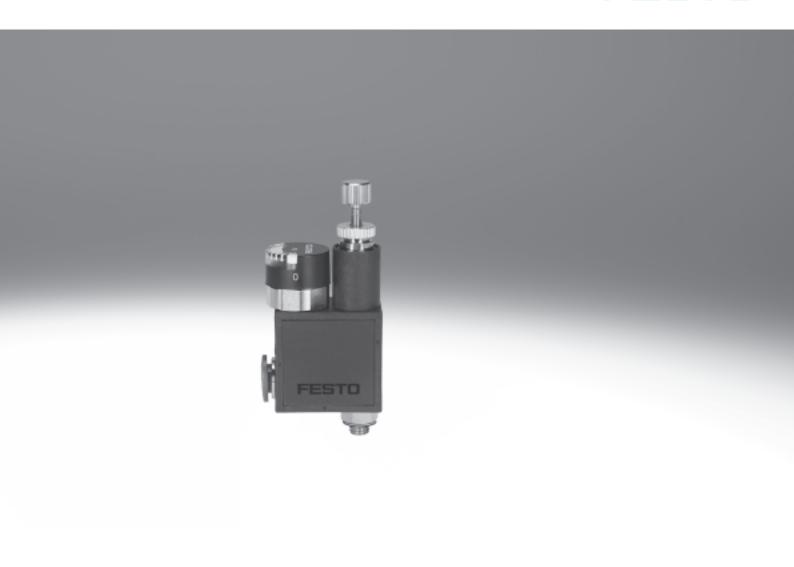
Pressure and differential pressure regulators

FESTO



Pressure and differential pressure regulators

Features





Pressure regulators LR, LRMA

Flow rate

22 ... 127 l/min

- With threaded and push-in connector
- Screw-in thread M5, R1/8, R1/4
- Push-in connector for tubing O.D. 4 ... 8 mm
- Push-in connector, can be rotated 360°

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 primary pressure at the screw-in thread is reduced when air is exhausted from the QS push-in connector.

Differential pressure regulators LRL, LRLL

Flow rate

30 ... 760 l/min

- With threaded and push-in connector
- Screw-in thread
 M5, R¹/8, R¹/4, R³/8, R¹/2
- Push-in connector for tubing O.D. 4 ... 12 mm
- Push-in connector, can be rotated 360°

The differential pressure regulator maintains a manually adjusted differential pressure between the primary pressure at the screw-in thread and the output pressure at the QS push-in connector.

Pressure applied at the QS push-in connector can be exhausted with no change in pressure at the thread connection end thanks to an integrated non-return valve.

Note

The differential pressure regulator has no exhaust, i.e. increasing secondary pressure cannot be reduced.

Pressure and differential pressure regulators Product range overview



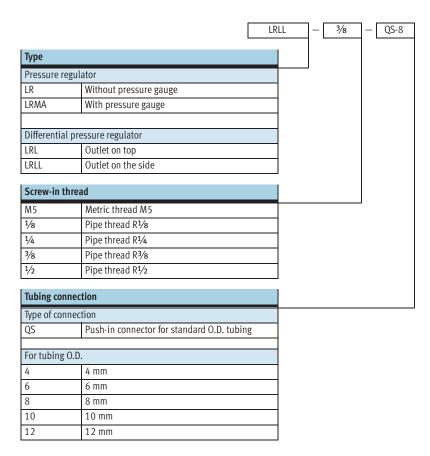
Function	Design	Туре	Pneumatic con	Pneumatic connection							
			Thread	For tub	For tubing O.D. [mm]						
				4	6	8	10	12			
Pressure regulating	With QS push-in co	onnector and screw-in	thread								
valve without pressure	Q	LRQS	M5			_	_	_	5		
gauge				_			_	_			
			R ¹ /8				_	_			
			74 (_		
			R1/4	-	-		-	-			
	With QS push-in co	onnector at both ends							_		
		LR-QS	-						5		
					•		_	_			
	19th										
Pressure regulator	With QS push-in co	onnector and screw-in	thread								
with pressure gauge		LRMAQS	M5				T	T	9		
,				•	•	-	_	_			
			R ¹ /8					_	7		
					_	"	_	_			
			R ¹ / ₄	_			_	_			
	With QS push-in connector at both ends										
	With QS push-in co		<u> </u>		1	+		1	1.		
		LRMA-QS	_						9		
				-	-	•	_	-			
		J		<u> </u>					1		
Differential pressure	With QS push-in co	onnector at top and sci	rew-in thread								
regulator		LRLQS	M5	•	•	-	-	-	12		
without pressure gauge			R ¹ /8	•			-	-			
			R ¹ / ₄	-				-			
			R ³ / ₈	-	-				_		
			R ¹ / ₂	_	-	-	-				
	With QS push-in co	onnector on side and s	crew-in thread								
	8	LRLLQS	M5	•		_	_	_	12		
			R ¹ /8				-	-			
			R ¹ / ₄	-		•		-			
			R3/8	-	-	•	•	•	_		
			R ¹ / ₂	-	-	-	-				

