



Cartridge valves Type L-LC..
Control covers Type L-LFA...



Contents

Function, section and symbol

• Pressure reducing function

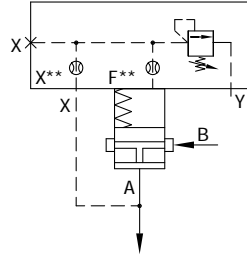
a) Normally open:

Control cover type L-LFA...DB...

Cartridge valve type L-LC..DR...

The cartridge valve for the pressure reducing function is a poppet valve with a area ratio of 1:1 (no effective area at port B), adopting the same types of cover (type LFA ..DB...) used as pilot valves which are used for the pressure relief functions.

The pressure fed via the pilot oil orifice is acting on the main spring chamber. When pressure is below the setting of pilot valve, the forces on spool are balanced and the spool remains open due to the spring force. Consequently, fluid flows port B to port A free. On reaching the set pressure, spool closes and reduces the pressure at port A in line with the pressure-flow characteristics.



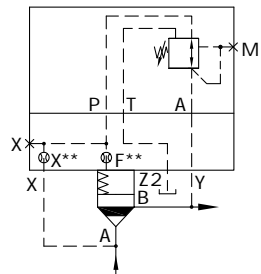
E.g. Type L-LFA..DB...
Type L-LC..DR40...

b) Normally closed:

Control cover type L-LFA...DR...

Cartridge valve type L-LC..DB...D...

For the pressure reducing function with opening characteristics, a pressure relief valve cartridge (type L-LC..DB..D...) and a control cover with a pressure reducing valve (type L-LFA..DR...) as the pilot valve are used. The pilot oil is fed from port A via the pilot orifice and the open pressure reducing valve to side B. The main spool opens and allows free flow from port A to port B. On reaching the setting pressure, the main spool closes and reduces the pressure at port B in line with the pressure-flow characteristics. If excess pressure occurs on the pressure reducing side, pressure relieves via the third port of the pilot valve. By fitting a directional valve, an additional isolating function can also be attained (type L-LFA..DRW...).



E.g. Type L-LFA..DR...
Type L-LC..DB40D...



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NO. HL-EN-L-LC.DB... 01/2024

2-way cartridge valves -pressure control function

5.2-1(1)

Pressure relief valve function

Cartridge valve Type L-LC.DB...

Ordering code

• Pressure relief cartridge valve (without associated control cover)

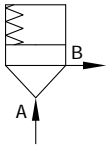
L-LC	DB	-	/	*
Cartridge valves				Further details in clear text
Nominal size 16 = 16				No code = NBR seals
Nominal size 25 = 25				V = FKMseals
Nominal size 32 = 32				(Other seals, please consult us!)
Nominal size 40 = 40				Caution:
Nominal size 50 = 50				The harmony of seals and fluid must be taken into account.
Nominal size 63 = 63				
Relief function				7X = Series 70 to 79 (70 to 79: unchanged installation and connection dimensions)
Cracking pressure approx. 0bar (without spring) = 00				E = Poppet valve without orifice (standard)
Cracking pressure approx. 2bar = 20				D = Spool poppet valve without damping nose
Cracking pressure approx. 3bar = 30 ¹⁾				A = Poppet valve with damping nose
Cracking pressure approx. 4bar = 40				B = Spool poppet valve with damping nose
Cracking pressure approx. 5bar = 50 ¹⁾				

¹⁾ Only for size 16, 25 and 32.

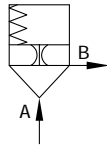
²⁾ Special installation space is required.

Symbols

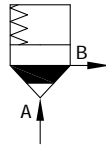
Cartridge valves (for versions see Ordering code)



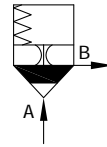
Poppet without
damping nose
version "E"



Poppet with
damping nose
version "A"



Spool poppet
without damping nose
version "D"



Spool poppet
without damping nose
version "B"

Technical data

Fluid		Mineral oil suitable for NBR and FKM seal Phosphate ester for FKM seal						
Fluid temperature range		-30 to +80 (NBR seal) -20 to +80 (FKM seal)						
Viscosity range		mm ² /s	2.8 to 380					
Degree of contamination		Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO 4406 ¹⁾						
2-way cartridge valve								
Max. operating pressure – Ports A and B		bar	420					
Max. flow-rate (recommendation)	Size		16	25	32	40	50	63
	Poppet valve cartridge "E" and "A"	L/min	300	450	600	1000	1600	2500
	Spool valve cartridge "D" and "B"	L/min	175	300	450	700	1400	1750

¹⁾ To prevent the problem caused by fluid contamination, fluid cleanliness mentioned above must be met.

For applications outside these parameters, please consult us!

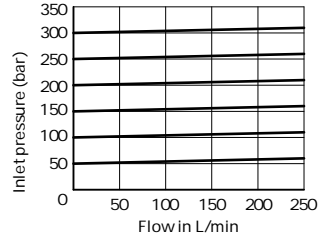
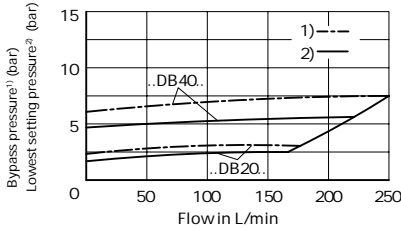
Characteristic curves (Measured at $\omega_{oil}=40 \pm 5$, using HLP46)

Nominal size 16

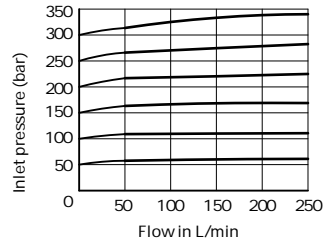
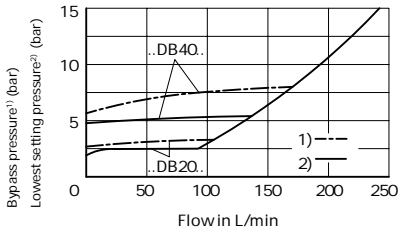
The characteristic curves were measured when an external pilot oil drains at zero pressure. when an internal pilot oil drains, the inlet pressure is increased along with the pressure at port B.

• Manual pressure adjustment: type L-LFA 16 DB... and type L-LFA 16 DBW...

