2-way Logic Cartridge Valves Pressure Function

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

ГИДРООТВЕТ
доступная гидравлика

- Size 16/63
- Maximum working pressure 420 bar
- Maximum working flow 2500 L/min

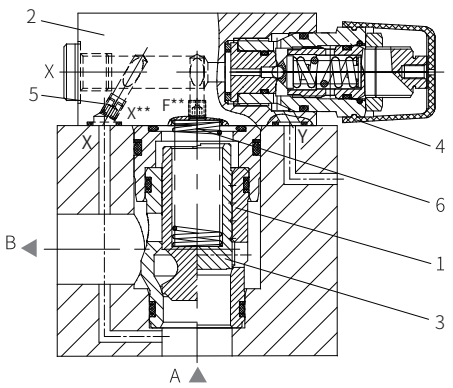
Contents

Features

- Cartridge spool and various sleeves to meet relief and reducing function
- One sleeve with multi-spool in cartridge structure
- Area ratio 1:1 and 1.07:1
- Optional throttle
- Different cracking pressures

General

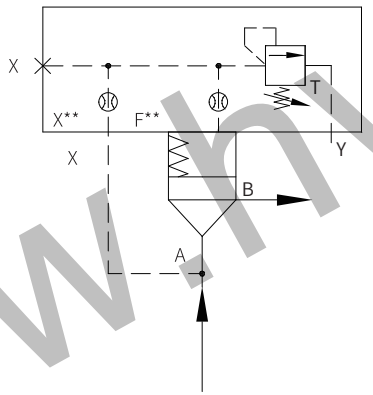
The 2-way logic cartridge pressure valves are pilot operated poppet valves or spool valves. The main valve component is a logic cartridge valve (1) which is inserted into the standard hole according to DIN 7368 and sealed with control cover.
The pilot valve (4) is integrated into the control cover (2) or installed as pilot valve onto the control cover (2). Its mounting surface is in accordance with DIN24340(2).
The different pressure functions can be realized by combining the logic cartridge valve and control cover.



Model LC..DB..D.. Model LC..DB..E..

Pressure relief function
Control cover LFA... DB...
Logic cartridge valve LC... DB...

The logic cartridge valve (1) (model LC... DB...) with pressure relief function is a seat valve with an area ratio 1:1 (no effective area at port B). The pressure acting at port A is fed to the spring cavity (6) of the main valve through the pilot oil supply orifice (5). When the pressure is lower than the setting pressure of the pilot valve (4), the hydraulic force on the main spool (3) is balanced and the spring force keeps the main valve closed. When the pressure reaches the set value, the main spool opens and limits the pressure at port A according to the pressure-flow characteristics.

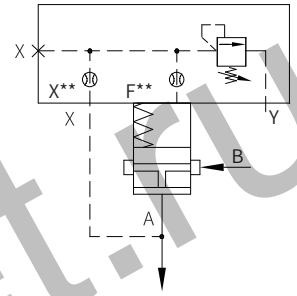


Model LFA..DB..
Model LC..DB..

Pressure reducing function

a)Normally open: Control cover LFA...DB...
Logic cartridge valve LC...DR...

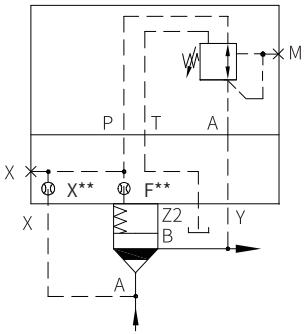
The logic cartridge valve with pressure reducing function is seat valve with an area ratio of 1:1 (no effective area at port B). It adopts the control cover (model LFA...DB...) which has same function with the relief valve as pilot valve.
The pressure acting at port A is fed to the spring cavity of the main valve through the pilot oil supply orifice. When the pressure is lower than the setting pressure of the pilot valve, the hydraulic force on the main spool is balanced and the spring force keeps the main valve spool opens. The fluid can flow freely from B to A. When the pressure reaches the set value, the main spool closes and reducing the pressure at port A according to the pressure-flow characteristics.



e.g. Model LFA..DB..
Model LC..DR..

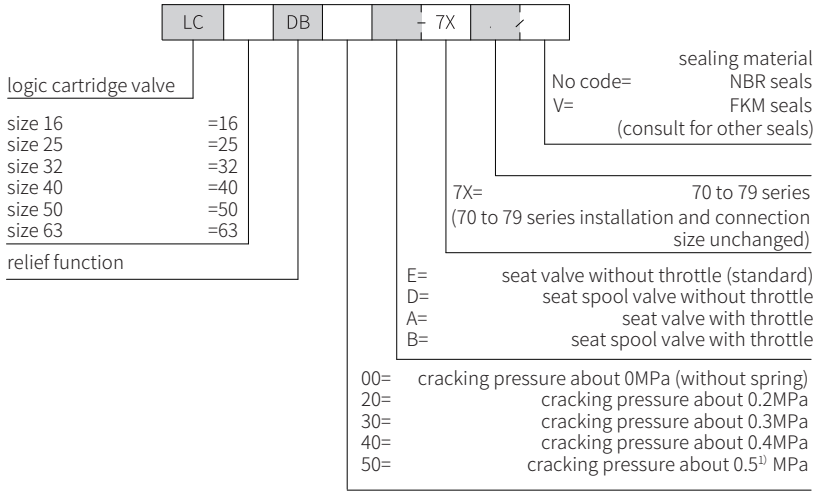
b) Normally closed: Control cover LFA...DR...
Logic cartridge valve LC...DB..D...

For the pressure reducing function with opening characteristics, a logic cartridge pressure relief valve (mode LC...DB..D...) and a control cover (model LFA...DR) with a pressure reducing valve as the pilot valve are used.
The pilot control oil supplied from port A flows into port B through the pilot oil supply orifice and the opened pilot reducing valve. The main spool is opened to allow freely flow from A to B. When the set pressure is reached, the main spool closes and reduces the pressure at port B according to the pressure-flow characteristics.
If the unexpected pressure increases on the pressure reducing side (port B), pressure relief via the third port of the pilot valve. By installing a directional valve, an additional isolating function can also be attained (model LFA...DRW...).



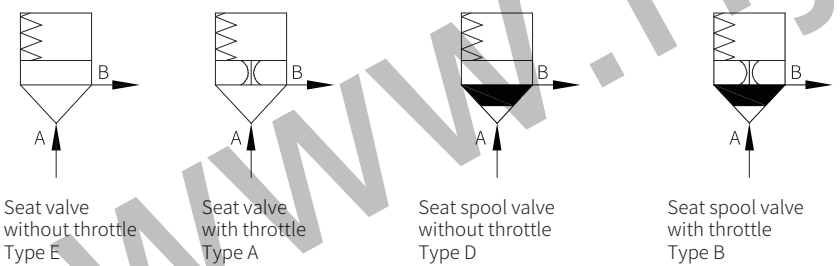
e.g. Model LFA..DR..
Model LC..DB40D..

Logic cartridge valves models and specifications



1) Only for size 16, 25, 32

Logic cartridge valves functional symbols



Seat valve without throttle Type E

Seat valve with throttle Type A

Seat spool valve without throttle Type D

Seat spool valve with throttle Type B

Technical parameters

Working medium		Mineral oil - for NBR seal or FKM seal Phosphate ester - for FKM seal					
Working medium temperature range °C		30 to +80 (NBR seal) 20 to +80 (FKM seal)					
Viscosity range mm²/s		2.8 to 380					
Cleanliness of oil		The maximum allowable pollution level of oil is NAS1638 Class 9 and ISO4406 Class 20 / 18 / 15					
2-way logic cartridge valve							
Maximum working pressure-oil port A and B bar		420					
Maximum flow (Recommended)	Size	16	25	32	40	50	63
	Logic cartridge seat valves "E" and "A" L/min	300	450	600	1000	1600	2500
	Logic cartridge spool valves "D" and "B" L/min	175	300	450	700	1400	1750

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.

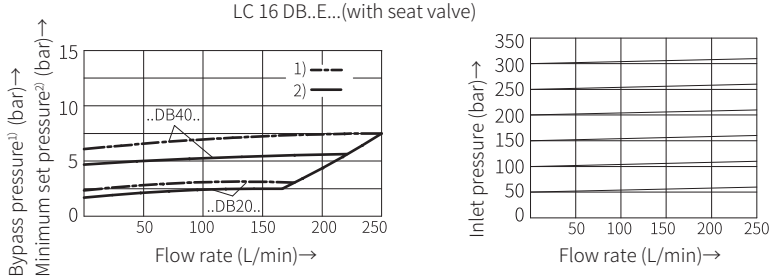
Characteristic curve

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

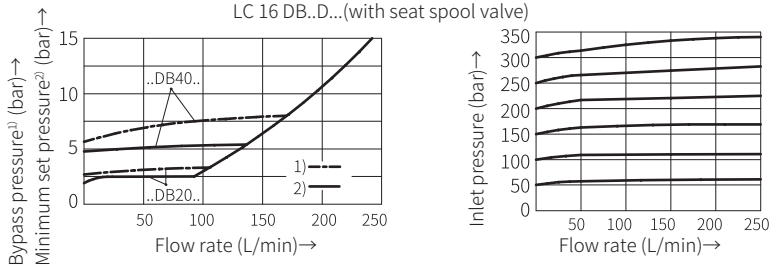
Size 16

The characteristic curve is measured when the external pilot oil drains at zero pressure.
When the internal pilot oil drains, the inlet pressure increases along with the pressure at port B.

LC 16 DB..E...(with seat valve)



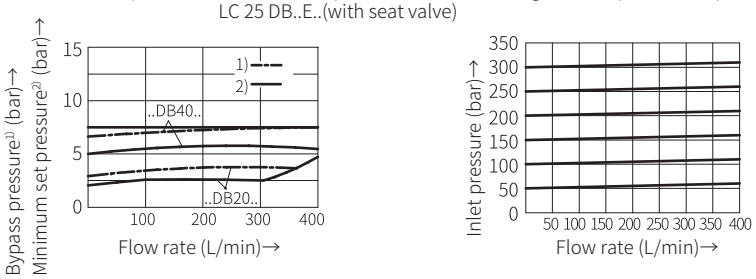
LC 16 DB..D...(with seat spool valve)



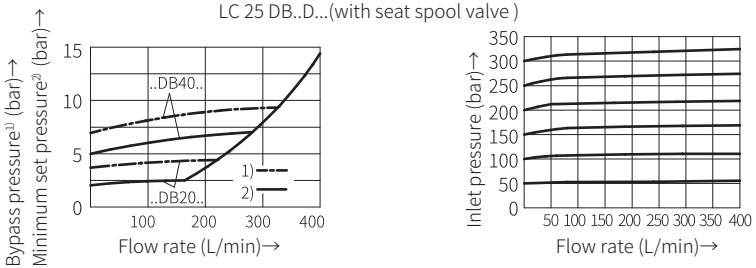
Characteristic curve

(Measured when using HLP46, ϑ_{oil}=40°C ± 5°C)
Size 25
The characteristic curve is measured when the external pilot oil drains at zero pressure.
When the internal pilot oil drains, the inlet pressure increases along with the pressure at port B.

