### Self-closing/rotary push-in fittings QS

### **FESTO**



### Self-closing/rotary push-in fittings QS

Key features

#### **FESTO**

#### Application

Effortless selection of the right fitting. Festo offers a secure solution for every connection. The convenient push-in fitting system includes well over 1000 types of standard and function fittings.

#### Simply "plug and work"



The stainless steel retaining ring within the fitting holds the tubing securely without damaging its surface. Vibration and pressure surges are safely absorbed.

The tubing can be detached easily by pressing down the blue release ring. For your convenience, the appropriate outside tubing diameter is marked on the release ring.

#### Reliably connected



A nitrile rubber sealing ring guarantees a perfect seal between standard OD tubing and the body of the fitting.

Standard tubing is suitable for use with compressed air and vacuum.

#### Captive seal



All of the brass components included in Festo's push-in fittings are nickel plated 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.

#### Orientable



The fitting can be aligned after assembly.

#### 360° rotatable, with ball bearing



Permits rotating motion of up to 500 rpm during use.

#### Which fitting fits which thread?

#### Metric thread

- Cylindrical metric thread is comparable with G-thread
- Sealing is guaranteed by a clip-on O-ring

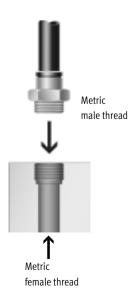
### G thread to DIN ISO 228-1

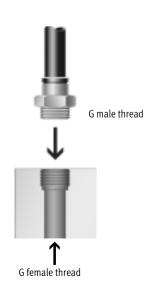
- Shorter thread
- · Constant installation depth
- Replaceable sealing ring
- · Sealing at front
- Can be re-used a number of times thanks to replaceable sealing ring

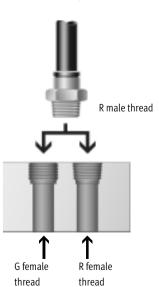
#### R thread

#### to DIN 2999-1 und ISO 7/1

- · Self-sealing thread
- Sealing on the threads
- No additional sealing surface required
- Smaller installation dimensions since there is no need for a rebate for the sealing surface
- Can be re-used up to five times







### **Self-closing/rotary push-in fittings QS**Technical data



General technical data			
Туре		Self-closing push-in fitting QSK	Rotary push-in fitting QSR
Size		Standard	
Design		Push-pull principle	
Mounting position		Any	
Type of seal on threaded plug	ŗ	Sealing ring (metric thread, G thread)	
		Coating (R thread)	
Nominal tightening torque	[Nm]	1.33 ±20% at connecting thread M5	
		7 ±20% at connecting thread G½	
		9 ±20% at connecting thread G1/4	
		15.5 ±20% at connecting thread G3/8	
		26 ±20% at connecting thread G½	
Max. tightening torque	[Nm]	1.5 at connecting thread M5	
		7 at connecting thread R1/8	
		12 at connecting thread R <sup>1</sup> / <sub>4</sub>	
		22 at connecting thread R3/8	
		28 at connecting thread R½	
		10 at connecting thread G½	
		15 at connecting thread G1/4	
		25 at connecting thread G3/8	
		40 at connecting thread G½	
Max. speed	[1/min]	-	500 at tubing O.D. Ø 4 mm
		-	500 at tubing 0.D. ∅ 6 mm
		-	400 at tubing 0.D. ∅ 8 mm
		-	300 at tubing 0.D. Ø 10 mm
		-	250 at tubing O.D. ∅ 12 mm and R thread
		-	200 at tubing O.D. Ø 12 mm and G thread
Max. radial moment	[Nm]	-	0.006 at tubing O.D. ∅ 4 mm
		-	0.012 at tubing 0.D. Ø 6 mm
		-	0.015 at tubing O.D. Ø 8 mm
		-	0.020 at tubing 0.D. Ø 10 mm
		-	0.025 at tubing 0.D. ∅ 12 mm
Permitted type of 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 environmenta	al conditions	3	
Туре		Self-closing push-in fitting QSK	Rotary push-in fitting QSR
Operating pressure complete temperature range	[bar]	-0.95 +6	
Temperature-dependent operating pressure	[bar]	-0.95 +14 → diagram	
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:-:-]	
		Water as per manufacturer's declaration <sup>2)</sup> (only with push-	-
		in bulkhead connector QSSK)	
Note on operating/pilot medi	um	Operation with lubricated medium possible	
Ambient temperature	[°C]	-10 +80	0 +60
Corrosion resistance class CR	C1)	1	
Maritime classification		See certificate <sup>2)</sup>	

