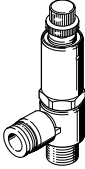
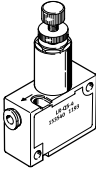
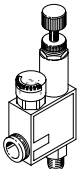
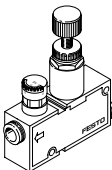
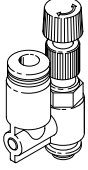
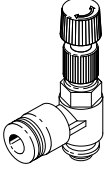


Pressure and differential pressure regulators

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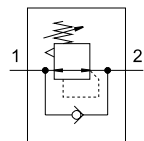



Product range overview

Function	Design	Type	Pneumatic connection					→ Page/ Internet	
			Thread	For tubing O.D. [mm]					
				4	6	8	10		12
Pressure regulator without pressure gauge	With push-in connector and connecting thread								
		LR-...-QS-...	M5	■	■	-	-	-	3
			R1/8	■	■	■	-	-	
			R1/4	-	■	■	-	-	
	With push-in connector at both ends								
		LR-QS-...	-	■	■	■	-	-	3
Pressure regulator with pressure gauge	With push-in connector and connecting thread								
		LRMA-...-QS-...	M5	■	■	-	-	-	6
			R1/8	■	■	■	-	-	
			R1/4	-	■	■	-	-	
	With push-in connector at both ends								
		LRMA-QS-...	-	■	■	■	-	-	6
Differential pressure regulator without pressure gauge	With push-in connector at the top and connecting thread								
		LRL-...-QS-...	M5	■	■	-	-	-	9
			R1/8	■	■	■	-	-	
			R1/4	-	■	■	■	-	
			R3/8	-	-	■	■	■	
			R1/2	-	-	-	-	■	
	With push-in connector at the side and connecting thread								
		LRL-...-QS-...	M5	■	■	-	-	-	9
			R1/8	■	■	■	-	-	
			R1/4	-	■	■	■	-	
R3/8			-	-	■	■	■		
R1/2			-	-	-	-	■		

Data sheet

Function



-  - Standard nominal flow rate
22 ... 127 l/min



The pressure regulator maintains an essentially constant output pressure on the secondary side independent of pressure fluctuations on the primary side and air consumption.

The operating pressure applied to the pneumatic connection 1 is reduced when air is exhausted at the push-in connector

- Minimal dimensions
- Constant output pressure
- Version without pressure gauge
- Connecting thread M5, R1/8, R1/4
- Push-in connector for tubing O.D. 4, 6, 8 mm
- Rotatable 360°

General technical data						
Type	LR-...-QS			LR-QS		
Pneumatic connection 1	M5	R1/8	R1/4	QS-4	QS-6	QS-8
Pneumatic connection 2	QS-4, QS-6	QS-4, QS-6, QS-8	QS-6, QS-8	QS-4	QS-6	QS-8
Design	Directly actuated piston regulator with through pressure supply					
Regulator function	With secondary venting, output pressure constant					
Pressure regulation range [bar]	1 ... 8					
Actuator lock	Knurled screw with lock nut					
Type of mounting	Screw-in			With through-hole		
Mounting position	Any					
Type of seal on screwed trunnion	Sealing ring	Coating		-		

Operating and environmental conditions	
Operating pressure [bar]	0 ... 9
Operating medium	Compressed air to ISO 8573-1:2010 [7:-:-]
Ambient temperature [°C]	0 ... 60

Materials						
Type	LR-...-QS			LR-QS		
Pneumatic connection 1	M5	R1/8	R1/4	QS-4	QS-6	QS-8
Housing	PBT-reinforced					
Screwed trunnion/knurled screw	Nickel-plated brass					
Threaded seal	-	PTFE		-		

