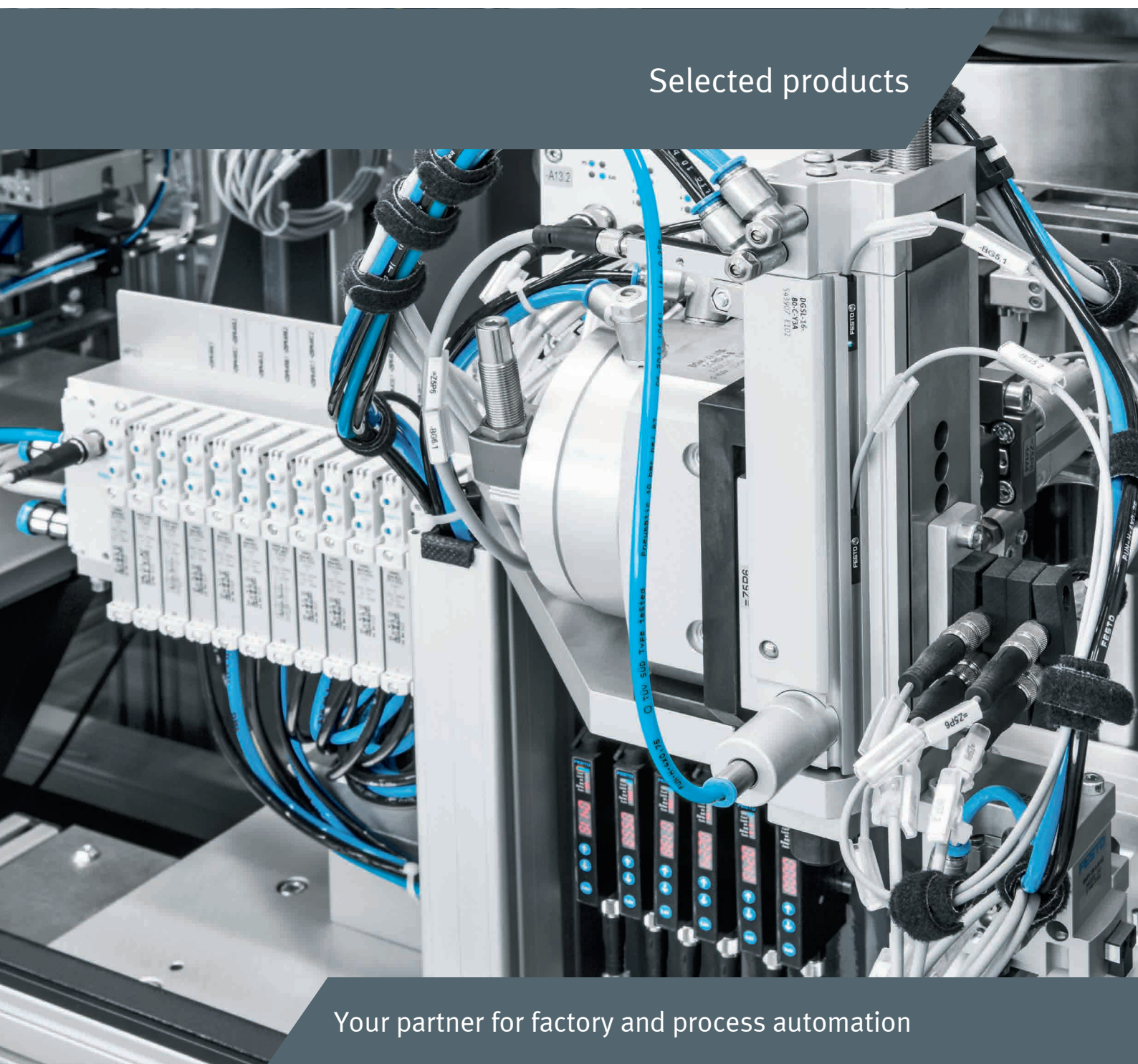


FESTO

Selected products



Your partner for factory and process automation

Selected products

Your partner for factory and process automation

10th edition

Edition 2024/06

All technical data is correct at the time of going to print.

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Festo SE & Co. KG

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Germany

Legend:

Grey text on the product
pages:

You can find these products
online

Example:

Standards-based cylinder
DSBG

→ www.festo.com/catalogue/dsbg

Blue type code on the product
pages:

Type code for online searches

dsbg

→ www.festo.com/catalogue/dsbg

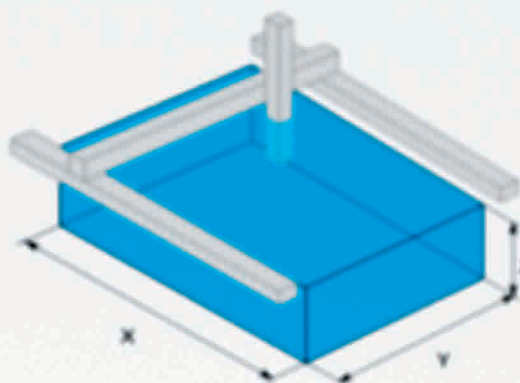
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Editorial

Axis definition

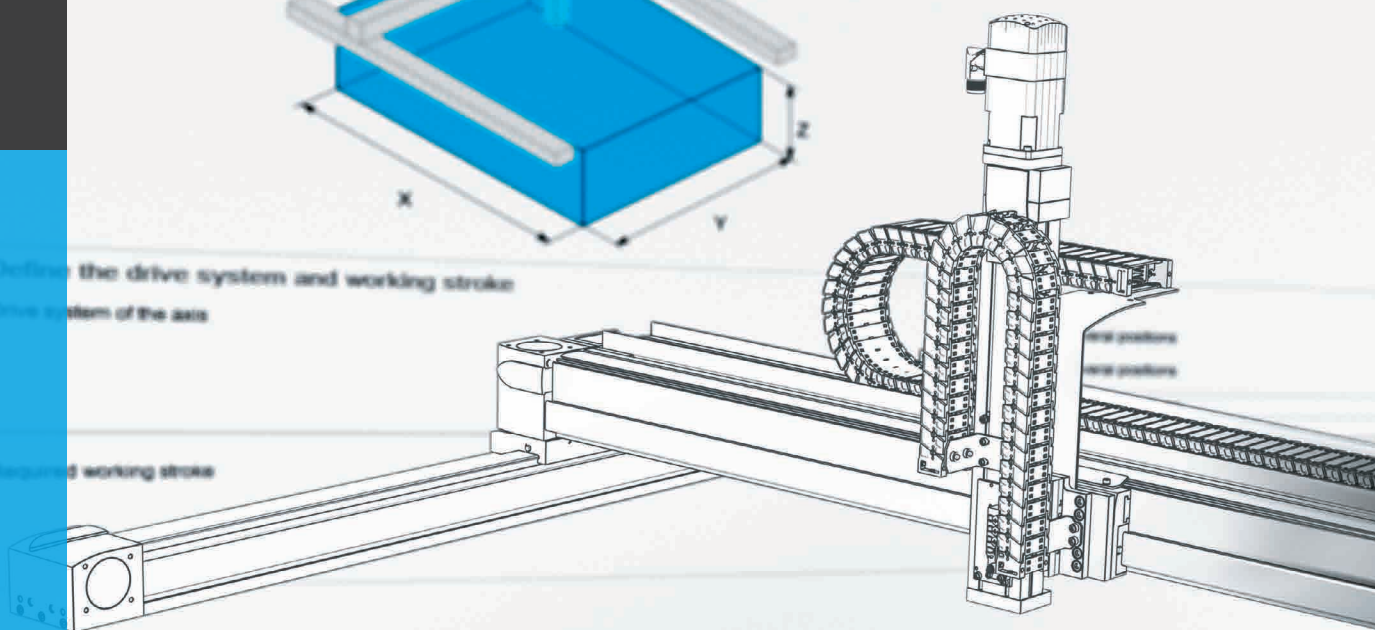
Find your handling solution in a few steps

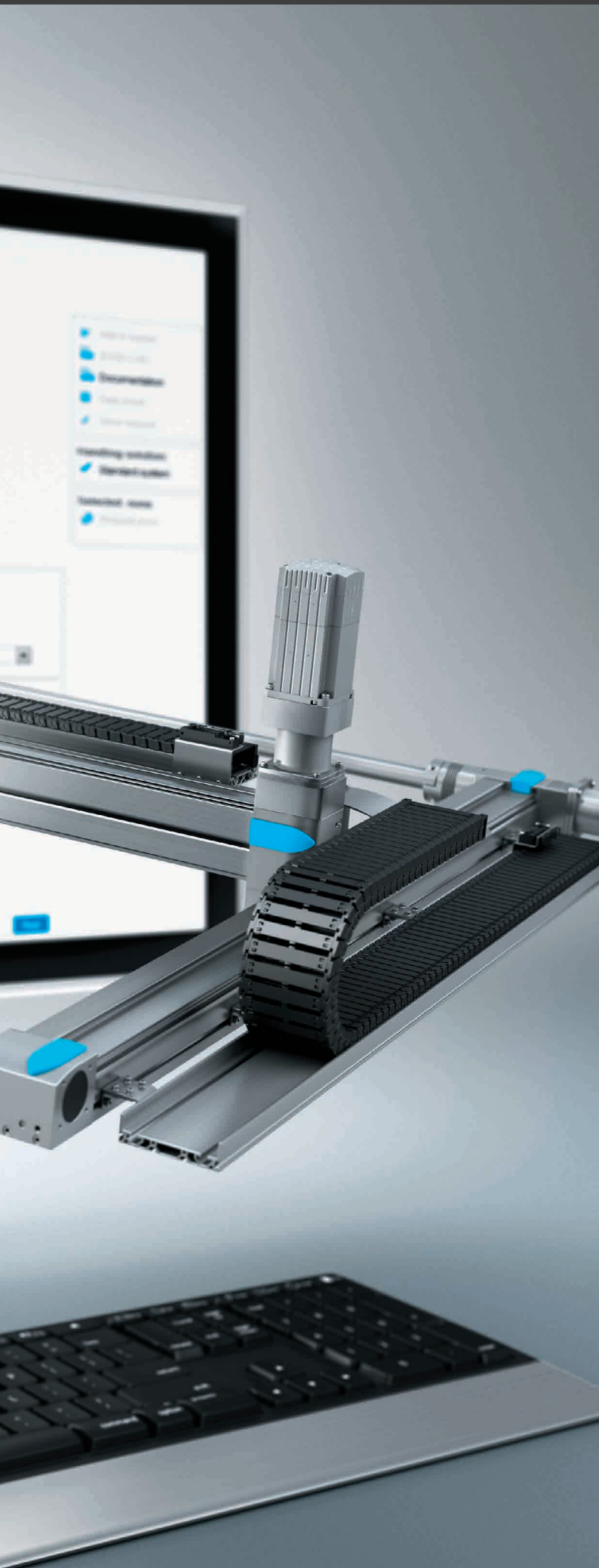


Define the drive system and working stroke

Drive system of the axis

Required working stroke





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Wide range of industry segments – one competent partner.	10
Your partner for safety	12

Preface



We are pneumatic.
We are electric.
We are 30,000 technology-neutral solutions.

→ WE ARE THE ENGINEERS
OF PRODUCTIVITY.

Dear distributors, dear customers,

The new catalogue is now hot off the press. As soon as you start leafing through it, you will see that you can once again draw on our full range of products. Whether electric, pneumatic or a combination, you are bound to find the automation solution that is just right for you.

The new, highly innovative AP interface is integrated in virtually all new valve terminal products. In the automation system CPX-AP-A in IP65/67, for example, it enables communication in real time with a transmission speed of 200 Mbit/s full duplex. The parameterisable and scalable remote IO system offers maximum performance and is also suitable for high G forces in moving applications, such as those with robots.

The valve terminals VTUX and VTSA also use this AP interface. I particularly recommend the VTUX, our latest and trend-setting valve terminal. Just take a closer look at this innovative, flexible and high-performing valve terminal. This flexibly configurable, modular system is ready for the future, and yet easy to configure and commission, even for electric interfaces. This is done either via the controller manufacturer's tools or quickly and easily via the Festo Automation Suite. With the AP interface advanced engineering, diagnostics and predictive maintenance are of course integrated. The dedicated data channel for acyclic data can easily be used for big data. In order to make the most of the full potential that these new products have to offer, I would also recommend our new, high-performing connecting cables NEBA. These really come into their own in harsh environments or in applications with constant movement or vibrations.

Another highlight in our catalogue is the electric axis ELGD. It is available as a drive screw if you need high precision with large loads. Or as a toothed belt, if your requirements are high dynamic response and short positioning times with long strokes. There are also particularly flat variants that are suitable for solutions with limited installation space.

Last but not least, we will be happy to support you with planning your solutions. On our homepage www.festo.com you will find many tools that, like the Festo Automation Suite, greatly speed up the planning and commissioning of our products.

I could have recommended many more products during our brief tour of the real highlights in this catalogue, for example for process automation, electronics or battery production. Just take a look – I hope you will be inspired!

Kind regards,



Frank Notz
Member of the Management Board Sales of Festo SE & Co.KG

Digital products and services

Comprehensive digitalisation concepts: AI becomes the new standard

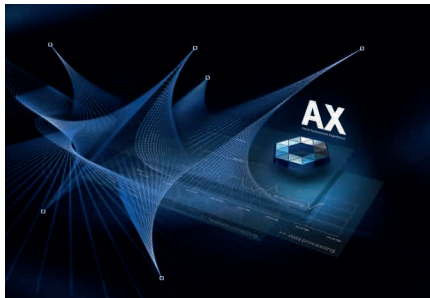
All our development activities for digitalised automation revolve around one question: how can we make you more productive along the entire value chain?

From initial engineering, procurement and commissioning to maintenance and operation? At Festo you will find the right digital offer for your needs.

Below you will see a selection that we have compiled for you.

→ www.festo.com/engineeringtools

The Festo Automation Experience (Festo AX)



You can already optimise your processes right now with data analytics, machine learning and artificial intelligence from Festo.

- Smart maintenance
- Predictive maintenance
- Predictive quality
- Predictive energy

This is how customers can achieve optimisations of 25%, e.g. thanks to reduced unplanned downtime.

Smartenance, for example, is suitable for simple digital maintenance. We use Festo AX to optimise your applications based on data, either as part of a project or with a standard app.

→ www.festo.com/Smartenance

→ www.festo.com/AX

Pneumatic Sizing



You may have already asked yourself if there's a quicker and more accurate way to calculate the optimal pneumatic control chain. Yes, there is! Pneumatic Sizing doesn't just offer you one design version that is suitable for your application, but up to three. By entering three application parameters such as load, stroke and positioning time, you will get up to three suggestions: the precise result as well as the performance and eco versions.

Pneumatic Sizing allows you to benefit from:

- Optimal air consumption
- The ideal travel time per cycle
- Direct connections to the Festo Online Shop.

→ www.festo.com/pneumaticsizing

Festo Design Tool 3D



Festo Design Tool 3D is a 3D product configurator for generating Festo-specific CAD product combinations. It will make your search for matching accessories for standard products with fast delivery, such as the pneumatic cylinder series DSBC, DSNU and ADN, faster, more reliable and easier in the future. At the same time documentation requires less effort and traceability is easy.

The benefits for design, purchasing and commissioning:

- Quick and easy automated generation of product combinations
- Shorter bills of materials, fewer sources of error and optimised ordering processes
- Native CAD models for retaining CAD/component links (CAD Constraints, CAD Mates)
- Simplified, accelerated warehousing and assembly processes

→ www.festo.com/fdt-3d-online

CO2 & TCO Guide



Before choosing the technology for your system, you should make sure you know how high the CO2 consumption will be during operation and what you can expect the total cost of ownership (TCO) to be in the future.

Our CO2 TCO tool enables you to compare electric and pneumatic drives from our product portfolio. It provides a clear comparison of the energy consumption, CO2 emissions, the procurement costs and the

total cost of ownership and thus provides you with all the key factors as a valuable decision-making support.

- Guide for selecting the right technology
- Comparison of pneumatic and electric drives
- Comparison of energy consumption, CO2 emissions, procurement costs and total cost of ownership

→ www.festo.com/x/co2-tco

Simplified Motion Series – Solution Finder



→ www.festo.com/x/simplified-motion-series

The simplicity of pneumatics is now combined for the first time with the advantages of electric automation thanks to the Simplified Motion Series. These integrated drives are the perfect solution for all users who are looking for an electric alternative for very simple movement and positioning tasks, but don't want the commissioning process for traditional electric drive systems that can often be quite complex.

- Configure the right product for any simple linear or rotary movement.
- Select the product and order it in the Online Shop.

Schematic Solution for EPLAN projects



→ www.festo.com/eplan

This circuit diagram service for complete EPLAN projects is unique to Festo: EPLAN Schematic Solution documents your individually configured solutions in next to no time. 3D CAD data and product information for standard catalogue products have already been available for 15 years. With EPLAN Schematic Solution you simply enter the order code and receive the complete plan in just a few minutes – error-free and trouble-free. No more tedious searching for, downloading and piecing together individual components.

- Intuitive, fast and reliable: error-free documentation at the push of a button
- Complete mechatronic display of configured products like CPX, VTSA, MPA
- Reliably automated according to the standards IEC 61355, IEC 81346, ISO 1219

FluidDraw – circuit diagrams for complete systems



→ www.festo.com/fluiddraw

Planning and documenting electric and pneumatic components in your system have never been easier. FluidDraw gives you direct access to the catalogue and any online baskets you saved at Festo, as well as letting you import additional databases and use a standardised symbol library. For maximum convenience choose the FluidDraw 365 software subscription with regular updates and the latest upgrades.

- IMX and Eplan interfaces
- Tubing lengths, wire and cable lengths
- Standardised hydraulic symbols to ISO 1219

Configurator for process valve units and quarter turn actuator units



→ www.festo.com/kvza

→ www.festo.com/kvzb

→ www.festo.com/kdfp-dfpd

The configurator for process valve units (KVZA and KVZB) and quarter turn actuator units (KDFP-DFPD) significantly simplifies engineering and procurement processes. The tool ensures quick and successful project management by taking all relevant factors into account: from initial product search, configuration, sizing and documentation right through to ordering and delivery of the ready-to-install units – everything is combined in one tool, including customer-specific requests.

All components come from a single source, are pre-assembled and perfectly compatible with each other.

- Tailored and ready-to-install solutions
- Increased reliability for your specific application
- CAD data for configuration and documentation for direct download
- The system ID can also be used for subsequent orders
- Reliable planning with immediate price and delivery time information

VTUX valve terminal – platform for the future

The VTUX sets new standards in terms of materials, modularity and communication.

The successor to the established CPV, MPA-L/S and VTUG ranges impresses with its high flow rate. And with the communication system AP-I and AP-A, it is the perfect platform for digitised production!



- High flow rates of up to 730 l/min
- Lightweight, made of high-performance polymer
- Extremely flexible to use, for communication and machine concepts
- Highly modular
- Open for future developments
- It combines all the benefits of CPV, MPA and VTUG in one platform

Flexible

Thanks to internal communication, the modules can be arranged as required. This provides maximum freedom when designing the valve terminal.

Machine concepts are a priority

The VTUX is clearly geared to the control architecture of the machine – it always fits, whether for multipin or bus technology!

Superb communication

AP communication technology ensures the connections are really simple, even over long distances, as if all system participants were in the same place.

Tubing connections?

Easy to configure!

Even the fittings can be configured to the required tubing diameter, saving space and ensuring optimised air flows. You can also define as many pressure zones as you like.

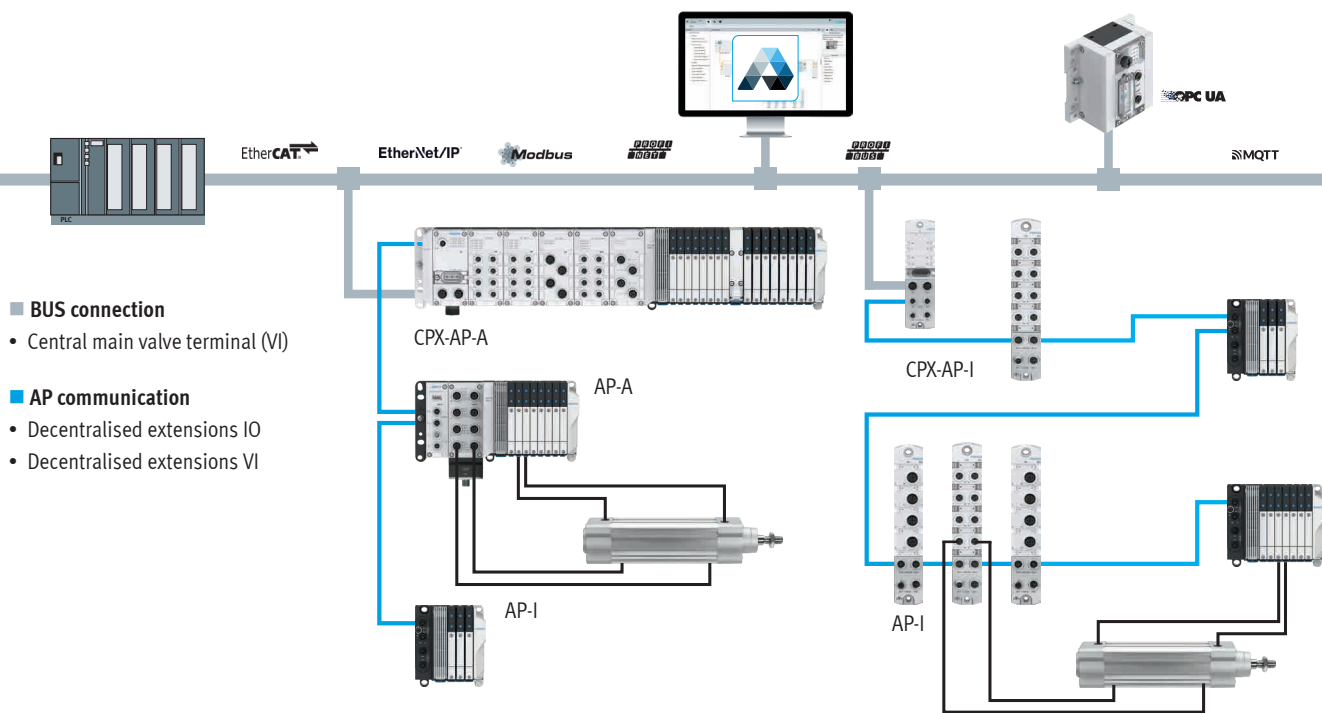
Can be used virtually anywhere

Not only can the VTUX be used with short compressed air lines, it also has a lightweight design, making it ideal for use on front end units, such as a gantry or robot arm.

The VTUX integrated in the AP communication network

AP ensures flawless and future-proof communication between the components of an automation system:

- Faster data rates up to 200 MBaud
- Faster cycle times up to 250 µs
- Process data processing 2 kByte input / 2 kByte output
- Real-time communication to the valve terminal



More flexible than ever

The valve terminal can be designed as required, both in terms of how the different-sized valve sub-bases and functionalities are arranged, and in terms of splitting the functions into any number of sub-units.



Compact and lightweight

Thanks to the innovative design and construction, the VTUX offers all the advantages for decentralised machine concepts. It is lightweight, has a small footprint, offers excellent flow rates and is attractively priced.

Wide range of industry segments – one competent partner.

Food, drink and packaging industry



- From continuous processes, and food and splash zones to end line packaging:
- Solutions for controlling special media flows
 - Automation components in easy-to-clean design and with food-safe materials
 - Handling systems with suitable gripper solutions
 - Technology mix: electric, pneumatic and servo-pneumatic

→ www.festo.com/food

Automotive industry and Tier 1 suppliers



- Flexible automation solutions for electromobility
- Intelligent and energy-efficient technologies
- Safety-related concepts and components
- Matching product portfolio – electric, pneumatic, servo-pneumatic
- Engineering and industry competencies along the entire process chain

→ www.festo.com/automotive

Small parts assembly and electronics industry



- Expertise along the entire process chain:
- From wafer production at the front end to finished chips at the back end
 - For quality inspection and assembly of the finished products
 - In small parts assembly, electronics or non-electronics

→ www.festo.com/electronics

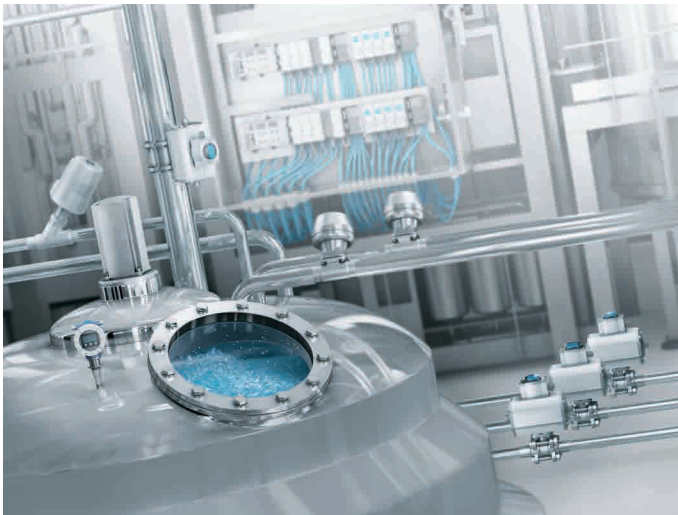
LifeTech – technologies for the life sciences



- Delivery of automation components for key processes:
 - Laboratory automation
 - Medical technology
 - In vitro diagnostics
 - Point-of-care applications
- Kinematics for sample handling
- Liquid handling with dispensing and pipetting systems
- Precise regulation of medical gases

→ www.festo.com/lifetech

Biotech, pharma and cosmetics industry



- Delivery of automation components for key processes:
 - API manufacturing
 - Manufacturing pharmaceuticals, cosmetics and personal care products
 - Filling and packaging
- Customer-oriented consulting and engineering
- Compressed air quality analyses
- Energy Saving Services

→ www.festo.com/biotech

Water treatment



- Delivery of automation components for key processes:
 - Water treatment
 - Wastewater treatment
- Customer-oriented consulting and engineering
- Compressed air quality analyses
- Energy Saving Services

→ www.festo.com/water

Your partner for safety

Reduce risk – think preventively: Safety@Festo

Machines have to be designed in a way that protects people, animals, property and the environment from harm. The objective is to prevent physical damage of any type. With safety-oriented pneumatics from Festo, you can be sure that implemented safety measures are in compliance with the EC Machinery Directive. Festo offers many safety solutions for the entire control chain in the area of electrics and pneumatics, for input, logic and output.

These can be individual products, customer-specific solutions, proposals for circuit diagrams or training courses. Festo Didactic offers training and consulting services on standards and directives as well as risk assessments and assessments of technical safety measures.

Normal operation



Safety door switch



Light curtain



Two-hand control

Special operation, e.g. collaborative operation



Laser scanner



Camera system

Set-up and service operation



Mode selector switch



Enabling buttons



Safety shut-off mat

Emergency operation



Emergency stop device

Monitoring functions



Limit switch



Displacement encoder



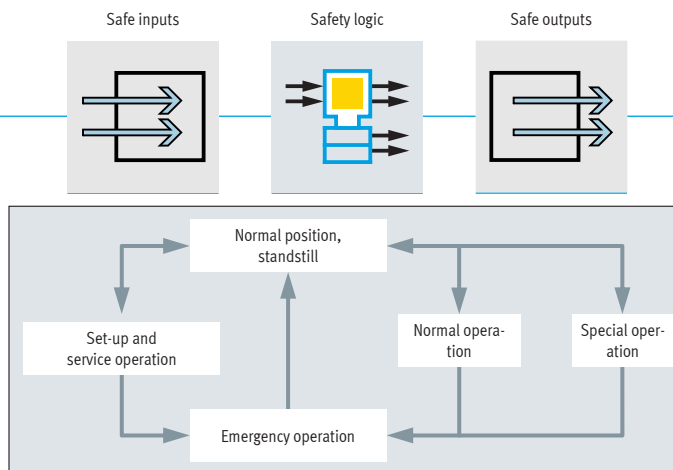
Pressure switch



Switching position monitoring



Position monitoring



Simply ask your local contact person or find out more at www.festo.com/safety

Pneumatic drive technology in accordance with VDMA standard sheet 24584

Safety sub-functions that affect systems



SDE – Safe de-energisation



SEZ – Safe energisation

PUS (LOTO) – Prevention of unexpected
start-up;
lockout/tagout

Safety sub-functions that affect drives



STO – Safe torque off



PUS – Prevention of unexpected start-up



SS1 – Safe stop 1



SSC – Safe stopping and closing



SOS – Safe operating stop



SS2 – Safe stop 2



SDI – Safe direction

SSB – Safe stopping and blocking (in
mechanics)

SB – Safe blocking (not part of VDMA 24584)



SBC – Safe brake control

Monitoring safety sub-functions



SLS – Safely limited speed



SLT – Safely limited torque (force)



SET – Safe equilibrium of torque

Electric drive technology in accordance with ISO 61800-5-2

Safety sub-functions that affect drives



STO – Safe torque off



SS1 – Safe stop 1



SOS – Safe operating stop



SS2 – Safe stop 2



SDI – Safe direction

SSB – Safe stopping and blocking (not part of
ISO 61800-5-2)

SBC – Safe brake control



SLS – Safely limited speed

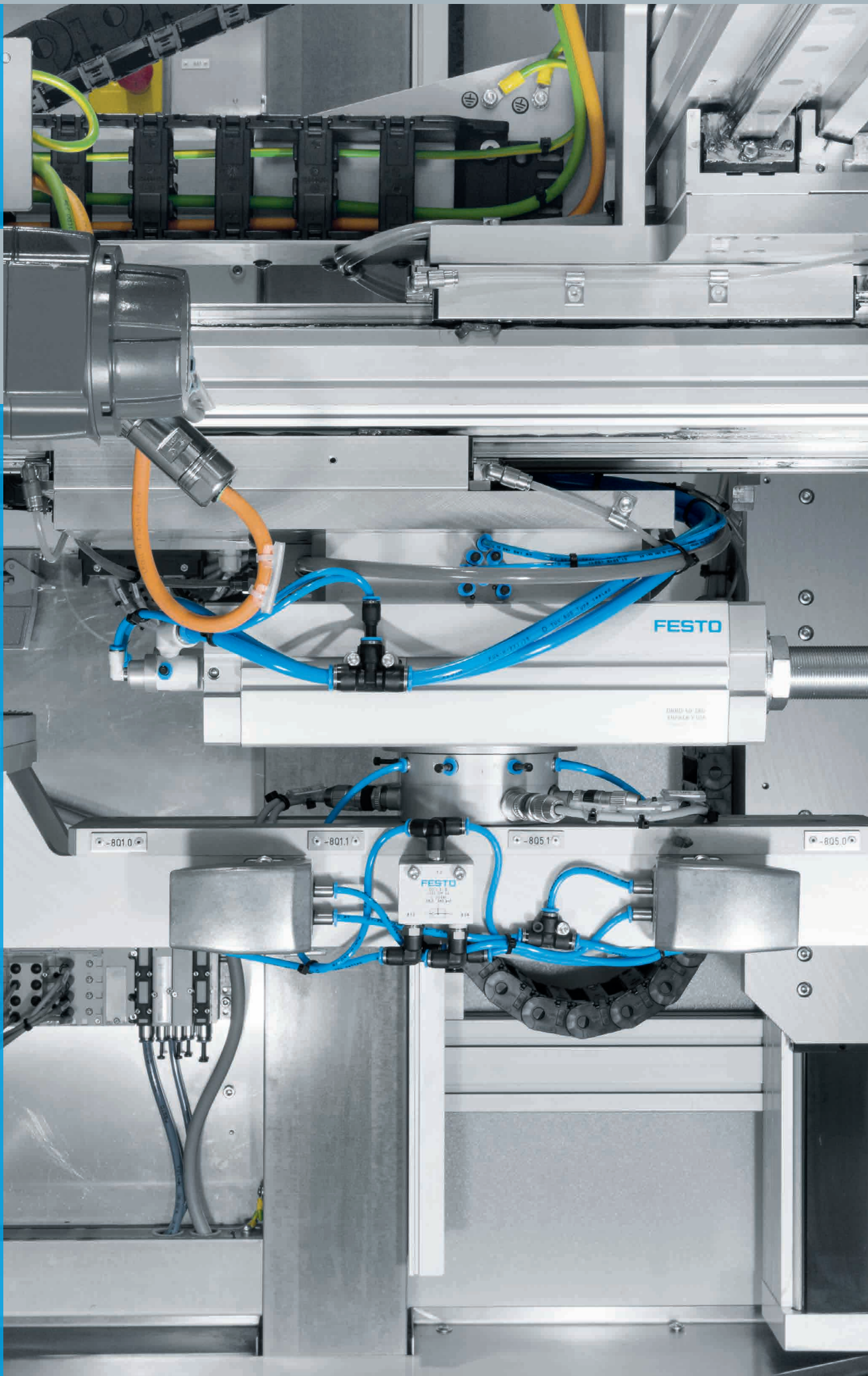


SLT – Safely limited torque

Monitoring safety sub-functions

01

Pneumatic drives



Highlights



Compact cylinders

ADN-S/AEN-S

- + Minimal installation space
- + Perfect for micro-movements

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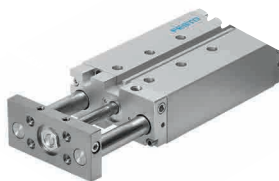


Mini slides

DGST

- + Powerful twin-piston drive
- + Shortest mini slide on the market
- + Precision recirculating ball bearing guide
- + Versatile mounting options

→ 60



Guided drives

DFM

- + Minimal cycle times
- + High load capacity with integrated guides
- + Wide range of mounting options

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Piston rod cylinders ›

Round cylinders

			
	Standards-based cylinders DSNU	Round cylinders DSNU	Round cylinders DSNU-S
Operating mode	Double-acting	Double-acting	Double-acting
Piston diameter	8 mm, 10 mm, 12 mm, 16 mm, 20 mm, 25 mm	32 mm, 40 mm, 50 mm, 63 mm	8 mm, 12 mm, 16 mm, 20 mm, 25 mm
Theoretical force at 0.6 MPa (6 bar, 87 psi), advancing	23 ... 295 N	482.5 ... 1870.3 N	30.2 ... 294.5 N
Stroke	1 ... 500 mm	1 ... 500 mm	1 ... 200 mm
Cushioning	Elastic cushioning rings/plates at both ends, self-adjusting pneumatic end-position cushioning, pneumatic cushioning, adjustable at both ends	Elastic cushioning rings/plates at both ends, self-adjusting pneumatic end-position cushioning, pneumatic cushioning, adjustable at both ends	Elastic cushioning rings/plates at both ends, Self-adjusting pneumatic end-position cushioning
Description	• ISO 6432 • Wide range of variants for customised applications • Good running performance and long service life • Self-adjusting pneumatic end-position cushioning saves time during commissioning and adapts optimally to load and speed changes • Piston rod with female or male thread • For position sensing • Variants recommended for production systems for manufacturing lithium-ion batteries	• Wide range of variants for customised applications • Good running performance and long service life • Self-adjusting pneumatic end-position cushioning saves time during commissioning and adapts optimally to load and speed changes • Piston rod with female or male thread • For position sensing • Variants recommended for production systems for manufacturing lithium-ion batteries	• Short variant of ISO cylinder DSNU • Quick and easy installation, even in tight spaces • Light weight • Self-adjusting pneumatic end-position cushioning saves time during commissioning and adapts optimally to load and speed changes • Piston rod with male thread • For position sensing • Variants recommended for production systems for manufacturing lithium-ion batteries • Sustainable in production thanks to reduced use of materials
→ Page/online	27	29	31

Product overview

Piston rod cylinders >

Tie rod and profile barrel cylinders

	 Standards-based cylinders DSBC	 Standards-based cylinders DSBG	 Standards-based cylinders DSBG	 Standards-based cylinders, clean design DSBF
Operating mode	Double-acting	Double-acting	Double-acting	Double-acting
Piston diameter	32 mm, 40 mm, 50 mm, 63 mm, 80 mm, 100 mm, 125 mm	32 mm, 40 mm, 50 mm, 63 mm, 80 mm, 100 mm, 125 mm	160 mm, 200 mm, 250 mm, 320 mm	32 mm, 40 mm, 50 mm, 63 mm, 80 mm, 100 mm, 125 mm
Theoretical force at 0.6 MPa (6 bar, 87 psi), advancing	415 ... 7363 N	415 ... 7363 N	12064 ... 48255 N	415 ... 7363 N
Stroke	1 ... 2800 mm	1 ... 2800 mm	1 ... 2700 mm	1 ... 2800 mm
Cushioning	Elastic cushioning rings/plates at both ends, self-adjusting pneumatic end-position cushioning, pneumatic cushioning, adjustable at both ends	Elastic cushioning rings/plates at both ends, self-adjusting pneumatic end-position cushioning, pneumatic cushioning, adjustable at both ends	Elastic cushioning rings/plates at both ends, pneumatic cushioning adjustable at both ends	Elastic cushioning rings/plates at both ends, self-adjusting pneumatic end-position cushioning, pneumatic cushioning, adjustable at both ends
Description	• ISO 15552 (ISO 6431, VDMA 24562) • Self-adjusting pneumatic end-position cushioning saves time during commissioning and adapts optimally to load and speed changes • Standard profile with two sensor slots • Wide range of variants for customised applications • Comprehensive range of mounting accessories for just about every type of installation • For position sensing • Variants recommended for production systems for manufacturing lithium-ion batteries	• ISO 15552 (ISO 6431, VDMA 24562) • Sturdy tie rod design • Self-adjusting pneumatic end-position cushioning saves time during commissioning and adapts optimally to load and speed changes • Comprehensive range of mounting accessories for just about every type of installation • For position sensing • Variants to EU Explosion Protection Directive (ATEX)	• ISO 15552 (ISO 6431, VDMA 24562) • Sturdy tie rod design • Pneumatic end-position cushioning adjustable at both ends • Optionally without adjustable pneumatic cushioning at both ends, and position sensing, resulting in a price advantage • Optionally with spacer bolt attachment • For position sensing • Variants to EU Explosion Protection Directive (ATEX)	• ISO 15552 • Increased corrosion protection • Easy-to-clean design • FDA-approved lubrication and sealing on the basic design • Long service life thanks to optional dry-running seal • Self-adjusting pneumatic end-position cushioning saves time during commissioning and adapts optimally to load and speed changes • For position sensing
→ Page/online	33	dsbg	dsbg	36

Piston rod cylinders ›

Compact, short-stroke and flat cylinders

	 Compact cylinders ADN-S	 Compact cylinders AEN-S	 Compact cylinders ADN
Operating mode	Double-acting	Pushing	Double-acting
Piston diameter	6 mm, 10 mm, 12 mm, 16 mm, 20 mm, 25 mm, 32 mm, 40 mm, 50 mm, 63 mm	6 mm, 10 mm, 12 mm, 16 mm, 20 mm, 25 mm, 32 mm, 40 mm, 50 mm, 63 mm	12 mm, 16 mm, 20 mm, 25 mm, 32 mm, 40 mm, 50 mm, 63 mm, 80 mm, 100 mm, 125 mm
Theoretical force at 0.6 MPa (6 bar, 87 psi), advancing	17 ... 1870 N	13 ... 1780	51 ... 7363 N
Stroke	5 ... 50 mm	5 mm, 10 mm, 25 mm	1 ... 500 mm
Cushioning	No cushioning, elastic cushioning rings/plates at both ends	No cushioning, elastic cushioning rings/plates at both ends	Elastic cushioning rings/plates at both ends, self-adjusting pneumatic end-position cushioning
Description	- Minimal installation space - Very lightweight - Ideal for small movements - Piston rod with female or male thread - For position sensing - Variants recommended for production systems for manufacturing lithium-ion batteries - Sustainable in production thanks to reduced use of materials	- Minimal installation space - Very lightweight - Ideal for small movements - High forces in a compact size - Piston rod with female or male thread - For position sensing	- ISO 21287 - Up to 50% less installation space than comparable standards-based cylinders to ISO 15552 - Piston rod with female or male thread - Wide range of variants for customised applications - For position sensing - Variants recommended for production systems for manufacturing lithium-ion batteries
→ Page/online	39	39	44

Piston rod cylinders ›

Stainless-steel cylinders

	 Standards-based cylinders CRDSNU, CRDSNU-B	 Round cylinders CRDSNU, CRDSNU-B
Operating mode	Double-acting	Double-acting
Piston diameter	12 mm, 16 mm, 20 mm, 25 mm	32 mm, 40 mm, 50 mm, 63 mm, 80 mm, 100 mm
Theoretical force at 6 bar, advancing	68 ... 295 N	483 ... 4712 N
Stroke	1 ... 500 mm	1 ... 500 mm
Cushioning	Elastic cushioning rings/plates at both ends, self-adjusting pneumatic end-position cushioning, pneumatic cushioning, adjustable at both ends	Elastic cushioning rings/plates at both ends, self-adjusting pneumatic end-position cushioning, pneumatic cushioning, adjustable at both ends
Description	- ISO 6432 - Corrosion-resistant against aggressive ambient conditions - Easy-to-clean design - Long service life thanks to optional unlubricated seal - Wide range of variants for customised applications - Self-adjusting pneumatic end-position cushioning saves time during commissioning and adapts optimally to load and speed changes - For position sensing	- Corrosion-resistant against aggressive ambient conditions - Easy-to-clean design - Long service life thanks to optional unlubricated seal - Wide range of variants for customised applications - Self-adjusting pneumatic end-position cushioning saves time during commissioning and adapts optimally to load and speed changes - For position sensing
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2024/06 – Subject to change

Software-Tools

Mass moment of inertia		Juggling pencils and pocket calculators is now a thing of the past. Whether you have discs, blocks, push-on flanges, grippers, etc.: this tool does the job of calculating all the mass moments of inertia. Just save, send or print and you're finished. This tool can be found at → www.festo.com/x/mass-moment-of-inertia
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Semi-rotary drives ›

Semi-rotary drives with rotary vane

	 Semi-rotary drives DRVS
Size	6, 8, 12, 16, 25, 32, 40
Theoretical torque at 6 bar	0.15 ... 20 Nm
Permissible mass moment of inertia	6.5 ... 350 kgcm ²
Position sensing	Via proximity switch
Swivel angle	0 ... 270°
Description	• Double-acting semi-rotary drive with rotary vane • Lighter than other semi-rotary drives • Fixed swivel angle, adjustable swivel angle possible with the help of accessories • Housing protected against splash water and dust • Sustainable in production thanks to reduced use of materials
→ Page/online	56

Product overview

Semi-rotary drives >

Rotary drives with rack and pinion

	 Semi-rotary drives DRRD
Size	8, 10, 12, 16, 20, 25, 32, 35, 40, 50, 63
Theoretical torque at 6 bar	0.2 ... 112 Nm
Permissible mass moment of inertia	0.0015 ... 42 kgm²
Position sensing	Via proximity switch
Swivel angle	180°
Description	• Twin-piston drive, power transmission via rack and pinion principle • Extremely accurate in the end positions • Very high load bearing capacity • Very good axial run-out at the flanged shaft • Greater stability even with smaller sizes • Sustainable in production thanks to reduced use of materials
→ Page/online	58

Guided drives >

Drives with slides

	 Mini slides DGST	 Mini slides DGSL
Piston diameter	6 mm, 8 mm, 10 mm, 12 mm, 16 mm, 20 mm, 25 mm	4 mm, 6 mm, 8 mm, 10 mm, 12 mm, 16 mm, 20 mm, 25 mm
Theoretical force at 6 bar, advancing	34 ... 589 N	17 ... 483 N
Stroke	10 ... 200 mm	10 ... 200 mm
Cushioning	Short elastic cushioning rings/pads at both ends, Elastomer cushioning, double-sided, stroke not adjustable, Elastic cushioning rings/pads at both ends with fixed stop, Elastic cushioning rings/plates at both ends, External hydraulic cushioning	Short elastic cushioning rings/plates at both ends, no cushioning, elastic cushioning rings/plates at both ends, elastic cushioning rings/plates at both ends with fixed stop, shock absorber, self-adjusting, progressive, at both ends, with reducing sleeve, shock absorber, progressive, at both ends
Position sensing	Via proximity switch	Via proximity switch
Description	• Powerful twin-piston drive • Shortest mini slide on the market • Precise recirculating ball bearing guide • Versatile mounting options • Version with mirrored supply port configuration and sensor slots for compact assembly available to order using the configurator • Variants recommended for production systems for manufacturing lithium-ion batteries • Sustainable in production thanks to reduced use of materials	• High load capacity and positioning accuracy • Maximum movement precision thanks to ground-in ball bearing cage guide • Maximum flexibility thanks to 8 sizes and a large selection of cushioning variants • Variant with clamping unit for fixing the guide slide in any position, frictional locking • Variant with end-position locking for fixing the guide slide in the unpressurised, retracted state, positive locking • Wide variety of mounting and attachment options • Compact design
→ Page/online	60	dgsl

Guided drives >

Drives with guide rods



Guided drives
DFM, DFM-B

Piston diameter	6 mm, 10 mm, 12 mm, 16 mm, 20 mm, 25 mm, 32 mm, 40 mm, 50 mm, 63 mm, 80 mm, 100 mm
Theoretical force at 6 bar, advancing	17 ... 4712 N
Stroke	5 ... 400 mm
Cushioning	Elastic cushioning rings/plates at both ends, pneumatic cushioning adjustable at both ends, shock absorber, soft characteristic curve
Position sensing	Via proximity switch
Description	• Drive and guide unit in a single housing • High resistance to torques and lateral forces • Plain or recirculating ball bearing guide • Wide variety of mounting and attachment options • Wide range of variants for customised applications • Variants recommended for production systems for manufacturing lithium-ion batteries
→ Page/online	63

Software-Tools

Feed separators



This tool helps you to select the right separator of the type HPV from Festo for your application. Let yourself be guided by the program – enter the general parameters and you will receive at least one suggestion for the product best suited to your application.

This tool can be found at

→ www.festo.com/x/feed-separator-selection-tool

Feed separators



Feed separators
HPVS



Feed separators
HPV

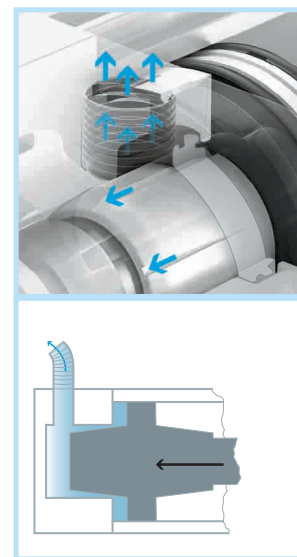
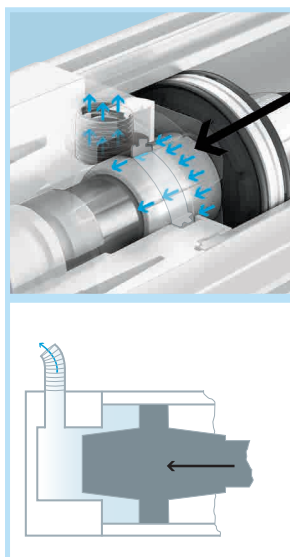
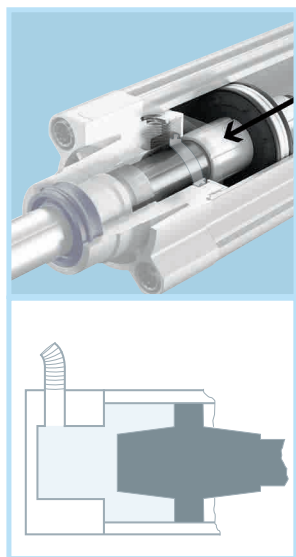
Operating mode	Double-acting	Double-acting
Piston diameter	10 mm, 14 mm, 22 mm	10 mm, 14 mm, 22 mm
Stroke	10 ... 60 mm	10 ... 60 mm
Theoretical force at 6 bar, advancing	45 ... 225 N	45 ... 225 N
Description	• Version with one plunger • With non-rotating piston rod • Proximity sensor SME/SMT-8 can be integrated in the housing	• Version with two plungers • With twin piston, non-rotating piston rod and locking mechanism • Cost-effective: replaces at least two drives in the feed process • Proximity sensor SME/SMT-8 can be integrated in the housing
→ Page/online	hpvs	hvp

Self-adjusting end-position cushioning PPS for standards-based cylinders

More productivity, less work: PPS

Simply ingenious: the unique, self-adjusting end-position cushioning PPS saves huge amounts of time during commissioning, adjusts optimally to changes in load and speed and allows the cylinder to move dynamically and gently into the end position. This reduces wear on the entire system.

This and many other advantages are the result of the unique design with longitudinal slots which allow air to escape.



Use the advantages of PPS – in these cylinders

DSNU
→ 27



DSNU-S
→ 31



DSBC
→ 33



ADN
→ 44



CRDSNU
→ 47



Software tool

Festo Design Tool 3D



The Festo Design Tool 3D is a 3D product configurator for generating specific CAD product combinations from Festo. The configurator makes your search for the right accessory easier, more reliable and faster.

You can then order the module that has been created as a single order item, either completely pre-assembled or as individual parts in a single box. This considerably reduces your bill of materials, and downstream processes such as product ordering, order picking and assembly are significantly simplified.

This tool can be found at

→ www.festo.com/x/festo-design-tool

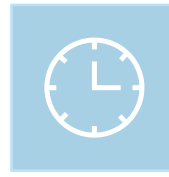
Self-adjusting end-position cushioning PPS for standards-based cylinders

Less can be more: the advantages of self-adjusting cushioning at a glance



Less shock

Running smoothly, Part 1:
The better the cushioning, the less settling and impact vibration. Better for the cylinder, better for the machine.



Less time

Save time and effort in adjusting. The calculation is simple:
no. of cylinders x 5 mins = big cost saving.



Less noise

Running smoothly, Part 2:
Where there is no vibration, there is nothing to disturb the working environment of both workers and machines.



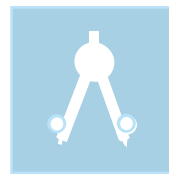
Less errors

Always correct. All by itself. PPS cushioning prevents setting errors and automatically compensates for changing loads.



Less adjustment required:

Goodbye screwdriver. Not just less adjustment, but no adjustment at all! Standards-based cylinders with PPS cushioning are self-adjusting.



Less planning

Making it easy – setting multiple cylinders to run in parallel is a nightmare. Standards-based cylinders with PPS cushioning. Simply fit and forget.



Less cleaning

A clean solution. No cushioning screws cuts dust and dirt traps and makes for smoother surfaces. In other words, adjusting-screw-free.



Less bulky

Compact cylinders ADN-PPS offer up to 300% more end of stroke energy absorption. Smaller or more powerful, the choice is yours.



Less variants

Relaxed purchasing. Cylinders with PPS cushioning have a far wider operating range than most standard cylinders. The result is fewer variants with more application options.



Less risk

No screws, no setting on live machinery; safer and faster. And no operator fiddling. Standards-based cylinders with PPS are self-adjusting.



Less wear

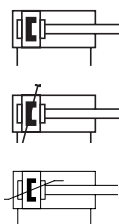
Self-adjusting means always perfectly set. Perfectly set cushioning means that cylinders operate more smoothly and longer. More machine uptime and greater throughput.



Less stock

Less is more. Your finance department will think so too. PPS cushioning enables a narrower range of cylinders to cover the same performance range. And less stock = lower costs.

