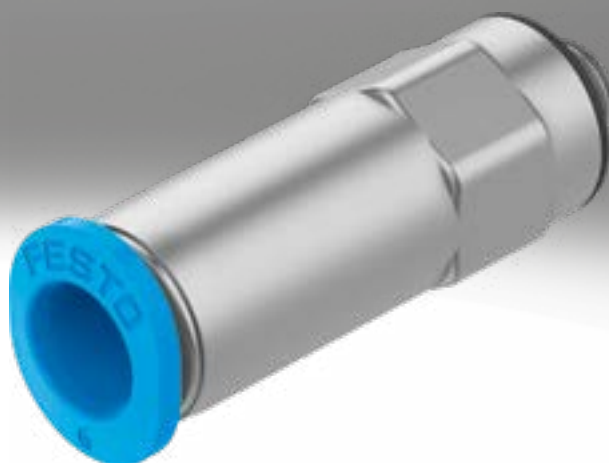








## Push-in fittings QS, self-sealing/rotatable

**FESTO**



## Key features

Application	Just snap it into place	Reliably connected	The captive seal
 <p>Choosing the right fitting is effortless. With a system that includes well over 1000 types of standard and function fittings, Festo offers a secure solution for every connection.</p>	 <p>The stainless steel retaining claw holds the tubing securely without damaging its surface. Vibration and pressure surges are absorbed. The tubing can be detached easily by pressing down the blue release ring. The tubing O.D. is specified on the releasing ring to help select the right fitting.</p>	 <p>A nitrile rubber sealing ring guarantees a perfect seal between standard OD tubing and the body of the fitting. The standard tubing combined with the Festo push-in connector is suitable for compressed air and vacuum.</p>	 <p>All brass parts of Festo's push-in fittings have nickel-plated surfaces and are thus highly resistant to corrosion. The tapered ISO R threads have a self-sealing PTFE coating, which allows the fitting to be re-used up to five times without the need for additional sealing components.</p>
Rotatable	 <p>Once assembled, it cannot be aligned.</p>	Rotatable 360°, with ball bearing	 <p>Permits rotary movement of up to 500 rpm during use.</p>

## Which fitting fits which thread?

### Metric thread

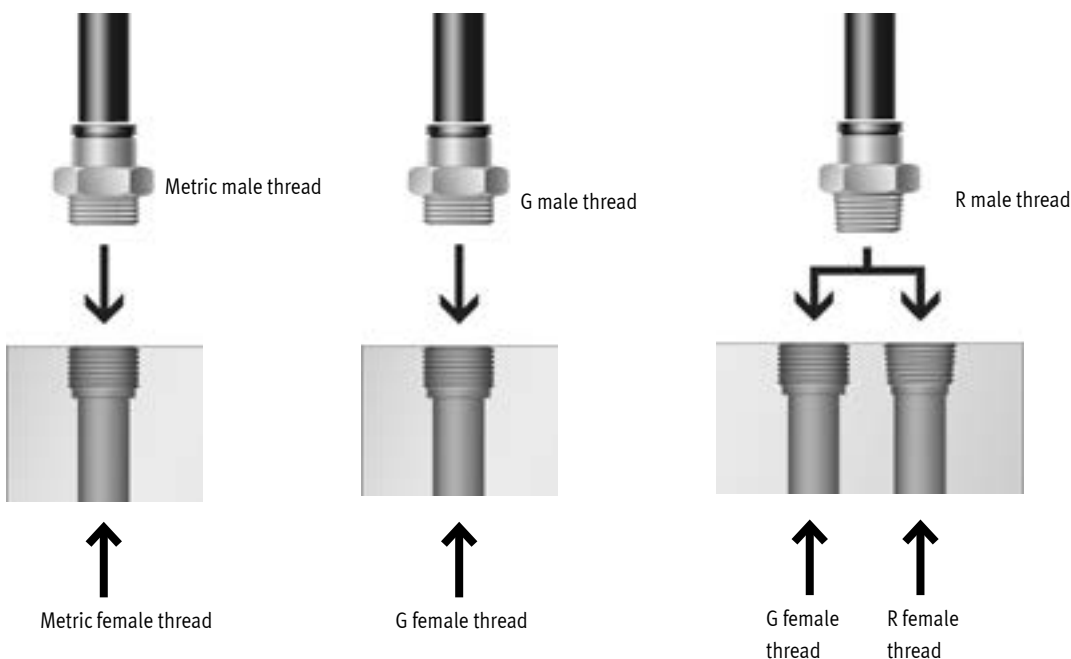
- Threads are comparable with G threads and are fitted as cylindrical metric thread
- Sealing is guaranteed by the chamfered O-ring.

