

Differential pressure regulator LRL, LRLL

FESTO



Characteristics

At a glance

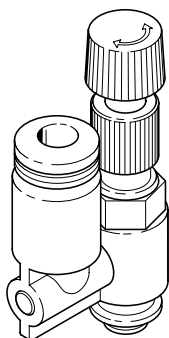
The differential pressure regulator maintains a manually set differential pressure between the input pressure at the screw-in thread and the output pressure at the push-in connector.

- Pressure applied at the push-in connector can be exhausted with no change in pressure at the connecting thread thanks to an integrated check valve.
- Constant pressure difference between input and output
- Without secondary exhaust
- Without pressure gauge

Series

[LRL]

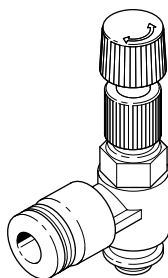
Differential pressure regulator



Outlet at the top

[LRLl]

Differential pressure regulator



Outlet to the side

Pneumatic connection 1

Connecting thread M5, R1/8, R1/4, R3/8, R1/2

Pneumatic connection 2

Push-in connector for tubing outside diameter 4, 6, 8, 10, 12 mm

Type code

001	Series	
LRL	Differential pressure regulator	
LRLl	Differential pressure regulator	

002	Pneumatic connection 1	
1/8	Male thread R1/8	
1/4	Male thread R1/4	
3/8	Male thread R3/8	
1/2	Male thread R1/2	
M5	Male thread M5	

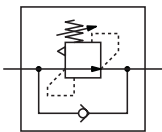
003	Pneumatic connection 2	
QS-4	Push-in connector, 4 mm	
QS-6	Push-in connector 6 mm	
QS-8	Push-in connector 8 mm	
QS-10	Push-in connector 10 mm	
QS-12	Push-in connector 12 mm	

004	System of units	
	Metric	

Datasheet

General technical data					
Pneumatic connection, port 1	M5	R1/8	R1/4	R3/8	R1/2
Pneumatic connection, port 2	QS-4, QS-6	QS-4, QS-6, QS-8	QS-6, QS-8, QS-10	QS-8, QS-10, QS-12	QS-12
Design	Directly actuated piston regulator With through compressed air supply				
Controller function	Differential pressure constant, With return flow function				
Pressure regulation range	2 ... 6 bar				
Actuator lock	Counter-locking				
Type of mounting	Screw-in				
Mounting position	optional				

Function



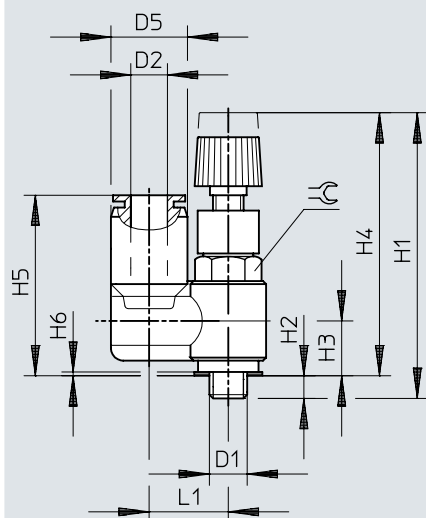
Operating and environmental conditions	
Inlet pressure 1	0 ... 0.9 MPa
Inlet pressure 1	0 ... 9 bar
Inlet pressure 1	0 ... 130.5 psi
Operating medium	Compressed air to ISO 8573-1:2010 [7:::]
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Ambient temperature	0 ... 60°C

Materials	
Material housing	PBT-reinforced
Material screwed plug	Nickel-plated brass
Material thread seal	PTFE
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B1/B2-L