Pressure regulators LR

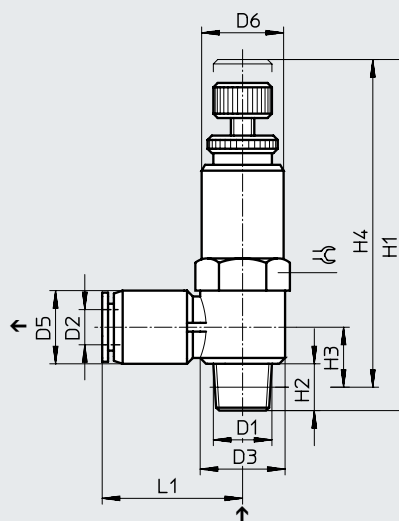
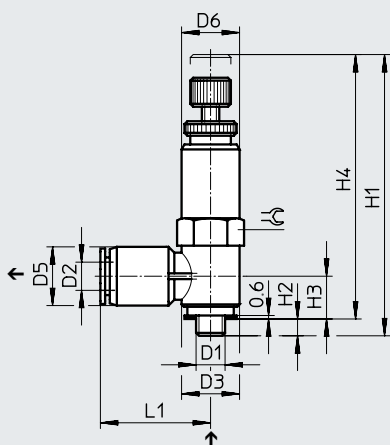
Data sheet

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1: M5

Pneumatic connection 1: R1/8, R1/4



↑ Flow direction

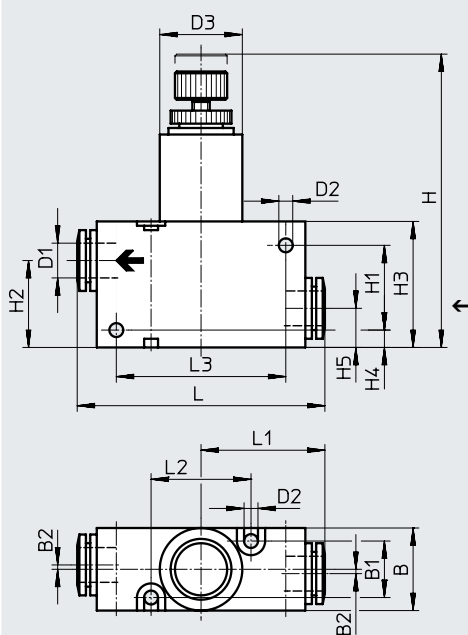
Pneumatic connection 1 D1	D2 ø	D3 ø	D5 ø	D6 ø	H1		H2	H3	H4		L1	⊕
					min.	max.			min.	max.		
M5	4	9.8	8	10	44.6	48.7	2.9	7.6	41.7	45.8	16	10
	6	9.8	10.5	10	44.6	48.7	2.9	8.4	41.7	45.8	17.8	10
R1/8	4	14.4	10	14	56	60	7.8	10.5	52	56	21.4	14
	6	14.4	12.4	14	56	60	7.8	10.7	52	56	23.5	14
	8	14.4	14.4	14	56	60	7.8	11.7	52	56	26.9	14
R1/4	6	18.4	12.4	17	60.8	64.8	11.3	12.2	54.8	58.8	25.5	17
	8	18.4	14.4	17	60.8	64.8	11.3	13.2	54.8	58.8	28.4	17

Data sheet

Dimensions

Download CAD data → www.festo.com

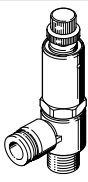
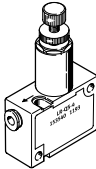
Pneumatic connection 1: QS-4, QS-6, QS-8



← Flow direction

Pneumatic connection 1	B	B1	B2	D1 ∅	D2 ∅	D3 ∅	H		H1	H2	H3	H4	H5	L	L1	L2	L3
							min.	max.									
QS-4	15	9	1	4	3.2	15	59	63	17	19	25	4	9	44	22	20	30
QS-6				6										45	22.5		
QS-8	19	13	1	8	3.2	19	63.5	67.5	21	21	29	4	9	57	28.5	23	39