LC 25 DB..E..(with seat valve)



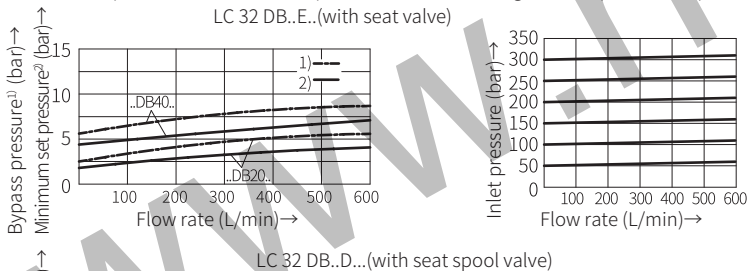
LC 25 DB..D...(with seat spool valve)



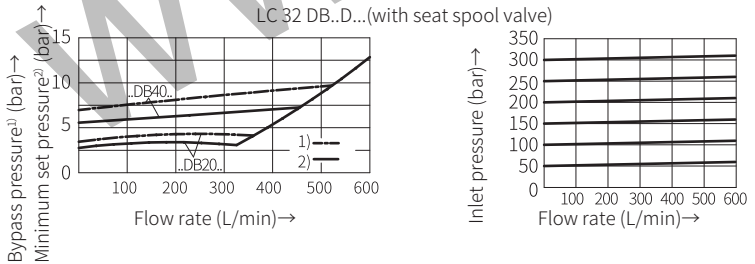
Characteristic curve

(Measured when using HLP46, ϑ_{oil}=40°C ± 5°C)
Size 32
The characteristic curve is measured when the external pilot oil drains at zero pressure.
When the internal pilot oil drains, the inlet pressure increases along with the pressure at port B.

LC 32 DB..E..(with seat valve)



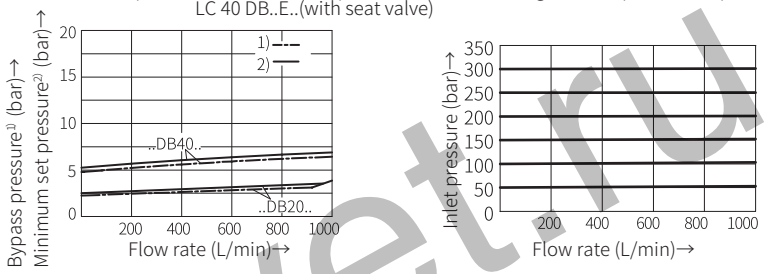
LC 32 DB..D...(with seat spool valve)



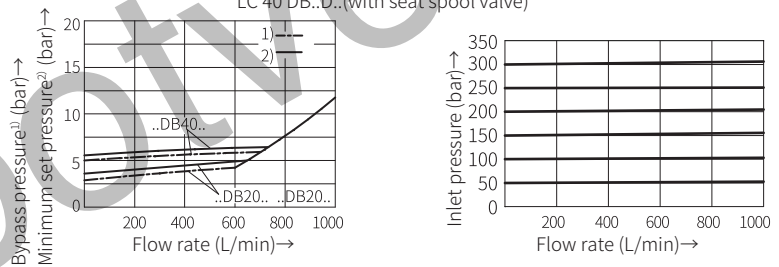
Characteristic curve

(Measured when using HLP46, ϑ_{oil}=40°C ± 5°C)
Size 40
The characteristic curve is measured when the external pilot oil drains at zero pressure.
When the internal pilot oil drains, the inlet pressure increases along with the pressure at port B.

LC 40 DB..E..(with seat valve)



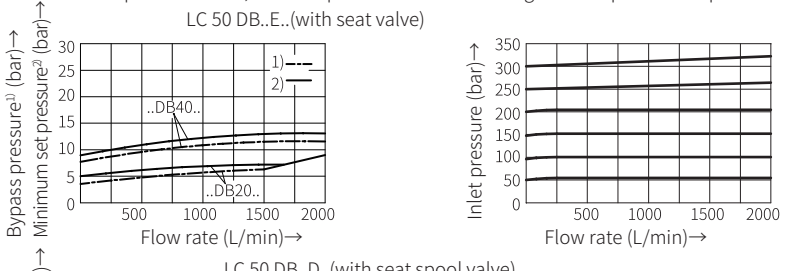
LC 40 DB..D..(with seat spool valve)



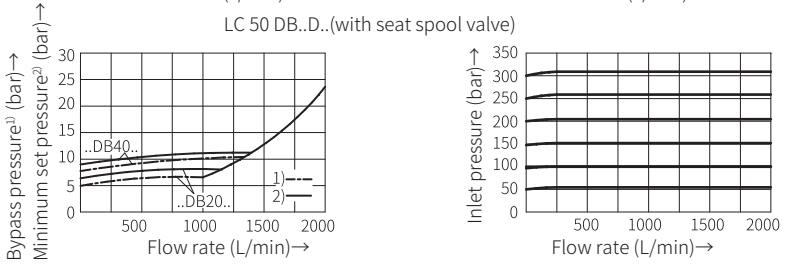
Characteristic curve

(Measured when using HLP46, ϑ_{oil}=40°C ± 5°C)
Size 50
The characteristic curve is measured when the external pilot oil drains at zero pressure.
When the internal pilot oil drains, the inlet pressure increases along with the pressure at port B.

LC 50 DB..E..(with seat valve)



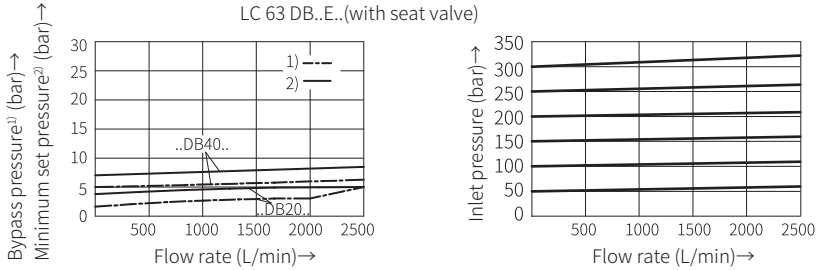
LC 50 DB..D..(with seat spool valve)



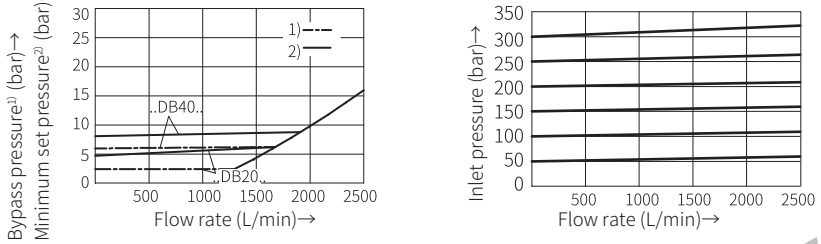
Characteristic curve

(Measured when using HLP46, ϑ_{oil}=40°C ± 5°C)
Size 63
The characteristic curve is measured when the external pilot oil drains at zero pressure.
When the internal pilot oil drains, the inlet pressure increases along with the pressure at port B.

LC 63 DB..E..(with seat valve)



LC 63 DB..D..(with seat spool valve)



Technical parameters (Max. working pressure of pilot valve)

	Control cover		Maximum working pressure Y, T bar			
	Size	Model	x	Pressure limitation	Static	Remark
D BD.2K-20/...1)	16 to 32	DB, DBW, DBWD DBU2, DBBU3D, DBS	420	Zero pressure (up to about 2 bar)	315	Supply included
D BD.6K10/...2)	40 to 63		400		315	
.WE6...			350		21(=); 16(~)	Order separately

1)Possible pressure: 25, 50, 100, 200, 315, 400 2)Possible pressure: 25, 50, 100, 200, 315, 400

Technical parameters (model L F A... D B...)

Maximum working pressure	bar	420 Note: The maximum working pressure of the pilot valve must be considered!
Working medium		Mineral oil - for NBR seal or FKM seal
		Phosphate ester - for FKM seal
Working 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 NAS1638 class 9 and ISO4406 class 20 / 18 / 15

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.

Valve fixing screw (included in the supply list)

GB/T70.1 10.9 grade			
Size	Quantity	Dimension	Tightening torque (Nm)
16	4	M8×45	32
25		M12×50	110
32		M16×60	270
40		M20× 70	520

GB/T70.1 10.9 grade			
Size	Quantity	Dimension	Tightening torque (Nm)
50	4	M20×80	520
63		M30×100	1800
80		M24×120	900
100		M30×120	1800

Control cover "DB" with manual pressure regulation

.. DB... Type (size 16 to 63)

LFA [ ] DB [ ] – 7X J [ ] [ ]

control cover

size 16	=16
size 25	=25
size 32	=32
size 40	=40
size 50	=50
size 63	=63

control cover type

adjusting element

rotary knob	=1
hexagonal sleeve with protective cap	=2
lockable rotary knob with scale	=3
rotary knob with scale	=4

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

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

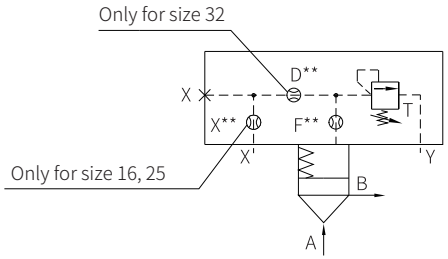
Pressure rating

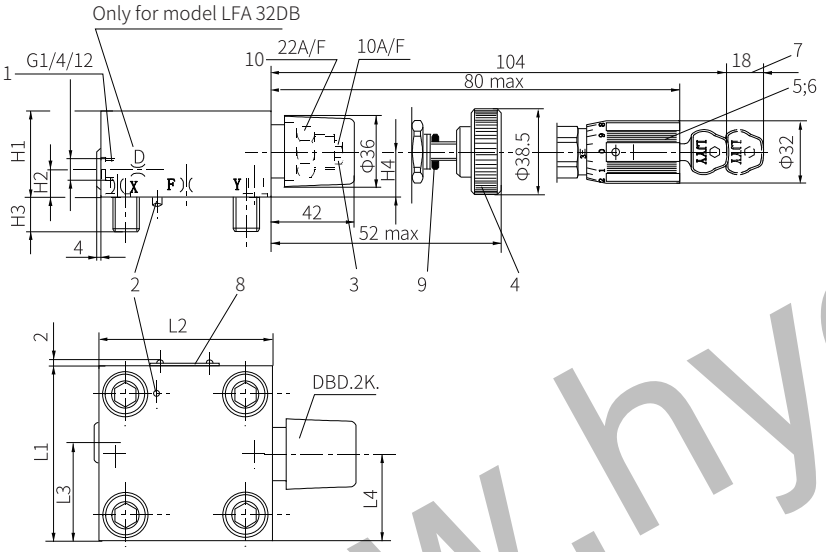
Size 16, 25, 32		Size 40, 50, 63	
025=	2.5MPa	025=	2.5MPa
050=	5MPa	050=	5MPa
100=	10MPa	100=	10MPa
200=	20MPa	200=	20MPa
315=	31.5MPa	315=	31.5MPa
420=	42MPa	400=	40MPa

