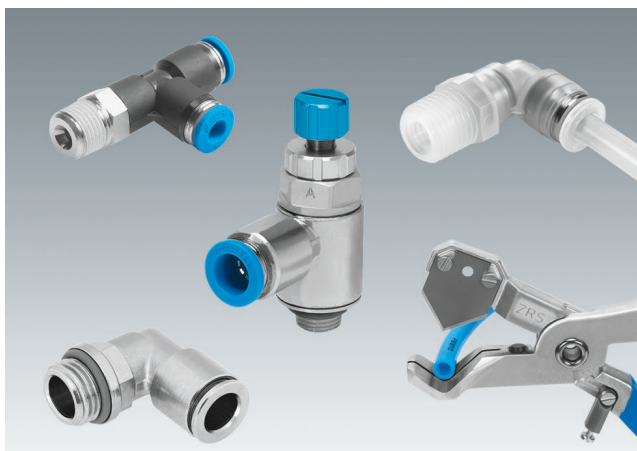


FESTO

The Pneumatics Installation Guide



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Pneumatic
Installation compass

Version 2020/07

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Legend

Blue **type code** on the product pages:

Type code for search on → www.festo.com



Products for easy selection, quick ordering and delivery

D1	Pneumatic port 1
D2	Pneumatic port 2 or tubing O.D.
D3	Pneumatic port 3
I.D.	Tubing I.D.
PN	Part no.
PE	Packaging unit in pieces or metres
n	No. of inputs/outputs
qnN	The standard nominal flow rate qnN is the volumetric flow rate based on standard conditions at an operating pressure of p1=6 bar and an output pressure of p2=5 bar, measured at room temperature t=20 °C

Product finder:

Just open online help!

A specific link and QR code will guide you to the right page.

Enter your application-specific requirements and let our system guide you quickly and reliably to an appropriate solution. This makes searching extremely convenient!

→ www.festo.com/.../type code





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The core product range from Festo	7
Easy selection/quick ordering	8
Festo Online Shop	9

The right installation materials for every application – system solutions from Festo

“Everything from a single source!” – the variety of our installation range is what enables us to provide a competent solution to all manner of industrial requirements, no matter how diverse these may be.

Festo's Pocket Guide to Pneumatic Installation will help you to select the right combination of products from the many fittings and connectors, the non-return, pressure control and flow control valves and tubing options.

For your convenience: for increased productivity.





Whenever you see this symbol in the printed or electronic catalogue, it means the product is from our core product range for the main applications of automation technology.

The symbol provides you with quick guidance and makes it easier to place your order.

Unless otherwise specified, all products included in this range are in stock and ready for immediate delivery.



The systematically faster route to the right solution

It couldn't be easier:

Select the product group you require from the Table of contents

→ 1.

Example: push-in fittings for O.D. tubing → 54

Find the products you want on the product pages using the descriptions.

Quick order placement for selected basic designs

We make it easy for you!

We have compiled a globally standardised core product range that not only offers you faster and easier selection, but also fast delivery.

It has been selected by Festo experts based on actual customer requirements and covers the main applications of automation technology, while offering the best possible value for money.

Products with a star: easy selection and fast delivery guaranteed

You can recognise these outstanding products at a glance: they are marked in the catalogues with a ★ star.

Quick and easy to order

Preconfigured to ensure the best possible value for money, these products can be ordered quickly and easily either via the order code, which is based on the features, or the unique part number.

High level of availability

In stock and ready for dispatch:

These products are generally available in no time at all.



You can benefit from these advantages whenever you need core pneumatic and electrical functions.

Wherever you see this symbol in our printed or electronic catalogue, it identifies a selected product which is perfect for the main applications of automation technology.

The stars will help you to find what you are looking for more quickly and place orders more easily. The award-winning products from this range are in stock and can usually be shipped immediately.

Round-the-clock benefits

**24 h
online**

Continuous availability – production information, documentation, prices, availability, ordering etc.



Complete overview of all orders – order tracking with search function, status display in lists and easy reordering.



No surcharge for small quantities – there are no additional costs for small orders.



Request offers – you can request offers directly from the shopping cart at the push of a button.



Download all documents for a complete basket – complete documentation for the selected products.



Express shipping – orders placed before 8:30 pm with express delivery selected will be with you by noon the following working day, provided they are in stock.

You can find the Festo online shop at → www.festo.com – click on **Basket**

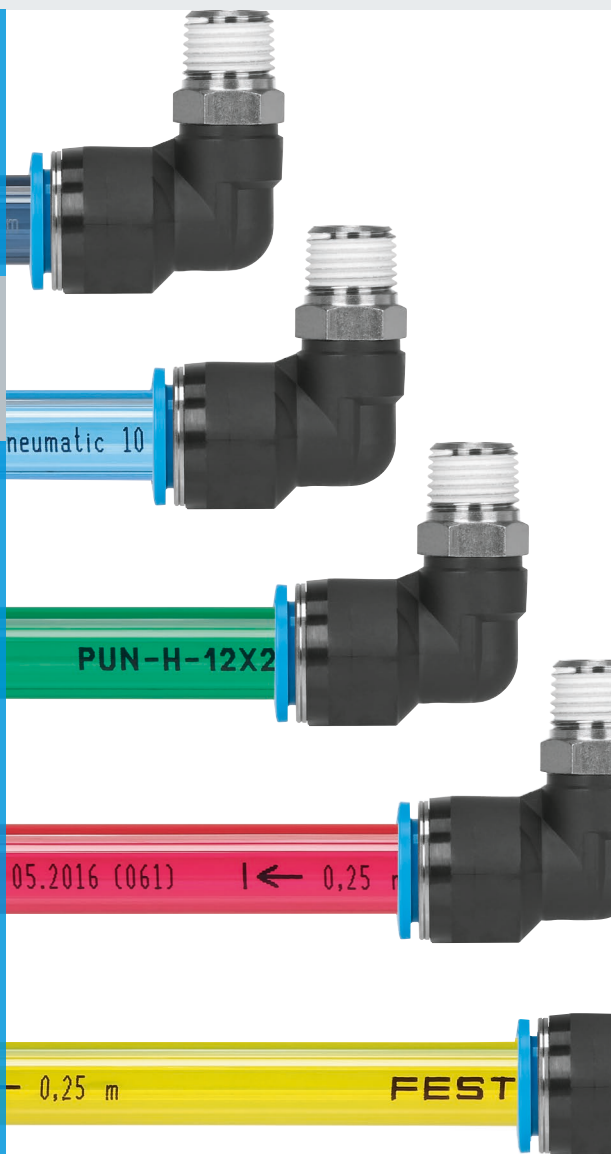
At a glance:

- + Fast: usually ready for shipment within 24 hours
- + Superb: Festo quality at an attractive price
- + Easy: just a few clicks to place an order online

Overview

01

Tubing/fitting combinations – Overview



FESTO

PUN-H-12X2

TÜV S

Good combinations:

tubing/fitting combinations for all applications _____ 12

Overview of combinations:

Standard applications _____ 13

High pressures _____ 13

Resistant to chemicals, suitable for use in the food industry and
hydrolysis resistant _____ 14

Antistatic _____ 14

Flame-retardant _____ 15

Resistant to welding spatter _____ 15

Tubing-fitting combinations for all situations

While many of our competitors focus on tubing or on fittings, the Festo range is characterised by our trademark system solution approach. This range has been consistently enhanced in recent years in terms of both tubing and fittings, with considerable effort going into ensuring application-specific tubing/fitting combinations that are optimally harmonised.

The precise selection of the right tubing/fitting combination is above all dependent on the application. Every individual case is characterised by a series of different requirements for tubing/fitting combinations.

However, cases can often be pinned down using a single feature for rapid orientation. The overview below of our most popular tubing/fitting combinations will help you to make the right choice quickly and reliably.

Product finder for tubing and pipes:

→ www.festo.com/productfinder/tubings



Tubing	Suitable for		Applications
	Fitting	Flow control valve	
Standard applications			
PEN  → 30	QSM  → 64	GRLA  → 264	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.
PUN  → 28	QS  → 74	GRLA  → 264	Maximum flexibility in standard applications thanks to an extremely wide range of options for combining the different types.
PAN  → 32	QS  → 74	VFOH-LE  → 265	Meets all requirements, even for standard applications with increased pressure and temperature ranges.
High pressures			
PAN-MF  → 34	NPQM  → 108	GRLA  → 264	Meets DIN standard 73378: ideal for use in mobile pneumatics. Suitable for increased temperature ranges combined with high pressure ranges.
PAN-R  → 34	NPQH  → 96	VFOH-LE  → 265	Powerful in pressure ranges up to 20 bar, for example in applications with the pressure booster DPA.

Product finder for fittings

→ www.festo.com/productfinder/fittings



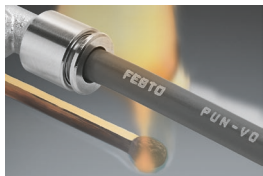
Overview

01

Tubing/fitting combinations – Overview

Tubing	Suitable for		Applications
	Fitting	Flow control valve	
Resistant to chemicals, suitable for use in the food industry and hydrolysis resistant			
PUN-H  → 35	NPKA  → 190	—	Hydrolysis-resistant and suitable for water applications. Combination suitable for use in clean-rooms, FDA-compliant and corrosion-resistant because it's 100% polymer. Very lightweight Easy to install with the “one click principle”
PLN  → 39	NPQP  → 116	VFOH-LE  → 265	Resistant to cleaning agents, FDA-compliant and economical. Can be used instead of the combination with stainless steel fittings.
PFAN  → 40	NPQH  → 96	VFOH-LE  → 265	For high temperatures up to 150°C. Food-safe, FDA-compliant and resistant to cleaning agents.
	NPCK  → 146	CRGRLA  → 270	Easy to clean thanks to the edge-free design of the union nut. Maximum resistance to corrosion (CRC 4) and FDA-compliant. Suitable for a wide range of media.
	CRQS  → 122	CRGRLA  → 270	Maximum resistance to corrosion (CRC 4) and to aggressive acids and alkalis.
Antistatic			
PUN-CM  → 41	NPQM  → 108	GRLA  → 264	Antistatic tubing plus solid metal fitting: maximum protection for electrical and electronic components.

Tubing	Suitable for		Applications
	Fitting	Flow control valve	
Flame-retardant			
PUN-V0  → 41	NPQM  → 108	VFOH-LE  → 265	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			
PUN-V0-C  → 42	NPQH  → 96	GRLA  → 264	Ideal for applications involving welding spatter. Reliable thanks to a tubing wall thickness of 2 mm for all diameters.
PAN-V0  → 43	QS-V0  → 128	GRLA  → 264	Safe even in the close vicinity of welding spatter thanks to the double-walled tubing with special fitting.



Media resistance:

You can check the media resistance of various materials here:

→ www.festo.com/mediaresistance





Product categories

our tubing & pipes



Tubing _____ **18**

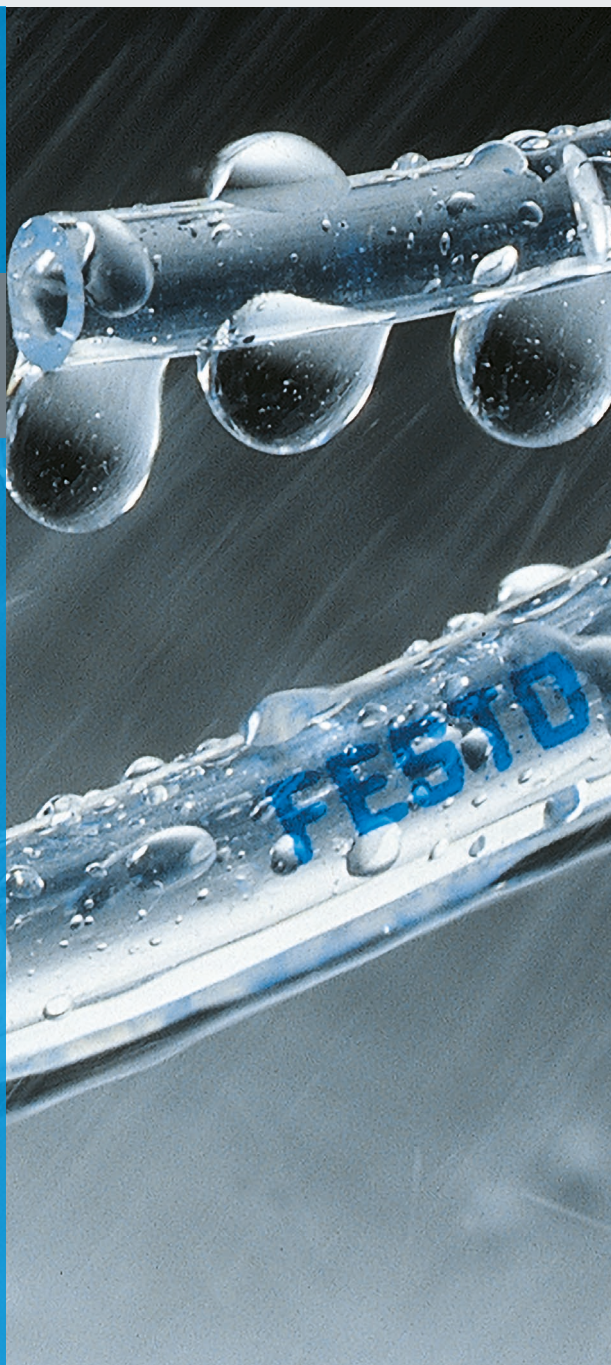


Pipes _____ **48**

Product finder for tubing and pipes:

→ www.festo.com/productfinder/tubings







Highlights

our tubing



Standard O.D. tubing

PUN-H ★

+ Highly resistant to microbes and hydrolysis

+ Food-safe

→ PUN-H: **35**

→ PUN-H-DUO: **38**



Standard O.D. tubing

PEN

+ Suitable for a wide range of tasks and attractively priced

+ Flexible with high levels of resistance, easy to install with optimised bending radii

+ High level of abrasion resistance in dynamic applications

→ **30**



Standard O.D. tubing

PTFEN

+ Food safe (FDA-compliant)

+ High chemical and temperature resistance

→ **40**

Product finder for tubing and pipes:

→ www.festo.com/productfinder/tubings



Tubing – the flexible transmission component

Compressed air tubing with its flexibility and low space requirements is an essential component for connections between pneumatic valves, cylinders and decentralised compressed air preparation. Festo offers a full tubing range, optimised for special requirements.

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Tubing/fitting combinations _____	26
O.D. tubing ★ _____	28
Standard I.D. tubing _____	44
Spiral tubing _____	45

Additional information:

d www.festo.com/tubing



Applications ¹⁾	Tubing	Fitting	
Standard	PUN → 28	QSM ★ → 64	
	PUN-DUO → 29	QS ★ → 74	
	PEN → 30		
	PAN → 32		
High pressures	PAN-MF → 34	NPQM → 108	
	PAN-R → 34	NPQH → 96	
Suitable for use in the food industry, resistant to chemicals, hydrolysis resistant	PUN-H ★ → 35	NPKA → 190	
	PUN-H-DUO → 38		
	PLN → 39	NPQP → 116	
	PTFEN → 40	NPQH → 96	
	PFAN → 40		
	PTFEN → 40	NPCK → 146	
Resistant to chemicals and hydrolysis	PTFEN → 40	NPQR → 104	
	PFAN → 40		
Antistatic	PUN-CM → 41	NPQM → 108	
Flame-retardant	PUN-V0 → 41	NPQM → 108	
Resistant to welding spatter	PUN-V0-C → 42	NPQH → 96	
	PAN-V0 → 43	QS-V0 → 128	

1) The detailed properties and applications can be found at

→ www.festo.com/tubing

Description
Maximum flexibility in standard applications thanks to an extremely wide range of options for combining the different types.
Suitable for a wide range of tasks and attractively priced. Flexible with high levels of resistance, easy to install with optimised bending radii. High level of abrasion resistance in dynamic applications.
Meets all requirements, even for standard applications with increased pressure and temperature ranges.
Meets DIN standard 73378: ideal for use in mobile pneumatics. Suitable for increased temperature ranges combined with high pressure ranges.
Powerful in pressure ranges up to 20 bar, for example in applications with the pressure booster DPA.
Hydrolysis-resistant and suitable for water applications. Combination suitable for use in cleanrooms, FDA-compliant and corrosion-resistant as it is made of 100% polymer. Very easy to install thanks to the “one click principle”.
Resistant to cleaning agents, FDA-compliant and economical. Can be used instead of the combination with stainless steel fittings.
For high temperatures up to 150°C. Food-safe, FDA-compliant and resistant to cleaning agents.
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.
Maximum resistance to corrosion (CRC 4) and to aggressive acids and alkalis.
Optimised design, fewer 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 tubing plus solid metal fitting: maximum protection for electrical and electronic components.
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.
Ideal for applications involving welding spatter. Reliable thanks to a tubing wall thickness of 2 mm for all diameters.
Safe even in the close vicinity of welding spatter thanks to the double-walled tubing with special fitting.

Type	O.D.	Operating medium			Food-safe	Fire test of materials	Antistatic	Halogen-free	Contact with electric cables	
		Compressed air, vacuum	Water	Mineral oil						
PUN	3, 4, 6, 8, 10, 12, 14, 16	■	–	–	–	UL94 HB	–	■	■ ⁷⁾	
PUN-DUO	4, 6, 8, 10	■	–	–	–	UL94 HB	–	■	■ ⁷⁾	
PEN	4, 6, 8, 10, 12, 14, 16	■	■	–	–	–	–	■	■	
PAN	4, 6, 8, 10, 12, 14, 16	■	–	–	–	–	–	■	■	
PAN-MF	4, 6, 8, 10, 12, 14, 16	■	–	■ ⁷⁾	–	–	–	■	■	
PAN-R	4, 6, 8, 10, 12, (14) ¹⁾ , 16	■	–	–	–	–	–	■	■	
	22, 28	■	–	–	–	–	–	■	■	
PUN-H ★	2	■	–	–	–	–	–	■	■	
	3, 4, 6, 8, 10, 12, 14, 16	■	■	–	■	UL94 HB	–	■	■	
PUN-H-DUO	4, 6, 8, 10	■	■	–	■	UL94 HB	–	■	■	
PLN	4, 6, 8, 10, 12, 14, 16	■	■	–	■	–	–	■	■	
PTFEN	4, 6, 8, 10, 12, 14, 16	■	–	–	■	UL94 V0	–	–	■	
PFAN	3, 4, 6, 8, 10, 12	■	■	–	■	UL94 V0	–	–	■	
PUN-CM	4, 6, 8, 10, 12, (14) ¹⁾	■	–	–	–	–	■	■	■	
PUN-V0	6, 8, 10, 16	■	■	–	–	UL94 V0...V2	–	■	■	
PUN-V0-C	4, 6, 8, 10, 12, 14, 16	■	■	–	–	UL94 V0...V2	–	■	■	
PAN-V0	4, 6, 8, 10, 12	■	■	■	–	UL94 V0	–	–	■	

+++ Highly suitable

++ Very suitable

+ Limited suitability (on request)

- Not suitable

1) Can only be ordered using the configurator.

2) As a precaution, please agree the operating medium with Festo.

3) Applicable for silver and natural

4) Applies to black colour

5) Outer tubing

	Suitable for energy chains	Approved by the German Technical Control Board (TÜV)	Maritime classification	Resistance				Flexibility	Shore hardness ⁸⁾	Page ↑
				Chemicals	Microbes	UV radiation	Hydrolysis			
	++	■	–	–	–	++ ⁴⁾	+	+++	D 52 ±3	28
	++	■	–	–	–	+	+	++	D 52 ±3	29
	+++	■	–	++	++	++ ⁴⁾	+++	++	D 52 ±3	30
	++	■	■ ³⁾	+	++	+	++	++	D 55 ±3	32
	+++	–	–	+	++	+	++	+	D 65 ±3	34
	++	■	–	+	++	+	++	+	D 62 ±3	34
	++	–	–	+	++	+	++	+	D 62 ±3	
	++	–	–	+	++	++ ⁴⁾	++	+++	D 52 ±3	35
	++	■	–	+	++	++ ⁴⁾	++	+++	D 52 ±3	
	++	■	–	+	++	+	++	++	D 52 ±3	38
	–	■	–	++	++	++ ⁴⁾	+++	+	D 59 ±3	39
	–	–	–	+++	++	++	+++	+	D 55 ±5	40
	–	■	–	+++	++	++	+++	+	D 60 +5	40
	+++	–	–	+	++	++	++	++	D 52 ±3	41
	++	■	–	+	++	++ ⁴⁾	++	++	D 54 ±3	41
	++	■	–	+	++	++ ⁴⁾	++	++	D 54 ±3	42
	++	–	–	+	++	++	++	++	A 72 ±4 ⁵⁾ D 57 ±3 ⁶⁾	43

6) Inner tubing

7) Cables containing organophosphates may damage PUN tubing under unfavourable conditions.

8) Values are determined using test boards. Derived values using tubing may vary.

Tubing/fitting combinations

Type	QS, QSM ¹⁾ ★	NPQH ²⁾	NPQR ²⁾	NPQM ²⁾	NPQP ³⁾	CRQS ⁴⁾	QS-V0 ⁴⁾	NPCK ⁵⁾	NPKA ⁶⁾	CN ⁷⁾	CK ⁸⁾	→ Page
Standard O.D. tubing												
PUN	++	++	++	++	++	++	+	++	++	++	++	28
PUN-DUO	++	++	++	++	++	++	+	++	++	++	++	29
PEN	++	++	++	++	++	++	+	++	++	++	++	30
PAN	++	++	++	++	++	++	+	++	++	++	++	32
PAN-MF	++	++	++	++	++	++	+	–	–	–	–	34
PAN-R	++	++	++	++	++	++	+	–	++	–	–	34
PUN-H ★	++	++	++	++	++	++	+	++	++	–	++	35
PUN-H-DUO	++	++	++	++	++	++	+	++	++	–	++	38
PLN	++	++	++	++	++	++	+	++	++	+	++	39
PTFEN	++	++	++	++	++	++	+	++	++	++	++	40
PFAN	++	++	++	++	++	++	+	++	++	++	++	40
PUN-CM	+	++	+	++	+	+	+	++	+	+	+	41
PUN-V0	+	++	++	++	+	++	+	++	+	+	++	41
PUN-V0-C	+	++	++	++	+	++	+	–	–	–	–	42
PAN-V0	+	+	+	+	+	+	++	–	–	–	–	43
→ Page	64	96	104	108	116	122	128	146	190	150	158	

1) not for tubing O.D. 14

2) not for tubing O.D. 3 and 16

3) not for tubing O.D. 3, 14 and 16

4) not for tubing O.D. 3 and 14

5) only for tubing O.D. 4 ... 10

6) only for tubing O.D. 6

7) only for tubing O.D. 3 ... 8

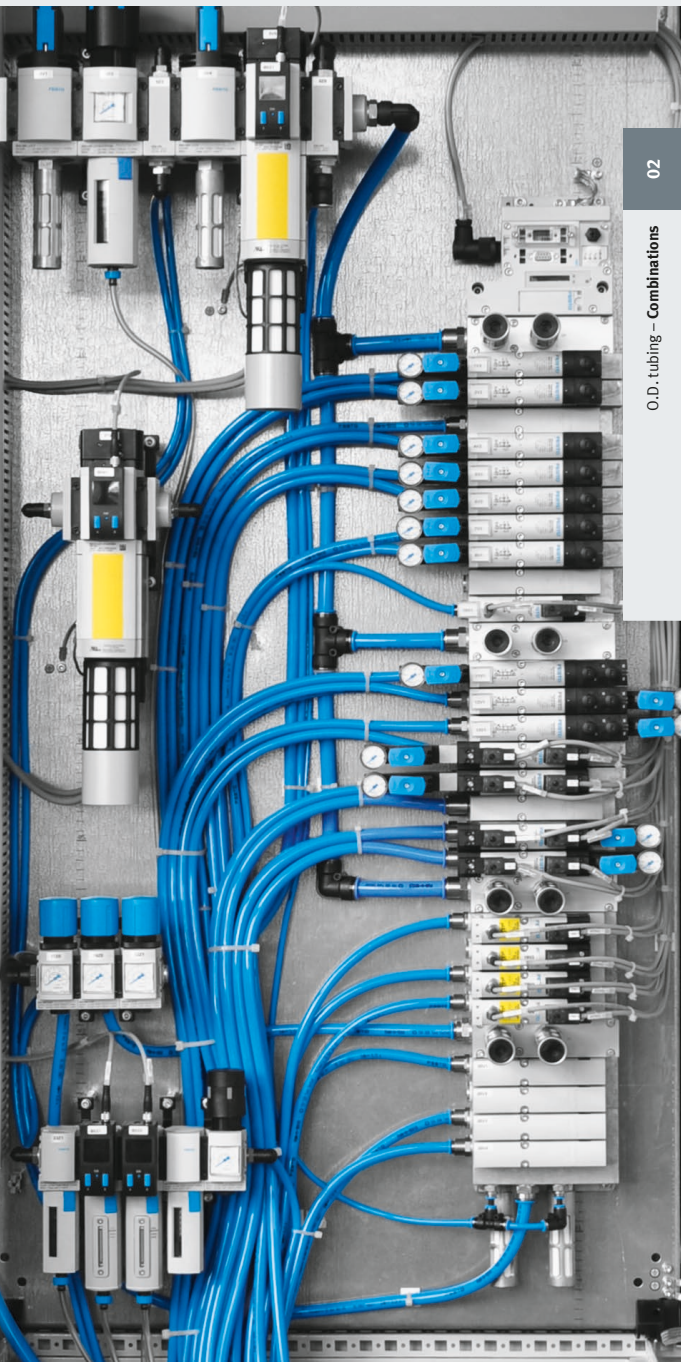
8) only for tubing O.D. 4 ... 8

++ Very suitable

+ limited suitability (on request)

– not suitable

★ recommended tubing & fitting combination

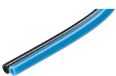


For standard applications

	D1	I.D.	Tubing colour	PN	PE
PUN					
Large number of possible combinations for different types					
	3	2.1	Silver	152583	50
			Silver	525738	500
			Blue	159660	50
			Blue	525745	500
			Black	159661	50
			Black	553936	500
			Yellow	178416	50
			Green	178423	50
			Red	178409	50
	4	2.6	Silver	152584	50
			Silver	525739	500
			Blue	159662	50
			Blue	525746	500
			Black	159663	50
			Black	553937	500
			Yellow	178417	50
			Green	178424	50
			Red	178410	50
	6	4.0	Silver	152586	50
			Silver	525740	500
			Blue	159664	50
			Blue	525747	500
			Black	159665	50
			Black	553938	500
			Yellow	178418	50
			Green	178425	50
			Red	178411	50
	8	5.7	Silver	152587	50
			Silver	525741	400
			Blue	159666	50
			Blue	525748	400
			Black	159667	50
			Black	553939	400
			Yellow	178419	50
			Green	178426	50
			Red	178412	50
	10	7	Silver	152588	50
			Silver	525742	300
			Blue	159668	50
			Blue	525749	300
			Black	159669	50
			Black	553940	300
			Yellow	178420	50
			Green	178427	50
			Red	178413	50

For standard applications

	D1	I.D.	Tubing colour	PN	PE
PUN					
Large number of possible combinations for different types					
	12	8	Silver	152589	50
			Silver	525743	200
			Blue	159670	50
			Blue	525750	200
			Black	159671	50
			Black	553941	200
			Yellow	178421	50
			Green	178428	50
			Red	178414	50
	14	9.8	Silver	570389	50
			Blue	570390	50
			Black	570391	50
	16	11	Silver	152590	50
			Silver	525744	100
			Blue	159672	50
			Blue	525751	100
			Black	159673	50
			Black	553942	100
			Yellow	178422	50
			Green	178429	50
			Red	178415	50

	D1	I.D.	Tubing colour	PN	PE
PUN-DUO					
	4	2.8	Silver	152822	50
		2.6	Blue/black	159674	50
	6	4	Silver	152823	50
			Blue/black	159675	50
	8	5.7	Silver	152824	50
			Blue/black	159676	50
	10	7	Silver	152825	50
			Blue/black	159677	50

Configurable product



This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/pun



For standard applications

	D1	I.D.	Tubing colour	PN	PE
PEN					
Flexible due to resistant materials					
	4	2.7	Silver	551462	50
			Silver	551450	500
			Natural	543246	50
			Black	543240	50
			Black	551438	500
			Blue	551456	50
			Blue	551444	500
			Green	551468	50
			Red	551474	50
			Yellow	551480	50
	6	4	Silver	551463	50
			Silver	551451	500
			Natural	543247	50
			Black	543241	50
			Black	551439	500
			Blue	551457	50
			Blue	551445	500
			Green	551469	50
			Red	551475	50
			Yellow	551481	50
	8	5.7	Silver	551464	50
			Silver	551452	400
			Natural	543248	50
			Black	543242	50
			Black	551440	400
			Blue	551458	50
			Blue	551446	400
			Green	551470	50
			Red	551476	50
			Yellow	551482	50
	10	7	Silver	551465	50
			Silver	551453	300
			Natural	543249	50
			Black	543243	50
			Black	551441	300
			Blue	551459	50
			Blue	551447	300
			Green	551471	50
			Red	551477	50
			Yellow	551483	50

