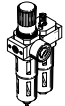
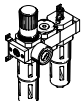
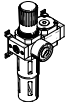
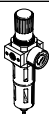


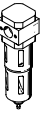
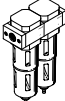
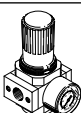


## Pressure regulators LR/LRS/LRB/LRBS, D series

**FESTO**



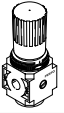
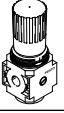
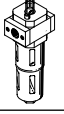
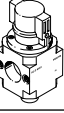
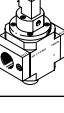
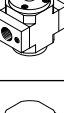
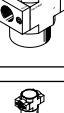
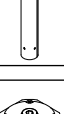


Product range overview – Service unit components, D series, metal

Type	Size	Pneumatic connection										Pressure regulation range [bar]			Grade of filtration [µm]				
		M5	M7	G1/8	G1/4	G3/8	G1/2	G3/4	G1	QS4	QS6	0.5 ...	0.5 ...	2.5 ...	0.01	1	5	40	
<b>Service units</b>																			
<b>FRC/FRCS</b> 	Mini	-	-	■	■	■	-	-	-	-	-	■	■	-	-	-	■	■	
	Midi	-	-	-	■	■	■	■	-	-	-	■	■	-	-	-	■	■	
	Maxi	-	-	-	-	-	■	■	■	-	-	■	■	-	-	-	■	■	
<b>FRC-K</b> 	Mini	-	-	■	■	-	-	-	-	-	-	■	■	-	-	-	-	■	
	Midi	-	-	-	■	■	■	-	-	-	-	■	■	-	-	-	-	■	
	Maxi	-	-	-	-	-	■	■	-	-	-	■	■	-	-	-	-	■	
<b>LFR-K</b> 	Mini	-	-	■	■	-	-	-	-	-	-	■	■	-	-	-	-	■	
	Midi	-	-	-	■	■	■	-	-	-	-	■	■	-	-	-	-	■	
	Maxi	-	-	-	-	-	■	■	-	-	-	■	■	-	-	-	-	■	
<b>Individual devices</b>																			
<b>Filter regulators LFR/LFRS</b> 	Mini	-	-	■	■	■	-	-	-	-	-	■	■	-	-	-	■	■	
	Midi	-	-	-	■	■	■	■	-	-	-	■	■	-	-	-	■	■	
	Maxi	-	-	-	-	-	■	■	■	-	-	■	■	-	-	-	■	■	
<b>Filters LF</b> 	Mini	-	-	■	■	■	-	-	-	-	-	-	-	-	-	-	■	■	
	Midi	-	-	-	■	■	■	■	-	-	-	-	-	-	-	-	-	■	■
	Maxi	-	-	-	-	-	■	■	■	-	-	-	-	-	-	-	-	■	■
<b>Fine and micro filters LFMA/LFMB</b> 	Mini	-	-	■	■	■	-	-	-	-	-	-	-	■	■	-	-	-	
	Midi	-	-	-	■	■	■	■	-	-	-	-	-	-	■	■	-	-	
	Maxi	-	-	-	-	-	■	■	■	-	-	-	-	-	■	■	-	-	
<b>Activated carbon filters LFX</b> 	Mini	-	-	■	■	■	-	-	-	-	-	-	-	-	-	-	-	-	
	Midi	-	-	-	■	■	■	■	-	-	-	-	-	-	-	-	-	-	
	Maxi	-	-	-	-	-	■	■	■	-	-	-	-	-	-	-	-	-	
<b>Filter combinations LF MBA</b> 	Mini	-	-	■	■	■	-	-	-	-	-	-	-	■	■	-	-	-	
	Midi	-	-	-	■	■	■	■	-	-	-	-	-	-	■	■	-	-	
	Maxi	-	-	-	-	-	■	■	■	-	-	-	-	-	■	■	-	-	
<b>Druckregelventile LR/LRS</b> 	Mini	-	-	■	■	■	-	-	-	-	-	■	■	-	-	-	-	-	
	Midi	-	-	-	■	■	■	■	-	-	-	■	■	-	-	-	-	-	
	Maxi	-	-	-	-	-	■	■	■	-	-	■	■	-	-	-	-	-	

Product range overview – Service unit components, D series, metal

Type	Size	Bowl guard		Condensate drain			Pressure indicator		Actuator lock		Supply voltage			Options			→ Page/ Internet
		Metal bowl guard	Plastic bowl	Manual	Semi-automatic	Fully automatic	With pressure gauge	Without pressure gauge	Rotary knob with latch	Rotary knob with integrated lock	24 V DC	110 V AC	230 V AC	Directly actuated pressure regulator with integrated return flow function	Pilot actuated pressure regulator with integrated return flow function	Differential pressure display	
<b>Service units</b>																	
FRC/FRCS	Mini	■	-	■	-	■	■	■	■	■	-	-	-	-	-	-	frc
	Midi	■	-	■	-	■	■	■	■	■	-	-	-	-	-	-	
	Maxi	■	-	■	-	■	■	■	■	■	-	-	-	■	■	-	
FRC-K	Mini	■	-	■	-	■	■	-	■	-	■	-	-	-	-	-	frc
	Midi	■	-	■	-	■	■	-	■	-	■	-	-	-	-	-	
	Maxi	■	-	■	-	■	■	-	■	-	■	-	-	■	■	-	
LFR-K	Mini	■	-	■	-	■	■	-	■	■	■	-	-	-	-	-	lfr
	Midi	■	-	■	-	■	■	-	■	■	■	-	-	-	-	-	
	Maxi	■	-	■	-	■	■	-	■	■	■	-	-	■	■	-	
<b>Individual devices</b>																	
Filter regulators LFR/LFRS	Mini	■	-	■	-	■	■	■	■	■	-	-	-	-	-	-	lfr
	Midi	■	-	■	-	■	■	■	■	■	-	-	-	-	-	-	
	Maxi	■	-	■	-	■	■	■	■	■	-	-	-	■	■	-	
Filters LF	Mini	■	-	■	-	■	-	-	-	-	-	-	-	-	-	-	lf
	Midi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	-	
	Maxi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	-	
Fine and micro filters LFMA/LFMB	Mini	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	lfma, lfmb
	Midi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
	Maxi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
Activated carbon filters LFX	Mini	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	lfx
	Midi	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Maxi	■	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Filter combinations LFMBA	Mini	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	lfmba
	Midi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
	Maxi	■	-	■	-	■	-	-	-	-	-	-	-	-	-	■	
Pressure regulators LR/LRS	Mini	-	-	-	-	-	■	■	■	■	-	-	-	■	-	-	lr
	Midi	-	-	-	-	-	■	■	■	■	-	-	-	■	-	-	
	Maxi	-	-	-	-	-	■	■	■	■	-	-	-	■	■	-	

Product range overview – Service unit components, D series, metal

Type	Size	Pneumatic Connection										Pressure regulation range [bar]		
		M5	M7	G1/8	G1/4	G3/8	G1/2	G3/4	G1	QS4	QS6	0.5 ... 7	0.5 ... 12	
<b>Individual devices</b>														
Pressure regulators <b>LRB/LRBS</b>		Mini	-	-	-	■	-	-	-	-	-	-	■	■
		Midi	-	-	-	-	■	-	-	-	-	-	■	■
		Maxi	-	-	-	-	-	-	-	-	-	-	-	-
Pressure regulator manifolds <b>LRB-K</b>		Mini	-	-	-	■	■	-	-	-	-	-	■	■
		Midi	-	-	-	-	■	■	-	-	-	-	■	■
		Maxi	-	-	-	-	-	-	-	-	-	-	-	-
Lubricators <b>LOE</b>		Mini	-	-	■	■	■	-	-	-	-	-	-	-
		Midi	-	-	-	■	■	■	■	-	-	-	-	-
		Maxi	-	-	-	-	-	■	■	■	-	-	-	-
On/off valves <b>HE</b>		Mini	-	-	■	■	■	-	-	-	-	-	-	-
		Midi	-	-	-	■	■	■	■	-	-	-	-	-
		Maxi	-	-	-	-	-	■	■	■	-	-	-	-
On/off valves <b>HEE</b>		Mini	-	-	■	■	■	-	-	-	-	-	-	-
		Midi	-	-	-	■	■	■	■	-	-	-	-	-
		Maxi	-	-	-	-	-	■	■	■	-	-	-	-
On/off valves <b>HEP</b>		Mini	-	-	■	■	■	-	-	-	-	-	-	-
		Midi	-	-	-	■	■	■	■	-	-	-	-	-
		Maxi	-	-	-	-	-	■	■	■	-	-	-	-
Soft-start valves <b>HEL</b>		Mini	-	-	■	■	■	-	-	-	-	-	-	-
		Midi	-	-	-	■	■	■	■	-	-	-	-	-
		Maxi	-	-	-	-	-	■	■	■	-	-	-	-
Membrane air dryers <b>LDM1</b>		Mini	-	-	-	-	-	-	-	-	-	-	-	-
		Midi	-	-	-	-	-	-	-	-	-	-	-	-
		Maxi	-	-	-	-	-	■	■	■	-	-	-	-
Branching modules <b>FRM</b>		Mini	-	-	■	■	■	-	-	-	-	-	-	-
		Midi	-	-	-	■	■	■	■	-	-	-	-	-
		Maxi	-	-	-	-	-	■	■	■	-	-	-	-
Distributor block <b>FRZ</b>		Mini	-	-	-	-	-	-	-	-	-	-	-	-
		Midi	-	-	-	-	-	-	-	-	-	-	-	-
		Maxi	-	-	-	-	-	-	-	-	-	-	-	-

Product range overview – Service unit components, D series, metal

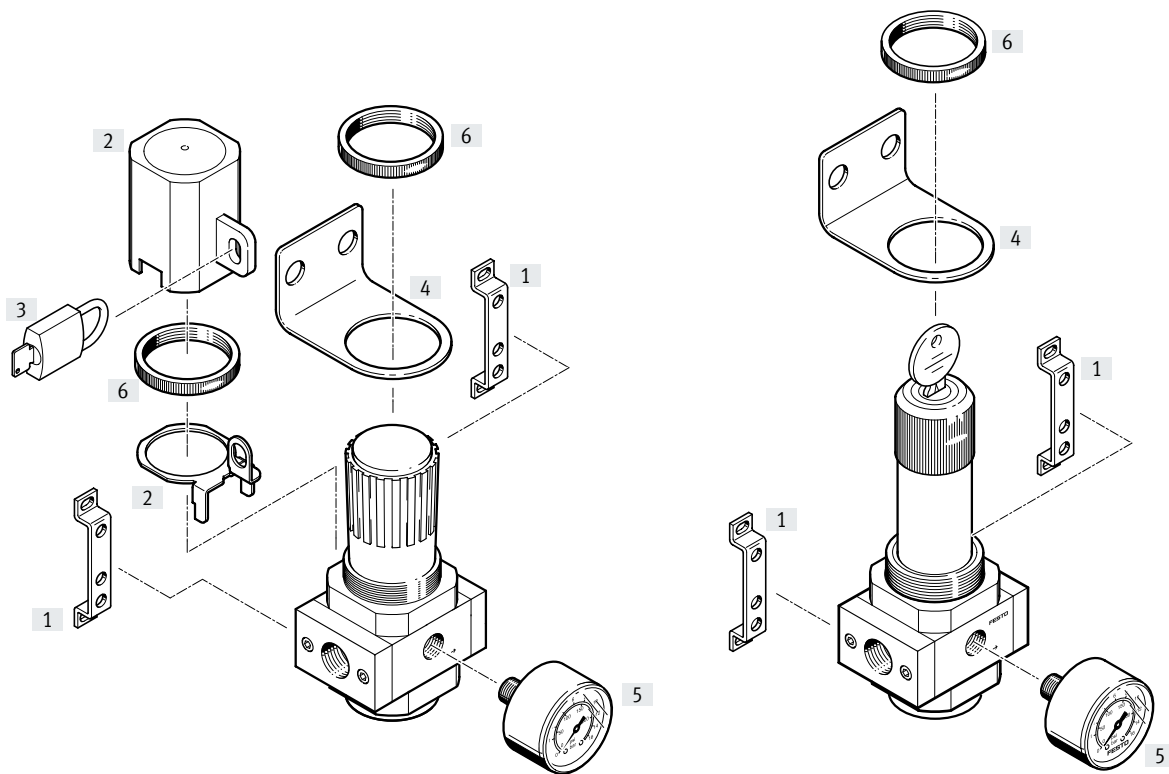
Type	Size	Bowl guard		Pressure indicator		Actuator lock		Supply voltage			Options		→ Page/ Internet
		Metal bowl guard	Plastic bowl	With pressure gauge	Without pressure gauge	Rotary knob with latch	Rotary knob with integrated lock	24 V DC	110 V AC	230 V AC	With non-return function	Pressure switch	
<b>Individual devices</b>													
Pressure regulators <b>LRB/LRBS</b>	Micro	-	-	-	■	■	■	-	-	-	-	-	lrb
	Mini	-	-	-	■	■	■	-	-	-	-	-	
	Midi	-	-	-	-	-	-	-	-	-	-	-	
Pressure regulator manifolds <b>LRB-K</b>	Mini	-	-	-	■	■	-	-	-	-	-	-	lrb
	Midi	-	-	-	■	■	-	-	-	-	-	-	
	Maxi	-	-	-	-	-	-	-	-	-	-	-	
Lubricators <b>LOE</b>	Mini	■	-	-	■	-	-	-	-	-	-	-	loe
	Midi	■	-	-	■	-	-	-	-	-	-	-	
	Maxi	■	-	-	■	-	-	-	-	-	-	-	
On/off valves <b>HE</b>	Mini	-	-	-	■	■	-	-	-	-	-	-	he
	Midi	-	-	-	■	■	-	-	-	-	-	-	
	Maxi	-	-	-	■	■	-	-	-	-	-	-	
On/off valves <b>HEE</b>	Mini	-	-	-	■	-	-	■	■	■	-	-	hee
	Midi	-	-	-	■	-	-	■	■	■	-	-	
	Maxi	-	-	-	■	-	-	■	■	■	-	-	
On/off valves <b>HEP</b>	Mini	-	-	-	■	-	-	-	-	-	-	-	hep
	Midi	-	-	-	■	-	-	-	-	-	-	-	
	Maxi	-	-	-	■	-	-	-	-	-	-	-	
Soft-start valves <b>HEL</b>	Mini	-	-	-	■	-	-	-	-	-	-	-	hel
	Midi	-	-	-	■	-	-	-	-	-	-	-	
	Maxi	-	-	-	■	-	-	-	-	-	-	-	
Membrane air dryers <b>LDM1</b>	Mini	-	-	-	-	-	-	-	-	-	-	-	ldm1
	Midi	-	-	-	-	-	-	-	-	-	-	-	
	Maxi	■	-	-	■	-	-	-	-	-	-	-	
Branching modules <b>FRM</b>	Mini	-	-	-	■	-	-	-	-	-	■	■	frm
	Midi	-	-	-	■	-	-	-	-	-	■	■	
	Maxi	-	-	-	■	-	-	-	-	-	■	■	
Distributor block <b>FRZ</b>	Mini	-	-	-	■	-	-	-	-	-	-	-	frz
	Midi	-	-	-	■	-	-	-	-	-	-	-	
	Maxi	-	-	-	■	-	-	-	-	-	-	-	