Standards-based cylinders DSNU, to ISO 6432, double-acting



- Diameter 8 ... 25 mm: ISO 6432
- For very high demands on running characteristics, service life and load capacity
- Can be used universally thanks to individual variants
- Comprehensive range of accessories

- Selected types in accordance with ATEX directive for potentially explosive atmospheres

→ www.festo.com/ex

Order code – Basic design

001 002 003 004 005
DSNU - - - -

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
DSNU	Double-acting standards-based cylinder
002	Piston Ø [mm]
...	8, 10, 12, 16, 20, 25
003	Stroke [mm]
...	10, 15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 100, 125, 150, 160, 200, 250, 300, 320

004	Cushioning
P	Elastic cushioning rings/plates at both ends
PPV	Pneumatic cushioning adjustable at both ends
PPS	Pneumatic cushioning, self-adjusting at both ends
005	Position sensing
–	None
A	Via proximity switch

Product options

1 ... 500 mm Variable stroke	Q	With protection against rotation	KP	With clamping unit	K6	Shortened male piston rod thread
MQ Alternative plain cylinder end cap, lateral connection	S2	Through piston rod	K2	Extended male piston rod thread	K8	Extended piston rod
MA Alternative plain cylinder end cap, axial connection	S6	Heat-resistant seals up to max. 120 °C	K3	Female piston rod thread	R3	High corrosion protection
MH Alternative cylinder end cap, direct mounting	S10	Slow speed	K5	Special piston rod thread	KP	Clamping unit on the piston rod
	S11	Low friction			F1A	Recommended for production systems for manufacturing lithium-ion batteries

 Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

Part no.	Type	Stroke [mm]	Part no.	Type	Stroke [mm]
193986	DSNU-8-...-P	1 ... 100	14326	DSNU-8-...-P-A	10 ... 100
193987	DSNU-10-...-P	1 ... 100	14325	DSNU-10-...-P-A	10 ... 100
193988	DSNU-12-...-P/-PPV	1 ... 200	14324	DSNU-12-...-P-A	10 ... 200
193989	DSNU-16-...-P/-PPV/-PPS	1 ... 200	14323	DSNU-16-...-P-A	10 ... 200
193990	DSNU-20-...-P/-PPV/-PPS	1 ... 320	14328	DSNU-20-...-P-A	10 ... 320
193991	DSNU-25-...-P/-PPV/-PPS	1 ... 500	14327	DSNU-25-...-P-A	10 ... 500
			14320	DSNU-16-...-PPV-A	10 ... 200
			14321	DSNU-20-...-PPV-A	10 ... 320
			14322	DSNU-25-...-PPV-A	10 ... 500

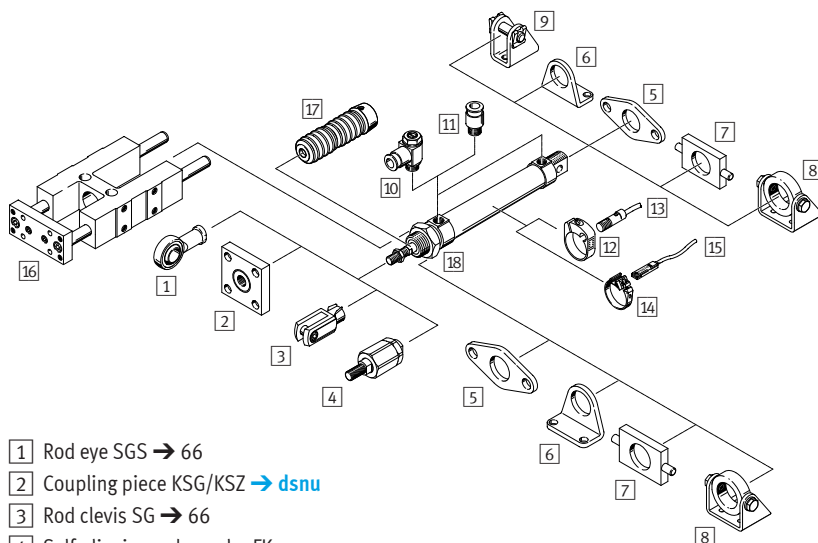
Piston rod cylinders > Round cylinders >

Standards-based cylinders DSNU, to ISO 6432, double-acting

Ordering – Basic design

003 Stroke [mm]	002 Piston Ø [mm]						002 Piston Ø [mm]			002 Piston Ø [mm]		
	8	10	12	16	20	25	16	20	25	16	20	25
	004 Cushioning – 005 Position sensing						004 Cushioning – 005 Position sensing			004 Cushioning – 005 Position sensing		
	P – A	P – A	P – A	P – A	P – A	P – A	PPV – A	PPV – A	PPV – A	PPS – A	PPS – A	PPS – A
10	19177	19183	19189	19198	19207	19218	1908266	1908289	1908312	1908274	1908297	1908320
15	1908247	1908251	1908255	1908259	1908282	1908305	1908267	1908290	1908313	1908275	1908298	1908321
20	1908248	1908252	1908256	1908260	1908283	1908306	1908268	1908291	1908314	1908276	1908299	1908322
25	19178	19184	19190	19199	19208	19219	33973	33974	33975	559263	559271	559282
30	1908249	1908253	1908257	1908261	1908284	1908307	1908269	1908292	1908315	1908277	1908300	1908323
35				1908262	1908285	1908308	1908270	1908293	1908316	1908278	1908301	1908324
40	19179	19185	19191	19200	19209	19220	19229	19236	19245	559264	559272	559283
50	19180	19186	19192	19201	19210	19221	19230	19237	19246	559265	559273	559284
60	1908250	1908254	1908258	1908263	1908286	1908309	1908271	1908294	1908317	1908279	1908302	1908325
70				1908264	1908287	1908310	1908272	1908295	1908318	1908280	1908303	1908326
80	19181	19187	19193	19202	19211	19222	19231	19238	19247	559266	559274	559285
100	19182	19188	19194	19203	19212	19223	19232	19239	19248	559267	559275	559286
125			19195	19204	19213	19224	19233	19240	19249	559268	559276	559287
150			5249947	1908265	1908288	1908311	1908273	1908296	1908319	1908281	1908304	1908327
160			19196	19205	19214	19225	19234	19241	19250	559269	559277	559288
200			19197	19206	19215	19226	19235	19242	19251	559270	559278	559289
250					19216	19227		19243	19252		559279	559290
300					19217	19228		19244	19253		559280	559291
320					34718	34719		34720	34721		559281	559292

Accessories



- 1 Rod eye SGS → 66
- 2 Coupling piece KSG/KSZ → dsnu
- 3 Rod clevis SG → 66
- 4 Self-aligning rod coupler FK → 66
- 5 Flange mounting FBN → 28

- 6 Foot mounting HBN → 28
- 7 Swivel mounting WBN → 28

- 8 Swivel mounting SBN → 28
- 9 Clevis foot LBN → 28
- 10 One-way flow control valve GRLA/ GRLZ → 208
- 11 Push-in fitting QS → 332
- 12 Mounting kit SMBR → dsnu
- 13 Proximity switch SMEO-/SMT0-4U → dsnu
- 14 Mounting kit SMBR-8 → 252
- 15 Proximity switch SMT-8M → 251
- 16 Guide unit FEN → dsnu
- 17 Bellows kit DADB → dsnu
- 18 Hex nut MSK → 28

5 Flange mounting FBN		
For Ø	Type	Part no.
8, 10	FBN-8/10	5129
12, 16	FBN-12/16	5130
20, 25	FBN-20/25	5131

6 Foot mounting HBN ¹⁾		
For Ø	Type	Part no.
8, 10	HBN-8/10x1	5123
	HBN-8/10x2	5124
12, 16	HBN-12/16x1	5125
	HBN-12/16x2	5126
20, 25	HBN-20/25x1	5127
	HBN-20/25x2	5128

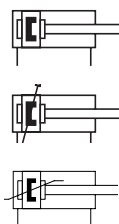
1) ...x1: 1x foot; ...x2: 2x foot, 1x nut

7 Swivel mounting WBN		
For Ø	Type	Part no.
8, 10	WBN-8/10	8608
12, 16	WBN-12/16	8609
20, 25	WBN-20/25	8610

8 Swivel mounting SBN		
For Ø	Type	Part no.
20, 25	SBN-20/25	539927

9 Clevis foot LBN		
For Ø	Type	Part no.
8, 10	LBN-8/10	6057
12, 16	LBN-12/16	6058
20, 25	LBN-20/25	6059

18 Hex nut MSK		
For Ø	Type	Part no.
16	MSK-M16x1,5	189007
20, 25	MSK-M22x1,5	189009



- For very high demands on running characteristics, service life and load capacity
- Can be used universally thanks to individual variants
- Comprehensive range of accessories

- Selected types in accordance with ATEX directive for potentially explosive atmospheres

→ www.festo.com/ex

Order code – Basic design

001 002 003 004 005
DSNU - - - - A

Legend: ☐ Mandatory entry

001	Type
DSNU	Double-acting round cylinder
002	Piston Ø [mm]
...	32, 40
003	Stroke [mm]
...	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 100, 125, 150, 160, 200, 250, 300, 320

004	Cushioning
P	Elastic cushioning rings/plates at both ends
PPV	Pneumatic cushioning adjustable at both ends
PPS	Pneumatic cushioning, self-adjusting at both ends
005	Position sensing
A	Via proximity switch

Product options

50, 63 mm Piston Ø	Q	With protection against rotation	KP	With clamping unit	K6	Shortened male piston rod thread
1 ... 500 mm Variable stroke			K2	Extended male piston rod thread	K8	Extended piston rod
MQ Alternative plain cylinder end cap, lateral connection	S2	Through piston rod	K3	Female piston rod thread	R3	High corrosion protection
MA Alternative plain cylinder end cap, axial connection	S6	Heat-resistant seals up to max. 120 °C	K5	Special piston rod thread	R8	Dust protection (scraper)
MH Alternative cylinder end cap, direct mounting	S10	Slow speed			A6	Metal scraper
	S11	Low friction			KP	Clamping unit on the piston rod
					F1A	Recommended for production systems for manufacturing lithium-ion batteries

Configurable product

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

→ www.festo.com/catalogue/...

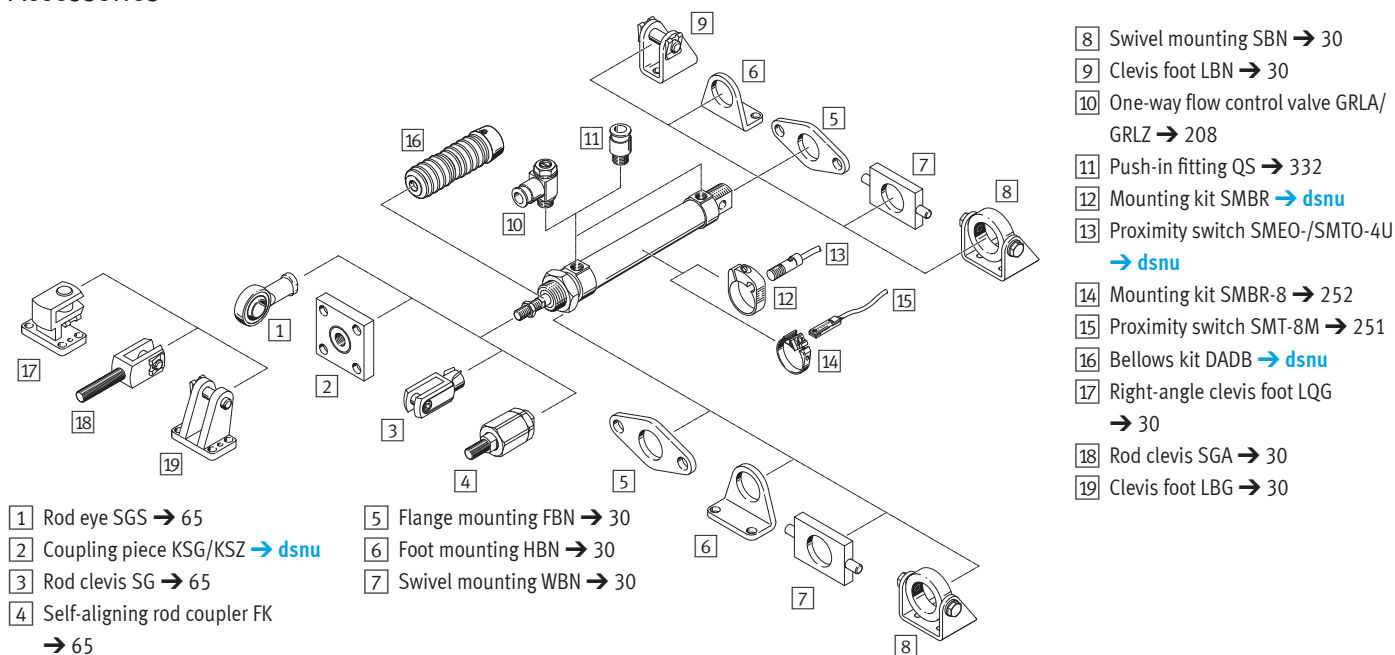
Enter the part number or the type.

Part no.	Type
193992	DSNU-32-...
193993	DSNU-40-...
193994	DSNU-50-...
193995	DSNU-63-...

Ordering – Basic design

003 Stroke [mm]	002 Piston Ø [mm]		002 Piston Ø [mm]		002 Piston Ø [mm]	
	32	40	32	40	32	40
	004 Cushioning – 005 Position sensing		004 Cushioning – 005 Position sensing		004 Cushioning – 005 Position sensing	
	P – A	P – A	PPV – A	PPV – A	PPS – A	PPS – A
10	5249365	5262529				
15	5249366	5262530				
20	5249367	5262531				
25	195980	195990	196020	196030	559295	559305
30	5249368	5262532	5249851	5262705	5249968	5262768
40	195981	195991	196021	196031	559296	559306
50	195982	195992	196022	196032	559297	559307
60	5249369	5262534	5249853	5262706	5249970	5262769
70	5249370	5262535	5249854	5262707	5249971	5262771
80	195983	195993	196023	196033	559298	559308
100	195984	195994	196024	196034	559299	559309
125	195985	195995	196025	196035	559300	559310
150	5249371	5262536	5249855	5262708	5249972	5262772
160	195986	195996	196026	196036	559301	559311
200	195987	195997	196027	196037	559302	559312
250	195988	195998	196028	196038	559303	559313
300	5249372	5262537	5249856	5262709	5249973	5262773
320	195989	195999	196029	196039	559304	559314

Accessories



5 Flange mounting FBN		
For Ø	Type	Part no.
32	FBN-32	195855
40	FBN-40	195856

7 Swivel mounting WBN		
For Ø	Type	Part no.
32	WBN-32	195863
40	WBN-40	195864

9 Clevis foot LBN		
For Ø	Type	Part no.
32	LBN-32	195860
40	LBN-40	195861

18 Rod clevis SGA		
For Ø	Type	Part no.
32	SGA-M10x1,25	32954
40	SGA-M12x1,25	10767

6 Foot mounting HBN ¹⁾		
For Ø	Type	Part no.
32	HBN-32x2	195851
40	HBN-40x2	195852

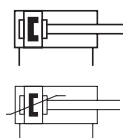
8 Swivel mounting SBN		
For Ø	Type	Part no.
32	SBN-32	539924
40	SBN-40	539925

17 Right-angle clevis foot LQG		
For Ø	Type	Part no.
32	LQG-32	31768
40	LQG-40	31769

19 Clevis foot LBG		
For Ø	Type	Part no.
32	LBG-32	31761
40	LBG-40	31762

1) ...x2: 2x foot, 1x nut

Round cylinders DSNU-S, double-acting



- Compact variant of standards-based cylinder DSNU
- Piston Ø 8... 25 mm
- Stroke 10 ... 200 mm
- Quick and easy installation, even in tight spaces
- Sustainable in production thanks to reduced use of materials

Order code – Basic design

001	002	003	004	005	006	007
DSNU	S				A	

Legend: ☐ Mandatory entry

001	Type
DSNU	Double-acting round cylinder
002	Design
S	Compact
003	Piston Ø [mm]
...	8, 12, 16, 20, 25
004	Stroke [mm]
...	10, 15, 20, 25, 30, 40, 50, 60, 80, 100, 125, 150, 200

005	Cushioning
P	Elastic cushioning rings/plates at both ends
PPS	Pneumatic cushioning, self-adjusting at both ends
006	Position sensing
A	Via proximity switch
007	Cylinder end cap
MQ	Lateral air connection, end cap
MX	Mounting thread, end cap

Product options

1 ... 200 mm Variable stroke

F1A Recommended for production systems for manufacturing lithium-ion batteries

 Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

Part no.	Type	Part no.	Type
8112002	DSNU-S-8...-MQ	8112005	DSNU-S-20...-MX
8112003	DSNU-S-12...-MQ	8112006	DSNU-S-25...-MX
8112004	DSNU-S-16...-MQ		

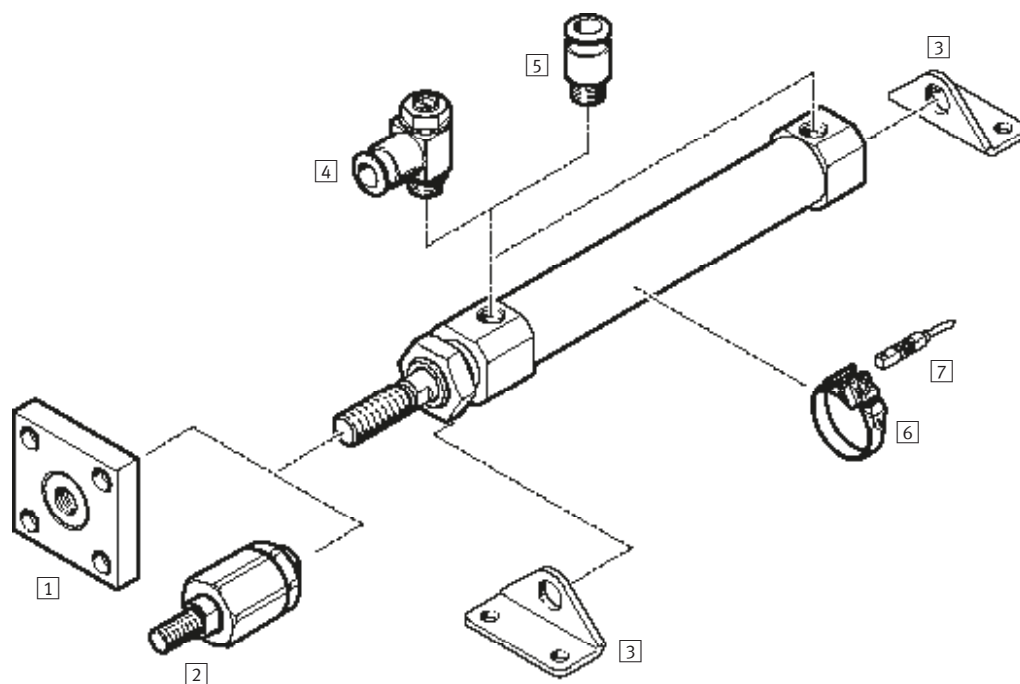
Piston rod cylinders > Round cylinders >

Round cylinders DSNU-S, double-acting

Ordering – Basic design

004 Stroke [mm]	003 Piston Ø [mm]					003 Piston Ø [mm]		
	8	12	16	20	25	16	20	25
	005 Elastic cushioning rings/plates at both ends – 006 Position sensing					005 Pneumatic cushioning, self-adjusting at both ends – 006 Position sensing		
	007 Lateral air connection, end cap			007 Mounting thread, end cap		007 Lateral air connection, end cap		007 Mounting thread, end cap
	P – A – MQ	P – A – MQ	P – A – MQ	P – A – MX	P – A – MX	PPS – A – MQ	PPS – A – MX	PPS – A – MX
10	5205897	5211896	5216087	5224633	5228227			
15	5205898	5211897	5216088	5224634	5228228			
20	5205899	5211898	5216089	5224635	5228229			
25	5205900	5211899	5216090	5224636	5228230	5217238	5225836	5228452
30	5205902	5211900	5216091	5224637	5228231	5217239	5225837	5228453
40	5205903	5211901	5216093	5224639	5228232	5217240	5225838	5228454
50	5205904	5211903	5216094	5224641	5228233	5217241	5225839	5228455
60	5205905	5211904	5216095	5224642	5228234	5217242	5225840	5228456
80	5205906	5211905	5216096	5224643	5228235	5217243	5225841	5228457
100	5205907	5211906	5216098	5224644	5228236	5217244	5225842	5228458
125		5211908	5216099	5224645	5228237	5217245	5225843	5228459
150		5211909	5216100	5224646	5228238	5217246	5225844	5228460
200			5216101	5224647	5228239	5217248	5225846	5228461

Accessories



- 1 Coupling piece KSG/KSZ → 32
- 2 Self-aligning rod coupler FK → 32
- 3 Foot mounting HBN-S → 32
- 4 One-way flow control valve GRLA/GRLZ → 208
- 5 Push-in fitting QS → 332
- 6 Mounting kit SMBR-8 → 32
- 7 Proximity sensor SMT-8M → 251

1 Coupling piece KSG		
For Ø	Type	Part no.
25	KSG-M10x1,25	32963

1 Coupling piece KSZ		
For Ø	Type	Part no.
12, 16	KSZ-M6	36123
20	KSZ-M8	36124
25	KSZ-M10x1,25	36125

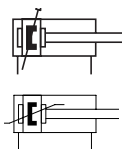
2 Self-aligning rod coupler FK		
For Ø	Type	Part no.
8	FK-M4	6528
12, 16	FK-M6	2061
20	FK-M8	2062
25	FK-M10x1,25	6140

3 Foot mounting HBN-S ¹⁾		
For Ø	Type	Part no.
8	HBN-S-8x1	5407712
12, 16	HBN-S-12/16x1	5407772
20, 25	HBN-S-20/25x1	5407787
	HBN-S-20/25x2	5407847

1) ...x1: 1x foot; ...x2: 2x foot, 1x nut

6 Mounting kit SMBR-8		
For Ø	Type	Part no.
8	SMBR-8-8	175091
12	SMBR-8-12	175093
16	SMBR-8-16	175094
20	SMBR-8-20	175095
25	SMBR-8-25	175096
Heat-resistant design		
8 ... 25	SMBR-8-8/100-S6	538937

Standards-based cylinders DSBC, to ISO 15552, double-acting



- Strokes of up to 2800 mm
- Excellent flexibility thanks to a wide range of variants
- Extensive range of accessories makes it possible to install the cylinder virtually anywhere

- Selected types in accordance with ATEX directive for potentially explosive atmospheres

→ www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006	007	008	009	010
DSBC								A	N3

Legend: Mandatory entry Optional entry

001	Type
DSBC	Double-acting standards-based cylinder
002	Protection against rotation
–	Without protection against rotation
003	Running characteristics
–	Standard
004	Piston Ø [mm]
...	32, 40, 50, 63, 80
005	Stroke [mm]
...	20, 25, 30, 40, 50, 60, 70, 80, 100, 125, 150, 160, 200, 250, 300, 320, 400, 500
006	Piston rod type
–	At one end

007	Piston rod thread type
–	Male thread
008	Cushioning
PPV	Pneumatic cushioning, adjustable at both ends
PPS	Pneumatic cushioning, self-adjusting at both ends
009	Position sensing
A	Via proximity switch
010	Standard
N3	Conforms to ISO 15552

Product options

100, 125 mm Piston Ø	E1	End-position locking at both ends	D3	Sensor slot on 3 sides of the profile	A1	Increased chemical resistance
1 ... 2800 mm Variable stroke					A2	Hard scraper
Q With protection against rotation	E2	End-position locking with advanced piston rod	P	Elastic cushioning rings/plates both ends	A3	Suitable for unlubricated operation
L Running characteristic low friction	E3	End-position locking with retracted piston rod	R3	High corrosion protection	A6	Metal scraper
U Constant, slow movement	T	Through piston rod	T1	Heat-resistant seals up to max. 120 °C	F1A	Recommended for production facilities for manufacturing lithium-ion batteries
L1 Low friction for balancer applications	F	Female piston rod thread	T3	Low temperature –40 ... +80 °C		
C Clamping unit attached			T4	Temperature range 0 ... +150 °C	EX4	EU certification (II 2GD)
			P2	Bellows on bearing cap	E...	Extended piston rod 1 ... 500 mm
					...L	Extended piston rod thread 0 ... 70 mm

 Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

Part no.	Type	Part no.	Type
1463250	DSBC-...-32-...-A-...	1463495	DSBC-...-80-...-A-...
1461995	DSBC-...-40-...-A-...	1463520	DSBC-...-100-...-A-...
1463770	DSBC-...-50-...-A-...	1722457	DSBC-...-125-...-A-...
1463475	DSBC-...-63-...-A-...		

Ordering – Basic design

005 Stroke [mm]	004 Piston Ø [mm]					004 Piston Ø [mm]				
	32	40	50	63	80	32	40	50	63	80
	008 Pneumatic cushioning, adjustable at both ends – 009 Position sensing					008 Pneumatic cushioning, self-adjusting at both ends – 009 Position sensing				
	PPV A	PPV A	PPV A	PPV A	PPV A	PPS A	PPS A	PPS A	PPS A	PPS A
20	2123069	2123166	2098969	2125490	2126594	2123085	2123780	2102628	2126684	2126636
25	1376422	1376656	1366948	1383578	1383333	1376467	1376903	1376301	1383632	1383366
30	2123070	2123167	2098970	2125491	2126595	2123086	2123781	2102629	2126685	2126637
40	1376423	1376657	1366949	1383579	1383334	1376468	1376904	1376304	1383633	1383367
50	1376424	1376658	1366950	1383580	1383335	1376469	1376905	1376305	1383634	1383368
60	2123071	2123224	2098972	2125492	2126597	2123087	2123782	2102630	2126686	2126638
70	2123072	2123225	2098973	2125493	2126598	2123088	2123783	2102631	2126687	2126639
80	1376425	1376659	1366951	1383581	1383336	1376470	1376906	1376306	1383635	1383369
100	1376426	1376660	1366952	1383582	1383337	1376471	1376907	1376307	1383636	1383370
125	1376427	1376661	1366953	1383583	1383338	1376472	1376908	1376308	1383637	1383371
150	2123073	2123226	2098974	2125494	2126599	2123089	2123784	2102632	2126688	2126640
160	1376428	1376662	1366954	1383584	1383339	1376473	1376909	1376309	1383638	1383372
200	1376429	1376663	1366955	1383585	1383340	1376474	1376910	1376310	1383639	1383373
250	1376430	1376664	1366956	1383586	1383341	1376475	1376911	1376311	1383640	1383374
300	2123074	2123227	2098975	2125495	2126600	2123090	2123785	2102633	2126689	2126641
320	1376431	1376665	1366957	1383587	1383342	1376476	1376912	1376312	1383641	1383375
400	1376432	1376666	1366958	1383588	1383343	1376477	1376913	1376313	1383642	1383376
500	1376433	1376667	1366959	1383589	1383344	1376478	1376914	1376314	1383643	1383377

Accessories

1

Foot mounting HNC → 35

2

Flange mounting FNC → 35

3

Trunnion flange ZNCF → 35

4

Trunnion support LNZG → 35

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Swivel flange SNC → 35

6

Clevis foot LSNG → [dsbc](#)

7

Clevis foot LSNSG → [dsbc](#)

8

Swivel flange SNCS → 35

9

Clevis foot LBG → [dsbc](#)

10

Swivel flange SNCL → 35

11

Swivel flange SNCB → 35

12

Clevis foot LNG → 35

13

Clevis foot LSN → [dsbc](#)

14

Trunnion mounting kit DAMT → 35

15

Rod eye SGS → 66

16

Right-angle clevis foot LQG → 35

17

Rod clevis SGA → 35

18

Coupling piece KSG/KSZ → [dsbc](#)

19

Rod clevis SG → 66

20

Self-aligning rod coupler FK → 66

21

Guide unit FENG → [dsbc](#)

22

Proximity switch SMT-8M → 251

23

Position transmitter SMAT, SDAT → [dsbc](#)

24

One-way flow control valve GRLA → 208

25

Push-in fitting QS → 332

26

Bellows kit DADB → [dsbc](#)

27

Multi-position kit DPNC → 35

28

Slot nut ABAN → [dsbc](#)

29

Mounting kit DAVM for valve assembly → [dsbc](#)

Slot cover ABP-5-S → [dsbc](#)

34

→ www.festo.com/catalogue/...

2024/06 – Subject to change

Accessories

1 Foot mounting HNC/CRHNC¹⁾

For Ø	Type	Part no.	Type	Part no.
32	HNC-32	174369	CRHNC-32	176937
40	HNC-40	174370	CRHNC-40	176938
50	HNC-50	174371	CRHNC-50	176939
63	HNC-63	174372	CRHNC-63	176940
80	HNC-80	174373	CRHNC-80	176941

1) CRHNC: high corrosion protection

2 Flange mounting FNC/CRFNG²⁾

For Ø	Type	Part no.	Type	Part no.
32	FNC-32	174376	CRFNG-32	161846
40	FNC-40	174377	CRFNG-40	161847
50	FNC-50	174378	CRFNG-50	161848
63	FNC-63	174379	CRFNG-63	161849
80	FNC-80	174380	CRFNG-80	161850

2) CRFNG: high corrosion protection

3 Trunnion flange ZNCF

For Ø	Type	Part no.
32	ZNCF-32	174411
40	ZNCF-40	174412
50	ZNCF-50	174413
63	ZNCF-63	174414
80	ZNCF-80	174415

4 Trunnion support LNZG

For Ø	Type	Part no.
32	LNZG-32	32959
40	LNZG-40/50	32960
50	LNZG-40/50	32960
63	LNZG-63/80	32961
80	LNZG-63/80	32961

5 Swivel flange SNC

For Ø	Type	Part no.
32	SNC-32	174383
40	SNC-40	174384
50	SNC-50	174385
63	SNC-63	174386
80	SNC-80	174387

8 Swivel flange SNCS

For Ø	Type	Part no.
32	SNCS-32	174397
40	SNCS-40	174398
50	SNCS-50	174399
63	SNCS-63	174400
80	SNCS-80	174401

10 Swivel flange SNCL

For Ø	Type	Part no.
32	SNCL-32	174404
40	SNCL-40	174405
50	SNCL-50	174406
63	SNCL-63	174407
80	SNCL-80	174408

11 Swivel flange SNCB/SNCB-R3³⁾

For Ø	Type	Part no.	Type	Part no.
32	SNCB-32	174390	SNCB-32-R3	176944
40	SNCB-40	174391	SNCB-40-R3	176945
50	SNCB-50	174392	SNCB-50-R3	176946
63	SNCB-63	174393	SNCB-63-R3	176947
80	SNCB-80	174394	SNCB-80-R3	176948

3) SNCB-R3: high corrosion protection

12 Clevis foot LNG

For Ø	Type	Part no.
32	LNG-32	33890
40	LNG-40	33891
50	LNG-50	33892
63	LNG-63	33893
80	LNG-80	33894

14 Trunnion mounting kit DAMT

For Ø	Type	Part no.
32	DAMT-V1-32-A	2213233
40	DAMT-V1-40-A	2214899
50	DAMT-V1-50-A	2214909
63	DAMT-V1-63-A	2214971
80	DAMT-V1-80-A	163529

16 Right-angle clevis foot LQG

For Ø	Type	Part no.
32	LQG-32	31768
40	LQG-40	31769
50	LQG-50	31770
63	LQG-63	31771
80	LQG-80	31772

17 Rod clevis SGA

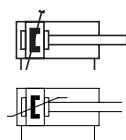
For Ø	Type	Part no.
32	SGA-M10x1,25	32954
40	SGA-M12x1,25	10767
50	SGA-M16x1,5	10768
63	SGA-M16x1,5	10768
80	SGA-M20x1,5	10769

27 Multi-position kit DPNC

For Ø	Type	Part no.
32	DPNC-32	174418
40	DPNC-40	174419
50	DPNC-50	174420
63	DPNC-63	174421
80	DPNC-80	174422

Piston rod cylinders > Tie rod and profile barrel cylinders >

Standards-based cylinders DSBF-C, to ISO 15552, clean design



- Strokes of up to 2800 mm
- Standards-based cylinder with increased corrosion protection
- Resistant to conventional cleaning agents
- Long service life thanks to optional dry-running seal
- Comprehensive range of mounting accessories for just about every type of installation
- Selected types in accordance with ATEX directive for potentially explosive atmospheres

→ www.festo.com/ex

Order code

001	002	003	004	005	006	007	008	009	010	011	012	013	014	015
DSBF	C							A	N3					R

001	Type
DSBF	Double-acting standards-based cylinder
002	Design
C	Easy-to-clean design
003	Running characteristic
–	Standard
004	Piston Ø [mm]
...	32, 40, 50, 63, 80, 100, 125
005	Stroke [mm]
...	25, 40, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500, 1 ... 2800
006	Piston rod type
–	At one end
007	Piston rod thread type
–	Male thread
008	Cushioning
PPV	Pneumatic cushioning adjustable at both ends
PPS	Pneumatic cushioning, self-adjusting at both ends

009	Position sensing
A	Via proximity switch
010	Standard
N3	Conforms to ISO 15552
011	Temperature range
–	Standard
012	Scraper variant
–	None
013	Extended piston rod
–	None
014	Extended piston rod thread
–	None
015	Sensor mounting, external
R	Mounting rail for sensors

Legend: ☐ Mandatory entry ☐ Optional entry

Product options

L	Running characteristic low friction	F	Female piston rod thread	T1	Heat-resistant seals up to max. 120 °C	Scraper variant
U	Constant, slow movement	P	Elastic cushioning rings/ plates both ends	T3	Low temperature –40 ... +80 °C	A1 Increased chemical resistance
T	Through piston rod	E...	Extended piston rod 1 ... 500 mm	T4	Temperature range 0 ... +150 °C	A2 Hard scraper
		...L	Extended piston rod thread 0 ... 70 mm	EX4	EU certification (II 2GD)	A3 Suitable for unlubricated operation

Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

Part no.	Type	Part no.	Type
570077	DSBF-C-...-32-...	570081	DSBF-C-...-80-...
570078	DSBF-C-...-40-...	570082	DSBF-C-...-100-...
570079	DSBF-C-...-50-...	1755169	DSBF-C-...-125-...
570080	DSBF-C-...-63-...		

Order

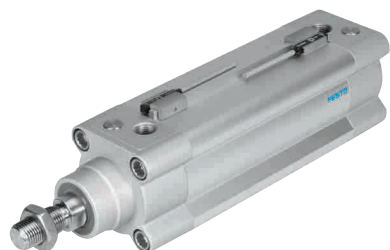
DSBF-C with pneumatic cushioning PPV adjustable at both ends

005 Stroke [mm]	004 Piston Ø [mm]						
	32	40	50	63	80	100	125
	008 Pneumatic cushioning, adjustable at both ends – 009 Via proximity switch – 015 Mounting rail for sensors						
	PPV A-N3-R	PPV A-N3-R	PPV A-N3-R	PPV A-N3-R	PPV A-N3-R	PPV A-N3-R	PPV A-N3-R
25	1773752	1774259	1775258	1776043	1778429	1782253	1785012
40	1773753	1774260	1775259	1776044	1778430	1782254	1785013
50	1773754	1774261	1775260	1776045	1778431	1782255	1785014
80	1773755	1774262	1775261	1776046	1778432	1782256	1785015
100	1773756	1774263	1775262	1776047	1778433	1782257	1785016
125	1773757	1774264	1775263	1776048	1778434	1782258	1785017
160	1773758	1774265	1775264	1776049	1778435	1782259	1785018
200	1773759	1774266	1775265	1776050	1778436	1782260	1785019
250	1773760	1774267	1775266	1776051	1778437	1782261	1785020
320	1773761	1774268	1775267	1776052	1778438	1782262	1785021
400	1773762	1774269	1775268	1776053	1778439	1782263	1785022
500	1773763	1774270	1775269	1776054	1778440	1782264	1785023
1 ... 2800	1772262	1774182	1774418	1775324	1778184	1781598	1784637

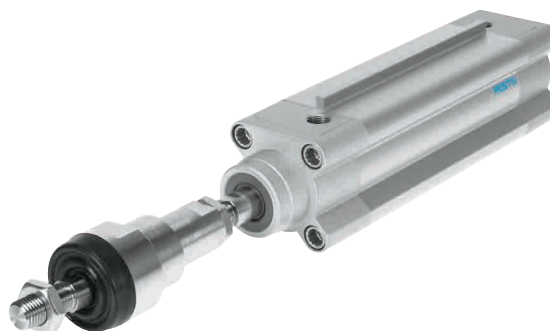
DSBF-C with pneumatic cushioning PPS, self-adjusting at both ends

005 Stroke [mm]	004 Piston Ø [mm]						
	32	40	50	63	80	100	125
	008 Pneumatic cushioning, self-adjusting at both ends – 009 Via proximity switch – 015 Mounting rail for sensors						
	PPS A-N3-R	PPS A-N3-R	PPS A-N3-R	PPS A-N3-R	PPS A-N3-R	PPS A-N3-R	PPS A-N3-R
25	1778834	1779431	1780283	1780905	1781061	1782823	1792953
40	1778835	1779432	1780284	1780906	1781062	1782824	1792954
50	1778836	1779433	1780285	1780907	1781063	1782825	1792955
80	1778837	1779434	1780286	1780908	1781064	1782826	1792956
100	1778838	1779435	1780287	1780909	1781065	1782827	1792957
125	1778839	1779436	1780288	1780910	1781066	1782828	1792958
160	1778840	1779437	1780289	1780911	1781067	1782829	1792959
200	1778841	1779438	1780290	1780912	1781068	1782830	1792960
250	1778842	1779439	1780291	1780913	1781069	1782831	1792961
320	1778843	1779440	1780292	1780914	1781070	1782832	1792962
400	1778844	1779441	1780293	1780915	1781071	1782833	1792963
500	1778845	1779442	1780294	1780916	1781072	1782834	1792964
1 ... 2800	1778516	1779309	1779742	1780600	1780945	1781567	1792703

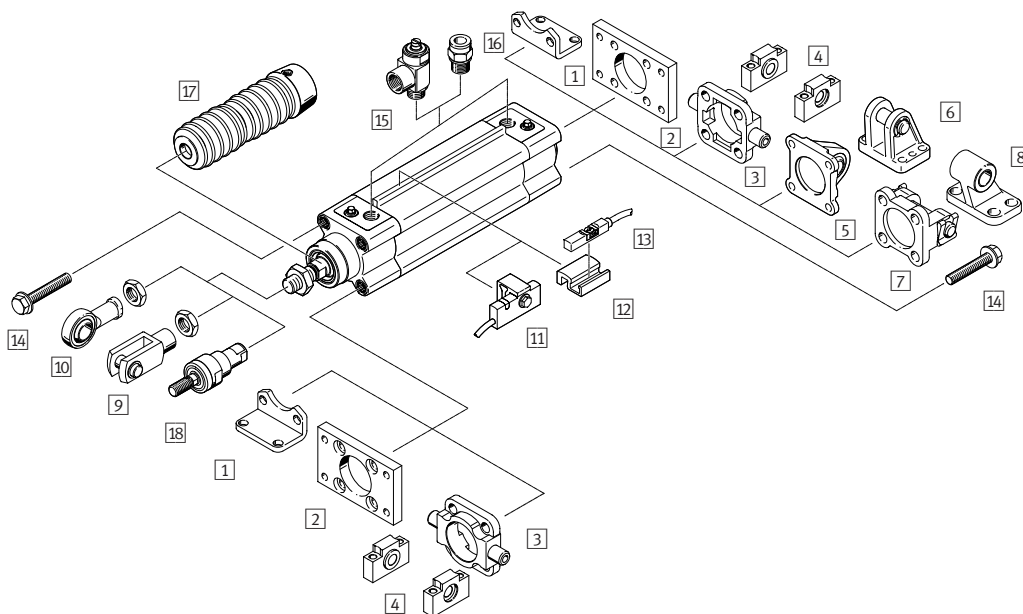
Standards-based cylinder DSBF-C,-...-PPV with mounting kit SMB-8-C and proximity switch CRSMT-8M



Standards-based cylinder DSBF-C,-...-PPS with self-aligning rod coupler CRFK



Accessories



- 1 Foot mounting CRHNC → 38
- 2 Flange mounting CRFNG → 38
- 3 Trunnion flange CRZNG → 38
- 4 Trunnion support CRLNZG → 38
- 5 Swivel flange SNCS/CRSNCS/SNCS- ... -R3 → [dsbf](#)
- 6 Clevis foot LBG/LBG-R3 → [dsbf](#)
- 7 Swivel flange SNCB- ... -R3 → 38
- 8 Clevis foot CRLNG → 38
- 9 Rod clevis CRSG → 38
- 10 Rod eye CRSGS → 38
- 11 Proximity switch SMT-C1 → [dsbf](#)
- 12 Mounting kit SMB-8-C → [dsbf](#)

- 13 Proximity switch CRSMT-8M → [dsbf](#)
- 14 Plug screw DAMD → [dsbf](#)
- 15 One-way flow control valve CRGRLA → [dsbf](#)
- 16 Push-in fitting NPQH → 337, CRQS/CRQSL → [dsbf](#)
- 17 Bellows kit DADB → [dsbf](#)
- 18 Self-aligning rod coupler CRFK → 38

1 Foot mounting CRHNC		
For Ø	Type	Part no.
32	CRHNC-32	176937
40	CRHNC-40	176938
50	CRHNC-50	176939
63	CRHNC-63	176940
80	CRHNC-80	176941
100	CRHNC-100	176942
125	CRHNC-125	176943

3 Trunnion flange CRZNG		
For Ø	Type	Part no.
32	CRZNG-32	161852
40	CRZNG-40	161853
50	CRZNG-50	161854
63	CRZNG-63	161855
80	CRZNG-80	161856
100	CRZNG-100	161857
125	CRZNG-125	185362

7 Swivel flange SNCB-...-R3		
For Ø	Type	Part no.
32	SNCB-32-R3	176944
40	SNCB-40-R3	176945
50	SNCB-50-R3	176946
63	SNCB-63-R3	176947
80	SNCB-80-R3	176948
100	SNCB-100-R3	176949
125	SNCB-125-R3	176950

9 Rod clevis CRSG		
For Ø	Type	Part no.
32	CRSG-M10x1,25	13569
40	CRSG-M12x1,25	13570
50, 63	CRSG-M16x1,5	13571
80, 100	CRSG-M20x1,5	13572
125	CRSG-M27x2	185361

2 Flange mounting CRFNG		
For Ø	Type	Part no.
32	CRFNG-32	161846
40	CRFNG-40	161847
50	CRFNG-50	161848
63	CRFNG-63	161849
80	CRFNG-80	161850
100	CRFNG-100	161851
125	CRFNG-125	185363

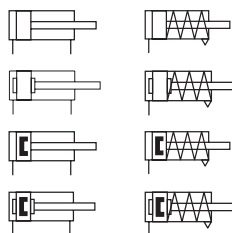
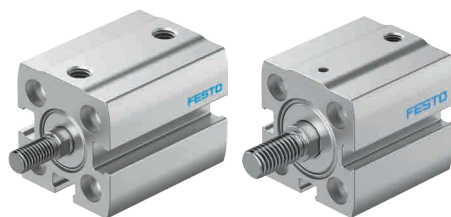
4 Trunnion support CRLNZG		
For Ø	Type	Part no.
32	CRLNZG-32	161874
40, 50	CRLNZG-40/50	161875
63, 80	CRLNZG-63/80	161876
100, 125	CRLNZG-100/125	161877

8 Clevis foot CRLNG		
For Ø	Type	Part no.
32	CRLNG-32	161840
40	CRLNG-40	161841
50	CRLNG-50	161842
63	CRLNG-63	161843
80	CRLNG-80	161844
100	CRLNG-100	161845
125	CRLNG-125	176951

10 Rod eye CRSGS		
For Ø	Type	Part no.
32	CRSGS-M10x1,25	195582
40	CRSGS-M12x1,25	195583
50, 63	CRSGS-M16x1,5	195584
80, 100	CRSGS-M20x1,5	195585
125	CRSGS-M27x2	195586

18 Self-aligning rod coupler CRFK		
For Ø	Type	Part no.
32	CRFK-M10x1,25	2305778
40	CRFK-M12x1,25	2305779
50, 63	CRFK-M16x1,5	2490673
80, 100	CRFK-M20x1,5	2545677

Compact cylinders ADN-S/AEN-S, double-acting/single-acting



- Extremely small and lightweight
- Perfect for micro-movements
- Improved running characteristics thanks to precise manufacturing from a single piece
- Wide range of mounting options, interfaces from two sides

- Variants with copper and zinc content less than 1% – recommended for production facilities for manufacturing lithium-ion batteries

Order code

001 002 003 004 005 006 007 008
 - S - - - - - -

Legend: Mandatory entry

Optional entry

001	Type
ADN	Double-acting compact cylinder
AEN	Single-acting compact cylinder
002	Design
S	Short
003	Piston Ø [mm]
...	6, 10, 12, 16, 20, 25, 32, 40, 50, 63
004	Stroke [mm]
...	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
005	Piston rod thread
A	Male thread
I	Female thread

006	Cushioning
-	Without cushioning
P	Elastic cushioning rings/plates at both ends
007	Position sensing
-	None
A	Via proximity switch
008	Special material properties
-	None
F1A	Recommended for production facilities for manufacturing lithium-ion batteries

Order – AEN-S, single-acting, piston rod with male thread

004 Stroke [mm]	003 Piston Ø [mm]									
	6	10	12	16	20	25	32	40	50	63
	005 Piston rod with male thread – 006 Without cushioning – 007 Without position sensing									
	A – –									
5	8080593	8080583								
10	8080594	8080586								
	005 Piston rod with male thread – 006 Without cushioning – 007 For position sensing									
	A – – A									
5	8080591	8080584								
10	8080592	8080585								
	005 Piston rod with male thread – 006 Elastic cushioning rings/plates at both ends – 007 Without position sensing									
			A – P – –							
5			8092150	8092144	8092220	8092182	8092167			
10			8092149	8092143	8092219	8092179	8092164			
25				8092140	8092224	8092180	8092163			
	005 Piston rod with male thread – 006 Elastic cushioning rings/plates at both ends – 007 For position sensing									
			A – P – A							
5			8092152	8092142	8092222	8092177	8092165	8092162		
10			8092151	8092139	8092221	8092178	8092166	8092161	8092153	8092148
25				8092141	8092223	8092181	8092168	8092160	8092154	8092146

Cylinders with piston rod > Compact, short-stroke and flat cylinders >

Compact cylinders ADN-S/AEN-S, double-acting/single-acting

Ordering – AEN-S, single-acting, piston rod with female thread

004 Stroke [mm]	003 Piston Ø [mm]									
	6	10	12	16	20	25	32	40	50	63
	005 Piston rod with female thread – 006 Without cushioning – 007 Without position sensing									
	I – –									
5	4984929	4891759								
10	4984930	4891760								
	005 Piston rod with female thread – 006 Without cushioning – 007 For position sensing									
	I – – A									
5	5267300	5269268								
10	5267301	5269269								
	005 Piston rod with female thread – 006 Elastic cushioning rings/plates at both ends – 007 Without position sensing									
	I – P – –									
5			8076479	8076496	8076501	8076509	8076512			
10			8076476	8076492	8076499	8076507	8076510			
25				8076497	8076503	8076504	8076514			
	005 Piston rod with female thread – 006 Elastic cushioning rings/plates at both ends – 007 For position sensing									
	I – P – A									
5			8076475	8076495	8076502	8076506	8076511	5149290		
10			8076477	8076493	8076498	8076505	8076515	5149291	5137803	5132651
25				8076494	8076500	8076508	8076513	5149292	5137804	5132652

Ordering – ADN-S, double-acting, piston rod with male thread

004 Stroke [mm]	003 Piston Ø [mm]									
	6	10	12	16	20	25	32	40	50	63
	005 Piston rod with male thread – 006 Without cushioning – 007 Without position sensing									
	A – –									
5	8080598	8080589								
10	8080596	8080588								
	005 Piston rod with male thread – 006 Without cushioning – 007 For position sensing									
	A – – A									
5	8080597	8080587								
10	8080595	8080590								
	005 Piston rod with male thread – 006 Elastic cushioning rings/plates at both ends – 007 Without position sensing									
	A – P – –									
5			8091419	8091671	8091431	8092103	8091452			
10			8091428	8091670	8091449	8092102	8091461			
15			8091416	8091677	8091447	8092107	8091460			
20			8091420	8091666	8091445	8092091	8091453			
25			8091426	8091665	8091443	8092092	8091467			
30			8091423	8091672	8091441	8092099	8091465			
35			8091418	8091676	8091439	8092097	8091456			
40					8091437	8092094	8091450			
45					8091435	8092106	8091451			
50					8091433	8092105	8091462			
	005 Piston rod with male thread – 006 Elastic cushioning rings/plates at both ends – 007 For position sensing									
	A – P – A									
5			8091427	8091668	8091430	8092104	8091464	8092050	8092081	8092130
10			8091424	8091678	8091448	8092093	8091457	8092067	8092073	8092128
15			8091422	8091667	8091446	8092096	8091469	8092053	8092085	8092135
20			8091429	8091674	8091444	8092109	8091468	8092064	8092076	8092120
25			8091421	8091675	8091442	8092100	8091459	8092056	8092075	8092121
30			8091417	8091669	8091440	8092098	8091454	8092061	8092074	8092125
35			8091425	8091673	8091438	8092108	8091463	8092051	8092071	8092133
40					8091436	8092095	8091455	8092059	8092087	8092134
45					8091434	8092110	8091466	8092065	8092079	8092138
50					8091432	8092101	8091458	8092054	8092086	8092119

Ordering – ADN-S, double-acting, piston rod with female thread

004 Stroke [mm]	003 Piston Ø [mm]									
	6	10	12	16	20	25	32	40	50	63
	005 Piston rod with female thread – 006 Without cushioning – 007 Without position sensing									
	I – –									
5	4886885	4887523								
10	4886886	4887524								
	005 Piston rod with female thread – 006 Without cushioning – 007 For position sensing									
	I – – A									
5	5173732	5177082								
10	5173733	5177085								
	005 Piston rod with female thread – 006 Elastic cushioning rings/plates at both ends – 007 Without position sensing									
			I – P – –							
5			8076407	8076393	8076323	8076343	8076364			
10			8076419	8076405	8076341	8076361	8076382			
15			8076417	8076403	8076339	8076359	8076380			
20			8076415	8076401	8076337	8076357	8076378			
25			8076413	8076399	8076335	8076355	8076376			
30			8076411	8076397	8076333	8076353	8076374			
35			8076409	8076395	8076331	8076351	8076372			
40						8076329	8076349	8076370		
45						8076327	8076347	8076368		
50						8076325	8076345	8076366		
	005 Piston rod with female thread – 006 Elastic cushioning rings/plates at both ends – 007 For position sensing									
			I – P – A							
5			8076406	8076392	8076322	8076342	8076363	5138606	5138188	5132663
10			8076418	8076404	8076340	8076360	8076381	5138607	5138189	5132664
15			8076416	8076402	8076338	8076358	8076379	5138608	5138190	5132665
20			8076414	8076400	8076336	8076356	8076377	5138609	5138191	5132666
25			8076412	8076398	8076334	8076354	8076375	5138610	5138192	5132667
30			8076410	8076396	8076332	8076352	8076373	5138611	5138193	5132668
35			8076408	8076394	8076330	8076350	8076371	5138612	5138194	5132669
40						8076328	8076348	8076369	5138613	5138195
45						8076326	8076346	8076367	5138614	5138196
50						8076324	8076344	8076365	5138615	5138197

Cylinders with piston rod > Compact, short-stroke and flat cylinders >
Compact cylinders ADN-S/AEN-S, double-acting/single-acting

Ordering – ADN-S, double-acting, piston rod with male thread

Recommended for production facilities for manufacturing lithium-ion batteries

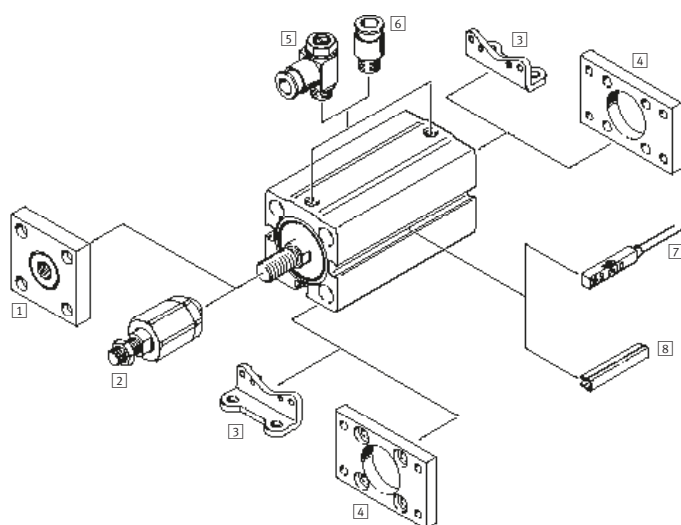
004 Stroke [mm]	003 Piston Ø [mm]									
	6	10	12	16	20	25	32	40	50	63
	005 Piston rod with male thread – 006 Elastic cushioning rings/plates at both ends – 007 For position sensing – 008 Recommended for production facilities for manufacturing lithium-ion batteries									
	A – P – A – F1A									
5			8142576	8142735	8142766	8142826	8142866	8142886	8142907	8142927
10			8142577	8142736	8142767	8142827	8142867	8142887	8142908	8142928
15			8142578	8142737	8142768	8142828	8142868	8142888	8142909	8142929
20			8142579	8142738	8142769	8142829	8142869	8142889	8142910	8142930
25			8142580	8142739	8142770	8142830	8142870	8142890	8142911	8142931
30			8142581	8142740	8142771	8142831	8142871	8142891	8142912	8142932
35			8142582	8142741	8142772	8142832	8142872	8142892	8142913	8142933
40					8142773	8142833	8142873	8142893	8142914	8142934
45					8142774	8142834	8142874	8142894	8142915	8142935
50					8142775	8142835	8142875	8142895	8142916	8142936

Ordering – ADN-S, double-acting, piston rod with female thread

Recommended for production facilities for manufacturing lithium-ion batteries

004 Stroke [mm]	003 Piston Ø [mm]									
	6	10	12	16	20	25	32	40	50	63
	005 Piston rod with female thread – 006 Elastic cushioning rings/plates at both ends – 007 For position sensing – 008 Recommended for production facilities for manufacturing lithium-ion batteries									
	I – P – A – F1A									
5			8142562	8142728	8142756	8142806	8142846	8142876	8142897	8142917
10			8142563	8142729	8142757	8142807	8142847	8142877	8142898	8142918
15			8142564	8142730	8142758	8142808	8142848	8142878	8142899	8142919
20			8142565	8142731	8142759	8142809	8142849	8142879	8142900	8142920
25			8142566	8142732	8142760	8142810	8142850	8142880	8142901	8142921
30			8142567	8142733	8142761	8142811	8142851	8142881	8142902	8142922
35			8142568	8142734	8142762	8142812	8142852	8142882	8142903	8142923
40					8142763	8142813	8142853	8142883	8142904	8142924
45					8142764	8142814	8142854	8142884	8142905	8142925
50					8142765	8142815	8142855	8142885	8142906	8142926

Accessories



- 1 Coupling piece KSG → 43
2 Self-aligning rod coupler FK → 43
3 Foot mounting HNA → 43
4 Flange mounting FNC → 43
5 One-way flow control valve GRLA/GRLZ → 208
6 Push-in fitting QS → [adn-s](#)
- 7 Proximity switch
SMT-10M → 43
SMT-8M → 43
CRSMT-8M/SDBT-MS → [adn-s](#)
Position transmitter
SDAS-MHS/SDAT-MHS/SMAT-8M → [adn-s](#)
Connecting cables NEBA → 43
8 Slot cover ABP-5 → [adn-s](#)

Accessories for piston Ø 12 ... 63 mm

1 Coupling piece KSG		
For Ø	Type	Part no.
32, 40	KSG-M10x1,25	32963
50, 63	KSG-M12x1,25	32964

2 Self-aligning rod coupler FK		
For Ø	Type	Part no.
12	FK-M5	30984
16	FK-M6	2061
20, 25	FK-M8	2062
32, 40	FK-M10x1,25	6140
50, 63	FK-M12x1,25	6141

3 Foot mounting HNA		
For Ø	Type	Part no.
12	HNA-12	537237
16	HNA-16	537238
20	HNA-20	537239
25	HNA-25	537240
32	HNA-32	537241
40	HNA-40	537242
50	HNA-50	537243
63	HNA-63	537244

4 Flange mounting FNC		
For Ø	Type	Part no.
12	FNC-12	537245
16	FNC-16	537246
20	FNC-20	537247
25	FNC-25	537248
32	FNC-32	174376
40	FNC-40	174377
50	FNC-50	174378
63	FNC-63	174379

Proximity switch for piston Ø 6, 10 mm

7 Proximity switch, N/O, magneto-resistive SMT-10M		
Description	Type	Part no.
PNP, for round slot, inserted in the slot from above		
Cable, 3-wire, lengthwise, 2.5 m	SMT-10M-PS-24V-E-2,5-L-OE	551373
Plug M8x1, 3-pin, lengthwise, 0.3 m	SMT-10M-PS-24V-E-0,3-L-M8D	551375
NPN, for C-slot, inserted in the slot from above		
Cable, 3-wire, lengthwise, 2.5 m	SMT-10M-NS-24V-E-2,5-L-OE	551377
Plug M8x1, 3-pin, lengthwise, 0.3 m	SMT-10M-NS-24V-E-0,3-L-M8D	551379

7 Connecting cable NEBA			
Cable length	Connection right	Type	Part no.
Connection left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231

Proximity switch for piston Ø 12 ... 63 mm

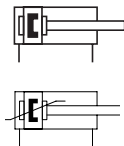
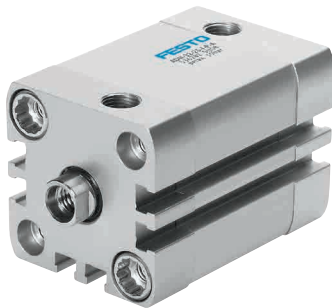
7 Proximity switch, N/O, magneto-resistive SMT-8M		
Description	Type	Part no.
PNP, for T-slot, inserted in the slot from above, flush with the cylinder profile, short design		
Cable, 3-wire, 2.5 m	SMT-8M-A-PS-24V-E-2,5-OE	574335
Plug M8x1, 3-pin, 0.3 m	SMT-8M-A-PS-24V-E-0,3-M8D	574334
NPN, for T-slot, inserted in the slot from above, flush with the cylinder profile, short design		
Cable, 3-wire, 2.5 m	SMT-8M-A-NS-24V-E-2,5-OE	574338
Plug M8x1, 3-pin, 0.3 m	SMT-8M-A-NS-24V-E-0,3-M8D	574339

7 Proximity switch, N/C, magneto-resistive SMT-8M		
Description	Type	Part no.
PNP, for T-slot, inserted in the slot from above, flush with the cylinder profile, short design		
Cable, 3-wire, 7.5 m	SMT-8M-A-PO-24V-E-7,5-OE	574340

7 Connecting cable NEBA			
Cable length	Connection right	Type	Part no.
Connection left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231

Cylinders with piston rod > Compact, short-stroke and flat cylinders >

Compact cylinders ADN, to ISO 21287, double-acting



- Compact cylinders with standard dimensions
- Up to 50% less installation space than comparable standards-based cylinders to ISO 15552
- Innovative technology for maximum speeds
- Flexible in use thanks to easy-to-configure variants
- Selected types in accordance with ATEX directive for potentially explosive atmospheres
→ www.festo.com/ex

Order code – Basic design

001 002 003 004 005 006 007 008 009 010 011 012 013 014 015 016
 ADN - - - - A - - - - - - - - - - - - - - -

001	Type
ADN	Double-acting compact cylinder, to ISO 21287
002	Piston Ø [mm]
...	12, 16, 20, 25, 32, 40, 50, 63, 80
003	Stroke [mm]
...	5, 10, 15, 20, 25, 30, 40, 50, 60, 80
004	Piston rod thread type
A	Male thread
I	Female thread
005	Cushioning
P	Elastic cushioning rings/plates at both ends
PPS	Pneumatic cushioning, self-adjusting at both ends
006	Position sensing
A	Via proximity switch
007	Protection against rotation
-	None
008	Piston rod type
-	Piston rod at one end

009	Temperature resistance
-	Standard
010	Constant motion
-	None
011	Low friction
-	Standard
012	Increased lateral force
-	None
013	Captive rating plate
-	Rating plate, glued
014	Low temperature
-	None
015	Wiper seal
-	Standard
016	EU certification (ATEX)
-	None

Legend: ☐ Mandatory entry ☐ Optional entry

Product options

100, 125 mm Piston Ø	K8	Extended piston rod	K5	Special piston rod thread	S11	Low friction
1 ... 500 mm Variable stroke	S1	Reinforced piston rod	K10	Smooth anodised aluminium piston rod	R3	High corrosion protection
F1A Recommended for production facilities for manufacturing lithium-ion batteries (Cu<=1%, Zn<=1%, Ni<=1%)	S2	Through piston rod	S6	Heat-resistant seals up to max. 120 °C	R8	Dust protection
Q Square piston rod	S20	Through, hollow piston rod	S10	Constant, slow movement	TL	Laser etched rating plate
	K2	Extended male piston rod thread			TT	Low temperature -40 ... +80°C
					KP	With clamping unit, attached
					EL...	With end-position locking



Configurable product

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

→ www.festo.com/catalogue/...