For standard applications

	D1	I.D.	Tubing colour	PN	PE
PEN					
Flexible due to resistant materials					
	12	8.4	Silver	551466	50
			Silver	551454	200
			Natural	543250	50
			Black	543244	50
			Black	551442	200
			Blue	551460	50
			Blue	551448	200
			Green	551472	50
			Red	551478	50
			Yellow	551484	50
	14	9.5	Natural	570517	50
			Black	570516	50
	16	10.8	Silver	551467	50
			Silver	551455	100
			Natural	543251	50
			Black	543245	50
			Black	551443	100
			Blue	551461	50
			Blue	551449	100
			Green	551473	50
			Red	551479	50
			Yellow	551485	50

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/pen

For standard applications

	D1	I.D.	Tubing colour	PN	PE
PAN					
In increased pressure and temperature ranges					
	4	2.9	Natural	546284	50
			Silver	152697	50
			Silver	553888	500
			Blue	553906	50
			Blue	553894	500
			Black	553912	50
			Black	553900	500
			Green	553918	50
			Red	553924	50
			Yellow	553930	50
	6	4	Natural	546285	50
			Silver	152699	50
			Silver	553889	500
			Blue	553907	50
			Blue	553895	500
			Black	553913	50
			Black	553901	500
			Green	553919	50
			Red	553925	50
			Yellow	553931	50
	8	5.9	Natural	546286	50
			Silver	152700	50
			Silver	553890	400
			Blue	553908	50
			Blue	553896	400
			Black	553914	50
			Black	553902	400
			Green	553920	50
			Red	553926	50
			Yellow	553932	50
	10	7	Natural	546287	50
			Silver	152701	50
			silver ³⁾	553891	300
			Blue	553909	50
			Blue	553897	300
			Black	553915	50
			Black	553903	300
			Green	553921	50
			Red	553927	50
			Yellow	553933	50

For standard applications

	D1	I.D.	Tubing colour	PN	PE
PAN					
In increased pressure and temperature ranges					
	12	8.4	Natural	546288	50
			Silver	152702	50
			Silver	553892	200
			Blue	553910	50
			Blue	553898	200
			Black	553916	50
			Black	553904	200
			Green	553922	50
			Red	553928	50
			Yellow	553934	50
	14	10	Silver	570392	50
	16	12	Natural	546289	50
			Silver	152703	50
			Silver	553893	100
			Blue	553911	50
			Blue	553899	100
			Black	553917	50
			Black	553905	100
			Green	553923	50
			Red	553929	50
			Yellow	553935	50

Configurable product



This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/pan



Higher and high pressures

	D1	I.D.	Tubing colour	PN	PE
PAN-MF – higher pressures					
For use in mobile pneumatic applications					
	4	2.5	Black	570357	50
			Black	572091	500
	6	4	Black	570358	50
			Black	572093	500
	8	6	Black	570359	50
	10	7.5	Black	570360	50
	12	9	Black	570361	50
	14	10	Black	570362	50
	16	12	Black	570363	50

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/pan-mf

	D1	I.D.	Tubing colour	PN	PE
PAN-R – high pressures					
	4	2.5	Silver	541674	50
	6	3.8	Silver	541675	50
	8	5	Silver	541676	50
	10	6.2	Silver	541677	50
	12	7.6	Silver	541678	50
	16	10	Silver	541679	50
	22	18	Silver	8036207	50
	28	23	Silver	8036208	50

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/pan-r

Suitable for use in the food industry, resistant to chemicals, hydrolysis resistant¹⁾

	D1	I.D.	Tubing colour	PN	PE
PUN-H ★ Various uses → 22					
	2	1.2	Natural	133038	50
			Black	133039	50
			Red	133040	50
	3	2.1	Natural	197375	50
			Natural	558263	500
			Blue	197382	50
			Blue	558256	500
			Black	197389	50
			Black	558249	500
			Silver	558277	50
			Silver	558270	500
			Red	558284	50
			Green	558291	50
			Yellow	558298	50
	4	2.6	Natural	★ 197376	50
			Natural	558264	500
			Blue	★ 197383	50
			Blue	558257	500
			Translucent blue	★ 8048671	50
			Translucent blue	8048672	500
			Black	★ 197390	50
			Black	558250	500
			Translucent black	★ 8048673	50
			Translucent black	8048674	500
			Silver	★ 558278	50
			Silver	558271	500
			Red	558285	50
			Translucent red	8048675	50
			Translucent red	8048676	500
			Green	558292	50
			Translucent green	8048677	50
			Translucent green	8048678	500
			Yellow	558299	50
			Translucent yellow	8048679	50
			Translucent yellow	8048680	500

- 1) The detailed properties and applications can be found at
 → www.festo.com/tubing

Suitable for use in the food industry, resistant to chemicals, hydrolysis resistant¹⁾

	D1	I.D.	Tubing colour	PN	PE
PUN-H ★					
Various uses → 22					
	6	4	Natural	★ 197377	50
			Natural	558265	500
			Blue	★ 197384	50
			Blue	558258	500
			Translucent blue	★ 8048681	50
			Translucent blue	8048682	500
			Black	★ 197391	50
			Black	558251	500
			Translucent black	★ 8048683	50
			Translucent black	8048684	500
			Silver	★ 558279	50
			Silver	558272	500
			Red	558286	50
			Translucent red	8048685	50
			Translucent red	8048686	500
			Green	558293	50
			Translucent green	8048687	50
			Translucent green	8048688	500
			Yellow	558300	50
			Translucent yellow	8048689	50
			Translucent yellow	8048690	500
	8	5.7	Natural	★ 197378	50
			Natural	558266	400
			Blue	★ 197385	50
			Blue	558259	400
			Translucent blue	★ 8048691	50
			Translucent blue	8048692	400
			Black	★ 197392	50
			Black	558252	400
			Translucent black	★ 8048693	50
			Translucent black	8048694	400
			Silver	★ 558280	50
			Silver	558273	400
			Red	558287	50
			Translucent red	8048695	50
			Translucent red	8048696	400
			Green	558294	50
			Translucent green	8048697	50
			Translucent green	8048698	400
			Yellow	558301	50
			Translucent yellow	8048699	50
			Translucent yellow	8048700	400

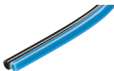
1) The detailed properties and applications can be found at
→ www.festo.com/tubing

Suitable for use in the food industry, resistant to chemicals, hydrolysis resistant¹⁾

	D1	I.D.	Tubing colour	PN	PE
PUN-H ★					
Various uses → 22					
	10	7	Natural	★ 197379	50
			Natural	558267	300
			Blue	★ 197386	50
			Blue	558260	300
			Translucent blue	★ 8048701	50
			Translucent blue	8048702	300
			Black	★ 197393	50
			Black	558253	300
			Translucent black	★ 8048703	50
			Translucent black	8048704	300
			Silver	★ 558281	50
			Silver	558274	300
			Red	558288	50
			Translucent red	8048705	50
			Translucent red	8048706	300
			Green	558295	50
			Translucent green	8048707	50
			Translucent green	8048708	300
			Yellow	558302	50
			Translucent yellow	8048709	50
			Translucent yellow	8048710	300
	12	8	Natural	★ 197380	50
			Natural	558268	200
			Blue	★ 197387	50
			Blue	558261	200
			Translucent blue	★ 8048711	50
			Translucent blue	8048712	200
			Black	★ 197394	50
			Black	558254	200
			Translucent black	★ 8048713	50
			Translucent black	8048714	200
			Silver	★ 558282	50
			Silver	558275	200
			Red	558289	50
			Translucent red	8048715	50
			Translucent red	8048716	200
			Green	558296	50
			Translucent green	8048717	50
			Translucent green	8048718	200
			Yellow	558303	50
			Translucent yellow	8048719	50
			Translucent yellow	8048720	200

- 1) The detailed properties and applications can be found at
→ www.festo.com/tubing

Suitable for use in the food industry, resistant to chemicals, hydrolysis resistant¹⁾

	D1	I.D.	Tubing colour	PN	PE
PUN-H ★					
Various uses → 22					
	14	9.8	Natural	★ 570388	50
			Black	★ 570387	50
			Blue	★ 570386	50
	16	11	Natural	197381	50
			Natural	558269	100
			Blue	★ 197388	50
			Blue	558262	100
			Black	★ 197395	50
			Black	558255	100
			Silver	★ 558283	50
			Silver	558276	100
			Red	558290	50
			Green	558297	50
Yellow	558304	50			
PUN-H-DUO					
	4	2.6	Blue/black	197396	50
	6	4	Blue/black	197397	50
	8	5.7	Blue/black	197398	50
	10	7	Blue/black	197399	50

- 1) The detailed properties and applications can be found at
→ www.festo.com/tubing

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/pun-h

Suitable for use in the food industry, resistant to chemicals, hydrolysis resistant¹⁾

	D1	I.D.	Tubing colour	PN	PE
PLN					
Various uses → 22					
	4	2.9	Silver	558211	50
			Natural	193403	50
			Black	195280	50
			Blue	558205	50
			Red	558217	50
	6	4	Silver	558212	50
			Natural	193404	50
			Black	195281	50
			Blue	558206	50
			Red	558218	50
	8	5.9	Silver	558213	50
			Natural	193405	50
			Black	195282	50
			Blue	558207	50
			Red	558219	50
	10	7	Silver	558214	50
			Natural	193406	50
			Black	195283	50
			Blue	558208	50
			Red	558220	50
	12	8.4	Silver	558215	50
			Natural	193407	50
			Black	195284	50
			Blue	558209	50
			Red	558221	50
	14	10	Natural	570424	50
			Black	570423	50
	16	12	Silver	558216	50
			Natural	539064	50
			Black	539065	50
			Blue	558210	50
			Red	558222	50

- 1) The detailed properties and applications can be found at
 → www.festo.com/tubing

Configurable product



This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/pln



Suitable for use in the food industry, resistant to chemicals, hydrolysis resistant¹⁾

	D1	I.D.	Tubing colour	PN	PE
PTFEN					
Various uses → 22					
	4	2.9	Natural	8061171	100
	6	4	Natural	8061172	100
			Natural	8061178	500
	8	5.9	Natural	8061173	50
			Natural	8061179	400
	10	7	Natural	8061174	50
			Natural	8061180	300
	12	8.4	Natural	8061175	50
	14	10	Natural	8061176	50
	16	12	Natural	8061177	50

- 1) The detailed properties and applications can be found at
→ www.festo.com/tubing

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/ptfen

	D1	I.D.	Tubing colour	PN	PE
PFAN					
Various uses → 22					
	3	2.3	Natural	8061167	50
	4	2.9	Natural	197061	50
	6	4	Natural	197062	50
	8	5.9	Natural	197063	50
	10	7	Natural	197064	50
	12	8.4	Natural	197065	50

- 1) The detailed properties and applications can be found at
→ www.festo.com/tubing

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/pfan

Antistatic

	D1	I.D.	Tubing colour	PN	PE
PUN-CM					
	4	2.5	Black	188882	50
	6	4		188883	50
	8	5		130816	50
	10	6.5		130817	50
	12	8		130818	50

Flame-retardant

	D1	I.D.	Tubing colour	PN	PE
PUN-V0					
For use in the immediate vicinity of welding applications					
	6	4	Black	525438	50
			Blue	525442	50
			Green	525446	50
			Red	525450	50
			White	525454	50
			Yellow	525458	50
			Brown	525462	50
	8	5.7	Black	525439	50
			Blue	525443	50
			Green	525447	50
			Red	525451	50
			White	525455	50
			Yellow	525459	50
			Brown	525463	50
	10	7	Black	525440	50
			Blue	525444	50
			Green	525448	50
			Red	525452	50
			White	525456	50
			Yellow	525460	50
			Brown	525464	50
	16	11.8	Black	570767	50
			Blue	570768	50

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/pun-v0

Flame-retardant

	D1	I.D.	Tubing colour	PN	PE
PUN-V0-C					
For use in the immediate vicinity of welding applications					
	4	2	Black	570349	50
			Blue	570350	50
	6	2	Black	561698	50
			Blue	561702	50
			Green	561706	50
			Red	561710	50
			White	561714	50
			Yellow	561718	50
			Brown	561722	50
	8	4	Black	561699	50
			Blue	561703	50
			Green	561707	50
			Red	561711	50
			White	561715	50
			Yellow	561719	50
			Brown	561723	50
	10	6	Black	561700	50
			Blue	561704	50
			Green	561708	50
			Red	561712	50
			White	561716	50
			Yellow	561720	50
	12	8	Black	561701	50
			Blue	561705	50
			Green	561709	50
			Red	561713	50
			White	561717	50
			Yellow	561721	50
	14	9.8	Black	570351	50
			Blue	570352	50
	16	11	Black	570353	50
			Blue	570354	50

Configurable product

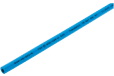


This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/pun-v0

Flame-retardant

	D1	I.D.	Tubing colour	PN	PE
PAN-V0					
For use in the immediate vicinity of welding applications					
	4	0.75	Blue	132899	50
	6	4	Black	160550	50
			Blue	132905	50
			Green	525470	20
			Red	525474	20
			White	525478	20
			Yellow	525482	20
	8	6	Black	160551	50
			Blue	132906	50
			Green	525471	20
			Red	525475	20
			White	525479	20
			Yellow	525483	20
	10	7.5	Black	160552	50
			Blue	132907	50
			Green	525472	20
			Red	525476	20
			White	525480	20
			Yellow	525484	20
	12	9	Black	160553	50
			Blue	525469	20
			Green	525473	20
			Red	525477	20
			White	525481	20
			Yellow	525485	20

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/pan-v0

Standard I.D. tubing

	D1	I.D.	Tubing colour	PN	PE
PU Fabric-reinforced					
	11.6	9	Black	12134	50
	17.6	13	Black	12133	50

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/pt

Spiral tubing

	D1	Working length [m]	Tubing colour	PN	PE
PUN-S					
For standard applications					
	4	0.5	Blue	197587	50
			Black	197602	50
		1	Blue	197588	50
			Black	197603	50
		1.5	Blue	197589	50
			Black	197604	50
	6	1	Blue	197590	50
			Black	197605	50
		2	Blue	197591	50
			Black	197606	50
		6	Blue	197592	50
			Black	197607	50
	8	1	Blue	197593	50
			Black	197608	50
		2	Blue	197594	50
			Black	197609	50
		6	Blue	197595	50
			Black	197610	50
	10	1	Blue	197596	50
			Black	197611	50
		2	Blue	197597	50
			Black	197612	50
		6	Blue	197598	50
			Black	197613	50
	12	1	Blue	197599	50
			Black	197614	50
		2	Blue	197600	50
			Black	197615	50
		6	Blue	197601	50
			Black	197616	50

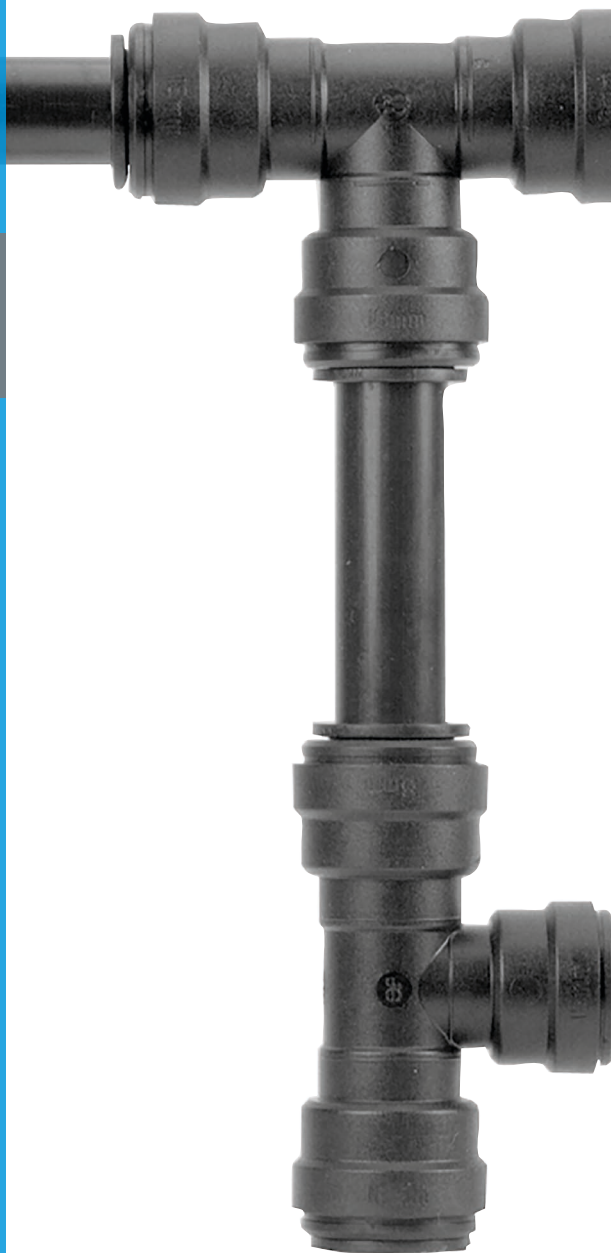
Spiral tubing

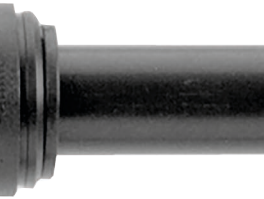
	D1	Working length [m]	Tubing colour	PN	PE
PUN-S-DUO					
For standard applications					
	4	0.5	Blue/black	197617	50
		1	Blue/black	197618	50
		1.5	Blue/black	197619	50
	6	1	Blue/black	197620	50
		2	Blue/black	197621	50
		6	Blue/black	197622	50
	8	1	Blue/black	197623	50
		2	Blue/black	197624	50
		6	Blue/black	197625	50
	10	1	Blue/black	197626	50
		2	Blue/black	197627	50
		6	Blue/black	197628	50
	12	1	Blue/black	197629	50

Spiral tubing, pre-assembled

	D1	Working length [m]	Tubing colour	PN	PE
PUN-SG					
Pre-assembled with captive rotatable fittings G1/4 and G3/8					
	9.5	2.4	Blue	533463	50
		4.8	Blue	533464	50
		6	Blue	533465	50
	11.7	4.8	Blue	533466	50
		6	Blue	533467	50

	D1	Working length [m]	Tubing colour	PN	PE
PPS					
With 2 rotatable connectors and captive sealing rings OL					
	6.35	7.5	Blue	19798	50
		15	Blue	19799	50
	7.95	7.5	Blue	19796	50
		15	Blue	19797	50





Highlights

our pipes



Plastic-coated metal tubes

PM

- + It has the corrosion resistance of plastic and the deformation resistance of metal
- + Can be bent straight and reshaped several times without a pipe-bending device and without being damaged

→ 52





Pipes – stable transmission components

Ideally suited for supplying compressed air within machines and also for small compressed air networks within buildings: compressed air piping PQ.

Available in both aluminium and polyamide designs, the PQ range is the perfect complement for the CQ push-fit system. And regardless of whether plastic or aluminium – both designs ensure optimum flow conditions thanks to their smooth inside walls.

Pipes _____ **52**

Additional information:

→ www.festo.com/piping



Applications	Pipe	Fitting	
Corrosion-resistant	PQ-PA	CQ → 194	
	PQ-AL	CQ → 194	
	PM	QS → 56	

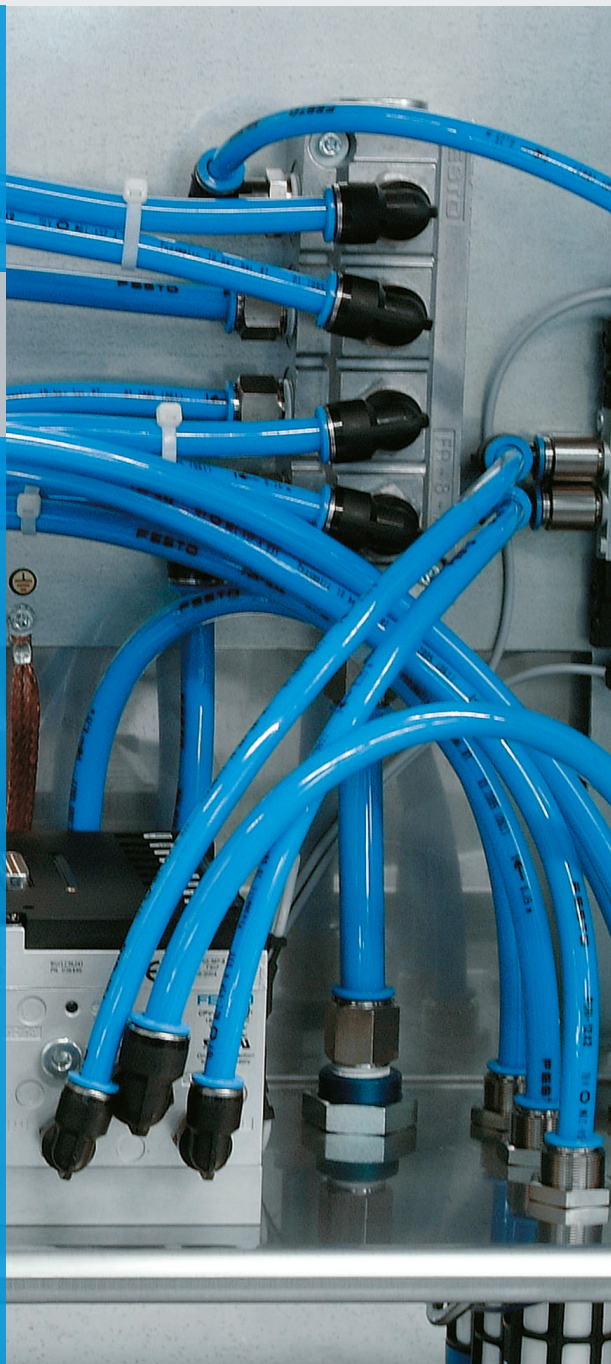
	O.D.	PN	PE
PQ-PA Plastic pipe			
	12	177728	3 m
	15	177729	3 m
	18	177730	3 m
	22	177731	3 m
	28	194594	3 m
PQ-AL Aluminium pipe			
	12	177732	3 m
	15	177733	3 m
	18	177734	3 m
	22	177735	3 m
	28	194593	3 m
PM Plastic-coated metal tube			
	6	9084	50 m
	8	9087	50 m

Description	
Rigid pipe made from high quality polyamide; corrosion resistant, flexible and maintenance-free. Smooth inside wall ensures optimum flow conditions	
Rigid aluminium pipe, corrosion-resistant. Smooth inside wall ensures optimum flow conditions.	
The PM pipe has the corrosion resistance of plastic and the deformation resistance of metal. It can be bent, straightened and reshaped several times without pipe-bending equipment and without being damaged.	

Highlights

03

Push-in fittings for O.D. tubing – Highlights



Highlights

our push-in fittings for O.D. tubing



Push-in fittings

NPQR

NEW: new series

- + Stainless steel
 - + High resistance to chemicals and corrosion
 - + High temperature resistance
- **103**

NEW



Push-in fittings

QSMP

NEW: QSMP-M8X1.25-6

- + Stainless steel
 - + High resistance to chemicals and corrosion
 - + High temperature resistance
- **65**

NEW



Push-in fittings

QSM, Mini ★ QS, Standard ★

NEW: QSY-1/2-10

From A to Z, always the fitting of your choice: more than 1000 types

- + Quick installation: simply plug and work
- + Simple uncoupling: just press down the blue releasing ring

→ QSM, mini series: **63**

→ QS, standard series: **73**

Overview

03

Push-in fittings for O.D. tubing – Overview

Product finder for fittings

→ www.festo.com/productfinder/fittings



The right fitting for every application

Festo's range of fittings is incredibly diverse, with a portfolio that consists of materials, designs and connections in a variety of standard or innovative options. And that's not to mention the range of sizes available. This portfolio is sure to include the most appropriate fitting for every application.

Look for our products from the core product range ★

Push-in fittings preselection _____ 58

Additional information:

→ www.festo.com/fitting



Suitable for:

Standard O.D. tubing → 28

Preselection

	Type, description
	QSM, mini series ★ NEW: QSMP-M8X1.25-6 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 O.D. 2, 3, 4 and 6 mm with connecting thread M3, M5, M6, M7, M8, R1/8 and G1/8
	QS, standard series ★ NEW: QSY-1/2-10 Wide range of push-in fittings for pneumatic applications with a temperature range up to 80 °C and a pressure range up to 14 bar. Tubing O.D. 4, 6, 8, 10, 12, 16 and 22 mm with connecting thread R1/8 ... R1/2 and G1/8 ... 3/4
	NPQH, solid metal push-in fitting 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 O.D. 4, 6, 8, 10, 12 and 14 mm with connecting threads M5, M7 and G1/8 ... 1/2
	NPQR, stainless steel NEW: new series 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 O.D. 4, 6, 8, 10 and 12 mm with connecting thread M5, M7, and G1/8 ... G1/2
	NPQM, metal Metal push-in fitting at an economical price for pneumatic applications with a temperature range up to 70 °C and a pressure range up to 16 bar. Tubing O.D. 3, 4, 6, 8, 10, 12 and 14 mm with connecting thread M5, M7 and G1/8 ... G1/2

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Preselection

	Type, description
	NPQP, resistant to media 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 O.D. 4, 6, 8, 10 and 12 mm with connecting thread R1/8 ... R1/2
	CRQS, stainless steel 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 O.D. 4, 6, 8, 10, 12 and 16 mm with connecting threads M5 and R1/8 ... R1/2.
	QS-V0, resistant to welding spatter 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 O.D. 4, 6, 8, 10 and 12 mm with connecting thread R1/8 ... R1/2 and G1/8 ... G1/2
	QSK/QSR, self-sealing and rotatable push-in fittings R and G-thread with sealing ring, R-thread PTFE-coated. Self-sealing push-in fittings and self-sealing push-in connectors, rotatable push-in fittings. Tubing O.D. 4, 6, 8, 10, 12 mm Thread connection M5, R1/8, R1/4, R3/8, R1/2, G1/8, G1/4, G3/8, G1/2

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Additional information:

→ www.festo.com/fitting



Push-in fittings

QSM, mini series ★

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 O.D. 2, 3, 4 and 6 mm with connecting threads M3, M5, M6, M7, R1/8 and G1/8.