## Peripherals overview

### Mini/Midi/Maxi

Pressure regulator LR

Pressure regulator LRS, lockable



Mounting attachments and accessories		Rotary knob with latch	Rotary knob, lockable	→ Page/Internet
[1]	Mounting bracket HFOE	■	■	hfoe-d
[2]	Regulator lock LRVS	■	-	lrvs-d
[3]	Padlock LRVS-D	■	-	lrvs-d
[4]	Mounting bracket HR-D	■	■	hr-d
[5]	Pressure gauge MA	■	■	50
[6]	Knurled nut (included in the scope of delivery) HMR	■	■	-

## Type codes

001	Series
<b>LR</b>	Pressure regulator
<b>LRS</b>	Pressure regulator, lockable

002	Pneumatic connection
	None
<b>1/8</b>	Female thread G1/8
<b>1/4</b>	Female thread G1/4
<b>3/8</b>	Female thread G3/8
<b>1/2</b>	Female thread G1/2
<b>3/4</b>	Female thread G3/4
<b>1</b>	Female thread G1

003	Version
<b>D</b>	D series, metal

004	Pressure regulation range
<b>7</b>	0.5 ... 7 bar (0.05 ... 0.7 MPa)
	0.5 ... 12 bar (0.05 ... 1.2 MPa)

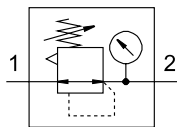
005	Pressure gauge
	With pressure gauge
<b>0</b>	Without pressure gauge

006	Additional function
	None
<b>I</b>	With integrated non-return function
<b>DI</b>	Directly actuated pressure regulator with integrated return flow function

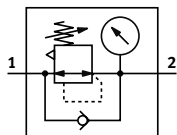
007	Size
<b>MINI</b>	Grid dimension 40 mm (without connecting plates)
<b>MIDI</b>	Grid dimension 55 mm (without connecting plates)
<b>MAXI</b>	Grid dimension 66 mm (without connecting plates)




## Datasheet

LR/LRS  
with pressure gauge



LR/LRS-...I-MINI/MIDI,  
LR/LRS-...DI-MAXI  
With pressure gauge



-  - Flow rate  
120 ... 12500 l/min
-  - Temperature range  
-10 ... +60 °C
-  - Operating pressure  
0.1 ... 1.6 MPa



- Also suitable for front panel mounting
- Two pressure gauge connections for different installation options
- Good regulation characteristics with minimal pressure hysteresis
- High flow rate
- Two pressure regulation ranges: 0.5... 7 bar and 0.5 ... 12 bar
- Settings secured via latch on rotary knob
- Return flow option for exhausting from output 2 to input 1
- Pressure sensor (optional)  
→ page 50

General technical data		Mini	Midi	Maxi
Size				
Pneumatic port 1, 2 <sup>1)</sup>		G1/8, G1/4, G3/8	G1/4, G3/8, G1/2, G3/4	G1/2, G3/4, G1
Design		Directly actuated diaphragm regulator		Pilot-actuated piston regulator
				Directly actuated diaphragm regulator LR/LRS-...DI
Regulator function		Output pressure constant, with secondary exhausting, with primary pressure compensation, with return flow <sup>2)</sup>		Output pressure constant, with secondary exhausting, with primary pressure compensation <sup>3)</sup> , with return flow <sup>3)</sup>
Type of mounting		With accessories		
		In-line installation		
		Front panel mounting		
Mounting position		Any		
Actuator lock		Rotary knob with latch		
		Rotary knob with integrated lock		
Pressure regulation range	[MPa]	0.05 ... 0.7		
		0.05 ... 1.2		
	[bar]	0.5 ... 7		
		0.5 ... 12		
	[psi]	7.25 ... 101.5		
		7.25 ... 174		
Max. pressure hysteresis	[MPa]	0.02		0.04
	[bar]	0.2		0.4
	[psi]	2.9		5.8
Pressure indication		With pressure gauge		
		Prepared for G1/8	Prepared for G1/4	Prepared for G1/4

1) Connecting plates with threaded connection

2) For LR/LRS-...I.

3) For LR/LRS-...DI.

† - Note: This product corresponds to ISO 1179-1 and ISO 228-1.



## Datasheet

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]											
Size		Mini			Midi			Maxi			
Pneumatic port 1, 2		G1/8	G1/4	G3/8	G1/4	G3/8	G1/2	G3/4	G1/2	G3/4	G1
Pressure regulation range	0.5 ... 7 bar	1000	1600	1800	2200	3300	4000	4500	10700 (7300) <sup>2)</sup>	12000 (8350) <sup>2)</sup>	12500 (8400) <sup>2)</sup>
	0.5 ... 12 bar	800	1500	1700	2100	3200	3500	3500	10500 (5400) <sup>2)</sup>	11000 (6800) <sup>2)</sup>	11500 (7000) <sup>2)</sup>

1) Measured at  $p_1 = 10$  bar,  $p_2 = 6$  bar and  $\Delta p = 1$  bar.

2) More information: [www.festo.com/catalogue/lr](http://www.festo.com/catalogue/lr) → Support/Downloads.

Operating and environmental conditions	
Operating pressure	[MPa] 0 ... 1.6
	[bar] 0 ... 16
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
	Inert gases
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Ambient temperature	[°C] -10 ... +60
Temperature of medium	[°C] -10 ... +60
Corrosion resistance class CRC <sup>1)</sup>	2 - Moderate corrosion stress

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

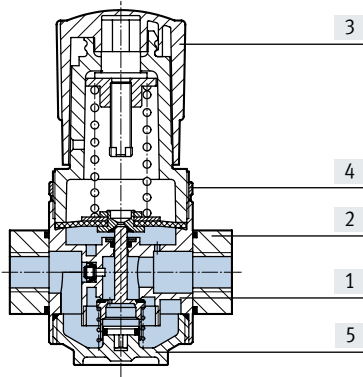
Weight [g]			
Size	Mini	Midi	Maxi
<b>With pressure gauge</b>			
LR	350	720	1200 (1400) <sup>1)</sup>
LRS	520	1250	1290 (1680) <sup>1)</sup>
<b>Without pressure gauge</b>			
LR	300	660	1100 (1330) <sup>1)</sup>
LRS	470	1180	1215 (1610) <sup>1)</sup>

1) For LR/LRS-...DI.

## Datasheet

### Materials

Sectional view

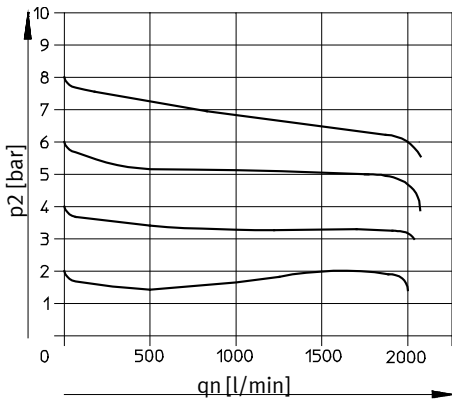


[1]	Housing	Die-cast zinc/aluminium
[2]	Connecting plates	Die-cast zinc/aluminium
[3]	Regulator knob	PA
[4]	Knurled nut	Aluminium
[5]	Cover	PC
-	Seals	NBR
Note on materials		RoHS-compliant
LABS (PWIS) conformity		VDMA24364-B1/B2-L

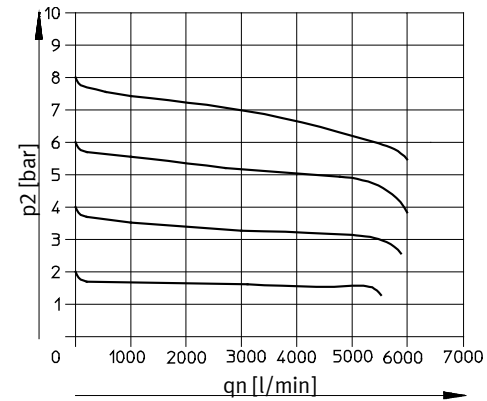
## Datasheet

### Standard flow rate $q_n$ as a function of output pressure $p_2$

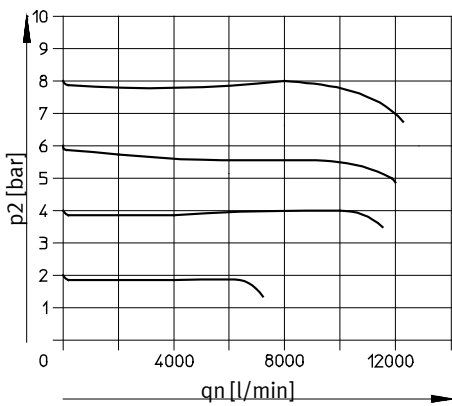
LR/LRS-1/4-D-MINI



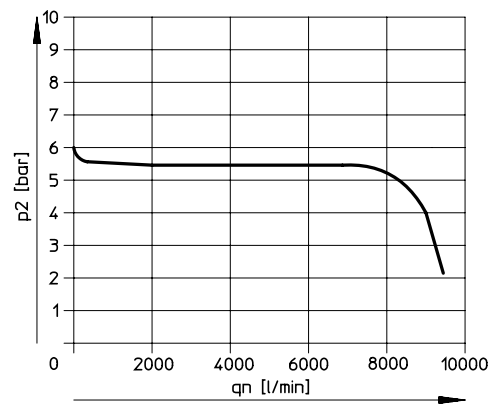
LR/LRS-1/2-D-MIDI




LR/LRS-1-D-MAXI



LR/LRS-1-D-DI-MAXI



Primary pressure  $p_1 = 10$  bar

 **Note**

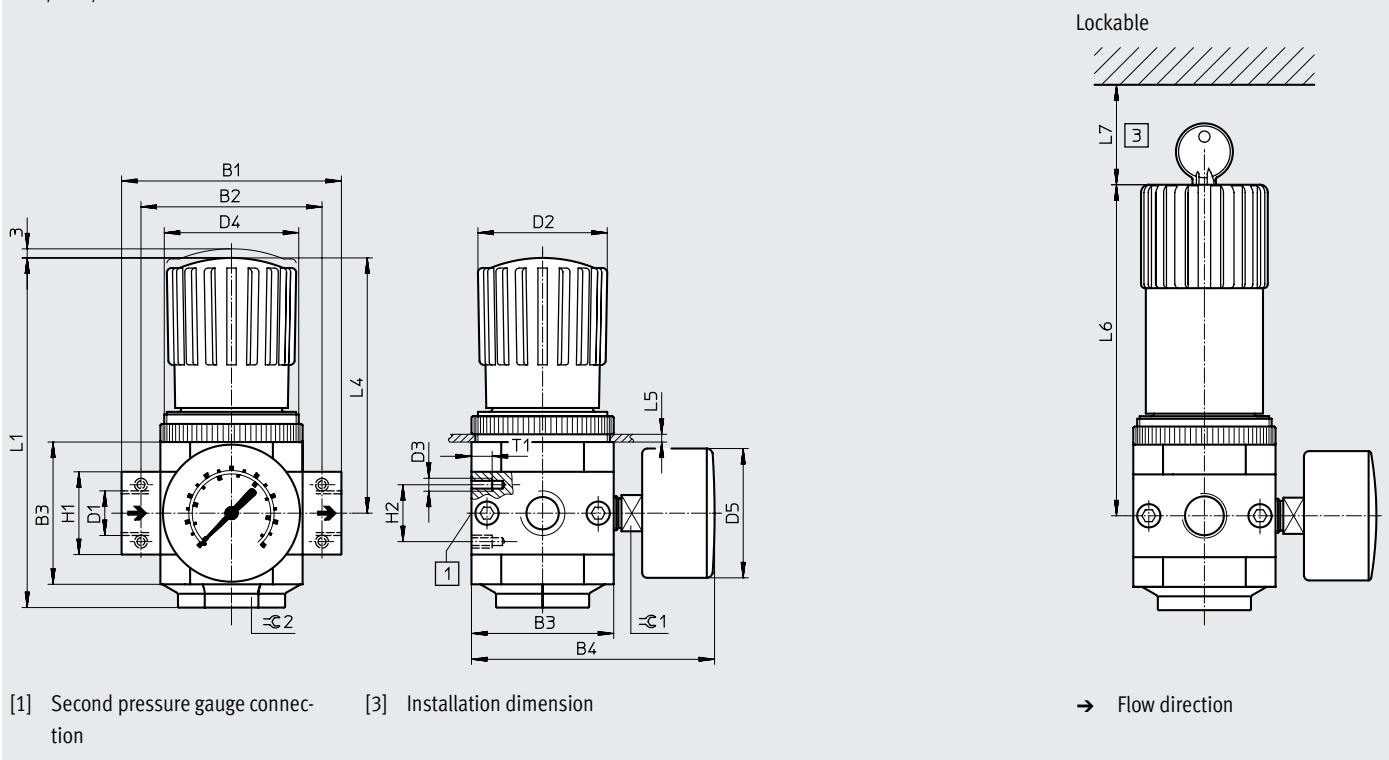
In order to improve the control performance, internal air consumption depending on the primary pressure is integrated into the design of the LR/LRS-...-MAXI.