### G thread to ISO 228-1





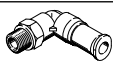

- Shorter thread
- Constant installation depth
- Replaceable sealing ring
- Sealing on the front
- Can be re-used a number of times thanks to replaceable sealing ring.

### R thread to EN 10226-1 and ISO 7/1

- Self-sealing thread
- Sealing via coated threads
- No additional sealing surface required
- Smaller installation dimensions since there is no need for an offset for the sealing surface
- Can be reused up to 5 times.



Product range overview

Design	Version	Type	Connection D1				Connection D2		→ Page
			M thread	R thread	G thread	Tubing O.D.	Tubing O.D.		
Straight shape	<b>Push-in fitting, self-sealing – male thread with external hex</b>								
		QSK/QSMK	M5	–	–	–	4, 6	6	
			–	R1/8	G1/8	–	4, 6, 8		
			–	R1/4	G1/4	–	6, 8, 10		
			–	R3/8	G3/8	–	8, 10 12		
–			R1/2	G1/2	–	12			
<b>Push-in connector, self-sealing</b>									
	QSK/QSMK	–	–	–	4	–	7		
		–	–	–	6	–			
		–	–	–	8	–			
		–	–	–	10	–			
		–	–	–	12	–			
<b>Push-in bulkhead connector</b>									
	QSSK	–	–	–	4	–	8		
		–	–	–	6	–			
		–	–	–	8	–			
		–	–	–	10	–			
		–	–	–	12	–			
<b>Push-in fitting, rotatable through 360°, with ball bearing – male thread with external hex</b>									
	QSR	M5	–	–	–	4, 6	11		
		–	R1/8	G1/8	–	4, 6, 8			
		–	R1/4	G1/4	–	6, 8			
		–	R3/8	G3/8	–	8, 10 12			
		–	R1/2	G1/2	–	12			
L-shape	<b>Push-in L-fitting, self-sealing, rotatable – external thread with external hex</b>								
		QSKL/QSMKL	M5	–	–	–	4, 6	9	
–			R1/8	G1/8	–	4, 6, 8			
–			R1/4	G1/4	–	6, 8, 10			
–			R3/8	G3/8	–	8, 10 12			
–			R1/2	G1/2	–	12			
<b>Push-in L-fitting, rotatable through 360°, with ball bearing – male thread with external hex</b>									
	QSRL	M5	–	–	–	4, 6	13		
		–	R1/8	G1/8	–	4, 6, 8			
		–	R1/4	G1/4	–	6, 8			
		–	R3/8	G3/8	–	8, 10 12			
		–	R1/2	G1/2	–	12			

## Technical data

General technical data		Push-in fitting, self-sealing QSK	Push-in fitting, rotatable QSR
Size		Standard	
Design		Push-pull principle	
Mounting position		Any	
Type of seal on screwed trunnion		Sealing ring (metric thread, G thread) Coating (R thread)	
Nominal tightening torque	[Nm]	1.33 ±20% for connecting thread M5	
		7 ±20% for connecting thread G1/8	
		9 ±20% for connecting thread G1/4	
		15.5 ±20% for connecting thread G3/8	
		26 ±20% for connecting thread G1/2	
Max. rotational speed	[rpm]	–	
		500 with tubing O.D. 4 mm	
		500 with tubing O.D. 6 mm	
		400 with tubing O.D. 8 mm	
		300 with tubing O.D. 10 mm	
		250 with tubing O.D. 12 mm with R thread	
Max. radial torque	[Nm]	200 with tubing O.D. 12 mm with G thread	
		–	
		0.006 with tubing O.D. 4 mm	
		0.012 with tubing O.D. 6 mm	
		0.015 with tubing O.D. 8 mm	
		0.020 with tubing O.D. 10 mm	
		0.025 with tubing O.D. 12 mm	
		–	
Type of approved tubing	PAN, PAN-MF, PAN-R, PAN-VO, PEN, PFAN, PLN, PTFEN, PUN, PUN-CM, PUN-DUO, PUN-H, PUN-H-DUO, PUN-S, PUN-S-DUO, PUN-VO		

Operating and environmental conditions			
Type		Push-in fitting, self-sealing QSK	Push-in fitting, rotatable QSR
Operating pressure for full temperature range	[bar]	–0.95 ... +6	
Temperature-dependent operating pressure	[bar]	–0.95 ... +14 → graph	
Operating medium		Compressed air to ISO 8573-1:2010 [7:-:-]	
		Water as per manufacturer's declaration <sup>2)</sup> (push-in bulkhead connector QSSK only)	–
Note on the operating/pilot medium		Lubricated operation possible	
Ambient temperature	[°C]	–10 ... +80	0 ... +60
Corrosion resistance class CRC <sup>1)</sup>		1	
Maritime classification		See certificate <sup>2)</sup>	