Control cover "DB" with manual pressure regulation

..DB...type (size 16, 25 and 32)

LFA..DB..-7X/..
Size 16, 25 and 32





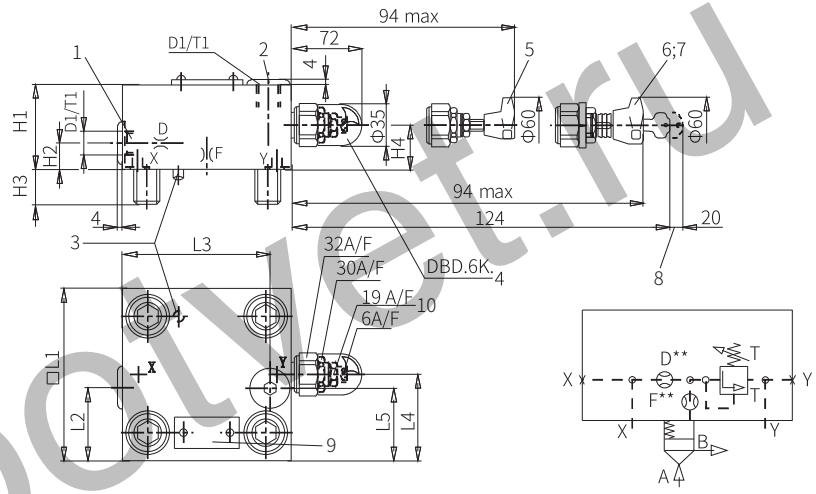
Size	16	25	32
H1	40	40	50
H2	17	19	26
H3	15	24	28
H4	19	19	26
L1	65	85	100
L2	80	85	100
L3	36.5	49	56.5
L4	32.5	45.5	53
Weight Kg	1.7	2.1	3.8

1 Optional port X used as threaded hole
2 Locating pin
3 Adjustment form "2"
4 Adjustment form "1"
5 Adjustment form "3"
6 Adjustment form "4"
7 Space required to remove the key
8 Name plate
9 Locking nut

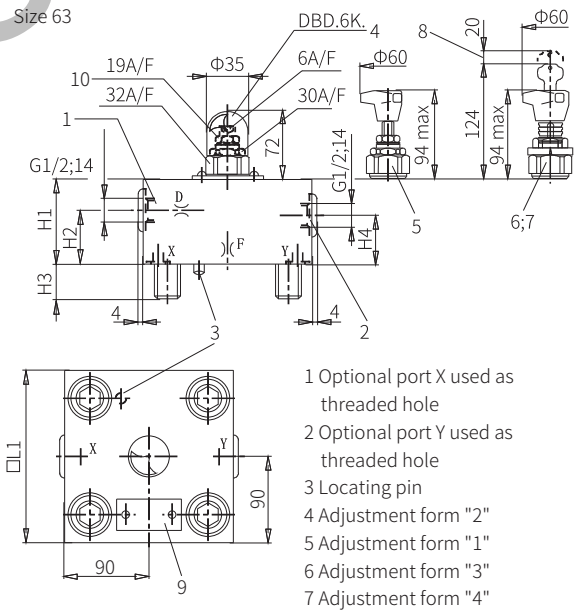
Control cover "DB" with manual pressure regulation

..DB...type (size 40, 50 and 63)

Size 40, 50



Size 63



LFA..DB.-7X/..
Size 40, 50 and 63

Size	40	50	63
D1	G1 /4	G1 /2	
H1	60	68	82
H2	28	19.5	30
H3	32	34	50
H4	27	35	50
□L1	125	140	180
L2	69	80	
L3	89	105	
L4	76	84	
L5	60	70	
T1	12	14	
Weight Kg	6.8	9.6	18.9

1 Optional port X used as threaded hole
2 Optional port Y used as threaded hole
3 Locating pin
4 Adjustment form "2"
5 Adjustment form "1"
6 Adjustment form "3"
7 Adjustment form "4"
8 Space required to remove the key
9 Name plate
10 Locking nut

..DBW..;..DBS..type (size 16 to 63)

LFA | | | – 7X | / | | |

control cover

size 16	=16
size 25	=25
size 32	=32
size 40	=40
size 50	=50
size 63	=63

control cover type

DBW

DBS(only for size 40, 50, 63)

adjusting element

rotary knob	=1
hexagonal sleeve with protective cap	=2
lockable rotary knob with scale	=3
rotary knob with scale	=4

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

Pressure rating

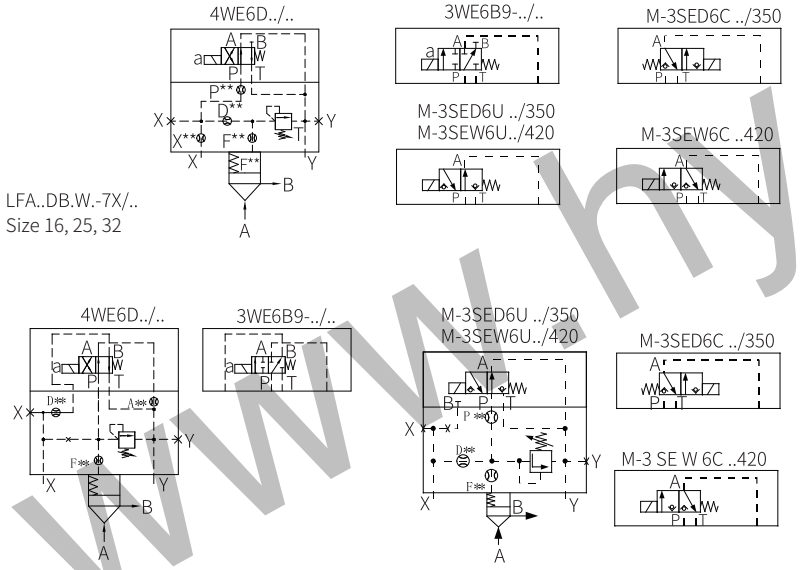
(Maximum allowable pressure of pilot valve must be considered)

Size 16, 25, 32		Size 40, 50, 63	
025=	2.5MPa	025=	2.5MPa
050=	5MPa	050=	5MPa
100=	10MPa	100=	10MPa
200=	20MPa	200=	20MPa
315=	31.5MPa	315=	31.5MPa
420=	42MPa	400=	40MPa

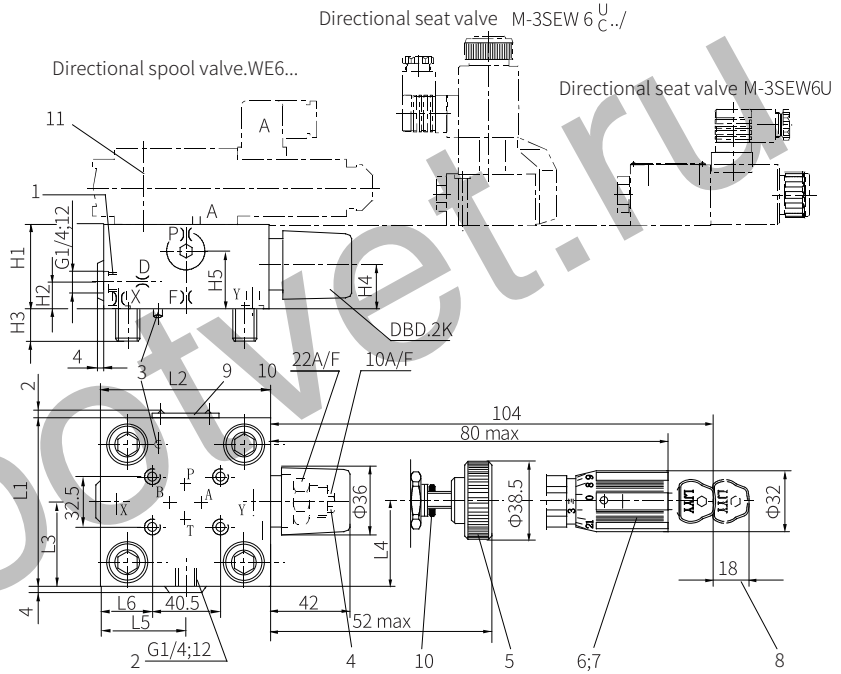
No code= NBR seals

V= FKM seals (consult for other seals)

sealing material



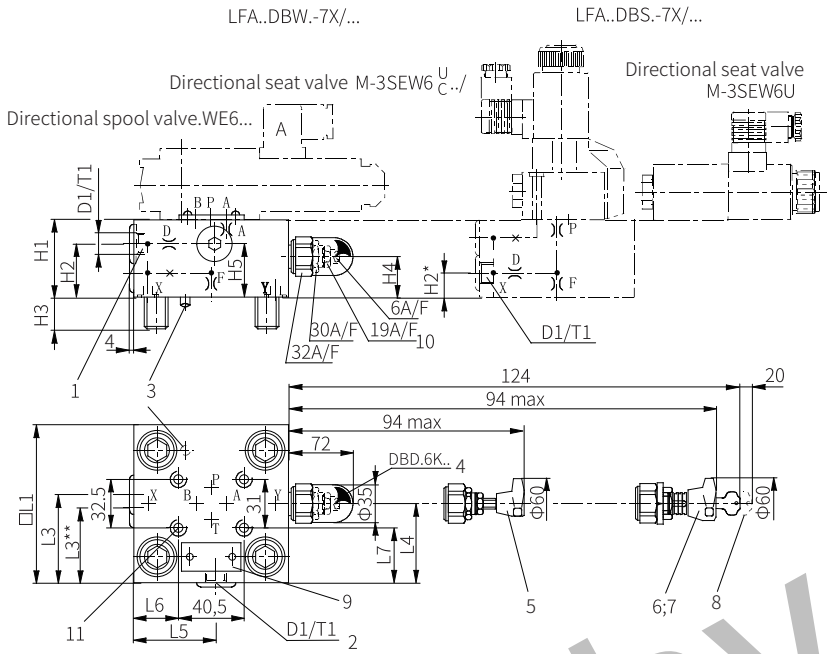
..DBW..type (size 16 to 32)



Size	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5	L6	L7	Weight kg
16	40	17	15	19	28	65	80	36.5	32.5	35	7	17	1.7
25	40	19	24	19	28	85	85	49	45.5	36	8	27	2.1
32	50	26	28	26	37	100	100	56.5	53	57	31	34.5	38

1 Optional port X used as threaded hole
2 Optional port Y used as threaded hole
3 Locating pin
4 Adjustment form "2"
5 Adjustment form "1"
6 Adjustment form "3"
7 Adjustment form "4"
8 Space required to remove the key
9 Name plate
10 Locking nut
11 Directional spool valve WE6 and screw M5x50-10.9 GB/T70.1 must be ordered separately

