

Push-in fittings NPQR



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Key features

Application



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

Summary of tubing/fitting combinations

Applications	Fitting	Tubing	Description
Standard	QS	PEN	Suitable for a wide range of tasks and attractively priced. Flexible thanks to high levels of resistance, easy to install thanks to optimised bending radii. High level of abrasion resistance in dynamic applications.
	QS	PUN	Maximum flexibility in standard applications thanks to an extremely wide range of options for combining the different types.
	QS	PAN	Meets all requirements, even for standard applications with increased pressure and temperature ranges.
High pressures	NPQM	PAN-MF	Meets DIN standard 73378: ideal for use in mobile pneumatics. Suitable for increased temperature ranges combined with high pressure ranges.
	NPQH	PAN-R	Powerful in pressure ranges up to 20 bar, for example in applications with the pressure booster DPA.
Resistant to chemicals, food safe and hydrolysis resistant	NPQP	PLN	Resistant to cleaning agents, FDA compliant and economical. Can be used instead of the combination with stainless steel fittings.
	NPKA	PUN-H	Hydrolysis resistant and suitable for water applications. Combination suitable for use in clean rooms, FDA compliant and corrosion resistant as it is made of 100% polymer. Very easy to install thanks to the "one click principle".
	NPQH	PFAN/PTFEN	For high temperatures up to 150 °C. Food safe, FDA compliant and resistant to cleaning agents.
	NPCK	PFAN/PTFEN	Easy to clean thanks to the union nut's edge-free design. Maximum resistance to corrosion (CRC 4) and FDA compliant. Suitable for a wide range of media.
	CRQS	PFAN/PTFEN	Maximum resistance to corrosion (CRC 4) and to aggressive acids and alkalis.
Resistant to chemicals and hydrolysis resistant	NPQR	PFAN/PTFEN	Optimised design, reduction in edges where dirt can collect – all at an attractive price. For high temperatures up to 150 °C. Pressure range up to 16 bar. Highest level of corrosion resistance (CRC 4).
Antistatic	NPQM	PUN-CM	Antistatic tubing plus solid metal fitting: maximum protection for electric and electronic components.
Flame retardant	NPQM	PUN-V0	Very safe in areas where there is a risk of fire thanks to flame-retardant properties. The tubing has been tested to DIN 5510-2.
Resistant to welding spatter	NPQH	PUN-V0-C	Ideal for applications involving welding spatter. Reliable thanks to a tubing wall thickness of 2 mm for all diameters.
	QS-V0	PAN-V0	Safe even in the close vicinity of welding spatter thanks to the double-walled tubing with special fitting.

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Technical data

General technical data	
Size	Standard
Design	Push-pull principle
Mounting position	Any
Type of seal on screwed trunnion	Sealing ring
Nominal tightening torque [Nm]	1 ±20% for connecting thread M5
	3 ±20% for connecting thread M7
	6 ±20% for connecting thread G1/8 (except NPQR-DK-G18-Q4: 3 ±20%)
	7.5 ±20% for connecting thread G1/4
	9 ±20% for connecting thread G3/8
	9 ±20% for connecting thread G1/2
Tubing insertion depth [mm]	14 at tubing O.D. 4 mm
	16 at tubing O.D. 6 mm
	16.8 at tubing O.D. 8 mm
	19.4 at tubing O.D. 10 mm
	22.4 at tubing O.D. 12 mm

Operating and environmental conditions	
Operating pressure for entire temperature range [bar]	-0.95 ... +16
Operating medium	Compressed air to ISO 8573-1:2010 [7:-:-]
	Water as per manufacturer's declaration ¹⁾
Note on the operating/pilot medium	Operation with lubricated medium possible
Ambient temperature ²⁾ [°C]	-20 ... +150
Corrosion resistance class CRC ³⁾	4
Food-safe ¹⁾	See supplementary material information

1) Additional information www.festo.com/sp → Certificates.

2) Observe the range of application of the plastic tubing.

3) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Materials	
Housing	High-alloy stainless steel
Releasing ring	High-alloy stainless steel
Tube retaining claw	High-alloy stainless steel
Nut (NPQR-H only)	High-alloy stainless steel
O-ring	FPM
Tubing seal	FPM
Note on materials	RoHS-compliant

Tube assembly/disassembly

Assembly

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 inside

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.








Disassembly

- 1) The tubing can be detached easily 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.

