
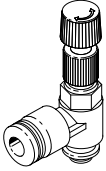


Differential pressure regulators LRL/LRLL, NPT

FESTO



Product range overview

Function	Design	Type	Pneumatic connection						→ Page/ Internet	
			Thread	For tubing O.D.						
				5/32"	3/16"	1/4"	5/16"	3/8"		1/2"
Differential pressure regulator without pressure gauge	With push-in connector on top and connecting thread									
		LRL-...-QS-...	10-32 UNF-2A	■	-	-	-	-	-	4
			1/8 NPT	■	■	■	■	-	-	
			1/4 NPT	-	■	■	■	■	-	
			3/8 NPT	-	-	-	■	■	■	
			1/2 NPT	-	-	-	-	-	■	
	With push-in connector on the side and connecting thread									
		LRLL-...-QS-...	10-32 UNF-2A	■	-	-	-	-	-	4
			1/8 NPT	■	■	■	■	-	-	
			1/4 NPT	-	■	■	■	■	-	
3/8 NPT			-	-	-	■	■	■		
1/2 NPT			-	-	-	-	-	■		

Type codes

001	Series
LRL	Differential pressure regulator
LRLL	Differential pressure regulator

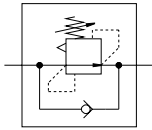
002	Pneumatic connection 1 [inch]
1/2-NPT	1/2 NPT
3/8-NPT	3/8 NPT
1/4-NPT	1/4 NPT
1/8-NPT	1/8 NPT
10-32-UNF	10/32 UNF


003	Pneumatic connection 2
QS-5/32	Push-in connector 5/32"
QS-3/16	Push-in connector 3/16"
QS-1/4	Push-in connector 1/4"
QS-5/16	Push-in connector 5/16"
QS-3/8	Push-in connector 3/8"
QS-1/2	Push-in connector 1/2"

004	System of units
U	Imperial

Datasheet

Function




 Supply pressure
0 ... 9 bar



The differential pressure regulator maintains a manually set differential pressure between the primary pressure at the threaded connection and the output pressure at the push-in connector.

Pressure at the push-in connector can be exhausted with no change in pressure at the threaded connection thanks to an integrated check valve.

- Minimal dimensions
- Constant differential pressure between input and output
- Connecting thread 1/2 NPT, 1/4 NPT, 1/8 NPT, 3/8 NPT, 10-32 UNF-2A
- Push-in connector for tubing O.D. 5/32", 3/16", 1/4", 5/16", 3/8", 1/2"
- Can be rotated 360°

 **Note**
The differential pressure regulator does not have an exhaust, i.e. if the output pressure increases this cannot be relieved.

General technical data					
Pneumatic connection 1	10-32 UNF-2A	1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT
Pneumatic connection 2	QS-5/32	QS-1/4 QS-3/16 QS-5/16 QS-5/32	QS-1/4 QS-3/16 QS-3/8 QS-5/16	QS-1/2 QS-3/8 QS-5/16	QS-1/2
Regulator function	Differential pressure constant				
Type of mounting	Screw-in				
Mounting position	Any				

Operating and environmental conditions		
Supply pressure 1	[MPa]	0 ... 0.9
	[bar]	0 ... 9
	[psi]	0 ... 130.5
Operating medium	Compressed air to ISO 8573-1:2010 [7:::]	
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)	
PWIS conformity	VDMA24364-B1/B2-L	
Ambient temperature	[°C]	0 ... 60

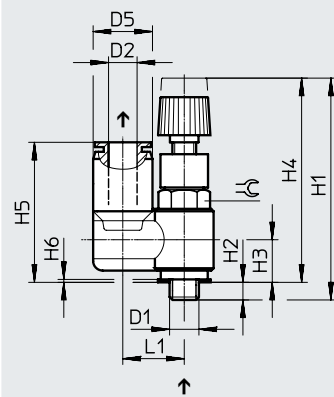
Materials	
Housing material	PBT-reinforced
Screwed trunnion material	Brass
Note on materials	RoHS-compliant

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Dimensions – LRL, push-in connector on top