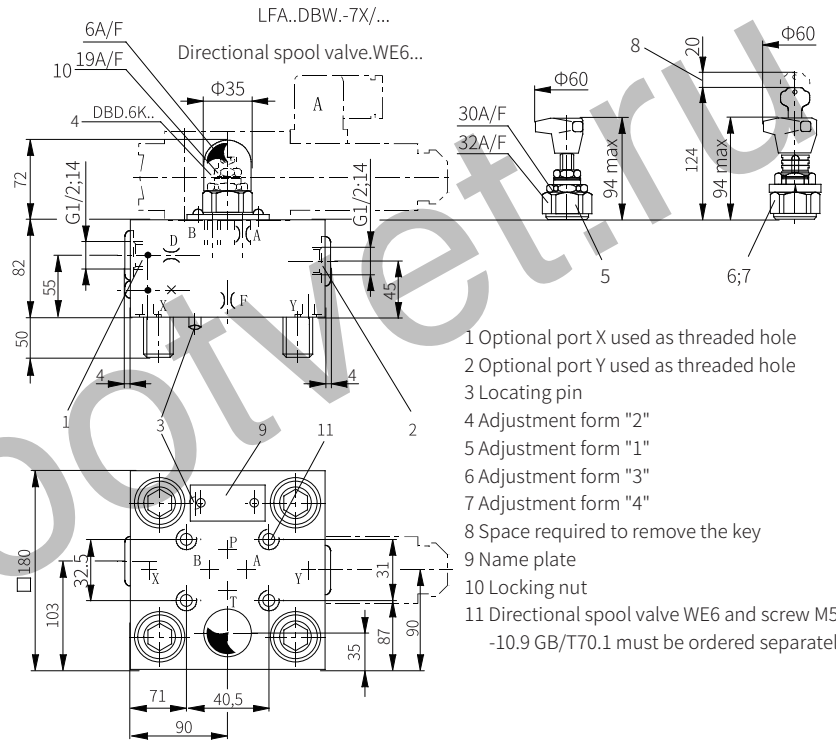
..DBW..;..DBS..type (size 40 to 50)



Size	D1	T1	H1	H2	H3	H4	H5	L1	L3	L4	L5	L6	L7	Weight kg
40	G1 /4	12	60	46	32	27	40	125	62.5	76	68	43.5	47	6.8
50	G1/2	14	68	51	34	35	50	140	67.5	84	74,5	51	54.5	9.6

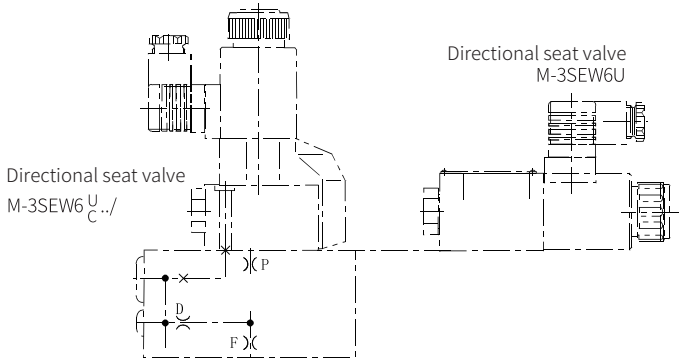
1 Optional port X used as threaded hole
2 Optional port Y used as threaded hole
3 Locating pin
4 Adjustment form "2"
5 Adjustment form "1"
6 Adjustment form "3"
7 Adjustment form "4"
8 Space required to remove the key
9 Name plate
10 Locking nut
11 Directional spool valve WE6 and screw M5x50-10.9 GB/T70.1 must be ordered separately

..DBW..;..DBS..type (size 63)



1 Optional port X used as threaded hole
2 Optional port Y used as threaded hole
3 Locating pin
4 Adjustment form "2"
5 Adjustment form "1"
6 Adjustment form "3"
7 Adjustment form "4"
8 Space required to remove the key
9 Name plate
10 Locking nut
11 Directional spool valve WE6 and screw M5x50 -10.9 GB/T70.1 must be ordered separately

LFA..DBS.-.../...



Control cover "DBWD" with manual pressure regulation and isolation function

..DBWD...type (size 16 to 63)

LFA | DBWD | – 7X | /

control cover

size 16	=16
size 25	=25
size 32	=32
size 40	=40
size 50	=50
size 63	=63

control cover type

adjusting element

rotary knob	=1
hexagonal sleeve with protective cap	=2
lockable rotary knob with scale	=3
rotary knob with scale	=4

sealing material

No code=	NBR seals
V=	FKM seals

(consult for other seals)

Pressure rating

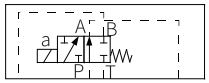
(Maximum allowable pressure of pilot valve must be considered)

Size 16, 25, 32		Size 40, 50, 63	
025=	2.5MPa	025=	2.5MPa
050=	5MPa	050=	5MPa
100=	10MPa	100=	10MPa
200=	20MPa	200=	20MPa
315=	31.5MPa	315=	31.5MPa
420=	42MPa	400=	40MPa

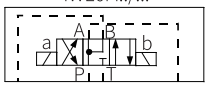
7X= 70 to 79 series

(70 to 79 series installation and connection size unchanged)

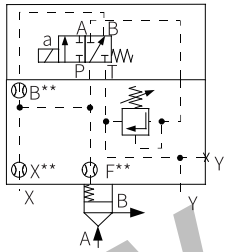
3WE6A../...



4WE6M../...

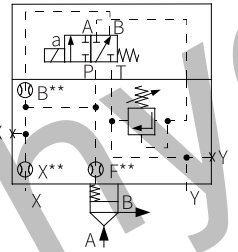


3WE6B9-../...



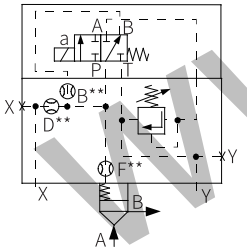
LFA..DBW D.-7X/...
Size 16

3WE6B9-../...



LFA..DBW D.-7X/...
Size 25, 32

3WE6B9-../...



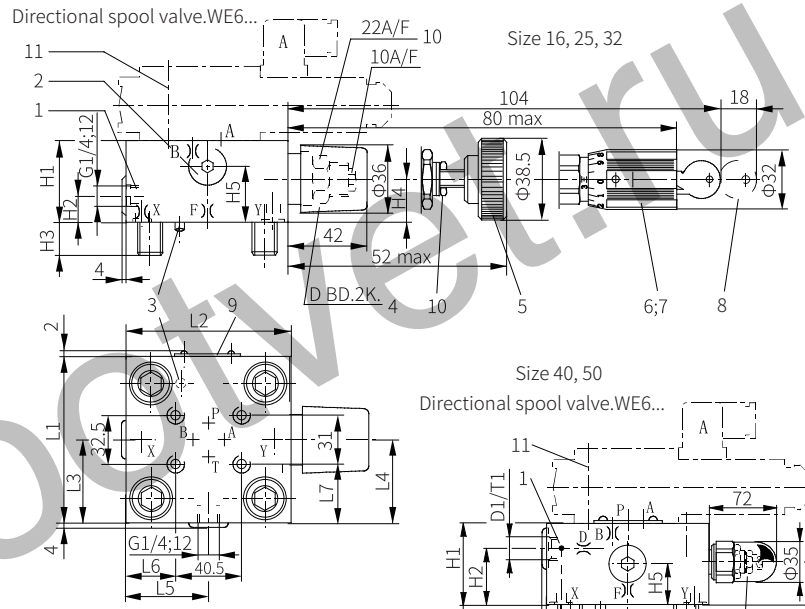
LFA..DBW D.-7X/...
Size 40, 50, 63

Control cover "DBWD" with manual pressure regulation and isolation function

.. DBWD... type (size 16, 25, 32, 40, 50)

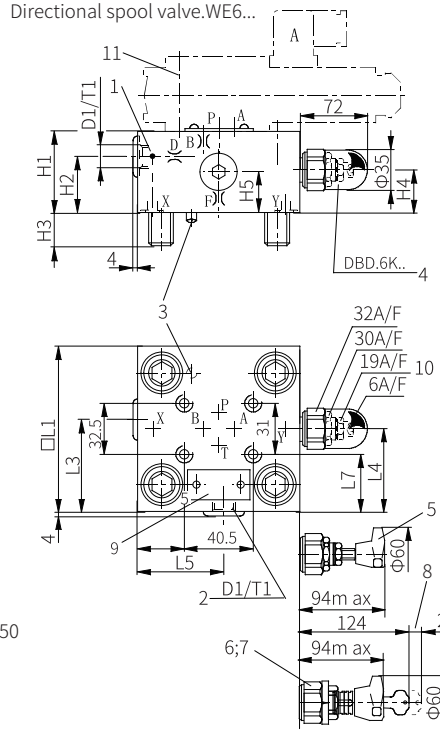
Directional spool valve.WE6...

Size 16, 25, 32



Size 40, 50

Directional spool valve.WE6...

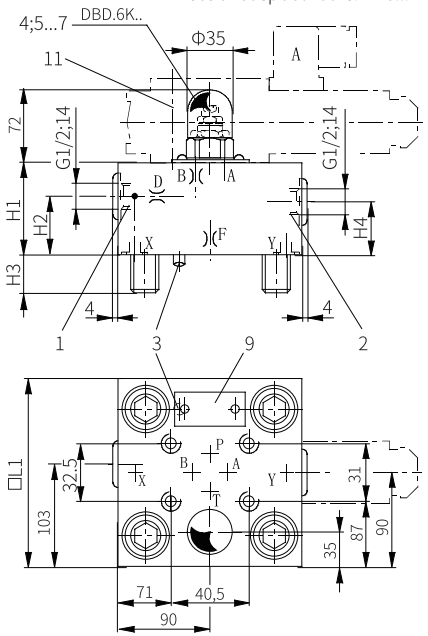


1 Optional port X used as threaded hole
2 Optional port Y used as threaded hole
3 Locating pin
4 Adjustment form "2"
5 Adjustment form "1"
6 Adjustment form "3"
7 Adjustment form "4"
8 Space required to remove the key
9 Name plate
10 Locking nut
11 Directional spool valve WE6 and screw M5x50 -10.9 GB/T70.1 must be ordered separately

Control cover "DBWD" with manual pressure regulation and isolation function

.. DBWD... type (size 63)

Directional spool valve.WE6...



Size	16	25	32	40	50	63
D1				G1/4	G1/2	
H1	40	40	50	60	68	82
H2		19	26	46	50	55
H3	15	24	28	32	34	50
H4	19	19	26	27	35	45
H5	28	28	37	16	20	
L1	65	85	100			
□L1				125	140	180
L2	80	85	100			
L3		49	56.5	62.5	70	
L4	32.5	45.5	53	76	84	
L5	35	36	57	68	75	
L6	7	8	31	43.5	51	
L7	17	27	34.5	47	54.5	
T1				12	14	
L8						

Control cover "DBU2A" and "DBU2B" with two manual pressure regulation by electric selection

.. DBU2A...; DBU2B type (size 16 to 63)

LFA | | | – 7X | / | A... |

DBmax DB1

control cover

size 16 =16
size 25 =25
size 32 =32
size 40 =40
size 50 =50
size 63 =63

control cover type
De-energized -DB1(4WE.. D) =DBU2A
De-energized - Open (4WE.. H) =DBU2A
De-energized -DBmax (4WE.. D) =DBU2B
(See symbols)

adjusting element
rotary knob =1
hexagonal sleeve with protective cap =2
lockable rotary knob with scale =3
rotary knob with scale =4

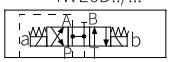
sealing material
No code= NBR seals
V= FKM seals
(consult for other seals)

Pressure rating
(Maximum allowable pressure of pilot valve must be considered)

Size 16, 25, 32		Size 40, 50, 63	
025=	2.5MPa	025=	2.5MPa
050=	5MPa	050=	5MPa
100=	10MPa	100=	10MPa
200=	20MPa	200=	20MPa
315=	31.5MPa	315=	31.5MPa
420=	42MPa	400=	40MPa

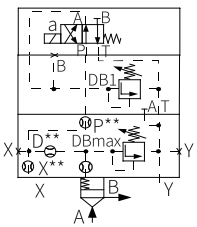
7X= 70 to 79 series
(70 to 79 series installation and connection size unchanged)

4WE6D../...



