2-way Logic Cartridge Valves Directional Function

Model: LC...7X (logic cartridge valves)
LFA...7X (control cover)

- Size 16/63
- Maximum working pressure 420 bar
- Maximum working flow 3000 L/min

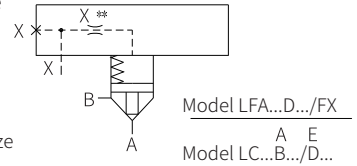
Contents

Features

- Valve poppet with or without damping nose
- 2 area ratios
- 4 types of springs
- 4 stroke limitations
- Control cover with integrated seat valve
- Control cover with integrated shuttle valve
- Control cover for set-up of directional spool valves with or without installed shuttle valve
- Control cover for set-up of directional seat valves with or without installed shuttle valve

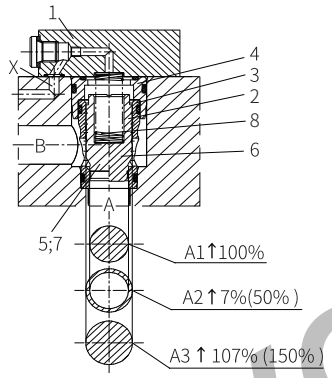
Function description, sectional drawing

The 2-way logic cartridge valves are designed as components for integrated blocks.The main valve component with oil ports A and B is installed into the control block in a receiving hole standardized according to DIN ISO 7368 and closed with a cover. In most cases, the control cover is the connection between the control side of the main valve component and the pilot valve.
By control with respective pilot control valves, the main valve component can be applied for pressure, directional and throttle functions or a combination of these functions. The special economical structural designs can be achieved by matching the size of various flows of the valves and the actuators. If the main valve component can undertake more than one function, the special economical structure can be achieved.



Directional function

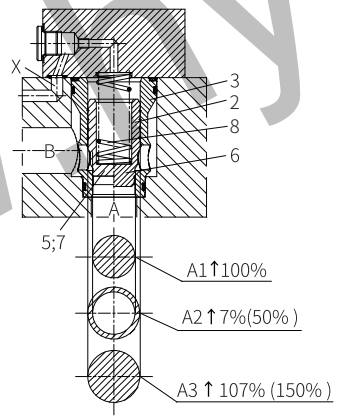
The 2-way logic cartridge valves generally consist of control cover (1) and cartridge element (2). The control cover contains control holes, optional stroke limitation according to function, hydraulic control directional seat valve or shuttle valve. In addition,the directional spool valve or directional seat valve can be installed onto the control cover. The cartridge element mainly includes valve sleeve (3), adjustment ring (4) (only applicable to size 32), seat valve (5), optional damping (7) and reset spring (8).



Size 16 to 32

Function

The function of 2-way logic cartridge valves depends on the pressure. Therefore, there are three important pressure-bearing areas A1, A2, A3 for actuation of the valve. The area of the valve seat A1 is taken as 100%. Depending on the type, the annulus area A2 is 7% or 50% of the area A1. Therefore, the area ratio A1:A2 is either 14.3:1 or 2:1. The area A3 is equal to A1+A2. Due to the different area ratios A1:A2, the annulus area A2 is also different. The area A3 may be 107% or 150% when 100% area at seat A1.



Size 40 to 63

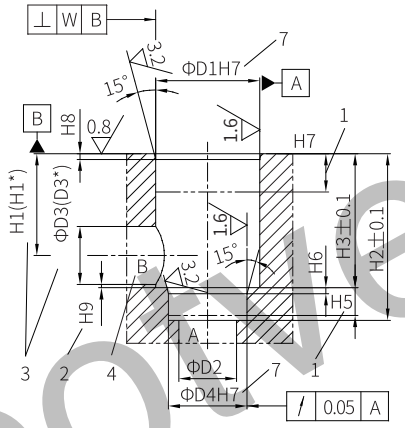
Basic application

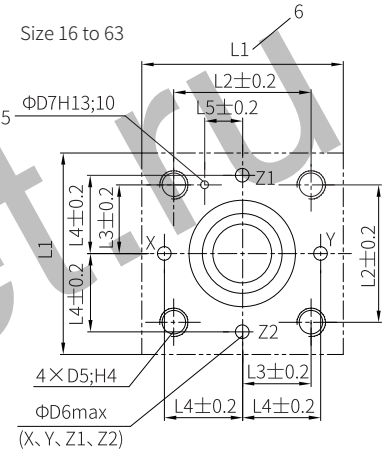
The areas A1 and A2 are operated in the opening direction. The area A3 and the spring are operated in the closing direction. The effective direction generated by the combination of the opening and closing directions determines the position of the spool of the 2-way logic cartridge valve.
The oil can flow from A to B or B to A through the 2-way logic cartridge valve. When the area A3 is compressed by the pilot oil of channel B or external pilot oil supply, the channel A is closed without leakage."

Component size

Size unit: mm

Control cover and installation hole according to ISO 7368

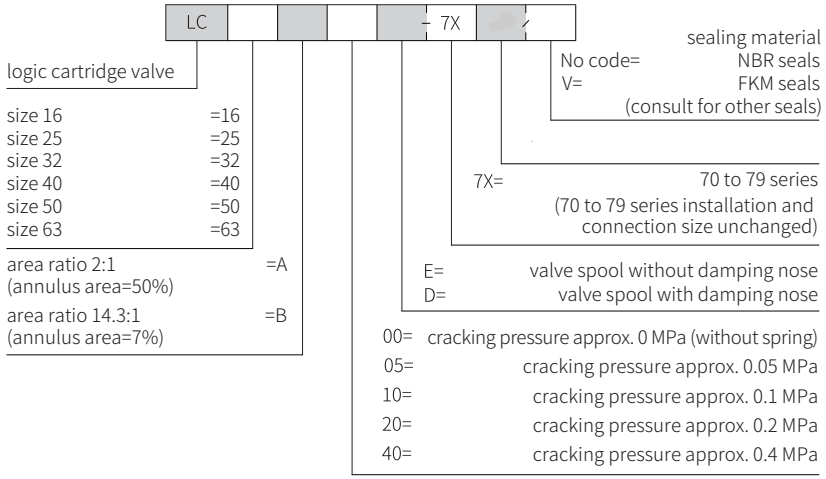




1 Depth of fit
2 Reference dimension
3 If the diameter of port B is not Φ D3 or （Φ D3 *), then the distance from the cover support surface to the center of the hole must be calculated.
4 Port B can be installed around the central axis of port A, but it must be ensured that the installation hole and pilot hole are not damaged
5 Locating pin hole
6 The length L1 (x-y axis of the hole) of the control cover (with directional valve) is 80mm for size 16.
7 If D ⩽ 45mm, H8 is allowed to be installed.

