

Push-in fittings NPQR



# Push-in fittings NPQR

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.

## Push-in fittings NPQR

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### Push-in fittings product range

QSM, mini series



Technical data → Internet: qsm

Miniature push-in fittings for maximum component density in confined spaces. For pneumatic applications with a temperature range up to 80 °C and a pressure range up to 14 bar. Tubing outside diameters of 2, 3, 4 and 6 mm with connecting threads M3, M5, M6, M7, R $\frac{1}{8}$  and G $\frac{1}{8}$ .

QS, standard series



Technical data → Internet: qs

Wide selection of push-in fittings for pneumatic applications with a temperature range up to 80 °C and a pressure range up to 14 bar. Tubing outside diameters of 4, 6, 8, 10, 12, 16 and 22 mm with connecting threads R $\frac{1}{8}$  ... R $\frac{1}{2}$  and G $\frac{1}{8}$  ... G $\frac{3}{4}$ .

CRQS, stainless steel



Technical data → Internet: crqs

Stainless steel push-in fitting. High corrosion resistance CRC 4 and chemical resistance with approval for use in the food and packaging industry. For pneumatic applications with a temperature range up to 120 °C and a pressure range up to 10 bar. Tubing outside diameters of 4, 6, 8, 10, 12 and 16 mm with connecting threads M5 and R $\frac{1}{8}$  ... R $\frac{1}{2}$ .

QS-V0, resistant to welding spatter



Technical data → Internet: qs-v0

Flame-retardant push-in fitting for use in all areas where there is a risk of fire, for example welding systems in the automotive industry and in the construction industry. For pneumatic applications with a temperature range up to 60 °C and a pressure range up to 10 bar. Tubing outside diameters of 4, 6, 8, 10 and 12 mm with connecting threads R $\frac{1}{8}$  ... R $\frac{1}{2}$  and G $\frac{1}{8}$  ... G $\frac{1}{2}$ .

NPQH



Technical data → Internet: npqh

Solid metal push-in fitting made of chemically nickel-plated brass. High corrosion resistance CRC 3 and chemical resistance. For pneumatic applications with a temperature range up to 150 °C and a pressure range up to 20 bar. Tubing outside diameters of 4, 6, 8, 10, 12 and 14 mm with connecting threads M5, M7 and G $\frac{1}{8}$  ... G $\frac{1}{2}$ .

NPQM



Technical data → Internet: npqm

Attractively priced metal push-in fitting for pneumatic applications with a temperature range up to 70 °C and a pressure range up to 16 bar. Tubing outside diameters of 3, 4, 6, 8, 10, 12 and 14 mm with connecting threads M5, M7 and G $\frac{1}{8}$  ... G $\frac{1}{2}$ .

NPQP



Technical data → Internet: npqp

Polypropylene fitting for use in applications with extreme influence of media. For pneumatic applications with a temperature range up to 60 °C and a pressure range up to 10 bar. Tubing outside diameters of 4, 6, 8, 10 and 12 mm with connecting threads R $\frac{1}{8}$  ... R $\frac{1}{2}$ .

NPQR, stainless steel



Technical data → Internet: npqr

Stainless steel push-in fitting. Maximum corrosion resistance CRC 4 and chemical resistance. For pneumatic applications with a temperature range up to 150 °C and a pressure range up to 16 bar. Tubing outside diameters of 4, 6, 8, 10 and 12 mm with connecting threads M5, M7 and G $\frac{1}{8}$  ... G $\frac{1}{2}$ .

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### Functional push-in fittings product range

QSK,  
self-sealing push-in fitting

Technical data → Internet: qsk



Push-in fitting that blocks the air flow after the tubing is disconnected. For pneumatic applications with a temperature range up to 60 °C and a pressure range up to 14 bar. Tubing outside diameters of 4, 6, 8, 10 and 12 mm with connecting threads M5, R $\frac{1}{8}$  ... R $\frac{1}{2}$  and G $\frac{1}{8}$  ... G $\frac{1}{2}$ .