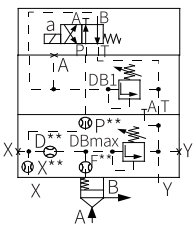
4WE6H../...

4WE6D../...



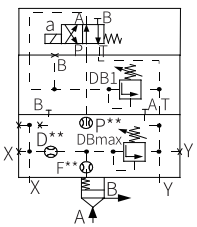
LFA..DBU2A.-7X/...
Size 16, 25, 32

4WE6D../...



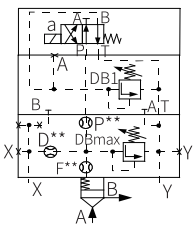
LFA..DBU2B.-7X/...
Size 16, 25, 32

4WE6D../...



LFA..DBU2A.-7X/...
Size 40, 50, 63

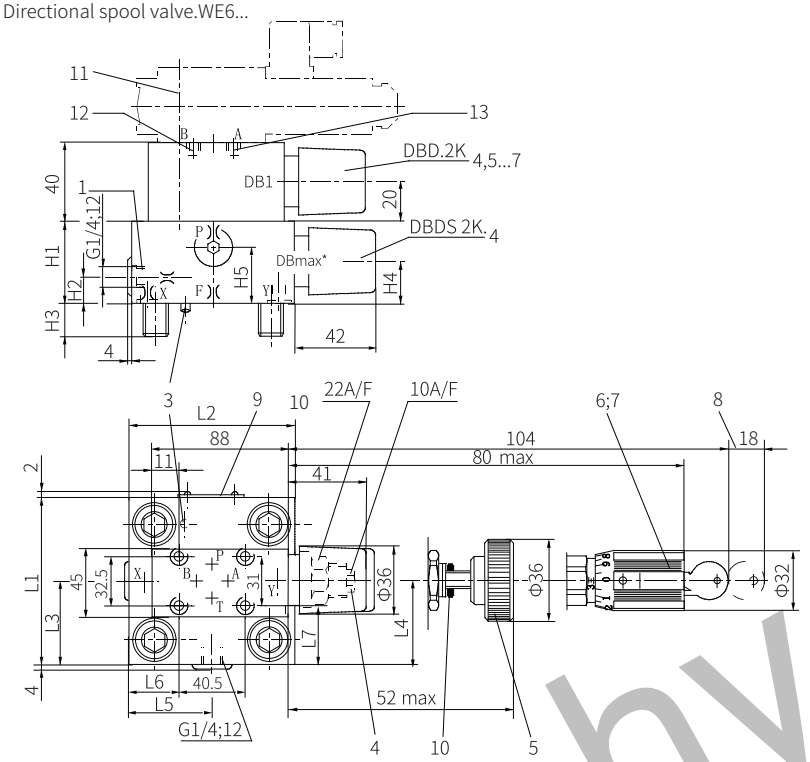
4WE6D../...



LFA..DBU2B.-7X/...
Size 40, 50, 63

..DBU2A...; DBU2B type (size 16 to 32)

Directional spool valve.WE6...

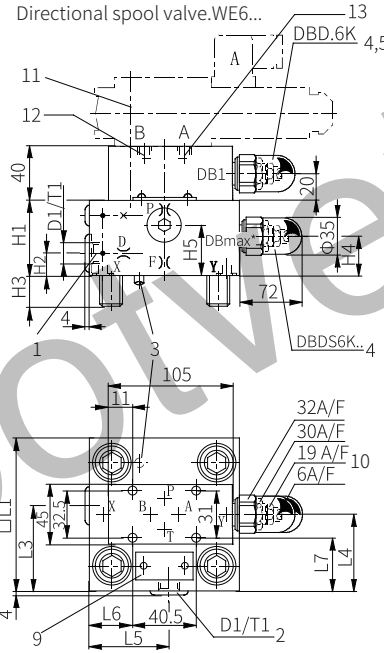


1 Optional port X used as threaded hole
2 Optional port Y used as threaded hole
3 Locating pin
4 Adjustment form "2"
5 Adjustment form "1"
6 Adjustment form "3"
7 Adjustment form "4"
8 Space required to remove the key
9 Name plate
10 Locking nut
11 Directional spool valve WE6 must be ordered separately
Screw M5x90-10.9GB/T70.1 included in the supply list
12 Plug M6 for .DBU 2A
13 Plug M6 for .DBU 2B
*) For DBmax only adjustment form"2" is possible

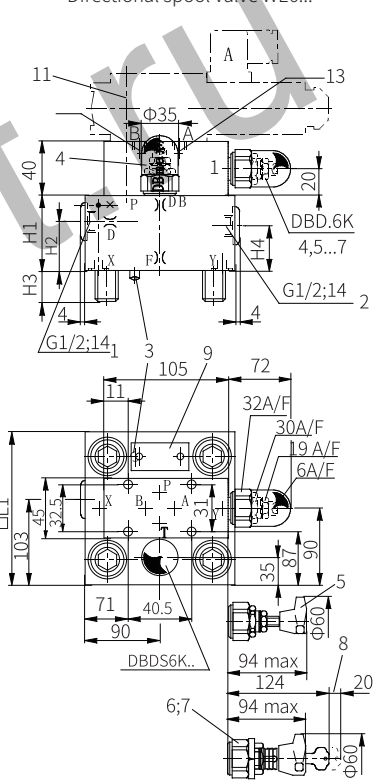
Size	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5	L6	L7	Weight kg
16	40	17	15	19	28	65	80	36.5	32.5	35	7	17	2.8
25	40	19	24	19	28	85	85	49	45.5	36	8	27	3.4
32	50	26	28	26	37	100	100	56.5	53	57	31	34.5	4.8

..DBU2A...; DBU2B type (size 40 to 63)

Size 40, 50
Directional spool valve.WE6...



Size 63
Directional spool valve WE6...



1 Optional port X used as threaded hole
2 Optional port Y used as threaded hole
3 Locating pin
4 Adjustment form "2"
5 Adjustment form "1"
6 Adjustment form "3"
7 Adjustment form "4"
8 Space required to remove the key
9 Name plate
10 Locking nut
11 Directional spool valve WE6 must be ordered separately
Screw M5x90-10.9GB/T70.1 included in the supply list
12 Plug M6 for .DBU 2A
13 Plug M6 for .DBU 2B
*) For DBmax only adjustment form"2" is possible

Size	D1	T1	H1	H2	H3	H4	H5	L1	L3	L4	L5	L6	L7	Weight kg
40	G1 /4	12	60	46	32	27	40	125	62.5	76	68	43.5	47	8.2
50	G1/2	14	68	19.5	34	35	50	140	80	84	74.5	51	54.5	11.1
63			82	55	50	45		180						20.4

.. DBU3D... type (size 16 to 32)

LFA | DBU3D | – 7X | / | A... | B...

control cover

size 16	=16
size 25	=25
size 32	=32
size 40	=40
size 50	=50
size 63	=63

control cover type

adjusting element

rotary knob	=1
hexagonal sleeve with protective cap	=2
lockable rotary knob with scale	=3
rotary knob with scale	=4

*) Selecting the same adjusting element for DB1 and DB2

DBmax, DB1, DB2

sealing material

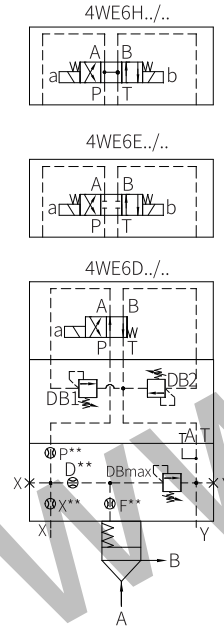
No code=	NBR seals
V=	FKM seals

(consult for other seals)

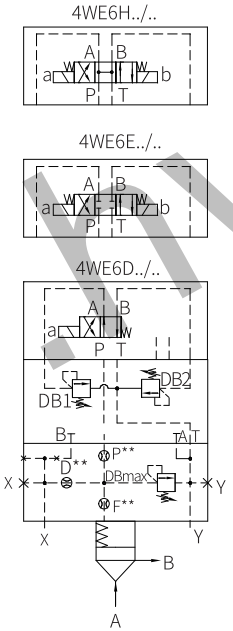
Pressure rating
(Maximum allowable pressure of pilot valve must be considered)

Size 16, 25, 32		Size 40, 50, 63	
025=	2.5MPa	025=	2.5MPa
050=	5MPa	050=	5MPa
100=	10MPa	100=	10MPa
200=	20MPa	200=	20MPa
315=	31.5MPa	315=	31.5MPa
420=	42MPa	400=	40MPa

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



LFA..DBU3D..-7X/...
Size 16, 25, 32

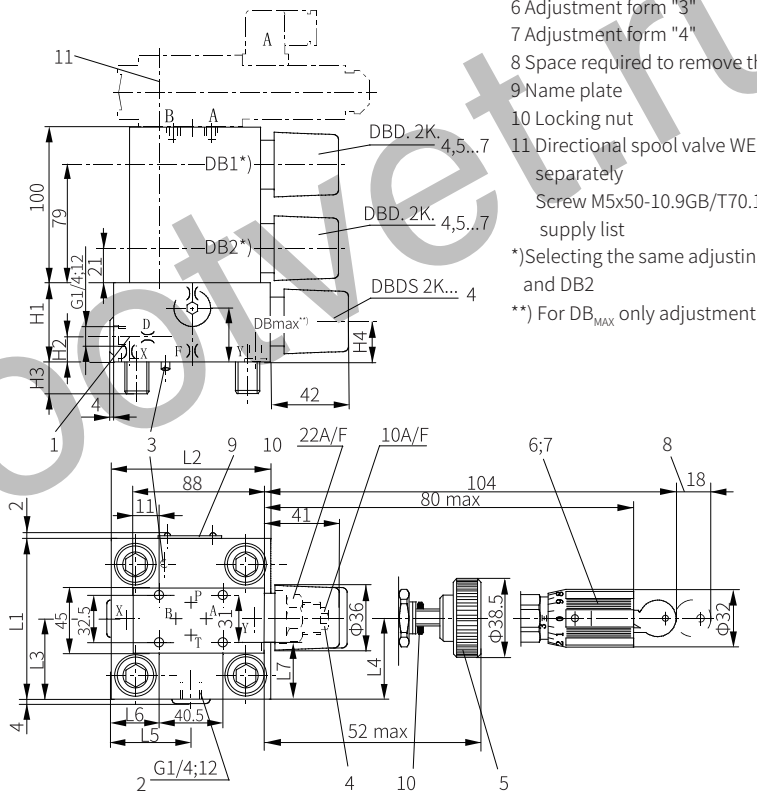


LFA..DBU3D..-7X/...
Size 40, 50, 63

Control cover "DBU3D" with three manual pressure regulation by electric selection

.. DBU3D... type (size 16 to 32)

Directional spool valve 4WE6...