¹⁾ Tubing → www.festo.com

Pressure and differential pressure regulators



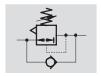
Type code:



Pressure regulators LR Technical data

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Function



Flow rate

22 ... 127 l/min

- Minimal dimensions
- Constant output pressure
- Version without pressure gauge
- Screw-in thread M5 ... R1/4 or push-in connector ∅ 4 ... 8 mm



General technical data		
Design		Directly actuated piston regulator with through pressure supply
Regulating function		With secondary venting, output pressure constant
Actuator lock		Knurled screw with lock nut
Mounting position		Any
With QS push-in connec	tor and metric thread with seali	ng ring
Type of mounting		Can be screwed in
Materials	Housing	Polybutylene terephthalate
	Threaded plug	Nickel plated brass
With QS push-in connect	tor and PTFE-coated pipe thread	
Type of mounting		Can be screwed in
Materials	Housing	Polybutylene terephthalate
	Threaded plug	Nickel plated brass
	Threaded seal	Polytetrafluoroethylene
With QS push-in connec	tor at both ends	
Type of mounting		Via through-holes
Materials	Housing	Polybutylene terephthalate

Operating and environmental conditions							
Operating medium		Filtered compressed air, lubricated or unlubricated					
Input pressure	[bar]	0 9					
Pressure regulation range	[bar]	18					
Ambient temperature	[°C]	0 60					

Pressure regulators LR Technical data



Weights [g]	Weights [g]									
Screw-in thread	M5	R ¹ /8	R1/4							
With QS push-in connector	With QS push-in connector and metric thread with sealing ring									
QS-4	16	_	_							
QS-6	16	-	-							
With QS push-in connector	r and PTFE-coated pipe thread									
QS-4	-	32.5	_							
QS-6	-	33.5	54							
QS-8	-	35	55							

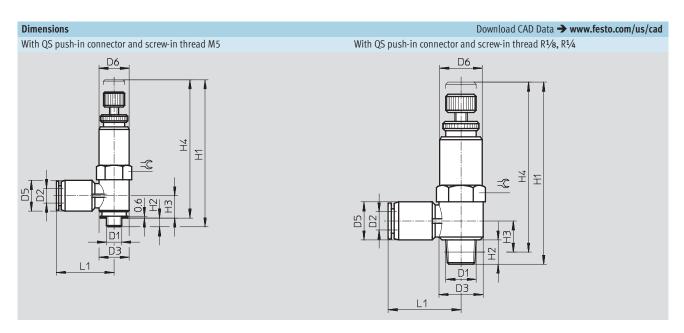
Weights [g]							
With QS push-in connector at both ends							
QS-4	33						
QS-6	33						
QS-8	56						

Standard nominal flow rate [l/min]									
Screw-in thread	M5	R ¹ /8	R ¹ / ₄						
With QS push-in connector and metric thread with sealing ring									
QS-4	22	-	_						
QS-6	41	-	_						
With QS push-in connector	and PTFE-coated pipe thread								
QS-4	-	46	_						
QS-6	-	63	98						
QS-8	-	69	101						