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03

Push-in fittings **QSM, mini series** ★

Straight shape

64

L-shape

67

T-shape

69

X shape

70

Y-shape

70

Accessories

70**Suitable for:**

Standard O.D. tubing → **22**

Straight shape

	D1	D2	PN	PE	
QSM males thread with external hexagon					
	M3	2	133027	10	
		3	153301	10	
			130775	100	
		4	★ 153303	10	
			130776	100	
	M5	2	133028	10	
		3	153302	10	
			130777	100	
		4	★ 153304	10	
			130778	100	
		6	★ 153306	10	
	130779		100		
	M6	6	★ 132600	10	
	R1/8	4	★ 153305	10	
			130755	100	
		6	★ 153307	10	
130756			100		
G1/8	4	★ 186264	10		
	6	★ 186265	10		
QSM-...-I male thread with internal hexagon					
	M3	2	133026	10	
		3	153312	10	
		4	★ 153314	10	
	M5	3	153313	10	
		4	★ 153315	10	
		6	★ 153317	10	
	M7	4	★ 153319	10	
		4	133006	100	
		6	★ 153321	10	
	R1/8	4	★ 153316	10	
		6	★ 153318	10	
	G1/8	4	★ 186266	10	
		6	★ 186267	10	
	QSM-...-I-R male thread with internal hex, round releasing ring				
		M3	3	133001	10
				132914	100
4			133002	10	
			132915	100	
M5		3	133003	10	
			132916	100	
		4	133004	10	
			132917	100	
		6	133005	10	
			132918	100	
M7		6	133007	10	
			132919	100	

Straight shape

	D1	D2	PN	PE
QSMF female thread with external hexagon				
	M3	3	153308	10
		4	153310	10
	M5	3	153309	10
		4	153311	10
QSMP male thread with internal hexagon				
	M6x0.75	4	153320	10
	M8x0.75	6	153322	10
	M8x1.25	6	154434	10
	NEW			
QSM-... Push-in connector				
	3	3	153323	10
			130757	100
	4	4	★ 153324	10
			130758	100
	6	6	★ 153325	10
			130759	100
QSM-... Push-in connector reducing				
	3	2	133029	10
	4	3	★ 153326	10
			130760	100
	6	4	★ 153327	10
			130761	100
	QSMS push-in bulkhead connector			
	3	3	153375	10
	4	4	★ 153376	10
			130780	100
	6	6	★ 153377	10
			130781	100

Straight shape

	D1	D2	PN	PE
QSM-...H push-in connector with push-in sleeve				
	3	2	133035	10
	4	3	★ 153328	10
			130762	100
	6	4	★ 153329	10
130763			100	
QSMC push-in cap				
	–	3	153381	10
QSMC-...H blanking plug				
	2	–	133036	10
	3		153382	10

L-shape

	D1	D2	PN	PE
QSM rotatable, male thread, with external hexagon				
	M3	2	133030	10
		3	153330	10
			130768	100
		4	★ 153332	10
			130769	100
	M5	2	133031	10
		3	153331	10
			130770	100
		4	★ 153333	10
			130771	100
		6	★ 153335	10
	130772		100	
	M7	4	★ 186352	10
			130773	100
		6	★ 186353	10
			130774	100
	R1/8	4	★ 153334	10
			130764	100
		6	★ 153336	10
			130765	100
	G1/8	4	★ 186268	10
			132897	100
		6	★ 186269	10
QSM long, rotatable, male thread with external hexagon				
	M3	2	133032	10
		3	153337	10
			133011	100
		4	153338	10
	M5	2	133033	10
		3	130838	10
			133012	100
		4	153339	10
			133013	100
		6	153341	10
	M7	4	186354	10
			133014	100
		6	186355	10
	R1/8	4	153340	10
		6	153342	10
	G1/8	4	186270	10
		6	186271	10

L-shape

	D1	D2	PN	PE
QSM LV-...-I rotatable, male thread with internal hexagon				
	M5	3	130830	10
		4	130831	10
	M7	4	130832	10
		6	130833	10
QSM LLV-...-I long, rotatable, male thread with internal hexagon				
	M5	3	130834	10
		4	130835	10
	M7	4	130836	10
		6	130837	10
QSM L-... Push-in connector				
	3	3	153343	10
	4	4	★ 153344	10
			130766	100
	6	6	★ 153345	10
130767			100	
QSM L-...H push-in connector with push-in sleeve				
	3	3	153346	10
	4	4	★ 153347	10
	6	6	★ 153348	10
QSM L-...H push-in connector with push-in sleeve reducing				
	4	3	★ 153349	10
	6	4	★ 153350	10

T-shape

	D1	D2	PN	PE
QSMT – rotatable, male thread with external hexagon				
	M3	3	153351	10
		4	153353	10
	M5	3	153352	10
		4	153354	10
			130784	100
		6	153356	10
	130785		100	
	R1/8	4	153355	10
		6	153357	10
	G1/8	4	186272	10
6		186273	10	
QSMTL – rotatable, male thread with external hexagon				
	M3	3	153358	10
		4	153360	10
	M5	3	153359	10
		4	153361	10
		6	153363	10
	R1/8	4	153362	10
		6	153364	10
	G1/8	4	186274	10
		6	186275	10
QSMT-... – push-in T-connector				
	2	2	133034	10
	3	3	153365	10
	4	4	★ 153366	10
			130782	100
	6	6	★ 153367	10
		130783	100	
QSMT-... – push-in T-connector reducing				
	4	3	★ 153368	10
	6	4	★ 153369	10

X shape

	D1	D2	PN	PE
QSMX – push-in connector				
	3	3	153378	10
	4	4	153379	10
	6	6	153380	10

Y-shape

	D1	D2	PN	PE
QSMY – push-in connector				
	2	2	133037	10
	3	3	153370	10
	4	4	★ 153371	10
			130786	100
	6	6	★ 153372	10
		130787	100	
QSMY – push-in connector reducing				
	4	3	★ 153373	10
	6	4	★ 153374	10

Accessories

	D1	D2	PN	PE
QSO – releasing tool				
	3 ... 10	3 ... 10	158419	1

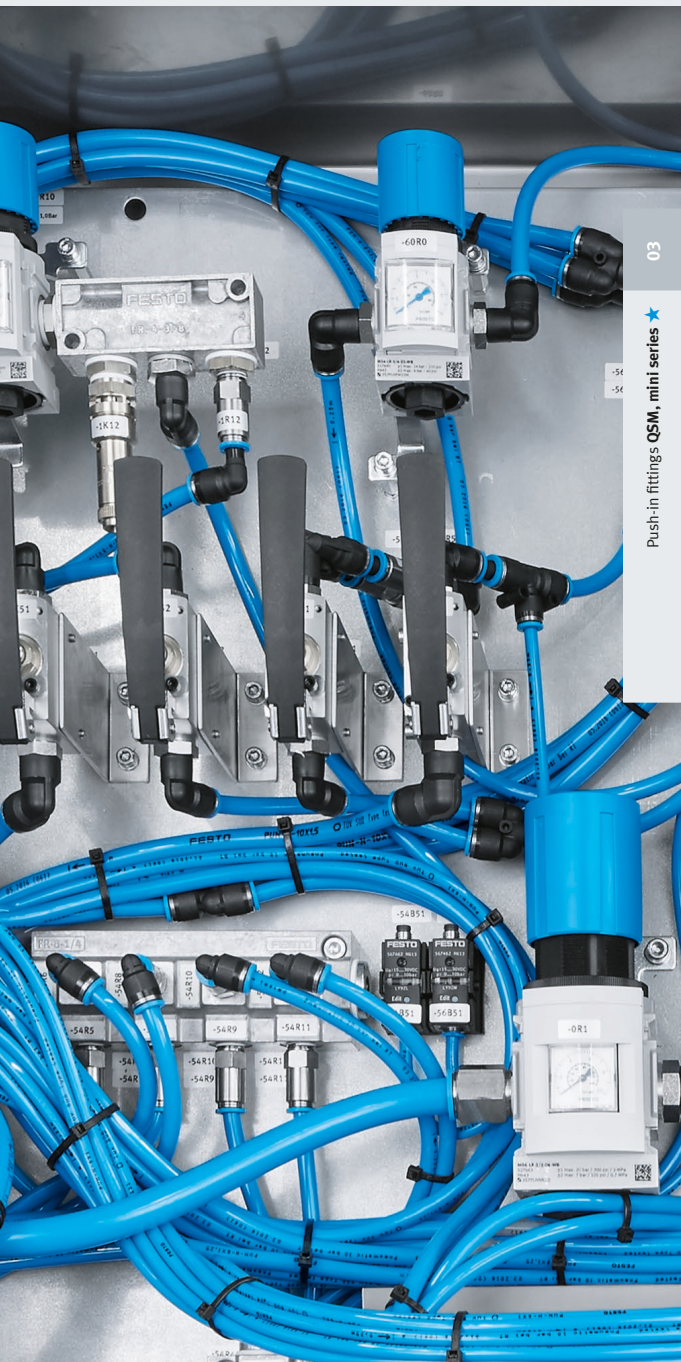
Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/qsm





Additional information:

→ www.festo.com/fitting



Push-in fittings

QS, standard series ★

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 O.D. 4, 6, 8, 10, 12, 16 and 22 mm with connecting thread R1/8 ... R1/2 and G1/8 ... 3/4

Look for our products from the core product range ★



Straight shape

74

L-shape

81

T-shape

86

W-shape

90

X shape

90

Y-shape

91

Multiple distributor

224

Accessories

93**Suitable for:**Standard O.D. tubing → **22**

Straight shape

	D1	D2	PN	PE
QS – B – male thread with external hexagon				
	R1/8	4	★ 153001	10
			130674	100
		6	★ 153002	10
			130675	100
		8	★ 153004	10
			130676	50
		10	★ 190643	10
	R1/4	4	★ 190644	10
		6	★ 153003	10
			130677	100
		8	★ 153005	10
			130678	50
		10	★ 153007	10
			130679	50
		12	★ 164980	10
			130680	20
	R3/8	6	★ 190645	10
		8	★ 153006	10
			130681	50
		10	★ 153008	10
			130682	50
		12	★ 153009	10
			130683	20
		16	164957	1
	R1/2	10	★ 190646	1
			133189	50
		12	★ 153010	1
			130684	20
		16	153011	1
			130685	20

Straight shape

	D1	D2	PN	PE
QS – B – male thread with external hexagon				
	G1/8	4	★ 186095	10
			132036	100
		6	★ 186096	10
			132037	100
		8	★ 186098	10
			132038	50
	G1/4	6	★ 186097	10
			132039	100
		8	★ 186099	10
			132040	50
		10	★ 186101	10
			132041	50
		12	★ 186350	10
			132042	20
	G3/8	8	★ 186100	10
			132043	50
		10	★ 186102	10
			132044	50
		12	★ 186103	10
			132045	20
	G1/2	12	★ 186104	1
			132046	20
		16	186105	1
			132047	20
	G3/4	22	8040613	1

Straight shape

	D1	D2	PN	PE	
QS-...-I – male thread with internal hexagon					
	R1/8	4	★ 153012	10	
			133191	100	
		6	★ 153013	10	
			133186	100	
		8	★ 153015	10	
	133187		50		
	R1/4	6	★ 153014	10	
			133193	100	
		8	★ 153016	10	
			133190	50	
		10	★ 153018	10	
	133188		50		
	R3/8	8	★ 153017	10	
			10	★ 153019	10
		12	★ 153020	10	
	R1/2	10	★ 190648	1	
		12	★ 153021	1	
	QS-...-I – male thread with internal hexagon				
		G1/8	4	★ 186106	10
133008				100	
6			★ 186107	10	
			133009	100	
8			★ 186109	10	
			133010	100	
10		★ 132999	10		
		133000	100		
G1/4		6	★ 186108	10	
		8	★ 186110	10	
		10	★ 186112	10	
G3/8		8	★ 186111	10	
		10	★ 186113	10	
		12	★ 186114	10	
G1/2		12	★ 186115	1	

Straight shape

	D1	D2	PN	PE
QSF – female thread with external hexagon				
	G1/8	4	★ 153022	10
			130709	100
		6	★ 153023	10
			130710	100
		8	★ 153025	10
			130711	50
	G1/4	4	★ 190650	10
		6	★ 153024	10
			130712	100
		8	★ 153026	10
			130713	50
		10	★ 153028	10
			130714	50
		12	★ 190651	10
	G3/8	6	★ 190652	10
		8	★ 153027	10
			130715	50
		10	★ 153029	10
			130716	50
		12	★ 153030	10
			130717	20
	G1/2	12	★ 190653	1
		16	190654	1

Straight shape

	D1	D2	PN	PE
QS-... – push-in connector				
	4	4	★ 153031	10
			130686	100
	6	6	★ 153032	10
			130687	100
	8	8	★ 153033	10
			130688	50
	10	10	★ 153034	10
			130689	50
12	12	★ 153035	10	
		130690	20	
16	16	153036	1	
		133195	20	
QS-... – push-in connector reducing				
	6	4	★ 153037	10
			130691	100
	8	4	★ 130606	10
		6	★ 153038	10
			130692	50
	10	6	★ 130607	10
		8	★ 153039	10
			130693	50
	12	8	★ 130608	10
		10	★ 153040	10
130694			20	
QSS – push-in bulkhead connector				
	4	4	★ 153157	10
			130788	100
	6	6	★ 153158	10
			130789	100
	8	8	★ 153159	10
			130790	50
	10	10	★ 153160	10
			130791	50
12	12	★ 153161	10	
		130792	20	
QSS-...-F – push-in bulkhead connector				
	4	4	193950	10
	6	6	193951	10
	8	8	★ 130642	10
	10	10	★ 130643	10
	12	12	★ 130644	10

Straight shape

	D1	D2	PN	PE
QSSF – push-in bulkhead connector with female thread				
	G1/8	4	153162	10
		6	153163	10
		8	153165	10
	G1/4	4	190655	10
		6	153164	10
		8	153166	10
		10	153168	10
	G3/8	6	190656	10
		8	153167	10
		10	153169	10
		12	153170	10
	G1/2	12	153171	1
16		190657	1	
QS-...H – push-in connector with push-in sleeve				
	6	4	★ 153041	10
			130695	100
	8	4	★ 130622	10
		6	★ 153042	10
			130696	50
	10	6	★ 130623	10
		8	★ 153043	10
			130697	50
	12	6	★ 132981	10
		8	★ 130624	10
		10	★ 153044	10
			130698	20
QSH – push-in sleeve				
	4	–	153251	10
			130723	100
	6	–	153252	10
			130724	100
	8	–	153253	10
			130725	50
	10	–	153254	10
			130726	50
	12	–	153255	10
			130727	20
	16	–	153256	1

Straight shape

	D1	D2	PN	PE
QSH – push-in sleeve reducing				
	6	4	153257	10
			130718	100
	8	4	130625	10
		6	153258	10
			130719	50
	10	6	130626	10
		8	153259	10
			130720	50
	12	8	130627	10
		10	153260	10
130721			20	
16	12	153261	1	
		130722	20	
QSC – push-in cap				
	4	–	★ 153262	10
			130704	100
	6		★ 153263	10
			130705	100
	8		★ 153264	10
			130706	50
	10		★ 153265	10
			130707	50
	12		★ 153266	10
			130708	20
QSC-...H – blanking plug				
	4	–	★ 153267	10
			130699	100
	6	–	★ 153268	10
			130700	100
	8	–	★ 153269	10
			130701	50
	10	–	★ 153270	10
			130702	50
	12	–	★ 153271	10
			130703	20
	16	–	153272	1

L-shape

	D1	D2	PN	PE
QSL – rotatable, male thread with external hexagon				
	R1/8	4	★ 153045	10
			130728	100
		6	★ 153046	10
			130729	100
		8	★ 153048	10
			130730	50
		10	★ 190658	10
	R1/4	4	★ 190659	10
		6	★ 153047	10
			130731	100
		8	★ 153049	10
			130732	50
		10	★ 153051	10
			130733	50
		12	★ 164981	10
			130734	20
	R3/8	6	★ 190660	10
		8	★ 153050	10
			130735	50
		10	★ 153052	10
			130736	20
		12	★ 153053	10
			130737	20
		16	164958	1
	R1/2	10	★ 190661	1
			133192	50
		12	★ 153054	1
			130738	20
		16	153055	1
			130739	20

L-shape

	D1	D2	PN	PE
QSL – rotatable, male thread with external hexagon				
	G1/8	4	★ 186116	10
			132048	100
		6	★ 186117	10
			132049	100
		8	★ 186119	10
			132050	50
	G1/4	6	★ 186118	10
			132051	100
		8	★ 186120	10
			132052	50
		10	★ 186122	10
			132053	50
		12	★ 186351	10
			132054	20
	G3/8	8	★ 186121	10
			132055	50
		10	★ 186123	10
			132056	20
		12	★ 186124	10
			132057	20
	G1/2	12	★ 186125	1
			132058	20
		16	186126	1
			132059	20
QSL long, rotatable, male thread with external hexagon				
	R1/8	4	★ 153076	10
		6	★ 153077	10
		8	★ 153079	10
	R1/4	4	★ 190662	10
		6	★ 153078	10
		8	★ 153080	10
		10	★ 153082	10
	R3/8	6	★ 190663	10
		8	★ 153081	10
		10	★ 153083	10
		12	★ 153084	10
	R1/2	10	★ 190664	1
		12	★ 153085	1

L-shape

	D1	D2	PN	PE
QSL long, rotatable, male thread with external hexagon				
	G1/8	4	186127	10
			133015	100
		6	186128	10
			133016	100
		8	186130	10
			133017	100
	G1/4	6	186129	10
		8	186131	10
		10	186133	10
		12	132596	1
	G3/8	8	186132	10
		10	186134	10
		12	186135	10
	G1/2	12	186136	1
		16	190665	1
QSLF – female thread with external hexagon				
	G1/8	4	★ 153273	10
		6	★ 153274	10
		8	★ 153276	10
	G1/4	6	★ 153275	10
		8	★ 153277	10
		10	★ 153279	10
	G3/8	8	★ 153278	10
		10	★ 153280	10
QSLV-...-I rotatable, male thread with internal hexagon				
	R1/8	6	153097	10
		8	153099	10
	R1/4	6	153098	10
		8	153100	10
		10	153102	10
	R3/8	8	153101	10
		10	153103	10
		12	153104	10
	R1/2	12	153105	1
	QSLV-...-I rotatable, male thread with internal hexagon			
	G1/8	6	186148	10
		8	186150	10
	G1/4	6	186149	10
		8	186151	10
		10	186153	10
	G3/8	8	186152	10
		10	186154	10
		12	186155	10
	G1/2	12	186156	1

L-shape

	D1	D2	PN	PE
QSLV rotatable, male thread with external hexagon				
	R1/8	4	★ 153086	10
			130749	100
		6	★ 153087	10
			130750	100
		8	★ 153089	10
			130751	50
	R1/4	6	★ 153088	10
			130752	100
		8	★ 153090	10
			130753	50
		10	★ 153092	10
			130754	50
	R3/8	8	★ 153091	10
		10	★ 153093	10
		12	★ 153094	10
	R1/2	12	★ 153095	1
16		153096	1	

QSLV rotatable, male thread with external hexagon				
	M5	6	★ 190666	10
	G1/8	4	★ 186137	10
			132060	100
		6	★ 186138	10
			132061	100
		8	★ 186140	10
			132062	50
	G1/4	6	★ 186139	10
			132063	100
		8	★ 186141	10
			132064	50
		10	★ 186143	10
			132065	50
	G3/8	8	★ 186142	10
		10	★ 186144	10
		12	★ 186145	10
	G1/2	12	★ 186146	1
		16	186147	1

L-shape

	D1	D2	PN	PE
QSL push-in connector				
	4	4	★ 153070	10
			130740	100
	6	6	★ 153071	10
			130741	100
	8	8	★ 153072	10
			130742	50
	10	10	★ 153073	10
			130743	50
12	12	★ 153074	10	
		130744	20	
16	16	153075	1	
		133194	20	
QSL-...H push-in connector with push-in sleeve				
	4	4	★ 153056	10
			130745	100
	6	6	★ 153057	10
			130746	100
	8	8	★ 153058	10
			130747	50
	10	10	★ 153059	10
			130748	50
12	12	★ 153060	10	
QSL-...H push-in connector with push-in sleeve reducing				
	6	4	★ 153061	10
	8	6	★ 153062	10
	10	8	★ 153063	10
	12	10	★ 153064	10
QSL-...HL push-in connector with push-in sleeve Long push-in sleeve				
	4	4	★ 153065	10
	6	6	★ 153066	10
	8	8	★ 153067	10
	10	10	★ 153068	10
	12	12	★ 153069	10

T-shape

	D1	D2	PN	PE
QST rotatable, male thread, with external hexagon				
	R1/8	4	★ 153106	10
			130793	100
		6	★ 153107	10
			130794	100
		8	★ 153109	10
	R1/4		130795	50
		10	★ 190667	10
		4	★ 190668	10
		6	★ 153108	10
			130796	100
		8	★ 153110	10
			130797	50
		10	★ 153112	10
			130798	50
		12	★ 190669	10
	R3/8	6	★ 190670	10
		8	★ 153111	10
			130799	50
		10	★ 153113	10
			130800	20
	R1/2	12	★ 153114	10
			130801	20
		16	164959	1
		10	★ 190672	1
		12	★ 153115	1
		16	153116	1

T-shape

	D1	D2	PN	PE
QST rotatable, male thread, with external hexagon				
	G1/8	4	186157	10
			132066	100
		6	186158	10
			132067	100
		8	186160	10
			132068	50
	G1/4	6	186159	10
			132069	100
		8	186161	10
			132070	50
		10	186163	10
			132071	50
		12	132597	1
	G3/8	8	186162	10
			132072	50
		10	186164	10
			132073	20
		12	186165	10
			132074	20
		16	186349	1
	G1/2	12	186166	1
		16	186167	1

T-shape

	D1	D2	PN	PE
QST-... Push-in connector				
	4	4	★ 153128	10
			130802	100
	6	6	★ 153129	10
			130803	100
	8	8	★ 153130	10
			130804	50
	10	10	★ 153131	10
			130805	50
12	12	★ 153132	10	
		130806	20	
16	16	153133	1	
QST-... Push-in connector reducing				
	6	4	★ 153134	10
			130820	100
	8	4	★ 130613	10
			★ 153135	10
		6	130821	50
	10	6	★ 130614	10
		8	★ 153136	10
			130822	50
	12	8	★ 130615	10
		10	★ 153137	10
			130823	20
	16	12	★ 130616	1
QSTF rotatable, male and female thread				
	R1/8	4	153182	1
		6	153183	1
		8	153185	1
	R1/4	6	153184	1
		8	153186	1
		10	153188	1
	R3/8	8	153187	1
		10	153189	1
12		153190	1	
R1/2	12	153191	1	
	G1/8	4	186199	1
		6	186200	1
		8	186202	1
	G1/4	6	186201	1
		8	186203	1
		10	186205	1
	G3/8	8	186204	1
		10	186206	1
		12	186207	1
	G1/2	12	186208	1

T-shape

	D1	D2	PN	PE
QSTL rotatable, male thread with external hexagon				
	R1/8	4	★ 153117	10
			130824	100
		6	★ 153118	10
			130825	100
		8	★ 153120	10
			130826	50
	R1/4	6	★ 153119	10
			130827	100
		8	★ 153121	10
			130828	50
		10	★ 153123	10
			130829	50
	R3/8	8	★ 153122	10
		10	★ 153124	10
		12	★ 153125	10
	R1/2	12	★ 153126	1
		16	153127	1
	G1/8	4	186168	10
			132075	100
		6	186169	10
			132076	100
		8	186171	10
			132077	50
	G1/4	6	186170	10
			132078	100
		8	186172	10
			132079	50
		10	186174	10
			132080	50
	G3/8	8	186173	10
		10	186175	10
		12	186176	10
	G1/2	12	186177	1
		16	186178	1

W-shape

	D1	D2	PN	PE
QSW rotatable, male thread with external hexagon				
	R1/8	4	130596	10
		6	130597	10
		8	130598	10
	R1/4	6	130599	10
		8	130600	10
		10	130601	10
	R3/8	10	130602	10
		12	130603	10
	R1/2	12	130604	1
		16	130605	1
QSW-...HL push-in connector with push-in sleeve				
	4	4	130617	10
	6	6	130618	10
	8	8	130619	10
	10	10	130620	10
	12	12	130621	10

X-shape

	D1	D2	PN	PE
QSX				
	8	8	153285	10
	10	10	153286	10
	12	12	153287	10

Y-shape

	D1	D2	PN	PE
QSY rotatable, male thread with external hexagon				
	M5	4	★ 190673	10
		6	★ 190674	10
	R1/8	4	★ 153138	10
		6	★ 153139	10
		8	★ 153141	10
	R1/4	4	★ 190675	10
		6	★ 153140	10
		8	★ 153142	10
		10	★ 153144	10
	R3/8	8	★ 153143	10
		10	★ 153145	10
		12	★ 153146	10
	R1/2	10 NEW	133196	1
		12	★ 153147	1
	G1/8	4	186179	10
		6	186180	10
		8	186182	10
	G1/4	6	186181	10
		8	186183	10
		10	186185	10
	G3/8	8	186184	10
		10	186186	10
		12	186187	10
	G1/2	12	186188	1
QSY-... Push-in connector				
	4	4	★ 153148	10
			130807	100
	6	6	★ 153149	10
			130808	100
	8	8	★ 153150	10
			130809	50
	10	10	★ 153151	10
			130810	20
	12	12	★ 153152	10
			130811	20
	16	16	130609	1

Y-shape

	D1	D2	PN	PE
QSY-... Push-in connector reducing				
	6	4	★ 153153	10
			130812	100
	8	4	★ 130610	10
		6	★ 153154	10
			130813	50
	10	6	★ 130611	10
		8	★ 153155	10
			130814	20
	12	8	★ 130612	10
		10	★ 153156	10
			130815	20
	16	12	★ 190708	1
QSY-...H – push-in connector with push-in sleeve				
	4	4	130628	10
	6	6	133145	10
	8	8	133146	10
	10	10	133148	10
	12	12	133150	10
QSY-...H – push-in connector with push-in sleeve reducing				
	6	4	130633	10
	8	6	133147	10
	10	8	133149	10
	12	10	133151	10
QSYL – rotatable, male thread with external hexagon				
	R1/8	4	★ 153172	1
		6	★ 153173	1
		8	★ 153175	1
	R1/4	6	★ 153174	1
		8	★ 153176	1
		10	★ 153178	1
	R3/8	8	★ 153177	1
		10	★ 153179	1
		12	★ 153180	1
	R1/2	12	★ 153181	1

Y-shape

	D1	D2	PN	PE
QSYL – rotatable, male thread with external hexagon				
	G1/8	4	186189	1
		6	186190	1
		8	186192	1
	G1/4	6	186191	1
		8	186193	1
		10	186195	1
	G3/8	8	186194	1
		10	186196	1
		12	186197	1
	G1/2	12	186198	1
QSYLV – rotatable, male thread with external hexagon				
	R1/8	6	153192	1
	R1/4	8	153193	1
	R3/8	10	153194	1
	R1/2	12	153195	1
	G1/8	4	186209	1
	G1/4	6	186210	1
	G3/8	8	186211	1
	G1/2	6	186212	1

Accessories

	D1	D2	PN	PE
QSO – releasing tool				
	3 ... 10	3 ... 10	158419	1

Configurable product



This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/qs





Additional information:

→ www.festo.com/fitting



Push-in fittings

NPQH, solid metal

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 O.D. 4, 6, 8, 10, 12 and 14 mm with connecting threads M5, M7 and G1/8 ... 1/2

03

Push-in fittings **NPQH, solid metal**

Straight shape

97

L-shape

99

T-shape

100

Y-shape

101**Suitable for:**Standard O.D. tubing → **22**

Straight shape

	D1	D2	PN	PE
NPQH-D – male thread with external hexagon				
	M5	4	578334	10
		6	578335	10
	M7	4	578336	10
		6	578337	10
	G1/8	4	578338	10
		6	578339	10
		8	578340	10
	G1/4	6	578341	10
		8	578342	10
		10	578343	10
		12	578344	10
	G3/8	8	578345	10
		10	578346	10
		12	578347	10
		14	578348	10
	G1/2	10	578349	1
		12	578350	1
		14	578351	1
NPQH-D-...F – female thread with external hexagon				
	G1/8	4	578352	10
		6	578353	10
		8	578354	10
	G1/4	4	578355	10
		6	578356	10
		8	578357	10
NPQH-D-...-S... – with push-in sleeve				
	M5	4	578358	10
		6	578359	10
	G1/8	4	578360	10
		6	578361	10
		8	578362	10
	G1/4	6	578363	10
		8	578364	10
		10	578365	10
		12	578366	10
	G3/8	10	578367	10
		12	578368	10
	G1/2	12	578369	1

Straight shape

	D1	D2	PN	PE
NPQH-DK – male thread with internal hexagon				
	M5	4	578370	10
		6	578371	10
	M7	4	578372	10
		6	578373	10
	G1/8	4	578374	10
		6	578375	10
		8	578376	10
	G1/4	8	578377	10
		10	578378	10
	G3/8	12	578379	10
NPQH-D – push-in connector				
	4	4	578323	10
	6	6	578324	10
	8	8	578325	10
	10	10	578326	10
	12	12	578327	10
	14	14	578328	10
NPQH-D – push-in connector reducing				
	6	4	578329	10
	8	6	578330	10
	12	8	578331	10
	14	10	578332	10
	14	12	578333	10
NPQH-D – push-in connector with push-in sleeve				
	4	6	578304	10
		8	578305	10
		10	578307	10
	6	8	578306	10
		10	578308	10
		12	578310	10
		14	578313	10
	8	10	578309	10
		12	578311	10
		14	578314	10
	10	12	578312	10
		14	578315	10
	12	14	578316	10

Straight shape

	D1	D2	PN	PE
NPQH-D – push-in sleeve				
	4	4	578317	10
	6	6	578318	10
	8	8	578319	10
	10	10	578320	10
	12	12	578321	10
	14	14	578322	10
NPQH-H – bulkhead push-in fitting, female thread with external hexagon				
	G1/8	4	578294	10
		6	578295	10
		8	578296	10
	G1/4	6	578297	10
		8	578298	10
NPQH-H – push-in bulkhead connector				
	4	4	578299	10
	6	6	578300	10
	8	8	578301	10
	10	10	578302	10
	12	12	578303	10
NPQH-P – blanking plug				
	4	4	578257	10
	6	6	578258	10
	8	8	578259	10
	10	10	578260	10
	12	12	578261	10
	14	14	578262	10
NPQH-BK – plug screw				
	M5	–	578404	10
	M7	–	578405	10
	G1/8	–	578406	10
	G1/4	–	578407	10
	G3/8	–	578408	10
	G1/2	–	578409	1