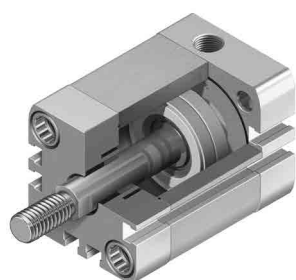
Enter the part number or the type.

Part no.	Type	Part no.	Type	Part no.	Type
536203	ADN-12-...-A	536267	ADN-32-...-A	536351	ADN-80-...-A
536218	ADN-16-...-A	536288	ADN-40-...-A	536372	ADN-100-...-A
536233	ADN-20-...-A	536309	ADN-50-...-A	536393	ADN-125-...-A
536250	ADN-25-...-A	536330	ADN-63-...-A		

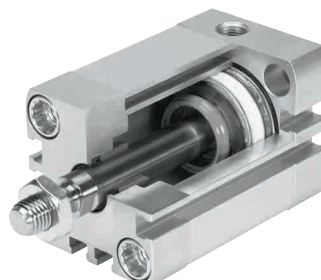
Ordering – Basic design

003 Stroke [mm]	002 Piston Ø [mm]								
	12	16	20	25	32	40	50	63	80
	004 Piston rod with male thread – 005 Elastic cushioning rings/plates at both ends – 006 Position sensing								
	A – P – A	A – P – A	A – P – A	A – P – A	A – P – A	A – P – A	A – P – A	A – P – A	A – P – A
5	536204	536219	536234	536251	536268	536289	536310		
10	536205	536220	536235	536252	536269	536290	536311	536332	536353
15	536206	536221	536236	536253	536270	536291	536312	536333	536354
20	536207	536222	536237	536254	536271	536292	536313	536334	536355
25	536208	536223	536238	536255	536272	536293	536314	536335	536356
30	536209	536224	536239	536256	536273	536294	536315	536336	536357
40	536210	536225	536240	536257	536274	536295	536316	536337	536358
50		536331	536241	536258	536275	536296	536317	536338	536359
60			536352	536373	536276	536297	536318	536339	536360
80					536277	536298	536319	536340	536361
	004 Piston rod with male thread – 005 Pneumatic cushioning, self-adjusting at both ends – 006 Position sensing								
					A – PPS – A	A – PPS – A	A – PPS – A	A – PPS – A	A – PPS – A
10					572655	572673	572691	572709	572727
15					572656	572674	572692	572710	572728
20					572657	572675	572693	572711	572729
25					572658	572676	572694	572712	572730
30					572659	572677	572695	572713	572731
40					572660	572678	572696	572714	572732
50					572661	572679	572697	572715	572733
60					572662	572680	572698	572716	572734
80					572663	572681	572699	572717	572735
	004 Piston rod with female thread – 005 Elastic cushioning rings/plates at both ends – 006 Position sensing								
	I – P – A	I – P – A	I – P – A	I – P – A	I – P – A	I – P – A	I – P – A	I – P – A	I – P – A
5	536211	536226	536242	536259	536278	536299	536320		
10	536212	536227	536243	536260	536279	536300	536321	536342	536363
15	536213	536228	536244	536261	536280	536301	536322	536343	536364
20	536214	536229	536245	536262	536281	536302	536323	536344	536365
25	536215	536230	536246	536263	536282	536303	536324	536345	536366
30	536216	536231	536247	536264	536283	536304	536325	536346	536367
40	536217	536232	536248	536265	536284	536305	536326	536347	536368
50		536341	536249	536266	536285	536306	536327	536348	536369
60			536362	536383	536286	536307	536328	536349	536370
80					536287	536308	536329	536350	536371
	004 Piston rod with female thread – 005 Pneumatic cushioning, self-adjusting at both ends – 006 Position sensing								
					I – PPS – A	I – PPS – A	I – PPS – A	I – PPS – A	I – PPS – A
10					572646	572664	572682	572700	572718
15					572647	572665	572683	572701	572719
20					572648	572666	572684	572702	572720
25					572649	572667	572685	572703	572721
30					572650	572668	572686	572704	572722
40					572651	572669	572687	572705	572723
50					572652	572670	572688	572706	572724
60					572653	572671	572689	572707	572725
80					572654	572672	572690	572708	572726

P and PPS cushioning



P cushioning:
Elastic cushioning rings/plates at
both ends

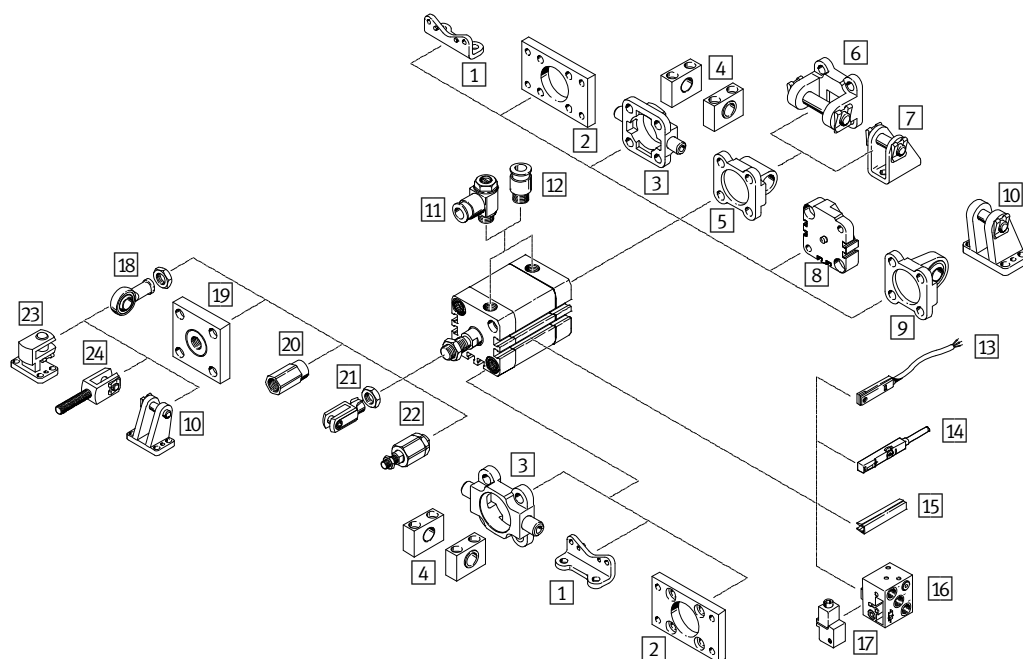


PPS cushioning:
Pneumatic cushioning, self-ad-
justing at both ends

Cylinders with piston rod > Compact, short-stroke and flat cylinders >

Compact cylinders ADN, to ISO 21287, double-acting

Accessories



- 1 Foot mounting HNA → 46
- 2 Flange mounting FNC → 46
- 3 Trunnion flange ZNCF → 35
- 4 Trunnion support LNKG → 35
- 5 Swivel flange SNCL → 46
- 6 Swivel flange SNCL → 35
- 7 Clevis foot LBN → 28
- 8 Multi-position kit DPNA → 46
- 9 Swivel flange SNCS → 35
- 10 Clevis foot LBG → [adn](#)
- 11 One-way flow control valve GRLA/GLRZ → 208
- 12 Push-in fitting QS → 332
- 13 Proximity switch SME-8 → [adn](#)
Connecting cable NEBA → 46

- 14 Proximity sensor SMT-8M → 251
Connecting cable NEBA → 46

- 15 Slot cover ABP-5-S → [adn](#)

- 16 Proximity switch SMPO-8E → [adn](#)
- 17 Mounting kit SMB-8E → [adn](#)

- 18 Rod eye SGS → 65
- 19 Coupling piece KSG/KSZ → [adn](#)
- 20 Adapter AD → [adn](#)

- 21 Rod clevis SG → 65
- 22 Self-aligning rod coupler FK → 65
- 23 Right-angle clevis foot LQG → 46
- 24 Rod clevis SGA → 46

1 Foot mounting HNA		
For Ø	Type	Part no.
12	HNA-12	537237
16	HNA-16	537238
20	HNA-20	537239
25	HNA-25	537240
32	HNA-32	537241
40	HNA-40	537242
50	HNA-50	537243
63	HNA-63	537244
80	HNA-80	537249

5 Swivel flange SNCL		
For Ø	Type	Part no.
12	SNCL-12	537790
16	SNCL-16	537791
20	SNCL-20	537792
25	SNCL-25	537793
32	SNCL-32	174404
40	SNCL-40	174405
50	SNCL-50	174406
63	SNCL-63	174407
80	SNCL-80	174408

23 Right-angle clevis foot LQG		
For Ø	Type	Part no.
32, 40	LQG-32	31768
50, 63	LQG-40	31769
80	LQG-50	31770

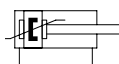
24 Rod clevis SGA		
For Ø	Type	Part no.
32, 40	SGA-M10x1,25	32954
50, 63	SGA-M12x1,25	10767
80	SGA-M16x1,25	10768

2 Flange mounting FNC		
For Ø	Type	Part no.
12	FNC-12	537245
16	FNC-16	537246
20	FNC-20	537247
25	FNC-25	537248
32	FNC-32	174376
40	FNC-40	174377
50	FNC-50	174378
63	FNC-63	174379
80	FNC-80	174380

8 Multi-position kit DPNA		
For Ø	Type	Part no.
12	DPNA-12	537263
16	DPNA-16	537264
20	DPNA-20	537265
25	DPNA-25	537266
32	DPNA-32	537267
40	DPNA-40	537268
50	DPNA-50	537269
63	DPNA-63	537270
80	DPNA-80	537271

13/14 Connecting cable NEBA			
Cable length	Connection right	Type	Part no.
Connection left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231
Connection left: straight socket, M12x1, 5-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M12G5-U-2.5-N-LE3	8078236
5 m		NEBA-M12G5-U-5-N-LE3	8078237
Connection left: angled socket, M12x1, 5-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M12W5-U-2.5-N-LE3	8078245
5 m		NEBA-M12W5-U-5-N-LE3	8078246

Standards-based cylinders CRDSNU, to ISO 6432, stainless steel



- With self-adjusting pneumatic end-position cushioning PPS
- Easy-to-clean design
- High corrosion protection

- Selected types in accordance with ATEX directive for potentially explosive atmospheres

→ www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006	007	008
CRDSNU	B	25		PPS	A	MG	A1

Legend: ☐ Mandatory entry

001	Type
CRDSNU	Double-acting standards-based cylinder, stainless steel
002	Design
B	Products in stock
003	Piston Ø [mm]
25	25
004	Stroke [mm]
...	10, 25, 40, 50, 80, 100, 125, 160, 200
005	Cushioning
PPS	Pneumatic cushioning, self-adjusting at both ends

006	Position sensing
A	Via proximity switch
007	Cylinder end cap
MG	Bearing cap without mounting thread
008	Wiper ring variant
A1	Increased chemical resistance

Product options

12 ... 25 mm Piston Ø	A1	Increased chemical resistance	K2	Extended male piston rod thread	TT	Low temperature –40 ... +80 °C
1 ... 500 mm Variable stroke	A2	Hard scraper	K3	Female piston rod thread		
P Elastic cushioning rings/plates both ends	A3	For unlubricated operation	K5	Custom piston rod thread		
PPV Pneumatic cushioning adjustable at both ends	S2	Through piston rod	K8	Extended piston rod		
MQ Alternative plain cylinder end cap, lateral connection	S6	Heat-resistant seals up to max. 120 °C				

 Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

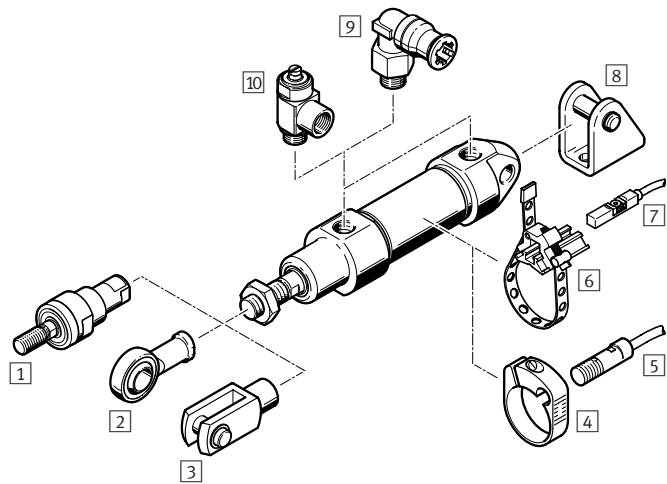
Part no.	Type
552787	CRDSNU-12-...
552788	CRDSNU-16-...
552789	CRDSNU-20-...
552790	CRDSNU-25-...

Cylinders with piston rod > Stainless-steel cylinders >
Standards-based cylinders CRDSNU, to ISO 6432, stainless steel

Ordering – Basic design

Round cylinders to ISO 6432		
003 Piston Ø [mm]	25	
004 Stroke [mm]	Type	Part no.
10	CRDSNU-B-25-10-PPS-A-MG-A1	2159636
25	CRDSNU-B-25-25-PPS-A-MG-A1	2159637
40	CRDSNU-B-25-40-PPS-A-MG-A1	2159638
50	CRDSNU-B-25-50-PPS-A-MG-A1	2159639
80	CRDSNU-B-25-80-PPS-A-MG-A1	2159640
100	CRDSNU-B-25-100-PPS-A-MG-A1	2159641
125	CRDSNU-B-25-125-PPS-A-MG-A1	2159642
160	CRDSNU-B-25-160-PPS-A-MG-A1	2159643
200	CRDSNU-B-25-200-PPS-A-MG-A1	2159644

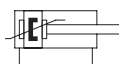
Accessories



- 1 Self-aligning rod coupler CRFK
→ [crdsnu](#)
- 2 Rod eye CRSGS → [crdsnu](#)
- 3 Rod clevis CRSG → [crdsnu](#)
- 4 Mounting kit CRSMBR → 48
- 5 Proximity switch CRSMEO-4
→ 48
- 6 Mounting kit SMBR → [crdsnu](#)
- 7 Proximity switch CRSMT-8M
→ [crdsnu](#)
- 8 Clevis foot CRLBN → [crdsnu](#)
- 9 Push-in fitting CRQS → [crqs](#)
- 10 One-way flow control valve CRGRLA
→ [crdsnu](#)

4 Mounting kit CRSMBR, corrosion-resistant		
For Ø	Type	Part no.
12	CRSMBR-12	164581
16	CRSMBR-16	164582
20	CRSMBR-20	164583
25	CRSMBR-25	164584

5 Proximity switch CRSMEO-4, corrosion-resistant	
Type	Part no.
Cable length 2.5 m, N/O, 3-wire	
CRSMEO-4-K-LED-24	161775



- With self-adjusting pneumatic end-position cushioning PPS
- Easy-to-clean design
- High corrosion protection

- Selected types in accordance with ATEX directive for potentially explosive atmospheres
- www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006	007	008
CRDSNU	B	32		PPS	A	MG	A1

Legend: ☐ Mandatory entry

001	Type
CRDSNU	Double-acting round cylinder, stainless steel
002	Design
B	Stock items
003	Piston Ø [mm]
32	32
004	Stroke [mm]
...	10, 25, 40, 50, 80, 100, 125, 160, 200
005	Cushioning
PPS	Pneumatic cushioning, self-adjusting at both ends

006	Position sensing
A	Via proximity switch
007	Cylinder end cap
MG	Bearing cap without mounting thread
008	Wiper ring variant
A1	Increased chemical resistance

Product options

32 ... 100 mm Piston Ø	A1	Increased chemical resistance	K2	Extended male piston rod thread	TT	Low temperature –40 ... +80 °C
1 ... 500 mm Variable stroke	A2	Hard scraper	K3	Female piston rod thread		
P Elastic cushioning rings/plates both ends	A3	For unlubricated operation	K5	Custom piston rod thread		
PPV Pneumatic cushioning adjustable at both ends	S2	Through piston rod	K8	Extended piston rod		
MQ Alternative plain cylinder end cap, lateral connection	S6	Heat-resistant seals up to max. 120 °C				

Configurable product

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

→ www.festo.com/catalogue/...

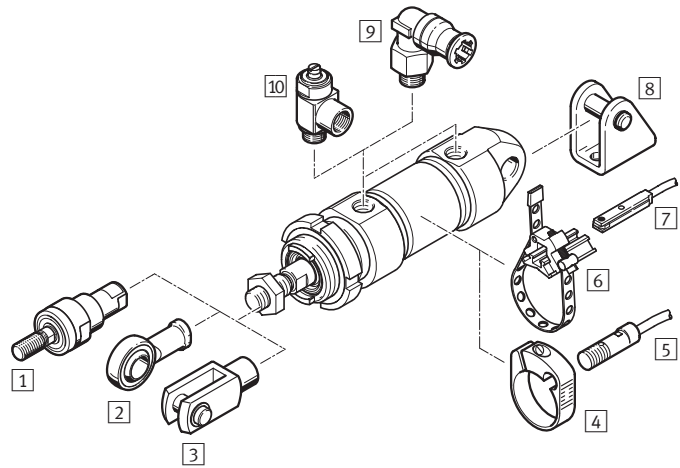
Enter the part number or the type.

Part no.	Type
552791	CRDSNU-32-...
552792	CRDSNU-40-...
552793	CRDSNU-50-...
552794	CRDSNU-63-...

Ordering – Basic design

Round cylinders		
003 Piston Ø [mm]	32	
004 Stroke [mm]	Type	Part no.
10	CRDSNU-B-32-10-PPS-A-MG-A1	2176399
25	CRDSNU-B-32-25-PPS-A-MG-A1	2176400
40	CRDSNU-B-32-40-PPS-A-MG-A1	2176401
50	CRDSNU-B-32-50-PPS-A-MG-A1	2176402
80	CRDSNU-B-32-80-PPS-A-MG-A1	2176403
100	CRDSNU-B-32-100-PPS-A-MG-A1	2176404
125	CRDSNU-B-32-125-PPS-A-MG-A1	2176405
160	CRDSNU-B-32-160-PPS-A-MG-A1	2176406
200	CRDSNU-B-32-200-PPS-A-MG-A1	2176407

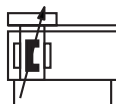
Accessories



- 1 Self-aligning rod coupler CRFK
→ [crdsnu](#)
- 2 Rod eye CRS GS → [crdsnu](#)
- 3 Rod clevis CRS G → [crdsnu](#)
- 4 Mounting kit CR S M B R → 50
- 5 Proximity switch CR S M E O-4
→ 50
- 6 Mounting kit S M B R → [crdsnu](#)
- 7 Proximity switch CR S M T-8 M
→ [crdsnu](#)
- 8 Clevis foot C R L B N → [crdsnu](#)
- 9 Push-in fitting C R Q S → [crqs](#)
- 10 One-way flow control valve C R G R L A
→ [crdsnu](#)

4 Mounting kit CR S M B R, corrosion-resistant		
For Ø	Type	Part no.
32	CR S M B R-32	163888
40	CR S M B R-40	163889
50	CR S M B R-50	163890
63	CR S M B R-63	163891

5 Proximity sensor CR S M E O, corrosion-resistant	
Type	Part no.
Cable length 2.5 m, N/O, 3-wire	
CR S M E O-4-K-LED-24	161775



- Compact design: 30% smaller than the basic design DGC-G
- Low moving dead weight
- Without external guide, for simple drive functions
- Symmetrical design
- Easy assembly and installation

- Selected types in accordance with ATEX directive for potentially explosive atmospheres
→ www.festo.com/ex

Order code

001	002	003	004	005	006	007	008	009	010	011	012
DGC	K			PPV	A						ZUB

001	Type
DGC	Double-acting linear actuator
002	Guide
K	Compact
003	Size
...	18, 25, 32, 40, 50, 63, 80
004	Stroke [mm]
...	1 ... 8500
005	Cushioning
PPV	Pneumatic cushioning, adjustable at both ends
006	Position sensing
A	Via proximity switch
007	Basic design
GK	Standard piston
GV	Extended piston
008	Compressed air connection
–	At one end
D2	At both ends
009	Lubrication
–	Standard
H1	Lubrication approved for use in food applications

010	Moment compensator
–	None
FK	Moment compensator
011	EU certification
–	None
EX2	II 3GD
EX3	II 2G
012	Accessories
ZUB –	Accessories enclosed separately
F	Foot mounting (1 set)
...M	Central support (1 ... 10 pieces)
...Y	Slot nut for mounting slot (1 ... 10 pieces)
...B	Slot cover (1 ... 10 pieces)
...G	Proximity switch, N/O with cable, 2.5 m (1 ... 10 pieces)
...H	Proximity switch, N/O with plug (1 ... 10 pieces)
...I	Proximity switch, N/O, contactless with cable, 2.5 m (1 ... 10 pieces)
...J	Proximity switch, N/O, contactless with plug (1 ... 10 pieces)
...N	Proximity switch, N/C with cable, 7.5 m (1 ... 10 pieces)
...V	Connecting cable with plug, 2.5 m (1 ... 10 pieces)
...S	Slot cover for sensor slot (1 ... 10 pieces)

Legend: ☐ Mandatory entry ☐ Optional entry

Configurable product

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

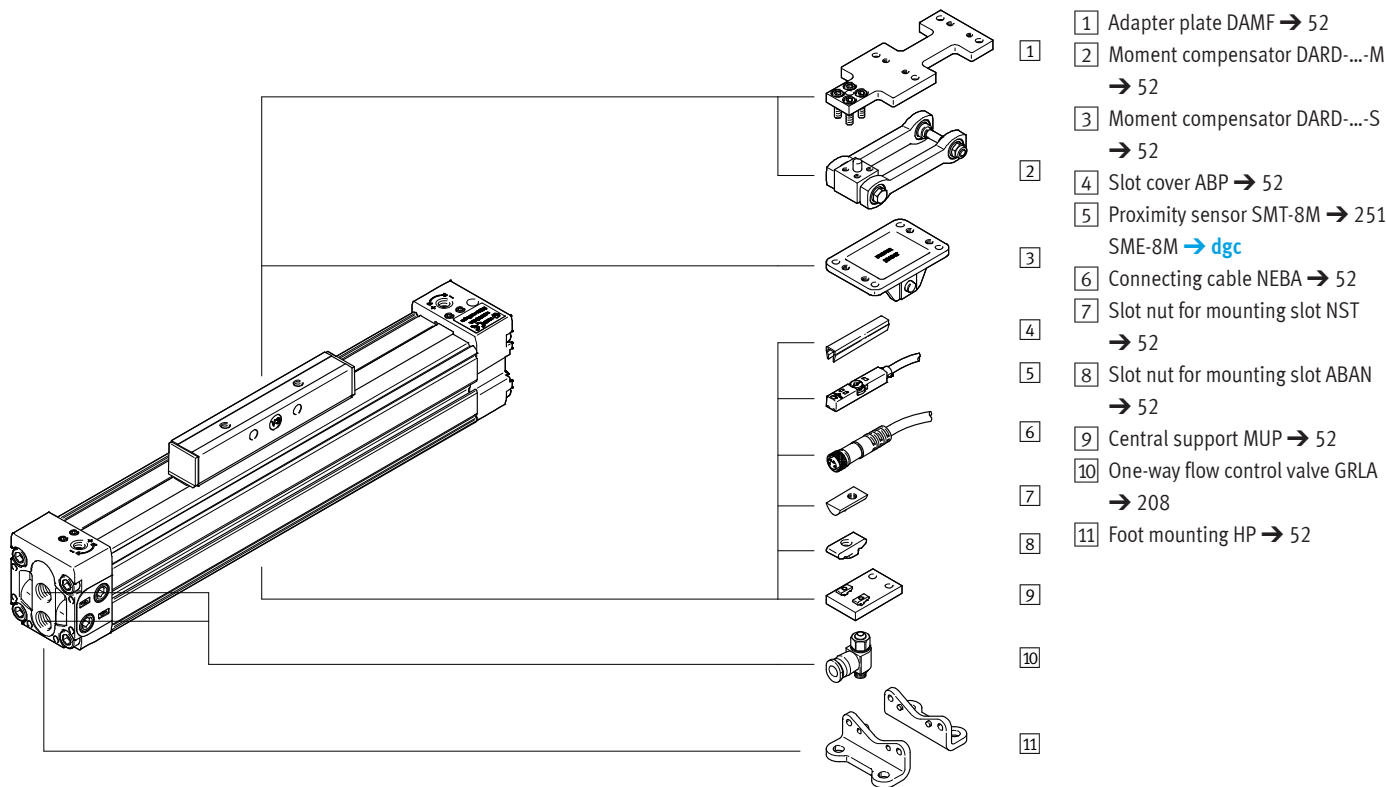
→ www.festo.com/catalogue/...

Enter the part number or the type.

Part no.	Type	Part no.	Type
1312500	DGC-K-18-...-PPV-A-...	1312504	DGC-K-50-...-PPV-A-...
1312501	DGC-K-25-...-PPV-A-...	1312505	DGC-K-63-...-PPV-A-...
1312502	DGC-K-32-...-PPV-A-...	1312506	DGC-K-80-...-PPV-A-...
1312503	DGC-K-40-...-PPV-A-...		

Rodless cylinders > Mechanically coupled cylinders >
Linear drives DGC-K, double-acting

Accessories



1 Adapter plate DAMF	For	Type	Part no.
	18	DAMF-18-FKP	2349281
	25	DAMF-25-FKP	2349282
	32	DAMF-32-FKP	2349283
	40	DAMF-40-FKP	2349284
	50	DAMF-50-FKP	2349285
	63	DAMF-63-FKP	2349286
	80	DAMF-80-FKP	2349287

3 Moment compensator DARD-...-S	For	Type	Part no.
	18	DARD-L1-18-S	8001411
	25	DARD-L1-32-S	8001412
	32	DARD-L1-32-S	8001412
	40	DARD-L1-40-S	8001413
	50	DARD-L1-63-S	8001414
	63	DARD-L1-63-S	8001414
	80	DARD-L1-80-S	8001415

7 Slot nut NST	For	Type	Part no.
	18, 25	NST-HMV-M4 ^{2),3)}	526091
	32, 40	NST-5-M5	150914
	50, 63, 80	NST-8-M6	150915

9 Central support MUP	For	Type	Part no.
	18	MUP-18/25	150736
		MUP-18/25-P	1711704
	25	MUP-18/25	150736
		MUP-18/25-P	1711704
	32	MUP-32	150737
	40	MUP-40	150738
	50	MUP-50	150739
	63	MUP-63	150800
	80	MUP-80	158455

2 Moment compensator DARD-...-M	For	Type	Part no.
	18	DARD-L1-18-M	2349274
	25	DARD-L1-25-M	2349275
	32	DARD-L1-32-M	2349276
	40	DARD-L1-40-M	2349277
	50	DARD-L1-50-M	2349278
	63	DARD-L1-63-M	2349279
	80	DARD-L1-80-M	2349280

4 Slot cover ABP ¹⁾	For	Type	Part no.
	For mounting slot		
	32, 40	ABP-5	151681
	50, 63, 80	ABP-8	151682
	For sensor slot		
	18 ...	ABP-5-S1	563360
	80		

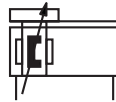
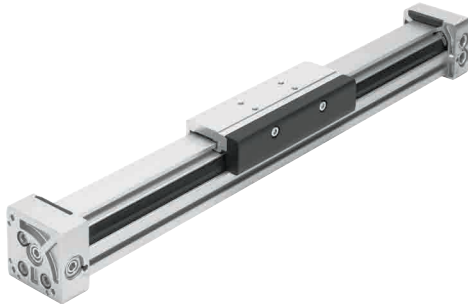
8 Slot nut ABAN	For	Type	Part no.
	18, 25	ABAN-1M4-5 ⁴⁾	8003032

4) Packaging unit 4 pieces.

11 Foot mounting HP	For	Type	Part no.
	18	HP-18	158472
	25	HP-25	150731
	32	HP-32	150732
	40	HP-40	150733
	50	HP-50	150734
	63	HP-63	150735
	80	HP-80	158453

6 Connecting cable NEBA	Cable length	Connection right	Type	Part no.
Connection left: straight socket, M8x1, 3-pin				
	2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
	5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection left: angled socket, M8x1, 3-pin				
	2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
	5 m		NEBA-M8W3-U-5-N-LE3	8078231
Connection left: straight socket, M12x1, 5-pin				
	2.5 m	Cable, open end, 3-wire	NEBA-M12G5-U-2.5-N-LE3	8078236
	5 m		NEBA-M12G5-U-5-N-LE3	8078237
Connection left: angled socket, M12x1, 5-pin				
	2.5 m	Cable, open end, 3-wire	NEBA-M12W5-U-2.5-N-LE3	8078245
	5 m		NEBA-M12W5-U-5-N-LE3	8078246

1) Packaging unit 2x 0.5 m.



- Compact dimensions
- Quick and sturdy installation and mounting
- High precision and load carrying capacity
- Excellent running characteristics and low air consumption
- Precision interfaces
- Many additional features

- Selected types in accordance with ATEX directive for potentially explosive atmospheres

→ www.festo.com/ex

Order code

001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016
DGC	-	-	-	-	A	-	-	-	-	-	-	-	-	-	+ ZUB -

001	Type
DGC	Double-acting linear actuator
002	Size
...	8, 12, 18, 25, 32, 40, 50, 63
003	Stroke [mm]
...	1 ... 8500
004	Guide
G	Basic design
GF	Plain-bearing guide
KF	Recirculating ball bearing guide
FA	Passive guide axis
005	Cushioning
P	Elastic cushioning rings/plates at both ends
PPV	Pneumatic cushioning, adjustable at both ends
YSR	Shock absorber, self-adjusting
YSRW	Shock absorber, self-adjusting, progressive
006	Position sensing
A	Via proximity switch
007	Supply port
-	On the right or at both ends
DL	On the left or at both ends
008	Lubrication
-	Standard
H1	Lubrication approved for use in food applications
009	Slide
-	Standard
GP	Protected recirculating ball bearing guide
010	Lubrication function
-	Standard
C	Lubrication adapter

011	Additional slide, left
-	None
KL	Additional slide, standard, left
012	Additional slide, right
-	None
KR	Additional slide, standard, right
013	Clamping unit
-	None
1H	1-channel holding function
014	Actuation type
-	None
PN	Pneumatically actuated
015	EU certification
-	None
EX2	II 3GD
EX3	II 2G
016	Accessories
ZUB -	Accessories enclosed separately
F	Foot mounting (1 set)
...M	Profile mounting (1 ... 9 pieces)
...B	Slot nut (1 ... 9 pieces)
FK	With moment compensator
...G	Proximity switch, cable 2.5 m (1 ... 9 pieces)
...H	Proximity switch, M8 plug (1 ... 9 pieces)
...I	Proximity switch, contactless, cable 2.5 m (1 ... 9 pieces)
...J	Proximity switch, contactless, M8 plug (1 ... 9 pieces)
...V	Connecting cable, M8, 2.5 m (1 ... 9 pieces)
...L	Slot cover for sensor slot (1 ... 9 pieces)
YWZ1	Variable end position, at one end
YWZ2	Variable end position, at both ends
Z1	1 intermediate position
Z2	2 intermediate positions
Z3	3 intermediate positions
O	Express waiver – no operating instructions to be included

Legend: ☐ Mandatory entry ☐ Optional entry

Accessories

2 Moment compensator FKC		
For Ø	Type	Part no.
8, 12	FKC-8/12	529350
18	FKC-18	538714
25	FKC-25	538715
32	FKC-32	538961
40	FKC-40	538962
50, 63	FKC-50/63	545240

4 Shock absorber YSRW-DGC		
For Ø	Type	Part no.
For DGC-G		
8	YSRW-DGC-8	540344
12	YSRW-DGC-12	540345
For DGC-GF		
18	YSRW-DGC-18-GF	540346
25	YSRW-DGC-25-GF	540348
32	YSRW-DGC-32-GF	540350
40	YSRW-DGC-40-GF	540352
50	YSRW-DGC-40/50-B	1232870
63	YSRW-DGC-63	543069
For DGC-KF		
18	YSRW-DGC-18-KF	540347
25	YSRW-DGC-25-KF	540349
32	YSRW-DGC-32-KF	540351
40, 50	YSRW-DGC-40/50-B	1232870
63	YSRW-DGC-63	543069

7 Connecting cable NEBA			
Cable length	Connection right	Type	Part no.
Connection left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231
Connection left: straight socket, M12x1, 5-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M12G5-U-2.5-N-LE3	8078236
5 m		NEBA-M12G5-U-5-N-LE3	8078237
Connection left: angled socket, M12x1, 5-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M12W5-U-2.5-N-LE3	8078245
5 m		NEBA-M12W5-U-5-N-LE3	8078246

8 Profile mounting MUC		
For Ø	Type	Part no.
8	MUC-8	526384
12	MUC-12	526387
18	MUC-18	531752
25	MUC-25	531753
32	MUC-32	531754
40	MUC-40	531755
50	MUC-50	531756
63	MUC-63	531757

9 Foot mounting HPC		
For Ø	Type	Part no.
8	HPC-8	526385
12	HPC-12	526388
18	HPC-18	533667
25	HPC-25	533668
32	HPC-32	533669
40	HPC-40	533670
50	HPC-50	545236
63	HPC-63	545237

10 Centring pin/sleeve ZBS/ZBH ¹⁾			
For Ø	Description	Type	Part no.
For DGC-G			
8, 12	For slide	ZBS-5	150928
8, 12	For end cap	ZBS-2	525273
50, 63		ZBH-9-B	8137184
For DGC-GF			
18	For slide	ZBS-5	150928
25 ... 63		ZBH-9-B	8137184
50, 63	For end cap	ZBH-9-B	8137184
For DGC-KF			
8, 12, 18	For slide	ZBS-5	150928
25 ... 63		ZBH-9-B	8137184
8, 12	For end cap	ZBH-2	525273
18		ZBS-5	150928
25 ... 63		ZBH-9-B	8137184

1) Packaging unit 10 pieces.

11 Slot cover ABP-S ²⁾		
For Ø	Type	Part no.
For sensor slot		
18 ... 63	ABP-5-S	151680

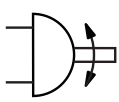
2) Packaging unit 2x 0.5 m.

12 Slot nut HMBN ³⁾		
For Ø	Type	Part no.
For mounting slot		
25, 32, 40	HMBN-5-1M5	547264
50, 63	HMBN-5-2M5	186566

3) Packaging unit 10 pieces.

Semi-rotary drives > Semi-rotary drives with rotary vane >

Semi-rotary drives DRVS, double-acting



- Modern and compact design
 - Lighter than other semi-rotary drives
 - Housing protected against splash water and dust
 - Selected types in accordance with ATEX directive for potentially explosive atmospheres
- www.festo.com/ex

Order code – Basic design

001002003004005

DRVS- - P -

Legend:

Mandatory entry

Optional entry

001	Type
DRVS	Double-acting semi-rotary drive
002	Size
...	6, 8, 12, 16, 25, 32, 40
003	Nominal swivel angle [°]
...	90, 180, 270

004	Cushioning
P	Elastic cushioning rings/plates at both ends
005	EU certification
-	None

Product options

EX4

EU certification (II 2GD)

Configurable product

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

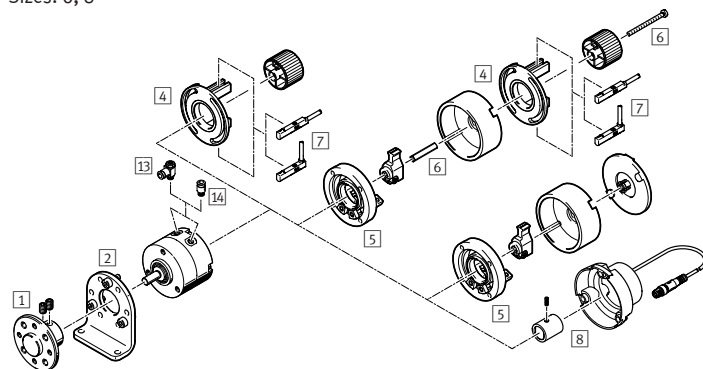
→ www.festo.com/catalogue/drvs

Ordering – Basic design

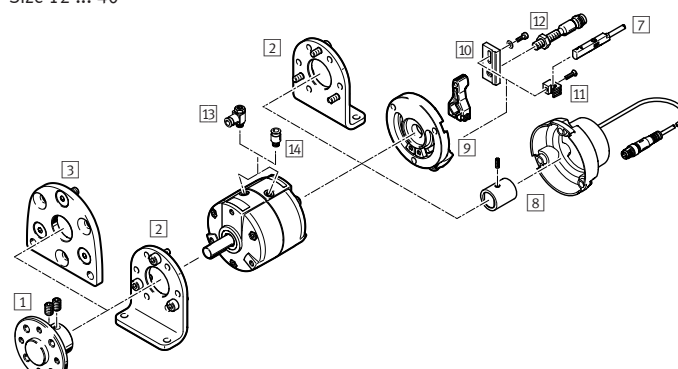
003 Nominal swivel angle [°]	002 Size						
	6	8	12	16	25	32	40
	004 Elastic cushioning rings/plates at both ends						
	P	P	P	P	P	P	P
90	1845706	1845708	1845710	1845713	1845716	1845719	1845722
180	1845707	1845709	1845711	1845714	1845717	1845720	1845723
270			1845712	1845715	1845718	1845721	1845724

Accessories

Sizes: 6, 8



Size 12 ... 40



- 1 Push-on flange FWSR/
DARF → [drvs](#)
- 2 Foot mounting DAMH¹⁾ → 57
- 3 Flange mounting DAMF → [drvs](#)
- 4 Mounting kit
WSM-...-SME-10 → 57
- 5 Stop kit KSM → 57
- 6 Adapter kit DADP-AK → 57
- 7 Proximity switch SME-10 → [drvs](#)
SMT-10M → 255
- 8 Position sensor SRBS → [drvs](#)
- 9 Stop kit DADP-ES → 57

- 10 Sensor bracket SL-DSM-S → [drvs](#)
- 11 Sensor bracket SL-DSM-B → [drvs](#)
- 12 Proximity switch SIEN → 57
Connecting cable NEBA → 57
- 13 One-way flow control valve GRLA
→ 57, 208
- 14 Push-in fitting QS → 332

1) Size 6, 8: The foot mounting can only be mounted at the front.

2 Foot mounting DAMH		
For size	Type	Part no.
6	DAMH-Q12-6	3371840
8	DAMH-Q12-8	3371841
12	DAMH-Q12-12	3371842
16	DAMH-Q12-16	3371843
25	DAMH-Q12-25	3371844
32	DAMH-Q12-32	3371845
40	DAMH-Q12-40	3371846

4 Mounting kit WSM		
For size	Type	Part no.
6	WSM-6-SME-10	173205
8	WSM-8-SME-10	173206

5 Stop kit KSM		
For size	Type	Part no.
6	KSM-6	175833
8	KSM-8	175834

6 Adapter kit DADP-AK		
For size	Type	Part no.
6	DADP-AK-Q1-6	3617044
8	DADP-AK-Q1-8	3617045

9 Stop kit DADP-ES		
For size	Type	Part no.
12	DADP-ES-Q12-12	2536502
16	DADP-ES-Q12-16	2536503
25	DADP-ES-Q12-25	2536504
32	DADP-ES-Q12-32	2536505
40	DADP-ES-Q12-40	2536506

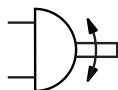
12 Inductive proximity sensor SIEN			
For size	Connection right	Type	Part no.
N/O, M5			
12 ... 40	PNP, cable, 2.5 m	SIEN-M5B-PS-K-L	150370
	PNP, plug	SIEN-M5B-PS-S-L	150371
N/O contact, M8			
12 ... 40	PNP, cable, 2.5 m	SIEN-M8B-PS-K-L	150386
	PNP, plug	SIEN-M8B-PS-S-L	150387

12 Connecting cable NEBA			
Cable length	Connection right	Type	Part no.
Connection left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231

13 One-way flow control valves GRLA		
For size	Type	Part no.
6, 8	GRLA-M3-QS-3	175041

Semi-rotary drives > Semi-rotary drives with rack and pinion >

Twin-piston semi-rotary drives DRRD, double-acting



- Extremely accurate in the end positions
 - Very high load-bearing capacity
 - Very good axial run-out at the flanged shaft
 - High mass moments of inertia
- Selected types in accordance with ATEX directive for potentially explosive atmospheres
→ www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006
DRRD	-	180	-	FH	-
					A

Legend: Mandatory entry

001	Type
DRRD	Double-acting semi-rotary drive, twin piston
002	Size
...	16, 20, 25, 32, 35, 40
003	Nominal swivel angle
180	180°
004	Output shaft
FH	Flanged shaft, hollow

005	Cushioning
P	Elastic cushioning rings/plates at both ends
Y9	Linear shock absorber, self-adjusting at both ends
006	Position sensing
A	Via proximity switch

Product options

8, 10, 12, 50, 63 Sizes	P2E2	Energy through-feed: pneumatic, 2 ducts; electric, 2 signals	Y10	Linear shock absorber, self-adjusting at both ends, hard	PS1	1 intermediate position
P2 Energy through-feed: pneumatic, 2 ducts					E1	End-position locking at both ends
P4 Energy through-feed: pneumatic, 4 ducts	P4E6	Energy through-feed: pneumatic, 4 ducts; electric, 6 signals	Y12	Linear shock absorber, self-adjusting at both ends, external	R	Sensor mounting, external: mounting rail for proximity sensor
P8 Energy through-feed: pneumatic, 8 ducts	P8E8	Energy through-feed: pneumatic, 8 ducts; electric, 8 signals	Y14	Linear shock absorber, self-adjusting at both ends, soft	SG	Splash-proof design
			EX4	EU certification (II 2 GD)	DN	Without operating instructions



Configurable product

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

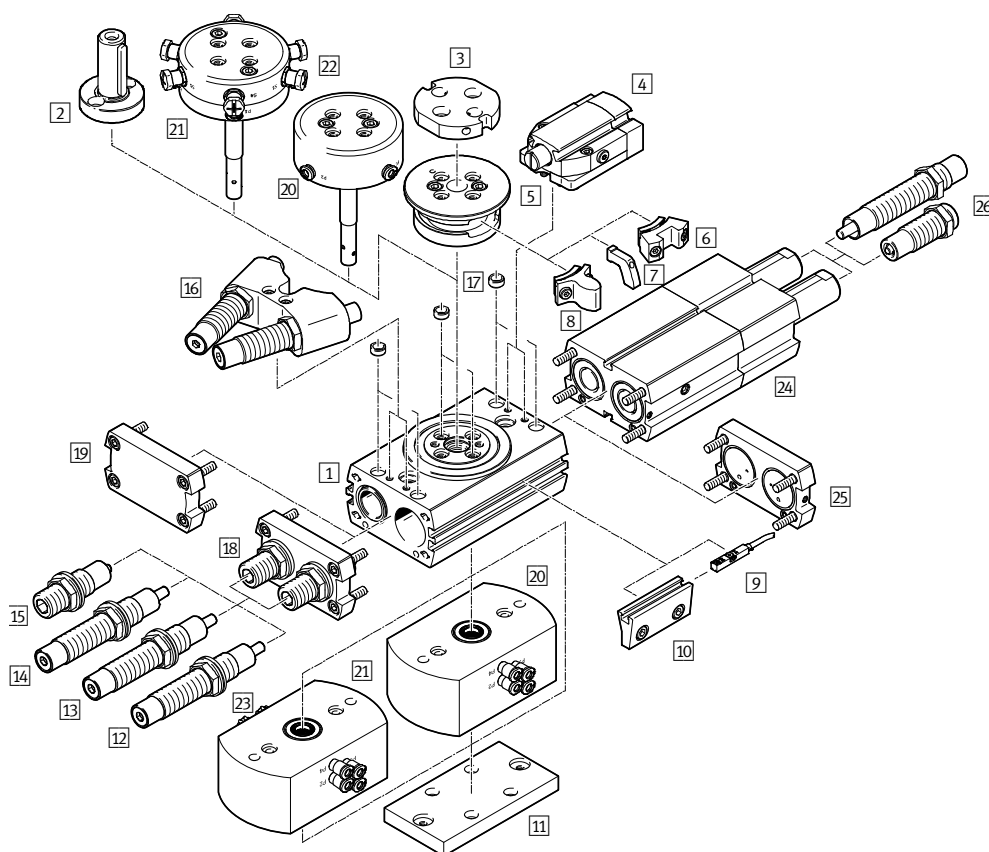
→ www.festo.com/catalogue/drrd

Ordering – Basic design

005 Elastic cushioning rings/plates at both ends P		
002 Size	Type	Part no.
16	DRRD-16-180-FH-PA	1577238
20	DRRD-20-180-FH-PA	1395606
25	DRRD-25-180-FH-PA	1359980
32	DRRD-32-180-FH-PA	1578512
35	DRRD-35-180-FH-PA	1526825
40	DRRD-40-180-FH-PA	1503269

005 Linear shock absorber, self-adjusting at both ends Y9		
002 Size	Type	Part no.
16	DRRD-16-180-FH-Y9A	1644389
20	DRRD-20-180-FH-Y9A	1427379
25	DRRD-25-180-FH-Y9A	1360248
32	DRRD-32-180-FH-Y9A	1578518
35	DRRD-35-180-FH-Y9A	1547102
40	DRRD-40-180-FH-Y9A	1526986

Accessories



- 1 Semi-rotary drive DRRD → 58
- 2 Drive shaft DARF-Q11 → drrd
- 3 Adapter kit DHAA-G for gripper → drrd
- 4 Clamping unit DADL-...-EL, included in the scope of delivery: 4, 5, 2x6 → drrd
End-position locking, product option E1
- 5 Flange assembly for mounting components 6, 7 and 8
- 6 Clamping component DADL-EC → drrd
- 7 Switch lug DASI-...-SL → drrd
- 8 Stop element, product option Y12
- 9 Proximity switch
SME-8, SME-/SMT-8M → 59
Position transmitter SMAT-8M → drrd

- 10 Sensing kit DASI-...-KT → drrd
Included in the scope of delivery: 5, 2x7, 2x10
Sensor mounting, product option R
- 11 Adapter kit DHAA-D for drives → drrd
- 12 Shock absorber, product option Y9
- 13 Shock absorber, hard, product option Y10
- 14 Shock absorber, soft, product option Y14
- 15 Shock absorber, product option P
- 16 Shock absorber, external, product option Y12, Included in the scope of delivery: 5, 2x8, 16
- 17 Centring sleeve ZBH → drrd
- 18 End cap: in combination with elastic cushioning P or shock absorber Y9, Y10, Y14
- 19 End cap: in combination with external shock absorber Y12
- 20 Energy through-feed, pneumatic, product option P2, P4, P8
- 21 Energy through-feed, pneumatic/electric, product option P2E2, P4E6, P8E8
- 22 Connecting cable NEBA from the energy through-feed to the proximity sensor → 59
- 23 Connecting cable NEBA from the energy through-feed to the controller → 59
- 24 Intermediate position, product option PS1
- 25 Connection cap for supply ports
- 26 Shock absorber DYSC-Y1F → drrd
One-way flow control valve GRLA → 59

9 Proximity switch SME-8, inserted in the slot from the side

Description	Type	Part no.
Magnetic reed		
Cable, 2.5 m, 3-wire	SME-8-K-LED-24	150855
Plug M8x1, 3-pin	SME-8-S-LED-24	150857

9 Proximity switch SME-8M/SMT-8M, inserted in the slot from above

Description	Type	Part no.
Magnetic reed		
Cable, 2.5 m, 3-wire	SME-8M-DS-24V-K-2,5-OE	543862
Cable, 5 m, 3-wire	SME-8M-DS-24V-K-5,0-OE	543863
Plug M8x1, 3-pin	SME-8M-DS-24V-K-0,3-M8D	543861
Magneto-resistive		
Cable, 2.5 m, 3-wire	SMT-8M-A-PS-24V-E-2,5-OE	574335
Plug M8x1, 3-pin	SMT-8M-A-PS-24V-E-0,3-M8D	574334

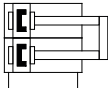
22/23 Connecting cable NEBA, input

Cable length	Connection right	Type	Part no.
For size 16/20, connection left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
For size 25/32/35, connection left: straight socket, M8x1, 4-pin			
2.5 m	Cable, open end, 4-wire	NEBA-M8G4-U-2.5-N-LE4	8078227
5 m		NEBA-M8G4-U-5-N-LE4	8078228
For size 40, connection left: straight socket, M12x1, 5-pin			
2.5 m	Cable, open end, 4-wire	NEBA-M12G5-U-2.5-N-LE4	8078239
5 m		NEBA-M12G5-U-5-N-LE4	8078240

One-way flow control valve GRLA

For size	Type	Part no.
To set the swivel speed		
16 ¹⁾ , 20, 25	GRLA-M5-QS-3-RS-D	197576
	GRLA-M5-QS-4-RS-D	197577
32, 35, 40	GRLA-1/8-RS-B	151169

1) Strongly recommended for this size.



