




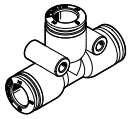
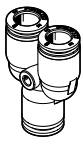


## Push-in fittings NPQE-F1A

**FESTO**



Product range overview

Design	Version	Type	Connection D1					Connection D2		→ Page/ Internet	
			M thread	R thread	G thread	Tubing O.D.	Push-in sleeve ø	Tubing O.D.	Push-in sleeve ø		
Straight shape	Push-in fitting – Male thread with internal hex										
		NPQE-DK	M3	-	-	-	-	-	4	-	6
			M5						4, 6		
			M7						4, 6		
			-						4, 6, 8, 10		
			-						6, 8, 10, 12		
	Push-in connector										
		NPQE-D	-	-	-	-	-	-	4	-	8
			6								
			8								
10											
12											
	NPQE-D Reducing	-	-	-	-	-	-	6	-	8	
		8									
		10									
		12									
		10									
L-shape	Push-in L-fitting – male thread with external hex										
		NPQE-L	M3	-	-	-	-	-	4	-	9
			M5						4, 6		
			M7						4, 6		
			-						4, 6, 8, 10		
			-						6, 8, 10, 12		
	Push-in L-connector										
		NPQE-L	-	-	-	-	-	-	4	-	10
			6								
			8								
10											
10											
T-shape	Push-in T-connector										
		NPQE-T	-	-	-	-	-	-	4	-	11
			6								
			8								
			10								
10											
Y-shape	Push-in Y-connector										
		NPQE-Y	-	-	-	-	-	-	4	-	12
			6								
			8								
			10								
10											

## Key features

### At a glance

- Economical push-in fittings for pneumatic applications with a temperature range up to 60°C and a pressure range up to 8 bar.
- Tubing O.D. of 4, 6, 8, 10 and 12 mm with connecting threads M3, M5, M7, G1/8, G1/4, R1/8 and R1/4.

### For manufacturing lithium-ion batteries

Recommended for production facilities for manufacturing lithium-ion batteries. Metals with copper, zinc or nickel as the main constituent are excluded from use. Exceptions are nickel in steels, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils.

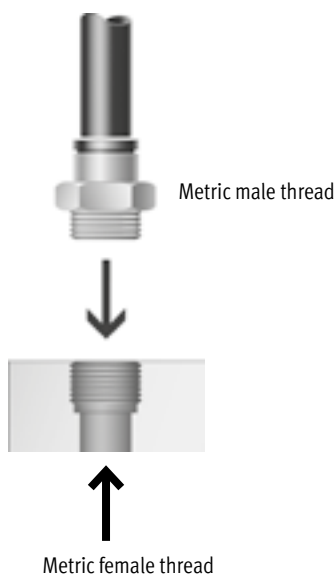


The fittings for manufacturing lithium-ion batteries are identified by an "e" on the releasing ring.

### Which fitting fits which thread?

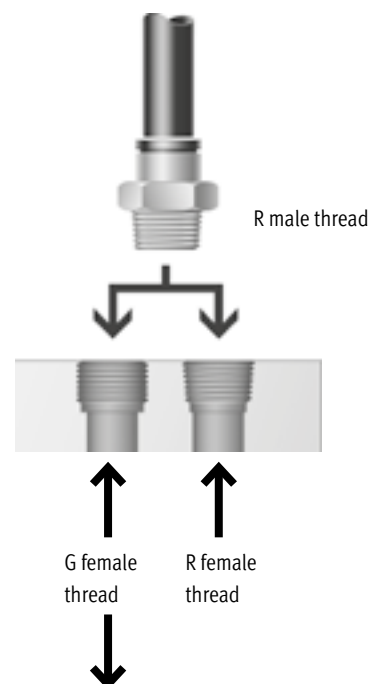
#### Metric thread

- Threads are comparable with G threads and are fitted as cylindrical metric threads
- Sealing is guaranteed via an O-ring.



#### R thread based on JIS B0203 and compatible with pressure-tight media to EN 10226.

- 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 3 times.



