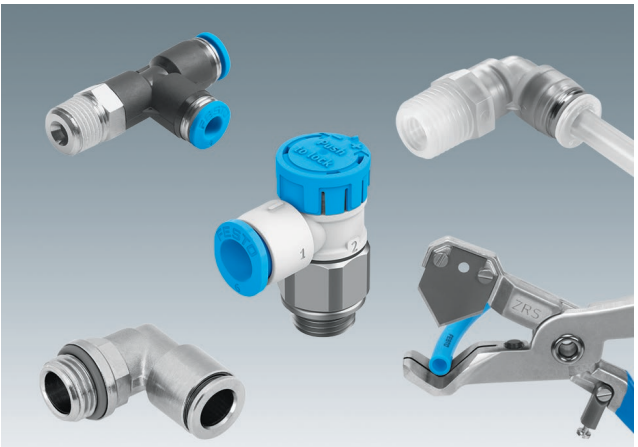





















FESTO

The Guide to Pneumatic Installations



| | | | |
|---|---|-----|----|
| | Editorial | 4 | ⊙ |
|  | Tubing/fitting combinations | 10 | 01 |
|  | Tubing | 18 | 02 |
|  | Pipes | 64 | 03 |
|  | Push-in fittings for O.D. tubing | 72 | 04 |
|  | Barbed fittings for I.D. tubing | 176 | 05 |
|  | Threaded fittings | 204 | 06 |
|  | Click fittings for standard O.D. tubing | 232 | 07 |
|  | Push-in fittings for pipes | 238 | 08 |
|  | Couplings | 248 | 09 |
|  | Distributors | 270 | 10 |
|  | Protective conduit systems | 280 | 11 |
|  | Accessories for pneumatic connection technology | 290 | 12 |
|  | Vacuum technology | 300 | 13 |
|  | Stop valves | 310 | 14 |
|  | Pressure regulators | 326 | 15 |
|  | Flow control valves | 334 | 16 |
|  | Compressed air filters | 362 | 17 |
|  | Pressure indicators | 368 | 18 |
|  | Other pneumatic equipment | 396 | 19 |
| | Technical information | 408 | ⊙ |

Guide to
Pneumatic Installations

Edition 2022/09

All technical data is correct at the time of going to print.
All texts, illustrations, images and drawings included in
this catalogue are the intellectual property of Festo SE
& Co. KG, and are protected by copyright law.

Any duplication, processing, translation, microfilming
or storage and processing in electronic systems of this
publication without the consent of Festo SE & Co. KG is
prohibited.

All technical data is subject to change according to
technical updates.

Festo SE & Co. KG
Postfach
73726 Esslingen
Ruiter Str. 82
73734 Esslingen
Germany

Key

| | |
|---|---|
| ★ | Products with the star: easy to select and quickly delivered |
| Blue type code on the product pages, e.g. PUN | For searching online → www.festo.com/catalogue/pun |
| D1 | Pneumatic connection 1 or O.D. |
| D2 | Pneumatic connection 2 or O.D. |
| D3 | Pneumatic connection 3 |
| D21 | Auxiliary pilot air connection |
| Di, di | I.D. |
| CRC4 | Corrosion resistance class CRC 4 in accordance with Festo standard FN 940070. Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the food or chemical industry. These applications may need to be supported with special tests (→ also FN 940082) using appropriate media. |
| LpA | Noise level |
| n | No. of inputs/outputs |
| NW | Nominal size |
| PE | Packaging unit in pieces or metres |
| q | Flow rate with respect to atmosphere |
| qn | Standard nominal flow rate |
| qnN | The standard nominal flow rate qnN is the volumetric flow rate based on standard conditions at an operating pressure of $p_1 = 0.6 \text{ MPa}$ and an output pressure of $p_2 = 0.5 \text{ MPa}$, measured at room temperature $t = 20 \text{ °C}$ |
| TNR | Part no. |

Product finder:

Just go online!

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/catalogue/...





Editorial

| | |
|--|---|
| The Guide to Pneumatic Installations _____ | 4 |
| The right installation materials for every application _____ | 6 |
| The Core Range from Festo _____ | 7 |
| Easy to select/quick to order _____ | 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 portfolio enables us to provide the right solution for a huge and diverse range of industrial requirements.

The Guide to Pneumatic Installations from Festo will help you to select the right combination of fittings and connectors, non-return, pressure control and flow control valves and tubing options.

For convenient selection and increased productivity!





Quick ordering of selected basic designs

Wherever you see this symbol in our printed or electronic catalogue, it indicates the product has been specifically selected and is perfect for use in the majority of automation applications.

The stars will help you to find what you are looking for more quickly and place orders more easily.

These star products are in stock and can usually be shipped immediately.

At a glance:

- + Quickest delivery, worldwide – wherever, whenever
- + Best value
- + Easy and fast to select

Just look for the star!

Always the 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

→ 60

Use the specifications on the product pages to find the products you want.

★ Quick ordering of selected basic designs

We make it easy for you!

We have put together a globally uniform Core Range for you that not only makes selection quicker and easier, it also offers fast delivery. It has been selected by Festo experts based on actual customer requirements and covers the majority of automation applications, while also offering excellent value for money.

Products with the star: easy to select and quickly delivered

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

Quick and easy to order

These products are preconfigured to ensure excellent value for money, and are quick and easy to order using the part number.

Outstanding availability

They are in stock and generally ready to be shipped immediately, and are therefore 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 indicates the product has been specifically selected and is perfect for use in the majority of automation applications. The stars will help you to find what you are looking for more quickly and place orders more easily. These star products are in stock and can usually be shipped immediately.

Round-the-clock benefits

24 h online

Fast and convenient

Get a quick and easy overview of prices and delivery times in the basket at any time, including shipment tracking and order documentation.

Use our Online Shop.



Request quotes

- + Quickly create quotes for your purchasing department
- + View the quote by e-mail and in your user account shortly afterwards.



Order tracking

- + Planning reliability: all delivery dates in the basket at a glance
- + Track orders and view the delivery status, even for orders outside of the Online Shop
- + Track shipments



No small quantity surcharge for online orders

- + Reduces your costs
- + Gives you greater flexibility when ordering



Download complete documentation

- + Download all documents for the selected products with just a few clicks

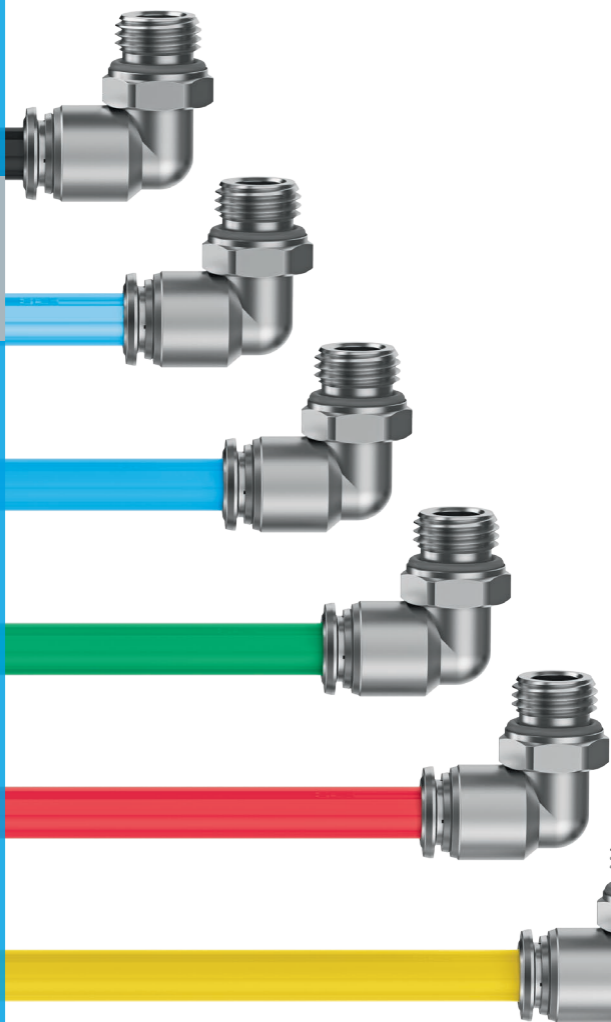
You can find the Festo Online Shop at → www.festo.com – click on **Basket**

At a glance:

- + Quickest delivery, worldwide – wherever, whenever
- + Best value
- + Easy and fast to select

01

Tubing/fitting combinations – Overview



| | |
|--|----|
| Overview | 10 |
| Well connected: tubing/fitting combinations | 12 |
| Overview of combinations | 13 |
| Standard applications | 13 |
| High pressures | 14 |
| Resistant to chemicals, suitable for use in the food industry and hydrolysis-resistant | 14 |
| Resistant to chemicals and hydrolysis | 15 |
| Antistatic | 16 |
| Flame-retardant | 16 |
| Resistant to welding spatter | 16 |



Tubing-fitting combinations for all applications

While many of our competitors focus on tubing or on fittings, the Festo range is characterised by our trademark system solution approach.

In recent years, both tubing and fittings have been consistently further improved and considerably effort has gone into making sure that application-specific tubing/fitting combinations are optimally harmonised.

The precise selection of the right tubing/fitting combination is above all dependent on the application.

Each individual case is characterised by a number of different requirements for the specific tubing/fitting combination.












Applications often have a single feature that quickly guides you to the right selection.

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 piping:

→ www.festo.com/productfinder/tubing























| Tubing | Suitable for | | Applications |
|--|--|--|--|
| | Fitting | Flow control valve | |
| Standard applications | | | |
| PUN-H  → 28 | NPKA  → 236 | – | Maximum flexibility in standard applications thanks to an extremely wide range of options for combining the different types. |
| PEN  → 35 | QSM  → 84 | GRLA  → 350 | Suitable for a wide range of tasks and attractively priced. Flexible thanks to highly resistant materials, easy to install thanks to optimised bending radii High level of abrasion resistance in dynamic applications. |
| PAN  → 38 | QS  → 94 | VFOH-LE  → 353 | Meets all requirements, even for standard applications with increased pressure and temperature ranges. |
| PUN  → 40 | QS  → 94 | GRLA  → 350 | Maximum flexibility in standard applications thanks to an extremely wide range of options for combining the different types. |

Product finder for fittings

→ www.festo.com/productfinder/fitings



| Tubing | Suitable for | | Applications |
|---|--|---|---|
| | Fitting | Flow control valve | |
| High pressures | | | |
| PAN-MF  → 43 | NPQM  → 140 | GRLA  → 350 | Complies with DIN 73378: ideal for use in mobile pneumatics Suitable for increased temperature ranges combined with high pressure ranges. |
| PAN-R  → 43 | NPQH  → 124 | VFOH-LE  → 353 | Powerful in pressure ranges up to 2 MPa, for example in applications with the pressure booster DPA. |
| Resistant to chemicals, suitable for use in the food industry and hydrolysis-resistant | | | |
| PUN-H-F  → 45 | NPQR  → 134 | – | Food-safe to Regulation (EC) 1935/2004 and FDA 21 CFR 177.2600. Can be used in the food and packaging industry in combination with fittings NPQR. Hydrolysis-resistant and suitable for water applications. Extremely flexible and thus easy to install. |
| PUN-H  → 28 | NPKA  → 236 | – | Hydrolysis-resistant and suitable for water applications. Combination suitable for use in cleanrooms, FDA-compliant and corrosion-resistant because it's 100% polymer. Very easy to install with the “one-click principle” |













| Tubing | Suitable for | | Applications |
|---|--|---|--|
| | Fitting | Flow control valve | |
| Resistant to chemicals, suitable for use in the food industry and hydrolysis-resistant | | | |
| PLN  → 55 | NPQP  → 148 | VFOH-LE  → 353 | Resistant to cleaning agents, FDA-compliant and economical. Can be used instead of the combination with stainless steel fittings. |
| PTFEN/PFAN  → 55 | NPQH  → 124 | VFOH-LE  → 353 | For high temperatures up to 150 °C. Food-safe, FDA-compliant and resistant to cleaning agents. |
| | NPCK  → 184 | CRGRLA  → 354 | Easy to clean thanks to the union nut's edge-free design. Maximum corrosion resistance (CRC 4) and FDA-compliant. Suitable for a wide range of media. |
| Resistant to chemicals and hydrolysis | | | |
| PTFEN/PFAN  → 55 | NPQR  → 134 | – | Optimised design, fewer edges where dirt can collect – all at an attractive price. For high temperatures up to 150 °C. Pressure range up to 1.6 MPa. Maximum corrosion resistance (CRC 4). |

Media resistance:

You can check the media resistance of various materials here:

→ www.festo.com/mediaresistance



| Tubing | Suitable for | | Applications |
|---|---|---|---|
| | Fitting | Flow control valve | |
| Antistatic | | | |
| PUN-CM  → 56 | NPQM  → 140 | GRLA  → 350 | Antistatic tubing plus solid metal fitting: maximum protection for electric and electronic components. |
| Flame-retardant | | | |
| PUN-V0  → 57 | NPQM  → 140 | VFOH-LE  → 353 | Very safe in areas where there is a risk of fire thanks to flame-retardant properties. |
| Resistant to welding spatter | | | |
| PUN-V0-C  → 58 | NPQH  → 124 | GRLA  → 350 | Ideal for use in the immediate vicinity of welding applications. Reliable with a tubing wall thickness of 2 mm for all diameters. |
| PAN-V0  → 60 | QS-V0  → 156 | GRLA  → 350 | Safe even in the immediate vicinity of welding spatter thanks to double-walled tubing with special fitting. |

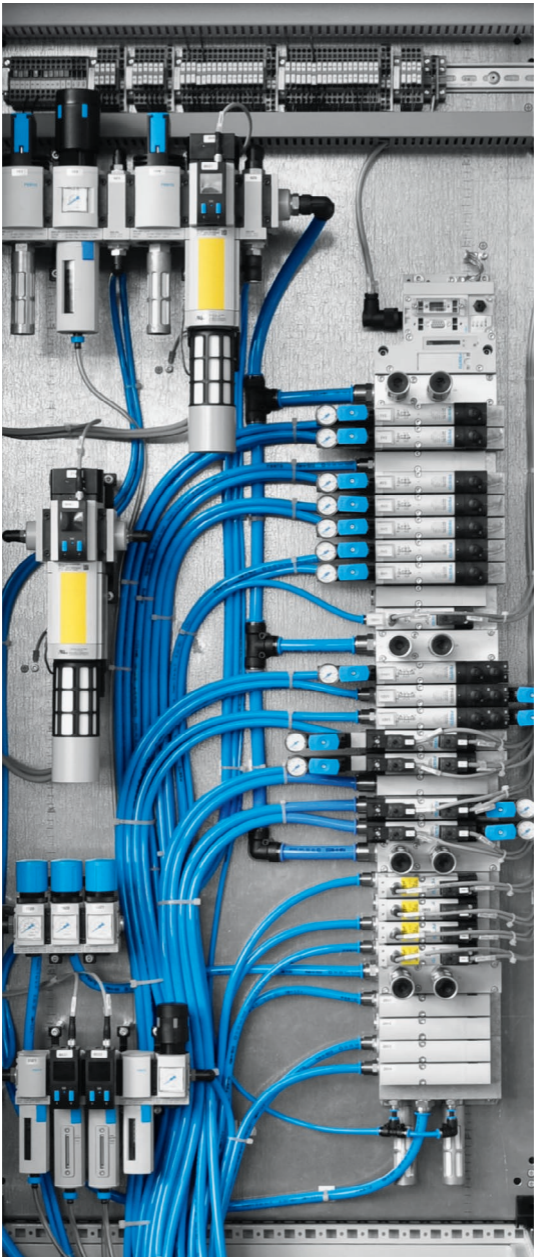
Media resistance:

You can check the media resistance of various materials here:

→ www.festo.com/mediaresistance



Well connected: tubing/fitting combinations



02

Tubing – Highlights



Highlights

from our tubing range



Standard O.D. tubing

PUN-H ★

NEW: PUN-H-F

- + Highly resistant to microbes and hydrolysis
 - + Suitable for use in the food industry
- PUN-H: **28**
- PUN-H-DUO: **34**

NEW



Standard O.D. tubing

PEN

- + Suitable for a wide range of tasks and attractively priced
 - + Flexible thanks to highly resistant materials, easy to install thanks to optimised bending radii
 - + High level of abrasion resistance in dynamic applications
- **35**



Standard O.D. tubing

PTFEN

- + Food safe (FDA-compliant)
 - + High chemical and temperature resistance
- **55**

Product Finder for tubing:

→ www.festo.com/productfinder/tubing



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 complete range of tubing that is optimised for special requirements.

| | |
|-----------------------------------|----|
| Selection aid _____ | 22 |
| Features _____ | 24 |
| Tubing/fitting combinations _____ | 26 |
| O.D. tubing ★ _____ | 28 |
| I.D. tubing _____ | 61 |
| Spiral tubing _____ | 62 |

Additional information:

→ www.festo.com/tubing



| Applications ¹⁾ | Tubing | Fitting | |
|--|--|---------------------------------------|--|
| Standard | PUN-H ★ → 28 PUN-H-DUO → 34 | NPKA → 236 | |
| | PEN → 35 | QSM ★ → 84 QS ★ → 94 | |
| | PAN → 38 | | |
| | PUN → 40 PUN-DUO → 42 | | |
| High pressures | PAN-MF → 43 | NPQM → 140 | |
| | PAN-R → 43 | NPQH → 124 | |
| Suitable for use in the food industry, resistant to chemicals and hydrolysis | PUN-H-F → 45 NEW | NPQR → 134 | |
| | PUN-H ★ → 45 PUN-H-DUO → 34 | NPKA → 236 | |
| | PLN → 55 | NPQP → 148 | |
| | PTFEN → 55 PFAN → 56 | NPQH → 124 | |
| | PTFEN → 55 PFAN → 56 | NPCK → 184 | |
| Resistant to chemicals and hydrolysis | PTFEN → 55 PFAN → 56 | NPQR → 134 | |
| Antistatic | PUN-CM → 56 | NPQM → 140 | |
| Flame-retardant | PUN-V0 → 57 | NPQM → 140 | |
| Resistant to welding spatter | PUN-V0-C → 58 | NPQH → 124 | |
| | PAN-V0 → 60 | QS-V0 → 156 | |

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 thanks to highly resistant materials, easy to install thanks to optimised bending radii. High level of abrasion resistance in dynamic applications. |
| Meets all requirements, even for standard applications with increased pressure and temperature ranges. |
| Maximum flexibility in standard applications thanks to an extremely wide range of options for combining the different types. |
| Complies with 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 2 MPa, for example in applications with the pressure booster DPA. |
| Food-safe to Regulation (EC) 1935/2004 and FDA 21 CFR 177.2600. Can be used in the food and packaging industry in combination with fittings NPQR or NPQH. Hydrolysis-resistant and suitable for water applications. Extremely flexible and thus easy to install. |
| Hydrolysis-resistant and suitable for water applications. Combination suitable for use in cleanrooms, FDA-compliant and corrosion-resistant because it's 100% polymer. Very easy to install with 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 corrosion resistance (CRC 4) and FDA-compliant. Suitable for a wide range of media. |
| Optimised design, fewer edges where dirt can collect – all at an attractive price. For high temperatures up to 150 °C. Pressure range up to 1.6 MPa. Maximum corrosion resistance (CRC 4). |
| Antistatic tubing plus solid metal fitting: maximum protection for electric and electronic components. |
| Very safe in areas where there is a risk of fire thanks to flame-retardant properties. The tubing has been tested in accordance with DIN 5510-2. |
| Ideal for use in the immediate vicinity of welding applications. Reliable with a tubing wall thickness of 2 mm for all diameters. |
| Safe even in the immediate vicinity of welding spatter thanks to double-walled tubing with special fitting. |

| Type | O.D. [mm] | Operating medium | | | | | Material fire test | Antistatic | Halogen-free | Contact with electric cables |
|-----------------------|--|------------------------|-------|-----------------|--------|-----------|--------------------|------------|--------------|------------------------------|
| | | Compressed air, vacuum | Water | Mineral oil | Oxygen | Food-safe | | | | |
| PUN-H ★ | 2 | ■ | - | - | - | - | - | - | ■ | ■ |
| | 3, 4, 6, 8, 10, 12, 14, 16 | ■ | ■ | - | - | ■ | UL94 HB | - | ■ | ■ |
| PUN-H-DUO | 4, 6, 8, 10 | ■ | ■ | - | - | ■ | UL94 HB | - | ■ | ■ |
| PEN | 4, 6, 8, 10, 12, 14, 16 | ■ | ■ | - | - | - | - | - | ■ | ■ |
| PAN | 4, 6, 8, 10, 12, 14, 16 | ■ | - | - | - | - | - | - | ■ | ■ |
| PUN | 3, 4, 6, 8, 10, 12, 14, 16 | ■ | - | - | - | - | UL94 HB | - | ■ | ■ ⁷⁾ |
| PUN-DUO | 4, 6, 8, 10 | ■ | - | - | - | - | UL94 HB | - | ■ | ■ ⁷⁾ |
| PAN-MF | 4, 6, 8, 10, 12, 14, 16 | ■ | - | ■ ⁷⁾ | - | - | - | - | ■ | ■ |
| PAN-R | 4, 6, 8, 10, 12, (14) ¹⁾ , 16 | ■ | - | - | - | - | - | - | ■ | ■ |
| | 22, 28 | ■ | - | - | - | - | - | - | ■ | ■ |
| PUN-H-F NEW | 4, 6, 8, 10, 12, 16 | ■ | ■ | - | ■ | ■ | UL94 HB | - | ■ | ■ |
| | 14 | ■ | ■ | - | ■ | ■ | 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 | - | - | ■ |

■ Criterion met

- Not suitable

+++ Extremely suitable

++ Very suitable

+ Limited suitability (on request)

1) Can only be ordered using the configurator.

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

3) Applies to the colours silver and natural

4) Applies to the colour black

5) Outer tubing

| | Suitable for energy chains | Approved by the German Technical Control Board (TÜV) | Maritime classification | Resistance | | | | Flexible | Shore hardness ⁸⁾ | → Page |
|--|----------------------------|--|-------------------------|------------|----------|------------------|------------|----------|--|-----------|
| | | | | Chemicals | Microbes | UV radiation | Hydrolysis | | | |
| | ■ | - | - | + | ++ | ++ ⁴⁾ | ++ | +++ | D 52 ±3 | 28 |
| | ■ | ■ | - | + | ++ | ++ ⁴⁾ | ++ | +++ | D 52 ±3 | |
| | ■ | ■ | - | + | ++ | + | ++ | ++ | D 52 ±3 | 34 |
| | ■ | ■ | - | ++ | ++ | ++ ⁴⁾ | +++ | ++ | D 52 ±3 | 35 |
| | ■ | ■ | ■ ³⁾ | + | ++ | + | ++ | ++ | D 55 ±3 | 38 |
| | ■ | ■ | - | - | - | ++ ⁴⁾ | + | +++ | D 52 ±3 | 40 |
| | ■ | ■ | - | - | - | + | + | ++ | D 52 ±3 | 42 |
| | ■ | - | - | + | ++ | + | ++ | + | D 65 ±3 | 43 |
| | ■ | ■ | - | + | ++ | + | ++ | + | D 62 ±3 | 43 |
| | ■ | - | - | + | ++ | + | ++ | + | D 62 ±3 | |
| | ■ | ■ | - | + | ++ | ++ ⁴⁾ | ++ | ++ | D 52 ±3 | 45 |
| | ■ | ■ | - | + | ++ | ++ ⁴⁾ | ++ | ++ | D 52 ±3 | 45 |
| | - | ■ | - | ++ | ++ | ++ ⁴⁾ | +++ | + | D 59 ±3 | 55 |
| | - | - | - | +++ | ++ | ++ | +++ | + | D 55 ±5 | 55 |
| | - | ■ | - | +++ | ++ | ++ | +++ | + | D 60 +5 | 56 |
| | ■ | - | - | + | ++ | ++ | ++ | ++ | D 52 ±3 | 56 |
| | ■ | ■ | - | + | ++ | ++ ⁴⁾ | ++ | ++ | D 54 ±3 | 57 |
| | ■ | ■ | - | + | ++ | ++ ⁴⁾ | ++ | ++ | D 54 ±3 | 58 |
| | ■ | - | - | + | ++ | ++ | ++ | ++ | A 72 ±4 ⁵⁾ D 57 ±3 ⁶⁾ | 60 |

6) Inner tubing

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

8) Values are determined using test panels. Values determined using tubing may vary.

Tubing/fitting combinations

| Type | QSM, QS ¹⁾ ★ | NPQH ²⁾ | NPQR ³⁾ | NPQM ⁴⁾ | NPQP ⁵⁾ | QS-V0 ⁶⁾ | NPCK ⁷⁾ | NPKA ⁸⁾ | CN ⁹⁾ | CK ¹⁰⁾ | → Page |
|-----------------------------|-------------------------|--------------------|--------------------|--------------------|--------------------|---------------------|--------------------|--------------------|------------------|-------------------|--------|
| Standard O.D. tubing | | | | | | | | | | | |
| PUN-H ★ | +++ | +++ | +++ | ++ | ++ | + | ++ | +++ | - | ++ | 28 |
| PUN-H-DUO | +++ | +++ | +++ | ++ | ++ | + | ++ | ++ | - | ++ | 34 |
| PEN | +++ | ++ | ++ | +++ | ++ | + | ++ | ++ | ++ | ++ | 35 |
| PAN | +++ | ++ | ++ | ++ | ++ | + | ++ | ++ | ++ | ++ | 38 |
| PUN | +++ | ++ | ++ | ++ | ++ | + | ++ | ++ | ++ | ++ | 40 |
| PUN-DUO | +++ | ++ | ++ | ++ | ++ | + | ++ | ++ | ++ | ++ | 42 |
| PAN-MF | ++ | ++ | ++ | ++ | ++ | + | - | - | - | - | 43 |
| PAN-R | ++ | +++ | ++ | ++ | ++ | + | - | ++ | - | - | 43 |
| PUN-H-F NEW | ++ | +++ | +++ | ++ | +++ | + | +++ | +++ | - | ++ | 45 |
| PLN | ++ | ++ | +++ | ++ | +++ | + | ++ | ++ | + | ++ | 55 |
| PTFEN | ++ | +++ | +++ | ++ | +++ | + | +++ | ++ | ++ | ++ | 55 |
| PFAN | ++ | +++ | +++ | ++ | +++ | + | +++ | ++ | ++ | ++ | 56 |
| PUN-CM | + | ++ | ++ | +++ | + | + | ++ | + | + | + | 56 |
| PUN-V0 | + | ++ | ++ | +++ | + | + | ++ | + | + | ++ | 57 |
| PUN-V0-C | + | +++ | ++ | ++ | + | + | - | - | - | - | 58 |
| PAN-V0 | + | + | + | + | + | +++ | - | - | - | - | 60 |
| → Page | 84 | 124 | 134 | 140 | 148 | 156 | 184 | 236 | 188 | 196 | |

1) For tubing O.D. 2 ... 12 and 16, 22 mm

2) For tubing O.D. 4 ... 14 mm

3) For tubing O.D. 4 ... 16 mm

4) For tubing O.D. 3 ... 14 mm

5) For tubing O.D. 4 ... 12 mm

6) For tubing O.D. 4 ... 12 mm

7) For tubing O.D. 4 ... 10 mm

8) For tubing O.D. 6 mm

9) For tubing O.D. 3 ... 8 mm

10) For tubing O.D. 4 ... 8 mm

+++ Recommended tubing/fitting combination

++ Suitable

+ Limited suitability because:

- Tubing PLN with fitting CN provides little flexibility

- No conductive contact with PUN-CM

- Incompatible characteristic "resistance to welding spatter" with PUN-V0/PUN-V0-C

- Sub-optimal combination with regard to welding spatter resistance when insulation is removed from double-sheathed tubing PAN-V0

Note: the push-in fitting QS-V0 is specially designed for tubing PAN-V0 with the insulation removed using tubing cutter PAN-V0S.

With other fittings, there is a gap near the releasing sleeve and the protective function against welding spatter is lost.

There is also an increased risk of the tubing kinking in this area.


However, this risk of kinking can be prevented by ensuring large bending radii when installing the tubing.

- Not suitable


Tubing/fitting combinations

| Type | Description | Recommended quick connector |
|--------------------|--|---|
| I.D. tubing | | |
| PU | Highly flexible fibre-reinforced plastic tubing characterised by high resistance to abrasion and to kinks. | Metal design Male thread with sealing ring |
| → Page | 61 | 196 |


For standard applications

| | D1 | di | Colour | TNR | PE |
|---|----|-----|---------|--------|-----|
| PUN-H – highly flexible Various uses → www.festo.com/tubing Polyurethane 2 ... 3 mm | | | | | |
|  | 2 | 1.2 | Natural | 133038 | 50 |
| | | | Red | 133040 | |
| | | | Black | 133039 | |
| | 3 | 2.1 | Natural | 197375 | 500 |
| | | | Black | 197389 | |
| | | | Blue | 197382 | |
| | | | Green | 558291 | |
| | | | Red | 558284 | |
| | | | Silver | 558277 | |
| | | | Yellow | 558298 | |
| | | | Natural | 558263 | |
| | | | Black | 558249 | |
| | | | Blue | 558256 | |
| | | | Silver | 558270 | |


For standard applications

| | D1 | di | Colour | TNR | PE |
|---|----|-----|--------------------|-----------|----|
| PUN-H – highly flexible Various uses → www.festo.com/tubing Polyurethane 4 mm | | | | | |
|  | 4 | 2.6 | Black | ★ 197390 | 50 |
| | | | Natural | ★ 197376 | |
| | | | Blue | ★ 197383 | |
| | | | Yellow | 558299 | |
| | | | Green | 558292 | |
| | | | Red | ★ 558285 | |
| | | | Silver | ★ 558278 | |
| | | | Translucent red | 8048675 | |
| | | | Translucent blue | ★ 8048671 | |
| | | | Translucent green | 8048677 | |
| | | | Translucent black | 8048673 | |
| | | | Translucent yellow | 8048679 | |
| | | | Silver | ★ 558271 | |
| | | | Natural | ★ 558264 | |
| | | | Black | ★ 558250 | |
| | | | Blue | ★ 558257 | |
| | | | Translucent red | 8048676 | |
| | | | Translucent blue | ★ 8048672 | |
| | | | Translucent black | 8048674 | |
| | | | Translucent green | 8048678 | |
| | | | Translucent yellow | 8048680 | |


For standard applications

| | D1 | di | Colour | TNR | PE | |
|---|----|----|--------------------|-----------|----|-----|
| PUN-H – highly flexible Various uses → www.festo.com/tubing Polyurethane 6 mm | | | | | | |
|  | 6 | 4 | Blue | ★ 197384 | 50 | |
| | | | Natural | ★ 197377 | | |
| | | | Black | ★ 197391 | | |
| | | | Silver | ★ 558279 | | |
| | | | Yellow | 558300 | | |
| | | | Green | 558293 | | |
| | | | Red | ★ 558286 | | |
| | | | Translucent red | 8048685 | | |
| | | | Translucent green | 8048687 | | |
| | | | Translucent blue | ★ 8048681 | | |
| | | | Translucent yellow | 8048689 | | |
| | | | Translucent black | 8048683 | | |
| | | | Silver | ★ 558272 | | 500 |
| | | | Natural | ★ 558265 | | |
| | | | Black | ★ 558251 | | |
| | | | Blue | ★ 558258 | | |
| | | | Translucent black | 8048684 | | |
| | | | Translucent red | 8048686 | | |
| | | | Translucent green | 8048688 | | |
| | | | Translucent yellow | 8048690 | | |
| | | | Translucent blue | ★ 8048682 | | |


For standard applications

| | D1 | di | Colour | TNR | PE | |
|---|----|-----|--------------------|-----------|----|-----|
| PUN-H – highly flexible Various uses → www.festo.com/tubing Polyurethane 8 mm | | | | | | |
|  | 8 | 5.7 | Black | ★ 197392 | 50 | |
| | | | Blue | ★ 197385 | | |
| | | | Natural | ★ 197378 | | |
| | | | Yellow | 558301 | | |
| | | | Green | 558294 | | |
| | | | Red | ★ 558287 | | |
| | | | Silver | ★ 558280 | | |
| | | | Translucent red | 8048695 | | |
| | | | Translucent green | 8048697 | | |
| | | | Translucent yellow | 8048699 | | |
| | | | Translucent blue | ★ 8048691 | | |
| | | | Translucent black | 8048693 | | |
| | | | Black | ★ 558252 | | 400 |
| | | | Silver | ★ 558273 | | |
| | | | Natural | ★ 558266 | | |
| | | | Blue | ★ 558259 | | |
| | | | Translucent black | 8048694 | | |
| | | | Translucent red | 8048696 | | |
| | | | Translucent green | 8048698 | | |
| | | | Translucent yellow | 8048700 | | |
| | | | Translucent blue | ★ 8048692 | | |


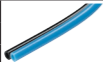
For standard applications

| | D1 | di | Colour | TNR | PE | |
|--|----|----|--------------------|-----------|----|-----|
| PUN-H – highly flexible Various uses → www.festo.com/tubing Polyurethane 10 mm | | | | | | |
|  | 10 | 7 | Blue | ★ 197386 | 50 | |
| | | | Black | ★ 197393 | | |
| | | | Natural | ★ 197379 | | |
| | | | Silver | ★ 558281 | | |
| | | | Yellow | 558302 | | |
| | | | Green | 558295 | | |
| | | | Red | ★ 558288 | | |
| | | | Translucent black | 8048703 | | |
| | | | Translucent red | 8048705 | | |
| | | | Translucent green | 8048707 | | |
| | | | Translucent yellow | 8048709 | | |
| | | | Translucent blue | ★ 8048701 | | |
| | | | Black | ★ 558253 | | 300 |
| | | | Silver | ★ 558274 | | |
| | | | Natural | ★ 558267 | | |
| | | | Blue | ★ 558260 | | |
| | | | Translucent black | 8048704 | | |
| | | | Translucent red | 8048706 | | |
| | | | Translucent green | 8048708 | | |
| | | | Translucent yellow | 8048710 | | |
| | | | Translucent blue | ★ 8048702 | | |

For standard applications

| | D1 | di | Colour | TNR | PE | |
|--|----|----|--------------------|-----------|----|-----|
| PUN-H – highly flexible Various uses → www.festo.com/tubing Polyurethane 12 mm | | | | | | |
|  | 12 | 8 | Black | ★ 197394 | 50 | |
| | | | Blue | ★ 197387 | | |
| | | | Natural | ★ 197380 | | |
| | | | Red | ★ 558289 | | |
| | | | Silver | ★ 558282 | | |
| | | | Yellow | 558303 | | |
| | | | Green | 558296 | | |
| | | | Translucent red | 8048715 | | |
| | | | Translucent green | 8048717 | | |
| | | | Translucent yellow | 8048719 | | |
| | | | Translucent blue | ★ 8048711 | | |
| | | | Translucent black | 8048713 | | |
| | | | Blue | ★ 558261 | | 200 |
| | | | Black | ★ 558254 | | |
| | | | Silver | ★ 558275 | | |
| | | | Natural | ★ 558268 | | |
| | | | Translucent blue | ★ 8048712 | | |
| | | | Translucent black | 8048714 | | |
| | | | Translucent red | 8048716 | | |
| | | | Translucent green | 8048718 | | |
| | | | Translucent yellow | 8048720 | | |

For standard applications

| | D1 | di | Colour | TNR | PE |
|---|----|-----|------------|----------|-----|
| PUN-H – highly flexible Various uses → www.festo.com/tubing Polyurethane 14 ... 16 mm | | | | | |
|  | 14 | 9.8 | Blue | ★ 570386 | 50 |
| | | | Black | 570387 | |
| | | | Natural | 570388 | |
| | 16 | 11 | Black | ★ 197395 | 100 |
| | | | Blue | ★ 197388 | |
| | | | Natural | ★ 197381 | |
| | | | Red | ★ 558290 | |
| | | | Silver | ★ 558283 | |
| | | | Yellow | 558304 | |
| | | | Green | 558297 | |
| | | | Blue | ★ 558262 | |
| | | | Black | 558255 | |
| | | | Silver | 558276 | |
| | | | Natural | 558269 | |
| PUN-H-DUO – paired plastic tubing, highly flexible Highly flexible, high abrasion resistance, high kink resistance Polyurethane | | | | | |
|  | 4 | 2.6 | Blue/black | 197396 | 50 |
| | 6 | 4 | | 197397 | |
| | 8 | 5.7 | | 197398 | |
| | 10 | 7 | | 197399 | |


Configurable products




This product and all its product options can be ordered online via the configurator:
 → www.festo.com/catalogue/pun-h



For standard applications

| | D1 | di | Colour | TNR | PE | | | | |
|---|--------|--------|---------|--------|-----|-------|---------|--------|----|
| PEN – suitability for energy chains | | | | | | | | | |
| Chemical resistance, high hydrolysis resistance | | | | | | | | | |
| Polyethylene | | | | | | | | | |
| 4 ... 8 mm | | | | | | | | | |
|  | 4 | 2.7 | Black | 543240 | 50 | | | | |
| | | | Natural | 543246 | | | | | |
| | | | Yellow | 551480 | | | | | |
| | | | Green | 551468 | | | | | |
| | | | Silver | 551462 | | | | | |
| | | | Red | 551474 | | | | | |
| | | | Blue | 551456 | | | | | |
| | | | Black | 551438 | | 500 | | | |
| | | | Silver | 551450 | | | | | |
| | | | Blue | 551444 | | | | | |
| | | | 6 | 4 | | | Black | 543241 | 50 |
| | | | | | | | Natural | 543247 | |
| | | | | | | | Blue | 551457 | |
| | | | | | | Green | 551469 | | |
| | Yellow | 551481 | | | | | | | |
| | Silver | 551463 | | | | | | | |
| | Red | 551475 | | | | | | | |
| | Black | 551439 | | | 500 | | | | |
| | Silver | 551451 | | | | | | | |
| | Blue | 551445 | | | | | | | |
| | 8 | 5.7 | Natural | 543248 | 50 | | | | |
| | | | Black | 543242 | | | | | |
| | | | Green | 551470 | | | | | |
| | | | Blue | 551458 | | | | | |
| Yellow | | | 551482 | | | | | | |
| Silver | | | 551464 | | | | | | |
| Red | | | 551476 | | | | | | |
| Black | | | 551440 | 400 | | | | | |
| Silver | | | 551452 | | | | | | |
| Blue | | | 551446 | | | | | | |

For standard applications

| | D1 | di | Colour | TNR | PE | |
|---|-----|---------|---------|--------|----|-----|
| PEN – suitable for energy chains | | | | | | |
| Chemical resistance, high hydrolysis resistance | | | | | | |
| Polyethylene | | | | | | |
| 10 ... 14 mm | | | | | | |
|  | 10 | 7 | Black | 543243 | 50 | |
| | | | Natural | 543249 | | |
| | | | Red | 551477 | | |
| | | | Blue | 551459 | | |
| | | | Yellow | 551483 | | |
| | | | Green | 551471 | | |
| | | | Silver | 551465 | | |
| | | | Blue | 551447 | | 300 |
| | | | Black | 551441 | | |
| | | | Silver | 551453 | | |
| | 12 | 8.4 | Natural | 543250 | 50 | |
| | | | Black | 543244 | | |
| | | | Blue | 551460 | | |
| | | | Green | 551472 | | |
| | | | Yellow | 551484 | | |
| | | | Silver | 551466 | | |
| | | | Red | 551478 | | |
| | | | Black | 551442 | | 200 |
| | | | Blue | 551448 | | |
| Silver | | | 551454 | | | |
| 14 | 9.5 | Natural | 570517 | 50 | | |
| | | Black | 570516 | | | |

For standard applications

| | D1 | di | Colour | TNR | PE |
|--|-----|------|---------|--------|----|
| PEN – suitable for energy chains Chemical resistance, high hydrolysis resistance Polyethylene 16 mm | | | | | |
| | 16 | 10.8 | Natural | 543251 | 50 |
| | | | Black | 543245 | |
| | | | Red | 551479 | |
| | | | Blue | 551461 | |
| | | | Yellow | 551485 | |
| | | | Green | 551473 | |
| | | | Silver | 551467 | |
| | | | Blue | 551449 | |
| | 100 | 10.8 | Black | 551443 | |
| | | | Silver | 551455 | |

Configurable products




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



→ www.festo.com/catalogue/pen



For standard applications

| | D1 | di | Colour | TNR | PE | |
|---|----|-----|---------|--------|----|-----|
| PAN – high load capacity | | | | | | |
| high thermal and mechanical load capacities | | | | | | |
| Polyamide | | | | | | |
| 4 ... 8 mm | | | | | | |
|  | 4 | 2.9 | Silver | 152697 | 50 | |
| | | | Natural | 546284 | | |
| | | | Yellow | 553930 | | |
| | | | Red | 553924 | | |
| | | | Blue | 553906 | | |
| | | | Green | 553918 | | |
| | | | Black | 553912 | | |
| | | | Silver | 553888 | | 500 |
| | | | Blue | 553894 | | |
| | | | Black | 553900 | | |
| | 6 | 4 | Silver | 152699 | 50 | |
| | | | Natural | 546285 | | |
| | | | Yellow | 553931 | | |
| | | | Black | 553913 | | |
| | | | Red | 553925 | | |
| | | | Blue | 553907 | | |
| | | | Green | 553919 | | |
| | | | Black | 553901 | | 500 |
| | | | Silver | 553889 | | |
| | | | Blue | 553895 | | |
| | 8 | 5.9 | Silver | 152700 | 50 | |
| | | | Natural | 546286 | | |
| | | | Yellow | 553932 | | |
| | | | Black | 553914 | | |
| Red | | | 553926 | | | |
| Blue | | | 553908 | | | |
| Green | | | 553920 | | | |
| Silver | | | 553890 | 400 | | |
| Blue | | | 553896 | | | |
| Black | | | 553902 | | | |

For standard applications

| | D1 | di | Colour | TNR | PE |
|---|--------|--------|---------|--------|----|
| PAN – high load capacity | | | | | |
| high thermal and mechanical load capacities | | | | | |
| Polyamide | | | | | |
| 10 ... 16 mm | | | | | |
|  | 10 | 7 | Silver | 152701 | 50 |
| | | | Natural | 546287 | |
| | | | Green | 553921 | |
| | | | Red | 553927 | |
| | | | Yellow | 553933 | |
| | | | Black | 553915 | |
| | | | Blue | 553909 | |
| | | | Black | 553903 | |
| | Silver | 553891 | | | |
| | Blue | 553897 | | | |
| | | | | | |
| | 12 | 8.4 | Silver | 152702 | 50 |
| | | | Natural | 546288 | |
| | | | Red | 553928 | |
| Black | | | 553916 | | |
| Yellow | | | 553934 | | |
| Blue | | | 553910 | | |
| Green | | | 553922 | | |
| Silver | | | 553892 | 200 | |
| Black | 553904 | | | | |
| Blue | 553898 | | | | |
| | | | | | |
| 14 | 10 | Silver | 570392 | 50 | |
|  | 16 | 12 | Silver | 152703 | 50 |
| | | | Natural | 546289 | |
| | | | Red | 553929 | |
| | | | Yellow | 553935 | |
| | | | Black | 553917 | |
| | | | Blue | 553911 | |
| | | | Green | 553923 | |
| | | | Silver | 553893 | |
| | | | Black | 553905 | |
| | | | Blue | 553899 | |
| | | | | | |

Configurable products




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


→ www.festo.com/catalogue/pan



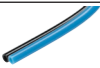
For standard applications

| | D1 | di | Colour | TNR | PE | | | |
|---|--------|--------|--------|--------|-----|--------|--------|----|
| PUN – highly flexible | | | | | | | | |
| Wide selection, many different variants | | | | | | | | |
| Polyurethane | | | | | | | | |
| 3 ... 8 mm | | | | | | | | |
|  | 3 | 2.1 | Silver | 152583 | 50 | | | |
| | | | Blue | 159660 | | | | |
| | | | Black | 159661 | | | | |
| | | | Green | 178423 | | | | |
| | | | Red | 178409 | | | | |
| | | | Yellow | 178416 | | | | |
| | | | Silver | 525738 | 500 | | | |
| | | | Blue | 525745 | | | | |
| | | | Black | 553936 | | | | |
| | | | 4 | 2.6 | | Silver | 152584 | 50 |
| | | | Blue | | | 159662 | | |
| | | | Black | | | 159663 | | |
| | Green | 178424 | | | | | | |
| | Red | 178410 | | | | | | |
| | Yellow | 178417 | | | | | | |
| | Silver | 525739 | 500 | | | | | |
| | Blue | 525746 | | | | | | |
| | Black | 553937 | | | | | | |
| | 6 | 4 | Silver | 152586 | 50 | | | |
| | | | Blue | 159664 | | | | |
| | | | Black | 159665 | | | | |
| | | | Yellow | 178418 | | | | |
| | | | Green | 178425 | | | | |
| | | | Red | 178411 | | | | |
| Silver | | | 525740 | 500 | | | | |
| Blue | | | 525747 | | | | | |
| Black | | | 553938 | | | | | |
| 8 | 5.7 | Silver | 152587 | 50 | | | | |
| | | Blue | 159666 | | | | | |
| | | Black | 159667 | | | | | |
| | | Red | 178412 | | | | | |
| | | Green | 178426 | | | | | |
| | | Yellow | 178419 | | | | | |
| | | Blue | 525748 | 400 | | | | |
| | | Silver | 525741 | | | | | |
| | | Black | 553939 | | | | | |