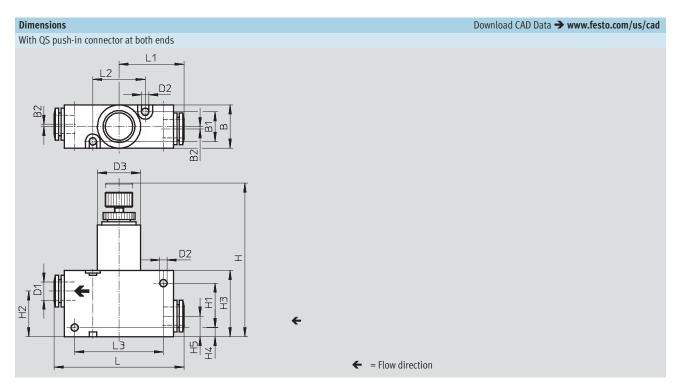
Standard nominal flow rate [l/min]							
With QS push-in connector at both ends							
QS-4	67						
QS-6	70						
QS-8	127						

Pressure regulators LR Technical data





Screw-in thread D1	D2 Ø	D3 Ø	D5 Ø	D6 Ø	H1		H2	Н3	H4		L1	≕©
					min.	max.			min.	max.		
M5	4	9.8	8	10	44.6	48.75	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
R ¹ /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
R ¹ / 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



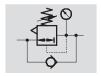
Push-in	В	B1	B2	D1	D2	D3	ŀ	1	H1	H2	Н3	H4	H5	L	L1	L2	L3
connector				Ø	Ø	Ø	min.	max.									
QS-4	15	0	1	4	3.7	1.5	50	63	17	19	25	4	0	44	22	20	30
QS-6	15	9	1	6	3.2	15	39	05	17	19	23	4	9	45	22.5	20	30
QS-8	19	13	1	8	3.2	19	63.5	67.5	21	21	29	4	9	57	28.5	23	39

Ordering data					
	Description	Screw-in thread	For tubing O.D.	Part No.	Туре
			[IIIIII]		
	With QS push-in connector and metric thread with sealing ring	M5	4	153 532	LR-M5-QS-4
			6	153 533	LR-M5-QS-6
	With QS push-in connector and PTFE-coated pipe thread	R ¹ /8	4	153 534	LR-1/8-QS-4
			6	153 535	LR-1/8-QS-6
			8	153 536	LR-1/8-QS-8
		R1/4	6	153 537	LR-1/4-QS-6
			8	153 538	LR-1/4-QS-8
	With QS push-in connector at both ends	-	4	153 540	LR-QS-4
			6	153 541	LR-QS-6
Je			8	153 542	LR-QS-8
				•	

Pressure regulators LRMA, with pressure gauge Technical data

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Function



Flow rate

36 ... 124 l/min

- Minimal dimensions
- Constant output pressure
- Version with pressure gauge
- Screw-in thread M5 ... R1/4 or push-in connector \varnothing 4 ... 8 mm



General technical data		
Design		Directly actuated piston regulator with through pressure supply
Regulating function		With secondary venting, output pressure constant
Actuator lock		Knurled screw with lock nut
Mounting position		Any
With QS push-in connect	or and metric thread with seali	ng ring
Type of mounting		Can be screwed in
Materials	Housing	Polybutylene terephthalate
	Threaded plug	Nickel plated brass
With QS push-in connect	or and PTFE-coated pipe thread	
Type of mounting		Can be screwed in
Materials	Housing	Polybutylene terephthalate
	Threaded plug	Nickel plated brass
	Threaded seal	Polytetrafluoroethylene
With OS push in connect	ear at both ands	
With QS push-in connect	oi at botii eiius	We through holes
Type of mounting		Via through-holes
Materials	Housing	Polybutylene terephthalate

Operating and environmental conditions							
Operating medium		Filtered compressed air, lubricated or unlubricated					
Input pressure	[bar]	0 9					
Pressure regulation range	[bar]	1 8					
Ambient temperature	[°C]	0 60					