Type L-LC 16 DB..E... (with poppet valve)



Type L-LC 16 DB..D... (with spool poppet valve)



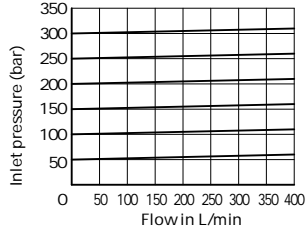
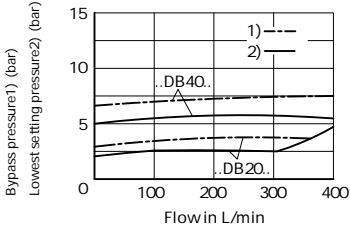
Characteristic curves (Measured at $p_{oil}=40 \pm 5$, using HLP46)

Nominal size 25

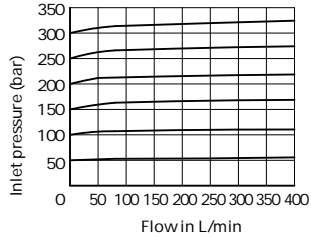
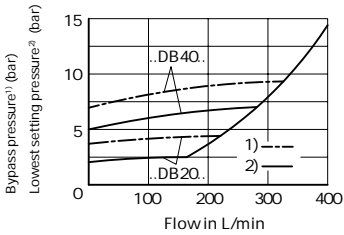
The characteristic curves were measured when an external pilot oil drains at zero pressure. when an internal pilot oil drains, the inlet pressure is increased along with the pressure at port B.

· Manual pressure adjustment: type L-LFA 25 DB... and type L-LFA 25 DBW...

Type L-LC 25 DB..E... (with poppet valve)



Type L-LC 25 DB..D... (with spool poppet valve)



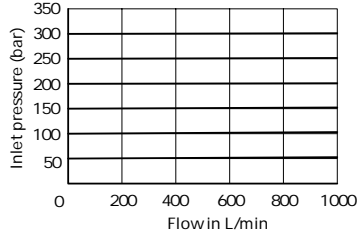
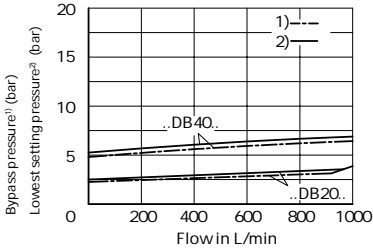
Characteristic curves (Measured at $p_{oil} = 40 \pm 5$, using HLP46)

Nominal size 40

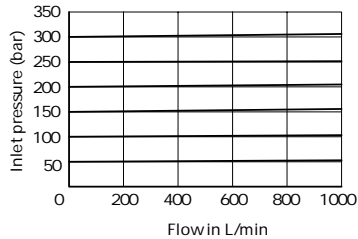
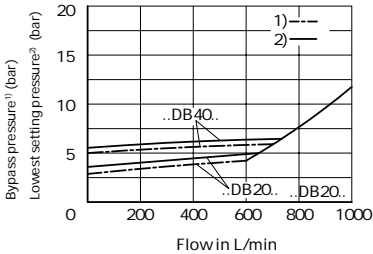
The characteristic curves were measured when an external pilot oil drains at zero pressure. when an internal pilot oil drains, the inlet pressure is increased along with the pressure at port B.

· Manual pressure adjustment: type L-LFA 40 DB... and type L-LFA 40 DBW...

Type L-LC 40 DB..E... (with poppet valve)

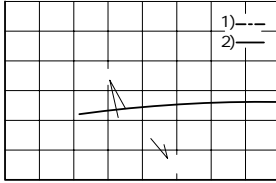


Type L-LC 40 DB..D... (with spool poppet valve)

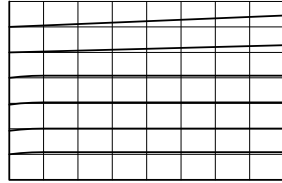


Type L-LC 50 DB..E... (with poppet valve)

Bypass pressure¹⁾ (bar)
 Lowest setting pressure²⁾ (bar)



Inlet pressure (bar)



Type L-LC 50 DB..D... (with spool poppet valve)

Bypass pressure¹⁾ (bar)
 Lowest setting pressure²⁾ (bar)

1)
 2)

Inlet pressure (bar)

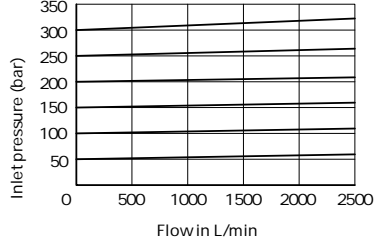
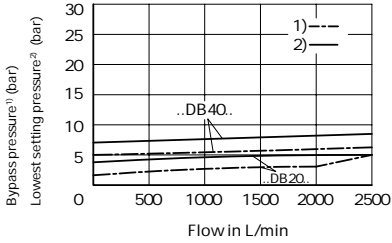
Characteristic curves (Measured at $p_{oil} = 40 \pm 5$, using HLP46)

Nominal size 63

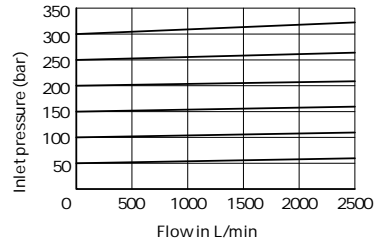
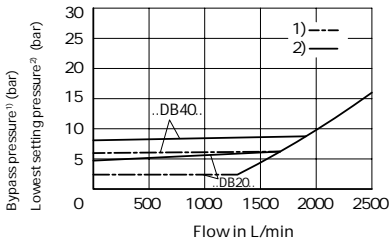
The characteristic curves were measured when an external pilot oil drains at zero pressure. when an internal pilot oil drains, the inlet pressure is increased along with the pressure at port B.

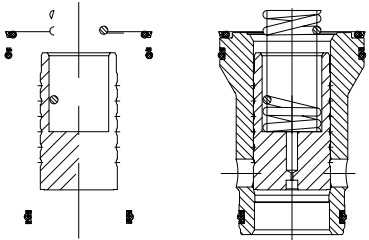
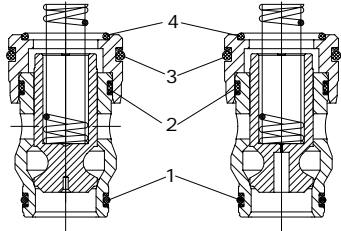
· Manual pressure adjustment: type L-LFA 63 DB... and type L-LFA 63 DBW...

Type L-LC 63 DB..E... (with poppet valve)



Type L-LC 63 DB..D... (with spool poppet valve)





NO. HL-EN-L-LFA.DB... 01/2024

2-way cartridge valves -pressure control function

5.2-1(2)

Pressure relief valve function

Control covers Type L-LFA.DB...