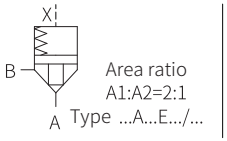
Size	16	25	32	40	50	63
ΦD1	32	45	60	75	90	120
ΦD2	16	25	32	40	50	63
ΦD3	16	25	32	40	50	63
ΦD4	25	34	45	55	68	90
ΦD5	M8	M12	M16	M20	M20	M30
ΦD6	4	6	8	10	10	12
ΦD7	4	6	6	6	8	8
H1	34	44	52	64	72	95
(H1*)	29.5	40.5	48	59	65.5	96.5
H2	56	72	85	105	122	155
H3	43	58	70	87	100	130
H4	20	25	35	45	45	65
H5	11	12	13	15	17	20
H6	2	2.5	2.5	3	3	4
H7	20	30	30	30	35	40
H8	2	2.5	2.5	3	4	4
H9	0.5	1	1.5	2.5	2.5	3
L1	65/80	85	102	125	140	180
L2	46	58	70	85	100	125
L3	23	29	35	42.5	50	62.5
L4	25	33	41	50	58	75
L5	10.5	16	17	23	30	38
W	0.05	0.05	0.1	0.1	0.1	0.2

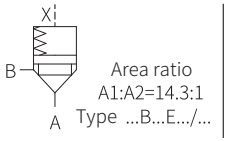
Logic cartridge valves models and specifications



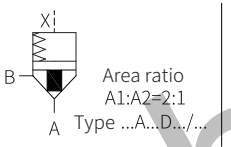
Logic cartridge valves functional symbols

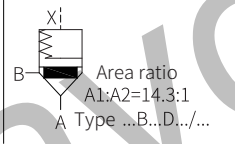
Valve spool without damping nose





Valve spool with damping nose





Technical parameters

Maximum working pressure	without directional valve	bar	420
	port A, B, X, Z1, Z2	bar	315;350; 420 (dependent on the attached directional valve)
	port Y	bar	Depending on the return oil pressure of the directional valve
Pressure medium			Mineral oil - for NBR seal or FKM seal
			Phosphate ester - for FKM seal
Pressure medium temperature range		°C	–30 to +80 (NBR seal)
			–20 to +80 (FKM seal)
Viscosity range		mm^2/s	2.8 to 380
Cleanliness of oil			The maximum allowable pollution level of oil is ISO4406 Class 20 / 18 / 15[1)]

[1)] The oil must meet the cleanliness degree requested by the components in the hydraulic system. Effective oil filtration can prevent failure and increase the service life of the components.

Technical parameters

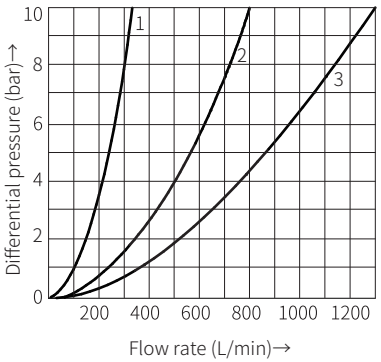
2-way logic cartridge valves-directional function

Area		Model	Size					
			16	25	32	40	50	63
A1	cm^2	LC..A..	1.89	4.26	6.79	11.1	19.63	30.2
		LC..B..	2.66	5.73	9.51	15.55	26.42	41.28
A2	cm^2	LC..A..	0.95	1.89	3.39	5.52	8.64	14
		LC..B..	0.18	0.43	0.67	1.07	1.85	2.90
A3	cm^2	LC..A..	2.84	6.16	10.18	16.62	28.27	44.2
		LC..B..	2.84	6.16	10.18	16.62	28.27	44.2
Stroke	cm	LC..E..	0.9	1.17	1.4	1.7	2.1	2.3
		LC..D..	0.9	1.17	1.4	1.9	2.3	2.8
Pilot volume	cm^3	LC..E..	2.56	7.21	14.3	28.3	59.4	102
		LC..D..	2.56	7.21	14.3	31.6	65.0	124
Theoretical pilot Flow [1)]	(L/min)	LC..E..	15.4	43.3	86	170	356	612
		LC..D..	15.4	43.3	86	190	390	744
Weight	kg	Logic cartridge valves LC	0.25	0.5	1.1	1.9	3.9	7.2
Cracking pressure bar Direction of flow A to B		LC..A 00..	0.02	0.02	0.05	0.05	0.05	0.07
		LC..A 05..	0.35	0.35	0.36	0.35	0.37	0.31
		LC..A 10..	0.70	0.68	0.72	0.71	0.67	0.64
		LC..A 20..	2.03	2.18	2.12	2.02	2.01	2
		LC..A 30..	—	—	—	—	—	—
		LC..A 40..	3.50	3.90	3.80	4.0	4.11	3.8
		LC..B 00..	0.01	0.02	0.04	0.04	0.04	0.05
		LC..B 05..	0.25	0.26	0.26	0.25	0.28	0.23
		LC..B 10..	0.49	0.50	0.51	0.51	0.48	0.47
		LC..B 20..	1.44	1.62	1.52	1.44	1.5	1.5
		LC..B 30..	—	—	—	—	—	—
		LC..B 40..	2.48	2.90	2.70	2.86	3.05	2.8
Cracking pressure bar Direction of flow B to A		LC..A 00..	0.04	0.05	0.1	0.1	0.1	0.14
		LC..A 05..	0.69	0.78	0.72	0.7	0.84	0.68
		LC..A 10..	1.38	1.53	1.42	1.43	1.47	1.37
		LC..A 20..	4.05	4.91	4.25	4.06	4.57	4.33
		LC..A 30..	—	—	—	—	—	—
		LC..A 40..	6.96	8.74	7.6	8.05	9.34	8.15
		LC..B 00..	0.24	0.25	0.5	0.5	0.5	0.8
		LC..B 05..	3.69	3.4	3.64	3.64	3.95	3.27
		LC..B 10..	7.43	6.69	7.24	7.37	6.88	6.62
		LC..B 20..	21.3	21.5	21.6	20.9	21.4	20.9
		LC..B 30..	—	—	—	—	—	—
		LC..B 40..	36.6	38.3	38.6	41.5	43.6	39.4

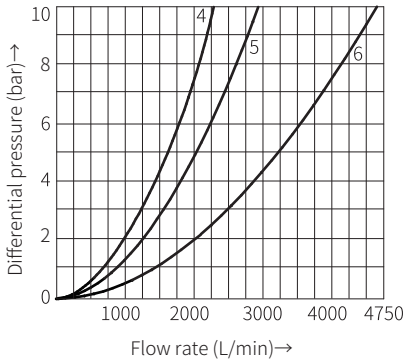
Characteristic curve

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

Without damping nose

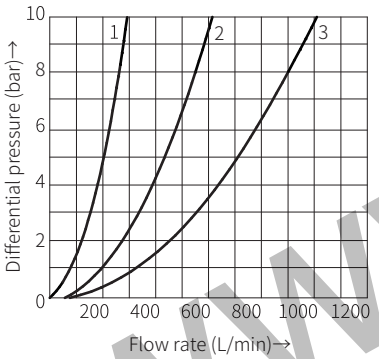


1 Size 16
2 Size 25
3 Size 32

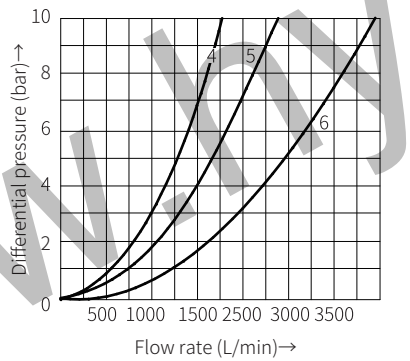


4 Size 40
5 Size 50
6 Size 63

With damping nose

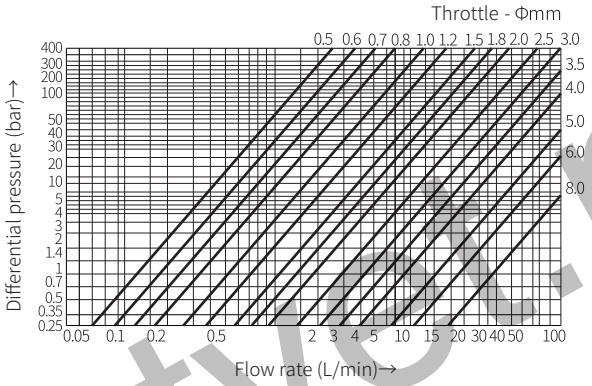


1 Size 16
2 Size 25
3 Size 32



4 Size 40
5 Size 50
6 Size 63

Characteristic curve for throttle selection



Thread	Throttle - Φmm
ZM6	0.5 to 3.0
ZM8	0.5 to 4.0
R3/8	0.8 to 6.0
R1/2	1.0 to 8.0