#### - Note

If R male threads are combined with G female threads, leakages can occur if the G female thread was not manufactured cleanly or if it is not within permissible tolerances. In this case additional sealing, e.g. using sealing band, is required.

## Key features

### Attaching/detaching tubing

#### Attaching

The prerequisite for ensuring that the inside seal is securely held and protected against damage is that the tube is cut into straight lengths and deburred.

- 1) Insert tubing as far as the stop.

It is important to ensure that the tubing is inserted into the inner seal.

Depending on the tolerance between the tubing and the seal, the contact of the tubing with the seal may be wrongly interpreted as the stop.

- 2) Check that the tubing connection is secure by pulling gently on the tube.

#### Detaching

- 1) The tubing can be easily detached by pressing and holding down the releasing ring. Remove the tubing carefully from the fitting.
- 2) Before re-using the tubing, remove the damaged part by cutting it off.

## Type codes

001	Series	
NPQE	Push-in fitting	
002	Design	
D	Straight	
003	Mounting method	
K	Internal hex	
004	Pneumatic connection 1	
M5	M5	
M7	M7	
G18	G1/8	
G14	G1/4	

005	Pneumatic connection 2	
Q4	Push-in connector 4 mm	
Q6	Push-in connector 6 mm	
Q8	Push-in connector 8 mm	
Q10	Push-in connector 10 mm	
Q12	Push-in connector 12 mm	
006	Special material properties	
F1A	Recommended for production facilities for the manufacture of lithium-ion batteries	
007	Package unit quantity	
P10	10	

## Technical data

## General technical data

Pneumatic connection 1	Male thread							For tubing O.D.				
	M3	M5	M7	G1/8	G1/4	R1/8	R1/4	4 mm	6 mm	8 mm	10 mm	12 mm
Design	Push-pull principle											
Mounting position	Any											
Type of seal on the screwed trunnion	Sealing ring							Coating		-		
Nominal tightening torque	0.3	0.8	2	7	9	-		-				
Tolerance for nominal tightening torque	± 5%			± 20%			-		-			

## Operating and environmental conditions

Operating pressure for entire temperature range	-0.095 ... 0.8 MPa
	-0.95 ... 8 bar
	-13.775 ... 116 psi
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium	Operation with lubricated medium possible
Suitable for the production of lithium-ion batteries	Metals with more than 1% by mass of copper, zinc or nickel are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils.
Cleanroom class	Class 4 to ISO 14644-1
PWIS conformity	VDMA24364 zone III
Ambient temperature	-5 ... 60 °C
Corrosion resistance class CRC <sup>1)</sup>	1 - Low corrosion stress
Variants	Metals with copper, zinc or nickel as the main constituent are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils.

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

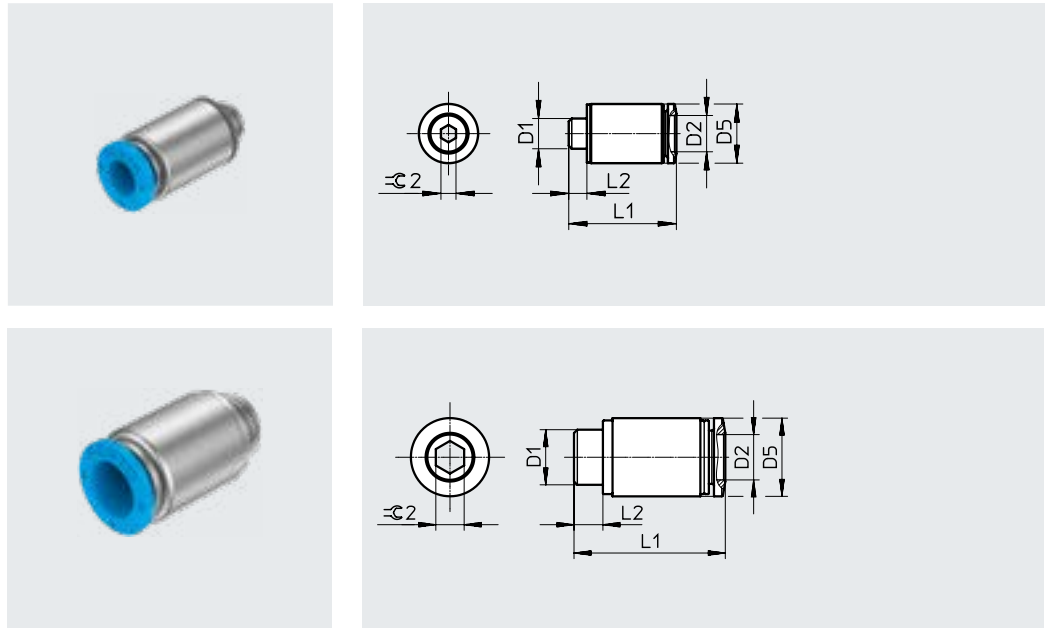
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