- Very compact design
- Shortest mini slide on the market
- Powerful twin-piston drive
- Very precise recirculating ball bearing guide
- Yoke plate and slide manufactured from a single piece
- Easy end-position adjustment
- Short cycle times and high effective power with twin piston
- High precision and robustness

Order code – Basic design

001002003004005

DGST- - - A

Legend: Mandatory entry

001	Type
DGST	Double-acting mini slide
002	Size
...	6, 8, 10, 12, 16, 20, 25
003	Stroke [mm]
...	10, 20, 30, 40, 50, 80, 100, 125, 150, 200

004	Cushioning
E1	Elastomer cushioning, at both ends, stroke not adjustable
P	Elastic cushioning rings/plates at both ends
Y12	Linear shock absorber, self-adjusting at both ends, external
005	Position sensing
A	Via proximity switch

Product options

L	Version mirror-imaged	Cushioning
F1A	Recommended for production facilities for manufacturing lithium-ion batteries	E Elastomer cushioning, short, on both sides
		P1 Elastomer cushioning, adjustable on both sides, with fixed stop

Lubrication
H1 Food-safe lubrication



Configurable product

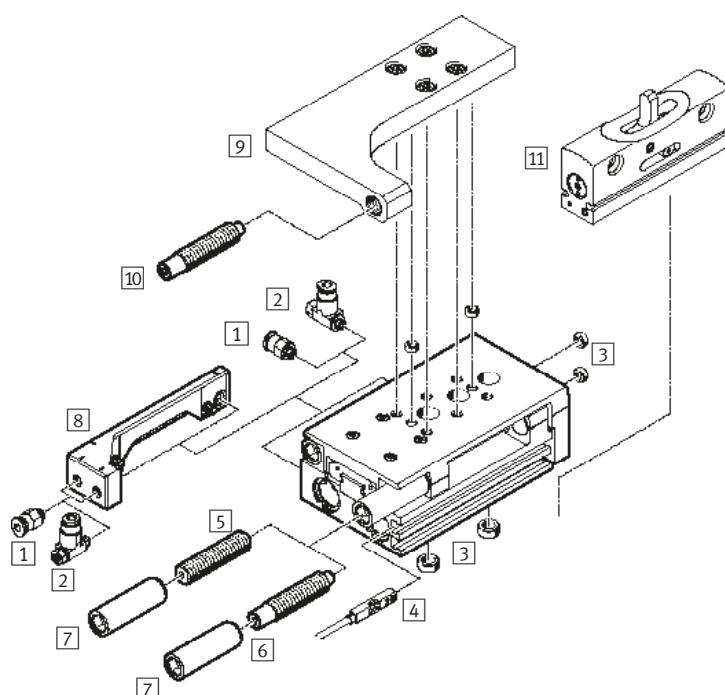
This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/dgst

Ordering – Basic design

003 Stroke [mm]	002 Size						
	6	8	10	12	16	20	25
004 Cushioning E1: elastomer cushioning, at both ends, stroke not adjustable – 005 Position sensing A: via proximity sensor							
10	8078828	8078833	8078839	8078846	8078853	8078862	8078872
20	8078829	8078834	8078840	8078847	8078854	8078863	8078873
30	8078830	8078835	8078841	8078848	8078855	8078864	8078874
40	8078831	8078836	8078842	8078849	8078856	8078865	8078875
50	8078832	8078837	8078843	8078850	8078857	8078866	8078876
80		8078838	8078844	8078851	8078858	8078867	8078877
100			8078845	8078852	8078859	8078868	8078878
125					8078860	8078869	8078879
150					8078861	8078870	8078880
200						8078871	8078881
004 Cushioning P: elastic cushioning rings/plates at both ends – 005 Position sensing A: via proximity sensor							
10	8085105	8085110	8085116	8085123	8085130	8085139	8085149
20	8085106	8085111	8085117	8085124	8085131	8085140	8085150
30	8085107	8085112	8085118	8085125	8085132	8085141	8085151
40	8085108	8085113	8085119	8085126	8085133	8085142	8085152
50	8085109	8085114	8085120	8085127	8085134	8085143	8085153
80		8085115	8085121	8085128	8085135	8085144	8085154
100			8085122	8085129	8085136	8085145	8085155
125					8085137	8085146	8085156
150					8085138	8085147	8085157
200						8085148	8085158
004 Cushioning Y12: linear shock absorber, self-adjusting at both ends, external – 005 Position sensing A: via proximity sensor							
30	8085159	8085162	8085166	8085171	8085176	8085183	8085191
40	8085160	8085163	8085167	8085172	8085177	8085184	8085192
50	8085161	8085164	8085168	8085173	8085178	8085185	8085193
80		8085165	8085169	8085174	8085179	8085186	8085194
100			8085170	8085175	8085180	8085187	8085195
125					8085181	8085188	8085196
150					8085182	8085189	8085197
200						8085190	8085198

Accessories



- 1 Push-in fitting QSM → 62
- 2 One-way flow control valve GRLA → 62
- 3 Centring sleeve ZBH, centring pin ZBS → 62
- 4 Proximity switch SMT-10M/SMT-8M → 62
Position transmitter SMAT-8M/SDAT → [dgst](#)
- 5 Shock absorber DYEF (included in the scope of delivery of the mini slide DGST) → 62
- 6 Shock absorber DYSS (included in the scope of delivery of the mini slide DGST) → 62
- 7 Threaded sleeve included in the scope of delivery of the shock absorber 5/6
- 8 Connection set DADG-AK-G8 for axial connection of compressed air tubing → [dgst](#)
- 9 Shock absorber retainer DADP → [dgst](#)
- 10 Cushioning Y12 → [dgst](#)
- 11 Intermediate-position module DADM → [dgst](#)

Guided drives > Drives with slide >
Mini slides DGST, double-acting

1 Push-in fitting QSM		
For size	Type	Part no.
For connecting compressed air tubing with standard outside diameters		
6	QSM-M3-4	153303
8, 10, 12, 16	QSM-M5-4	153304
20, 25	QSM-1/8-6	153307

2 One-way flow control valve GRLA		
For size	Type	Part no.
For regulating speed		
6	GRLA-M3-QS-3	175041
8, 10, 12, 16	GRLA-M5-QS-6-D	193139
20, 25	GRLA-1/8-QS-8-D	193145

3 Centring sleeve ZBH ¹⁾ /centring pin ZBS ¹⁾		
For size	Type	Part no.
For centring loads and attachments on the slide		
6, 8, 10, 12, 16	ZBH-5-B	8146543
20, 25	ZBH-12-B	8137185
For centring loads and attachments on the yoke plate		
6	ZBS-2	525273
8, 10	ZBH-5-B	8146543
12, 16	ZBH-7-B	8146544
20, 25	ZBH-12-B	8137185
For centring the mini slide during mounting		
6, 8	ZBH-5-M4	8119593
10, 12	ZBH-7-B	8146544
16	ZBH-9-B	8137184
20, 25	ZBH-12-B	8137185

1) Packaging unit 10 pieces

4 Proximity switch, N/O, magneto-resistive SMT-10M			
For size	Description	Type	Part no.
PNP, for round slot, inserted in the slot from above			
6, 8, 10, 12	Cable, 3-wire, lengthwise, 2.5 m	SMT-10M-PS-24V-E-2,5-L-OE	551373
	Plug M8x1, 3-pin, lengthwise, 0.3 m	SMT-10M-PS-24V-E-0,3-L-M8D	551375
	Plug M8x1, 3-pin, crosswise, 0.3 m	SMT-10M-PS-24V-E-0,3-Q-M8D	551376

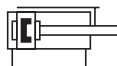
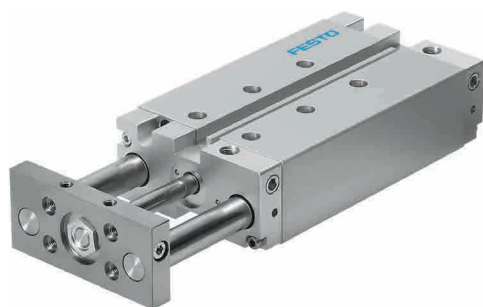
4 Proximity switch, N/O, magneto-resistive SMT-8M			
For size	Description	Type	Part no.
PNP, for T-slot, inserted in the slot from above, flush with the cylinder profile, short design			
16, 20, 25	Cable, 3-wire, 2.5 m	SMT-8M-A-PS-24V-E-2,5-OE	574335
	Plug M8x1, 3-pin, 0.3 m	SMT-8M-A-PS-24V-E-0,3-M8D	574334
NPN, for T-slot, inserted in the slot from above, flush with the cylinder profile, short design			
16, 20, 25	Cable, 3-wire, 2.5 m	SMT-8M-A-NS-24V-E-2,5-OE	574338
	Plug M8x1, 3-pin, 0.3 m	SMT-8M-A-NS-24V-E-0,3-M8D	574339

Connecting cable NEBA			
Cable length	Connection right	Type	Part no.
Connection left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231

5 Shock absorber DYEF ²⁾		
For size	Type	Part no.
For DGST-....P, elastic cushioning at both ends, self-adjusting, with end-position adjustment		
6	DYEF-G8-M4-Y1	8073902
8	DYEF-G8-M5-Y1	8073903
10	DYEF-G8-M6-Y1	8073904
12	DYEF-G8-M8-Y1	8073905
16	DYEF-G8-M10-Y1	8073906
20	DYEF-G8-M12-Y1	8073907
25	DYEF-G8-M14-Y1	8073908

6 Shock absorber DYSS ²⁾ with fixed stop		
For size	Type	Part no.
For DGST-....Y12, shock absorbers at both ends, self-adjusting, with end-position adjustment		
6	DYSS-G8-2-4-Y1F	8073911
8	DYSS-G8-3-4-Y1F-G2	8111383
10	DYSS-G8-4-4-Y1F-G2	8111384
12	DYSS-G8-5-5-Y1F	8073914
16	DYSS-G8-7-5-Y1F	8073915
20	DYSS-G8-8-8-Y1F	8073916
25	DYSS-G8-10-10-Y1F	8073917

2) Scope of delivery: 1 cushioning component and 1 threaded sleeve Included in the scope of delivery of the mini slide DGST



- Drive and guide unit in a single housing
- Minimal space requirement
- Sturdy and precise
- Plain or recirculating ball bearing guide
- High resistance to torques and lateral forces
- Wide range of applications

- Selected types in accordance with ATEX directive for potentially explosive atmospheres
→ www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006
DFM			P	A	

Legend: ☐ Mandatory entry

001	Type
DFM	Double-acting guided drive
002	Piston Ø [mm]
...	6, 10, 12, 16, 20, 25, 32, 40, 50, 63
003	Stroke [mm]
...	5, 10, 15, 20, 25, 30, 40, 50, 80, 100, 125, 160, 200
004	Cushioning
P	Elastic cushioning rings/plates at both ends

005	Position sensing
A	Via proximity switch
006	Guide
GF	Plain-bearing guide
KF	Recirculating ball bearing guide

Product options

80, 100 mm Piston Ø
10 ... 400 mm Variable stroke

PPV Pneumatic cushioning adjustable at both ends
YSRW Self-adjusting, progressive shock absorber, at both ends

F1A Recommended for production facilities for manufacturing lithium-ion batteries
S6 Heat-resistant seals up to max. 120 °C
AJ Precision adjustment in the end positions, advanced

EJ Precision adjustment in the end positions, retracted
EX3 II 2G to EU Explosion Protection Directive (ATEX)



Configurable product

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

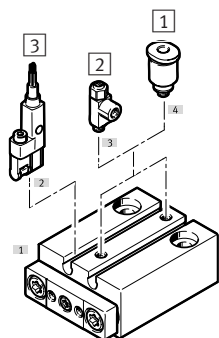
→ www.festo.com/catalogue/dfm

Ordering – Basic design

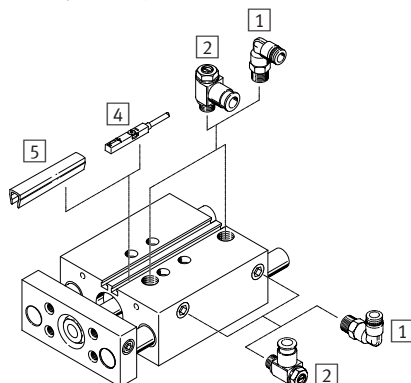
003 Stroke [mm]	002 Piston Ø [mm]									
	6	10	12	16	20	25	32	40	50	63
	004 Cushioning P: elastic cushioning rings/plates at both ends – 005 Position sensing A: via proximity switch – 006 Plain-bearing guide									
	P – A – GF	P – A – GF	P – A – GF	P – A – GF	P – A – GF	P – A – GF	P – A – GF	P – A – GF	P – A – GF	P – A – GF
5	4149944	4154768								
10	4149945	4154769	170824	170832						
15	4149946	4154770								
20	4149947	4154799	170825	170833	170840	170847	170854			
25			170826	170834	170841	170848	170855	170864	170871	170878
30			170827	170835	170842	170849	170856			
40			170828	170836	170843	170850	170857			
50			170829	170837	170844	170851	170858	170865	170872	170879
80			170830	170838	170845	170852	170859	170866	170873	170880
100			170831	170839	170846	170853	170860	170867	170874	170881
125							170861	170868	170875	170882
160							170862	170869	170876	170883
200							170863	170870	170877	170884
	004 Cushioning P: elastic cushioning rings/plates at both ends – 005 Position sensing A: via proximity switch – 006 Recirculating ball bearing guide									
		P – A – KF	P – A – KF	P – A – KF	P – A – KF	P – A – KF	P – A – KF	P – A – KF	P – A – KF	P – A – KF
10		170899	170907							
20		170900	170908	170915	170922	170929				
25		170901	170909	170916	170923	170930	170939	170946	170953	
30		170902	170910	170917	170924	170931				
40		170903	170911	170918	170925	170932				
50		170904	170912	170919	170926	170933	170940	170947	170954	
80		170905	170913	170920	170927	170934	170941	170948	170955	
100		170906	170914	170921	170928	170935	170942	170949	170956	
125						170936	170943	170950	170957	
160						170937	170944	170951	170958	
200						170938	170945	170952	170959	

Accessories

Piston Ø 6, 10 mm

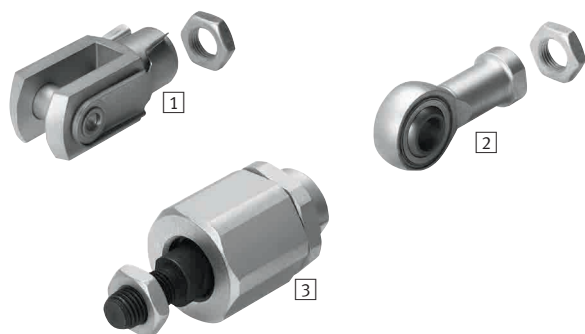


Piston Ø 12 ... 63 mm



- 1 Push-in fitting QSM/QS → 330, 332
- 2 One-way flow control valve GRLA → 208
- 3 Proximity switch SMT-10G → dfm
- 4 Proximity switch SME-8M → dfm
SMT-8M → 251
SME-/SMT-8 → dfm
- 5 Slot cover ABP-5-S → dfm

Centring sleeves ZBH for piston Ø 12 ... 63 mm (included in the scope of delivery) → dfm
Adapters for drive/drive combinations → dfm

Cylinder mounting parts and accessories for pneumatic drives ›
Piston rod attachments SG, SGS, FK

- Coordinated with Festo's cylinder range
- Versatile combinations
- Sturdy and functional
- Stainless-steel variants

- 1 Rod clevis SG: permits a swivelling movement of the cylinder in one plane
- 2 Rod eye SGS: with spherical bearing
- 3 Self-aligning rod coupler FK: for compensating radial and angular deviations

Order code

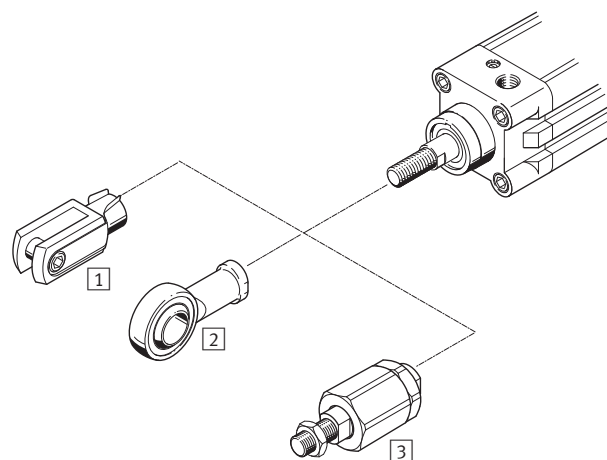
001 002

-

Legend: ☐ Mandatory entry

001	Type
SG	Rod clevis
SGS	Rod eye
FK	Self-aligning rod coupler

002	Piston rod thread
M4	Male thread M4
M6	Male thread M6
M8	Male thread M8
M10x1,25	Male thread M10x1.25
M12x1,25	Male thread M12x1.25
M16x1,5	Male thread M16x1.5
M20x1,5	Male thread M20x1.5
M36x2	Male thread M36x2



Product options

Piston rod thread

M10, M12, M16, M27x2, M36x2, M42x2, M48x2

- CRSG Rod clevis in corrosion- and acid-resistant design, conforms to ISO 8140 → [crsg](#)
- CRSGS Rod eye in corrosion- and acid-resistant design, conforms to ISO 12240-4 dimensional series K → [crsgs](#)
- CRFK Self-aligning rod coupler in corrosion- and acid-resistant design → [crfk](#)



Configurable product

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

→ www.festo.com/catalogue/sgs

2024/06 – Subject to change

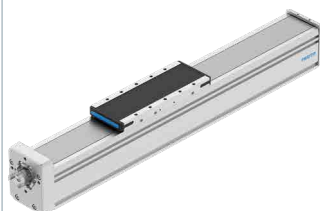
02

Electric drives



Highlights

Contents



Spindle axes/ Toothed belt axes

ELGD

- + Excellent rigidity, large feed forces and a durable guide system
- + Innovative guide technology

→ 77, 82



Spindle axes

EGC-BS-KF

- + Spindle support enables maximum travel speed
- + Optionally with clamping unit

→ 92



Electric cylinder with spindle drive

EPCC

- + Low-cost: optimum price/performance ratio
- + Dynamic due to low internal friction

→ 96

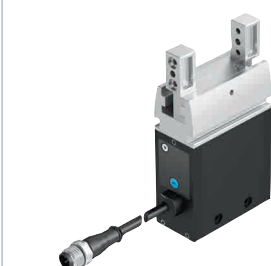


Electric cylinders

ESBF

- + High feed forces with compact size
- + Optionally with high corrosion protection

→ 99



Parallel grippers, electric

EHPS

- + Gripping force adjustable at the gripper module
- + Long stroke for different workpieces

→ 75

Product overview	70
Toothed belt axes ELGD-TB-KF, with recirculating ball bearing guide	77
Toothed belt axes ELGD-TB-KF-WD, with recirculating ball bearing guide, wide design	80
Spindle axes ELGD-BS-KF, with recirculating ball bearing guide	82
Spindle axes ELGD-BS-KF-WD, with recirculating ball bearing guide, wide design	85
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide	87
Spindle axes EGC-BS-KF, with recirculating ball bearing guide	92
Electric cylinders EPCC, with spindle drive	96
Electric cylinders ESBF, with spindle drive	99

Simplified Motion Series – Solution Finder



Electric Motion Sizing, the online sizing and simulation tool for electric drives (servo drives and motors = servo drive package) as well as for electromechanical drive solutions (= electromechanical servo drive package comprising servo drives and motors as well as mechanics), helps you to find the right electromechanical drive solution for your application quickly and without complications.

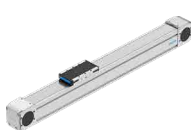
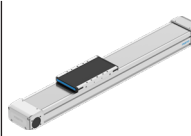
These integrated drives are the perfect solution for all users who are looking for an electric alternative for very simple movement and positioning tasks, but don't want the commissioning process for traditional electric drive systems that can often be quite complex.



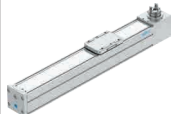
Take a quantum leap in automation technology. By using suitable components from Festo in an intelligent way, you can reduce the energy consumption of your systems and thus specifically lower your production's carbon emissions.

2024/06 – Subject to change

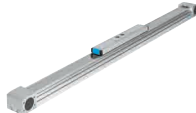
Electric linear drives

	 Toothed belt axis ELGD-TB-KF	 Toothed belt axis ELGD-TB-KF-WD	 Ball screw axis ELGD-BS-KF	 Ball screw axis ELGD-BS-KF-WD
Size	60, 80	100	60, 80	100
Max. feed force F_x	350 ... 800 N	240 N	1550 ... 2650 N	1100 N
Repetition accuracy	+/-0.1 mm	+/-0.1 mm	+/-0.01 mm	+/-0.01 mm
Working stroke	50 ... 2850 mm	50 ... 2800 mm	50 ... 2000 mm	50 ... 1000 mm
Description	• For applications requiring a high dynamic response and short positioning times • For long strokes • Excellent rigidity and load capacity of the guide for greater load in the same installation space	• Reduced profile heights offer smaller installation dimensions for handling systems and applications that do not require such high feed forces • For applications requiring a high dynamic response and short positioning times • For long strokes • 30% lighter, while rigidity and guide load capacity are still similar to the axis in the standard design	• For applications requiring precision • High reliability and long service life • For high loads • Excellent rigidity and load capacity of the guide for greater load in the same installation space	• Reduced profile heights offer smaller installation dimensions for handling systems and applications that do not require such high feed forces • For applications requiring precision • High reliability and long service life • For high loads • 30% lighter, while rigidity and guide load capacity are still similar to the axis in the standard design
online: →	77	80	82	85

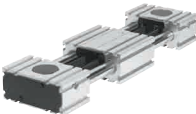
Electric linear drives

				
	Toothed belt axes EGC-TB-KF	Spindle axes EGC-BS-KF	Toothed belt axes ELGC-TB-KF	Spindle axes ELGC-BS-KF
Size	50, 70, 80, 120, 185	70, 80, 120	45, 60, 80	32, 45, 60, 80
Max. feed force F_x	50 ... 2500 N	400 ... 1500 N	75 ... 250 N	40 ... 350 N
Repetition accuracy	+/-0.08 mm, +/-0.1 mm	+/-0.02 mm	+/-0.1 mm	+/-0.01 mm, +/-0.015 mm
Working stroke	50 ... 8500 mm	100 ... 800 mm	200 ... 2000 mm	100 ... 1000 mm
Description	• Axis for high speeds and acceleration • Recirculating ball bearing guide for high loads and torques • Optionally with clamping unit, at one or both ends • Profile with optimised rigidity • The motor can be flexibly mounted on 4 sides • 22 types in stock with short delivery times and modular products for custom variants • Long strokes of up to 8.5 m possible	• Axis for high repeat accuracy • Recirculating ball bearing guide for high loads and torques • Optionally with clamping unit, at one or both ends • Profile with optimised rigidity • The motor can be flexibly mounted on 2 sides • 34 types in stock with short delivery times and modular products for custom variants • Strokes of up to 3 m possible	• Precision guide rail with high load capacity • Internal guide and toothed belt • Flexible motor mounting • The toothed belt axes, spindle axes ELGC and mini slides EGSC form a scalable modular system for compact automation • Variants recommended for production systems for manufacturing lithium-ion batteries	• Internal guide and ball screw drive • Space-saving position sensing • Flexible motor mounting • The toothed belt axes, spindle axes ELGC and mini slides EGSC form a scalable modular system for compact automation • Variants recommended for production systems for manufacturing lithium-ion batteries
→ Page/online	87	92	elgc-tb	elgc-bs

Electric linear drives

				
	Toothed belt axes ELGA-TB-G	Toothed belt axes ELGA-TB-KF	Toothed belt axes ELGA-TB-RF	Spindle axes ELGA-BS-KF
Size	70, 80, 120	70, 80, 120, 150	70, 80, 120	70, 80, 120, 150
Max. feed force F_x	350 ... 1300 N	260 ... 2000 N	260 ... 1000 N	650 ... 6400 N
Repetition accuracy	+/-0.08 mm	+/-0.08 mm	+/-0.08 mm	+/-0.02 mm
Working stroke	50 ... 8500 mm	50 ... 8500 mm	50 ... 7400 mm	50 ... 3000 mm
Description	• Integrated plain-bearing guide • For small and medium loads • Low guide backlash • Actuator for external guides • Speeds up to 5 m/s with high acceleration up to 50 m/s² • Flexible motor mounting • Motor can be mounted on any one of four sides	• Recirculating ball bearing guide for high loads and torques • High feed forces • Precision guide rail with high load capacity • Speeds up to 5 m/s with high acceleration up to 50 m/s² • Optional: Food-safe (for further information, see www.festo.com/certificates/ELGA_KF) • The motor can be flexibly mounted on 4 sides • Guide and toothed belt protected by cover band • 22 types in stock with short delivery times and modular products for custom variants • Long strokes of up to 8.5 m possible	• Integrated roller bearing guide • High speeds up to 10 m/s with high acceleration up to 50 m/s² • Guide backlash = 0 mm • Very good operating performance under torque load • Sturdy alternative to the recirculating ball bearing guide • As a driving component for external guides, especially for high speeds • Motor can be mounted on any one of four sides	• Internal, precision recirculating ball bearing guide with high load capacity for high torque loads • Axis for high repeat accuracy • For the highest requirements in terms of feed force and accuracy • Guide and ball screw protected by cover strip • Speeds up to 2 m/s with high acceleration up to 15 m/s² • Space-saving position sensing • Flexible motor mounting • 34 preconfigured types and modular product system for custom variants • Strokes of up to 3 m possible
→ Page/online	elga	elga	elga	elga

Electric linear drives

				
	Toothed belt axis units ELGS-TB-KF	Spindle axis units ELGS-BS-KF	Toothed belt axis units ELGE-TB	Toothed belt axes ELGR-TB
Size	45, 60	32, 45, 60	35	35, 45, 55
Max. feed force F_x	65 ... 75 N	40 ... 200 N	50 N	50 ... 350 N
Repetition accuracy	+/-0.1 mm	+/-0.01 mm, +/-0.015 mm	+/-0.1 mm	+/-0.1 mm
Stroke	50 ... 2000 mm	100 ... 800 mm	50 ... 800 mm	50 ... 1500 mm
Description	• Complete solution consisting of drive mechanics, motor and servo drive • Dynamic XY movements thanks to the slide with resilient toothed belt and recirculating ball bearing guide • Protected against external influences by internal guide • Product of the Simplified Motion Series: doesn't need any external servo drive or any control cabinet for the installation • Two control options integrated as standard: digital I/O and IO-Link	• Complete solution consisting of drive mechanics, motor and servo drive • Precise XY movements thanks to the slide with powerful ball screw and resilient recirculating ball bearing guide • Protected against external influences by internal guide • Product of the Simplified Motion Series: doesn't need any external servo drive or any control cabinet for the installation • Two control options integrated as standard: digital I/O and IO-Link	• Complete solution consisting of drive mechanics, motor and servo drive • Cost-optimised design for simple moving and positioning tasks • Ready-to-install unit for quick and easy installation • Product of the Simplified Motion Series: doesn't need any external servo drive or any control cabinet for the installation • Two control options integrated as standard: digital I/O and IO-Link	• Optimum price/performance ratio • Ready-to-install unit for quick and easy design • With plain or recirculating ball bearing guide • Motor can be mounted on any one of four sides
→ Page/online	elgs-tb	elgs-bs	elge	elgr

Electric cylinders and slides

			
	Electric cylinder units EPCE-TB	Electric cylinder units EPCS-BS	Electric cylinders EPCC-BS
Size	45, 60	32, 45, 60	25, 32, 45, 60
Max. feed force F_x	85 ... 150 N	150 ... 900 N	75 ... 1000 N
Repetition accuracy	+/-0.05 mm	+/-0.02 mm	+/-0.02 mm
Stroke	10 ... 80 mm	25 ... 500 mm	25 ... 500 mm
Description	• Complete solution consisting of drive mechanics, motor and servo drive • Innovative interpretation of toothed belt technology for maximum dynamic response and minimal positioning times • Perfect for use in applications where space is critical thanks to minimal zero stroke and extremely compact design • Product of the Simplified Motion Series: doesn't need any external servo drive or any control cabinet for the installation • Two control options integrated as standard: digital I/O and IO-Link	• Complete solution consisting of drive mechanics, motor and servo drive • Precise positioning thanks to smoothly running ball screw drive • Easy to implement pressing-in and clamping applications for forces up to 900 N • Two control options integrated as standard: digital I/O and IO-Link • Product of the Simplified Motion Series: doesn't need any external servo drive or any control cabinet for the installation	• Low-cost: optimum price/performance ratio • Flexible: wide range of mounting options for the motor • Dynamic: lower internal friction • Non-rotating piston rod with plain-bearing guide, stroke up to 500 mm • Weight-optimised design – ideal for handling systems • Unique: "One-size-down" assembly system for the best use of space in combination with toothed belt/spindle axis ELGC • Variants recommended for production systems for manufacturing lithium-ion batteries
→ Page/online	epce	epcs	96

Electric cylinders and slides

74 → www.festo.com/catalogue/... 2024/06 – Subject to change

Electric semi-rotary drives

	 Rotary drive units ERMS	 Rotary drives ERMO
Size	25, 32	12, 16, 25, 32
Peak torque	2.7... 5.6 Nm	
Nominal torque		0.15 ... 5 Nm
Max. rotational speed	100 ... 150 1/min	100 ... 200 1/min
Nominal speed		50 ... 100 1/min
Rotation angle	90°, 180°, infinite	Infinite
Additional functions	User interface, integrated end-position sensing	
Display	LED	
Description	• Complete solution consisting of drive mechanics, motor and servo drive • Absorption of lateral forces and torques thanks to sturdy, backlash-free and precise ball bearings on the rotating plate • Integrated through-feed for cables and tubing through sealed hollow shaft • Product of the Simplified Motion Series: doesn't need any external servo drive or any control cabinet for the installation • Two control options integrated as standard: digital I/O and IO-Link	• Electric rotary drive with stepper motor and integrated gear unit • ServoLite – closed-loop operation with encoder • Heavy-duty bearing for high forces and torques • Backlash-free pre-stressed rotating plate with very good axial eccentricity and concentricity properties • Quick and accurate installation • For simple rotary indexing table applications and as a rotary axis in multi-axis applications
→ Page/online	erms	ermo

Electric grippers ›

Parallel grippers

	 Parallel grippers, electric EHPS
Size	16, 20, 25
Stroke per gripper jaw	10 ... 16 mm
Max. force on gripper jaw F _z , static	200 ... 450 N
Gripper repetition accuracy	0.01 mm, 0.03 mm
Position sensing	Via proximity switch, With Hall sensor, With integrated displacement encoder, Via IO-Link interface
Description	• Electric version of the pneumatically actuated parallel gripper DHPS • Ideal for use as a front-end actuator thanks to its low dead weight • Controller-free actuation using digital signals • Gripping force (4 settings) adjustable via ratchet switch or via IO-Link® interface • RA1 version with robot connection, enables fast integration in lightweight robot environments
online: →	ehps

Product overview

Customised components – for your specific requirements



Drives with customised designs

Can't find the electromechanical drive you need in our catalogue?

We can offer you customised components that are tailored to your specific requirements.

Common product modifications:

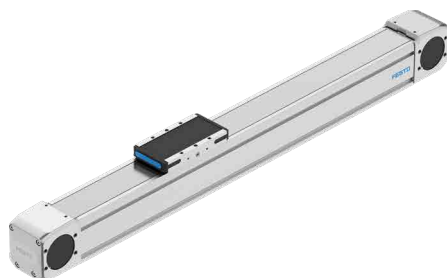
- Special strokes
- Design for special ambient conditions
- Design optimised for the installation space
- Design with carriages moving in opposite directions
- Design with absolute encoder

Many additional variants are possible.

Ask your Festo sales engineer, who will be happy to help:

→ www.festo.com/contact

Toothed belt axes ELGD-TB-KF, with recirculating ball bearing guide



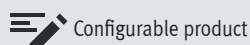
- For applications requiring a high dynamic response and short positioning times
- For long strokes
- Excellent rigidity and load capacity of the guide for greater load in the same installation space

Order code

001	Series	
ELGD	Gantry axis	
002	Drive system	
TB	Toothed belt	
003	Guide	
KF	Recirculating ball bearing guide	
004	Size	
60	60	
80	80	
005	Stroke [mm]	
...	200, 300, 500, 600, 800, 1000, 1200, 1500, 1800, 2000, 50 ... 2850	
006	Stroke reserve	
OH	None	
...H	0 ... 999 mm	

007	Slide design	
	Standard	
L	Slide, long	
008	Additional slide	
	None	
ZL	1 slide left	
ZR	1 slide right	
009	Lubrication	
	Standard	
GN	Lubrication nipple	
010	Material of toothed belt	
PU1	Uncoated PU, FDA-compliant	
PU2	Coated PU	

Ordering data



Configurable product

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

→ www.festo.com/catalogue/...

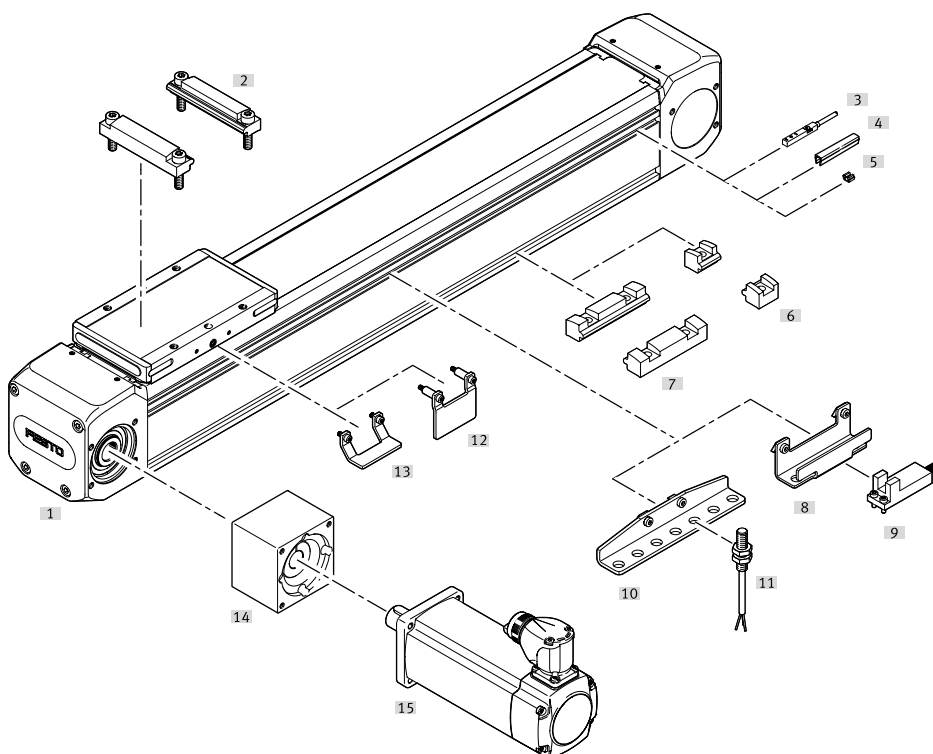
Enter the part number or the type.

Part no.	Type
8176884	ELGD-TB-KF-60- -
8176885	ELGD-TB-KF-80- -

Size	Stroke	Part no.	Type
60	200 mm	8192344	ELGD-TB-KF-60-200-OH-PU2
	300 mm	8192345	ELGD-TB-KF-60-300-OH-PU2
	500 mm	8192346	ELGD-TB-KF-60-500-OH-PU2
	600 mm	8192347	ELGD-TB-KF-60-600-OH-PU2
	800 mm	8192348	ELGD-TB-KF-60-800-OH-PU2
	1.000 mm	8192349	ELGD-TB-KF-60-1000-OH-PU2
	1.200 mm	8192350	ELGD-TB-KF-60-1200-OH-PU2
	1.500 mm	8192351	ELGD-TB-KF-60-1500-OH-PU2
	1.800 mm	8192352	ELGD-TB-KF-60-1800-OH-PU2
	2.000 mm	8192353	ELGD-TB-KF-60-2000-OH-PU2

Size	Stroke	Part no.	Type
80	200 mm	8192354	ELGD-TB-KF-80-200-OH-PU2
	300 mm	8192355	ELGD-TB-KF-80-300-OH-PU2
	500 mm	8192356	ELGD-TB-KF-80-500-OH-PU2
	600 mm	8192357	ELGD-TB-KF-80-600-OH-PU2
	800 mm	8192358	ELGD-TB-KF-80-800-OH-PU2
	1.000 mm	8192359	ELGD-TB-KF-80-1000-OH-PU2
	1.200 mm	8192360	ELGD-TB-KF-80-1200-OH-PU2
	1.500 mm	8192361	ELGD-TB-KF-80-1500-OH-PU2
	1.800 mm	8192362	ELGD-TB-KF-80-1800-OH-PU2
	2.000 mm	8192363	ELGD-TB-KF-80-2000-OH-PU2

Electric drives



Type/order code	Description	→ page/internet
[1] Toothed belt axis ELGD-TB	Electric drive	77
[2] Profile mounting EAHF-E24-...-D	For axis/axis mounting with adapter plate	elgd-tb
[3] Proximity switch, T-slot SIES-8M	Inductive proximity sensor, for T-slot	79
[4] Slot cover ABP-S	For protecting against contamination	elgd-tb
[5] Clip SMBK	For fitting the proximity switch cable in the slot	elgd-tb
[6] Profile mounting EAHF-E24-...-S	For mounting the axis on the side of the profile	elgd-tb
[7] Profile mounting EAHF-E24-...	For mounting the axis on the side of the profile	79
[8] Sensor bracket EAPM-E24-SHO	For mounting third-party sensors on the axis	elgd-tb
[9] OMRON sensor	Third-party sensor OMRON, EE-SX674 series	-
[10] Sensor bracket EAPM-E24-SHE	For mounting the inductive proximity sensor SIEN-M8 (round design) on the axis	elgd-tb
[11] Proximity switch, M8 SIEN-M8	Inductive proximity sensor, round design	79
[12] Switch lug EAPM-E24-...-SLS	For sensing the slide position via inductive proximity sensor SIES-8M or for opto-electrical sensors (Omron) with sensor bracket EAPM-E24-SHO	elgd-tb
[13] Switch lug EAPM-E24-...-SLE	For sensing the slide position via inductive proximity switch SIEN-M8 (round design) and sensor bracket EAPM-E24-SHE	elgd-tb
[14] Axial kit EAMM	For axial motor mounting	eamm-a
[15] Motor EMMT-AS	Motors and kits specially matched with the axis Detailed information: www.festo.com/catalogue/eamm Engineering tool: www.festo.com/x/electric-motion-sizing	emmt-as
[15] Motor EMME-AS	Motors and kits specially matched with the axis Detailed information: www.festo.com/catalogue/eamm Engineering tool: www.festo.com/x/electric-motion-sizing	emme-as

Toothed belt axes ELGD-TB-KF, with recirculating ball bearing guide

Accessories

3 Proximity switch for T-slot, inductive SIES-8M

Description	Type	Part no.
N/O contact	PNP, cable, 7.5 m	SIES-8M-PS-24V-K-7,5-OE
	PNP, plug, 0.3 m	SIES-8M-PS-24V-K-0,3-M8D
	NPN, cable, 7.5 m	SIES-8M-NS-24V-K-7,5-OE
	NPN, plug, 0.3 m	SIES-8M-NS-24V-K-0,3-M8D
N/C contact	PNP, cable, 7.5 m	SIES-8M-PO-24V-K-7,5-OE
	PNP, plug, 0.3 m	SIES-8M-PO-24V-K-0,3-M8D
	NPN, cable, 7.5 m	SIES-8M-NO-24V-K-7,5-OE
	NPN, plug, 0.3 m	SIES-8M-NO-24V-K-0,3-M8D

11 Proximity switch, round design, inductive SIEN-M8B

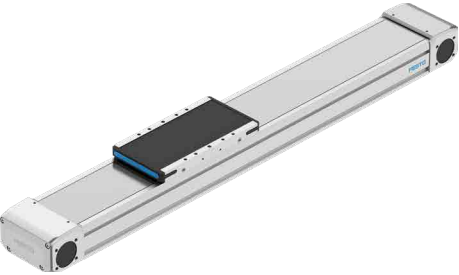
Description	Type	Part no.
N/O contact	PNP, cable, 2.5 m	SIEN-M8B-PS-K-L
	PNP, plug, M8x1	SIEN-M8B-PS-S-L
	NPN, cable, 2.5 m	SIEN-M8B-NS-K-L
	NPN, plug, M8x1	SIEN-M8B-NS-S-L
N/C contact	PNP, cable, 2.5 m	SIEN-M8B-PO-K-L
	PNP, plug, M8x1	SIEN-M8B-PO-S-L
	NPN, cable, 2.5 m	SIEN-M8B-NO-K-L
	NPN, plug, M8x1	SIEN-M8B-NO-S-L

7 Profile mounting EAHF-E24-...-P-D...

Description	Type	Part no.
Anodised wrought aluminium alloy		
ELGD-60 to ELGD-60	EAHF-E24-60-P-D5	8197131
ELGD-60 to ELGD-80	EAHF-E24-60-P-D4	8197129
ELGD-80 to ELGD-100	EAHF-E24-60-P-D6	8197130

Electric linear drives >

Toothed belt axes ELGD-TB-KF-WD, with recirculating ball bearing guide, wide design



- Reduced profile heights offer smaller installation dimensions for handling systems and applications that do not require such high feed forces
- For applications requiring a high dynamic response and short positioning times
- For long strokes
- 30% lighter, while rigidity and guide load capacity are still similar to the axis in the standard design

Order code

001	Series	
ELGD	Gantry axis	
002	Drive system	
TB	Toothed belt	
003	Guide	
KF	Recirculating ball bearing guide	
004	Design type	
WD	Wide	
005	Size	
100	100	
006	Stroke [mm]	
...	200, 300, 500, 600, 800, 1000, 1200, 1500, 1800, 2000, 50 ... 2800	

007	Stroke reserve	
0H	None	
...H	0 ... 999 mm	
008	Slide design	
L	Slide, long	
009	Additional slide	
	None	
ZL	1 slide left	
ZR	1 slide right	
010	Lubrication	
	Standard	
GN	Lubrication nipple	
011	Material of toothed belt	
PU1	Uncoated PU, FDA-compliant	
PU2	Coated PU	

Ordering data

Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

Part no.

81926888

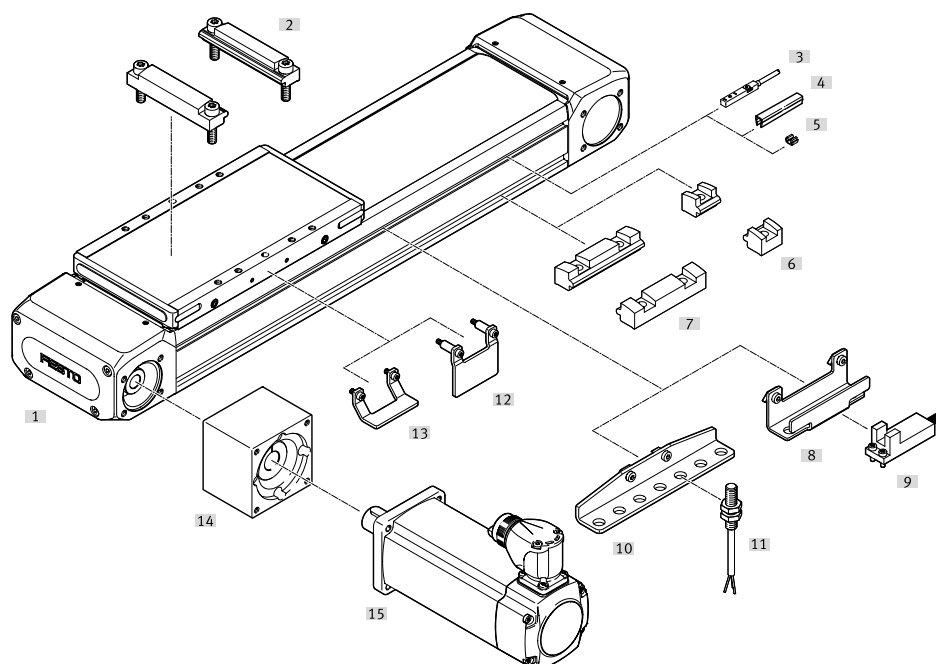
Type

ELGD-TB-KF-WD-100- -

Size	Stroke	Part no.	Type
100	200 mm	8192374	ELGD-TB-KF-WD-100-200-0H-L-PU2
	300 mm	8192375	ELGD-TB-KF-WD-100-300-0H-L-PU2
	500 mm	8192376	ELGD-TB-KF-WD-100-500-0H-L-PU2
	600 mm	8192377	ELGD-TB-KF-WD-100-600-0H-L-PU2
	800 mm	8192378	ELGD-TB-KF-WD-100-800-0H-L-PU2
	1.000 mm	8192379	ELGD-TB-KF-WD-100-1000-0H-L-PU2
	1.200 mm	8192380	ELGD-TB-KF-WD-100-1200-0H-L-PU2
	1.500 mm	8192381	ELGD-TB-KF-WD-100-1500-0H-L-PU2
	1.800 mm	8192382	ELGD-TB-KF-WD-100-1800-0H-L-PU2
	2.000 mm	8192383	ELGD-TB-KF-WD-100-2000-0H-L-PU2

Toothed belt axes ELGD-TB-KF-WD, with recirculating ball bearing guide, wide design

Accessories



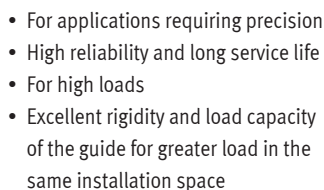
Type/order code	Description	→ page/internet
[1] Toothed belt axis ELGD-TB	Electric drive	80
[2] Profile mounting EAHF-E24-...-D	For axis/axis mounting with adapter plate	elgd-tb
[3] Proximity switch, T-slot SIES-8M	Inductive proximity sensor, for T-slot	81
[4] Slot cover ABP-S	For protecting against contamination	elgd-tb
[5] Clip SMBK	For fitting the proximity switch cable in the slot	elgd-tb
[6] Profile mounting EAHF-E24-...-S	For mounting the axis on the side of the profile	elgd-tb
[7] Profile mounting EAHF-E24-...-S	For mounting the axis on the side of the profile	elgd-tb
[8] Sensor bracket EAPM-E24-SHO	For mounting third-party sensors on the axis	elgd-tb
[9] OMRON sensor	Third-party sensor OMRON, EE-SX674 series	-
[10] Sensor bracket EAPM-E24-SHE	For mounting the inductive proximity sensor SIEN-M8 (round design) on the axis	elgd-tb
[11] Proximity switch, M8 SIEN-M8	Inductive proximity sensor, round design	81
[12] Switch lug EAPM-E24-...-SLS	For sensing the slide position via inductive proximity sensor SIES-8M or for opto-electrical sensors (Omron) with sensor bracket EAPM-E24-SHO	elgd-tb
[13] Switch lug EAPM-E24-...-SLE	For sensing the slide position via inductive proximity switch SIEN-M8 (round design) and sensor bracket EAPM-E24-SHE	elgd-tb
[14] Axial kit EAMM	For axial motor mounting	eamm-a
[15] Motor EMMT-AS	Motors and kits specially matched with the axis Detailed information: www.festo.com/catalogue/eamm Engineering tool: www.festo.com/x/electric-motion-sizing	emmt-as
[15] Motor EMME-AS	Motors and kits specially matched with the axis Detailed information: www.festo.com/catalogue/eamm Engineering tool: www.festo.com/x/electric-motion-sizing	emme-as

[3] Proximity switch for T-slot, inductive SIES-8M

Description	Type	Part no.
N/O contact	PNP, cable, 7.5 m	SIES-8M-PS-24V-K-7,5-OE 551386
	PNP, plug, 0.3 m	SIES-8M-PS-24V-K-0,3-M8D 551387
	NPN, cable, 7.5 m	SIES-8M-NS-24V-K-7,5-OE 551396
	NPN, plug, 0.3 m	SIES-8M-NS-24V-K-0,3-M8D 551397
N/C contact	PNP, cable, 7.5 m	SIES-8M-PO-24V-K-7,5-OE 551391
	PNP, plug, 0.3 m	SIES-8M-PO-24V-K-0,3-M8D 551392
	NPN, cable, 7.5 m	SIES-8M-NO-24V-K-7,5-OE 551401
	NPN, plug, 0.3 m	SIES-8M-NO-24V-K-0,3-M8D 551402

[11] Proximity switch, round design, inductive SIEN-M8B

Description	Type	Part no.
N/O contact	PNP, cable, 2.5 m	SIEN-M8B-PS-K-L 150386
	PNP, plug, M8x1	SIEN-M8B-PS-S-L 150387
	NPN, cable, 2.5 m	SIEN-M8B-NS-K-L 150384
	NPN, plug, M8x1	SIEN-M8B-NS-S-L 150385
N/C contact	PNP, cable, 2.5 m	SIEN-M8B-PO-K-L 150390
	PNP, plug, M8x1	SIEN-M8B-PO-S-L 150391
	NPN, cable, 2.5 m	SIEN-M8B-NO-K-L 150388
	NPN, plug, M8x1	SIEN-M8B-NO-S-L 150389



001	Series	
ELGD	Gantry axis	
002	Drive system	
BS	Ball screw drive	
003	Guide	
KF	Recirculating ball bearing guide	
004	Size	
60	60	
80	80	
005	Stroke [mm]	
...	100, 200, 300, 400, 500, 600, 800, 1000, 50 ... 2000	
006	Stroke reserve	
0H	None	
...H	0 ... 999 mm	

007	Spindle pitch	
5P	5 mm	
10P	10 mm	
20P	20 mm	
008	Slide design	
	Standard	
L	Slide, long	
009	Additional slide	
	None	
ZR	1 slide right	
010	Lubrication	
	Standard	
GN	Lubrication nipple	

 Configurable product

Enter the part number or the type.