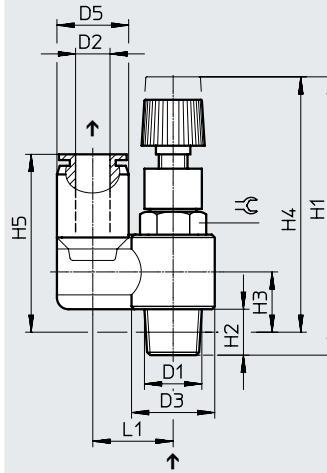
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Pneumatic connection 1: 10-32 UNF-2A




↑ Flow direction with pressure reduction

Pneumatic connection 1: 1/8 NPT, 1/4 NPT, 3/8 NPT, 1/2 NPT



↑ Flow direction with pressure reduction

 **Note**
Pressure at the push-in connector D2 can be exhausted with no change in pressure at the threaded connection D1 thanks to an integrated check valve.

Pneumatic connection 1 D1	D2 ∅	D3 ∅	D5 ∅	H1		H2	H3	H4		H5	H6	L1	⌀
				min.	max.			min.	max.				
10-32 UNF-2A	5/32"	–	10.2	35.2	38.3	2.9	6.7	32.3	35.4	23.9	0.6	10.5	5/16"
1/8 NPT	5/32"	14.4	10.2	43.7	48.2	8	10.8	39.6	44.1	28.8	–	13	7/16"
	3/16"	14.4	12.6	43.7	48.2	8	10.8	39.6	44.1	31.2	–	14.2	7/16"
	1/4"	14.4	12.6	43.7	48.2	8	10.8	39.6	44.1	30.8	–	14.2	7/16"
	5/16"	14.4	14.6	43.7	48.2	8	10.8	39.6	44.1	32.3	–	15.2	7/16"
1/4 NPT	3/16"	18.4	12.6	47.8	52.3	11	12.2	42	46.5	32.8	–	17.2	9/16"
	1/4"	18.4	12.6	47.8	52.3	11	12.2	42	46.5	32.4	–	17.2	9/16"
	5/16"	18.4	14.6	47.8	52.3	11	12.2	42	46.5	33.8	–	18.2	9/16"
	3/8"	18.4	17.8	47.8	52.3	11	12.2	42	46.5	36.1	–	19.8	9/16"
3/8 NPT	5/16"	22	14.6	54.5	59	12	15.6	48.4	52.9	38	–	19.2	3/4"
	3/8"	22	17.6	54.5	59	12	15.6	48.4	52.9	40.3	–	20.8	3/4"
	1/2"	22	21.2	54.5	59	12	15.6	48.4	52.9	44.8	–	22.5	3/4"
1/2 NPT	1/2"	28	21.2	59.8	64.3	15	18.2	51.7	56.2	47.8	–	25.5	1"

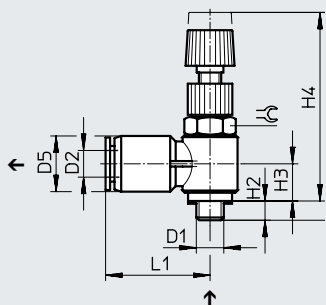
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Dimensions – LRLL, push-in connector at the side

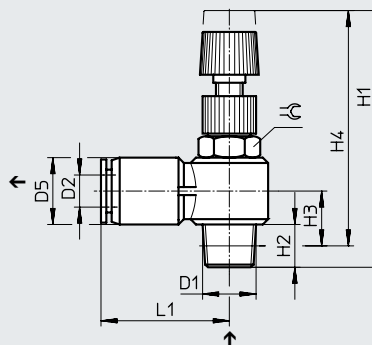
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Pneumatic connection 1: 10-32 UNF-2A


Pneumatic connection 1: 1/8 NPT, 1/4 NPT, 3/8 NPT, 1/2 NPT



↑ Flow direction with pressure reduction

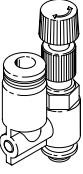
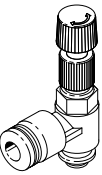


↑ Flow direction with pressure reduction

 **Note**
Pressure at the push-in connector D2 can be exhausted with no change in pressure at the threaded connection D1 thanks to an integrated check valve.