Datasheet

Dimensions

Mini/Midi/Maxi

Download CAD data → [www.festo.com](http://www.festo.com)



Type	B1	B2	B3	B4	D1	D2 ∅	D3	D4	D5 ∅
<b>Mini</b>									
LR/LRS-1/8-D-(I)-MINI	64	52	40	76	G1/8	31	M4	M36x1.5	39
LR/LRS-1/4-D-(I)-MINI					G1/4				
LR/LRS-3/8-D-(I)-MINI	70				G3/8				
<b>Midi</b>									
LR/LRS-1/4-D-(I)-MIDI	85	70	55	95	G1/4	50	M5	M52x1.5	39
LR/LRS-3/8-D-(I)-MIDI					G3/8				
LR/LRS-1/2-D-(I)-MIDI					G1/2				
LR/LRS-3/4-D-(I)-MIDI					G3/4				
<b>Maxi</b>									
LR/LRS-1/2-D-MAXI	96	80	66	106	G1/2	31	M5	M36x1.5	39
LR/LRS-1/2-D-DI-MAXI				105		49		M52x1.5	
LR/LRS-3/4-D-MAXI				106	G3/4	31		M36x1.5	
LR/LRS-3/4-D-DI-MAXI				105		49		M52x1.5	
LR/LRS-1-D-MAXI	116	91	106	G1	31	M36x1.5			
LR/LRS-1-D-DI-MAXI			105		49	M52x1.5			

Note: This product corresponds to ISO 1179-1 and ISO 228-1.

Datasheet

Type	H1	H2	L1	L4	L5 max.	L6	L7	T1	≅ 1	≅ 2
<b>Mini</b>										
LR/LRS-1/8-D-MINI	20	11	95	68	3	98	60	7	14	17
LR/LRS-1/4-D-MINI										
LR/LRS-3/8-D-MINI										
<b>Midi</b>										
LR/LRS-1/4-D-MIDI	32	22	135	99	5	130	60	8	14	36
LR/LRS-3/8-D-MIDI										
LR/LRS-1/2-D-MIDI										
LR/LRS-3/4-D-MIDI										
<b>Maxi</b>										
LR/LRS-1/2-D-MAXI	32	22	125	82	4	111	60	8	14	22
LR/LRS-1/2-D-DI-MAXI	32		148	105		135				
LR/LRS-3/4-D-MAXI	32		125	82		111				
LR/LRS-3/4-D-DI-MAXI	36		148	105		135				
LR/LRS-1-D-MAXI	40		125	82		111				
LR/LRS-1-D-DI-MAXI	41		148	105		135				

Datasheet

Ordering data					
Rotary knob with latch, connecting plates with threaded connection					
Size	Connection	Pressure regulation range 0.5 ... 7 bar		Pressure regulation range 0.5 ... 12 bar	
		Part no.	Type	Part no.	Type
<b>With pressure gauge, outer scale in bar, inner scale in psi</b>					
Mini	G1/8	162582	LR-1/8-D-7-MINI	159624	LR-1/8-D-MINI
	G1/4	162583	LR-1/4-D-7-MINI	159625	LR-1/4-D-MINI
	G3/8	162584	LR-3/8-D-7-MINI	162580	LR-3/8-D-MINI
Midi	G1/4	186453	LR-1/4-D-7-MIDI	186451	LR-1/4-D-MIDI
	G3/8	162585	LR-3/8-D-7-MIDI	159580	LR-3/8-D-MIDI
	G1/2	162586	LR-1/2-D-7-MIDI	159581	LR-1/2-D-MIDI
	G3/4	162587	LR-3/4-D-7-MIDI	162581	LR-3/4-D-MIDI
Maxi	G1/2	186457	LR-1/2-D-7-MAXI	186455	LR-1/2-D-MAXI
	G3/4	162588	LR-3/4-D-7-MAXI	159626	LR-3/4-D-MAXI
	G1	162589	LR-1-D-7-MAXI	159627	LR-1-D-MAXI
<b>Without pressure gauge</b>					
Mini	G1/8	162598	LR-1/8-D-7-O-MINI	162590	LR-1/8-D-O-MINI
	G1/4	162599	LR-1/4-D-7-O-MINI	162591	LR-1/4-D-O-MINI
	G3/8	162600	LR-3/8-D-7-O-MINI	162592	LR-3/8-D-O-MINI
Midi	G1/4	186454	LR-1/4-D-7-O-MIDI	186452	LR-1/4-D-O-MIDI
	G3/8	162601	LR-3/8-D-7-O-MIDI	162593	LR-3/8-D-O-MIDI
	G1/2	162602	LR-1/2-D-7-O-MIDI	162594	LR-1/2-D-O-MIDI
	G3/4	162603	LR-3/4-D-7-O-MIDI	162595	LR-3/4-D-O-MIDI
Maxi	G1/2	186458	LR-1/2-D-7-O-MAXI	186456	LR-1/2-D-O-MAXI
	G3/4	162604	LR-3/4-D-7-O-MAXI	162596	LR-3/4-D-O-MAXI
	G1	162605	LR-1-D-7-O-MAXI	162597	LR-1-D-O-MAXI

## Datasheet

<b>Ordering data</b>					
With integrated return flow function, rotary knob with latch, connecting plates with threaded connection					
Size	Connection	Pressure regulation range 0.5 ... 7 bar		Pressure regulation range 0.5 ... 12 bar	
		Part no.	Type	Part no.	Type
<b>With pressure gauge, outer scale in bar, inner scale in psi</b>					
Mini	G1/8	192299	LR-1/8-D-7-I-MINI	192298	LR-1/8-D-I-MINI
	G1/4	192301	LR-1/4-D-7-I-MINI	192300	LR-1/4-D-I-MINI
	G3/8	192303	LR-3/8-D-7-I-MINI	192302	LR-3/8-D-I-MINI
Midi	G1/4	192311	LR-1/4-D-7-I-MIDI	192310	LR-1/4-D-I-MIDI
	G3/8	192313	LR-3/8-D-7-I-MIDI	192312	LR-3/8-D-I-MIDI
	G1/2	192315	LR-1/2-D-7-I-MIDI	192314	LR-1/2-D-I-MIDI
	G3/4	192317	LR-3/4-D-7-I-MIDI	192316	LR-3/4-D-I-MIDI
<b>Without pressure gauge</b>					
Mini	G1/8	192305	LR-1/8-D-7-O-I-MINI	192304	LR-1/8-D-O-I-MINI
	G1/4	192307	LR-1/4-D-7-O-I-MINI	192306	LR-1/4-D-O-I-MINI
	G3/8	192309	LR-3/8-D-7-O-I-MINI	192308	LR-3/8-D-O-I-MINI
Midi	G1/4	192319	LR-1/4-D-7-O-I-MIDI	192318	LR-1/4-D-O-I-MIDI
	G3/8	192321	LR-3/8-D-7-O-I-MIDI	192320	LR-3/8-D-O-I-MIDI
	G1/2	192323	LR-1/2-D-7-O-I-MIDI	192322	LR-1/2-D-O-I-MIDI
	G3/4	192325	LR-3/4-D-7-O-I-MIDI	192324	LR-3/4-D-O-I-MIDI
<b>Ordering data</b>					
Directly actuated pressure regulator with integrated return flow function, rotary knob with latch, connecting plates with threaded connection					
Size	Connection	Pressure regulation range 0.5 ... 7 bar		Pressure regulation range 0.5 ... 12 bar	
		Part no.	Type	Part no.	Type
<b>With pressure gauge, outer scale in bar, inner scale in psi</b>					
Maxi	G1/2	192358	LR-1/2-D-7-DI-MAXI	192356	LR-1/2-D-DI-MAXI
	G3/4	192362	LR-3/4-D-7-DI-MAXI	192360	LR-3/4-D-DI-MAXI
	G1	192366	LR-1-D-7-DI-MAXI	192364	LR-1-D-DI-MAXI
<b>Without pressure gauge</b>					
Maxi	G1/2	192359	LR-1/2-D-7-O-DI-MAXI	192357	LR-1/2-D-O-DI-MAXI
	G3/4	192363	LR-3/4-D-7-O-DI-MAXI	192361	LR-3/4-D-O-DI-MAXI
	G1	192367	LR-1-D-7-O-DI-MAXI	192365	LR-1-D-O-DI-MAXI

## Datasheet

### Ordering data

Rotary knob with integrated lock, connecting plates with threaded connection

Size	Connection	Pressure regulation range 0.5 ... 7 bar		Pressure regulation range 0.5 ... 12 bar	
		Part no.	Type	Part no.	Type

#### With pressure gauge, outer scale in bar, inner scale in psi

Mini	G1/8	194606	LRS-1/8-D-7-MINI	194602	LRS-1/8-D-MINI
	G1/4	194614	LRS-1/4-D-7-MINI	194610	LRS-1/4-D-MINI
	G3/8	194622	LRS-3/8-D-7-MINI	194618	LRS-3/8-D-MINI
Midi	G1/4	194630	LRS-1/4-D-7-MIDI	194626	LRS-1/4-D-MIDI
	G3/8	194638	LRS-3/8-D-7-MIDI	194634	LRS-3/8-D-MIDI
	G1/2	194646	LRS-1/2-D-7-MIDI	194642	LRS-1/2-D-MIDI
	G3/4	194656	LRS-3/4-D-7-MIDI	194650	LRS-3/4-D-MIDI
Maxi	G1/2	194660	LRS-1/2-D-7-MAXI	194658	LRS-1/2-D-MAXI
	G3/4	194662	LRS-3/4-D-7-MAXI	194664	LRS-3/4-D-MAXI
	G1	194668	LRS-1-D-7-MAXI	194666	LRS-1-D-MAXI

#### Without pressure gauge

Mini	G1/8	194608	LRS-1/8-D-7-O-MINI	194604	LRS-1/8-D-O-MINI
	G1/4	194616	LRS-1/4-D-7-O-MINI	194612	LRS-1/4-D-O-MINI
	G3/8	194624	LRS-3/8-D-7-O-MINI	194620	LRS-3/8-D-O-MINI
Midi	G1/4	194632	LRS-1/4-D-7-O-MIDI	194628	LRS-1/4-D-O-MIDI
	G3/8	194640	LRS-3/8-D-7-O-MIDI	194636	LRS-3/8-D-O-MIDI
	G1/2	194648	LRS-1/2-D-7-O-MIDI	194644	LRS-1/2-D-O-MIDI
	G3/4	194654	LRS-3/4-D-7-O-MIDI	194652	LRS-3/4-D-O-MIDI
Maxi	G1/2	194661	LRS-1/2-D-7-O-MAXI	194659	LRS-1/2-D-O-MAXI
	G3/4	194663	LRS-3/4-D-7-O-MAXI	194665	LRS-3/4-D-O-MAXI
	G1	194669	LRS-1-D-7-O-MAXI	194667	LRS-1-D-O-MAXI

### Ordering data

With integrated return flow function, rotary knob with integrated lock, connecting plates with threaded connection

Size	Connection	Pressure regulation range 0.5 ... 7 bar		Pressure regulation range 0.5 ... 12 bar	
		Part no.	Type	Part no.	Type

#### With pressure gauge, outer scale in bar, inner scale in psi

Mini	G1/8	194607	LRS-1/8-D-7-I-MINI	194603	LRS-1/8-D-I-MINI
	G1/4	194615	LRS-1/4-D-7-I-MINI	194611	LRS-1/4-D-I-MINI
	G3/8	194623	LRS-3/8-D-7-I-MINI	194619	LRS-3/8-D-I-MINI
Midi	G1/4	194631	LRS-1/4-D-7-I-MIDI	194627	LRS-1/4-D-I-MIDI
	G3/8	194639	LRS-3/8-D-7-I-MIDI	194635	LRS-3/8-D-I-MIDI
	G1/2	194647	LRS-1/2-D-7-I-MIDI	194643	LRS-1/2-D-I-MIDI
	G3/4	194657	LRS-3/4-D-7-I-MIDI	194651	LRS-3/4-D-I-MIDI

#### Without pressure gauge

Mini	G1/8	194609	LRS-1/8-D-7-O-I-MINI	194605	LRS-1/8-D-O-I-MINI
	G1/4	194617	LRS-1/4-D-7-O-I-MINI	194613	LRS-1/4-D-O-I-MINI
	G3/8	194625	LRS-3/8-D-7-O-I-MINI	194621	LRS-3/8-D-O-I-MINI
Midi	G1/4	194633	LRS-1/4-D-7-O-I-MIDI	194629	LRS-1/4-D-O-I-MIDI
	G3/8	194641	LRS-3/8-D-7-O-I-MIDI	194637	LRS-3/8-D-O-I-MIDI
	G1/2	194649	LRS-1/2-D-7-O-I-MIDI	194645	LRS-1/2-D-O-I-MIDI
	G3/4	194655	LRS-3/4-D-7-O-I-MIDI	194653	LRS-3/4-D-O-I-MIDI



## Datasheet

**Ordering data**

Directly actuated pressure regulator with integrated return flow function, rotary knob with integrated lock, connecting plates with threaded connection

Size	Connection	Pressure regulation range 0.5 ... 7 bar		Pressure regulation range 0.5 ... 12 bar	
		Part no.	Type	Part no.	Type

**With pressure gauge, outer scale in bar, inner scale in psi**

Maxi	G1/2	194672	LRS-1/2-D-7-DI-MAXI	194670	LRS-1/2-D-DI-MAXI
	G3/4	194676	LRS-3/4-D-7-DI-MAXI	194674	LRS-3/4-D-DI-MAXI
	G1	194680	LRS-1-D-7-DI-MAXI	194678	LRS-1-D-DI-MAXI

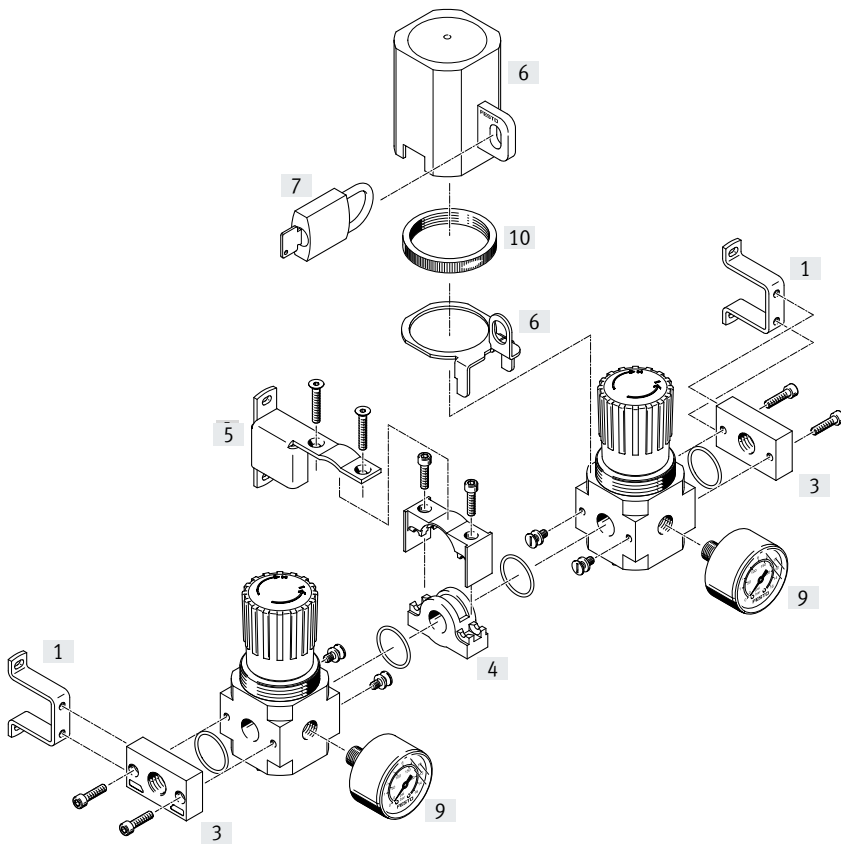
**Without pressure gauge**

Maxi	G1/2	194673	LRS-1/2-D-7-O-DI-MAXI	194671	LRS-1/2-D-O-DI-MAXI
	G3/4	194677	LRS-3/4-D-7-O-DI-MAXI	194675	LRS-3/4-D-O-DI-MAXI
	G1	194681	LRS-1-D-7-O-DI-MAXI	194679	LRS-1-D-O-DI-MAXI