L-shape

	D1	D2	PN	PE
NPQH-L – rotatable, male thread with external hexagon				
	M5	4	578276	10
		6	578277	10
	M7	4	578278	10
		6	578279	10
	G1/8	4	578280	10
		6	578281	10
		8	578282	10
	G1/4	6	578283	10
		8	578284	10
		10	578285	10
		12	578286	10
	G3/8	8	578287	10
		10	578288	10
		12	578289	10
		14	578290	10
	G1/2	10	578291	1
		12	578292	1
		14	578293	1
NPQH-LL – long, rotatable, male thread with external hexagon				
	G1/8	4	578263	10
		6	578264	10
		8	578265	10
	G1/4	6	578266	10
		8	578267	10
		10	578268	10
	G3/8	10	578269	10
NPQH-L – push-in connector				
	4	4	578270	10
	6	6	578271	10
	8	8	578272	10
	10	10	578273	10
	12	12	578274	10
	14	14	578275	10

T-shape

	D1	D2	PN	PE
NPQH-T – rotatable, male thread with external hexagon				
	M5	4	578390	10
		6	578391	10
	G1/8	4	578392	10
		6	578393	10
		8	578394	10
	G1/4	6	578395	10
		8	578396	10
		10	578397	10
		12	578398	10
	G3/8	8	578399	10
		10	578400	10
		12	578401	10
	G1/2	10	578402	1
		12	578403	1
NPQH-T – push-in connector				
	4	4	578380	10
	6	6	578381	10
	8	8	578382	10
	10	10	578383	10
	12	12	578384	10
	14	14	578385	10
NPQH-T – push-in connectors reducing				
	6	4	578386	10
	8	6	578387	10
	10	8	578388	10
	12	10	578389	10

Y-shape

	D1	D2	PN	PE
NPQH-Y – push-in connectors				
	4	–	578410	10
	6	–	578411	10
	8	–	578412	10
NPQH-Y – push-in connectors reducing				
	6	4	578413	10
	8	6	578414	10
	10	8	578415	10

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/npqh



Additional information:

→ www.festo.com/fitting



Push-in fittings

NPQR, stainless steel**NEW: new series**

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 O.D. 4, 6, 8, 10 and 12 mm with connecting thread M5, M7, and G1/8 ... G1/2

03

Push-in fittings **NPQR, stainless steel**

Straight shape

104

L-shape

105

T-shape

105**Suitable for:**Standard O.D. tubing → **22**

Straight shape

	D1	D2	PN	PE
NPQR-DK – male thread with internal hexagon				
	M5	4	8085657	1
		6	8085659	1
	M7	4	8085658	1
		6	8085660	1
	G1/8	4	8085661	1
		6	8085662	1
		8	8085663	1
		10	8087695	1
	G1/4	6	8085664	1
		8	8085665	1
		10	8085666	1
	G3/8	8	8086953	1
		10	8085667	1
		12	8085668	1
	G1/2	12	8085669	1
NPQR-D – push-in connector				
	4	4	8085697	1
	6	6	8085698	1
	8	8	8085699	1
	10	10	8085700	1
	12	12	8085701	1
NPQR-D – push-in connector reducing				
	6	4	8085704	1
	8	6	8085705	1
	10	8	8085706	1
	12	10	8085707	1
NPQR-H – bulkhead push-in connector				
	4	4	8085729	1
	6	6	8085730	1
	8	8	8085731	1
	10	10	8085732	1
	12	12	8085733	1
NPQR-BK – plug screw				
	M7	–	8085672	1
	G1/8	–	8085673	1
	G1/4	–	8085674	1
	G3/8	–	8085675	1
	G1/2	–	8085676	1

L-shape

	D1	D2	PN	PE
NPQR-L – rotatable, male thread with external hexagon				
	M5	4	8085679	1
		6	8098626	1
	G1/8	4	8085680	1
		6	8085681	1
		8	8085682	1
	G1/4	6	8085683	1
		8	8085684	1
		10	8085685	1
	G3/8	10	8085686	1
		12	8085687	1
	G1/2	12	8085688	1
NPQR-L – push-in connector				
	4	4	8085709	1
	6	6	8085710	1
	8	8	8085711	1
	10	10	8085712	1
	12	12	8085713	1

T-shape

	D1	D2	PN	PE
NPQR-T – rotatable, male thread with external hexagon				
	M5	4	8085691	1
	G1/8	6	8085692	1
		8	8085693	1
	G1/4	8	8085694	1
		10	8099100	1
	G3/8	10	8085695	1
		12	8099101	1
	G1/2	12	8099102	1
NPQR-T – push-in connector				
	4	4	8085716	1
	6	6	8085717	1
	8	8	8085718	1
	10	10	8085719	1
	12	12	8085720	1

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/npqr



Additional information:

→ www.festo.com/fitting



Push-in fittings

NPQM, metal

Metal push-in fitting at an economical price for pneumatic applications with a temperature range up to 70 °C and a pressure range up to 16 bar. Tubing O.D. 3, 4, 6, 8, 10, 12 and 14 mm with connecting thread M5, M7 and G1/8 ... G1/2

03

Push-in fittings **NPQM, metal**

Straight shape

108

L-shape

110

T-shape

112

Y-shape

113**Suitable for:**Standard O.D. tubing → **22**

Straight shape

	D1	D2	PN	PE
NPQM-D – male thread with internal/external hexagon				
	G1/8	4	558661	10
		6	558662	10
		8	558663	10
	G1/4	6	558664	10
		8	558665	10
		10	558666	10
		12	558667	10
	G3/8	8	558668	10
		10	558669	10
		12	558670	10
		14	570450	1
	G1/2	10	558671	10
12		558672	10	
14		570451	1	
NPQM-D – female thread with external hexagon				
	G1/8	4	558674	10
		6	558675	10
		8	558676	10
	G1/4	6	558678	10
		8	558679	10
		10	558680	10
NPQM-DK – male thread with internal hexagon				
	M5	4	558657	10
		6	558658	10
	M7	4	558659	10
		6	558660	10
NPQM-D – push-in connector				
	4	4	558760	10
	6	6	558761	10
	8	8	558762	10
	10	10	558763	10
	12	12	558764	10
	14	14	570452	1

Straight shape

	D1	D2	PN	PE
NPQM-D – push-in connector with push-in sleeve				
	4	6	558765	10
		8	558766	10
	6	4	558767	10
		8	558768	10
		10	558769	10
		12	558770	10
		14	570457	1
	8	6	558771	10
		10	558772	10
		12	558773	10
		14	570458	1
	10	12	558774	10
		14	570456	1
	12	14	570459	1
NPQM-D – push-in sleeve				
	4	4	558811	10
	6	6	558812	10
	8	8	558813	10
	10	10	558814	10
	12	12	558815	10
	14	14	570455	1
NPQM-H – push-in bulkhead connector				
	4	4	558806	10
	6	6	558807	10
	8	8	558808	10
	10	10	558809	10
	12	12	558810	10

L-shape

	D1	D2	PN	PE
NPQM-L – male thread with external hexagon				
	M5	4	558704	10
		6	558705	10
	G1/8	4	558708	10
		6	558709	10
		8	558710	10
	G1/4	6	558711	10
		8	558712	10
		10	558713	10
		12	558714	10
	G3/8	8	558715	10
		10	558716	10
		12	558717	10
		14	570460	1
	G1/2	10	558718	10
		12	558719	10
		14	570461	1
NPQM-LK – male thread with internal hexagon				
	M5	3	558816	10
		4	558817	10
	G1/8	4	558818	10
		6	558819	10
		8	558820	10
	G1/4	6	558821	10
		8	558822	10
		10	558823	10
	G3/8	12	558825	10
NPQM-LH – male thread with external hexagon				
	M5	4	558827	10
		6	558828	10
	G1/8	4	558829	10
		6	558830	10
		8	558831	10
	G1/4	6	558832	10
		8	558833	10
	G3/8	8	558834	10
		10	558835	10
		12	558836	10

L-shape

	D1	D2	PN	PE
NPQM-LFK – multiple distributor, male thread with internal hexagon				
	G1/8	4	558837	10
		6	558838	10
		8	558839	10
	G1/4	6	558840	10
		8	558841	10
	NPQM-L – push-in connector			
	4	–	558776	10
	6	–	558777	10
	8	–	558778	10
	10	–	558779	10
	12	–	558780	10
	14	–	570453	1
NPQM-L – push-in connector with push-in sleeve				
	4	4	558781	10
	6	6	558782	10
	8	8	558783	10
	10	10	558784	10

T-shape

	D1	D2	PN	PE
NPQM-T – male thread with external hexagon				
	G1/8	4	558736	10
		6	558737	10
		8	558738	10
	G1/4	6	558739	10
		8	558740	10
		10	558741	10
	G3/8	8	558743	10
		10	558744	10
		12	558745	10
	G1/2	12	558747	10
NPQM-T – push-in connector				
	4	4	558786	10
	6	6	558787	10
	8	8	558788	10
	10	10	558789	10
	12	12	558790	10
	14	14	570454	1
NPQM-T – push-in connector with push-in sleeve				
	4	4	558791	10
	6	6	558792	10
	8	8	558793	10
	10	10	558794	10

Y-shape

	D1	D2	PN	PE
NPQM-Y – push-in connector				
	4	4	558798	10
	6	6	558799	10
	8	8	558800	10
	10	10	558801	10
	12	12	558802	10
NPQM-Y – push-in connector reducing				
	6	4	558803	10
	8	6	558804	10
	10	8	558805	10

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/npqm



Additional information:

→ www.festo.com/fitting



Push-in fittings

NPQP, resistant to media

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 O.D. 4, 6, 8, 10 and 12 mm with connecting thread
R1/8 ... R1/2

03

Push-in fittings **NPQP, resistant to media**

Straight shape

116

L-shape

117

T-shape

118

Y-shape

119

Suitable for:

Standard O.D. tubing → **22**

Straight shape

	D1	D2	PN	PE
NPQP-D - male thread with external hexagon				
	R1/8	4	133041	10
		6	133043	10
		8	133045	10
	R1/4	4	133042	10
		6	133044	10
		8	133046	10
		10	133047	10
	R3/8	10	133048	10
		12	133049	10
	R1/2	12	133050	1
NPQP-D – push-in connector				
	4	4	133091	10
	6	6	133092	10
	8	8	133093	10
	10	10	133094	10
	12	12	133095	10
NPQP-D – push-in connector reducing				
	6	4	133096	10
	8	6	133097	10
	10	8	133098	10
	12	10	133099	10
NPQP-H – push-in bulkhead connector				
	4	4	133100	1
	6	6	133101	1
	8	8	133102	1
	10	10	133103	1
	12	12	133104	1
NPQP-D – push-in connector with push-in sleeve				
	4	6	133133	10
		8	133134	10
	6	8	133135	10
		10	133136	10
	8	10	133137	10
		12	133138	10
	10	12	133139	10
	NPQP-P – blanking plug			
	4		133128	10
	6		133129	10
	8		133130	10
	10		133131	10
	12		133132	10

L-shape

	D1	D2	PN	PE
NPQP-L – male thread with external hexagon				
	R1/8	4	133051	10
		6	133053	10
		8	133055	10
	R1/4	4	133052	10
		6	133054	10
		8	133056	10
		10	133057	10
	R3/8	10	133058	10
		12	133059	10
	R1/2	12	133060	1
NPQP-LQ – male thread with external hexagon				
	R1/8	4	133061	10
		6	133063	10
		8	133065	10
	R1/4	4	133062	10
		6	133064	10
		8	133066	10
		10	133067	10
	R3/8	10	133068	10
		12	133069	10
	R1/2	12	133070	1
NPQP-L – push-in connector				
	4	–	133105	10
	6	–	133106	10
	8	–	133107	10
	10	–	133108	10
	12	–	133109	10

T-shape

	D1	D2	PN	PE
NPQP-T – male thread with external hexagon				
	R1/8	4	133071	10
		6	133073	10
		8	133075	10
	R1/4	4	133072	10
		6	133074	10
		8	133076	10
		10	133077	10
	R3/8	10	133078	10
		12	133079	10
	R1/2	12	133080	1
NPQP-T – push-in connector				
	4	4	133110	10
	6	6	133111	10
	8	8	133112	10
	10	10	133113	10
	12	12	133114	10
NPQP-T – push-in connector reducing				
	6	4	133115	10
	8	6	133116	10
	10	8	133117	10
	12	10	133118	10

Y-shape

	D1	D2	PN	PE
NPQP-Y – male thread with external hexagon				
	R1/8	4	133081	10
		6	133083	10
		8	133085	10
	R1/4	4	133082	10
		6	133084	10
		8	133086	10
		10	133087	10
	R3/8	10	133088	10
		12	133089	10
	R1/2	12	133090	1
NPQP-Y – push-in connector				
	4	4	133119	10
	6	6	133120	10
	8	8	133121	10
	10	10	133122	10
	12	12	133123	10
NPQP-Y – push-in connector reducing				
	6	4	133124	10
	8	6	133125	10
	10	8	133126	10
	12	10	133127	10

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/npqp



Additional information:

→ www.festo.com/fitting



Push-in fittings

CRQS, stainless steel

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 O.D. 4, 6, 8, 10, 12 and 16 mm with connecting threads M5 and R1/8 ... R1/2.

03

Push-in fittings **CRQS, stainless steel**

Straight shape

122

Push-in bulkhead connectors

122

L-shape

123

T-shape

124

Y-shape

125

Accessories

125**Suitable for:**Standard O.D. tubing → **22**

Straight shape

	D1	D2	PN	PE
CRQS – male thread with external hexagon				
	M5	4	162860	1
		6	162861	1
	R1/8	4	132643	1
		6	162862	1
		8	162863	1
	R1/4	6	132644	1
		8	162864	1
		10	162865	1
	R3/8	10	162866	1
		12	162867	1
	R1/2	12	162868	1
		16	162869	1
CRQS-..I – male thread with external hexagon				
	M5	4	132328	1
		6	132329	1
	R1/8	6	132330	1
		8	132331	1
	R1/4	8	132332	1
		10	132333	1
	R3/8	10	132334	1
		12	132335	1
	R1/2	12	132336	1
		16	132337	1
CRQS – push-in connector				
	4	4	130645	1
	6	6	130646	1
	8	8	130647	1
	10	10	130648	1
	12	12	130649	1
	16	16	130650	1
CRQS – push-in connector reducing				
	6	4	130651	1
	8	6	130652	1
	10	8	130653	1
	12	10	130654	1
	16	12	130655	1
CRQSS – push-in bulkhead connector				
	4	4	164210	1
	6	6	164211	1
	8	8	164213	1
	10	10	164215	1
	12	12	164217	1
	16	16	164219	1

L-shape

	D1	D2	PN	PE
CRQSL – rotatable, male thread with external hexagon				
	M5	4	162870	1
		6	162871	1
	R1/8	4	132598	1
		6	162872	1
		8	162873	1
	R1/4	6	132599	1
		8	162874	1
		10	162875	1
	R3/8	10	162876	1
		12	162877	1
	R1/2	12	162878	1
		16	162879	1
CRQSL – push-in connector				
	4	4	130662	1
	6	6	130663	1
	8	8	130664	1
	10	10	130665	1
	12	12	130666	1
	16	16	130667	1

T-shape

	D1	D2	PN	PE
CRQST – rotatable, male thread with external hexagon				
	M5	4	164200	1
		6	164201	1
	R1/8	6	164202	1
		8	164203	1
	R1/4	8	164204	1
		10	164205	1
	R3/8	10	164206	1
		12	164207	1
	R1/2	12	164208	1
		16	164209	1
CRQST – push-in connector				
	4	–	130668	1
	6	–	130669	1
	8	–	130670	1
	10	–	130671	1
	12	–	130672	1
	16	–	130673	1

Y-shape

	D1	D2	PN	PE
CRQSY – push-in connector				
	4	–	130656	1
	6	–	130657	1
	8	–	130658	1
	10	–	130659	1
	12	–	130660	1
	16	–	130661	1

Accessories

	D1	D2	PN	PE
QSO – releasing tool				
	3 ... 10	3 ... 10	158419	1

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/crqs



Additional information:

→ www.festo.com/fitting



Push-in fittings

QS-V0, resistant to welding spatter

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 O.D. 4, 6, 8, 10 and 12 mm with connecting thread R1/8 ... R1/2 and G1/8 ... G1/2

03

Push-in fittings **QS-V0, resistant to welding spatter**

Straight shape

128

L-shape

129

T-shape

130

Accessories

131

Suitable for:

Standard O.D. tubing → **22**

Straight shape

	D1	D2	PN	PE
QS-V0 – male thread with external hexagon				
	R1/8	4	132888	10
		6	160500	10
		8	160501	10
	R1/4	6	160502	10
		8	160503	10
		10	160504	10
		12	160505	1
	R3/8	8	160506	10
		10	160507	10
		12	160508	1
	R1/2	10	160509	1
		12	160510	1
	G1/8	6	186314	10
		8	186315	10
	G1/4	6	186316	10
		8	186317	10
		10	186318	10
		12	186319	1
	G3/8	8	186320	10
		10	186321	10
		12	186322	1
	G1/2	10	186323	1
		12	186324	1
	QS-V0 – push-in connector			
	4	4	132890	10
	6	6	160546	10
	8	8	160547	10
	10	10	160548	10
	12	12	160549	1

L-shape

	D1	D2	PN	PE
QSL-V0 – male thread with external hexagon				
	R1/8	4	132891	10
		6	160511	10
		8	160512	10
	R1/4	6	160513	10
		8	160514	10
		10	160515	10
		12	160516	1
	R3/8	8	160517	10
		10	160518	10
		12	160519	1
	R1/2	10	160520	1
		12	160521	1
	G1/8	6	186325	10
		8	186326	10
	G1/4	6	186327	10
		8	186328	10
		10	186329	10
		12	186330	1
	G3/8	8	186331	10
		10	186332	10
		12	186333	1
	G1/2	10	186334	1
		12	186335	1
	QSL-V0 – push-in connector			
	4	4	132893	10
	6	6	160540	10
	8	8	160541	10
	10	10	160542	10
	12	12	160543	1

T-shape

	D1	D2	PN	PE
QST-V0 – male thread with external hexagon				
	R1/8	4	132894	10
		6	160522	10
		8	160523	10
	R1/4	6	160524	10
		8	160525	10
		10	160526	10
		12	160527	1
	R3/8	8	160528	10
		10	160529	10
		12	160530	1
	R1/2	10	160531	1
		12	160532	1
	G1/8	6	186336	10
		8	186337	10
	G1/4	6	186338	10
		8	186339	10
		10	186340	10
		12	186341	1
	G3/8	8	186342	10
		10	186343	10
		12	186344	1
	G1/2	10	186345	1
		12	186346	1
	QST-V0 – push-in connector			
	4	4	132896	10
	6	6	160533	10
	8	8	160534	10
	10	10	160535	10
	12	12	160536	1

Accessories

	D1	D2	PN	PE
QSO – releasing tool				
	3 ... 10	3 ... 10	158419	1

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/qs-v0



Additional information:

→ www.festo.com/fitting



Self-sealing/rotatable push-in fittings

QSK/QSR

R and G-thread with sealing ring, R-thread PTFE-coated.

Self-sealing push-in fittings and self-sealing push-in connectors, rotatable push-in fittings.

Tubing O.D. 4, 6, 8, 10, 12 mm

Thread connection M5, R1/8, R1/4, R3/8, R1/2, G1/8, G1/4, G3/8, G1/2

03

Self-sealing/rotatable push-in fittings **QSK/QSR**

Push-in fitting, self-sealing, straight shape **134**



Push-in fitting, self-sealing, L-shape **135**



Push-in fitting, rotatable, straight shape **136**



Push-in fitting, rotatable, L-shape **137**



Accessories **137**

Suitable for:

Standard O.D. tubing → **22**

Straight shape

	D1	D2	PN	PE
QSK – male thread with external hexagon				
	M5	4	153291	1
		6	153292	1
	R1/8	4	153419	1
		6	153420	1
		8	153422	1
	R1/4	6	153421	1
		8	153423	1
		10	153425	1
	R3/8	8	153424	1
		10	153426	1
		12	153427	1
	R1/2	12	153428	1
	G1/8	4	186294	1
		6	186295	1
		8	186297	1
	G1/4	6	186296	1
		8	186298	1
		10	186300	1
	G3/8	8	186299	1
		10	186301	1
		12	186302	1
	G1/2	12	186303	1
QSK - self-sealing push-in connector				
	4	4	153439	1
	6	6	153440	1
	8	8	153441	1
	10	10	153442	1
	12	12	153443	1
QSSK – push-in bulkhead connector, self-sealing				
	4	4	130637	1
	6	6	130638	1
	8	8	130639	1
	10	10	130640	1
	12	12	130641	1

L-shape

	D1	D2	PN	PE
QSKL – rotatable, male thread, with external hexagon				
	M5	4	153294	1
		6	153295	1
	R1/8	4	153429	1
		6	153430	1
		8	153432	1
	R1/4	6	153431	1
		8	153433	1
		10	153435	1
	R3/8	8	153434	1
		10	153436	1
		12	153437	1
	R1/2	12	153438	1
	G1/8	4	186304	1
		6	186305	1
		8	186307	1
	G1/4	6	186306	1
		8	186308	1
		10	186310	1
	G3/8	8	186309	1
		10	186311	1
		12	186312	1
	G1/2	12	186313	1

Accessories

	D1	D2	PN	PE
QSO – releasing tool				
	3 ... 10	3 ... 10	158419	1

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/qsK

Straight shape

	D1	D2	PN	PE
QSR – 360° rotatable, with ball bearing, male thread with external hexagon				
	M5	4	153526	1
		6	153527	1
	R1/8	4	153401	1
		6	153402	1
		8	153404	1
	R1/4	6	153403	1
		8	153405	1
	R3/8	8	153406	1
		10	153407	1
		12	153408	1
	R1/2	12	153409	1
	G1/8	4	186276	1
		6	186277	1
		8	186279	1
	G1/4	6	186278	1
		8	186280	1
	G3/8	8	186281	1
		10	186282	1
		12	186283	1
	G1/2	12	186284	1

L-shape

	D1	D2	PN	PE
QSRL – 360° rotatable, with ball bearing, male thread with external hexagon				
	M5	4	153529	1
		6	153530	1
	R1/8	4	153410	1
		6	153411	1
		8	153413	1
	R1/4	6	153412	1
		8	153414	1
	R3/8	8	153415	1
		10	153416	1
		12	153417	1
	R1/2	12	153418	1
	G1/8	4	186285	1
		6	186286	1
		8	186288	1
	G1/4	6	186287	1
		8	186289	1
	G3/8	8	186290	1
		10	186291	1
		12	186292	1
	G1/2	12	186293	1

Accessories

	D1	D2	PN	PE
QSO – releasing tool				
	3 ... 10	3 ... 10	158419	1

Configurable product



This product and all its product options can be ordered online via the configurator:

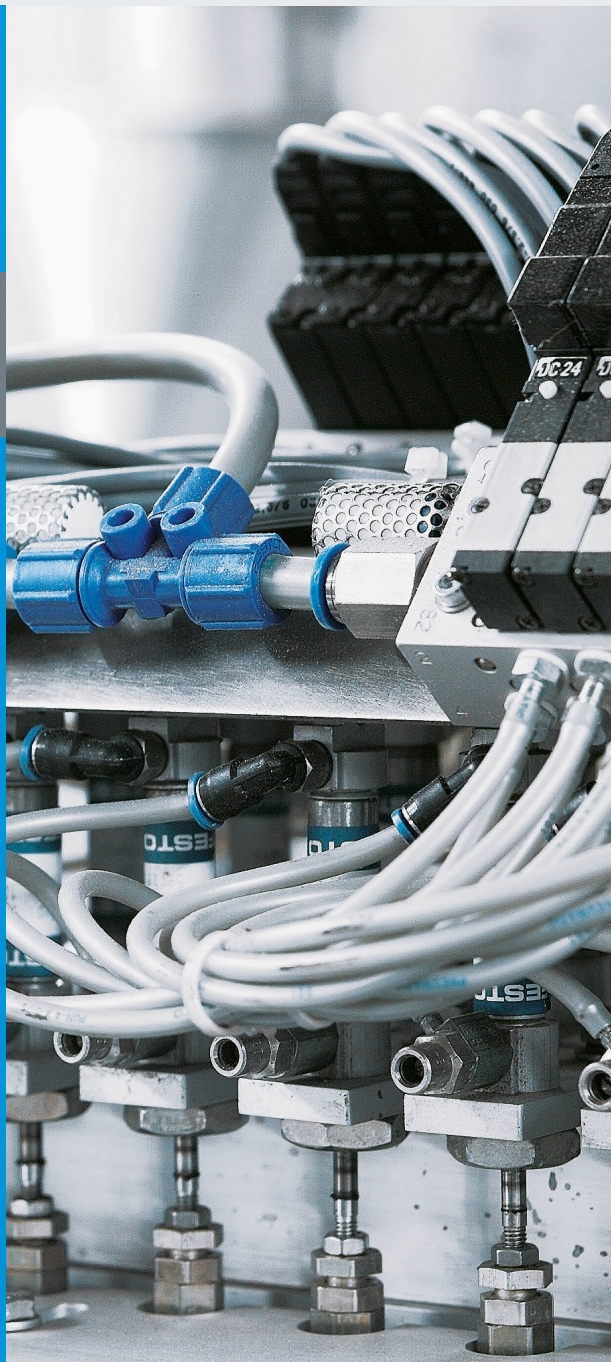


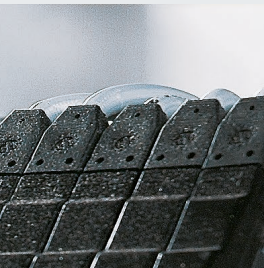
→ www.festo.com/catalogue/qsr

Highlights

04

Barbed fittings for I.D. tubing – Highlights





Highlights

our barbed fittings for I.D. tubing

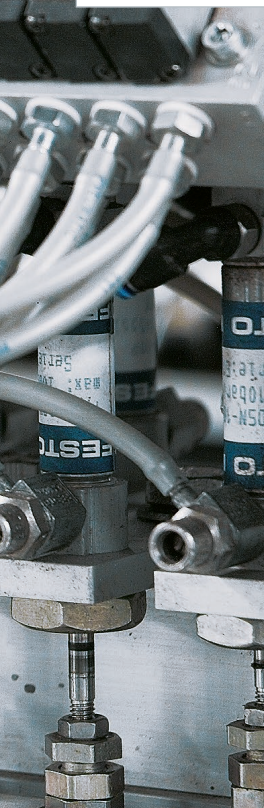


Quick connectors

NPCK

- + Clean design
- + High resistance to corrosion, chemicals and temperature

→ 144





Product finder for fittings

→ www.festo.com/productfinder/fittings



Reliable and quickly installed: barbed fittings

Fast, safe and very attractively priced:

The tried and tested barbed fittings from the Festo accessories range.

Reliable for use in applications where repeated releasing of the connections is not required.

Preselection _____ **142**

Additional information:

→ www.festo.com/fitting

**Suitable for:**

Standard I.D. tubing → **44**

Preselection

	Type, description
	NPCK, quick connectors First choice for the food and splash zones The NPCK is ideal in these cleaning-intensive areas. It fulfils all Clean Design requirements and is FDA approved. The special union nut design prevents dirty edges and the build-up of microorganisms or other forms of contamination. Also of interest for the process automation and pharmaceutical industry: the NPCK can handle a very wide range of media due to the high-grade stainless steel used. Meets HACCP hygiene requirements, resistant to corrosions, cleaning agents and high temperatures, Clean Design
	CN, barbed fittings At home in tight corners Smart connection technology makes this fitting extremely compact. Very popular in the electronics and food industries, in control cabinets or assembly frames. To connect: simply push the tubing onto the ribbed grommet, ideally using the optional Festo connecting and disconnecting pliers. With sealing ring, barbed fitting for Festo plastic tubing, corrosion-resistant, acid-resistant Rotatable. For tubing O.D. from 2 to 6 mm.
	C-P/N-P, barbed hose fittings for hose clip Connection G1/8, G1/4, G3/8, G1/2, G3/4 For tubing I.D. 6, 9, 13, 19 mm Threaded connection, G-thread with sealing ring, barbed hose fittings, hose clips
	CK, quick connectors Absolutely safe and extremely economical – wherever connectors are to be installed permanently. Easy connection: simply attach the tubing and secure it with the union nut. Many variants. Types: aluminium, polyamide, sealing ring, moulded-on sealing ring. For tubing inner diameter 3 to 13 mm.

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Additional information:

→ www.festo.com/fitting



Barbed fittings

NPCK, quick connectors**First choice for the food and splash zones**

The NPCK is ideal in these cleaning-intensive areas. It fulfils all Clean Design requirements and is FDA approved. The special union nut design prevents dirty edges and the build-up of microorganisms or other forms of contamination.