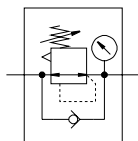
Ordering data


	Pneumatic connection		Standard nominal flow rate [l/min]	Weight [g]	Part no.	Type
	1	2				
With push-in connector and connecting thread						
	M5	QS-4	22	16	153532	LR-M5-QS-4
		QS-6	41	16	153533	LR-M5-QS-6
	R1/8	QS-4	46	36	153534	LR-1/8-QS-4
		QS-6	63	36	153535	LR-1/8-QS-6
	R1/4	QS-8	69	38	153536	LR-1/8-QS-8
		QS-6	98	59	153537	LR-1/4-QS-6
		QS-8	101	60	153538	LR-1/4-QS-8
With push-in connector at both ends						
	QS-4	QS-4	67	33	153540	LR-QS-4
	QS-6	QS-6	70	33	153541	LR-QS-6
	QS-8	QS-8	127	56	153542	LR-QS-8

Pressure regulators LRMA, with pressure gauge

Data sheet

Function



-  - Standard nominal flow rate
36 ... 124 l/min



The pressure regulator maintains an essentially constant output pressure on the secondary side independent of pressure fluctuations on the primary side and air consumption.

The operating pressure applied to the pneumatic connection 1 is reduced when air is exhausted at the push-in connector

- Minimal dimensions
- Constant output pressure
- Version with pressure gauge
- Connecting thread M5, R1/8, R1/4
- Push-in connector for tubing O.D. 4, 6, 8 mm
- Rotatable 360°

General technical data						
Type	LRMA-...-QS			LRMA-QS		
Pneumatic connection 1	M5	R1/8	R1/4	QS-4	QS-6	QS-8
Pneumatic connection 2	QS-4, QS-6	QS-4, QS-6, QS-8	QS-6, QS-8	QS-4	QS-6	QS-8
Design	Directly actuated piston regulator with through pressure supply					
Regulator function	With secondary venting, output pressure constant					
Pressure regulation range [bar]	1 ... 8					
Actuator lock	Knurled screw with lock nut					
Pressure indicator	With pressure gauge					
Type of mounting	Screw-in			With through-hole		
Mounting position	Any					
Type of seal on screwed trunnion	Sealing ring	Coating		-		

Operating and environmental conditions	
Operating pressure [bar]	0 ... 9
Operating medium	Compressed air to ISO 8573-1:2010 [7:-:-]
Ambient temperature [°C]	0 ... 60

Materials						
Type	LRMA-...-QS			LRMA-QS		
Pneumatic connection 1	M5	R1/8	R1/4	QS-4	QS-6	QS-8
Housing	PBT-reinforced					
Screwed trunnion/knurled screw	Nickel-plated brass					
Threaded seal	-	PTFE		-		

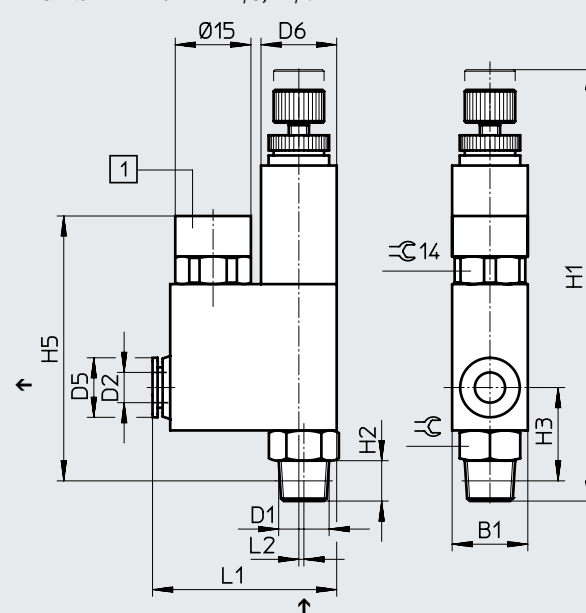
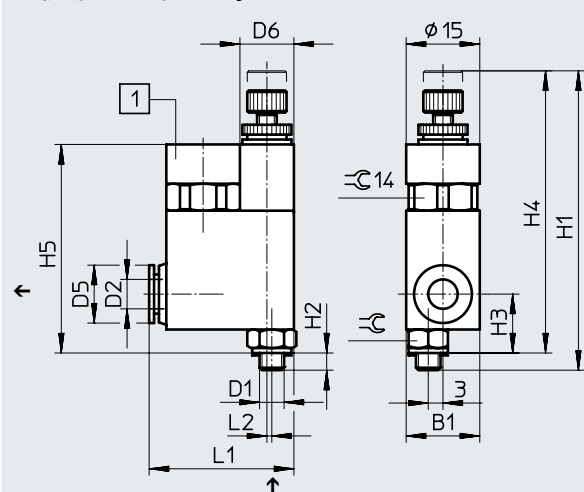
Data sheet