For standard applications

| | D1 | di | Colour | TNR | PE | |
|--|--------|--------|--------|--------|-----|-----|
| PUN – highly flexible Wide selection, many different variants Polyurethane 10 ... 16 mm | | | | | | |
|  | 10 | 7 | Silver | 152588 | 50 | |
| | | | Blue | 159668 | | |
| | | | Black | 159669 | | |
| | | | Red | 178413 | | |
| | | | Green | 178427 | | |
| | | | Yellow | 178420 | | |
| | | | Blue | 525749 | | 300 |
| | | | Silver | 525742 | | |
| | | | Black | 553940 | | |
| | | | | | | |
| | 12 | 8 | Silver | 152589 | 50 | |
| | | | Blue | 159670 | | |
| | | | Black | 159671 | | |
| | | | Red | 178414 | | |
| | | | Green | 178428 | | |
| | | | Yellow | 178421 | | |
| | | | Blue | 525750 | | 200 |
| | | | Silver | 525743 | | |
| | Black | 553941 | | | | |
| | 14 | 9.8 | Silver | 570389 | 50 | |
| Blue | | | 570390 | | | |
| Black | | | 570391 | | | |
| 16 | 11 | Silver | 152590 | 100 | | |
| | | Blue | 159672 | | | |
| | | Black | 159673 | | | |
| | | Red | 178415 | | | |
| | | Green | 178429 | | | |
| | | Yellow | 178422 | | | |
| | | Blue | 525751 | | 100 | |
| | | Silver | 525744 | | | |
| Black | 553942 | | | | | |

For standard applications

| | D1 | di | Colour | TNR | PE |
|---|----|-----|------------|---------------|----|
| PUN-DUO – paired plastic tubing | | | | | |
| Highly flexible, high abrasion resistance, high kink resistance | | | | | |
| Polyurethane | | | | | |
|  | 4 | 2.6 | Silver | 152822 | 50 |
| | | | Blue/black | 159674 | |
| | 6 | 4 | Silver | 152823 | |
| | | | Blue/black | 159675 | |
| | 8 | 5.7 | Silver | 152824 | |
| | | | Blue/black | 159676 | |
| | 10 | 7 | Silver | 152825 | |
| | | | Blue/black | 159677 | |

Configurable products



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

→ www.festo.com/catalogue/pun



For special requirements

| | D1 | di | Colour | TNR | PE |
|---|----|--------|--------|--------|-----|
| PAN-MF – resistant to pressures up to 3.1 MPa For use in mobile pneumatic applications (DIN 73378 automotive approval certificate) Polyamide | | | | | |
| | 4 | 2.5 | Black | 570357 | 50 |
| | | | | 572091 | 500 |
| | 6 | 4 | | 570358 | 50 |
| | | | | 572093 | 500 |
| | 8 | 6 | | 570359 | 50 |
| | 10 | 7.5 | | 570360 | |
| | 12 | 9 | | 570361 | |
| | 14 | 10 | | 570362 | |
| 16 | 12 | 570363 | | | |

Configurable products




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

→ www.festo.com/catalogue/pan-mf



| | | | | | |
|---|----|-----|--------|--------|----|
| PAN-R – resistant to pressures up to 3.5 MPa Polyamide 4 ... 16 mm | | | | | |
| | 4 | 2.5 | Silver | 541674 | 50 |
| | 6 | 3.8 | | 541675 | |
| | 8 | 5 | | 541676 | |
| | 10 | 6.2 | | 541677 | |
| | 12 | 7.6 | | 541678 | |
| | 16 | 10 | | 541679 | |

For special requirements

| | D1 | di | Colour | TNR | PE |
|---|----|----|--------|---------|----|
| PAN-R – high load capacity High thermal and mechanical load capacities Polyamide 22, 28 mm | | | | | |
|  | 22 | 18 | Black | 8036207 | 50 |
| | 28 | 23 | | 8036208 | |

Configurable products




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, resistant to hydrolysis

| | D1 | di | Colour | TNR | PE |
|---|----|-----|------------------|---------|----|
| PUN-H-F – food-safe For food safety certificates, see www.festo.com/certificates/PUN_H_F Resistant to hydrolysis and microbes Polyurethane 4 ... 8 mm | | | | | |
|  | 4 | 2.6 | Black | 8153385 | 50 |
| | | | Yellow | 8153384 | |
| | | | Green | 8153383 | |
| | | | Translucent blue | 8153382 | |
| | | | Blue | 8153381 | |
| | | | Red | 8153379 | |
| | | | Natural | 8153378 | |
| | 6 | 4 | Natural | 8153428 | |
| | | | Black | 8153392 | |
| | | | Yellow | 8153391 | |
| | | | Green | 8153390 | |
| | | | Translucent blue | 8153389 | |
| | | | Blue | 8153388 | |
| | | | Red | 8153386 | |
| | 8 | 5.7 | Natural | 8153429 | |
| | | | Black | 8153399 | |
| | | | Yellow | 8153398 | |
| | | | Green | 8153397 | |
| | | | Translucent blue | 8153396 | |
| | | | Blue | 8153395 | |
| | | | Red | 8153393 | |


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

| | D1 | di | Colour | TNR | PE |
|---|----|-----|------------------|---------|----|
| PUN-H-F – food-safe For food safety certificates, see www.festo.com/certificates/PUN_H_F Resistant to hydrolysis and microbes Polyurethane 10 ... 16 mm | | | | | |
|  | 10 | 7 | Natural | 8153430 | 50 |
| | | | Black | 8153406 | |
| | | | Yellow | 8153405 | |
| | | | Green | 8153404 | |
| | | | Translucent blue | 8153403 | |
| | | | Blue | 8153402 | |
| | | | Red | 8153400 | |
| | 12 | 8 | Black | 8153414 | |
| | | | Red | 8153408 | |
| | | | Natural | 8153407 | |
| | | | Green | 8153412 | |
| | | | Yellow | 8153413 | |
| | | | Blue | 8153410 | |
| | | | Translucent blue | 8153411 | |
| | 14 | 9.8 | Black | 8153418 | |
| | | | Blue | 8153417 | |
| | | | Red | 8153416 | |
| | | | Natural | 8153415 | |
| | 16 | 11 | Black | 8153426 | |
| | | | Yellow | 8153425 | |
| | | | Natural | 8153419 | |
| Green | | | 8153424 | | |
| Translucent blue | | | 8153423 | | |
| Blue | | | 8153422 | | |
| | | | Red | 8153420 | |


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

| | D1 | di | Colour | TNR | PE |
|---|----|-----|---------|--------|-----|
| PUN-H – highly flexible Various uses → www.festo.com/tubing Polyurethane 2 ... 3 mm | | | | | |
|  | 2 | 1.2 | Natural | 133038 | 50 |
| | | | Red | 133040 | |
| | | | Black | 133039 | |
| | 3 | 2.1 | Natural | 197375 | 500 |
| | | | Black | 197389 | |
| | | | Blue | 197382 | |
| | | | Green | 558291 | |
| | | | Red | 558284 | |
| | | | Silver | 558277 | |
| | | | Yellow | 558298 | |
| | | | Natural | 558263 | |
| | | | Black | 558249 | |
| | | | Blue | 558256 | |
| | | | Silver | 558270 | |


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

| | D1 | di | Colour | TNR | PE | |
|---|----|-----|--------------------|-----------|----|-----|
| PUN-H – highly flexible Various uses → www.festo.com/tubing Polyurethane 4 mm | | | | | | |
|  | 4 | 2.6 | Black | ★ 197390 | 50 | |
| | | | Natural | ★ 197376 | | |
| | | | Blue | ★ 197383 | | |
| | | | Yellow | 558299 | | |
| | | | Green | 558292 | | |
| | | | Red | ★ 558285 | | |
| | | | Silver | ★ 558278 | | |
| | | | Translucent red | 8048675 | | |
| | | | Translucent blue | ★ 8048671 | | |
| | | | Translucent green | 8048677 | | |
| | | | Translucent black | 8048673 | | |
| | | | Translucent yellow | 8048679 | | |
| | | | Silver | ★ 558271 | | 500 |
| | | | Natural | ★ 558264 | | |
| | | | Black | ★ 558250 | | |
| | | | Blue | ★ 558257 | | |
| | | | Translucent red | 8048676 | | |
| | | | Translucent blue | ★ 8048672 | | |
| | | | Translucent black | 8048674 | | |
| | | | Translucent green | 8048678 | | |
| | | | Translucent yellow | 8048680 | | |


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

| | D1 | di | Colour | TNR | PE | |
|---|----|----|--------------------|-----------|----|-----|
| PUN-H – highly flexible Various uses → www.festo.com/tubing Polyurethane 6 mm | | | | | | |
|  | 6 | 4 | Blue | ★ 197384 | 50 | |
| | | | Natural | ★ 197377 | | |
| | | | Black | ★ 197391 | | |
| | | | Silver | ★ 558279 | | |
| | | | Yellow | 558300 | | |
| | | | Green | 558293 | | |
| | | | Red | ★ 558286 | | |
| | | | Translucent red | 8048685 | | |
| | | | Translucent green | 8048687 | | |
| | | | Translucent blue | ★ 8048681 | | |
| | | | Translucent yellow | 8048689 | | |
| | | | Translucent black | 8048683 | | |
| | | | Silver | ★ 558272 | | 500 |
| | | | Natural | ★ 558265 | | |
| | | | Black | ★ 558251 | | |
| | | | Blue | ★ 558258 | | |
| | | | Translucent black | 8048684 | | |
| | | | Translucent red | 8048686 | | |
| | | | Translucent green | 8048688 | | |
| | | | Translucent yellow | 8048690 | | |
| | | | Translucent blue | ★ 8048682 | | |


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

| | D1 | di | Colour | TNR | PE | |
|---|----|-----|--------------------|-----------|----|-----|
| PUN-H – highly flexible | | | | | | |
| Various uses → www.festo.com/tubing | | | | | | |
| Polyurethane | | | | | | |
| 8 mm | | | | | | |
|  | 8 | 5.7 | Black | ★ 197392 | 50 | |
| | | | Blue | ★ 197385 | | |
| | | | Natural | ★ 197378 | | |
| | | | Yellow | 558301 | | |
| | | | Green | 558294 | | |
| | | | Red | ★ 558287 | | |
| | | | Silver | ★ 558280 | | |
| | | | Translucent red | 8048695 | | |
| | | | Translucent green | 8048697 | | |
| | | | Translucent yellow | 8048699 | | |
| | | | Translucent blue | ★ 8048691 | | |
| | | | Translucent black | 8048693 | | |
| | | | Black | ★ 558252 | | 400 |
| | | | Silver | ★ 558273 | | |
| | | | Natural | ★ 558266 | | |
| | | | Blue | ★ 558259 | | |
| | | | Translucent black | 8048694 | | |
| | | | Translucent red | 8048696 | | |
| | | | Translucent green | 8048698 | | |
| | | | Translucent yellow | 8048700 | | |
| | | | Translucent blue | ★ 8048692 | | |



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

| | D1 | di | Colour | TNR | PE | |
|--|----|----|--------------------|-----------|----|-----|
| PUN-H – highly flexible Various uses → www.festo.com/tubing Polyurethane 10 mm | | | | | | |
|  | 10 | 7 | Blue | ★ 197386 | 50 | |
| | | | Black | ★ 197393 | | |
| | | | Natural | ★ 197379 | | |
| | | | Silver | ★ 558281 | | |
| | | | Yellow | 558302 | | |
| | | | Green | 558295 | | |
| | | | Red | ★ 558288 | | |
| | | | Translucent black | 8048703 | | |
| | | | Translucent red | 8048705 | | |
| | | | Translucent green | 8048707 | | |
| | | | Translucent yellow | 8048709 | | |
| | | | Translucent blue | ★ 8048701 | | |
| | | | Black | ★ 558253 | | 300 |
| | | | Silver | ★ 558274 | | |
| | | | Natural | ★ 558267 | | |
| | | | Blue | ★ 558260 | | |
| | | | Translucent black | 8048704 | | |
| | | | Translucent red | 8048706 | | |
| | | | Translucent green | 8048708 | | |
| | | | Translucent yellow | 8048710 | | |
| | | | Translucent blue | ★ 8048702 | | |

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

| | D1 | di | Colour | TNR | PE | |
|---|----|----|--------------------|-----------|----|-----|
| PUN-H – highly flexible | | | | | | |
| Various uses → www.festo.com/tubing | | | | | | |
| Polyurethane | | | | | | |
| 12 mm | | | | | | |
|  | 12 | 8 | Black | ★ 197394 | 50 | |
| | | | Blue | ★ 197387 | | |
| | | | Natural | ★ 197380 | | |
| | | | Red | ★ 558289 | | |
| | | | Silver | ★ 558282 | | |
| | | | Yellow | 558303 | | |
| | | | Green | 558296 | | |
| | | | Translucent red | 8048715 | | |
| | | | Translucent green | 8048717 | | |
| | | | Translucent yellow | 8048719 | | |
| | | | Translucent blue | ★ 8048711 | | |
| | | | Translucent black | 8048713 | | |
| | | | Blue | ★ 558261 | | 200 |
| | | | Black | ★ 558254 | | |
| | | | Silver | ★ 558275 | | |
| | | | Natural | ★ 558268 | | |
| | | | Translucent blue | ★ 8048712 | | |
| | | | Translucent black | 8048714 | | |
| | | | Translucent red | 8048716 | | |
| | | | Translucent green | 8048718 | | |
| | | | Translucent yellow | 8048720 | | |

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

| | D1 | di | Colour | TNR | PE |
|---|----|-----|------------|----------|-----|
| PUN-H – highly flexible Various uses → www.festo.com/tubing Polyurethane 14 ... 16 mm | | | | | |
|  | 14 | 9.8 | Blue | ★ 570386 | 50 |
| | | | Black | 570387 | |
| | | | Natural | 570388 | |
| | 16 | 11 | Black | ★ 197395 | 100 |
| | | | Blue | ★ 197388 | |
| | | | Natural | ★ 197381 | |
| | | | Red | ★ 558290 | |
| | | | Silver | ★ 558283 | |
| | | | Yellow | 558304 | |
| | | | Green | 558297 | |
| | | | Blue | ★ 558262 | |
| | | | Black | 558255 | |
| | | | Silver | 558276 | |
| | | | Natural | 558269 | |
| PUN-H-DUO – paired plastic tubing Highly flexible, high abrasion resistance, high kink resistance Polyurethane | | | | | |
|  | 4 | 2.6 | Blue/black | 197396 | 50 |
| | 6 | 4 | | 197397 | |
| | 8 | 5.7 | | 197398 | |
| | 10 | 7 | | 197399 | |

Configurable products




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, resistant to hydrolysis

| | D1 | di | Colour | TNR | PE |
|---|----|-----|---------|--------|----|
| PLN – high hydrolysis resistance | | | | | |
| Various uses → www.festo.com/tubing | | | | | |
| Polyethylene | | | | | |
| 4 ... 14 mm | | | | | |
|  | 4 | 2.9 | Natural | 193403 | 50 |
| | | | Black | 195280 | |
| | | | Silver | 558211 | |
| | | | Blue | 558205 | |
| | | | Red | 558217 | |
| | 6 | 4 | Natural | 193404 | |
| | | | Black | 195281 | |
| | | | Blue | 558206 | |
| | | | Silver | 558212 | |
| | | | Red | 558218 | |
| | 8 | 5.9 | Natural | 193405 | |
| | | | Black | 195282 | |
| | | | Silver | 558213 | |
| | | | Blue | 558207 | |
| | | | Red | 558219 | |
| | 10 | 7 | Natural | 193406 | |
| | | | Black | 195283 | |
| | | | Red | 558220 | |
| | | | Silver | 558214 | |
| | | | Blue | 558208 | |
| | 12 | 8.4 | Natural | 193407 | |
| | | | Black | 195284 | |
| | | | Red | 558221 | |
| | | | Silver | 558215 | |
| | | | Blue | 558209 | |
| | 14 | 10 | Black | 570423 | |
| | | | Natural | 570424 | |

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

| | D1 | di | Colour | TNR | PE |
|---|----|----|---------|--------|----|
| PLN – high hydrolysis resistance Various uses → www.festo.com/tubing Polyethylene 16 mm | | | | | |
|  | 16 | 12 | Black | 539065 | 50 |
| | | | Natural | 539064 | |
| | | | Blue | 558210 | |
| | | | Red | 558222 | |
| | | | Silver | 558216 | |

Configurable products




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

→ www.festo.com/catalogue/pln



Chemical and hydrolysis-resistant

| | D 1 | di | Colour | TNR | PE |
|--|-----|-----|---------|---------|-----|
| PTFEN – for high temperatures High chemical resistance, high hydrolysis resistance Various uses → www.festo.com/tubing Polytetrafluoroethylene | | | | | |
|  | 8 | 5.9 | Natural | 8061173 | 50 |
| | 12 | 8.4 | | 8061175 | |
| | 4 | 2.9 | | 8061171 | 100 |
| | 8 | 5.9 | | 8061179 | 400 |
| | 6 | 4 | | 8061172 | 100 |
| | | | | 8061178 | 500 |
| | 10 | 7 | | 8061174 | 50 |
| | | | | 8061180 | 300 |
| | 14 | 10 | | 8061176 | 50 |
| | 16 | 11 | | 8061177 | 25 |

Chemical and hydrolysis-resistant

| | D 1 | di | Colour | TNR | PE |
|--|-----|-----|---------|---------|----|
| PFAN – for high temperatures High chemical resistance, high hydrolysis resistance Various uses → www.festo.com/tubing Perfluoroalkoxy alkane | | | | | |
| | 4 | 2.9 | Natural | 197061 | 50 |
| | 8 | 5.9 | | 197063 | |
| | 12 | 8.4 | | 197065 | |
| | 3 | 2.3 | | 8061167 | |
| | 6 | 4 | | 197062 | |
| | 10 | 7 | | 197064 | |

Antistatic

| | D1 | di | Colour | TNR | PE |
|--|----|-----|--------|--------|----|
| PUN-CM – flexible, suitable for energy chains Polyurethane | | | | | |
| | 4 | 2.5 | Black | 188882 | 50 |
| | 6 | 4 | | 188883 | |
| | 8 | 5.5 | | 130816 | |
| | 10 | 7 | | 130817 | |
| | 12 | 8 | | 130818 | |


Configurable products



This product and all its product options can be ordered online via the configurator:
 → www.festo.com/catalogue/pun-cm



Flame-retardant

| | D1 | di | Colour | TNR | PE |
|---|----|------|--------|--------|----|
| PUN-V0 – single-sheath plastic tubing, flexible For use in the close vicinity of welding applications Polyurethane | | | | | |
|  | 6 | 4 | White | 525454 | 50 |
| | | | Green | 525446 | |
| | | | Yellow | 525458 | |
| | | | Black | 525438 | |
| | | | Red | 525450 | |
| | | | Brown | 525462 | |
| | | | Blue | 525442 | |
| | 8 | 5.7 | White | 525455 | |
| | | | Green | 525447 | |
| | | | Black | 525439 | |
| | | | Yellow | 525459 | |
| | | | Red | 525451 | |
| | | | Brown | 525463 | |
| | | | Blue | 525443 | |
| | 10 | 7 | | 525444 | |
| | | | Yellow | 525460 | |
| | | | Green | 525448 | |
| | | | Black | 525440 | |
| | | | Red | 525452 | |
| | | | White | 525456 | |
| | | | Brown | 525464 | |
| | 16 | 11.8 | Blue | 570768 | |
| | | | Black | 570767 | |


Configurable products




This product and all its product options can be ordered online via the configurator:
 → www.festo.com/catalogue/pun-v0



Resistant to welding spatter

| | D1 | di | Colour | TNR | PE |
|---|--------|--------|--------|--------|----|
| PUN-V0-C – single-sheath plastic tubing, flexible | | | | | |
| For use in the immediate vicinity of welding applications | | | | | |
| Polyurethane | | | | | |
| 4 ... 12 mm | | | | | |
|  | 4 | 2 | Blue | 570350 | 50 |
| | | | Black | 570349 | |
| | 6 | | | 561698 | |
| | | | Yellow | 561718 | |
| | | | Blue | 561702 | |
| | | | White | 561714 | |
| | | | Green | 561706 | |
| | | | Brown | 561722 | |
| | 8 | 4 | Red | 561710 | |
| | | | Brown | 561723 | |
| | | | Blue | 561703 | |
| | | | White | 561715 | |
| | | | Green | 561707 | |
| | | | Yellow | 561719 | |
| | 10 | 6 | Red | 561711 | |
| | | | Black | 561699 | |
| | | | Red | 561712 | |
| | | | Brown | 561724 | |
| | | | Blue | 561704 | |
| | | | White | 561716 | |
| | 12 | 8 | Green | 561708 | |
| | | | Yellow | 561720 | |
| | | | Black | 561700 | |
| | | | Red | 561713 | |
| Blue | | | 561705 | | |
| Brown | | | 561725 | | |
| | White | 561717 | | | |
| | Green | 561709 | | | |
| | Yellow | 561721 | | | |
| | Black | 561701 | | | |

Resistant to welding spatter

| | D1 | di | Colour | TNR | PE |
|---|----|-----|--------|--------|----|
| PUN-V0-C – single-sheath plastic tubing, flexible For use in the immediate vicinity of welding applications Polyurethane 14, 16 mm | | | | | |
|  | 14 | 9.8 | Black | 570351 | 50 |
| | | | Blue | 570352 | |
| | 16 | 11 | Black | 570353 | |
| | | | Blue | 570354 | |

Configurable products



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

→ www.festo.com/catalogue/pun-v0



Resistant to welding spatter

| | D1 | di | Colour | TNR | PE |
|--|----|-----|--------|--------|----|
| PAN-V0 – flexible | | | | | |
| For use in the close vicinity of welding applications | | | | | |
| Polyamide, PVC casing | | | | | |
| | 6 | 2.5 | Blue | 132899 | 50 |
| | | | 8 | 4 | |
| | | | White | 525478 | |
| | | | Green | 525470 | |
| | | | Yellow | 525482 | |
| | | | Red | 525474 | |
| | 10 | 6 | Blue | 132906 | |
| | | | Black | 160551 | |
| | | | White | 525479 | |
| | | | Green | 525471 | |
| | | | Yellow | 525483 | |
| | | | Red | 525475 | |
| | 12 | 7.5 | Blue | 132907 | |
| | | | Black | 160552 | |
| | | | Green | 525472 | |
| | | | White | 525480 | |
| | | | Yellow | 525484 | |
| | | | Red | 525476 | |
| | 14 | 9 | Green | 525473 | 20 |
| | | | Black | 160553 | |
| Red | | | 525477 | | |
| Blue | | | 525469 | | |
| White | | | 525481 | | |
| Yellow | | | 525485 | | |

Configurable products



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


→ www.festo.com/catalogue/pan-v0




Standard I.D. tubing

| | D 1 | di | Colour | TNR | PE |
|---|------|----|--------|-------|----|
| PU – highly flexible, fibre-reinforced High abrasion resistance, high kink resistance Polyurethane | | | | | |
| / | 17.6 | 13 | Black | 12133 | 50 |
| | 11.6 | 9 | | 12134 | |



For standard applications

| | D 1 | Working length [m] | Number of windings | Colour | TNR | PE | |
|---|-----|--------------------|--------------------|---------------|---------------|----|---------------|
| PUN-S – highly flexible Polyurethane | | | | | | | |
|  | 4 | 1.5 | 70 | Blue | 197589 | 1 | |
| | | 0.5 | 20 | Black | 197602 | | |
| | | 1 | 45 | | 197603 | | |
| | | 1.5 | 70 | | 197604 | | |
| | | 0.5 | 20 | | Blue | | 197587 |
| | | 1 | 45 | 197588 | | | |
| | | 6 | 23 | 197590 | | | |
| | | | 2 | 52 | 197591 | | |
| | | | 6 | 168 | 197592 | | |
| | | | 1 | 23 | Black | | 197605 |
| | | | | 6 | | | 197607 |
| | | | | 2 | | | 197606 |
| | 8 | 1 | | 12 | | | 197608 |
| | | 6 | 87 | 197610 | | | |
| | | 2 | 27 | 197609 | | | |
| | | 1 | 12 | Blue | 197593 | | |
| | | | 27 | | 197594 | | |
| | | | 6 | | 87 | | 197595 |
| | 10 | | 70 | | 197598 | | |
| | | 1 | 9.5 | Black | 197611 | | |
| | | | 22 | | 197612 | | |
| | | | 70 | | 197613 | | |
| | | 1 | 9.5 | Blue | 197596 | | |
| | | | 22 | | 197597 | | |
| | 12 | | 9 | | 197599 | | |
| | | | 2 | | 20 | | 197600 |
| | | 6 | 64 | 197601 | | | |
| | | 1 | 9 | Black | 197614 | | |
| | | | 2 | | 197615 | | |
| | | | 6 | | 197616 | | |
| | | | | | | | |

For standard applications

| | D 1 | Working length [m] | Number of windings | Colour | TNR | PE |
|---|-----|--------------------|--------------------|----------------|---------------|----|
| PUN-S-DUO – paired spiral plastic tubing | | | | | | |
| Highly flexible Polyurethane | | | | | | |
|  | 4 | 0.5 | 20 | blue/ black | 197617 | 1 |
| | | 1 | 45 | | 197618 | |
| | | 1.5 | 70 | | 197619 | |
| | 6 | 1 | 23 | | 197620 | |
| | | 2 | 52 | | 197621 | |
| | | 6 | 168 | | 197622 | |
| | 8 | 1 | 12 | | 197623 | |
| | | 2 | 27 | | 197624 | |
| | | 6 | 87 | | 197625 | |
| | 10 | 1 | 9.5 | | 197626 | |
| | | 2 | 22 | | 197627 | |
| | | 6 | 70 | | 197628 | |
| | 12 | 1 | 9 | | 197629 | |
| | | 2 | 20 | | 197630 | |
| | | 6 | 64 | | 197631 | |

Pre-assembled

| | D 1 | Working length [m] | Number of windings | Colour | TNR | PE |
|---|------|--------------------|--------------------|--------|---------------|----|
| PUN-SG – highly flexible, fibre-reinforced | | | | | | |
| With non-removable, rotatable fittings with male thread Polyurethane | | | | | | |
|  | 9.5 | 2.4 | 21 | Blue | 533463 | 1 |
| | | 6 | 66 | | 533465 | |
| | | 4.8 | 50 | | 533464 | |
| | 11.7 | 6 | 53 | | 533467 | |
| | | 4.8 | 41 | | 533466 | |
| PPS – high thermal and mechanical load capacities | | | | | | |
| With 2 rotatable connectors and captive sealing rings OL Polyamide | | | | | | |
|  | 7.8 | 15 | 86 | Blue | 19797 | 1 |
| | 6.3 | 7.5 | 44 | | 19798 | |
| | | 15 | 90 | | 19799 | |
| | 7.8 | 7.5 | 43 | | 19796 | |





Highlights

from our pipe range



Plastic-coated metal pipes

PM

- + Have 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

→ 71





Pipes – for the stable transfer of media

For supplying compressed air within machines as well as for small compressed air networks in buildings, the compressed air piping PQ is ideal.

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

Features _____ 68

Additional information:


→ www.festo.com/piping



| Applications | Pipe | Fitting | |
|---------------------|-------------------|-----------------|--|
| Corrosion-resistant | PQ-PA → 70 | CQ → 238 | |
| | PQ-AL → 70 | CQ → 238 | |
| | PM → 71 | QS → 92 | |

| 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. |

Plastic piping

| | D 1 | di | Colour | TNR | PE |
|---|-----|----|--------|--------|----|
| PQ-PA – corrosion-resistant, flexible | | | | | |
| Polyamide | | | | | |
|  | 12 | 9 | Black | 177728 | 1 |
| | 15 | 12 | | 177729 | |
| | 18 | 14 | | 177730 | |
| | 22 | 18 | | 177731 | |
| | 28 | 23 | | 194594 | |


Configurable products



This product and all its product options can be ordered online via the configurator:
 → www.festo.com/catalogue/pq-pa



Aluminium pipe

| | D 1 | di | Colour | TNR | PE |
|---|-----|----|--------|--------|----|
| PQ-AL – corrosion-resistant | | | | | |
| Wrought aluminium alloy | | | | | |
|  | 15 | 13 | Silver | 177733 | 1 |
| | 28 | 25 | | 194593 | |
| | 12 | 10 | | 177732 | |
| | 18 | 16 | | 177734 | |
| | 22 | 20 | | 177735 | |


Configurable products



This product and all its product options can be ordered online via the configurator:
 → www.festo.com/catalogue/pq-al



Plastic-coated metal tube

| | D 1 | di | Colour | TNR | PE |
|---|-----|------|--------|------|----|
| PM – corrosion-resistant, dimensionally stable | | | | | |
| Wrought aluminium alloy, polyethylene | | | | | |
|  | 8 | 5.2 | Black | 9087 | 50 |
| | 6 | 3.92 | | 9084 | |

Configurable products

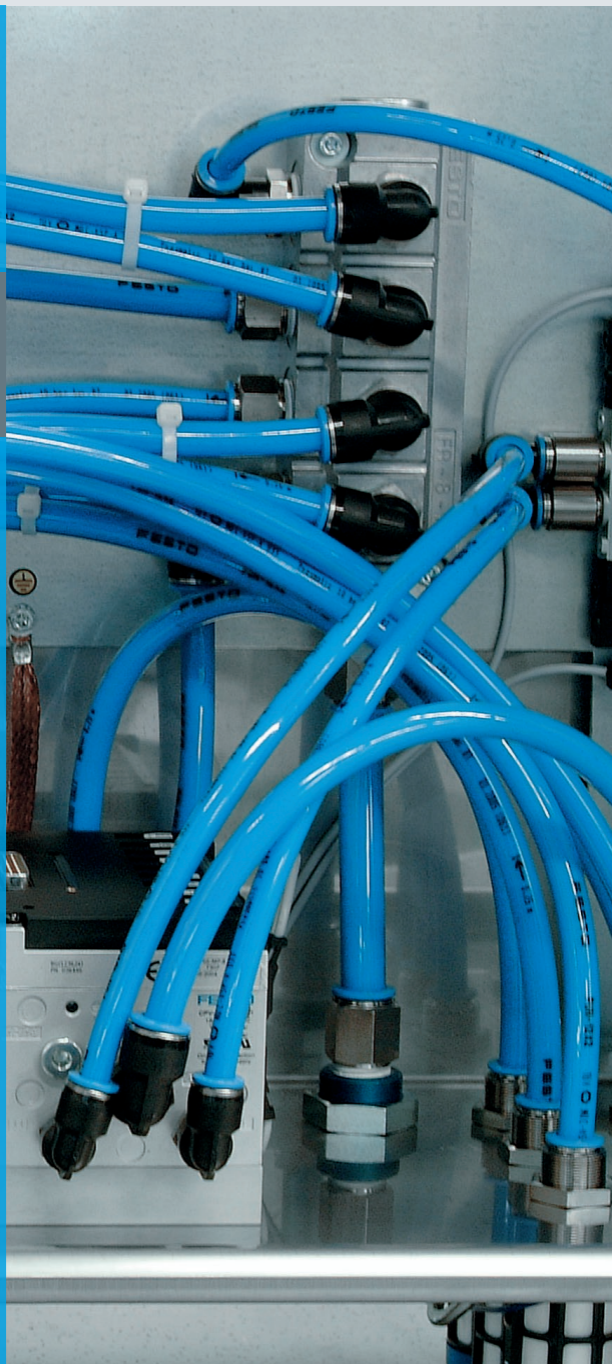


This product and all its product options can be ordered online via the configurator:
 → www.festo.com/catalogue/pm



04

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



Highlights

from our range of push-in fittings for O.D. tubing



Push-in fittings

QSM, mini ★

QS, standard ★

With more than 1000 types, you can always find the fitting of your choice.

- + Quick to install: simply plug in
- + Easy to remove: just press down the blue releasing ring

→ QSM, mini series: **83**

→ QS, standard series: **93**



Push-in fittings

NPQE-F1A

- + For manufacturing lithium-ion batteries

- + Cost-effective

→ **117**



Push-in fittings

NPQR

NEW: NPQR-Y

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

→ **133**

NEW

Product finder for fittings

→ www.festo.com/productfinder/fittings



The right fitting for every application

The range of fittings from Festo 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 will provide you with a suitable fitting for every application.

Look for our products from the Core Range ★

Selection aid _____ 76

Additional information:

→ www.festo.com/fitting



Can be used with:

O.D. tubing → 27

Type, description

**QSM, mini series** ★

Miniature push-in fittings/connectors for maximum component density in confined spaces.
For pneumatic applications with a temperature range up to 80 °C and a pressure range up to 1.4 MPa.
Tubing O.D. of 2, 3, 4 and 6 mm with connecting threads M3, M5, M6, M7, M8 R1/8 and G1/8

**QS, standard series** ★

Wide selection of push-in fittings/connectors for pneumatic applications with a temperature range up to 80°C and a pressure range up to 1.4 MPa. Tubing O.D. 4, 6, 8, 10, 12, 16 and 22 mm with connecting thread R1/8 ... R1/2 and G1/8 ... 3/4






**NPQE-F1A, for manufacturing lithium-ion batteries****NEW: new series**

Economical push-in fittings/connectors for pneumatic applications with a temperature range up to 60 °C and a pressure range up to 0.8 MPa.
Tubing O.D. 4, 6, 8, 10 and 12 mm with connecting thread M3, M5, M7, G1/8, G1/4, R1/8 and R1/4.


**NPQH, solid metal push-in fitting**

All-metal push-in fittings/connectors made of chemically nickel-plated brass. High corrosion resistance CRC3 and chemical resistance. For pneumatic applications with a temperature range up to 150 °C and a pressure range up to 2 MPa.
Tubing O.D. 4, 6, 8, 10, 12 and 14 mm with connecting threads M5, M7 and G1/8 ... 1/2

| | → Page |
|-----------------------------|---------------|
| Push-in fitting, straight | 84 |
| Push-in connector, straight | 88 |
| Push-in fitting, L-shape | 85 |
| Push-in connector, L-shape | 89 |
| Push-in fitting, T-shape | 87 |
| Push-in connector, L-shape | 89 |
| Push-in connector, X-shape | 90 |
| Push-in connector, Y-shape | 90 |
| <hr/> | |
| Push-in fitting, straight | 94 |
| Push-in connector, straight | 109 |
| Push-in fitting, L-shape | 98 |
| Push-in connector, L-shape | 111 |
| Push-in fitting, T-shape | 103 |
| Push-in connector, L-shape | 112 |
| Push-in fitting, W-shape | 106 |
| Push-in connector, W-shape | 113 |
| Push-in connector, X-shape | 113 |
| Push-in fitting, Y-shape | 107 |
| Push-in connector, Y-shape | 114 |
| <hr/> | |
| Push-in fitting, straight | 118 |
| Push-in connector, straight | 119 |
| Push-in fitting, L-shape | 118 |
| Push-in connector, L-shape | 119 |
| Push-in connector, L-shape | 120 |
| Push-in connector, Y-shape | 120 |
| <hr/> | |
| Push-in fitting, straight | 124 |
| Push-in connector, straight | 128 |
| Push-in fitting, L-shape | 126 |
| Push-in connector, L-shape | 129 |
| Push-in fitting, T-shape | 127 |
| Push-in connector, L-shape | 129 |
| Push-in connector, Y-shape | 130 |

| | Type, description |
|---|---|
|  | <p>NPQR, stainless steel NEW: NPQR-Y</p> <p>Stainless steel push-in fitting/connector. 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 1.6 MPa. Tubing O.D. 4, 6, 8, 10 and 12 mm with connecting thread M5, M7 and G1/8 ... G1/2</p> |
|  | <p>NPQM, metal</p> <p>Attractively priced metal push-in fitting/connector for pneumatic applications with a temperature range up to 70°C and a pressure range up to 1.6 MPa. Tubing O.D. 3, 4, 6, 8, 10, 12 and 14 mm with connecting thread M5, M7 and G1/8 ... G1/2</p> |
|  | <p>NPQP, resistant to media</p> <p>Polypropylene fitting/connector for use in applications with extreme media influences. For pneumatic applications with a temperature range up to 60 °C and a pressure range up to 1 MPa. Tubing O.D. 4, 6, 8, 10 and 12 mm with connecting thread R1/8 ... R1/2</p> |
|  | <p>QS-V0, resistant to welding spatter</p> <p>Flame-retardant push-in fitting/connector 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 1 MPa. Tubing O.D. 4, 6, 8, 10 and 12 mm with connecting thread R1/8 ... R1/2 and G1/8 ... G1/2</p> |
|  | <p>QSP, brass or polyamide</p> <p>Space-saving installation for tight spaces and threadless mounting for pneumatic applications with a temperature range up to 60 °C and a pressure range up to 1 MPa. Tubing O.D. 3, 4, 6, 8, 10, 12 mm Tubing O.D. 1/8, 5/32, 1/4, 5/16, 3/8, 1/2"</p> |

| | → Page |
|-----------------------------|---------------|
| Push-in fitting, straight | 134 |
| Push-in connector, straight | 136 |
| Push-in fitting, L-shape | 135 |
| Push-in connector, L-shape | 136 |
| Push-in fitting, T-shape | 135 |
| Push-in connector, L-shape | 137 |
| Push-in connector, Y-shape | 137 |
| <hr/> | |
| Push-in fitting, straight | 140 |
| Push-in connector, straight | 143 |
| Push-in fitting, L-shape | 140 |
| Push-in connector, L-shape | 144 |
| Push-in fitting, T-shape | 142 |
| Push-in connector, L-shape | 144 |
| Push-in connector, Y-shape | 144 |
| <hr/> | |
| Push-in fitting, straight | 148 |
| Push-in connector, straight | 150 |
| Push-in fitting, L-shape | 148 |
| Push-in connector, L-shape | 151 |
| Push-in fitting, T-shape | 149 |
| Push-in connector, L-shape | 151 |
| Push-in fitting, Y-shape | 149 |
| Push-in connector, Y-shape | 151 |
| <hr/> | |
| Push-in fitting, straight | 156 |
| Push-in connector, straight | 159 |
| Push-in fitting, L-shape | 156 |
| Push-in connector, L-shape | 159 |
| Push-in fitting, T-shape | 157 |
| Push-in connector, L-shape | 159 |
| <hr/> | |
| Cartridges, straight shape | 164 |
| Cartridges, L-shape | 165 |

| | Type, description |
|---|---|
|  | <p>QSK/QSR, self-sealing and rotatable push-in fittings/connectors</p> <p>M and G thread with sealing ring, R thread PTFE-coated.</p> <p>Self-sealing push-in fittings and self-sealing push-in connectors, rotatable push-in fittings.</p> <p>Tubing O.D. 4, 6, 8, 10, 12 mm</p> <p>Connecting thread M5, R1/8 ... R1/2 and G1/8 ... G1/2</p> |

| | → Page |
|---|---------------|
| Push-in fitting, self-sealing, straight shape | 170 |
| Push-in connector, self-sealing, straight | 172 |
| Push-in fitting, self-sealing, L-shape | 170 |
| Push-in fitting, rotatable, straight shape | 173 |
| Push-in fitting, rotatable, L-shape | 173 |



Additional information:

→ www.festo.com/fitting



Push-in fittings/push-in connectors

QSM, mini series ★

Compact 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 1.4 MPa.

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

Look for our products from the Core Range ★



Straight shape

84
88



L-shape

85
89



T-shape

87
89



X-shape

90



Y-shape

90






Accessories

87



Can be used with:

O.D. tubing → 27


Straight shape

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




Straight shape

| | D1 | D2 | TNR | PE |
|---|---------|----|--------|----|
| QSMF – female thread with external hexagon | | | | |
|  | M3 | 3 | 153308 | 10 |
| | M5 | | 153309 | |
| | M3 | 4 | 153310 | |
| | M5 | | 153311 | |
| QSMP male thread with internal hexagon | | | | |
|  | M6x0.75 | 4 | 153320 | 10 |
| | M8x0.75 | 6 | 153322 | |
| | M8x1.25 | | 154434 | |



L-shape

| | D1 | D2 | TNR | PE |
|---|------|----------|----------|-----|
| QSML – male thread with external hexagon | | | | |
| 360° rotatable | | | | |
|  | M3 | 2 | 133030 | 10 |
| | | 3 | ★ 153330 | |
| | | 4 | ★ 153332 | 100 |
| | | | ★ 130769 | 100 |
| | M5 | 2 | 133031 | 10 |
| | | 3 | ★ 153331 | 100 |
| | | | ★ 130770 | |
| | | 4 | ★ 153333 | 10 |
| | | | ★ 130771 | 100 |
| | 6 | ★ 153335 | 10 | |
| | M7 | 4 | ★ 130772 | 100 |
| | | | ★ 186352 | 10 |
| | | 6 | ★ 186353 | 10 |
| | R1/8 | 4 | ★ 130773 | 100 |
| | | | ★ 153334 | 10 |
| | | 6 | ★ 153336 | 10 |
| | G1/8 | 4 | ★ 130765 | 100 |
| | | | ★ 186268 | 10 |
| 6 | | ★ 132897 | 100 | |
| | | ★ 186269 | 10 | |


L-shape

| | D1 | D2 | TNR | PE |
|---|------|----|--------|--------|
| QSMLL – long, male thread with external hexagon | | | | |
| 360° rotatable | | | | |
|  | M3 | 2 | 133032 | 10 |
| | | 3 | 153337 | |
| | | 4 | 133011 | 100 |
| | M5 | 2 | 153338 | 10 |
| | | 3 | 133033 | |
| | | 4 | 130838 | |
| | | 6 | 133012 | 100 |
| | M7 | 4 | 153339 | 10 |
| | | 6 | 133013 | |
| | R1/8 | 4 | 153341 | 10 |
| | | 6 | 186354 | |
| | G1/8 | 4 | 186355 | 10 |
| | | 6 | 133014 | |
| | | | 4 | 186355 |
| 6 | | | 153340 | |
| | | 4 | 153342 | 10 |
| | | 6 | 186270 | |
| | | 4 | 186271 | 10 |
| | | 6 | 186271 | |
| QSMLV-...-I – male thread with internal hexagon | | | | |
| 360° rotatable | | | | |
|  | M5 | 3 | 130830 | 10 |
| | | 4 | 130831 | |
| | M7 | 4 | 130832 | |
| | | 6 | 130833 | |
| QSMLLV-...-I – long, male thread with internal hexagon | | | | |
| 360° rotatable | | | | |
|  | M5 | 3 | 130834 | 10 |
| | | 4 | 130835 | |
| | M7 | 4 | 130836 | |
| | | 6 | 130837 | |

T-shape

| | D1 | D2 | TNR | PE |
|--|------|----|--------|-----|
| QSMT – Male thread with external hexagon | | | | |
| Rotatable 360° | | | | |
|  | M3 | 3 | 153351 | 10 |
| | | 4 | 153353 | |
| | M5 | 3 | 153352 | 100 |
| | | 4 | 153354 | |
| | | 6 | 153356 | |
| | | 6 | 130785 | |
| | R1/8 | 4 | 153355 | 10 |
| | | 6 | 153357 | |
| | G1/8 | 4 | 186272 | 100 |
| | | 6 | 186273 | |
| QSMTL – male thread with external hexagon | | | | |
| 360° rotatable | | | | |
|  | M3 | 3 | 153358 | 10 |
| | | 4 | 153360 | |
| | M5 | 3 | 153359 | 100 |
| | | 4 | 153361 | |
| | | 6 | 153363 | |
| | R1/8 | 4 | 153362 | 100 |
| | | 6 | 153364 | |
| | G1/8 | 4 | 186274 | 100 |
| | | 6 | 186275 | |

Accessories

| | Size | TNR | PE |
|---|--------------------------------|--------|----|
| QSO – release tool | | | |
| Quick-out releasing tool for QS push-in fittings | | | |
|  | for tubing O.D. 4, 6, 8, 10 mm | 158419 | 1 |

Configurable products









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




→ www.festo.com/catalogue/qsm





Straight shape

| | D1 | D2 | TNR | PE |
|---|----|----|----------|-----|
| 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 |
| | | | ★ 153326 | |
| | 4 | 3 | 130760 | 100 |
| | | | ★ 153327 | 10 |
| | 6 | 4 | 130761 | 100 |
| | | | | |
| QSMS push-in bulkhead connector | | | | |
|  | 3 | 3 | 153375 | 10 |
| | | | ★ 153376 | |
| | 4 | 4 | 130780 | 100 |
| | | | ★ 153377 | 10 |
| | 6 | 6 | 130781 | 100 |
| | | | | |
| QSMC push-in cap | | | | |
|  | 3 | – | 153381 | 10 |
| QSM-...H push-in connector with push-in sleeve | | | | |
|  | 3 | 2 | 133035 | 10 |
| | | | ★ 153328 | |
| | 4 | 3 | 130762 | 100 |
| | | | ★ 153329 | 10 |
| | 6 | 4 | 130763 | 100 |
| | | | | |
| QSMC-...H blanking plug | | | | |
|  | 2 | – | 133036 | 10 |
| | 3 | | 153382 | |


L-shape

| | D1 | D2 | TNR | PE |
|---|----|--------|----------|-----|
| QSML – push-in connector | | | | |
|  | 3 | 3 | 153343 | 10 |
| | 4 | 4 | ★ 153344 | |
| | | | 130766 | 100 |
| | 6 | 6 | ★ 153345 | 10 |
| | | 130767 | 100 | |
| QSML...H – push-in connector with push-in sleeve | | | | |
|  | 3 | 3 | 153346 | 10 |
| | 4 | 4 | ★ 153347 | |
| | 6 | 6 | ★ 153348 | |
| QSML...H – push-in connector with push-in sleeve | | | | |
| Reducing | | | | |
|  | 4 | 3 | 153349 | 10 |
| | 6 | 4 | 153350 | |



T-shape

| | D1 | D2 | TNR | PE |
|---|----|--------|----------|-----|
| QSMT – push-in T-connector | | | | |
|  | 2 | 2 | 133034 | 10 |
| | 3 | 3 | 153365 | |
| | 4 | 4 | ★ 153366 | 100 |
| | | | 130782 | |
| | 6 | 6 | ★ 153367 | 10 |
| | | 130783 | 100 | |
| QSMT – push-in T-connector | | | | |
| Reducing | | | | |
|  | 4 | 3 | ★ 153368 | 10 |
| | 6 | 4 | ★ 153369 | |


X-shape

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

Y-shape

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

Accessories

| | Size | TNR | PE |
|---|--------------------------------|---------------|----|
| QSO – release tool | | | |
| Quick-out releasing tool for QS push-in fittings | | | |
|  | for tubing O.D. 4, 6, 8, 10 mm | 158419 | 1 |

Configurable products



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/connectors

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 1.4 MPa.