Pneumatic connection 1 D1	D2 ø	D5 ø	H1		H2	H3	H4		L1	⌀
			min.	max.			min.	max.		
10-32 UNF-2A	5/32"	9.9	35.2	38.3	3	7.1	32.2	35.3	19.9	5/16"
1/8 NPT	5/32"	9.9	43.7	48.2	8	10.6	39.6	44	21.4	7/16"
	3/16"	11.8	43.7	48.2	8	10.8	39.6	44	23.9	7/16"
	1/4"	11.8	43.7	48.2	8	10.6	39.6	44	23.5	7/16"
	5/16"	13.8	43.7	48.2	8	11.8	39.6	44	26.9	7/16"
1/4 NPT	3/16"	11.8	47.9	52.5	11.1	12.4	42.1	46.7	25.9	9/16"
	1/4"	11.8	47.9	52.5	11.1	12.4	42.1	46.7	25.5	9/16"
	5/16"	13.8	47.9	52.5	11.1	13.4	42.1	46.7	28.4	9/16"
	3/8"	16.8	47.9	52.5	11.1	15.0	42.1	46.7	30.9	9/16"
3/8 NPT	5/16"	13.8	54.7	59.2	13.2	15.6	48.6	53.1	28.9	3/4"
	3/8"	16.8	54.7	59.2	13.2	16.9	48.6	53.1	31.2	3/4"
	1/2"	19.8	54.7	59.2	13.2	18.6	48.6	53.1	37.2	3/4"
1/2 NPT	1/2"	19.8	59.8	64.2	16	19.7	51.7	56.3	36.7	1"

Datasheet

Ordering data					
	Pneumatic connection		Weight [g]	Part no.	Type
	1	2			
Push-in connector on top					
	10-32 UNF-2A	QS-5/32	9.5	190890	LRL-10-32-UNF-QS-5/32-U
	1/8 NPT	QS-5/32	20	190891	LRL-1/8-NPT-QS-5/32-U
		QS-3/16	22	190892	LRL-1/8-NPT-QS-3/16-U
		QS-1/4	22	190893	LRL-1/8-NPT-QS-1/4-U
		QS-5/16	23	190894	LRL-1/8-NPT-QS-5/16-U
	1/4 NPT	QS-3/16	38	190895	LRL-1/4-NPT-QS-3/16-U
		QS-1/4	38	190896	LRL-1/4-NPT-QS-1/4-U
		QS-5/16	39	190897	LRL-1/4-NPT-QS-5/16-U
		QS-3/8	43	190898	LRL-1/4-NPT-QS-3/8-U
	3/8 NPT	QS-5/16	69	190899	LRL-3/8-NPT-QS-5/16-U
		QS-3/8	72	190900	LRL-3/8-NPT-QS-3/8-U
		QS-1/2	76	190901	LRL-3/8-NPT-QS-1/2-U
	1/2 NPT	QS-1/2	108	190902	LRL-1/2-NPT-QS-1/2-U
Push-in connector at the side					
	10-32 UNF-2A	QS-5/32	9	190903	LRLL-10-32-UNF-QS-5/32-U
	1/8 NPT	QS-5/32	19	190904	LRLL-1/8-NPT-QS-5/32-U
		QS-3/16	20	190905	LRLL-1/8-NPT-QS-3/16-U
		QS-1/4	20	190906	LRLL-1/8-NPT-QS-1/4-U
		QS-5/16	21.5	190907	LRLL-1/8-NPT-QS-5/16-U
	1/4 NPT	QS-3/16	36.5	190908	LRLL-1/4-NPT-QS-3/16-U
		QS-1/4	36.5	190909	LRLL-1/4-NPT-QS-1/4-U
		QS-5/16	37.5	190910	LRLL-1/4-NPT-QS-5/16-U
		QS-3/8	41.5	190911	LRLL-1/4-NPT-QS-3/8-U
	3/8 NPT	QS-5/16	66.5	190912	LRLL-3/8-NPT-QS-5/16-U
		QS-3/8	69	190913	LRLL-3/8-NPT-QS-3/8-U
		QS-1/2	73	190914	LRLL-3/8-NPT-QS-1/2-U
	1/2 NPT	QS-1/2	105	190915	LRLL-1/2-NPT-QS-1/2-U