Technical data (Max. operating pressure of pilot control valve)

	Control cover		Max. operating pressure Y,T bar			Remark
	Size	Type	X	pressure limitation	Static	
DBD.2K-L20/... ¹⁾	16 to 32	DB,DBW,DBWD,	420	Zero pressure (about to 2 bar)	315	Supply included
DBD.6K10/... ²⁾	40 to 63	DBU2.,DBBU3D, DBS	400		315	
.WE6...			350		21(=); 16(-)	Order separately

¹⁾ Possible pressure: 25, 50, 100, 200, 315, 400²⁾ Possible pressure: 25, 50, 100, 200, 315, 420

Technical data (Type L-LFA.DB..., for applications outside these parameters, please consult us!)

Max. operating pressure	bar	420	Caution: the max. operating pressure Pmax of pilot valve should be taken into account.
Fluid		Mineral oil suitable for NBR and FKM seal	
		Phosphate ester for FKM seal	
Fluid temperature range		-30 to +80 (NBR seal)	
		-20 to +80 (FKM seal)	
Viscosity range	mm ² /s	2.8 to 380	
Degree of contamination		Maximum permissible degree of fluid contamination: ³⁾ Class 9. NAS 1638 or 20/18/15, ISO 4406	

³⁾ To prevent the problem caused by fluid contamination, fluid cleanliness mentioned above must be met.

O-rings dimensions for ports X, Y (included within the scope of supply)

Size	Dimension mm
16	8× 1.8
25	9.25× 1.78
32	10.82× 1.78

Size	Dimension mm
40	12× 2.5
50	
63	18.72× 2.62

Mounting screw (included within the scope of supply)

In accordance with GB/T70.1 10.9			
Nominal size	QTY	Dimension	Tightening torque (Nm)
16	4	M8× 45	32
25		M12× 50	110
32		M16× 60	270
40		M20× 70	520

In accordance with GB/T70.1 10.9			
Nominal size	QTY	Dimension	Tightening torque (Nm)
50	4	M20× 80	520
63		M30× 100	1800

Control cover with manual pressure adjustment (Dimensions in mm)

• Types ..DB... (Nominal sizes 16 to 63)

	L-LFA		DB	- 7X /		
Control cover						
Nominal size 16	= 16					
Nominal size 25	= 25					
Nominal size 32	= 32					
Nominal size 40	= 40					
Nominal size 50	= 50					
Nominal size 63	= 63					
Control covers version						
Rotary knob			=1			
Hexagon waith protective c			=2			
Series 70 to 79 (70 to 79: unchanged installation and connection dimensions)				=7X		

No code= NBR seals
 V = FKMseals
 (Other seals, please consult us!)

Caution:
 The harmony of seals and f uid must be taken into account.

Pressure ratings

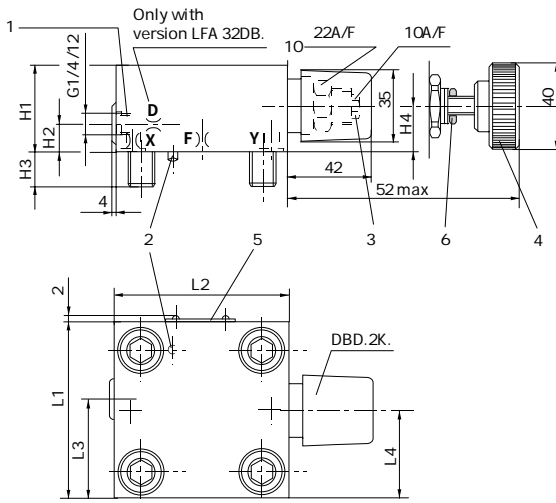
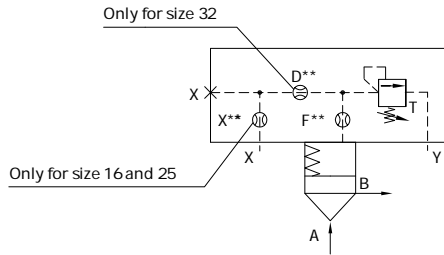
Sizes16, 25 and 32	Sizes 40, 50, 63
025 = 25 bar	025 = 25 bar
050 = 50 bar	050 = 50 bar
100 = 100 bar	100 = 100 bar
200 = 200 bar	200 = 200 bar
315 = 315 bar	315 = 315 bar
420 = 420 bar	400 = 400 bar

Control cover with manual pressure adjustment

(Dimensions in mm)

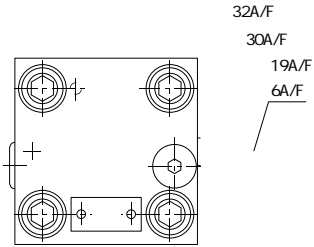
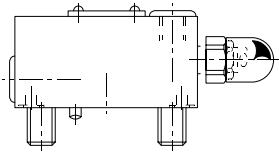
• Types ..DB... (Nominal sizes 16, 25 and 32)

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



NG	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 Port X optionally as threaded port
- 2 Locating pin
- 3 Adjustment type "2"
- 4 Adjustment type "1"
- 5 Name plate
- 6 Locknut



19A/F
32A/F

6A/F
30A/F

Control cover with manual pressure adjustment, with electrical unloading function

· Types ..DBW...; ..DBS... (Nominal sizes 16 to 63)

Control cover

No code= NBR seals
V = FKMseals
(Other seals, please consult us!)

Caution:

The harmony of seals and fluid must be taken into account.

Pressure ratings

(Max. permissible pressure of pilot valve must be taken into account)

Sizes 16, 25 and 32	Sizes 40, 50, 63
025 = 25 bar	025 = 25 bar
050 = 50 bar	050 = 50 bar
100 = 100 bar	
200 = 200 bar	
315 = 315 bar	
420 = 420 bar	

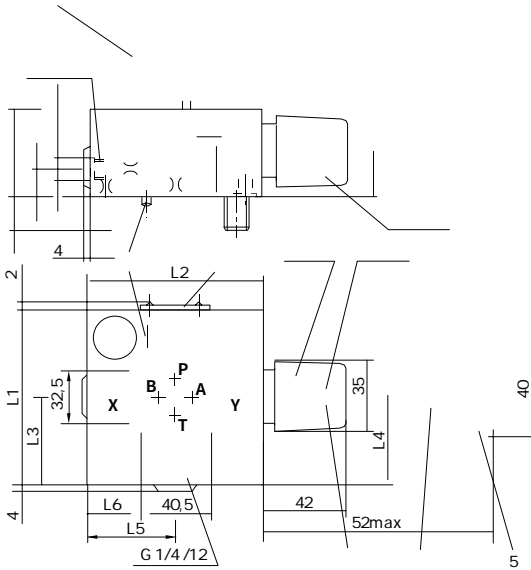
L-LFA...DBW...-7X/..
Nominal sizes 16, 25 and 32

