surface



Dimensions in mm	P	A	B	T	Y	F1	F2	F3	F4	G
Diameters/threads	⌀7.5	⌀7.5	⌀7.5	⌀7.5	⌀3.3	M5	M5	M5	M5	⌀4
x	21.5	12.7	30.2	21.5	40.5	0	40.5	40.5	0	33
y	25.9	15.5	15.5	5.1	9	0	-0.75	31.75	31	31.75

1.Sensor
2.Solenoid
3.Nameplate
4.Protective cover
5.The electrical plug connection thread of the sensor is M12X1
6.Transition joint
7.Space required for removing the connecting plug
8.Hidden emergency button
9.O - ring 9.25X1.78 (for oil ports P, A, B, T)

Fixing screws: 4 GB/T70.1-M5x5010.9
Torque: 8.9Nm±10%

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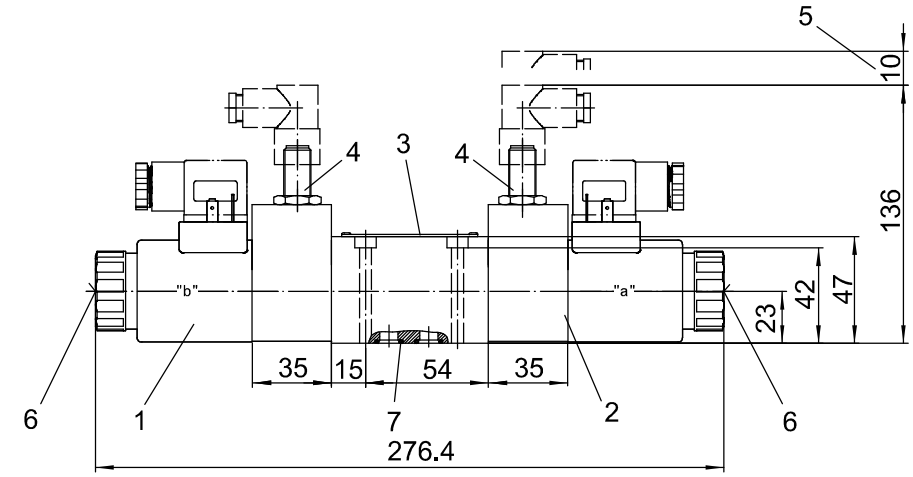
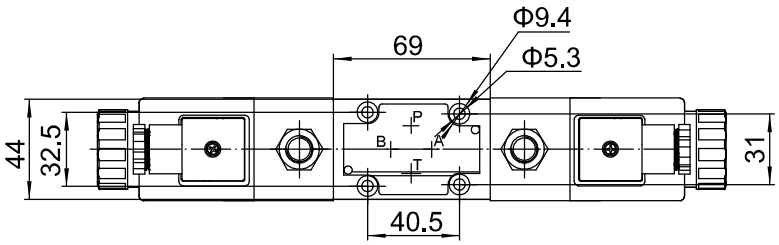
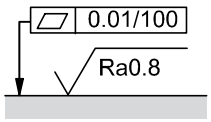
Адреса: г.Иркутск - ул. Ширямова, 36, оф. 503 г.Москва - ул. Краснобогатырская, 6, оф. 20

Dimensions NS 6 (dimensions in mm)

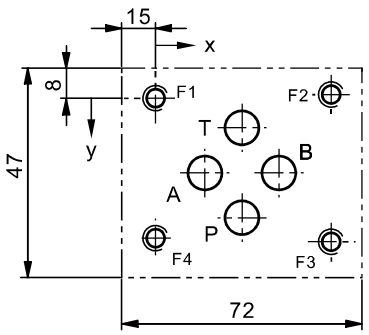
Model 4WE6E.../...QSAG24W/...