## Materials

Pneumatic connection 1	Male thread							For tubing O.D.				
	M3	M5	M7	G1/8	G1/4	R1/8	R1/4	4 mm	6 mm	8 mm	10 mm	12 mm
Releasing ring colour	Blue											
Housing material	PBT, high-alloy stainless steel			High-alloy stainless steel		PBT, high-alloy stainless steel		PBT				
Threaded seal material	NBR, high-alloy stainless steel			Aluminium, TPEE		PTFE		-				
Releasing ring material	POM											
Tubing seal material	NBR											
Tube retaining claw material	High-alloy stainless steel											
Note on materials	RoHS-compliant											

Datasheet

Push-in fitting NPQE-DK  
Male thread with internal hex

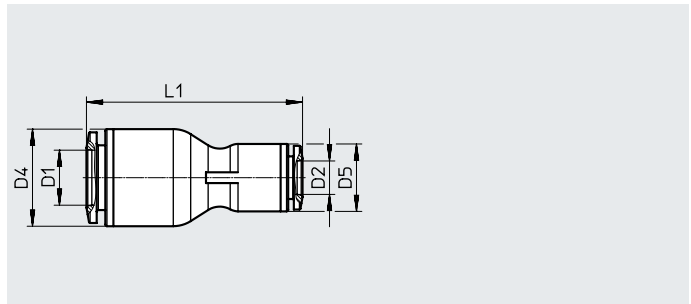
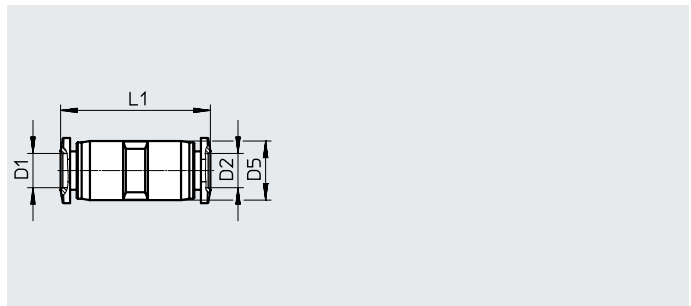