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 Range ★



Straight shape

94
109



L-shape

98
111



T-shape

103
112



W-shape

106
118



X-shape

113

Y-shape

107
114




Accessories

108



Can be used with:

O.D. tubing → 27



Straight shape

| | D1 | D2 | TNR | PE | |
|---|----------|----------|----------|----------|----|
| QS – 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 | |
| | 6 | | ★ 153003 | | |
| | | | ★ 130677 | 100 | |
| | 8 | | ★ 153005 | 10 | |
| | | | ★ 130678 | 50 | |
| | 10 | | ★ 153007 | 10 | |
| | | ★ 130679 | 50 | | |
| | 12 | ★ 164980 | 10 | | |
| | | ★ 130680 | 20 | | |
| | | R3/8 | 6 | ★ 190645 | 10 |
| | | | 8 | ★ 153006 | |
| | ★ 130681 | 50 | | | |
| | 10 | ★ 153008 | 10 | | |
| | | ★ 130682 | 50 | | |
| | | 12 | ★ 153009 | 10 | |
| | | | ★ 130683 | 20 | |
| 16 | ★ 164957 | 1 | | | |
| | R1/2 | 10 | ★ 190646 | | |
| ★ 133189 | | | 50 | | |
| 12 | | ★ 153010 | 1 | | |
| | | ★ 130684 | 20 | | |
| 16 | ★ 153011 | 1 | | | |
| | ★ 130685 | 20 | | | |


Straight shape

| | D1 | D2 | TNR | PE |
|---|----------|----------|----------|-----|
| QS – 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 | | |
| | | 132046 | 20 | |
| | 16 | ★ 186105 | 1 | |
| | | 132047 | 20 | |
| G3/4 | 22 | 8040613 | 1 | |
| QS-...-I – male thread with internal hexagon | | | | |
|  | R1/8 | 4 | ★ 153012 | 10 |
| | | | 133191 | 100 |
| | | 6 | ★ 153013 | 10 |
| | | | 133186 | 100 |
| | | 8 | 133193 | |
| | | | ★ 153015 | 10 |
| | 10 | 133187 | 50 | |
| | | ★ 190647 | 10 | |
| | R1/4 | 6 | ★ 153014 | |
| | | | ★ 153016 | |
| | | 8 | 133190 | 50 |
| | | | ★ 153018 | 10 |
| | | 12 | 133188 | 50 |
| | ★ 190649 | | 10 | |
| | R3/8 | 8 | ★ 153017 | |
| | | 10 | ★ 153019 | |
| | | 12 | ★ 153020 | |
| | R1/2 | 10 | ★ 190648 | 1 |
| 12 | | ★ 153021 | | |


Straight shape

| | D1 | D2 | TNR | PE |
|--|------|----------|----------|-----|
| 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 |
| | | | ★ 186110 | |
| | | | ★ 186112 | |
| | G3/8 | 8 | ★ 186111 | |
| | | | ★ 186113 | |
| | | | ★ 186114 | |
| | G1/2 | | ★ 186115 | 1 |
| QSF – female thread with external hexagon | | | | |
|  | G1/8 | 4 | ★ 153022 | 10 |
| | | | ★ 190650 | |
| | | | 130709 | 100 |
| | G1/4 | 6 | ★ 153023 | 10 |
| | | | ★ 153024 | |
| | | | ★ 190652 | |
| | | | 130710 | 100 |
| | | | 130712 | |
| | G1/8 | 8 | ★ 153025 | 10 |
| | | | ★ 153026 | |
| | | | ★ 153027 | |
| | | | 130711 | 50 |
| | | | 130713 | |
| | | | 130715 | |
| | G1/4 | 10 | ★ 153028 | 10 |
| | | | ★ 153029 | |
| | | | 130716 | 50 |
| | G1/2 | 12 | ★ 190653 | 1 |
| | | | ★ 153030 | 10 |
| | G3/8 | | ★ 190651 | |
| | | | 130717 | 20 |
| | G1/2 | 16 | 190654 | 1 |



Straight shape

| | D1 | D2 | TNR | PE |
|---|------|----|--------|----|
| QSSF – push-in bulkhead connector with female thread | | | | |
|  | G1/8 | 4 | 153162 | 10 |
| | G1/4 | | 190655 | |
| | G1/8 | 6 | 153163 | |
| | G1/4 | | 153164 | |
| | G3/8 | | 190656 | |
| | G1/8 | 8 | 153165 | |
| | G1/4 | | 153166 | |
| | G3/8 | | 153167 | |
| | G1/4 | 10 | 153169 | |
| | G1/2 | | 153168 | |
| | G1/2 | 12 | 153171 | 1 |
| | G3/8 | | 153170 | 10 |
| | G1/2 | 16 | 190657 | 1 |




L-shape

| | D1 | D2 | TNR | PE |
|---|--------|----------|----------|-----|
| QSL – male thread with external hexagon | | | | |
| 360° rotatable | | | | |
|  | R1/8 | 4 | ★ 153045 | 10 |
| | | | 130728 | 100 |
| | | 6 | ★ 153046 | 10 |
| | | | ★ 130729 | 100 |
| | | | ★ 153048 | 10 |
| | 8 | ★ 130730 | 50 | |
| | | ★ 190658 | 10 | |
| | R1/4 | 4 | ★ 190659 | |
| | | | ★ 153047 | |
| | | 6 | ★ 130731 | 100 |
| | | | ★ 153049 | 10 |
| | | 8 | 130732 | 50 |
| | | | ★ 153051 | 10 |
| | | 10 | ★ 130733 | 50 |
| | | | ★ 164981 | 10 |
| | 12 | 130734 | 20 | |
| | | ★ 190660 | 10 | |
| | R3/8 | 6 | ★ 153050 | |
| | | | 130735 | 50 |
| | | 8 | ★ 153052 | 10 |
| | | | 130736 | 20 |
| | | 10 | ★ 153053 | 10 |
| | 130737 | | 20 | |
| | 16 | ★ 164958 | 1 | |
| | R1/2 | 10 | ★ 190661 | 10 |
| | | | ★ 153054 | 1 |
| | | 12 | ★ 130738 | 20 |
| ★ 153055 | | | 1 | |
| 16 | | ★ 130739 | 20 | |
| | 133192 | 50 | | |



L-shape

| | D1 | D2 | TNR | PE |
|---|------|----------|----------|-----|
| QSL – male thread with external hexagon | | | | |
| 360° rotatable | | | | |
|  | G1/8 | 4 | ★ 186116 | 10 |
| | | | 132048 | 100 |
| | | 6 | ★ 186117 | 10 |
| | | | 132049 | 100 |
| | | | ★ 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, male thread with external hexagon | | | | |
| 360° rotatable | | | | |
|  | R1/8 | 4 | 153076 | 10 |
| | | 6 | ★ 153077 | |
| | | 8 | ★ 153079 | |
| | R1/4 | 4 | 190662 | 1 |
| | | 6 | 153078 | |
| | | 8 | ★ 153080 | |
| | | 10 | 153082 | |
| | R3/8 | 6 | 190663 | 1 |
| | | 8 | 153081 | |
| | | 10 | 153083 | |
| | | 12 | 153084 | |
| | R1/2 | 10 | 190664 | 1 |
| | | 12 | 153085 | |


L-shape

| | D1 | D2 | TNR | PE | |
|---|------|--------|----------|-----|---|
| QSLL – long, male thread with external hexagon | | | | | |
| 360° rotatable | | | | | |
|  | G1/8 | 4 | 186127 | 10 | |
| | | | 133015 | 100 | |
| | | 6 | ★ 186128 | 10 | |
| | | | 133016 | 100 | |
| | | | ★ 186130 | 10 | |
| | | | 133017 | 100 | |
| | G1/4 | 6 | 186129 | 10 | |
| | | 8 | ★ 186131 | | |
| | | 10 | 186133 | | |
| | | 12 | 132596 | | |
| | G3/8 | 8 | 186132 | 1 | |
| | | 10 | 186134 | | |
| | | 12 | 186135 | | |
| | G1/2 | | 186136 | 1 | |
| 16 | | 190665 | | | |
| QSLF – Female thread with external hexagon | | | | | |
| Rotatable 360° | | | | | |
|  | G1/8 | 4 | ★ 153273 | 10 | |
| | | 6 | ★ 153274 | | |
| | G1/4 | 8 | ★ 153275 | | |
| | | 8 | ★ 153277 | | |
| | G1/8 | | ★ 153276 | | |
| | G3/8 | | ★ 153278 | | |
| | G1/4 | 10 | ★ 153279 | | |
| | G3/8 | | ★ 153280 | | |
| QSLV-...-I – male thread with internal hexagon | | | | | |
| 360° rotatable | | | | | |
|  | R1/8 | 6 | 153097 | 10 | |
| | | 8 | 153099 | | |
| | R1/4 | 6 | 153098 | | |
| | | 8 | 153100 | | |
| | | 10 | 153102 | | |
| | R3/8 | 8 | 153101 | | |
| | | 10 | 153103 | | |
| | | 12 | 153104 | | |
| | R1/2 | | 153105 | | 1 |


L-shape

| | D1 | D2 | TNR | PE | |
|---|---|----|--------|-----|---|
| QSLV-...-I – male thread with internal hexagon | | | | | |
| 360° rotatable | | | | | |
|  | G1/8 | 6 | 186148 | 10 | |
| | | 8 | 186150 | | |
| | G1/4 | 6 | 186149 | | |
| | | 8 | 186151 | | |
| | | 10 | 186153 | | |
| | G3/8 | 8 | 186152 | | |
| | | 10 | 186154 | | |
| | | 12 | 186155 | | |
| | G1/2 | | 186156 | | 1 |
| | QSLV – male thread with external hexagon | | | | |
| 360° rotatable | | | | | |
|  | R1/8 | 4 | 153086 | 10 | |
| | | | 130749 | 100 | |
| | | 6 | 153087 | 10 | |
| | | | 130750 | 100 | |
| | | | 153089 | 10 | |
| | | | 130751 | 50 | |
| | R1/4 | 6 | 153088 | 10 | |
| | | | 130752 | 100 | |
| | | 8 | 153090 | 10 | |
| | | | 130753 | 50 | |
| | | | 153092 | 10 | |
| | R3/8 | 8 | 153091 | 10 | |
| | | | 153093 | | |
| | | 12 | 153094 | | |
| | R1/2 | | 153095 | 1 | |
| | | 16 | 153096 | | |



L-shape

| | D1 | D2 | TNR | PE |
|---|------|---------------|---------------|-----|
| QSLV – male thread with internal hexagon | | | | |
| 360° rotatable | | | | |
|  | M5 | 6 | 190666 | 10 |
| | G1/8 | 4 | 186137 | |
| | | | 132060 | 100 |
| | | 6 | 186138 | 10 |
| | | | 132061 | 100 |
| | | 8 | 186140 | 10 |
| | | | 132062 | 50 |
| | G1/4 | 6 | 186139 | 10 |
| | | | 132063 | 100 |
| | | 8 | 186141 | 10 |
| | | | 132064 | 50 |
| | G3/8 | 10 | 186143 | 10 |
| | | | 132065 | 50 |
| | | 12 | 186142 | 10 |
| | G1/2 | | 186144 | |
| | | | 186145 | |
| | | 186146 | 1 | |
| | | 186147 | | |



T-shape

| | D1 | D2 | TNR | PE |
|---|--------|--------|--------|-----|
| QST – male thread with external hexagon | | | | |
| 360° rotatable | | | | |
|  | R1/8 | 4 | 153106 | 10 |
| | | | 130793 | 100 |
| | | 6 | 153107 | 10 |
| | | | 130794 | 100 |
| | | | 153109 | 10 |
| | R1/4 | 4 | 190667 | 10 |
| | | | 153108 | 100 |
| | | 6 | 130796 | 100 |
| | | | 153110 | 10 |
| | | 8 | 130797 | 50 |
| | 153112 | | 10 | |
| | R3/8 | 6 | 130798 | 50 |
| | | | 190669 | 10 |
| | | 8 | 190670 | 10 |
| | | | 153111 | 50 |
| | | 10 | 130799 | 50 |
| | 153113 | | 10 | |
| | 12 | 130800 | 20 | |
| | | 153114 | 10 | |
| | | 130801 | 20 | |
| | R1/2 | 10 | 164959 | 1 |
| 190672 | | | 10 | |
| 12 | | 153115 | 10 | |
| | 16 | 153116 | 10 | |


T-shape

| | D1 | D2 | TNR | PE | |
|---|--------|--------|--------|--------|--------|
| QST – male thread with external hexagon | | | | | |
| 360° rotatable | | | | | |
|  | G1/8 | 4 | 186157 | 10 | |
| | | | 132066 | 100 | |
| | | 6 | 186158 | 10 | |
| | | | 132067 | 100 | |
| | | | 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 |
| | 132072 | | | | 50 |
| | 10 | | | 186164 | 10 |
| | | 132073 | | 20 | |
| | 12 | 186165 | 10 | | |
| | | 132074 | 20 | | |
| | 16 | 186349 | 1 | | |
| G1/2 | | 12 | 186166 | | |
| | 16 | 186167 | | | |
| QSTF – male and female thread with external hexagon | | | | | |
| 360° rotatable | | | | | |
|  | R1/8 | G1/8 | 153182 | 1 | |
| | | | 153183 | | |
| | | | 153185 | | |
| | R1/4 | G1/4 | 153184 | | |
| | | | 153186 | | |
| | | | 153188 | | |
| | R3/8 | G3/8 | 153189 | | |
| | | | 153190 | | |
| | | | 153187 | | |
| | R1/2 | G1/2 | 153191 | | |


T-shape

| | D1 | D2 | TNR | PE | |
|---|---|--------|--------|--------|----|
| QSTF – male and female thread with external hexagon | | | | | |
| 360° rotatable | | | | | |
|  | G1/8 | G1/8 | 186200 | 1 | |
| | | | 186199 | | |
| | | | 186202 | | |
| | G1/4 | G1/4 | 186201 | | |
| | | | 186203 | | |
| | | | 186205 | | |
| | G3/8 | G3/8 | 186204 | | |
| | | | 186206 | | |
| | | | 186207 | | |
| | G1/2 | G1/2 | 186208 | | |
| | QSTL – male thread with external hexagon | | | | |
| | 360° rotatable | | | | |
|  | R1/8 | 4 | 153117 | 10 | |
| | | | 130824 | 100 | |
| | | 6 | 153118 | 10 | |
| | | | 130825 | 100 | |
| | | | 153120 | 10 | |
| | | | 130826 | 50 | |
| | R1/4 | 6 | 153119 | 10 | |
| | | | 130827 | 100 | |
| | | 8 | 153121 | 10 | |
| | | | 130828 | 50 | |
| | | | 153123 | 10 | |
| | R3/8 | 10 | 130829 | 50 | |
| | | | 8 | 153122 | 10 |
| | | | 10 | 153124 | |
| | R1/2 | 12 | 153125 | | |
| | | 153126 | 1 | | |
| | | 16 | 153127 | | |




T-shape

| | D1 | D2 | TNR | PE |
|---|------|--------|--------|-----|
| QSTL – male thread with external hexagon | | | | |
| 360° rotatable | | | | |
|  | 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 | |
| 12 | | 186176 | | |
| G1/2 | | 186177 | 1 | |
| | 16 | 186178 | | |




W-shape

| | D1 | D2 | TNR | PE |
|---|------|----|--------|----|
| QSW – male thread with external hexagon | | | | |
| Rotatable | | | | |
|  | R1/8 | 4 | 130596 | 10 |
| | | 6 | 130597 | |
| | | 8 | 130598 | |
| | R1/4 | 6 | 130599 | |
| | | 8 | 130600 | |
| | | 10 | 130601 | |
| | R3/8 | | 130602 | |
| | | 12 | 130603 | |
| | R1/2 | | 130604 | 1 |
| | | 16 | 130605 | |


Y-shape

| | D1 | D2 | TNR | PE |
|---|---|----|--------|----|
| QSY – male thread with external hexagon | | | | |
| Rotatable | | | | |
|  | M5 | 4 | 190673 | 10 |
| | | 6 | 190674 | |
| | R1/8 | 4 | 153138 | |
| | | 6 | 153139 | |
| | | 8 | 153141 | |
| | R1/4 | 4 | 190675 | |
| | | 6 | 153140 | |
| | | 8 | 153142 | |
| | | 10 | 153144 | |
| | R3/8 | 8 | 153143 | |
| | | 10 | 153145 | |
| | | 12 | 153146 | |
| | R1/2 | 10 | 133196 | 1 |
| | | 12 | 153147 | |
| QSY – male thread with external hexagon | | | | |
| Rotatable | | | | |
|  | G1/8 | 4 | 186179 | 10 |
| | | 6 | 186180 | |
| | | 8 | 186182 | |
| | G1/4 | 6 | 186181 | |
| | | 8 | 186183 | |
| | | 10 | 186185 | |
| | G3/8 | 8 | 186184 | |
| | | 10 | 186186 | |
| | | 12 | 186187 | |
| | G1/2 | | 186188 | |
| | QSYL – male thread with external hexagon | | | |
| Rotatable | | | | |
|  | R1/8 | 4 | 153172 | 1 |
| | | 6 | 153173 | |
| | | 8 | 153175 | |
| | R1/4 | 6 | 153174 | |
| | | 8 | 153176 | |
| | | 10 | 153178 | |
| | R3/8 | 8 | 153177 | |
| | | 10 | 153179 | |
| | | 12 | 153180 | |
| | R1/2 | | 153181 | |

Y-shape

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

Accessories

| | Size | TNR | PE |
|---|--------------------------------|--------|----|
| QSO – release tool | | | |
| Quick-out releasing tool for QS push-in fittings | | | |
|  | for tubing O.D. 4, 6, 8, 10 mm | 158419 | 1 |

Configurable products







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




→ www.festo.com/catalogue/qs





Straight shape

| | D1 | D2 | TNR | 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 | 6 | ★ 130606 | 10 |
| | | | ★ 153038 | 50 |
| | 10 | 8 | ★ 130692 | 50 |
| | | | ★ 130607 | 10 |
| | 12 | 8 | ★ 153039 | 50 |
| | | | ★ 130693 | 50 |
| | 12 | 10 | ★ 130608 | 10 |
| | | | ★ 153040 | 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 | TNR | PE |
|---|----|----|----------|-----|
| 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 |
| QS-...H – push-in connector with push-in sleeve | | | | |
|  | 6 | 4 | ★ 153041 | 10 |
| | | | 130695 | 100 |
| | 8 | | ★ 130622 | 10 |
| | | 6 | ★ 153042 | |
| | | | 130696 | 50 |
| | 10 | | ★ 130623 | 10 |
| | | 8 | ★ 153043 | |
| | | | 130697 | 50 |
| | 12 | 6 | ★ 132981 | 10 |
| | | 8 | ★ 130624 | |
| | | 10 | ★ 153044 | |
| | | | 130698 | 20 |
| QSH – push-in sleeve | | | | |
|  | 4 | 4 | 153251 | 10 |
| | | | 130723 | 100 |
| | 6 | 6 | 153252 | 10 |
| | | | 130724 | 100 |
| | 8 | 8 | 153253 | 10 |
| | | | 130725 | 50 |
| | 10 | 10 | 153254 | 10 |
| | | | 130726 | 50 |
| | 12 | 12 | 153255 | 10 |
| | | | 130727 | 20 |
| | 16 | 16 | 153256 | 1 |




Straight shape

| | D1 | D2 | TNR | PE |
|--|---------------------------------|--------|----------|-----|
| QSH – push-in sleeve | | | | |
| Reducing | | | | |
|  | 6 | 4 | 153257 | 10 |
| | | | 130718 | 100 |
| | 8 | 6 | 130625 | 10 |
| | | | 153258 | |
| | 10 | 8 | 130719 | 50 |
| | | | 130626 | 10 |
| | 12 | 10 | 153259 | |
| | | | 130720 | 50 |
| | 16 | 12 | 130627 | 10 |
| | | | 153260 | |
| | | | 130721 | 20 |
| | | | 153261 | 1 |
| | | | 130722 | 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 | TNR | PE |
|---|----|----|----------|-----|
| Push-in connector QSL | | | | |
|  | 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 |


L-shape

| | D1 | D2 | TNR | PE |
|---|----|----|----------|-----|
| Push-in connector QSL...HL 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 |
| Push-in connector QSL...HL with push-in sleeve | | | | |
| Reducing | | | | |
|  | 6 | 4 | ★ 153061 | 10 |
| | 8 | 6 | ★ 153062 | |
| | 10 | 8 | ★ 153063 | |
| | 12 | 10 | ★ 153064 | |
| Push-in connector QSL...HL with push-in sleeve | | | | |
| Long push-in sleeve | | | | |
|  | 4 | 4 | 153065 | 10 |
| | 6 | 6 | 153066 | |
| | 8 | 8 | 153067 | |
| | 10 | 10 | 153068 | |
| | 12 | 12 | 153069 | |


T-shape

| | D1 | D2 | TNR | 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 |


T-shape

| | D1 | D2 | TNR | PE |
|---|----|----|----------|-----|
| QST – push-in connector | | | | |
| Reducing | | | | |
|  | 6 | 4 | ★ 153134 | 10 |
| | | | 130820 | 100 |
| | 8 | 6 | ★ 130613 | 10 |
| | | | ★ 153135 | 50 |
| | 10 | 8 | ★ 130614 | 10 |
| | | | ★ 153136 | 50 |
| | 12 | 10 | ★ 130615 | 10 |
| | | | ★ 153137 | 20 |
| | 16 | 12 | ★ 130616 | 1 |





W-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| QSW-...HL push-in connector with push-in sleeve | | | | |
|  | 4 | 4 | 130617 | 10 |
| | 6 | 6 | 130618 | |
| | 8 | 8 | 130619 | |
| | 10 | 10 | 130620 | |
| | 12 | 12 | 130621 | |


X-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| QSX - push-in connector | | | | |
|  | 8 | 8 | 153285 | 10 |
| | 10 | 10 | 153286 | |
| | 12 | 12 | 153287 | |

Y-shape

| | D1 | D2 | TNR | PE |
|---|----|----------|----------|-----|
| 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 | |
| QSY – push-in connector Reducing | | | | |
|  | 6 | 4 | ★ 153153 | 10 |
| | | | 130812 | 100 |
| | 8 | 6 | ★ 130610 | 10 |
| | | | ★ 153154 | |
| | 10 | 8 | ★ 130813 | 50 |
| | | | ★ 130611 | 10 |
| | 12 | 8 | ★ 153155 | |
| | | | 130814 | 20 |
| | 12 | 10 | ★ 130612 | 10 |
| | | | ★ 153156 | |
| 16 | 12 | ★ 130815 | 20 | |
| | | ★ 190708 | 1 | |
| QSY...H - push-in connectors with push-in sleeve | | | | |
|  | 4 | 4 | 130628 | 10 |
| | 6 | 6 | 133145 | |
| | 8 | 8 | 133146 | |
| | 10 | 10 | 133148 | |
| | 12 | 12 | 133150 | |
| QSY...H - push-in connectors with push-in sleeve Reducing | | | | |
|  | 6 | 4 | 130633 | 10 |
| | 8 | 6 | 133147 | |
| | 10 | 8 | 133149 | |
| | 12 | 10 | 133151 | |

Accessories

| | Size | TNR | PE |
|---|--------------------------------|---------------|----|
| QSO – release tool | | | |
| Quick-out releasing tool for QS push-in fittings | | | |
|  | for tubing O.D. 4, 6, 8, 10 mm | 158419 | 1 |

Configurable products



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/connectors

NPQE-F1A**for manufacturing lithium-ion batteries****NEW: new series**

Economical push-in fittings for pneumatic applications with a temperature range up to 60 °C and a pressure range up to 0.8 MPa.

Tubing O.D. 4, 6, 8, 10 and 12 mm with connecting thread M3, M5, M7, G1/8, G1/4, R1/8 and R1/4



Straight shape

118**119**

L-shape

118**119**

T-shape


120

Y-shape


120**Can be used with:**

O.D. tubing → 27



Straight shape

| | D1 | D2 | TNR | PE |
|--|------|------|---------|----|
| NPQE-DK-F1A – male thread with internal hexagon | | | | |
| Recommended for production facilities for manufacturing lithium-ion batteries | | | | |
|  | M3 | 4 | 8158773 | 10 |
| | | M5 | 6 | |
| | M7 | | 4 | |
| | | G1/8 | 6 | |
| | 8 | | 8144598 | |
| | 10 | | 8144599 | |
| | 12 | | 8144600 | |
| | G1/4 | 6 | 8144601 | |
| | | 8 | 8144602 | |
| | | 10 | 8144603 | |
| | | 12 | 8144604 | |


L-shape

| | D1 | D2 | TNR | PE |
|--|------|------|---------|----|
| NPQE-L-F1A – male thread with external hexagon | | | | |
| Recommended for production facilities for manufacturing lithium-ion batteries | | | | |
|  | M3 | 4 | 8158774 | 10 |
| | | M5 | 6 | |
| | M7 | | 4 | |
| | | R1/8 | 6 | |
| | 8 | | 8158778 | |
| | 10 | | 8158779 | |
| | 12 | | 8158780 | |
| | R1/4 | 6 | 8158781 | |
| | | 8 | 8158782 | |
| | | 10 | 8158783 | |
| | | 12 | 8158784 | |


Straight shape

| | D1 | D2 | TNR | PE |
|--|----|----|---------|----|
| NPQE-D-F1A – push-in fitting | | | | |
| Recommended for production facilities for manufacturing lithium-ion batteries | | | | |
|  | 4 | 4 | 8158787 | 10 |
| | 6 | 6 | 8158789 | |
| | 8 | 8 | 8158791 | |
| | 10 | 10 | 8158793 | |
| | 12 | 12 | 8158795 | |
| NPQE-D-F1A – push-in fitting | | | | |
| Reducing | | | | |
| Recommended for production facilities for manufacturing lithium-ion batteries | | | | |
|  | 6 | 4 | 8158788 | 10 |
| | 8 | 6 | 8158790 | |
| | 10 | 8 | 8158792 | |
| | 12 | 10 | 8158794 | |


L-shape

| | D2 | D1 | TNR | PE |
|--|----|----|---------|----|
| NPQE-L-F1A – push-in fitting | | | | |
| Recommended for production facilities for manufacturing lithium-ion batteries | | | | |
|  | 4 | 4 | 8158796 | 10 |
| | 6 | 6 | 8158797 | |
| | 8 | 8 | 8158798 | |
| | 10 | 10 | 8158799 | |

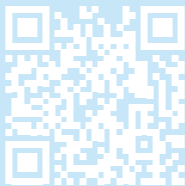
T-shape

| | D1 | D2 | TNR | PE |
|--|----|----|---------|----|
| NPQE-T-F1A – push-in fitting Recommended for production facilities for manufacturing lithium-ion batteries | | | | |
|  | 4 | 4 | 8158800 | 10 |
| | 6 | 6 | 8158801 | |
| | 8 | 8 | 8158802 | |
| | 10 | 10 | 8158803 | |

Y-shape

| | D1 | D2 | TNR | PE |
|--|----|----|---------|----|
| NPQE-Y-F1A – push-in fitting Recommended for production facilities for manufacturing lithium-ion batteries | | | | |
|  | 4 | 4 | 8158804 | 10 |
| | 6 | 6 | 8158805 | |
| | 8 | 8 | 8158806 | |
| | 10 | 10 | 8158807 | |

→ www.festo.com/support





Additional information:

→ www.festo.com/fitting



Push-in fittings/connectors

NPQH, solid metal

All metal push-in fitting/connectors made of chemically nickel-plated brass. High corrosion resistance CRC3 and chemical resistance. For pneumatic applications with a temperature range up to 150 °C and a pressure range up to 2 MPa.

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

04

Push-in fittings NPQH, solid metal



Straight shape

124**128**

L-shape

126**129**

T-shape




127**129**

Y-shape




130**Can be used with:**

O.D. tubing → 27



Straight shape

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


Straight shape

| | D1 | D2 | TNR | PE |
|---|------|----|--------|----|
| NPQH-DK – male thread with internal hexagon | | | | |
| With sealing ring | | | | |
|  | M5 | 4 | 578370 | 10 |
| | | 6 | 578371 | |
| | M7 | 4 | 578372 | |
| | | 6 | 578373 | |
| | G1/8 | 4 | 578374 | |
| | | 6 | 578375 | |
| | | 8 | 578376 | |
| | G1/4 | | 578377 | |
| | | 10 | 578378 | |
| | G3/8 | 12 | 578379 | |
| NPQH-H – push-in bulkhead fitting, female thread with external hexagon | | | | |
|  | G1/8 | 4 | 578294 | 10 |
| | | 6 | 578295 | |
| | G1/4 | | 578297 | |
| | G1/8 | 8 | 578296 | |
| | G1/4 | | 578298 | |
| NPQH-BK – plug screw | | | | |
| With sealing ring | | | | |
|  | M5 | – | 578404 | 10 |
| | M7 | | 578405 | |
| | G1/8 | | 578406 | |
| | G1/4 | | 578407 | |
| | G3/8 | | 578408 | |
| | G1/2 | | 578409 | |

L-shape

| | D1 | D2 | TNR | PE |
|---|------|--------|--------|----|
| NPQH-L – male thread with external hexagon | | | | |
| 360° rotatable, with sealing ring | | | | |
|  | M5 | 4 | 578276 | 10 |
| | | 6 | 578277 | |
| | M7 | 4 | 578278 | |
| | | 6 | 578279 | |
| | G1/8 | 4 | 578280 | |
| | | 6 | 578281 | |
| | | 8 | 578282 | |
| | G1/4 | 6 | 578283 | |
| | | 8 | 578284 | |
| | | 10 | 578285 | |
| | | 12 | 578286 | |
| | G3/8 | 8 | 578287 | |
| | | 10 | 578288 | |
| | | 12 | 578289 | |
| | | 14 | 578290 | |
| | G1/2 | 10 | 578291 | |
| 12 | | 578292 | | |
| 14 | | 578293 | | |
| NPQH-LL – long, male thread with external hexagon | | | | |
| 360° rotatable, with sealing ring | | | | |
|  | G1/8 | 4 | 578263 | 10 |
| | | 6 | 578264 | |
| | | 8 | 578265 | |
| | G1/4 | 6 | 578266 | |
| | | 8 | 578267 | |
| | | 10 | 578268 | |
| | G3/8 | | 578269 | |

T-shape

| | D1 | D2 | TNR | PE |
|---|------|----|--------|----|
| NPQH-T – male thread with external hexagon | | | | |
| 360° rotatable | | | | |
|  | M5 | 4 | 578390 | 10 |
| | | 6 | 578391 | |
| | G1/8 | 4 | 578392 | |
| | | 6 | 578393 | |
| | | 8 | 578394 | |
| | G1/4 | 6 | 578395 | |
| | | 8 | 578396 | |
| | | 10 | 578397 | |
| | | 12 | 578398 | |
| | G3/8 | 8 | 578399 | |
| | | 10 | 578400 | |
| | | 12 | 578401 | |
| | G1/2 | 10 | 578402 | |
| | | 12 | 578403 | |

Configurable products








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


→ www.festo.com/catalogue/npqh




Straight shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQH-D – push-in connector | | | | |
|  | 4 | 4 | 578323 | 10 |
| | 6 | 6 | 578324 | |
| | 8 | 8 | 578325 | |
| | 10 | 10 | 578326 | |
| | 12 | 12 | 578327 | |
| | 14 | 14 | 578328 | |
| NPQH-D – push-in connector Reducing | | | | |
|  | 6 | 4 | 578329 | 10 |
| | 8 | 6 | 578330 | |
| | 12 | 8 | 578331 | |
| | 14 | 10 | 578332 | |
| | | 12 | 578333 | |
| NPQH-D – push-in connector with push-in sleeve | | | | |
|  | 6 | 4 | 578304 | 10 |
| | | | 578305 | |
| | 8 | 6 | 578306 | |
| | | | 578307 | |
| | | | 578308 | |
| | 10 | 8 | 578309 | |
| | | | 578310 | |
| | | | 578311 | |
| | 12 | 10 | 578312 | |
| | | | 578313 | |
| | | | 578314 | |
| | 14 | 12 | 578315 | |
| 578316 | | | | |
| | | | | |
| NPQH-D – push-in sleeve | | | | |
|  | 4 | 4 | 578317 | 10 |
| | 6 | 6 | 578318 | |
| | 8 | 8 | 578319 | |
| | 10 | 10 | 578320 | |
| | 12 | 12 | 578321 | |
| | 14 | 14 | 578322 | |
| NPQH-H – push-in bulkhead connector | | | | |
|  | 4 | 4 | 578299 | 10 |
| | 6 | 6 | 578300 | |
| | 8 | 8 | 578301 | |
| | 10 | 10 | 578302 | |
| | 12 | 12 | 578303 | |



Straight shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQH-P – blanking plug | | | | |
|  | 4 | – | 578257 | 10 |
| | 6 | | 578258 | |
| | 8 | | 578259 | |
| | 10 | | 578260 | |
| | 12 | | 578261 | |
| | 14 | | 578262 | |



L-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQH-L – push-in connector | | | | |
|  | 4 | 4 | 578270 | 10 |
| | 6 | 6 | 578271 | |
| | 8 | 8 | 578272 | |
| | 10 | 10 | 578273 | |
| | 12 | 12 | 578274 | |
| | 14 | 14 | 578275 | |

T-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQH-T – push-in connectors | | | | |
|  | 4 | 4 | 578380 | 10 |
| | 6 | 6 | 578381 | |
| | 8 | 8 | 578382 | |
| | 10 | 10 | 578383 | |
| | 12 | 12 | 578384 | |
| | 14 | 14 | 578385 | |
| NPQH-T – push-in connectors | | | | |
| Reducing | | | | |
|  | 6 | 4 | 578386 | 10 |
| | 8 | 6 | 578387 | |
| | 10 | 8 | 578388 | |
| | 12 | 10 | 578389 | |

Y-shape

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

Configurable products

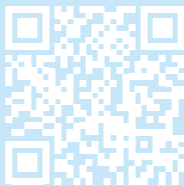


This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/npqh



→ www.festo.com/service2see





Additional information:

→ www.festo.com/fitting



Push-in fittings/connectors

NPQR, stainless steel**NEW: NPQR-Y**

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 1.6 MPa.

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



Straight shape

134
136

L-shape

135
136

T-shape



135
137

Y-shape


137**Can be used with:**

O.D. tubing → 27


Straight shape

| | D1 | D2 | TNR | PE |
|---|------|----|---------|----|
| NPQR-DK – male thread with internal hexagon | | | | |
| With sealing ring | | | | |
|  | M5 | 4 | 8085657 | 1 |
| | | 6 | 8085659 | |
| | M7 | 4 | 8085658 | |
| | | 6 | 8085660 | |
| | G1/8 | 4 | 8085661 | |
| | | 6 | 8085662 | |
| | | 8 | 8085663 | |
| | | 10 | 8087695 | |
| | G1/4 | 6 | 8085664 | |
| | | 8 | 8085665 | |
| | | 10 | 8085666 | |
| | G3/8 | 8 | 8086953 | |
| | | 10 | 8085667 | |
| | | 12 | 8085668 | |
| | G1/2 | | 8085669 | |
| | | 14 | 8085670 | |
| | | 16 | 8085671 | |
| NPQR-BK – plug screw | | | | |
| With sealing ring | | | | |
|  | M5 | – | 8104803 | 1 |
| | M7 | | 8085672 | |
| | G1/8 | | 8085673 | |
| | G1/4 | | 8085674 | |
| | G3/8 | | 8085675 | |
| | G1/2 | | 8085676 | |




L-shape

| | D1 | D2 | TNR | PE | |
|---|------|----|---------|----|---------|
| NPQR-L – male thread with external hexagon | | | | | |
| Rotatable 360°, with sealing ring | | | | | |
|  | M5 | 4 | 8085679 | 1 | |
| | | 6 | 8098626 | | |
| | G1/8 | 4 | 8085680 | | |
| | | 6 | 8085681 | | |
| | | 8 | 8085682 | | |
| | G1/4 | 6 | 8085683 | | |
| | | 8 | 8085684 | | |
| | | 10 | 8085685 | | |
| | G3/8 | | 8085686 | | |
| | | 12 | 8085687 | | |
| | G1/2 | | 8085688 | | |
| | | 14 | 8085689 | | |
| | | | 16 | | 8085690 |


T-shape

| | D1 | D2 | TNR | PE |
|---|------|----|---------|----|
| NPQR-T – male thread with external hexagon | | | | |
| Rotatable 360°, with sealing ring | | | | |
|  | M5 | 4 | 8085691 | 1 |
| | G1/8 | 6 | 8085692 | |
| | | 8 | 8085693 | |
| | G1/4 | | 8085694 | |
| | | 10 | 8099100 | |
| | G3/8 | | 8085695 | |
| | | 12 | 8099101 | |
| | G1/2 | | 8099102 | |


Straight shape

| | D1 | D2 | TNR | PE |
|--|----|----|---------|----|
| NPQR-D – push-in connector | | | | |
|  | 4 | 4 | 8085697 | 1 |
| | 6 | 6 | 8085698 | |
| | 8 | 8 | 8085699 | |
| | 10 | 10 | 8085700 | |
| | 12 | 12 | 8085701 | |
| | 14 | 14 | 8085702 | |
| | 16 | 16 | 8085703 | |
| NPQR-D – push-in connector Reducing | | | | |
|  | 6 | 4 | 8085704 | 1 |
| | 8 | 6 | 8085705 | |
| | 10 | 8 | 8085706 | |
| | 12 | 10 | 8085707 | |
| | 16 | 12 | 8085708 | |
| NPQR-H – push-in bulkhead connector | | | | |
|  | 4 | 4 | 8085729 | 1 |
| | 6 | 6 | 8085730 | |
| | 8 | 8 | 8085731 | |
| | 10 | 10 | 8085732 | |
| | 12 | 12 | 8085733 | |
| | 16 | 16 | 8099104 | |


L-shape

| | D1 | D2 | TNR | PE |
|---|----|----|---------|----|
| NPQR-L – push-in connector | | | | |
|  | 4 | 4 | 8085709 | 1 |
| | 6 | 6 | 8085710 | |
| | 8 | 8 | 8085711 | |
| | 10 | 10 | 8085712 | |
| | 12 | 12 | 8085713 | |
| | 14 | 14 | 8085714 | |
| | 16 | 16 | 8085715 | |

T-shape

| | D1 | D2 | TNR | PE |
|---|----|----|---------|----|
| NPQR-T – push-in connector | | | | |
|  | 4 | 4 | 8085716 | 1 |
| | 6 | 6 | 8085717 | |
| | 8 | 8 | 8085718 | |
| | 10 | 10 | 8085719 | |
| | 12 | 12 | 8085720 | |
| | 14 | 14 | 8085721 | |
| | 16 | 16 | 8085722 | |

Y-shape

| | D1 | D2 | TNR | PE |
|---|----|----|---------|----|
| NPQR-Y – push-in fitting | | | | |
|  | 4 | 4 | 8085723 | 1 |
| | 6 | 6 | 8085724 | |
| | 8 | 8 | 8085725 | |
| | 10 | 10 | 8085726 | |
| | 12 | 12 | 8085727 | |
| | 16 | 16 | 8085728 | |

Configurable products



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/connectors

NPQM, metal

Attractively priced metal push-in fitting for pneumatic applications with a temperature range up to 70°C and a pressure range up to 1.6 MPa.