Requirements for installation surface



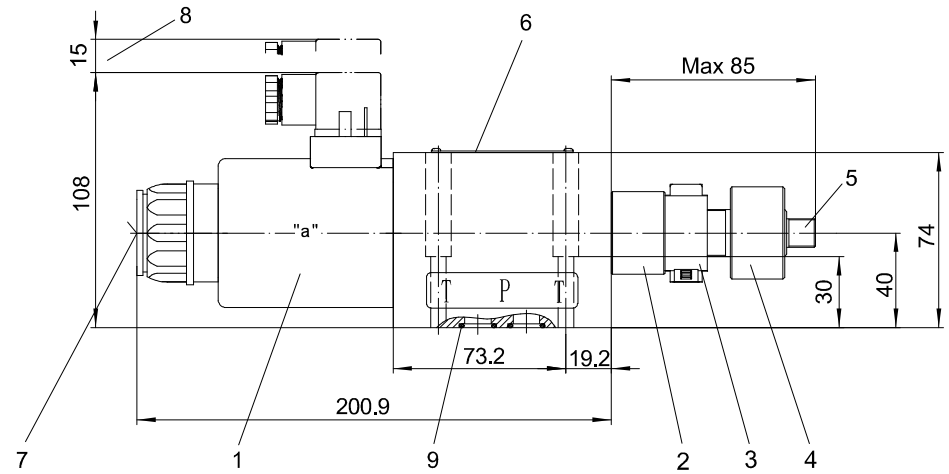
Dimensions in mm	P	A	B	T	Y	F1	F2	F3	F4	G
Diameters/threads	⌀7.5	⌀7.5	⌀7.5	⌀7.5	⌀3.3	M5	M5	M5	M5	⌀4
x	21.5	12.7	30.2	21.5	40.5	0	40.5	40.5	0	33
y	25.9	15.5	15.5	5.1	9	0	-0.75	31.75	31	31.75

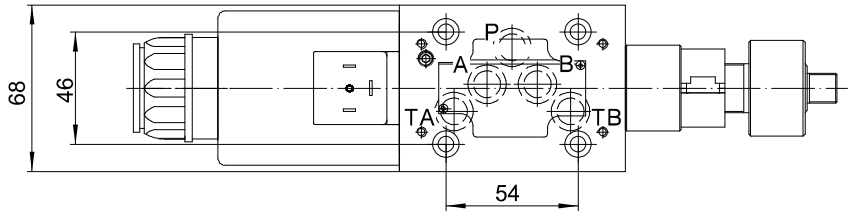
1.Solenoid
2.Transition block
3.Nameplate
4.High - pressure proximity switch
5.Space required for removing the connecting plug
6.Hidden emergency button
7.O - ring 9.25X1.78 (for oil ports P, A, B, T)

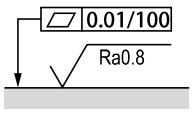
Fixing screws: 4 GB/T70.1-M5x5010.9
Torque: 8.9Nm±10%

Dimensions NS 10 (dimensions in mm)

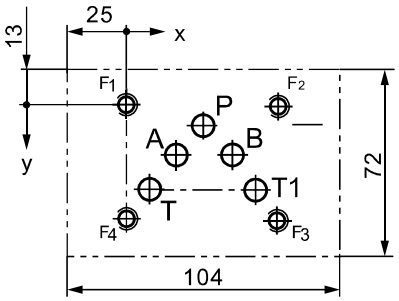
Model 4WE10D../...QMBG24/...