Pneumatic connection		Dimensions				≈ 2	Weight/ piece	Part no.	Type	PS <sup>1)</sup>
Male thread	For tubing O.D.	D5	L1	L2						
D1	D2	∅ [mm]	[mm]	[mm]	[mm]	[g]				
<b>Metric thread</b>										
M3	3	8	16.6	2.5	1.5	1.61	8158773	NPQE-DK-M3-Q4-F1A-P10	10	
M5	4	8	17.3	3	2.5	2.66	8144595	NPQE-DK-M5-Q4-F1A-P10	10	
	6	10	17.8	3	2.5	3.36	8144596	NPQE-DK-M5-Q6-F1A-P10	10	
M7	4	10	18.8	5.5	3	4.11	8144597	NPQE-DK-M7-Q4-F1A-P10	10	
	6	10	20.4	5.5	4	4.02	8144598	NPQE-DK-M7-Q6-F1A-P10	10	
<b>G thread</b>										
G1/8	4	13	16.2	5.1	3	6	8144599	NPQE-DK-G18-Q4-F1A-P10	10	
	6	13	18.2	5.1	4	6.82	8144600	NPQE-DK-G18-Q6-F1A-P10	10	
	8	14	25.7	4.2	5	10.30	8144601	NPQE-DK-G18-Q8-F1A-P10	10	
	10	17	28.3	4.2	5	15	8144602	NPQE-DK-G18-Q10-F1A-P10	10	
G1/4	6	17	20.1	4.8	4	11.42	8144603	NPQE-DK-G14-Q6-F1A-P10	10	
	8	17	24.4	4.8	6	12.40	8144604	NPQE-DK-G14-Q8-F1A-P10	10	
	10	17	28.9	4.8	7	17	8144605	NPQE-DK-G14-Q10-F1A-P10	10	
	12	20	31.1	4.8	7	23.56	8144606	NPQE-DK-G14-Q12-F1A-P10	10	

1) Pack size

Datasheet

Push-in connector NPQE-D



Reducing

Dimensions and ordering data

Pneumatic connection		Nominal width [mm]	Dimensions			Weight/ piece [g]	Part no.	Type	PS <sup>1)</sup>
For tubing O.D. [mm] D1	For tubing O.D. [mm] D2		D4 ∅ [mm]	D5 ∅ [mm]	L1 [mm]				
4	4	2.3	–	8.1	26	1.21	8158787	NPQE-D-Q4-E-F1A-P10 <sup>2)</sup>	10
6	6	4	–	10.7	27.1	1.87	8158789	NPQE-D-Q6-E-F1A-P10 <sup>2)</sup>	10
8	8	7.1	–	14	38.5	4.56	8158791	NPQE-D-Q8-E-F1A-P10	10
10	10	9.3	–	18	47.2	9.02	8158793	NPQE-D-Q10-E-F1A-P10	10
12	12	10	–	20.6	48.8	11.62	8158795	NPQE-D-Q12-E-F1A-P10	10
<b>Reducing</b>									
6	4	2.3	–	10.7	26.9	1.95	8158788	NPQE-D-Q6-Q4-F1A-P10 <sup>2)</sup>	10
8	6	5.3	14	12.5	34.6	3.92	8158790	NPQE-D-Q8-Q6-F1A-P10	10
10	8	7.1	18	14	39.5	6.26	8158792	NPQE-D-Q10-Q8-F1A-P10	10
12	10	9.3	20.6	18	44.4	6.26	8158794	NPQE-D-Q12-Q10-F1A-P10	10