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1: M5

Pneumatic connection 1: R1/8, R1/4



[1] Pressure gauge

↑ Flow direction

Pneumatic connection 1	D2 ∅	B1	D5 ∅	D6 ∅	H1		H2	H3	H4		H5	L1	L2	≙
					min.	max.			min.	max.				
M5	4	15.1	9.8	11	57.1	61.2	3.5	11.8	53.6	57.7	42.8	28	1.1	8
	6	15.1	11.8	11	57.1	61.2	3.5	11.8	53.6	57.7	42.8	28.1	1.1	8
R1/8	4	15.1	10	15	77.5	81.5	8	18.5	-	-	51.5	36	0.5	12
	6	15.1	12	15	77.5	81.5	8	18.5	-	-	51.5	36.5	0.5	12
	8	15	14	15	77.5	81.5	8	18.5	-	-	51.5	36.5	1	12
R1/4	6	19	12	19	85.5	89.5	11	22.5	-	-	57	39.5	0.5	16
	8	19	14	19	85.5	89.5	11	22.5	-	-	57	39.5	1	16

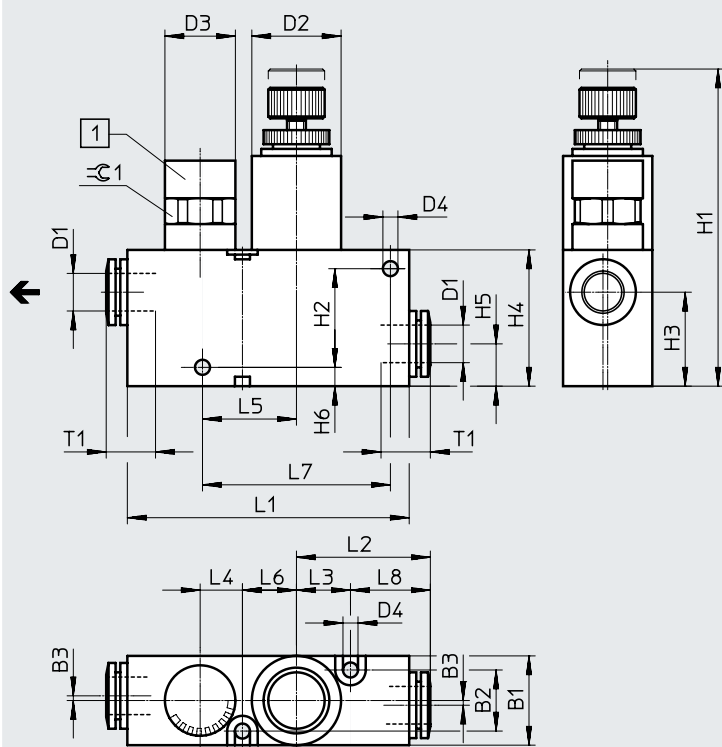
Pressure regulators LRMA, with pressure gauge