1 Optional port X used as threaded hole
2 Optional port Y used as threaded hole
3 Locating pin
4 Adjustment form "2"
5 Adjustment form "1"
6 Adjustment form "3"
7 Adjustment form "4"
8 Space required to remove the key
9 Name plate
10 Locking nut
11 Directional spool valve WE6 must be ordered separately
Screw M5x50-10.9GB/T70.1 included in the supply list

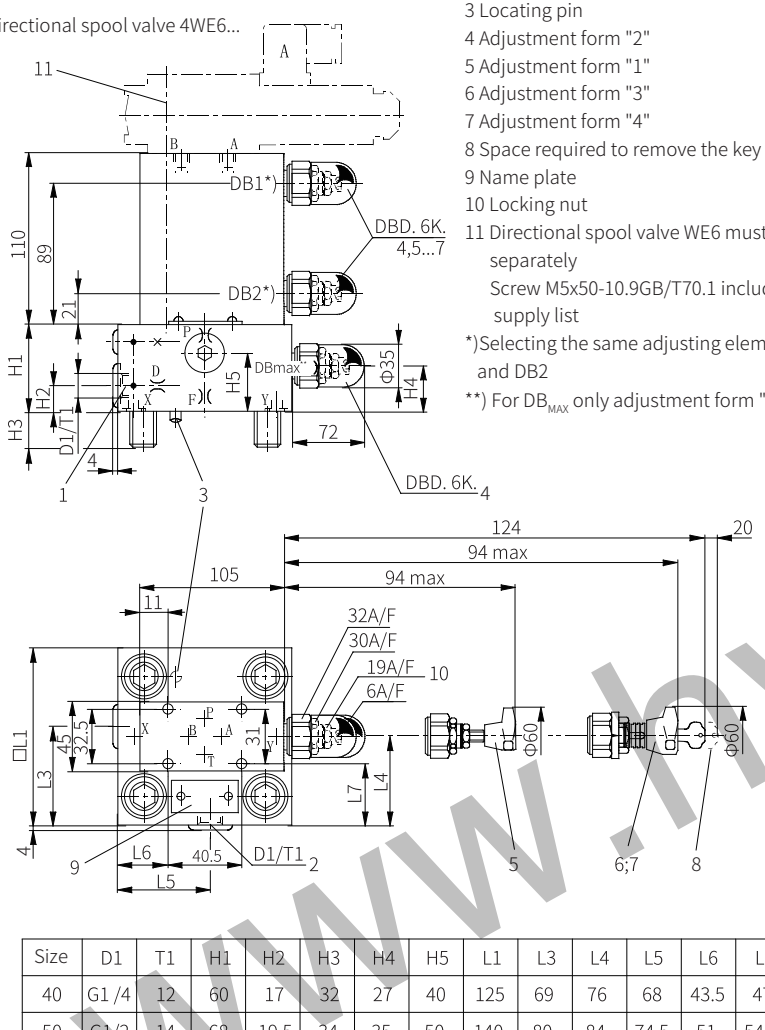
*) Selecting the same adjusting element for DB1 and DB2

**) For DB_{MAX} only adjustment form "2" is possible

Size	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5	L6	L7	Weight kg
16	40	17	15	19	28	65	80	36.5	32.5	35	7	17	4.7
25	40	19	24	19	28	85	85	49	45.5	36	8	27	5.1
32	50	26	28	26	37	100	100	56.5	53	57	31	34.5	6.8

.. DBU3D... type (size 40 to 50)

Directional spool valve 4WE6...

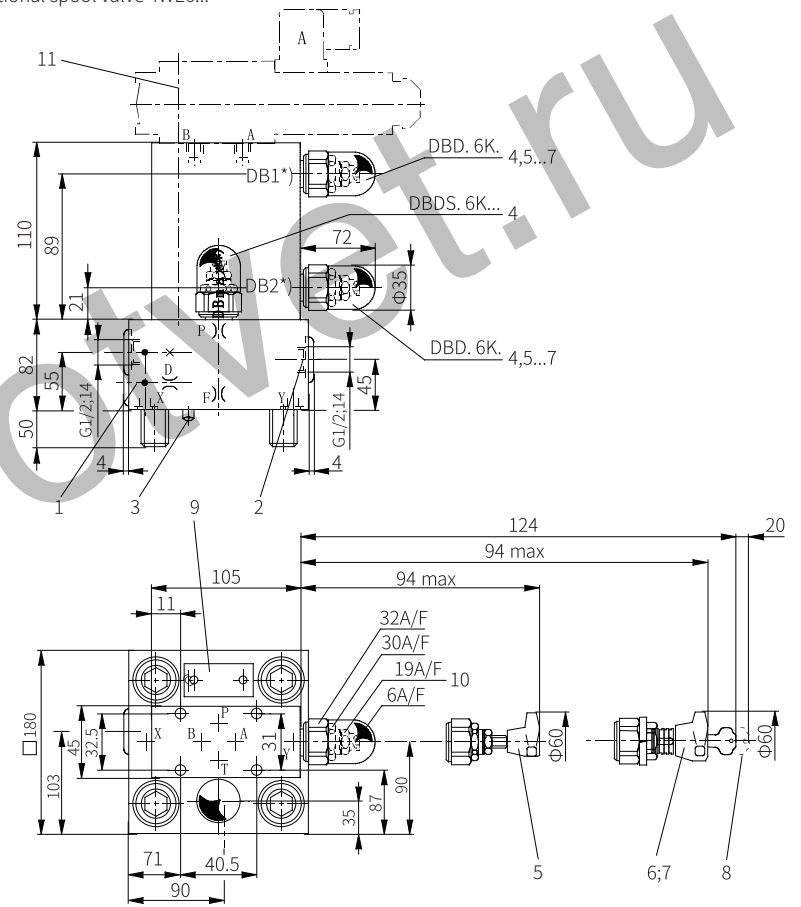


1 Optional port X used as threaded hole
2 Optional port Y used as threaded hole
3 Locating pin
4 Adjustment form "2"
5 Adjustment form "1"
6 Adjustment form "3"
7 Adjustment form "4"
8 Space required to remove the key
9 Name plate
10 Locking nut
11 Directional spool valve WE6 must be ordered separately
Screw M5x50-10.9GB/T70.1 included in the supply list
*)Selecting the same adjusting element for DB1 and DB2
**) For DB_{MAX} only adjustment form "2" is possible

Size	D1	T1	H1	H2	H3	H4	H5	L1	L3	L4	L5	L6	L7	Weight kg
40	G1 /4	12	60	17	32	27	40	125	69	76	68	43.5	47	10.7
50	G1/2	14	68	19.5	34	35	50	140	80	84	74.5	51	54.5	13.4

.. DBU3D... type (size 63)

Directional spool valve 4WE6...



1 Optional port X used as threaded hole
2 Optional port Y used as threaded hole
3 Locating pin
4 Adjustment form "2"
5 Adjustment form "1"
6 Adjustment form "3"
7 Adjustment form "4"
8 Space required to remove the key
9 Name plate
10 Locking nut
11 Directional spool valve WE6 must be ordered separately
Screw M5x50-10.9GB/T70.1 included in the supply list
*)Selecting the same adjusting element for DB1 and DB2
**) For DB_{MAX} only adjustment form "2" is possible

Logic cartridge valves models and specifications

LC | DR | E | 7X | / |

- logic cartridge valve
- size 16 =16
  size 25 =25
  size 32 =32
  size 40 =40
  size 50 =50
  size 63 =63
- reducing function
- sealing material
  No code= NBR seals
  V= FKM seals
  (consult for other seals)
- 7X= 70 to 79 series
  (70 to 79 series installation and connection size unchanged)
- the spool valve without precise control groove
- 00= cracking pressure about 0MPa(without spring)
  20= cracking pressure about 0.2[1)]MPa
  30= cracking pressure about 0.3[1)]MPa
  40= cracking pressure about 0.4MPa
  50= cracking pressure about 0.5MPa

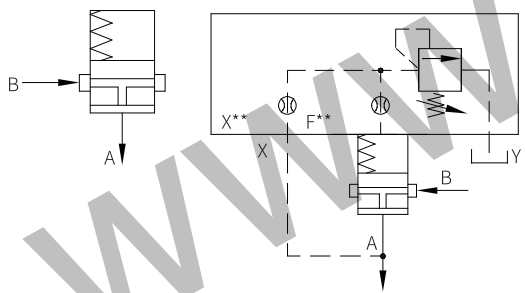
[1)]Only for size 16, 25 and 32

Logic cartridge valves functional symbols

Model: LC ..DR..

Attention!

It is composed of 2-way logic cartridge valve LC... DR... and control cover LFA... DB...



pressure reducing function

Normally open

Example:

Model: LFA..DB... / LC..DR40...

Technical parameters

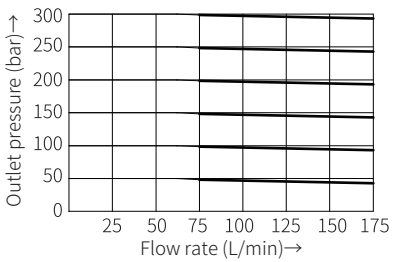
Maximum working pressure	Oil ports A and B bar	315					
Maximum flow (Reference)	Size	16	25	32	40	50	63
	LC..DR20.... L/min	100	200	300	750	1000	600
	LC..DR40...	150	300	450	1000	1300	2000
Weight kg		0.25	0.5	1.1	1.9	3.9	7.2
Work medium		Mineral oil - for NBR seal or FKM seal					
		Phosphate ester - for FKM seal					
Working 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 NAS1638 Class 9 and ISO4406 Class 20 / 18 / 15[1)]					

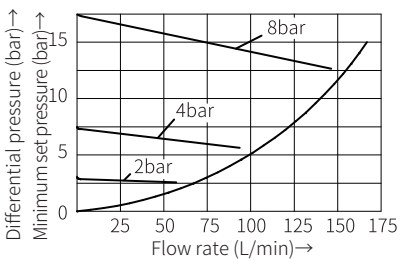
1) The oil must meet the cleanliness degree requested by the components in the hydraulic system. Effective oil filtration can prevent failure and increase the service life of the components.