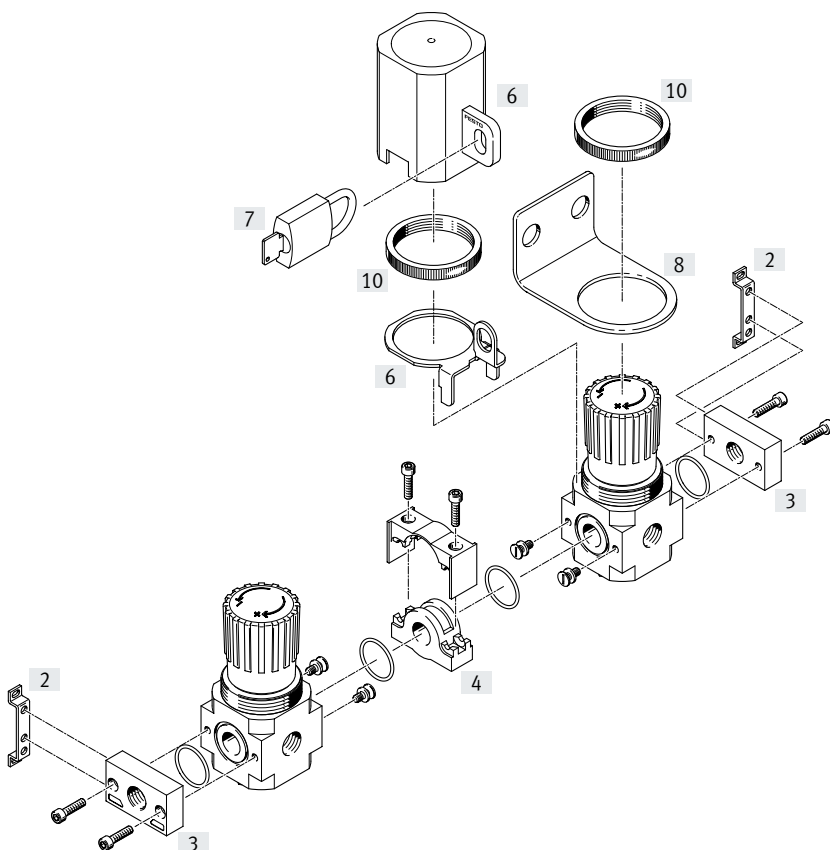
## Peripherals overview

### Mini/Midi

Pressure regulator LRB – pressure output at the rear



Pressure regulator LRB – pressure output at the front



## Peripherals overview

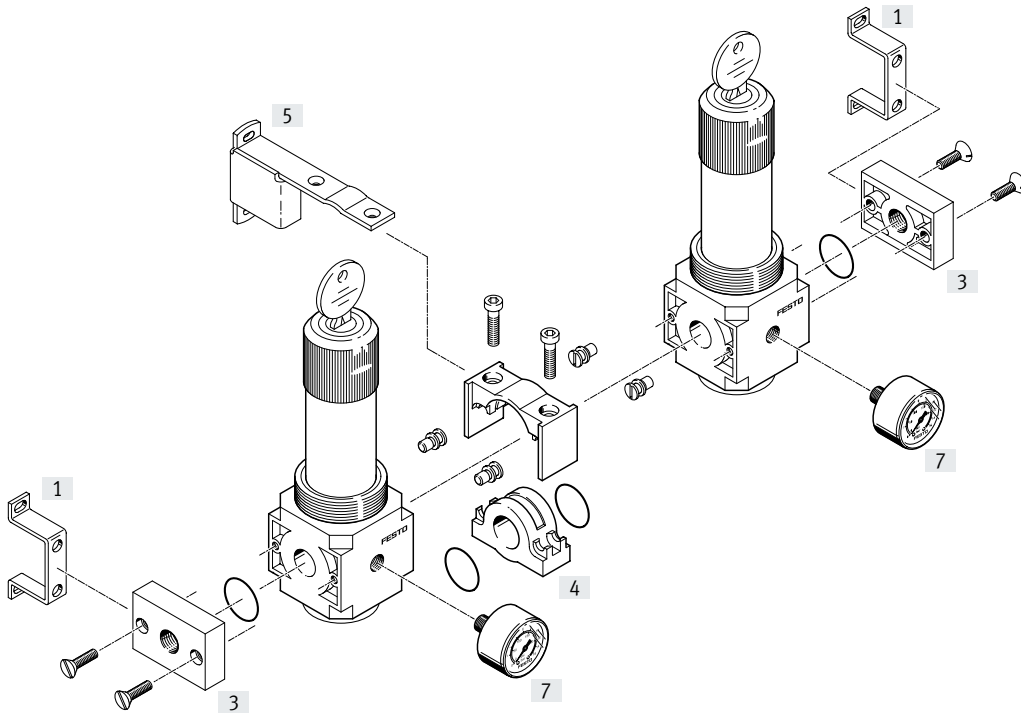
Mounting attachments and accessories		Pressure output at the rear	Pressure output at the front	→ Page/Internet
Pressure regulator LRB				
[1]	Mounting bracket hrb	■	–	hrb-d
[2]	Mounting bracket HFOE	–	■	hfoe-d
[3]	Connecting plates lrbas	■	■	lrbas
[4]	Connecting kit hrbc	■	■	hrbc-d
[5]	Mounting bracket HRBK	■ <sup>1)</sup>	–	hrbk-d
[6]	Regulator lock LRVS	■	■	lrvs-d
[7]	Padlock LRVS-D	■	■	lrvs-d
[8]	Mounting bracket HR-D	–	■	hr-d
[9]	Pressure gauge MA	■	–	50
[10]	Knurled nut (included in the scope of delivery) HMR	■	■	–

1) A mounting bracket must be fitted after every second pressure regulator.

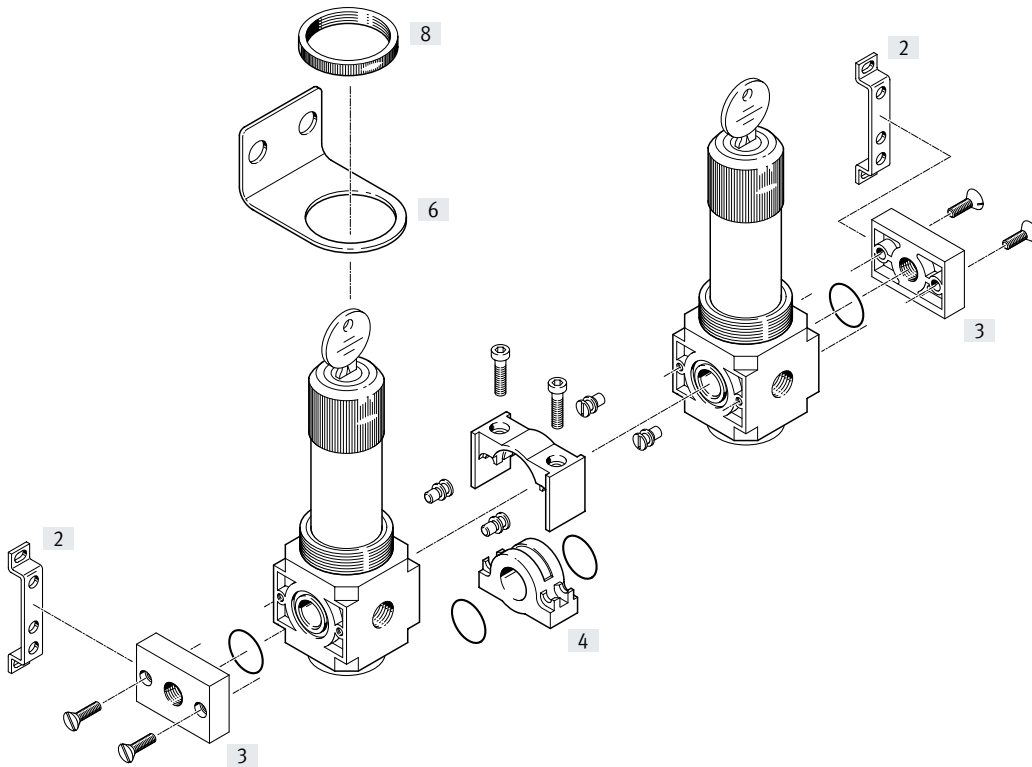
## Peripherals overview

### Mini/Midi

Pressure regulator LRBS, lockable – pressure output at rear



Pressure regulator LRBS, lockable – pressure output at front



## Peripherals overview

Mounting attachments and accessories				
Pressure regulator LRBS, lockable		Pressure output at the rear	Pressure output at the front	→ Page/Internet
[1]	Mounting bracket hrb	■	–	hrb-d
[2]	Mounting bracket HFOE	–	■	hfoe-d
[3]	Connecting plates lrbas	■	■	lrbas
[4]	Connecting kit hrbc	■	■	hrbc-d
[5]	Mounting bracket HRBK	■ <sup>1)</sup>	–	hrbk-d
[6]	Mounting bracket HR-D	–	■	hr-d
[7]	Pressure gauge MA	■	–	50
[8]	Knurled nut (included in the scope of delivery) HMR	■	■	–

1) A mounting bracket must be fitted after every second pressure regulator.

## Type codes

001	Series
<b>LRB</b>	Pressure regulator
<b>LRBS</b>	Pressure regulator, lockable

002	Version
<b>D</b>	D series, metal

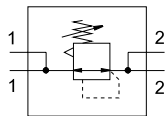
003	Pressure regulation range
<b>7</b>	0.5 ... 7 bar (0.05 ... 0.7 MPa)
	0.5 ... 12 bar (0.05 ... 1.2 MPa)




004	Pressure gauge
<b>0</b>	Without pressure gauge

005	Size
<b>MINI</b>	Grid dimension 40 mm (without connecting plates)
<b>MIDI</b>	Grid dimension 55 mm (without connecting plates)

## Datasheet

### Function



-  - Flow rate  
1600 ... 3800 l/min
-  - Temperature range  
-10 ... +60 °C
-  - Operating pressure  
0.1 ... 1.6 MPa



The pressure regulator is suitable for manifold assemblies with through air supply, for configuring a regulator manifold with separate, independent pressure regulation ranges. Pressure output is at the front or rear.

- Good regulation characteristics with minimal hysteresis and input pressure compensation
- Manifold assembly with through air supply
- For attaching a regulator manifold with independent pressure ranges
- Two pressure regulation ranges: 0.5... 7 bar and 0.5 ... 12 bar
- Settings secured via latch on rotary knob and push-in anti-tamper lock

General technical data		Mini		Midi	
Size					
Pneumatic port 1		- <sup>1)</sup>		- <sup>1)</sup>	
Pneumatic port 2		G1/4		G3/8	
Design		Directly actuated diaphragm regulator with through compressed air supply			
Regulator function		Output pressure constant, with secondary exhausting, with primary pressure compensation			
Type of mounting		With accessories In-line installation			
Mounting position		Any			
Actuator lock		Rotary knob with latch Rotary knob with integrated lock			
Pressure regulation range	[MPa]	0.05 ... 0.7			
		0.05 ... 1.2			
	[bar]	0.5 ... 7 0.5 ... 12			
	[psi]	7.25 ... 101.5 7.25 ... 174			
Max. pressure hysteresis	[MPa]	0.02			
	[bar]	0.2			
	[psi]	2.9			
Pressure indication		Prepared for G1/8		Prepared for G1/4	

1) Dependent on the connecting plate selected, must be ordered separately as an accessory → Internet: lrbas

† Note: This product corresponds to ISO 1179-1 and ISO 228-1.

Standard nominal flow rate <sup>1)</sup> qnN [l/min]		
Size	Mini	Midi
Pressure regulation range	0.5 ... 7 bar	1800
	0.5 ... 12 bar	1600
		3800
		3200

1) Measured at p1 = 10 bar, p2 = 6 bar and Δp = 1 bar.