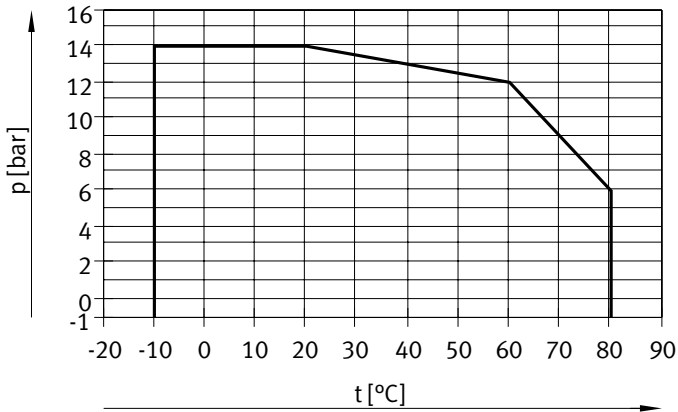
1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. Dry indoor application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

2) Additional information: [www.festo.com/sp](http://www.festo.com/sp) → Certificates

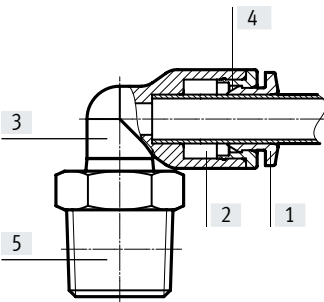
## Technical data

### Operating pressure p as a function of temperature t



### Materials

#### Sectional view



		Push-in fitting, self-sealing QSK	Push-in fitting, rotatable QSR
[1]	Releasing ring	POM (colour: blue)	
[2]	Tubing seal	NBR	
[3]	Housing	PBT, nickel-plated brass	
[4]	Tube clamping segment	High-alloy stainless steel	
[5]	Threaded coupling	Nickel-plated brass	Chrome-plated brass
Note on materials		RoHS-compliant	

### Possible push-in fitting/tubing combinations

Thread	Tubing O.D. [mm]				
	4	6	8	10	12
M5	++	+	-	-	-
R1/8	+	++	+	+	-
R1/4	+	+	++	+	+
R3/8	-	+	+	++	+
R1/2	-	-	-	+	++
G1/8	+	++	+	-	-
G1/4	-	+	++	+	+
G3/8	-	-	+	++	+
G1/2	-	-	-	-	++

+ Possible thread/tubing O.D. combinations

++ Optimum thread/tubing O.D. combination (with regard to flow)