L-LFA...DBW...-7X/..
Nominal sizes 40, 50 and 63

L-LFA...DBS...-7X/..
Nominal sizes 40, 50 and 63

Control cover with manual pressure adjustment, with electrical unloading function

• Types ..DBW... (Nominal sizes 16, 25 and 32)



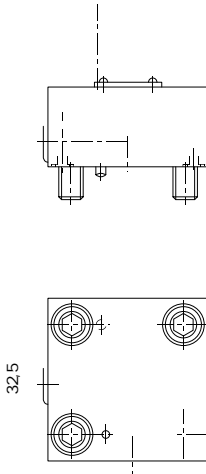
Size	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5	L6	L7	Weight kg
16	40	17	15	19	28	65	80	36.5	32.5	35	7	17	1.7
25	40	19	24	19	28	85	85	49	45.5	36	8	27	2.1
32	50	26	28	26	37	100	100	56.5	53	57	31	34.5	3.8

- 1 Optional port X used as threaded port
- 2 Optional port Y used as threaded port
- 3 Locating pin
- 4 Version "2" adjustment
- 5 Version "1" adjustment

- 6 Nameplate
- 7 Lock nut
- 8 Directional valve: .WE6...
Valve fixing screws: GB/T 70.1-M5× 50-10.9,
must be ordered separately

Control cover with manual pressure adjustment, with electrical unloading function

· Types ..DBW...; ..DBS... (Nominal sizes 40 and 50)



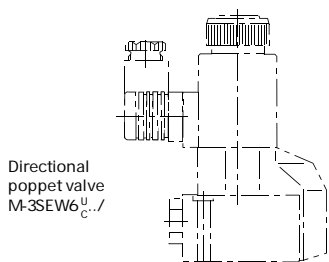
Size	D1	T1	H1	H2	H3	H4	H5	L1	L3	L4	L5	L6	L7	Weight kg
40	G1/4	12	60	46	32	27	40	125	62.5	76	68	43.5	47	6.8
50	G1/2	14	68	51	34	35	50	140	67.5	84	74.5	51	54.5	9.6

* Dimensions for control cover LFA..DBS..

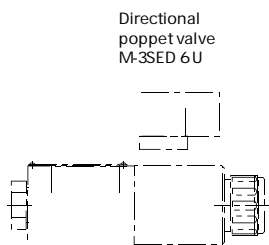
- 1 Optional port X used as threaded port
- 2 Optional port Y used as threaded port
- 3 Locating pin
- 4 Version "2" adjustment
- 5 Version "1" adjustment

35

60



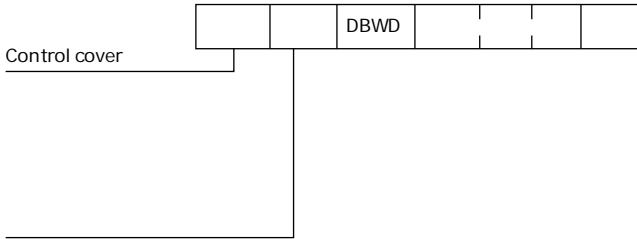
Directional poppet valve M-3SEW6 U C.../



Directional poppet valve M-3SED 6 U

Control cover with manual pressure adjustment, with isolation function

· Types ..DBWD... (Nominal sizes 16 to 63)



No code= NBR seals
 V = FKMseals
 (Other seals, please consult us!)

Caution:

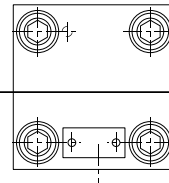
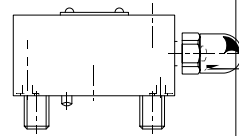
The harmony of seals and fluid must be taken into account.

Control cover with manual pressure adjustment, with isolation function

- Types ..DBWD... (Nominal sizes 16, 25, 32, 40 and 50)

Nominal sizes 16, 25, 32

Nominal sizes 40, 50

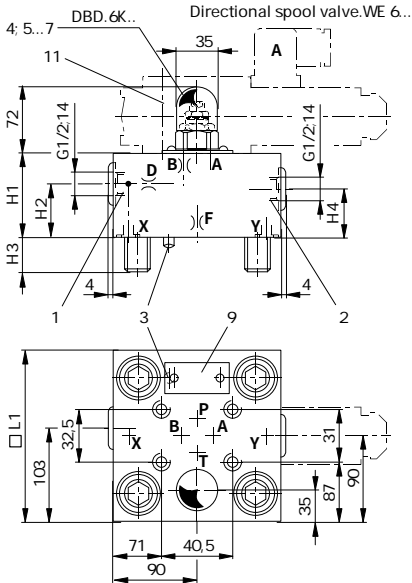


- 1 Port X optionally as a threaded port
- 2 Port Y optionally as a threaded port
- 3 Locating pin
- 4 Adjustment "2"
- 5 Adjustment "1"
- 6 Name plate
- 7 Locknut
- 8 Directional valve: .WE6...
Valve fixing screws:
GB/T 70.1-M5× 50-10.9,
must be ordered separately

Control cover with manual pressure adjustment, with isolation function

• Types ..DBWD... (Nominal sizes 63)

Nominal size 63



NG	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						

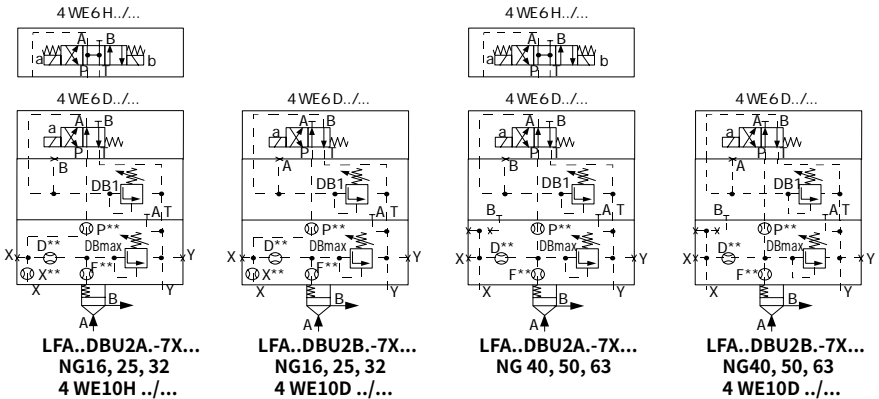
Control cover with 2 manual pressure adjustments, selected electrically

• Types ..DBU2A...; ..DBU2B... (Nominal sizes 16 to 100)

L-LFA				- 7X /		A...			
Control cover						DBmax DB1			
Nominal size 16	= 16								
Nominal size 25	= 25								
Nominal size 32	= 32								
Nominal size 40	= 40								
Nominal size 50	= 50								
Nominal size 63	= 63								
Control covers version									
De-energised-DB1 (4 WE... D)		= DBU2A							
De-energised-open (4 WE... H)									
De-energised-DB max. (4 WE... D)		= DBU2B							
(see symbols)									
Rotary knob									
Hexagon waith protective c									
Series 70 to 79									
(70 to 79: unchanged installation and connection dimensions)									

No code= NBR seals	
V = FKMseals	(Other seals, please consult us!)
Caution:	
The harmony of seals and fluid must be taken into account.	