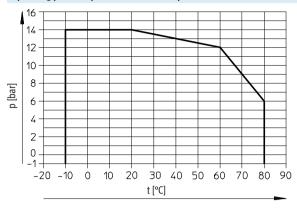
<sup>1)</sup> Corrosion resistance class CRC 1 to Festo standard FN 940070 Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

<sup>2)</sup> Additional information www.festo.com/sp → Certificates.

### **Self-closing/rotary push-in fittings QS** Technical data



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



### Materials

#### Sectional view



Туре	Self-closing push-in fitting QSK	Rotary push-in fitting QSR				
Release ring	POM (colour: blue)					
2 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/tubin													
Thread	Tubing O.D. [mm]	Tubing O.D. [mm]											
	4	6	8	10	12								
M5	++	+	-	-	-								
R1/8	+	++	+	+	-								
R1/4	+	+	++	+	+								
R <sup>3</sup> / <sub>8</sub>	_	+	+	++	+								
R1/2	-	-	-	+	++								
G1/8	+	++	+	-	-								
G1/4	-	+	++	+	+								
G3/8	-	-	+	++	+								

- Possible thread/tubing O.D. combinations
- ++ Optimum thread/tubing O.D. combinations (with regard to flow)

### **Self-closing/rotary push-in fittings QS**Product range overview



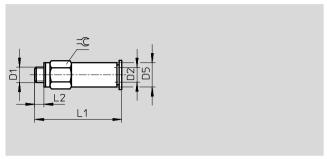
	Design	Туре	Connection D1				Connection D2	→ Page
			M thread	R thread	G thread	Tubing O.D.	Tubing O.D.	Internet
ht	Self-closing	push-in fittin	g – Male thread wi	th external hex				
		QSK	M5	_	_	-	4, 6	6
	الالركام		_	R1/8	G1/8		4, 6, 8	
				R1/4	G1/4		6, 8, 10	
				R <sup>3</sup> /8	G3/8		8, 10, 12	
				R <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>2</sub>		12	
	Self-closing	push-in conn	ector					
		QSK	_	_	_	4	_	7
						6		
	ONL.					8		
						10		
						12		
						12		
	Push-in hulk	chead connec	tor					
	AND	QSSK	_	_	_	4		8
		QSSIL				6		
						8		
						10		
						12		
						12		
	Potany nuch	in fitting 26	0° rotatable with b	all boaring Maloth	read with external he	NV		
	Rotary pusit	QSR		att bearing – Mate til	leau with externat ne		4, 6	11
		V3K	M5	D1/6	G1/8			11
			_	R <sup>1</sup> / <sub>8</sub>			4, 6, 8	
					G1/4		6, 8	
				R3/8	G3/8		8, 10, 12	
				R <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>2</sub>		12	
e	Self-closing			ale thread with exte				-
		QSKL	M5	-	-		4, 6	9
			_	R <sup>1</sup> /8	G1/8		4, 6, 8	
				R <sup>1</sup> / <sub>4</sub>	G1/4		6, 8, 10	
				R3/8	G3/8		8, 10, 12	
				R <sup>1</sup> / <sub>2</sub>	G <sup>1</sup> / <sub>2</sub>		12	
		in L-fitting, 3	60° rotatable with	ball bearing - Male	thread with external I	hex		
	Rotary push			_	_	-	4, 6	13
	Rotary push	QSRL	M5	-			., -	
	Rotary push		M5 -	R <sup>1</sup> /8	G1/8			
	Rotary push		M5 -				4, 6, 8 6, 8	
	Rotary push		M5 -	R <sup>1</sup> /8	G1/8		4, 6, 8	