Tubing O.D. 3, 4, 6, 8, 10, 12 and 14 mm with connecting thread M5, M7 and G1/8 ... G1/2



Straight shape

140**143**

L-shape

140**144**

T-shape

142**144**




Y-shape

144


Can be used with:

O.D. tubing → 27





Straight shape

| | D1 | D2 | TNR | PE |
|---|------|--------|--------|----|
| NPQM-D – male thread with internal/external hexagon | | | | |
| With sealing ring | | | | |
|  | G1/8 | 4 | 558661 | 10 |
| | | 6 | 558662 | |
| | | 8 | 558663 | |
| | G1/4 | 6 | 558664 | |
| | | 8 | 558665 | |
| | | 10 | 558666 | |
| | | 12 | 558667 | |
| | G3/8 | 8 | 558668 | |
| | | 10 | 558669 | |
| | | 12 | 558670 | |
| | | 14 | 570450 | |
| | G1/2 | 10 | 558671 | |
| | | 12 | 558672 | |
| 14 | | 570451 | | |
| NPQM-D – female thread with external hexagon | | | | |
|  | G1/8 | 4 | 558674 | 10 |
| | | 6 | 558675 | |
| | | 8 | 558676 | |
| | G1/4 | 6 | 558678 | |
| | | 8 | 558679 | |
| | | 10 | 558680 | |
| NPQM-DK – male thread with external hexagon | | | | |
|  | M5 | 4 | 558657 | 10 |
| | | 6 | 558658 | |
| | M7 | 4 | 558659 | |
| | | 6 | 558660 | |



L-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQM-L – male thread with external hexagon | | | | |
| With sealing ring | | | | |
|  | M5 | 4 | 558704 | 10 |
| | | 6 | 558705 | |


L-shape

| | D1 | D2 | TNR | PE |
|---|------|--------|--------|----|
| NPQM-L – male thread with external hexagon | | | | |
| With sealing ring | | | | |
|  | G1/8 | 4 | 558708 | 10 |
| | | 6 | 558709 | |
| | | 8 | 558710 | |
| | G1/4 | 6 | 558711 | |
| | | 8 | 558712 | |
| | | 10 | 558713 | |
| | | 12 | 558714 | |
| | G3/8 | 8 | 558715 | |
| | | 10 | 558716 | |
| | | 12 | 558717 | |
| | | 14 | 570460 | |
| | G1/2 | 10 | 558718 | |
| | | 12 | 558719 | |
| 14 | | 570461 | | |
| NPQM-LK – male thread with internal hexagon | | | | |
| With sealing ring | | | | |
|  | M5 | 3 | 558816 | 10 |
| | | 4 | 558817 | |
| NPQM-LK – male thread with internal hexagon | | | | |
| With sealing ring | | | | |
|  | G1/8 | 4 | 558818 | 10 |
| | | 6 | 558819 | |
| | | 8 | 558820 | |
| | G1/4 | 6 | 558821 | |
| | | 8 | 558822 | |
| | | 10 | 558823 | |
| | G3/8 | | 558825 | |
| NPQM-LH – male thread with external hexagon | | | | |
| With sealing ring | | | | |
|  | M5 | 4 | 558827 | 10 |
| | | 6 | 558828 | |

L-shape

| | D1 | D2 | TNR | PE |
|---|------|----|--------|----|
| NPQM-LH – male thread with external hexagon | | | | |
| With sealing ring | | | | |
|  | G1/8 | 4 | 558829 | 10 |
| | | 6 | 558830 | |
| | | 8 | 558831 | |
| | G1/4 | 6 | 558832 | |
| | | 8 | 558833 | |
| | G3/8 | | 558834 | |
| | | 10 | 558835 | |
| | | 12 | 558836 | |
| | | | | |
| NPQM-LFK – multiple distributor, male thread with internal hexagon | | | | |
|  | G1/8 | 4 | 558837 | 10 |
| | | 6 | 558838 | |
| | | 8 | 558839 | |
| | G1/4 | 6 | 558840 | |
| | | 8 | 558841 | |
| | | | | |

T-shape

| | D1 | D2 | TNR | PE |
|---|------|----|--------|----|
| NPQM-T – male thread with external hexagon | | | | |
| With sealing ring | | | | |
|  | G1/8 | 4 | 558736 | 10 |
| | | 6 | 558737 | |
| | | 8 | 558738 | |
| | G1/4 | 6 | 558739 | |
| | | 8 | 558740 | |
| | | 10 | 558741 | |
| | G3/8 | 8 | 558743 | |
| | | 10 | 558744 | |
| | | 12 | 558745 | |
| | G1/2 | | 558747 | |

Configurable products







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



→ www.festo.com/catalogue/npqm





Straight shape

| | D1 | D2 | TNR | PE |
|---|----|--------|--------|----|
| NPQM-D – push-in connector | | | | |
|  | 4 | 4 | 558760 | 10 |
| | 6 | 6 | 558761 | |
| | 8 | 8 | 558762 | |
| | 10 | 10 | 558763 | |
| | 12 | 12 | 558764 | |
| | 14 | 14 | 570452 | |
| NPQM-D – push-in connector with push-in sleeve | | | | |
|  | 4 | 6 | 558767 | 10 |
| | 6 | 4 | 558765 | |
| | | 8 | 558771 | |
| | 8 | 4 | 558766 | |
| | | 6 | 558768 | |
| | 10 | 8 | 558769 | |
| | | 8 | 558772 | |
| | 12 | 6 | 558770 | |
| | | 8 | 558773 | |
| | | 10 | 558774 | |
| | 14 | 6 | 570457 | |
| | | 8 | 570458 | |
| 10 | | 570456 | | |
| 12 | | 570459 | | |
| NPQM-D - push-in sleeve | | | | |
|  | 4 | 4 | 558811 | 10 |
| | 6 | 6 | 558812 | |
| | 8 | 8 | 558813 | |
| | 10 | 10 | 558814 | |
| | 12 | 12 | 558815 | |
| | 14 | 14 | 570455 | |
| NPQM-H – push-in bulkhead connector | | | | |
|  | 4 | 4 | 558806 | 10 |
| | 6 | 6 | 558807 | |
| | 8 | 8 | 558808 | |
| | 10 | 10 | 558809 | |
| | 12 | 12 | 558810 | |


L-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQM-L – push-in connector | | | | |
|  | 4 | 4 | 558776 | 10 |
| | 6 | 6 | 558777 | |
| | 8 | 8 | 558778 | |
| | 10 | 10 | 558779 | |
| | 12 | 12 | 558780 | |
| | 14 | 14 | 570453 | |
| NPQM-L – push-in connector with push-in sleeve | | | | |
|  | 4 | 4 | 558781 | 10 |
| | 6 | 6 | 558782 | |
| | 8 | 8 | 558783 | |
| | 10 | 10 | 558784 | |


T-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQM-T – push-in connector | | | | |
|  | 4 | 4 | 558786 | 10 |
| | 6 | 6 | 558787 | |
| | 8 | 8 | 558788 | |
| | 10 | 10 | 558789 | |
| | 12 | 12 | 558790 | |
| | 14 | 14 | 570454 | |
| NPQM-T – push-in connector with push-in sleeve | | | | |
|  | 4 | 4 | 558791 | 10 |
| | 6 | 6 | 558792 | |
| | 8 | 8 | 558793 | |
| | 10 | 10 | 558794 | |

Y-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQM-Y – push-in connector | | | | |
|  | 4 | 4 | 558798 | 10 |
| | 6 | 6 | 558799 | |
| | 8 | 8 | 558800 | |
| | 10 | 10 | 558801 | |
| | 12 | 12 | 558802 | |

Y-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQM-Y – push-in connector | | | | |
| Reducing | | | | |
|  | 6 | 4 | 558803 | 10 |
| | 8 | 6 | 558804 | |
| | 10 | 8 | 558805 | |

Configurable products



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/connectors

NPQP, resistant to media

Polypropylene fitting for use in applications with extreme media influences.

For pneumatic applications with a temperature range up to 60 °C and a pressure range up to 1 MPa.

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



Straight shape

148
150

L-shape

148
151

T-shape


149
151

Y-shape



149
151**Can be used with:**

O.D. tubing → 27


Straight shape

| | D1 | D2 | TNR | PE | |
|---|------|----|--------|----|---|
| NPQP-D – male thread with external hexagon | | | | | |
|  | R1/8 | 4 | 133041 | 10 | |
| | | 6 | 133043 | | |
| | | 8 | 133045 | | |
| | R1/4 | 4 | 133042 | | 1 |
| | | 6 | 133044 | | |
| | | 8 | 133046 | | |
| | | 10 | 133047 | | |
| | R3/8 | 12 | 133048 | | |
| | | | 133049 | | |
| | R1/2 | | 133050 | | |


L-shape

| | D1 | D2 | TNR | PE | |
|---|------|----|--------|----|---|
| NPQP-L – male thread with external hexagon | | | | | |
|  | R1/8 | 4 | 133051 | 10 | |
| | | 6 | 133053 | | |
| | | 8 | 133055 | | |
| | R1/4 | 4 | 133052 | | 1 |
| | | 6 | 133054 | | |
| | | 8 | 133056 | | |
| | | 10 | 133057 | | |
| | R3/8 | 12 | 133058 | | |
| | | | 133059 | | |
| | R1/2 | | 133060 | | |
| NPQP-LQ – male thread with external hexagon | | | | | |
|  | R1/8 | 4 | 133061 | 10 | |
| | | 6 | 133063 | | |
| | | 8 | 133065 | | |
| | R1/4 | 4 | 133062 | | 1 |
| | | 6 | 133064 | | |
| | | 8 | 133066 | | |
| | | 10 | 133067 | | |
| | R3/8 | 12 | 133068 | | |
| | | | 133069 | | |
| | R1/2 | | 133070 | | |

T-shape

| | D1 | D2 | TNR | PE | |
|---|------|----|--------|--------|---|
| NPQP-T – male thread with external hexagon | | | | | |
|  | R1/8 | 4 | 133071 | 10 | |
| | | 6 | 133073 | | |
| | | 8 | 133075 | | |
| | R1/4 | 4 | 133072 | | 1 |
| | | 6 | 133074 | | |
| | | 8 | 133076 | | |
| | | 10 | 133077 | | |
| | R3/8 | 12 | 133078 | | 1 |
| | R1/2 | | 133079 | | |
| | | | | 133080 | |

Y-shape

| | D1 | D2 | TNR | PE | |
|--|------|----|--------|--------|---|
| NPQP-Y – male thread with external hexagon | | | | | |
|  | R1/8 | 4 | 133081 | 10 | |
| | | 6 | 133083 | | |
| | | 8 | 133085 | | |
| | R1/4 | 4 | 133082 | | 1 |
| | | 6 | 133084 | | |
| | | 8 | 133086 | | |
| | | 10 | 133087 | | |
| | R3/8 | 12 | 133088 | | 1 |
| | R1/2 | | 133089 | | |
| | | | | 133090 | |

Configurable products








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


→ www.festo.com/catalogue/npqp





Straight shape

| | D1 | D2 | TNR | PE |
|---|----|--------|--------|----|
| NPQP-D – push-in connector | | | | |
|  | 4 | 4 | 133091 | 10 |
| | 6 | 6 | 133092 | |
| | 8 | 8 | 133093 | |
| | 10 | 10 | 133094 | |
| | 12 | 12 | 133095 | |
| NPQP-D – push-in connector Reducing | | | | |
|  | 6 | 4 | 133096 | 10 |
| | 8 | 6 | 133097 | |
| | 10 | 8 | 133098 | |
| | 12 | 10 | 133099 | |
| NPQP-H – push-in bulkhead connector | | | | |
|  | 4 | 4 | 133100 | 1 |
| | 6 | 6 | 133101 | |
| | 8 | 8 | 133102 | |
| | 10 | 10 | 133103 | |
| | 12 | 12 | 133104 | |
| NPQP-D – push-in connector with push-in sleeve | | | | |
|  | 6 | 4 | 133133 | 10 |
| | 8 | | 133134 | |
| | 10 | 6 | 133135 | |
| | | | 133136 | |
| | 12 | 8 | 133137 | |
| | | | 133138 | |
| | 10 | 133139 | | |
| NPQP-P – blanking plug | | | | |
|  | 4 | – | 133128 | 10 |
| | 6 | | 133129 | |
| | 8 | | 133130 | |
| | 10 | | 133131 | |
| | 12 | | 133132 | |


L-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQP-L – push-in connector | | | | |
|  | 4 | 4 | 133105 | 10 |
| | 6 | 6 | 133106 | |
| | 8 | 8 | 133107 | |
| | 10 | 10 | 133108 | |
| | 12 | 12 | 133109 | |


T-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQP-T – push-in connector | | | | |
|  | 4 | 4 | 133110 | 10 |
| | 6 | 6 | 133111 | |
| | 8 | 8 | 133112 | |
| | 10 | 10 | 133113 | |
| | 12 | 12 | 133114 | |
| NPQP-T – push-in connector Reducing | | | | |
|  | 6 | 4 | 133115 | 10 |
| | 8 | 6 | 133116 | |
| | 10 | 8 | 133117 | |
| | 12 | 10 | 133118 | |

Y-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQP-Y – push-in connector | | | | |
|  | 4 | 4 | 133119 | 10 |
| | 6 | 6 | 133120 | |
| | 8 | 8 | 133121 | |
| | 10 | 10 | 133122 | |
| | 12 | 12 | 133123 | |

Y-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| NPQP-Y – push-in connector | | | | |
| Reducing | | | | |
|  | 6 | 4 | 133124 | 10 |
| | 8 | 6 | 133125 | |
| | 10 | 8 | 133126 | |
| | 12 | 10 | 133127 | |

Configurable products

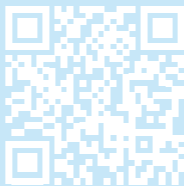


This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/npqp



→ www.festo.com/service2see





Additional information:

→ www.festo.com/fitting



Push-in fittings/connectors

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

04

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



Straight shape

156

159



L-shape

156

159



T-shape

157

159



Accessories



158

160


Can be used with:

O.D. tubing → 27


Straight shape

| | D1 | D2 | TNR | PE |
|--|------|----|--------|----|
| QS-V0 – male thread with external hexagon | | | | |
| G thread with sealing ring | | | | |
|  | R1/8 | 4 | 132888 | 10 |
| | | 6 | 160500 | |
| | | 8 | 160501 | |
| | R1/4 | 6 | 160502 | 1 |
| | | 8 | 160503 | |
| | | 10 | 160504 | |
| | | 12 | 160505 | |
| | R3/8 | 8 | 160506 | 10 |
| | | 10 | 160507 | |
| | | 12 | 160508 | |
| | R1/2 | 10 | 160509 | 1 |
| | | 12 | 160510 | |
| QS-V0 – male thread with external hexagon | | | | |
| With sealing ring | | | | |
|  | G1/8 | 6 | 186314 | 10 |
| | | 8 | 186315 | |
| | G1/4 | 6 | 186316 | 1 |
| | | 8 | 186317 | |
| | | 10 | 186318 | |
| | | 12 | 186319 | |
| | G3/8 | 8 | 186320 | 10 |
| | | 10 | 186321 | |
| | | 12 | 186322 | |
| | G1/2 | 10 | 186323 | 1 |
| | | 12 | 186324 | |



L-shape

| | D1 | D2 | TNR | PE |
|---|------|----|--------|----|
| QSL-V0 – male thread with external hexagon | | | | |
| Rotatable 360° | | | | |
|  | R1/8 | 4 | 132891 | 10 |
| | | 6 | 160511 | |
| | | 8 | 160512 | |
| | R1/4 | 6 | 160513 | 1 |
| | | 8 | 160514 | |
| | | 10 | 160515 | |
| | | 12 | 160516 | |
| | R3/8 | 8 | 160517 | 10 |
| | | 10 | 160518 | |
| | | 12 | 160519 | |
| | R1/2 | 10 | 160520 | 1 |
| | | 12 | 160521 | |


L-shape

| | D1 | D2 | TNR | PE |
|---|------|----|--------|----|
| QSL-V0 – male thread with external hexagon | | | | |
| Rotatable 360°, with sealing ring | | | | |
|  | G1/8 | 6 | 186325 | 10 |
| | | 8 | 186326 | |
| | G1/4 | 6 | 186327 | 10 |
| | | 8 | 186328 | |
| | | 10 | 186329 | |
| | | 12 | 186330 | |
| | G3/8 | 8 | 186331 | 10 |
| | | 10 | 186332 | |
| | | 12 | 186333 | |
| | G1/2 | 10 | 186334 | 10 |
| | | 12 | 186335 | |

T-shape

| | D1 | D2 | TNR | PE |
|---|------|--------|--------|----|
| QST-V0 – male thread with external hexagon | | | | |
| Rotatable 360° | | | | |
|  | R1/8 | 4 | 132894 | 1 |
| | | 6 | 160522 | 10 |
| | | 8 | 160523 | |
| | R1/4 | 6 | 160524 | 10 |
| | | 8 | 160525 | |
| | | 10 | 160526 | |
| | | 12 | 160527 | |
| | R3/8 | 8 | 160528 | 10 |
| | | 10 | 160529 | |
| | | 12 | 160530 | |
| | R1/2 | 10 | 160531 | 10 |
| | | 12 | 160532 | |
| QST-V0 – male thread with external hexagon | | | | |
| Rotatable 360° | | | | |
|  | G1/8 | 6 | 186336 | 10 |
| | G1/4 | | 8 | |
| | | 10 | 186339 | |
| | | 12 | 186337 | |
| | | 10 | 186340 | 10 |
| | 12 | 186341 | 1 | |
| | G3/8 | 8 | 186342 | 10 |
| | | 10 | 186343 | |
| | | 12 | 186344 | |
| | G1/2 | 10 | 186345 | 10 |
| | | 12 | 186346 | |

Accessories

| | Size | TNR | PE |
|---|--------------------------------|---------------|----|
| QSO – release tool | | | |
| Quick-out releasing tool for QS push-in fittings | | | |
|  | for tubing O.D. 4, 6, 8, 10 mm | 158419 | 1 |

Configurable products




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


→ www.festo.com/catalogue/qs-v0




Straight shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| QS-V0 – push-in connector G thread with sealing ring | | | | |
|  | 4 | 4 | 132890 | 10 |
| | 6 | 6 | 160546 | |
| | 8 | 8 | 160547 | |
| | 10 | 10 | 160548 | |
| | 12 | 12 | 160549 | 1 |


L-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| QSL-V0 - push-in connectors | | | | |
|  | 4 | 4 | 132893 | 1 |
| | 6 | 6 | 160540 | 10 |
| | 8 | 8 | 160541 | |
| | 10 | 10 | 160542 | |
| | 12 | 12 | 160543 | 1 |

T-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| QST-V0 - push-in connectors | | | | |
|  | 4 | 4 | 132896 | 10 |
| | 6 | 6 | 160533 | |
| | 8 | 8 | 160534 | |
| | 10 | 10 | 160535 | |
| | 12 | 12 | 160536 | 1 |

Accessories

| | Size | TNR | PE |
|---|--------------------------------|---------------|----|
| QS0 – release tool | | | |
| Quick-out releasing tool for QS push-in fittings | | | |
|  | for tubing O.D. 4, 6, 8, 10 mm | 158419 | 1 |

Configurable products

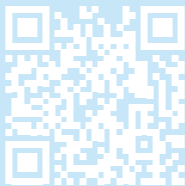


This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/qs-v0



→ www.festo.com/support





Additional information:

→ www.festo.com/fitting



Cartridges

QSP

Space-saving installation for tight spaces and threadless mounting for pneumatic applications with a temperature range up to 60 °C and a pressure range up to 1 MPa.

Tubing O.D. 3, 4, 6, 8, 10, 12 mm

Tubing O.D. 1/8, 5/32, 1/4, 5/16, 3/8, 1/2"



Straight shape

164




L-shape

165


Can be used with:

O.D. tubing → 27


Straight shape

| | D1 | D2 | TNR | PE |
|---|--------------------|--------|--------|----|
| QSP10 – cartridge | | | | |
| Nickel-plated brass | | | | |
|  | Cartridge 10 mm | 4 | 172972 | 10 |
| | | 6 | 172973 | |
| QSPKG – cartridge | | | | |
| Polyamide reinforced | | | | |
|  | Cartridge 10 mm | 3 | 132621 | 10 |
| | | 4 | 132622 | |
| | Cartridge 14 mm | 6 | 132930 | |
| | | | 132623 | |
| | Cartridge 10 mm | | 132633 | |
| | Cartridge 20 mm | 8 | 132633 | |
| | Cartridge 18 mm | | 132649 | |
| | Cartridge 14 mm | | 132931 | |
| | Cartridge 20 mm | 10 | 132634 | |
| | Cartridge 18 mm | | 132650 | |
| Cartridge 20 mm | 12 | 132635 | | |
| QSPK – cartridge | | | | |
| Polyamide reinforced | | | | |
|  | Cartridge 10 mm | 3 | 132978 | 10 |
| | | 4 | 130839 | |
| | Cartridge 18 mm | 6 | 132979 | |
| | | | 130840 | |
| | Cartridge 10 mm | | 132980 | |
| | Cartridge 18 mm | 8 | 130841 | |
| | Cartridge 10 mm | | 130842 | |




Straight shape

| | D1 | D2 | TNR | PE |
|---|----------|--------------------------------------|--------|----|
| QSPKG, NPT – cartridge | | | | |
| Polyamide reinforced | | | | |
|  | QSP...10 | For tubing O.D. 1/8" | 132852 | 10 |
| | | For tubing outside diameter of 1/4" | 132626 | |
| | QSP...20 | For tubing outside diameter of 5/16" | 132636 | |
| | QSP...18 | For tubing outside diameter of 3/8" | 132652 | |
| | QSP...20 | | 132637 | |
| | QSP...18 | For tubing outside diameter of 5/16" | 132651 | |
| | QSP...20 | For tubing outside diameter of 1/2" | 132638 | |
| | QSP...10 | For tubing outside diameter of 5/32" | 132624 | |
| | QSP...14 | For tubing outside diameter of 1/4" | 132932 | |
| For tubing outside diameter of 5/16" | | 132933 | | |




L-shape

| | D1 | D2 | TNR | PE | |
|---|-----------------|----|--------|----|--------|
| QSPLKG – cartridge | | | | | |
| Polyamide reinforced | | | | | |
|  | Cartridge 10 mm | 3 | 132853 | 10 | |
| | | 4 | 132920 | | |
| | | 6 | 132921 | | |
| | Cartridge 14 mm | 8 | | | 132938 |
| | | | | | 132946 |
| | Cartridge 18 mm | | | | 132939 |
| | Cartridge 14 mm | | | | 132855 |
| | Cartridge 20 mm | | | | |
| | Cartridge 18 mm | 10 | | | 132947 |
| | Cartridge 20 mm | | | | 132856 |
| 12 | | | 132857 | | |

L-shape

| | D1 | D2 | TNR | PE | |
|---|--------------------|----|--------|----|--|
| QSPLLKG – cartridge, long Polyamide reinforced | | | | | |
|  | Cartridge 10 mm | 3 | 132861 | 10 | |
| | | 4 | 132925 | | |
| | | 6 | 132926 | | |
| | Cartridge 14 mm | 8 | 132942 | | |
| | | | 132863 | | |
| | Cartridge 20 mm | 10 | 132950 | | |
| | Cartridge 18 mm | | 132943 | | |
| | Cartridge 14 mm | | 132864 | | |
| | Cartridge 20 mm | 12 | 132951 | | |
| | Cartridge 18 mm | | 132865 | | |
| Cartridge 20 mm | | | | | |
| QSPLK – cartridge Polyamide reinforced | | | | | |
|  | Cartridge 18 mm | 4 | 130843 | 10 | |
| | | | 132601 | | |
| | Cartridge 10 mm | 6 | 130844 | | |
| | | | 132602 | | |
| | Cartridge 18 mm | 8 | 130845 | | |
| | Cartridge 10 mm | | 132639 | | |
| Cartridge 18 mm | 10 | | | | |
| QSPLLK – cartridge, long Polyamide reinforced | | | | | |
|  | Cartridge 18 mm | 4 | 130846 | 10 | |
| | | | 132603 | | |
| | Cartridge 10 mm | 6 | 130847 | | |
| | | | 132604 | | |
| | Cartridge 18 mm | 8 | 130848 | | |
| | Cartridge 10 mm | | 132640 | | |
| Cartridge 18 mm | 10 | | | | |

L-shape

| | D1 | D2 | TNR | PE |
|---|----------|--------------------------------------|--------|----|
| QSPLKG, NPT – cartridge | | | | |
| Polyamide reinforced | | | | |
|  | QSP...20 | For tubing outside diameter of 1/2" | 132860 | 10 |
| | | For tubing outside diameter of 3/8" | 132859 | |
| | QSP...14 | For tubing outside diameter of 1/4" | 132940 | |
| | QSP...18 | For tubing outside diameter of 5/16" | 132948 | |
| | QSP...14 | | 132941 | |
| | QSP...10 | For tubing O.D. 1/8" | 132854 | |
| | QSP...18 | For tubing outside diameter of 3/8" | 132949 | |
| | QSP...10 | For tubing outside diameter of 1/4" | 132924 | |
| QSPLLKG, NPT – cartridge, long | | | | |
| Polyamide reinforced | | | | |
|  | QSP...10 | For tubing O.D. 1/8" | 132862 | 10 |
| | | For tubing outside diameter of 1/4" | 132929 | |
| | QSP...14 | For tubing outside diameter of 1/4" | 132944 | |
| | QSP...18 | For tubing outside diameter of 5/16" | 132952 | |
| | QSP...14 | For tubing outside diameter of 5/16" | 132945 | |
| | QSP...18 | For tubing outside diameter of 3/8" | 132953 | |
| QSPLK, NPT – cartridge | | | | |
| Polyamide reinforced | | | | |
|  | QSP...18 | For tubing outside diameter of 3/8" | 132641 | 10 |



Additional information:

→ www.festo.com/fitting



Self-sealing/rotatable push-in fittings/connectors

QSK/QSR

M and G thread with sealing ring, R thread with PTFE coating

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



Push-in fitting, self-sealing, straight shape **170**
 Push-in connector, self-sealing, straight shape **172**



Push-in fitting, self-sealing, L-shape **170**



Push-in fitting, rotatable, straight shape **173**



Push-in fitting, rotatable, L-shape **173**






Accessories **171**


Can be used with:

O.D. tubing → 27



Straight shape

| | D1 | D2 | TNR | PE |
|---|------|----|--------|----|
| QSK – male thread with external hexagon | | | | |
| With sealing ring | | | | |
|  | M5 | 4 | 153291 | 1 |
| | | 6 | 153292 | |
| QSK – male thread with external hexagon | | | | |
|  | R1/8 | 4 | 153419 | 1 |
| | | 6 | 153420 | |
| | | 8 | 153422 | |
| | R1/4 | 6 | 153421 | |
| | | 8 | 153423 | |
| | | 10 | 153425 | |
| | R3/8 | 8 | 153424 | |
| | | 10 | 153426 | |
| | | 12 | 153427 | |
| | R1/2 | | 153428 | |
| QSK – male thread with external hexagon | | | | |
| With sealing ring | | | | |
|  | G1/8 | 4 | 186294 | 1 |
| | | 6 | 186295 | |
| | | 8 | 186297 | |
| | G1/4 | 6 | 186296 | |
| | | 8 | 186298 | |
| | | 10 | 186300 | |
| | G3/8 | 8 | 186299 | |
| | | 10 | 186301 | |
| | | 12 | 186302 | |
| | G1/2 | | 186303 | |


L-shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| QSKL – male thread with external hexagon | | | | |
| Rotatable 360°, with sealing ring | | | | |
|  | M5 | 4 | 153294 | 1 |
| | | 6 | 153295 | |

L-shape

| | D1 | D2 | TNR | PE | | |
|---|---|----|--------|----|--|--|
| QSKL – male thread with external hexagon | | | | | | |
| Rotatable 360° | | | | | | |
|  | R1/8 | 4 | 153429 | 1 | | |
| | | 6 | 153430 | | | |
| | | 8 | 153432 | | | |
| | R1/4 | 6 | 153431 | | | |
| | | 8 | 153433 | | | |
| | | 10 | 153435 | | | |
| | R3/8 | 8 | 153434 | | | |
| | | 10 | 153436 | | | |
| | | 12 | 153437 | | | |
| | R1/2 | | 153438 | | | |
| | QSKL – male thread with external hexagon | | | | | |
| | Rotatable 360°, with sealing ring | | | | | |
|  | G1/8 | 4 | 186304 | 1 | | |
| | | 6 | 186305 | | | |
| | | 8 | 186307 | | | |
| | G1/4 | 6 | 186306 | | | |
| | | 8 | 186308 | | | |
| | | 10 | 186310 | | | |
| | G3/8 | 8 | 186309 | | | |
| | | 10 | 186311 | | | |
| | | 12 | 186312 | | | |
| | G1/2 | | 186313 | | | |

Accessories

| | Size | TNR | PE |
|---|--------------------------------|--------|----|
| QSO – release tool | | | |
| Quick-out releasing tool for QS push-in fittings | | | |
|  | for tubing O.D. 4, 6, 8, 10 mm | 158419 | 1 |

Configurable products





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


→ www.festo.com/catalogue/qsq



Straight shape

| | D1 | D2 | TNR | PE |
|---|----|----|--------|----|
| QSK - self-sealing push-in connector | | | | |
|  | 4 | 4 | 153439 | 1 |
| | 6 | 6 | 153440 | |
| | 8 | 8 | 153441 | |
| | 10 | 10 | 153442 | |
| | 12 | 12 | 153443 | |
| QSSK – push-in bulkhead connector, self-sealing | | | | |
|  | 4 | 4 | 130637 | 1 |
| | 6 | 6 | 130638 | |
| | 8 | 8 | 130639 | |
| | 10 | 10 | 130640 | |
| | 12 | 12 | 130641 | |

Accessories

| | Size | TNR | PE |
|---|--------------------------------|--------|----|
| QSO – release tool | | | |
| Quick-out releasing tool for QS push-in fittings | | | |
|  | for tubing O.D. 4, 6, 8, 10 mm | 158419 | 1 |




Configurable products



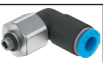
This product and all its product options can be ordered online via the configurator:
 → www.festo.com/catalogue/qsq





Straight shape

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


L-shape

| | D1 | D2 | TNR | PE |
|--|----|----|--------|----|
| QSRL – male thread with external hexagon Rotatable 360°, with ball bearing, with sealing ring | | | | |
|  | M5 | 4 | 153529 | 1 |
| | | 6 | 153530 | |

L-shape

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

Accessories

| | Size | TNR | PE |
|---|--------------------------------|--------|----|
| QSO – release tool | | | |
| Quick-out releasing tool for QS push-in fittings | | | |
|  | for tubing O.D. 4, 6, 8, 10 mm | 158419 | 1 |

Configurable products

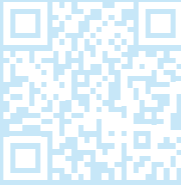


This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/qsr



→ www.festo.com/service2see



05

Barbed fittings for I.D. tubing – Highlights



Highlights

from our range of barbed fittings for
I.D. tubing

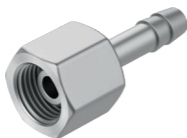


Quick connectors

NPCK

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

→ 184



05

Barbed fittings for I.D. tubing – Overview

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.

Selection aid _____ 180

Additional information:

→ www.festo.com/fitting

**Can be used with:**

I.D. tubing → 27

Type, description

**NPCK, quick connectors, Clean Design**

The NPCK is ideal for use in areas subject to intensive cleaning. It fulfils all clean design requirements and is FDA-compliant.

The special design of the union nut avoids edges and areas where microorganisms and other forms of contamination might accumulate. For the process automation and pharmaceutical industry, too, the fitting NPCK is interesting: made of high-grade stainless steel and able to handle a very wide range of media. It meets HACCP hygiene requirements, is resistant to corrosion, cleaning agents and high temperatures, clean design

**N/CN, barbed fittings****RTU/L-PK/T-PK/FCN, barbed tubing connectors**

At home in tight spaces

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 connecting pliers.

With sealing ring, barbed connector for Festo plastic tubing, corrosion-resistant, acid-resistant, can be aligned. For tubing O.D. 3 to 8 mm.

**C-P/N-P, barbed hose fittings for hose clip**

Connection G1/8, G1/4, G3/8, G1/2, G3/4, 3/4NPT, 1NPT

For tubing I.D. 6 to 19 mm

Threaded connection, G-thread with sealing ring, barbed hose fittings, hose clips

**CK, quick connectors**

Absolutely reliable and extremely economical, whenever connectors are to be installed permanently. Easy to connect: just attach the tubing and secure it with the union nut. Many variants. Versions: aluminium, polyamide, sealing ring, injection-moulded sealing edge. For tubing I.D. 9 and 13 mm, for tubing O.D. 4 to 8 mm

| | Page |
|---------------------------------|-------------|
| <u>Straight shape</u> | 184 |
| | |
| <u>Straight shape</u> | 188 |
| <u>L-shape</u> | 189 |
| <u>T-shape</u> | 189 |
| <u>Barbed tubing connectors</u> | 192 |
| | |
| <u>Barbed hose fittings</u> | 190 |
| | |
| <u>Straight shape</u> | 196 |
| <u>L-shape</u> | 198 |
| <u>T-shape</u> | 200 |



Additional information:

→ www.festo.com/fitting



Barbed fittings

NPCK, quick connectors

The NPCK is ideal in areas that are subject to intensive cleaning. It fulfils all clean design requirements and is FDA-compliant. The special design of the union nut avoids edges and areas where microorganisms and other forms of contamination might accumulate. For process automation and the pharmaceutical industry, too, the NPCK is interesting: made of high grade of stainless steel and able to handle a very wide range of media.

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

Maximum corrosion resistance CRC 4. For pneumatic applications with a temperature range up to 120 °C and a pressure range up to 1.2 MPa.

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



Straight shape

184





Accessories

184


Can be used with:

I.D. tubing → 27

Straight shape

| | D1 | D2 | TNR | PE |
|---|------|----|---------|----|
| NPCK – male thread with clamped connection | | | | |
| With O-ring | | | | |
|  | M5 | 4 | 1857681 | 1 |
| NPCK – male thread with clamped connection | | | | |
| With sealing ring | | | | |
|  | G1/8 | 6 | 1366257 | 1 |
| | | 8 | 1490383 | |
| | G1/4 | 10 | 1691701 | |
| | G3/8 | | 1489336 | |
| | | | 1489614 | |

Accessories

| | For thread | TNR | PE |
|---|------------|---------|----|
| NPAS – sealing ring | | | |
| Polyetheretherketone, for quick connector NPCK | | | |
|  | G1/4 | 2652517 | 10 |
| | G3/8 | 2652519 | |
| | G1/8 | 2652516 | |

Configurable products

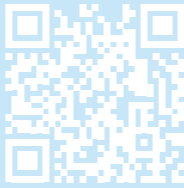


This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/npck



→ www.festo.com/support





Additional information:

→ www.festo.com/fitting



Barbed fittings/barbed hose fittings

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

At home in tight corners

Clever connection technology makes these fittings extremely compact.

They are 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 connecting pliers.

- + For tubing O.D. from 3 to 8 mm
- + For tubing I.D. from 6 to 19 mm
- + Many designs and variants
- + Corrosion-resistant
- + Acid-resistant
- + Rotatable



Straight shape

188



L-shape

189



T-shape

189



Barbed hose fitting

202



Barbed tubing connectors

192



Y-shape

190







Accessories

191



Can be used with:

I.D. tubing → 27


Straight shape

| | D1 | D2 | TNR | PE | |
|--|------|-------|-------|----|---|
| N – male thread and external hexagon with sealing ring, for tubing O.D. | | | | | |
|  | M5 | 4 | 4446 | 10 | |
| | | 6 | 4902 | | |
| CN – male thread with external hexagon with sealing ring, for tubing O.D. | | | | | |
|  | M3 | 3 | 15871 | 10 | |
| | | 4 | 15872 | | |
| | M5 | 3 | 19521 | | |
| | | 4 | 12255 | | |
| | | 6 | 12256 | | |
| | G1/8 | 4 | 11944 | | |
| | | 6 | 11945 | | |
| | | 8 | 11946 | | |
| | G1/4 | 6 | 11947 | | |
| | | 8 | 11948 | | |
| G3/8 | | 11949 | | | |
| CRCN – stainless steel, male thread and external hexagon with sealing ring, for tubing O.D. | | | | | |
|  | M5 | 3 | 30985 | 10 | |
| | | 4 | 13967 | | |
| | | 6 | 13968 | | |
| | G1/8 | 4 | 13969 | | |
| | | 6 | 13970 | | |
| | | 8 | 13971 | | |
| | G1/4 | 6 | 13972 | | 1 |
| | | 8 | 13973 | | |
| G3/8 | | 13974 | | | |
| SCN – bulkhead fitting for tubing O.D. | | | | | |
|  | 3 | – | 19528 | 10 | |
| | 4 | | 11972 | | |
| | 6 | | 11973 | | |
| | 8 | | 11974 | | |


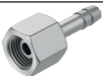
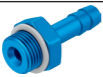
L-shape

| | D1 | D2 | TNR | PE |
|---|---|----|-------|----|
| LCN – male thread rotatable 360°, with sealing ring, for tubing O.D. | | | | |
|  | M3 | 3 | 30491 | 10 |
| | | 4 | 30982 | |
| | M5 | 3 | 19523 | |
| | | 4 | 12257 | |
| | | 6 | 12258 | |
| | G1/8 | 4 | 11955 | |
| | | 6 | 11956 | |
| | | 8 | 11957 | |
| | G1/4 | 6 | 12958 | |
| | | 8 | 12959 | |
| | G3/8 | | 12960 | |
| | LCNH – male thread rotatable 360°, with sealing ring, for tubing O.D. | | | |
|  | M5 | 3 | 35982 | 10 |
| | | 4 | 35983 | |
| | | 6 | 35984 | |
| | G1/8 | 4 | 35985 | |
| | | 6 | 35986 | |
| | | 8 | 35987 | |
| | G1/4 | 6 | 35988 | |
| | | 8 | 35989 | |
| | G3/8 | | 35990 | |


T-shape

| | D1 | D2 | TNR | PE |
|---|------|----|-------|----|
| TCN – male thread rotatable 360°, with sealing ring, for tubing O.D. | | | | |
|  | M3 | 3 | 30492 | 10 |
| | | 4 | 30983 | |
| | M5 | 3 | 19525 | |
| | | 4 | 12259 | |
| | | 6 | 12432 | |
| | G1/8 | 4 | 11961 | |
| | | 6 | 11962 | |
| | | 8 | 11963 | |
| | G1/4 | 6 | 11964 | |
| | | 8 | 11965 | |
| | G3/8 | | 11966 | |


Barbed hose fitting

| | D1 | D2 | TNR | PE |
|---|---------------------|-------------------------------------|--------|----|
| C-...-P | | | | |
| Brass, for tubing O.D. | | | | |
| Plastic tubing is plugged in and then secured with hose clip SK | | | | |
|  | G1/4 | 8 | 2022 | 10 |
| | G1/8 | | 2021 | |
| | G3/8 | | 2024 | |
| C-...-P | | | | |
| Brass, for tubing I.D. | | | | |
| Plastic tubing is plugged in and then secured with hose clip SK | | | | |
|  | G1/2 | For tubing inside diameter of 13 mm | 2026 | 1 |
| | G3/8 | For tubing inside diameter of 9 mm | 2025 | |
| | G1/4 | For tubing inside diameter of 9 mm | 2023 | 10 |
| N-...-P | | | | |
| Aluminium, for tubing I.D. | | | | |
| Plastic tubing is plugged in and then secured with hose clip SK | | | | |
|  | Male thread 3/4 NPT | 19 | 564848 | 1 |
| | Male thread 1 NPT | | 572243 | |
| | R1 | | 572260 | |
| | G1/8 | For tubing I.D. 6 mm | 3605 | 10 |
| | G1/4 | For tubing inside diameter of 9 mm | 3607 | |
| | | For tubing I.D. 6 mm | 3606 | |
| | G3/8 | For tubing inside diameter of 13 mm | 36160 | 1 |
| | | For tubing I.D. 6 mm | 3608 | 10 |
| | | For tubing inside diameter of 9 mm | 3609 | |
| | G1/2 | For tubing inside diameter of 13 mm | 3611 | 1 |
| | | For tubing inside diameter of 9 mm | 3610 | 10 |
| | G3/4 | For tubing inside diameter of 13 mm | 3612 | 1 |
| 19 | | 3613 | | |


Barbed hose fitting

| | D1 | D2 | TNR | PE |
|--|------|-------------------------------------|------------------------------------|----|
| N-...-P-...-MS Brass, for tubing I.D. Plastic tubing is plugged in and then secured with hose clip SK | | | | |
|  | G1/8 | For tubing I.D. 6 mm | 15630 | 10 |
| | G1/4 | | 15631 | |
| | | | For tubing inside diameter of 9 mm | |
| | G3/8 | For tubing inside diameter of 13 mm | 36161 | 1 |
| | | For tubing I.D. 6 mm | 15633 | 10 |
| | | For tubing inside diameter of 9 mm | 15634 | |
| | G1/2 | For tubing inside diameter of 13 mm | 15636 | 1 |
| | | For tubing inside diameter of 9 mm | 15635 | |
| | G3/4 | For tubing inside diameter of 13 mm | 15637 | |
| 19 | | 15638 | | |

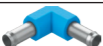
Tubing clip

| | Clamping range Ø [mm] | TNR | PE |
|---|-----------------------|------|----|
| SK to DIN 3017 with worm thread, belt width 9 mm | | | |
|  | 8 ... 16 | 9274 | 10 |
| | 20 ... 32 | 9276 | |
| | 16 ... 27 | 9275 | |


Straight shape

| | D1 | D2 | TNR | PE |
|---|----|------|-------|----|
| RTU – barbed tubing connector for tubing O.D. | | | | |
|  | 3 | – | 19541 | 10 |
| | 4 | 3 | 19542 | |
| | | 4 | 4805 | |
| | 6 | – | 4499 | |
| | | 6 | 4806 | |
| | 8 | – | 7605 | |
| 6 | | 7604 | | |


L-shape

| | D1 | TNR | PE |
|--|----|--------|----|
| L-PK – barbed tubing connector for tubing O.D. | | | |
|  | 3 | 19539 | 10 |
| | 4 | 7473 | |
| | 6 | 9584 | |
| | 8 | 150012 | |


T-shape

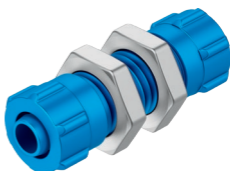
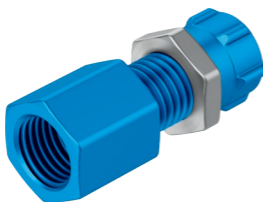
| | D1 | TNR | PE |
|---|----|--------|----|
| T-PK – barbed tubing connector for tubing O.D. | | | |
|  | 3 | 30919 | 10 |
| | 4 | 7267 | |
| | 6 | 9585 | |
| | 8 | 150015 | |

Y-shape

| | D1 | TNR | PE |
|---|----|--------|----|
| Y-PK – barbed tubing connector for tubing O.D. | | | |
|  | 3 | 19540 | 10 |
| | 4 | 7269 | |
| | 6 | 9586 | |
| | 8 | 150013 | |

Barbed T-connector

| | D1 | D2 | TNR | PE |
|---|----|----|-------|----|
| FCN for tubing O.D. | | | | |
|  | 3 | – | 19527 | 10 |
| | | 4 | 31314 | |
| | 4 | – | 14768 | |
| | | 6 | 31315 | |
| | 6 | – | 14769 | |
| | | 8 | 31316 | |
| | 8 | – | 14770 | |



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 to connect: just attach the tubing and secure it with the union nut.

