2.16

4/3, 4/2 and 3/2 explosion-proof solenoid directional valve

Type G...WE6...L6X

Size (NG) 6
Up to 350 bar
Up to 80 L/min

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Features

-Directly operated type explosion protection directional valve is used as the standard type
-DIN24 340 A type on the mounting surface ISO 4401 and CETOP-RP 121H
-Wet-type DC explosion protection solenoid
-90° rotatable explosion protection solenoid
-Pressure-tight chamber does not need to be opened when coil is to be replaced

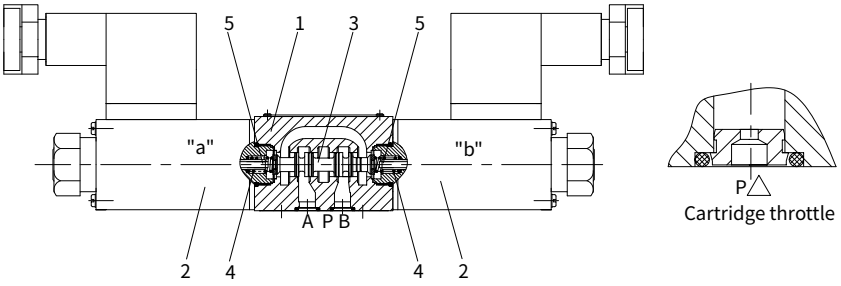
Function and configuration

GWE type directional control valve is the directional valve of explosion protection solenoid used to control start, stop and flow direction of oil fluid.
The directional control valves consist of housing (1), one or two solenoids (2), the control spool(3), and one or two return springs (4).
In the de-energised condition the control spool (3) is held in the neutral or initial position by means of return springs (4) (except for pulse spools). The control spool (3) is actuated via wet pin solenoids (2).
To guarantee satisfactory operation care should be taken to ensure that the solenoid pressure chamber is filled with oil.
The control spool(3) is moved to the expected position by solenoid(2) and pushing rod(5), and this gives free flow from P to A and B to T or P to B and A to T.
When the explosion protection solenoid(2) is powered off, control valve element (3) is pushed to the initial position by reset spring (4).

Type G4WE6...L6X/OB2...
(limited to functions A, C and D).
This type contains 2 switching positions and 2 directional control valves without locating mechanism explosion protection solenoid.

Type G4WE6...L6X/OFB2... pulse valve
(limited to functions A, C and D).
It contains 2 switching positions, 2 explosion protection solenoids and 1 directional control valve with locating mechanism. 2 switching positions are fixed separately, so it is unnecessary to continuously electrify explosion protection solenoid.

Cartridge throttle
The cartridge throttle is necessary since the actual flow may be larger than the performance limits of the valve during switching process.This cartridge throttle is inserted in the P channel of the directional control valve.



Ordering code

–	WE	6	– L6X /	B2	/		★

Explosion-resistant type I =G1
Explosion-resistant type II =G2

3 ways(For spool A , B) =3
4 ways =4

Directional valve with wet pin solenoids

Nominal size 6 =6

Symbols e.g. C, E etc.

Serial number =L6X
(L60-L69 have the same interior structures and mounting dimensions)

Return spring = No code
Without return spring = O
Without return spring, and with detent = OF