Dimensions

Dimensions – Outlet at the top, pneumatic connection 1: M5

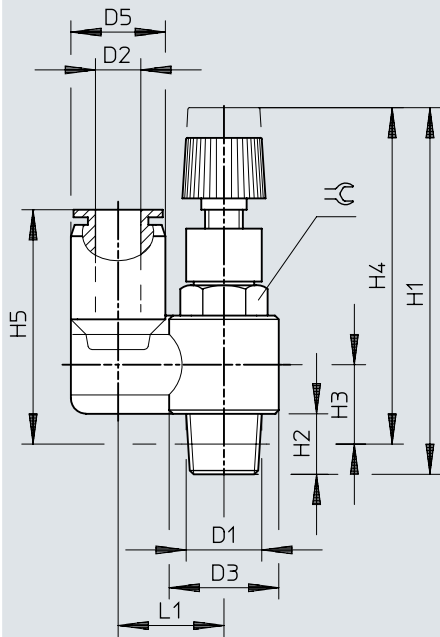
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	D1	D2 Ø	D5 Ø	H1		H2	H3	H4		H5	H6	L1	⌀
				min.	max.			min.	max.				
LRL-M5-QS	M5	4	10,2	35,2	38,3	2,9	6,7	32,3	35,4	23,9	0,6	10,5	8
		6	12,6	35,2	38,3	2,9	6,7	32,3	35,4	26	0,6	12,2	8

Dimensions

Dimensions – Top outlet, pneumatic connection 1: R1/8, R1/4, R3/8, R1/2 Download CAD data www.festo.com

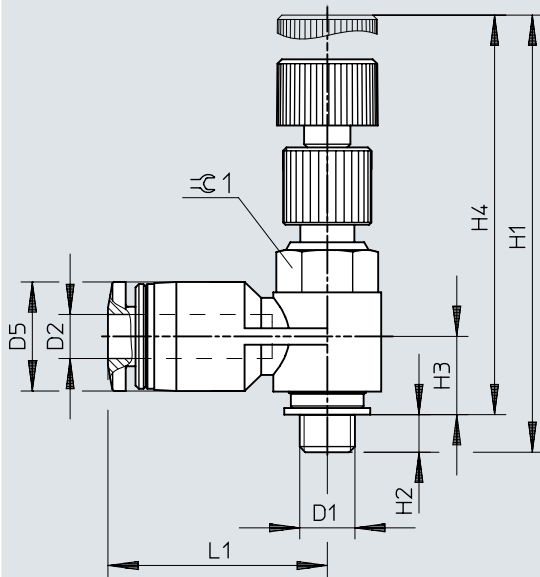


	D1	D2 ø	D3 ø	D5 ø	H1		H2	H3	H4		H5	L1	≈
					min.	max.			min.	max.			
LRL-1/8-QS	R1/8	4	14,4	10,2	43,7	48,2	8	10,9	39,7	44,2	28,9	13	10
		6	14,4	12,6	43,7	48,2	8	10,9	39,7	44,2	31	14,2	10
		8	14,4	14,6	43,7	48,2	8	10,9	39,7	44,2	32,4	15,2	10
LRL-1/4-QS	R1/4	6	18,4	12,6	47,8	52,3	11,1	12	41,8	46,2	32,1	17,2	14
		8	18,4	14,6	47,8	52,3	11,1	12	41,8	46,2	33,6	18,2	14
		10	18,4	17,8	47,8	52,3	11,1	12	41,8	46,2	35,9	19,8	14
LRL-3/8-QS	R3/8	8	22	14,6	54,5	59	13,2	15,4	48,2	52,6	37,8	19,2	19
		10	22	17,8	54,5	59	13,2	15,4	48,2	52,6	40,1	20,8	19
		12	22	21,2	54,5	59	13,2	15,4	48,2	52,6	42,8	22,5	24
LRL-1/2-QS	R1/2	12	28	21,2	59,8	64,3	16	18,2	51,6	56,1	47	25,5	24

Dimensions

Dimensions – Outlet at the side, pneumatic connection 1: M5

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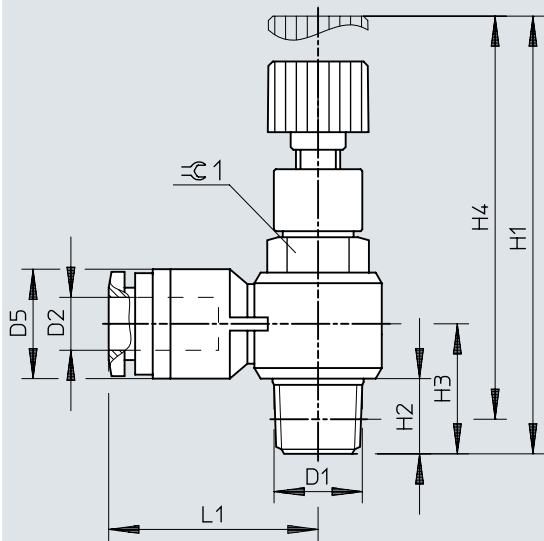