### **Self-closing push-in fittings QSK** Technical data

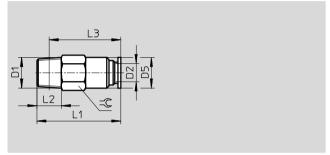
**FESTO** 

Self-closing push-in fitting QSK Male thread with external hex









Dimensions and	ordering data											
Pneumatic conn Male thread D1	For tubing O.D. D2 [mm]	Nominal size [mm]	D5 Ø	L1	L2	L3	≍	Tubing insertion depth [mm]	Weight/ piece	Part No.	Туре	PU <sup>1)</sup>
Metric thread wi	th sealing ring	<b>'</b>							"			"
M5	4	1.4	8	29.5	3.5	-	8	12.7	7.1	153291	QSK-M5-4	1
	6	1.7	10	32.5	3.5	-	10	13.7	12	153292	QSK-M5-6	1
R thread												
R <sup>1</sup> /8	4	1.6	9	25	8	20	10	12.5	9.5	153419	QSK-1/8-4	1
	6	3	10	27.5	8	23	10	13.5	9.5	153420	QSK-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	QSK-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
R <sup>3</sup> /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
R <sup>1</sup> / <sub>2</sub>	12	6.4	21	46	15	38	21	23.5	65.5	153428	QSK-½-12	1

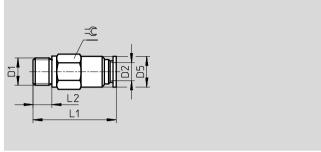
<sup>1)</sup> Packaging unit quantity

### **Self-closing push-in fittings QSK** Technical data

**FESTO** 

#### Self-closing push-in fitting QSK Male thread with external hex





Dimensions and	d ordering data										
Pneumatic conn	ection	Nominal size	D5 Ø	L1	L2	=©	Tubing insertion	Weight/ piece	Part No.	Туре	PU <sup>1)</sup>
Male thread	For tubing O.D.						depth				
D1	D2 [mm]	[mm]					[mm]	[g]			
G thread with se	ealing ring										
G1/8	4	1.6	8.8	23.5	5.1	13	12.1	14	186294	QSK-G <sup>1</sup> /8-4	1
	6	3	10	26.2	5.1	13	13.4	14	186295	QSK-G <sup>1</sup> /8-6	1
	8	3.4	14	34.7	5.1	14	22.3	23	186297	QSK-G <sup>1</sup> /8-8	1
G1/4	6	3	12	25.6	5.6	17	13.4	26	186296	QSK-G <sup>1</sup> / <sub>4</sub> -6	1
	8	4.3	14	34.5	5.6	17	18.3	30	186298	QSK-G <sup>1</sup> / <sub>4</sub> -8	1
	10	4.8	17	36.8	5.6	17	24.7	33	186300	QSK-G <sup>1</sup> / <sub>4</sub> -10	1
G <sup>3</sup> / <sub>8</sub>	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-G <sup>1</sup> / <sub>2</sub> -12	1