1) Pack size

2) Not suitable for safety clip NPAP-QE



# Datasheet

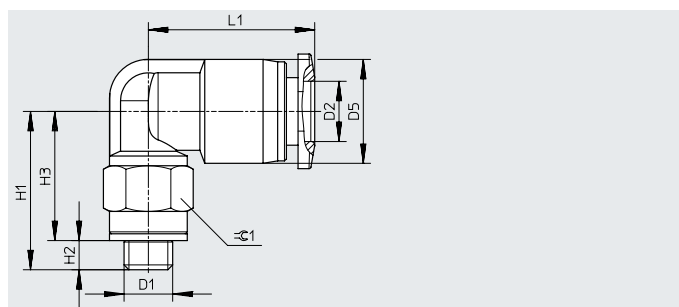
## Push-in L-fitting NPQE-L

Male thread with external hex

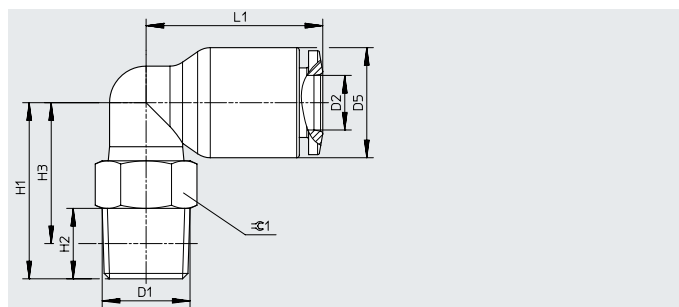
Can be aligned once fitted



M thread



R thread



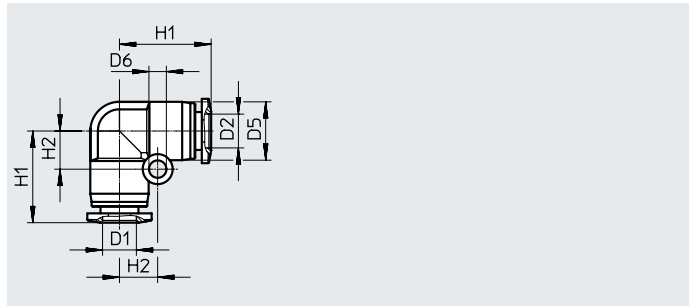
### Dimensions and ordering data

Pneumatic connection		Nominal width [mm]	Dimensions						Weight/ piece [g]	Part no.	Type	PS <sup>1)</sup>
Male thread D1	For tubing O.D. [mm] D2		D5 ∅ [mm]	H1 [mm]	H2 [mm]	H3 [mm]	L1 [mm]	±0.1 [mm]				
<b>Metric thread</b>												
M3	4	1	8.1	14.1	2.5	11.6	16.4	8	2.9	8158774	NPQE-L-M3-Q4-F1A-P10	10
M5	4	2.3	8.1	14.6	3	11.6	16.4	8	3.2	8158775	NPQE-L-M5-Q4-F1A-P10	10
	6	2.3	10.7	16.3	3	13.3	17.1	8	3.72	8158776	NPQE-L-M5-Q6-F1A-P10	10
M7	4	2.3	8.1	16.6	5.5	11.1	16.4	10	5.19	8158777	NPQE-L-M7-Q4-F1A-P10	10
	6	2.3	10.7	18.3	5.5	12.8	17.1	10	5.71	8158778	NPQE-L-M7-Q6-F1A-P10	10
<b>R thread</b>												
R1/8	4	3.4	10.5	19	8	15	18.8	10	6.8	8158779	NPQE-L-R18-Q4-F1A-P10	10
	6	4	12.5	20	8	16	20.1	10	6.88	8158780	NPQE-L-R18-Q6-F1A-P10	10
	8	6	14	23.4	8	19.4	22.5	10	8.07	8158781	NPQE-L-R18-Q8-F1A-P10	10
	10	6.5	18	25.2	8.5	21.2	27	17	13.24	8158782	NPQE-L-R18-Q10-F1A-P10	10
R1/4	6	4	12.5	22.5	11	16.5	20.1	14	13.57	8158783	NPQE-L-R14-Q6-F1A-P10	10
	8	6	14	23	11	17	22.5	14	12.75	8158784	NPQE-L-R14-Q8-F1A-P10	10
	10	8.5	18	28.3	11.5	22.3	27	17	21.6	8158785	NPQE-L-R14-Q10-F1A-P10	10
	12	8.5	20.6	29.8	11.5	23.8	28.5	17	24.03	8158786	NPQE-L-R14-Q12-F1A-P10	10