Also of interest for process automation and the pharmaceutical industry:

the high grade of stainless steel used by the NPCK can handle a very wide range of media.

- + Fulfils the hygiene requirements of HACCP
- + Resistant to corrosion, cleaning agents and high temperatures
- + Clean design

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 O.D. 4, 6, 8 and 10 mm with connecting thread M5 and G1/8 ... G3/8.



Straight shape

146

Accessories

146**Suitable for:**

Standard I.D. tubing → **44**

Straight shape

	D1	D2	PN	PE
NPCK – male thread with clamp connection				
	M5	4	1857681	1
	G1/8	6	1366257	1
		8	1490383	1
	G1/4	8	1691701	1
		10	1489336	1
	G3/8	10	1489614	1

Sealing rings

	For thread	PN	PE
NPAS – polyether ether ketone, for quick connectors NPCK			
	G1/8	2652516	1
	G1/4	2652517	1
	G3/8	2652519	1

Configurable product

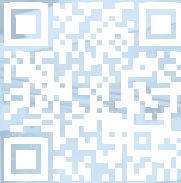


This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/npck

→ www.festo.com/service2see





Additional information:

→ www.festo.com/fitting



Barbed fittings

N, CN, C-P/N-P, push-in connector

At home in tight corners

Smart connection technology makes this fitting extremely compact. Very popular in the electronics and food industries, in control cabinets

or in assembly frames. To connect: simply push the tubing onto the ribbed grommet, ideally using the optional Festo connecting and disconnecting pliers.

- + For tubing O.D. from 2 to 6 mm.
- + Many designs and variants
- + Corrosion-resistant
- + Acid-resistant
- + Rotatable



Straight shape

150



L-shape

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T-shape

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Y-shape

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Barbed T-connector

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Barbed hose fitting

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Accessories

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Suitable for:

Standard I.D. tubing → **44**

Straight shape

	D1	D2	PN	PE
N – with male thread and external hexagon				
With sealing ring				
	M5	PK-3	4446	10
		PK-4	4902	10
CN – N – with male thread and external hexagon				
With sealing ring				
	M3	PK-2	15871	10
		PK-3	15872	10
	M5	PK-2	19521	10
		PK-3	12255	10
		PK-4	12256	10
	G1/8	PK-3	11944	10
		PK-4	11945	10
		PK-6	11946	10
	G1/4	PK-4	11947	10
		PK-6	11948	10
	G3/8	PK-6	11949	10
CRCN – stainless steel design with male thread and external hexagon				
With sealing ring				
	M5	PK-2	30985	10
		PK-3	13967	10
		PK-4	13968	10
	G1/8	PK-3	13969	10
		PK-4	13970	10
		PK-6	13971	10
	G1/4	PK-4	13972	1
		PK-6	13973	1
	G3/8	PK-6	13974	1

Straight shape

	D1	D2	PN	PE
SCN – bulkhead fitting				
	PK-2	PK-2	19528	10
	PK-3	PK-3	11972	10
	PK-4	PK-4	11973	10
	PK-6	PK-6	11974	10
RTU – barbed tubing connector				
	PK-2	PK-2	19541	10
	PK-3	PK-2	19542	10
		PK-3	4805	10
		PK-4	4499	10
	PK-4	PK-4	4806	10
		PK-6	7604	10
	PK-6	PK-6	7605	10

L-shape

	D1	D2	PN	PE
LCN – with male thread, 360° rotatable				
With sealing ring				
	M3	PK-2	30491	10
		PK-3	30982	10
	M5	PK-2	19523	10
		PK-3	12257	10
		PK-4	12258	10
	G1/8	PK-3	11955	10
		PK-4	11956	10
		PK-6	11957	10
	G1/4	PK-4	12958	10
		PK-6	12959	10
	G3/8	PK-6	12960	10
LCNH – with male thread, 360° rotatable				
With sealing ring				
	M5	PK-2	35982	10
		PK-3	35983	10
		PK-4	35984	10
	G1/8	PK-3	35985	10
		PK-4	35986	10
		PK-6	35987	10
	G1/4	PK-4	35988	10
		PK-6	35989	10
	G3/8	PK-6	35990	10
L-PK – barbed tubing connector				
	PK-2	PK-2	19539	10
	PK-3	PK-3	7473	10
	PK-4	PK-4	9584	10
	PK-6	PK-6	150012	10

T-shape

	D1	D2	D3	PN	PE
TCN – with male thread, 360° rotatable					
With sealing ring					
	M3	PK-2	PK-2	30492	10
		PK-3	PK-3	30983	10
	M5	PK-2	PK-2	19525	10
		PK-3	PK-3	12259	10
		PK-4	PK-4	12432	10
	G1/8	PK-3	PK-3	11961	10
		PK-4	PK-4	11962	10
		PK-6	PK-6	11963	10
	G1/4	PK-4	PK-4	11964	10
		PK-6	PK-6	11965	10
	G3/8	PK-6	PK-6	11966	10
T-PK – barbed tubing connector					
	PK-2	PK-2	PK-2	30919	10
	PK-3	PK-3	PK-3	7267	10
	PK-4	PK-4	PK-4	9585	10
	PK-6	PK-6	PK-6	150015	10

Y-shape

	D1	D2	D3	PN	PE
Y-PK – barbed tubing connector					
	PK-2	PK-2	PK-2	19540	10
	PK-3	PK-3	PK-3	7269	10
	PK-4	PK-4	PK-4	9586	10
	PK-6	PK-6	PK-6	150013	10

Barbed T-connector

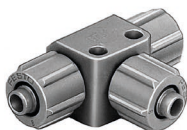
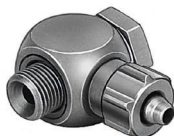
	D1	D2	D3	PN	PE
FCN					
	PK-2	PK-2	PK-2	30492	10
		PK-3	PK-3	30983	10
	PK-3	PK-3	PK-3	19525	10
		PK-4	PK-4	12259	10
	PK-4	PK-4	PK-4	12432	10
		PK-6	PK-6	11961	10
	PK-6	PK-6	PK-6	11962	10

Barbed hose fitting

	D1	D2	PN	PE
C-...-P				
	G1/8	PK-6	2021	10
	G1/4	PK-6	2022	10
		PK-9	2023	10
	G3/8	PK-6	2024	1
		PK-9	2025	1
	G1/2	PK-13	2026	1
N-...-P				
Aluminium				
	G1/8	PK-6	3605	10
	G1/4	PK-6	3606	10
		PK-9	3607	10
	G3/8	PK-6	3608	10
		PK-9	3609	10
		PK-13	36160	1
	G1/2	PK-9	3610	1
		PK-13	3611	1
	G3/4	PK-13	3612	1
		PK-19	3613	1
	R1	PK-19	572260	1
N-...-P-...-MS				
Brass				
	G1/8	PK-6	15630	10
	G1/4	PK-6	15631	10
		PK-9	15632	10
	G3/8	PK-6	15633	10
		PK-9	15634	10
		PK-13	36161	1
	G1/2	PK-9	15635	1
		PK-13	15636	1
	G3/4	PK-13	15637	1
		PK-19	15638	1

Hose clip

	Clamping range Ø	PN	PE
SK			
	8 ... 16	9174	10
	16 ... 27	9275	10
	20 ... 32	9276	10



Additional information:

→ www.festo.com/fitting



Barbed fittings

CK, quick connectors

CK quick connectors:**The classic solution for stringent safety requirements**

Absolutely safe and extremely economical – wherever connectors are to be installed permanently.

Easy connection: simply attach the tubing and secure it with the union nut.

- + For tubing O.D. from 3 to 13 mm. Many variants.
- + Types: aluminium, polyamide, sealing ring, moulded-on sealing ring

04

Barbed fittings **CK, quick connectors**

Straight shape

158

L-shape

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T-shape

161

Multiple distributor

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Accessories

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Suitable for:

Standard I.D. tubing → **44**

Straight shape

	D1	D2	PN	PE
CK – metal design, with male thread and external hexagon				
With sealing ring				
	M5	PK-3	3561	10
		PK-4	3562	10
	G1/8	PK-3	3563	10
		PK-4	2027	10
		PK-6	2028	10
	G1/4	PK-4	2029	10
		PK-6	2030	10
		PK-9	2031	10
	G3/8	PK-6	2032	10
		PK-9	2033	10
		PK-13	4097	10
G1/2	PK-13	4098	1	
CK-...-KU – polymer design with male thread and external hexagon				
	G1/8	PK-3	6253	10
		PK-4	6254	10
		PK-6	6255	10
	G1/4	PK-4	6256	10
		PK-6	6257	10
		PK-9	6258	10
	G3/8	PK-6	6460	10
		PK-9	6468	10
ACK – female thread				
With sealing ring				
	G1/8	PK-3	5664	10
		PK-4	3714	10
		PK-6	7842	10
	G1/4	PK-4	3713	10
		PK-6	3712	10
	G3/8	PK-6	3711	10
		PK-9	3710	10
	G1/2	PK-13	4099	1

Straight shape

	D1	D2	PN	PE
QCK – bulkhead quick connector				
With sealing ring				
	M5	PK-3	9424	10
	G1/8	PK-4	9425	10
	G1/4	PK-6	9426	10
	G3/8	PK-9	9427	1
SCK – bulkhead quick connector, metal design				
	PK-3	PK-3	9420	10
	PK-4	PK-4	9421	10
	PK-6	PK-6	9422	10
	PK-9	PK-9	9423	1
SCK-...-KU – bulkhead quick connector, polymer design				
	PK-3	PK-3	9387	10
	PK-4	PK-4	9388	10
	PK-6	PK-6	9389	10
	PK-9	PK-9	9390	1

L-shape

	D1	D2	PN	PE
GCK – with male thread				
	R1/8	PK-4	6267	10
		PK-6	6268	10
	R1/4	PK-4	6269	10
		PK-6	6270	10
	R3/8	PK-6	6271	10
		PK-9	6272	10
LCK – rotatable, metal version				
With 2 sealing rings				
	M5	PK-3	4468	10
		PK-4	4562	10
	G1/8	PK-3	4136	10
		PK-4	4469	10
		PK-6	4470	10
	G1/4	PK-4	4471	10
		PK-6	4472	10
		PK-9	11452	10
	G3/8	PK-6	4473	1
		PK-9	4474	1
	G1/2	PK-13	4100	1
LCK-...-KU – rotatable, polymer version				
	G1/8	PK-4	6259	10
		PK-6	6260	10
	G1/4	PK-4	6261	10
		PK-6	6262	10

T-shape

	D1	D2	PN	PE
TCK – rotatable, metal version				
With 2 sealing rings				
	M5	PK-3	4484	10
		PK-4	4563	10
	G1/8	PK-3	4137	10
		PK-4	4485	10
		PK-6	4486	10
	G1/4	PK-4	4487	10
		PK-6	4488	10
	G3/8	PK-6	4489	1
		PK-9	4490	1
G1/2	PK-13	4101	1	
TCK-...-KU – rotatable, polymer version				
	G1/8	PK-4	6263	10
		PK-6	6264	10
	G1/4	PK-4	6265	10
		PK-6	6266	10
FCK-PK – manifold-1				
	PK-3	PK-3	6273	10
	PK-4	PK-4	6274	10
	PK-6	PK-6	6275	10
	PK-9	PK-9	6276	10

Multiple distributor

	D1	D2	PN	PE
VT-...-2 – hollow bolt with sealing ring				
Die-cast zinc version, for 2 ring pieces with D2				
	M5	PK-3	206145	10
	G1/8	PK-3	4593	10
		PK-4/PK-6	206146	10
	G1/4	PK-4/PK-6	206147	10
	G3/8	PK-6	206148	1
Die-cast zinc version, for 3 ring pieces with D2				
	M5	PK-3	4594	10
	G1/8	PK-3	4595	10
		PK-4/PK-6	4596	10
	G1/4	PK-4/PK-6	2335	10
	G3/8	PK-6	2336	1
LK – ring piece, L-shaped				
Die-cast zinc design				
	M5	PK-3	4475	10
	G1/8	PK-3	4597	10
		PK-4	4476	10
		PK-6	4477	10
	G1/4	PK-4	4478	10
		PK-6	4479	10
	G3/8	PK-6	4480	1
LK – ring piece, L-shaped				
Polymer version				
	G1/8	PK-4	6280	10
		PK-6	9281	10
	G1/4	PK-4	6282	10
		PK-6	6283	10
TK – ring piece, L-shaped				
Die-cast zinc design				
	M5	PK-3	4491	1
	G1/8	PK-3	4598	1
		PK-4	4492	1
		PK-6	4493	1
	G1/4	PK-4	4494	1
		PK-6	4495	1
	G3/8	PK-6	4496	1

Multiple distributor

	D1	D2	PN	PE
TK – ring piece, L-shaped				
Polymer version				
	G1/8	PK-4	6284	1
		PK-6	6285	1
	G1/4	PK-4	6286	1
		PK-6	6287	1

Accessories

	D1	D2	PN	PE
MCK - union nut				
Aluminium version				
	PK-3	–	205254	1
	PK-4	–	2965	1
	PK-4	–	205257	1
	PK-6	–	2966	1
	PK-9	–	2967	1
	PK-13	–	206504	1
MCK-KU – union nut				
Polymer version				
	PK-3	–	211289	1
	PK-4	–	211291	1
	PK-6	–	211292	1
	PK-9	–	211293	1
CV-PK – sealing cap				
	PK-3	–	6213	10
	PK-4	–	6214	10
	PK-6	–	6215	10
	PK-9	–	6216	10

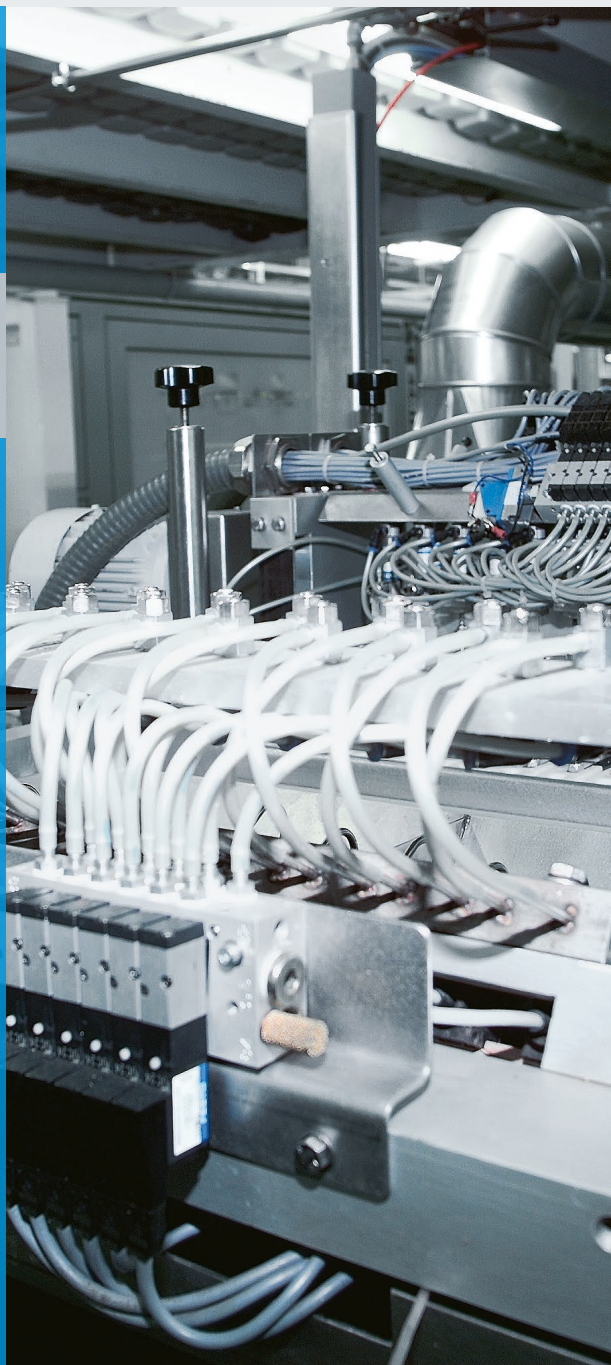
Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/ck



Highlights

our threaded fittings

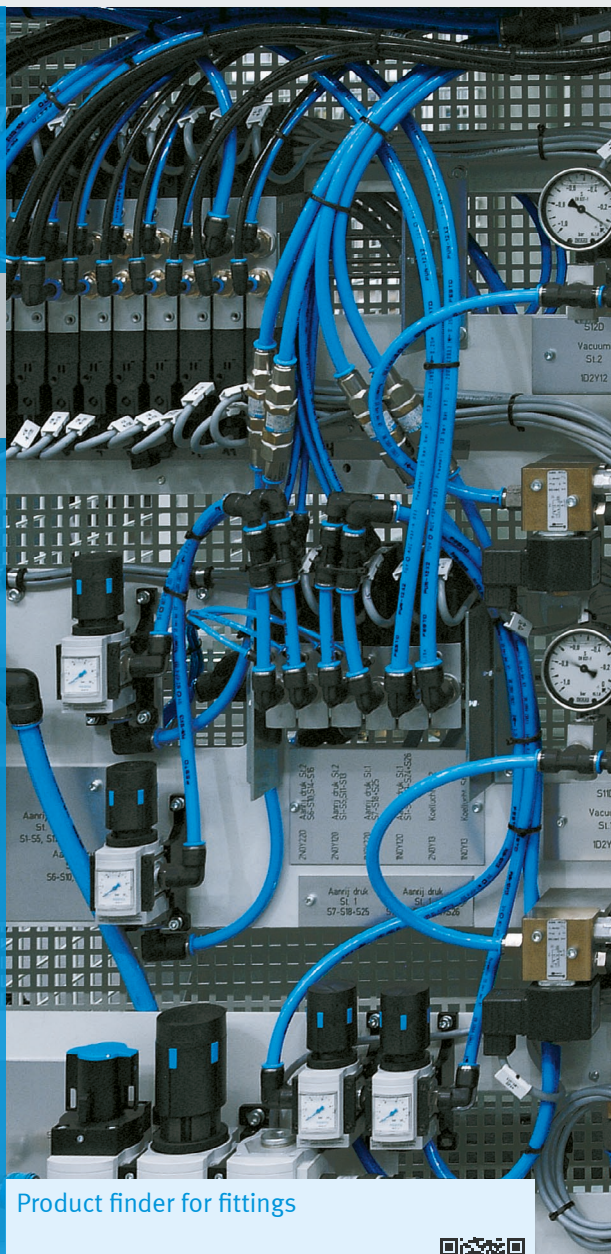


Threaded fittings

NPFC

- + Threaded connection
- + Metric thread with sealing ring
- + R-thread, PTFE-coated
- + G-thread with sealing ring

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Product finder for fittings

→ www.festo.com/productfinder/fittings



The threaded fittings

The threaded fittings are ideal for cost-effective installation of service unit components, control cabinets and other pneumatic installations.

- + Operating temperature: $-20 \dots +150 \text{ }^{\circ}\text{C}$
- + Operating pressure at $20 \text{ }^{\circ}\text{C}$: $-0.95 \dots +50 \text{ bar}$
- + Medium: compressed air, vacuum, others on request
- + Design: nickel-plated brass

Look for our products from the core product range ★

Threaded fittings preselection _____ **168**

Additional information:

→ www.festo.com/fitting



Preselection

	Type, description
	B, blanking plug ★
	NPFC, threaded fittings Port M5, R1/8, R1/4, R3/8, R1/2, R3/4, R1, G1/8, G1/4, G3/8, G1/2, G3/4, G1 Threaded connection: metric thread with sealing ring, R-thread with PTFE coating, G-thread with sealing ring.
	Reducers/sleeves/double nipples Port M3, M5, M7, R1/8, R1/4, R3/8, R1/2, G1/8, G1/4, G3/8, G1/2, G3/4, G1 Threaded connection: metric thread with sealing ring, R-thread with PTFE coating. G-thread with sealing ring.

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Blanking plug B ★



05

Threaded fittings – blanking plug B ★

Additional information:

→ www.festo.com/fitting



Blanking plug

B ★

With external or internal hexagon

Connecting thread M3, M5, M7, G1/8, G1/4, G3/8, G1/2, G3/4, G1

Look for our products from the core product range ★



Blanking plug

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Blanking plug B ★

Blanking plug

	D1	D2	PN	PE
B – male thread with external hexagon				
With sealing ring				
	M3	–	★ 30979	10
	M5	–	★ 3843	10
			534212	100
B – male thread with internal hexagon				
With sealing ring				
	M5	–	★ 174308	10
	M7	–	★ 174309	10
	G1/8	–	★ 3568	10
			534213	100
	G1/4	–	★ 3569	10
			534214	50
	G3/8	–	★ 3570	10
			534215	20
	G1/2	–	★ 3571	10
			534216	20
	G3/4	–	★ 3572	1
	G1	–	★ 5763	1

Blanking plug B ★



05

Threaded fittings – blanking plug B ★



Additional information:

→ www.festo.com/fitting



Threaded fittings

NPFC

Port M5, R1/8, R1/4, R3/8, R1/2, R3/4, R1, G1/8, G1/4, G3/8, G1/2, G3/4, G1

Threaded connection: metric thread with sealing ring, R-thread with PTFE coating, G-thread with sealing ring.



Straight shape

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L-shape

179

T-shape

180

X shape

181

Y-shape

181

Straight shape

	D1	D2	PN	PE
NPFC-S – sleeve				
	M5	M5	8030290	10
	G1/8	G1/8	8030291	10
	G1/4	G1/4	8030292	10
	G3/8	G3/8	8030293	10
	G1/2	G1/2	8030294	10
	G3/4	G3/4	8030295	10
NPFC-R – reducing sleeve				
	G1/8	M5	8069219	10
	G1/4	G1/8	8069220	10
	G3/8	G1/8	8030296	10
		G1/4	8069221	10
	G1/2	G1/8	8069222	10
		G1/4	8069223	10
		G3/8	8069224	10
	G3/4	G1/2	8030297	10
	G1	G1/2	8069225	10
G3/4		8069226	10	
NPFC-E1 – extension (short)				
	M5	M5	8069218	10
	G1/8	G1/8	8030298	10
	G1/4	G1/4	8030299	10
	G3/8	G3/8	8030300	10
	G1/2	G1/2	8030301	10
NPFC-E2 – extension (medium)				
	G1/8	G1/8	8030302	10
	G1/4	G1/4	8030303	10
NPFC-E3 – extension (long)				
	G1/8	G1/8	8030304	10
	G1/4	G1/4	8030305	10
NPFC-E4 – extension (extra long)				
	G1/8	G1/8	8030306	10

Straight shape

	D1	D2	PN	PE
NPFC-D-M – double nipple				
	M3	M3	8069210	10
	M5	M5	8030267	10
	G1/8	G1/8	8030269	10
			8069212	100
	G1/4	G1/4	8030272	10
			8069213	100
	G3/8	G3/8	8030275	10
			8069214	50
	G1/2	G1/2	8030277	10
			8069215	50
	R1/8	R1/8	8030278	10
	R1/4	R1/4	8030281	10
	R3/8	R3/8	8030284	10
	R1/2	R1/2	8030286	10
	R3/4	R3/4	8030288	10
	R1	R1	8030289	10
NPFC-D-M – reducing nipple				
	G1/8	M5	8069211	10
		M7	8030268	10
	G1/4	G1/8	8030270	10
	G3/8	G1/8	8030271	10
		G1/4	8030273	10
	G1/2	G1/4	8030274	10
		G3/8	8030276	10
	G3/4	G1/2	8069216	10
		G3/4	8069217	10
	R1/4	R1/8	8030279	10
	R3/8	R1/8	8030280	10
		R1/4	8030282	10
	R1/2	R1/4	8030283	10
		R3/8	8030285	10
	R3/4	R1/2	8030287	10

Straight shape

	D1	D2	PN	PE
NPFC-R-FM – reducing nipple, female thread/male thread				
	G1/8	M5	8030314	10
	G1/4	G1/8	8030315	10
	G3/8	G1/8	8030316	10
		G1/4	8030317	10
	G1/2	G3/8	8030318	10
NPFC-R-MF – reducing nipple, male thread/female thread				
	M5	M3	8069227	10
	M7	M5	8069228	10
	G1/8	M5	8030307	10
	G1/4	M5	8069229	10
		G1/8	8030308	10
			8069230	100
	G3/8	G1/8	8030309	10
		G1/4	8030310	10
			8069231	50
	G1/2	G1/4	8030311	10
			8069232	50
		G3/8	8030312	10
			8069233	50
	G3/4	G1/4	8069234	10
		G3/8	8069235	10
		G1/2	8030313	10
			8069236	50
	G1	G1/2	8069237	10
		G3/4	8069238	10
NPFC-H – bulkhead fitting				
	M5	M5	8069239	10
	G1/8	G1/8	8069240	10
	G1/4	G1/4	8069241	10
	G3/8	G3/8	8069242	10
	G1/2	G1/2	8069243	10

L-shape

	D1	D2	PN	PE
NPFC-L-F – female thread				
	M5	M5	8030208	10
	G1/8	G1/8	8030209	10
	G1/4	G1/4	8030210	10
	G3/8	G3/8	8030211	10
	G1/2	G1/2	8030212	10
	G3/4	G3/4	8030213	10
	G1	G1	8030214	10
NPFC-L-MF – male thread/female thread				
	M5	M5	8030215	10
	R1/8	G1/8	8030216	10
	R1/4	G1/4	8030217	10
	R3/8	G3/8	8030218	10
	R1/2	G1/2	8030219	10
	R3/4	G3/4	8030220	10
	R1	G1	8030221	10
NPFC-L-M – male thread				
	M5	M5	8030222	10
	R1/8	R1/8	8030223	10
	R1/4	R1/4	8030224	10
	R3/8	R3/8	8030225	10
	R1/2	R1/2	8030226	10
	R3/4	R3/4	8030227	10

T-shape

	D1	D2	D3	PN	PE
NPFC-T-F – female thread					
	G1/8	G1/8	G1/8	8030235	10
	G1/4	G1/4	G1/4	8030236	10
	G3/8	G3/8	G3/8	8030237	10
	G1/2	G1/2	G1/2	8030238	10
	G3/4	G3/4	G3/4	8030239	10
	G1	G1	G1	8030240	10
NPFC-T-FMF – female thread/male thread/female thread					
	M5	M5	M5	8030245	10
	G1/8	R1/8	G1/8	8030246	10
	G1/4	R1/4	G1/4	8030247	10
	G3/8	R3/8	G3/8	8030248	10
	G1/2	R1/2	G1/2	8030249	10
	G3/4	R3/4	G3/4	8030250	10
	G1	R1	G1	8030251	10
NPFC-T-FMM – female thread/male thread/male thread					
	G1/8	R1/8	R1/8	8030255	10
	G1/4	R1/4	R1/4	8030256	10
	G3/8	R3/8	R3/8	8030257	10
	G1/2	R1/2	R1/2	8030258	10
NPFC-T-M – male thread					
	R1/4	R1/4	R1/4	8030252	10
	R3/8	R3/8	R3/8	8030253	10
	R1/2	R1/2	R1/2	8030254	10
NPFC-T-MMF – male thread/male thread/female thread					
	R1/8	R1/8	G1/8	8030259	10
	R1/4	R1/4	G1/4	8030260	10
	R1/2	R1/2	G1/2	8030261	10
NPFC-T-MFF – female thread/male thread/female thread					
	M5	M5	M5	8069244	10
	R1/8	G1/8	G1/8	8030241	10
	R1/4	G1/4	G1/4	8030242	10
	R3/8	G3/8	G3/8	8030243	10
	R1/2	G1/2	G1/2	8030244	10

Y-shape

	D1	D2	D3	PN	PE
NPFC-Y-F – female thread					
	G1/4	G1/4	G1/4	8030228	10
	G3/8	G3/8	G3/8	8030229	10
	G1/2	G1/2	G1/2	8030230	10
NPFC-Y-MFF – male thread/female thread/female thread					
	R1/8	G1/8	G1/8	8030231	10
	R1/4	G1/4	G1/4	8030232	10
	R3/8	G3/8	G3/8	8030233	10
	R1/2	G1/2	G1/2	8030234	10

X shape

	D1	D2	D3	D4	PN	PE
NPFC-X-F – female thread						
	G1/4	G1/4	G1/4	G1/4	8030262	10
	G3/8	G3/8	G3/8	G3/8	8030263	10
	G1/2	G1/2	G1/2	G1/2	8030264	10
NPFC-X-MFFF – male thread/female thread/female thread/female thread						
	R1/4	G1/4	G1/4	G1/4	8030265	10
	R1/2	G1/2	G1/2	G1/2	8030266	10

Configurable product



This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/npfc



Reducers/sleeves/double nipples

05

Threaded fittings – reducers/sleeves/double nipples



Additional information:

→ www.festo.com/fitting



Reducers/sleeves/double nipples

D, ESK, QM, LJK, TJK

Port M3, M5, M7, R1/8, R1/4, R3/8, R1/2, G1/8, G1/4, G3/8, G1/2, G3/4, G1

Threaded connection: metric thread with sealing ring, R-thread with PTFE coating, G-thread with sealing ring.