Ordering code for throttle

Nominal size	Throttle Φmm \ Thread	Ordering code			
		ZM6	ZM8	R3/8	R3/8
	0.5	ZM6×1-Φ0.5	ZM8×1-Φ0.5	—	—
	0.6	ZM6×1-Φ0.6	ZM8×1-Φ0.6	—	—
	0.7	ZM6×1-Φ0.7	ZM8×1-Φ0.7	—	—
16	0.8	ZM6×1-Φ0.8	ZM8×1-Φ0.8	R3/8-Φ0.8	—
25	1	ZM6×1-Φ1.0	ZM8×1-Φ1.0	R3/8-Φ1.0	R1/2-Φ1.0
32	1.2	ZM6×1-Φ1.2	ZM8×1-Φ1.2	R3/8-Φ1.2	R1/2-Φ1.2
40	1.5	ZM6×1-Φ1.5	ZM8×1-Φ1.5	R3/8-Φ1.5	R1/2-Φ1.5
50	1.8	ZM6×1-Φ1.8	ZM8×1-Φ1.8	R3/8-Φ1.8	R1/2-Φ1.8
63	2	ZM6×1-Φ2.0	ZM8×1-Φ2.0	R3/8-Φ2.0	R1/2-Φ2.0
	2.5	ZM6×1-Φ2.5	ZM8×1-Φ2.5	R3/8-Φ2.5	R1/2-Φ2.5
	3	ZM6×1-Φ3.0	ZM8×1-Φ3.0	R3/8-Φ3.0	R1/2-Φ3.0
	3.5	—	ZM8×1-Φ3.5	R3/8-Φ3.5	R1/2-Φ3.5
	4	—	ZM8×1-Φ4.0	R3/8-Φ4.0	R1/2-Φ4.0
	5	—	—	R3/8-Φ5.0	R1/2-Φ5.0
	6	—	—	R3/8-Φ6.0	R1/2-Φ6.0
	8	—	—	—	R1/2-Φ8.0

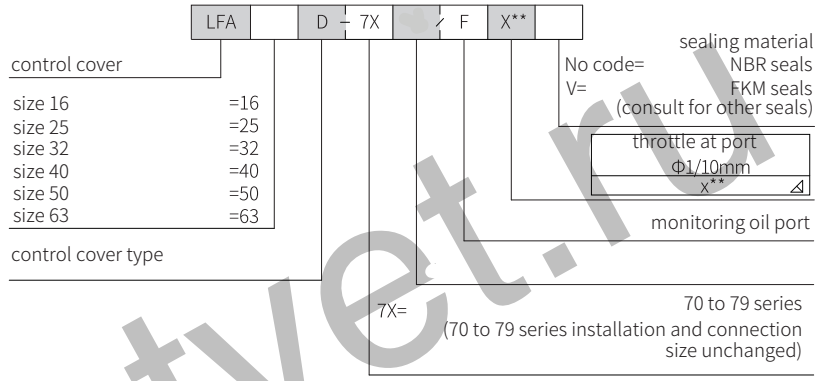
Valve fixing screw

Infernal hexagon according to GB/T70.1-10.9 grade (included in the supply list)

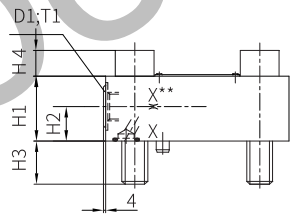
Size	Control cover type	Dimension	Quantity	Tightening torque M_A (Nm)	Size	Control cover type	Dimension	Quantity	Tightening torque M_A (Nm)
16	D	M8×40	4	34.3	40	D	M20×70	4	373
	G	M8×40				G	M20×70		
	GW A,GW B	M8×45				GW A,GW B	M20×70		
	H1,H2	M8×40				H1,H2	M20×110		
						R,RF	M20×70		
	KW A,KW B	M8×45				KW A,KW B	M20×70		
	W E A,W EB	M8×45				W E A,W EB	M20×70		
	W ECA	M8×40				W ECA	M20×70		
	WEMA,WEMB	M8×70				WEMA,WEMB	M20×70		
25	D	M12×50	4	95	50	D	M20×80	4	373
	G	M12×50				G	M20×80		
	GW A,GW B	M12×50				GW A,GW B	M20×80		
	H1,H2	M12×50				H2	M20×120		
	R,RF	M12×50				R,RF	M20×80		
	KW A,KW B	M12×50				KW A,KW B	M20×80		
	WEA,WEB	M12×50				WEA,W EB	M20×80		
	W ECA	M12×50				W EC A	M20×80		
	WEMA,WEM B	M12×50				WEMA,WEM B	M20×80		
32	D,G,R,RF GW A,GW B, KW A,KW B, W EA,W EB, W ECA, W EMA,W EMB	M16×60	4	196	63	D,G,R,RF GW A,GW B, KW A,KW B, W EA,W EB, W ECA, W EMA,W EMB	M30×100	4	1315
	H1,H2	M16×80				H2	M30×150		

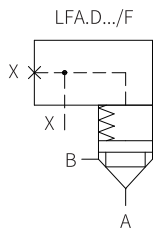
Control cover "D" with remote control

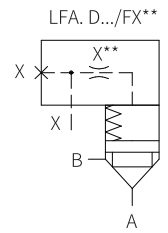
Size 16 to 63

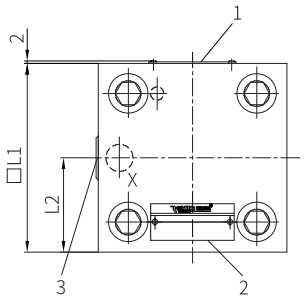


If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24







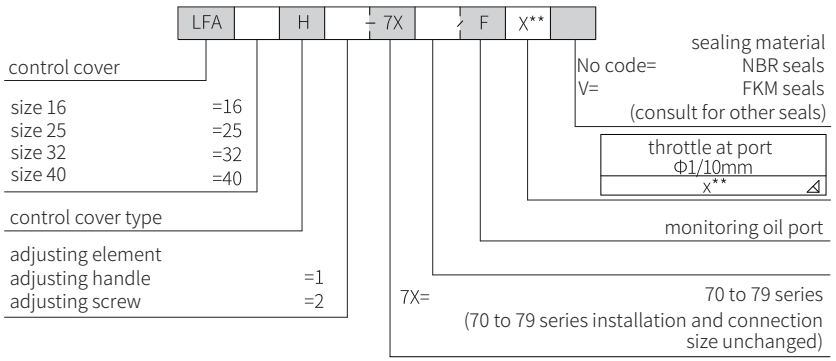


Size	16	25	32	40	50	63
D1	G1/8	G1/4	G1/4	G1/2	G1/2	G3/4
X**[1)]	ZM6	ZM6	ZM6	ZM8	ZM8	R3/8
H1	27	30	35	60	68	82
H2	12	16	16	30	32	40
H3	15	20	25	32	34	50
H4	6	12	16	—	—	—
L1	65	85	100	125	140	180
L2	32.5	42.5	50	72	80	90
T1	8	12	12	14	14	16
Weight kg	0.9	1.7	2.7	6.6	9.4	18.7