1) Pack size

# Datasheet

## Push-in L-connector NPQE-L



### Dimensions and ordering data

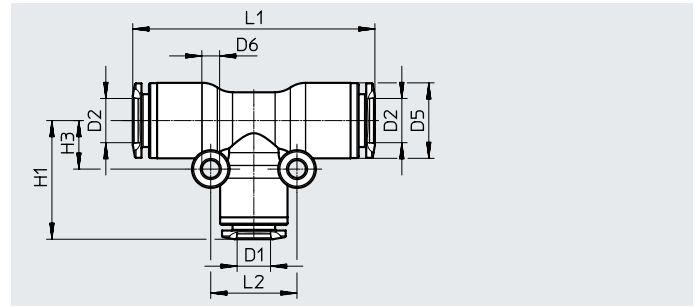
Pneumatic connection		Nominal width [mm]	Dimensions				Weight/ piece [g]	Part no.	Type	PS <sup>1)</sup>
For tubing O.D. [mm] D1	For tubing O.D. [mm] D2		D5 ∅ [mm]	D6 ∅ [mm]	H1 [mm]	H2 [mm]				
4	4	2.3	8.1	3.2	15.1	6	1.44	8158796	NPQE-L-Q4-E-F1A-P10 <sup>2)</sup>	10
6	6	4	10.7	3.2	16.8	7	2.34	8158797	NPQE-L-Q6-E-F1A-P10 <sup>2)</sup>	10
8	8	7.1	14	3.3	22.5	10	5.38	8158798	NPQE-L-Q8-E-F1A-P10	10
10	10	9.3	18	4.3	27.3	12	10.26	8158799	NPQE-L-Q10-E-F1A-P10	10

1) Pack size

2) Not suitable for safety clip NPAP-QE

## Datasheet

## Push-in T-connector NPQE-T



## Dimensions and ordering data

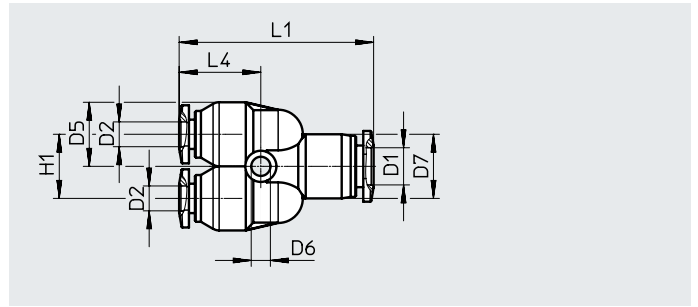
Pneumatic connection		Nominal width [mm]	Dimensions						Weight/ piece [g]	Part no.	Type	PS <sup>1)</sup>
For tubing O.D. [mm] D1	For tubing O.D. [mm] D2		D5 ∅ [mm]	D6 ∅ [mm]	H1 [mm]	H3 [mm]	L1 [mm]	L2 [mm]				
4	4	2.3	8.1	3.2	15.1	6	30.2	12	2.14	8158800	NPQE-T-Q4-E-F1A-P10 <sup>2)</sup>	10
6	6	4	10.7	3.2	16.8	7	33.6	14	3.42	8158801	NPQE-T-Q6-E-F1A-P10 <sup>2)</sup>	10
8	8	7.1	14	3.3	22.5	9	44.9	18	5	8158802	NPQE-T-Q8-E-F1A-P10	10
10	10	9.3	18	4.3	28	12	56	24	15.18	8158803	NPQE-T-Q10-E-F1A-P10	10

1) Pack size

2) Not suitable for safety clip NPAP-QE

Datasheet

Push-in Y-connector NPQE-Y



Dimensions and ordering data

Pneumatic connection		Nominal width [mm]	Dimensions						Weight/ piece [g]	Part no.	Type	PS <sup>1)</sup>
For tubing O.D. [mm] D1	For tubing O.D. [mm] D2		D5 ∅ [mm]	D6 ∅ [mm]	D7 ∅ [mm]	H1 [mm]	L1 [mm]	L4 [mm]				
4	4	2.3	7.8	3.1	7.8	8.1	30.2	13.6	2.1	8158804	NPQE-Y-Q4-E-F1A-P10 <sup>2)</sup>	10
6	6	4	10.7	3.2	10.7	10.7	32.6	13.8	3.54	8158805	NPQE-Y-Q6-E-F1A-P10 <sup>2)</sup>	10
8	8	8.2	14	3.3	14	15	39.8	17.9	8	8158806	NPQE-Y-Q8-E-F1A-P10	10
10	10	8.2	18	4.3	18	18	49.1	20.5	15.16	8158807	NPQE-Y-Q10-E-F1A-P10	10

1) Pack size

2) Not suitable for safety clip NPAP-QE