## Datasheet

### Operating and environmental conditions

Operating pressure	[MPa]	0.1 ... 1.6
	[bar]	1 ... 16
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]	
	Inert gases	
Ambient temperature	[°C]	-10 ... +60
Temperature of medium	[°C]	-10 ... +60
Corrosion resistance class CRC <sup>1)</sup>	2 - Moderate corrosion stress	

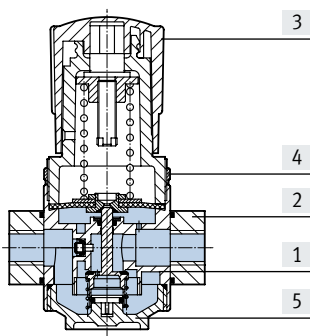
1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

### Weight [g]

Size	Mini	Midi
LRB	250	700
LRBS	350	940

### Materials

Sectional view

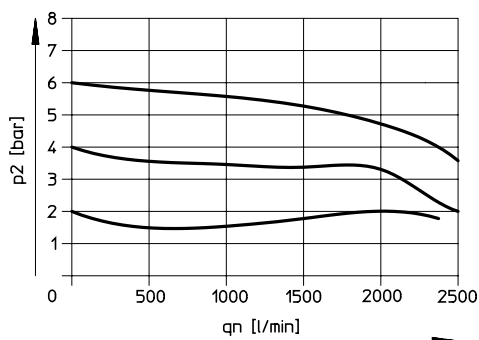


Pressure regulator	LRB	LRBS
[1] Housing	Die-cast zinc	
[2] Connecting plates	Die-cast zinc	
[3] Regulator knob	PA	Aluminium
[4] Knurled nut	Aluminium	
[5] Cover	PC	
- Seals	NBR	
Note on materials	RoHS-compliant	
LABS (PWIS) conformity	VDMA24364-B1/B2-L	

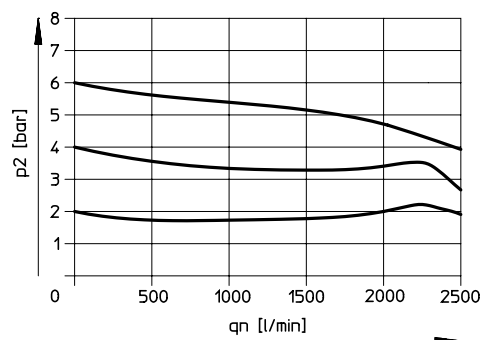
### Standard flow rate $q_n$ as a function of output pressure $p_2$

Mini

Pressure regulation range 0.5 ... 7 bar

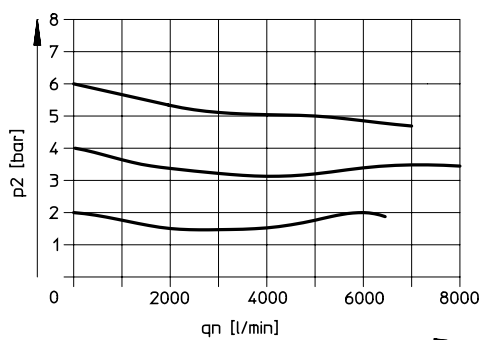


Pressure regulation range 0.5 ... 12 bar

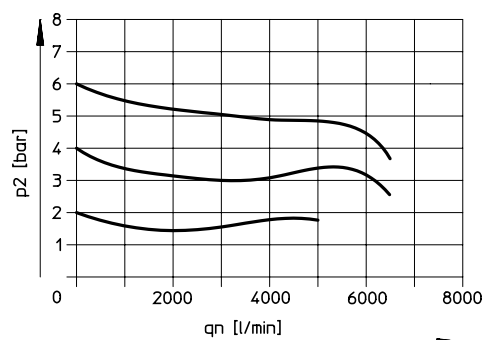


Midi

Pressure regulation range 0.5 ... 7 bar



Pressure regulation range 0.5 ... 12 bar



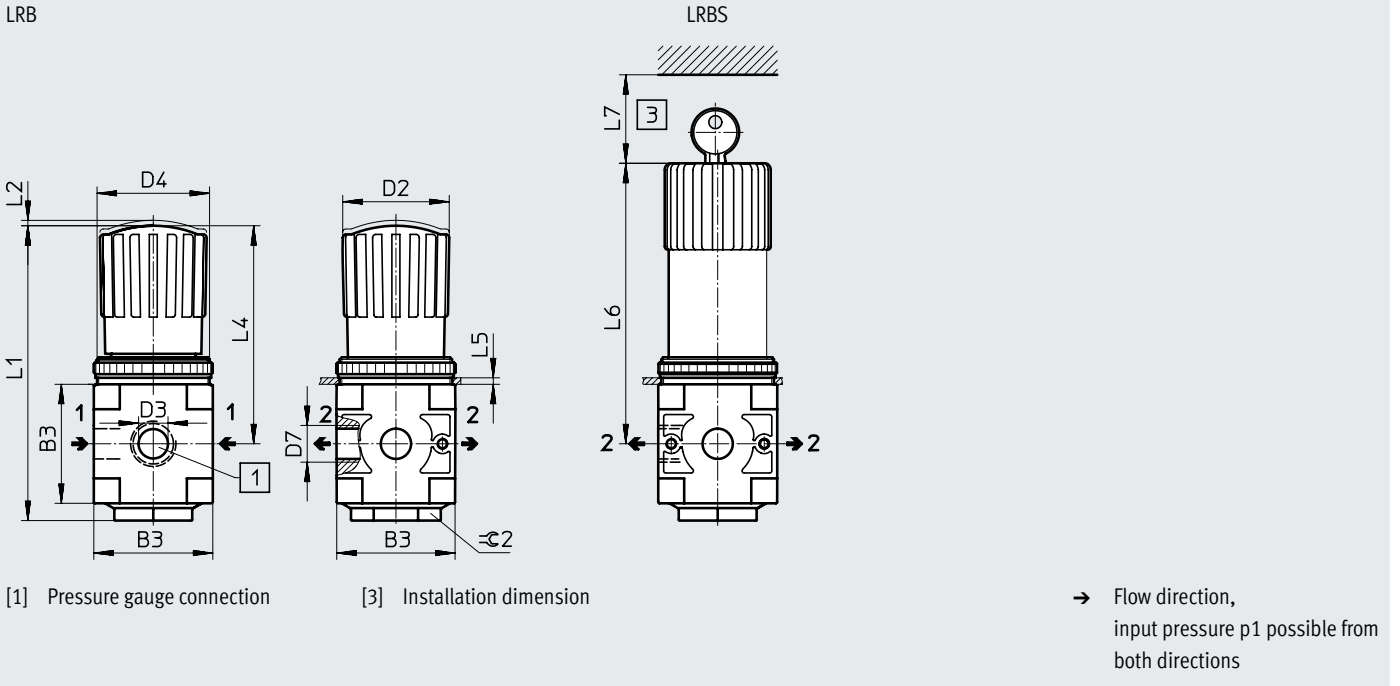
Input pressure  $p_1 = 10$  bar



Datasheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



Type	B3	D2	D3	D4	D7	L1	L2	L4	L5 max.	L6	L7 min.	±G 2
<b>Mini</b>												
LRB-D-...-MINI	40	31	G1/8	M36x1.5	G1/4	~95.4	3	~68.9	3	98	60	17
LRBS-D-...-MINI												
<b>Midi</b>												
LRB-D-...-MIDI	55	49.3	G1/4	M52x1.5	G3/8	~135.8	3	~100.3	5	129.2	60	36
LRBS-D-...-MIDI												

Note: This product corresponds to ISO 1179-1 and ISO 228-1.

Ordering data

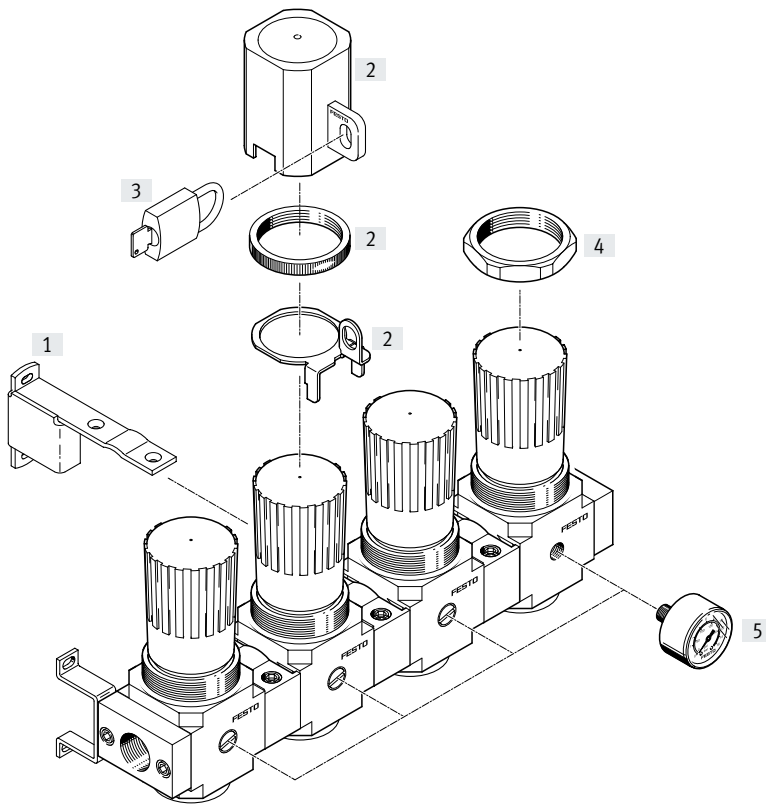
Pressure regulator for manifold assembly

Size	Pressure regulation range 0.5 ... 7 bar		Pressure regulation range 0.5 ... 12 bar	
	Part no.	Type	Part no.	Type
<b>Rotary knob with latch</b>				
Mini	197534	LRB-D-7-O-MINI	197535	LRB-D-O-MINI
Midi	197538	LRB-D-7-O-MIDI	197539	LRB-D-O-MIDI
<b>Rotary knob with integrated lock</b>				
Mini	194683	LRBS-D-7-O-MINI	194682	LRBS-D-O-MINI
Midi	194687	LRBS-D-7-O-MIDI	194686	LRBS-D-O-MIDI

## Peripherals overview

### Mini/Midi

#### Pressure regulator manifold LRB-K



#### Mounting attachments and accessories

		→ Page/Internet
[1]	Mounting bracket (included in the scope of delivery) HRBK <sup>1)</sup>	hrbk-d
[2]	Regulator lock LRVS	lrvs-d
[3]	Padlock LRVS-D	lrvs-d
[4]	Hex nut (for front panel mounting) HMR	hmr-d
[5]	Pressure gauge MA	50

1) A mounting bracket must be fitted after every second pressure regulator.

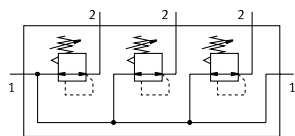
## Type codes




<b>001</b>	<b>Series</b>	
<b>LRB</b>	Pressure regulator	
<b>002</b>	<b>Pneumatic connection</b>	
<b>1/4</b>	Female thread G1/4	
<b>3/8</b>	Female thread G3/8	
<b>1/2</b>	Female thread G1/2	
<b>003</b>	<b>Version</b>	
<b>D</b>	D series, metal	
<b>004</b>	<b>Pressure regulation range</b>	
<b>7</b>	0.5 ... 7 bar (0.05 ... 0.7 MPa)	
	0.5 ... 12 bar (0.05 ... 1.2 MPa)	

<b>005</b>	<b>Pressure gauge</b>	
<b>0</b>	Without pressure gauge	
<b>006</b>	<b>Pressure regulator</b>	
<b>K2</b>	Regulator manifold, 2 positions	
<b>K3</b>	Regulator manifold, 3 positions	
<b>K4</b>	Regulator manifold, 4 positions	
<b>K5</b>	Regulator manifold, 5 positions	
<b>007</b>	<b>Size</b>	
<b>MINI</b>	Grid dimension 40 mm (without connecting plates)	
<b>MIDI</b>	Grid dimension 55 mm (without connecting plates)	

## Datasheet

### Function



-  - Flow rate  
1600 ... 3800 l/min
-  - Temperature range  
-10 ... +60 °C
-  - Operating pressure  
0.1 ... 1.6 MPa



### Pressure regulator combinations

LRB-...-D-...-O-K2

LRB-...-D-...-O-K3

LRB-...-D-...-O-K4

LRB-...-D-...-O-K5

With through compressed air supply for manifold assembly

- Good regulation characteristics with minimal hysteresis and input pressure compensation
- Manifold assembly with through air supply
- For attaching a regulator manifold with independent pressure ranges
- Two pressure regulation ranges: 0.5... 7 bar and 0.5 ... 12 bar
- Settings secured via latch on rotary knob and push-in anti-tamper lock
- Directly actuated diaphragm regulator

General technical data		Mini		Midi	
Size					
Pneumatic port 1		G1/4	G3/8	G3/8	G1/2
Pneumatic port 2		G1/4		G3/8	
Design		Directly actuated diaphragm regulator with through compressed air supply			
Regulator function		Output pressure constant, with primary pressure compensation and secondary exhausting			
Type of mounting		Via accessory (mounting bracket HRB or HRBK included in the scope of delivery)			
Mounting position		Any			
Actuator lock		Rotary knob with latch			
Pressure regulation range	[MPa]	0.05 ... 0.7			
		0.05 ... 1.2			
	[bar]	0.5 ... 7			
		0.5 ... 12			
	[psi]	7.25 ... 101.5			
		7.25 ... 174			
Max. pressure hysteresis	[MPa]	0.02			
	[bar]	0.2			
	[psi]	2.9			
Pressure indication		Prepared for G1/8		Prepared for G1/4	

† Note: This product corresponds to ISO 1179-1 and ISO 228-1.

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]		Mini		Midi	
Pressure regulation range	0.5 ... 7 bar	1800		3800	
	0.5 ... 12 bar	1600		3200	

1) Measured at  $p_1 = 10$  bar,  $p_2 = 6$  bar and  $\Delta p = 1$  bar.

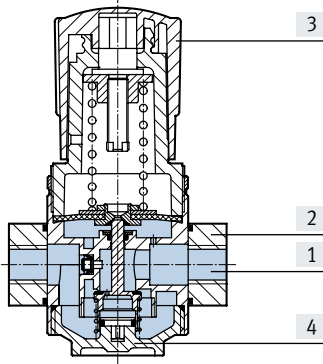
## Datasheet

Operating and environmental conditions		
Operating pressure	[MPa]	0.1 ... 1.6
	[bar]	1 ... 16
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]
Ambient temperature	[°C]	-10 ... +60
Temperature of medium	[°C]	-10 ... +60

Weight [g]		
Size	Mini	Midi
<b>Block with 2 pressure regulators</b>		
LRB-...-K2	760	1950
<b>Block with 3 pressure regulators</b>		
LRB-...-K3	1090	3144
<b>Block with 4 pressure regulators</b>		
LRB-...-K4	1480	3834
<b>Block with 5 pressure regulators</b>		
LRB-...-K5	1860	4828

### Materials

Sectional view



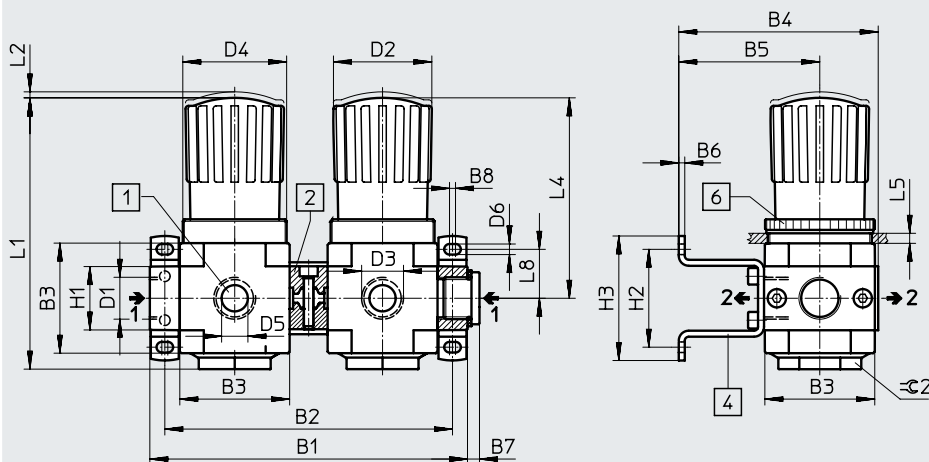
Pressure regulator	Mini/Midi
[1] Housing	Die-cast zinc
[2] Connecting plates	Die-cast zinc
[3] Rotary knob	PA
[4] Cover	PC
- Seals	NBR
LABS (PWIS) conformity	VDMA24364-B1/B2-L

Datasheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

LRB-...-D-...-K2-...