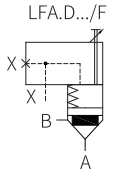
[1)] Ordering code of throttle see page 07/24

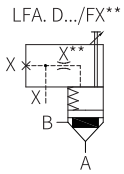
1 Name plate for size 16/25/32
2 Name plate for size 40/50/63
3 Optional port X used as threaded connection port

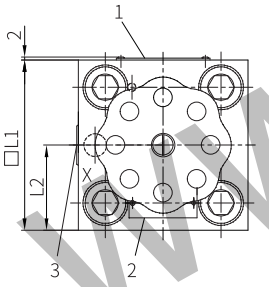
Size 16 to 40



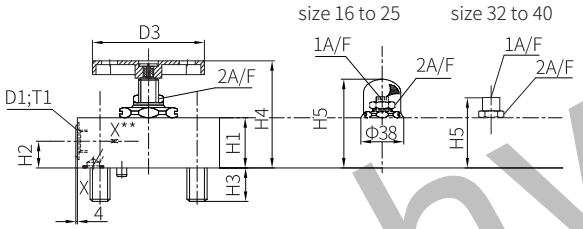
If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24







Adjusting element "1" Adjusting element "2"



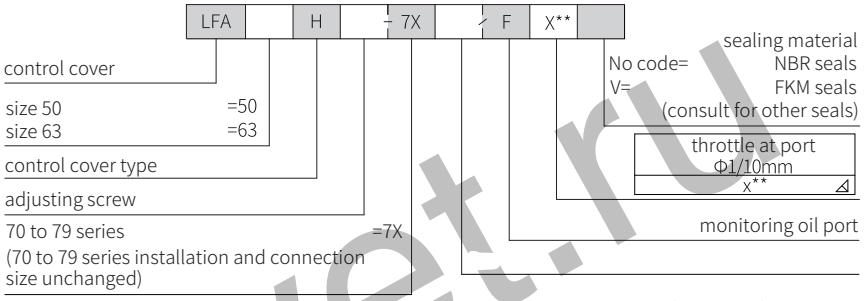
Size	16	25	32	40
D1	G1/8	G1/4	G1/4	G1/2
X**[1]	ZM6	ZM6	ZM6	ZM8
D3	60	80	80	100
H1	35	40	75	95
H2	12	16	16	30
H3	15	24	28	32
H4max	90	95	120	160
H5max	76	80	100	146
□L1	65	85	100	125
L2	32.5	42.5	50	72
T1	8	12	12	14
1A/F[2]	6	6	10	14
2A/F	21	22	27	46
Weight kg	1.3	2.3	5.5	11.2

[1] Ordering code of throttle see page 07/24
[2] Internal hexagon

1 Name plate for size 16/25/32
2 Name plate for size 40
3 Optional port X used as threaded connection port

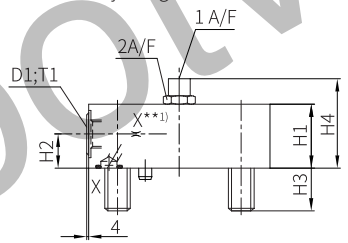
Control cover "H" with stroke limitation and remote control

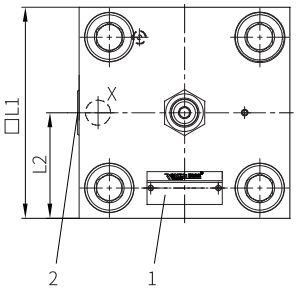
Size 50 to 63

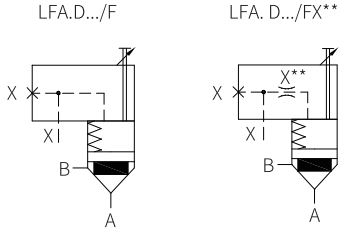


If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24

Adjusting element "2"







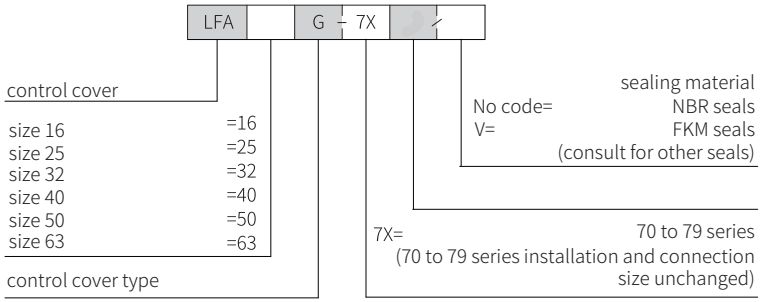
Size	50	63
D1	G1/2	G3/4
X**[1]	ZM8	R3/8
H1	110	125
H2	32	40
H3	34	50
H4max	156	175
□L1	140	180
L2	80	90
T1	14	16
1A/F[2]	17	24
2A/F	55	65
Weight kg	15.8	30.2

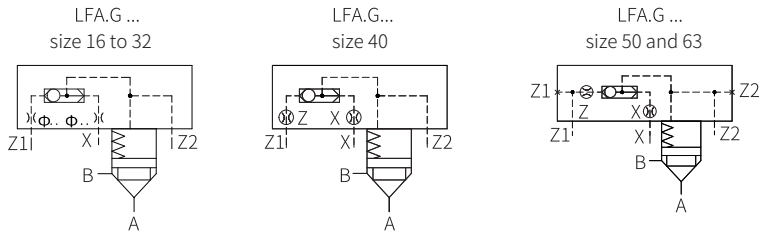
[1] Ordering code of throttle see page 07/24
[2] Internal hexagon

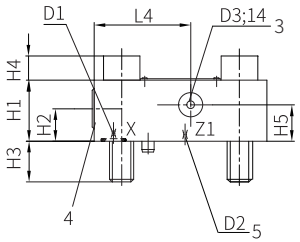
1 Name plate
2 Optional port X used as threaded connection port

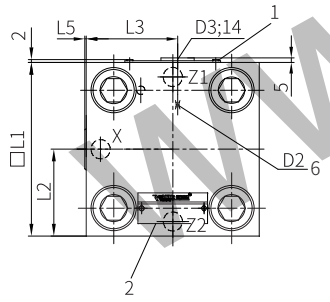
Control cover "G" with integrated shuttle valve