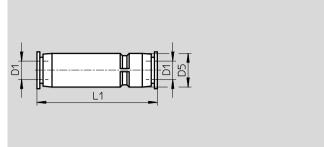
<sup>1)</sup> Packaging unit quantity

### **Self-closing push-in fittings QSK/QSSK** Technical data



#### Self-closing push-in connector QSK



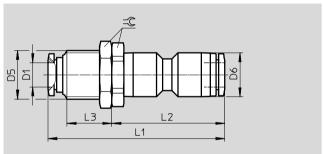


Dimensions and ordering data								
Pneumatic connection	Nominal size	D5	L1	Tubing insertion	Weight/ piece	Part No.	Туре	PU <sup>1)</sup>
For tubing O.D.				depth				
D1 [mm]	[mm]	Ø		[mm]	[g]			
4	1.6	8.5	36	11.5	3.5	153439	QSK-4	1
6	3	11	39.5	12	6	153440	QSK-6	1
8	4.4	14.5	54.5	18.5	16	153441	QSK-8	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

<sup>1)</sup> Packaging unit quantity

#### Push-in bulkhead connector QSSK





Dimensions and ordering data												
Pneumatic connection	Nominal	D5	D6	L1	L2	L3	=©	Tubing	Weight/	Part No.	Туре	PU <sup>1)</sup>
	size	Ø	Ø					insertion	piece			
For tubing O.D.								depth				
D1 [mm]	[mm]							[mm]	[g]			
<i>I</i> .												
4	1.5	M10x1	10	43.1	29.6	10	12	12.7	14	130637	QSSK-4	1
6	1.5	M10x1 M12x1	10			9.9	12	12.7	20	130637 130638	QSSK-4 QSSK-6	1
	1.5 3 4.3		-								-	1 1 1
6	3	M12x1	12.5	47.6	34.2	9.9	14	13.7	20	130638	QSSK-6	1 1 1

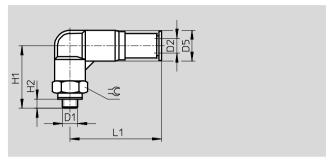
<sup>1)</sup> Packaging unit quantity

### **Self-closing push-in fittings QSKL** Technical data

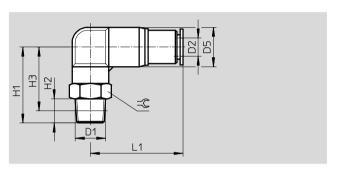
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Self-closing push-in L-fitting QSKL Orientable Male thread with external hex









Dimensions and	l ordering data												
	Pneumatic connection  Male thread For tubing O.D.		D5 Ø	H1	H2	Н3	L1	=©	Tubing insertion depth	Weight/ piece	Part No.	Туре	PU <sup>1)</sup>
D1	D2 [mm]	[mm]							[mm]	[g]			
Metric thread wi	th sealing ring												
M5	4	1.4	10	20.8	3.5	-	30.3	10	12.7	13	153294	QSKL-M5-4	1
	6	1.7	12.5	22.5	3.5	-	30.4	12	13.7	20	153295	QSKL-M5-6	1
R thread													
R <sup>1</sup> /8	4	1.5	10	23.5	8	19.5	30.5	10	12.5	17	153429	QSKL-1/8-4	1
	6	3	12.5	25	8	21	30.5	12	13.5	22	153430	QSKL-1/8-6	1
	8	4.2	14.5	28	8	24	43	14	18.5	34	153432	QSKL-1/8-8	1
R <sup>1</sup> / <sub>4</sub>	6	3.2	12.5	28	11	22	30.5	14	13.5	29.5	153431	QSKL-1/4-6	1
	8	4.1	14.5	31	11	25	43	14	18.5	40	153433	QSKL-1/4-8	1
	10	5.2	17.5	36	11	30	49.5	17	21	58.5	153435	QSKL-1/4-10	1
R3/8	8	4.3	14.5	33	12	26.5	43	17	18.5	53	153434	QSKL-3/8-8	1
	10	5.3	17.5	37	12	30.5	49.5	17	21	67	153436	QSKL-3/8-10	1
	12	6.2	21	39	12	32.5	57.5	21	22.9	92.5	153437	QSKL-3/8-12	1
R <sup>1</sup> / <sub>2</sub>	12	6.2	21	42	15	34	57.5	21	22.9	107	153438	QSKL-1/2-12	1