Weights [g]								
Screw-in thread	M5	R ¹ /8	R ¹ / ₄					
With QS push-in connector and metric thread with sealing ring								
QS-4	QS-4 28							
QS-6	28	_	_					
With QS push-in connector a	and PTFE-coated pipe thread							
QS-4	-	54.5	_					
QS-6	-	54.5	55					
QS-8	-	83.5	83.5					

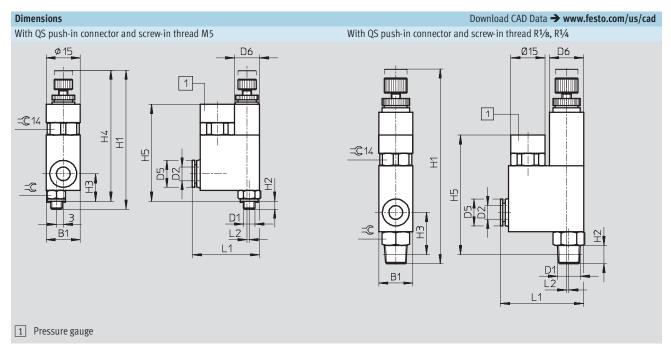
Weights [g]							
With QS push-in connector at both ends							
QS-4	45						
QS-6	45						
QS-8	68						

Pressure regulators LRMA, with pressure gauge Technical data



Standard nominal flow rate	Standard nominal flow rate [I/min]									
Screw-in thread	M5	R½8	R ¹ / ₄							
With QS push-in connector and metric thread with sealing ring										
QS-4 36										
QS-6	42	_	_							
With QS push-in connector	and PTFE-coated pipe thread									
QS-4	_	60	_							
QS-6	-	75	96							
QS-8	-	87	97							

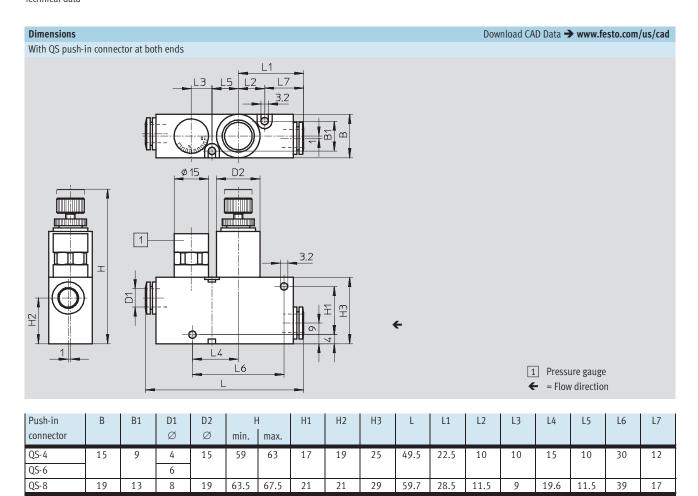
Standard nominal flow rate	Standard nominal flow rate [l/min]							
With QS push-in connector at both ends								
QS-4	50							
QS-6	76							
QS-8	124							



Screw-in thread	D2	B1	D5	D6	Н	1	H2	Н3	Н	4	H5	L1	L2	=©
D1	Ø		Ø	Ø	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
R ¹ /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
R ¹ / 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 Technical data



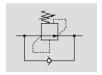


rdering data	Description	Screw-in	For tubing O.D.	Part No.	Туре
		thread			
			[mm]		
	With QS push-in connector and metric thread with sealing ring	M5	4	153 488	LRMA-M5-QS-4
			6	153 490	LRMA-M5-QS-6
	With QS push-in connector and PTFE-coated pipe thread	R ¹ /8	4	153 489	LRMA-1/8-QS-4
			6	153 491	LRMA-1/8-QS-6
			8	153 493	LRMA-1/8-QS-8
		R1/4	6	153 492	LRMA-1/4-QS-6
			8	153 494	LRMA-1/4-QS-8
©	With QS push-in connector at both ends	-	4	153 495	LRMA-QS-4
			6	153 496	LRMA-QS-6
			8	153 497	LRMA-QS-8
				1	