Part no.	Type
8176874	ELGD-BS-KF-60- -
8176875	ELGD-BS-KF-80- -

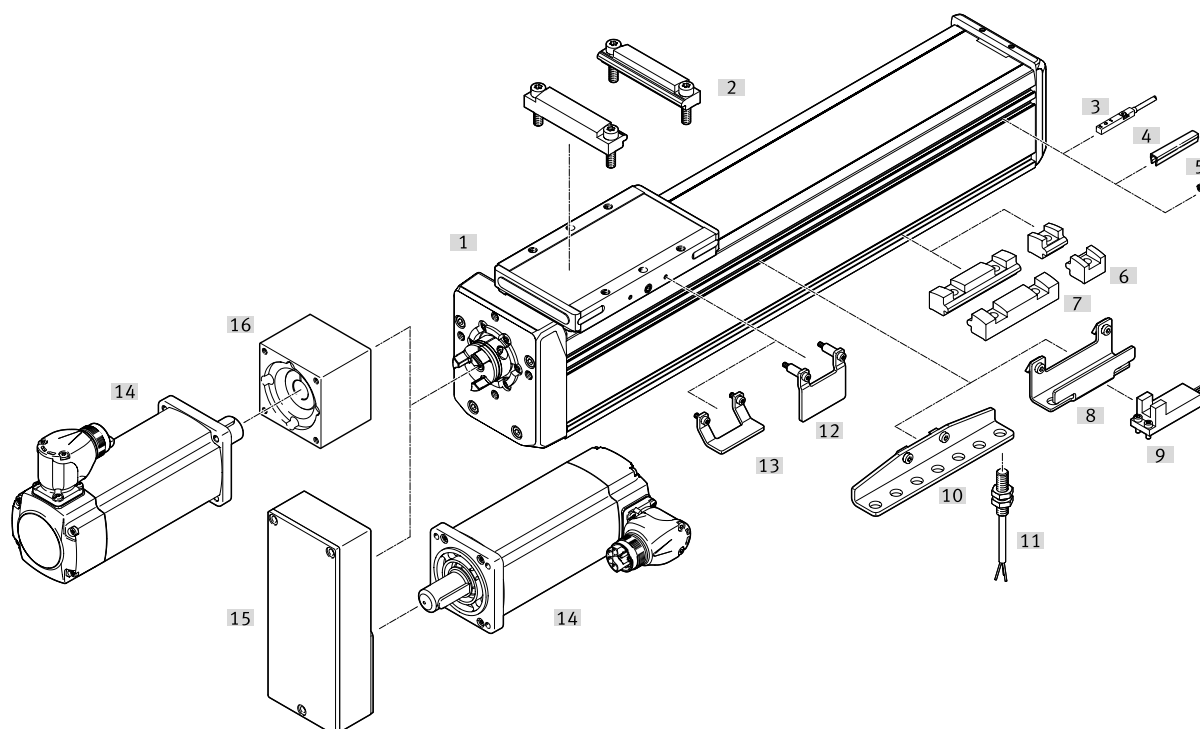
Size	Spindle pitch	Stroke	Type	Part no.
80	5 mm/U	100 mm	ELGD-BS-KF-80-100-0H-5P	8192267
		200 mm	ELGD-BS-KF-80-200-0H-5P	8192268
		300 mm	ELGD-BS-KF-80-300-0H-5P	8192269
		400 mm	ELGD-BS-KF-80-400-0H-5P	8192270
		500 mm	ELGD-BS-KF-80-500-0H-5P	8192271
		600 mm	ELGD-BS-KF-80-600-0H-5P	8192272
		800 mm	ELGD-BS-KF-80-800-0H-5P	8192273
		1.000 mm	ELGD-BS-KF-80-1000-0H-5P	8192274

Spindle axes ELGD-BS-KF, with recirculating ball bearing guide

Ordering data

Size	Spindle pitch	Stroke	Type	Part no.	Size	Spindle pitch	Stroke	Type	Part no.
80	10 mm/U	100 mm	ELGD-BS-KF-80-100-0H-10P	8192275	80	20 mm/U	100 mm	ELGD-BS-KF-80-100-0H-20P	8192283
		200 mm	ELGD-BS-KF-80-200-0H-10P	8192276			200 mm	ELGD-BS-KF-80-200-0H-20P	8192284
		300 mm	ELGD-BS-KF-80-300-0H-10P	8192277			300 mm	ELGD-BS-KF-80-300-0H-20P	8192285
		400 mm	ELGD-BS-KF-80-400-0H-10P	8192278			400 mm	ELGD-BS-KF-80-400-0H-20P	8192286
		500 mm	ELGD-BS-KF-80-500-0H-10P	8192279			500 mm	ELGD-BS-KF-80-500-0H-20P	8192287
		600 mm	ELGD-BS-KF-80-600-0H-10P	8192280			600 mm	ELGD-BS-KF-80-600-0H-20P	8192288
		800 mm	ELGD-BS-KF-80-800-0H-10P	8192281			800 mm	ELGD-BS-KF-80-800-0H-20P	8192289
		1.000 mm	ELGD-BS-KF-80-1000-0H-10P	8192282			1.000 mm	ELGD-BS-KF-80-1000-0H-20P	8192290

Accessories



Type/order code	Description	→ page/internet
[1] Spindle axis ELGD-BS	Electric drive	82
[2] Profile mounting EAHF-E24-...-D	For axis/axis mounting with adapter plate	elgd-bs
[3] Proximity switch, T-slot SIES-8M	Inductive proximity sensor, for T-slot	84
[4] Slot cover ABP-S	For protecting against contamination	elgd-bs
[5] Clip SMBK	For fitting the proximity switch cable in the slot	elgd-bs
[6] Profile mounting EAHF-E24-...-S	For mounting the axis on the side of the profile	elgd-bs
[7] Profile mounting EAHF-E24-...	For mounting the axis on the side of the profile	84
[8] Sensor bracket EAPM-E24-SHO	For mounting third-party sensors on the axis	elgd-bs
[9] OMRON sensor	Third-party sensor OMRON, EE-SX674 series	-
[10] Sensor bracket EAPM-E24-SHE	For mounting the inductive proximity sensor SIEN-M8 (round design) on the axis	elgd-bs
[11] Proximity switch, M8 SIEN-M8	Inductive proximity sensor, round design	84
[12] Switch lug EAPM-E24-...-SLS	For sensing the slide position via inductive proximity sensor SIES-8M or for opto-electrical sensors (Omron) with sensor bracket EAPM-E24-SHO	elgd-bs
[13] Switch lug EAPM-E24-...-SLE	For sensing the slide position via inductive proximity switch SIEN-M8 (round design) and sensor bracket EAPM-E24-SHE	elgd-bs
[14] Axial kit EAMM	For axial motor mounting	eamm-a
[15] Parallel kit EAMM	For parallel motor mounting	eamm-u
[16] Motor EMMT-AS	Motors and kits specially matched with the axis Detailed information: www.festo.com/catalogue/eamm Engineering tool: www.festo.com/x/electric-motion-sizing	emmt-as
[16] Motor EMME-AS	Motors and kits specially matched with the axis Detailed information: www.festo.com/catalogue/eamm Engineering tool: www.festo.com/x/electric-motion-sizing	emme-as

Electric linear drives ›

Spindle axes ELGD-BS-KF, with recirculating ball bearing guide

Accessories

3 Proximity switch for T-slot, inductive SIES-8M

Description		Type	Part no.
N/O contact	PNP, cable, 7.5 m	SIES-8M-PS-24V-K-7,5-OE	551386
	PNP, plug, 0.3 m	SIES-8M-PS-24V-K-0,3-M8D	551387
	NPN, cable, 7.5 m	SIES-8M-NS-24V-K-7,5-OE	551396
	NPN, plug, 0.3 m	SIES-8M-NS-24V-K-0,3-M8D	551397
N/C contact	PNP, cable, 7.5 m	SIES-8M-PO-24V-K-7,5-OE	551391
	PNP, plug, 0.3 m	SIES-8M-PO-24V-K-0,3-M8D	551392
	NPN, cable, 7.5 m	SIES-8M-NO-24V-K-7,5-OE	551401
	NPN, plug, 0.3 m	SIES-8M-NO-24V-K-0,3-M8D	551402

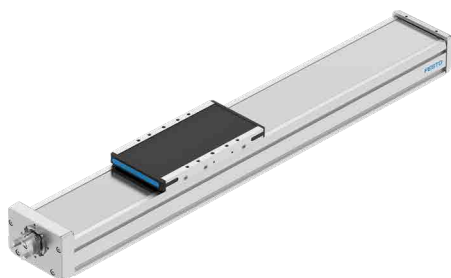
11 Proximity switch, round design, inductive SIEN-M8B

Description		Type	Part no.
N/O contact	PNP, cable, 2.5 m	SIEN-M8B-PS-K-L	150386
	PNP, plug, M8x1	SIEN-M8B-PS-S-L	150387
	NPN, cable, 2.5 m	SIEN-M8B-NS-K-L	150384
	NPN, plug, M8x1	SIEN-M8B-NS-S-L	150385
N/C contact	PNP, cable, 2.5 m	SIEN-M8B-PO-K-L	150390
	PNP, plug, M8x1	SIEN-M8B-PO-S-L	150391
	NPN, cable, 2.5 m	SIEN-M8B-NO-K-L	150388
	NPN, plug, M8x1	SIEN-M8B-NO-S-L	150389

7 Profile mounting EAHF-E24-...-P-D...

Description		Type	Part no.
Anodised wrought aluminium alloy			
ELGD-60 to ELGD-60		EAHF-E24-60-P-D5	8197131
ELGD-60 to ELGD-80		EAHF-E24-60-P-D4	8197129
ELGD-80 to ELGD-100		EAHF-E24-60-P-D6	8197130

Spindle axes ELGD-BS-KF-WD, with recirculating ball bearing guide, wide design



- Reduced profile heights offer smaller installation dimensions for handling systems and applications that do not require such high feed forces
- For applications requiring precision
- High reliability and long service life
- For high loads
- 30% lighter, while rigidity and guide load capacity are still similar to the axis in the standard design

Order code

001	Series	007	Stroke reserve
ELGD	Gantry axis	0H	None
002	Drive system	008	Spindle pitch
BS	Ball screw drive	10P	10 mm
003	Guide	009	Slide design
KF	Recirculating ball bearing guide	L	Slide, long
004	Design type	010	Additional slide
WD	Wide		None
005	Size	011	Lubrication
100	100		Standard
006	Stroke [mm]		
...	200, 300, 400, 500, 600, 800, 1000, 200 ... 1000		

Ordering data



Configurable product

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

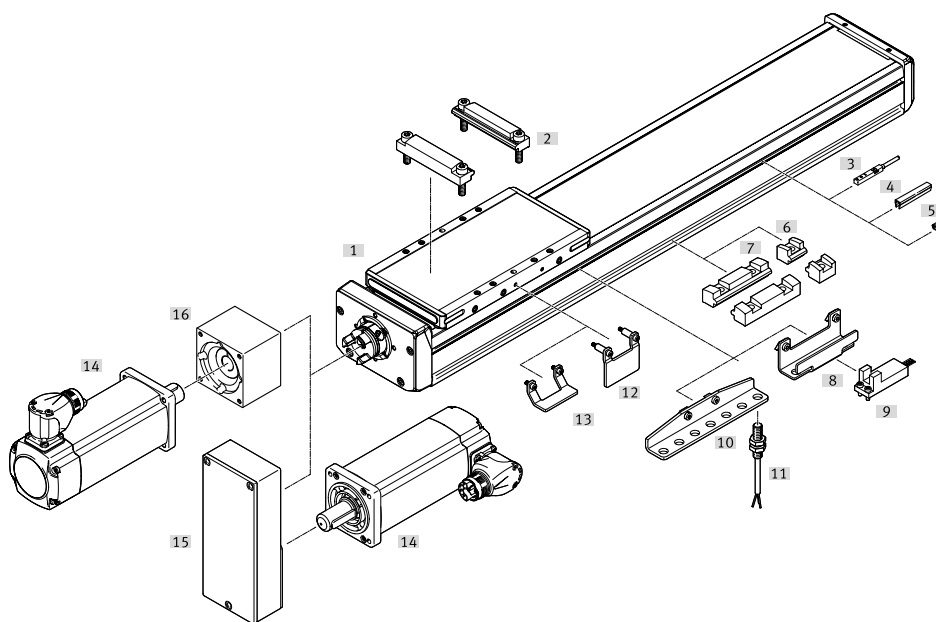
[→ www.festo.com/catalogue/elgd-bs-kf-wd](https://www.festo.com/catalogue/elgd-bs-kf-wd)

Size	Spindle pitch	Stroke	Part no.	Type
100	10 mm/U	200 mm	8192321	ELGD-BS-KF-WD-100-200-0H-10P-L
		300 mm	8192322	ELGD-BS-KF-WD-100-300-0H-10P-L
		400 mm	8192323	ELGD-BS-KF-WD-100-400-0H-10P-L
		500 mm	8192324	ELGD-BS-KF-WD-100-500-0H-10P-L
		600 mm	8192325	ELGD-BS-KF-WD-100-600-0H-10P-L
		800 mm	8192326	ELGD-BS-KF-WD-100-800-0H-10P-L
		1.000 mm	8192327	ELGD-BS-KF-WD-100-1000-0H-10P-L

Electric linear drives >

Spindle axes ELGD-BS-KF-WD, with recirculating ball bearing guide, wide design

Accessories



Typ/Bestellcode	Beschreibung	→ page/internet
[1] Spindle axis ELGD-BS	Electric drive	85
[2] Profile mounting EAHF-E24-...-D	For axis/axis mounting with adapter plate	elgd-bs
[3] Proximity switch, T-slot SIES-8M	Inductive proximity sensor, for T-slot	86
[4] Slot cover ABP-S	For protecting against contamination	elgd-bs
[5] Clip SMBK	For fitting the proximity switch cable in the slot	elgd-bs
[6] Profile mounting EAHF-E24-...-S	For mounting the axis on the side of the profile	elgd-bs
[7] Profile mounting EAHF-E24-...	For mounting the axis on the side of the profile	elgd-bs
[8] Sensor bracket EAPM-E24-SHO	For mounting third-party sensors on the axis	elgd-bs
[9] OMRON sensor	Third-party sensor OMRON, EE-SX674 series	-
[10] Sensor bracket EAPM-E24-SHE	For mounting the inductive proximity sensor SIEN-M8 (round design) on the axis	elgd-bs
[11] Proximity switch, M8 SIEN-M8	Inductive proximity sensor, round design	86
[12] Switch lug EAPM-E24-...-SLS	For sensing the slide position via inductive proximity sensor SIES-8M or for opto-electrical sensors (Omron) with sensor bracket EAPM-E24-SHO	elgd-bs
[13] Switch lug EAPM-E24-...-SLE	For sensing the slide position via inductive proximity switch SIEN-M8 (round design) and sensor bracket EAPM-E24-SHE	elgd-bs
[14] Axial kit EAMM	For axial motor mounting	eamm-a
[15] Parallel kit EAMM	For parallel motor mounting	eamm-u
[16] Motor EMMT-AS	Motors and kits specially matched with the axis Detailed information: www.festo.com/catalogue/eamm Engineering tool: www.festo.com/x/electric-motion-sizing	emmt-as
[16] Motor EMME-AS	Motors and kits specially matched with the axis Detailed information: www.festo.com/catalogue/eamm Engineering tool: www.festo.com/x/electric-motion-sizing	emme-as

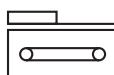
[3] Proximity switch for T-slot, inductive SIES-8M

Description	Type	Part no.
N/O contact	PNP, cable, 7.5 m	SIES-8M-PS-24V-K-7,5-OE 551386
	PNP, plug, 0.3 m	SIES-8M-PS-24V-K-0,3-M8D 551387
	NPN, cable, 7.5 m	SIES-8M-NS-24V-K-7,5-OE 551396
	NPN, plug, 0.3 m	SIES-8M-NS-24V-K-0,3-M8D 551397
N/C contact	PNP, cable, 7.5 m	SIES-8M-PO-24V-K-7,5-OE 551391
	PNP, plug, 0.3 m	SIES-8M-PO-24V-K-0,3-M8D 551392
	NPN, cable, 7.5 m	SIES-8M-NO-24V-K-7,5-OE 551401
	NPN, plug, 0.3 m	SIES-8M-NO-24V-K-0,3-M8D 551402

[11] Proximity switch, round design, inductive SIEN-M8B

Description	Type	Part no.
N/O contact	PNP, cable, 2.5 m	SIEN-M8B-PS-K-L 150386
	PNP, plug, M8x1	SIEN-M8B-PS-S-L 150387
	NPN, cable, 2.5 m	SIEN-M8B-NS-K-L 150384
	NPN, plug, M8x1	SIEN-M8B-NS-S-L 150385
N/C contact	PNP, cable, 2.5 m	SIEN-M8B-PO-K-L 150390
	PNP, plug, M8x1	SIEN-M8B-PO-S-L 150391
	NPN, cable, 2.5 m	SIEN-M8B-NO-K-L 150388
	NPN, plug, M8x1	SIEN-M8B-NO-S-L 150389

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide



- Recirculating ball bearing guide for high loads and torques
- Optionally with clamping unit, at one or both ends
- Profile with optimised rigidity and load capacity
- Comprehensive range of mounting accessories for multi-axis combinations
- Precision: the slide position can be sensed directly using the optional displacement encoder
- Selected types in accordance with ATEX directive for potentially explosive atmospheres
→ www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016
EGC			TB	KF	OH	GK									ZUB

001	Type	013	Type of actuation
EGC	Linear axis	–	None
002	Size	014	Toothed belt material
...	70, 80, 120	–	Standard
003	Stroke [mm]	015	EU certification
...	300, 400, 500, 600, 800, 1000, 1200	–	None
004	Drive system	016	Accessories
TB	Toothed belt	ZUB –	Accessories enclosed separately
005	Guide	F	Foot mounting (1 set)
KF	Recirculating ball bearing guide	...M	Profile mounting (1 ... 50 pieces)
006	Stroke reserve [mm]	...B	Mounting slot cover (1 ... 50 pieces)
OH	None	...S	Sensor slot cover (1 ... 50 pieces)
007	Slide	...Y	Slot nut for mounting slot (1 ... 99 pieces)
GK	Standard slide	...X	Proximity switch, inductive, N/O contact, cable 7.5 m (1 ... 6 pieces)
008	Additional slide, left	...Z	Proximity switch, inductive, N/C contact, cable 7.5 m (1 ... 6 pieces)
–	None	...A	Emergency buffer with retaining bracket (1 ... 2 pieces)
009	Additional slide, right	...C	Shock absorber with retaining bracket (1 ... 2 pieces)
–	None	...O	Proximity switch, inductive, N/O contact, cable 2.5 m (1 ... 99 pieces)
010	Lubrication function	...P	Proximity switch, inductive, N/C contact, cable 2.5 m (1 ... 99 pieces)
–	None	...W	Proximity switch, inductive, N/C contact, M8 plug (1 ... 99 pieces)
011	Displacement encoder, incremental	...R	Proximity switch, inductive, N/O contact, M8 plug (1 ... 99 pieces)
–	None	...V	2.5 m connecting cable, M8 (1 ... 99 pieces)
012	Clamping unit	...K	Shaft journal (1 ... 4 pieces)
–	None	...CL	Cable clip (10, 20, 30, 40, 50, 60, 70, 80, 90 pieces)
		DN	Express waiver – no operating instructions to be included

Legend: Mandatory entry Optional entry

Electric linear drives >
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Product options

50, 185 Size	KL	Additional slide, left	1HL	Clamping unit: 1-channel holding function, left	PN	Pneumatically actuated
50 ... 8500 mm variable stroke	KR	Additional slide, right			PU2	PU coating on toothed belt material
...H 0 ... 999 mm stroke reserve	C	Lubrication adapter	1HR	Clamping unit: 1-channel holding function, right	EX3	EX3 II 2G to EU Explosion Protection Directive (ATEX)
GQ Extended slide, protected	M1	Displacement encoder, incremental, resolution 2.5 µm	2H	Clamping unit: 2-channel holding function		
GP Standard slide, protected						
GV Extended slide	M2	Displacement encoder, incremental, resolution 10 µm				



Configurable product

This product and all its product options can be ordered online via the configurator:
→ www.festo.com/catalogue/...
Enter the part number or the type.

Part no.	Type	Part no.	Type
556812	EGC-50-...-TB-KF-...	556815	EGC-120-...-TB-KF-...
556813	EGC-70-...-TB-KF-...	556817	EGC-185-...-TB-KF-...
556814	EGC-80-...-TB-KF-...		

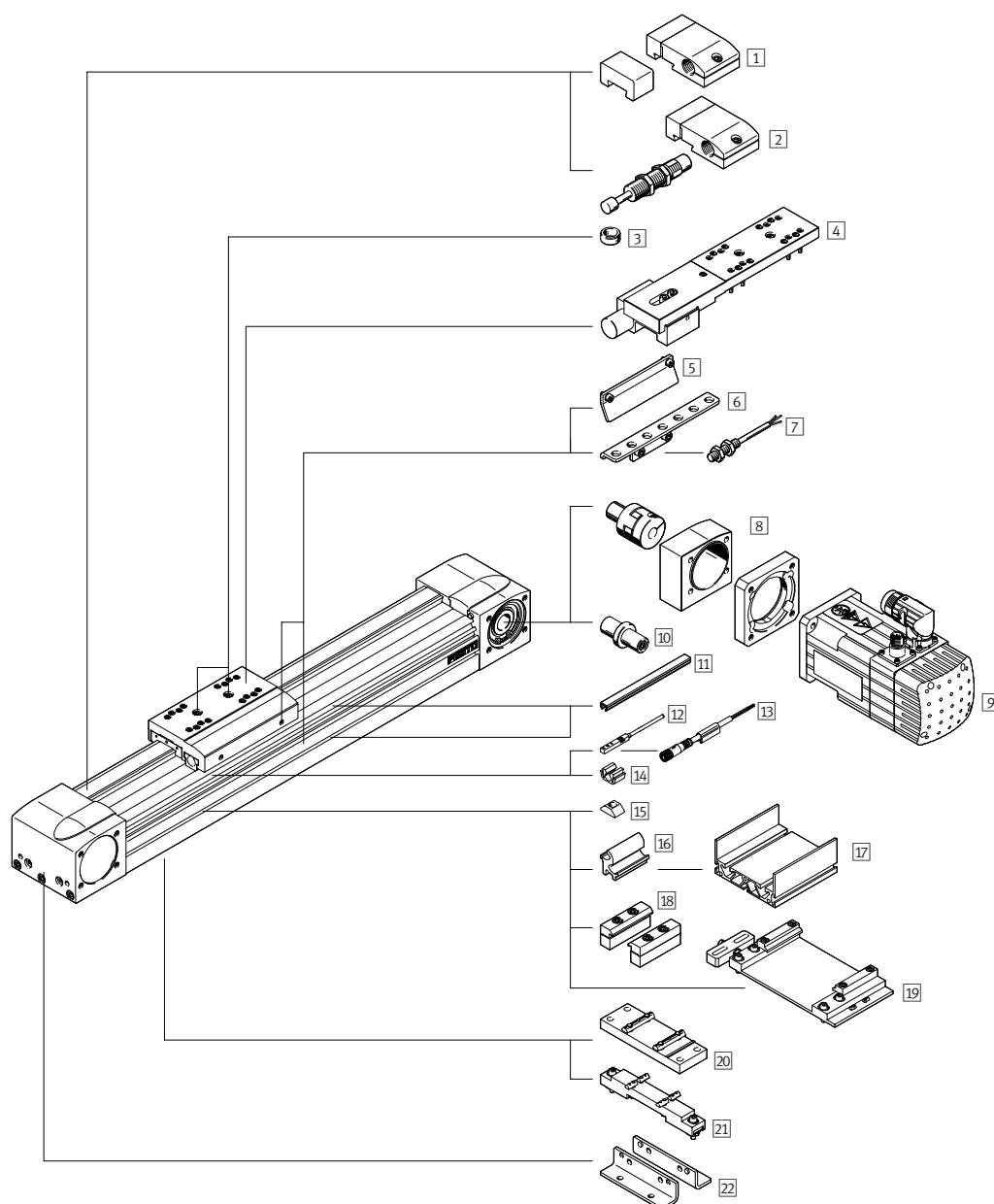
Ordering – Basic design

004 Toothed belt – 005 Recirculating ball bearing guide – 006 Without stroke reserve – 007 Standard slide – 008 Without additional slide, left – 009 Without additional slide, right – 010 Without lubrication function – 011 Without displacement encoder – 012 Without clamping unit – 013 Without actuation type – 014 Standard toothed belt material – 015 Without EU certification – 016 Without accessories

003 Stroke [mm]	002 Size					
	70		80		120	
	Type	Part no.	Type	Part no.	Type	Part no.
300	EGC-70-300-TB-KF-0H-GK	3012492				
400	EGC-70-400-TB-KF-0H-GK	3012493	EGC-80-400-TB-KF-0H-GK	575832	EGC-120-400-TB-KF-0H-GK	3013364
500	EGC-70-500-TB-KF-0H-GK	3012494	EGC-80-500-TB-KF-0H-GK	3013354	EGC-120-500-TB-KF-0H-GK	3013365
600	EGC-70-600-TB-KF-0H-GK	3012495	EGC-80-600-TB-KF-0H-GK	3013355	EGC-120-600-TB-KF-0H-GK	3013366
800	EGC-70-800-TB-KF-0H-GK	3012496	EGC-80-800-TB-KF-0H-GK	3013356	EGC-120-800-TB-KF-0H-GK	3013367
1000	EGC-70-1000-TB-KF-0H-GK	3012497	EGC-80-1000-TB-KF-0H-GK	3013357	EGC-120-1000-TB-KF-0H-GK	3013368
1200	EGC-70-1200-TB-KF-0H-GK	3012498	EGC-80-1200-TB-KF-0H-GK	3013359	EGC-120-1200-TB-KF-0H-GK	3013369
1500					EGC-120-1500-TB-KF-0H-GK	3013370

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Accessories



- 1 Emergency buffer NPE/shock absorber retainer KYE → 89
- 2 Shock absorber YSRW/shock absorber retainer KYE → 89
- 3 Centring pin/sleeve ZBS/ZBH → 89
- 4 Clamping unit 1H-P...N, 2H-PN → [egc-tb](#)
- 5 Switch lug SF-EGC → 90
- 6 Sensor bracket HWS-EGC → 90
- 7 Proximity switch, inductive SIEN-M8B → 90
- 8 Axial kit EAMM-A → 90
- 9 Motor EMMS → 114
- 10 Drive shaft EAMB → [egc-tb](#)
- 11 Slot cover ABP/ABP-S → 91
- 12 Proximity switch SIES-8M → 91
- 13 Connecting cable NEBA → 91
- 14 Clip SMBK → 91
- 15 Slot nut NST → 91
- 16 Adapter kit DHAM → [egc-tb](#)
- 17 Support profile HMIA → [egc-tb](#)
- 18 Profile mounting MUE → 91
- 19 Adjusting kit EADC-E16 → [egc-tb](#)
- 20 Central support EAHF-L5 → 91
- 21 Adjusting kit EADC-E15 → [egc-tb](#)
- 22 Foot mounting HPE → 91

Guide axis EGC-FA → [egc-fa](#)Connecting shaft KSK → [ksk](#)

Accessories

1 Emergency buffer NPE		
For size	Type	Part no.
For use in combination with shock absorber retainer KYE		
For avoiding damage at the end stop in the event of malfunction		
70	NPE-70	562581
80	NPE-80	562582
120	NPE-120	562583

1/2 Shock absorber retainer KYE		
For size	Type	Part no.
70	KYE-70	557584
80	KYE-80	557585
120	KYE-120	557586

2 Shock absorber YSRW		
For size	Type	Part no.
For use in combination with shock absorber retainer KYE		
For avoiding damage at the end stop in the event of malfunction		
70	YSRW-8-14	191194
80	YSRW-12-20	191196
120	YSRW-16-26	191197

3 Centring pin ZBS/centring sleeve ZBH		
For size	Type	Part no.
70	ZBS-5 ¹⁾²⁾	150928
80, 120	ZBH-9-B ¹⁾²⁾	8137184

1) Packaging unit 10 pieces.

2) 2 centring pins/sleeves included in the scope of delivery of the axis.

Electric linear drives >

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Accessories

5 Switch lug SF-EGC		
For size	Type	Part no.
For sensing via proximity switch SIES-8M		
70	SF-EGC-1-70	558047
80	SF-EGC-1-80	558048
120	SF-EGC-1-120	558049
For sensing via proximity switch SIEN-M8B		
70	SF-EGC-2-70	558052
80	SF-EGC-2-80	558053
120	SF-EGC-2-120	558054

6 Sensor bracket HWS-EGC		
For size	Type	Part no.
For proximity switch SIEN-M8B		
70, 80	HWS-EGC-M5	558057
120	HWS-EGC-M8-B	570365

7 Proximity switch, round design, inductive SIEN-M8B			
Description		Type	Part no.
N/O contact	PNP, cable, 2.5 m	SIEN-M8B-PS-K-L	150386
	PNP, plug, M8x1	SIEN-M8B-PS-S-L	150387
	NPN, cable, 2.5 m	SIEN-M8B-NS-K-L	150384
	NPN, plug, M8x1	SIEN-M8B-NS-S-L	150385
N/C contact	PNP, cable, 2.5 m	SIEN-M8B-PO-K-L	150390
	PNP, plug, M8x1	SIEN-M8B-PO-S-L	150391
	NPN, cable, 2.5 m	SIEN-M8B-NO-K-L	150388
	NPN, plug, M8x1	SIEN-M8B-NO-S-L	150389

8 Axial kit EAMM-A			
For	With motor/gear unit ¹⁾	Type	Part no.
In combination with stepper motor			
50	EMMS-ST-57-...	EAMM-A-L27-57A	560678
70	EMMS-ST-57-...	EAMM-A-L38-57A	560679
	EMMS-ST-87-...	EAMM-A-L38-87A	560680
80	EMMS-ST-87-...	EAMM-A-L48-87A	560683
In combination with stepper motor and gear unit			
50	EMMS-ST-42-... EMGA-40-P-G...-SST-42	EAMM-A-L27-40G	557974
70	EMMS-ST-57-... EMGA-60-P-G...-SST-57	EAMM-A-L38-60G	557978
80	EMMS-ST-57-... EMGA-60-P-G...-SST-57	EAMM-A-L48-60G	557983
120	EMMS-ST-87-... EMGA-80-P-G...-SST-87	EAMM-A-L62-80G	557989
In combination with servo motor			
70	EMMT-AS-60-... EMME-AS-60-...	EAMM-A-L38-60P	2037246
	EMMT-AS-80-... EMME-AS-80-...	EAMM-A-L48-80P	2042616
120	EMME-AS-100-... EMMT-AS-100-...	EAMM-A-L62-100A	557988
In combination with servo motor and gear unit			
50	EMME-AS-40-... EMGA-40-P-G...-EAS-40	EAMM-A-L27-40G	557974
70	EMMT-AS-60-... EMGA-60-P-G...-EAS-60 EMME-AS-60-... EMGA-60-P-G...-EAS-60	EAMM-A-L38-60H	1456610
	EMMT-AS-60-... EMGA-60-P-G...-EAS-60 EMME-AS-60-... EMGA-60-P-G...-EAS-60	EAMM-A-L48-60H	1456611
120	EMMT-AS-80-... EMGA-80-P-G...-EAS-80 EMME-AS-80-... EMGA-80-P-G...-EAS-80 EMME-AS-100-... EMGA-80-P-G...-SAS-100 EMMT-AS-100-... EMGA-80-P-G...-SAS-100	EAMM-A-L62-80G	557989
	EMME-AS-100-... EMGA-120-P-G...-SAS-100 EMMT-AS-100-... EMGA-120-P-G...-SAS-100	EAMM-A-L95-120G-G2	3659941
	EMMT-AS-100-... EMGA-80-P-G...-SAS-100 EMME-AS-100-... EMGA-80-P-G...-SAS-100	EAMM-A-L95-80G-G2	3660191
	EMME-AS-100-... EMGA-80-P-G...-SAS-100		
In combination with servo motor and right-angle gear unit			
50	EMME-AS-40-... EMGA-40-A-G...-40P	EAMM-A-L27-40G	557974
70	EMME-AS-60-... EMGA-60-A-G...-60P	EAMM-A-L38-60H	1456610
80	EMMT-AS-60-... EMGA-60-A-G...-60P	EAMM-A-L48-60H	1456611
120	EMME-AS-80-... EMGA-80-A-G...-80P EMME-AS-100-... EMGA-80-A-G...-100A	EAMM-A-L62-80G	557989

1) The input torque must not exceed the max. permissible transferable torque of the axial kit.

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Accessories

11 Slot cover ABP		
For size	Type	Part no.
For mounting slot, 0.5 m		
70, 80	ABP-5	151681
120	ABP-8	151682
For sensor slot, 0.5 m		
70, 80, 120	ABP-5-S1	563360

12 Proximity switch for T-slot, inductive SIES-8M			
Description		Type	Part no.
N/O contact	PNP, cable, 7.5 m	SIES-8M-PS-24V-K-7,5-OE	551386
	PNP, plug, 0.3 m	SIES-8M-PS-24V-K-0,3-M8D	551387
	NPN, cable, 7.5 m	SIES-8M-NS-24V-K-7,5-OE	551396
	NPN, plug, 0.3 m	SIES-8M-NS-24V-K-0,3-M8D	551397
N/C contact	PNP, cable, 7.5 m	SIES-8M-PO-24V-K-7,5-OE	551391
	PNP, plug, 0.3 m	SIES-8M-PO-24V-K-0,3-M8D	551392
	NPN, cable, 7.5 m	SIES-8M-NO-24V-K-7,5-OE	551401
	NPN, plug, 0.3 m	SIES-8M-NO-24V-K-0,3-M8D	551402

13 Connecting cable NEBA			
Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection, left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231

14 Clip SMBK		
For size	Type	Part no.
For sensor slot, for attaching the proximity switch cables		
70, 80, 120	SMBK-8	534254

15 Slot nut NST		
For size	Type	Part no.
70, 80	NST-5-M5	150914
120	NST-8-M6	150915

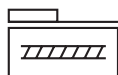
18 Profile mounting MUE		
For size	Type	Part no.
70, 80	MUE-70/80	558043
120	MUE-120/185	558044

20 Central support EAHF-L5		
For size	Type	Part no.
70	EAHF-L5-70-P	2349256
80	EAHF-L5-80-P	3535188
120	EAHF-L5-120-P	2410274

22 Foot mounting HPE		
For size	Type	Part no.
70	HPE-70	558321
80	HPE-80	558322
120	HPE-120	558323

Electric linear drives >

Spindle axes EGC-BS-KF, with recirculating ball bearing guide



- High speeds and feed forces
- Recirculating ball bearing guide and rigid profile
- Large loads and torques

Order code – Basic design

001 EGC - 002 - 003 - 004 BS - 005 ...P - 006 - 007 KF - 008 OH - 009 ML - 010 GK - 011 - 012 - 013 - 014 - 015 ZUB -

001	Type
EGC	Linear axis
002	Size
...	70, 80, 120
003	Stroke [mm]
...	100, 200, 300, 400, 500, 600, 800
004	Function
BS	Ball screw
005	Spindle pitch [mm/rev]
10P	10
20P	20
25P	25
006	Spindle support
-	None
007	Guide
KF	Recirculating ball bearing guide
008	Stroke reserve [mm]
OH	None
009	Motor attachment position
ML	Motor on the left
010	Slide
GK	Standard slide
011	Lubrication function
-	None

012	Displacement encoder, incremental
-	None
013	Clamping unit
-	None
014	Type of actuation
-	None
015	Accessories
ZUB -	Accessories enclosed separately
F	Foot mounting (1 set)
...M	Profile mounting (1 ... 50 pieces)
...B	Mounting slot cover (1 ... 50 pieces)
...S	Sensor slot cover (1 ... 50 pieces)
...Y	Slot nut for mounting slot (1 ... 99 pieces)
...X	Proximity switch, inductive, N/O contact, cable 7.5 m (1 ... 6 pieces)
...Z	Proximity switch, inductive, N/C contact, cable 7.5 m (1 ... 6 pieces)
...A	Emergency buffer with retaining bracket (1 ... 2 pieces)
...C	Shock absorber with retaining bracket (1 ... 2 pieces)
...O	Proximity switch, inductive, N/O contact, cable 2.5 m (1 ... 99 pieces)
...P	Proximity switch, inductive, N/C contact, cable 2.5 m (1 ... 99 pieces)
...W	Proximity switch, inductive, N/C contact, M8 plug (1 ... 99 pieces)
...R	Proximity switch, inductive, N/O contact, M8 plug (1 ... 99 pieces)
...V	2.5 m connecting cable, M8 (1 ... 99 pieces)
...K	Shaft journal (1 ... 4 pieces)
...CL	Cable clip (10, 20, 30, 40, 50, 60, 70, 80, 90 pieces)
DN	Express waiver – no operating instructions to be included

Legend: Mandatory entry Optional entry

Spindle axes EGC-BS-KF, with recirculating ball bearing guide

Product options

185	Size	GQ	Extended slide, protected	C	Lubrication adapter	1HL	Clamping unit, 1-channel, left
50 ... 3000	mm variable stroke	GP	Standard slide, protected	M1	Displacement encoder, incremental, resolution 2.5 µm	1HR	Clamping unit, 1-channel, right
40P	Spindle pitch 40 mm/rev	GV	Extended slide	M2	Displacement encoder, incremental, resolution 10 µm	2H	Clamping unit, 2-channel
S	With spindle support	KL	Additional slide, left			PN	Pneumatically actuated
...H	0 ... 999 mm stroke reserve	KR	Additional slide, right				
MR	Motor on the right						



Configurable product

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

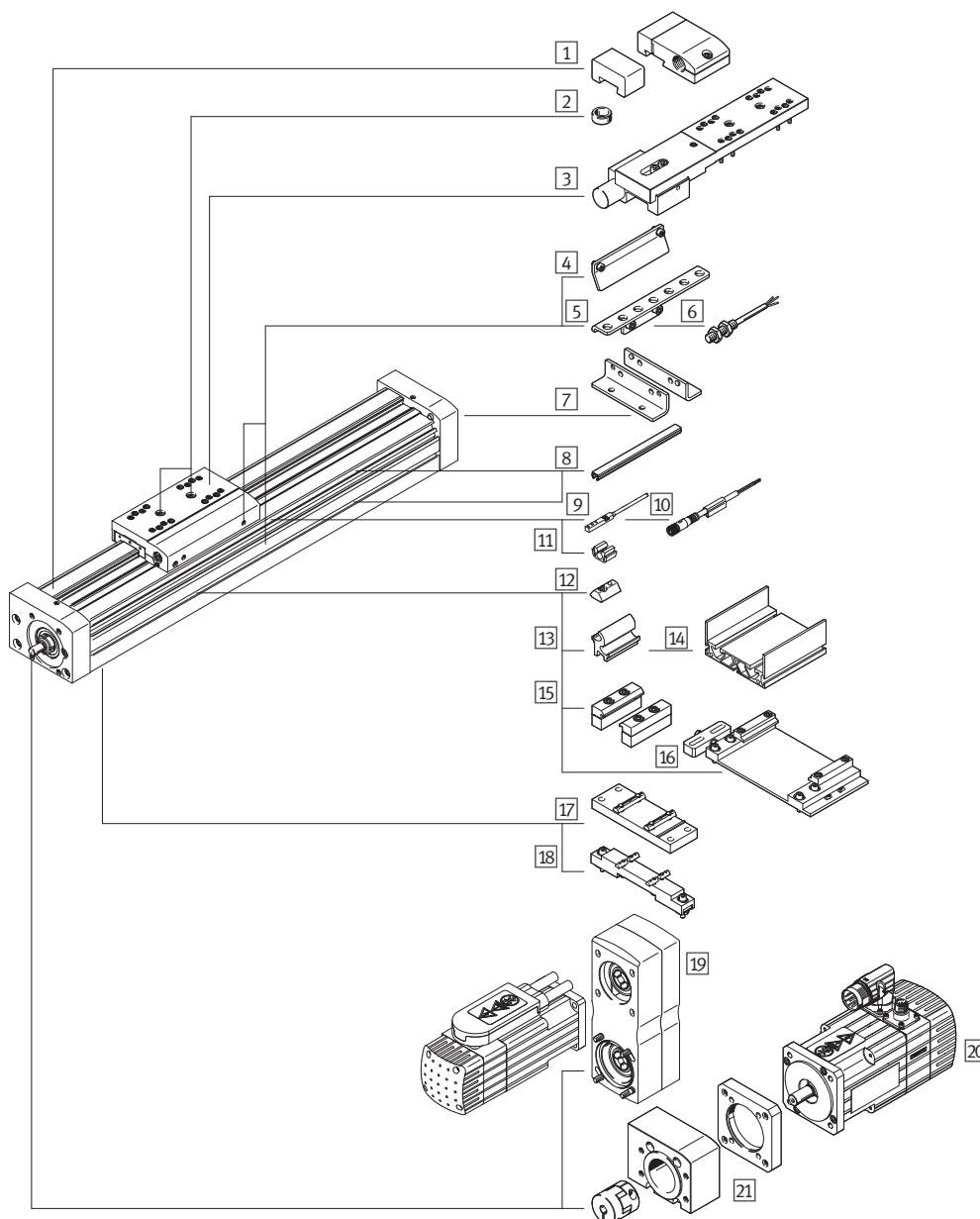
→ www.festo.com/catalogue/egc-bs

Ordering – Basic design

004 Ball screw drive – 006 Without spindle support – 007 Recirculating ball bearing guide – 008 Without stroke reserve – 009 Motor attachment on the left – 010 Standard slide – 011 Without lubrication function – 012 Without displacement encoder – 013 Without clamping unit – 014 Without actuation type – 015 Without accessories

003 Stroke [mm]	002 Size – 005 Spindle pitch				
	70 – 10 mm/rev	80 – 10 mm/rev	80 – 20 mm/rev	120 – 10 mm/rev	120 – 25 mm/rev
100	3013388	3013532	3013539	3013571	3013578
200	3013389	3013533	3013540	3013572	3013579
300	3013390	3013534	3013541	3013573	3013580
400	3013391	3013535	3013542	3013574	3013581
500	3013392	3013536	3013543	3013575	3013582
600	3013393	3013537	3013544	3013576	3013583
800		3013538	3013545	3013577	3013584

Accessories



- 1 Emergency buffer NPE with shock absorber retainer KYE → 94
- 2 Centring pin/sleeve ZBS/ZBH → 94
- 3 Clamping unit 1H...-PN, 2H-PN → [egc-bs](#)
- 4 Switch lug SF-EGC → 94, 95
- 5 Sensor bracket HWS-EGC for proximity switch SIEN-M8B → 95
- 6 Proximity switch, round design, inductive SIEN-M8B → 95
- 7 Foot mounting HPE → 95
- 8 Slot cover ABP/ABP-S → 95
- 9 Proximity switch SIES-8M → 95
- 10 Connecting cable NEBA → 95
- 11 Clip SMBK → 95
- 12 Slot nut NST → 95
- 13 Adapter kit DHAM → [egc-bs](#)
- 14 Support profile HMIA → [egc-bs](#)
- 15 Profile mounting MUE → 95
- 16 Adjusting kit EADC-E16 → [egc-bs](#)
- 17 Central support EAHF-L5 → 95
- 18 Adjusting kit EADC-E15 → [egc-bs](#)
- 19 Parallel kit EAMM-U → 95
- 20 Motor EMMS → 114
- 21 Axial kit EAMM-A → 95

Guide axis EGC-FA → [egc-fa](#)

Accessories

1 Emergency buffer NPE		
For size	Type	Part no.
For use in combination with shock absorber retainer KYE		
70	NPE-70	562581
80	NPE-80	562582
120	NPE-120	562583

1 Shock absorber retainer KYE		
For size	Type	Part no.
For avoiding damage at the end stop in the event of malfunction		
70	KYE-70	557584
80	KYE-80	557585
120	KYE-120	557586

2 Centring pin/sleeve ZBS/ZBH		
For size	Type	Part no.
70	ZBS-5 ¹⁾²⁾	150928
80, 120	ZBH-9-B ¹⁾²⁾	8137184

1) Packaging unit 10 pieces.

2) 2 centring pins/sleeves included in the scope of delivery of the axis.

4 Switch lug SF-EGC-1		
For size	Type	Part no.
For sensing via proximity switch SIES-8M		
70	SF-EGC-1-70	558047
80	SF-EGC-1-80	558048
120	SF-EGC-1-120	558049

Spindle axes EGC-BS-KF, with recirculating ball bearing guide

Accessories

4 Switch lug SF-EGC-2		
For size	Type	Part no.
For sensing via proximity switch SIEN-M8B		
70	SF-EGC-2-70	558052
80	SF-EGC-2-80	558053
120	SF-EGC-2-120	558054

5 Sensor bracket HWS-EGC		
For size	Type	Part no.
For proximity switch SIEN-M8B		
70, 80	HWS-EGC-M5	558057
120	HWS-EGC-M8-B	570365

6 Proximity switch, round design, inductive SIEN-M8B			
Description		Type	Part no.
N/O contact	PNP, cable, 2.5 m	SIEN-M8B-PS-K-L	150386
	PNP, plug, M8x1	SIEN-M8B-PS-S-L	150387
	NPN, cable, 2.5 m	SIEN-M8B-NS-K-L	150384
	NPN, plug, M8x1	SIEN-M8B-NS-S-L	150385
N/C contact	PNP, cable, 2.5 m	SIEN-M8B-PO-K-L	150390
	PNP, plug, M8x1	SIEN-M8B-PO-S-L	150391
	NPN, cable, 2.5 m	SIEN-M8B-NO-K-L	150388
	NPN, plug, M8x1	SIEN-M8B-NO-S-L	150389

7 Foot mounting HPE		
For size	Type	Part no.
70	HPE-70	558321
80	HPE-80	558322
120	HPE-120	558323

8 Slot cover ABP		
For size	Type	Part no.
For mounting slot, 0.5 m		
70, 80	ABP-5	151681
120	ABP-8	151682
For sensor slot, 0.5 m		
70, 80, 120	ABP-5-S1	563360

9 Proximity switch for T-slot, inductive SIES-8M			
Description		Type	Part no.
N/O contact	PNP, cable, 7.5 m	SIES-8M-PS-24V-K-7,5-OE	551386
	PNP, plug, 0.3 m	SIES-8M-PS-24V-K-0,3-M8D	551387
	NPN, cable, 7.5 m	SIES-8M-NS-24V-K-7,5-OE	551396
	NPN, plug, 0.3 m	SIES-8M-NS-24V-K-0,3-M8D	551397
N/C contact	PNP, cable, 7.5 m	SIES-8M-PO-24V-K-7,5-OE	551391
	PNP, plug, 0.3 m	SIES-8M-PO-24V-K-0,3-M8D	551392
	NPN, cable, 7.5 m	SIES-8M-NO-24V-K-7,5-OE	551401
	NPN, plug, 0.3 m	SIES-8M-NO-24V-K-0,3-M8D	551402

10 Connecting cable NEBA			
Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection, left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231

11 Clip SMBK		
For size	Type	Part no.
For sensor slot, for attaching the proximity switch cables		
70, 80, 120	SMBK-8	534254

12 Slot nut NST		
For size	Type	Part no.
70, 80	NST-5-M5	150914
120	NST-8-M6	150915

15 Profile mounting MUE		
For size	Type	Part no.
70, 80	MUE-70/80	558043
120	MUE-120/185	558044

17 Central support EAHF-L5		
For size	Type	Part no.
70	EAHF-L5-70-P	2349256
80	EAHF-L5-80-P	3535188
120	EAHF-L5-120-P	2410274

19 Parallel kit EAMM-U			
For	With motor	Type	Part no.
In combination with stepper motor			
70	EMMS-ST-42-...	EAMM-U-50-S38-42A-78	1217945
	EMMS-ST-57-...	EAMM-U-60-S38-57A-91	1218568
80	EMMS-ST-57-...	EAMM-U-60-S48-57A-91	1219379
	EMMS-ST-87-...	EAMM-U-86-S48-87A-177	1217604
120	EMMS-ST-87-...	EAMM-U-86-S62-87A-177	1217373
In combination with servo motor			
70	EMME-AS-40-...	EAMM-U-50-S38-40P-78	2155239
80	EMMT-AS-60-...	EAMM-U-70-S48-60P-96	2629253
	EMME-AS-60-...		
120	EMMT-AS-80-...	EAMM-U-86-S62-80P-177	2157004
	EMME-AS-80-...		

21 Axial kit EAMM-A			
For	With motor	Type	Part no.
In combination with stepper motor			
70	EMMS-ST-42-...	EAMM-A-S38-42A-G2	3637965
	EMMS-ST-57-...	EAMM-A-S38-57A-G2	3637956
80	EMMS-ST-57-...	EAMM-A-S48-57A-G2	3637963
	EMMS-ST-87-...	EAMM-A-S48-87A-G2	3637962
120	EMMS-ST-87-...	EAMM-A-S62-87A-G2	3637966
In combination with servo motor			
70	EMME-AS-40-...	EAMM-A-S38-40P-G2	3637972
	EMMT-AS-60-...	EAMM-A-S38-60P-G2	3637958
	EMME-AS-60-...		
80	EMMT-AS-60-...	EAMM-A-S48-60P-G2	3637964
	EMME-AS-60-...		
120	EMME-AS-100-...	EAMM-A-S62-100A-G2	3637960
	EMMT-AS-100-...		
	EMMT-AS-80-...	EAMM-A-S62-80P-G2	3637970
	EMME-AS-80-...		

Electric cylinders and slides >

Electric cylinders EPCC, with spindle drive



- With ball screw
 - Degree of protection IP40
 - Compact dimensions
 - Extensive mounting accessories for various installation situations
- Suitable for simple applications in factory automation that in the past were mostly carried out using pneumatic solutions

Order code

001002003004005006007008009010

EPCC-BS-...P-A-

Legend:

Mandatory entry

Optional entry

001	Type	006	Piston rod thread type
EPCC	Electric cylinder	-	Male thread
002	Drive system	007	Scraper variant
BS	Ball screw	-	None
003	Size	008	Piston rod extension
...	25, 32, 45, 60	-	None
004	Stroke [mm]	009	Position sensing
...	25, 50, 75, 100, 125, 150, 175, 200, 250	A	Via proximity switch
005	Spindle pitch [mm/rev]	010	Guide unit
...P	2, 3, 5, 6, 8, 10, 12	-	None

Product options

Stroke	300, 350, 400, 500 mm	Scraper variant	Piston rod extension	Guide unit
Piston rod thread type		A7 Wiper	...E 1 ... 100 mm	KF Recirculating ball bearing with two guide rods
F	Female thread			

Configurable product

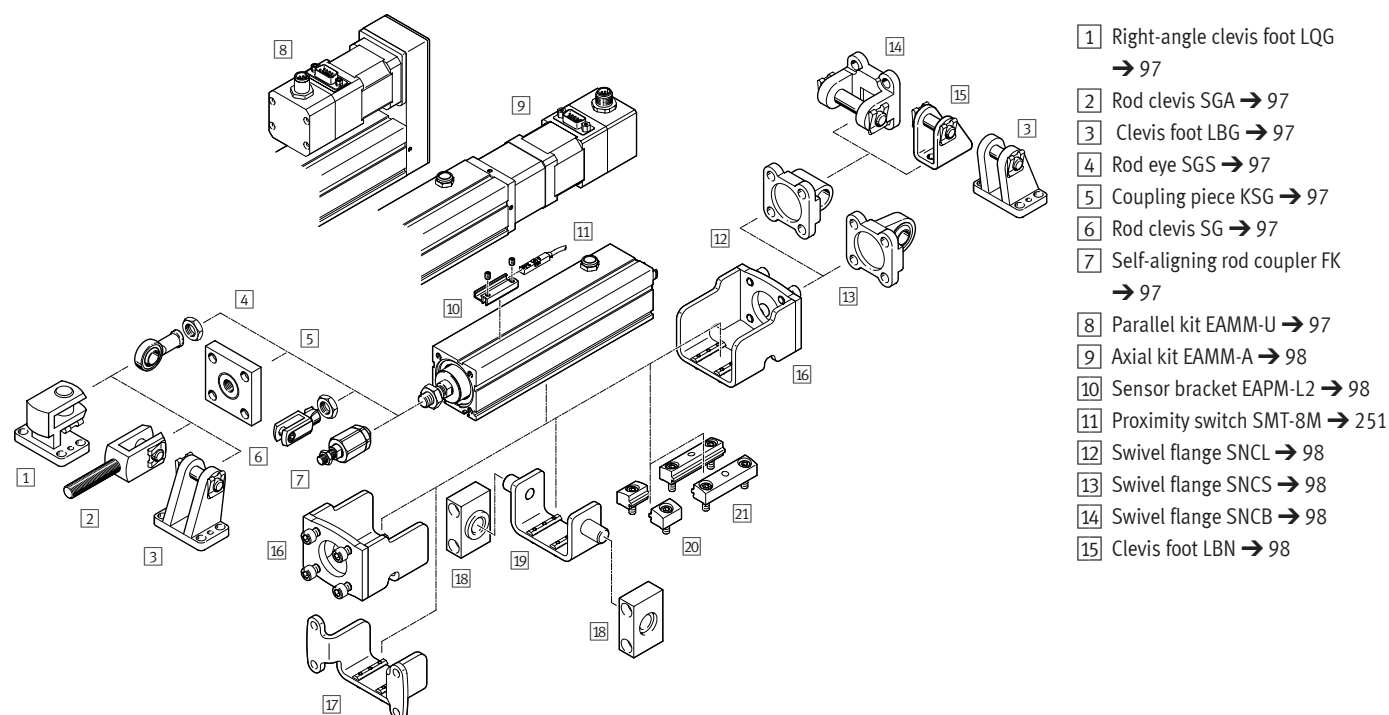
This product and all its product options can be ordered online via the configurator:

[→ www.festo.com/catalogue/epcc](https://www.festo.com/catalogue/epcc)

Ordering data

002 Ball screw – 009 Via proximity switch								
004 Stroke [mm]	003 Size – 005 Spindle pitch							
	25 – 2 mm/U	25 – 6 mm/U	32 – 3 mm/U	32 – 8 mm/U	45 – 3 mm/U	45 – 10 mm/U	60 – 5 mm/U	60 – 12 mm/U
25	5428805	5428813	5428833	5428841	5428858	5428868	5428888	5428901
50	5428806	5428814	5428834	5428842	5428859	5428869	5428889	5428902
75	5428807	5428815	5428835	5428843	5428860	5428870	5428890	5428903
100	5428808	5428816	5428836	5428844	5428861	5428871	5428891	5428904
125	5428809	5428817	5428837	5428845	5428862	5428872	5428892	5428905
150	5428810	5428818	5428838	5428846	5428863	5428873	5428893	5428906
175	5428811	5428819	5428839	5428847	5428864	5428874	5428894	5428907
200	5428812	5428820	5428840	5428848	5428865	5428875	5428895	5428908
250							5428896	5428909

Accessories



16 Adapter kit EAHA-P2 → 98

17 Flange mounting EAHH-P2
→ 98

18 Trunnion support LNZZ → 98

19 Swivel mounting EAHS-P2
→ 9820 Profile mounting EAHF-L2-P-S
→ 9821 Profile mounting EAHF-L2-P
→ 981 Right-angle clevis foot LQG
→ 97

2 Rod clevis SGA → 97

3 Clevis foot LBG → 97

4 Rod eye SGS → 97

5 Coupling piece KSG → 97

6 Rod clevis SG → 97

7 Self-aligning rod coupler FK
→ 97

8 Parallel kit EAMM-U → 97

9 Axial kit EAMM-A → 98

10 Sensor bracket EAPM-L2 → 98

11 Proximity switch SMT-8M → 251

12 Swivel flange SNCL → 98

13 Swivel flange SNCS → 98

14 Swivel flange SNCB → 98

15 Clevis foot LBN → 98

1 Right-angle clevis foot LQG

For size	Type	Part no.
45	LQG-32	31768
60	LQG-40	31769

2 Rod clevis SGA

For size	Type	Part no.
45	SGA-M10x1,25	32954
60	SGA-M12x1,25	10767

3 Clevis foot LBG

For size	Type	Part no.
45	LBG-32	31761
60	LBG-40	31762

4 Rod eye SGS

For size	Type	Part no.
25	SGS-M6	9254
32	SGS-M8	9255
45	SGS-M10x1,25	9261
60	SGS-M12x1,25	9262

5 Coupling piece KSG

For size	Type	Part no.
45	KSG-M10x1,25	32963
60	KSG-M12x1,25	32964

6 Rod clevis SG

For size	Type	Part no.
25	SG-M6	3110
32	SG-M8	3111
45	SG-M10x1,25	6144
60	SG-M12x1,25	6145

7 Self-aligning rod coupler FK

For size	Type	Part no.
25	FK-M6	2061
32	FK-M8	2062
45	FK-M10x1,25	6140
60	FK-M12x1,25	6141

8 Parallel kit EAMM-U

For	With motor	Type	Part no.
In combination with stepper motor EMMS-ST			
25	EMMS-ST-28-...	EAMM-U-30-V20-28A-44	4767125
32	EMMS-ST-42-...	EAMM-U-45-V25-42A-63	4825645
45	EMMS-ST-42-...	EAMM-U-45-V32-42A-63	4280674
60	EMMS-ST-57-...	EAMM-U-65-T42-57A-87	4331535
In combination with servo motor			
32	EMME-AS-40-...	EAMM-U-45-V25-40P-63	4782056
45	EMME-AS-40-...	EAMM-U-45-V32-40P-63	4718297
60	EMMT-AS-60-...	EAMM-U-65-T42-60P-87	4784301
	EMME-AS-60-...		