<sup>1)</sup> Packaging unit quantity

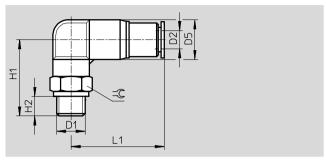
### **Self-closing push-in fittings QSKL** Technical data

-closing push-in fittings QSKL FESTO

**Self-closing push-in L-fitting QSKL** Orientable

Male thread with external hex





Dimensions and	ordering data											
Pneumatic conn	ection	Nominal size	D5 Ø	H1	H2	L1	=©	Tubing insertion	Weight/ piece	Part No.	Туре	PU <sup>1)</sup>
Male thread	For tubing O.D.							depth				
D1	D2 [mm]	[mm]						[mm]	[g]			
G thread with se	aling ring											
G1/8	4	1.5	10	23.3	5.1	30.3	13	12.7	19	186304	QSKL-G <sup>1</sup> /8-4	1
	6	2.9	12.5	24	5.1	30.4	13	13.7	22	186305	QSKL-G <sup>1</sup> /8-6	1
	8	4.2	14.5	27	5.1	43	14	18.3	34	186307	QSKL-G <sup>1</sup> /8-8	1
G1/4	6	3.2	12.5	25.5	5.6	30.4	17	13.7	31	186306	QSKL-G <sup>1</sup> / <sub>4</sub> -6	1
	8	4.1	14.5	28.5	5.6	43	17	18.3	43	186308	QSKL-G <sup>1</sup> / <sub>4</sub> -8	1
	10	5.2	17.5	32.5	5.6	49.3	17	20.7	57	186310	QSKL-G <sup>1</sup> / <sub>4</sub> -10	1
G <sup>3</sup> /8	8	4.3	14.5	30	6.6	43	19	18.3	56	186309	QSKL-G3/8-8	1
	10	5.3	17.5	34	6.6	49.3	19	20.7	66	186311	QSKL-G3/8-10	1
	12	6.2	21	36	6.6	57.1	21	22.9	86	186312	QSKL-G3/8-12	1
G <sup>1</sup> / <sub>2</sub>	12	6.2	21	39	7.6	57.1	24	22.9	112	186313	QSKL-G <sup>1</sup> /2-12	1

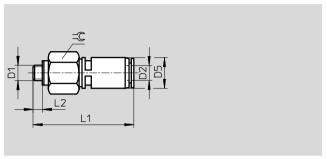
<sup>1)</sup> Packaging unit quantity

## Rotary push-in fittings QSR Technical data

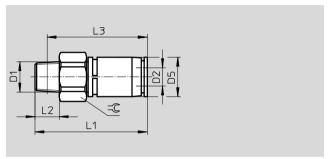
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#### Rotary push-in fitting QSR 360° rotatable with ball bearing Male thread with external hex









Dimensions and	l ordering data										
Pneumatic conn	ection	Nominal	D5	L1	L2	L3	=©	Weight/	Part No.	Туре	PU <sup>1)</sup>
Male thread	For tubing O.D.	size	Ø					piece			
D1	D2 [mm]	[mm]						[g]			
Metric thread wi	th sealing ring										
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
R thread											
R <sup>1</sup> /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
R <sup>3</sup> /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
R <sup>1</sup> / <sub>2</sub>	12	8	21	63.2	15	55	24	89	153409	QSR-1/2-12	1

<sup>1)</sup> Packaging unit quantity

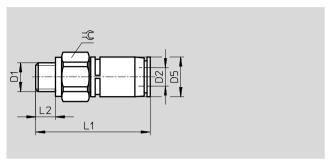
## Rotary push-in fittings QSR Technical data

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#### Rotary push-in fitting QSR