Size 16 to 63







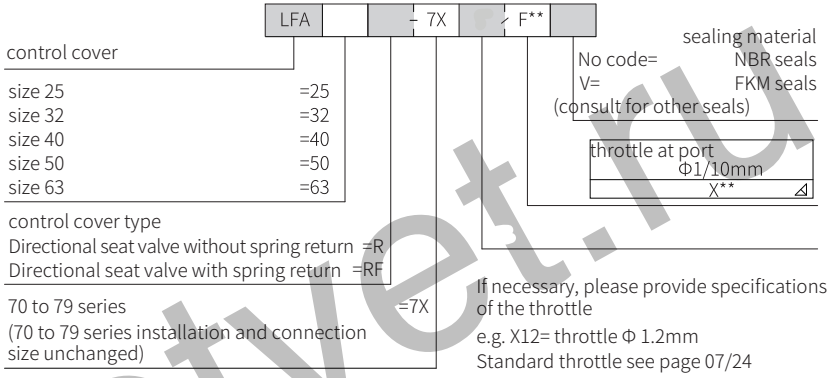


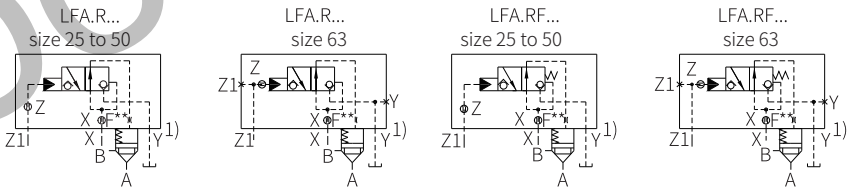
Size	16	25	32	40	50	63
D1[2)]	Φ1.2	Φ1.5	Φ2.0	M6	M8×1	M8×1
D2[2)]	Φ1.2	Φ1.5	Φ2.0	M6	M8×1	M8×1
D3	—	—	—	—	G1/2	G1/2
H1	35	30	35	60	68	82
H2	17	17	21.5	30	32	42
H3	15	24	28	32	34	50
H4	—	12	16	—	—	—
H5	—	—	—	—	32	40
L1	65	85	100	125	140	180
L2	36.5	45.5	50	62.5	70	90
L3	—	—	—	—	72	81
L4	—	—	—	—	72	90
L5	4.5	4	1	—	6	4

1 Name plate for size 16/25/32
2 Name plate for size 40/50/63
3 Optional ports Z1 and Z2 used as threaded connection ports for size 25/32/50/63
4 Shuttle valve
5 D2 for size 16 to 40

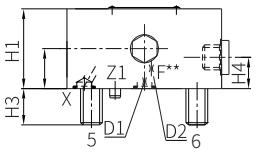
Control cover "R" and "RF" with integrated directional seat valve

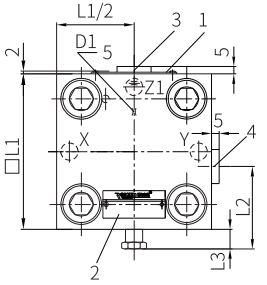
Size 25 to 63





Area ratio $\frac{A_{Z1}}{A_X} = \frac{3}{1}$





Size	Type	25	32	40	50	63
F**[2)]		ZM6	ZM6	ZM8	ZM8	ZM8
H1		40	50	60	68	82
H2		20	26	30	34	40
H3		24	28	32	34	50
H4		15.5	26	30	34	40
□L1		85	100	125	140	180
L2		50	50	65.7	70	78.5
L3	R	3	3	4	4	–
	RF	18	18	25	25	16
Weight kg		2.1	3.6	6.7	9.5	18.3

[1)] Maximum working pressure at port Y 5 bar
[2)] Ordering code of throttle see page 07/24
1 Name plate for size 16/25/32
2 Name plate for size 40/50/63
3 Optional port Z1 used as threaded connection port for size 25 to 63
4 Optional port Z1 used as threaded connection port for size 25 to 63
5 D1 for size 25 to 50
6 D1 for size 63

Size 16 to 50

LFA | | – 7X | | / A** | B** | P** | T** | |

control cover

size 16	=16
size 25	=25
size 32	=32
size 40	=40
size 50	=50

control cover type

normally closed	=WEA
normally open	=WEB

sealing material

No code= NBR seals

V= FKM seals

(consult for other seals)

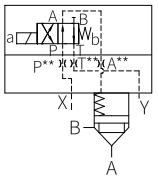
control type	throttle at port Φ1/10mm			
WEA	A**◿		P**◿	T**◿
WEB		B**◿	P**◿	T**◿

7X= 70 to 79 series

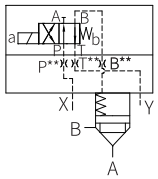
(70 to 79 series installation and connection size unchanged)

◢ If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24

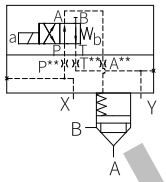
LFA.WEA...
size 16 to 32
Direction spool valve
model: 4WE6D



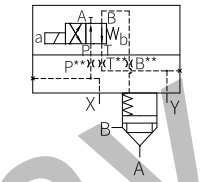
LFA.WEB...
size 16 to 32
Direction spool valve
model: 4WE6D

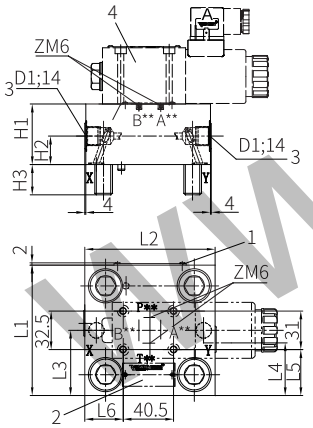


LFA.WEA...
size 40 to 50
Direction spool valve
model: 4WE6D



LFA.WEB...
size 40 to 50
Direction spool valve
model: 4WE6D





Size	16	25	32	40	50
D1	—	—	—	G1/2	G1/2
H1	40	40	50	60	68
H2	—	—	—	30	32
H3	15	24	28	32	34
L1	65	85	100	125	140
L2	80	85	100	125	140
L3	—	—	—	72	80
L4	—	—	—	53	60
L5	17	27	34.5	47	54.5
L6	7	23.5	31	43.5	51
A**B** T**P**[1)]	ZM6	ZM6	ZM6	ZM6	ZM6
Weight kg	1.5	2.1	3.6	6.6	9.3

[1)] Ordering code of throttle see page 07/24
1 Name plate for size 16/25/32
2 Nameplate for size 40/50
3 Optional ports X and Y used as threaded connection ports for size 40/50
4 Direction spool valve 4WE6D and screw M5x50-10.9 GB T70.1 must be ordered separately

Control cover "WEA" and "WEB" for set-up of a directional spool or diretional seat valve

Size 63

LFA | 63 | – 7X | | / A** | B** | P** | T** | |

control cover

size

control cover type

normally closed	=WEA
normally open	=WEB

sealing material

No code= NBR seals

V= FKM seals

(consult for other seals)

control type	throttle at port Φ1/10mm			
WEA	A**◿		P**◿	T**◿
WEB		B**◿	P**◿	T**◿

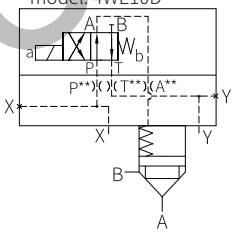
7X= 70 to 79 series

(70 to 79 series installation and connection size unchanged)

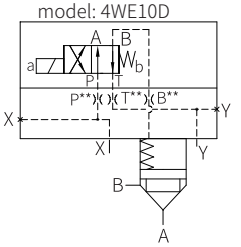
◿ If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24

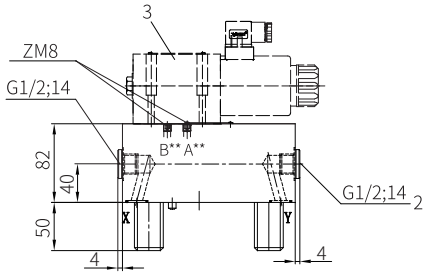
05

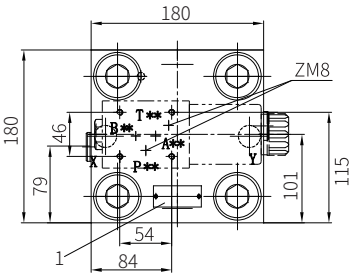
LFA.WEA...
Direction spool valve
model: 4WE10D