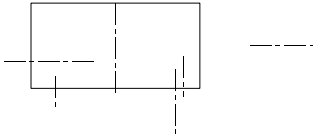
Pressure ratings (Max. permissible pressure of pilot valve must be taken into account)	
Sizes 16, 25 and 32	Sizes 40, 50 and 63
025 = 25 bar	025 = 25 bar
050 = 50 bar	050 = 50 bar
100 = 100 bar	100 = 100 bar
200 = 200 bar	200 = 200 bar
315 = 315 bar	315 = 315 bar
420 = 420 bar	400 = 400 bar



Control cover with 2 manual pressure adjustments, selected electrically

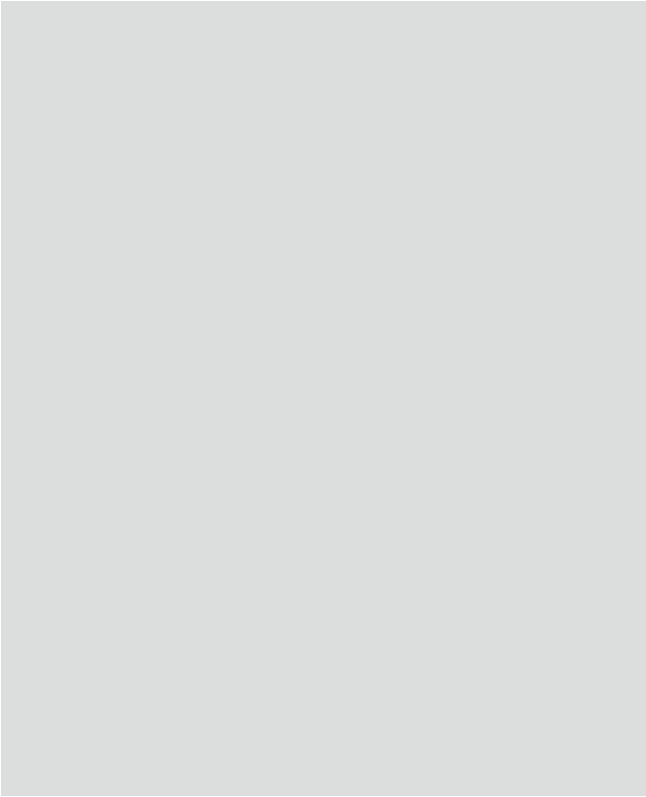
• Types ..DBU2A...; ..DBU2B... (Nominal sizes 16, 25 and 32)

Directional spool valve 4 WE6...



- | | | | |
|---|--------------------------------------|----|--|
| 1 | Port X optionally as a threaded port | 8 | Directional valve: WE6... |
| 2 | Port Y optionally as a threaded port | | Valve fixing screws: GB/T 70.1-M5× 90-10.9, must be ordered separately |
| 3 | Locating pin | 9 | Lopped M6 used for ...DBU 2A... |
| 4 | Adjustment "2" | 10 | Lopped M6 used for ...DBU 2B... |
| 5 | Adjustment "1" | | *) For DB max. only adjustment type "2" is possible |
| 6 | Name plate | | |
| 7 | Locknut | | |

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



Control cover with 3 manual pressure adjustments, selected electrically

· Types ..DBU3D... (Nominal sizes 16 to 63)

Control cover		L-LFA		DBU3D		7X	/	A...	B...	
Nominal size 16	= 16									
Nominal size 25	= 25									
Nominal size 32	= 32									
Nominal size 40	= 40									
Nominal size 50	= 50									
Nominal size 63	= 63									
Control covers version										
(Only for ..DB1..or ..DB2..) *)										
Rotary knob	=1									
Hexagon with protective cap	=2									
Series 70 to 79		=7X								
(70 to 79: unchanged installation and connection dimensions)										

DBmax		DB2	
DB1			

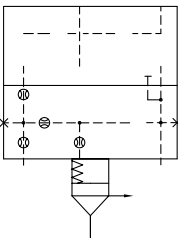
No code = NBR seals
 V = FKMseals
 (Other seals, please consult us!)

Caution:
 The harmony of seals and fluid must be taken into account.

Pressure ratings
 (Max. permissible pressure of pilot valve must be taken into account)

Sizes 16, 25 and 32	Sizes 40, 50, 63
025 = 25bar	025 = 25bar
050 = 50bar	050 = 50bar
100 = 100bar	100 = 100bar
200 = 200bar	200 = 200bar
315 = 315bar	315 = 315bar
420 = 420bar	400 = 400bar

*) For DB1 or DB2, choose the same adjustment type



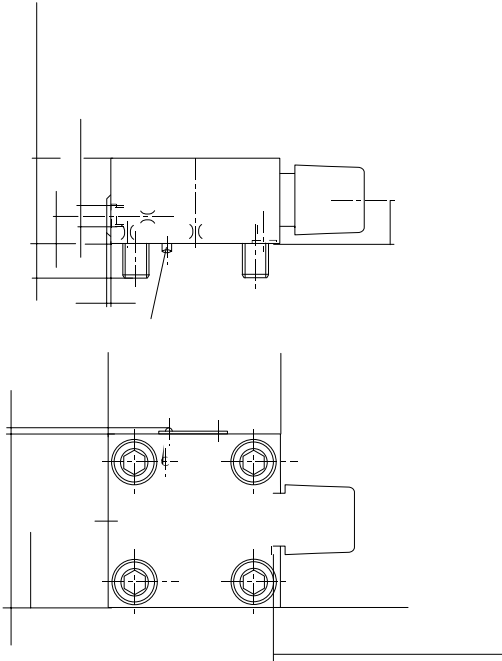
L-LFA...DBU3D.-7X/...
 Nominal sizes 16, 25 and 32

L-LFA...DBU3D.-7X/...
 Nominal sizes 40, 50 and 63

Control cover with 3 manual pressure adjustments, selected electrically

• Types ..DBU3D... (Nominal sizes 16, 25 and 32)

Directional spool valve 4 WE 6...