Data sheet

Dimensions

Download CAD data → www.festo.com

Pneumatic connection 1: QS-4, QS-6, QS-8



[1] Pressure gauge

← Flow direction

Pneumatic connection 1	B1	B2	B3	D1 ∅	D2 ∅	D3 ∅	D4 ∅	H1		H2	H3	H4
								min.	max.			
QS-4	15	9	1	4	15	15	3.2	59	63	17	19	25
QS-6				6								
QS-8	19	13	1	8	19	15	3.2	63.5	67.5	21	21	29

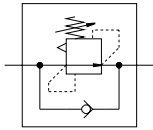
Pneumatic connection 1	H5	H6	L1	L2	L3	L4	L5	L6	L7	L8	T1	⊕ 1
QS-4	9	4	55.9	22.4	10	10	15	10	30	12.4	11.5	14
QS-6											12	
QS-8											9	4


Ordering data

	Pneumatic connection		Standard nominal flow rate [l/min]	Weight [g]	Part no.	Type
	1	2				
With push-in connector and connecting thread						
	M5	QS-4	36	27.5	153488	LRMA-M5-QS-4
		QS-6	42	27.5	153490	LRMA-M5-QS-6
	R1/8	QS-4	59	54.5	153489	LRMA-1/8-QS-4
		QS-6	75	54.5	153491	LRMA-1/8-QS-6
	R1/4	QS-8	87	83.5	153493	LRMA-1/8-QS-8
		QS-6	96	55	153492	LRMA-1/4-QS-6
		QS-8	97	83.5	153494	LRMA-1/4-QS-8
With push-in connector at both ends						
	QS-4	QS-4	50	45	153495	LRMA-QS-4
	QS-6	QS-6	76	45	153496	LRMA-QS-6
	QS-8	QS-8	124	68	153497	LRMA-QS-8

Data sheet

Function




 Standard nominal flow rate
 30 ... 760 l/min



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 applied 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 M5, R1/8, R1/4, R3/8, R1/2
- Push-in connector for tubing O.D. 4, 6, 8, 10, 12 mm
- Rotatable 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	M5	R1/8	R1/4	R3/8	R1/2
Pneumatic connection 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 pressure supply				
Regulator function	With return flow, differential pressure constant				
Pressure regulation range [bar]	2 ... 6				
Actuator lock	Knurled screw with lock nut				
Type of mounting	Screw-in				
Mounting position	Any				
Type of seal on screwed trunnion	Sealing ring	Coating			

Operating and environmental conditions	
Operating pressure [bar]	0 ... 9
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)
Ambient temperature [°C]	0 ... 60

Materials	
Housing	PBT-reinforced
Screwed trunnion	Nickel-plated brass
Threaded seal	PTFE
Note on materials	RoHS-compliant

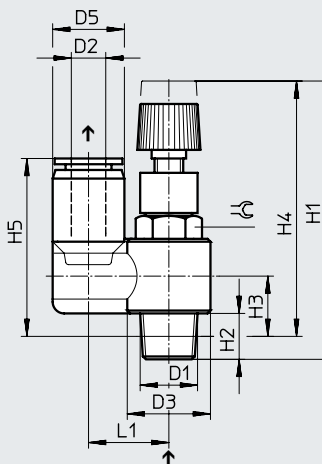
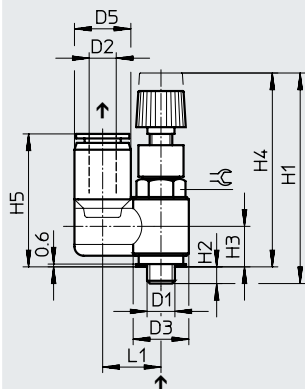
Data sheet