Threaded explosion protection solenoid =B2

Further details in clear text

No code = NBR seals
V = FKM seals

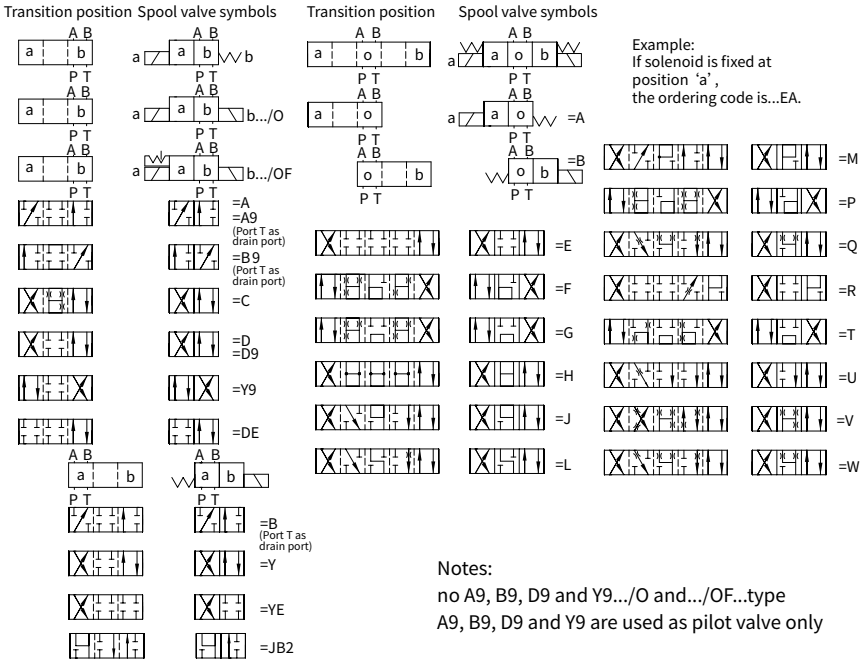
No code =	Wthout cartridge throttle
B08 =	Throttle - Φ0.8 mm
B10 =	Throttle - Φ1.0 mm
B12 =	Throttle - Φ1.2 mm
B15 =	Throttle - Φ1.5 mm
B20 =	Throttle - Φ2.0 mm
B25 =	Throttle - Φ2.5 mm
B30 =	Throttle - Φ3.0 mm

Voltage

G12 =	12VDC
G24 =	24VDC
G36 =	36VDC
G110 =	110VDC

Note: G1 Explosion protection grade EX d I Mb; G2 Explosion protection grade EX d II C T4 Gb

Spool symbols



Notes:
no A9, B9, D9 and Y9.../O and.../OF...type
A9, B9, D9 and Y9 are used as pilot valve only

Technical data

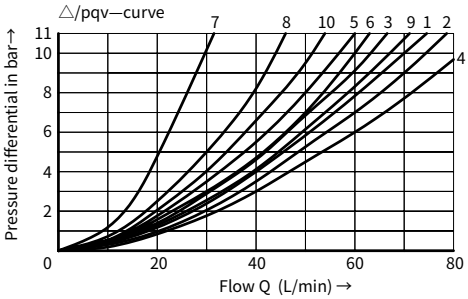
Fixing position			Optional
Environment temperature range		°C	-30 to +50 (NBR seal)
			-20 to +50 (FKM seal)
Weight	Single solenoid	kg	2.6
	Double solenoids	kg	4.3
Max.operating pressure	Port P, A, B	bar	350
	Port T	bar	210
			when the operating pressure exceeds the permission value, spool symbol A and B must make the port T for draining
Max. flow-rate		L/min	80
Flow cross section (switching neutral position)	VersionQ	mm^2	About 6% of nominal area
	VersionW	mm^2	About 3% of nominal area
Fluid			Mineral oil suitable for NBR and FKM seal
			Phosphate ester for FKM seal
Fluid temperature range		°C	-30 to +80 (NBR seal)
			-20 to +80 (FKM seal)
Viscosity range		mm^2/s	2.8 to 500
Degree of contamination			Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406

Electrical data

Type of voltage			DC
Available voltage		V	12, 24, 36, 110
Permissible voltage (deviation)		%	-15 to +10
Input power		W	30
Operation mode of solenoid			Continuous working
Switched time	ON	ms	25 to 45
Accord with ISO 6403	OFF	ms	10 to 25
Switched frequency		times/h	To 15000
Max. coils tamperature		°C	+150

Caution: with electrical connections the protective conductor (PE ⏚) must be connected according to the relevant regulations.