- + For tubing O.D. 4 to 8 mm
- + For tubing I.D. 9 to 13 mm
- + Many variants
- + Versions: aluminium, polyamide, sealing ring, injection-moulded sealing edge



Straight shape

196



L-shape

198



T-shape

200








Accessories

201




Can be used with:

I.D. tubing → 27


Straight shape

| | D1 | D2 | TNR | PE |
|---|------|-------------------------------------|------|----|
| CK – male thread | | | | |
| Metal version, with sealing ring, for tubing O.D. | | | | |
|  | M5 | 4 | 3561 | 10 |
| | | 6 | 3562 | |
| | G1/8 | 4 | 3563 | |
| | | 6 | 2027 | |
| | | 8 | 2028 | |
| | G1/4 | 6 | 2029 | |
| | | 8 | 2030 | |
| | G3/8 | | 2032 | |
| CK – male thread | | | | |
| Metal version, with sealing ring, for tubing I.D. | | | | |
|  | G1/4 | For tubing inside diameter of 9 mm | 2031 | 10 |
| | G3/8 | For tubing inside diameter of 13 mm | 4097 | |
| | | For tubing inside diameter of 9 mm | 2033 | |
| | G1/2 | For tubing inside diameter of 13 mm | 4098 | 1 |
| CK-...-KU – male thread with moulded sealing edge | | | | |
| Polymer version, for tubing O.D. | | | | |
|  | G1/8 | 4 | 6253 | 10 |
| | | 6 | 6254 | |
| | | 8 | 6255 | |
| | G1/4 | 6 | 6256 | |
| | | 8 | 6257 | |
| | G3/8 | | 6460 | |
| CK-...-KU – male thread with moulded sealing edge | | | | |
| Polymer version, for tubing I.D. | | | | |
|  | G1/4 | For tubing inside diameter of 9 mm | 6258 | 10 |
| | G3/8 | | 6468 | |
| ACK – female thread | | | | |
| Aluminium version, with sealing ring, for tubing O.D. | | | | |
|  | G1/8 | 4 | 5664 | 10 |
| | | 6 | 3714 | |
| | G1/4 | | 3713 | |
| | G3/8 | 8 | 3711 | |
| | G1/4 | | 3712 | |
| | G1/8 | | 7842 | |


Straight shape

| | D1 | D2 | TNR | PE |
|---|---|---|-------------|----|
| ACK – female thread | | | | |
| Aluminium version, with sealing ring, for tubing I.D. | | | | |
|  | G1/2 | For tubing inside diameter of 13 mm | 4099 | 1 |
| | G3/8 | For tubing inside diameter of 9 mm | 3710 | 10 |
| QCK – bulkhead quick connector, female thread | | | | |
| Aluminium version, with sealing ring, for barbed connector I.D., with nut | | | | |
|  | G3/8 | For barbed fitting inside diameter of 9 mm with nut | 9427 | 1 |
| | G1/8 | For barbed fitting inside diameter of 4 mm with nut | 9425 | 10 |
| | G1/4 | For barbed fitting inside diameter of 6 mm with nut | 9426 | |
| | M5 | 3 | 9424 | |
| SCK – Bulkhead quick connector | | | | |
| Aluminium version, for barbed connector I.D., with union nut | | | | |
|  | For barbed fitting inside diameter of 9 mm with union nut | For barbed fitting inside diameter of 9 mm with nut | 9423 | 1 |
| | 3 | 3 | 9420 | 10 |
| | 4 | For barbed fitting inside diameter of 4 mm with nut | 9421 | |
| | 6 | For barbed fitting inside diameter of 6 mm with nut | 9422 | |



Straight shape

| | D1 | D2 | TNR | PE |
|---|---|---|------|----|
| SCK-...-KU – bulkhead quick connector, with moulded sealing edge | | | | |
| Polymer version, for barbed connector I.D., with union nut | | | | |
|  | For barbed fitting inside diameter of 9 mm with union nut | For barbed fitting inside diameter of 9 mm with nut | 9390 | 1 |
| | 3 | 3 | 9387 | 10 |
| | 4 | For barbed fitting inside diameter of 4 mm with nut | 9388 | |
| | 6 | For barbed fitting inside diameter of 6 mm with nut | 9389 | |



L-shape

| | D1 | D2 | TNR | PE |
|---|------|---|------|----|
| GCK-...-KU – male thread | | | | |
| Polymer version, for barbed connector I.D., with nut | | | | |
|  | R1/8 | For barbed fitting inside diameter of 4 mm with nut | 6267 | 10 |
| | | For barbed fitting inside diameter of 6 mm with nut | 6268 | |
| | R1/4 | For barbed fitting inside diameter of 4 mm with nut | 6269 | |
| | | For barbed fitting inside diameter of 6 mm with nut | 6270 | |
| | R3/8 | For barbed fitting inside diameter of 6 mm with nut | 6271 | |
| | | For barbed fitting inside diameter of 9 mm with nut | 6272 | |


L-shape

| | D1 | D2 | TNR | PE | |
|---|------|---|-------|----|----|
| LCK – rotatable, male thread | | | | | |
| Zinc die-cast metal version, with 2 sealing rings, for barbed connector I.D., with nut | | | | | |
|  | M5 | For barbed fitting inside diameter of 4 mm with nut | 4562 | 10 | |
| | | 3 | 4468 | | |
| | G1/8 | For barbed fitting inside diameter of 4 mm with nut | 4469 | | 10 |
| | | For barbed fitting inside diameter of 6 mm with nut | 4470 | | |
| | | 3 | 4136 | | |
| | G1/4 | For barbed fitting inside diameter of 4 mm with nut | 4471 | | 10 |
| | | For barbed fitting inside diameter of 6 mm with nut | 4472 | | |
| | | | 11452 | | |
| | G3/8 | For barbed fitting inside diameter of 9 mm with nut | 4474 | | 1 |
| | | For barbed fitting inside diameter of 6 mm with nut | 4473 | | 10 |
| G1/2 | 13 | 4100 | 1 | | |
| LCK...-KU – rotatable, male thread | | | | | |
| Polymer version, with moulded sealing edge, for barbed connector I.D., with nut | | | | | |
|  | G1/8 | For barbed fitting inside diameter of 4 mm with nut | 6259 | 10 | |
| | | For barbed fitting inside diameter of 6 mm with nut | 6260 | | |
| | G1/4 | For barbed fitting inside diameter of 4 mm with nut | 6261 | | 10 |
| | | For barbed fitting inside diameter of 6 mm with nut | 6262 | | |


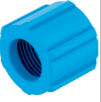

T-shape

| | D1 | D2 | TNR | PE | |
|---|------|---|------|----|---|
| TCK – rotatable, male thread | | | | | |
| Zinc die-cast metal version, with 2 sealing rings, for barbed connector I.D., with nut | | | | | |
|  | M5 | For barbed fitting inside diameter of 4 mm with nut | 4563 | 10 | |
| | | 3 | 4484 | | |
| | | For barbed fitting inside diameter of 6 mm with nut | 4486 | | |
| | G1/8 | For barbed fitting inside diameter of 4 mm with nut | 4485 | | 1 |
| | | 3 | 4137 | | |
| | | For barbed fitting inside diameter of 6 mm with nut | 4487 | | |
| | G1/4 | For barbed fitting inside diameter of 4 mm with nut | 4488 | | 1 |
| | | For barbed fitting inside diameter of 6 mm with nut | 4489 | | |
| | G3/8 | For barbed fitting inside diameter of 9 mm with nut | 4490 | | 1 |
| | | 13 | 4101 | | |
| TCK-...-KU – rotatable, male thread with moulded sealing edge | | | | | |
| Polymer version, for barbed connector I.D., with nut | | | | | |
|  | G1/8 | For barbed fitting inside diameter of 4 mm with nut | 6263 | 10 | |
| | | For barbed fitting inside diameter of 6 mm with nut | 6264 | | |
| | G1/4 | For barbed fitting inside diameter of 6 mm with nut | 6266 | | |
| | | For barbed fitting inside diameter of 4 mm with nut | 6265 | | |


T-shape

| | D1 | D2 | TNR | PE |
|---|----|---|-------------|----|
| FCK...-KU – manifold | | | | |
| Polymer version, for barbed connector I.D., with union nut | | | | |
|  | | For barbed fitting inside diameter of 9 mm with union nut | 6276 | 10 |
| | 3 | 3 | 6273 | |
| | 4 | For barbed fitting inside diameter of 4 mm with nut | 6274 | |
| | 6 | For barbed fitting inside diameter of 6 mm with nut | 6275 | |
| | | | | |

Accessories

| | D1 | TNR | PE |
|---|---|---------------|----|
| MCK – union nut | | | |
| Aluminium | | | |
|  | M12x1 | 2966 | 1 |
| | M10x1 | 2965 | |
| | M16x1 | 2967 | |
| | M22x1 | 206504 | |
| | M6x0.75 | 205254 | |
| | M8x1 | 205257 | |
| MCK-KU – union nut | | | |
| Polymer | | | |
|  | M10x1 | 211291 | 1 |
| | M6x0.75 | 211289 | |
| | M16x1 | 211293 | |
| | M12x1 | 211292 | |
| CV-PK – sealing cap | | | |
| Polyurethane | | | |
|  | For barbed fitting inside diameter of 9 mm with union nut | 6216 | 10 |
| | 3 | 6213 | |
| | 4 | 6214 | |
| | 6 | 6215 | |

Accessories

| | I.D. | TNR | PE |
|---|------|------|-----|
| CV-PC – sealing cap Polyvinyl chloride | | | |
|  | 8 | 7637 | 100 |

Configurable products

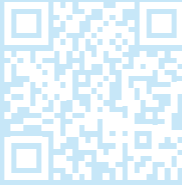


This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/ck

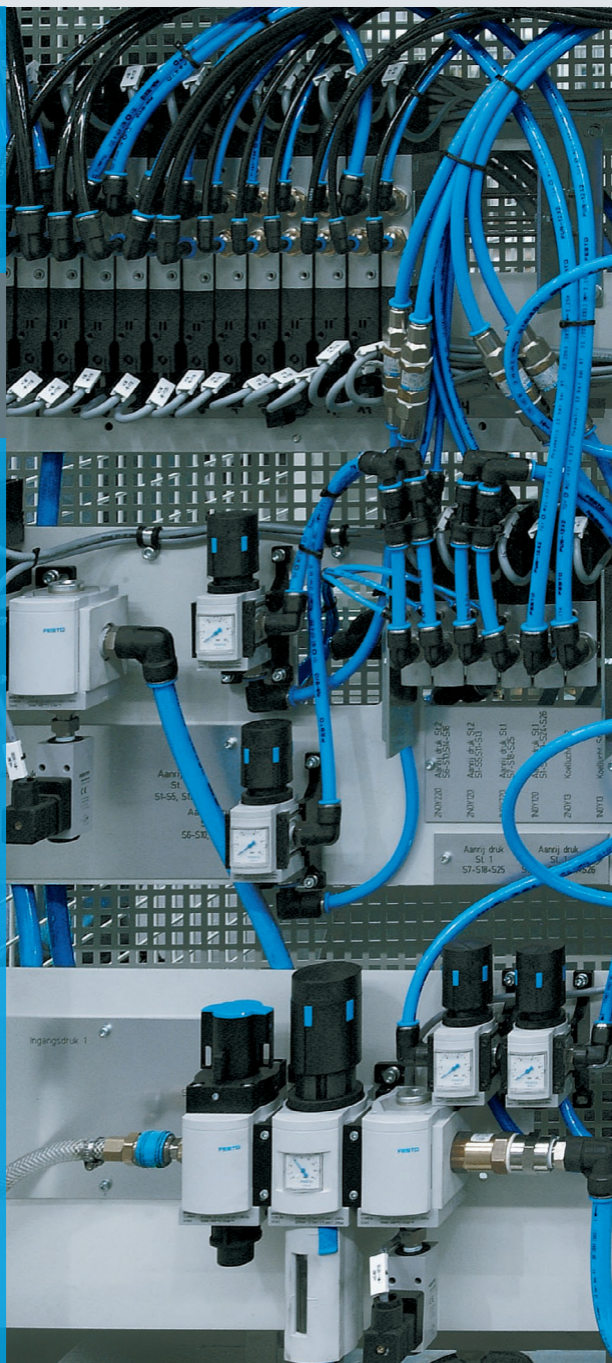


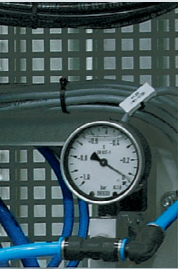
→ www.festo.com/service2see



06

Threaded fittings – Highlights





Highlights

from our range of threaded fittings

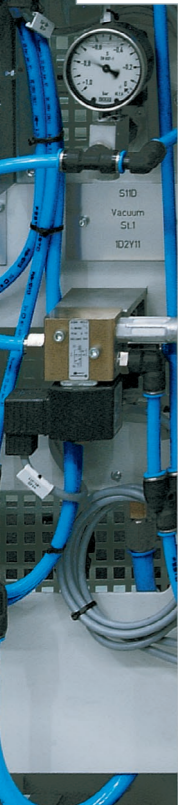


Threaded fittings

NPFC

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

→ 214





Product finder for fittings

→ www.festo.com/productfinder/fittings



The threaded fittings

The threaded fittings are ideal for the 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 $20 \text{ }^{\circ}\text{C}$: $-0.95 \dots +5 \text{ MPa}$
- + Medium: compressed air, vacuum, others on request
- + Design: nickel-plated brass





Look for our products from the Core Range ★

Threaded fittings selection aid _____ 208

Additional information:

→ www.festo.com/fitting



| | Type, description |
|---|--|
|  | <p>B, blanking plug ★</p> <p>B-F1A, blanking plug, recommended for production systems for manufacturing lithium-ion batteries</p> <p>Connection M3, M5, M7, G1/8, G1/4, G3/8, G1/2, G3/4, G1</p> |
|  | <p>NPFC, threaded fittings</p> <p>Connection M5, R1/8, R1/4, R3/8, R1/2, R3/4, R1, G1/8, G1/4, G3/8, G1/2, G3/4, G1</p> <p>Threaded connection: metric thread with sealing ring, R thread with PTFE coating, G thread with sealing ring.</p> |
|  | <p>Reducers/pipe sockets/double nipples</p> <p>Connection M3, M5, M7, R1/8, R1/4, R3/8, R1/2, G1/8, G1/4, G3/8, G1/2, G3/4, G1</p> <p>Threaded connection: metric thread with sealing ring, R thread with PTFE coating. G thread with sealing ring.</p> |
|  | <p>Ring pieces/hollow bolts/adaptors</p> <p>Connection M5, G1/8, G1/4, G3/8, 1/4 NPT</p> |

| | Page |
|----------------|--------------|
| Blanking plugs | → 211 |
| <hr/> | |
| Straight shape | → 214 |
| L-shape | → 217 |
| T-shape | → 218 |
| X-shape | → 219 |
| Y-shape | → 218 |
| <hr/> | |
| Straight shape | → 224 |
| L-shape | → 224 |
| T-shape | → 225 |
| <hr/> | |
| Ring pieces | → 228 |
| Hollow bolts | → 230 |
| Adapters | → 231 |

Blanking plugs

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 Range ★






Additional information:

→ www.festo.com/fitting



Blanking plug

| | D1 | TNR | PE |
|--|--------|----------|-----|
| B – male thread with external hexagon | | | |
| With sealing ring | | | |
|  | M3 | ★ 30979 | 10 |
| | M5 | ★ 3843 | |
| | | 534212 | 100 |
| B – male thread with internal hexagon | | | |
| With sealing ring | | | |
|  | M5 | ★ 174308 | 10 |
| | M7 | ★ 174309 | |
| | G1/8 | ★ 3568 | |
| | | 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 | | |
| B-F1A – male thread with internal hexagon | | | |
| With sealing ring | | | |
| Recommended for production facilities for manufacturing lithium-ion batteries | | | |
|  | M5 | 8142288 | 10 |
| | M7 | 8144525 | |
| | G1/8 | 8142289 | |
| | G1/4 | 8142290 | |



Additional information:

→ www.festo.com/fitting



Threaded fittings

NPFC

Connection 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

→ 214



L-shape

→ 217



T-shape

→ 230



X-shape







→ 219






Y-shape

→ 218




Straight shape

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



Straight shape

| | D1 | D2 | TNR | PE | |
|---|------|---------|---------|-----|-----|
| NPFC-D-M – double nipple | | | | | |
|  | M3 | M3 | 8069210 | 10 | |
| | M5 | M5 | 8030267 | | |
| | R1/8 | R1/8 | 8030278 | | |
| | R1/4 | R1/4 | 8030281 | | |
| | R3/8 | R3/8 | 8030284 | | |
| | R1/2 | R1/2 | 8030286 | | |
| | R3/4 | R3/4 | 8030288 | | |
| | R1 | R1 | 8030289 | | |
| | G1/8 | G1/8 | 8030269 | | 100 |
| | | | 8069212 | | |
| | G1/4 | G1/4 | 8030272 | 10 | |
| | | | 8069213 | 100 | |
| | G3/8 | G3/8 | 8030275 | 10 | |
| | | | 8069214 | 50 | |
| | G1/2 | G1/2 | 8030277 | 10 | |
| | | | 8069215 | 50 | |
| G3/4 | G3/4 | 8069217 | 10 | | |
| NPFC-D-M – double nipple | | | | | |
| Reducing | | | | | |
|  | M5 | G1/8 | 8069211 | 10 | |
| | M7 | | 8030268 | | |
| | R1/8 | R1/4 | 8030279 | | |
| | | R3/8 | 8030280 | | |
| | R1/4 | R1/2 | 8030282 | | |
| | | | 8030283 | | |
| | R3/8 | 8030285 | | | |
| | R1/2 | R3/4 | 8030287 | | |
| | G1/8 | G1/4 | 8030270 | | |
| | | G3/8 | 8030271 | | |
| | G1/4 | G1/2 | 8030273 | | |
| | | | 8030274 | | |
| | G3/8 | 8030276 | | | |
| | G1/2 | G3/4 | 8069216 | | |
| NPFC-D-M-F1A – double nipple | | | | | |
|  | G1/8 | G1/8 | 8133311 | 1 | |



Straight shape

| | D1 | D2 | TNR | PE |
|---|------|---------|---------|-----|
| NPFC-DS-M – double nipple | | | | |
| With sealing ring | | | | |
|  | M5 | M5 | 8142592 | 10 |
| | G1/8 | | 8142591 | |
| | | G1/8 | 8142583 | |
| | G1/4 | | 8142584 | |
| | | G1/4 | 8142585 | |
| | G3/8 | | 8142586 | |
| | | G3/8 | 8142588 | |
| | G1/2 | G1/4 | 8142587 | |
| | | G3/8 | 8142589 | |
| | | G1/2 | 8142590 | |
| NPFC-R-FM – reducing nipple, female/male thread | | | | |
|  | G1/8 | M5 | 8030314 | 10 |
| | G1/4 | G1/8 | 8030315 | |
| | G3/8 | | 8030316 | |
| | | G1/4 | 8030317 | |
| | G1/2 | G3/8 | 8030318 | |
| NPFC-R-MF – reducing nipple, male/female thread | | | | |
|  | M5 | M3 | 8069227 | 10 |
| | M7 | M5 | 8069228 | |
| | G1/8 | | 8030307 | |
| | G1/4 | | 8069229 | |
| | | G1/8 | 8030308 | 100 |
| | | | 8069230 | |
| | G3/8 | | 8030309 | 10 |
| | | G1/4 | 8030310 | |
| | | | 8069231 | 50 |
| | G1/2 | | 8030311 | 10 |
| | | | 8069232 | 50 |
| | | G3/8 | 8030312 | 10 |
| | | | 8069233 | 50 |
| | G3/4 | G1/4 | 8069234 | 10 |
| | | G3/8 | 8069235 | |
| | G1/2 | 8030313 | | |
| | | 8069236 | 50 | |
| G1 | | 8069237 | 10 | |
| | G3/4 | 8069238 | | |


Straight shape

| | D1 | D2 | TNR | PE |
|---|------|------|---------|----|
| NPFC-RS-FM – reducing nipple | | | | |
|  | G1/8 | M5 | 8142593 | 10 |
| | G1/4 | G1/8 | 8142594 | |
| | G3/8 | G1/4 | 8142596 | |
| | | G1/2 | 8142597 | |
| | G3/4 | G3/8 | 8142598 | |
| | | G1/2 | 8142599 | |
| | G1 | G1/2 | 8142601 | |
| | | G3/4 | 8142602 | |
| NPFC-H – bulkhead fitting | | | | |
|  | M5 | M5 | 8069239 | 10 |
| | G1/8 | G1/8 | 8069240 | |
| | G1/4 | G1/4 | 8069241 | |
| | G3/8 | G3/8 | 8069242 | |
| | G1/2 | G1/2 | 8069243 | |





L-shape

| | D1 | D2 | TNR | PE |
|---|------|------|---------|----|
| NPFC-L-F – elbow fitting, female thread | | | | |
|  | M5 | M5 | 8030208 | 10 |
| | G1/8 | G1/8 | 8030209 | |
| | G1/4 | G1/4 | 8030210 | |
| | G3/8 | G3/8 | 8030211 | |
| | G1/2 | G1/2 | 8030212 | |
| | G3/4 | G3/4 | 8030213 | |
| | G1 | G1 | 8030214 | |
| NPFC-L-MF – elbow fitting, male/female thread | | | | |
|  | M5 | M5 | 8030215 | 10 |
| | R1/8 | G1/8 | 8030216 | |
| | R1/4 | G1/4 | 8030217 | |
| | R3/8 | G3/8 | 8030218 | |
| | R1/2 | G1/2 | 8030219 | |
| | R3/4 | G3/4 | 8030220 | |
| | R1 | G1 | 8030221 | |



L-shape

| | D1 | D2 | TNR | PE |
|---|------|------|---------|----|
| NPFC-L-M – elbow fitting, male thread | | | | |
|  | M5 | M5 | 8030222 | 10 |
| | R1/8 | R1/8 | 8030223 | |
| | R1/4 | R1/4 | 8030224 | |
| | R3/8 | R3/8 | 8030225 | |
| | R1/2 | R1/2 | 8030226 | |
| | R3/4 | R3/4 | 8030227 | |



T-shape

| | D1 | D2 | TNR | PE |
|---|------|------|---------|----|
| NPFC-T-F – t-fitting, female thread | | | | |
|  | G1/8 | G1/8 | 8030235 | 10 |
| | G1/4 | G1/4 | 8030236 | |
| | G3/8 | G3/8 | 8030237 | |
| | G1/2 | G1/2 | 8030238 | |
| | G3/4 | G3/4 | 8030239 | |
| | G1 | G1 | 8030240 | |
| NPFC-T-FMF – t-fitting, female thread/male thread/female thread | | | | |
|  | M5 | M5 | 8030245 | 10 |
| | G1/8 | R1/8 | 8030246 | |
| | G1/4 | R1/4 | 8030247 | |
| | G3/8 | R3/8 | 8030248 | |
| | G1/2 | R1/2 | 8030249 | |
| | G3/4 | R3/4 | 8030250 | |
| | G1 | R1 | 8030251 | |
| NPFC-T-FMM – t-fitting, female thread/male thread/male thread | | | | |
|  | G1/8 | R1/8 | 8030255 | 10 |
| | G1/4 | R1/4 | 8030256 | |
| | G3/8 | R3/8 | 8030257 | |
| | G1/2 | R1/2 | 8030258 | |
| NPFC-T-M – t-fitting, male thread | | | | |
|  | R1/4 | R1/4 | 8030252 | 10 |
| | R3/8 | R3/8 | 8030253 | |
| | R1/2 | R1/2 | 8030254 | |


T-shape

| | D1 | D2 | TNR | PE |
|---|------|------|---------|----|
| NPFC-T-MMF – t-fitting, female thread/male thread/male thread | | | | |
|  | R1/8 | G1/8 | 8030259 | 10 |
| | R1/4 | G1/4 | 8030260 | |
| | R1/2 | G1/2 | 8030261 | |
| NPFC-Y-MFF – t-fitting, male thread/female thread/female thread | | | | |
|  | M5 | M5 | 8069244 | 10 |
| | R1/8 | G1/8 | 8030241 | |
| | R1/4 | G1/4 | 8030242 | |
| | R3/8 | G3/8 | 8030243 | |
| | R1/2 | G1/2 | 8030244 | |


Y-shape

| | D1 | D2 | TNR | PE |
|---|------|------|---------|----|
| NPFC-Y-F – y-fitting, female thread | | | | |
|  | G1/4 | G1/4 | 8030228 | 10 |
| | G3/8 | G3/8 | 8030229 | |
| | G1/2 | G1/2 | 8030230 | |
| NPFC-T-MFF – y-fitting, male thread/female thread/female thread | | | | |
|  | R1/8 | G1/8 | 8030231 | 10 |
| | R1/4 | G1/4 | 8030232 | |
| | R3/8 | G3/8 | 8030233 | |
| | R1/2 | G1/2 | 8030234 | |

X-shape

| | D1 | D2 | TNR | PE |
|---|------|------|---------|----|
| NPFC-X-F – x-fitting, female thread | | | | |
|  | G1/4 | G1/4 | 8030262 | 10 |
| | G3/8 | G3/8 | 8030263 | |
| | G1/2 | G1/2 | 8030264 | |

X-shape

| | D1 | D2 | TNR | PE |
|---|------|------|---------|----|
| NPFC-X-MFFF – x-fitting, male thread/female thread/female thread/female thread | | | | |
|  | R1/4 | G1/4 | 8030265 | 10 |
| | R1/2 | G1/2 | 8030266 | |

Configurable products

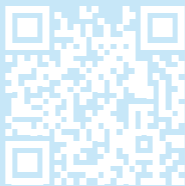


This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/npfc



→ www.festo.com/support





Additional information:

→ www.festo.com/fitting



Reducers/pipe sockets/double nipples

D, ESK, QM, LJK, TJK, FR

Connection 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

224


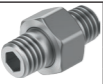


L-shape

224


T-shape

225


Straight shape

| | D1 | D2 | TNR | PE |
|---|--------------------|------|--------|----|
| D – reducing nipple, internal hexagon | | | | |
| With sealing ring | | | | |
|  | M5 | M7 | 161359 | 10 |
| ESK – double nipple | | | | |
| For angle compensation | | | | |
|  | R1/8 | R1/8 | 151520 | 1 |
| | R1/4 | R1/4 | 151521 | |
| | R3/8 | R3/8 | 151522 | |
| | R1/2 | R1/2 | 151523 | |
| ESK – double nipple | | | | |
| Reducing, for angle compensation | | | | |
|  | R1/8 | R1/4 | 534151 | 1 |
| | | R3/8 | 534155 | |
| | R1/4 | R1/2 | 534153 | |
| | | R3/8 | 534154 | |
| | QM – sleeve | | | |
|  | M5 | M5 | 3560 | 10 |
| | G1/8 | G1/8 | 2254 | |
| | G1/4 | G1/4 | 2255 | |
| | G3/8 | G3/8 | 2256 | |
| | G1/2 | G1/2 | 2257 | |
| | G3/4 | G3/4 | 4226 | |
| | G1 | G1 | 9968 | |



L-shape

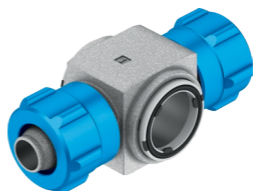
| | D1 | TNR | PE |
|---|------|------|----|
| LJK – elbow fitting | | | |
| With sealing ring | | | |
|  | G1/8 | 4945 | 1 |
| | G1/4 | 4946 | |
| | G3/8 | 4947 | |
| | G1/2 | 4948 | |

L-shape

| | D1 | TNR | PE |
|---|------|------|----|
| G – elbow | | | |
| With sealing ring | | | |
|  | M5 | 3558 | 10 |
| | G1/8 | 3614 | |
| | G1/4 | 3615 | |
| | G3/8 | 3616 | 1 |

T-shape

| | D1 | TNR | PE |
|---|------|-------|----|
| TJK – t-fitting | | | |
| With sealing ring | | | |
|  | M3 | 15874 | 10 |
| | G1/8 | 4949 | 1 |
| | G1/4 | 4950 | |
| | G3/8 | 4951 | |
| | G1/2 | 4952 | |
| FR – distributor | | | |
| T-distributor, with sealing ring | | | |
|  | M5 | 3559 | 10 |
| | G1/8 | 3583 | |
| | G1/4 | 3586 | |
| | G3/8 | 3587 | 1 |



Additional information:

→ www.festo.com/fitting



Ring pieces/hollow bolts/adapters

LK, TK, VT, NPFV

Connection M5, G1/8, G1/4, G3/8, 1/4 NPT



Ring pieces

228




Hollow bolts

230


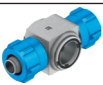
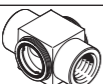
Adapters

231



Multiple distributor

| | D1 | D2 | TNR | PE |
|---|------|---|------|----|
| LK – ring piece, L-shape | | | | |
| Die-cast zinc version | | | | |
|  | M5 | 3 | 4475 | 10 |
| | G1/8 | For barbed fitting inside diameter of 4 mm with nut | 4476 | |
| | | For barbed fitting inside diameter of 6 mm with nut | 4477 | |
| | | 3 | 4597 | |
| | G1/4 | For barbed fitting inside diameter of 4 mm with nut | 4478 | |
| | | For barbed fitting inside diameter of 6 mm with nut | 4479 | |
| | G3/8 | For barbed fitting inside diameter of 6 mm with nut | 4480 | 1 |
| LK – ring piece, T-shape | | | | |
| Female thread, with 2 sealing rings | | | | |
|  | G1/8 | G1/8 | 9181 | 1 |
| | G1/4 | G1/4 | 9173 | |
| | G3/8 | G3/8 | 9175 | |
| LK-KU – ring piece, L-shape | | | | |
| Polymer version, for tubing I.D. | | | | |
|  | G1/8 | For barbed fitting inside diameter of 4 mm with nut | 6280 | 10 |
| | | For barbed fitting inside diameter of 6 mm with nut | 6281 | |
| | G1/4 | For barbed fitting inside diameter of 4 mm with nut | 6282 | |
| | | For barbed fitting inside diameter of 6 mm with nut | 6283 | |


Multiple distributor

| | D1 | D2 | TNR | PE |
|---|------------------------------------|---|------|----|
| TK – ring piece, L-shape | | | | |
| Die-cast zinc version | | | | |
|  | M5 | 3 | 4491 | 1 |
| | G1/8 | For barbed fitting inside diameter of 4 mm with nut | 4492 | |
| | | For barbed fitting inside diameter of 6 mm with nut | 4493 | |
| | | 3 | 4598 | |
| | G1/4 | For barbed fitting inside diameter of 6 mm with nut | 4495 | |
| | | For barbed fitting inside diameter of 4 mm with nut | 4494 | |
| | G3/8 | For barbed fitting inside diameter of 6 mm with nut | 4496 | |
| | TK-KU – ring piece, T-shape | | | |
| Polymer version, for tubing I.D. | | | | |
|  | G1/8 | For barbed fitting inside diameter of 6 mm with nut | 6285 | 1 |
| | | For barbed fitting inside diameter of 4 mm with nut | 6284 | |
| | G1/4 | For barbed fitting inside diameter of 6 mm with nut | 6287 | |
| | | For barbed fitting inside diameter of 4 mm with nut | 6286 | |
| TK – ring piece | | | | |
| Female thread, with 2 sealing rings | | | | |
|  | G1/8 | G1/8 | 9182 | 1 |
| | G1/4 | G1/4 | 9174 | |
| | G3/8 | G3/8 | 9176 | |

Multiple distributor

| | D1 | D2 | TNR | PE |
|---|---|---|--------|----|
| VF...-2 – hollow bolt with sealing ring | | | | |
| Die-cast zinc version, for 2 ring pieces with D2 | | | | |
|  | M5 | 3 | 206145 | 1 |
| | G1/8 | – | 4593 | |
| | | G1/8 | 206146 | |
| | G1/4 | For barbed fitting inside diameter of 4 mm with nut | 206147 | |
| G3/8 | For barbed fitting inside diameter of 6 mm with nut | 206148 | | |
| VF...-3 – hollow bolt with sealing ring | | | | |
| Die-cast zinc version, for 3 ring pieces with D2 | | | | |
|  | M5 | – | 4594 | 1 |
| | G1/8 | – | 4596 | |
| | | 3 | 4595 | |
| | G1/4 | – | 2335 | |
| | G3/8 | – | 2336 | |

Adapter with filter

| | D1 | D2 | TNR | PE |
|---|---------|---------|---------|----|
| NPFV – adapter | | | | |
| High-alloy steel | | | | |
|  | G1/4 | G1/4 | 563398 | 1 |
| | | 1/4 NPT | 563397 | |
| | 1/4 NPT | | 4727333 | |

07

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 is fitted
- + Also suitable for pipes with appropriate slot

→ 236

07

Click fittings for standard O.D. tubing – Overview



Product finder for fittings

→ www.festo.com/productfinder/fittings



NPKA makes changing tubing extremely easy

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

The audible click indicates that the connection is firm, secure and leak-proof, even if you connect and disconnect often. The light, corrosion-free polymer has lots of advantages: it is free of non-ferrous metals, fluoride, silicone and grease, FDA-conform, and it is suitable for cleanrooms.

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 – solely made of polymer
- + Clean look without corners or edges for easy cleaning

Selection aid

| | |
|----------------------|------------|
| Straight shape _____ | 236 |
| L-shape _____ | 236 |
| T-shape _____ | 236 |


Additional information:

→ www.festo.com/fittings


**Can be used for:**

O.D. tubing → **18**


Straight shape

| | D1 | D2 | TNR | PE |
|---|------|----|---------|----|
| NPKA – click fitting, male thread with internal hexagon | | | | |
|  | G1/8 | 6 | 1243489 | 10 |

L-shape

| | D1 | D2 | TNR | PE |
|--|------|----|---------|----|
| CQA – elbow click fitting, male thread with external hexagon Polymer version, for water separator | | | | |
|  | G1/8 | 6 | 1655429 | 10 |

T-shape

| | D1 | D2 | TNR | PE |
|---|----|----|---------|----|
| NPKA-T – click T-connector | | | | |
|  | 6 | 6 | 1590710 | 10 |

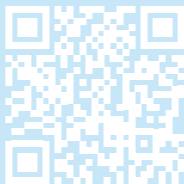
Configurable products



This product and all its product options can be ordered online via the configurator:
 → www.festo.com/catalogue/npka



→ www.festo.com/service2see



08

Push-in fittings for pipes – Highlights



Highlights

from our range of 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.
- **242**



Product finder for fittings

→ www.festo.com/productfinder/fittings



A comprehensive range of nominal widths

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

Suitable for polyamide and aluminium pipes.

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

- + Suitable for plastic tubing PAN-R with O.D. 22 and 28 mm
- + For compressed air, vacuum and liquids
- + Can be re-used multiple times
- + Plug connector materials FDA-approved

Selection aid

| | |
|-----------------------|-----------|
| Straight shape _____ | 242 , 244 |
| Distributors _____ | 242 |
| L-shape _____ | 245 |
| T-shape _____ | 246 |
| Fluid separator _____ | 246s |
| Accessories _____ | 243, 247 |

Additional information:



→ www.festo.com/fitting



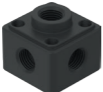
Can be used with:

Pipes → 64



Straight shape

| | D1 | D2 | TNR | PE | |
|---|------|---|---|----|--------|
| CQ – push-in fitting | | | | | |
| With sealing ring | | | | | |
|  | G3/8 | For pipe/tubing outside diameter of 12 mm | 177682 | 1 | |
| | G1/2 | | 177683 | | |
| | | | For pipe/tubing outside diameter of 15 mm | | 177684 |
| | | | 18 | | 177685 |
| | G3/4 | For pipe/tubing outside diameter of 22 mm | 177686 | | |
| CQ-...H – push-in fitting, with push-in sleeve | | | | | |
| With sealing ring | | | | | |
|  | G3/8 | 12 | 177705 | 1 | |
| | | 15 | 177707 | | |
| | G1/2 | 12 | 177706 | | |
| | | 15 | 177708 | | |
| | | 18 | 177709 | | |
| | | 22 | 177710 | | |
| | G3/4 | | 177711 | | |
| | G1 | 28 | 194589 | | |

Distributors

| | D1 | D2 | TNR | PE |
|---|------|------|--------|----|
| CQD | | | | |
| With 3 blanking plugs | | | | |
|  | G1/2 | G1/2 | 177717 | 1 |

Accessories

| | D1 | TNR | PE |
|--|---|--------|----|
| CQSR – retaining ring prevents the tubing/pipe connection coming loose unintentionally | | | |
|  | For pipe/tubing outside diameter of 12 mm | 175727 | 10 |
| | For pipe/tubing outside diameter of 18 mm | 175729 | |
| | 15 | 175728 | |
| | 22 | 175730 | |
| CQO – releasing tool | | | |
|  | 15 | 175725 | 1 |
| | 22 | 175726 | |





Configurable products




This product and all its product options can be ordered online via the configurator:
→ www.festo.com/catalogue/cq




Straight shape

| | D1 | D2 | TNR | PE |
|---|--|--|---------------|----|
| CQ – Push-in connector | | | | |
|  | For pipe/ tubing outside diameter of 12 mm | For pipe/tubing outside diameter of 12 mm | 177695 | 1 |
| | For pipe/ tubing outside diameter of 28 mm | For pipe/tubing outside diameter of 28 mm | 194586 | |
| | For pipe/ tubing outside diameter of 18 mm | 18 | 177697 | |
| | 15 | For pipe/tubing outside diameter of 15 mm | 177696 | |
| | 22 | For pipe/tubing outside diameter of 22 mm | 177698 | |
| | | | | |
| CQ-...H – Push-in connector with push-in sleeve | | | | |
| Reducing | | | | |
|  | 15 | For pipe/tubing outside diameter of 12 mm | 177701 | 1 |
| | 18 | For pipe/tubing outside diameter of 15 mm | 177702 | |
| | | 18 | 177703 | |
| | 22 | 18 | 177704 | |
| | | For pipe/tubing outside diameter of 22 mm | 196231 | |
| | | | | |
| CQH – Push-in sleeve | | | | |
| Connects CQ with QS fittings | | | | |
|  | 15 | 12 | 177721 | 1 |
| | 18 | 16 | 177722 | |
| | 22 | | 177723 | |
| | | | | |
| CQC – blanking plug | | | | |
|  | 12 | 12 | 177712 | 1 |
| | 15 | 15 | 177713 | |
| | 18 | 18 | 177714 | |
| | 22 | 22 | 177715 | |
| | 28 | 28 | 194590 | |


L-shape

| | D1 | D2 | TNR | PE |
|---|---|---|---------------|----|
| CQL – Push-in L-connector | | | | |
|  | For pipe/tubing outside diameter of 12 mm | For pipe/tubing outside diameter of 12 mm | 177691 | 1 |
| | For pipe/tubing outside diameter of 28 mm | For pipe/tubing outside diameter of 28 mm | 194587 | |
| | For pipe/tubing outside diameter of 18 mm | 18 | 177693 | |
| | 15 | For pipe/tubing outside diameter of 15 mm | 177692 | |
| | 22 | For pipe/tubing outside diameter of 22 mm | 177694 | |



T-shape

| | D1 | D2 | TNR | PE |
|---|---|---|---------------|----|
| CQT – Push-in T-connector | | | | |
|  | For pipe/tubing outside diameter of 12 mm | For pipe/tubing outside diameter of 12 mm | 177687 | 1 |
| | For pipe/tubing outside diameter of 28 mm | For pipe/tubing outside diameter of 28 mm | 194588 | |
| | For pipe/tubing outside diameter of 18 mm | 18 | 177689 | |
| | 15 | For pipe/tubing outside diameter of 15 mm | 177688 | |
| | 22 | For pipe/tubing outside diameter of 22 mm | 177690 | |



T-shape

| | D1 | D2 | TNR | PE |
|---|--|--|---------------|----|
| CQT – Push-in T-connector | | | | |
| Reducing | | | | |
|  | For pipe/ tubing outside diameter of 18 mm | For pipe/tubing outside diameter of 15 mm | 177699 | 1 |
| | 22 | | 177700 | |

Fluid separator

| | D1 | D2 | TNR | PE |
|---|----|--|---------------|----|
| CQA | | | | |
| Polymer version | | | | |
|  | 22 | For pipe/tubing outside diameter of 22 mm | 177716 | 1 |
| CQA | | | | |
| Brass | | | | |
| Creates a water separator with push-in connector CQT | | | | |
|  | 28 | 28 | 196984 | 1 |

Accessories

| | D1 | TNR | PE |
|---|---|--------|----|
| CQSR – Retaining ring | | | |
| Prevents the tubing/pipe connection coming loose unintentionally | | | |
|  | For pipe/tubing outside diameter of 12 mm | 175727 | 10 |
| | For pipe/tubing outside diameter of 18 mm | 175729 | |
| | 15 | 175728 | |
| | 22 | 175730 | |
| CQO – Releasing tool | | | |
|  | 15 | 175725 | 1 |
| | 22 | 175726 | |

Configurable products



This product and all its product options can be ordered online via the configurator:
 → www.festo.com/catalogue/cq





Highlights

from our range of couplings

Coupling socket and plug

NPHS ★

- + Connection for male thread G1/8, G1/4, G3/8, G1/2
 - + Connection for female thread G1/4, G3/8, G1/2
 - + Connection for barbed connector N9
 - + Shut off at one side
- 256





A comprehensive range of nominal widths

The Festo 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 connecting and disconnecting components.

- + Easy and safe to use
- + 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 Range ★

Selection aid _____ 252

Additional information:

→ www.festo.com/couplings



| | Type, description |
|---|---|
|  | <p>NPFS, safety coupling ★</p> <p>Size 6</p> <p>Connection for male thread G1/8, G1/4, G3/8, G1/2</p> <p>Connection for female thread G1/4, G3/8, G1/2</p> <p>Connection for barbed connector N-9</p> <p>Shut off on one side</p> <p>Safety exhaust couplings with coupling sockets</p> <p>NPFS-D6 with metal unlocking sleeve fulfil the requirements for pneumatic systems to EN ISO 4414.</p> |
|  | <p>KD, coupling sockets ★</p> <p>Sizes 1, 2, 3, 4</p> <p>Connection M3, M5, G1/8, G1/4, G3/8, G1/2, quick connector CK-3, CK-4, CK-6, CK-9, N-9</p> <p>Diameter 2, 3, 4, 6, 9, 13 mm</p> <p>Threaded connection, metric thread with sealing ring, G thread with sealing ring, shut off one side, shut off on both sides</p> |
|  | <p>KS, quick coupling plugs</p> <p>Sizes 1, 2, 3, 4</p> <p>Connection M5, G1/8, G1/4, G3/8, G1/2, G3/4, G1, quick connector CK-3, CK-4, CK-6, CK-9, barbed fitting CN-2, N-9</p> <p>Threaded connection, metric thread with sealing ring, G thread with sealing ring</p> |
|  | <p>KSV, KDVF, multiple connectors</p> <p>Multi-plugs KSV and suitable barbed connectors</p> <p>Multi-sockets KDVF and suitable terminal sockets</p> <p>For up to 32 cables</p> |
|  | <p>KM, multi-tube connectors</p> <p>For up to 22 cables</p> |

| | Page |
|------------------------------|--------------|
| <u>Coupling sockets</u> | → 256 |
| <u>Quick coupling plugs</u> | → 256 |
| | |
| | |
| <u>Coupling sockets</u> | → 260 |
| | |
| | |
| <u>Quick coupling plugs</u> | → 260 |
| | |
| | |
| <u>Multiple connectors</u> | → 268 |
| | |
| | |
| <u>Multi-tube connectors</u> | → 268 |
| | |



Additional information:

→ www.festo.com/couplings



Coupling sockets and quick coupling plugs

NPHS ★

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

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

Connection for barbed connector N9

Look for our products from the Core Range ★



Coupling sockets







256




Quick coupling plugs

256

Coupling socket, size 6, shut-off on one side

| | D1 | TNR | PE |
|---|------|-----------|----|
| NPHS – Safety coupling, male thread | | | |
| Polymer releasing sleeve | | | |
|  | G1/8 | 8059266 | 1 |
| | G1/4 | ★ 8059267 | |
| | G3/8 | ★ 8059268 | |
| | G1/2 | ★ 8059269 | |
| NPHS – Safety coupling, male thread | | | |
| Metal releasing sleeve | | | |
|  | G1/4 | 8059275 | 1 |
| | G3/8 | 8059276 | |
| | G1/2 | 8059277 | |
| NPHS – Safety coupling, female thread | | | |
| Polymer releasing sleeve | | | |
|  | G1/4 | 8059271 | 1 |
| | G1/2 | 8059273 | |
| | G3/8 | 8059272 | |
| NPHS – Safety coupling, for plug-in nipple | | | |
| Polymer releasing sleeve | | | |
|  | 9 | 8059274 | 1 |
| NPHS-S6 – Quick coupling plug | | | |
| Safety coupling, male thread | | | |
|  | G1/8 | ★ 8059257 | 10 |
| | G1/4 | ★ 8059258 | |
| | G3/8 | ★ 8059259 | |
| | G1/2 | ★ 8059260 | |
| NPHS-S6 – Quick coupling plug | | | |
| Safety coupling, female thread | | | |
|  | G1/4 | ★ 8059262 | 10 |
| | G3/8 | ★ 8059263 | |
| | G1/2 | ★ 8059264 | |

Coupling socket, size 6, shut-off on one side

| D1 | TNR | PE |
|--|-----|------------|
| NPHS-S6 – Quick coupling plug Safety coupling, for plug-in nipple | | |
|  | 9 | 8059265 10 |

Configurable products



This product and all its product options can be ordered online via the configurator:
 → www.festo.com/catalogue/nphs





Additional information:

→ www.festo.com/couplings



Coupling sockets and quick coupling plugs

KD/KS ★

Sizes 1, 2, 3, 4

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

Quick connector CK-3, CK-4, CK-6, CK-9,

Barbed fitting CN-2, N-6, N-9

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

Look for our products from the Core Range ★



Coupling socket



| | |
|--------|------------|
| Size 1 | 260 |
| Size 2 | 260 |
| Size 3 | 261 |
| Size 4 | 263 |






Quick coupling plugs

| | |
|--------|------------|
| Size 1 | 260 |
| Size 2 | 261 |
| Size 3 | 262 |
| Size 4 | 264 |




Size 1, shut-off at one end

| | D1 | TNR | PE |
|---|------|--------|----|
| KD1 – Coupling socket Plug-in coupling, male thread | | | |
|  | M3 | 151995 | 1 |
| KS1 – Quick coupling plug Plug-in coupling, barbed fitting | | | |
|  | CN-2 | 151996 | 1 |



Size 2, shut-off at one end

| | D1 | TNR | PE |
|---|------|--------|----|
| KD2 – Coupling socket Plug-in coupling, male thread | | | |
|  | M5 | 4087 | 1 |
| KD2 – Coupling socket Plug-in coupling, female thread | | | |
|  | M5 | 531620 | 1 |
| KD2 – Coupling socket Plug-in coupling, quick connector with union nut | | | |
|  | CK-3 | 531621 | 1 |
| | CK-4 | 531622 | |





Size 2, shut-off at one end

| | D1 | TNR | PE |
|--|------|--------|----|
| KS2 – Quick coupling plug Plug-in coupling, male thread | | | |
|  | M5 | 531658 | 1 |
| KS2 – Quick coupling plug Plug-in coupling, female thread | | | |
|  | M5 | 531660 | 1 |
| KS2 – Quick coupling plug Plug-in coupling, quick connector with union nut | | | |
|  | CK-3 | 4091 | 1 |
| | CK-4 | 4090 | |


Size 3, shut-off at one end

| | D1 | TNR | PE |
|---|------|--------|----|
| KD3 – Coupling socket Plug-in coupling, male thread | | | |
|  | G1/8 | 2142 | 1 |
| | G1/4 | 531626 | |
| KD3 – Coupling socket Plug-in coupling, female thread | | | |
|  | G1/4 | 531628 | 1 |
| | G1/8 | 531627 | |

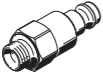
Size 3, shut-off at one end

| | D1 | TNR | PE |
|--|------|--------|----|
| KD3 – Coupling socket Plug-in coupling, quick connector with union nut | | | |
|  | CK-4 | 531629 | 1 |
| | CK-6 | 531630 | |
| KS3 – Quick coupling plug Plug-in coupling, male thread | | | |
|  | G1/8 | 3492 | 1 |
| | G1/4 | 531666 | |
| KS3 – Quick coupling plug Plug-in coupling, female thread | | | |
|  | G1/8 | 531668 | 1 |
| | G1/4 | 531669 | |
| KS3 – Quick coupling plug Plug-in coupling, quick connector with union nut | | | |
|  | CK-4 | 3326 | 1 |
| | CK-6 | 3478 | |