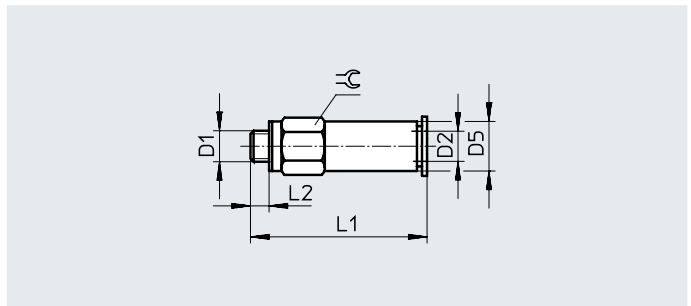
## Datasheet

### Push-in fitting, self-sealing QSK/QSMK

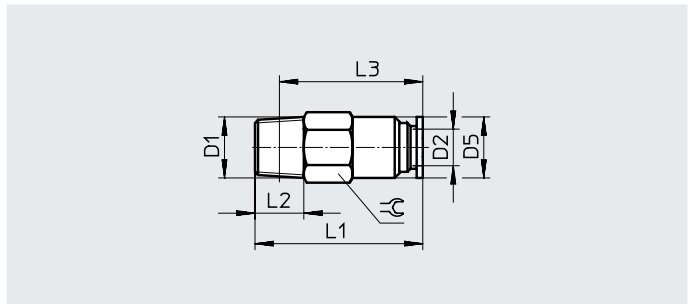
Male thread with external hex



M thread



R thread



#### Dimensions and ordering data

Pneumatic connection		Nominal width	D5 ø	L1	L2	L3	⌀	Tubing insertion depth [mm]	Weight/piece [g]	Part no.	Type	PU <sup>1)</sup>
Male thread	For tubing O.D.											
D1	D2 [mm]	[mm]										
<b>Metric thread with sealing ring</b>												
M5	4	1.4	8	29.5	3.5	–	8	12.7	7.1	153291	QSMK-M5-4	1
	6	1.7	10	32.5	3.5	–	10	13.7	12	153292	QSMK-M5-6	1
<b>R thread</b>												
R1/8	4	1.6	9	25.5	8	20	10	12.5	9.5	153419	QSMK-1/8-4	1
	6	3	10	27.5	8	23	10	13.5	9.5	153420	QSMK-1/8-6	1
	8	3.4	14	36	8	32	14	18.5	22.5	153422	QSK-1/8-8	1
R1/4	6	3	12	27.5	11	21	14	13.5	21	153421	QSMK-1/4-6	1
	8	4.3	14	36	11	30	14	18.5	22.5	153423	QSK-1/4-8	1
	10	4.8	17	38.5	11	32.5	17	21	32	153425	QSK-1/4-10	1
R3/8	8	4.5	15	36	12	29.5	17	18.5	39	153424	QSK-3/8-8	1
	10	5.6	17	40	12	33.5	17	21	35	153426	QSK-3/8-10	1
	12	6.1	21	46	12	39.5	21	23.5	63.5	153427	QSK-3/8-12	1
R1/2	12	6.4	21	46	15	38	21	23.5	65.5	153428	QSK-1/2-12	1

1) Packaging unit

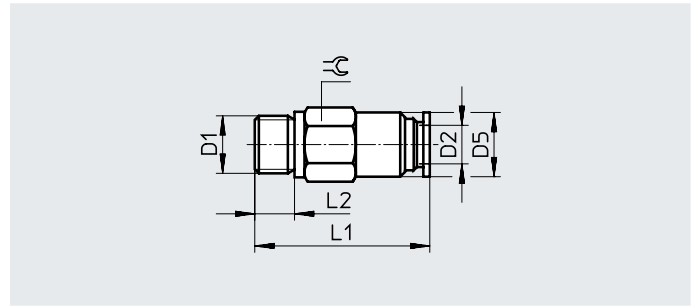
## Datasheet

### Push-in fitting, self-sealing QSK/QSMK

Male thread with external hex



G thread



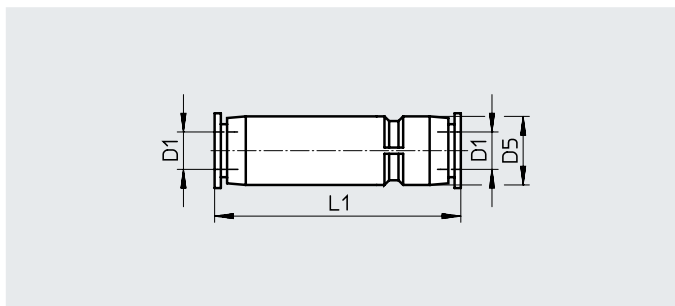
#### Dimensions and ordering data

Pneumatic connection		Nominal width	D5 ∅	L1	L2	⌀	Tubing in- sertion depth [mm]	Weight/ piece [g]	Part no.	Type	PU <sup>1)</sup>
Male thread	For tubing O.D.										
D1	D2 [mm]	[mm]									
<b>G thread with sealing ring</b>											
G1/8	4	1.6	8.8	23.5	5.1	13	12.1	14	186294	QSMK-G1/8-4	1
	6	3	10	26.2	5.1	13	13.4	14	186295	QSMK-G1/8-6	1
	8	3.4	14	34.7	5.1	14	22.3	23	186297	QSK-G1/8-8	1
G1/4	6	3	12	25.6	5.6	17	13.4	26	186296	QSMK-G1/4-6	1
	8	4.3	14	34.5	5.6	17	18.3	30	186298	QSK-G1/4-8	1
	10	4.8	17	36.8	5.6	17	24.7	33	186300	QSK-G1/4-10	1
G3/8	8	4.5	15	34.5	6.6	19	18.3	43	186299	QSK-G3/8-8	1
	10	5.6	17	38.3	6.6	19	20.7	41	186301	QSK-G3/8-10	1
	12	6.1	20.8	43.3	6.6	21	29.1	63	186302	QSK-G3/8-12	1
G1/2	12	6.4	20.8	44.9	7.6	24	23.1	78	186303	QSK-G1/2-12	1

1) Packaging unit

## Datasheet

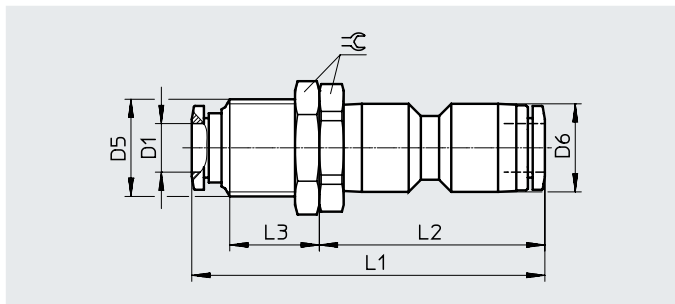
### Push-in connector, self-sealing QSK/QSMK