Differential pressure regulators LRL/LRLL Technical data

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Function



Flow rate 30 ... 760 l/min

- Minimal dimensions
- Constant differential pressure between the input and output
- \bullet With screw-in thread M5 ... $R^{1/2}$ or push-in connector Ø 4 ... 12 mm



General technical data	General technical data							
Regulating function		With return flow, differential pressure constant						
Design		Directly actuated piston regulator with through pressure supply						
Actuator lock		Knurled screw with lock nut						
Type of mounting		Can be screwed in						
Mounting position		Any						
Materials	Housing	Polybutylene terephthalate						
	Threaded plug	Nickel plated brass						
	Threaded seal	Polytetrafluoroethylene						

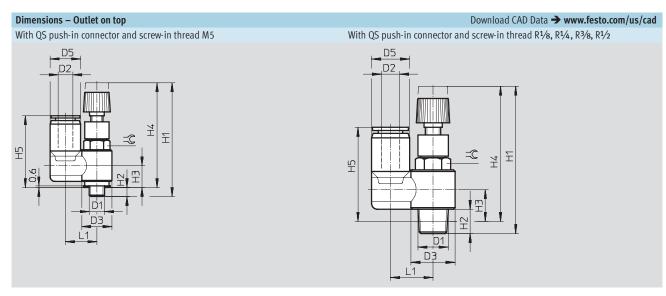
Operating and environmental conditions							
Operating medium		Filtered compressed air, lubricated or unlubricated					
Input pressure	[bar]	0 9					
Pressure regulation range	[bar]	18					
Ambient temperature	[°C]	0 60					

Standard nominal flow r	ate [l/min]									
Screw-in thread	M5	M5		R ¹ / ₈		R1/4		R ³ / ₈		
	open	closed	open	closed	open	closed	open	closed	open	closed
Outlet on top										
QS-4	30	30	96	93	_	-	-	-	-	-
QS-6	30	30	115	115	241	240	-	-	-	_
QS-8	-	-	120	115	224	224	463	393	-	_
QS-10	-	-	-	-	231	231	476	423	-	-
QS-12	-	_	-	-	-	-	438	379	760	730
			•							•
Outlet on the side										
QS-4	30	30	100	96	-	-	-	-	-	-
QS-6	32	31	155	140	267	266	-	-	-	-
QS-8	-	-	115	110	268	264	474	340	-	-
QS-10	-	-	-	-	269	262	456	411	-	-
QS-12	-	-	-	-	-	-	518	423	730	700

Differential pressure regulators LRL/LRLL Technical data



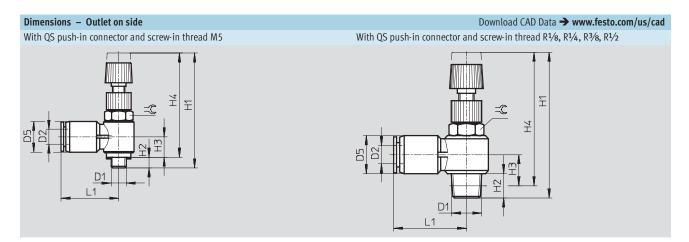
Weights [g]					
Screw-in thread	M5	R1/8	R1/4	R ³ /8	R1/2
Outlet on top (LRL)					
QS-4	9.5	20	-	-	-
QS-6	11	21.5	37.5	-	-
QS-8	-	22.5	39	68.5	-
QS-10	-	-	42.5	72	-
QS-12	-	-	-	76	108
Outlet on side (LRLL)					
QS-4	8.8	19	-	-	-
QS-6	9.8	20	36.5	-	-
QS-8	-	21.5	37.5	66.5	-
QS-10	-	-	41.5	69	-
QS-12	-	-	-	73	105