Size 3, shut-off at both ends

| | D1 | TNR | PE |
|---|------|--------|----|
| KD3-R – Coupling socket Plug-in coupling, male thread | | | |
|  | G1/8 | 531659 | 1 |



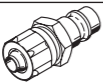

Size 3, shut-off at both ends

| | D1 | TNR | PE |
|---|------|--------|----|
| KS3-R – Quick coupling plug Plug-in coupling, male thread | | | |
|  | G1/8 | 531667 | 1 |


Size 4, shut-off at one end

| | D1 | TNR | PE |
|---|------|--------|----|
| KD4 – Coupling socket Plug-in coupling, male thread | | | |
|  | G1/4 | ★ 2143 | 1 |
| | G3/8 | ★ 2144 | |
| | G1/2 | ★ 2145 | |
| KD4 – Coupling socket Plug-in coupling, female thread | | | |
|  | G1/4 | 531636 | 1 |
| | G3/8 | 531637 | |
| | G1/2 | 531638 | |
| KD4 – Coupling socket Plug-in coupling, quick connector with union nut | | | |
|  | CK-6 | 531639 | 1 |
| | CK-9 | 531640 | |
| KD4 – Coupling socket Plug-in coupling, barbed fitting | | | |
|  | N-9 | 531641 | 1 |


Size 4, shut-off at one end

| | D1 | TNR | PE |
|--|------|--------|----|
| KS4 – Quick coupling plug Plug-in coupling, male thread | | | |
|  | G1/4 | 2154 | 1 |
| | G3/8 | 2155 | |
| | G1/2 | 531676 | |
| KS4 – Quick coupling plug Plug-in coupling, female thread | | | |
|  | G1/4 | 531678 | 1 |
| | G3/8 | 531679 | |
| | G1/2 | 531680 | |
| KS4 – Quick coupling plug Plug-in coupling, quick connector with union nut | | | |
|  | CK-4 | 2150 | 1 |
| | CK-6 | 2151 | |
| | CK-9 | 531683 | |
| KS4 – Quick coupling plug Plug-in coupling, barbed fitting | | | |
|  | N-6 | 2152 | 1 |
| | N-9 | 2153 | |

Size 4, shut-off at both ends

| | D1 | TNR | PE |
|---|------|--------|----|
| KD4-R – Coupling socket Plug-in coupling, male thread | | | |
|  | G1/4 | 531694 | 1 |

Size 4, shut-off at both ends

| | D1 | TNR | PE |
|---|------|--------|----|
| KS4-R – Quick coupling plug Plug-in coupling, male thread | | | |
|  | G1/4 | 531677 | 1 |

Configurable products




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

→ www.festo.com/catalogue/kd



Accessories

| | D1 | TNR | PE |
|---|---------|--------|----|
| MCK – Union nut Wrought aluminium alloy | | | |
|  | M6x0.75 | 533672 | 1 |
| | M10x1 | 533673 | |
| | M12x1 | 533674 | |
| | M16x1 | 533675 | |
| | M22x1 | 533676 | |



09

Multiple connectors KSV/KDVF, KM

Additional information:

→ www.festo.com/couplings



Multiple connectors

KSV/KDVF

Multi-plugs KSV and suitable barbed connectors

Multi-sockets KDVF and suitable terminal sockets

Multi-tube connector

KM

Coupling KM and suitable terminal sockets



Multi-plugs KSV

268



Multi-sockets KDVF

268



Accessories

268



Coupling


269




Accessories

269



Multi-plug

| | Max. number of connections | D1 | TNR | PE |
|---|----------------------------|------|--------|----|
| Male thread KSV | | | | |
|  | 5 | PK-2 | 7557 | 1 |
| | 7 | PK-6 | 152506 | |
| | 8 | PK-2 | 7558 | |
| | 12 | PK-6 | 152507 | |
| | 16 | PK-2 | 7559 | |
| | 22 | PK-6 | 152508 | |
| | 32 | PK-2 | 7560 | |


Multi-sockets

| | Max. number of connections | D1 | TNR | PE |
|---|----------------------------|------|--------|----|
| Male thread KDVF | | | | |
|  | 5 | PK-2 | 7562 | 1 |
| | 7 | PK-6 | 152509 | |
| | 8 | PK-2 | 7563 | |
| | 12 | PK-6 | 152510 | |
| | 16 | PK-2 | 7564 | |
| | 22 | PK-6 | 152511 | |
| | 32 | PK-2 | 7565 | |


Accessories

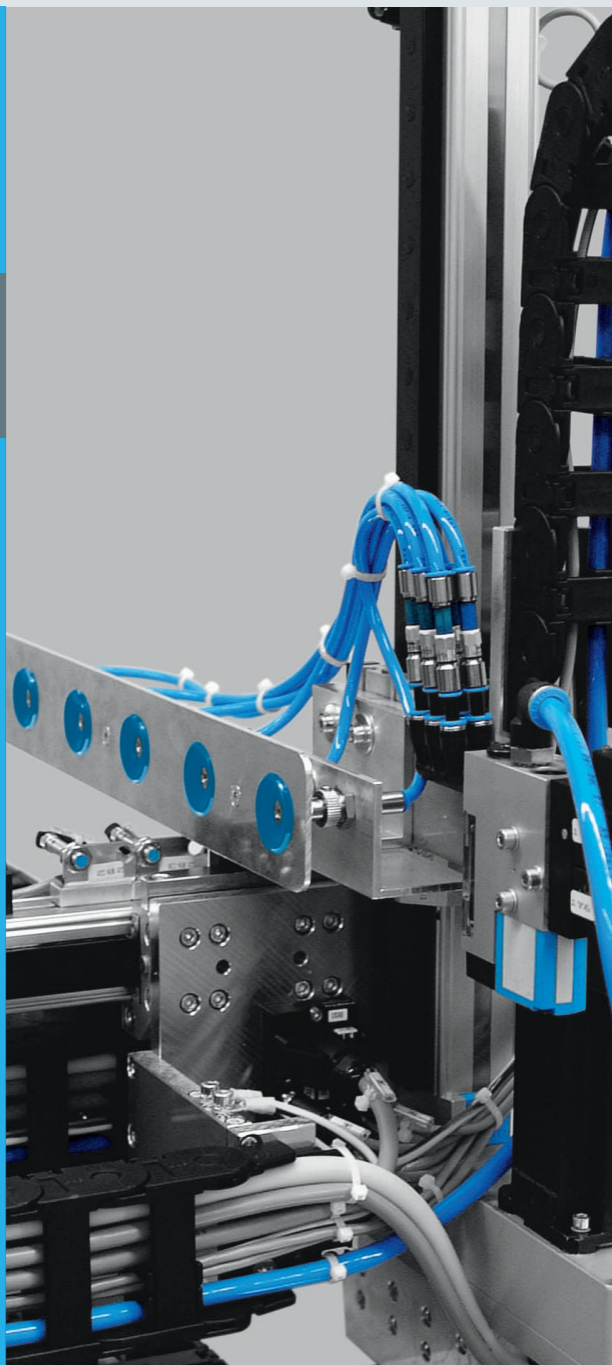
| | D1 | TNR | PE |
|---|----|--------|----|
| Barbed fitting KSV | | | |
|  | 3 | 33384 | 10 |
| | 4 | 7215 | |
| | 6 | 7216 | |
| | 8 | 117945 | |
| Terminal socket KDVF | | | |
|  | 3 | 244937 | 10 |
| | 4 | 208378 | |
| | 6 | 208380 | |
| | 8 | 337348 | |

Coupling

| | Max. number of con- nections | D1 | TNR | PE |
|---|---------------------------------------|----|-------|----|
| KM – Multi-tube connector | | | | |
| Barbed connector connections for plastic tubing | | | | |
|  | 22 | 4 | 13694 | 1 |

Accessories

| | D1 | TNR | PE |
|--|----|--------|----|
| KDV – Terminal socket | | | |
| For multi-tube connector KM | | | |
|  | 3 | 244937 | 10 |
| | 4 | 208378 | |
| | 6 | 208380 | |



Highlights

from our range of 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

→ 274

Rotary distributors

GF



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

→ 275

Multiple distributors

QSLV...



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

→ 276



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 reliable transfer of media from stationary sources to fixed or rotating machine parts.






- + Distributor blocks FR
 - 1 or 2 supply lines, 3 to 12 outlets _____ **274**
- + Rotary distributor GF with 1 or 2 supply lines, radial and axial outlets, sturdy design with double ball bearings for protection against mechanical loads
 - Single _____ **275**
 - Double _____ **275**
- + Multiple distributors of the series QS in many variants with up to 6 outlets
 - Straight shape QSQ, 4 outlets _____ **276**
 - L-shape QSLV, 2 ... 6 outlets _____ **276**
 - L-shape QST3, 4 outlets _____ **279**
 - L-shape QSYTF, 3 outlets _____ **279**

Additional information:


→ www.festo.com/pneumatic-distributors




Distributor blocks

| | D1 | D2 | TNR | PE |
|---|------|------|-------|----|
| FR-4 | | | | |
| 1 supply line, 3 outlets | | | | |
|  | G1/4 | G1/4 | 7849 | 1 |
| | | | 2960 | |
| | G1/8 | G1/8 | 6701 | |
| | G3/8 | G3/8 | 6703 | |
| | G1/2 | G1/2 | 6704 | |
| FR-8 | | | | |
| 1 supply line, 8 outlets | | | | |
|  | G3/8 | G1/8 | 2077 | 1 |
| | G1/2 | G1/4 | 2078 | |
| | G3/4 | G1/2 | 6411 | |
| FR-9 | | | | |
| 1 supply line, 9 outlets | | | | |
|  | G1/8 | M3 | 30981 | 1 |
| FR-12 | | | | |
| 1 supply line, 12 outlets | | | | |
|  | G1/8 | M5 | 4525 | 1 |
| FR-12 | | | | |
| 1 supply line, 12 outlets | | | | |
|  | G1/4 | 4 | 8761 | 1 |
| | | 6 | 8762 | |






Rotary distributor, single

| | D1 | D2 | TNR | PE |
|---|------|------|--------|----|
| GF | | | | |
| 1 axial input, 4 radial outputs | | | | |
|  | G1/8 | M5 | 539290 | 1 |
| | G1/4 | G1/8 | 539291 | |
| | G1/2 | G1/4 | 539292 | |




Rotary distributor, dual

| | D1 | D2 | TNR | PE |
|--|------|------|--------|----|
| GF | | | | |
| 2 separate inputs and outputs | | | | |
| Inputs: axial and radial, outputs: radial | | | | |
|  | G1/8 | G1/8 | 539287 | 1 |
| | G1/4 | G1/4 | 539288 | |
| | G1/2 | G1/2 | 539289 | |




Multiple distributors

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






Multiple distributors

| | D1 | D2 | TNR | PE | | |
|---|-------------------------------------|----|--------|----|--|--|
| QSLV3 – L-shape | | | | | | |
| 3 outlets | | | | | | |
|  | R1/8 | 4 | 153221 | 1 | | |
| | | 6 | 153222 | | | |
| | | 8 | 153224 | | | |
| | R1/4 | 6 | 153223 | | | |
| | | 8 | 153225 | | | |
| | | 10 | 153227 | | | |
| | R3/8 | 8 | 153226 | | | |
| | | 10 | 153228 | | | |
| | | 12 | 153229 | | | |
| | R1/2 | | 153230 | | | |
| | QSLV3 – L-shape | | | | | |
| | 3 outlets, with sealing ring | | | | | |
|  | G1/8 | 4 | 186233 | 1 | | |
| | | 6 | 186234 | | | |
| | | 8 | 186236 | | | |
| | G1/4 | 6 | 186235 | | | |
| | | 8 | 186237 | | | |
| | | 10 | 186239 | | | |
| | G3/8 | 8 | 186238 | | | |
| | | 10 | 186240 | | | |
| | | 12 | 186241 | | | |
| | G1/2 | | 186242 | | | |
| | QSLV4 – L-shape | | | | | |
| | 4 outlets | | | | | |
|  | R1/8 | 4 | 153231 | 1 | | |
| | | 6 | 153232 | | | |
| | | 8 | 153234 | | | |
| | R1/4 | 6 | 153233 | | | |
| | | 8 | 153235 | | | |
| | | 10 | 153237 | | | |
| | R3/8 | 8 | 153236 | | | |
| | | 10 | 153238 | | | |
| | | 12 | 153239 | | | |
| | R1/2 | | 153240 | | | |

Multiple distributors

| | D1 | D2 | TNR | PE | | |
|---|-------------------------------------|----|--------|----|--|--|
| QSLV4 – L-shape | | | | | | |
| 4 outlets, with sealing ring | | | | | | |
|  | G1/8 | 4 | 186243 | 1 | | |
| | | 6 | 186244 | | | |
| | | 8 | 186246 | | | |
| | G1/4 | 6 | 186245 | | | |
| | | 8 | 186247 | | | |
| | | 10 | 186249 | | | |
| | G3/8 | 8 | 186248 | | | |
| | | 10 | 186250 | | | |
| | | 12 | 186251 | | | |
| | G1/2 | | 186252 | | | |
| | QSLV6 – L-shape | | | | | |
| | 6 outlets | | | | | |
|  | R1/8 | 4 | 153241 | 1 | | |
| | | 6 | 153242 | | | |
| | | 8 | 153244 | | | |
| | R1/4 | 6 | 153243 | | | |
| | | 8 | 153245 | | | |
| | | 10 | 153247 | | | |
| | R3/8 | 8 | 153246 | | | |
| | | 10 | 153248 | | | |
| | | 12 | 153249 | | | |
| | R1/2 | | 153250 | | | |
| | QSLV6 – L-shape | | | | | |
| | 6 outlets, with sealing ring | | | | | |
|  | G1/8 | 4 | 186253 | 1 | | |
| | | 6 | 186254 | | | |
| | | 8 | 186256 | | | |
| | G1/4 | 6 | 186255 | | | |
| | | 8 | 186257 | | | |
| | | 10 | 186259 | | | |
| | G3/8 | 8 | 186258 | | | |
| | | 10 | 186260 | | | |
| | | 12 | 186261 | | | |
| | G1/2 | | 186262 | | | |

Multiple distributors

| | D1 | D2 | TNR | PE |
|---|------|------|--------|----|
| QST3 – L-shape 4 outlets | | | | |
|  | R1/8 | 4 | 153200 | 1 |
| | R1/4 | 6 | 153201 | |
| | R3/8 | 8 | 153202 | |
| QST3 – L-shape 4 outlets, with sealing ring | | | | |
|  | G1/8 | 4 | 186217 | 1 |
| | G1/4 | 6 | 186218 | |
| | G3/8 | 8 | 186219 | |
| QST3 – L-shape 4 outlets, reducing | | | | |
|  | 6 | 4 | 153203 | 1 |
| | 8 | 6 | 153204 | |
| | 10 | 8 | 153205 | |
| QSYTF – L-shape 3 outlets | | | | |
|  | R1/8 | G1/8 | 153196 | 1 |
| | R1/4 | G1/4 | 153197 | |
| | R3/8 | G3/8 | 153198 | |
| | R1/2 | G1/2 | 153199 | |
| QSYTF – L-shape 3 outlets, with sealing ring | | | | |
|  | G1/8 | G1/8 | 186213 | 1 |
| | G1/4 | G1/4 | 186214 | |
| | G3/8 | G3/8 | 186215 | |
| | G1/2 | G1/2 | 186216 | |

Configurable products



This product and all its product options can be ordered online via the configurator:
→ www.festo.com/catalogue/qs







Highlights

from our range of protective conduit systems



Protective conduits

MK

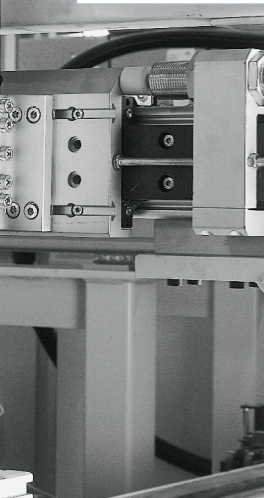
- + For protecting pneumatic tubing and electrical cables
 - + Galvanised steel, PA, PP, PVC, spring steel
 - + High alternating bending strength
- 286



Fittings for protective conduits

HMZ, MK

- + For optimum use of the protective conduits
- 287





Protective conduits

Our protective conduit systems for pneumatic tubing consist of protective conduits and tube fittings. Protective conduits are flexible tubes made of metal or plastic used to protect pneumatic tubing and electrical cables on machines and installations. It is recommended that suitable fittings be used to ensure optimum use of the protective conduits.

Selection aid _____ 284

Additional information:

→ www.festo.com/fitting







| Threaded connection | Protective conduit | | | | | Junction box HMZV | → Page |
|--|--------------------|-------|-------|-------|-------|----------------------|--------|
| | MKV | | | | | Pg 29 | |
| | Pg 13.5 | Pg 21 | Pg 29 | Pg 36 | Pg 48 | | |
| Protective conduit fitting MKVV | | | | | | | |
| Pg 13.5 | ■ | - | - | - | - | - | 287 |
| Pg 21 | - | ■ | - | - | - | - | |
| Pg 29 | - | - | ■ | - | - | ■ | |
| Pg 36 | - | - | - | ■ | - | - | |
| Pg 48 | - | - | - | - | ■ | - | |
| Lock nut MKVM | | | | | | | |
| Pg 13.5 | ■ | - | - | - | - | - | 287 |
| Pg 21 | - | ■ | - | - | - | - | |
| Pg 29 | - | - | ■ | - | - | ■ | |
| Pg 36 | - | - | - | ■ | - | - | |
| Pg 48 | - | - | - | - | ■ | - | |
| → Page | 286 | | | | | 287 | |






| Threaded connection | Protective conduit | | | | | MKG, separable Pg 29 | Junction box HMZV | → Page |
|--|--------------------|-------|-------|-------|-------|-------------------------|----------------------|--------|
| | MKR | | | | | | Pg 29 | |
| | Pg 9 | Pg 11 | Pg 16 | Pg 21 | Pg 29 | | | |
| Protective conduit fitting MKRV | | | | | | | | |
| Pg 9 | ■ | - | - | - | - | - | 287 | |
| Pg 11 | - | ■ | - | - | - | - | | |
| Pg 16 | - | - | ■ | - | - | - | | |
| Pg 21 | - | - | - | ■ | - | - | | |
| Pg 29 | - | - | - | - | ■ | ■ | | |
| Elbow fitting for protective conduit MKRL | | | | | | | | |
| Pg 9 | ■ | - | - | - | - | - | 288 | |
| Pg 11 | - | ■ | - | - | - | - | | |
| Pg 16 | - | - | ■ | - | - | - | | |
| Pg 21 | - | - | - | ■ | - | - | | |
| Pg 29 | - | - | - | - | ■ | ■ | | |
| Y distributor MKY | | | | | | | | |
| Pg 21 | - | - | - | ■ | - | - | 289 | |
| Pg 29 | - | - | - | - | ■ | - | | |
| → Page | 286 | | | | 286 | 287 | | |

| Threaded connection | Protective conduit | | | | | MKG, separable Pg 29 | Junction box HMZV Pg 29 | → Page |
|---|--------------------|-------|-------|-------|-------|-------------------------|-------------------------------|--------|
| | MKR | | | | | | | |
| | Pg 9 | Pg 11 | Pg 16 | Pg 21 | Pg 29 | | | |
| Protective conduit connector MKRT | | | | | | | | |
| Pg 16 | - | - | ■ | ■ | - | - | - | 289 |
| Pg 21 | - | - | ■ | ■ | - | - | - | |
| Protective conduit fitting MKGV, separable | | | | | | | | |
| M32, M40 | - | - | - | - | - | ■ | - | 288 |
| Reducing connector MKA (M-/Pg thread) | | | | | | | | |
| M32, M40/ Pg 29 | - | - | - | - | - | ■ | ■ | 288 |
| Reducing connector MKA | | | | | | | | |
| Pg 29 | - | - | - | - | - | - | ■ | 288 |
| Lock nut MKM | | | | | | | | |
| Pg 9 | ■ | - | - | - | - | - | - | 288 |
| Pg 11 | - | ■ | - | - | - | - | - | |
| Pg 16 | - | - | ■ | - | - | - | - | |
| Pg 21 | - | - | - | ■ | - | - | - | |
| Pg 29 | - | - | - | - | ■ | ■ | - | |
| Retaining clip MKRS | | | | | | | | |
| Pg 9 | ■ | - | - | - | - | - | - | 289 |
| Pg 11 | - | ■ | - | - | - | - | - | |
| Pg 16 | - | - | ■ | - | - | - | - | |
| Pg 21 | - | - | - | ■ | - | - | - | |
| Pg 29 | - | - | - | - | ■ | ■ | - | |
| Installation kit HMZAS | | | | | | | | |
| Pg 21 | - | - | - | ■ | - | - | - | 287 |
| Pg 29 | - | - | - | - | ■ | ■ | ■ | |
| → Page | 286 | | | | | 286 | 287 | |





Protective conduits

| | | | | |
|---|-------------------------|-----------|---------|----|
| | For threaded connection | di x D2 | TNR | PE |
| MKV Flexible, stretchable, compressible, waterproof and largely resistant to oil and acid Suitable for protective conduit fitting MKVV Polyvinyl chloride, spring steel | | | | |
|  | Pg 13,5 | 15x19 | 7404 | 50 |
| | Pg 21 | 21x27 | 7549 | 50 |
| | Pg 29 | 29x36 | 7550 | 25 |
| | Pg 36 | 38x45 | 7147 | |
| | Pg 48 | 48x56 | 7148 | |
| MKR Flexible For protecting electrical cables and pneumatic tubing Suitable for protective conduit fitting MKRV/MKRL Polyamide | | | | |
|  | Pg 9 | 10x13 | 177564 | 50 |
| | Pg 11 | 12x15,8 | 177565 | |
| | Pg 16 | 16,5x21,5 | 177566 | |
| | Pg 21 | 23x28,5 | 177567 | |
| | Pg 29 | 29x34,5 | 177568 | 25 |
| MKG – separable Inner and outer tubing can be separated from each other Polypropylene | | | | |
|  | Pg 29 | 22,1x28,4 | 3156318 | 50 |
| | Pg 29 | 31,8x42,4 | 3156319 | 30 |
| MK - Flexible metal conduit, spiral-wound Very flexible, tensile strength, can withstand transverse pressure, up to 220 °C Galvanised steel | | | | |
|  | – | 7,5x10 | 2203 | 50 |
| | – | 10x12,7 | 2204 | |




Fittings for protective conduits

| | Threaded connection | TNR | PE |
|---|---------------------|--------|----|
| HMZV – Junction boxes For protecting electrical cables and pneumatic tubing, especially with multi-axis setups, 5 connection options Polyamide | | | |
|  | Pg 29 | 175126 | 1 |
| HMZAS – installation kits Mounting bracket for a protective conduit Sheet steel, powder-coated | | | |
|  | Pg 21 | 193124 | 1 |
| | Pg 29 | 177603 | |
| MKVV – protective conduit fittings Suitable for protective conduit MKV Polypropylene | | | |
|  | Pg 13,5 | 19113 | 1 |
| | Pg 21 | 19114 | 25 |
| | Pg 29 | 19115 | 1 |
| | Pg 36 | 19116 | |
| | Pg 48 | 19117 | |
| MKVM – lock nuts Suitable for protective conduit fitting MKVV Plastic | | | |
|  | Pg 13,5 | 7411 | 1 |
| | Pg 21 | 9691 | |
| | Pg 29 | 9692 | |
| | Pg 36 | 7413 | |
| | Pg 48 | 7414 | |
| MKRV – protective conduit fittings Suitable for protective conduit MKR Polyamide | | | |
|  | Pg 9 | 177569 | 1 |
| | Pg 11 | 177570 | |
| | Pg 16 | 177571 | |
| | Pg 21 | 177572 | 25 |
| | Pg 29 | 177573 | |

Fittings for protective conduits

| | Threaded connection | TNR | PE |
|---|---------------------|---------|----|
| MKRL – elbow fittings for protective conduits L-shape Suitable for protective conduit MKR Polyamide | | | |
|  | Pg 9 | 177574 | 1 |
| | Pg 11 | 177575 | |
| | Pg 16 | 177576 | |
| | Pg 21 | 177577 | |
| | Pg 29 | 177578 | |
| MKGV – protective conduit fittings Separable, suitable for protective conduit MKG Polyamide | | | |
|  | M32x1,5 | 3152612 | 1 |
| | M40x1,5 | 3152613 | |
| MKM – lock nuts Suitable for protective conduit fitting MKRV/MKRL | | | |
|  | Pg 9 | 177596 | 1 |
| | Pg 11 | 177597 | |
| | Pg 16 | 177598 | |
| | Pg 21 | 177599 | |
| | Pg 29 | 177600 | |
| MKA – reducing connector with external and internal thread | | | |
|  | M32x1,5 | 1879672 | 1 |
| | M40x1,5 | 1879673 | |
| | Pg 21/Pg 16 | 193948 | |
| | Pg 21/Pg 29 | 177594 | |
| | Pg 29/Pg 16 | 193949 | |
| | Pg 29/Pg 21 | 177595 | |

Fittings for protective conduits

| | Threaded connection | TNR | PE |
|--|---------------------|--------|----|
| MKRT – protective conduit connector for protective conduit MKR, as a possibility of intervention in the protective conduit system Polyamide | | | |
|  | Pg 16/Pg 21 | 194321 | 1 |
| MKY – Y-Verteiler for distributing cables and tubing Thermoplastic rubber | | | |
|  | 2x Pg 16/Pg 21 | 193946 | 1 |
| | 2x Pg 21/Pg 29 | 193947 | |
| MKRS – retaining clip for junction box HMZV Polyamide | | | |
|  | Pg 9 | 192287 | 1 |
| | Pg 11 | 192288 | |
| | Pg 16 | 192289 | |
| | Pg 21 | 192290 | |
| | Pg 29 | 192291 | |



Accessories for pneumatic connection technology

Our comprehensive range of accessories for pneumatic connection technology includes union nuts, quick connectors, sealing caps, distributors, multiple distributors, ring pieces and hollow bolts, tools such as connecting and disconnecting pliers or tubing and pipe cutters, as well as sealing rings from different materials. Hose clips, tubing straps and tubing supports complete our range of our accessories.

Sealing material _____ **292**

Sealing rings

Sealing ring assortment

Sealing tape

Cutting tools for tubing _____ **296**

Pipe and tubing cutters

Connecting pliers

Tubing straps, hose clips

Pipe clamps

Additional information:→ www.festo.com/fitting

Sealing material

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

Materials: polyvinyl chloride, polyvinylidene fluoride, nitrile rubber, thermoplastic polyurethane, polyether ether ketone (PEEK)



Sealing ring

293



Sealing ring assortment




295







Thread sealing tape

295



Sealing rings

| | For thread | Nominal tightening torque [Nm] | TNR | PE |
|---|--------------------------------------|--------------------------------|---------|-----|
| O – polyvinyl chloride | | | | |
| M3: Polyamide | | | | |
|  | M5 | 1.78 | 3565 | 1 |
| | G1/8 | 10.55 | 2223 | |
| | G1/4 | 9.05 | 2224 | |
| | G3/8 | 38.5 | 2225 | |
| | G1/2 | 47.9 | 2226 | |
| | G3/4 | 45 | 2227 | |
| | G1 | – | 210893 | |
| | M3 | | 30290 | 100 |
| | G1/2 | 47.9 | 534230 | 200 |
| | G1/4 | 9.05 | 534228 | |
| | G3/8 | 38.5 | 534229 | |
| | G1/8 | 10.55 | 534227 | 500 |
| | M5 | 1.78 | 534226 | |
| | CRO – polyvinylidene fluoride | | | |
| Suitable for use in the chemical and food processing industries | | | | |
|  | M5 | – | 165191 | 1 |
| | G1/4 | | 165193 | |
| | G3/8 | | 165194 | |
| | G1/2 | | 165195 | |
| | G3/4 | | 165196 | |
| | G1 | | 165197 | |
| | G1/8 | | 575895 | |
| | OL – Nitrile rubber | | | |
| with metal bodies, based on ISO 16030, reusable | | | | |
|  | M5 | 2.5 | 34634 | 1 |
| | M6 | | 161180 | |
| | – | 3 | 8153155 | |
| | M5 | 2.5 | 534231 | 500 |

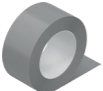
Sealing rings

| | For thread | Nominal tightening torque [Nm] | TNR | PE |
|---|------------|--------------------------------|---------|-----|
| OL – Nitrile rubber | | | | |
| with metal bodies, based on ISO 16030, reusable | | | | |
|  | G1/8 | 6 | 33840 | 1 |
| | G3/4 | 23 | 34638 | |
| | G1/4 | 10 | 34635 | |
| | G3/8 | 13 | 34636 | |
| | G1/2 | 23 | 34637 | |
| | G1 | | 8153156 | |
| | G1/2 | | 534235 | |
| | G1/4 | 10 | 534233 | 200 |
| | G3/8 | 13 | 534234 | |
| | G1/8 | 6 | 534232 | 500 |
| OK – nitrile rubber | | | | |
| Stainless steel support ring | | | | |
|  | M3 | 0.48 | 130849 | 1 |
| | M5 | 1.33 | 130850 | |
| | M7 | 3.35 | 130851 | |
| OK – thermoplastic polyurethane | | | | |
| Polyamide support ring | | | | |
|  | G1/4 | 11 | 531772 | 1 |
| | G1/8 | 3.5 | 531771 | |
| | G3/8 | 12.5 | 531773 | |
| | G1/2 | 14 | 531774 | |
| | G3/4 | 35 | 531775 | |
| NPAS – polyether ether ketone | | | | |
| For quick connectors NPCK | | | | |
|  | G1/4 | 20 | 2652517 | 10 |
| | G3/8 | 35 | 2652519 | |
| | G1/8 | 6.5 | 2652516 | |

Sealing ring assortment

| | Contents | TNR | PE |
|--|---|--------|----|
| OLS1 – OL sealing rings Sealing ring box contains OL sealing rings in sizes M5 to G3/4 | | | |
|  | 50x M5, 100x G1/8, 100x G1/4, 40x G3/8, 30x G1/2, 10x G3/4 | 161355 | 1 |
| OKS1 – OK sealing rings Sealing ring box contains OK sealing rings in sizes M3 to G3/4 | | | |
|  | 50x M3, 100x M5, 50x M7, 100x G1/8, 100x G1/4, 40x G3/8, 30x G1/2, 10x G3/4 | 570465 | 1 |

Sealing band

| | Length [m] | Width [mm] | TNR | PE |
|---|---------------|------------|------|----|
| GWB - Thread sealing tape | | | | |
|  | 12000 | 12 | 9076 | 1 |

Tools and accessories

for tubing and pipes



Pipe and tubing cutters

297



Connecting pliers

297



Tubing straps, hose clips



298




Pipe clamps

299


Cutting tools for tubing

| | Size | TNR | PE |
|---|----------------------------|--------|----|
| ZRS – Pipe and tubing cutter For plastic tubing with and without fabric reinforcement | | | |
|  | For tubing O.D. 2 - 20 mm | 7658 | 1 |
| | – | 218606 | |
| ZR – pipe cutter For plastic pipes PQ-PA | | | |
|  | For tubing O.D. 12 - 28 mm | 194592 | 1 |






Cutting tools for tubing

| | I.D. | TNR | PE |
|---|------|--------|----|
| PAN-VOS – tubing cutter For flame-retardant tubing PAN-V0 | | | |
|  | 12 | 133184 | 1 |
| | 4 | 133180 | |
| | 8 | 133182 | |
| | 6 | 133181 | |
| | 10 | 133183 | |


Tools and accessories

| | D2 | TNR | PE |
|---|----|------|----|
| ZMS – Connecting pliers with cutting edge for attaching plastic tubing to barbed connectors | | | |
|  | 4 | 9341 | 1 |

Tubing strap, hose clip

| | For D2 | TNR | PE |
|---|-------------------------------|--------|----|
| PB – tubing strap | | | |
|  | For tube bundle Ø max. 30 mm | 6741 | 10 |
| | For tube bundle Ø max. 45 mm | 6742 | |
| | For tube bundle Ø max. 100 mm | 6743 | |
| PKB – spiral tubing binder | | | |
|  | For tube bundle Ø max. 50 mm | 3656 | 50 |
| PKS – tubing support | | | |
|  | For tubing O.D. 6 mm | 4132 | 10 |
| | For tubing O.D. 5/16" | 4133 | |
| | For tubing O.D. 10 mm | 4134 | |
| NPAW – tubing support | | | |
|  | For tube bundle Ø max. 50 mm | 554028 | 10 |
| | For tube bundle Ø max. 30 mm | 554026 | |
| | For tube bundle Ø max. 50 mm | 554027 | |
| Multi-tube holder – KK | | | |
|  | For tubing O.D. 3/16" | 2147 | 10 |
| | | 3635 | |
| | For tubing O.D. 16 mm | 4463 | |
| | For tubing O.D. 5/16" | 2148 | |
| | For tubing O.D. 10 mm | 2149 | |

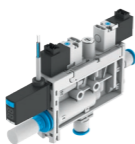
Pipe clamp

| | | TNR | PE |
|---|----|---------------|----|
| PQ-RK – pipe clamp | | | |
| Polypropylene | | | |
|  | 25 | 550599 | 1 |
| | 12 | 550595 | 10 |
| | 15 | 550596 | |
| | 22 | 550598 | |
| | 18 | 550597 | |



Highlights

of our vacuum technology



Vacuum generator

OVEL ★

- + Affordable and compact
- + Piezoresistive pressure sensor with display
- + Setting options via teach-in, IO-Link® or display and buttons

→ 306



Vacuum generator

VN ★

- + Pneumatic or electropneumatic
- + Generate a vacuum quickly and easily
- + Lightweight design for installing in the gripping area

→ 306



Suction cup with connector

VAS, VASB ★

- + Sturdy and reliable
- + Suction cup with connector with fixed connecting thread

→ 308



Our products from the Core Range ★

Vacuum generators OVEL ★

- + Compressed air is supplied by solenoid valve with NC switching function (normally closed when de-energised)
- + With ejector pulse for safe release of the workpiece from the suction cup and for accelerated reduction of the vacuum
- + With pressure sensor for monitoring, with different switching outputs as well as LCD display, IO-Link® and teach function

Vacuum generators OVEL _____ 306

Vacuum generators VN ★

- + Low weight and minimal space requirement
- + Variants designed for high vacuum are optimised for generating a high vacuum at comparatively low suction flow rates
- + Variants with high suction flow rates are optimised for very short evacuation times at relatively low vacuum

Vacuum generators VN _____ 306

Suction cup with connector VAS, VASB ★

- + Nitrile rubber, polyurethane, silicone
- + Diameter 15, 30, 40, 55 mm
- + Vacuum port G1/8, G1/4

Suction cup with connector VAS, VASB _____ 308

Length compensator VAL ★

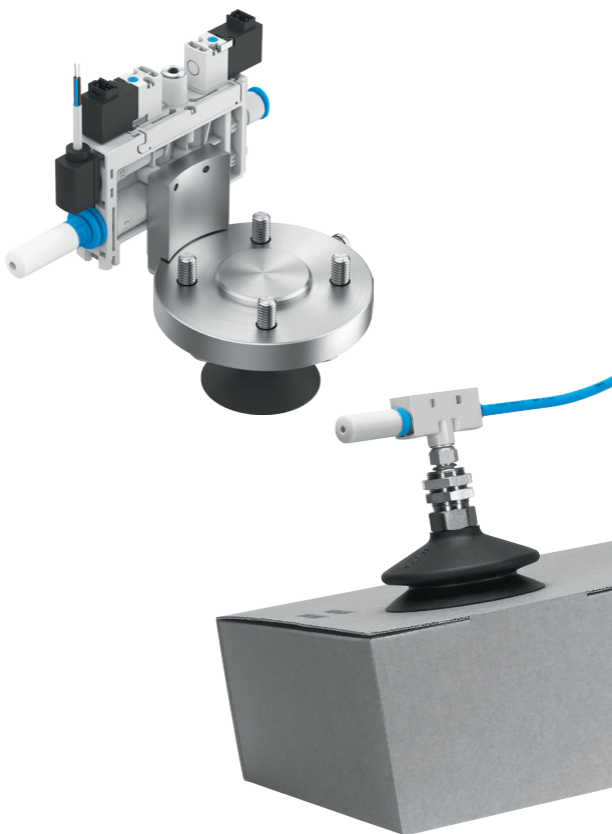
- + For gentle handling of workpieces by compensating for differences in the thickness of the workpiece

Length compensator VAL _____ 309

Additional information:

→ www.festo.com/vacuum





Additional information:

→ www.festo.com/vacuum



Vacuum generators

OVEL ★, **VN** ★

Grid dimension 13, 14, 15, 18 mm

Nominal width of Laval nozzle 0.7, 0.95, 1.4 mm

Suction cup with connector

VAS, VASB ★

Suction cup with connector \varnothing 15, 30, 40, 55 mm

Material of suction cup with connector VQM (silicone), NBR (nitrile rubber), PUR (polyurethane)

In blue, black or transparent



OVEL

306



VN

306



VAS, VASB


308






Zubehör

309


Vacuum generators, high vacuum

| | Grid dimension [mm] | Nominal width of Laval nozzle [mm] | Pressure measuring range [MPa] | Vacuum port | TNR | PE |
|---|---------------------|------------------------------------|--------------------------------|-------------|-----------|----|
| OVEL | | | | | | |
| Grid dimension 15 mm, switching output PNP/NPN switchable, electrical connection: plug pattern H, vertical plug, connection exhaust: silencer open | | | | | | |
|  | 15 | 0.95 | -0.1 - 0 | 6 | ★ 8049054 | 1 |
| | | 0.7 | | 4 | ★ 8049053 | |
| | 0.95 | 0.1 | 6 | ★ 8069572 | | |
| | | | 4 | ★ 8069571 | | |



Vacuum generators, pneumatic

| | Grid dimension [mm] | Nominal width of Laval nozzle [mm] | Vacuum port | D3 | TNR | PE |
|---|---------------------|------------------------------------|-------------|------------|----------|----|
| VN - straight shape, inline | | | | | | |
| High vacuum | | | | | | |
|  | 13 | 0.7 | QS-6 | Not ducted | ★ 193553 | 1 |
| | | | 6 | | ★ 193556 | |
| VN – T shape | | | | | | |
| high vacuum/standard | | | | | | |
|  | 14 | 0.95 | QS-6 | QS-6 | ★ 193480 | 1 |
| | | | G1/8 | G1/8 | ★ 193500 | |
| | 18 | 1.4 | G1/4 | G1/4 | ★ 193502 | |
| VN – T shape | | | | | | |
| High suction rate | | | | | | |
|  | 18 | 1.4 | QS-8 | QS-8 | ★ 193565 | 1 |


Vacuum generators, electropneumatic

| | Grid dimension [mm] | Nominal width of Laval nozzle [mm] | Vacuum port | D3 | TNR | PE |
|--|---------------------|------------------------------------|-------------|---------------|----------|----|
| VN – T-Form High suction rate/Standard, electrical on-off valve, pneumatic ejector pulse electrical connection: plug, connection exhaust: silencer open | | | | | | |
|  | 18 | 1.4 | QS-8 | Open silencer | ★ 532649 | 1 |
| | 14 | 0.95 | QS-6 | | ★ 532641 | |

Suction cup

| | Suction cup Ø [mm] | Vacuum port | Suction cup material | Colour | TNR | PE |
|---|--------------------|-------------|----------------------|-------------|-----------|----|
| VAS – round, flat | | | | | | |
|  | 30 | G1/8 | NBR | Black | ★ 34587 | 1 |
| | 40 | G1/4 | PUR | Blue | ★ 1396092 | |
| | 30 | G1/8 | VMQ (silicone) | Transparent | ★ 1377752 | |
| | 15 | | | | ★ 1376604 | |
| VASB – round protective bellows 1.5 convolutions | | | | | | |
|  | 15 | G1/8 | PUR | Blue | ★ 1395671 | 1 |
| | 55 | G1/4 | | | ★ 1396063 | |
| | 15 | G1/8 | VMQ (silicone) | Transparent | ★ 1377689 | |

Compensating elements

| | Vacuum port | TNR | PE |
|---|-------------|----------|----|
| VAL – length compensator | | | |
|  | M5 | ★ 151209 | 1 |
| | G1/8 | ★ 151210 | |
| | G1/4 | ★ 151211 | |



Highlights

from our range of stop valves

Quick exhaust valves

VBQF

- + Connection for female thread
G1/8, G1/4
 - + Ducted or unducted exhaust air
- 321



Hand slide valves

VBOH

- + Connection M5, G1/8, G1/4,
G3/8, G1/2, G3/4
- 324





Stop valves – Turning compressed air on and off

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, stop valves from Festo are the obvious choice for applications requiring the complete shut-off of the flow rate thanks to their impressive ability to close and quickly restore the compressed air supply

- + Piloted check valves HGL are activated as soon as there is no control signal
- + 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 Range ★

Stop valves selection aid _____ 314

Additional information:






→ www.festo.com/shut-off-valves




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

Page**→ 316****→ 319****→ 320****→ 322****→ 324****→ 325**

Check valves

| | D1 | D2 | qnN [l/min] | TNR | PE |
|---|------------|-------|-------------|--------|----|
| H-QS – QS push-in connector at both ends | | | | | |
|  | QS-4 | QS-4 | 136 | 153462 | 1 |
| | QS-6 | QS-6 | 282 | 153463 | |
| | QS-8 | QS-8 | 681 | 153464 | |
| | QS-10 | QS-10 | 1480 | 153465 | |
| | QS-12 | QS-12 | 1715 | 153466 | |
| HA – Male thread/QS push-in connector | | | | | |
| Flow direction: male thread → QS push-in connector | | | | | |
|  | M5 R1/8 | QS-4 | 148 | 153444 | 1 |
| | | | 138 | 153446 | |
| | | QS-6 | 311 | 153448 | |
| | | QS-8 | 331 | 153452 | |
| | R1/4 | QS-6 | 302 | 153450 | |
| | | QS-8 | 670 | 153454 | |
| | R3/8 | QS-10 | 1740 | 153456 | |
| | | QS-12 | 1876 | 153458 | |
| R1/2 | | 2230 | 153460 | | |
| HB – QS push-in connector/ Male thread | | | | | |
| Flow direction push-in connector → male thread | | | | | |
|  | QS-4 | M5 | 144 | 153445 | 1 |
| | | R1/8 | 142 | 153447 | |
| | QS-6 | | 335 | 153449 | |
| | | R1/4 | 294 | 153451 | |
| | QS-8 | R1/8 | 314 | 153453 | |
| | | R1/4 | 696 | 153455 | |
| | QS-10 | R3/8 | 1700 | 153457 | |
| | QS-12 | | 1886 | 153459 | |
| | R1/2 | 2206 | 153461 | | |
| H – Female thread at both ends | | | | | |
|  | M5 | M5 | 115 | 3671 | 1 |
| H – Male/female thread | | | | | |
|  | G1/8 | G1/8 | 280 | 3324 | 1 |

Check valves

| | D1 | D2 | qnN 1→2 from 6 bar to 5 bar [l/min] | TNR | PE |
|---|------|------|---|-------|----|
| H – Male thread at both ends | | | | | |
|  | G1/4 | G1/4 | 1000 | 11689 | 1 |
| | G3/8 | G3/8 | 2000 | 11690 | |
| | G1/2 | G1/2 | 5500 | 11691 | |
| | G3/4 | G3/4 | 5900 | 11692 | |

Configurable products






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


→ www.festo.com/catalogue/h




Check valves, piloted

| | D1 | D2 | D2 | qnN 1→2 from 6 bar to 5 bar [l/ min] | TNR | PE |
|---|------|------|------|---|----------|----|
| HGL – Female/male thread | | | | | | |
|  | M5 | M5 | M5 | 130 | ★ 530029 | 1 |
| HGL – Female/male thread | | | | | | |
|  | G1/8 | M5 | M5 | 300 | ★ 530030 | 1 |
| | | G1/8 | G1/8 | | ★ 543253 | |
| | G1/4 | | | 550 | ★ 530031 | |
| | G3/8 | G1/4 | G1/4 | 1100 | ★ 530032 | |
| | G1/2 | G3/8 | G3/8 | 1600 | ★ 530033 | |
| HGL – QS push-in connector/male thread | | | | | | |
|  | QS-4 | QS-4 | QS-4 | 130 | ★ 530038 | 1 |

Check valves, piloted

| | D1 | D2 | D2 | qnN 1→2 from 6 bar to 5 bar [l/ min] | TNR | PE |
|---|-------|------|------|---|----------|----|
| HGL – QS push-in connector/male thread | | | | | | |
|  | QS-4 | M5 | M5 | 200 | ★ 530039 | 1 |
| | QS-6 | | | 270 | ★ 530040 | |
| | QS-8 | G1/8 | G1/8 | 390 | ★ 530041 | |
| | | G1/4 | G1/4 | 830 | ★ 530043 | |
| | QS-10 | G1/8 | G1/8 | 400 | ★ 530042 | |
| | | G1/4 | G1/4 | 890 | ★ 530044 | |
| QS-12 | G3/8 | G3/8 | 1400 | ★ 530045 | | |