LFA.WEB...
Direction spool valve
model: 4WE10D







A**B** T**,P**[1)]	ZM8

1 Name plate
2 Optional ports X and Y used as threaded connection ports
3 Direction spool valve 4WE10D and screw M6x40-10.9 GB T70.1 must be ordered separately
Weight (kg): 18.6

[1)] Ordering code of throttle see page 07/24

Size 16 to 50

LFA | | – 7X | / | P** | T** | F** |

control cover
- size 16 =16
- size 25 =25
- size 32 =32
- size 40 =40
- size 50 =50

control cover type
- normally closed =WEMA
- normally open =WEMB

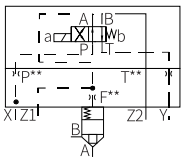
7X= 70 to 79 series
(70 to 79 series installation and connection size unchanged)

sealing material
- No code= NBR seals
- V= FKM seals
- (consult for other seals)

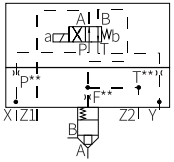
throttle at port Φ1/10mm
P**⊿ T**⊿ F**⊿

⊿ If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24

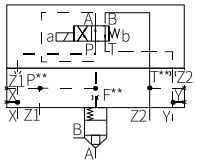
LFA.WEMA...
size 16 to 32
Direction spool valve
model: 4WE6D



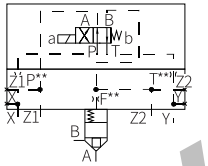
LFA.WEMB...
size 16 to 32
Direction spool valve
model: 4WE6D

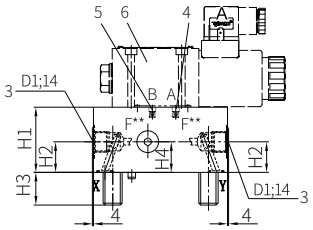


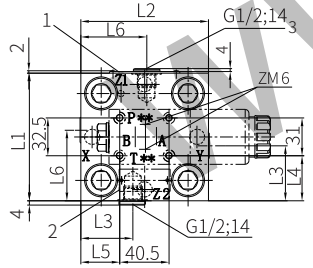
LFA.WEMA...
size 40 to 50
Direction spool valve
model: 4WE6D



LFA.WEMB...
size 40 to 50
Direction spool valve
model: 4WE6D







Size	16	25	32	40	50
D1	—	—	—	G1/2	G1/2
H1	65	40	50	60	68
H2	—	—	—	30	32
H3	15	24	28	32	34
L1	65	85	100	125	140
L2	80	85	100	125	140
L3	—	—	—	53	60
L4	17	27	34.5	47	54.5
L5	7	23.5	31	43.5	51
L6	—	—	—	72	80
P** T** F**[1)]	ZM6	ZM6	ZM6	ZM6	ZM6
F**	2.3	2.1	3.6	6.6	9.3

[1)] Ordering code of throttle see page 07/24

1 Name plate for size 16/25/32
2 Name plate for size 40/50
3 2 Optional ports X and Y used as threaded connection ports for size 40/50
4 Plug ZM6 for model: ..WEMB... (port B with or without throttle F * *, port A with plug)
5 Plug ZM6 for model: ..WEMA... (port A with or without throttle F * *, port B with plug)
6 Direction spool valve 4WE6D and screw M5x50-10.9 GB T70.1 must be ordered separately

Control cover "WEMA" and "WEMB" for set-up of a directional spool or diretional seat valve

Size 63

LFA | | – 7X | / | T** | F** |

control cover
size
control cover type
- normally closed =WEMA
- normally open =WEMB

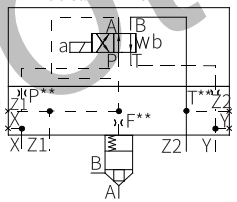
sealing material
- No code= NBR seals
- V= FKM seals
- (consult for other seals)

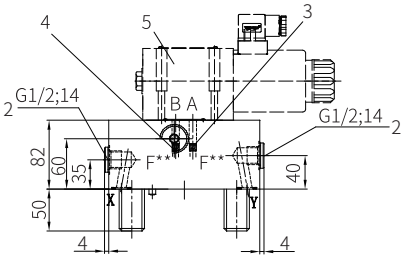
throttle at port Φ1/10mm
P**⊿ T**⊿ F**⊿

7X= 70 to 79 series
(70 to 79 series installation and connection size unchanged)

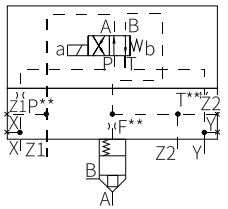
⊿ If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24

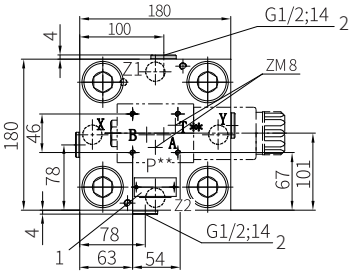
LFA.WEMA...
Direction spool valve
model: 4WE10D





LFA.WEMB...
Direction spool valve
model: 4WE10D





P**,T**,F**[1)]	ZM8

[1)] Ordering code of throttle see page 07/24

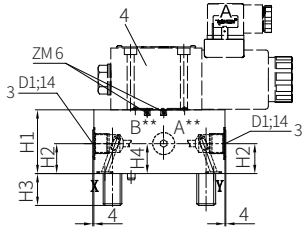
1 Name plate
2 Optional ports X/Y/Z1/Z2 used as threaded connection ports
3 Plug ZM8 for model: ..WEMB... (port B with or without throttle F * *, port A with plug)
4 Plug ZM8 for model: ..WEMA... (port A with or without throttle F * *, port B with plug)
5 Direction spool valve 4WE10D and screw M6x40-10.9 GB T70.1 must be ordered separately
Weight (kg): 18.6

Size 16 to 50

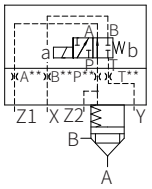
LFA | | WECA | 7X | | / | A** | B** | P** | T** | |

- control cover
  - size 16 =16
  - size 25 =25
  - size 32 =32
  - size 40 =40
  - size 50 =50
- control cover type
- 7X= 70 to 79 series (70 to 79 series installation and connection size unchanged)
- sealing material: No code= NBR seals; V= FKM seals (consult for other seals)
- throttle at port Φ1/10mm: A**⊿ | B**⊿ | P**⊿ | T**⊿

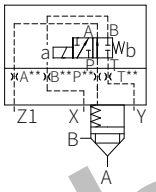
⊿If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24



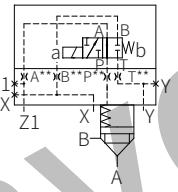
LFA16WECA...
Direction spool valve
model: 3WE6A

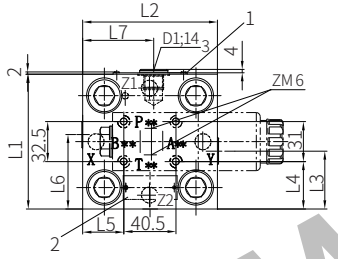


LFA...WECA...
size 25 and 32
Direction spool valve
model: 3WE6A



LFA...WECA...
size 40 and 50
Direction spool valve
model: 3WE6A





1 Name plate for size 16/25/32
2 Name plate for size 40/50
3 Optional ports X/Y/Z1 used as threaded connection ports for size 40 and 50
4 Direction spool valve 3WE6A and screw M5x50-10.9 GB T70.1 must be ordered separately