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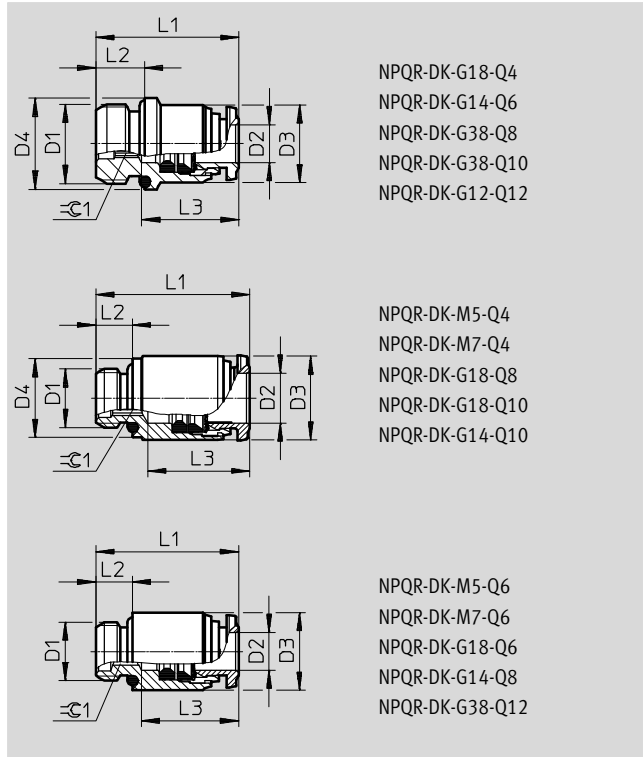
Product range overview

Design	Version	Type code	Connection D1			Connection D2		→ Page/ Internet
			M-thread	G-thread	Tubing O.D.	Tubing O.D.		
Straight	Push-in fitting – Male thread with internal hex							
		NPQR-DK	M5	–	–	4, 6	8	
			M7	–				
			–	G $\frac{1}{8}$				4, 6, 8, 10
			–	G $\frac{1}{4}$				6, 8, 10
			–	G $\frac{3}{8}$				8, 10, 12
			–	G $\frac{1}{2}$				12
	Push-in connector							
		NPQR-D	–	–	–	4	4	9
						6	6	
						8	8	
						10	10	
						12	12	
		NPQR-D reducing	–	–	–	6	4	9
						8	6	
						10	8	
						12	10	
	Push-in bulkhead connector							
		NPQR-H	–	–	–	4	4	10
						6	6	
8						8		
10						10		
12						12		
Plug screw								
	NPQR-BK	M7	–	–	–	10		
		–	G $\frac{1}{8}$					
		–	G $\frac{1}{4}$					
		–	G $\frac{3}{8}$					
		–	G $\frac{1}{2}$					
L-shape	Push-in L-fitting – Male thread with external hex							
		NPQR-L	M5	–	–	4, 6	11	
			–	G $\frac{1}{8}$				4, 6, 8
			–	G $\frac{1}{4}$				6, 8, 10
			–	G $\frac{3}{8}$				10, 12
			–	G $\frac{1}{2}$				12
	Push-in L-connector							
		NPQR-L	–	–	–	4	4	11
						6	6	
						8	8	
10						10		
12						12		

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Technical data

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



Dimensions and ordering data												
Pneumatic connection		Nom-inal width [mm]	Dimensions [mm]						Weight/ piece [g]	Part no.	Type code	PU ¹⁾
Male thread	For tubing O.D.		D3	D4	L1	L2	L3	$\approx \text{C1}$				
D1	D2		∅	∅								
M-thread with sealing ring												
M5	4	2.1	9.8	8	19.5	4	14	2	5.4	8085657	NPQR-DK-M5-Q4	1
	6	2.6	10	-	20.1	4	16	2.5	5.7	8085659	NPQR-DK-M5-Q6	1
M7	4	2.6	9.8	9.4	21	5	14	2.5	6.2	8085658	NPQR-DK-M7-Q4	1
	6	4.2	10	-	21	5	16	4	5.8	8085660	NPQR-DK-M7-Q6	1
G-thread with sealing ring												
G ¹ / ₈	4	2.6	10	12.9	19.5	6	14	2.5	7.5	8085661	NPQR-DK-G18-Q4	1
	6	4.2	12.8	-	23.5	6	16	4	11.4	8085662	NPQR-DK-G18-Q6	1
	8	5.3	13.8	13	25.5	6	16.8	5	14.7	8085663	NPQR-DK-G18-Q8	1
	10	5.3	17	13	28.5	6	19.4	5	19.1	8087695	NPQR-DK-G18-Q10	1
G ¹ / ₄	6	4.2	12.8	15	23.5	8	16	4	12.8	8085664	NPQR-DK-G14-Q6	1
	8	6.3	15	-	23.5	8	16.8	6	14.4	8085665	NPQR-DK-G14-Q8	1
	10	6.3	16.8	16	29.5	8	19.4	6	22.6	8085666	NPQR-DK-G14-Q10	1
G ³ / ₈	8	6.3	14	20	22	9	16.8	6	20.5	8086953	NPQR-DK-G38-Q8	1
	10	7.3	17	20	26.5	9	19.4	7	24.3	8085667	NPQR-DK-G38-Q10	1
	12	8.4	20	-	33	9	22.4	8	36.5	8085668	NPQR-DK-G38-Q12	1
G ¹ / ₂	12	8.4	20	24.8	30.5	10	22.4	8	40.7	8085669	NPQR-DK-G12-Q12	1

1) Packaging unit