Dimensions and ordering data								
Pneumatic connection	Nominal width	D5	L1	Tubing insertion depth	Weight/ piece	Part no.	Type	PU <sup>1)</sup>
For tubing O.D. D1 [mm]	[mm]	∅		[mm]	[g]			
4	1.6	8.5	36	11.5	3.5	153439	QSMK-4	1
6	3	11	39.5	12	6	153440	QSMK-6	1
8	4.4	14.5	54.5	18.5	16	153441	QSK-8	1
10	5.3	17.5	60.5	20.5	26	153442	QSK-10	1
12	6.2	21	70.5	23.5	40.5	153443	QSK-12	1

1) Packaging unit

### Push-in bulkhead connector QSSK



Dimensions and ordering data												
Pneumatic connection	Nominal width	D5 ∅	D6 ∅	L1	L2	L3	⌀	Tubing insertion depth	Weight/ piece	Part no.	Type	PU <sup>1)</sup>
For tubing O.D. D1 [mm]	[mm]							[mm]	[g]			
4	1.5	M10x1	10	43.1	29.6	10	12	12.7	14	130637	QSSK-4	1
6	3	M12x1	12.5	47.6	34.2	9.9	14	13.7	20	130638	QSSK-6	1
8	4.3	M16x1	14.5	58.1	37.1	14.7	19	18.3	38	130639	QSSK-8	1
10	5.4	M20x1	17.5	64.5	41.4	16.2	24	20.7	68	130640	QSSK-10	1
12	6.3	M22x1	21	75.5	48.6	20.7	27	23.1	98	130641	QSSK-12	1

1) Packaging unit

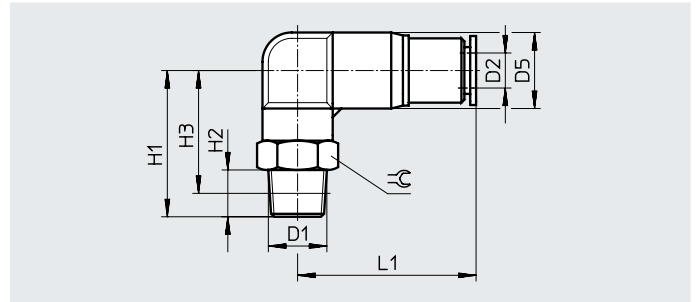
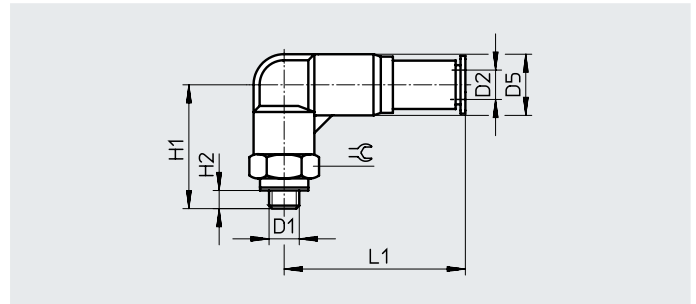


## Datasheet

### Push-in L-fitting, self-sealing QSKL/QSMKL

Rotatable

Male thread with external hex



#### Dimensions and ordering data

Pneumatic connection		Nominal width	D5 ø	H1	H2	H3	L1	≈ e	Tubing in- sertion depth [mm]	Weight/ piece [g]	Part no.	Type	PU <sup>1)</sup>
Male thread	For tubing O.D.												
D1	D2 [mm]	[mm]											
<b>Metric thread with sealing ring</b>													
M5	4	1.4	9.5	16	2.8	–	27.6	8	12.7	7	153294	QSMKL-M5-4	1
	6	1.7	12.5	19.5	2.8	–	30.4	10	13.7	10	153295	QSMKL-M5-6	1
<b>R thread</b>													
R1/8	4	1.5	9.5	22	8	18.1	28.4	10	12.5	11	153429	QSMKL-1/8-4	1
	6	2.9	12.5	22.5	8	18.6	30.4	12	13.5	13	153430	QSMKL-1/8-6	1
	8	4.2	14.5	24	8	24	39.7	14	18.5	21	153432	QSKL-1/8-8	1
R1/4	6	2.9	12.5	28	11	20.1	31.8	14	13.5	20	153431	QSMKL-1/4-6	1
	8	4.1	14.5	28	11	22	40.7	14	18.5	27	153433	QSKL-1/4-8	1
	10	5.2	17.5	28.5	11	22.5	45.6	17	21	35	153435	QSKL-1/4-10	1
R3/8	8	4.3	14.5	31	12	24.7	42	17	18.5	38	153434	QSKL-3/8-8	1
	10	5.3	17.5	32	12	25.7	46	17	21	46	153436	QSKL-3/8-10	1
	12	6.2	21	32.5	12	26.2	53.7	21	22.9	58	153437	QSKL-3/8-12	1
R1/2	12	6.2	21	36.5	15	28.3	54.2	21	22.9	81	153438	QSKL-1/2-12	1