QSR,  
rotatable push-in fitting

Technical data → Internet: qsr



Push-in fitting with swivel joint, rotatable by 360°. The ball bearing enables rotating movements in the application up to max. 500 rpm. For pneumatic applications with a temperature range up to 60 °C and a pressure range up to 14 bar. Tubing outside diameters of 4, 6, 8, 10 and 12 mm with connecting threads M5, R $\frac{1}{8}$  ... R $\frac{1}{2}$  and G $\frac{1}{8}$  ... G $\frac{1}{2}$ .

### Quick connectors product range

NPCK

Technical data → Internet: npck



Stainless steel fitting for use in areas subject to intensive cleaning. Highest level of corrosion resistance CRC 4. For pneumatic applications with a temperature range up to 120 °C and a pressure range up to 12 bar. Tubing outside diameters of 4, 6, 8 and 10 mm with connecting threads M5 and G $\frac{1}{8}$  ... G $\frac{3}{8}$ .

### Click fittings product range

NPKA

Technical data → Internet: npka



Plastic fitting for easy installation with one-hand operation. Hydrolysis resistant, FDA compliant and easy to clean. For pneumatic applications with a temperature range up to 60 °C and a pressure range up to 10 bar. Tubing outside diameter of 6 mm with connecting thread G $\frac{1}{8}$ .

# Push-in fittings NPQR

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 <sup>1)</sup>
Note on the operating/pilot medium	Operation with lubricated medium possible
Ambient temperature <sup>2)</sup> [°C]	-20 ... +150
Corrosion resistance class CRC <sup>3)</sup>	4
Food-safe <sup>1)</sup>	See supplementary material information

1) Additional information [www.festo.com/sp](http://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	<b>Push-in fitting – Male thread with internal hex</b>							
		NPQR-DK	M5	–	–	–	4, 6	8
			M7	–			4, 6	
			–	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	
	<b>Push-in connector</b>							
		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	
	<b>Push-in bulkhead connector</b>							
		NPQR-H	–	–	–	4	4	10
						6	6	
8						8		
10						10		
12						12		
<b>Plug screw</b>								
	NPQR-BK	M7	–	–	–	–	10	
		–	G $\frac{1}{8}$					
		–	G $\frac{1}{4}$					
		–	G $\frac{3}{8}$					
		–	G $\frac{1}{2}$					
L-shape	<b>Push-in L-fitting – Male thread with external hex</b>							
		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	
	<b>Push-in L-connector</b>							
		NPQR-L	–	–	–	4	4	11
						6	6	
						8	8	
10						10		
12						12		