Accessories

| | D1 | D2 | qnN exhaust 0.6MPa → 0.5MPa [l/ min] | TNR | PE |
|---|------|------|---|--------|----|
| HAB – Manual override, male/female thread | | | | | |
| For check valve HGL | | | | | |
|  | G1/8 | G1/8 | 165 | 184585 | 1 |
| | G1/4 | G1/4 | | 184586 | |
| | G3/8 | G3/8 | | 184587 | |
| | G1/2 | G1/2 | | 184588 | |


Configurable products



This product and all its product options can be ordered online via the configurator:
→ www.festo.com/catalogue/hgl



Check valves, piloted

| | D1 | D2 | qnN 1→2 from 6 bar to 5 bar [l/min] | TNR | PE |
|---|------|------|---|----------------|----|
| VBNF – QS push-in connector/male thread flat design | | | | | |
|  | QS-6 | G1/8 | 260 | 8001460 | 1 |
| | QS-8 | G1/4 | 620 | 1927027 | |

Configurable products


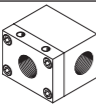



This product and all its product options can
be ordered online via the configurator:

→ www.festo.com/catalogue/vbnf



Quick exhaust valves, compact design

| | D1 | D2 | D3 | qnN exhaust 0.6MPa → 0.5MPa [l/min] | TNR | PE |
|---|------|------|------|--|------|----|
| SE Ducted exhaust air | | | | | | |
|  | G1/8 | G1/8 | G1/8 | 660 | 9685 | 1 |
| | G1/4 | G1/4 | G1/4 | 1200 | 9686 | |
| | G3/8 | G3/8 | G3/8 | 2760 | 9687 | |
| | G1/2 | G1/2 | G1/2 | 6480 | 9688 | |
| SE Ducted exhaust air | | | | | | |
|  | G3/4 | G3/4 | G3/4 | 7500 | 2280 | 1 |
| SEU With silencer | | | | | | |
|  | G1/8 | G1/8 | - | 550 | 4616 | 1 |
| | G1/4 | G1/4 | | 1100 | 6753 | |
| | G3/8 | G3/8 | | 2280 | 6755 | |
| | G1/2 | G1/2 | | 4020 | 6822 | |



Configurable products



This product and all its product options can be ordered online via the configurator:
→ www.festo.com/catalogue/se



Quick exhaust valves, flat design

| | D1 | D2 | D3 | TNR | PE |
|---|------|------|------|--------|----|
| VBQF-D | | | | | |
| Ducted exhaust air | | | | | |
|  | G1/8 | G1/8 | G1/8 | 547533 | 1 |
| | G1/4 | G1/4 | G1/4 | 548003 | |
| | QS-6 | G1/8 | QS-8 | 547534 | |
| VBQF-U | | | | | |
| With silencer | | | | | |
|  | G1/8 | G1/8 | - | 547531 | 1 |
| | G1/4 | G1/4 | | 548001 | |
| | QS-6 | G1/8 | | 547532 | |
| | QS-8 | G1/4 | | 548002 | |

Configurable products






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

→ www.festo.com/catalogue/vbqf



Shut-off valves, 2/3-way

| | D1 | D2 | qnN [l/min] | TNR | PE |
|--|-------|-------|-------------|--------|----|
| HE-3-QS – QS push-in connector at both ends | | | | | |
|  | QS-6 | QS-6 | 256.5 | 153475 | 1 |
| | QS-8 | QS-8 | 415.8 | 153476 | |
| | QS-10 | QS-10 | 752.4 | 153477 | |
| | QS-12 | QS-12 | 788.4 | 153478 | |
| HE-3-...-QS – Male thread/QS push-in connector | | | | | |
|  | R1/8 | QS-6 | 279.9 | 153479 | 1 |
| | R1/4 | QS-8 | 423.9 | 153480 | |
| | R3/8 | QS-10 | 760.5 | 153481 | |
| | R1/2 | QS-12 | 834.3 | 153482 | |
| HE-3 – Male thread at both ends | | | | | |
|  | R1/8 | R1/8 | 369.9 | 153296 | 1 |
| | R1/4 | R1/4 | 625.5 | 153297 | |
| | R3/8 | R3/8 | 797.4 | 153298 | |



Configurable products




This product and all its product options can be ordered online via the configurator:
 → www.festo.com/catalogue/he



Shut-off valves, 2/2-way

| | D1 | D2 | qnN [l/min] | TNR | PE |
|---|-------|-------|-------------|--------|----|
| HE-2-QS – QS push-in connector at both ends | | | | | |
|  | QS-6 | QS-6 | 256.5 | 153467 | 1 |
| | QS-8 | QS-8 | 415.8 | 153468 | |
| | QS-10 | QS-10 | 752.4 | 153469 | |
| | QS-12 | QS-12 | 788.4 | 153470 | |
| HE-2-...-QS – Male thread/QS push-in connector | | | | | |
|  | R1/8 | QS-6 | 279.9 | 153471 | 1 |
| | R1/4 | QS-8 | 423.9 | 153472 | |
| | R3/8 | QS-10 | 760.5 | 153473 | |
| | R1/2 | QS-12 | 834.3 | 153474 | |

Hand slide valves

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

Configurable products






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


→ www.festo.com/catalogue/vboh



Ball valves with plastic housing

| | D1 | D2 | qnN [l/min] | TNR | PE |
|---|------|------|-------------|--------|----|
| QH-QS – QS push-in connector at both ends | | | | | |
|  | QS-4 | QS-4 | 148 | 153483 | 1 |
| | QS-6 | QS-6 | 533 | 153484 | |
| QH-QS – Male thread/QS push-in connector | | | | | |
|  | R1/8 | QS-4 | 235 | 153486 | 1 |
| | | QS-6 | 560 | 153487 | |
| QHS-QS – Bulkhead fitting, QS push-in connector | | | | | |
|  | QS-6 | QS-6 | 528 | 153485 | 1 |

Ball valves with brass housing

| | D1 | D2 | qnN [l/min] | TNR | PE |
|---|--------|--------|-------------|------|----|
| QH – Female thread With hand lever | | | | | |
|  | G1 1/2 | G1 1/2 | 84000 | 6837 | 1 |
| | G1/4 | G1/4 | 3400 | 9541 | |
| | G3/8 | G3/8 | 7500 | 9542 | |
| | G1/2 | G1/2 | 11500 | 9543 | |
| | G3/4 | G3/4 | 21000 | 9544 | |
| | G1 | G1 | 33000 | 9545 | |

15

Pressure regulators – Highlights



Highlights

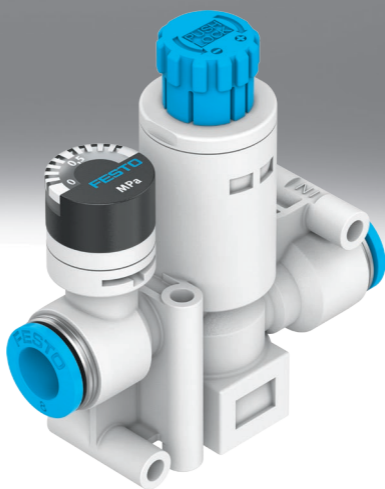
from our range of pressure regulators



Pressure regulator

VRPA

- + Regulates the operating pressure independently of the fluctuating input pressure
 - + With secondary exhaust and with return flow function
 - + With or without pressure gauge
 - + Screw-in or inline variants
- 332



Pressure regulators – optimum characteristics

You need your system to operate at peak performance every day. Thanks to pressure control valves and differential pressure regulators, your system always operates optimally. They guarantee the system is supplied with the correct pressure, regardless of the input pressure, and compensate for pressure peaks on the supply side.




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

Pressure regulator selection aid _____ **330**

Additional information:



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




| | Type, description |
|--|--|
|  | <p>VRPA, inline pressure regulator with or without pressure gauge QS push-in connector at both ends</p> |
|  | <p>VRPA, pressure regulator, elbow outlet With pressure gauge With male thread and QS push-in connector</p> |
|  | <p>LRL, LRLl, differential pressure regulators With male thread and QS push-in connector at the top With male thread and QS push-in connector at the side</p> |

| | Page |
|--|--------------|
| | → 332 |
| | |
| | → 332 |
| | |
| | → 333 |
| | |

Pressure regulator, inline

| | D1 | D2 | qnN [l/min] | TNR | PE |
|---|------|------|-------------|---------|----|
| VRPA-C – QS push-in connector | | | | | |
| Without pressure gauge | | | | | |
|  | QS-4 | QS-4 | 80 | 8086000 | 1 |
| | QS-6 | QS-6 | 90 | 8086001 | |
| | QS-8 | QS-8 | 130 | 8086002 | |
| VRPA-CM – QS push-in connector | | | | | |
| With pressure gauge, pressure gauge scale in MPa | | | | | |
|  | QS-4 | QS-4 | 80 | 8086003 | 1 |
| | QS-6 | QS-6 | 90 | 8086004 | |
| | QS-8 | QS-8 | 125 | 8086005 | |

Pressure regulator, L-shape

| | D1 | D2 | qnN [l/min] | TNR | PE |
|---|------|------|-------------|---------|----|
| VRPA-LM – Male thread/QS push-in connector | | | | | |
| With pressure gauge, pressure gauge scale in MPa | | | | | |
|  | M5 | QS-4 | 80 | 8086007 | 1 |
| | | QS-6 | 90 | 8086008 | |
| | R1/8 | QS-4 | | 8086009 | |
| | | QS-6 | 100 | 8086010 | |
| | | QS-8 | 110 | 8086011 | |
| | R1/4 | QS-6 | 115 | 8086012 | |
| | | QS-8 | 130 | 8086013 | |

Configurable products





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

→ www.festo.com/catalogue/vrpa



Differential pressure regulators

| | D1 | D2 | qnN open [l/ min] | TNR | PE |
|--|---|-------|----------------------|---------------|----|
| LRL – Male thread/QS push-in connector on top Rotatable 360° | | | | | |
|  | M5 | QS-4 | 30 | 153510 | 1 |
| | | QS-6 | | 153512 | |
| | G1/8 | QS-4 | 96 | 153511 | |
| | | QS-6 | 115 | 153513 | |
| | | QS-8 | 120 | 153515 | |
| | G1/4 | QS-6 | 241 | 153514 | |
| | | QS-8 | 224 | 153516 | |
| | | QS-10 | 231 | 153518 | |
| | G3/8 | QS-8 | 463 | 153517 | |
| | | QS-10 | 476 | 153519 | |
| | | QS-12 | 438 | 153520 | |
| | G1/2 | | 760 | 153521 | |
| | LRLl – Male thread/QS push-in connector at the side Rotatable 360° | | | | |
|  | M5 | QS-4 | 30 | 153498 | 1 |
| | | QS-6 | 32 | 153500 | |
| | G1/8 | QS-4 | 100 | 153499 | |
| | | QS-6 | 155 | 153501 | |
| | | QS-8 | 115 | 153503 | |
| | G1/4 | QS-6 | 267 | 153502 | |
| | | QS-8 | 268 | 153504 | |
| | | QS-10 | 269 | 153506 | |
| | G3/8 | QS-8 | 474 | 153505 | |
| | | QS-10 | 456 | 153507 | |
| | | QS-12 | 518 | 153508 | |
| | G1/2 | | 730 | 153509 | |

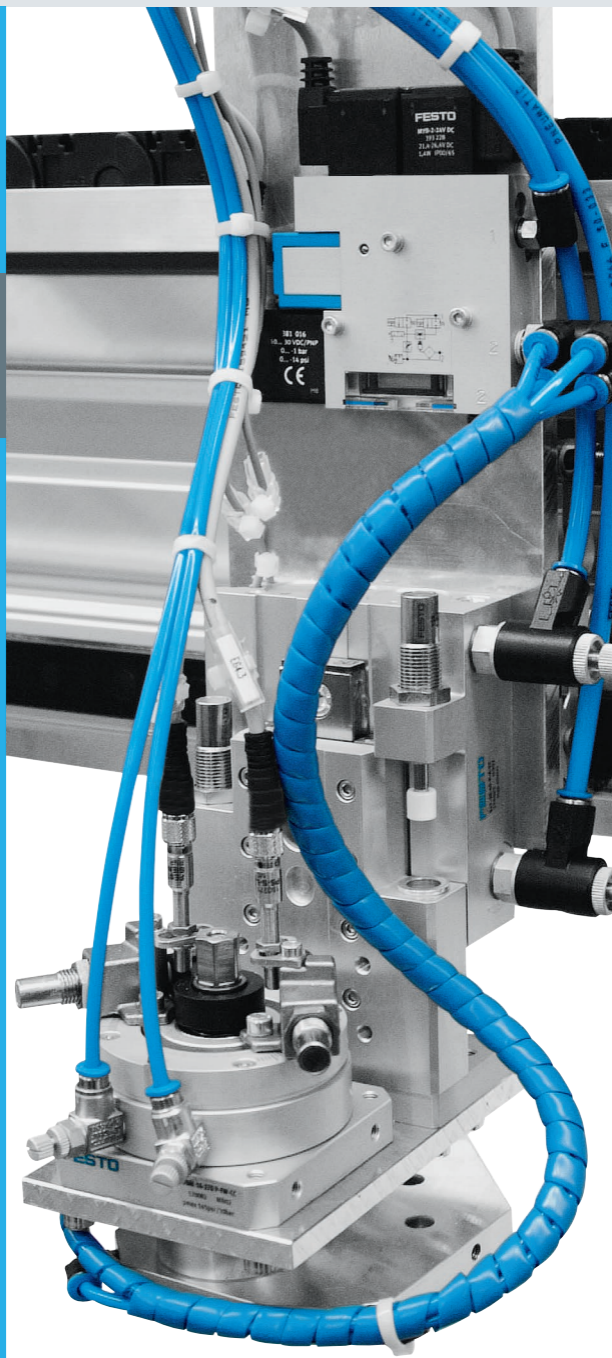
Configurable products



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

→ www.festo.com/catalogue/lrl





Highlights

from our range of flow control valves



One-way flow control valves

VFOE★

- + Low-cost solution for standard applications
- + Simple and reliable adjustment of the speed of a pneumatic cylinder

→ 349

NEW



One-way flow control valves

GRLA★, GRLZ★

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

→ 350, 352



One-way flow control valves

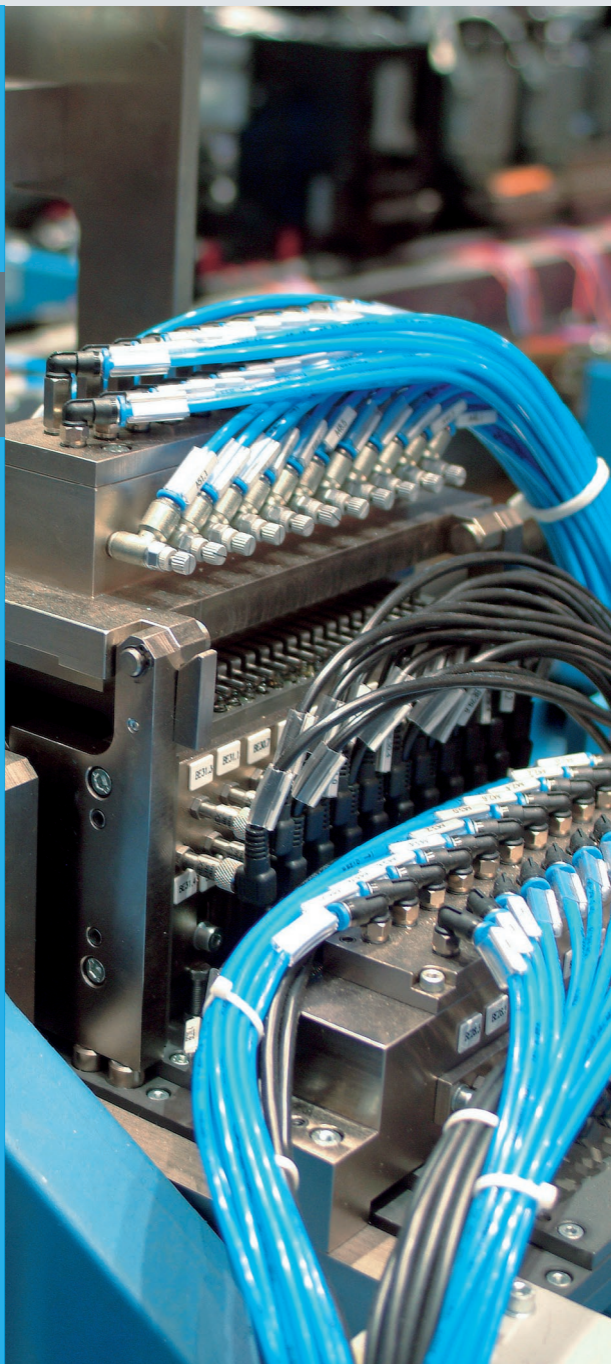
VFOF

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

→ 355

16

Flow control valves – Overview



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

Adjusting the flow rate is easy, for example when metering and controlling the supply air or exhaust air flow to regulate the speed of single- or double-acting cylinders. The compact and sturdy one-way flow control valves from Festo provide the right solution for these requirements. The numerous variants suit every environment and are quick and easy to fit.

- + Quick to install with QS connection technology
- + Very flexible – directly at the cylinder or inline
- + Wide range of variants: GRLA/Z/O; GR/O; VFOE; VFOF
- + Also available as precision flow control valves for extremely precise adjustments

Functional combination – multiple control functions integrated in one component:

Variable piston speeds, temporary intermediate stops and individual manual exhaust save time, costs and space.










Look for our products from the Core Range ★

Flow control valves selection aid _____ 338









Additional information:

→ www.festo.com/flow-control-valves









| | Type, description |
|---|---|
| Standard, polymer – supply air one-way flow control function | |
|  | VFOE-LS: one-way flow control valve NEW QS push-in connector/male thread |
|  | VFOE-LS-F1A: one-way flow control valve Recommended for production systems for manufacturing lithium-ion batteries QS push-in connector/male thread |
| Standard, metal – exhaust air one-way flow control function | |
|  | GRLA: one-way flow control valve QS push-in connector/male thread |
|  | GRLA: one-way flow control valve Female thread/male thread |
|  | GRLA: one-way flow control valve Barbed connector PK/male thread |
|  | GRLSA: one-way flow control valve with scale Preselection of the flow rate range in 5 steps using a rotary switch Precision adjustment with internal hex QS push-in connector/male thread |
| Standard, metal – supply air one-way flow control function | |
|  | GRLZ: one-way flow control valve QS push-in connector/male thread |
|  | GRLZ: one-way flow control valve Female thread/male thread |
|  | GRLZ: one-way flow control valve Barbed connector PK/male thread |







| | Page |
|--|-------|
| <u>Elbow outlet, rotary knob as adjusting element ★</u> | → 349 |
| <u>Elbow outlet, rotary knob as adjusting element</u> | → 349 |
| <u>Elbow outlet, slotted head screw as adjusting element ★</u> | → 350 |
| <u>Elbow outlet, actuation with knurled screw ★</u> | → 350 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 351 |
| <u>Elbow outlet, knurled screw as adjusting element</u> | → 351 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 351 |
| <u>Elbow outlet, rotary knob with scale and internal hex</u> | → 351 |
| <u>Elbow outlet, slotted head screw as adjusting element ★</u> | → 352 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 352 |
| <u>Elbow outlet, knurled screw as adjusting element</u> | → 352 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 352 |

| | Type, description |
|---|--|
| Standard, nickel-plated metal – exhaust air one-way flow control function | |
|  | VFOH-LE: one-way flow control valve QS push-in connector/male thread |
| Standard, polymer – exhaust air one-way flow control function | |
|  | VFOE-LE: one-way flow control valve QS push-in connector/male thread |
|  | VFOE-LE-F1A: one-way flow control valve Recommended for production systems for manufacturing lithium-ion batteries QS push-in connector/male thread |
| Mini, metal – exhaust air one-way flow control function | |
|  | GRLA: one-way flow control valve QS push-in connector/male thread |
|  | GRLA: one-way flow control valve Female thread/male thread |
| Mini, metal – supply air one-way flow control function | |
|  | GRLZ: one-way flow control valve QS push-in connector/male thread |
|  | GRLZ: one-way flow control valve Female thread/male thread |
| Corrosion-resistant – exhaust air one-way flow control function | |
|  | CRGRLA: one-way flow control valve Female thread/male thread |






| | Page |
|--|-------|
| <u>Elbow outlet, external hex as adjusting element</u> | → 353 |
| <u>Elbow outlet, rotary knob as adjusting element ★</u> | → 348 |
| <u>Elbow outlet, rotary knob as adjusting element</u> | → 349 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 353 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 354 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 354 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 354 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 354 |

| | Type, description |
|---|---|
| Functional combination, polymer – exhaust air one-way flow control function | |
|  | VFOF: one-way flow control valve QS push-in connector/male thread Piloted non-return function, manual exhaust function |
| Line installation, metal – supply air one-way flow control function | |
|  | GR, GRA: one-way flow control valve Female thread/female thread |
|  | GR-...X2: one-way flow control valve Two one-way flow control valves in one housing Supply and exhaust air flow control separately adjustable Female thread |
| Line installation, polymer – one-way flow control function | |
|  | GR: one-way flow control valve QS push-in connector |
| Precision flow control valve, metal - one-way flow control function | |
|  | GRP-...-AL: precision one-way flow control valve Sub-base Female thread |
|  | GRP-...-PK: GRP: precision one-way flow control valve Front panel mounting Barbed connector PK |

| | Page |
|--|--------------|
| <u>Elbow outlet, internal hex as adjusting element</u> | → 355 |
| <u>Knurled screw as adjusting element</u> | → 355 |
| <u>Knurled screw as adjusting element</u> | → 355 |
| <u>Knurled screw as adjusting element</u> | → 356 |
| <u>Rotary knob with scale as adjusting element</u> | → 356 |
| <u>Rotary knob with scale as adjusting element</u> | → 356 |



| | Type, description |
|---|---|
| Flow control/silencer combination | |
|  | GRE: exhaust air flow control valve Male thread |
|  | VFFK, GRU: flow control/silencer Male thread Polymer cushioning insert |
| Standard, metal – flow control valve function | |
|  | GRLO: flow control valve Female thread/male thread |
|  | GRLO: flow control valve Barbed connector PK/male thread |
| Mini, metal – flow control valve function | |
|  | GRLO: flow control valve Female thread/male thread |
|  | GRLO: flow control valve QS push-in connector/male thread |

| | Page |
|--|--------------|
| <u>Knurled screw as adjusting element</u> | → 357 |
| <u>Knurled screw as adjusting element</u> | → 357 |
| <u>Slotted head screw adjusting element</u> | → 357 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 357 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 358 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 358 |
| <u>Elbow outlet, slotted head screw as adjusting element</u> | → 358 |

| | Type, description |
|---|---|
| Line installation, metal – flow control valve function | |
|  | GRO-B: flow control valve Female thread |
|  | GRO: flow control valve Female thread |
| Line installation, polymer – flow control valve function | |
|  | GRO: flow control valve QS push-in connector |
| Metal – flow control valve function | |
|  | GRPO-...-AL: precision flow control valve On sub-base Female thread |
|  | GRPO-...-PK: precision flow control valve for front panel mounting Barbed connector PK |

| | Page |
|--|--------------|
| <u>Knurled screw as adjusting element</u> | → 358 |
| <u>Knurled screw as adjusting element</u> | → 359 |
| <u>Knurled screw as adjusting element</u> | → 359 |
| <u>Rotary knob with scale as adjusting element</u> | → 360 |
| <u>Rotary knob with scale as adjusting element</u> | → 360 |

Standard, polymer

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE | |
|---|-------|-----------|---------------------------------------|-----------|----|---|
| VFOE-LE – Exhaust air one-way flow control function | | | | | | |
| QS push-in connector/male thread, adjusting element, rotary knob with latch | | | | | | |
|  | QS-4 | M5 | 90 | 8068723 | 1 | |
| | | | | 8095432 | 50 | |
| | | R1/8 | 150 | ★ 8068734 | 1 | |
| | G1/8 | ★ 8068725 | | | | |
| | QS-6 | M5 | 105 | 8068724 | 50 | |
| | | R1/8 | 165 | ★ 8068735 | | |
| | | R1/4 | 400 | 8068737 | | |
| | | G1/8 | 165 | ★ 8068726 | | |
| | | | | 8095433 | | |
| | | G1/4 | 400 | 8068728 | | 1 |
| | QS-8 | R1/8 | 170 | ★ 8068736 | 50 | |
| | | R1/4 | 500 | 8068738 | | |
| | | R3/8 | 720 | 8068740 | | |
| | | G1/8 | 170 | ★ 8068727 | | |
| | | G1/4 | 500 | 8068729 | | 1 |
| | | | | 8095434 | | |
| | QS-10 | R1/4 | 500 | 8068739 | 20 | |
| | | R3/8 | 750 | 8068741 | | |
| | | G1/4 | 500 | 8068730 | | |
| | | G3/8 | 750 | 8068732 | | 1 |
| 8095435 | | | | | | |
| QS-12 | R1/2 | 1200 | 8068742 | 1 | | |
| | G1/2 | | 8068733 | 20 | | |
| | | | 8095436 | | | |
| VFOE-LS – Supply air one-way flow control function | | | | | | |
| QS push-in connector/male thread, adjusting element, rotary knob with latch | | | | | | |
|  | QS-4 | M5 | 85 | 8068743 | 1 | |
| | | M7 | | 8068745 | | |
| | | R1/8 | 165 | ★ 8068750 | | |
| | | G1/8 | | ★ 8068747 | | |
| | QS-6 | M5 | 100 | 8068744 | 1 | |
| | | M7 | | 8068746 | | |
| | | R1/8 | 170 | ★ 8068751 | | |
| | | G1/8 | | ★ 8068748 | | |
| | QS-8 | R1/8 | | ★ 8068752 | 1 | |
| | | G1/8 | | ★ 8068749 | | |


Standard, polymer

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|--|----|----|---------------------------------------|-----|----|
|--|----|----|---------------------------------------|-----|----|

VFOE-LE-F1A – exhaust air one-way flow control valve function

Recommended for production systems for manufacturing lithium-ion batteries


QS push-in connector/male thread, adjusting element, rotary knob with latch

| | | | | | |
|---|-------|------|---------|---------|---|
|  | QS-4 | M5 | 90 | 8157642 | 1 |
| | | R1/8 | 150 | 8157640 | |
| | QS-6 | M5 | 105 | 8157641 | |
| | | R1/8 | 165 | 8157639 | |
| | | R1/4 | 400 | 8157637 | |
| | QS-8 | R1/8 | 170 | 8157638 | |
| | | R1/4 | 500 | 8157636 | |
| | | R3/8 | 720 | 8157634 | |
| | QS-10 | R1/4 | 500 | 8157635 | |
| | | R3/8 | 750 | 8157633 | |
| QS-12 | R1/2 | 1200 | 8157631 | | |

VFOE-LS-F1A – Supply air one-way flow control valve function

Recommended for production systems for manufacturing lithium-ion batteries

QS push-in connector/male thread, adjusting element, rotary knob with latch

| | | | | | |
|---|------|------|-----|---------|---|
|  | QS-4 | M5 | 85 | 8157630 | 1 |
| | | R1/8 | 165 | 8157628 | |
| | QS-6 | M5 | 100 | 8157629 | |
| | | R1/8 | 170 | 8157627 | |
| | QS-8 | | | 8157626 | |

Configurable products






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





→ www.festo.com/catalogue/vfoe



Standard, metal

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|---|-------|------|---------------------------------------|----------|----|
| GRLA – Exhaust air one-way flow control function QS push-in connector/male thread, adjusting element, slotted head screw | | | | | |
|  | QS-3 | M5 | 100 | ★ 193137 | 1 |
| | | G1/8 | 130 | ★ 193142 | |
| | QS-4 | M5 | 110 | ★ 193138 | |
| | | G1/8 | 160 | ★ 193143 | |
| | QS-6 | M5 | 115 | ★ 193139 | |
| | | G1/8 | 185 | ★ 193144 | |
| | | G1/4 | 400 | ★ 193146 | |
| | | G3/8 | 495 | ★ 193149 | |
| | QS-8 | G1/8 | 215 | ★ 193145 | |
| | | G1/4 | 475 | ★ 193147 | |
| | | G3/8 | 820 | ★ 193150 | |
| | QS-10 | G1/4 | 480 | ★ 193148 | |
| G3/8 | | 900 | ★ 193151 | | |
| QS-12 | G1/2 | 1580 | ★ 193152 | | |
| GRLA – Exhaust air one-way flow control function, high flow rate QS push-in connector/male thread, adjusting element, slotted head screw | | | | | |
|  | QS-6 | G1/8 | 400 | 537075 | 1 |
| | QS-8 | | 475 | 537076 | |
| GRLA – Exhaust air one-way flow control function QS push-in connector, male thread, adjusting element, knurled screw | | | | | |
|  | QS-3 | M5 | 100 | ★ 197576 | 1 |
| | | G1/8 | 130 | ★ 197579 | |
| | QS-4 | M5 | 110 | ★ 197577 | |
| | | G1/8 | 160 | ★ 197580 | |
| | QS-6 | M5 | 115 | ★ 197578 | |
| | | G1/8 | 185 | ★ 197581 | |
| | | G1/4 | 400 | ★ 534338 | |
| | | G3/8 | 495 | ★ 534341 | |
| | QS-8 | G1/8 | 215 | ★ 534337 | |
| | | G1/4 | 475 | ★ 534339 | |
| | | G3/8 | 820 | ★ 534342 | |
| | QS-10 | G1/4 | 480 | ★ 534340 | |
| | | G3/8 | 900 | ★ 534343 | |
| | QS-12 | G1/2 | 1580 | ★ 534344 | |

Standard, metal


| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|---|---|------|---------------------------------------|--------|----|
| GRLA – Exhaust air one-way flow control function | | | | | |
| Female thread/male thread, adjusting element, slotted head screw | | | | | |
|  | G1/4 | G1/4 | 610 | 151172 | 1 |
| | M5 | M5 | 95 | 151160 | |
| | G1/8 | G1/8 | 340 | 151165 | |
| | G3/8 | G3/8 | 1450 | 151178 | |
| | G1/2 | G1/2 | 2100 | 151179 | |
| | G3/4 | G3/4 | 4320 | 151180 | |
| GRLA – Exhaust air one-way flow control function | | | | | |
| Barbed connector PK/male thread, adjusting element, slotted head screw | | | | | |
|  | PK-4 | M5 | 83 | 151162 | 1 |
| | PK-3 | | | 151161 | |
| | 3 | G1/8 | 110 | 151166 | |
| | 4 | | | 230 | |
| | | G1/4 | 260 | 151173 | |
| | 6 | G1/8 | 300 | 151168 | |
| | | G1/4 | 540 | 151174 | |
| | GRLA – Exhaust air one-way flow control function | | | | |
| Female thread/male thread, adjusting element, knurled screw | | | | | |
|  | G1/4 | G1/4 | 610 | 151175 | 1 |
| | M5 | M5 | 95 | 151163 | |
| | G1/8 | G1/8 | 340 | 151169 | |
| GRLSA – Exhaust air one-way flow control function | | | | | |
| QS push-in connector/male thread, adjusting element, rotary knob with scale and internal hexagon | | | | | |
|  | QS-6 | G1/8 | 0 - 250 | 540661 | 1 |
| | QS-8 | G1/4 | 0 - 450 | 540662 | |

Standard, metal

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|--|----|----|---------------------------------------|-----|----|
|--|----|----|---------------------------------------|-----|----|


GRLZ – Supply air one-way flow control function

QS push-in connector/male thread, adjusting element, slotted head screw

| | | | | | |
|---|------|------|----------|----------|---|
|  | QS-3 | M5 | 100 | ★ 193153 | 1 |
| | | G1/8 | 130 | ★ 193156 | |
| | QS-4 | M5 | 110 | ★ 193154 | |
| | | G1/8 | 160 | ★ 193157 | |
| | QS-6 | M5 | 115 | ★ 193155 | |
| | | G1/8 | 185 | ★ 193158 | |
| QS-8 | | 215 | ★ 193159 | | |


GRLZ – Supply air one-way flow control function

Female thread/male thread, adjusting element, slotted head screw

| | | | | | |
|---|------|------|-----|--------|---|
|  | G1/4 | G1/4 | 610 | 151195 | 1 |
| | M5 | M5 | 95 | 151183 | |
| | G1/8 | G1/8 | 340 | 151188 | |


GRLZ – Supply air one-way flow control function

Female thread/male thread, adjusting element, knurled screw

| | | | | | |
|---|------|------|-----|--------|---|
|  | G1/4 | G1/4 | 610 | 151198 | 1 |
| | M5 | M5 | 95 | 151186 | |
| | G1/8 | G1/8 | 340 | 151192 | |

GRLZ – Supply air one-way flow control function

Barbed connector PK/male thread, adjusting element, slotted head screw

| | | | | | |
|---|------|------|-----|--------|---|
|  | PK-3 | M5 | 83 | 151184 | 1 |
| | PK-4 | | | 151185 | |
| | 3 | G1/8 | 110 | 151189 | |
| | 4 | | 230 | 151190 | |
| | 6 | G1/4 | 260 | 151196 | |
| | | G1/8 | 300 | 151191 | |
| | | G1/4 | 540 | 151197 | |

Configurable products




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

→ www.festo.com/catalogue/grla



Standard, nickel-plated metal

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|---|-------|------|---------------------------------------|--------|----|
| VFOH-LE – Exhaust air one-way flow control function QS push-in connector/male thread, adjusting element, external hexagon | | | | | |
|  | QS-4 | G1/8 | 180 | 578797 | 1 |
| | QS-6 | | 255 | 578798 | |
| | QS-8 | | 275 | 578799 | |
| | | G1/4 | 530 | 578800 | |
| | QS-10 | | 520 | 578801 | |

Configurable products





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

→ www.festo.com/catalogue/vfoh




Mini, metal

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|--|------|----|---------------------------------------|--------|----|
| GRLA – Exhaust air one-way flow control function QS push-in connector/male thread, adjusting element, slotted head screw | | | | | |
|  | QS-3 | M3 | 41 | 175041 | 1 |
| | | M5 | 40 | 175053 | |
| | QS-4 | | | 175056 | |
| GRLA- Exhaust air one-way flow control function Female thread/male thread, adjusting element, slotted head screw | | | | | |
|  | M3 | M3 | 18 | 175038 | 1 |


Mini, metal

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|--|----|----|---------------------------------------|-----|----|
|--|----|----|---------------------------------------|-----|----|

GRLZ – Supply air one-way flow control function**QS push-in connector/male thread, adjusting element, slotted head screw**

| | | | | | |
|---|------|----|----|--------|---|
|  | QS-3 | M3 | 41 | 175043 | 1 |
| | QS-4 | M5 | 48 | 175055 | |
| | | | | 175058 | |


GRLZ**Supply air flow control, actuated with knurled/slotted head screw
With male thread and female thread**

| | | | | | |
|---|----|----|----|--------|---|
|  | M3 | M3 | 18 | 175040 | 1 |
|---|----|----|----|--------|---|

Corrosion-resistant

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|--|----|----|---------------------------------------|-----|----|
|--|----|----|---------------------------------------|-----|----|

CRGRLA – Exhaust air one-way flow control function**Female thread/male thread, adjusting element, slotted head screw**

| | | | | | |
|---|------|------|------|--------|---|
|  | M5 | M5 | 95 | 161403 | 1 |
| | G1/8 | G1/8 | 340 | 161404 | |
| | G1/4 | G1/4 | 610 | 161405 | |
| | G3/8 | G3/8 | 1450 | 161406 | |
| | G1/2 | G1/2 | 2100 | 161407 | |


Configurable products



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

→ www.festo.com/catalogue/crgrla

Function combination, polymer

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|--|------|------|---------------------------------------|---------|----|
| VFOF – Exhaust air one-way flow control function Male thread/QS push-in connector, adjusting element, internal hexagon Piloted non-return function, manual exhaust function | | | | | |
|  | QS-6 | G1/8 | 240 | 8001459 | 1 |
| | QS-8 | G1/4 | 590 | 1927030 | |



Configurable products




This product and all its product options can be ordered online via the configurator:
→ www.festo.com/catalogue/vfof





In-line installation, metal

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|---|------|------|---------------------------------------|--------|----|
| GR, GRA – One-way flow control function Female thread/female thread, adjusting element, knurled screw | | | | | |
|  | M3 | M3 | 29.5 | 15899 | 1 |
| | M5 | M5 | 115 | 151213 | |
| | G1/8 | G1/8 | 210 | 151215 | |
| | G1/4 | G1/4 | 370 | 2101 | |
| | | | 420 | 6509 | |
| | G3/8 | G3/8 | 1010 | 6308 | |
| | G1/2 | G1/2 | 1620 | 3720 | |
| G3/4 | G3/4 | 3300 | 2103 | | |
| GR...X2 Two one-way flow control valves in one housing Supply and exhaust air flow control separately adjustable, actuated with knurled screw With male and female thread | | | | | |
|  | PK-3 | PK-3 | 45 | 4566 | 1 |
| | M5 | M5 | 95 | 152611 | |
| | G1/8 | G1/8 | 205 | 152612 | |


In-line installation, polymer

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|--|------|------|---------------------------------------|--------|----|
| GR – One-way flow control function QS push-in connector, adjusting element, knurled screw | | | | | |
|  | QS-3 | QS-3 | 85 | 193965 | 1 |
| | QS-4 | QS-4 | 110 | 193967 | |
| | QS-6 | QS-6 | 245 | 193969 | |
| | QS-8 | QS-8 | 265 | 193970 | |




Precision one-way flow control valves, metal

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|--|------|------|---------------------------------------|--------|----|
| GRP-...-AL – One-way flow control function, sub-base Female thread, adjusting element, rotary knob with scale | | | | | |
|  | G1/8 | G1/8 | 40.7 | 542022 | 1 |
| | | | 75.8 | 542023 | |
| GRP-...-PK – One-way flow control function, front panel mounting Barbed connector PK, adjusting element, rotary knob with scale | | | | | |
|  | PK-3 | PK-3 | 40.7 | 10802 | 1 |
| | | | 3.8 | 12743 | |
| | PK-4 | PK-4 | 75.8 | 12961 | |


Mounting plate

| | Number of drilled holes | TNR | PE |
|---|-------------------------|-------|----|
| APL-2N – Mounting plate For precision one-way flow control valve GRP | | | |
|  | 1x mounting hole 22 mm | 10391 | 1 |
| | 2x mounting hole 22 mm | 10392 | |


Flow control/silencer combination

| | D1 | q _{n6} → 0 MPa [l/min] | TNR | PE |
|---|------|---------------------------------|--------|----|
| GRE – Exhaust air flow control valve, flow control/silencer function Male thread, adjusting element, slotted head screw, sintered metal cushioning insert | | | | |
|  | G1/8 | 0 - 520 | 10351 | 1 |
| | G1/4 | 0 - 996 | 10352 | |
| | G3/8 | 3 - 2000 | 35310 | |
| | G1/2 | 0 - 4300 | 10353 | |
| VFFK – Flow control/silencer Male thread, adjusting element, knurled screw, polymer cushioning insert | | | | |
|  | M5 | 0 - 80 | 133140 | 1 |
| | M7 | 0 - 100 | 133141 | |
| | R1/8 | 0 - 270 | 133142 | |
| | R1/4 | 0 - 420 | 133143 | |
| GRU – Flow control/silencer Male thread, adjusting element, slotted head screw, polymer cushioning insert | | | | |
|  | G1/8 | 0 - 1000 | 9516 | 1 |
| | G1/4 | 0 - 1500 | 9517 | |
| | G3/8 | 0 - 1700 | 9518 | |
| | G1/2 | 0 - 4000 | 9519 | |
| | G3/4 | 0 - 8000 | 9520 | |



Standard, metal

| | D1 | D2 | q _{nN} in flow control direction [l/min] | TNR | PE |
|---|----|----|---|--------|----|
| GRLO – Flow control function, with swivel connection Female thread/male thread, adjusting element, slotted head screw | | | | | |
|  | M5 | M5 | 95 | 151181 | 1 |


Standard, metal

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|---|----|------|---------------------------------------|--------|----|
| GRLO – Flow control function, with swivel connection Barbed connector PK/male thread, adjusting element, slotted head screw | | | | | |
|  | M5 | PK-3 | 83 | 151182 | 1 |


Mini, metal

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|---|----|------|---------------------------------------|--------|----|
| GRLO – Flow control function, with swivel connection Female thread/male thread, adjusting element, slotted head screw | | | | | |
|  | M3 | M3 | 18 | 175039 | 1 |
| GRLO – Flow control valve function, with swivel connector QS push-in connector/male thread, adjusting element, slotted head screw | | | | | |
|  | M3 | QS-3 | 41 | 175042 | 1 |
| | M5 | | 40 | 175054 | |
| | | QS-4 | | 175057 | |


In-line installation, metal

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|---|------|------|---------------------------------------|--------|----|
| GRO-B – Flow control function Female thread, adjusting element, knurled screw | | | | | |
|  | M5 | M5 | 105 | 151214 | 1 |
| | G1/8 | G1/8 | 210 | 151216 | |



In-line installation, metal

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|---|------|------|---------------------------------------|------|----|
| GRO – Flow control function Female thread, adjusting element, knurled screw | | | | | |
|  | G1/4 | G1/4 | 350 | 2109 | 1 |


In-line installation, polymer

| | D1 | D2 | qnN in flow control direction [l/min] | TNR | PE |
|---|------|------|---------------------------------------|--------|----|
| GRO-QS – Flow control function QS push-in connector, adjusting element, knurled screw | | | | | |
|  | QS-3 | QS-3 | 85 | 193971 | 1 |
| | QS-4 | QS-4 | 110 | 193972 | |
| | QS-6 | QS-6 | 245 | 193973 | |



Accessories

| | For type | TNR | PE |
|--|---|--------|----|
| GR-H-QS – Retaining bracket for flow control valves GR-QS, POM Linking of several retainers via dovetail slot | | | |
|  | GR-QS-6, GR-QS-8 | 195496 | 1 |
| | GR-QS-3, GR-QS-4 | 195495 | |
| GRM – Hex nut for flow control valve GR, for front panel mounting, steel | | | |
|  | GR-1/8-B, GR-1/8X2-B, GR-QS-6, GR-QS-8 | 2107 | 1 |
| | GR-M5-B, GR-M5X2-B, GR-QS-3, GR-QS-4 | 6444 | |
| | GRA-1/4-B, GR-3/8-B | 204596 | |


Accessories

| | For type | TNR | PE |
|---|---|------|----|
| GRK – Cover cap for flow control valves GR0-QS, PP | | | |
|  | GR-1/8-B, GR-1/8X2-B, GR-QS-6, GR-QS-8 | 2105 | 1 |
| | GR-M5-B, GR-M5X2-B, GR-QS-3, GR-QS-4 | 6436 | |
| | GRA-1/4-B, GR-3/8-B | 6309 | |

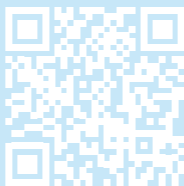
Precision flow control valves, metal

| | D1 | D2 | qn in flow control direction [l/min] | TNR | PE |
|--|------|------|--------------------------------------|--------|----|
| GRPO-...-AL – Flow control function On sub-base Female thread, adjusting element, rotary knob with scale | | | | | |
|  | G1/8 | G1/8 | 40.7 | 542024 | 1 |
| | | | 75.8 | 542025 | |
| GRPO-...-PK – Flow control function For front panel mounting Barbed connector PK, adjusting element, rotary knob with scale | | | | | |
|  | PK-3 | PK-3 | 40.7 | 10803 | 1 |
| | | | 3.8 | 13229 | |
| | PK-4 | PK-4 | 75.8 | 13230 | |

Mounting plate

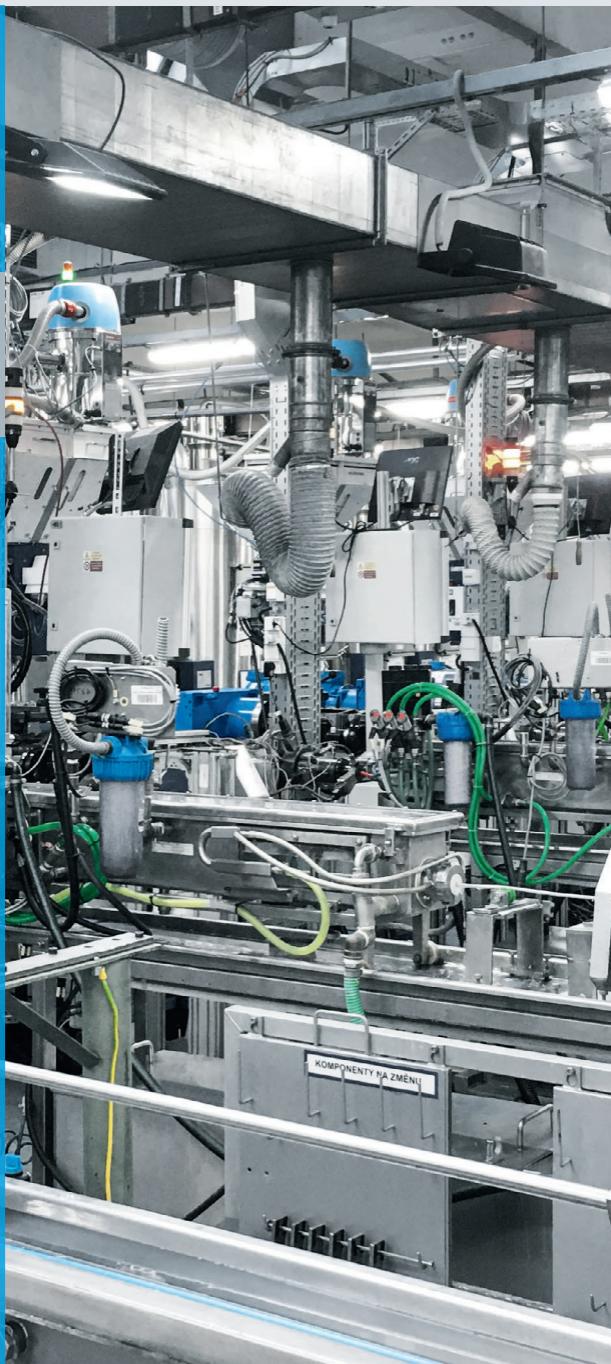
| | Number of drilled holes | TNR | PE |
|---|-------------------------|-------|----|
| APL-2N – Mounting plate For precision flow control valve GRPO | | | |
|  | 1x mounting hole 22 mm | 10391 | 1 |
| | 2x mounting hole 22 mm | 10392 | |

→ www.festo.com/service2see



17

Compressed air filters – Highlights





Highlights

from our range of compressed air filters – individual units



Micro filter

PFML

- + For high-pressure applications
- + Pressure range up to 5 MPa
- + Food-safe see www.festo.com/certificates/PFML

→ 366



Filter silencer

LFU

- + Removes up to 99.99% of oil and other contaminants from the exhaust air
- + Condensate drain manual
- + Reduces exhaust noise regardless of frequency

→ 366





Additional information:

→ www.festo.com/catalogue/pfml



→ www.festo.com/catalogue/lfu



Micro filter PFML – for high-pressure applications

Micro filter with filter cartridges made from thermally fused microfine borosilicate and stable polyester fibres. Direction of flow through the filter cartridges is from the inside to the outside. Condensate drain via connecting thread G1/2 underneath the filter bowl, differential pressure sensing available via two connecting threads G1/8 each on the front and the rear.