Straight shape

184

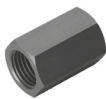
L-shape

185

T-shape

185

Straight shape

	D1	D2	PN	PE
D – reducing nipple				
	M5	M7	161359	10
ESK – double nipple				
	R1/8	R1/8	151520	1
	R1/4	R1/4	151521	1
	R3/8	R3/8	151522	1
	R1/2	R1/2	151523	1
ESK – reducing nipple				
	R1/4	R1/8	534151	1
	R3/8	R1/8	534155	1
		R1/4	534152	1
	R1/2	R1/4	534153	1
		R3/8	534154	1
QM – sleeve				
	M5	M5	3560	10
	G1/8	G1/8	2254	10
	G1/4	G1/4	2255	10
	G3/8	G3/8	2256	10
	G1/2	G1/2	2257	10
	G3/4	G3/4	4226	1
	G1	G1	9968	1

L-shape

	D1	D2	PN	PE
LJK With sealing ring				
	G1/8	G1/8	4945	1
	G1/4	G1/4	4946	1
	G3/8	G3/8	4947	1
	G1/2	G1/2	4948	1

T-shape

	D1	D2	PN	PE
TJK With sealing ring				
	M3	M3	15874	10
	G1/8	G1/8	4949	1
	G1/4	G1/4	4950	1
	G3/8	G3/8	4951	1
	G1/2	G1/2	4952	1

Highlights

06

Click fittings for standard O.D. tubing – Highlights





Click fittings

NPKA

- + Low leakage, no scratching of the tubing by retaining claws
- + Easy to clean, sealed shape when tubing fitted
- + Also suitable for pipes with corresponding slot

→ 190

Overview

06

Click fittings for standard O.D. tubing – Overview



Product finder for fittings

→ www.festo.com/productfinder/fittings



NPKA makes changing tubing a breeze

With the unique click mechanism, you can change a pipe or tube with one hand.

The audible click noise confirms that a secure and leakproof connection

has been made – even if you connect and disconnect often. The light, corrosion-free polymer has lots of advantages: it is free of non-ferrous metals, fluorine, silicone and grease, it is FDA approved, and it is suitable for clean rooms.

Ideal for the electronics and semiconductor industries, assembly of small parts and battery cells, and for food and beverage production.

- + Very easy to operate with one hand
- + Many possible uses – polymer as the sole material
- + Easy-to-clean Clean Look without corners or edges

Preselection

Straight shape _____ **190**

L-shape _____ **190**

T-shape _____ **190**

Additional information:

→ www.festo.com/fittings



Suitable for:

Standard O.D. tubing → **22**

Straight shape

	D1	D2	PN	PE
NPKA – male thread with internal hexagon				
	G1/8	6	1243489	10

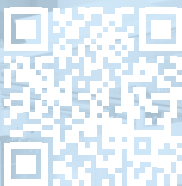
L-shape

	D1	D2	PN	PE
NPKA-L – male thread with outside hexagon, rotatable				
	G1/8	6	1655429	10

T-shape

	D1	D2	PN	PE
NPKA-T				
	6	6	1590710	10

→ www.festo.com/service2see



06

Click fittings **NPKA**



Highlights

07

Push-in fittings for pipes – Highlights



Highlights

our push-in fittings for pipes



Push-in fittings

CQ

+ Connection G3/8, G1/2, G3/4, G1

+ Diameter 12, 15, 18, 22 and 28 mm.

→ 196





Product finder for fittings

→ www.festo.com/productfinder/fittings



A comprehensive range of nominal widths

Safe design – for practical use: the CQ system holds the pipes outside so the reduction in nominal width is negligible. Extremely easy and fast to install; simply push in – you don't even need any tools. Suitable for polyamide and aluminium pipes.

Outside diameter: 12, 15, 18, 22 and 28 mm

- + Also suitable for PAN and PUN plastic tubing with O.D. 12 mm
- + For compressed air, vacuum and liquids
- + Can be re-used a number of times
- + Plug materials FDA-approved

Preselection

Straight shape _____	196
L-shape _____	197
T-shape _____	197
Distributor _____	197
Fluid separator _____	198
Accessories _____	198

Additional information:

→ www.festo.com/fitting



Suitable for:

Pipes → 52

Straight shape

	D1	D2	PN	PE
CQ-...-... with sealing ring				
	G3/8	12	177682	1
	G1/2	12	177683	1
		15	177684	1
		18	177685	1
	G3/4	22	177686	1
CQ-...-...H with push-in sleeve and sealing ring				
	G3/8	12	177705	1
		15	177707	1
	G1/2	12	177706	1
		15	177708	1
		18	177709	1
		22	177710	1
	G3/4	22	177711	1
	G1	28	194589	1
CQ-... – push-in connector				
	12	12	177695	1
	15	15	177696	1
	18	18	177697	1
	22	22	177698	1
	28	28	194586	1
CQ-...H-... – push-in connector with push-in sleeve				
	12	15	177701	1
	15	18	177702	1
	15	22	177703	1
	18	22	177704	1
	22	28	196231	1
CQH – push-in sleeve for connecting CQ to QS				
	15	12	177721	1
	18	16	177722	1
	22	16	177723	1
CQC – blanking plug				
	12 ±0.15	12 ±0.15	177712	1
	15 ±0.15	15 ±0.15	177713	1
	18 ±0.15	18 ±0.15	177714	1
	22 ±0.15	22 ±0.15	177715	1
	28 ±0.15	28 ±0.15	194590	1

L-shape

	D1	D2	PN	PE
CQL				
	12	12	177691	1
	15	15	177692	1
	18	18	177693	1
	22	22	177694	1
	28	28	194587	1

T-shape

	D1	D2	PN	PE
CQT				
	12	12	177687	1
	15	15	177688	1
	18	18	177689	1
	22	22	177690	1
	28	28	194588	1
CQT reducing				
	18	15	177699	1
	22	15	177700	1

Distributor

	D1	D2	PN	PE
CQD				
With 3 blanking plugs				
	G1/2	G1/2	177717	1

Fluid separators

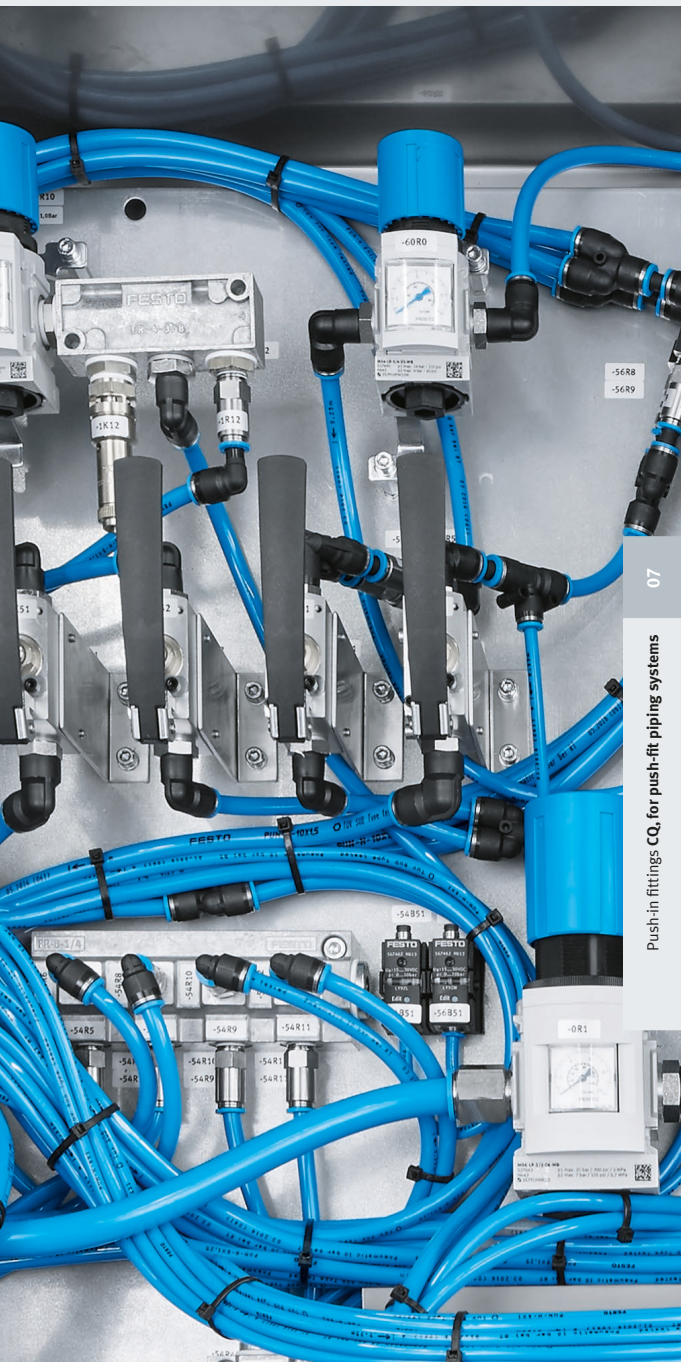
	D1	D2	PN	PE
CQA				
	22	22	177716	1
	28	28	196984	1

Retaining ring

	D1	D2	PN	PE
CQSR				
	12	–	175727	10
	15	–	175728	10
	18	–	175729	10
	22	–	175730	10

Releasing tool

	D1	D2	PN	PE
CQO				
	15	–	175725	1
	22	–	175726	1





Highlights

our couplings

Coupling socket and plug

NPHS ★

- + Connection male thread G1/8, G1/4, G3/8, G1/2
- + Connection female thread G1/4, G3/8, G1/2
- + Barbed fitting connection N9
- + 3/2 hand slide valve optional.

→ 208





A comprehensive range of nominal widths

Festo's range of couplings is suitable for all industries and applications.

Whenever and wherever they're needed. Particularly if you are looking for a quick, easy and, if need be, completely safe way of making and releasing connections.

- + Easy and safe handling
- + Quick couplings
- + Safety couplings
- + Wide range of connections: male and female thread, barbed fittings, fittings with union nut, bulkhead fittings

Look for our products from the core product range ★

Preselection _____ **204**

Additional information:

→ www.festo.com/couplings



Preselection

	Type, description
	NPHS, safety coupling ★ Connection male thread G1/8, G1/4, G3/8, G1/2 Connection female thread G1/4, G3/8, G1/2 Barbed fitting connection N9 3/2 hand slide valve optional
	KD, coupling sockets ★ Connection M3, M5, G1/8, G1/4, G3/8, G1/2 Diameter 2, 3, 4, 6, 9, 13 mm Threaded connection, metric thread with sealing ring, G-thread with sealing ring, shut-off one side Shut-off both sides, safety coupling in accordance with ISO 4414.
	KS, quick coupling plug Port M5, R1/8, R1/4, R3/8, R1/2, R3/4, R1, G1/8, G1/4, G3/8, G1/2, G3/4, G1 Threaded connection: metric thread with sealing ring, R-thread with PTFE coating, G-thread with sealing ring.
	KSV, KDVF, multiple connectors Multi-plugs KSV and suitable barbed fittings Multi-plugs KDVF and suitable terminal sockets For up to 32 lines
	KM, multi-tube connectors For up to 22 lines

	Page
<u>Quick coupling sockets</u>	208
<u>Quick coupling plug</u>	209
<u>Quick coupling sockets</u>	212
<u>Quick coupling plug</u>	213
<u>Multiple connectors</u>	216
<u>Multi-tube connectors</u>	217



Additional information:

→ www.festo.com/couplings



NEW**Coupling sockets/plugs NPHS ★**

Quick coupling socket/plug

NPHS ★

Connection male thread G1/8, G1/4, G3/8, G1/2

Connection female thread G1/4, G3/8, G1/2

Barbed fitting connection N9

Coupling socket: 3/2 hand slide valve optional

Look for our products from the core product range ★



Coupling socket

208

Quick coupling plug

209

Coupling socket

	D1	D2	PN	PE
NPHS male thread				
Plastic releasing sleeve				
	—	G1/8	8059266	1
		G1/4	★ 8059267	1
		G3/8	★ 8059268	1
		G1/2	★ 8059269	1
NPHS male thread				
Metal releasing sleeve				
	—	G1/4	8059275	1
		G3/8	8059276	1
		G1/2	8059277	1
NPHS female thread				
Plastic releasing sleeve				
	—	G1/4	8059271	1
		G3/8	8059272	1
		G1/2	8059273	1
NPHS for plug-in sleeve				
Plastic releasing sleeve				
	—	I.D. 9 mm	8059274	1

NEW

Coupling sockets/plugs NPHS ★

Quick coupling plug

	D1	D2	PN	PE
NPHS male thread				
	-	G1/8	★ 8059257	10
		G1/4	★ 8059258	10
		G3/8	★ 8059259	10
		G1/2	★ 8059260	10
NPHS female thread				
	-	G1/4	★ 8059262	10
		G3/8	★ 8059263	10
		G1/2	★ 8059264	10
NPHS for plug-in sleeve				
	-	I.D. 9 mm	8059265	10



Additional information:

→ www.festo.com/couplings



Quick coupling sockets and plugs

KD/KS ★

Connection M3, M5, G1/8, G1/4, G3/8, G1/2

Diameter 2, 3, 4, 6, 9, 13 mm

Threaded connection

Metric thread with sealing ring

G thread with sealing ring

Shut-off at one side

Shut off on both sides

Safety coupling in accordance with ISO 4414.

Look for our products from the core product range ★



Coupling socket

212



Quick coupling plug

213

Coupling socket

	D1	D2	PN	PE
KD male thread				
	6.5	M3	151995	1
	10	M5	4087	1
	16	G1/8	2142	1
	16	G1/4	531626	1
	26.4	G1/4	★ 2143	1
	26.4	G3/8	★ 2144	1
	26.4	G1/2	★ 2145	1
KD female thread				
	10	M5	531620	1
	16	G1/8	531627	1
	16	G1/4	531628	1
	26.4	G1/4	531636	1
	26.4	G3/8	531637	1
	26.4	G1/2	531638	1
KD quick connector with union nut				
	10	CK-3	531621	1
	10	CK-4	531622	1
	16	CK-4	531629	1
	16	CK-6	531630	1
	26.4	CK-6	531639	1
	26.4	CK-9	531640	1
KD barbed fitting				
	26.4	N9	531641	1

Quick coupling plug

	D1	D2	PN	PE
KS male thread				
	10	M5	531658	1
	16	G1/8	3492	1
	16	G1/4	531666	1
	26.4	G1/4	2154	1
	26.4	G3/8	2155	1
	26.4	G1/2	531676	1
KS female thread				
	10	M5	531660	1
	16	G1/8	531668	1
	16	G1/4	531669	1
	26.4	G1/4	531678	1
	26.4	G3/8	531679	1
	26.4	G1/2	531680	1
KS quick connector with union nut				
	10	CK-3	4091	1
	10	CK-4	4090	1
	16	CK-4	3326	1
	16	CK-6	3478	1
	26.4	CK-4	2150	1
	26.4	CK-6	2151	1
	26.4	CK-9	531683	1
KS barbed fitting				
	4	CN-2	151996	1
	26.4	N6	2152	1
	26.4	N9	2153	1



Additional information:

→ www.festo.com/couplings



Multiple connectors

KSV/KDVF

Multi-plugs KSV and suitable barbed fittings

Multi-sockets KDVF and suitable terminal sockets

Multi-tube connector

KM

KM coupling and suitable terminal sockets

	Multi-plug KSV	216
	Multi-sockets KDVF	216
	Accessories	216
	Coupling	217
	Accessories	217

Multi-plug

	Max. number of connections	Pneumatic connection	PN	PE
KSV male thread				
	5	PK-2, PK-3, PK-4	7557	1
	7	PK-6	152506	1
	8	PK-2, PK-3, PK-4	7558	1
	12	PK-6	152507	1
	16	PK-2, PK-3, PK-4	7559	1
	22	PK-6	152508	1
	32	PK-2, PK-3, PK-4	7560	1

Multi-sockets

	Max. number of connections	Pneumatic connection	PN	PE
KDVF male thread				
	5	PK-2, PK-3, PK-4	7562	1
	7	PK-6	152509	1
	8	PK-2, PK-3, PK-4	7563	1
	12	PK-6	152510	1
	16	PK-2, PK-3, PK-4	7564	1
	22	PK-6	152511	1
	32	PK-2, PK-3, PK-4	7565	1

Accessories

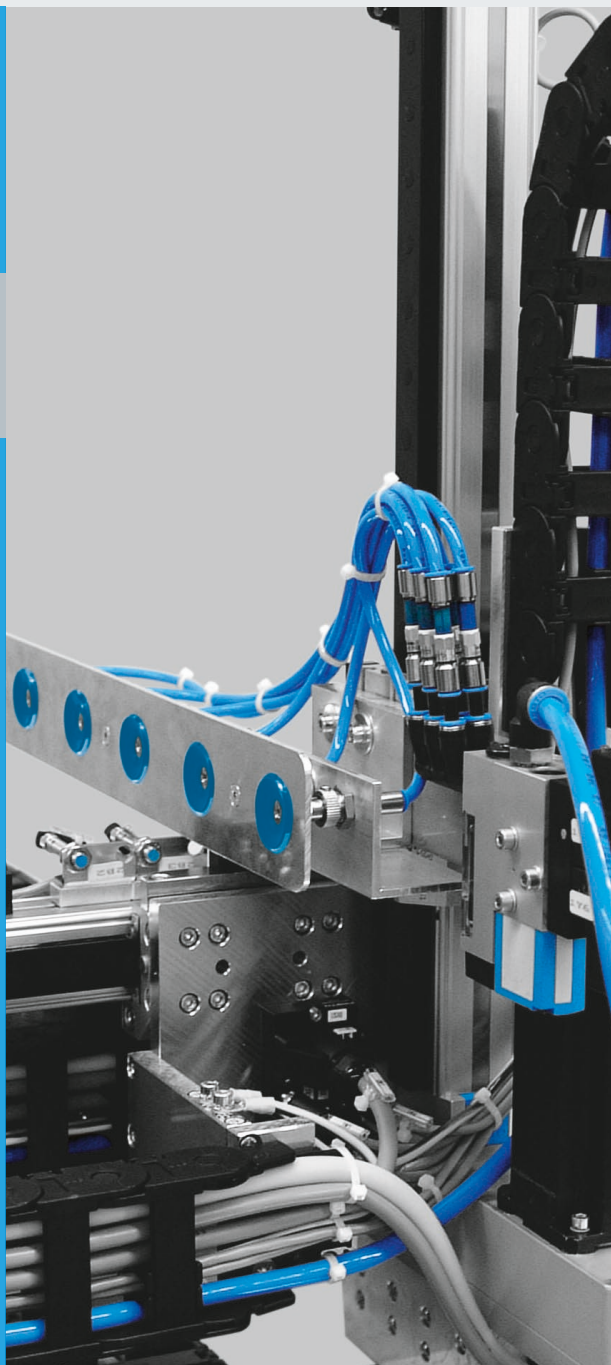
	Pneumatic connection	PN	PE
KSV barbed fitting			
	PK-2	33384	10
	PK-3	7215	10
	PK-4	7216	10
	PK-6	117945	10
KDV terminal socket			
	PK-2	244937	10
	PK-3	208378	10
	PK-4	208380	10
	PK-6	337348	10

Coupling

	Max. number of connections	Pneumatic connection	PN	PE
KM				
	22	For PK-2, PK-3, PK-4	13694	1

Terminal socket

	Pneumatic connection	PN	PE
KDV			
	PK-2	244937	10
	PK-3	208378	10
	PK-4	208380	10



Highlights

our distributors



Distributor blocks

FR

- + Supply line female thread G1/8, G1/4, G3/8, G1/2
- + Outlet female thread M3, M5, G1/8, G1/4, G3/8, G1/2

→ 222



Rotary distributors

GF

- + Radial and axial outlets with multiple rotary distributors
- + Sturdy design with double bearings to protect against mechanical loads

→ 223



Multiple distributors

QSLV...

- + Simple connection and release
- + Up to 6 outlets
- + Rotatable 360°

→ 224

Overview

09

Distributors – Overview



Completely flexible media supply and return

Whether it's compressed air, vacuum, liquids or gases – the distributor blocks FR, rotary distributors GF and multiple distributors of the QS series from Festo guarantee the secure transmission of media from stationary sources to fixed or rotating machine parts.

+ Distributor blocks FR

1 or 2 supply lines, 3 to 12 outlets _____ **222**

+ Rotary distributor GF with 1 or 2 supply lines, radial and axial outlets, robust design with double ball bearings for protection against mechanical loads

Simple _____ **223**

Double _____ **223**

+ Series QS multiple distributors in many variants with up to 6 outlets

Straight shape QSQ, 4 outlets _____ **224**

L-shape QSLV, 2 ... 6 outlets _____ **224**

L-shape QST3, 4 outlets _____ **227**

L-shape QSYTF, 3 outlets _____ **227**

Additional information:

→ www.festo.com/pneumatic-distributors



Distributor blocks **FR**

	D1	D2	PN	PE
FR-4				
1 supply line, 3 outlets				
	G1/8	G1/8	6701	1
	G1/4	G1/4	7849	1
	G3/8	G3/8	6703	1
	G1/2	G1/2	6704	1
FR-8				
2 supply lines, 8 outlets				
	G3/8	G1/8	2077	1
	G1/2	G1/4	2078	1
	G3/4	G1/2	6411	1
FR-9				
1 supply line, 9 outlets				
	G1/8	M3	30981	1
FR-12				
2 supply lines, 12 outlets				
	G1/8	M5	4525	1

Rotary distributor GF, single

1 axial inlet, 4 radial outlets

	D1	D2	PN	PE
	G1/8	M5	539290	1
	G1/4	G1/8	539291	1
	G1/2	G1/4	539292	1

Rotary distributor GF, dual

2 separate inlets¹⁾ and outlets²⁾

	D1 ¹⁾	D2 ²⁾	PN	PE
	G1/8	G1/8	539287	1
	G1/4	G1/4	539288	1
	G1/2	G1/2	539289	1

1) axial und radial inlets

2) radial outlets

Multiple distributors

	D1	D2	PN	PE
QSQ				
Straight shape, 4 outlets				
	R1/8	4	153206	1
		6	153208	1
	R1/4	4	153207	1
		6	153288	1
	G1/8	4	186220	1
		6	186222	1
	G1/4	4	186221	1
		6	186263	1
	6	4	153209	1
	8	6	153210	1
QSLV2				
L-shape, 2 outlets				
	R1/8	4	153211	1
		6	153212	1
		8	153214	1
	R1/4	6	153213	1
		8	153215	1
		10	153217	1
	R3/8	8	153216	1
		10	153218	1
		12	153219	1
	R1/2	12	153220	1
	G1/8	4	186223	1
		6	186224	1
		8	186226	1
	G1/4	6	186225	1
		8	186227	1
		10	186229	1
	G3/8	8	186228	1
		10	186230	1
		12	186231	1
	G1/2	12	186232	1

Multiple distributors

	D1	D2	PN	PE
QSLV3				
L-shape, 3 outlets				
	R1/8	4	153221	1
		6	153222	1
		8	153224	1
	R1/4	6	153223	1
		8	153225	1
		10	153227	1
	R3/8	8	153226	1
		10	153228	1
		12	153229	1
	R1/2	12	153230	1
	G1/8	4	186233	1
		6	186234	1
		8	186236	1
	G1/4	6	186235	1
		8	186237	1
		10	186239	1
	G3/8	8	186238	1
		10	186240	1
		12	186241	1
	G1/2	12	186242	1
QSLV4				
L-shape, 4 outlets				
	R1/8	4	153231	1
		6	153232	1
		8	153234	1
	R1/4	6	153233	1
		8	153235	1
		10	153237	1
	R3/8	8	153236	1
		10	153238	1
		12	153239	1
	R1/2	12	153240	1
	G1/8	4	186243	1
		6	186244	1
		8	186246	1
	G1/4	6	186245	1
		8	186247	1
		10	186249	1
	G3/8	8	186248	1
		10	186250	1
		12	186251	1
	G1/2	12	186252	1

Multiple distributors

	D1	D2	PN	PE
QSLV6				
L-shape, 6 outlets				
	R1/8	4	153241	1
		6	153242	1
		8	153244	1
	R1/4	6	153243	1
		8	153245	1
		10	153247	1
	R3/8	8	153246	1
		10	153248	1
		12	153249	1
	R1/2	12	153250	1
	G1/8	4	186253	1
		6	186254	1
		8	186256	1
	G1/4	6	186255	1
		8	186257	1
		10	186259	1
	G3/8	8	186258	1
		10	186260	1
		12	186261	1
	G1/2	12	186262	1

Multiple distributors

	D1	D2	D3	PN	PE
QST3					
L-shape, 4 outlets					
	R1/8	6	4	153200	1
	R1/4	8	6	153201	1
	R3/8	10	8	153202	1
	G1/8	6	4	186217	1
	G1/4	8	6	186218	1
	G3/8	10	8	186219	1
	6	6	4	153203	1
	8	8	6	153204	1
	10	10	8	153205	1
QSYTF					
L-shape, 3 outlets					
	R1/8	6	G1/8	153196	1
	R1/4	8	G1/4	153197	1
	R3/8	10	G3/8	153198	1
	R1/2	12	G1/2	153199	1
	G1/8	6	G1/8	186213	1
	G1/4	8	G1/4	186214	1
	G3/8	10	G3/8	186215	1
	G1/2	12	G1/2	186216	1

Configurable product



This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/qs







Highlights

our stop valves

Quick exhaust valves

VBQF

- + Female thread connection G1/8, G1/4
 - + Ducted or non-ducted exhaust air
- 239



Hand slide valves

VBOH

- + Connection M5, G1/8, G1/4, G3/8, G1/2, G3/4
- 243





Stop valves – „Stop & Go“ for your compressed air

Whether used in maintenance tasks, for rapid stopping during horizontal movements or as part of a backup system in the event of a pressure failure – Festo's stop valves are the obvious choice for applications requiring complete shut-off of compressed air thanks to their impressive ability to shut off and quickly restore the supply of compressed air.

- + Piloted check valves HGL are activated as soon as a control signal is no longer pending.
- + Quick exhaust valves SE/SEU/VBQF for increased speeds with single-acting or double-acting cylinders.
Quick exhaust valves SE with ducted exhaust air.
- + Ball valves QH, shut-off valves HE and hand slide valves VBOH for shutting off the compressed air.
- + Piloted check valves VBNF with manual exhaust function.

Look for our products from the core product range ★

Stop valves preselection _____ **232**

Additional information:

→ www.festo.com/shut-off-valves



Preselection

	Type, description
	H-QS, HA, HB, H, check valves HGL-QS, HGL, check valves, piloted With connecting thread or QS push-in connection Manual override
	VBNF, check valves, piloted With connecting thread or QS push-in connection With piloted non-return function
	SEU, SE, VBQF, quick exhaust valves With or without silencer Flat design
	QH, QHS, ball valves, manually actuated With connecting thread or QS push-in connection With bulkhead fitting
	HE, shut-off valves With connecting thread or QS push-in connection
	VBOH, hand slide valves With connecting thread

Stop valves – Preselection

Check valves

	D1	D2	qnN [l/min]	PN	PE
h-qs					
QS push-in connector at both ends					
	4	4	136	153462	1
	6	6	282	153463	1
	8	8	681	153464	1
	10	10	1480	153465	1
	10	12	1715	153466	1
HA					
with male thread and QS push-in connector					
Flow direction male thread → push-in connector					
	M5	4	148	153444	1
	R1/8	4	138	153446	1
		6	311	153448	1
		8	331	153452	1
	R1/4	6	302	153450	1
		8	670	153454	1
	R3/8	10	1740	153456	1
		12	1876	153458	1
	R1/2	12	2230	153460	1
HB					
with male thread and QS push-in connector					
Flow direction push-in connector → male thread					
	4	M5	144	153445	1
	4	R1/8	142	153447	1
	6		335	153449	1
	8		314	153453	1
	6	R1/4	294	153451	1
	8		696	153455	1
	10	R3/8	1700	153457	1
	12		1886	153459	1
	12	R1/2	2206	153461	1

Check valves

	D1	D2	qnN [l/min]	PN	PE
H with female thread both sides					
	M5	M5	115	3671	1
H with female and male thread					
	G1/8 ¹⁾	G1/8 ²⁾	280	3324³⁾	1
H with male thread at both ends					
	G1/4 ¹⁾	G1/4 ²⁾	1000	11689³⁾	1
	G3/8 ¹⁾	G3/8 ²⁾	2000	11690³⁾	1
	G1/2 ¹⁾	G1/2 ²⁾	5500	11691³⁾	1
	G3/4 ¹⁾	G3/4 ²⁾	5900	11692³⁾	1

1) Female thread

2) Male thread

3) Sealing rings for male thread are included in the scope of delivery.