# Push-in fittings NPQR

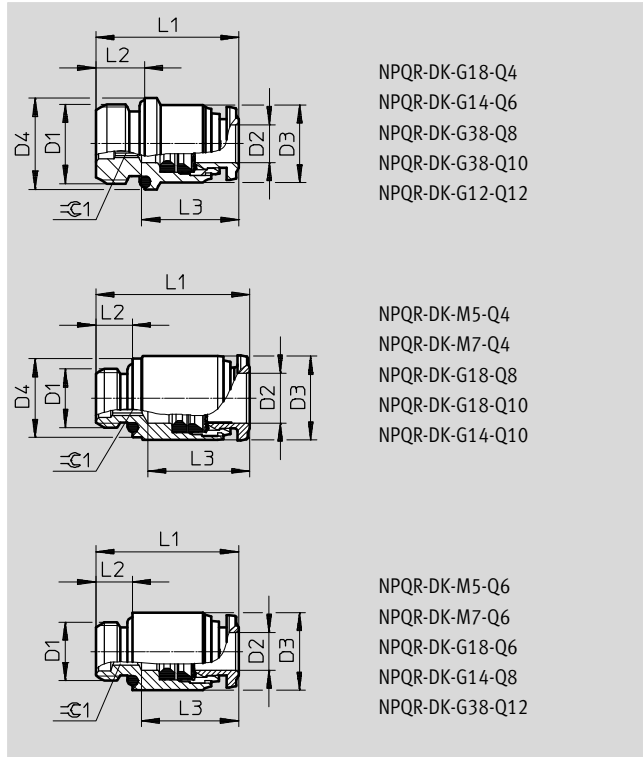
Product range overview

Design	Version	Type code	Connection D1			Connection D2	→ Page/ Internet
			M-thread	G-thread	Tubing O.D.	Tubing O.D.	
T-shape	<b>Push-in T-fitting – Male thread with external hex</b>						
		NPQR-T	M5	–	–	4	12
			–	G $\frac{1}{8}$	–	6, 8	
			–	G $\frac{1}{4}$	–	8, 10	
			–	G $\frac{3}{8}$	–	10, 12	
			–	G $\frac{1}{2}$	–	12	
	<b>Push-in T-connector</b>						
		NPQR-T	–	–	4	4	12
			–	–	6	6	
			–	–	8	8	
–			–	10	10		
–			–	12	12		

# Push-in fittings NPQR

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 <sup>1)</sup>
Male thread	For tubing O.D.		D3	D4	L1	L2	L3	$\approx \text{C1}$				
D1	D2		$\varnothing$	$\varnothing$								
<b>M-thread with sealing ring</b>												
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
<b>G-thread with sealing ring</b>												
G $\frac{1}{8}$	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 $\frac{1}{4}$	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 $\frac{3}{8}$	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 $\frac{1}{2}$	12	8.4	20	24.8	30.5	10	22.4	8	40.7	8085669	NPQR-DK-G12-Q12	1

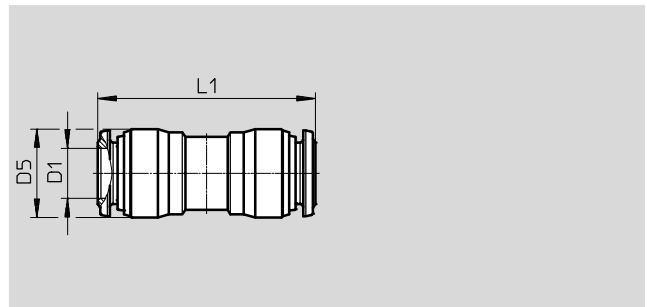
1) Packaging unit



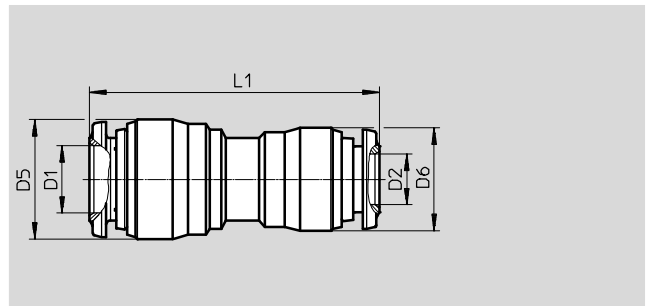
# Push-in fittings NPQR

Technical data

## Push-in connector NPQR-D



## Reducing



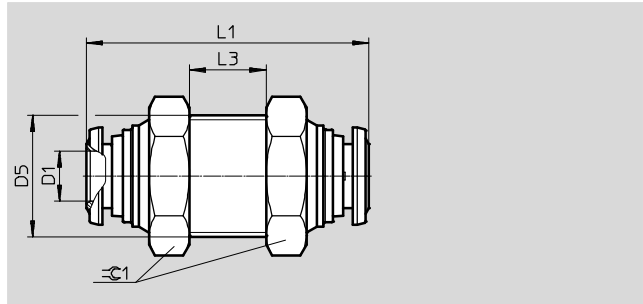
Dimensions and ordering data									
Pneumatic connection		Nom- inal width [mm]	Dimensions [mm]			Weight/ piece [g]	Part no.	Type code	PU <sup>1)</sup>
For tubing O.D. D1	For tubing O.D. D2		D5 ∅	D6 ∅	L1				
4	4	3	10.3	–	30	9.8	<b>8085697</b> NPQR-D-Q4-E	<b>1</b>	
6	6	5	12.5	–	34	15	<b>8085698</b> NPQR-D-Q6-E	<b>1</b>	
8	8	7	14.5	–	35.5	19.4	<b>8085699</b> NPQR-D-Q8-E	<b>1</b>	
10	10	9	17.5	–	41	32.4	<b>8085700</b> NPQR-D-Q10-E	<b>1</b>	
12	12	11	20.5	–	47	49.1	<b>8085701</b> NPQR-D-Q12-E	<b>1</b>	
Reducing									
6	4	3	12.5	10.3	32.1	12	<b>8085704</b> NPQR-D-Q6-Q4	<b>1</b>	
8	6	5	14.5	12.5	35	16.7	<b>8085705</b> NPQR-D-Q8-Q6	<b>1</b>	
10	8	7	17.5	14.5	38.5	25.1	<b>8085706</b> NPQR-D-Q10-Q8	<b>1</b>	
12	10	9	20.5	17.5	44	39.6	<b>8085707</b> NPQR-D-Q12-Q10	<b>1</b>	