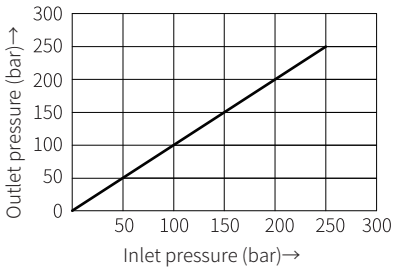
Characteristic curve

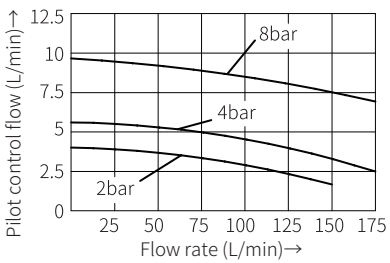
(Measured when using HLP46, ϑ_{oil}=40°C ± 5°C)

LC16DR...







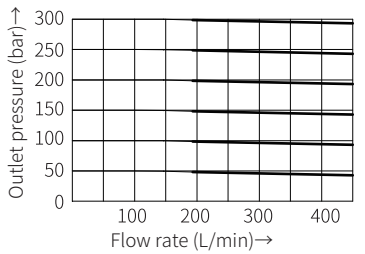


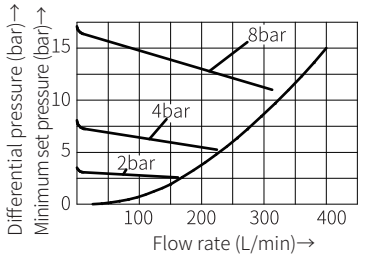
Measured at p_a=50bar

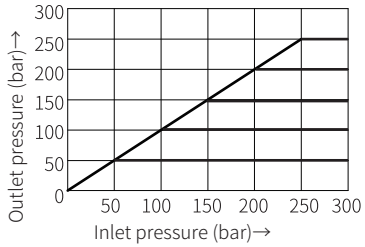
Characteristic curve

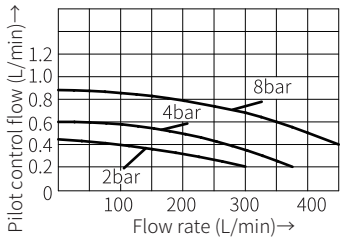
(Measured when using HLP46, ϑ_{oil}=40°C ± 5°C)

LC25DR...



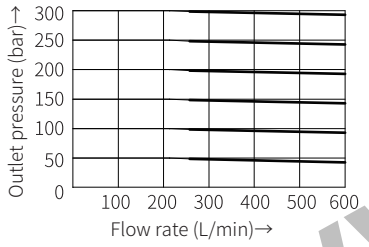


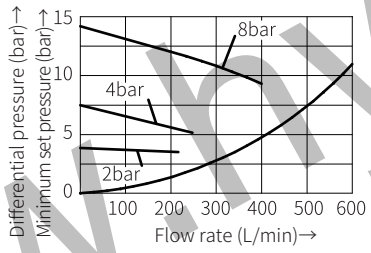


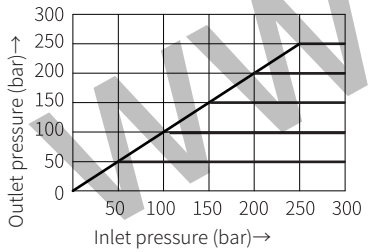


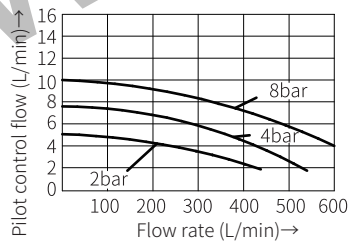
Measured at p_a=50bar

LC32DR...







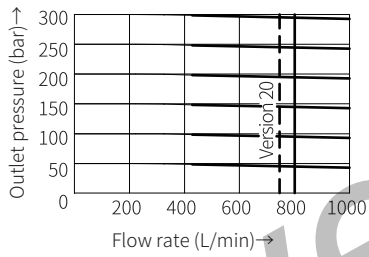


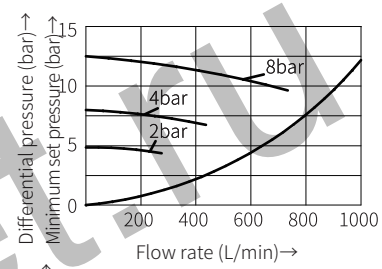
Measured at p_a=50bar

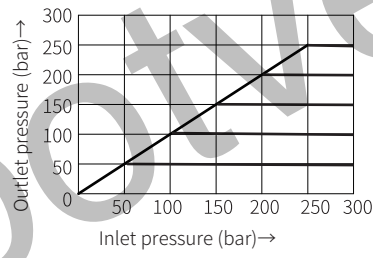
Characteristic curve

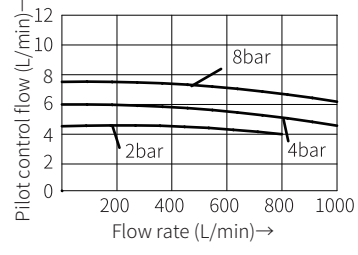
(Measured when using HLP46, ϑ_{oil}=40°C ± 5°C)

LC40DR...



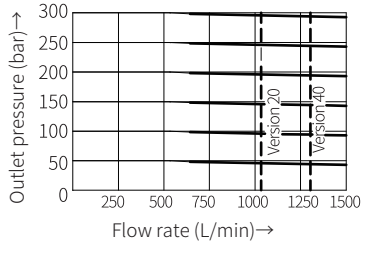


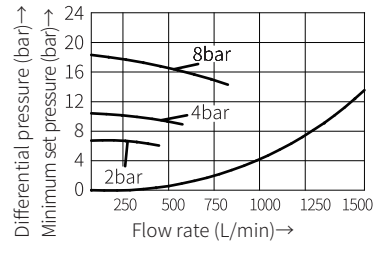


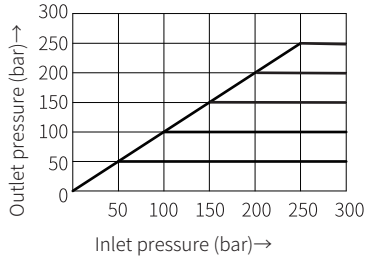


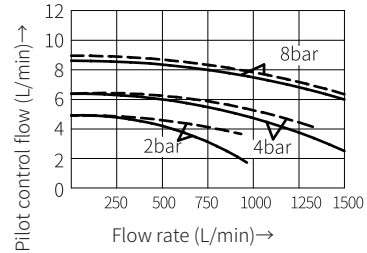
Measured at p_a=50bar

LC50DR...







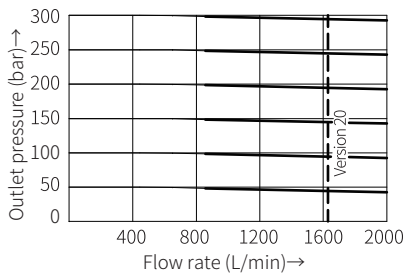


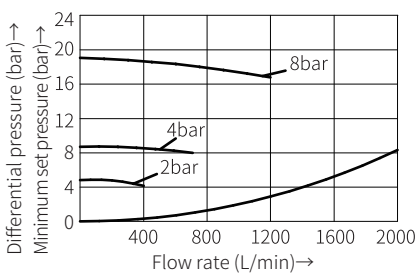
Measured at p_a=50bar

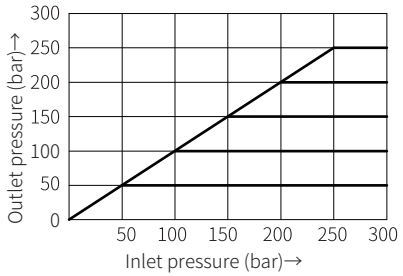
Characteristic curve

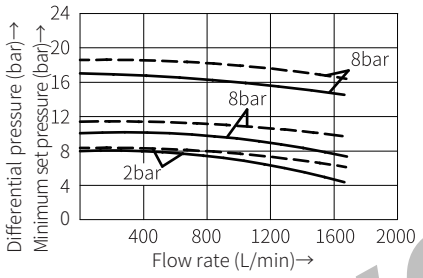
(Measured when using HLP46, ϑ_{oil}=40°C ± 5°C)

LC63DR...



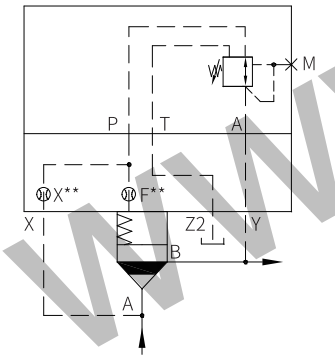






Measured at p_a=50bar

Application example



Attention!

It is composed of 2-way logic cartridge valve LC... DB... and control cover LFA... DR...

pressure reducing function

Normally closed

Example:

Model: LFA.. DR... / LC..DB 40 D...

Technical parameters

Working medium		Mineral oil - for NBR seal or FKM seal					
		Phosphate ester - for FKM seal					
Working medium temperature range	℃	-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 NAS1638 Class 9 and ISO4406 Class 20 / 18 / 15					
Size		16	25	32	40	50	63
Weight	kg	3.1	3.6	5.2	8	11.4	20.8

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.

Control cover		
Maximum working pressure at the oil port...		Control cover type L-LFA..DR.—../.. L-LFA..DRW.—../...
... X(basic pressure)		315bar
... Y(secondary pressure = maximum set pressure)		315bar
...Z2	As control pressure	0bar (Maximum 2bar)
	Static	60bar

Valve fixing screw (included in the supply list)

GB/T70.1 10.9 grade			
Size	Quantity	Dimension	Tightening torque (Nm)
16	4	M8×45	32
25		M12×50	110
32		M16×60	270

GB/T70.1 10.9 grade			
Size	Quantity	Dimension	Tightening torque (Nm)
40	4	M20×70	520
50		M20×80	520
63		M30×100	1800

05

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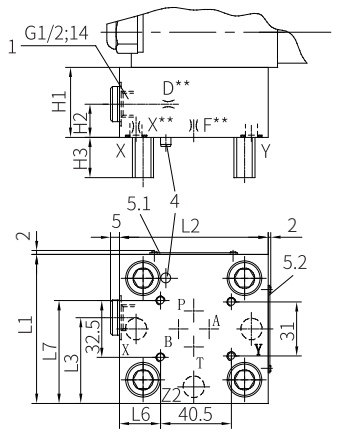
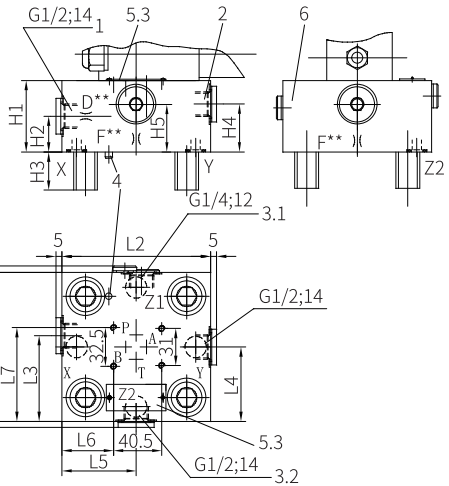
Control cover "DR" and "DRW" component size