Screw-in thread	D2	D3	D5	Н	1	H2	H3	H	4	H5	L1	=©
D1	Ø	Ø	Ø									
				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
D1/6	6	9.8	12.6	35.2	38.3	2.9	6.7	32.3	35.4	26	12.2	8
R ¹ /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	15.3	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
R ³ /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	20.2	19
	12	22	21.2	54.5	59	13.2	15.4	48.2	52.6	42.8	23.4	24
R ¹ / ₂	12	28	21.2	59.8	64.3	16	18.2	51.6	56.1	47	23.4	24

Differential pressure regulators LRLL Technical data

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Screw-in thread	D2	D5	Н	1	H2	Н3	Н	4	L1	=©
D1	Ø	Ø	min.	max.			min.	max.		
M5	4	9.9	35.7	38.8	3.4	7.1	32.3	35.4	19.9	8
	6	12.4	35.7	38.8	3.4	8.3	32.3	35.4	24	8
R ¹ /8	4	10	44.5	48.5	8	9.5	40.5	44.5	21.5	10
	6	12.5	44.5	48.5	8	10.5	40.5	44.5	23.5	10
	8	14.5	44.5	48.5	8	11.5	40.5	44.5	27	10
R1/4	6	12.5	48.5	52	11.5	12	42.5	46	25.5	14
	8	14.5	48.5	52	11.5	13	42.5	46	28.5	14
	10	17.5	48.5	52	18.5	15	42.5	46	31	14
R ³ /8	8	14.5	56	59	13	15	49.5	52.5	29	19
	10	17.5	56	59	13	16.5	49.5	52.5	31	19
	12	21	56	59	13	18	49.5	52.5	37	24
R ¹ / ₂	12	21	62	64.5	16	19.5	54	56.5	36.5	24

Differential pressure regulators LRL/LRLL Technical data



Ordering data					
Circuit symbol	Description	Threaded connection	For tubing O.D.	Part No.	Туре
Outlet on top			[]		
	With QS push-in connector	M5	4	153 510	LRL-M5-QS-4
	and metric thread with sealing ring		6	153 512	LRL-M5-QS-6
	With QS push-in connector	R ¹ /8	4	153 511	LRL-1/8-QS-4
	and PTFE-coated pipe thread		6	153 513	LRL-1/8-QS-6
			8	153 515	LRL-1/8-QS-8
		R ¹ / ₄	6	153 514	LRL-1/4-QS-6
			8	153 516	LRL-1/4-QS-8
			10	153 518	LRL-1/4-QS-10
		R ³ /8	8	153 517	LRL-3/8-QS-8
			10	153 519	LRL-3/8-QS-10
			12	153 520	LRL-3/8-QS-12
		R ¹ / ₂	12	153 521	LRL-1/2-QS-12
Outlet on the side					
	With QS push-in connector	M5	4	153 498	LRLL-M5-QS-4
	and metric thread with sealing ring		6	153 500	LRLL-M5-QS-6
	With QS push-in connector	R ¹ / ₈	4	153 499	LRLL-1/8-QS-4
	and PTFE-coated pipe thread		6	153 501	LRLL-1/8-QS-6
			8	153 503	LRLL-1/8-QS-8
		R1/4	6	153 502	LRLL-1/4-QS-6
			8	153 504	LRLL-1/4-QS-8
			10	153 506	LRLL-1/4-QS-10
		R ³ / ₈	8	153 505	LRLL-3/8-QS-8
			10	153 507	LRLL-3/8-QS-10
			12	153 508	LRLL-3/8-QS-12
		R ¹ / ₂	12	153 509	LRLL-1/2-QS-12

Product Range and Company Overview

A Complete Suite of Automation Services

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.



Custom Automation Components Complete custom engineered solutions



Custom Control Cabinets Comprehensive engineering support and on-site services



Complete Systems Shipment, stocking and storage services

The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.



Electromechanical Electromechanical actuators, motors, controllers & drives



Pneumatics Pneumatic linear and rotary actuators, valves, and air supply



PLCs and I/O Devices PLC's, operator interfaces, sensors and I/O devices

Supporting Advanced Automation... As No One Else Can!

Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 12,000 employees in 56 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

Quality Assurance, ISO 9001 and ISO 14001 Certifications

Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.



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