- [1] Pressure gauge connection
  - [2] Connecting kit HRBC-D-...
  - [4] Mounting bracket HRB-D-...
  - [6] Knurled nut or hex nut (not included in scope of delivery) for front panel mounting
- Flow direction, both directions possible

Type	B1	B2	B3	B4	B5	B6	B7	B8	D1	D2	D3	D4
<b>Mini</b>												
LRB-1/4-D-...-K2-MINI	119	~107	40	80.7	59.2	2.5	5	3	G1/4	31	G1/4	M36x1.5
LRB-3/8-D-...-K2-MINI	125								G3/8			
<b>Midi</b>												
LRB-3/8-D-...-K2-MIDI	159	~144	55	99.9	70.6	3	5	3	G3/8	49.3	G3/8	M52x1.5
LRB-1/2-D-...-K2-MIDI							6		G1/2			

Type	D5	D6	H1	H2 ±0.2	H3 ±0.5	L1	L2	L4	L5 max.	L8	⊕ 2
<b>Mini</b>											
LRB-1/4-D-...-K2-MINI	G1/8	4.3	20	35	47.3	~95.4	3	~68.9	3	17.5	17
LRB-3/8-D-...-K2-MINI											
<b>Midi</b>											
LRB-3/8-D-...-K2-MIDI	G1/4	5.3	32	49	62	~135.8	3	~100.3	5	24.5	36
LRB-1/2-D-...-K2-MIDI											

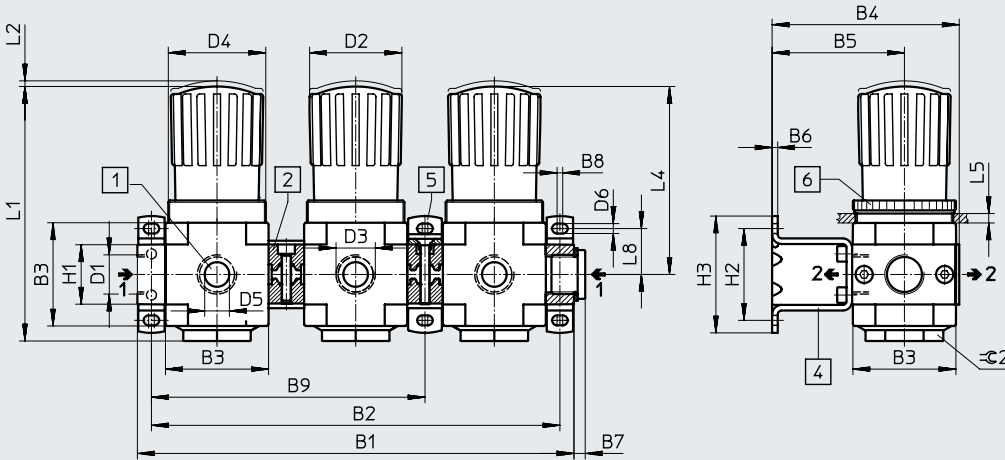
Note: This product corresponds to ISO 1179-1 and ISO 228-1.

Datasheet

Dimensions

LRB-...-D-...-K3-...

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- [1] Pressure gauge connection
- [2] Connecting kit HRBC-D-...
- [4] Mounting bracket HRB-D-...
- [5] Mounting bracket HRBK-D-...
- [6] Knurled nut or hex nut (not included in scope of delivery) for front panel mounting
- Flow direction, both directions possible

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	D1	D2	D3	D4
<b>Mini</b>													
LRB-1/4-D-...-K3-MINI	174	~162	40	80.7	59.2	2.5	5	3	108.5	G1/4	31	G1/4	M36x1.5
LRB-3/8-D-...-K3-MINI	180									G3/8			
<b>Midi</b>													
LRB-3/8-D-...-K3-MIDI	233	~218	55	99.9	70.6	3	5	3	146	G3/8	49.3	G3/8	M52x1.5
LRB-1/2-D-...-K3-MIDI							6			G1/2			

Type	D5	D6	H1	H2 ±0.2	H3 ±0.5	L1	L2	L4	L5 max.	L8	⌀2
<b>Mini</b>											
LRB-1/4-D-...-K3-MINI	G1/8	4.3	20	35	47.3	~95.4	3	~68.9	3	17.5	17
LRB-3/8-D-...-K3-MINI											
<b>Midi</b>											
LRB-3/8-D-...-K3-MIDI	G1/4	5.3	32	49	62	~135.8	3	~100.3	5	24.5	36
LRB-1/2-D-...-K3-MIDI											

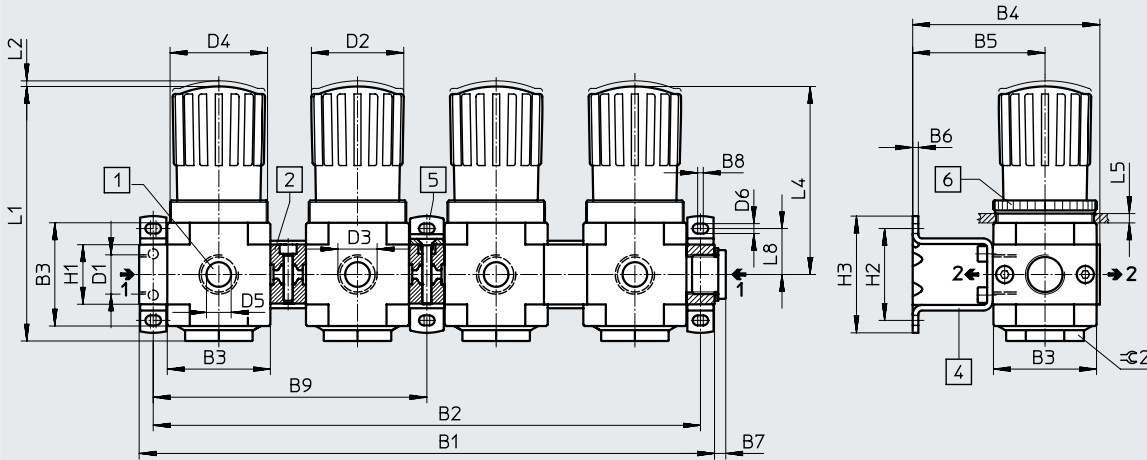
† Note: This product corresponds to ISO 1179-1 and ISO 228-1.

Datasheet

Dimensions

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LRB-...-D-...-K4-...



- [1] Pressure gauge connection
- [2] Connecting kit HRBC-D-...
- [4] Mounting bracket HRB-D-...
- [5] Mounting bracket HRBK-D-...
- [6] Knurled nut or hex nut (not included in scope of delivery) for front panel mounting
- Flow direction, both directions possible

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	D1	D2	D3	D4
<b>Mini</b>													
LRB-1/4-D-...-K4-MINI	229	~217	40	80.7	59.2	2.5	5	3	108.5	G1/4	31	G1/4	M36x1.5
LRB-3/8-D-...-K4-MINI	235									G3/8			
<b>Midi</b>													
LRB-3/8-D-...-K4-MIDI	307	~292	55	99.9	70.6	3	5	3	146	G3/8	49.3	G3/8	M52x1.5
LRB-1/2-D-...-K4-MIDI							6			G1/2			

Type	D5	D6	H1	H2 ±0.2	H3 ±0.5	L1	L2	L4	L5 max.	L8	⊙ 2
<b>Mini</b>											
LRB-1/4-D-...-K4-MINI	G1/8	4.3	20	35	47.3	~95.4	3	~68.9	3	17.5	17
LRB-3/8-D-...-K4-MINI											
<b>Midi</b>											
LRB-3/8-D-...-K4-MIDI	G1/4	5.3	32	49	62	~135.8	3	~100.3	5	24.5	36
LRB-1/2-D-...-K4-MIDI											

† Note: This product corresponds to ISO 1179-1 and ISO 228-1.

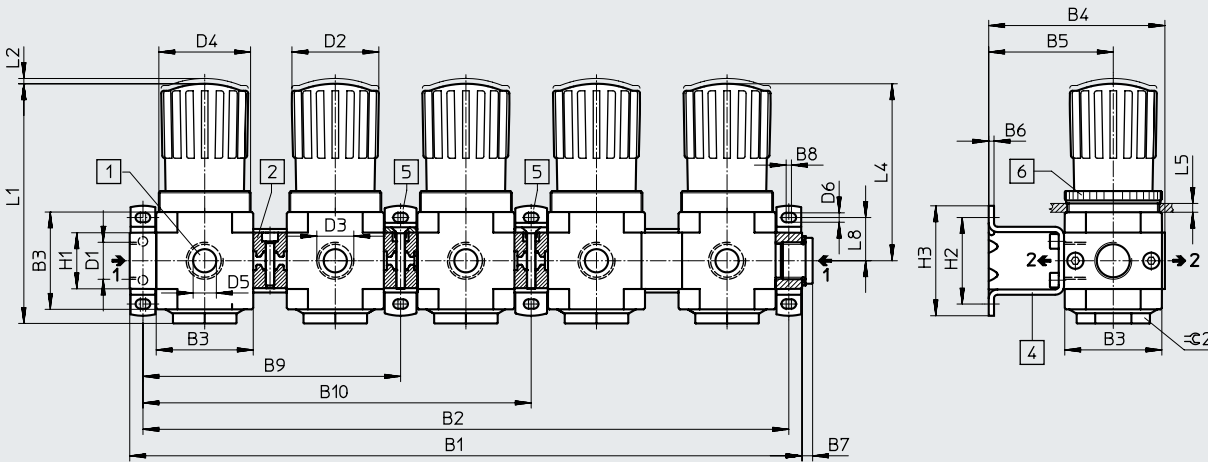


Datasheet

Dimensions

LRB-...-D-...-K5-...

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- [1] Pressure gauge connection
  - [2] Connecting kit HRBC-D-...
  - [3] Mounting bracket HRBC-D-...
  - [4] Mounting bracket HRB-D-...
  - [5] Mounting bracket HRBK-D-...
  - [6] Knurled nut or hex nut (not included in scope of delivery) for front panel mounting
- Flow direction, both directions possible

Type	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1	D2	D3	D4
<b>Mini</b>														
LRB-1/4-D-...-K5-MINI	284	~272	40	80.7	59.2	2.5	5	3	108.5	163.5	G1/4	31	G1/4	M36x1.5
LRB-3/8-D-...-K5-MINI	290										G3/8			
<b>Midi</b>														
LRB-3/8-D-...-K5-MIDI	381	~366	55	99.9	70.6	3	5	3	146	220	G3/8	49.3	G3/8	M52x1.5
LRB-1/2-D-...-K5-MIDI							6				G1/2			

Type	D5	D6	H1	H2 ±0.2	H3 ±0.5	L1	L2	L4	L5 max.	L8	⊕ 2
<b>Mini</b>											
LRB-1/4-D-...-K5-MINI	G1/8	4.3	20	35	47.3	~95.4	3	~68.9	3	17.5	17
LRB-3/8-D-...-K5-MINI											
<b>Midi</b>											
LRB-3/8-D-...-K5-MIDI	G1/4	5.3	32	49	62	~135.8	3	~100.3	5	24.5	36
LRB-1/2-D-...-K5-MIDI											

† Note: This product corresponds to ISO 1179-1 and ISO 228-1.

## Datasheet

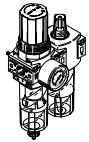
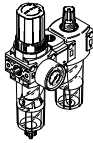
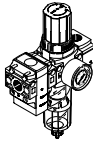
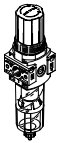

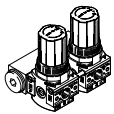

### Ordering data

Connecting kits, connecting plates with threaded connection and mounting bracket

Size	Connection	Pressure regulation range 0.5 ... 7 bar		Pressure regulation range 0.5 ... 12 bar	
		Part no.	Type	Part no.	Type
<b>Block with 2 pressure regulators</b>					
Mini	G1/4	528952	LRB-1/4-D-7-O-K2-MINI	528954	LRB-1/4-D-O-K2-MINI
	G3/8	528953	LRB-3/8-D-7-O-K2-MINI	528955	LRB-3/8-D-O-K2-MINI
Midi	G3/8	528956	LRB-3/8-D-7-O-K2-MIDI	528958	LRB-3/8-D-O-K2-MIDI
	G1/2	528957	LRB-1/2-D-7-O-K2-MIDI	528959	LRB-1/2-D-O-K2-MIDI
<b>Block with 3 pressure regulators</b>					
Mini	G1/4	528968	LRB-1/4-D-7-O-K3-MINI	528970	LRB-1/4-D-O-K3-MINI
	G3/8	528969	LRB-3/8-D-7-O-K3-MINI	528971	LRB-3/8-D-O-K3-MINI
Midi	G3/8	528972	LRB-3/8-D-7-O-K3-MIDI	528974	LRB-3/8-D-O-K3-MIDI
	G1/2	528973	LRB-1/2-D-7-O-K3-MIDI	528975	LRB-1/2-D-O-K3-MIDI
<b>Block with 4 pressure regulators</b>					
Mini	G1/4	528984	LRB-1/4-D-7-O-K4-MINI	528986	LRB-1/4-D-O-K4-MINI
	G3/8	528985	LRB-3/8-D-7-O-K4-MINI	528987	LRB-3/8-D-O-K4-MINI
Midi	G3/8	528988	LRB-3/8-D-7-O-K4-MIDI	528990	LRB-3/8-D-O-K4-MIDI
	G1/2	528989	LRB-1/2-D-7-O-K4-MIDI	528991	LRB-1/2-D-O-K4-MIDI
<b>Block with 5 pressure regulators</b>					
Mini	G1/4	529000	LRB-1/4-D-7-O-K5-MINI	529002	LRB-1/4-D-O-K5-MINI
	G3/8	529001	LRB-3/8-D-7-O-K5-MINI	529003	LRB-3/8-D-O-K5-MINI
Midi	G3/8	529004	LRB-3/8-D-7-O-K5-MIDI	529006	LRB-3/8-D-O-K5-MIDI
	G1/2	529005	LRB-1/2-D-7-O-K5-MIDI	529007	LRB-1/2-D-O-K5-MIDI