1) Packaging unit

# Push-in fittings NPQR

Technical data

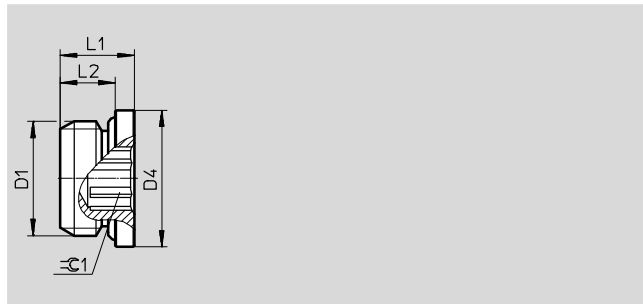
## Push-in bulkhead connector NPQR-H



Dimensions and ordering data									
Pneumatic connection	Nominal width [mm]	Dimensions [mm]				Weight/ piece [g]	Part no.	Type code	PU <sup>1)</sup>
For tubing O.D.		D5	L1	L3	⌀1				
D1				max.					
4	3	M12x1	31	7	17	24.3	<b>8085729</b> NPQR-H-Q4-E	<b>1</b>	
6	5	M14x1	35	9.5	17	28.3	<b>8085730</b> NPQR-H-Q6-E	<b>1</b>	
8	7	M16x1	36.6	10.5	19	37.1	<b>8085731</b> NPQR-H-Q8-E	<b>1</b>	
10	9	M20x1	42.1	13.3	24	66.8	<b>8085732</b> NPQR-H-Q10-E	<b>1</b>	
12	11	M22x1	48	12.5	26	88.1	<b>8085733</b> NPQR-H-Q12-E	<b>1</b>	

1) Packaging unit

## Plug screw NPQR-BK



Dimensions and ordering data								
Pneumatic connection	Dimensions [mm]				Weight/ piece [g]	Part no.	Type code	PU <sup>1)</sup>
Male thread	D4	L1	L2	⌀1				
D1	∅							
M-thread with sealing ring								
M7	9.5	7.5	5	3	2.1	<b>8085672</b>	<b>NPQR-BK-M7</b>	<b>1</b>
G-thread with sealing ring								
G <sup>1</sup> / <sub>8</sub>	14	8.5	6	5	4	<b>8085673</b>	<b>NPQR-BK-G18</b>	<b>1</b>
G <sup>1</sup> / <sub>4</sub>	18	11	8	6	11	<b>8085674</b>	<b>NPQR-BK-G14</b>	<b>1</b>
G <sup>3</sup> / <sub>8</sub>	20	12.5	9	8	17	<b>8085675</b>	<b>NPQR-BK-G38</b>	<b>1</b>
G <sup>1</sup> / <sub>2</sub>	25	13.5	10	10	29	<b>8085676</b>	<b>NPQR-BK-G12</b>	<b>1</b>