Size	16	25	32	40	50
D1	—	—	—	G1/2	G1/2
H1	40	40	50	60	68
H2	—	—	—	30	32
H3	15	24	28	32	34
H4	—	—	—	30	32
L1	65	85	100	125	140
L2	80	85	100	125	140
L3	—	—	—	53	60
L4	17	27	34.5	47	54.5
L5	7	23.5	31	43.5	51
L6	—	—	—	62.5	70
L7	—	—	—	72	80
A**B** P**T**[1)]	ZM 6	ZM 6	ZM 6	ZM 6	ZM 6
Weight kg	1.5	2.1	3.6	6.6	9.3

[1)] Ordering code of throttle see page 07/24

Control cover "WECA" for set-up of a directional spool valve

Size 63

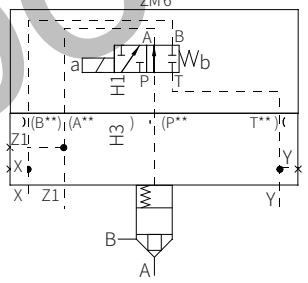
LFA | 63 | WECA | 7X | | / | A** | B** | P** | T** | |

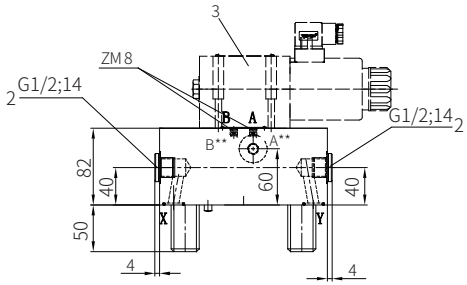
- control cover
- size
- control cover type
- 70 to 79 series =7X (70 to 79 series installation and connection size unchanged)
- sealing material: No code= NBR seals; V= FKM seals (consult for other seals)
- throttle at port Φ1/10mm: A**⊿ | B**⊿ | P**⊿ | T**⊿

⊿If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24

05

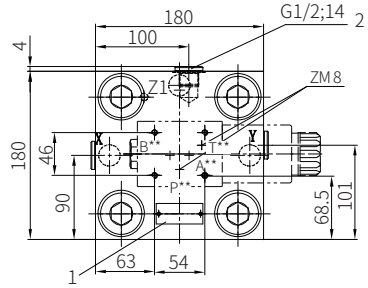
LFA63WECA...
Direction spool valve
model: 3WE10A





A**B** P**,T**[1)]	ZM8

[1)] Ordering code of throttle see page 07/24



1 Name plate
2 Optional ports X/Y/Z1/Z2 used as threaded connection ports
3 Direction spool valve 3WE10A and screw M6x40-10.9 GB T70.1 must be ordered separately

Size 16 to 50

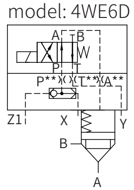
LFA | | – 7X* | / A** | B** | P** | T* |

- control cover
- size 16 =16, size 25 =25, size 32 =32, size 40 =40, size 50 =50
- control cover type: normally closed =GWA; normally open =GWB
- 7X= 70 to 79 series (70 to 79 series installation and connection size unchanged)
- sealing material: No code= NBR seals; V= FKM seals (consult for other seals)

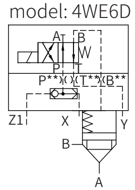
control type	throttle at port Φ1/10mm			
GWA	A**⊿		P**⊿	T**⊿
GWB		B**⊿	P**⊿	T**⊿

⊿ If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24

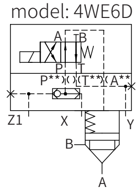
LFA.GWA...
size 16 to 32
Direction spool valve
model: 4WE6D



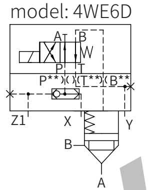
LFA.GWB...
size 16 to 32
Direction spool valve
model: 4WE6D

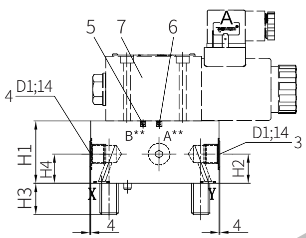


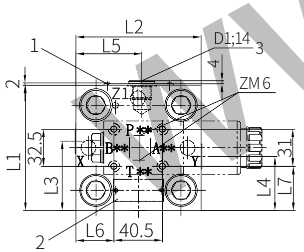
LFA.GWA...
size 40 and 50
Direction spool valve
model: 4WE6D



LFA.GWB...
size 40 and 50
Direction spool valve
model: 4WE6D







Size	16	25	32	40	50
D1	—	—	—	G1/2	G1/2
H1	40	40	50	60	68
H2	—	—	—	30	32
H3	15	24	28	32	34
H4	17	17	21.5	30	32
L1	65	85	100	125	140
L2	80	85	100	125	140
L3	36.5	45.5	50	62.5	72
L4	—	—	—	53	60
L5	—	—	—	62.5	70
L6	7	23.5	31	43.5	51
L7	17	27	34.5	47	54.5
A**B** P**T**1)	ZM 6	ZM 6	ZM 6	ZM 6	ZM 6
Weight kg	1.5	2.1	3.6	6.6	9.3

1 Name plate for size 16/25/32
2 Name plate for size 40/50
3 Optional ports Y and Z1 used as threaded connection ports for size 40/50
4 Shuttle valve
5 Plug ZM6 for model: ..GWA...(port B with plug only)
6 Plug ZM6 for model: ..GWB...(port A with plug only)
7 Direction spool valve 4WE6D and screw M5x50-10.9 GB T70.1 must be ordered separately

Size 63

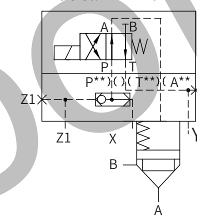
LFA | | – 7X* | / A** | B** | P** | T* |

- control cover
- size
- control cover type: normally closed =GWA; normally open =GWB
- 70 to 79 series =7X (70 to 79 series installation and connection size unchanged)
- sealing material: No code= NBR seals; V= FKM seals (consult for other seals)

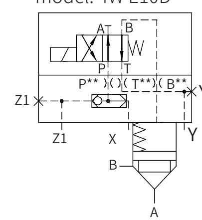
throttle at port Φ1/10mm			
A**⊿	B**⊿	P**⊿	T**⊿

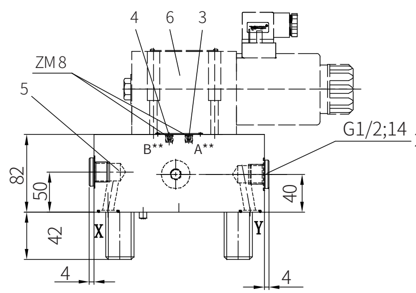
⊿ If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24

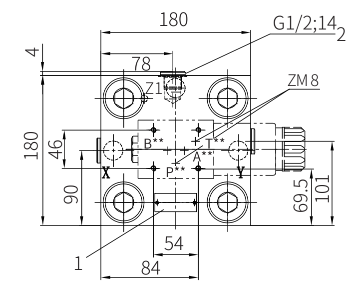
LFA.63GWA...
Direction spool valve
model: 4WE10D