	D1	D2 ø	D5 ø	H1		H2	H3	H4		L1	1
				min.	max.			min.	max.		
LRLl-M5-QS	M5	4	9,9	35,2	38,3	3	7,1	32,2	35,3	19,9	8
		6	12,4	35,2	38,3	3	8,3	32,2	35,3	24	8

Dimensions

Dimensions – Outlet at the side, pneumatic connection 1: R1/8, R1/4, R3/8, R1/2

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	D1	D2 ø	D5 ø	H1		H2	H3	H4		L1	≅ 1
				min.	max.			min.	max.		
LRLL-1/8-QS	R1/8	4	10	43,7	48,2	8	10,7	39,7	44,2	21,4	10
		6	12,4	43,7	48,2	8	10,7	39,7	44,2	23,5	10
		8	14,4	43,7	48,2	8	11,9	39,7	44,2	26,9	10
LRLL-1/4-QS	R1/4	6	12,4	48	52,5	11,1	12,2	42	46,4	25,5	14
		8	14,4	48	52,5	11,1	13,2	42	46,4	28,4	14
		10	17,6	48	52,5	11,1	14,8	42	46,4	30,9	14
LRLL-3/8-QS	R3/8	8	14,5	54,2	59,2	13,2	15,4	47,9	52,8	28,9	19
		10	17,6	54,2	59,2	13,2	16,7	47,9	52,8	31,2	19
		12	21	54,2	59,2	13,2	18,4	47,9	52,8	36,9	19
LRLL-1/2-QS	R1/2	12	21	59,8	64,5	16	19,7	51,6	56,3	36,4	24

Ordering data

Ordering data – Outlet at top

	Pneumatic connection, port 1	Pneumatic connection, port 2	Nominal flow rate open	Nominal flow rate closed	Product weight	Part no.	Type
	M5	QS-4	30 l/min	30 l/min	9.5 g	153510	LRL-M5-QS-4
		QS-6			11 g	153512	LRL-M5-QS-6
	R1/8	QS-4	96 l/min	93 l/min	21 g	153511	LRL-1/8-QS-4
		QS-6			22 g	153513	LRL-1/8-QS-6
		QS-8			23 g	153515	LRL-1/8-QS-8
	R1/4	QS-6	241 l/min	240 l/min	38 g	153514	LRL-1/4-QS-6
		QS-8			39 g	153516	LRL-1/4-QS-8
		QS-10			43 g	153518	LRL-1/4-QS-10
	R3/8	QS-8	463 l/min	393 l/min	70 g	153517	LRL-3/8-QS-8
		QS-10			74 g	153519	LRL-3/8-QS-10
		QS-12			78 g	153520	LRL-3/8-QS-12
	R1/2		760 l/min	730 l/min	110 g	153521	LRL-1/2-QS-12

Ordering data – Lateral outlet

	Pneumatic connection, port 1	Pneumatic connection, port 2	Nominal flow rate open	Nominal flow rate closed	Product weight	Part no.	Type
	M5	QS-4	30 l/min	30 l/min	9 g	153498	LRLl-M5-QS-4
		QS-6			10 g	153500	LRLl-M5-QS-6
	R1/8	QS-4	100 l/min	96 l/min	19 g	153499	LRLl-1/8-QS-4
		QS-6			20 g	153501	LRLl-1/8-QS-6
		QS-8			22 g	153503	LRLl-1/8-QS-8
	R1/4	QS-6	267 l/min	266 l/min	37 g	153502	LRLl-1/4-QS-6
		QS-8			38 g	153504	LRLl-1/4-QS-8
		QS-10			42 g	153506	LRLl-1/4-QS-10
	R3/8	QS-8	474 l/min	340 l/min	67 g	153505	LRLl-3/8-QS-8
		QS-10			69 g	153507	LRLl-3/8-QS-10
		QS-12			73 g	153508	LRLl-3/8-QS-12
	R1/2		730 l/min	700 l/min	105 g	153509	LRLl-1/2-QS-12