Electric cylinders and slides >

Electric cylinders EPCC, with spindle drive

Accessories

9 Axial kit EAMM-A			
For	With motor	Type	Part no.
In combination with stepper motor EMMS-ST			
25	EMMS-ST-28-...	EAMM-A-V20-28A	4505258
32	EMMS-ST-42-...	EAMM-A-V25-42A	4582608
45	EMMS-ST-42-...	EAMM-A-V32-42A	4281142
	EMMS-ST-57-...	EAMM-A-V32-57A	4597016
60	EMMS-ST-57-...	EAMM-A-T42-57A	4327034
	EMMS-ST-87-...	EAMM-A-T42-87A	4610008
In combination with servo motor			
32	EMME-AS-40-...	EAMM-A-V25-40P	4491059
45	EMME-AS-40-...	EAMM-A-V32-40P	4595742
	EMMT-AS-60-...	EAMM-A-V32-60P	4608750
	EMME-AS-60-...		
60	EMMT-AS-60-...	EAMM-A-T42-60P	4133487
	EMME-AS-60-...		
	EMMT-AS-80-...	EAMM-A-T42-80P	4623788
	EMME-AS-80-...		

10 Sensor bracket EAPM-L2		
For size	Type	Part no.
25, 32, 45, 60	EAPM-L2-SH	4759852

12 Swivel flange SNCL		
For	Type	Part no.
25	SNCL-16	537791
32	SNCL-20	537792
45	SNCL-32	174404
60	SNCL-40	174405

13 Swivel flange SNCS		
For size	Type	Part no.
45	SNCS-32	174397
60	SNCS-40	174398

14 Swivel flange SNCB		
For size	Type	Part no.
45	SNCB-32	174390
60	SNCB-40	174391

15 Clevis foot LBN		
For size	Type	Part no.
25	LBN-12/16	6058
32	LBN-20/25	6059

16 Adapter kit EAHA-P2		
For size	Type	Part no.
25	EAHA-P2-25	5172843
32	EAHA-P2-32	5173020
45	EAHA-P2-45	5172353
60	EAHA-P2-60	5173082

17 Flange mounting EAHH-P2		
For size	Type	Part no.
25	EAHH-P2-25	5127286
32	EAHH-P2-32	5126157
45	EAHH-P2-45	5126669
60	EAHH-P2-60	5127005

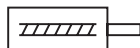
18 Trunnion support LNZG		
For size	Type	Part no.
25, 32	LNZG-16	1434912
45	LNZG-32	32959
60	LNZG-4 0/50	32960

19 Swivel mounting EAHS-P2		
For size	Type	Part no.
25	EAHS-P2-25	5125383
32	EAHS-P2-32	5125041
45	EAHS-P2-45	5125167
60	EAHS-P2-60	5125281

20 Profile mounting EAHF-L2-P-S		
For size	Type	Part no.
For mounting the slide on the side of the profile		
25, 32	EAHF-L2-25-P-S	5183153
45, 60	EAHF-L2-45-P-S	5184133

21 Profile mounting EAHF-L2-P		
For size	Type	Part no.
For mounting the slide on the side of the profile		
25, 32	EAHF-L2-25-P	4835684
45, 60	EAHF-L2-45-P	4835728

Electric cylinders ESBF, with spindle drive



- Based on ISO 15552
- Available with ball screw (size 32 ... 100) and lead screw (size 32 ... 50)
- There is a choice of three spindle pitches (ball screw) for selecting the optimal force/speed ratio
- High rigidity and precision (ball screw)
- Axial or parallel motor mounting

Order code – Basic design

001	002	003	004	005	006	007	008	009	010	011
ESBF	BS			...P						

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
ESBF	Electric cylinder
002	Drive system
BS	Ball screw
003	Size
...	32, 40, 50, 63
004	Stroke [mm]
...	100, 200, 300, 400
005	Spindle pitch [mm/rev]
...P	5, 10, 15, 16, 20, 25

006	Piston rod thread type
–	Male thread
007	Degree of protection for electrics
–	Standard
008	Corrosion protection
–	Standard
009	Special material properties
–	None
010	Additional features
–	None
011	Piston rod extension
–	None

Product options

80, 100 Size
30 ... 1500 mm variable stroke
Spindle pitch mm/rev
2.5, 3, 4, 15, 32, 40
LS Lead screw
F Piston rod with female thread

S1 Degree of protection for electrics IP65
R3 High corrosion protection
F1A Recommended for production facilities for manufacturing lithium-ion batteries

F1 Additional feature: food-safe in accordance with supplementary material information, see www.festo.com/certificates/ESBF

...E Piston rod extension
1 ... 200 mm



Configurable product

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

→ www.festo.com/catalogue/esbf

Ordering data – Basic design

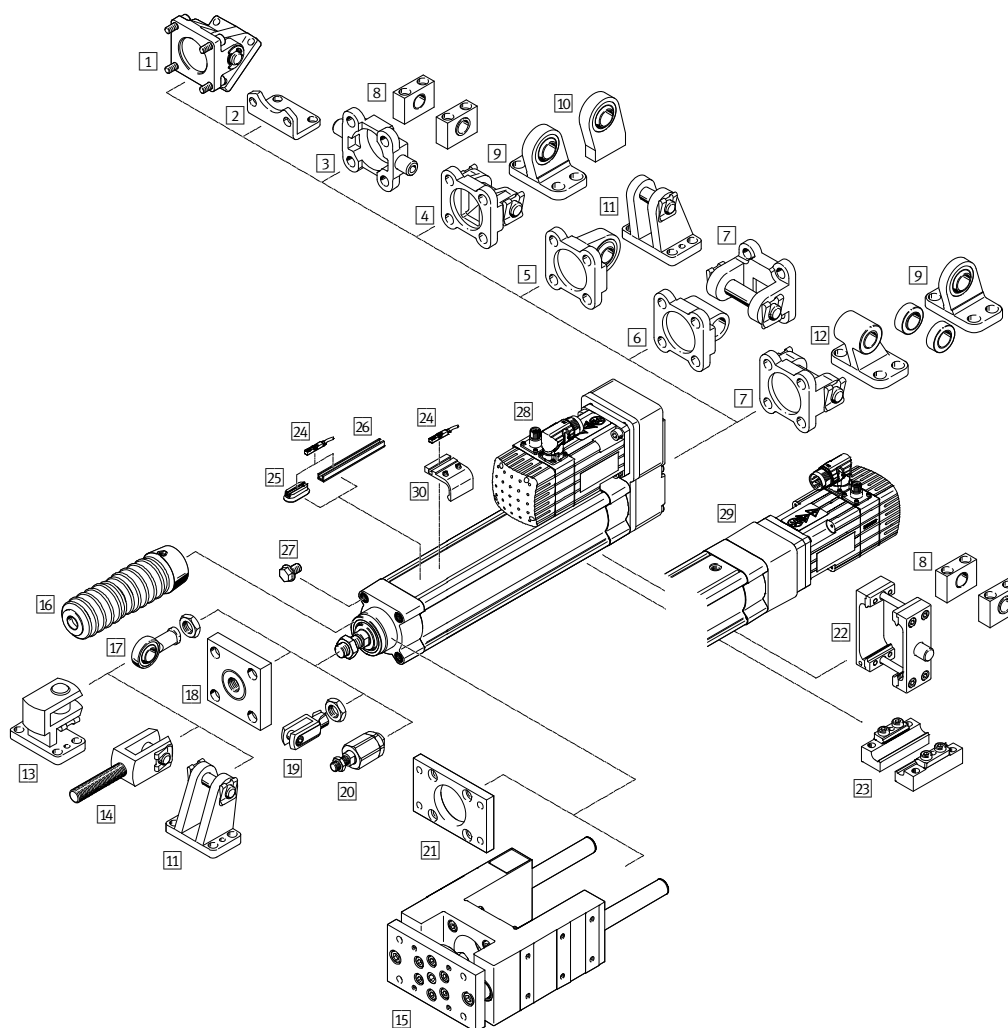
002 Ball screw – 006 Piston rod with male thread – 007 Standard degree of protection for electrical system – 008 Standard corrosion protection – 009 Without additional features – 010 Without piston rod extension

004 Stroke [mm]	003 Size – 005 Spindle pitch [mm/rev]										
	32 – 5	32 – 10	40 – 5	40 – 10	40 – 16	50 – 5	50 – 10	50 – 20	63 – 5	63 – 10	63 – 25
100	8022562	8022565	8022574	8022577	8022581	8022590	8022593	8022597	574093	574096	574100
200	2215384	8022566	2215385	8022578	8022582	2215386	8022594	8022598	1347390	574097	574101
300	8022563	8022567	8022575	8022579	8022583	8022591	8022595	8022599	574094	574098	574102
400	8022564	8022568	8022576	8022580	8022584	8022592	8022596	8022600	574095	574099	574103

Electric cylinders and slides >

Electric cylinders ESBF, with spindle drive

Accessories



- 1 Swivel flange DAMS → 100
- 2 Foot mounting HNC → 100
- 3 Trunnion flange ZNCF → 100
- 4 Swivel flange SNC → 100
- 5 Swivel flange SNCS → 100
- 6 Swivel flange SNCL → 101
- 7 Swivel flange SNCB → 101
- 8 Trunnion support LNZG → 101
- 9 Clevis foot LSN/LSNG → 101
- 10 Clevis foot LSNSG → 101
- 11 Clevis foot LBG → 101
- 12 Clevis foot LNG → 101
- 13 Right-angle clevis foot LQG → 101
- 14 Rod clevis SGA → 101
- 15 Guide unit EAGF-V2 → [esbf](#)
- 16 Bellows kit EADB → [esbf](#)
- 17 Rod eye SGS → 101
- 18 Coupling piece KSZ → 101
- 19 Rod clevis SG → 101
- 20 Self-aligning rod coupler FK → 101
- 21 Flange mounting EAHH → 101
- 22 Trunnion mounting kit DAMT → 101
- 23 Profile mounting EAHF-V2 → 101
- 24 Proximity switch SMT-8M → 251

25 Mounting kit CRSMB → 102

26 Sensor rail SAMH → 102

27 Plug screw DAMD-PS → 102

28 Parallel kit EAMM-U → 102

29 Axial kit EAMM-A → 102

30 Mounting kit SMB-8-FENG → 102

1 Swivel flange DAMS

For size	Type	Part no.
40	DAMS-K-V1-40-V-R3	2787470
50	DAMS-K-V1-50-V-R3	2787651
63	DAMS-K-V1-63-V-R3	1555443

2 Foot mounting HNC

For size	Type	Part no.
32	HNC-32	174369
40	HNC-40	174370
50	HNC-50	174371
63	HNC-63	174372

3 Trunnion flange ZNCF

For size	Type	Part no.
32	ZNCF-32	174411
40	ZNCF-40	174412
50	ZNCF-50	174413
63	ZNCF-63	174414

4 Swivel flange SNC

For size	Type	Part no.
32	SNC-32	174383
40	SNC-40	174384
50	SNC-50	174385
63	SNC-63	174386

5 Swivel flange SNCS

For size	Type	Part no.
32	SNCS-32	174397
40	SNCS-40	174398
50	SNCS-50	174399
63	SNCS-63	174400

Accessories

6 Swivel flange SNCL		
For size	Type	Part no.
32	SNCL-32	174404
40	SNCL-40	174405
50	SNCL-50	174406
63	SNCL-63	174407

7 Swivel flange SNCB		
For size	Type	Part no.
32	SNCB-32	174390
40	SNCB-40	174391
50	SNCB-50	174392
63	SNCB-63	174393

8 Trunnion support LN2G		
For size	Type	Part no.
32	LN2G-32	32959
40, 50	LN2G-40/50	32960
63	LN2G-63/80	32961

9 Clevis foot LSN		
For size	Type	Part no.
32	LSN-32	5561
40	LSN-40	5562
50	LSN-50	5563
63	LSN-63	5564

9 Clevis foot LSNG		
For size	Type	Part no.
32	LSNG-32	31740
40	LSNG-40	31741
50	LSNG-50	31742
63	LSNG-63	31743

10 Clevis foot LNSG		
For size	Type	Part no.
32	LNSG-32	31747
40	LNSG-40	31748
50	LNSG-50	31749
63	LNSG-63	31750

11 Clevis foot LBG		
For size	Type	Part no.
32	LBG-32	31761
40	LBG-40	31762
50	LBG-50	31763
63	LBG-63	31764

12 Clevis foot LNG		
For size	Type	Part no.
32	LNG-32	33890
40	LNG-40	33891
50	LNG-50	33892
63	LNG-63	33893

13 Right-angle clevis foot LQG		
For size	Type	Part no.
32	LQG-32	31768
40	LQG-40	31769
50	LQG-50	31770
63	LQG-63	31771

14 Rod clevis SGA		
For size	Type	Part no.
32	SGA-M10x1,25	32954
40	SGA-M12x1,25	10767
50, 63	SGA-M16x1,5	10768

17 Rod eye SGS		
For size	Type	Part no.
32	SGS-M10x1,25	9261
40	SGS-M12x1,25	9262
50, 63	SGS-M16x1,5	9263

18 Coupling piece KSZ		
For size	Type	Part no.
32	KSZ-M10x1,25	36125
40	KSZ-M12x1,25	36126
50, 63	KSZ-M16x1,5	36127

19 Rod clevis SG		
For size	Type	Part no.
32	SG-M10x1,25	6144
40	SG-M12x1,25	6145
50, 63	SG-M16x1,5	6146

20 Self-aligning rod coupler FK		
For size	Type	Part no.
32	FK-M10x1,25	6140
40	FK-M12x1,25	6141
50, 63	FK-M16x1,5	6142

21 Flange mounting EAHH		
For size	Type	Part no.
32	EAHH-V2-32-R1	2827587
40	EAHH-V2-40-R1	2827588
50	EAHH-V2-50-R1	2827589
63	EAHH-V2-63-R1	1502305

22 Trunnion mounting kit DAMT		
For size	Type	Part no.
32	DAMT-V1-32-A	2213233
40	DAMT-V1-40-A	2214899
50	DAMT-V1-50-A	2214909
63	DAMT-V1-63-A	2214971

23 Profile mounting EAHF-V2		
For size	Type	Part no.
32, 40	EAHF-V2-32/40-P	2838839
50, 63	EAHF-V2-50/63-P	1547781

Accessories

25 Mounting kit CRSMB		
For size	Type	Part no.
32, 40, 50, 63	CRSMB-8-32/100	525565

26 Sensor rail SAMH			
For size	Length	Type	Part no.
32, 40, 50, 63	50 mm	SAMH-N8-SR-50	1600093
32, 40, 50, 63	100 mm	SAMH-N8-SR-100	1600118

27 Plug screw DAMD-PS		
For size	Type	Part no.
32, 40	DAMD-PS-M6-12-R1	1355016
50, 63	DAMD-PS-M8-16-R1	650121

28 Parallel kit EAMM-U			
For	With motor	Type	Part no.
In combination with stepper motor			
32	EMMS-ST-42-...	EAMM-U-50-D32-42A-78	1201607
	EMMS-ST-57-...	EAMM-U-60-D32-57A-91	1210419
40	EMMS-ST-57-...	EAMM-U-60-D40-57A-91	1210442
	EMMS-ST-87-...	EAMM-U-86-D40-87A-102	1215802
50	EMMS-ST-87-...	EAMM-U-86-D50-87A-102	2802708
63	EMMS-ST-87-...	EAMM-U-86-D60-87A-102	1215784
In combination with servo motor			
32	EMME-AS-40-...	EAMM-U-50-D32-40P-78	2153283
	EMMT-AS-60-...	EAMM-U-70-D32-60P-96	2619586
	EMME-AS-60-...		
40	EMMT-AS-60-...	EAMM-U-70-D40-60P-96	2617488
	EMME-AS-60-...		
	EMMT-AS-80-...	EAMM-U-86-D40-80P-102	2802441
50	EMME-AS-80-...		
	EMME-AS-100-...	EAMM-U-110-D50-100A-120	2799424
	EMMT-AS-80-...	EAMM-U-86-D50-80P-102	2803053
63	EMME-AS-80-...		
	EMME-AS-100-...	EAMM-U-110-D60-100A-120	1202436
	EMMT-AS-80-...	EAMM-U-86-D60-80P-102	2155875

29 Axial kit EAMM-A			
For	With motor/gear unit ¹⁾	Type	Part no.
In combination with stepper motor			
32	EMMS-ST-42-...	EAMM-A-D32-42A	543148
	EMMS-ST-57-...	EAMM-A-D32-57A	550980
40	EMMS-ST-57-...	EAMM-A-D40-57A	543154
	EMMS-ST-87-...	EAMM-A-D40-87A	550982
50	EMMS-ST-87-...	EAMM-A-D50-87A	2733781
63	EMMS-ST-87-...	EAMM-A-D60-87A	543162

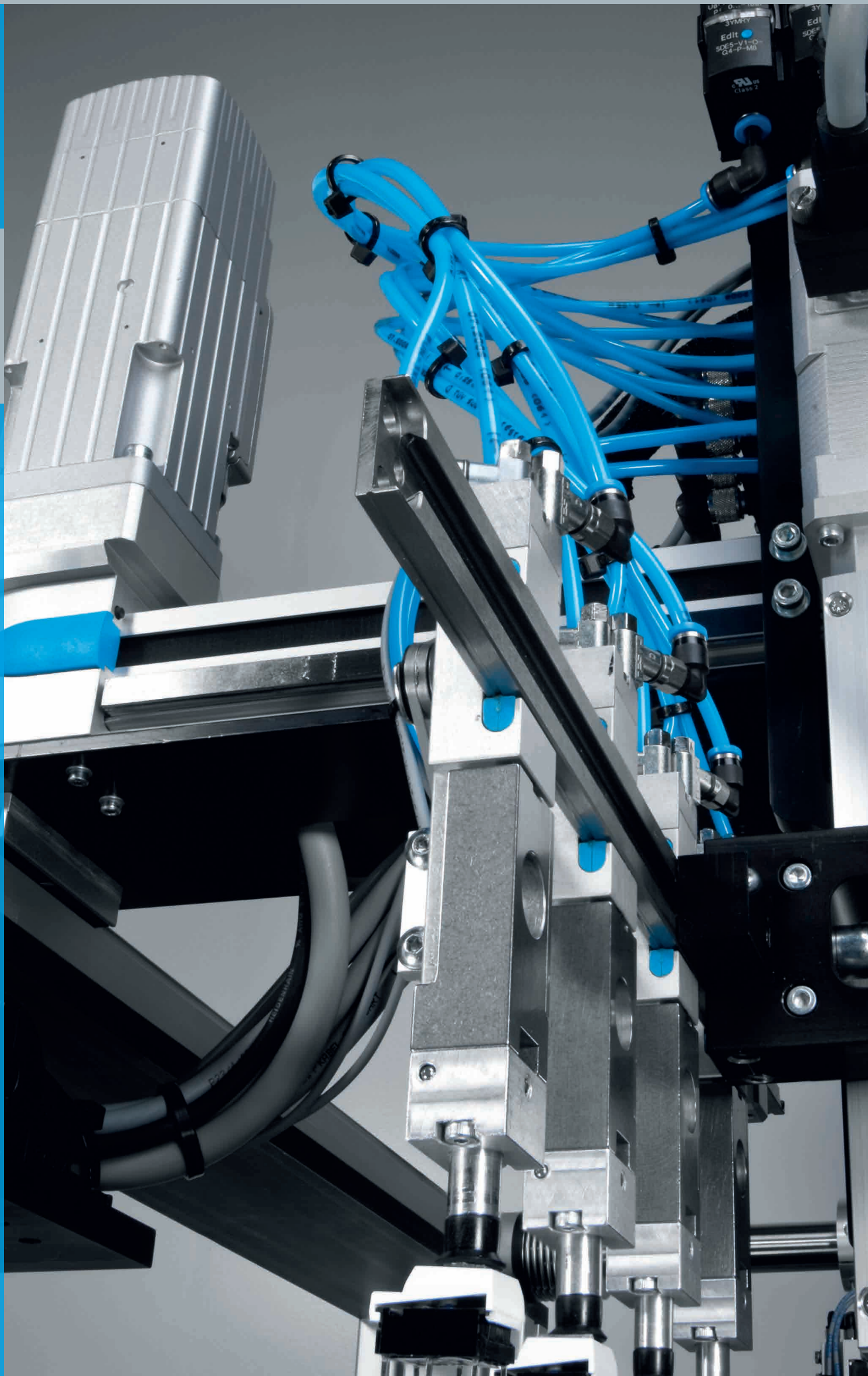
29 Axial kit EAMM-A			
For	With motor/gear unit ¹⁾	Type	Part no.
In combination with stepper motor and gear unit			
32	EMMS-ST-42-... EMGA-40-P-G...-SST-42	EAMM-A-D32-40G	1454238
	EMMS-ST-57-... EMGA-60-P-G...-SST-57	EAMM-A-D32-60G	2946758
40	EMMS-ST-42-... EMGA-40-P-G...-SST-42	EAMM-A-D40-40G	560282
	EMMS-ST-57-... EMGA-60-P-G...-SST-57	EAMM-A-D40-60G	2256400
50	EMMS-ST-57-... EMGA-60-P-G...-SST-57	EAMM-A-D50-60G	2733786
	EMMS-ST-87-... EMGA-80-P-G...-SST-87	EAMM-A-D50-80G	2733787
63	EMMS-ST-57-... EMGA-60-P-G...-SST-57	EAMM-A-D60-60G	560283
	EMMS-ST-87-... EMGA-80-P-G...-SST-87	EAMM-A-D60-80G	1499402
In combination with servo motor			
32	EMME-AS-40-... EMMT-AS-60-... EMME-AS-60-...	EAMM-A-D32-40P	1976465
		EAMM-A-D32-60P	1956054
40	EMMT-AS-60-... EMME-AS-60-...	EAMM-A-D40-60P	1977000
50	EMME-AS-100-... EMMT-AS-100-... EMMT-AS-80-... EMME-AS-80-...	EAMM-A-D50-100A	2733784
		EAMM-A-D50-80P	2733785
63	EMME-AS-100-... EMMT-AS-100-... EMMT-AS-80-... EMME-AS-80-...	EAMM-A-D60-100A	550983
		EAMM-A-D60-80P	1977073
In combination with servo motor and gear unit			
32	EMME-AS-40-... EMGA-40-P-G...-EAS-40 EMMT-/EMME-AS-60-... EMGA-60-P-G...-EAS-60	EAMM-A-D32-40G	1454238
		EAMM-A-D32-60H	2946760
40	EMME-AS-40-... EMGA-40-P-G...-EAS-40 EMMT-/EMME-AS-60-... EMGA-60-P-G...-EAS-60	EAMM-A-D40-40G	560282
		EAMM-A-D40-60H	1454242
50	EMMT-/EMME-AS-60-... EMGA-60-P-G...-EAS-60 EMMT-/EMME-AS-80-... EMGA-80-P-G...-EAS-80 EMMT-/EMME-AS-100-... EMGA-80-P-G...-SAS-100	EAMM-A-D50-60H	2733796
		EAMM-A-D50-80G	2733787
63	EMMT-/EMME-AS-100-... EMGA-80-P-G...-SAS-100	EAMM-A-D50-80G	2733787
63	EMMT-/EMME-AS-60-... EMGA-60-P-G...-EAS-60	EAMM-A-D60-60H	1454245
	EMMT-/EMME-AS-80-... EMGA-80-P-G...-EAS-80	EAMM-A-D60-80G	1499402
63	EMMT-/EMME-AS-100-... EMGA-80-P-G...-SAS-100	EAMM-A-D60-80G	1499402

1) The input torque must not exceed the max. permissible transferable torque of the axial kit.

30 Mounting kit SMB-8-FENG		
For size	Type	Part no.
32, 40	SMB-8-FENG-32/40	175705
50, 63	SMB-8-FENG-50/63	175706

03

Motors and servo drives



Highlights

Contents

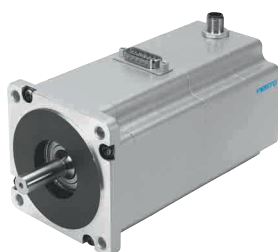


Servo motors

EMMT-AS

- + Simple connection technology
(OCP: one cable plug)
- + Choice of absolute measurement
system: single turn or multi-turn,
battery free

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Stepper motors

EMMS-ST

- + Small increments and high driving
torques thanks to 2-phase hybrid
technology
- + Optimised connection technology

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Product overview

Software-Tools

Festo Configuration Tool (FCT) 	The „Festo Configuration Tool“ is a configuration and parameterisation software program that supports all Festo devices, in particular motor controllers. The software is extremely flexible, provides full support for the device properties and is simple and intuitive to operate. The user is guided step-by-step through the commissioning process while each individual step is checked. The „Festo Configuration Tool“ parameterisation software can be found at → www.festo.com/fct > section „Other useful tools for the first start“
Electric Motion Sizing 	Find the right electric or electromechanical servo drive. Electric Motion Sizing, the online sizing and simulation tool for electric drives (servo drives and motors = servo drive package) as well as for electromechanical drive solutions (= electromechanical servo drive package comprising servo drives and motors as well as mechanics), helps you to find the right electromechanical drive solution for your application quickly and without complications. This tool can be found at → www.festo.com/x/electric-motion-sizing
Simplified Motion Series – Solution Finder 	The simplicity of pneumatics is now combined for the first time with the advantages of electric automation thanks to the Simplified Motion Series. These integrated drives are the perfect solution for all users who are looking for an electric alternative for very simple movement and positioning tasks, but don't want the commissioning process for traditional electric drive systems that can often be quite complex. This tool can be found at → www.festo.com/x/simplified-motion-series

Servo motors

	 Servo motors EMMT-AS	 Servo motors EMME-AS
Nominal torque	0.6 ... 82.4 Nm	0.12 ... 6.4 Nm
Nominal rotational speed	1000 ... 3500 rpm	3000 ... 9000 1/min
Nominal motor power	190 ... 8629 W	110 ... 2000 W
Peak torque	1.6 ... 183.3 Nm	0.7 ... 30 Nm
Max. speed	1654 ... 15000 rpm	3910 ... 10000 1/min
Description	• Technology series for demanding positioning tasks • A selection of 5 motor sizes in up to 4 lengths • Brushless, permanently magnetized synchronous servo motor • Digital absolute displacement encoder, single turn or multi-turn • Reliable, highly dynamic, extremely precise • Extremely low cogging torque – supports high synchronisation even at low rotational speeds • One motor connection (OCP: one cable plug) - one connecting cable for supply and encoder, with rotatable plug • Degree of protection IP67 (for motor housing and connection technology) and up to IP65 (on the motor shaft with shaft seal) • Optionally with holding brake	• Brushless, permanently magnetized synchronous servo motor • Digital absolute displacement encoder, single turn or multi-turn • Reliable, dynamic, precise • Optimised connection technology • Variants with safety encoder absolute, multi turn, HIPERFACE® • Degree of protection IP54 (on the motor shaft without radial shaft seal), IP65 (on the motor shaft with radial shaft seal), IP65 (for motor housing and power/encoder connections) • Optionally with holding brake
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Stepper motors

	 Stepper motors EMMS-ST
Nominal motor current	1.4 ... 9.5 A
Max. speed	430 ... 6000 1/min
Motor holding torque	0.09 ... 9.3 Nm
Description	• Small increments and high driving torques thanks to 2-phase hybrid technology • Optimised connection technology • Four sizes with flange sizes 28, 42, 57 and 87 • 28 types in stock • With incremental encoder for closed-loop operation • Degree of protection IP40 (motor shaft), IP54 (sizes 42, 27, 87: motor housing and plug connection), IP65 (size 28: motor housing and plug connection) • Optionally with holding brake
→ Page/ online	114

Gear units

	 Gear units EMGA-P-EAS		 Gear units EMGA-P-SST
Gear ratio	3:1, 5:1, 8:1, 12:1, 20:1		3:1, 5:1, 8:1, 12:1
Continuous output torque	6 ... 120 Nm		6 ... 120 Nm
Max. drive speed	7000 ... 18000 1/min		7000 ... 18000 1/min
Torsional rigidity	0.85 ... 10.4 Nm/arcmin		0.8 ... 10.4 Nm/arcmin
Torsional backlash	0.12 ... 0.31°		0.12 ... 0.31°
Mass moment of inertia, gear unit	0.015 ... 0.77 kgcm ²		0.015 ... 0.77 kgcm ²
Max. efficiency	96%, 97%, 98%		96%, 97%, 98%
Description	• Planetary gear unit for servo motors EMME-AS, EMMT-AS • Eco AC synchronous interface • Life-time lubrication • Degree of protection IP54		• Planetary gear unit for stepper motors EMMS-ST • Life-time lubrication • Degree of protection IP54
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Motors and servo drives

Motors and servo drives



Motors and servo drives

Motors and servo drives

- ## Motors and servo drives

Motors and servo drives

Motors and servo drives

Motors and servo drives



Motors and servo drives

Motors and servo drives

Motors and servo drives

Electric servo drives >

Servo drives

	 Servo drives CMMT-AS	 Motor controllers CMMP-AS
Nominal current		2 ... 13 A
Nominal operating voltage AC	230 ... 400 V	230 ... 400 V
Nominal operating voltage phases	1-phase, 3-phase	1-phase, 3-phase
Nominal power of controller	350 ... 6000 VA	500 ... 9000 VA
Fieldbus coupling	EtherCAT, EtherNet/IP, Modbus/TCP, PROFINET	CANopen, DeviceNet, EtherCAT, EtherNet/IP, Modbus/TCP, PROFINET, PROFIBUS DP
Safety function	Safe brake control (SBC), safe torque off (STO), safe stop 1 (SS1)	Safe torque off (STO), safe stop 1 (SS1)
Performance Level (PL)	Safe brake control (SBC)/category 3, Performance Level e, safe torque off (STO)/category 4, Performance Level e	Safe torque off (STO)/category 4, Performance Level e
Description	• One of the most compact servo drives on the market • Precise force, speed and position control • Auto-tuning supports easy commissioning and automatically optimises the control behaviour of rotary and linear motions • The latest generation of servo drive systems with optimised prices and sizes • With safety functions • Configuration of standard safety functions without software • MP variant with multi-protocol: the required bus protocol can be selected using the commissioning software Festo Automation Suite or directly on the servo drive • Optimally with servo motor EMMT-AS • Universal applications • Sustainable operation thanks to energy recovery	• Many interfaces and functions for decentralised motion functions (flying saw, flying measurement, modulo function, etc.) • Optional: integrated cam disk controllers and highly dynamic movements • Standardised interfaces allow seamless integration in mechatronic multi-axis modular systems • Reliable and easy commissioning and parameterisation with the Festo Configuration Tool (FCT) • Optionally with 3 slots for extension modules • Variants with safety functions • 255 position sets
→ Page/online	116	cmmp

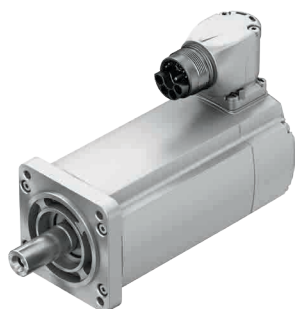
Product overview

Electric servo drives >

Stepper motor controllers

	 Servo drives CMMT-ST
Nominal current, load supply	8 A
Nominal voltage, load supply DC	24 V, 48 V
Fieldbus coupling	EtherCAT, EtherNet/IP, Modbus/TCP, PROFINET
Safety function	Safe torque off (STO), safe stop 1 with time control (SS1-t)
Performance Level (PL)	STO/cat. 3, PLd (EC motor without diagnostics), STO/cat. 3, PLe (stepper motor/EC motor with diagnostics)
Description	• Space-optimised servo drive for operating stepper motors and brushless direct current motors (EC motors) • Ideal for positioning tasks and point-to-point and interpolating motion solutions • The new multiprotocol variant (CMMT-...-MP) has all fieldbuses (PROFINET, EtherCAT®, EtherNet/IP, Modbus®) integrated in one servo drive hardware • A servo drive for direct fieldbus integration for controllers from the major manufacturers with associated function blocks • For extremely economical applications with low power requirements of 150 W at 24 V DC, 300 W at 48 V DC and a peak power of 800W • Parameterisable energy management to increase efficiency • Auto-tuning makes commissioning of rotary and linear motions easier • Very efficient for tasks with low power requirements • 50% more compact than the smallest servo drive CMMT-AS • Optimised with stepper motors such as the new EMMB-ST • Sustainable operation thanks to energy recovery
→ Page/ online	118

Servo motors EMMT-AS



- Dynamic, brushless, permanently excited synchronous servo motors
- Extremely low cogging torque – supports high synchronisation even at low rotational speeds
- Optimised torque
- Optimised speed
- Simple connection technology (OCP: one cable plug) – hybrid cable: motor cable and connecting cable for supply and encoder in one
- Rotatable plug

Order code

001	002	003	004	005	006	007	008	009	010
EMMT	AS								

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
EMMT	Servo motor
002	Motor type
AS	AC synchronous
003	Flange size, motors [mm]
...	60, 80, 100
004	Length
S	Short
M	Medium
L	Long
005	Output shaft
–	Smooth shaft
006	Rotary shaft seal
–	Without

007	Winding
LS	Low-voltage, standard
HS	High-voltage, standard
008	Electrical connection
R	Angled plug, rotatable
009	Measuring unit
S	Absolute encoder, single turn
M	Absolute encoder, multi-turn
010	Brake
–	Without
B	With brake

Product options

Flange size, motors

150 mm, 190 mm

Length

H Very long

Output shaft

K Shaft to DIN 6885

Rotary shaft seal

R With standard shaft sealing ring

Winding

HV High voltage, speed-optimised

HT High voltage, torque optimised

Electrical connection

R2 Angled plug M23, rotatable

R3 Angled plug M40, rotatable

Measuring unit

MY Absolute safety encoder, multi-turn, EnDat



Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

Part no. Type
5185818 EMMT-AS-100-...

Servo motors EMMT-AS

Ordering – Short length

003 Motor flange size	004 Overall length S: short		010 With brake: B	
	010 Without brake			
Type	Part no.	Type	Part no.	
	007 Winding LS: low voltage, standard – 009 Measuring unit S: absolute encoder, single turn			
80		EMMT-AS-80-S-LS-RSB	5255427	
	007 Winding LS: low voltage, standard – 009 Measuring unit M: absolute encoder, multi-turn			
60		EMMT-AS-60-S-LS-RMB	5242199	
80	EMMT-AS-80-S-LS-RM	5255426	EMMT-AS-80-S-LS-RMB	5255428
	007 Winding HS: high voltage, standard – 009 Measuring unit S: absolute encoder, single turn			
80		EMMT-AS-80-S-HS-RSB	5255431	
100	EMMT-AS-100-S-HS-RS	5255519	EMMT-AS-100-S-HS-RSB	5255528
	007 Winding HS: high voltage, standard – 009 Measuring unit M: absolute encoder, multi-turn			
60		EMMT-AS-60-S-HS-RMB	5242203	
80	EMMT-AS-80-S-HS-RM	5255430	EMMT-AS-80-S-HS-RMB	5255432
100	EMMT-AS-100-S-HS-RM	5255521	EMMT-AS-100-S-HS-RMB	5255529

Ordering – Medium length

003 Motor flange size	004 Overall length M: medium		010 With brake: B	
	010 Without brake			
Type	Part no.	Type	Part no.	
	007 Winding LS: low voltage, standard – 009 Measuring unit S: absolute encoder, single turn			
80		EMMT-AS-80-M-LS-RSB	5255435	
	007 Winding LS: low voltage, standard – 009 Measuring unit M: absolute encoder, multi-turn			
60		EMMT-AS-60-M-LS-RMB	5242207	
80	EMMT-AS-80-M-LS-RM	5255434	EMMT-AS-80-M-LS-RMB	5255436
	007 Winding HS: high voltage, standard – 009 Measuring unit S: absolute encoder, single turn			
80		EMMT-AS-80-M-HS-RSB	5255439	
100	EMMT-AS-100-M-HS-RS	5255530	EMMT-AS-100-M-HS-RSB	5255532
	007 Winding HS: high voltage, standard – 009 Measuring unit M: absolute encoder, multi-turn			
60		EMMT-AS-60-M-HS-RMB	5242211	
80	EMMT-AS-80-M-HS-RM	5255438	EMMT-AS-80-M-HS-RMB	5255440
100	EMMT-AS-100-M-HS-RM	5255531	EMMT-AS-100-M-HS-RMB	5255533

Ordering – Long length

003 Motor flange size	004 Overall length L: long		010 With brake: B	
	010 Without brake			
Type	Part no.	Type	Part no.	
	007 Winding LS: low voltage, standard – 009 Measuring unit S: absolute encoder, single turn			
80		EMMT-AS-80-L-LS-RSB	5255443	
	007 Winding LS: low voltage, standard – 009 Measuring unit M: absolute encoder, multi-turn			
60		EMMT-AS-60-L-LS-RMB	5242215	
80	EMMT-AS-80-L-LS-RM	5255442	EMMT-AS-80-L-LS-RMB	5255444
	007 Winding HS: high voltage, standard – 009 Measuring unit S: absolute encoder, single turn			
80		EMMT-AS-80-L-HS-RSB	5255447	
100	EMMT-AS-100-L-HS-RS	5255534	EMMT-AS-100-L-HS-RSB	5255536
	007 Winding HS: high voltage, standard – 009 Measuring unit M: absolute encoder, multi-turn			
60		EMMT-AS-60-L-HS-RMB	5242219	
80	EMMT-AS-80-L-HS-RM	5255446	EMMT-AS-80-L-HS-RMB	5255448
100	EMMT-AS-100-L-HS-RM	5255535	EMMT-AS-100-L-HS-RMB	5255537

Accessories

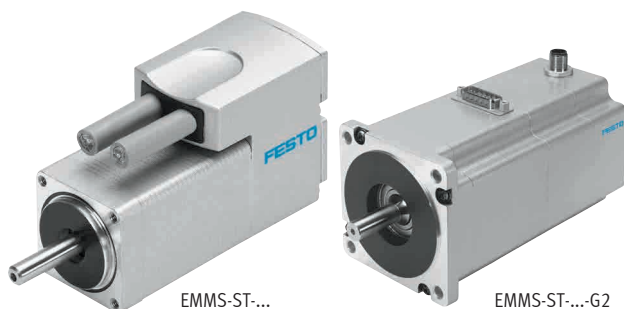
Gear unit EMGA – planetary gear unit				
For motor	Gear ratio	Gear unit flange size	Type	Part no.
EMMT-AS-60	3:1	60	EMGA-60-P-G3-EAS-60	2297686
	5:1	60	EMGA-60-P-G5-EAS-60	2297687
EMMT-AS-80	3:1	80	EMGA-80-P-G3-EAS-80	2297690
	5:1	80	EMGA-80-P-G5-EAS-80	2297691
EMMT-AS-100	3:1	80	EMGA-80-P-G3-SAS-100	552194
	5:1	80	EMGA-80-P-G5-SAS-100	552195
	3:1	120	EMGA-120-P-G3-SAS-100	552196
	5:1	120	EMGA-120-P-G5-SAS-100	552197
	3:1	120	EMGA-120-P-G3-SAS-140	552198
EMMT-AS-150	5:1	120	EMGA-120-P-G5-SAS-140	552199
	3:1	160	EMGA-160-P-G3-SAS-140	552200
	5:1	160	EMGA-160-P-G5-SAS-140	552201

More gear ratios → www.festo.com/catalogue/emmt-as

Motor cable NEBM-M23G15, hybrid cable			
Cable cross section	Cable length	Type	Part no.
Straight plug and cable outlet			
1.5 mm ²	2.5 m	NEBM-M23G15-EH-2.5-Q9N-R3LEG14	5251381
	5 m	NEBM-M23G15-EH-5-Q9N-R3LEG14	5251382
	7.5 m	NEBM-M23G15-EH-7.5-Q9N-R3LEG14	5251383
	10 m	NEBM-M23G15-EH-10-Q9N-R3LEG14	5251384
	15 m	NEBM-M23G15-EH-15-Q9N-R3LEG14	5251385
	20 m	NEBM-M23G15-EH-20-Q9N-R3LEG14	5251386
	X length ¹⁾	NEBM-M23G15-EH-....-Q9N-R3LEG14	5251380
2.5 mm ²	2.5 m	NEBM-M23G15-EH-2.5-Q10N-R3LEG14	5251388
	5 m	NEBM-M23G15-EH-5-Q10N-R3LEG14	5251389
	7.5 m	NEBM-M23G15-EH-7.5-Q10N-R3LEG14	5251390
	10 m	NEBM-M23G15-EH-10-Q10N-R3LEG14	5251391
	15 m	NEBM-M23G15-EH-15-Q10N-R3LEG14	5251392
	20 m	NEBM-M23G15-EH-20-Q10N-R3LEG14	5251393
	X length ¹⁾	NEBM-M23G15-EH-....-Q10N-R3LEG14	5251387

1) Choice of cable lengths: 0.5 ... 99.9 m, in increments of 0.1 m.

Stepper motors EMMS-ST



- 2-phase hybrid technology
- Standard industrial connection technology
- Optional: encoder, brake

Order code

001 002 003 004 005 006 007 008
EMMS - ST - - S - - -

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
EMMS	Motor
002	Motor type
ST	Stepper motor
003	Motor flange size
...	28, 42, 57, 87
004	Length
S	Short
M	Medium
L	Long
005	Electrical connection
S	Straight plug

006	Measuring unit
-	Without
E	Encoder
007	Brake
-	Without
B	With brake
008	Generation
-	First generation
G2	Second generation

Ordering – Short and medium length

003 Motor flange size	004 Overall length S: short				004 Overall length M: medium			
	007 Without brake		007 With brake: B		007 Without brake		007 With brake: B	
	Type	Part no.	Type	Part no.	Type	Part no.	Type	Part no.
	006 Without measuring unit – 008 Second generation							
42	EMMS-ST-42-S-S-G2	1370470	EMMS-ST-42-S-SB-G2	1370472				
	006 Measuring unit E: with encoder – 008 Second generation							
42	EMMS-ST-42-S-SE-G2	1370471	EMMS-ST-42-S-SEB-G2	1370473				
	006 Without measuring unit – 008 Second generation							
57	EMMS-ST-57-S-S-G2	1370474	EMMS-ST-57-S-SB-G2	1370476	EMMS-ST-57-M-S-G2	1370478	EMMS-ST-57-M-SB-G2	1370480
	006 Measuring unit E: with encoder – 008 Second generation							
57	EMMS-ST-57-S-SE-G2	1370475	EMMS-ST-57-S-SEB-G2	1370477	EMMS-ST-57-M-SE-G2	1370479	EMMS-ST-57-M-SEB-G2	1370481
	006 Without measuring unit – 008 Second generation							
87	EMMS-ST-87-S-S-G2	1370482	EMMS-ST-87-S-SB-G2	1370484	EMMS-ST-87-M-S-G2	1370486	EMMS-ST-87-M-SB-G2	1370488
	006 Measuring unit E: with encoder – 008 Second generation							
87	EMMS-ST-87-S-SE-G2	1370483	EMMS-ST-87-S-SEB-G2	1370485	EMMS-ST-87-M-SE-G2	1370487	EMMS-ST-87-M-SEB-G2	1370489

Ordering – Long length

003 Motor flange size	004 Overall length L: long			
	007 Without brake		007 With brake: B	
	Type	Part no.	Type	Part no.
	006 Without measuring unit – 008 First generation			
28	EMMS-ST-28-L-S	1451384	EMMS-ST-28-L-SB	1451383
	006 Measuring unit E: with encoder – 008 First generation			
28	EMMS-ST-28-L-SE	1430663	EMMS-ST-28-L-SEB	1451382
	006 Without measuring unit – 008 Second generation			
87	EMMS-ST-87-L-S-G2	1370490	EMMS-ST-87-L-SB-G2	1370493
	006 Measuring unit E: with encoder – 008 Second generation			
87	EMMS-ST-87-L-SE-G2	1370491	EMMS-ST-87-L-SEB-G2	1370494

Accessories

Gear unit EMGA-SST				
For	Gear ratio	Gear unit flange size	Type	Part no.
EMMS-ST-42	3:1	40	EMGA-40-P-G3-SST-42	549428
	5:1	40	EMGA-40-P-G5-SST-42	549429
EMMS-ST-57	3:1	60	EMGA-60-P-G3-SST-57	549430
	5:1	60	EMGA-60-P-G5-SST-57	549431
EMMS-ST-87	3:1	80	EMGA-80-P-G3-SST-87	549432
	5:1	80	EMGA-80-P-G5-SST-87	549433

Motor cable NEBM-S			
For ¹⁾	Cable length	Type	Part no.
Straight plug, min. bending radius: 62 mm, suitable for use with energy chains			
EMMS-ST-28 and CMMT-ST	1.5 m	NEBM-M12G8-E-1.5-Q5-LE6	1449600
	2.5 m	NEBM-M12G8-E-2.5-Q5-LE6	1449601
	5 m	NEBM-M12G8-E-5-Q5-LE6	1449602
	7 m	NEBM-M12G8-E-7-Q5-LE6	1449603
	10 m	NEBM-M12G8-E-10-Q5-LE6	1449604
Straight plug, min. bending radius: 62 mm, suitable for use with energy chains			
EMMS-ST-42/57 and CMMT-ST /CMMS-ST	1.5 m	NEBM-S1G9-E-1.5-Q5-LE6	1450368
	2.5 m	NEBM-S1G9-E-2.5-Q5-LE6	1450369
	5 m	NEBM-S1G9-E-5-Q5-LE6	1450370
	7 m	NEBM-S1G9-E-7-Q5-LE6	1450371
	10 m	NEBM-S1G9-E-10-Q5-LE6	1450372
Angled plug, min. bending radius: 62 mm, suitable for use with energy chains			
EMMS-ST-42/57 and CMMT-ST/CMMS-ST	1.5 m	NEBM-S1W9-E-1.5-Q5-LE6	1450736
	2.5 m	NEBM-S1W9-E-2.5-Q5-LE6	1450737
	5 m	NEBM-S1W9-E-5-Q5-LE6	1450738
	7 m	NEBM-S1W9-E-7-Q5-LE6	1450739
	10 m	NEBM-S1W9-E-10-Q5-LE6	1450740
Straight plug, min. bending radius: 80 mm, suitable for use with energy chains			
EMMS-ST-87 and CMMT-ST/CMMS-ST	1.5 m	NEBM-S1G15-E-1.5-Q7-LE6	1450834
	2.5 m	NEBM-S1G15-E-2.5-Q7-LE6	1450835
	5 m	NEBM-S1G15-E-5-Q7-LE6	1450836
	7 m	NEBM-S1G15-E-7-Q7-LE6	1450837
	10 m	NEBM-S1G15-E-10-Q7-LE6	1450838
Angled plug, min. bending radius: 80 mm, suitable for use with energy chains			
EMMS-ST-87 and CMMT-ST/CMMS-ST	1.5 m	NEBM-S1W15-E-1.5-Q7-LE6	1450943
	2.5 m	NEBM-S1W15-E-2.5-Q7-LE6	1450944
	5 m	NEBM-S1W15-E-5-Q7-LE6	1450945
	7 m	NEBM-S1W15-E-7-Q7-LE6	1450946
	10 m	NEBM-S1W15-E-10-Q7-LE6	1450947

Encoder cable NEBM-M12			
For ¹⁾	Cable length	Type	Part no.
Straight plug, min. bending radius: 51 mm, suitable for use with energy chains			
CMMS-ST	5 m	NEBM-M12G8-E-5-S1G9	550748
	10 m	NEBM-M12G8-E-10-S1G9	550749
	15 m	NEBM-M12G8-E-15-S1G9	550750
Straight plug, min. bending radius: 68 mm, suitable for use with energy chains			
CMMT-ST	1.5 m	NEBM-M12G8-E-1.5-LE8	1451586
	2.5 m	NEBM-M12G8-E-2.5-LE8	1451587
	5 m	NEBM-M12G8-E-5-LE8	1451588
	7 m	NEBM-M12G8-E-7-LE8	1451589
	10 m	NEBM-M12G8-E-10-LE8	1451590
Angled plug, min. bending radius: 68 mm, suitable for use with energy chains			
CMMT-ST	1.5 m	NEBM-M12W8-E-1.5-LE8	1451674
	2.5 m	NEBM-M12W8-E-2.5-LE8	1451675
	5 m	NEBM-M12W8-E-5-LE8	1451676
	7 m	NEBM-M12W8-E-7-LE8	1451677
	10 m	NEBM-M12W8-E-10-LE8	1451678

1) CMMS-ST: Motor controller → [cmms-st](#)
CMMT-ST: Motor controller → 110

Electric servo drives > Servo drives >

Servo drives CMMT-AS



- Universal servo drive for PM-synchronous servo motors with up to 6000 W continuous power
- Supports the motor series EMMT-AS, EMME-AS among others
- Precise torque, speed and position control
- From point-to-point to interpolated motion
- Integrated safety functions:
 - Safe torque off (STO)
 - Safe stop 1 (SS1)
 - Safe brake control (SBC)

Order code

001002003004005006007

CMMT-AS--S1

Legend:

Mandatory entry

Optional entry

001	Series
CMMT	Motor controller
002	Motor type
AS	AC synchronous
003	Nominal current
C2	2 A
C3	3 A
C4	4 A
C5	5 A
C7	7 A
C12	12 A

004	Nominal input voltage
3A	230 V AC/50-60Hz
11A	400 V AC/50-60Hz
005	Number of phases
	Single-phase
P3	Three-phase
006	Bus protocol/activation
MP	Multiprotocol
007	Safety function
S1	Standard safety

Configurable product

This product and all its product options can be ordered online via the configurator:
→ www.festo.com/catalogue/...
Enter the part number or the type.

Part no.

Type

5111184CMMT-AS-...-3A-...-S1

5111189CMMT-AS-...-11A-P3-...-S1

Ordering

with multiprotocol				
Nominal input voltage	Nominal current per phase, effective	Phases of nominal operating voltage ¹⁾	Part no.	Type
230 V AC/50-60Hz	2 A	Single-phase	8143163	CMMT-AS-C2-3A-MP-S1
	4 A		8143164	CMMT-AS-C4-3A-MP-S1
400 V AC/50-60Hz	1.7 A	3-phase	8143165	CMMT-AS-C2-11A-P3-MP-S1
	2.5 A		8143166	CMMT-AS-C3-11A-P3-MP-S1
	5 A		8143167	CMMT-AS-C5-11A-P3-MP-S1
	7 A		8143168	CMMT-AS-C7-11A-P3-MP-S1
	12 A		8143169	CMMT-AS-C12-11A-P3-MP-S1

1) The assortment of plugs NEKM is included in the scope of delivery of the servo drive.