Requirements for installation surface



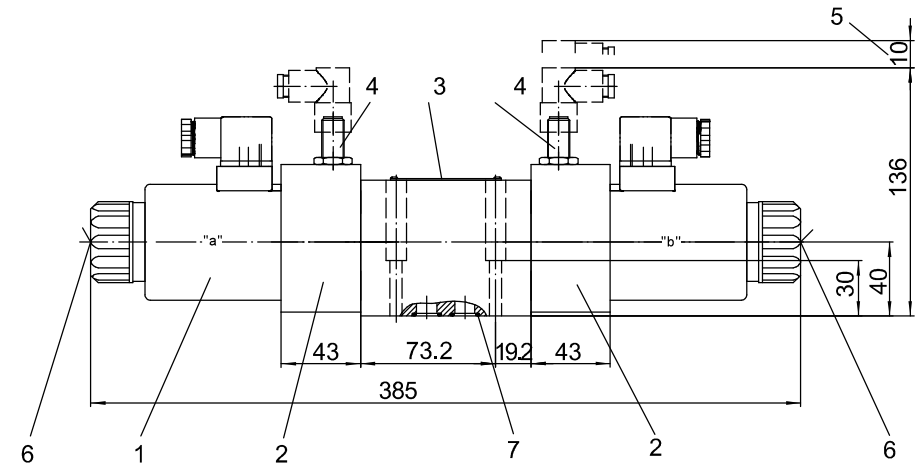
Dimensions in mm	P	A	T	(T1)	B	F1	F2	F3	F4
Diameters/threads	⌀11.2 max	⌀11.2 max	⌀11.2 max	⌀11.2 max	⌀11.2 max	M6	M6	M6	M6
x	27	16.7	3.2	50.8	37.3	0	54	54	0
y	6.3	21.4	32.5	32.5	21.4	0	0	46	46

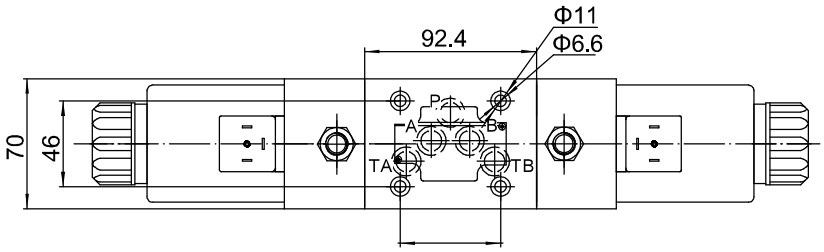
1.Solenoid
2.Transition joint
3.Protective cover
4.Sensor
5.The thread of the electrical plug conn
ection of the sensor is M12×1
6.Nameplate
7.Hidden emergency button
8.Space required for disconnecting the plug
9.O-ring 12X2 (used for oil ports P, A, B, T)
Fixing screws: 4GB/T70.1-M6x4010.9
Torque: 15.5Nm±10%

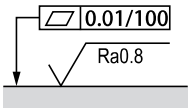
Официальный представитель Rebotech на территории РФ:ООО "АРКУДА" rebotech.ru
Телефон в Иркутске/Москве: 8(800)-100-44-79 Часы работы: 08:00 - 17:00 (Москва/Иркутск)
Адреса: г.Иркутск - ул. Ширямова, 36, оф. 503 г.Москва - ул. Краснобогатырская, 6, оф. 20

Dimensions NS 10 (dimensions in mm)

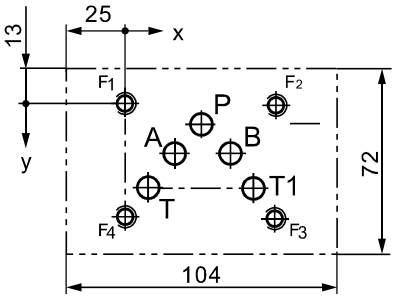
Model 4WE10E../...QSAG24W/...







Requirements for installation surface



Dimensions in mm	P	A	T	(T1)	B	F1	F2	F3	F4
Diameters/threads	⌀11.2 max	⌀11.2 max	⌀11.2 max	⌀11.2 max	⌀11.2 max	M6	M6	M6	M6
x	27	16.7	3.2	50.8	37.3	0	54	54	0
y	6.3	21.4	32.5	32.5	21.4	0	0	46	46

1.Solenoid
2.Transition block
3.Nameplate
4.High-pressure proximity switch
5.Space required for removing the connecting plug
6.Hidden emergency button
7.O-ring 12×2 (for oil ports P, A, B, T)

Fixing screws: 4 GB/T 70.1-M6x40 10.9
Torque: 15.5Nm±10%