360° rotatable with ball bearing Male thread with external hex





Dimensions and	ordering data									
Pneumatic connection		Nominal	D5	L1	L2	=©	Weight/	Part No.	Туре	PU <sup>1)</sup>
Male thread	For tubing O.D.	size	Ø				piece			
D1	D2 [mm]	[mm]					[g]			
G thread with se	aling ring									
G <sup>1</sup> /8	4	2.1	10	33.1	5.1	13	15	186276	QSR-G <sup>1</sup> /8-4	1
	6	3.4	12.5	35.9	5.1	14	17	186277	QSR-G <sup>1</sup> /8-6	1
	8	5	14.5	44.3	5.1	17	34	186279	QSR-G <sup>1</sup> /8-8	1
G1/4	6	3.4	12.5	35.4	5.6	17	24	186278	QSR-G <sup>1</sup> / <sub>4</sub> -6	1
	8	5	14.5	40.8	5.6	17	30	186280	QSR-G <sup>1</sup> / <sub>4</sub> -8	1
G <sup>3</sup> /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
G <sup>1</sup> / <sub>2</sub>	12	8	21	58.2	7.6	23.8	79	186284	QSR-G <sup>1</sup> /2-12	1

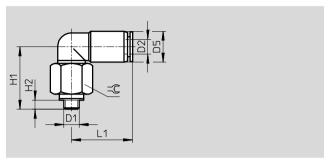
<sup>1)</sup> Packaging unit quantity

## Rotary push-in fittings QSRL Technical data

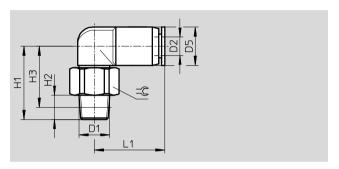
**FESTO** 

#### Rotary push-in L-fitting QSRL 360° rotatable with ball bearing Male thread with external hex









Dimensions and	i ordering data							1				, ,
Pneumatic connection		Nominal	D5	H1	H2	Н3	L1	=©	Weight/	Part No.	Туре	PU <sup>1)</sup>
Male thread	For tubing O.D.	size	Ø						piece			
D1	D2 [mm]	[mm]							[g]			
Metric thread wi	th sealing ring											
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
R thread												
R <sup>1</sup> /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
R <sup>3</sup> /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
R <sup>1</sup> / <sub>2</sub>	12	7.4	21	41.5	15	33.5	33	24	90	153418	QSRL-1/2-12	1

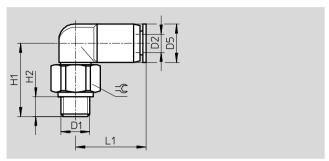
<sup>1)</sup> Packaging unit quantity

# Rotary push-in fittings QSRL Technical data

**FESTO** 

#### Rotary push-in L-fitting QSRL 360° rotatable with ball bearing Male thread with external hex





Dimensions and	ordering data										
Pneumatic connection		Nominal	D5	H1	H2	L1	=©	Weight/	Part No.	Туре	PU <sup>1)</sup>
Male thread	For tubing O.D.	size	Ø					piece			
D1	D2 [mm]	[mm]						[g]			
G thread with se	aling ring										
G <sup>1</sup> /8	4	1.9	10	21	5.1	19.7	13	15	186285	QSRL-G <sup>1</sup> /8-4	1
	6	3.1	12.5	23	5.1	22.8	14	18	186286	QSRL-G <sup>1</sup> /8-6	1
	8	4.6	14.5	30.5	5.1	25.7	17	35	186288	QSRL-G <sup>1</sup> /8-8	1
G <sup>1</sup> / <sub>4</sub>	6	3.1	12.5	22.5	5.6	22.8	17	25	186287	QSRL-G <sup>1</sup> / <sub>4</sub> -6	1
	8	4.6	14.5	27	5.6	25.7	17	31	186289	QSRL-G <sup>1</sup> / <sub>4</sub> -8	1
G <sup>3</sup> /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-G <sup>1</sup> /2-12	1

<sup>1)</sup> Packaging unit quantity