## Datasheet

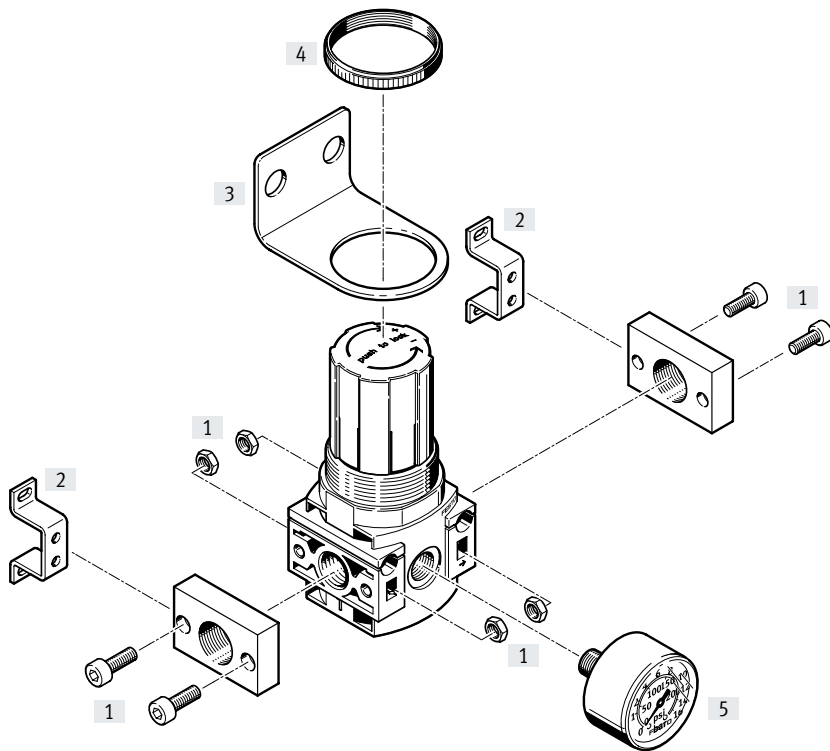
Product range overview – Service unit components, D series, polymer

Type	Size	Pneumatic connection		Pressure regulation range [bar]	Grade of filtration [µm]		
		G1/4	G1/2		5	40	
<b>Service units</b>							
FRC		Mini	■	-	■	■	■
<b>Service unit combinations</b>							
FRC-K		Mini	■	-	■	-	■
LFR-K		Mini	■	-	■	-	■
<b>Individual devices</b>							
Filter regulators LFR		Mini	■	-	■	■	■
Pressure regulators LR		Mini	■	-	■	-	-
Pressure regulator manifolds LRB-K		Mini	-	■	■	-	-
On/off valves HE		Mini	■	-	-	-	-

Product range overview – Service unit components, D series, polymer

Type	Size	Condensate drain		Pressure indication		Actuator lock	Regulator functions		→ Page/ Internet
		Manual	Semi-automatic	With pressure gauge	Without pressure gauge		With secondary exhausting	With return flow function	
<b>Service units</b>									
FRC	Mini	■	■	■	-	■	■	■	frc
<b>Service unit combinations</b>									
FRC-K	Mini	■	-	■	-	■	■	■	frc
LFR-K	Mini	■	-	■	-	■	■	■	lfr
<b>Individual devices</b>									
Filter regulators LFR	Mini	■	■	■	■	■	■	■	lfr
Pressure regulators LR	Mini	-	-	■	■	■	■	■	38
Pressure regulator manifolds LRB-K	Mini	-	-	-	■	■	■	■	43
On/off valves HE	Mini	-	-	-	■	-	-	-	he

Peripherals overview



Mounting attachments and accessories		→ Page/Internet
[1]	Connection set PBL	pbl
[2]	Mounting bracket HFOE	hfoe-d
[3]	Mounting bracket HR-D	hr-d
[4]	Knurled nut (included in the scope of delivery) LRVS	-
[5]	Pressure gauge MA	50

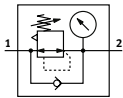
## Type codes

<b>001</b>	<b>Series</b>
<b>LR</b>	Pressure regulator
<b>002</b>	<b>Pneumatic connection</b>
<b>1/4</b>	Female thread G1/4
<b>003</b>	<b>Version</b>
<b>DB</b>	D series, polymer

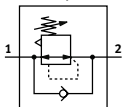
<b>004</b>	<b>Pressure regulation range</b>
<b>7</b>	0.5 ... 7 bar (0.05 ... 0.7 MPa)
<b>005</b>	<b>Pressure gauge</b>
	With pressure gauge
<b>0</b>	Without pressure gauge
<b>006</b>	<b>Size</b>
<b>MINI</b>	Grid dimension 40 mm (without connecting plates)




## Datasheet

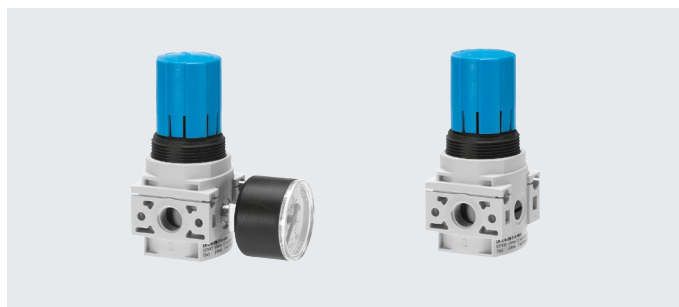
With pressure gauge



Without pressure gauge



-  - Flow rate  
800 ... 1300 l/min
-  - Temperature range  
-5 ... +50 °C
-  - Operating pressure  
1.5 ... 10 bar



- Settings secured via latch on rotary knob
- High flow rate
- Good regulation characteristics with minimal pressure hysteresis

General technical data	
Size	Mini
	With pressure gauge   Without pressure gauge
Pneumatic connection	G1/4
Design	Pressure regulator with pressure gauge   Pressure regulator without pressure gauge
Regulator function	With return flow function With secondary exhausting
Type of mounting	In-line installation Via through-hole With mounting bracket Front panel mounting
Mounting position	Any
Air purity class at the output	Compressed air to ISO 8573-1:2010 [7:4:4]
Actuator lock	Rotary knob with latch
Max. pressure hysteresis [bar]	0.5
Pressure regulation range [bar]	0.5 ... 7
Pressure indication	With pressure gauge   Prepared for G1/8
Pressure gauge connection	G1/8

Standard nominal flow rate <sup>1)</sup> q <sub>N</sub> [l/min]	
Size	Mini
Pressure regulation range 0.5 ... 7 bar	≥ 1300

1) Measured at p<sub>1</sub> = 10 bar, p<sub>2</sub> = 6 bar and Δp = 1 bar.



## Datasheet

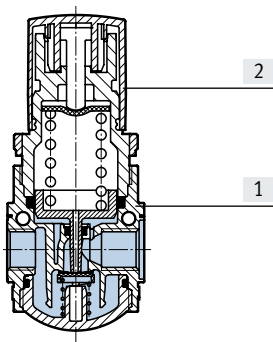
Operating and environmental conditions	
Size	Mini
Operating pressure [bar]	1.5 ... 10
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Ambient temperature [°C]	-5 ... +50
Temperature of medium [°C]	-5 ... +50
Corrosion resistance class CRC <sup>1)</sup>	1 - Low corrosion stress

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

Weight [g]	
Size	Mini
Pressure regulator	150

### Materials

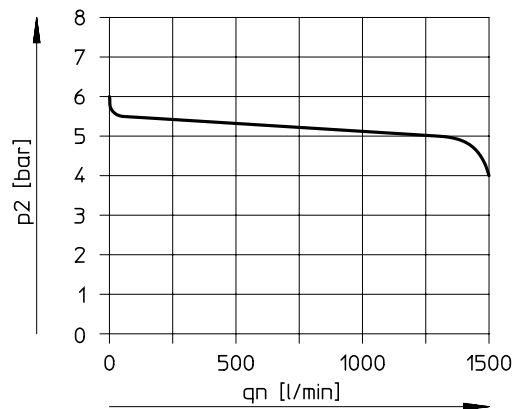
Sectional view



Pressure regulator	Mini
[1] Housing	Reinforced PA
[2] Rotary knob	POM
- Seals	NBR
Note on materials	RoHS-compliant

### Standard flow rate $q_n$ as a function of output pressure $p_2$

Operating pressure  $p_1 = 10$  bar



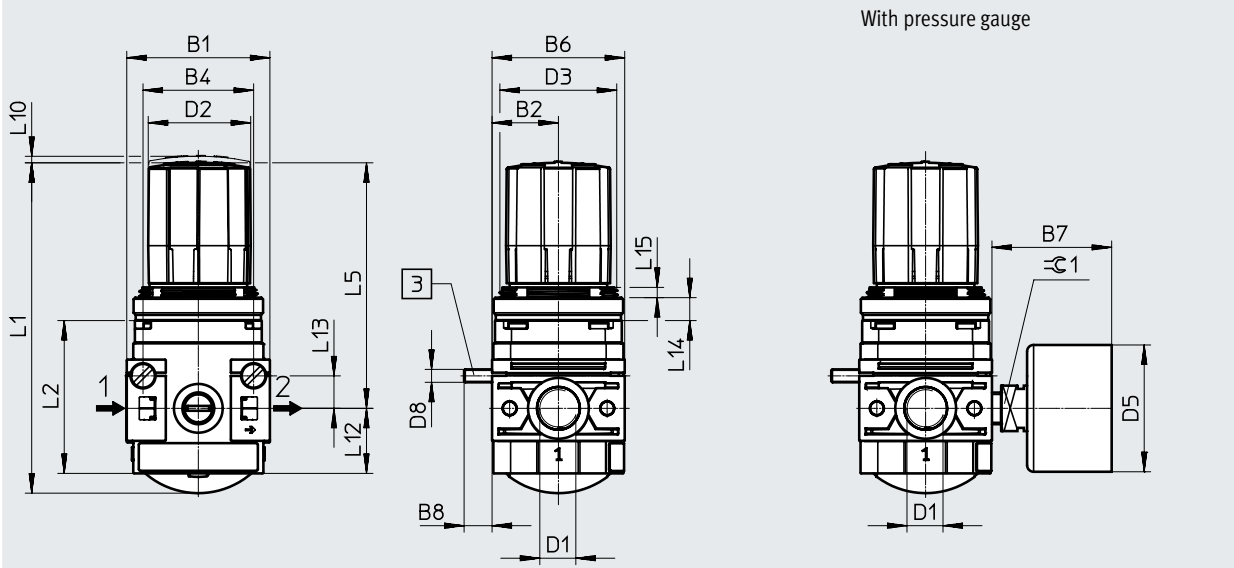
#### - Note

Minor leakage at the output is intended by design. It improves the control behaviour of the regulator which is not compensated for primary pressure. In rare cases, however, the leakage can be up to 500 l/h.

Datasheet

Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

Mini



[3] Socket head screw for wall mounting (2 included in the scope of delivery)

→ Flow direction

Type	B1	B2	B4	B6	B7 max.	B8	D1	D2 ∅	D3	D5 ∅	D8
LR-1/4-DB	44	20.5	34	41	37	9	G1/4	32	M36x1.5	39	M4

Type	L1	L2	L5	L10	L12	L13	L14	L15	⊕ 1
LR-1/4-DB	102	47	75.9	2	20	10	7	3.2	14

Ordering data

Pressure regulation range 0.5 ... 7 bar

Size	Connection	Part no.	Type
------	------------	----------	------

With pressure gauge, outer scale in bar, inner scale in psi

Mini	G1/4	539682	LR-1/4-DB-7-MINI
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Without pressure gauge

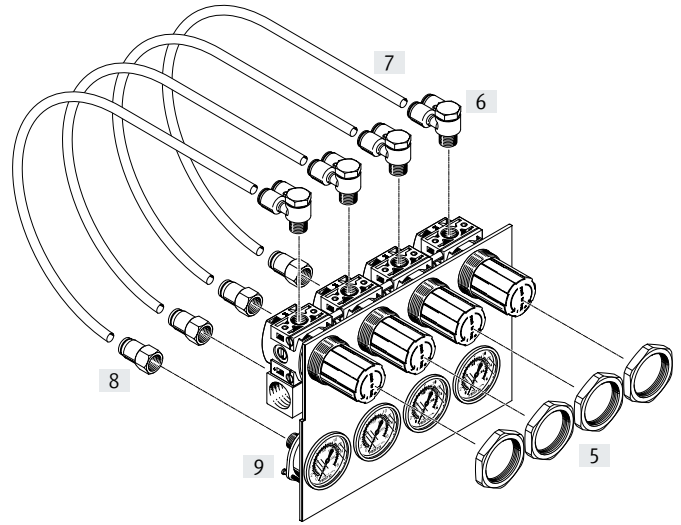
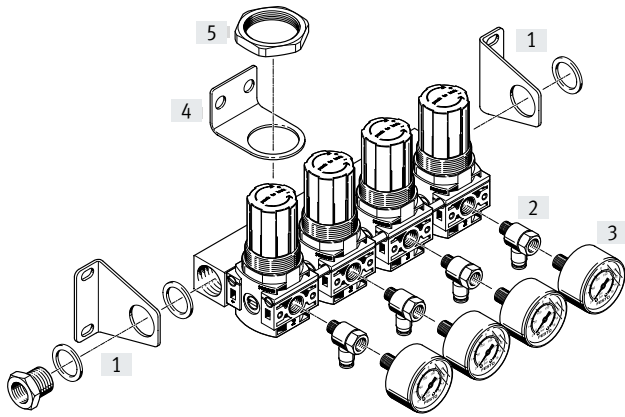
Mini	G1/4	537643	LR-1/4-DB-7-O-MINI
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## Peripherals overview