Accessories

Assortment of plugs NEKM		
Description ¹⁾	Part no.	Type
For CMMT-AS-....-3A, For double wiring	5054513	NEKM-C6-C16-D
For CMMT-AS-....-3A, For single wiring	4325822	NEKM-C6-C16-S
For CMMT-AS-....-11A, For double wiring	5118001	NEKM-C6-C45-P3-D
For CMMT-AS-....-11A, For single wiring	5119205	NEKM-C6-C45-P3-S

1) Included in the scope of delivery of the servo drive.

Operator unit CDSB			Link → cdsb
Ambient temperature ¹⁾	Part no.	Type	
0 ... 60 °C	8070984	CDSB-A1	

1) Not included in the scope of delivery of the servo drive.

Mains filter CAMF		
Description	Part no.	Type
1-phase, 8 A, sufficient for: 2x CMMT-AS-C2-3A or 1x CMMT-AS-C4-3A, Not included in the scope of delivery of the servo drive	8088928	CAMF-C6-F-C8-3A
1-phase, 20 A, sufficient for: 6x CMMT-AS-C2-3A or 3x CMMT-AS-C4-3A, Not included in the scope of delivery of the servo drive	8088929	CAMF-C6-F-C20-3A
3-phase, 16 A, sufficient for: 8x CMMT-AS-C2-11A or 5x CMMT-AS-C3-11A or 2x CMMT-AS-C5-11A or 2x CMMT-AS-C7-11A or 1x CMMT-AS-C12-11A, Not included in the scope of delivery of the servo drive	8096868	CAMF-C6-F-C16-11A
3-phase, 42 A, sufficient for: 21x CMMT-AS-C2-11A or 14x CMMT-AS-C3-11A or 7x CMMT-AS-C5-11A or 5x CMMT-AS-C7-11A or 3x CMMT-AS-C12-11A or 1x CMMT-AS-C18-11A or 1x CMMT-AS-C25-11A, Not included in the scope of delivery of the servo drive	8096894	CAMF-C6-F-C42-11A

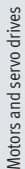
Line choke CAMF		
Description	Part no.	Type
1-phase, 6 A, sufficient for: 2x CMMT-AS-C2-3A or 1x CMMT-AS-C4-3A, Not included in the scope of delivery of the servo drive	8088930	CAMF-C6-FD-C6-3A
3-phase, 6 A, sufficient for: 3x CMMT-AS-C2-11A or 2x CMMT-AS-C3-11A or 1x CMMT-AS-C5-11A, Not included in the scope of delivery of the servo drive	8096867	CAMF-C6-FD-C6-11A

Braking resistor CACR for CMMT-AS-....-3A		
Description	Part no.	Type
For type CMMT-AS-C2-3A, For type CMMT-AS-C4-3A	1336615	CACR-LE2-100-W500
For type CMMT-AS-C2-3A, For type CMMT-AS-C4-3A	8091545	CACR-KL2-100-W1800
For type CMMT-AS-C4-3A	1336611	CACR-LE2-72-W500
For type CMMT-AS-C4-3A	1336617	CACR-KL2-67-W1800

Braking resistor CACR for CMMT-AS-....-11A		
Description	Part no.	Type
For type CMMT-AS-C12-11A	2882342	CACR-LE2-50-W500
For type CMMT-AS-C7-11A	1336611	CACR-LE2-72-W500
For type CMMT-AS-C5-11A	1336615	CACR-LE2-100-W500
For type CMMT-AS-C2-11A, For type CMMT-AS-C3-11A	8091543	CACR-LE2-240-W500
For type CMMT-AS-C12-11A, For type CMMT-AS-C18-11A	2882343	CACR-KL2-40-W2000
For type CMMT-AS-C7-11A	1336617	CACR-KL2-67-W1800
For type CMMT-AS-C5-11A	8091545	CACR-KL2-100-W1800
For type CMMT-AS-C2-11A, For type CMMT-AS-C3-11A	8091544	CACR-KL2-240-W1800
For type CMMT-AS-C25-11A	8140961	CACR-KL2-21-W3600

Shield clamp CAMA		
Description	Part no.	Type
For fixing the shield and strain relief for the motor cable; for CMMT-AS-C2/C4-....-3A, Included in the scope of delivery of the servo drive	5326867	CAMA-C6-SK-S2
For fitting the shield and strain relief for the motor cable; for CMMT-AS-C7/C12/C18/C25-....-11A, Included in the scope of delivery of the servo drive	8114689	CAMA-C6-SK-S4
For fixing the shield and strain relief for the motor cable; for CMMT-AS-C2/C3/C5-....-11A, Included in the scope of delivery of the servo drive	5335956	CAMA-C6-SK-S3

Motors and servo drives



- ## Motors and servo drives

Motors and servo drives

Motors and servo drives

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Motors and servo drives

Motors and servo drives

Motors and servo drives

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Motors and servo drives

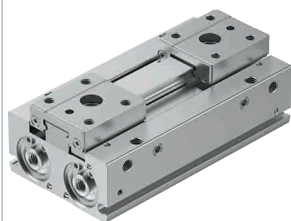
04

Grippers



Highlights

Contents



Parallel grippers

HPPF

- + Optimal: compact and flat design
- + Durable: integrated guide and sturdy design

→ 126



Parallel grippers

DHPC

- + Heavy-duty and precise ball guide
- + Wide range of mounting and attachment options

→ 131

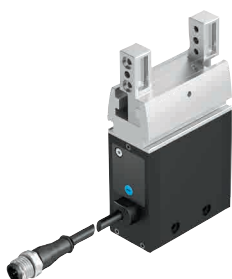


Parallel grippers

HGPT-B

- + Sturdy and powerful
- + High-force variant available

→ 135



Parallel grippers, electric

EHPS

- + Gripping force adjustable at the gripper module
- + Long stroke for different work-pieces

→ 123

Product overview	122
Parallel grippers HPPF	126
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Parallel grippers DHPC	131
Parallel grippers HGPT-B, heavy-duty	135
Parallel grippers HGPL-B, heavy-duty with long stroke	137

Product overview

Software-Tools

Product finder for grippers



A secure grip is a question of the right calculation. In this case, calculation of weight, direction of movement, distances, etc. The software tool immediately determines which type of gripper – parallel, three-point, angle or swivel/gripper – and which size best matches your requirements.

These tools can be found at

- www.festo.com/x/gripper-parallel
- www.festo.com/x/gripper-3-point
- www.festo.com/x/gripper-angle
- www.festo.com/x/gripper-radial

Parallel grippers



**Parallel gripper
HPPF**



**Parallel gripper
DHPS**



**Parallel gripper
DHPC**

	Parallel gripper HPPF	Parallel gripper DHPS	Parallel gripper DHPC
Size	8, 12, 16, 20	6, 10, 16, 20, 25, 35	6, 10, 16, 20, 25, 32, 40
Stroke per gripper jaw	4 ... 40 mm	2 ... 12.5 mm	2 ... 15 mm
Total gripping force at 0.6 MPa (6 bar, 87 psi), closing	60.32 ... 377 N	25 ... 910 N	7.8 ... 717.2 N
Max. force on gripper jaw F_z, static	58 ... 294 N	10 ... 450 N	5 ... 245 N
Gripping force backup	None	During opening, During closing, None	During opening, During closing, None
Gripper repetition accuracy	≤0.02 mm, ≤0.03 mm, ≤0.06 mm	≤0.02 mm	≤0.02 mm
Position sensing	Via proximity sensor	Via Hall sensor, via proximity sensor	Via proximity sensor
Description	- Optimal: compact and flat design - Durable: integrated guide and sturdy design - Economical: best price/performance ratio - Can be combined: available in many sizes and strokes - Sustainable thanks to reduced material use and maintenance-free over the entire service life.	- Heavy-duty, precision T-slot guide for gripper jaws - High gripping force with compact dimensions - Max. repetition accuracy - Can be used as a double-acting and single-acting gripper - Single-acting variant or with gripping force backup, opening (NO) or closing (NC) - Suitable for external and internal gripping - Wide range of adaptation options on the drives	- Resilient and precise ball guide - High gripping force and compact size - Max. repetition accuracy - Can be used as a double-acting or single-acting gripper - Single-acting variant or with gripping force retention normally open (NO) or normally closed (NC) - Suitable for external and internal gripping - Wide variety of mounting and attachment options - Sustainable in production thanks to reduced use of materials
→ Page/online	126	129	131

Parallel grippers

		
	Parallel grippers HGPT-B	Parallel gripper HGPL-B
Size	16, 20, 25, 35, 40, 50, 63, 80	14, 25, 40, 63
Stroke per gripper jaw	1.5 ... 25 mm	20 ... 150 mm
Total gripping force at 0.6 MPa (6 bar, 87 psi), closing	106 ... 6300 N	158 ... 2742 N
Max. force on gripper jaw F_z, static	200 ... 7000 N	500 ... 9000 N
Gripping force backup	During opening, During closing, None	None
Gripper repetition accuracy	≤0.03 mm, ≤0.04 mm, ≤0.05 mm	<0.03 mm
Position sensing	Via proximity sensor	Via proximity sensor
Description	• Sturdy and powerful • With T-slot guide • Gripper jaw guide protected by sealing air against dust • High-force variant available • Can be used as a double-acting and single-acting gripper • Single-acting variant or with gripping force backup, opening (NO) or closing (NC) • Suitable for external and internal gripping	• Space-saving, high forces and torques • Controlled, precise and centred gripping • Long stroke: long guide length for the gripper jaws • Opening stroke can be adjusted to optimise time • Double-acting gripper with two pistons operating in parallel and in opposite directions • Suitable for external and internal gripping
→ Page/online	135	137

Electric grippers ›

Parallel grippers

	
	Parallel grippers, electric EHPS
Size	16, 20, 25
Total gripping force at 0.6 MPa (6 bar, 87 psi), closing	See documentation on our website
Max. force on gripper jaw F_z, static	200 ... 450 N
Stroke per gripper jaw	10 ... 16 mm
Gripper repetition accuracy	≤0.01 mm, ≤0.03 mm
Position sensing	Via proximity switch, with Hall sensor, with displacement encoder integrated, via IO-Link® interface
Description	• Electric version of the pneumatically actuated parallel gripper DHPS • Ideal for use as a front-end actuator thanks to its low dead weight • Controller-free actuation using digital signals • Gripping force (4 settings) adjustable via ratchet switch or via IO-Link interface • RA1 version with robot connection, enables fast integration in lightweight robot environments
online: →	ehps

Product overview

Three-point grippers

	 Three-point grippers DHDS	 Three-point grippers HGDT
Size	16, 32, 50	25, 35, 40, 50, 63
Stroke per gripper jaw	2.5 ... 6 mm	1.5 ... 10 mm
Total gripping force at 0.6 MPa (6 bar, 87 psi), closing	87 ... 750 N	207 ... 2592 N
Gripping force backup	During closing	During opening, during closing
Gripper repetition accuracy	≤0.04 mm	≤0.03 mm
Position sensing	Via Hall sensor, via proximity sensor	Via proximity sensor
Description	• Heavy-duty, precision T-slot guide for gripper jaws • High gripping force with compact dimensions • Max. repetition accuracy • Can be used as a double-acting and single-acting gripper • Single-acting variant or with gripping force backup, closing (NC) • Suitable for external and internal gripping • Wide range of adaptation options on the drives	• Synchronous movement of the gripper jaws • Gripper jaw guide protected by sealing air against dust • High-force variant available • With T-slot guide • Can be used as a double-acting and single-acting gripper • Single-acting variant or with gripping force backup, opening (NO) or closing (NC) • Suitable for external and internal gripping
→ Page/online	dhds	hgdt

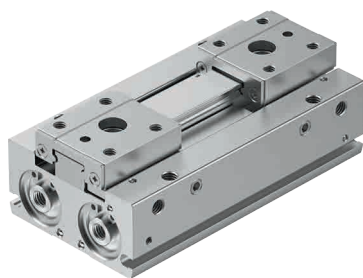
Angle grippers

	 Angle grippers DHWS
Size	10, 16, 25, 32, 40
Total gripping force at 0.6 MPa (6 bar, 87 psi), closing	30 ... 1362 Ncm
Max. opening angle	40°
Gripping force backup	During closing
Gripper repetition accuracy	≤0.04 mm
Position sensing	Via Hall sensor, via proximity sensor
Description	• Improved gripper jaw guide • Internal fixed flow control, does away with the need for external flow control in 80% of applications • Slotted guide • Max. repetition accuracy • Can be used as a double- and single-acting gripper • Single-acting variant or with gripping force backup, normally closed (NC) • Suitable for external and internal gripping • Wide range of adaptation options on the drives
→ Page/online	dhws

Radial grippers

	 Radial grippers DHRS
Size	10, 16, 25, 32, 40
Total gripping force at 0.6 MPa (6 bar, 87 psi), closing	15 ... 660 Ncm
Max. opening angle	180°
Gripping force backup	During closing
Gripper repetition accuracy	≤0.1 mm
Position sensing	Via Hall sensor, via proximity sensor
Description	• Lateral gripper jaw support for high torque loads • Self-centring • Internal fixed flow control • Max. repetition accuracy • Slotted guide • Can be used as a double-acting and single-acting gripper • Single-acting variant or with gripping force backup, closing (NC) • Wide range of adaptation options on the drives
→ Page/ online	dhrs

Parallel grippers HPPF



- Optimal: compact and flat design
- Durable: integrated guide and sturdy design
- Economical: best price/performance ratio
- Can be combined: available in many sizes and strokes
- Sustainable thanks to reduced material use and maintenance-free over the entire service life.

Type code

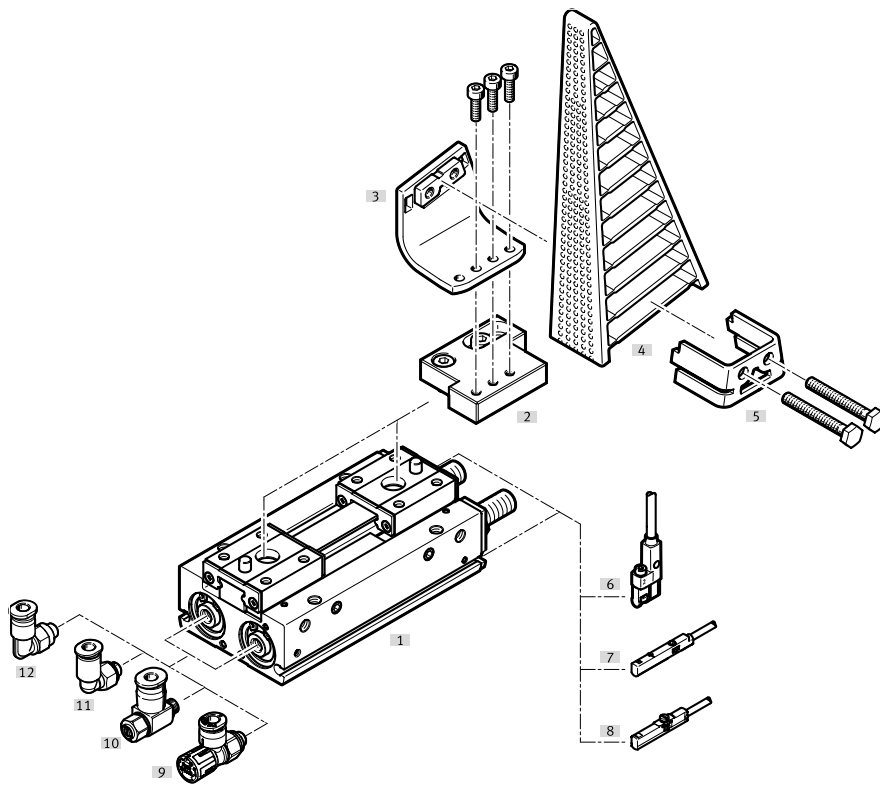
001	Series		003	Complete stroke [mm]	
HPPF	Parallel grippers		8	8	
			12	12	
			16	16	
			20	20	
			24	24	
			32	32	
			40	40	
			48	48	
			64	64	
			80	80	
002	Size [mm]		004	Position sensing	
8	8		A	For proximity sensor	
12	12				
16	16		005	Stroke variant	
20	20			Without	
			S	Adjustable stroke	

Ordering data

HPPF					
Size	Total stroke	Mode of operation	Product weight	Part no.	Type
8	8 mm	Double-acting	68 g	8133724	HPPF-8-8-A
	16 mm		83 g	8133731	HPPF-8-16-A
	32 mm		122 g	8128415	HPPF-8-32-A
12	12 mm		157 g	8139790	HPPF-12-12-A
	24 mm		205 g	8139791	HPPF-12-24-A
	48 mm		305 g	8139792	HPPF-12-48-A
16	16 mm		366 g	8105829	HPPF-16-16-A
	32 mm		471 g	8143243	HPPF-16-32-A
	64 mm		691 g	8143246	HPPF-16-64-A
20	20 mm		690 g	8141226	HPPF-20-20-A
	40 mm		887 g	8143408	HPPF-20-40-A
	80 mm		1,326 g	8143409	HPPF-20-80-A

HPPF....S – adjustable stroke					
Size	Total stroke	Mode of operation	Product weight	Part no.	Type
8	8 mm	Double-acting	78 g	8134368	HPPF-8-8-A-S
	16 mm		95 g	8134375	HPPF-8-16-A-S
	32 mm		135 g	8134364	HPPF-8-32-A-S
12	12 mm		182 g	8141587	HPPF-12-12-A-S
	24 mm		233 g	8141588	HPPF-12-24-A-S
	48 mm		339 g	8141589	HPPF-12-48-A-S
16	16 mm		415 g	8143712	HPPF-16-16-A-S
	32 mm		524 g	8143713	HPPF-16-32-A-S
	64 mm		755 g	8143714	HPPF-16-64-A-S
20	20 mm	Double-acting	783 g	8143425	HPPF-20-20-A-S
	40 mm		993 g	8143426	HPPF-20-40-A-S
	80 mm		1,458 g	8143427	HPPF-20-80-A-S

Peripherals overview



Accessories			→ Link
Type/order code	Description		
[1] Parallel gripper HPPF	Double-acting; with ball guide, optionally with adjustable stroke		hppf
[2] Intermediate plate HAMF-PA	- For fitting the mounting bracket DHAS-MA on the gripper - Available for sizes 16, 20		128
[3] Mounting bracket DHAS-MA	For mounting the adaptive gripper finger DHAS-GF on the intermediate plate HAMF-PA		128
[4] Adaptive gripper finger DHAS-GF	- For flexible gripping - Available in the sizes 60, 80, 120 - The mounting components HAMF-PA, DHAS-MA and DHAS-ME are also required to attach the gripper fingers to the gripper		128
[5] Mounting kit DHAS-ME	For mounting the adaptive gripper finger DHAS-GF on the mounting bracket DHAS-MA		128
[6] Proximity switch SMT-10G	- For round slot - For sensing the piston position in the end positions		128
[7] Proximity switch SMT-10M	- For round slot - For sensing the piston position in the end positions		128
[8] Proximity switch SDBC-MSB	- For round slot - For sensing the piston position in the end positions		128
[9] One-way flow control valve VFOE	For regulating speed		128
[10] One-way flow control valve GRLA	For regulating speed		128
[11] Push-in fitting QS	For connecting tubing with standard O.D		qs
[12] Push-in fitting NPQE	For connecting tubing with standard O.D		npqe

Parallel grippers HPPF

Accessories

2 Intermediate plate HAMF-PA

Description	Part no.	Type
For size 16	8175319	HAMF-PA-B30-16
For size 20	8175321	HAMF-PA-B30-20

3 Mounting bracket DHAS-MA

Description	Part no.	Type
For HAMF-PA-B30	3920696	DHAS-MA-B6-60
For HAMF-PA-B30	3899099	DHAS-MA-B6-80
For HAMF-PA-B30	3889257	DHAS-MA-B6-120

4 Adaptive gripper finger DHAS-GF

Description ¹⁾	Part no.	Type
For DHAS-MA-B6-60	3998967	DHAS-GF-60-U-BU
For DHAS-MA-B6-80	3998964	DHAS-GF-80-U-BU
For DHAS-MA-B6-120	3998959	DHAS-GF-120-U-BU

1) The mounting components HAMF-PA, DHAS-MA and DHAS-ME are also required to attach the gripper fingers to the gripper.

5 Mounting kit DHAS-ME

Description	Part no.	Type
For DHAS-GF-60-U-BU	4464306	DHAS-ME-H9-60
For DHAS-GF-80-U-BU	4463570	DHAS-ME-H9-80
For DHAS-GF-120-U-BU	4461433	DHAS-ME-H9-120

6 Proximity switch SMT-10G for round slot, magneto-resistive

Description	Part no.	Type
Clamped in C-slot, Insertable in the slot lengthwise		
Cable, 3-wire, transverse, NPN, cable length 2,5 m	8065030	SMT-10G-NS-24V-E-2,5Q-OE
Plug M8x1, 3-pin, transverse, NPN, cable length 0,3 m	8065029	SMT-10G-NS-24V-E-0,3Q-M8D
Cable, 3-wire, transverse, PNP, cable length, 2,5 m	547862	SMT-10G-PS-24V-E-2,5Q-OE
Plug M8x1, 3-pin, transverse, PNP, cable length 0,3 m	547863	SMT-10G-PS-24V-E-0,3Q-M8D

7 Proximity switch SMT-10M for round slot, magneto-resistive

Description	Part no.	Type
Screw-clamped, Insertable in the slot from above		
Cable, 3-wire, transverse, PNP, cable length 2,5 m	551374	SMT-10M-PS-24V-E-2,5-Q-OE
Cable, 3-wire, longitudinal, PNP, cable length 2,5 m	551373	SMT-10M-PS-24V-E-2,5-L-OE
Plug M8x1, 3-pin, PNP, longitudinal, cable length 0,3 m	551375	SMT-10M-PS-24V-E-0,3-L-M8D
Plug M8x1, 3-pin, transverse, PNP, cable length 0,3 m	551376	SMT-10M-PS-24V-E-0,3-Q-M8D

8 Proximity switch SDBC-MSB for round slot, magneto-resistive

Description	Part no.	Type
Inserted in the slot from above		
Cable, 3-wire, longitudinal, NPN, cable length 2 m	8139724	SDBC-MSB-1L-NU-K-2-LE
Plug M8x1, 3-pin, longitudinal, NPN, cable length 0,3 m	8139727	SDBC-MSB-1L-NU-K-0.3-M8
Kabel, 3-wire, longitudinal, PNP, cable length 2 m	8139723	SDBC-MSB-1L-PU-K-2-LE
Plug M8x1, 3-pin, longitudinal; PNP, cable length 0,3 m	8139726	SDBC-MSB-1L-PU-K-0.3-M8
Cable, 2-adrig, longitudinal, non-contacting 2-wire, cable length 2 m	8139725	SDBC-MSB-1L-ZU-K-2-LE

Connecting cables NEBA, straight, M8 connection

Electrical connection 1, connector system	Part no.	Type
M8x1, A-coded, to EN 61076-2-104	8078223	NEBA-M8G3-U-2.5-N-LE3
M8x1, A-coded, to EN 61076-2-104	8078224	NEBA-M8G3-U-5-N-LE3

Connecting cables NEBA, straight, M12 connection

Electrical connection 1, connector system	Part no.	Type
M12x1, A-coded to EN 61076-2-101	8078236	NEBA-M12G5-U-2.5-N-LE3
M12x1, A-coded to EN 61076-2-101	8078237	NEBA-M12G5-U-5-N-LE3

Connecting cables NEBA, angled, M8 connection

Electrical connection 1, connector system	Part no.	Type
M8x1, A-coded, to EN 61076-2-104	8078230	NEBA-M8W3-U-2.5-N-LE3
M8x1, A-coded, to EN 61076-2-104	8078231	NEBA-M8W3-U-5-N-LE3

Connecting cables NEBA, angled, M12 connection

Electrical connection 1, connector system	Part no.	Type
M12x1, A-coded to EN 61076-2-101	8078245	NEBA-M12W5-U-2.5-N-LE3
M12x1, A-coded to EN 61076-2-101	8078246	NEBA-M12W5-U-5-N-LE3

9 One-way flow control valves VFOE – for exhaust air

Pneumatic connection 1	Part no.	Type
Push-in connector 4 mm	8068723	VFOE-LE-T-M5-Q4
Push-in connector 4 mm	8095432	VFOE-LE-T-M5-Q4-P50
Push-in connector 6 mm	8068724	VFOE-LE-T-M5-Q6

10 One-way flow control valves GRLA – for exhaust air

Pneumatic connection 1	Part no.	Type
Same size as pneumatic connection 2	175038	GRLA-M3
Push-in connector 3 mm	175041	GRLA-M3-QS-3
Push-in connector 3 mm	193137	GRLA-M5-QS-3-D
Push-in connector 4 mm	193138	GRLA-M5-QS-4-D
Push-in connector 6 mm	193139	GRLA-M5-QS-6-D

Parallel grippers DHPS



- Oval piston for high gripping forces
- High gripping forces with compact dimensions
- Gripper jaw centring options
- Wide range of adaptation options on the drives
- Adaptable position sensor for the small gripper sizes
- Integrated proximity sensors for the medium and large gripper sizes
- Suitable for external and internal gripping

Order code – Basic design

001 002 003 004
DHPS - - A -

Legend: Mandatory entry Optional entry

001	Type
DHPS	Parallel gripper

002	Size
...	6, 10, 16, 20, 25, 35

003	Position sensing
A	Via proximity switch

004	Gripping force backup
-	None

Product options

Gripping force backup

NO Opening

NC Closing

Configurable product

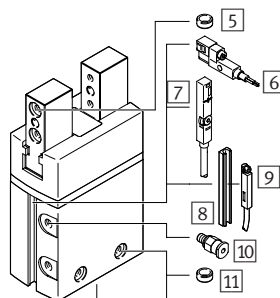
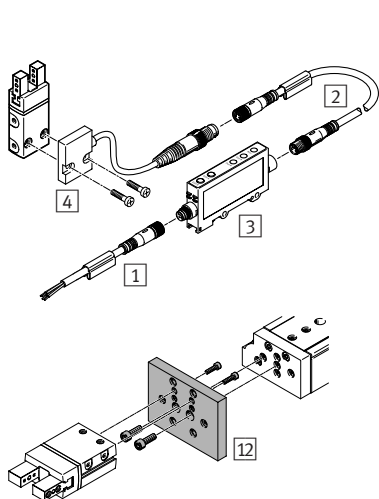
This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/dhps

Ordering – Basic design

Double-acting, 004 Without gripping force backup		
002 Size	Type	Part no.
6	DHPS-6-A	1254039
10	DHPS-10-A	1254040
16	DHPS-16-A	1254043
20	DHPS-20-A	1254046
25	DHPS-25-A	1254049
35	DHPS-35-A	1254052

Accessories



- 1 Connecting cable NEBA → 130
- 2 Connecting cable NEBA → 130
- 3 Signal converter SVE4 → 130
- 4 Position sensor SMH-S1 → 130
- 5 Centring sleeve ZBH → 130
- 6 Proximity switch SMT-8G → 130
Connecting cable NEBA → 130
- 7 Position transmitter
SMAT-8M → [dhps](#)
SDAT → [dhps](#)
- 8 Sensor rail HGP-SL, can be glued
into place → 130
- 9 Proximity switch SMT-10G
→ 130
Connecting cable NEBA → 130
- 10 Push-in fitting QS → 332
- 11 Centring sleeve ZBH → 130
- 12 Adapter kit DHAA, HMSV, HAPG,
HAPS, HMVA → [dhps](#)

Parallel grippers DHPS

Accessories

1 Connecting cable NEBA			
For size 6, connection between signal converter and controller			
Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M8x1, 4-pin			
2.5 m	Cable, open end, 4-wire	NEBA-M8G4-U-2.5-N-LE4	8078227
5 m		NEBA-M8G4-U-5-N-LE4	8078228
Connection, left: angled socket, M8x1, 4-pin			
2.5 m	Cable, open end, 4-wire	NEBA-M8W4-U-2.5-N-LE4	8078233
5 m		NEBA-M8W4-U-5-N-LE4	8078234

2 Connecting cable NEBA			
For size 6, connection between position sensor and signal converter			
Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M8x1, 4-pin			
2.5 m	Straight plug M8x1, 4-pin	NEBA-M8G4-U-2.5-N-M8G4	8078295

3 Signal converter SVE4			
For size 6, for evaluating signals for position sensor SMH-S1			
Switching output	Output connection	Type	Part no.
Input connection: socket M8x1, 4-pin			
2x PNP	Plug M8x1, 4-pin	SVE4-HS-R-HM8-2P-M8	544216
2x NPN		SVE4-HS-R-HM8-2N-M8	544219

4 Position sensor SMH-S1		
For size 6		
Description	Type	Part no.
Adaptable and integratable sensor technology for sensing the piston position	SMH-S1-HGP06	175710

5 Centring sleeve ZBH¹⁾		
For size	Type	Part no.
For centring the gripper fingers on the gripper jaws		
10	ZBH-5-B	8146543
16, 20	ZBH-7-B	8146544
25, 35	ZBH-9-B	8137184

1) Packaging unit 10 pieces. The delivery scope of the gripper for size 10 and above includes 4 centring sleeves

6 Proximity switch for T-slot, N/O contact, magneto-resistive SMT-8G			
For size	Description	Type	Part no.
PNP, inserted in the slot from the side			
10, 16, 20, 25, 35	Cable, 3-wire, lateral, 2.5 m	SMT-8G-PS-24V-E-2,5Q-OE	547859
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-8G-PS-24V-E-0,3Q-M8D	547860
NPN, inserted in the slot from the side			
10, 16, 20, 25, 35	Cable, 3-wire, lateral, 2.5 m	SMT-8G-NS-24V-E-2,5Q-OE	8065028
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-8G-NS-24V-E-0,3Q-M8D	8065027

8 Sensor rail HGP-SL, can be glued in		
For size	Type	Part no.
10	HGP-SL-10-10	535582
16	HGP-SL-10-16	535583
20	HGP-SL-10-20	535584
25	HGP-SL-10-25	535585
35	HGP-SL-10-35	535586

9 Proximity switch, N/O contact, magneto-resistive SMT-10G			
For sensor rail HGP-SL			
For size	Description	Type	Part no.
PNP, inserted in the slot from the side			
10, 16, 20, 25, 35	Cable, 3-wire, lateral, 2.5 m	SMT-10G-PS-24V-E-2,5Q-OE	547862
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-10G-PS-24V-E-0,3Q-M8D	547863
NPN, inserted in the slot from the side			
10, 16, 20, 25, 35	Cable, 3-wire, lateral, 2.5 m	SMT-10G-NS-24V-E-2,5Q-OE	8065030
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-10G-NS-24V-E-0,3Q-M8D	8065029

11 Centring sleeve ZBH¹⁾		
For size	Type	Part no.
For centring the gripper during mounting		
6, 10	ZBH-5-B	8146543
16, 20	ZBH-7-B	8146544
25	ZBH-9-B	8137184
35	ZBH-12-B	8137185

1) Packaging unit 10 pieces. The scope of delivery of the gripper includes 2 centring sleeves.

Connecting cable NEBA			
Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection, left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231

Parallel grippers DHPC

Single-acting with gripping force backup,
opening: DHPC-...-NOSingle-acting with gripping force backup,
closing: DHPC-...-NC

- Heavy-duty and precise ball guide
- High gripping forces with compact dimensions
- Max. repetition accuracy
- Wide range of mounting and connection options
- Can be used as a double-acting or single-acting gripper
- Suitable for external and internal gripping

Order code – Basic design

001	002	003	004	005	006	007	008
DHPC			A				

Legend: ☐ Mandatory entry ☐ Optional entry

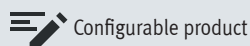
001	Type
DHPC	Parallel gripper
002	Gripper characteristic
–	Standard
L	Long stroke
003	Size
...	6, 10, 16, 20, 25, 32, 40
004	Position sensing
A	Via proximity switch
005	Gripping force backup
–	None
NO	Opening
NC	Closing

006	Pneumatic connection
B	Underneath
S	On the side
Z	Via mounting spigot
007	Dust protection
–	None
008	Type of mounting for gripper finger
–	None
1	Mounting holes on the side
2	Flat gripper fingers

Product options

Dust protection

C Protective dust cap



Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

Part no.	Type
8116728	DHPC-...-6-A-...
8116729	DHPC-...-10-A-...
8116730	DHPC-...-16-A-...
8116731	DHPC-...-20-A-...

Part no.	Type
8116732	DHPC-...-25-A-...
8116733	DHPC-...-32-A-...
8116734	DHPC-...-40-A-...

Parallel grippers DHPC

Ordering – Basic design

003 Size				006 Pneumatic connection underneath				006 Pneumatic connection on the side			
	008 Type of mounting for gripper finger			002 Gripper characteristic: Standard		002 Gripper characteristic: Long stroke		002 Gripper characteristic: Standard		002 Gripper characteristic: Long stroke	
	None	Mounting holes on the side	Flat gripper fingers	Type	Part no.	Type	Part no.	Type	Part no.	Type	Part no.
				Double-acting, 005 Without gripping force backup				Double-acting, 005 Without gripping force backup			
6	■			DHPC-6-A-B	8116738			DHPC-6-A-S	8116735		
		■		DHPC-6-A-B-1	8116739			DHPC-6-A-S-1	8116736		
			■	DHPC-6-A-B-2	8116740			DHPC-6-A-S-2	8116737		
10	■			DHPC-10-A-B	8116756	DHPC-L-10-A-B	8116774	DHPC-10-A-S	8116753	DHPC-L-10-A-S	8116771
		■		DHPC-10-A-B-1	8116757	DHPC-L-10-A-B-1	8116775	DHPC-10-A-S-1	8116754	DHPC-L-10-A-S-1	8116772
			■	DHPC-10-A-B-2	8116758	DHPC-L-10-A-B-2	8116776	DHPC-10-A-S-2	8116755	DHPC-L-10-A-S-2	8116773
16	■			DHPC-16-A-B	8116788	DHPC-L-16-A-B	8116806	DHPC-16-A-S	8116785	DHPC-L-16-A-S	8116803
		■		DHPC-16-A-B-1	8116789	DHPC-L-16-A-B-1	8116807	DHPC-16-A-S-1	8116786	DHPC-L-16-A-S-1	8116804
			■	DHPC-16-A-B-2	8116790	DHPC-L-16-A-B-2	8116808	DHPC-16-A-S-2	8116787	DHPC-L-16-A-S-2	8116805
20	■			DHPC-20-A-B	8116820	DHPC-L-20-A-B	8116838	DHPC-20-A-S	8116817	DHPC-L-20-A-S	8116835
		■		DHPC-20-A-B-1	8116821	DHPC-L-20-A-B-1	8116839	DHPC-20-A-S-1	8116818	DHPC-L-20-A-S-1	8116836
			■	DHPC-20-A-B-2	8116822	DHPC-L-20-A-B-2	8116840	DHPC-20-A-S-2	8116819	DHPC-L-20-A-S-2	8116837
25	■			DHPC-25-A-B	8116852	DHPC-L-25-A-B	8116870	DHPC-25-A-S	8116849	DHPC-L-25-A-S	8116867
		■		DHPC-25-A-B-1	8116853	DHPC-L-25-A-B-1	8116871	DHPC-25-A-S-1	8116850	DHPC-L-25-A-S-1	8116868
			■	DHPC-25-A-B-2	8116854	DHPC-L-25-A-B-2	8116872	DHPC-25-A-S-2	8116851	DHPC-L-25-A-S-2	8116869
32	■			DHPC-32-A-B	8116884			DHPC-32-A-S	8116881		
		■		DHPC-32-A-B-1	8116885			DHPC-32-A-S-1	8116882		
			■	DHPC-32-A-B-2	8116886			DHPC-32-A-S-2	8116883		
40	■			DHPC-40-A-B	8116897			DHPC-40-A-S	8116894		
		■		DHPC-40-A-B-1	8116898			DHPC-40-A-S-1	8116895		
			■	DHPC-40-A-B-2	8116899			DHPC-40-A-S-2	8116896		

Ordering – Basic design

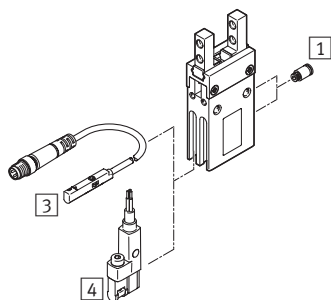
003 Size				006 Pneumatic connection on the side				006 Pneumatic connection on the side			
	008 Type of mounting for gripper finger			002 Gripper characteristic: Standard		002 Gripper characteristic: Long stroke		002 Gripper characteristic: Standard		002 Gripper characteristic: Long stroke	
	None	Mounting holes on the side	Flat gripper fingers	Type	Part no.	Type	Part no.	Type	Part no.	Type	Part no.
				Single-acting, with 005 Gripping force backup, opening				Single-acting, with 005 Gripping force backup, closing			
6	■			DHPC-6-A-NO-S	8116741			DHPC-6-A-NC-S	8116747		
		■		DHPC-6-A-NO-S-1	8116742			DHPC-6-A-NC-S-1	8116748		
			■	DHPC-6-A-NO-S-2	8116743			DHPC-6-A-NC-S-2	8116749		
10	■			DHPC-10-A-NO-S	8116759	DHPC-L-10-A-NO-S	8116777	DHPC-10-A-NC-S	8116765	DHPC-L-10-A-NC-S	8116780
		■		DHPC-10-A-NO-S-1	8116760	DHPC-L-10-A-NO-S-1	8116778	DHPC-10-A-NC-S-1	8116766	DHPC-L-10-A-NC-S-1	8116781
			■	DHPC-10-A-NO-S-2	8116761	DHPC-L-10-A-NO-S-2	8116779	DHPC-10-A-NC-S-2	8116767	DHPC-L-10-A-NC-S-2	8116782
16	■			DHPC-16-A-NO-S	8116791	DHPC-L-16-A-NO-S	8116809	DHPC-16-A-NC-S	8116797	DHPC-L-16-A-NC-S	8116812
		■		DHPC-16-A-NO-S-1	8116792	DHPC-L-16-A-NO-S-1	8116810	DHPC-16-A-NC-S-1	8116798	DHPC-L-16-A-NC-S-1	8116813
			■	DHPC-16-A-NO-S-2	8116793	DHPC-L-16-A-NO-S-2	8116811	DHPC-16-A-NC-S-2	8116799	DHPC-L-16-A-NC-S-2	8116814
20	■			DHPC-20-A-NO-S	8116823	DHPC-L-20-A-NO-S	8116841	DHPC-20-A-NC-S	8116829	DHPC-L-20-A-NC-S	8116844
		■		DHPC-20-A-NO-S-1	8116824	DHPC-L-20-A-NO-S-1	8116842	DHPC-20-A-NC-S-1	8116830	DHPC-L-20-A-NC-S-1	8116845
			■	DHPC-20-A-NO-S-2	8116825	DHPC-L-20-A-NO-S-2	8116843	DHPC-20-A-NC-S-2	8116831	DHPC-L-20-A-NC-S-2	8116846
25	■			DHPC-25-A-NO-S	8116855	DHPC-L-25-A-NO-S	8116873	DHPC-25-A-NC-S	8116861	DHPC-L-25-A-NC-S	8116876
		■		DHPC-25-A-NO-S-1	8116856	DHPC-L-25-A-NO-S-1	8116874	DHPC-25-A-NC-S-1	8116862	DHPC-L-25-A-NC-S-1	8116877
			■	DHPC-25-A-NO-S-2	8116857	DHPC-L-25-A-NO-S-2	8116875	DHPC-25-A-NC-S-2	8116863	DHPC-L-25-A-NC-S-2	8116878
32	■			DHPC-32-A-NO-S	8116887			DHPC-32-A-NC-S	8116890		
		■		DHPC-32-A-NO-S-1	8116888			DHPC-32-A-NC-S-1	8116891		
			■	DHPC-32-A-NO-S-2	8116889			DHPC-32-A-NC-S-2	8116892		
40	■			DHPC-40-A-NO-S	8116900			DHPC-40-A-NC-S	8116903		
		■		DHPC-40-A-NO-S-1	8116901			DHPC-40-A-NC-S-1	8116904		
			■	DHPC-40-A-NO-S-2	8116902			DHPC-40-A-NC-S-2	8116905		

003 Size				006 Pneumatic connection via mounting spigot				006 Pneumatic connection via mounting spigot			
	008 Type of mounting for gripper finger			002 Gripper characteristic: Standard				002 Gripper characteristic: Standard			
	None	Mounting holes on the side	Flat gripper fingers	Type	Part no.			Type	Part no.		
				Single-acting, with 005 Gripping force backup, opening				Single-acting, with 005 Gripping force backup, closing			
6	■			DHPC-6-A-NO-Z	8116744			DHPC-6-A-NC-Z	8116750		
		■		DHPC-6-A-NO-Z-1	8116745			DHPC-6-A-NC-Z-1	8116751		
			■	DHPC-6-A-NO-Z-2	8116746			DHPC-6-A-NC-Z-2	8116752		
10	■			DHPC-10-A-NO-Z	8116762			DHPC-10-A-NC-Z	8116768		
		■		DHPC-10-A-NO-Z-1	8116763			DHPC-10-A-NC-Z-1	8116769		
			■	DHPC-10-A-NO-Z-2	8116764			DHPC-10-A-NC-Z-2	8116770		
16	■			DHPC-16-A-NO-Z	8116794			DHPC-16-A-NC-Z	8116800		
		■		DHPC-16-A-NO-Z-1	8116795			DHPC-16-A-NC-Z-1	8116801		
			■	DHPC-16-A-NO-Z-2	8116796			DHPC-16-A-NC-Z-2	8116802		
20	■			DHPC-20-A-NO-Z	8116826			DHPC-20-A-NC-Z	8116832		
		■		DHPC-20-A-NO-Z-1	8116827			DHPC-20-A-NC-Z-1	8116833		
			■	DHPC-20-A-NO-Z-2	8116828			DHPC-20-A-NC-Z-2	8116834		
25	■			DHPC-25-A-NO-Z	8116858			DHPC-25-A-NC-Z	8116864		
		■		DHPC-25-A-NO-Z-1	8116859			DHPC-25-A-NC-Z-1	8116865		
			■	DHPC-25-A-NO-Z-2	8116860			DHPC-25-A-NC-Z-2	8116866		

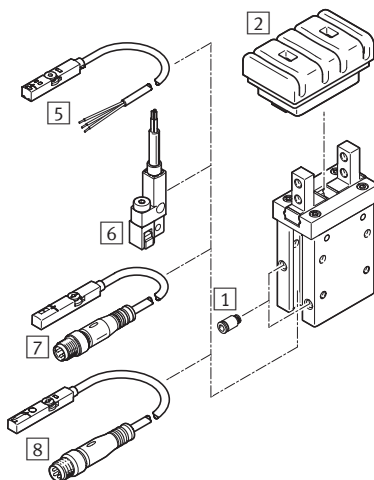
Parallel grippers DHPC

Accessories

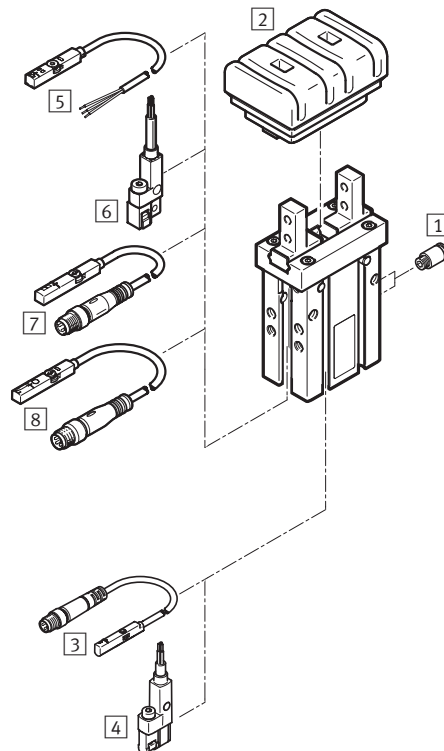
Size 6



Size 10



Size 16 ... 40



- 1 Push-in fitting QS → 332
- 2 Protective dust cap DHAS-DP → dhpc
- 3 Proximity switch SMT-10M → 134
- 4 Proximity switch SMT-10G → 134
- 5 Proximity switch SMT-8M → 134
- 6 Proximity switch SMT-8G → 134
- Connecting cable NEBA → 130
- 7 Position transmitter SMAT-8M → dhpc
- 8 Position transmitter SDAS-MHS → dhpc

3 Proximity switch, N/O contact, magneto-resistive SMT-10M			
For size	Description	Type	Part no.
PNP, for round slot, inserted in the slot from above			
6, 16, 20, 25, 32, 40	Cable, 3-wire, lengthwise, 2.5 m	SMT-10M-PS-24V-E-2,5-L-OE	551373
	Plug M8x1, 3-pin, lengthwise, 0.3 m	SMT-10M-PS-24V-E-0,3-L-M8D	551375
	Cable, 3-wire, lateral, 2.5 m	SMT-10M-PS-24V-E-2,5-Q-OE	551374
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-10M-PS-24V-E-0,3-Q-M8D	551376

4 Proximity switch, N/O contact, magneto-resistive SMT-10G For sensor rail HGP-SL			
For size	Description	Type	Part no.
PNP, for round slot, inserted in the slot from the side			
6, 16, 20, 25, 32, 40	Cable, 3-wire, lateral, 2.5 m	SMT-10G-PS-24V-E-2,5Q-OE	547862
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-10G-PS-24V-E-0,3Q-M8D	547863
NPN, for round slot, inserted in the slot from the side			
6, 16, 20, 25, 32, 40	Cable, 3-wire, lateral, 2.5 m	SMT-10G-NS-24V-E-2,5Q-OE	8065030
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-10G-NS-24V-E-0,3Q-M8D	8065029

5 Proximity switch, N/O contact, magneto-resistive SMT-8M			
For size	Description	Type	Part no.
PNP, for T-slot, inserted in the slot from above, short design			
10, 16, 20, 25, 32, 40	Cable, 3-wire, 2.5 m	SMT-8M-A-PS-24V-E-2,5-OE	574335
	Plug M8x1, 3-pin, 0.3 m	SMT-8M-A-PS-24V-E-0,3-M8D	574334
NPN, for T-slot, inserted in the slot from above, short design			
10, 16, 20, 25, 32, 40	Cable, 3-wire, 2.5 m	SMT-8M-A-NS-24V-E-2,5-OE	574338
	Plug M8x1, 3-pin, 0.3 m	SMT-8M-A-NS-24V-E-0,3-M8D	574339

6 Proximity switch, N/O contact, magneto-resistive SMT-8G			
For size	Description	Type	Part no.
PNP, for T-slot, inserted in the slot from the side			
10, 16, 20, 25, 32, 40	Cable, 3-wire, lateral, 2.5 m	SMT-8G-PS-24V-E-2,5Q-OE	547859
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-8G-PS-24V-E-0,3Q-M8D	547860
NPN, for T-slot, inserted in the slot from the side			
10, 16, 20, 25, 32, 40	Cable, 3-wire, lateral, 2.5 m	SMT-8G-NS-24V-E-2,5Q-OE	8065028
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-8G-NS-24V-E-0,3Q-M8D	8065027

Connecting cable NEBA			
Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection, left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231

Parallel grippers HGPT-B, heavy-duty



- Sturdy and precise kinematics for very high torque resistance and long service life
- Virtually backlash-free plain-bearing guide
- Reduced weight: systematic use of high-performance and lightweight materials
- 4 sensor slots: proximity switches no longer project past the housing at the bottom. Up to 4 positions can be sensed using the proximity sensors
- Suitable for external and internal gripping

Order code – Basic design

001	002	003	004	005	006
HGPT	-	A	B	-	-

Legend: Mandatory entry Optional entry

001	Type
HGPT	Parallel gripper, heavy-duty
002	Size
25	25
35	35
003	Position sensing
A	Via proximity switch

004	Generation
B	Series B
005	Gripping force
-	Standard
006	Gripping force backup
-	None

Product options

Size
16, 20, 40, 50, 63, 80

Gripping force
F High

Gripping force backup
G1 Opening
G2 Closing



Configurable product

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

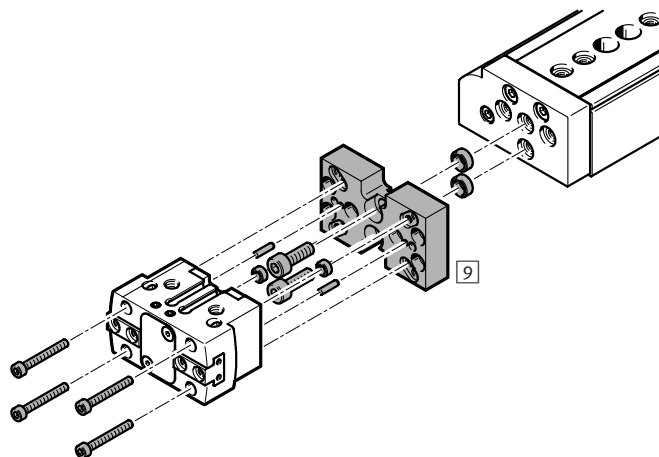
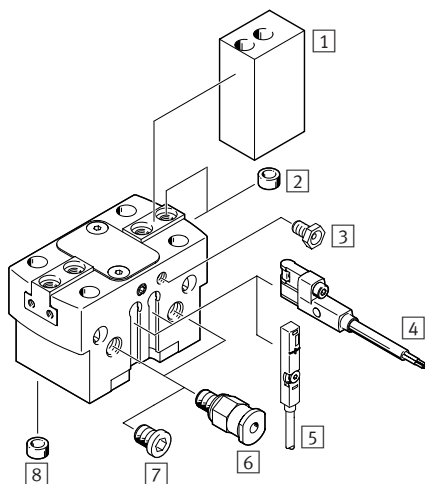
→ www.festo.com/catalogue/hgpt

Ordering – Basic design

Double-acting, 006 Without gripping force backup		
002 Size	Type	Part no.
25	HGPT-25-A-B	560204
35	HGPT-35-A-B	560210

Parallel grippers HGPT-B, heavy-duty

Accessories



- 1) Gripper jaw blank BUB-HGPT → [hgpt](#)
- 2) Centring sleeve ZBH → 136
- 3) Lubrication nipple, included in the scope of delivery of the gripper
- 4) Proximity switch
SMT-8G → 136
SMT-10G → 136
Connecting cable NEBA → 136
- 5) Position transmitter
SMAT-8M → [hgpt](#)
SDAT → [hgpt](#)
- 6) Push-in fitting QS → 332
- 7) Blanking plug B → 136
- 8) Centring sleeve ZBH → 136
- 9) Adapter kit DHAA, HAPG → [hgpt](#)

2) Centring sleeve ZBH ¹⁾		
For size	Type	Part no.
For centring the gripper jaw blanks/gripper fingers on the gripper jaws		
25	ZBH-7-B	8146544
35	ZBH-9-B	8137184
For centring the gripper fingers laterally on the gripper jaws		
25	ZBH-5-B	8146543
35	ZBH-7-B	8146544

1) Packaging unit 10 pieces. Centring sleeves included in the scope of delivery of the gripper.