- + Size 90 mm, 186 mm
- + Grade of filtration 0.01 µm
- + Flow rate 3406 ... 138233 l/min
- + Operating pressure 0 ... 5 MPa

| | |
|---|------------|
| Micro filter PMFL_____ | 366 |
| Accessories – filter cartridge, series L_____ | 366 |

Filter silencer LFU

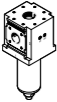
The filter silencer cleans the collected exhaust air from pneumatic control systems. The exhaust air escapes into the atmosphere via a fine filter insert (filter efficiency > 99.99%).

At the same time, the noise from the exhaust air is greatly reduced. Any condensate is collected in the plastic bowl underneath and can be drained off via the condensate drain.


- + Size G1/4, G3/8, G1/2, G1
- + Flow rate 4000 ... 12500 l/min
- + Operating pressure 0 ... 1.6 MPa

| | |
|-------------------------------------|------------|
| Filter silencer LFU_____ | 366 |
| Accessories – filter cartridge_____ | 367 |


Micro filter

| | Size | qn max [l/min] | Grade of filtration [μm] | TNR | PE |
|--|------|-------------------|--|----------------|----|
| PFML - L series | | | | | |
| Fibre filter for high-pressure applications up to 5 MPA (50 bar), manual condensate drain, in-line installation | | | | | |
|  | 186 | 18980 | 0.01 | 1624062 | 1 |
| | 90 | 10220 | | 1612487 | |
| | 186 | 10220 | | 1364705 | |


Accessories for micro filters

| | Flow rate | Grade of filtration [μm] | TNR | PE |
|--|----------------|--|----------------|----|
| PFEL – filter cartridge, L series | | | | |
|  | Standard | 0.01 | 1334716 | 1 |
| | High flow rate | | 1471578 | |

Filter silencer

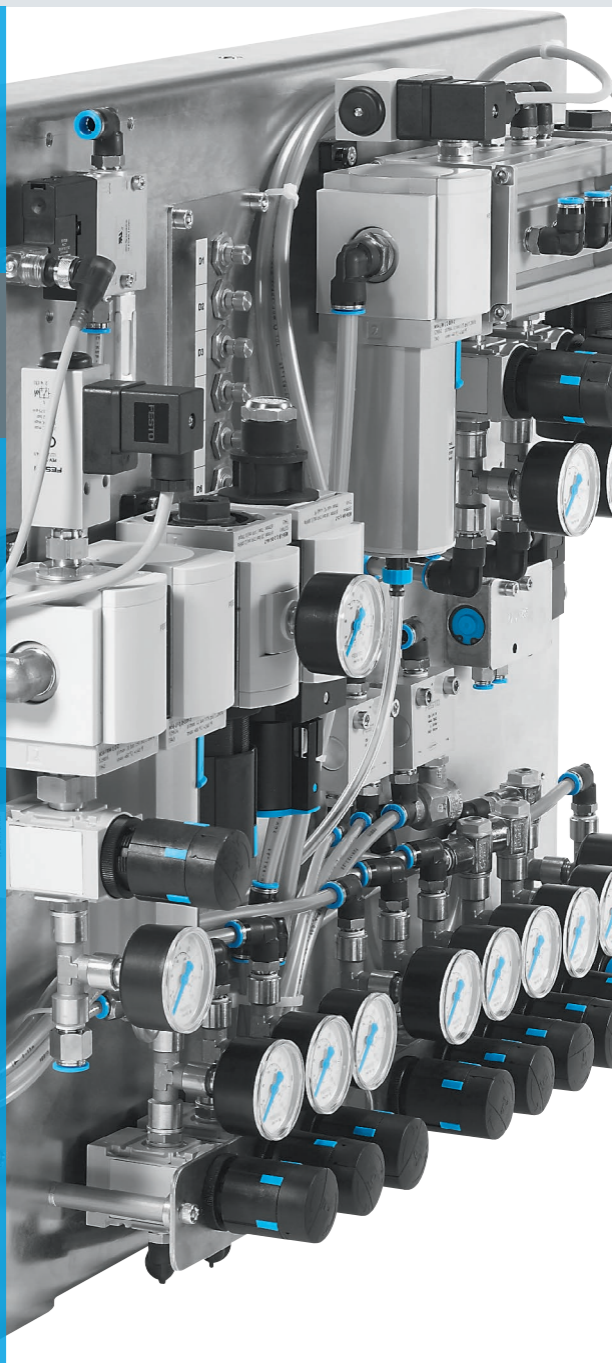
| | D1 | q [l/min] | Grade of filtration [μm] | TNR | PE |
|---|------|-----------|--|---------------|----|
| LFU | | | | | |
| Manual rotary condensate drain, can be screwed in | | | | | |
|  | G1/4 | 4000 | 1 | 539132 | 1 |
| | G3/8 | 4700 | | 539133 | |
| | G1/2 | 6000 | | 10494 | |
| | G1 | 12500 | | 10495 | |

Accessories for filter silencers

| | For threaded connection | TNR | PE |
|---|-------------------------|--------|----|
| LFPU – filter cartridge | | | |
|  | G1/2 | 10496 | 1 |
| | G1 | 10497 | |
| | G1/4, G3/8 | 539134 | |

18

Pressure indicators – Highlights



Highlights



Pressure gauges

MA

- + Display ranges –1 ... 1.6 MPa
 - + Scales with bar, psi, MPa, also in combination
 - + Nominal sizes 15, 23, 27, 40, 50, 63
- **382, 383, 386, 387, 391, 393**



Festo pressure gauges 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 to install
- + Scales with bar, psi, MPa
- + Fast pressure monitoring thanks to the red/green pressure gauge

Pressure gauge selection aid _____ **372**










Additional information:

→ www.festo.com/pressure-gauges










| | Type, description |
|---|---|
| Nominal size 15 | |
|  | MA-15-...-QS, pressure gauge QS push-in connector Single scale |
|  | MA-15-...-M5, pressure gauge Male thread Single scale |
| Nominal size 23 | |
|  | MA-23..-R1/8, pressure gauge Male thread Double scale |
| Nominal size 26 | |
|  | PAGN-26-...-G18S, pressure gauge Male thread Single scale |
|  | PAGN-26-...-G18S, pressure gauge Male thread Triple scale |
|  | PAGN-26-...-P10-RG, pressure gauge Cartridge 10 mm Double scale with red/green range |
|  | PAGN-26-...-G18S, pressure gauge Cartridge 10 mm Single scale |
|  | PAGN-26-...-P10, pressure gauge Cartridge 10 mm Double scale |









| | Page |
|---|-------|
| <u>Display range bar</u> | → 382 |
| <u>Display range bar</u> <u>Display range psi</u> | → 382 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 383 |
| <u>Display range bar</u> | → 384 |
| <u>Display range bar (outer scale), MPa/psi (inner scale)</u> | → 384 |
| <u>Display range bar (outer scale), MPa (inner scale)</u> | → 384 |
| <u>Display range MPa</u> | → 384 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 384 |
| <u>Display range psi (outer scale), bar (inner scale)</u> | → 385 |

| | Type, description |
|---|---|
| Nominal size 27 | |
|  | MA-27-...-R1/8, pressure gauge Male thread Double scale |
|  | MA-27-...-M5, pressure gauge Male thread Single scale |
| Nominal size 40 | |
|  | MA-40-...-RG, pressure gauge to EN 837-1 Male thread Single scale with red/green range |
|  | MA-40-...-EN, pressure gauge to EN 837-1 Male thread Double scale |
|  | MA-40-...-MPA, pressure gauge to EN 837-1 Male thread Single scale |
|  | MA-40-...-1/8, pressure gauge to EN 837-1 Male thread Double scale |
|  | PAGN-40-...-P10, pressure gauge to EN 837-1 Cartridge 10 mm Single scale |
|  | PAGN-40-...-P10, pressure gauge to EN 837-1 Cartridge 10 mm Double scale |
|  | PAGN-40-...-P10, pressure gauge to EN 837-1 Cartridge 10 mm Double scale |









| | Page |
|---|--------------|
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 386 |
| <u>Display range MPa</u> | → 387 |
| <u>Display range bar</u> | |
| <u>Display range psi</u> | |
| <u>Display range MPa</u> | → 387 |
| <u>Display range bar</u> | |
| <u>Display range psi</u> | |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 387 |
| <u>Display range MPa</u> | → 387 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 388 |
| <u>Display range MPa</u> | → 388 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 388 |
| <u>Display range psi (outer scale), bar (inner scale)</u> | → 388 |

| | Type, description |
|---|---|
| Nominal size 40 | |
|  | FMA-40-...-EN, flanged pressure gauge to EN 837-1 Front panel mounting, male thread Double scale |
|  | PAGN-40-...-R18, precision pressure gauge Male thread Double scale |
|  | PAGN-40-...-R18, precision pressure gauge to EN 837-1 Male thread Double scale |
|  | MAP-40-...-EN, precision pressure gauge to EN 837-1 Male thread Double scale |
|  | VAM-40-...-RG, vacuum gauge Male thread Single scale with red/green range |
|  | VAM-40-...-EN, vacuum gauge to EN 837-1 Male thread Double scale |
|  | FVAM-40-...-EN, vacuum gauge to EN 837-1 Front panel mounting, male thread Double scale |

| | Page |
|--|--------------|
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 389 |
| <u>Display range MPa (outer scale), bar (inner scale)</u> | → 389 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 389 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 389 |
| <u>Display range bar</u> | → 390 |
| <u>Display range bar (outer scale), inHg/psi (inner scale)</u> | → 390 |
| <u>Display range bar (outer scale), inHg/psi (inner scale)</u> | → 390 |



| | Type, description |
|---|---|
| Nominal size 50 | |
|  | MA-50-...-RG, pressure gauge to EN 837-1 Male thread Single scale with red/green range |
|  | MA-50-...-MPA, pressure gauge to EN 837-1 Male thread Single scale |
|  | MA-50-...-EN, pressure gauge to EN 837-1 Male thread Double scale |
|  | MA-50-...-1/4, pressure gauge to EN 837-1 Male thread Double scale |
|  | FMA-50-...-EN, flanged pressure gauge to EN 837-1 Front panel mounting, male thread Double scale |
| Nominal size 63 | |
|  | MA-63-...-EN, pressure gauge to EN 837-1 Male thread Double scale |
|  | PAGL-63-...-G14, pressure gauge for high-pressure applications Male thread Triple scale |
|  | PAGN-63-...-V2, pressure gauge to EN 837-1 Male thread Single scale |

| | Page |
|---|--------------|
| <u>Display range MPa</u> | → 391 |
| <u>Display range bar</u> | |
| <u>Display range psi</u> | |
| <u>Display range MPa</u> | → 391 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 391 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 392 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 392 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 393 |
| <u>Display range bar (outer scale), MPa/psi (inner scale)</u> | → 393 |
| <u>Display range bar</u> | → 393 |


| | Type, description |
|---|--|
| Nominal size 63 | |
|  | MA-63, pressure gauge to EN 837-1 Male thread Double scale |
|  | FMA-63-...-EN, flanged pressure gauge to EN 837-1 Front panel mounting, male thread Double scale |
|  | FMA-63-...-C, flanged pressure gauge to EN 837-1 Front panel mounting, male thread Double scale |
|  | FMAP-63-...-EN, flanged precision pressure gauge to DIN EN 837-1 Front panel mounting, male thread Double scale |
|  | VAM-63-...-RG, vacuum gauge to EN 837-1 Male thread Single scale with red/green range |
|  | VAM-63-...-EN, vacuum gauge to EN 837-1 Male thread Double scale |
|  | VAM-63-...-EN, vacuum gauge to EN 837-1 Male thread Triple scale |
|  | FVAM-63-...-EN, vacuum gauge to EN 837-1 Front panel mounting, male thread Double scale |

| | Page |
|--|--------------|
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 393 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 394 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 394 |
| <u>Display range bar (outer scale), psi (inner scale)</u> | → 394 |
| <u>Display range bar</u> | → 395 |
| <u>Display range bar (outer scale), inHg/psi (inner scale)</u> | → 395 |
| <u>Display range bar (outer scale), psi/inHg (inner scale)</u> | → 395 |
| <u>Display range bar (outer scale), inHg (inner scale)</u> | → 395 |






Pressure gauges

| | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|---|---------------------|---------------------|------|--------|----|
| MA-15-...-QS | | | | | |
| Single scale | | | | | |
| QS push-in connector | | | | | |
|  | 0 - 10 | – | QS-4 | 153383 | 1 |
| | | | QS-6 | 153384 | |
| | | | QS-8 | 153385 | |
| MA-15-...-M5 | | | | | |
| Single scale | | | | | |
| Male thread | | | | | |
| Suitable for service unit components of series D | | | | | |
|  | 0 - 10 | – | M5 | 132340 | 1 |
| | – | 0 - 145 | | 132341 | |


Pressure gauges

| | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|---|---------------------|---------------------|------|--------|----|
| MA-23-...-R1/8 | | | | | |
| Double scale: bar (outside scale), psi (inner scale) | | | | | |
| Male thread | | | | | |
| Suitable for service unit components of series D | | | | | |
|  | 0 - 6 | 1 - 87 | R1/8 | 183896 | 1 |
| | 0 - 10 | 0 - 145 | | 183897 | |
| | 0 - 16 | 0 - 232 | | 183898 | |



Pressure gauges

| | Display range [MPa] | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|---|---------------------|---------------------|---------------------|------------------------|---------|----|
| PAGN-26-...-G18S Single scale Male thread | | | | | | |
|  | – | 0 - 10 | – | G1/8 with sealing ring | 8088985 | 1 |
| PAGN-26-...-G18S Triple scale: bar (outside scale), MPa/psi (inner scale) Male thread | | | | | | |
|  | 0 - 1 | 0 - 10 | 0 - 145 | G1/8 with sealing ring | 8088986 | 1 |
| PAGN-26-...-P10-RG Double scale with red/green range: bar (outside scale), MPa (inner scale) Cartridge 10 mm | | | | | | |
|  | 0 - 1 | 0 - 10 | – | Cart-ridge 10 mm | 8090378 | 1 |
| PAGN-26-...-P10 Single scale Cartridge 10 mm | | | | | | |
|  | 0 - 1.6 | – | – | Cart-ridge 10 mm | 563735 | 1 |
| | 0 - 1 | | | | 563736 | |
| PAGN-26-...-P10 Double scale: bar (outside scale), psi (inner scale) Cartridge 10 mm | | | | | | |
|  | – | 0 - 16 | 0 - 232 | Cart-ridge 10 mm | 543487 | 1 |
| | | 0 - 10 | 0 - 145 | | 543488 | |




Pressure gauges

| | Display range [MPa] | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|---|---------------------|---------------------|---------------------|-------------------------|---------------|----|
| PAGN-26-...-P10 | | | | | | |
| Double scale: psi (outside scale), bar (inner scale) | | | | | | |
| Cartridge 10 mm | | | | | | |
|  | - | 0 - 16 | 0 - 232 | Cart- ridge 10 mm | 563731 | 1 |
| | | 0 - 10 | 0 - 145 | | 563732 | |





Pressure gauges

| | Display range [MPa] | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|--|---------------------|---------------------|---------------------|------|--------|----|
| MA-27-...-R1/8 Double scale: bar (outside scale), psi (inner scale) Male thread Suitable for service unit components of series D | | | | | | |
|  | – | 0 - 16 | 0 - 232 | R1/8 | 541733 | 1 |
| | | 0 - 25 | 0 - 362.5 | | 541734 | |
| MA-27-...-M5 Single scale Male thread Suitable for service unit components of series D | | | | | | |
|  | 0 - 1 | – | – | M5 | 526324 | 1 |
| | – | | 0 - 160 | | 527405 | |


Pressure gauges

| | Display range [MPa] | Display range [bar] | Display range [psi] | D1 | TNR | PE | |
|---|---------------------|---------------------|----------------------|-----------|--------|----|--------|
| MA-40-...-RG | | | | | | | |
| Single scale with red/green range | | | | | | | |
| Male thread | | | | | | | |
| Suitable for service unit components of series MS | | | | | | | |
| To EN 837-1 | | | | | | | |
|  | – | 0 - 10 | – | R1/8 | 525725 | 1 | |
| | | 0 - 16 | | | 525726 | | |
| | 0 - 1 | – | 526778 | | | | |
| | 0 - 1.6 | – | 526779 | | | | |
| | – | – | 0 - 145 | | 526786 | | |
| | | | 0 - 232 | | 526787 | | |
| | | | 0 - 2.5 | | 546963 | | |
| MA-40-...-EN | | | | | | | |
| Double scale: bar (outside scale), psi (inner scale) | | | | | | | |
| Male thread | | | | | | | |
| Suitable for service unit components of series MS | | | | | | | |
| To EN 837-1 | | | | | | | |
|  | – | 0 - 10 | 0 - 145 | R1/8 | 162835 | 1 | |
| | | 0 - 16 | 0 - 232 | R1/4 | 529046 | | |
| | | 0 - 6 | 1 - 87 | | 187080 | | |
| | | 0 - 10 | 0 - 145 | | 187078 | | |
| | – | – | 0 - 25 | 0 - 362.5 | G1/8 | | 526167 |
| | | | 0 - 6 | 1 - 87 | G1/4 | | 183899 |
| | | | 0 - 16 | 0 - 232 | | | 183901 |
| | | | 0 - 25 | 0 - 362.5 | | | 183902 |
| | | | 0 - 10 | 0 - 145 | | | 183900 |
| | | | MA-40-...-MPA | | | | |
| Single scale | | | | | | | |
| Male thread | | | | | | | |
| Suitable for service unit components of series D | | | | | | | |
| To EN 837-1 | | | | | | | |
|  | 0 - 1 | – | – | G1/8 | 192732 | 1 | |
| | 0 - 1.6 | | | | 192733 | | |




Pressure gauges

| | Display range [MPa] | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|--|---------------------|---------------------|---------------------|-------------------------|--------|----|
| MA-40-...-1/8 Double scale: bar (outside scale), psi (inner scale) Male thread Suitable for service unit components of series D To EN 837-1 | | | | | | |
|  | – | 0 - 16 | 0 - 232 | G1/8 | 345395 | 1 |
| | | 0 - 10 | 0 - 145 | | 359874 | |
| PAGN-40-...-P10 Single scale Cartridge 10 mm To EN 837-1 | | | | | | |
|  | 0 - 1.6 0 - 1 | – | – | Cart- ridge 10 mm | 563737 | 1 |
| | | – | – | | 563738 | |
| PAGN-40-...-P10 Double scale: bar (outside scale), psi (inner scale) Cartridge 10 mm To EN 837-1 | | | | | | |
|  | – | 0 - 10 | 0 - 145 | Cart- ridge 10 mm | 548009 | 1 |
| | | 0 - 16 | 0 - 232 | | 548010 | |
| PAGN-40-...-P10 Double scale: psi (outside scale), bar (inner scale) Cartridge 10 mm To EN 837-1 | | | | | | |
|  | – | 0 - 10 | 0 - 145 | Cart- ridge 10 mm | 563734 | 1 |
| | | 0 - 16 | 0 - 232 | | 563733 | |




Flanged pressure gauges

| | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|---|---------------------|---------------------|------|--------|----|
| FMA-40-...-EN | | | | | |
| Double scale: bar (outside scale), psi (inner scale) | | | | | |
| Front panel mounting, male thread | | | | | |
| To EN 837-1 | | | | | |
|  | 0 - 16 | 0 - 232 | G1/4 | 159597 | 1 |
| | 0 - 10 | 0 - 145 | | 159596 | |




Precision pressure gauges

| | Display range [MPa] | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|---|---------------------|---------------------|---------------------|------|---------|----|
| PAGN-40-...-R18 | | | | | | |
| Double scale: MPa (outside scale), bar (inner scale) | | | | | | |
| Male thread | | | | | | |
|  | 0 - 1 | 0 - 10 | – | R1/8 | 2849916 | 1 |
| | | | | | | |
| PAGN-40-...-R18 | | | | | | |
| Double scale: bar (outside scale), psi (inner scale) | | | | | | |
| Male thread | | | | | | |
| Suitable for precision pressure regulators LRP | | | | | | |
| To EN 837-1 | | | | | | |
|  | – | 0 - 10 | 0 - 145 | R1/8 | 2849914 | 1 |
| | | | | | | |
| MAP-40-...-EN | | | | | | |
| Double scale: bar (outside scale), psi (inner scale) | | | | | | |
| Male thread | | | | | | |
| To EN 837-1 | | | | | | |
|  | – | 0 - 1 | 0 - 14.5 | R1/8 | 161126 | 1 |
| | | 0 - 6 | 1 - 87 | | 161127 | |
| | | 0 - 16 | 0 - 232 | | 161128 | |
| | | 0 - 4 | 1 - 58 | | 162842 | |


Vacuum gauge

| | Display range [bar] | Display range [inHg] | D1 | TNR | PE |
|--|---------------------|----------------------|------|--------|----|
| VAM-40-...-RG Single scale with red/green range Male thread R1/8 To EN 837-1 | | | | | |
|  | -1 - 0 | – | R1/8 | 547842 | 1 |
| VAM-40-...-EN Double scale: bar (outside scale), inHg (inner scale) Male thread R1/8 To EN 837-1 | | | | | |
|  | -1 - 0 | -30 - 0 | R1/8 | 537810 | 1 |
| FVAM-40-...-EN Double scale: bar (outside), inHg (inside) Front panel mounting, male thread G1/8 To EN 837-1 | | | | | |
|  | -1 - 0 | -30 - 0 | G1/8 | 537812 | 1 |


Pressure gauges

| | Display range [MPa] | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|--|---------------------|---------------------|---------------------|------|--------|----|
| MA-50-...-RG Single scale with red/green range Male thread Suitable for service unit components of series MS To EN 837-1 | | | | | | |
|  | 0 - 1.6 | – | – | R1/4 | 526782 | 1 |
| | – | 0 - 10 | | | 525728 | |
| | | 0 - 2.5 | | | 525727 | |
| | 0 - 0.25 | – | | | 526780 | |
| | – | 0 - 16 | | | 525729 | |
| | | – | 0 - 36 | | 526788 | |
| | 0 - 1 | | – | | 526781 | |
| | – | | 0 - 145 | | 526789 | |
| | | | 0 - 232 | | 526790 | |
| MA-50-...-MPA Single scale Male thread Suitable for service unit components of series D To EN 837-1 | | | | | | |
|  | 0 - 1 | – | – | G1/4 | 192734 | 1 |
| | 0 - 1.6 | | | | 192735 | |
| MA-50-...-EN Double scale: bar (outside scale), psi (inner scale) Male thread Suitable for service unit components of series MS To EN 837-1 | | | | | | |
|  | – | 0 - 10 | 0 - 145 | G1/4 | 162838 | 1 |
| | | 0 - 16 | 0 - 232 | | 162839 | |
| | | 0 - 2.5 | 0 - 36.25 | | 162837 | |





Pressure gauges

| | Display range [MPa] | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|---|---------------------|---------------------|---------------------|------|--------|----|
| MA-50-...-1/4 | | | | | | |
| Double scale: bar (outside scale), psi (inner scale) | | | | | | |
| Male thread | | | | | | |
| Suitable for service unit components of series D | | | | | | |
| To EN 837-1 | | | | | | |
|  | - | 0 - 16 | 0 - 232 | G1/4 | 356759 | 1 |
| | | 0 - 10 | 0 - 145 | | 359873 | |



Flanged pressure gauges

| | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|---|---------------------|---------------------|------|--------|----|
| FMA-50-...-EN | | | | | |
| Double scale: bar (outside scale), psi (inner scale) | | | | | |
| Front panel mounting, male thread | | | | | |
| To EN 837-1 | | | | | |
|  | 0 - 2.5 | 0 - 36.25 | G1/4 | 159598 | 1 |
| | 0 - 16 | 0 - 232 | | 159600 | |
| | 0 - 10 | 0 - 145 | | 159599 | |


Pressure gauges

| | Display range [MPa] | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|--|---------------------|---------------------|---------------------|------|--------------------|----|
| MA-63-...-EN Double scale: bar (outside scale), psi (inner scale) Male thread Suitable for service unit components of series MS To EN 837-1 | | | | | | |
|  | – | 0 - 1 | 0 - 14.5 | G1/4 | 162844 | 1 |
| PAGL-63-...-G14 Triple scale: bar (outside), MPa/psi (inside) Male thread for high-pressure applications To EN 837-1 | | | | | | |
|  | 0 - 6 | 0 - 60 | 0 - 870 | G1/4 | 1166938 1908519 | 1 |
| PAGN-63-...-V2 Single scale Male thread To EN 837-1 | | | | | | |
|  | – | 0 - 16 | – | G1/4 | 8081401 | 1 |
| MA-63 Double scale: bar (outside scale), psi (inner scale) Male thread To EN 837-1 | | | | | | |
|  | – | 0 - 0.25 | 0 - 3.6 | G1/4 | 7169 | 1 |





Flanged pressure gauges

| | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|---|---------------------|---------------------|------|--------|----|
| FMA-63-...-EN | | | | | |
| Double scale: bar (outside scale), psi (inner scale) | | | | | |
| Front panel mounting, male thread | | | | | |
| To EN 837-1 | | | | | |
|  | 0 - 2.5 | 0 - 36.25 | G1/4 | 159601 | 1 |
| | 0 - 10 | 0 - 145 | | 159602 | |
| | 0 - 16 | 0 - 232 | | 159603 | |
| FMA-63-...-C | | | | | |
| Double scale: bar (outer scale), psi (inner scale) | | | | | |
| Front panel mounting, male thread | | | | | |
| To EN 837-1 | | | | | |
|  | 0 - 0.25 | 0 - 3.6 | G1/4 | 225783 | 1 |

Präzisions-Flanged pressure gauges

| | Display range [bar] | Display range [psi] | D1 | TNR | PE |
|---|---------------------|---------------------|------|--------|----|
| FMAP-63-...-EN | | | | | |
| Double scale: bar (outer scale), psi (inner scale) | | | | | |
| Front panel mounting, male thread | | | | | |
| To EN 837-1 | | | | | |
|  | 0 - 6 | 1 - 87 | G1/4 | 161130 | 1 |
| | 0 - 16 | 0 - 232 | | 161131 | |
| | 0 - 1 | 0 - 14.5 | | 161129 | |
| | 0 - 4 | 1 - 58 | | 162843 | |

Vakuummeter

| | Display range [bar] | Display range [psi] | Display range [inHg] | D1 | TNR | PE |
|---|---------------------|---------------------|----------------------|------|--------|----|
| VAM-63-...-RG Single scale with red/green range Male thread R1/4 To EN 837-1 | | | | | | |
|  | -1 - 0 | – | – | R1/4 | 547843 | 1 |
| VAM-63-...-EN Double scale: bar (outside), inHg (inside) Male thread R1/4 To EN 837-1 | | | | | | |
|  | -1 - 0 | – | -30 - 0 | R1/4 | 537811 | 1 |
| VAM-63-...-EN Triple scale: bar (outside), inHg/psi (inside) Male thread R1/4 To EN 837-1 | | | | | | |
|  | -1 - 9 | 0 - 130 | -30 - 0 | R1/4 | 537814 | 1 |
| FVAM-63-...-EN Double scale: bar (outside scale), inHg (inner scale) Front panel mounting, male thread G1/4 To EN 837-1 | | | | | | |
|  | -1 - 0 | – | -30 - 0 | G1/4 | 537813 | 1 |





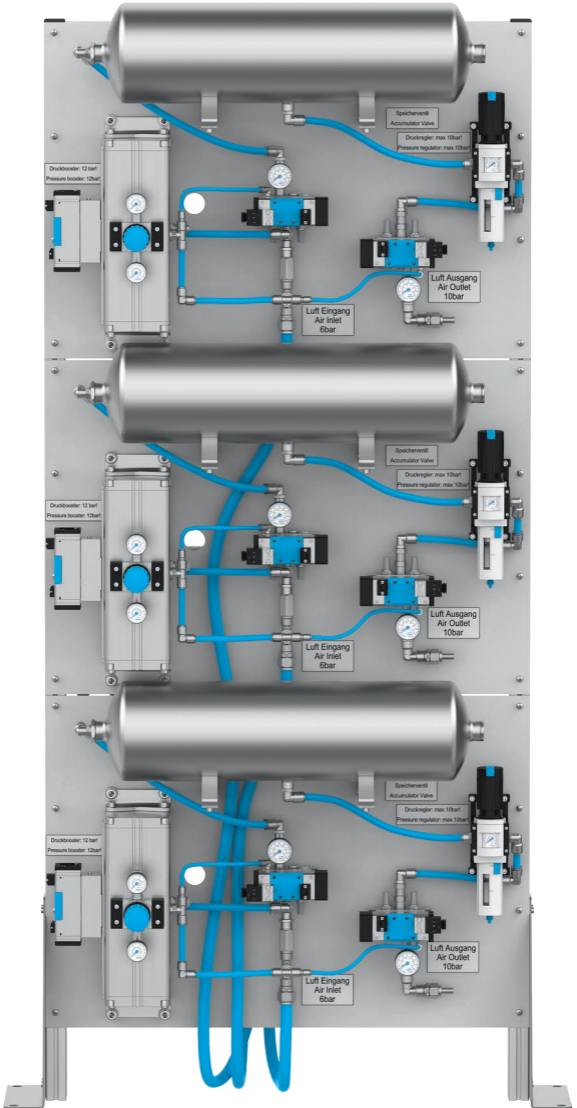
Silencers

AMTE

+ Sintered metal, short and long design

→ 405





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



You only really notice accessories when you need them and 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 out to ensure you have everything you need for a speedy installation.


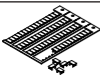

Look for our products from the Core Range ★

| | |
|---------------------------------|------------|
| + Inscription systems | |
| Inscription labels _____ | 400 |
| + Compressed air guns | |
| Air blow guns _____ | 401 |
| Air blow gun nozzles _____ | 401 |
| + Air reservoirs | |
| Compressed air reservoirs _____ | 402 |
| + Pneumatic indicators | |
| Pressure indicator _____ | 403 |
| Pressure indicator plate _____ | 403 |
| + Silencers ★ | |
| Silencers _____ | 404 |







Inscription label

| | Size | Labelling | TNR | PE |
|---|----------------------------|-----------|------|----|
| BZ – Anodised aluminium according to DIN 1471, character height 6 mm | | | | |
|  | Ø 22.3 mm | – | 4588 | 1 |
| | | EIN | 4589 | |
| | | AUS | 4590 | |
| | | START | 7814 | |
| | Ø 30.5 mm | – | 9811 | 10 |
| | | EIN | 9812 | |
| | | AUS | 9813 | |
| | | START | 7821 | |
| BZ-6 – Rigid PVC, yellow according to DIN 1471, character height 10 mm | | | | |
|  | D1: Ø 90 mm Di: 22.3 mm | NOT AUS | 6527 | 1 |
| | D1: Ø 90 mm Di: 30.5 mm | | 9815 | 10 |




Inscription label

| | Size | Size of pack | TNR | PE |
|---|-------------|--------------|---------|------|
| KM – for attachment for cable | | | | |
|  | 20x5,2 mm | 1 | 33361 | 10 |
| ASLR, IBS – to be pushed in into a carrier | | | | |
|  | 20x9 mm | 20 | 18182 | 1 |
| | 10x6 mm | 64 | 18576 | |
| | 17x9 mm | 24 | 161937 | |
| | 20x8 mm | 20 | 539388 | |
| ASLR – to be pressed in into a carrier | | | | |
|  | 23x4 mm | 30 | 541598 | 1 |
| | 15x6 mm | 40 | 565306 | |
| | 12,5x6 mm | 24 | 8003303 | |
| | 6 x 12.5 mm | 240 | 8087174 | 10 |
| | 8x5 mm | 200 | 574590 | 1000 |





Air guns

| | Connection | TNR | 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 Aluminium | | | |
|  | M12x1.25 | 184321 | 1 |
| LPZ-LD – air gun nozzle with noise reduction Chrome-plated die-cast zinc, aluminium | | | |
|  | M12x1.25 | 184322 | 1 |
| LPZ-RG – air gun nozzle with straight pipe Brass, nickel-plated | | | |
|  | M12x1.25 | 565317 | 1 |
| LPZ-RB – air gun nozzle with elbow pipe Brass, nickel-plated | | | |
|  | M12x1.25 | 565316 | 1 |






Air reservoir

| | Volume [l] | D1 | Condensate drain | TNR | PE |
|---|---------------|------|---------------------|--------|----|
| CRVZS – High-alloy stainless steel conforms to AD 2000, without condensate drain, mounting with fixing clips | | | | | |
|  | 0.1 l | G1/8 | – | 160233 | 1 |
| | 0.4 l | G1/4 | | 160234 | |
| | 0.75 l | | | 160235 | |
| | 2 l | G1/2 | | 160236 | |
| CRVZS – High-alloy stainless steel corresponds to AD 2000, with condensate drain, mounting with through-holes | | | | | |
|  | 10 l | G1 | G3/8 | 160237 | 1 |
| | 5 l | | | 192159 | |
| | 20 l | | | 534845 | |
| VZS – Powder-coated steel conforms to EN 286-1, with condensate drain, mounting with through-hole | | | | | |
|  | 20 l | G1 | G3/8 | 192161 | 1 |






Visual indicators

| D1 | | TNR | PE |
|---|---------------------|-------|----|
| OH-8 – Pressure indicator Mounting Ø 8.2 mm, response pressure > 0.12 MPa, sight cap with coloured sleeve | | | |
|  | Barbed fitting PK-3 | 10090 | 1 |
| | | 10091 | |
| | | 10088 | |
| | | 10089 | |
| OH-10 – Pressure indicator Mounting Ø 10.5 mm, response pressure > 0.14 MPa, pressure indicator pin | | | |
|  | Barbed fitting PK-3 | 9791 | 1 |
| OH-22 – Pressure indicator Mounting Ø 22.5 mm, response pressure > 0.15 MPa, sight cap with coloured sleeve | | | |
|  | G1/8 | 4131 | 1 |
| | | 4600 | |
| | | 4601 | |
| | | 4237 | |
| OH-2N – Pressure indicator plate Response pressure 0.1 MPa, with 16 pressure indicator pins, barbed connector for plastic tubing NW 3 | | | |
|  | Barbed fitting PK-3 | 7878 | 1 |



Silencers

| | D1 | q [l/min] | LpA [dB(A)] | TNR | PE |
|---|---------|-----------|-------------|--------|----|
| U – sintered metal | | | | | |
|  | PK-3 | 310 | 70 | 4646 | 10 |
| | PK-4 | 580 | 77 | 4932 | |
| U – polymer, male thread | | | | | |
|  | G1/8 | 2000 | 74 | ★ 2307 | 1 |
| | | | | 534222 | 50 |
| | G1/4 | 3300 | 76 | ★ 2316 | 1 |
| | | | | 534223 | 20 |
| | G3/8 | 6000 | 82 | ★ 2309 | 1 |
| | | | | 534224 | 20 |
| | G1/2 | 10300 | | ★ 2310 | 12 |
| | | | | 534225 | 20 |
| G3/4 | 17600 | 85 | ★ 2311 | 1 | |
| G1 | 20800 | 90 | ★ 2312 | | |
| U-...-I – polymer, female thread | | | | | |
|  | G1/8 | 2050 | 76.5 | 3670 | 1 |
| U-...-B – die-cast metal | | | | | |
|  | G1/8 | 1340 | 74 | 6841 | 1 |
| | G1/4 | 2440 | 80 | 6842 | |
| | G3/8 | 5800 | | 6843 | |
| | G1/2 | 7500 | 81 | 6844 | |
| | G3/4 | 10000 | 83 | 6845 | |
| | G1 | 17500 | 85 | 151990 | |
| U-...-B, NPT – die-cast metal | | | | | |
|  | 3/4 NPT | 11834 | 81 | 566823 | 1 |




Silencers

| | D1 | q [l/min] | LpA [dB(A)] | TNR | PE |
|---|-----------------|----------------|---------------|------------------|----|
| UC-QS – with push-in sleeve | | | | | |
| For push-in fitting QS | | | | | |
|  | QS-3 | 170 | 60 | 165005 | 1 |
| | QS-4 | 350 | | 165006 | |
| | QS-6 | 800 | | 165007 | |
| | QS-8 | 1500 | | 175611 | |
| | QS-10 | 3100 | 68 | 526475 | |
| UC – for solenoid valves CPE | | | | | |
|  | M5 | 350 | 60 | 165003 | 1 |
| | | | | 534217 | 50 |
| | M7 | 800 | 58 | 161418 | 1 |
| | | | | 534218 | 50 |
| | G1/8 | 1700 | 59 | 161419 | 1 |
| | | | | 534219 | 50 |
| | G1/4 | 3200 | 60 | 165004 | 1 |
| | | | | 534220 | 20 |
| G3/8 | 5000 | 1707427 | | 1 | |
| | | | 576759 | 20 | |
| AMTC – for solenoid valves VUVB-ST12/valve terminal VTUB-12 | | | | | |
|  | Cartridge 10 mm | 800 | 58 | 1224460 | 1 |
| AMTE-M-H – metal, short design | | | | | |
|  | M5 | 91 | 71 | ★ 1206621 | 20 |
| | G1/8 | 615 | 92 | ★ 1206622 | |
| | G1/4 | 1000 | 95 | ★ 1206623 | |
| | G3/8 | 1545 | 92 | ★ 1206624 | 10 |
| | G1/2 | 2745 | | ★ 1206625 | |
| AMTE-M-LH – metal, long design | | | | | |
|  | M3 | 95 | 55 | 1231120 | 20 |
| | M5 | 255 | 72 | ★ 1205858 | |
| | G1/8 | 1735 | 76 | ★ 1205860 | 10 |
| | G1/4 | 3140 | 83 | ★ 1205861 | |
| | G3/8 | 5430 | 82 | ★ 1205862 | |
| | G1/2 | 10500 | 88 | ★ 1205863 | |
| | G3/4 | 12400 | 85 | 1205864 | |
| | G1 | 17235 | 88 | 1205865 | |



Silencers

| | D1 | q [l/min] | LpA [dB(A)] | TNR | PE |
|---|--------------|-----------|-------------|---------|----|
| AMTE-M-LH – metal, long design | | | | | |
|  | 1/2 NPT | 9240 | 85 | 1206992 | 10 |
| | 3/8 NPT | 5365 | 83 | 1206991 | |
| | 10-32 UNF-2A | 260 | 71 | 1206994 | 20 |
| | 1/8 NPT | 1615 | 77 | 1206989 | |
| | 1/4 NPT | 3080 | 82 | 1206990 | |
| LFU – filter silencer | | | | | |
|  | G1/4 | 4000 | 78 | 539132 | 1 |
| | G3/8 | 4700 | | 539133 | |
| | G1/2 | 6000 | – | 10494 | |
| | G1 | 12500 | | 10495 | |

Silencers for special requirements

| | D1 | TNR | PE |
|---|------|---------|----|
| UO – for vacuum generators VN-T2/T3 | | | |
|  | M5 | 8141085 | 5 |
| | M7 | 197582 | 1 |
| | G1/8 | 197583 | |
| | G1/4 | 197584 | |
| UOM – for vacuum generators VN-T4/T6 | | | |
|  | G1/4 | 538432 | 1 |
| | G3/8 | 538433 | |
| UOMS – silencer extension | | | |
| For extending the silencer UOM for further noise reduction | | | |
|  | G1/4 | 538436 | 1 |
| | G3/8 | 538437 | |

Silencers for special requirements

| | D1 | TNR | PE |
|---|----|---------|----|
| KD3 – coupling socket Plug-in coupling, female thread | | | |
|  | G1 | 552252 | 1 |
| UOS-1 – For soft start/quick exhaust valve MS6-SV For low exhaust rate | | | |
|  | G1 | 1901207 | 1 |



Appendix

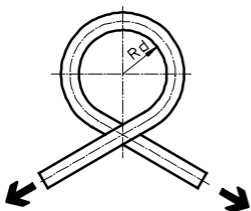


| | |
|---|-----|
| Measurement method _____ | 410 |
| Determining the optimum tubing dimensions _____ | 411 |
| Electronic catalogue and design software _____ | 412 |
| Air consumption of cylinders _____ | 412 |

Measurement method

Flow-relevant bending radius R_d

R_d



The tube is bent in the direction of its own curve until 5% of the tube's outer diameter is flattened.

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

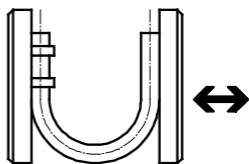


Cross-section flattened by bending the tube.

d = non-deformed tubing O.D.

d_1 = deformed tubing O.D.

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 the flow rate.

Determining the optimum tubing dimensions

Make sure you 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 maintain an optimum air supply. This ensures there is no 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.

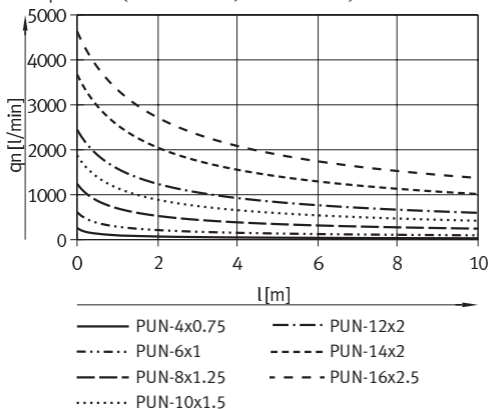
Install the shortest possible tubing to ensure that the

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. Push-in fittings from Festo do not restrict the nominal diameter of the barbed tubing connector.

Even the shape of the tube has an effect on 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 ($P_1 = 0.6 \text{ MPa}$, $P_2 = 0.5 \text{ MPa}$)



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 features step by step to find an appropriate configuration. Coloured designations and symbols support you during this process. The product graphics for complex products change dynamically to match

your configuration. In addition, you can access all further 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 just save the configuration in the shopping basket.

→ www.festo.com/catalogue

Air consumption of cylinders

Calculate 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 calculated

for you. The input table including the result can be exported directly to Excel.

→ www.festo.com/x/air-consumption





Festo worldwide
www.festo.com