### Mini

With mounting bracket

Front panel mounting



#### Mounting attachments and accessories

	With mounting bracket	Front panel mounting	→ Page/Internet
[1] Mounting bracket SET HRBS-DB-MINI	■	–	hrbs-db
[2] Push-in T-fitting QSTF	■	–	50
[3] Pressure gauge MA	■	–	50
[4] Mounting bracket HR-D	■	–	hr-d
[5] Hex nut HMR	■	■	hmr-d
[6] Push-in Y-fitting QSYLV	–	■	50
[7] Plastic tubing PUN-E	–	■	pun-e
[8] Push-in fitting QSF	–	■	50
[9] Flanged pressure gauge FMA	–	■	50

## Type codes

001	Series	
<b>LRB</b>	Pressure regulator	

002	Pneumatic connection	
<b>1/4</b>	Female thread G1/4	

003	Version	
<b>DB</b>	D series, polymer	

004	Pressure regulation range	
<b>7</b>	0.5 ... 7 bar (0.05 ... 0.7 MPa)	

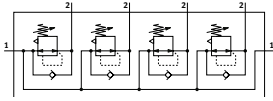
005	Pressure gauge	
<b>0</b>	Without pressure gauge	




006	Pressure regulator	
<b>K2</b>	Regulator manifold, 2 positions	
<b>K3</b>	Regulator manifold, 3 positions	
<b>K4</b>	Regulator manifold, 4 positions	
<b>K5</b>	Regulator manifold, 5 positions	

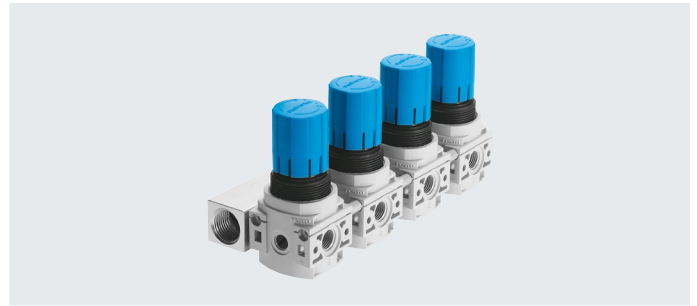
007	Size	
<b>MINI</b>	Grid dimension 40 mm (without connecting plates)	

## Datasheet

### Function



-  - Flow rate  
1000 l/min
-  - Temperature range  
-5 ... +50 °C
-  - Operating pressure  
1.5 ... 10 bar



- Good regulation characteristics with minimal hysteresis and input pressure compensation
- Manifold assembly with through air supply
- For attaching a regulator manifold with independent pressure ranges
- Settings secured via latch on rotary knob

General technical data	
Size	Mini
Pneumatic port 1	G1/2
Pneumatic port 2	G1/4
Design	Directly actuated piston regulator On common supply manifold
Regulator functions	Output pressure constant With return flow function With secondary exhausting
Type of mounting	Front panel mounting With accessories
Mounting position	Any
Actuator lock	Rotary knob with latch
Max. pressure hysteresis [bar]	0.5
Pressure regulation range [bar]	0.5 ... 7

Standard nominal flow rate <sup>1)</sup> qnN [l/min]	
Size	Mini
Pressure regulation range 0.5 ... 7 bar	≥ 1000

1) Measured at p<sub>1</sub> = 10 bar, p<sub>2</sub> = 6 bar and Δp = 1 bar.

Operating and environmental conditions	
Size	Mini
Operating pressure [bar]	1.5 ... 10
Operating medium	Compressed air to ISO 8573-1:2010 [--:--]
Ambient temperature [°C]	-5 ... +50
Temperature of medium [°C]	-5 ... +50
Corrosion resistance class CRC <sup>1)</sup>	1 - Low corrosion stress

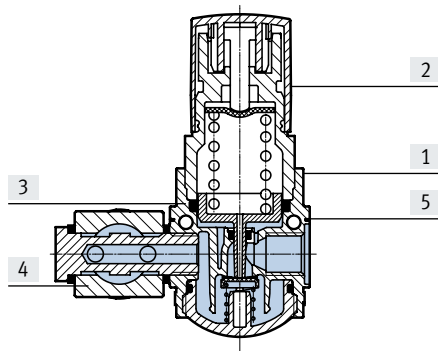
1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

## Datasheet

Weight [g]	
Size	Mini
<b>Block with 2 pressure regulators</b>	
LRB-...-K2	500
<b>Block with 3 pressure regulators</b>	
LRB-...-K3	750
<b>Block with 4 pressure regulators</b>	
LRB-...-K4	1000
<b>Block with 5 pressure regulators</b>	
LRB-...-K5	1250

### Materials

Sectional view



Pressure regulator	Mini
[1] Housing	Reinforced PA
[2] Rotary knob	POM
[3] Sealing ring	PVC
[4] Manifold rail	Wrought aluminium alloy
[5] Spacing bolt	Wrought aluminium alloy
- Seals	NBR

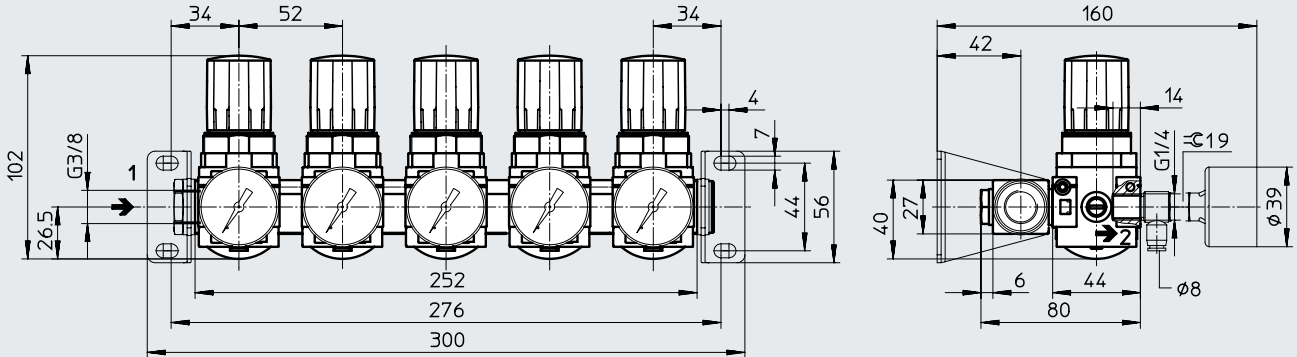
Datasheet

Dimensions

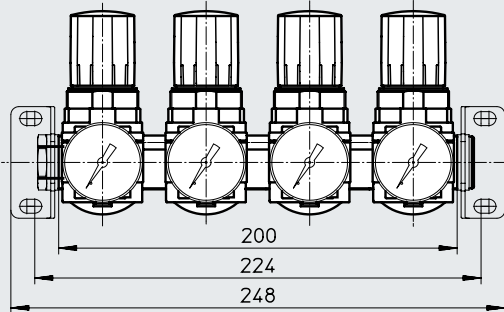
Download CAD data → [www.festo.com](http://www.festo.com)

With mounting bracket

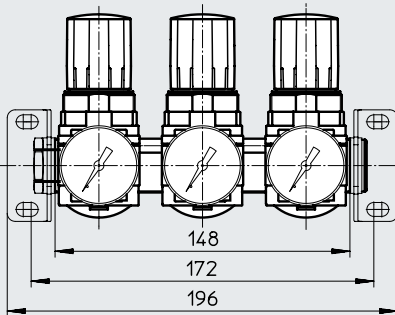
LRB-...-K5



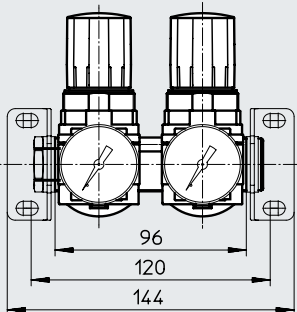
LRB-...-K4



LRB-...-K3



LRB-...-K2



→ Flow direction

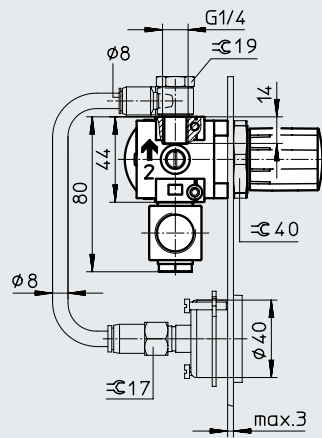
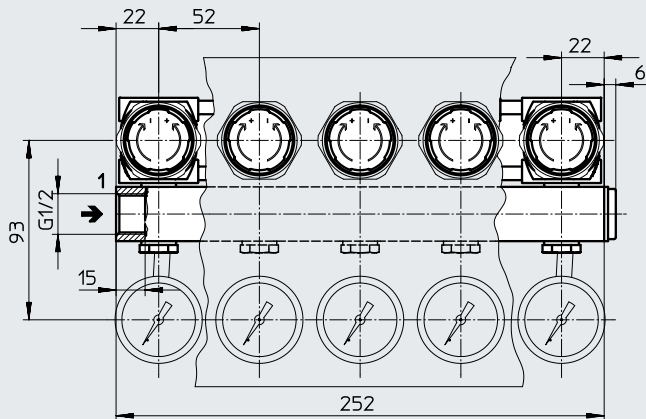
## Datasheet

### Dimensions

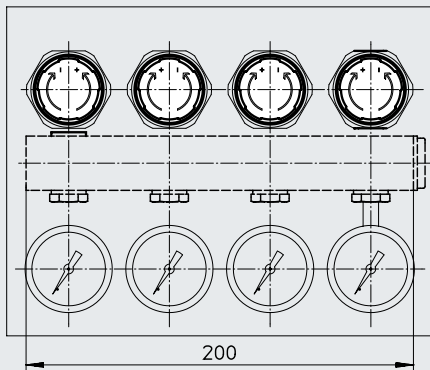
Download CAD data → [www.festo.com](http://www.festo.com)

Front panel mounting

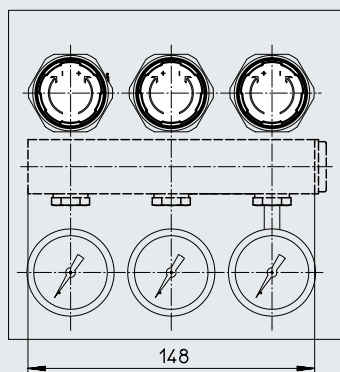
LRB-...-K5



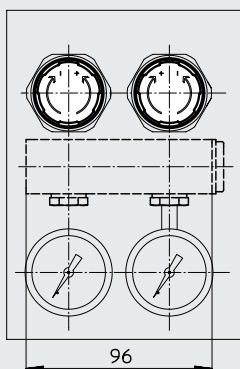
LRB-...-K4



LRB-...-K3



LRB-...-K2




→ Flow direction







## Datasheet

Ordering data			
Size	Connection	Pressure regulation range 0.5 ... 7 bar	
		Part no.	Type
<b>Block with 2 pressure regulators</b>			
Mini	G1/4	540040	LRB-1/4-DB-7-O-K2-MINI
<b>Block with 3 pressure regulators</b>			
Mini	G1/4	540041	LRB-1/4-DB-7-O-K3-MINI
<b>Block with 4 pressure regulators</b>			
Mini	G1/4	540042	LRB-1/4-DB-7-O-K4-MINI
<b>Block with 5 pressure regulators</b>			
Mini	G1/4	540043	LRB-1/4-DB-7-O-K5-MINI

## Accessories

Ordering data – Pressure gauge MA						
	Nominal size	Pneumatic connection	Display range		Part no.	Type
			[bar]	[psi]		
	<b>Pressure gauge MA</b> <span style="float: right;">Datasheets → Internet: ma</span>					
	40	G1/8	0 ... 10	0 ... 145	359874	MA-40-10-1/8
			0 ... 16	0 ... 232	345395	MA-40-16-1/8
	50	G1/4	0 ... 10	0 ... 145	359873	MA-50-10-1/4
			0 ... 16	0 ... 232	356759	MA-50-16-1/4
	<b>Pressure gauge MA, DIN EN 837-1</b> <span style="float: right;">Datasheets → Internet: ma</span>					
	40	R1/8	0 ... 10	0 ... 145	162835	MA-40-10-1/8-EN
		G1/4	0 ... 10	0 ... 145	183900	MA-40-10-G1/4-EN
	<b>Flanged pressure gauge FMA, DIN EN 837-1</b> <span style="float: right;">Datasheets → Internet: fma</span>					
	40	G1/4	0 ... 10	0 ... 145	159596	FMA-40-10-1/4-EN
0 ... 16			0 ... 232	159597	FMA-40-16-1/4-EN	
50	G1/4	0 ... 10	0 ... 145	159599	FMA-50-10-1/4-EN	
		0 ... 16	0 ... 232	159600	FMA-50-16-1/4-EN	

Ordering data – Pressure sensors SPAU <span style="float: right;">Datasheets → Internet: spau</span>						
	Pneumatic connection	Switching output	Display type	Electrical connection	Part no.	Type
<b>Pressure sensor SPAU for direct mounting on the service unit component with pressure gauge connection (adapter for pneumatic connection included in the scope of delivery), pressure measurement range 0 ... 10 bar, relative pressure measurement</b>						
	Male thread R1/8	2x PNP or 2x NPN, switchable	Illuminated LCD	M8x1, 4-pin	8001203	SPAU-P10R-T-R18M-L-PNLK-PNVBA-M8D
				M12x1, 4-pin	8001206	SPAU-P10R-T-R18M-L-PNLK-PNVBA-M12D
	Male thread R1/4			M8x1, 4-pin	8001209	SPAU-P10R-T-R14M-L-PNLK-PNVBA-M8D
				M12x1, 4-pin	8001208	SPAU-P10R-T-R14M-L-PNLK-PNVBA-M12D

Ordering data – Push-in fitting						
	Pneumatic connection	Tube O.D.	Part no.	Type	PU <sup>1)</sup>	
<b>Push-in fitting QSF, female thread with external hex</b> <span style="float: right;">Datasheets → Internet: qsf</span>						
	G1/4	8	153026	QSF-1/4-8-B	10	
<b>Push-in T-fitting QSTF, rotatable 360°, with female and male thread</b> <span style="float: right;">Datasheets → Internet: qstf</span>						
	G1/4	8	186203	QSTF-G1/4-8	1	
<b>Push-in Y-fitting QSYLV, rotatable 360°, male thread with external hex</b> <span style="float: right;">Datasheets → Internet: qsyvlv</span>						
	G1/4	8	186210	QSYLV-G1/4-8	1	

1) Packaging unit