LFA.63GWB...
Direction slide valve
model: 4W E10D





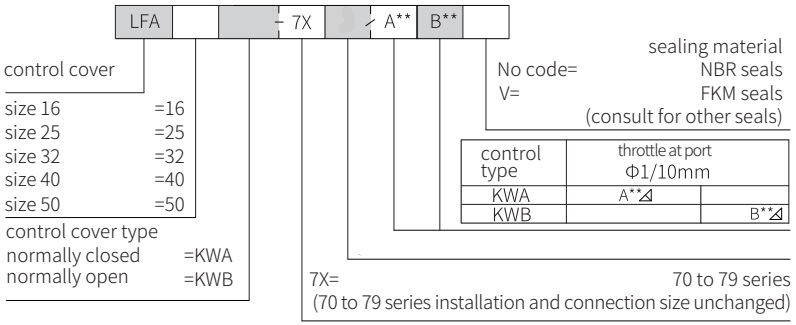


1 Name plate
2 Optional ports Y and Z1 used as threaded connection ports for size 40/50
3 Plug ZM8 for model: ..GWB...(port A with plug only)
4 Plug ZM8 for model: ..GWA...(port B with plug only)
5 Shuttle valve
6 Direction spool valve 4WE10D and screw M5x50-10.9 GB T70.1 must be ordered separately
Weight (kg): 18.6

A**B** P**,T**1)	ZM8

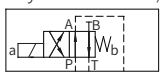
1) Ordering code of throttle see page 07/24

Size 16 to 50

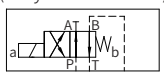


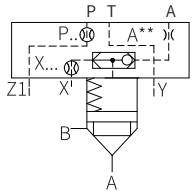
◿ If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24

4WE6D
(Only for LFA.KWA...)

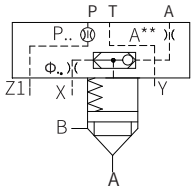


4WE6D
(Only for LFA.KWA...)

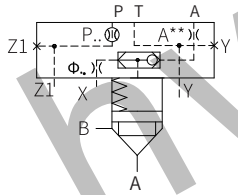




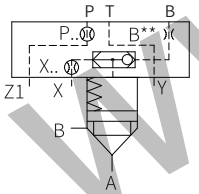
LFA16KWA...
(see above model 4WE6D...)



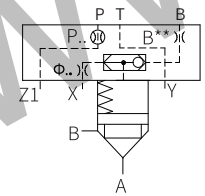
LFA.KWA...
size 25 and 32
(see above model 4WE6D...)



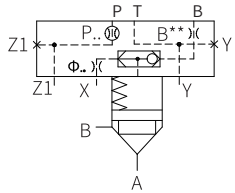
LFA.KWA...
size 40 and 50
(see above model 4WE6D...)



LFA16KWB...
(see above model 4WE6D...)

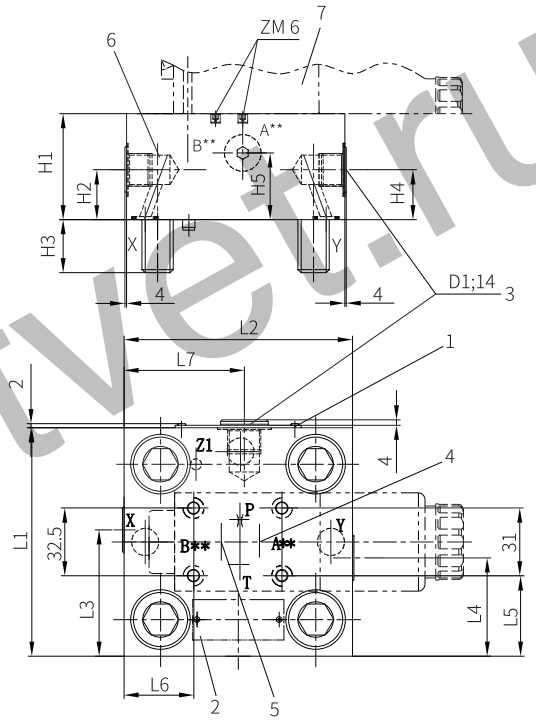


LFA.KWB...
size 25 and 32
(see above model 4WE6D...)



LFA.KWB...
size 40 and 50
(see above model 4WE6D...)

Model ..KWA/..KWB..(size 16 to 50)



Size	16	25	32	40	50
D1	—	—	—	G1/2	G1/2
H1	40	40	50	60	68
H2	17	17	21.5	30	32
H3	15	24	28	32	34
H4	—	—	—	30	32
H5	—	—	—	30	50
L1	65	85	100	125	140
L2	80	85	100	125	140
L3	36.5	45.5	50	62.5	72
L4	—	—	—	53	60
L5	17	27	34.5	47	54.5
L6	7	23.5	31	43.5	51
L7	—	—	—	62.5	70
A**B**[1)]	ZM 6	ZM 6	ZM 6	ZM 6	ZM 6
Weight kg	1.5	2.1	3.6	6.6	9.3

1 Name plate for size 16/25/32
2 Name plate for size 40/50
3 optional ports Y and Z1 used as threaded connection ports for size 40/50
4 Plug ZM6 for model ..KWB...(port A with plug only)
5 Plug ZM6 for model ..KWA...(port B with plug only)
6 Shuttle valve
7 Direction spool valve 4WE6D and screw M5x50-10.9 GB T70.1 must be ordered separately

[1)]Ordering code of throttle see page 07/24

Size 63

LFA	63		7X		A**	B**	X**	

control cover

size

control cover type

normally closed =KWA
normally open =KWB

sealing material

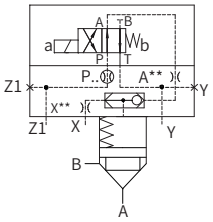
No code= NBR seals
V= FKM seals
(consult for other seals)

control type	throttle at port Φ1/10mm	
KWA	A**⊿	
KWB		B**⊿

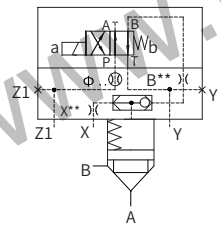
7X= 70 to 79 series
(70 to 79 series installation and connection size unchanged)

⊿ If necessary, please provide specifications of the throttle
e.g. X12= throttle Φ 1.2mm
Standard throttle see page 07/24

LFA63KWA...
Direction spool valve
model: 4WE10D

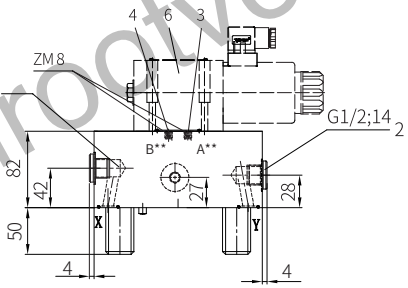


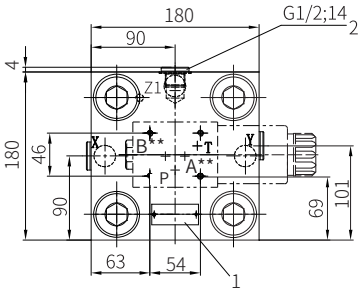
LFA63KWB...
Direction spool valve
model: 4WE10D



A**B**[1)]	ZM8

[1)] Ordering code of throttle see page 07/24





1 Name plate
2 Optional ports Y and Z1 used as threaded connection ports for size 40/50
3 Plug for model ..KWB...
4 Plug for model ..KWA...
5 Shuttle valve
6 Direction spool valve 4WE10D and screw M6x40-10.9 GB T70.1 must be ordered separately
Weight (kg): 18.6