Dimensions – LRL, outlet on top

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Pneumatic connection 1: M5

Pneumatic connection 1: R1/8, R1/4, R3/8, R1/2



↑ Flow direction with pressure reduction

Note

Pressure applied 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	L1	⊕
				min.	max.			min.	max.			
M5	4	9.8	10.2	35.2	38.3	2.9	6.7	32.3	35.4	23.9	10.5	8
	6	9.8	12.6	35.2	38.3	2.9	6.7	32.3	35.4	26	12.2	8
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
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
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
R1/2	12	28	21.2	59.8	64.3	16	18.2	51.6	56.1	47	25.5	24

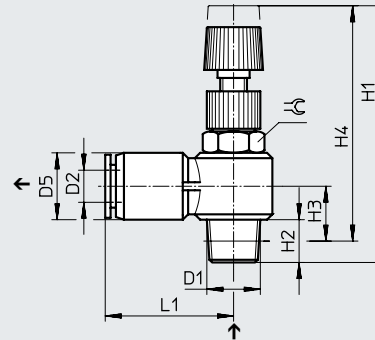
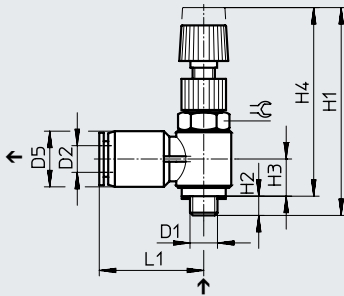
Data sheet

Dimensions – LRLL, outlet at the side

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Pneumatic connection 1: M5

Pneumatic connection 1: R1/8, R1/4, R3/8, R1/2



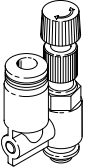
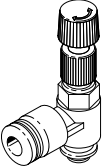
↑ Flow direction with pressure reduction

 **Note**

Pressure applied 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 ∅	D5 ∅	H1		H2	H3	H4		L1	⊕
			min.	max.			min.	max.		
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
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
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
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
R1/2	12	21	59.8	64.5	16	19.7	51.6	56.3	36.4	24

Data sheet

Ordering data							
	Pneumatic connection		Standard nominal flow rate [l/min]		Weight [g]	Part no.	Type
	1	2	Open	Closed			
Outlet on top							
	M5	QS-4	30	30	9.5	153510	LRL-M5-QS-4
		QS-6	30	30	11	153512	LRL-M5-QS-6
	R1/8	QS-4	96	93	21	153511	LRL-1/8-QS-4
		QS-6	115	115	22	153513	LRL-1/8-QS-6
		QS-8	120	115	23	153515	LRL-1/8-QS-8
	R1/4	QS-6	241	240	38	153514	LRL-1/4-QS-6
		QS-8	224	224	39	153516	LRL-1/4-QS-8
		QS-10	231	231	43	153518	LRL-1/4-QS-10
	R3/8	QS-8	463	393	70	153517	LRL-3/8-QS-8
		QS-10	476	423	74	153519	LRL-3/8-QS-10
		QS-12	438	379	78	153520	LRL-3/8-QS-12
	R1/2	QS-12	760	730	110	153521	LRL-1/2-QS-12
	Outlet at the side						
	M5	QS-4	30	30	9	153498	LRLL-M5-QS-4
		QS-6	32	31	10	153500	LRLL-M5-QS-6
	R1/8	QS-4	100	96	19	153499	LRLL-1/8-QS-4
		QS-6	155	140	20	153501	LRLL-1/8-QS-6
		QS-8	115	110	22	153503	LRLL-1/8-QS-8
	R1/4	QS-6	267	266	37	153502	LRLL-1/4-QS-6
		QS-8	268	264	38	153504	LRLL-1/4-QS-8
		QS-10	269	262	42	153506	LRLL-1/4-QS-10
	R3/8	QS-8	474	340	67	153505	LRLL-3/8-QS-8
		QS-10	456	411	69	153507	LRLL-3/8-QS-10
		QS-12	518	423	73	153508	LRLL-3/8-QS-12
	R1/2	QS-12	730	700	105	153509	LRLL-1/2-QS-12