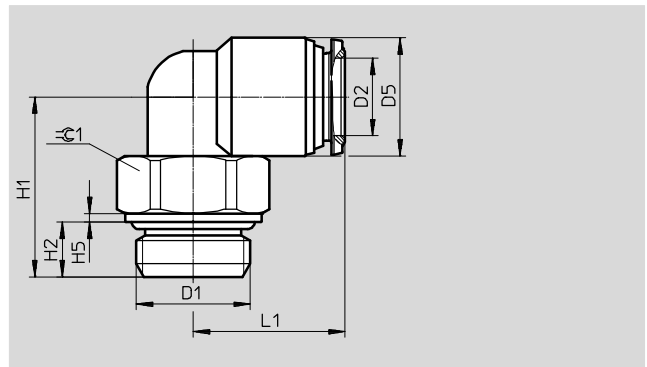
1) Packaging unit

# Push-in fittings NPQR

Technical data

## Push-in L-fitting NPQR-L

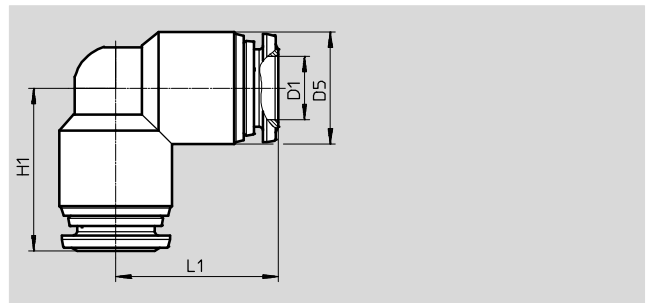
Male thread with external hex  
360° orientable



Dimensions and ordering data												
Pneumatic connection		Nom-inal width [mm]	Dimensions [mm]						Weight/ piece [g]	Part no.	Type code	PU <sup>1)</sup>
Male thread	For tubing O.D.		D5 Ø	H1	H2	H5	L1	≈G1				
D1	D2											
M-thread with sealing ring												
M5	4	2	10	16	4	3	15.5	8	8.3	8085679	NPQR-L-M5-Q4	1
	6	2	12.5	17.5	4	3	18	8	13.4	8098626	NPQR-L-M5-Q6	1
G-thread with sealing ring												
G <sup>3</sup> / <sub>8</sub>	4	2	10	16	6	1	15.5	13	12.1	8085680	NPQR-L-G18-Q4	1
	6	4	12.5	17.5	6	1	18	13	16.4	8085681	NPQR-L-G18-Q6	1
	8	6	14.5	23	6	1	20	13	23.5	8085682	NPQR-L-G18-Q8	1
G <sup>1</sup> / <sub>4</sub>	6	4	12.5	20	8	1	18	15	21.6	8085683	NPQR-L-G14-Q6	1
	8	6	14.5	21	8	1	20	15	24.4	8085684	NPQR-L-G14-Q8	1
	10	8	17	27.5	8	0.9	23.5	15	36.5	8085685	NPQR-L-G14-Q10	1
G <sup>3</sup> / <sub>8</sub>	10	8	17	25	9	1.5	23.5	20	45	8085686	NPQR-L-G38-Q10	1
	12	10	20.5	30.5	9	1.5	27.5	20	65.3	8085687	NPQR-L-G38-Q12	1
G <sup>1</sup> / <sub>2</sub>	12	10	20.5	28.5	10	1.5	27.5	25	73.2	8085688	NPQR-L-G12-Q12	1

1) Packaging unit

## Push-in L-connector NPQR-L



Dimensions and ordering data									
Pneumatic connection		Nom-inal width [mm]	Dimensions [mm]			Weight/ piece [g]	Part no.	Type code	PU <sup>1)</sup>
For tubing O.D.	D1		D5 Ø	H1	L1				
4	3	10	16	16	7.8	8085709	NPQR-L-Q4-E	1	
6	5	12.5	19.5	19.5	14.9	8085710	NPQR-L-Q6-E	1	
8	7	14.5	21	21	20.4	8085711	NPQR-L-Q8-E	1	
10	9	17	24.5	24.5	29.9	8085712	NPQR-L-Q10-E	1	
12	11	20.5	29	29	51.8	8085713	NPQR-L-Q12-E	1	