1) Packaging unit

## Datasheet

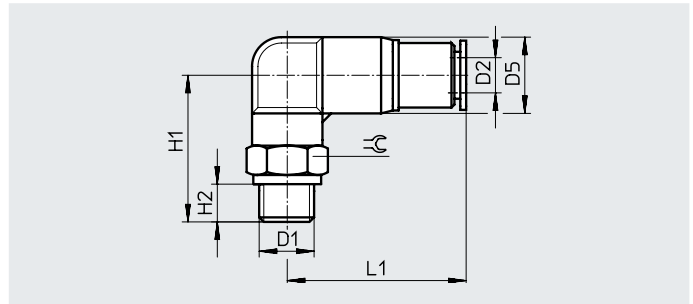
### Push-in L-fitting, self-sealing QSKL/QSMKL

Rotatable

Male thread with external hex



G thread

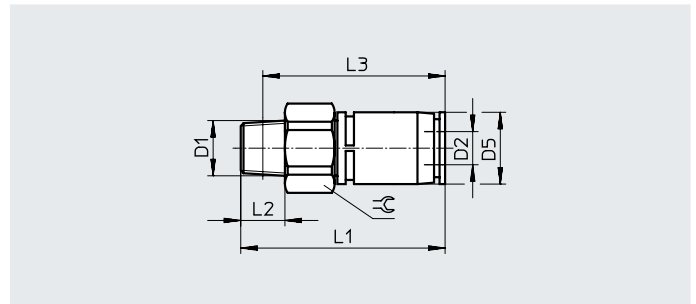
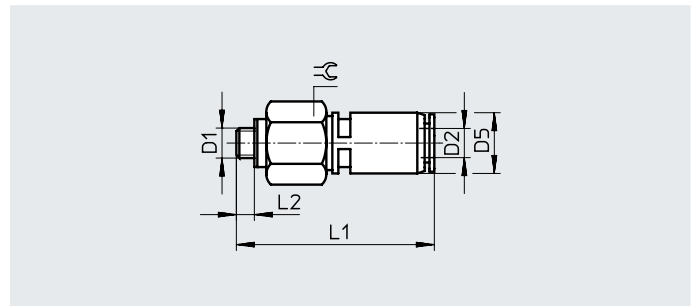


Dimensions and ordering data												
Pneumatic connection		Nominal width	D5 ø	H1	H2	L1	≅	Tubing in- sertion depth [mm]	Weight/ piece [g]	Part no.	Type	PU <sup>1)</sup>
Male thread	For tubing O.D.											
D1	D2 [mm]	[mm]										
<b>G thread with sealing ring</b>												
G1/8	4	1.5	9.5	21.1	4.2	28.4	13	12.7	14	<b>186304</b>	<b>QSMKL-G1/8-4</b>	<b>1</b>
	6	2.9	12.5	21.6	4.2	30.4	13	13.7	15	<b>186305</b>	<b>QSMKL-G1/8-6</b>	<b>1</b>
	8	4.2	14.5	22.1	4.2	39.7	14	18.3	17	<b>186307</b>	<b>QSKL-G1/8-8</b>	<b>1</b>
G1/4	6	2.9	12.5	24.7	4.8	31.8	17	13.7	24	<b>186306</b>	<b>QSMKL-G1/4-6</b>	<b>1</b>
	8	4.1	14.5	24.7	4.8	40.7	17	18.3	27	<b>186308</b>	<b>QSKL-G1/4-8</b>	<b>1</b>
	10	5.2	17.5	25.2	4.8	45.6	17	20.7	31	<b>186310</b>	<b>QSKL-G1/4-10</b>	<b>1</b>
G3/8	8	4.3	14.5	27.2	5.8	42	19	18.3	35	<b>186309</b>	<b>QSKL-G3/8-8</b>	<b>1</b>
	10	5.3	17.5	28.2	5.8	46	19	20.7	40	<b>186311</b>	<b>QSKL-G3/8-10</b>	<b>1</b>
	12	6.2	21	28.7	5.8	53.7	19	22.9	47	<b>186312</b>	<b>QSKL-G3/8-12</b>	<b>1</b>
G1/2	12	6.2	21	32.2	6.8	54.2	24	22.9	74	<b>186313</b>	<b>QSKL-G1/2-12</b>	<b>1</b>