- 1 Port X optionally as a threaded port
 - 2 Port Y optionally as a threaded port
 - 3 Locating pin
 - 4 Adjustment "2"
 - 5 Adjustment "1"
 - 6 Name plate
 - 7 Locknut
 - 8 Directional valve: .WE6...
- Valve fixing screws:
GB/T 70.1-M5× 150-10.9,
must be ordered separately

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

*) Same adjustment for ..DB1..and ..DB2..

***) For DBmax. only adjustment "2" is possible



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NO. HL-EN-L-LC.DR... 01/2024

2-way cartridge valves -pressure control function

5.2-2(1)

Pressure reducing valve function

Cartridge valve Type L-LC.DR...

Ordering code

- Pressure reducing cartridge valve (without control cover type L-LFA..DB..)

Control cover		L-LC		DR		E	7X	∕
Nominal size 16	= 16							
Nominal size 25	= 25							
Nominal size 32	= 32							
Nominal size 40	= 40							
Nominal size 50	= 50							
Nominal size 63	= 63							
Pressure reducing valve function								
Shutoff pressure approx. 0 bar (without spring)	= 00							
Shutoff pressure approx. 2 bar	= 20							
Shutoff pressure approx. 3 bar	= 30 ¹⁾							
Shutoff pressure approx. 4 bar	= 40							
Shutoff pressure approx. 5 bar	= 50 ²⁾							

No code = NBR seals
 V = FKMseals
 (Other seals, please consult us!)

Caution:
 The harmony of seals and fluid must be taken into account.

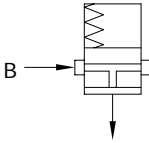
7X = Series 70 to 79
 (70 to 79: unchanged installation and connection dimensions)

Spool valve without accurate control groove

^{1), 2)} Only for NS 16, 25 and 32

Symbol: Cartridge valve

Type L-LC..DR..



Technical data

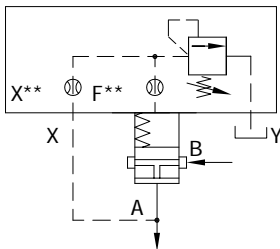
Max. working pressure	Port A and B bar	315					
Max. flow-rate (reference)	Size	16	25	32	40	50	63
	L-LC..DR20.../.. L/min	100	200	300	750	1000	1600
	L-LC..DR40.../..	150	300	450	1000	1300	2000
Weight	kg	0.25	0.5	1.1	1.9	3.9	7.2
Fluid	Mineral oil suitable for NBR and FKM seal Phosphate ester for FKM seal						
Fluid temperature range	-30 to +80 (NBR seal) -20 to +80 (FKM seal)						
Viscosity range	mm ² /s	2.8 to 380					
Degree of contamination	Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO 4406 ¹⁾						

For applications outside these parameters, please consult us.

¹⁾ To prevent the problem caused by fluid contamination, fluid cleanliness mentioned above must be met.

Caution!

It is composed with cartridge valve type L-LC..DR...and control cover type L-LFA..DB..

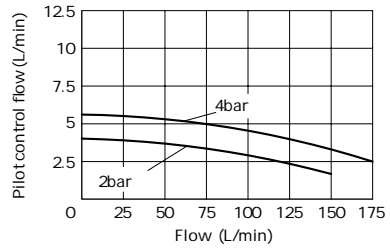
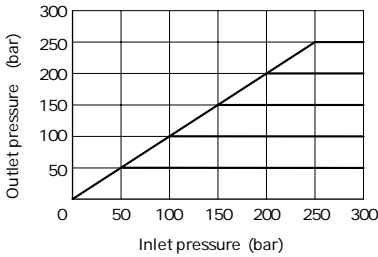
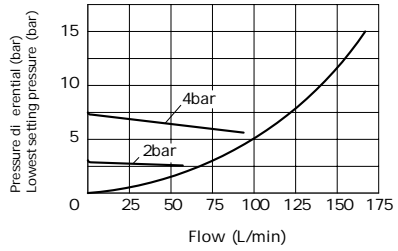
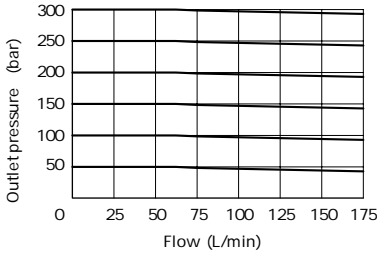


Pressure reducing function Normally open.

Example: $\frac{\text{Type L-LFA..DB..}}{\text{Type L-LC..DR40..}}$

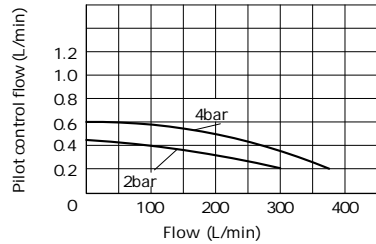
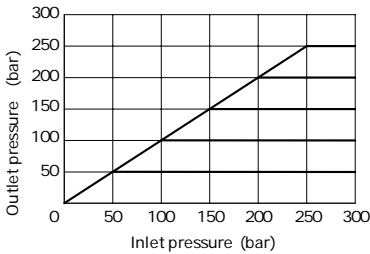
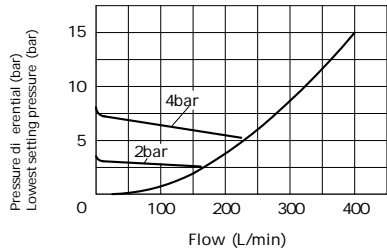
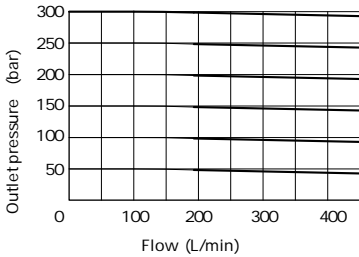
Characteristic curves (Measured at $\text{oil} = 40 \pm 5$, using HLP46)

L-LC16DR...



Measured when $p_a = 50\text{bar}$

L-LC 25 DR...