Characteristic curves (Measured at ϑ_{oil}=40°C ±5°C , using HLP46)



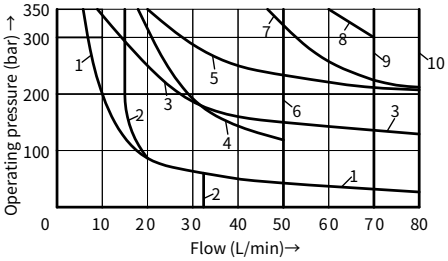
7 Function "R" of valve element is at switching position B → A
8 Function "G" and "T" of valve element is at neutral position P → T
9 Function "H" of valve element is at neutral position P → T

Spool symbol	Flow direction			
	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

02

Performance limits (Measured at ϑ_{oil}=40°C ±5°C , using HLP46)

The Performance limited is measured when the solenoids under working temperature, the voltage is below 15% of the standard voltage and T is free from back pressure.
The working limit given is used for flow in two directions only (such as P → A flow of B → T backflow).
Due to the flow forces acting within the valves, the permissible switching power limits may be considerably lower with only one direction of flow (e.g. P → A while port B is blocked)
(In such cases, please consult us!)
The switching power limit was established while the solenoids were at operating temperature, at 10 % under voltage and without tank pre-loading.

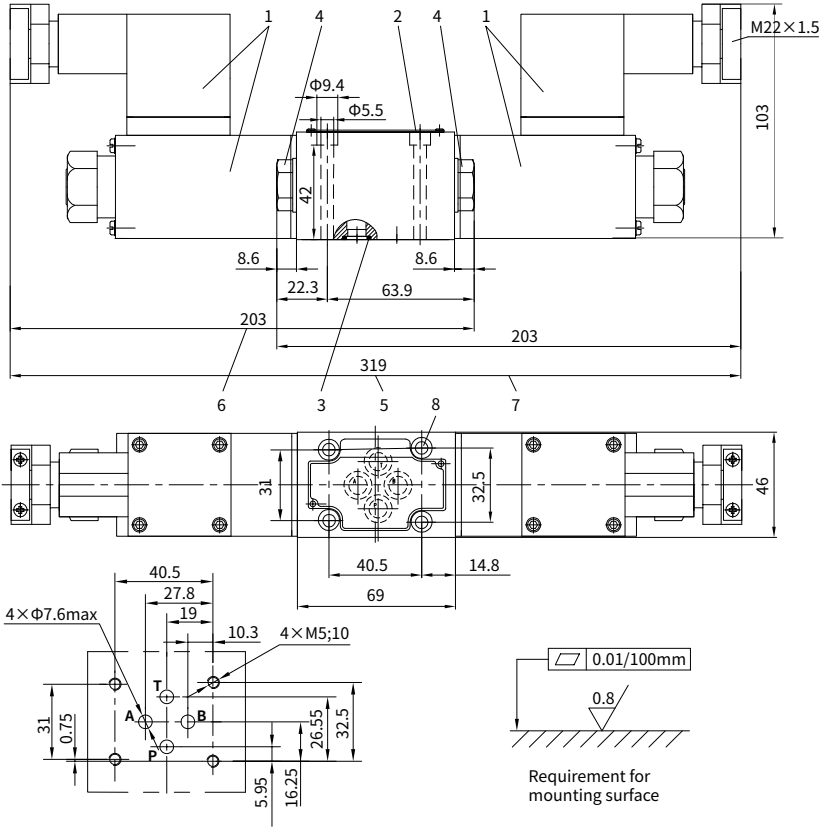


Curve	Spool symbol
1	A, $B_{1)}$
2	V
3	A, B
4	F, P
5	J
6	G, H, T
7	A/O, A/OF, L, U
8	C, D, Y
9	M
10	E, $R_{2)}$, C/O, C/OF
	D/O, D/OF, Q, W

Note: 1) Flow back to the fuel tank from the executive component

Unit dimensions

(Dimensions in mm)



1 Explosion protection solenoid
2 Copper nameplate
3 R-ring 9.81×1.5×1.78 or O-ring 9.25×1.78
4 End cap used for 1 electrosolenoid valve
5 Dimensions of 3-position valve
6 Dimensions of 2-position valve, solenoids at end A
7 Dimensions of 2-position valve, solenoids at end B
8 **Valve fixing screws:** M5×50 GB/T70.1-10.9 Tightening torque, M_A=8.9Nm must be ordered separately.

It must be ordered separately, if connection plate is needed .Type:
G341/01(G1/4); G341/02(M14×1.5)
G342/01(G3/8); G342/02(M18×1.5)
G502/01(G1/2); G502/02(M22×1.5)