1) Packaging unit

## Datasheet

**Push-in fitting, rotatable QSR**  
 Rotatable 360°, with ball bearing  
 Male thread with external hex



### Dimensions and ordering data

Pneumatic connection		Nominal width [mm]	D5 ø	L1	L2	L3	⌀	Weight/ piece [g]	Part no.	Type	PU <sup>1)</sup>
Male thread D1	For tubing O.D. D2 [mm]										
<b>Metric thread with sealing ring</b>											
M5	4	1.6	10	33.1	3.5	–	12	13	153526	QSR-M5-4	1
	6	1.6	12.5	36.7	3.5	–	14	19	153527	QSR-M5-6	1
<b>R thread</b>											
R1/8	4	2.1	10	34.1	8	30.1	12	14	153401	QSR-1/8-4	1
	6	3.4	12.5	36.9	8	32.9	14	18	153402	QSR-1/8-6	1
	8	5	14.5	45.3	8	41.3	17	34	153404	QSR-1/8-8	1
R1/4	6	3.4	12.5	38.9	11	32.8	14	23	153403	QSR-1/4-6	1
	8	5	14.5	44.3	11	38.3	17	32	153405	QSR-1/4-8	1
R3/8	8	5	14.5	44.3	12	38	17	39	153406	QSR-3/8-8	1
	10	6.7	18	55.8	12	49.5	22	61	153407	QSR-3/8-10	1
	12	8	21	63.2	12	56.9	24	82	153408	QSR-3/8-12	1
R1/2	12	8	21	63.2	15	55	24	89	153409	QSR-1/2-12	1

1) Packaging unit

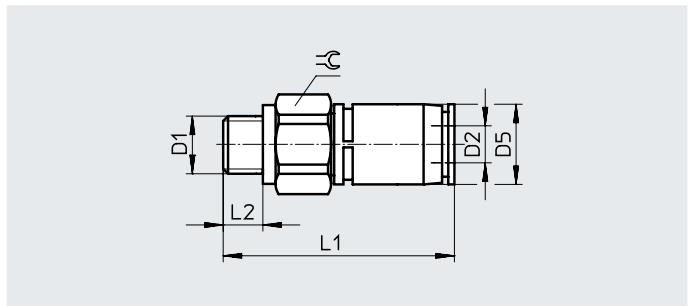
## Datasheet

### Push-in fitting, rotatable QSR

Rotatable 360°, with ball bearing  
Male thread with external hex



G thread

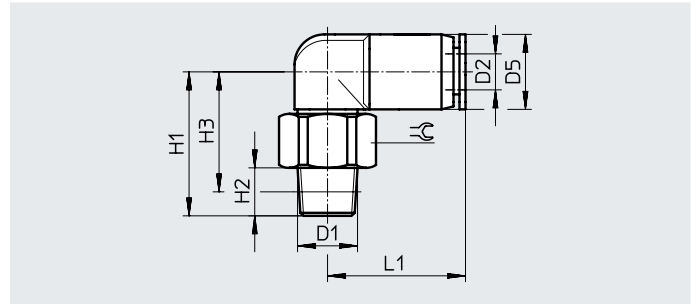
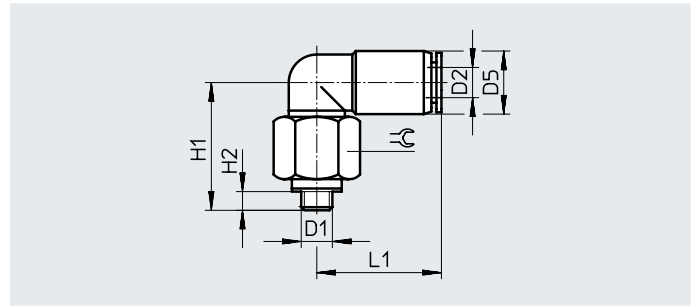