Size unit: mm

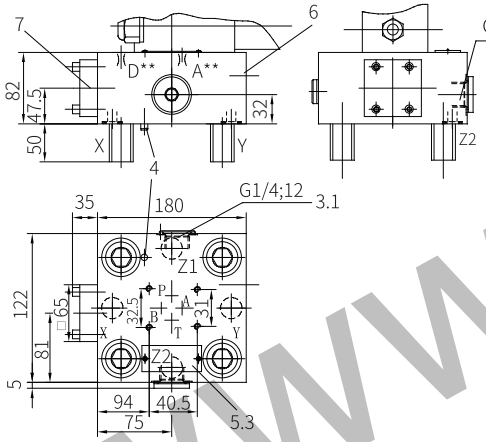
Size 16, 25, 32



Size 40, 50



Size 63



Size	16	25	32	40	50
H1	40	40	50	60	68
H2	17	19	26	30	32
H3	15	24	28	32	34
H4				40	32
H5				40	32
L1	65	85	100	125	140
L2	80	85	100	125	40
L3	36.5	49	56.5	72	80
L4				62.5	68
L5				62.5	70
L6	7	23.5	31	43.5	51
L7	49	59	66.5	79	86.5

1 Optional port X used as threaded hole (for size 16 to 50)
2 Optional port Y used as threaded hole (for size 40 to 50)
3.1 Optional port Z1 used as threaded hole (for size 25 to 63)
3.2 Optional port Z2 used as threaded hole (for size 40 to 63)
4 Locating pin

5.1 Name plate (size 16)
5.2 Name plate (size 25, 32)
5.3 Name plate (size 40, 50 and 63)
6 Check valve (for size 40, 50 and 63)
7 For control cover size 63
2 -way logic cartridge valve size 16

Control cover "DR" with pressure reducing function

.. DR... type (size 16 to 63)

LFA | | DR | | 7X | | | |

control cover
size 16 =16
size 25 =25
size 32 =32
size 40 =40
size 50 =50
size 63 =63

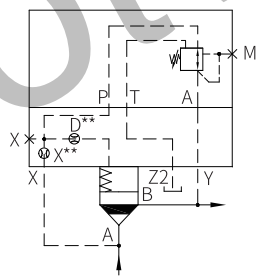
control cover type

adjusting element
rotary knob =1
hexagonal sleeve with protective cap =2
lockable rotary knob with scale =3
rotary knob with scale =4

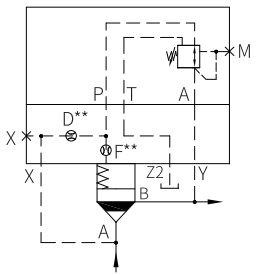
7X= 70 to 79 series
(70 to 79 series installation and connection size unchanged)

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

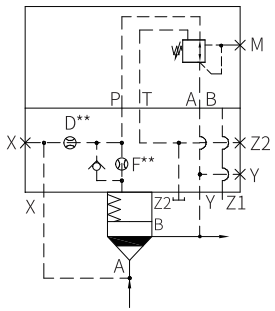
025= Maximum secondary pressure is 2.5MPa
075= Maximum secondary pressure is 7.5MPa
150= Maximum secondary pressure is 15MPa
210= Maximum secondary pressure is 21MPa
315= Maximum secondary pressure is 31.5MPa



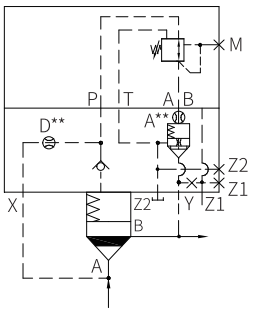
LFA...DR.7X/..
Size 16



LFA...DR.7X/..
Size 25 and 32



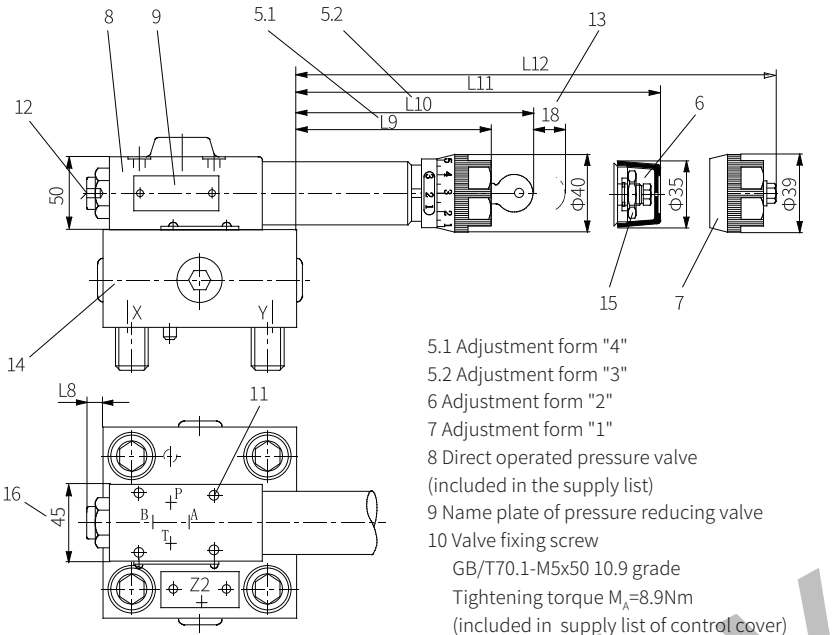
LFA...DR.7X/...
Size 40 and 50



LFA...DR.7X/...
Size 63

Control cover "DR" with pressure reducing function

.. DR... type (size 16 to 63)



5.1 Adjustment form "4"
5.2 Adjustment form "3"
6 Adjustment form "2"
7 Adjustment form "1"
8 Direct operated pressure valve (included in the supply list)
9 Name plate of pressure reducing valve
10 Valve fixing screw
GB/T70.1-M5x50 10.9 grade
Tightening torque M_A=8.9Nm
(included in supply list of control cover)
11 Pressure gauge connection G1/4, depth 12
Socket screw 6A/F
12 Space required to remove the key
13 Control cover
14 Locknut 24A/F
15 For model... /315→50mm

Size		16	25	32	40	50	63
L8		23	6				
	.../315	30.5	14	6			
L9		99.5	111	103.5	91	83.5	67.5
	.../315	96.5	108	100.5	88	80.5	64.5
L10		99.5	111	103.5	91	83.5	67.5
	.../315	96.5	108	100.5	88	80.5	64.5
Other size		See page 32/36					

Control cover "DRW" with pressure reducing and isolating function

.. DRW... type (size 16 to 63)

LFA | | DRW | – 7X | | /

control cover
size 16 =16
size 25 =25
size 32 =32
size 40 =40
size 50 =50
size 63 =63

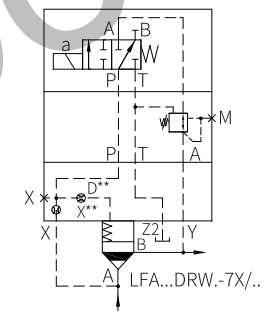
control cover type

adjusting element
rotary knob =1
hexagonal sleeve with protective cap =2
lockable rotary knob with scale =3
rotary knob with scale =4

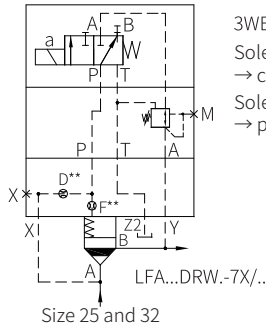
sealing material
No code= NBR seals
V= FKM seals
(consult for other seals)

025= Maximum secondary pressure is 2.5MPa
075= Maximum secondary pressure is 7.5MPa
150= Maximum secondary pressure is 15MPa
210= Maximum secondary pressure is 21MPa
315= Maximum secondary pressure is 31.5MPa

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

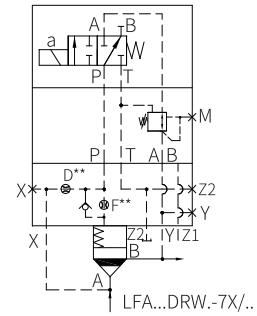


Size 16

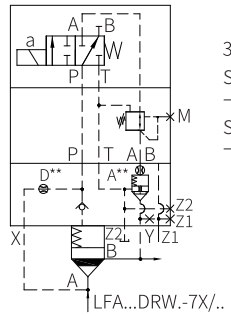


Size 25 and 32

3WE6B9-.../...
Solenoid de-energized
→ closed
Solenoid energized
→ pressure reducing function



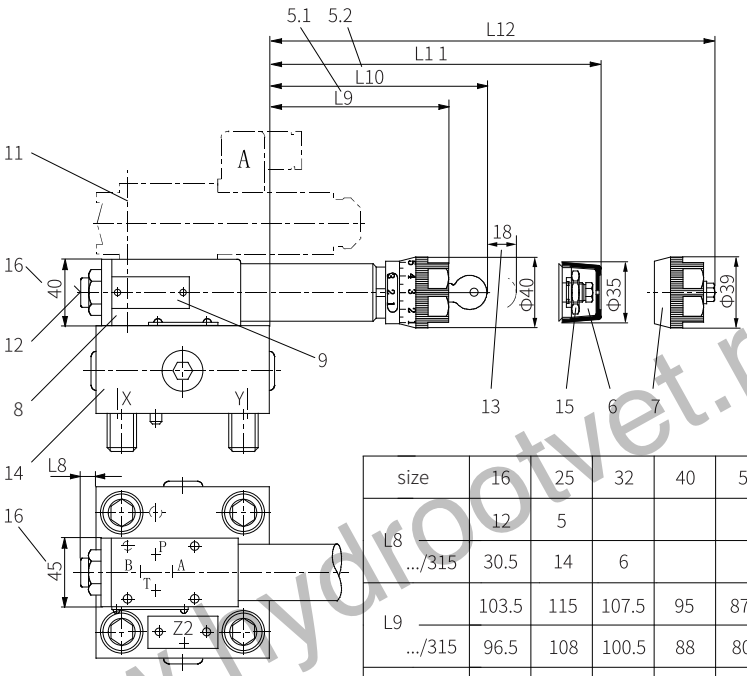
Size 40 and 50



Size 63

3WE6B9-.../...
Solenoid de-energized
→ closed
Solenoid energized
→ pressure reducing function

...DRW...type (size 16 to 63)



size	16	25	32	40	50	63
L8	12	5				
.../315	30.5	14	6			
L9	103.5	115	107.5	95	87.5	71.5
.../315	96.5	108	100.5	88	80.5	64.5
L10	103.5	115	107.5	95	87.5	71.5
.../315	96.5	108	100.5	88	80.5	64.5
other size	see page 32/36					

5.1 Adjustment form "4"
5.2 Adjustment form "3"
6 Adjustment form "2"
7 Adjustment form "1"
8 Direct operated pressure reducing valve (included in the supply list)
9 Name plate of pressure reducing valve
10 Valve fixing screw
M5x50-10.9 grade GB/T70.1-2000 M_A=7.8Nm
(included in the supply list of control cover)
11 Pressure gauge connection G1/4, depth 12
Socket screw 6A/F
13 Space required to remove the key
12 Control cover
13 Locknut 24A/F
14 For model.../315 → 50mm