Configurable product



This product and all its product options
can be ordered online via the configura-
tor:

→ www.festo.com/catalogue/h



Check valves, piloted

	D1	D2	qnN [l/min]	PN	PE
HGL with female and male thread					
	M5 ¹⁾	M5 ²⁾	130	★ 530029 ³⁾	1
	G1/8 ¹⁾	G1/8 ²⁾	300	543253 ³⁾	1
	G1/8 ¹⁾	G1/8 ²⁾	300	★ 530030 ³⁾	1
	G1/4 ¹⁾	G1/4 ²⁾	550	★ 530031 ³⁾	
	G3/8 ¹⁾	G3/8 ²⁾	1100	★ 530032 ³⁾	
	G1/2 ¹⁾	G1/2 ²⁾	1600	★ 530033 ³⁾	
HGL with male thread and QS push-in connector					
	M5	4	130	★ 530038 ³⁾	1
	G1/8	4	200	★ 530039 ³⁾	1
		6	270	★ 530040 ³⁾	1
	G1/4	8	390	★ 530041 ³⁾	1
		10	400	★ 530042 ³⁾	1
	G3/8	8	830	★ 530043 ³⁾	1
		10	890	★ 530044 ³⁾	1
	G1/2	12	1400	★ 530045 ³⁾	1
HAB Manual override, with female and male thread					
	G1/8 ¹⁾	G1/8 ²⁾	165	184585	1
	G1/4 ¹⁾	G1/4 ²⁾		184586	1
	G3/8 ¹⁾	G3/8 ²⁾		184587	1
	G1/2 ¹⁾	G1/2 ²⁾		184588	1

1) Female thread

2) Male thread

3) Sealing rings for male thread are included in the scope of delivery.

Check valves, piloted

	D1	D2	qnN [l/min]	PN	PE
VBNF with male thread and QS push-in connector					
	6	G1/8	260	8001460	1
	8	G1/4	62	1927027	1

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/vbnf

Quick exhaust valves

	D1	D2	D3	qnN [l/min]		PN	PE
				1 → 2	2 → 3		
SE							
Ducted exhaust air							
	G1/8	G1/8	G1/8	300	660	9685	1
	G1/4	G1/4	G1/4	960	1200	9686	1
	G3/8	G3/8	G3/8	2880	2760	9687	1
	G1/2	G1/2	G1/2	4560	6480	9688	1
	G3/4	G3/4	G3/4	2500	7500	2280	
SEU							
with silencer							
	G1/8	G1/8	–	300	550	4616	1
	G1/4	G1/4	–	960	1100	6753	1
	G3/8	G3/8	–	2880	2280	6755	1
	G1/2	G1/2	–	4560	4020	6822	1

Quick exhaust valves, flat design

	D1	D2	D3	qnN [l/min]		PN	PE
				1 → 2	2 → 3		
VBQF-D							
Ducted exhaust air							
	G1/8	G1/8	G1/8	350	850	547533	1
		QS-6	QS-8	350	850	547534	1
	G1/4	G1/4	G1/4	960	1500	548003	1
VBQF-U							
with silencer							
	G1/8	G1/8	–	350	–	547531	1
		QS-6	–	350	–	547532	1
	G1/4	G1/4	–	960	–	548001	1
		QS-8	–	800	–	548002	1

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/vbqf

Ball valves with plastic housing

	D1	D2	qnN [l/min]	PN	PE
QH-QS					
QS push-in connector at both ends					
	4	4	148	153483	1
	6	6	533	153484	1
with male thread and QS push-in connector					
	R1/8	4	235	153486	1
		6	560	153487	1
QHS-QS					
with male thread and QS push-in connector, bulkhead fitting					
	6	6	528	153485	1

Ball valves with brass housing

	D1	D2	qnN [l/min]	PN	PE
QH					
with female thread					
	G1/4	G1/4	3400	9541	1
	G3/8	G3/8	7500	9542	1
	G1/2	G1/2	11500	9543	1
	G3/4	G3/4	21000	9544	1
	G1	G1	33000	9545	1
	G1 1/2	G1 1/2	84000	6837	1

shut-off valves, 2/2 way

	D1	D2	qnN [l/min]	PN	PE
HE-2-QS					
QS push-in connector at both ends					
	6	6	278	153467	1
	8	8	388	153468	1
	10	10	761	153469	1
	12	12	830	153470	1
HE-2-...-QS					
with male thread and QS push-in connector					
	6	R1/8	307	153471	1
	8	R1/4	396	153472	1
	10	R3/8	728	153473	1
	12	R1/2	776	153474	1

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/he

shut-off valves, 2/3 way

	D1	D2	qnN [l/min]	PN	PE
HE-3-QS					
QS push-in connector at both ends					
	6	6	270	153475	1
	8	8	390	153476	1
	10	10	780	153477	1
	12	12	840	153478	1
HE-3-...-QS					
with male thread and QS push-in connector					
	6	R1/8	301	153479	1
	8	R1/4	380	153480	1
	10	R3/8	733	153481	1
	12	R1/2	796	153482	1
HE-3					
Male thread at both ends					
	R1/8	R1/8	301	153296	1
	R1/4	R1/4	380	153297	1
	R3/8	R3/8	730	153298	1

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/he

Hand slide valves

	D1	D2	qnN [l/min]	PN	PE
VBOH					
Female thread at both ends					
	M5	M5	236	1609969	1
	G1/8	G1/8	777	1558073	1
	G1/4	G1/4	1675	1302994	1
	G3/8	G3/8	2201	1482679	1
	G1/2	G1/2	3420	1587988	1
	G3/4	G3/4	7691	1629664	1

Configurable product



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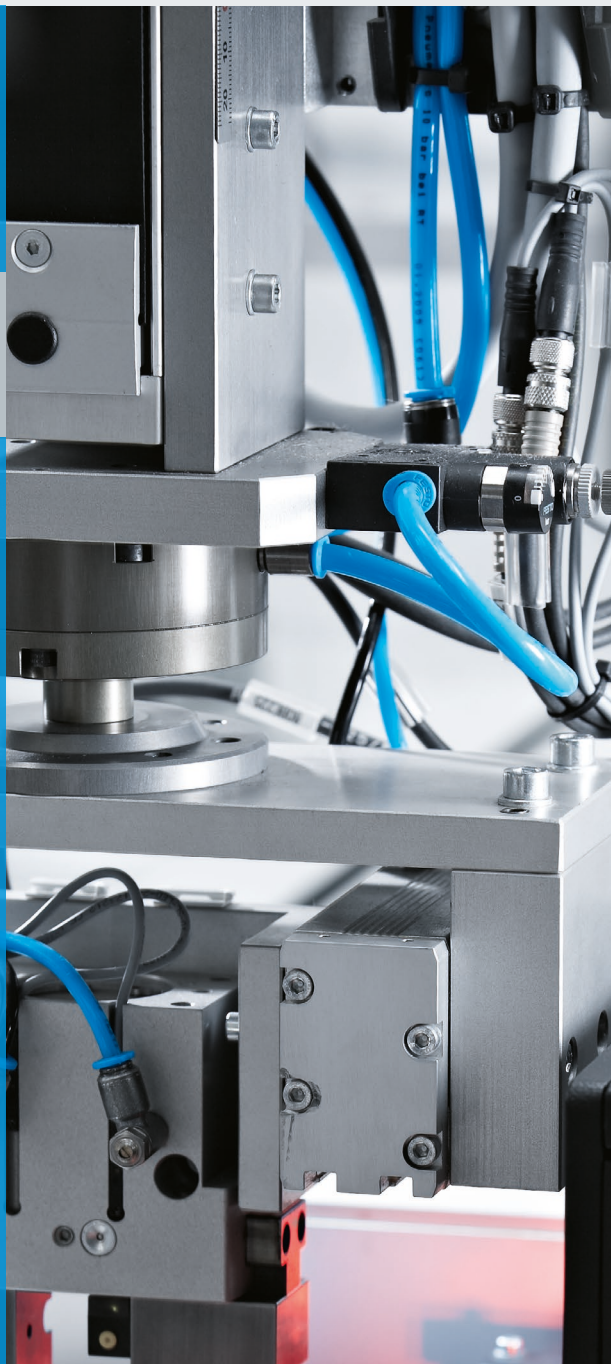


→ www.festo.com/catalogue/vboh

Highlights

11

Pressure regulators – Highlights



Highlights

our pressure regulators



Pressure regulator

VRPA

- + Regulates operating pressure independently of fluctuating input pressure
- + With secondary exhaust and with return flow function
- + With or without pressure gauge
- + Screw-in or inline variants

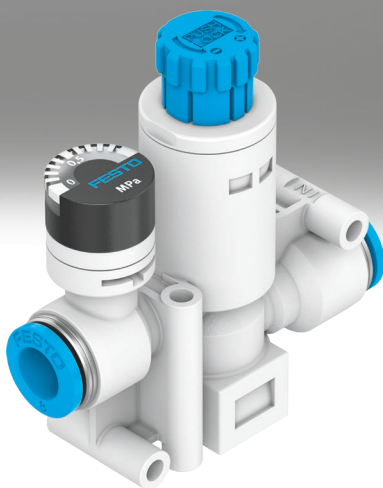
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NEW

Overview

11

Pressure regulators – Overview



Pressure regulators – optimum prerequisites

You need your system to operate at peak performance every day. Your system always operates properly with pressure control valves and differential pressure regulators. They guarantee the required pressure directly at the system, regardless of the input pressure, and compensate pressure peaks on the supply side.

- + Pressure regulator VRPA – our classic in a new design
- + Pressure control valves LR-... and LRMA-... keep the output pressure stable
- + Differential pressure regulators LRL-... and LRLL-... maintain a manually set differential pressure between the primary pressure at the screw-in thread and the secondary pressure at the QS connection.

Pressure regulator preselection _____ **248**

Additional information:

→ www.festo.com/pressure-control-valves



Preselection

	Type, description
	VRPA, pressure regulator, inline with or without pressure gauge QS push-in connector at both ends
	VRPA, pressure regulator, L-outlet with pressure gauge with male thread and QS push-in connector
	LR-QS, pressure regulators with male thread and QS push-in connector QS push-in connector at both ends
	LRMA-QS, pressure regulators with pressure gauge with male thread and QS push-in connector QS push-in connector at both ends
	LRL, LRLl, differential pressure regulators with male thread and QS push-in connector at top with male thread and QS push-in connector on side

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Pressure regulator without pressure gauge

	D1	D2	qnN [l/min]	PN	PE
VRPA QS push-in connector at both ends					
	4	4	80	8086000	1
	6	6	90	8086001	1
	8	8	130	8086002	1

Pressure regulator with pressure gauge

	D1	D2	qnN [l/min]	PN	PE
VRPA QS push-in connector at both ends					
	4	4	80	8086003	1
	6	6	90	8086004	1
	8	8	130	8086005	1
VRPA with male thread and QS push-in connector					
	M5	4	80	8086007	1
		6	90	8086008	1
	R1/8	4	90	8086009	1
		6	100	8086010	1
		8	130	8086011	1
	R1/4	6	115	8086012	1
		8	130	8086014	1

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/vrpa

Pressure regulators without pressure gauge

	D1	D2	qnN [l/min]	PN	PE
LR-QS-...					
QS push-in connector at both ends					
	4	4	67	153540	1
	6	6	70	153541	1
	8	8	127	153542	1
LR-...-QS					
with male thread and QS push-in connector					
	M5	4	22	153532	1
		6	41	153533	1
	R1/8	4	46	153534	1
		6	63	153535	1
		8	69	153536	1
	R1/4	6	98	153537	1
		8	101	153538	1

Pressure regulators with pressure gauge

	D1	D2	qnN [l/min]	PN	PE
LRMA-QS-...					
QS push-in connector at both ends					
	4	4	67	153495	1
	6	6	70	153496	1
	8	8	127	153497	1
LRMA-...-QS					
with male thread and QS push-in connector					
	M5	4	22	153488	1
		6	41	153489	1
	R1/8	4	46	153490	1
		6	63	153491	1
		8	69	153492	1
	R1/4	6	98	153493	1
		8	101	153494	1

Differential pressure regulators

	D1	D2	qnN [l/min]	PN	PE
LRL					
with male thread and QS push-in connector at top					
	M5	4	30/30	153510	1
		6	30/30	153512	1
	R1/8	4	96/93	153511	1
		6	115/115	153513	1
		8	120/115	153515	1
	R1/4	6	241/240	153514	1
		8	224/224	153516	1
		10	231/231	153518	1
	R3/8	8	463/393	153517	1
		10	476/423	153519	1
		12	438/379	153520	1
	R1/2	12	760/700	153521	1
LRLl					
with male thread and QS push-in connector on side					
	M5	4	30/30	153498	1
		6	32/31	153500	1
	R1/8	4	100/96	153499	1
		6	155/140	153501	1
		8	115/110	153503	1
	R1/4	6	267/266	153502	1
		8	268/264	153504	1
		10	269/262	153506	1
	R3/8	8	474/340	153505	1
		10	456/411	153507	1
		12	518/423	153508	1
	R1/2	12	730/700	153509	1



Highlights

12

Flow control valves – Highlights



Highlights

our flow control valves



One-way flow control valves

GRLA, GRLZ

- + Large selection of connections
- + Actuation with slotted head screw, knurled screw or external hexagon

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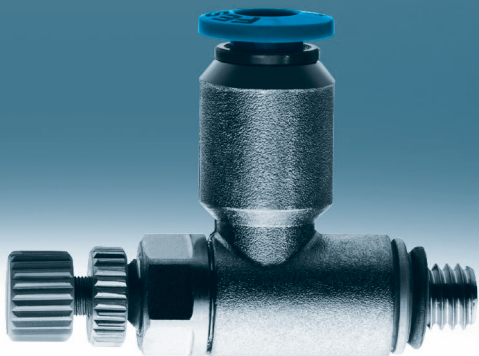


One-way flow control valves

VFOF

- + Exhaust air one-way flow control function, actuation with internal hexagon
- + Piloted non-return function, manual exhaust function

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One-way flow control valves – the right setting is crucial!

Adjusting made easy: such as metering a flow rate, for example for speed regulation of single- or double-acting cylinders as supply air or exhaust air flow control. Festo's compact and sturdy one-way flow control valves provide the right solution for every application. The numerous variants suit every environment and are quick and easy to fit.

- + Fast installation with QS connections
- + Maximum adaptability – directly at the cylinder or inline
- + Wide range of variants – GRLA/Z/O, GRGA/Z/O, GR/O, VFOC, VFOF
- + Also available as precision flow control valves for particularly accurate adjustments
- + Screw-in or inline variants

Functional combination – multiple control function integrate into one component:

variable piston speeds, momentary intermediate stop and individual manual exhaust - saves time, cost and space.

Look for our products from the core product range ★

Flow control valves preselection _____ 258

Additional information:

→ www.festo.com/flow-control-valves



Preselection

	Type, description
	GRLA, GRLZ: one-way flow control valve, series D With male thread and QS push-in connector
	GRLO: flow control valve, series D With male thread and QS push-in connector
	GRLA: one-way flow control valve, series B High flow rate With male thread and QS push-in connector
	GRLA, GRLZ: one-way flow control valve With male and female thread
	GRLO: flow control valve With male and female thread
	GRLA, GRLZ: one-way flow control valve With male thread and barbed fitting connection PK

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<u>L-shaped outlet, actuation with slotted head screw ★</u>	→ 264
<u>L-shaped outlet, actuation with external hexagon</u>	→ 265
<u>L-shaped outlet, actuation with knurled screw ★</u>	→ 266
<u>L-shaped outlet, actuation with slotted head screw</u>	→ 265
<u>L-shaped outlet, actuation with knurled screw</u>	→ 266
<u>L-shaped outlet, actuation with slotted head screw</u>	→ 267
<u>L-shaped outlet, actuation with knurled screw</u>	→ 268
<u>L-shaped outlet, actuation with slotted head screw</u>	→ 267
<u>L-shaped outlet, actuation with slotted head screw</u>	→ 269

Preselection

	Type, description
	GRLO: flow control valve With male thread and barbed fitting connection PK
	GRLSA: one-way flow control valve with scale Preselection of the flow rate range in 5 steps by a rotary switch Fine adjustment with internal hexagon With male thread and QS push-in connector
	CRGRLA: corrosion-resistant one-way flow control valve With male and female thread
	VFOF: function combination Exhaust air one-way flow control function Piloted non-return function, manual exhaust function With male thread and QS push-in connector
	VFOC: one-way flow control valve With barbed fitting connection and QS push-in connector
	GR: one-way flow control valve for in-line installation With QS push-in connector

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<u>L-shaped outlet, actuation with slotted head screw</u>	→ 269
<u>L-shaped outlet, actuation with rotary switch and internal hexagon</u>	→ 270
<u>L-shaped outlet, actuation with slotted head screw</u>	→ 270
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<u>Retaining bracket</u>	→ 272

Preselection

	Type, description
	GRO: flow control valve for in-line installation With QS push-in connector
	GR, GRA: one-way flow control valve for in-line installation With female thread
	GR-...X2: one-way flow control valve for in-line installation Two one-way flow control valves in one housing Supply and exhaust air flow control separately adjustable With female thread
	GRP: precision one-way flow control valve With barbed fitting connection PK for front panel mounting With male thread on sub-base
	GRPO: precision flow control valve With barbed fitting connection PK for front panel mounting With male thread on sub-base
	VFFK, GRE, GRU: flow control/silencer combination With male thread

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Actuation with rotary knob	→ 274
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Actuation with rotary knob	→ 274
Mounting plate	→ 275
Actuation with knurled screw	→ 275
Actuation with slotted head screw	→ 275

One-way flow control valves

	D1	D2	q _N [l/min] ¹⁾	PN	PE
GRLA					
Exhaust air flow control, actuation with slotted head screw					
With male thread and QS push-in connector					
	M3	3	41/50	175041	1
	M5	3	40/70	175053	1
		4	40/75	175056	
	M5	3	100/100	★ 193137	1
		4	110/110	★ 193138	1
		6	115/110	★ 193139	1
	G1/8	3	130/130	★ 193142	1
		4	160/190	★ 193143	1
		6	185/240	★ 193144	1
		8	215/250	★ 193145	1
	G1/4	6	400/420	★ 193146	1
		8	475/500	★ 193147	1
		10	480/500	★ 193148	1
	G3/8	6	495/495	★ 193149	1
		8	820/850	★ 193150	1
		10	900/975	★ 193151	1
	G1/2	12	1580/1605	★ 193152	1
	High flow rate				
	G1/8	6	400/420	★ 537075	1
		8	475/500	★ 537076	1
GRLZ					
Supply air flow control, actuation with slotted head screw					
With male thread and QS push-in connector					
	M3	3	41/44	175043	1
	M5	3	48/52	175055	1
		4	48/65	175058	1
	M5	3	100/100	★ 193153	1
		4	110/110	★ 193154	1
		6	115/110	★ 193155	1
	G1/8	3	130/130	★ 193156	1
		4	160/190	★ 193157	1
		6	185/240	★ 193158	1
		8	215/250	★ 193159	1

1) Flow control direction/non-return direction

Flow control valves

	D1	D2	qnN [l/min]	PN	PE
GRLO Flow control in both directions, actuation with slotted head screw With male thread and QS push-in connector					
	M3	3	41	175042	1
	M5	3	40	175054	1
		4	40	175057	1

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/grla

One-way flow control valves

	D1	D2	qnN [l/min] ¹⁾	PN	PE
VFOH-LE Exhaust air flow control, actuation with external hexagon Nickel-plated, with male thread and QS push-in connector					
	G1/8	4	180/188	578797	1
		6	255/280	578798	1
		8	275/307	578799	1
	G1/4	8	530/578	578800	1
		10	520/535	578801	1

1) Flow control direction/non-return direction

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/vfoh

One-way flow control valves

	D1	D2	q _N [l/min] ¹⁾	PN	PE
GRLA					
Exhaust air flow control, actuation with knurled screw					
With male thread and QS push-in connector					
	M5	3	100/100	★ 197576	1
		4	110/110	★ 197577	1
		6	115/110	★ 197578	1
	G1/8	3	130/130	★ 197579	1
		4	160/190	★ 197580	1
		6	185/240	★ 197581	1
		8	215/250	★ 534337	1
	G1/4	6	400/420	★ 534338	1
		8	475/500	★ 534339	1
		10	480/500	★ 534340	1
	G3/8	6	495/495	★ 534341	1
		8	820/850	★ 534342	1
		10	900/975	★ 534343	1
	G1/2	12	1580/1605	★ 534344	1
High flow rate					
	G1/8	6	520/550	162965	1
		8	650/750	162966	1
	G1/4	6	520/550	162967	1
		8	650/750	162968	1
	G3/8	6	530/550	162969	1
		8	650/750	162970	1

1) Flow control direction/non-return direction

Configurable product



This product and all its product options
can be ordered online via the configura-
tor:

→ www.festo.com/catalogue/grla

One-way flow control valves

	D1	D2	qnN [l/min] ¹⁾	PN	PE
GRLA Exhaust air flow control, actuation with slotted head screw With male and female thread					
	M3	M3	18/20	175038	1
	M5	M5	95/95	151160	1
	G1/8	G1/8	340/420	151165	1
	G1/4	G1/4	610/820	151172	1
	G3/8	G3/8	1450/1600	151178	1
	G1/2	G1/2	2100/2200	151179	1
	G3/4	G3/4	4320/4720	151180	1
GRLZ Supply air flow control, actuation with slotted head screw With male and female thread					
	M3	M3	18/20	175040	1
	M5	M5	95/95	151183	1
	G1/8	G1/8	340/420	151188	1
	G1/4	G1/4	610/820	151195	1

1) Flow control direction/non-return direction

Flow control valves

	D1	D2	qnN [l/min]	PN	PE
GRLO Flow control in both directions, actuation with slotted head screw With male and female thread					
	M3	M3	18	175039	1
	M5	M5	95	151181	1

One-way flow control valves

	D1	D2	qnN [l/min] ¹⁾	PN	PE
GRLA Exhaust air flow control, actuation with knurled screw With male thread and QS push-in connector					
	M5	M5	95/95	151163	1
	G1/8	G1/8	340/420	151169	1
	G1/4	G1/4	610/820	151175	1
GRLZ Supply air flow control, actuation with knurled screw With male thread and QS push-in connector					
	M5	M5	95/95	151186	1
	G1/8	G1/8	340/420	151192	1
	G1/4	G1/4	610/820	151198	1

1) Flow control direction/non-return direction

Configurable product



This product and all its product options can be ordered online via the configurator:



→ www.festo.com/catalogue/grla

One-way flow control valves

	D1	D2	qnN [l/min] ¹⁾	PN	PE
GRLA					
Exhaust air flow control, actuation with slotted head screw					
With male thread and barbed fitting connection PK					
	M5	3	83/83	151161	1
		4	83/88	151162	1
	G1/8	3 ²⁾	110/110	151166	1
		4 ²⁾	230/240	151167	1
		6 ²⁾	300/290	151168	1
	G1/4	4 ²⁾	260/260	151173	1
		6 ²⁾	540/585	151174	1
GRLZ					
Supply air flow control, actuation with slotted head screw					
With male thread and barbed fitting connection PK					
	M5	3	83/83	151184	1
		4	83/88	151185	1
	G1/8	3 ²⁾	110/110	151189	1
		4 ²⁾	230/240	151190	1
		6 ²⁾	300/290	151191	1
	G1/4	4 ²⁾	260/260	151196	1
		6 ²⁾	540/585	151197	1

1) Flow control direction/non-return direction

2) with union nut

Flow control valves

	D1	D2	qnN [l/min]	PN	PE
GRLO Flow control in both directions, actuation with slotted head screw With male thread and barbed fitting connection PK					
	M5	3	83	151182	1

One-way flow control valves

	D1	D2	qnN [l/min] ¹⁾	PN	PE
GRLSA Exhaust air flow control, preselection of the flow rate range in 5 steps by a rotary switch, fine adjustment with internal hexagon With male thread and QS push-in connector					
	G1/8	6 ¹⁾	250/310	540661	1
	G1/4	8 ¹⁾	450/500	540662	1
CRGRLA Exhaust air flow control, corrosion resistant With male and female thread					
	M5	M5	95/95	161403	1
	G1/8	G1/8	340/420	161404	1
	G1/4	G1/4	610/820	161405	1
	G3/8	G3/8	1450/1600	161406	1
	G1/2	G1/2	2100/2200	161407	1

1) Flow control direction/non-return direction

One-way flow control valves

	D1	D2	qnN [l/min] ¹⁾	PN	PE
VFOF Exhaust air one-way flow control function, actuation with internal hexagon Piloted non-return function, manual exhaust function With male thread and QS push-in connector					
	G1/8	G1/8	240/230	8001459	1
	G1/4	G1/4	590/540	1927030	1

1) Flow control direction/non-return direction

Configurable product



This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/vfob



One-way flow control valves

	D1	D2	qnN [l/min] ¹⁾	PN	PE
VFOC Supply air flow control, actuation with slotted head screw With barbed fitting connection and QS push-in connector					
	4	4	100/100	559723	1
	6	6	270/260	559724	1

1) Flow control direction/non-return direction

Configurable product



This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/vfoc



One-way flow control valves

	D1	D2	qnN [l/min] ¹⁾	PN	PE
GR Supply air or exhaust air flow control depending in installation direction, actuation with knurled screw QS push-in connector at both ends					
	3	3	25/70	193965	1
	4	4	85/110	193967	1
	6	6	160/270	193969	1
	8	8	225/400	193970	1

1) Flow control direction/non-return direction

Flow control valves

	D1	D2	qnN [l/min]	PN	PE
GRO Flow control in both directions, actuation with knurled screw QS push-in connector at both ends					
	3	3	25	193971	1
	4	4	85	193972	1
	6	6	160	193973	1

Retaining bracket

	For push-in connector	PN	PE
GR-H-QS For flow control valves and check valves GR/GRO			
	QS-3/QS-4	195495	1
	QS-6/QS-8	195496	1

One-way flow control valves

	D1	D2	qnN [l/min] ¹⁾	PN	PE
GR Supply air or exhaust air flow control depending in installation direction, actuation with knurled screw With male and female thread					
	M3	M3	29.5/27.5	15899	1
	M5	M5	94/115	151213	1
	G1/8	G1/8	220/217	151215	1
	G1/4	G1/4	370/150	2101	1
			420/780	6509	
	G3/8	G3/8	1010/1150	6308	1
	G1/2	G1/2	1620/2760	3720	1
	G3/4	G3/4	3300/4800	2103	1
GR-...X2 Two one-way flow control valves in one housing Supply and exhaust air flow control separately adjustable, actuation with knurled screw With male and female thread					
	M5	M5	95/75	152611	1
	G1/8	G1/8	205/190	152612	1

1) Flow control direction/non-return direction

Precision one-way flow control valves

	D1	D2	qnN [l/min] ¹⁾	PN	PE
GRP-...-PK Supply air or exhaust air flow control depending in installation direction, actuation with rotary knob with scale For front panel installation, barbed fitting connection PK on both sides					
	3	3	3.8/95	12743	1
			40.7/88	10802	1
	4	4	75.8/245	12961	1
GRP-...-AL Supply air or exhaust air flow control depending in installation direction, actuation with rotary knob with scale On sub-base, female thread both sides					
	G1/8	G1/8	40.7/88	542022	1
			75.8/245	542023	1

1) Flow control direction/non-return direction

Precision flow control valves

	D1	D2	qnN [l/min]	PN	PE
GRPO-...-PK Flow control in both directions, actuation with rotary knob with scale For front panel installation, barbed fitting connection PK on both sides					
	3	3	3.8	13229	1
			40.7	10803	1
	4	4	75.8	13230	1
GRPO-...-AL Flow control in both directions, actuation with rotary knob with scale On sub-base, female thread both sides					
	G1/8	G1/8	40.7	542024	1
			75.8	542025	1

Mounting plate

	Number of bores	PN	PE
APL-2N For flow control valves and check valves GRP/GRPO			
	1	10391	1
	2	10392	1

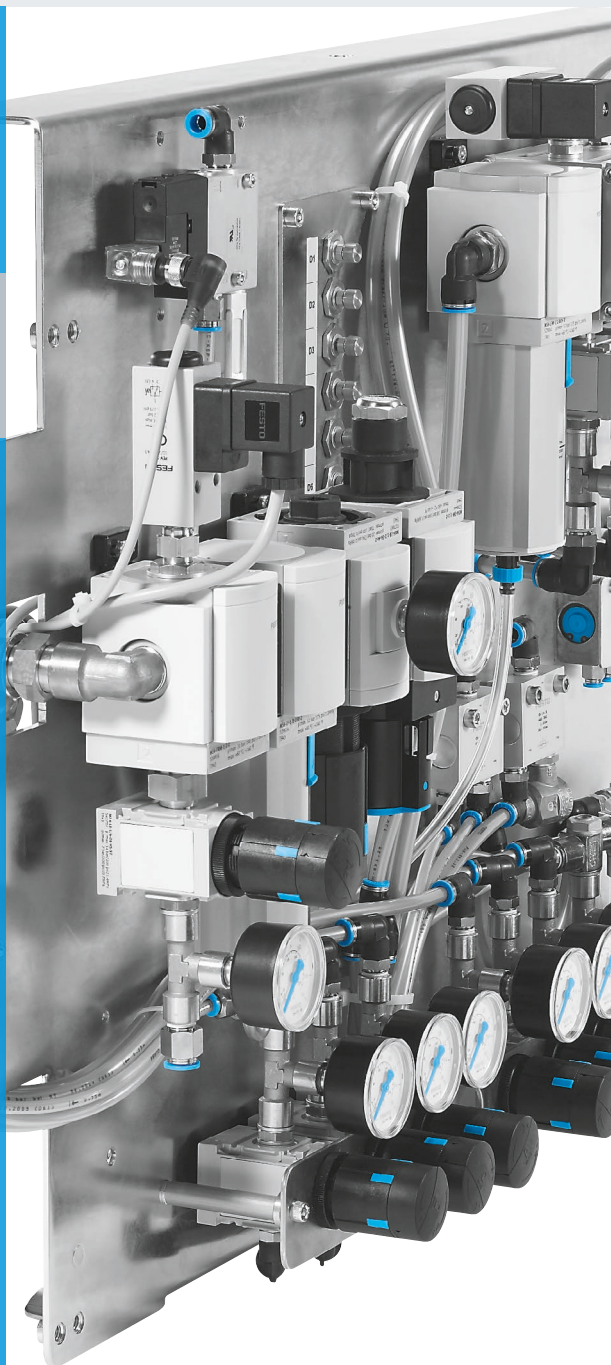
Flow control/silencer combination

	D1	D2	qnN [l/min]	PN	PE
VFFK Actuation with knurled screw With male thread					
	M5	M5	80	133140	1
	M7	M7	100	133141	1
	R1/8	R1/8	270	133142	1
	R1/4	R1/4	420	133143	1
GRE Actuation with slotted head screw With male thread					
	G1/8	G1/8	520	10351	1
	G1/4	G1/4	996	10352	1
	G3/8	G3/8	2000	35310	1
	G1/2	G1/2	3600	10353	1
GRU Actuation with slotted head screw With male thread					
	G1/8	G1/8	1000	9516	1
	G1/4	G1/4	1500	9517	1
	G3/8	G3/8	1700	9518	1
	G1/2	G1/2	4000	9519	1
	G3/4	G3/4	8000	9520	1

Highlights

13

pressure indicators – Highlights



Highlights



Pressure gauge

MA

- + Display ranges –1 ... 16 bar
 - + Scales with bar, psi, MPa, also combined
- 286

Overview

13

Pressure indicators – Overview



Festo pressure gauge for every application:

Whether they're being used for compressed air or vacuum. Measured in bar, psi or MPa. On a service unit component or flanged in a control cabinet. The broad range of pressure gauges offers the right solution for every application.