Measured when $p_a = 50\text{bar}$

Flow (L/min)

Pressure differential (bar)
Lowest setting pressure (bar)

Flow (L/min)

Flow (L/min)

Flow (L/min)

Pressure differential (bar)
Lowest setting pressure

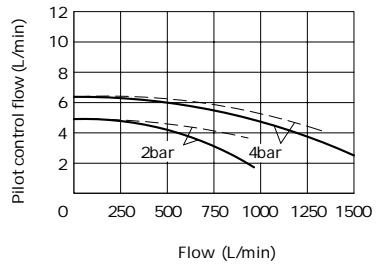
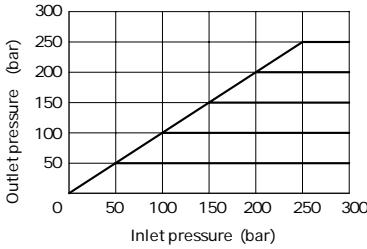
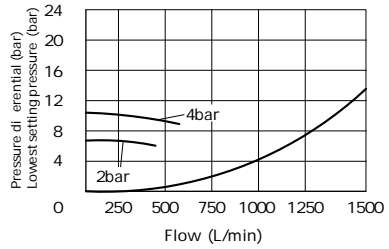
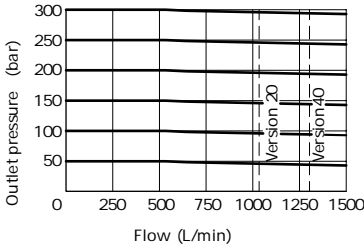
Flow (L/min)

Flow (L/min)

Measured when $p_a=50\text{bar}$

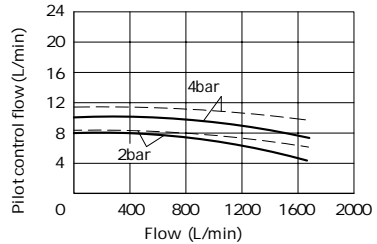
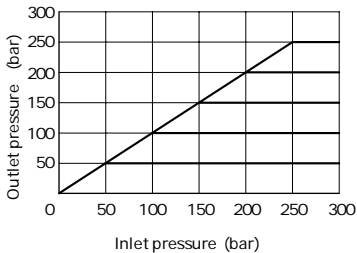
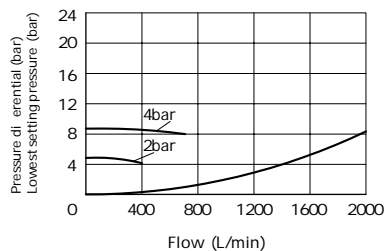
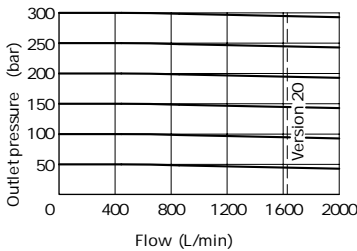
Characteristic curves (Measured at $p_{oil}=40 \pm 5$, using HLP46)

L-LC 50 DR...



L-LC 63 DR...

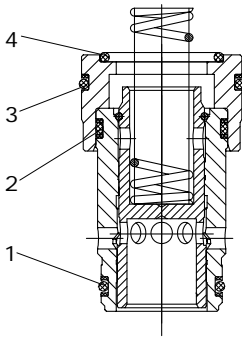
Measured when $p_a=50\text{bar}$
 — $p_e=100\text{bar}$
 - - - $p_e=350\text{bar}$



Measured when $p_a=50\text{bar}$

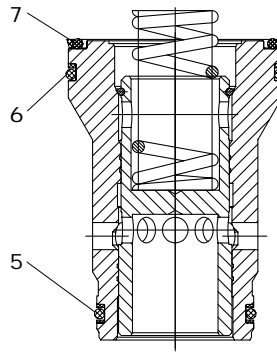
O-rings for cartridge valve type L-LC

Nominal sizes 16, 25 and 32



Type L-LC..DR...

Nominal sizes 40, 50 and 63



Type L-LC..DR...

O-rings

No.	Nominal size		
	16	25	32
1	21.2× 1.8	28× 2.65	40× 2.65
2	22.4× 2.65	32.5× 2.65	43.7× 3.55
3	26.5× 2.65	38.7× 3.55	54.5× 3.55
4	20× 2.65	30× 2.65	37.5× 3.55

No.	Nominal size		
	40	50	63
5	48.7× 3.55	61.5× 3.55	80× 5.3
6	69× 3.55	80× 5.3	109× 5.3
7	67× 3.55	77.5× 5.3	106× 5.3

NO. HL-EN-L-LFA.DR... 01/2024

2-way cartridge valves -pressure control function

5.2-2(2)

Pressure reducing valve function

Control cover Type L-LFA.DR...

Technical data

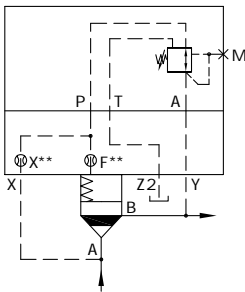
Fluid	Mineral oil suitable for NBR and FKM seal						
	Phosphate ester for FKM seal						
Fluid temperature range	-30 to +80 (NBR seal)						
	-20 to +80 (FKM seal)						
Viscosity range	mm ² /s	2.8 to 380					
Degree of contamination	Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406 ¹⁾						
Nominal size		16	25	32	40	50	63
Weight	kg	3.1	3.6	5.2	8	11.4	20.8

(L-LFA.DR (DRW) ...for applications outside these parameters, please consult us)

¹⁾ To prevent the problem caused by fluid contamination, fluid cleanliness mentioned above must be met.

Control cover with pressure reducing function

Control cover		Control cover type
Max. working pressure at the port...		L-LFA..DR.-../... L-LFA..DRW.-../...
...X (Basic pressure)		315bar
...Y (Secondary pressure = max. remove period setting pressure)		315bar
...Z2	As control pressure	0 pressure (up to 2bar)
	Static	60bar



Caution:

Composed with control cover type L-LFA..DR...and cartridge type L-LC..DB...