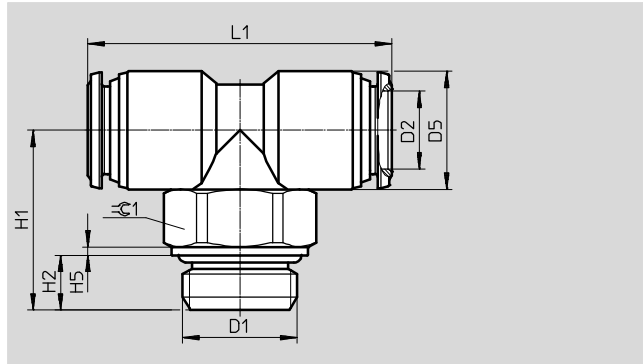
1) Packaging unit

## Push-in fittings NPQR

Technical data

### Push-in T-fitting NPQR-T

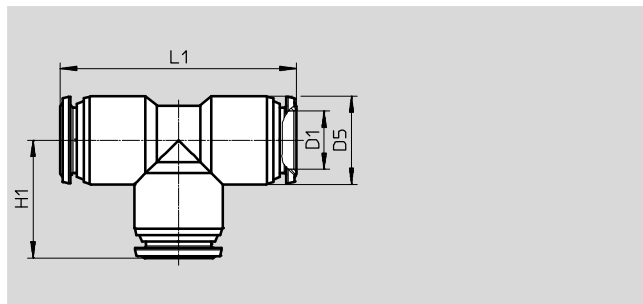
Male thread with external hex  
360° orientable



Dimensions and ordering data												
Pneumatic connection		Nom- inal width [mm]	Dimensions [mm]						Weight/ piece [g]	Part no.	Type code	PU <sup>1)</sup>
Male thread	For tubing O.D.		D5 ∅	H1	H2	H5	L1	⌀1				
D1	D2											
M-thread with sealing ring												
M5	4	2	10	16	4	3	30.5	8	10.4	<b>8085691</b>	<b>NPQR-T-M5-Q4</b>	<b>1</b>
G-thread with sealing ring												
G <sup>1</sup> / <sub>8</sub>	6	4	12.5	17.5	6	1	36	13	20.4	<b>8085692</b>	<b>NPQR-T-G18-Q6</b>	<b>1</b>
	8	6	14.5	23	6	1	40	13	28.9	<b>8085693</b>	<b>NPQR-T-G18-Q8</b>	<b>1</b>
G <sup>1</sup> / <sub>4</sub>	8	6	14.5	21	8	1	40	15	29.9	<b>8085694</b>	<b>NPQR-T-G14-Q8</b>	<b>1</b>
	10	8	17	27.5	8	1	47	15	44	<b>8099100</b>	<b>NPQR-T-G14-Q10</b>	<b>1</b>
G <sup>3</sup> / <sub>8</sub>	10	8	17	25	9	1.5	47	20	52.5	<b>8085695</b>	<b>NPQR-T-G38-Q10</b>	<b>1</b>
	12	10	20.5	30.5	9	1.5	55	20	79.8	<b>8099101</b>	<b>NPQR-T-G38-Q12</b>	<b>1</b>
G <sup>1</sup> / <sub>2</sub>	12	10	20.5	28.5	10	1.5	55	25	87.7	<b>8099102</b>	<b>NPQR-T-G12-Q12</b>	<b>1</b>

1) Packaging unit

### Push-in T-connector NPQR-T



Dimensions and ordering data									
Pneumatic connection		Nom- inal width [mm]	Dimensions [mm]			Weight/ piece [g]	Part no.	Type code	PU <sup>1)</sup>
For tubing O.D.	D1		D5 ∅	H1	L1				
4	3	10	16	32	10	<b>8085716</b>	<b>NPQR-T-Q4-E</b>	<b>1</b>	
6	5	12.5	19.5	39.5	19.2	<b>8085717</b>	<b>NPQR-T-Q6-E</b>	<b>1</b>	
8	7	14.5	21	42	26.1	<b>8085718</b>	<b>NPQR-T-Q8-E</b>	<b>1</b>	
10	9	17	24.5	49	37.7	<b>8085719</b>	<b>NPQR-T-Q10-E</b>	<b>1</b>	
12	11	20.5	29	58	66.7	<b>8085720</b>	<b>NPQR-T-Q12-E</b>	<b>1</b>	

1) Packaging unit