Pneumatic connection		Nominal width	D5 ø	L1	L2	⌀	Weight/ piece	Part no.	Type	PU <sup>1)</sup>
Male thread	For tubing O.D.	[mm]					[g]			
D1	D2 [mm]	[mm]								
<b>G thread with sealing ring</b>										
G1/8	4	2.1	10	33.1	5.1	13	15	186276	QSR-G1/8-4	1
	6	3.4	12.5	35.9	5.1	14	17	186277	QSR-G1/8-6	1
	8	5	14.5	44.3	5.1	17	34	186279	QSR-G1/8-8	1
G1/4	6	3.4	12.5	35.4	5.6	17	24	186278	QSR-G1/4-6	1
	8	5	14.5	40.8	5.6	17	30	186280	QSR-G1/4-8	1
G3/8	8	5	14.5	41.3	6.6	19	40	186281	QSR-G3/8-8	1
	10	6.7	18	53.8	6.6	22	59	186282	QSR-G3/8-10	1
	12	8	21	60.2	6.6	23.8	78	186283	QSR-G3/8-12	1
G1/2	12	8	21	58.2	7.6	23.8	79	186284	QSR-G1/2-12	1

1) Packaging unit

# Datasheet

**Push-in L-fitting, rotatable QSRL**  
 Rotatable 360°, with ball bearing  
 Male thread with external hex



**Dimensions and ordering data**

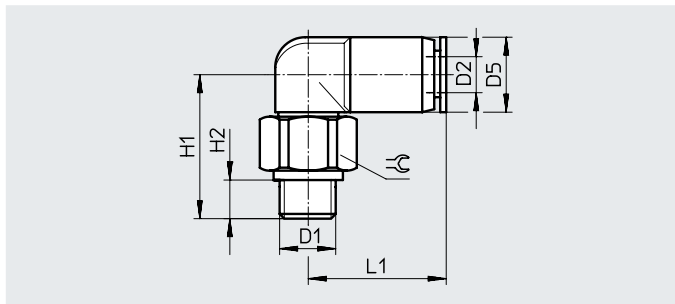
Pneumatic connection		Nominal width	D5 ø	H1	H2	H3	L1	⌀	Weight/ piece	Part no.	Type	PU <sup>1)</sup>
Male thread	For tubing O.D.											
D1	D2 [mm]	[mm]							[g]			
<b>Metric thread with sealing ring</b>												
M5	4	1.4	10	21	3.5	-	19.7	12	13	153529	QSRL-M5-4	1
	6	1.6	12.5	23.8	3.5	-	22.8	14	20	153530	QSRL-M5-6	1
<b>R thread</b>												
R1/8	4	1.8	10	23	8	18	20	12	15	153410	QSRL-1/8-4	1
	6	3.1	12.5	24	8	20	23	14	19	153411	QSRL-1/8-6	1
	8	4.6	14.5	31.5	8	27.5	26	17	33	153413	QSRL-1/8-8	1
R1/4	6	3.1	12.5	26	11	20	23	14	23	153412	QSRL-1/4-6	1
	8	4.6	14.5	30.5	11	24.5	26	17	32	153414	QSRL-1/4-8	1
R3/8	8	4.6	14.5	30.5	12	24	26	17	39	153415	QSRL-3/8-8	1
	10	6.2	17.5	36	12	29.5	30	22	56	153416	QSRL-3/8-10	1
	12	7.4	21	41.5	12	35	33	24	84	153417	QSRL-3/8-12	1
R1/2	12	7.4	21	41.5	15	33.5	33	24	90	153418	QSRL-1/2-12	1

1) Packaging unit

## Datasheet

### Push-in L-fitting, rotatable QSRL

Rotatable 360°, with ball bearing  
Male thread with external hex



Pneumatic connection		Nominal width	D5 ∅	H1	H2	L1	⊕	Weight/ piece	Part no.	Type	PU <sup>1)</sup>
Male thread	For tubing O.D.	[mm]						[g]			
D1	D2 [mm]	[mm]									
<b>G thread with sealing ring</b>											
G1/8	4	1.9	10	21	5.1	19.7	13	15	186285	QSRL-G1/8-4	1
	6	3.1	12.5	23	5.1	22.8	14	18	186286	QSRL-G1/8-6	1
	8	4.6	14.5	30.5	5.1	25.7	17	35	186288	QSRL-G1/8-8	1
G1/4	6	3.1	12.5	22.5	5.6	22.8	17	25	186287	QSRL-G1/4-6	1
	8	4.6	14.5	27	5.6	25.7	17	31	186289	QSRL-G1/4-8	1
G3/8	8	4.6	14.5	27.5	6.6	25.7	19	41	186290	QSRL-G3/8-8	1
	10	6.2	17.5	33.3	6.6	29.5	22	59	186291	QSRL-G3/8-10	1
	12	7.4	21	38.5	6.6	32.7	24	81	186292	QSRL-G3/8-12	1
G1/2	12	7.4	21	36.5	7.6	32.7	24	81	186293	QSRL-G1/2-12	1

1) Packaging unit