Pressure reducing function
Normally closed

Example: $\frac{\text{Type L-LFA..DR...}}{\text{Type L-LC..DB 40D...}}$

O-rings dimensions for ports X, Y, Z1, Z2 (included within the scope of supply)

Size	Dimension (mm)
16	8× 1.8
25	9.25× 1.78
32	10.82× 1.78

Size	Dimension (mm)
40	12× 2.5
50	
63	18.72× 2.62

Fixing screw (included within the scope of supply)

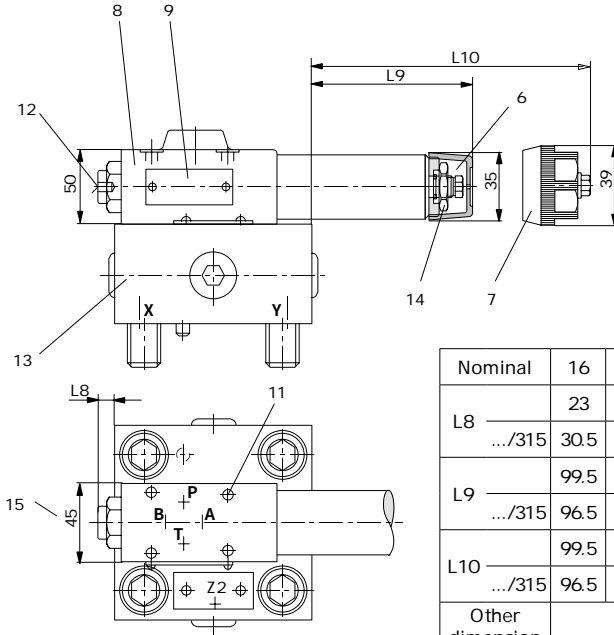
In accordance with GB/T70.1 10.9			
Nominal size	Quantity	Dimension	Tightening torque (Nm)
16	4	M8× 45	32
25		M12× 50	110
32		M16× 60	270

In accordance with GB/T70.1 10.9			
Nominal size	Quantity	Dimension	Tightening torque (Nm)
40	4	M20× 70	520
50		M20× 80	520
63		M30× 100	1800

Control cover with pressure reducing function

(Dimensions in mm)

• Types ..DR... (Nominal sizes 16 to 63)



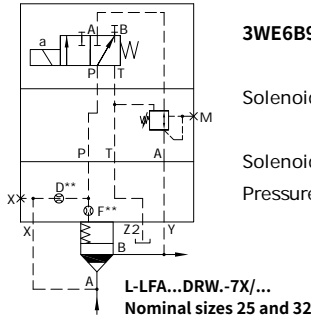
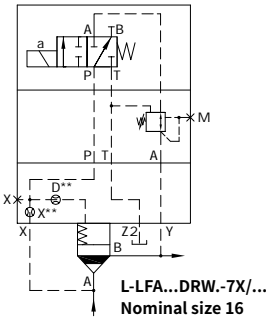
Nominal	16	25	32	40	50	63
L8	23	6				
.../315	30.5	14	6			
L9	99.5	111	103.5	91	83.5	67.5
.../315	96.5	108	100.5	88	80.5	64.5
L10	99.5	111	103.5	91	83.5	67.5
.../315	96.5	108	100.5	88	80.5	64.5
Other dimension	See Page "41/46"					

- 6 Adjustment element "2"
- 7 Adjustment element "1"
- 8 Direct operated pressure reducing valve (is included within the scope of supply)
- 9 Name plate for pressure reducing valves
- 11 Valve fixing screws
M5x 50GB/T 70.1-10.9 M_k = 8.9Nm
are included within the control cover scope of supply
- 12 Pressure gauge port G1/4, 12 deep; Socket screw A/F6
- 13 Control cover
- 14 Locknut A/F24
- 15 For type .../315 50mm

Control cover with pressure reducing function

· Types ..DRW... (Nominal sizes 16 to 63)

L-LFA		DRW	- 7X	/	
Control cover					
Nominal size 16	= 16				No code = NBR seals V = FKMseals (Other seals, please consult us!) Caution: The harmony of seals and fluid must be taken into account.
Nominal size 25	= 25				
Nominal size 32	= 32				
Nominal size 40	= 40				
Nominal size 50	= 50				
Nominal size 63	= 63				
Control covers version					
Regulation form					
Rotary knob	= 1				
Hexagon with protective cap	= 2				
					O25 = Max. secondary pressure 25 bar O75 = Max. secondary pressure 75 bar 150 = Max. secondary pressure 150 bar 210 = Max. secondary pressure 210 bar 315 = Max. secondary pressure 315 bar
				7X =	Series 70 to 79 (70 to 79: unchanged installation and connection dimensions)

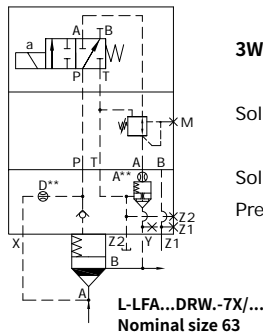
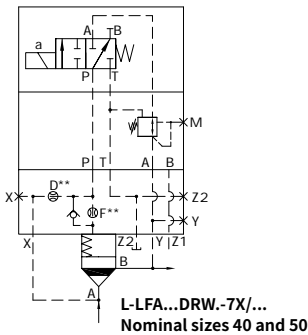


3WE6B9...

Solenoid breakaway Closed

Solenoid electrif ed

Pressure reducing function



3WE6B9...

Solenoid breakaway Closed

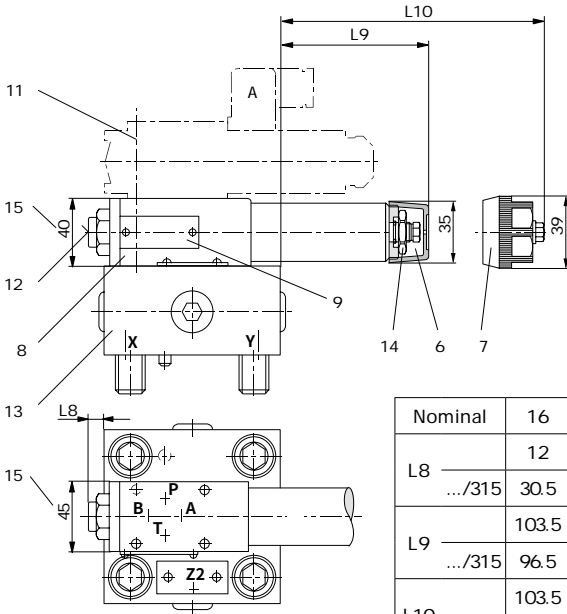
Solenoid electrif ed

Pressure reducing function

Control cover with pressure reducing function

(Dimensions in mm)

• Types ..DRW... (Nominal sizes 16 to 63)



Nominal	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 dimension	See Page "41/46"					

- 6 Adjustment element "2"
- 7 Adjustment element "1"
- 8 Direct operated pressure reducing valve (is included within the scope of supply)
- 9 Pressure reducing valve name plate
- 11 Valve fixing screws

M5x 90GB/T 70.1-10.9 M_A = 8.9Nm are included within the control cover scope of supply.

Solenoid directional valve 3WE6B9... must be ordered separately

- 12 Pressure gauge port G1/4, 12 deep; Socket screw A/F6
- 13 Control cover
- 14 Locknut A/F24
- 15 For type .../315 50mm



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