- + Easy installation
- + Scales with bar, psi, MPa
- + Rapid pressure monitoring thanks to the red-green pressure gauge

Pressure gauge preselection _____ **280**

Additional information:

→ www.festo.com/pressure-gauges



Preselection

	Type, description
	MA-...-EN, pressure gauge in accordance with DIN EN 837-1 With male thread Display range bar/psi
	MA, pressure gauge With male thread Display range bar, psi, MPa, bar/psi
	MA-...-QS, pressure gauge With QS push-in connector Display range bar
	PAGN, pressure gauge With male thread With cartridge 10 mm Display range MPa, bar/psi
	MA-...-RG, pressure gauge DIN EN 837-1 With male thread With red-green range Display range bar, psi, MPa
	PAGN-...-P10-RG, pressure gauge With cartridge connector P10 With red-green range Display range bar/MPa

Pressure indicators – Preselection

Preselection

	Type, description
	MAP-...-EN, precision pressure gauge in accordance with DIN EN 837-1 With male thread Display range bar/psi
	PAGN-...-1.6, precision pressure gauge in accordance with DIN EN 837-1 With male thread Display range bar/psi, MPa/bar
	FMA, flanged pressure gauge in accordance with DIN EN 837-1/DIN EN 837-3 For front panel mounting, with male thread Display range bar/psi
	FMAP, flanged precision pressure gauge in accordance with DIN EN 837-1 For front panel mounting, with male thread Display range bar/psi
	VAM, vacuum gauge in accordance with DIN EN 837-1 With male thread Display range bar/inHg, bar/inHg/psi
	VAM-...-RG, vacuum gauge in accordance with DIN EN 837-1 With male thread With red-green range Display range bar

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Preselection

	Type, description
	FVAM-...-EN, flanged vacuum gauge in accordance with DIN EN 837-1 For front panel mounting, with male thread Display range bar/inHg

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Pressure gauge

	Nomi- nal size	Display range			D1	PN ^{*)}
		[bar]	[MPa]	[psi]		
MA-...-EN						
With male thread						
	40	0 ... 10 ¹⁾	—	0 ... 145 ²⁾	R1/8	162835
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		162836
		0 ... 25 ¹⁾	—	0 ... 360 ²⁾		526167
		0 ... 6 ¹⁾	—	0 ... 87 ²⁾	R1/4	187078
		0 ... 10 ¹⁾	—	0 ... 145 ²⁾		187079
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		187080
		0 ... 6 ¹⁾	—	0 ... 87 ²⁾	G1/4	183899
		0 ... 10 ¹⁾	—	0 ... 145 ²⁾		183900
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		183901
		0 ... 25 ¹⁾	—	0 ... 360 ²⁾		183902
	50	0 ... 2.5 ¹⁾	—	0 ... 36 ²⁾	G1/4	162837
		0 ... 10 ¹⁾	—	0 ... 145 ²⁾		162838
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		162839
	63	0 ... 1 ¹⁾	—	0 ... 14.5 ²⁾	G1/4	162844
MA						
With male thread						
	15	0 ... 10	—	—	M5	132340
		—	—	0 ... 145 ²⁾	M5	132341
	23	0 ... 6 ¹⁾	—	0 ... 87 ²⁾	R1/8	183896
		0 ... 10 ¹⁾	—	0 ... 145 ²⁾		183897
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		183898
	27	0 ... 10 ¹⁾	—	0 ... 145 ²⁾	R1/8	541733
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		541734
		0 ... 10	—	—	M5	526323
		—	0 ... 1	—		526324
		—	—	0 ... 160		527405
	40	0 ... 10 ¹⁾	—	0 ... 145 ²⁾	G1/8	359874
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		345395
		—	0 ... 1	—		192732
		—	0 ... 1.6	—		192733
	50	0 ... 10 ¹⁾	—	0 ... 145 ²⁾	G1/4	359873
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		356759
		—	0 ... 1	—		192734
	63	0 ... 0.25 ¹⁾	—	0 ... 3.6 ²⁾	G1/4	7169

1) Outer scale

2) Inner scale

*) Packaging unit 1 piece

Pressure gauge

	Nomi- nal size	Display range			D1	PN ^{*)}
		[bar]	[MPa]	[psi]		
MA-...-QS						
With QS push-in connector						
	15	0 ... 8	–	–	QS-4	153383
					QS-6	153384
					QS-8	183385
PAGN-23						
With male thread						
	23	0 ... 10 ¹⁾	–	0 ... 145 ²⁾	G1/8	8088991
		–	0 ... 1	–		8088992
PAGN-...-P10						
Connection with cartridge 10 mm						
	26	0 ... 10 ¹⁾	–	0 ... 145 ²⁾	P10 ³⁾	543488
		0 ... 16 ¹⁾	–	0 ... 232 ²⁾		543487
		0 ... 10 ²⁾	–	0 ... 145 ¹⁾		563732
		0 ... 16 ²⁾	–	0 ... 232 ¹⁾		563731
		–	0 ... 1	–		563736
		–	0 ... 1.6	–		563735
	40	0 ... 10 ¹⁾	–	0 ... 145 ²⁾		548009
		0 ... 16 ¹⁾	–	0 ... 232 ²⁾		548010
		0 ... 10 ²⁾	–	0 ... 145 ¹⁾		563734
		0 ... 10 ²⁾	–	0 ... 232 ¹⁾		563733
		–	0 ... 1	–		563738
		–	0 ... 1.6	–		563737
PAGN-63						
With male thread						
Temperature of medium –40 ... +200°C						
	63	0 ... 10	–	–	G1/4	8081401

1) Outer scale

2) Inner scale

3) Cartridge 10 mm

*) Packaging unit 1 piece

Pressure gauge

	Nomi- nal size	Display range			D1	PN ^{*)}
		[bar]	[MPa]	[psi]		
MA-...-RG						
With male thread						
With red-green range						
	40	0 ... 2.5	—	—	R1/8	546963
		0 ... 10	—	—		525725
		0 ... 16	—	—		525726
		—	0 ... 1	—		526778
		—	0 ... 1.6	—		526779
		—	—	0 ... 145		526786
		—	—	0 ... 232		526787
		50	0 ... 2.5	—		—
	0 ... 10		—	—	525728	
	0 ... 16		—	—	525729	
	—		0 ... 0.25	—	526780	
	—		0 ... 1	—	526781	
	—		0 ... 1.6	—	526782	
	—		—	0 ... 36	526788	
	—		—	0 ... 145	526789	
	—	—	0 ... 232	526790		
PAGN-...-P10-RG						
Connection with cartridge 10 mm						
With red-green range						
	26	0 ... 10 ¹⁾	0 ... 1 ²⁾	—	P10 ³⁾	8090378

1) Outer scale

2) Inner scale

3) Cartridge 10 mm

*) Packaging unit 1 piece

Configurable product



This product and all its product options
can be ordered online via the configura-
tor:



→ www.festo.com/catalogue/ma

Pressure gauge

	Nomi- nal size	Display range			D1	PN ^{*)}
		[bar]	[MPa]	[psi]		
MAP-...-EN						
With male thread						
Precision pressure gauge						
	40	0 ... 1 ¹⁾	—	0 ... 15 ²⁾	R1/8	161126
		0 ... 4 ¹⁾	—	0 ... 58 ²⁾		162842
		0 ... 6 ¹⁾	—	0 ... 87 ²⁾		161127
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		161128
PAGN-...-1.6						
Connection with cartridge 10 mm						
Precision pressure gauge						
	40	0 ... 10 ¹⁾	—	0 ... 145 ²⁾	R1/8	2849914
		0 ... 10 ²⁾	0 ... 1 ¹⁾	—		2849916

1) Outer scale

2) Inner scale

*) Packaging unit 1 piece

Pressure gauge

	Nomi- nal size	Display range			D1	PN ^{*)}
		[bar]	[MPa]	[psi]		
FMA-...-EN						
With male thread						
Flanged pressure gauge for panel mounting						
	40	0 ... 10 ¹⁾	—	0 ... 145 ²⁾	G1/4	159596
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		159597
	50	0 ... 2.5 ¹⁾	—	0 ... 36 ²⁾		159598
		0 ... 10 ¹⁾	—	0 ... 145 ²⁾		159599
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		159600
	63	0 ... 2.5 ¹⁾	—	0 ... 36 ²⁾		159601
		0 ... 10 ¹⁾	—	0 ... 145 ²⁾		159602
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		159603
FMA-63						
With male thread						
Flanged pressure gauge for panel mounting						
	63	0 ... 0.25 ¹⁾	—	0 ... 3.6 ²⁾	G1/4	225783
FMAP-63						
With male thread						
Flanged precision pressure gauge for front panel mounting						
	63	0 ... 1 ¹⁾	—	0 ... 15 ²⁾	G1/4	161129
		0 ... 4 ¹⁾	—	0 ... 58 ²⁾		162843
		0 ... 6 ¹⁾	—	0 ... 87 ²⁾		161130
		0 ... 16 ¹⁾	—	0 ... 232 ²⁾		161131

1) Outer scale

2) Inner scale

*) Packaging unit 1 piece

Vacuum gauge

	Nomi- nal size	Display range			D1	PN ^{*)}
		[bar]	[inchHg]	[psi]		
VAM-...-EN						
With male thread						
	40	-1 ... 0 ¹⁾	-30 ... 0 ²⁾	—	R1/8	537810
	63	-1 ... 0 ¹⁾	-30 ... 0 ²⁾	—	R1/4	537811
		-1 ... 9 ¹⁾	-30 ... 0 ²⁾	0 ... 130 ²⁾		537814
VAM-...-RG						
With male thread						
With red-green range						
	40	-1 ... 0	—	—	R1/8	547842
	63	-1 ... 0	—	—	R1/4	547843
FVAM-...-EN						
With male thread						
Flanged vacuum gauge for panel mounting						
	40	-1 ... 0 ¹⁾	-30 ... 0 ²⁾	—	G1/8	537812
	63	-1 ... 0 ¹⁾	-30 ... 0 ²⁾	—	G1/4	537813

1) Outer scale

2) Inner scale

*) Packaging unit 1 piece

Highlights

14

Accessories – Highlights





Pneumatic silencers

AMTE

+ Sintered metal, short and long design

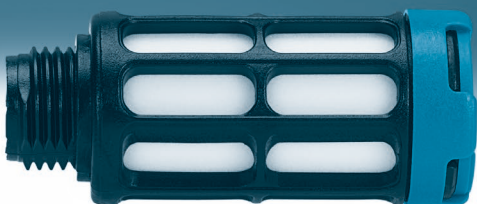
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Overview

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Accessories – Overview



Accessories – you don't need a magnifying glass to find them

You only really notice accessories when you need them and you can't find them:

Then it's like searching for a needle in the proverbial haystack. Not with Festo! Our comprehensive range of accessories including sealing rings, tubing cutters or silencers is carefully thought through – to ensure you have everything you need for speedy installation.

Look for our products from the core product range ★

+ Sealing material	
Sealing rings _____	296
Sealing ring assortment _____	297
Thread sealing tape _____	298
+ Cutting tools for tubing	
Tubing cutter, pipe cutter _____	299
Connecting pliers _____	299
Tubing strap, tubing supports _____	300
+ Silencers ★	
Silencers _____	301
Filter silencers _____	303
+ Air guns	
Low consumption air guns _____	304
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Sealing rings

	For thread	PN	PE
O – polyvinyl chloride			
	M3	30290	1
	M5	3565	1
		534226	500
	G1/8	2223	1
		534227	500
	G1/4	2224	1
		534228	200
	G3/8	2225	1
		534229	200
	G1/2	2226	1
		534230	100
	G3/4	2227	1
	G1	210893	1
CRO – polyvinylidene chloride			
	M5	165191	1
	G1/8	575895	1
	G1/4	165193	1
	G3/8	165194	1
	G1/2	165195	1
	G3/4	165196	1
	G1	165197	1
OL – nitrile rubber			
Stainless steel metal housing			
	M5	34634	1
		534231	500
	M6	161180	1
	M10	161181	1
	M12	161182	1
	M14	161183	1
	M16	165298	1
	M22	165299	1
OL – nitrile rubber			
Aluminium housing			
	G1/8	33840	1
		534232	500
	G1/4	34635	1
		534233	200
	G3/8	34636	1
		534234	200
	G1/2	34637	1
		534235	100
	G3/4	34638	1

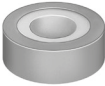
Sealing rings

	For thread	PN	PE
OK – nitrile rubber			
Stainless steel support ring			
	M3	130849	1
	M5	130850	1
	M7	130851	1
OK – thermoplastic polyurethane			
Polyamide support ring			
	G1/8	531771	1
	G1/4	531772	1
	G3/8	531773	1
	G1/2	531774	1
	G3/4	531775	1
NPAS – polyether ether ketone			
for NPCK quick connectors			
	G1/8	2652516	1
	G1/4	2652517	1
	G3/8	2652519	1

Sealing ring assortment

	Sealing rings	No. of	PN	PE
OL-S1				
	OL-M5	50	161355	1
	OL-1/8	100		
	OL-1/4	100		
	OL-3/8	40		
	OL-1/2	30		
	OL-3/4	10		
OK-S1				
	OK-M3	50	570465	1
	OK-M5	100		
	OK-M7	50		
	OK-1/8	100		
	OK-1/4	100		
	OK-3/8	40		
	OK-1/2	30		
	OK-3/4	10		

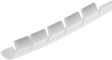
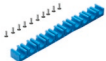
Sealing band

	Length	Width	PN	PE
GWB				
	12.5 m	10 mm	9076	1

Cutting tools for tubing

	for D1	PN	PE
ZRS – pipe and tubing cutter for plastic tubing with and without fabric reinforcement			
	2 ... 20	7658	1
	Spare blades	218606	10
ZR – pipe cutter for plastic pipes PQ-PA			
	12 ... 28	194592	1
PAN-V0S – tubing cutter for flame-retardant PAN-V0 tubing			
	4	133180	1
	6	133181	1
	8	133182	1
	10	133183	1
	12	133184	1
ZMS – connecting pliers Cutter for connecting plastic tubing PP-3, PU-3, PP-4 and PU-4 to barbed fittings			
	3, 4	9341	1
ZDS – disconnecting pliers Cutter for removing plastic tubing PP-3, PU-3, PP-4 and PU-4 from barbed fittings			
	3	9090	1
	4	9522	1

Cutting tools for tubing

	Max. bundle Ø	D1	PN	PE
PB – tubing strap				
	30	–	6741	10
	45	–	6742	10
	100	–	6743	10
NPAW – tubing support				
	30	–	554026	10
	50	–	554027	10
	50	–	554028	10
PKS – tubing support				
	–	6	4132	1
	–	8	4133	1
	–	11	4134	1
PKB – spiral tubing binder				
	50	–	3656	50 m
KK – multi-tube holder				
	–	4.3 (10x)	3635	10
	–	6 (9x)	2147	10
	–	8 (10x)	2148	10
	–	11.5 (6x)	2149	10
	–	17.6 (4x)	4463	10

Silencers

	Connection	PN	PE
U – sintered metal			
	PK-3	4646	1
	PK-4	4932	1
U – polymer, male thread			
	G1/8	★ 2307	1
		534222	50
	G1/4	★ 2316	1
		534223	20
	G3/8	★ 2309	1
		534224	20
	G1/2	★ 2310	1
		534225	20
	G3/4	★ 2311	1
	G1	★ 2312	1
U – polymer, female thread			
	G1/8	3670	1
U-...-B – die-cast metal			
	G1/8	6841	1
	G1/4	6842	1
	G3/8	6843	1
	G1/2	6844	1
	G3/4	6845	1
	G1	151990	1
UC-QS – with push-in sleeve			
for push-in fitting QS			
	Push-in sleeve 3 mm	165005	1
	Push-in sleeve 4 mm	165006	1
	Push-in sleeve 6 mm	165007	1
	Push-in sleeve 8 mm	175611	1
	Push-in sleeve 10 mm	526475	1

Silencers

	Connection	PN	PE
UC – for solenoid valves CPE			
	M5	165003	1
		534217	50
	M7	161418	1
		534218	50
	G1/8	161419	1
		534219	50
	G1/4	164004	1
		534220	20
G3/8	1707427	1	
	576759	20	
AMTC – for solenoid valves VUVB-ST12/valve terminal VTUB-12			
	Cartridge 10 mm	1224460	1
AMTE-M-H – metal, short design			
	M5	1206621	20
	G1/8	1206622	20
	G1/4	1206623	20
	G3/8	1206624	10
	G1/2	1206625	10
AMTE-M-LH – metal, long design			
	M3	1231120	20
	M5	★ 1205858	20
	G1/8	★ 1205860	20
	G1/4	★ 1205861	20
	G3/8	★ 1205862	10
	G1/2	★ 1205863	10
	G3/4	1205864	10
	G1	1205865	10

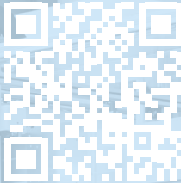
Silencers

	Connection	PN	PE
UO – for vacuum generators VN-T2/T3			
	M7	197582	1
	G1/8	197583	1
	G1/4	197584	1
UOM – for vacuum generators VN-T4/T6			
	G1/4	538432	1
	G3/8	538433	1
	Extension UOMS	538436	1
UOS-1 – for soft start/quick exhaust valve MS6-SV			
	G1	552252	1
	G1, low design	1901207	1
LFU – filter silencer			
	G1/4	539132	1
	G3/8	539133	1
	G1/2	10494	1
	G1	10495	1

Air guns

	Connection	PN	PE
LSP-1/4-D – aluminium			
	G1/4	35528	1
LSP-1/4-C – polyamide, reinforced			
	G1/4	184318	1
LPZ-SD – air gun nozzle with protective air shield			
	M12x1.25	184321	1
LPZ-LD – air gun nozzle with noise reduction			
	M12x1.25	184322	1
LPZ-RG – air gun nozzle with straight pipe			
	M12x1.25	565317	1
LPZ-RB – air gun nozzle with elbow pipe			
	M12x1.25	565316	1

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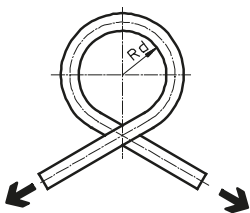




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Measurement methods

Flow-relevant bending radius R_d



The tubing is bent in the direction of its own curve until the tubing outer diameter is flattened by 5%.

R_d is then calculated mathematically. The flow rate is not reduced until R_d is reached.

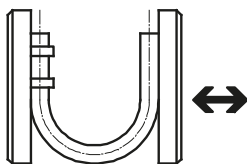


Cross section flattened by bending the tube.

d = non-deformed tubing O.D.

d_1 = deformed tubing
O.D.Ø

Minimum bending radius R_{min}



The tubing fixed to the base plate is bent until the deformation results in a kink. The measured value is the minimum bending radius R_{min} .

This R_{min} results in significant reductions in flow rate.

Determining the optimum tubing dimensions

Be sure to select the correct barbed tubing connector when installing an application.

The available cross-section from the air preparation unit to the valve should be as wide as possible to ensure an optimum air supply. This does not result in any loss of air. For the application, on the other hand, the tube cross-section from the valve to the drive should be kept as small as possible. This keeps the air consumption as low as possible. The appropriate tubing diameter depends on the amount of air required by the application.

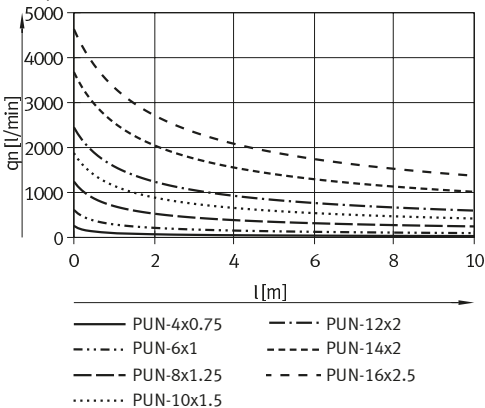
Install the shortest possible tubing to ensure that the

required volume is not lost along the tubing length. The diagram below uses a Festo tubing/fitting combination (QS and PUN) to illustrate how the volumetric flow rate decreases the longer the tube length. Festo push-in fittings do not restrict the nominal diameter of the barbed tubing connector.

The shape of the tube also influences the pressure drop. If a high flow rate is required, then straight tubes are the best choice. Spiral tubing is characterised by its compact design, although friction losses are increased due to the many coils.

Volumetric flow rate q_n as a function of tube length l

Example: PUN ($P_1 = 6 \text{ bar}$, $P_2 = 5 \text{ bar}$)



Electronic catalogue and design software

With the electronic catalogue you can quickly and easily find the product you need. Use the integrated product configurator to select the required technical properties step by step to find a valid configuration. Coloured identifications and symbols support you in this process. The product graphics for complex products change dynamically to match your configuration. In the end

you can also access all the more detailed product information, such as CAD files, accessories or documentation. Simply save your configuration as a favourite to be able to access frequently required components at any time, or simply save the configuration in the shopping basket.

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Air consumption of cylinders

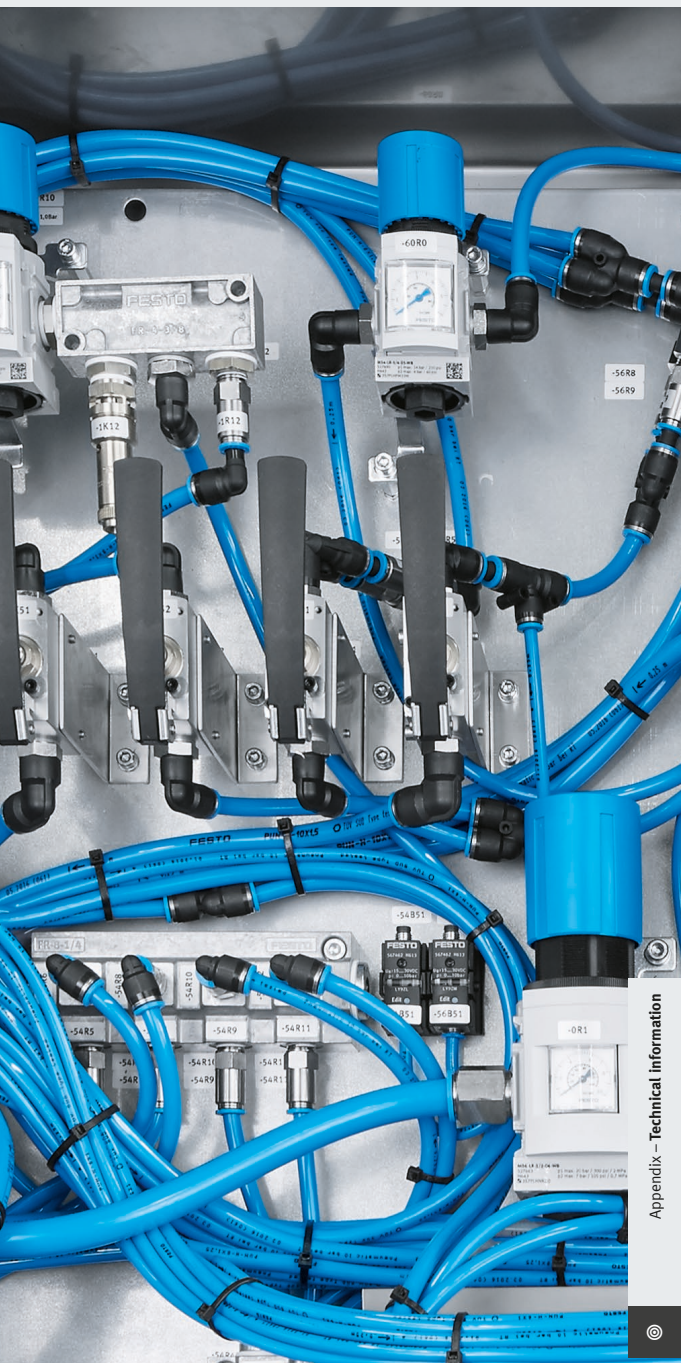
Determine your system's air consumption quickly and conveniently. Simply enter all the drives and tubing, set the cycle times and working pressure and the air consumption per minute and per day will be cal-

culated for you. The input table and results can be exported directly to Excel.

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 > Engineering

Luftverbrauch von Zylindern

Funktionsweise		1: einfachwirkend, ziehend				Anzahl Zyklen		60		1/min	
Größe		32 mm		Hub/Länge		100				mm	
ANMERKUNG: Für die Berechnung wird ein Kolbenstangendurchmesser von 12 mm verwendet											
☐ Energie sparen Energiesparen aktivieren. Unterscheidung zwischen Arbeitshub und Rückhub											
Schlauchinnendurchmesser		2 mm		Länge		100				mm	
Tabelle löschen		Drucken								Hinzufügen	
Ausgewählte Zylinder und ihr Luftverbrauch											
Funktionsw.	Größe	Hub/Länge	Druck	Anzahl Zyklen	Luftverbrauch						
	[mm]	[mm]		[1/min]	pro Zyklus		pro Minute				
Auslastung			Luftverbrauch			Energiekosten					
Arbeitsdruck			pro Minute			Währung					
Betriebsstunden pro Tag			pro Tag			Preis					
Arbeitstage pro Jahr			pro Jahr			pro Tag					
200			m³			€					
ANMERKUNG: Die so ermittelten Luftverbrauchsweite stellen nur Richtwerte dar, da natürlicher - insbesondere bei höheren Taktfrequenzen - druckgefüllte Räume nicht gänzlich entlüftet werden, so dass der tatsächliche Luftverbrauch beträchtlich geringer sein kann.											



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