4) Proximity switch, N/O contact, magneto-resistive SMT-8G			
For size	Description	Type	Part no.
PNP, for T-slot, inserted in the slot from the side			
25, 35	Cable, 3-wire, lateral, 2.5 m	SMT-8G-PS-24V-E-2,5Q-OE	547859
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-8G-PS-24V-E-0,3Q-M8D	547860
NPN, for T-slot, inserted in the slot from the side			
25, 35	Cable, 3-wire, lateral, 2.5 m	SMT-8G-NS-24V-E-2,5Q-OE	8065028
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-8G-NS-24V-E-0,3Q-M8D	8065027

4) Proximity switch, N/O contact, magneto-resistive SMT-10G			
For size	Description	Type	Part no.
PNP, for round slot, inserted in the slot from the side			
25, 35	Cable, 3-wire, lateral, 2.5 m	SMT-10G-PS-24V-E-2,5Q-OE	547862
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-10G-PS-24V-E-0,3Q-M8D	547863
NPN, for round slot, inserted in the slot from the side			
25, 35	Cable, 3-wire, lateral, 2.5 m	SMT-10G-NS-24V-E-2,5Q-OE	8065030
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-10G-NS-24V-E-0,3Q-M8D	8065029

Connecting cable NEBA			
Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection, left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231

7) Blanking plug B ¹⁾		
For size	Type	Part no.
For sealing the supply ports		
25, 35	B-M5-B	174308

1) Packaging unit 10 pieces

8) Centring sleeve ZBH ¹⁾		
For size	Type	Part no.
For centring the gripper during mounting		
25, 35	ZBH-7-B	8146544

1) Packaging unit 10 pieces

Parallel grippers HGPL-B, heavy-duty with long stroke



- High torque resistance due to guided gripper jaw
- Compact and sturdy design
- Suitable for external and internal gripping

Order code – Basic design

001	002	003	004	005
HGPL	14		A	B

Legend: Mandatory entry

001	Type
HGPL	Parallel gripper, heavy-duty with long stroke
002	Size
14	14
003	Stroke per gripper jaw [mm]
20	20
40	40

004	Position sensing
A	Via proximity switch
005	Generation
B	Series B

Product options

Size
25, 40, 63

Stroke per gripper jaw
60, 80, 100, 150 mm



Configurable product

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

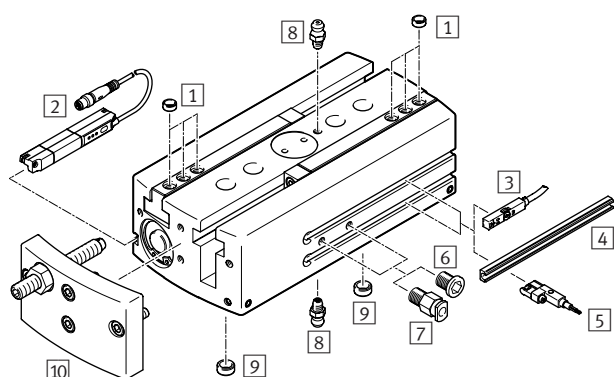
→ www.festo.com/catalogue/hgpl

Ordering – Basic design

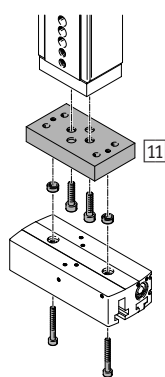
Double-acting			
002 Size	003 Stroke per gripper jaw [mm]	Type	Part no.
14	20	HGPL-14-20-A-B	3361479
	40	HGPL-14-40-A-B	3361480

Parallel grippers HGPL-B, heavy-duty with long stroke

Accessories



- 1 Centring sleeve ZBH → 138
- 2 Position transmitter SMAT-8M, SDAT → [hgpl](#)
- 3 Proximity switch SME-8M → [hgpl](#) SMT-8M → 138
- 4 Sensor rail DASP → 138
- 5 Proximity switch SME-10M → [hgpl](#) SMT-10M → 138 Connecting cable NEBA → 138



- 6 Blanking plug B → 138
- 7 Push-in fitting QS → 332
- 8 Lubrication nipple, 1 included in the scope of delivery
- 9 Centring sleeve ZBH → 138
- 10 Stroke reduction HGPL-HR → [hgpl](#)
- 11 Adapter kit DHAA, HAPG → [hgpl](#) Gripper jaw blank BUB-HGPL → [hgpl](#)

1 Centring sleeve ZBH ¹⁾		
For size	Type	Part no.
For centring the gripper jaw blanks/gripper fingers on the gripper jaws		
14	ZBH-5-B	8146543

1) Packaging unit 10 pieces. 4 included in the scope of delivery.

3 Proximity switch, N/O contact, magneto-resistive SMT-8M			
For size	Description	Type	Part no.
PNP, for T-slot, inserted in the slot from above, short design			
14	Cable, 3-wire, 2.5 m	SMT-8M-A-PS-24V-E-2,5-OE	574335
	Plug M8x1, 3-pin, 0.3 m	SMT-8M-A-PS-24V-E-0,3-M8D	574334
NPN, for T-slot, inserted in the slot from above, short design			
14	Cable, 3-wire, 2.5 m	SMT-8M-A-NS-24V-E-2,5-OE	574338
	Plug M8x1, 3-pin, 0.3 m	SMT-8M-A-NS-24V-E-0,3-M8D	574339

4 Sensor rail DASP ¹⁾		
Description	Type	Part no.
For using the proximity switch SME/SMT-10, for gluing into the slot		
For a gripper stroke of max. 60 mm	DASP-B6-60-C-SR	3528767
For a gripper stroke of max. 80 mm	DASP-B6-80-C-SR	3528768

1) Packaging unit 2 pieces

5 Proximity switch, N/O contact, magneto-resistive SMT-10M			
For size	Description	Type	Part no.
PNP, for round slot, inserted in the slot from above			
14	Cable, 3-wire, lengthwise, 2.5 m	SMT-10M-PS-24V-E-2,5-L-OE	551373
	Plug M8x1, 3-pin, lengthwise, 0.3 m	SMT-10M-PS-24V-E-0,3-L-M8D	551375
	Cable, 3-wire, lateral, 2.5 m	SMT-10M-PS-24V-E-2,5-Q-OE	551374
	Plug M8x1, 3-pin, lateral, 0.3 m	SMT-10M-PS-24V-E-0,3-Q-M8D	551376

Connecting cable NEBA			
Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224
Connection, left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231

6 Blanking plug B ¹⁾		
For size	Type	Part no.
For sealing the supply ports		
14	B-M5-B	174308

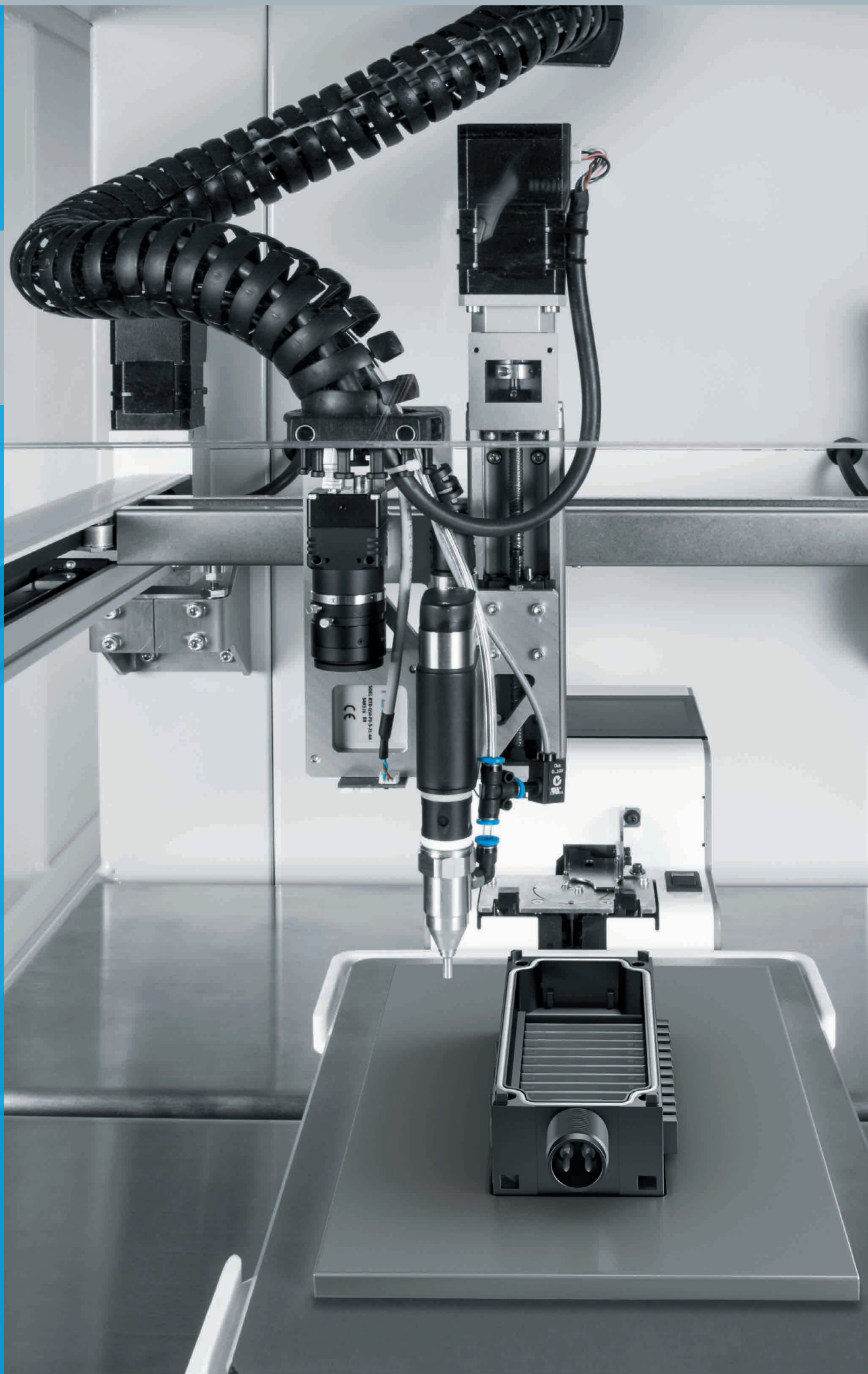
1) Packaging unit 10 pieces

9 Centring sleeve ZBH ¹⁾		
For size	Type	Part no.
For centring the gripper during mounting		
14	ZBH-9-B	8137184

1) Packaging unit 10 pieces. 2 included in the scope of delivery.

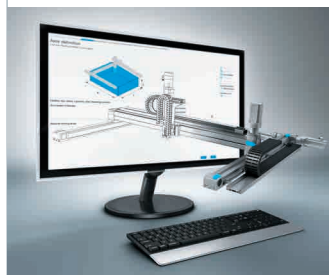
05

Handling systems



Highlights

Contents



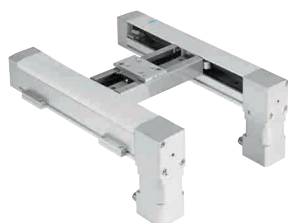
Handling Guide Online

HGO

- + Find your handling solution in a few steps
- + Configuration and ordering system for standard handling systems of the YXC... series
- + Economical and reliable

→ 142

Product overview _____ 142



Planar surface gantries

EXCM

Compact gantry

- + Perfectly matched drive and controller packages

→ 143



Planar surface gantries

EXCH

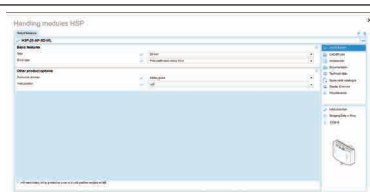
- + Maximum coverage of the working area
- + Low moving mass
- + High payload

→ 143

Product overview

Software-Tools

Configurator



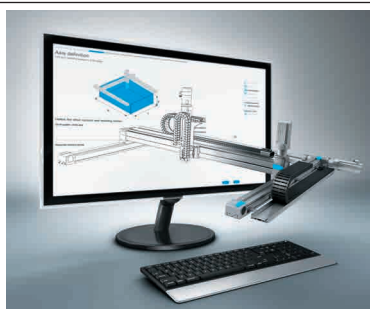
Design a product with numerous features reliably and quickly with the help of the configurator.

Select all the required product features step-by-step. The use of logic checks ensures that only correct configurations are available for selection.

You will find the configurator for the required product

- at www.festo.com/catalogue/handling
- Select the product you want
- Click on the blue "Configure product" button

Engineering Tool: Handling Guide Online (HGO)



Planning and designing complex handling systems, e.g. for pick & place applications, generally takes a lot of time.

With the innovative Handling Guide Online (HGO) you can design a tailor-made system in just a few steps. Simply enter your application data such as the load mass, travel and cycle time.

Benefits:

- 1D- ... 3D kinematics
- Tailor-made system solution within just a few minutes
- CAD model available immediately
- Fully automatic selection of all relevant components
- Fully automatic processing including ordering function
- Fully assembled or unassembled systems

This tool can be found at

→ www.festo.com/x/handling-guide-online

Cartesian robots >

Planar surface gantries

	 Planar surface gantries, compact YXMF	 Planar surface gantries, highly dynamic YXMF	 2D planar surface gantries YXCF
Description	• Parallel kinematic drive concept with minimal space requirements • Ready-to-install complete system including energy chain, matching motors and dual motor controller • For two-dimensional movements in horizontal working areas • Flexible working area through scalable strokes in the X and Y direction • Based on the planar surface gantry EXCM • For extremely small working areas • For desktop applications in small parts assembly, electronics manufacturing and laboratory processes	• Parallel kinematic drive concept for maximum dynamic response • Ready-to-install complete system including energy chain and matching motor and motor controller package • For two-dimensional movements in horizontal working areas • Flexible working area through scalable strokes in the X and Y direction • Based on the planar surface gantry EXCH • Maximum dynamic response and efficient operation up to max. 100 picks/min • For rapid processes with high cycle rates like pick & place, feeding parts, stacking, packaging tasks • Cost-saving alternative to two Scara robots due to large working area and high dynamic response	• Ready-to-install complete system including energy chain for cables or tubing as well as suitable motor and servo drive package • For two-dimensional movements in horizontal working areas • Serial kinematic drive concept based on toothed belt and spindle axes • Flexible working area due to scalable strokes in the X and Y directions • Particularly suitable for very long strokes and heavy payloads
→ Page/online	yxmf	yxmf	yxcf

Product overview

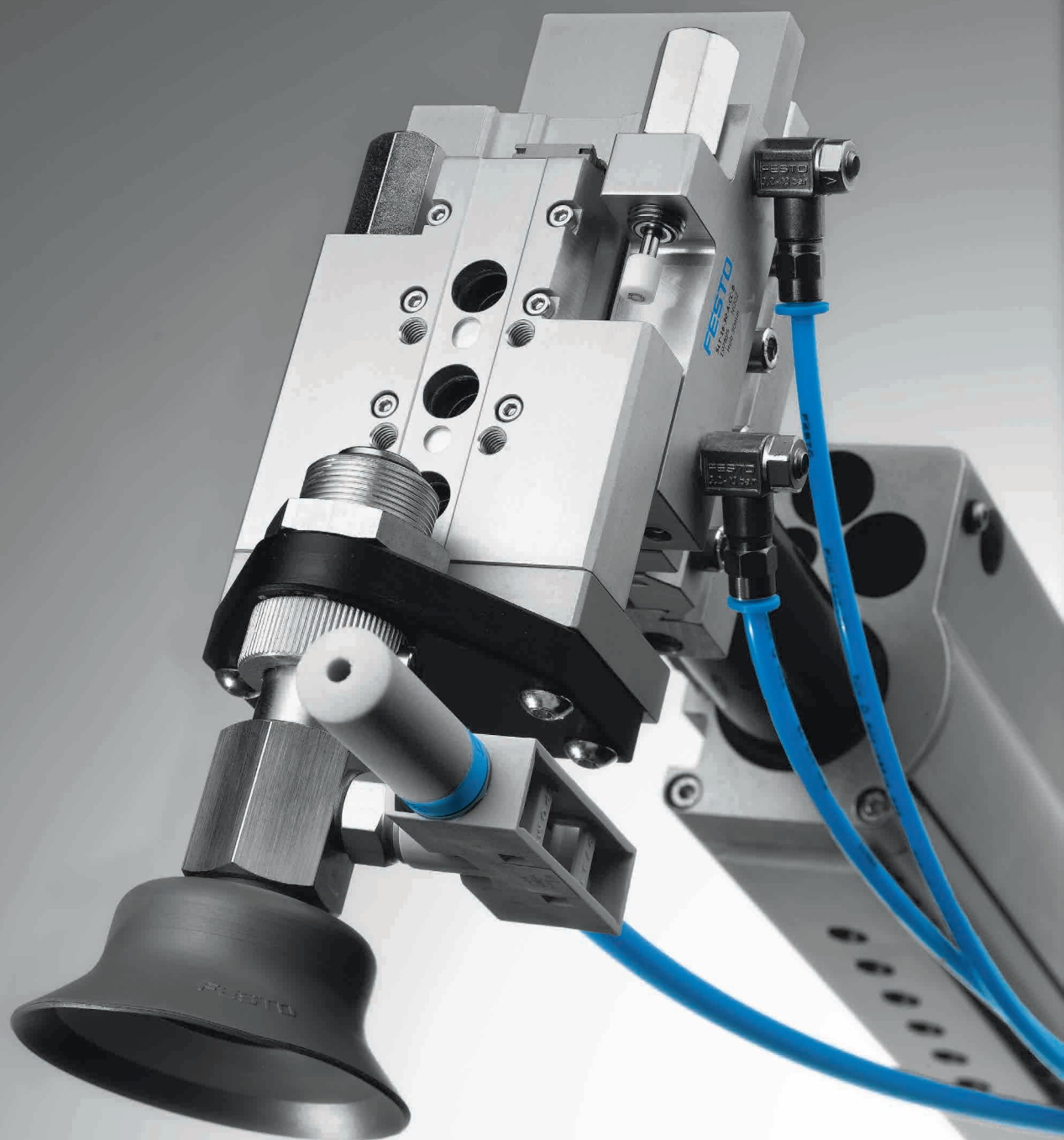
Cartesian robots >

Planar surface gantries

	 2D planar surface gantries EXCM	 2D planar surface gantries EXCH
Description	• Axis mechanism based on parallel kinematic operational principle • Excellent functionality in small installation spaces • Low moving dead weight and flat system design • Ideal in combination with stepper motors • With recirculating ball bearing guide • Sustainable operation due to weight-optimised axes	• Axis mechanism based on parallel kinematic operational principle • Optimal dynamic response when compared with other Cartesian gantry systems • Drive concept with low moving dead weight and large workspace • High accelerations in both axis directions in combination with servo motors • Sustainable operation due to weight-optimised axes • The motor can be flexibly mounted on 2 sides
→ Page/online	excm	exch

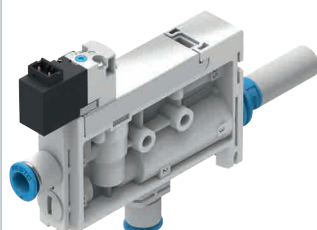
06

Vacuum technology



Highlights

Contents



Vacuum generators

OVEL

- + Ideal for fast small parts handling
- + Lightweight design for installing in the gripping area

→ 149



Vacuum generators

VN

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

→ 151

Product overview	146
Vacuum generators OVEL	149
Vacuum generators VN, pneumatic	151
Suction cups VAS/VASB	153
Suction grippers ESG – Overview	155

Product overview

Software-Tools

Vacuum selection



Which suction cup for which surface and which movement? Don't experiment – calculate!

The vacuum selection program helps you select the right suction cups, tubing and venturi nozzles. It also calculates the distribution of the forces acting on the individual suction cups, as well as the evacuation time. This software tool even enables a distinction to be made between linear and rotary movements.

This tool can be found at

→ www.festo.com/x/vacuum-sizing

Vacuum generators



**Vacuum generators
OVEL**



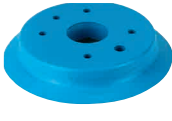
**Vacuum generators
OVEM**



**Vacuum generators, pneumatic
VN**

	Vacuum generators OVEL	Vacuum generators OVEM	Vacuum generators, pneumatic VN
Nominal width of Laval nozzle	0.45 ... 0.95 mm	0.45 ... 3 mm	0.45 ... 3 mm
Ejector characteristic	High suction rate, high vacuum, standard	High suction rate, high vacuum, standard	High suction rate, high vacuum, standard, inline, high vacuum, high suction rate
Integrated function	Electrical ejector pulse, flow control valve, pressure sensor, pressure transmitter, electric on/off valve, filter, open silencer, closed silencer	Electric ejector pulse valve, flow control valve, electric on/off valve, filter, electric air saving function, check valve, open silencer, vacuum switch	Pneumatic ejector pulse valve, open silencer, vacuum switch
Max. vacuum	89 ... 92%	93%	86 ... 93%
Max. suction rate with respect to atmosphere	4 ... 21 l/min	6 ... 348 l/min	6.2 ... 186 l/min
Description	• Low-cost, compact vacuum generator • Light weight • Various performance levels and vacuum types • Short switching times thanks to integrated solenoid valves • Quick, precise and safe placement of the workpiece via the ejector pulse • Easy assembly • Minimal installation costs • Sustainable operation thanks to reduced pressure level • RA1 version with robot connection, enables fast integration in lightweight robot environments	• Compact design • Monitoring with vacuum sensor with IO-Link® • Central electrical connection via an M12 plug • Maintenance-free operation and reduced noise level through an integrated, open silencer • Integrated filter with inspection window • Optionally with air-saving function and LCD display • Short switching times thanks to integrated solenoid valves • Adjustable ejector pulse: precise and safe depositing of the workpiece • Sustainable operation with air-saving circuit	• Can be used directly in the work space • Available as straight type (in-line: vacuum port in line with the supply port) or T-shape (standard: vacuum port at 90° to the supply port) • Compact and cost-effective • Maintenance-free operation and reduced noise level through an integrated, open silencer • Variants recommended for production systems for manufacturing lithium-ion batteries
→ Page/online	149	ovem	151

Suction cups with connector

				
	Suction cups with connector ESS	Suction cups without connector ESV	Suction cups with connector VAS, VASB	Suction grippers ESG
Suction cup size	4x20 mm, 6x10 mm, 6x20 mm, 8x20 mm, 8x30 mm, 4x10 mm, 10x30 mm, 15x45 mm, 20x60 mm, 25x75 mm, 30x90 mm			4x20 mm, 6x10 mm, 6x20 mm, 8x20 mm, 8x30 mm, 4x10 mm, 10x30 mm, 15x45 mm, 20x60 mm, 25x75 mm, 30x90 mm
Suction cup diameter	2 ... 200 mm	20 ... 200 mm	2 ... 125 mm	2 ... 200 mm
Holding force at nominal operating pressure	0.1 ... 1610 N	8.2 ... 1610 N	0.14 ... 700 N	
Design	Round, bell-shaped	Bell-shaped or round bellows		Vacuum port on top, vacuum port on the side, with height compensator, with long height compensator
Information on suction cup materials	BR, FPM, NBR, PUR, VMQ (silicone), Vulkollan®	BR, FPM, NBR, PUR, VMQ (silicone), Vulkollan®	NBR, PUR, TPE-U (PU), VMQ (silicone)	BR, FPM, NBR, PUR, VMQ (silicone), Vulkollan®
Description	- Suction cup consisting of the suction cup itself plus the support plate with mounting - Suction cup volume: 0.002 ... 245 cm³ - Min. workpiece radius: 10 ... 680 mm - Mounting for suction cup holder: female thread, male thread, push-in connector - Suction cup with mounting thread	- Wearing part for suction cup ESS - Easily interchangeable - Suction cup volume: 0.318 ... 245 cm³ - Min. workpiece radius: 10 ... 680 mm	- Sturdy and reliable - Suction cup with fixed connecting thread 11 suction cup diameters - Round suction cup shape, bellows - Vacuum port on top, on the side - Screw-in thread	- Modular system of suction cup holders and suction cups with over 2000 variants - Optionally with angle compensator, height compensator, filter 15 suction cup diameters 6 suction cup shapes - Suction cup volume: 0.002 ... 245 cm³ - Min. workpiece radius: 10 ... 680 mm - Vacuum port: push-in connector or barbed fitting for plastic tubing, threaded connection
→ Page/online	ess	esv	153	155

Classic >

Vacuum generators

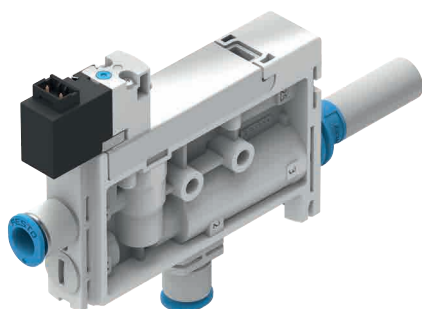
		
	Vacuum generator VAD	Vacuum generator VAK
Size	M5, G1/8, G1/4, G3/8	G1/4
Nominal width of Laval nozzle	0.5 mm, 0.8 mm, 1 mm, 1.5 mm	1 mm
Ejector characteristics	High vacuum	High vacuum
Operating pressure	1.5 ... 10 bar	1.5 ... 10 bar
Type of mounting	Via through-hole	Via through-hole
Pneumatic connection	M5, G1/8, G1/4, G3/8	G1/4
Description	- Without ejector pulse - Workpieces can be picked up in any position - Sturdy and resistant to external influences - Easy to install - No moving parts, maintenance-free - Connecting threads and mounting holes available	- With ejector pulse - Quick and reliable setting down of parts via an ejector pulse from a pre-filled reservoir - Robust vacuum generator for a broad field of applications - Optional silencer
online: →	vad	vak

Product overview

Accessories for vacuum >

Vacuum-specific accessories

	 Silencers UOM, UOMS
Pneumatic connection	G1/4, G3/8
Type of mounting	Snapping in, Screw-in
Description	• Special open minimal resistance silencer • For vacuum generators • Facilitates trouble-free operation of the vacuum generator • Silencer extension for extending the silencer for further noise reduction • Operating medium compressed air
online: →	uom



- Various performance levels and vacuum types
- Short switching times thanks to integrated solenoid valves
- Quick, precise and safe placing of the workpiece via ejector pulse
- Compact and lightweight size for installing in the gripping area
- Ideal for fast small parts handling
- Maintenance-free open silencer

Order code – Basic design

001	002	003	004	005	006	007	008	009	010	011	012	013	014
OVEL		H		PQ		UA		C	A			H3	

001	Type	008	Ejector pulse connection
OVEL	Vacuum generator, electropneumatic	–	Via supply air port
002	Vacuum generation	009	Vacuum valve
5	Laval nozzle 0.45 mm	C	Normally closed
7	Laval nozzle 0.7 mm	010	Additional function
10	Laval nozzle 0.95 mm	A	Electrical ejector pulse
003	Vacuum type	011	Vacuum sensor pressure measuring range
H	High vacuum	B2	–1 ... 1 bar
004	Size	V1	0 ... –1 bar
10	Grid dimension 10 mm	012	Vacuum sensor output signal
15	Grid dimension 15 mm	B	1 ... 5 V
005	Supply air port	V	0 ... 10 V
PQ	Push-in connectors, metric	PNLK	PNP or NPN or IO-Link
006	Vacuum port	013	Electrical connection
VQ4	Push-in connector 4 mm	H3	Connection pattern H, vertical plug
VQ6	Push-in connector 6 mm	014	Robot connection
007	Exhaust port	–	Without
UA	Open silencer		

Legend: Mandatory entry Optional entry

Product options

Vacuum type	Vacuum port	Ejector pulse connection	Vacuum sensor pressure measuring range
L High suction rate	VM7 M7	Z Additional connection (like pneumatic port for supply air)	– Without vacuum sensor
Supply air port	VQ3 Push-in connector 3 mm	Additional function	Vacuum sensor output signal
P For pneumatic links via manifold rail	Exhaust port	– Without ejector pulse	– Without vacuum sensor
	RQ Push-in connectors, metric		Robot connection
	UC Closed silencer		RA1 Universal robots

Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

Part no. Type
8049045 OVEL

Vacuum generators >

Vacuum generators OVEL

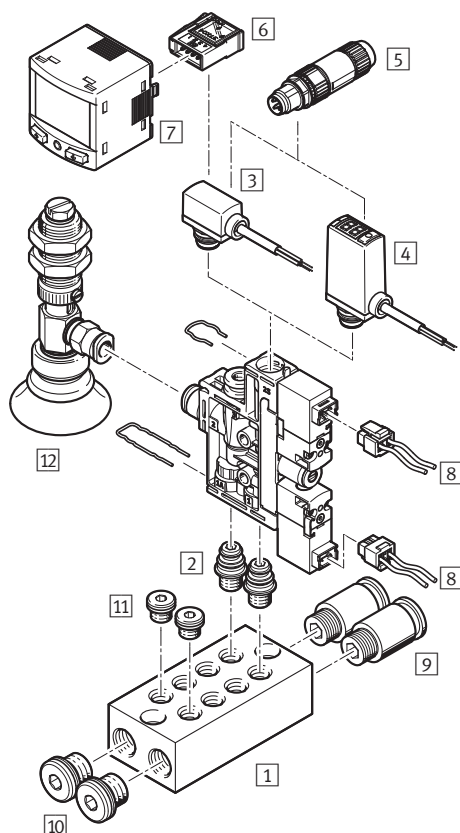
Ordering – Basic design

005/006 With push-in connector at supply air port and at vacuum port, 007 Open silencer at exhaust port,

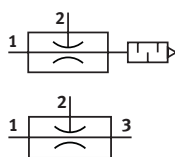
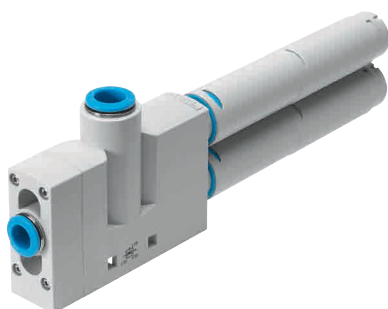
010 With ejector pulse, 011 With vacuum sensor and 013 Connection pattern H, vertical plug

004 Size	006 Vacuum port	011 Vacuum sensor pressure measuring range	012 Vacuum sensor output signal	Type	Part no.
002 Nominal width of Laval nozzle 0.45 mm					
Grid dimension 10 mm	Push-in connector 4 mm	0 ... -1 bar	1 ... 5 V	OVEL-5-H-10-PQ-VQ4-UA-C-A-V1B-H3	8049046
		0 ... -1 bar	0 ... 10 V	OVEL-5-H-10-PQ-VQ4-UA-C-A-V1V-H3	8049049
		0 ... -1 bar	PNP or NPN or IO-Link	OVEL-5-H-10-PQ-VQ4-UA-C-A-V1PNLK-H3	8049052
		-1 ... 1 bar	0 ... 10 V	OVEL-5-H-10-PQ-VQ4-UA-C-A-B2V-H3	8069567
		-1 ... 1 bar	PNP or NPN or IO-Link	OVEL-5-H-10-PQ-VQ4-UA-C-A-B2PNLK-H3	8069570
002 Nominal width of Laval nozzle 0.7 mm					
Grid dimension 15 mm	Push-in connector 4 mm	0 ... -1 bar	1 ... 5 V	OVEL-7-H-15-PQ-VQ4-UA-C-A-V1B-H3	8049047
		0 ... -1 bar	0 ... 10 V	OVEL-7-H-15-PQ-VQ4-UA-C-A-V1V-H3	8049050
		0 ... -1 bar	PNP or NPN or IO-Link	OVEL-7-H-15-PQ-VQ4-UA-C-A-V1PNLK-H3	8049053
		-1 ... 1 bar	0 ... 10 V	OVEL-7-H-15-PQ-VQ4-UA-C-A-B2V-H3	8069568
		-1 ... 1 bar	PNP or NPN or IO-Link	OVEL-7-H-15-PQ-VQ4-UA-C-A-B2PNLK-H3	8069571
002 Nominal width of Laval nozzle 0.95 mm					
Grid dimension 15 mm	Push-in connector 6 mm	0 ... -1 bar	1 ... 5 V	OVEL-10-H-15-PQ-VQ6-UA-C-A-V1B-H3	8049048
		0 ... -1 bar	0 ... 10 V	OVEL-10-H-15-PQ-VQ6-UA-C-A-V1V-H3	8049051
		0 ... -1 bar	PNP or NPN or IO-Link	OVEL-10-H-15-PQ-VQ6-UA-C-A-V1PNLK-H3	8049054
		-1 ... 1 bar	0 ... 10 V	OVEL-10-H-15-PQ-VQ6-UA-C-A-B2V-H3	8069569
		-1 ... 1 bar	PNP or NPN or IO-Link	OVEL-10-H-15-PQ-VQ6-UA-C-A-B2PNLK-H3	8069572

Accessories



- 1 Common supply manifold OABM-P
→ [ovel](#)
- 2 Mounting kit OABM-MK → [ovel](#)
- 3 Pressure transmitter SPTE → [ovel](#)
- 4 Pressure sensor SPAE → 264
- 5 Plug NECU-S-M8G3/M12G3
→ [ovel](#)
- 6 Plug NECU-S-ECG4 → [ovel](#)
- 7 Signal converter SCDN → [ovel](#)
- 8 Plug socket with cable NEBV
→ [ovel](#)
- 9 Push-in fitting QS → 332
- 10 Blanking plug B-1/8 → 344
- 11 Blanking plug B-M7 → 344
- 12 Suction gripper ESG → 155
Suction cup holder ESH → 155
Suction cup ESS → 155
Vacuum filter OAFF → [ovel](#)



- High vacuum levels of up to 93%
- Easy connection of holders and suction cups
- Lightweight and compact design thanks to plastic housing
- Non-wearing and maintenance-free, long service life
- Vacuum monitoring via vacuum switch
- Low environmental impact due to silencers

Order code – Basic design

001	002	003	004	005	006	007	008
VN		H	T				

Legend: ☐ Mandatory entry

001	Type
VN	Vacuum generators, pneumatic
002	Nominal width of Laval nozzle [mm]
05	0.45
07	0.7
10	0.95
14	1.4
20	2
30	3
003	Ejector characteristic
H	High vacuum/standard
004	Design
T	T-shape
005	Size
2	Grid dimension 10 mm
3	Grid dimension 14 mm
4	Grid dimension 18 mm
6	Grid dimension 24 mm

006	Pneumatic connection 1
PQ1	Push-in fitting QS-4
PQ2	Push-in fitting QS-6
PQ4	Push-in fitting QS-10
007	Vacuum port (V)
VQ1	Push-in fitting QS-4
VQ2	Push-in fitting QS-6
VQ3	Push-in fitting QS-8
VQ5	Push-in fitting QS-12
008	Pneumatic connection 3
RQ1	Push-in fitting QS-4
R01	Silencer UO, open
R02	Silencer UOM, open

Product options

Ejector characteristic:

L	High suction rate/standard
M	High vacuum/inline
N	High suction rate/inline

Design, size:

I2	Straight, grid dimension 10 mm
I3	Straight, grid dimension 13 mm

Connection options:

- Female thread M5, G1/8, G1/4, G3/8
- Male thread G1/8, G1/4
- Push-in sleeve Ø 4 mm, Ø 6 mm



Configurable product

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

→ www.festo.com/catalogue/vn

Vacuum generators >

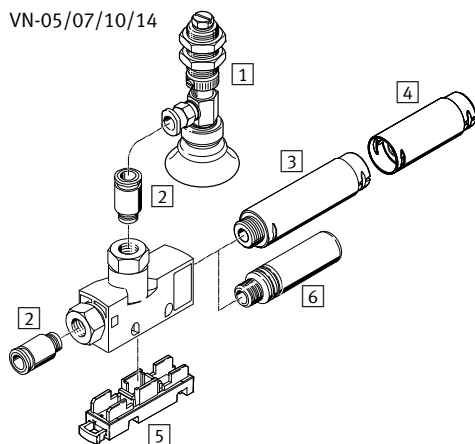
Vacuum generators VN, pneumatic

Ordering – Basic design

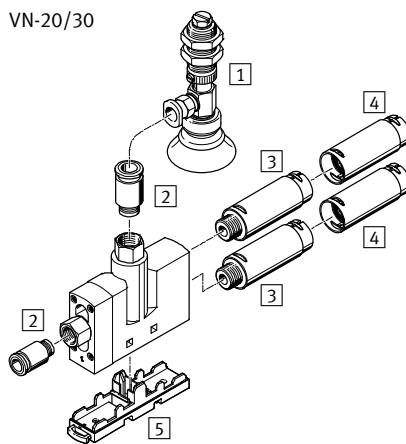
002 Nominal width of Laval nozzle [mm]	004 Design, 005 Size	006 Pneumatic connection 1	007 Vacuum port (V)	Type	Part no.
0.45	T2: T-type, grid dimension 10 mm	QS-4	QS-4	VN-05-H-T2-PQ1-VQ1-RQ1	526100
0.7	T2: T-type, grid dimension 10 mm	QS-4	QS-4	VN-07-H-T2-PQ1-VQ1-RQ1	526101
0.95	T3: T-type, grid dimension 14 mm	QS-6	QS-6	VN-10-H-T3-PQ2-VQ2-R01	193490
1.4	T4: T-type, grid dimension 18 mm	QS-6	QS-8	VN-14-H-T4-PQ2-VQ3-R02	547707
2	T6: T-type, grid dimension 24 mm	QS-10	QS-12	VN-20-H-T6-PQ4-VQ5-R02	193495
3	T6: T-type, grid dimension 24 mm	QS-10	QS-12	VN-30-H-T6-PQ4-VQ5-R02	193497

Accessories

VN-05/07/10/14



VN-20/30



- 1 Suction gripper ESG (complete solution) → 155
Suction cup holder ESH with Suction cup ESS (individual components) → 155
- 2 Push-in fitting QS → 332
- 3 Silencer UOM → 152
- 4 Silencer extension UOMS → 152
- 5 Mounting plate VN-T → 152
- 6 Silencer UO → [vn](#)
Silencer AMTE → 152

3 Silencer UOM

For grid dimension	Pneumatic connection	Type	Part no.
18 mm	G1/4	UOM-1/4	538432
24 mm	G3/8	UOM-3/8	538433

4 Silencer extension UOMS

For silencer	Type	Part no.
UOM-1/4	UOMS-1/4	538436
UOM-3/8	UOMS-3/8	538437

5 Mounting plate VN-T

For grid dimension	Type	Part no.
For mounting on H-rail or via through-hole		
10 mm	VN-T2-BP-NRH	196951
14 mm	VN-T3-BP-NRH	193641
18 mm	VN-T4-BP-NRH	195279
24 mm	VN-T6-BP-NRH ¹⁾	196956

1) Horizontal wall mounting not permissible.

Silencer AMTE¹⁾, long version

For grid dimension	Pneumatic connection	Type	Part no.
10 mm	M5	AMTE-M-LH-M5	1205858
14 mm	G1/8	AMTE-M-LH-G18	1205860
18 mm	G1/4	AMTE-M-LH-G14	1205861

1) Packaging unit 20 pieces

Suction cups VAS/VASB



VAS-...-S-PUR-B



VAS-...-NBR



VAS-...-SI-B



VASB-...-PUR-B

- The ideal solution for transporting workpieces of different weights, surfaces and shapes
- Wide range to suit applications with various temperature ranges and workpiece surfaces

- Suction cups made from silicone are food-safe
- All tubing connection sizes correspond to a holder size

Order code

001 002 003 004 005 006
 - - - - -

Legend: Mandatory entry Optional entry

001	Type
VAS	Suction cup, round, flat
VASB	Suction cup, round, bellows with 1.5 convolutions
002	Suction cup Ø [mm]
...	2, 5, 8, 10, 15, 30, 40, 55, 75, 100, 125
003	Vacuum connection
PK-3	PK-3
M3	M3 thread
M5	M5 thread
1/8	G1/8 thread
1/4	G1/4 thread
3/8	G3/8 thread

004	Suction cup shape
–	Round, flat
–	Round, bellows with 1.5 convolutions
S	Round, flat
005	Suction cup material
PUR	TPE-U(PU), suction cup shape S
NBR	Nitrile rubber
SI	VMQ (silicone)
PUR	Polyurethane
006	Generation
–	A series
B	B series



Configurable product

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

→ www.festo.com/catalogue/vas

Ordering – Suction cup shape round, flat

002 Suction cup Ø	003 Vacuum connection	Connection position	004 Suction cup shape	Type of mounting	Type	Part no.
005 Suction cup material: TPE-U(PU)						
8 mm	PK-3	On the side	Round, flat	M5	VAS-8-M5-S-PUR-B	8025969
005 Suction cup material: NBR						
2 mm	M3	On top	Round, flat	Via vacuum connection	VAS-2-M3-NBR	173438
5 mm	M5				VAS-5-M5-NBR	173439
8 mm	M5				VAS-8-M5-NBR	34588
10 mm	M5				VAS-10-M5-NBR	173440
15 mm	G1/8				VAS-15-1/8-NBR	36142
30 mm	G1/8				VAS-30-1/8-NBR	34587
40 mm	G1/4				VAS-40-1/4-NBR	36143
55 mm	G1/4				VAS-55-1/4-NBR	36144
75 mm	G1/4				VAS-75-1/4-NBR	36145
100 mm	G1/4				VAS-100-1/4-NBR	34586
125 mm	G3/8				VAS-125-3/8-NBR	152605

Suction cups VAS/VASB

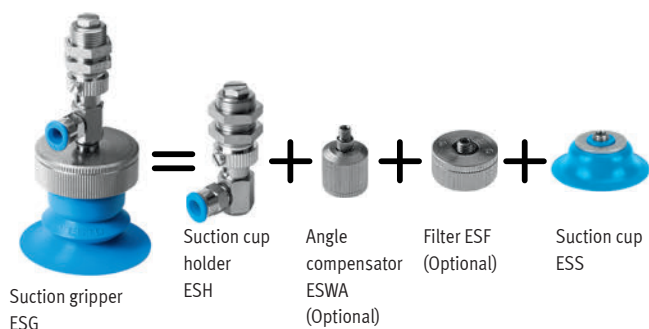
Ordering – Suction cup shape round, flat

002 Suction cup Ø	003 Vacuum connection	Connection position	004 Suction cup shape	Type of mounting	Type	Part no.
005 Suction cup material: VMQ (silicone)						
8 mm	M5	On top	Round, flat	Via vacuum connection	VAS-8-M5-SI-B	1377781
10 mm	M5				VAS-10-M5-SI-B	1385610
15 mm	G1/8				VAS-15-1/8-SI-B	1376604
30 mm	G1/8				VAS-30-1/8-SI-B	1377752
40 mm	G1/4				VAS-40-1/4-SI-B	1379454
55 mm	G1/4				VAS-55-1/4-SI-B	1379348
75 mm	G1/4				VAS-75-1/4-SI-B	1382165
100 mm	G1/4				VAS-100-1/4-SI-B	1386376
125 mm	G3/8				VAS-125-3/8-SI-B	1415120
005 Suction cup material: PUR						
8 mm	M5	On top	Round, flat	Via vacuum connection	VAS-8-M5-PUR-B	1396086
10 mm	M5				VAS-10-M5-PUR-B	1469698
15 mm	G1/8				VAS-15-1/8-PUR-B	1396087
30 mm	G1/8				VAS-30-1/8-PUR-B	1396090
40 mm	G1/4				VAS-40-1/4-PUR-B	1396092
55 mm	G1/4				VAS-55-1/4-PUR-B	1396095
75 mm	G1/4				VAS-75-1/4-PUR-B	1396096
100 mm	G1/4				VAS-100-1/4-PUR-B	1396098
125 mm	G3/8				VAS-125-3/8-PUR-B	1396108

Ordering – Bellows

002 Suction cup Ø	003 Vacuum connection	Connection position	004 Suction cup shape	Type of mounting	Type	Part no.
005 Suction cup material: NBR						
8 mm	M5	On top	Round, bellows with 1.5 convolutions	Via vacuum connection	VASB-8-M5-NBR	35410
15 mm	G1/8				VASB-15-1/8-NBR	35411
30 mm	G1/8				VASB-30-1/8-NBR	35412
40 mm	G1/4				VASB-40-1/4-NBR	35413
55 mm	G1/4				VASB-55-1/4-NBR	35414
75 mm	G1/4				VASB-75-1/4-NBR	35415
100 mm	G1/4				VASB-100-1/4-NBR	35416
125 mm	G3/8				VASB-125-3/8-NBR	152609
005 Suction cup material: VMQ (silicone)						
8 mm	M5	On top	Round, bellows with 1.5 convolutions	Via vacuum connection	VASB-8-M5-SI-B	1394696
15 mm	G1/8				VASB-15-1/8-SI-B	1377689
30 mm	G1/8				VASB-30-1/8-SI-B	1377637
40 mm	G1/4				VASB-40-1/4-SI-B	1372910
55 mm	G1/4				VASB-55-1/4-SI-B	1373812
75 mm	G1/4				VASB-75-1/4-SI-B	1378427
100 mm	G1/4				VASB-100-1/4-SI-B	1382277
125 mm	G3/8				VASB-125-3/8-SI-B	1387375
005 Suction cup material: PUR						
8 mm	M5	On top	Round, bellows with 1.5 convolutions	Via vacuum connection	VASB-8-M5-PUR-B	1395637
15 mm	G1/8				VASB-15-1/8-PUR-B	1395671
30 mm	G1/8				VASB-30-1/8-PUR-B	1395690
40 mm	G1/4				VASB-40-1/4-PUR-B	1395691
55 mm	G1/4				VASB-55-1/4-PUR-B	1396063
75 mm	G1/4				VASB-75-1/4-PUR-B	1396064
100 mm	G1/4				VASB-100-1/4-PUR-B	1396066
125 mm	G3/8				VASB-125-3/8-PUR-B	1396067

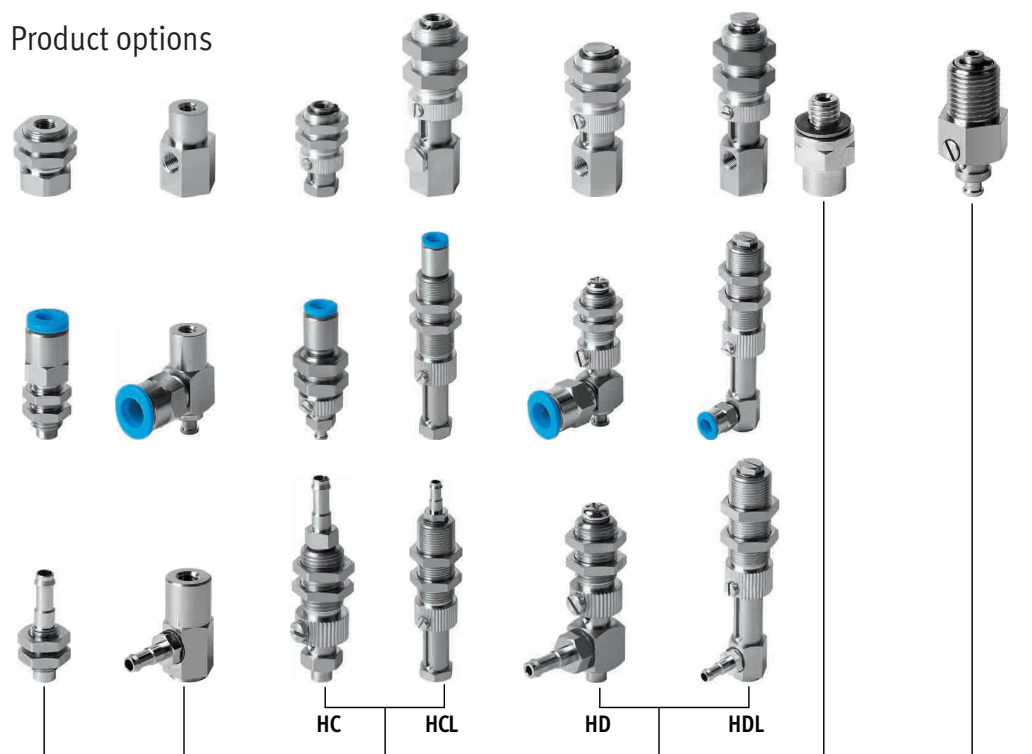
Suction grippers ESG – Overview



- Any combination of suction cup holder ESH and suction cup with connection attachments ESS is possible in the same holder size
- 15 suction cup diameters from 2 ... 200 mm
- 6 different materials – including anti-static ones

- 6 suction cup shapes
- Numerous suction cup holders
- Suitable for a wide variety of temperature ranges and workpiece surfaces

Product options



Suction cup holder ESH → esh

Threaded connection G
For suction cup Ø 60 ... 200 mm
For suction cup size 15x45 ... 30x90 mm

Push-in connector QS
For suction cup Ø 2 ... 50 mm
For suction cup size 4x10 ... 10x30 mm

Barbed fitting connector PK
For suction cup Ø 2 ... 50 mm
For suction cup size 4x10 ... 10x30 mm

HA	HB	HC	HCL	HD	HDL	HE	HF
2 ... 200	2 ... 200	2 ... 200	4 ... 200	2 ... 200	4 ... 200	2 ... 200	2 ... 50
4x10 ... 30x90	4x10 ... 30x90	4x10 ... 30x90	4x10 ... 30x90	4x10 ... 30x90	4x10 ... 30x90	4x10 ... 30x90	4x10 ... 10x30

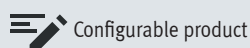
Holder type
For suction cup diameter [mm]
For suction cup size [mm]

Angle compensator ESWA → eswa

Vacuum filter ESF → esf

Suction cup ESS → ess

- FPM (fluoro rubber)
- NBR (nitrile rubber)
- BR (butadiene rubber), anti-static
- VMQ (silicone)
- PUR (polyurethane)
- Vulkollan®



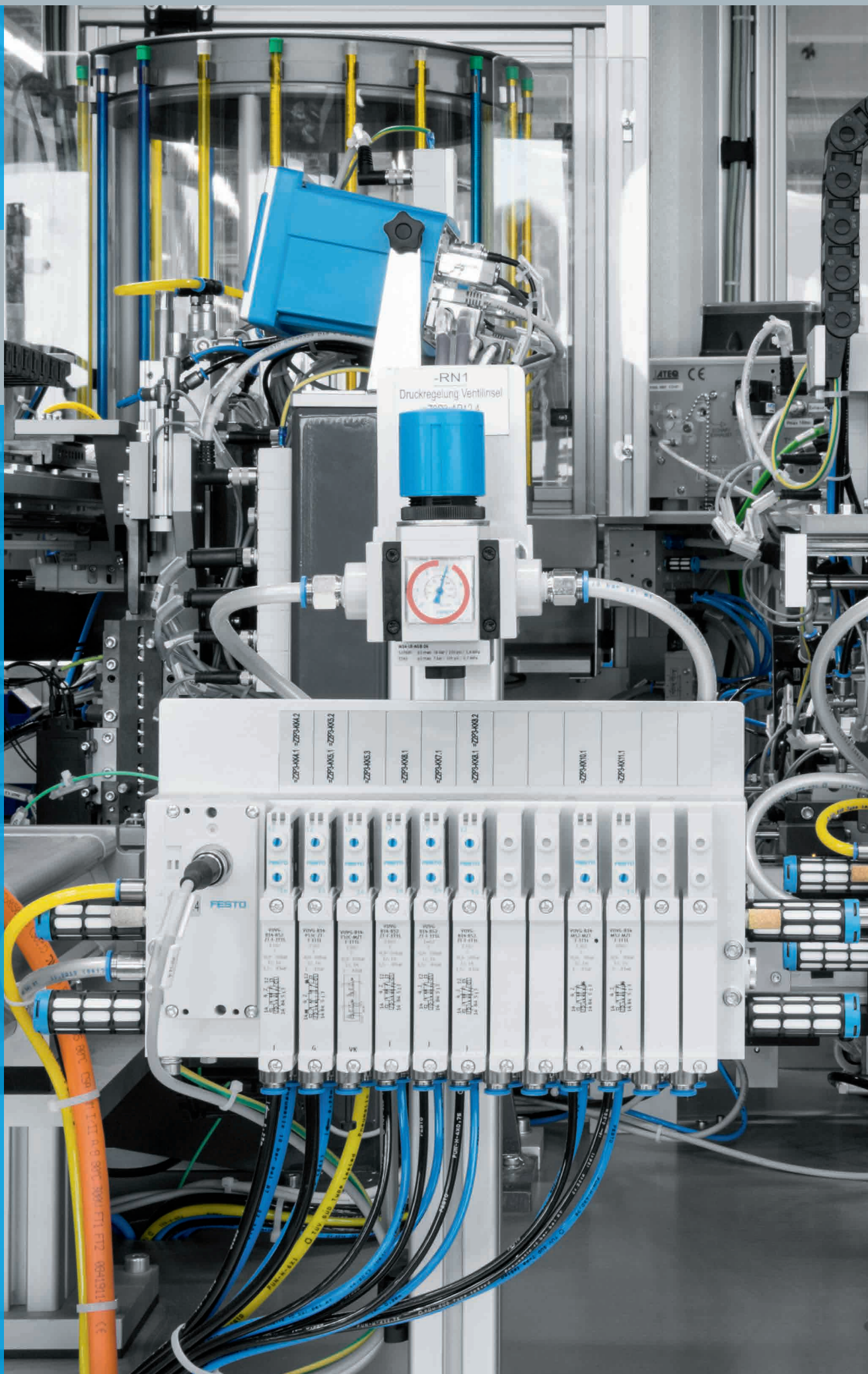
Configurable product

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

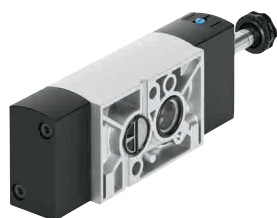
→ www.festo.com/catalogue/esg

07

Valves



Highlights

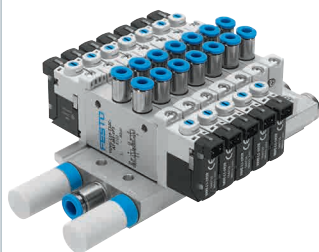


Solenoid valves, NAMUR

VSNC

- + Certified in accordance with established explosion standards
- + Sturdy and with high flow rates

→ 173



Solenoid valves

VUUG

- + Universal valve, sturdy and durable
- + Can be used as an individual valve or manifold valve VTUG

→ 180



Solenoid valves

VUVS-L

- + Piston spool with sealing cartridge (VUVS-L) or sealing ring (VUVS-LK)
- + Can be used as an individual valve or manifold valve VTUS

→ 185

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Product overview

Software-Tools

Pneumatic sizing


Size pneumatic control loop systems quickly and energy-efficiently.

In order to survive in a tough competitive environment, many companies are searching for ways to make savings in their production. Such savings can often be found in their existing compressed air systems, which have generally been in place for years. Up to 60% of energy costs can be saved through optimisation at both the production facility and system level.

This tool can be found at
→ www.festo.com/x/pneumatic-sizing

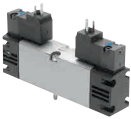
Electrically and pneumatically actuated directional control valves >

Standards-based directional control valves

	 Solenoid valves VSNC	 Standards-based valves with central plug VSVA-R5, VSVA-R2
Actuation type	Electrical	Electrical
Pneumatic connection 1	1/4 NPT, G1/4, G1/8, QS-1/4, QS-10, QS-3/8, QS-5/16, QS-6, QS-8	Sub-base Size 1 ISO 5599-1
Operating pressure [MPa]	0.15 ... 1 MPa	-0.09 ... 1.6 MPa
Operating pressure	1.5 ... 10 bar	-0.9 ... 16 bar
Standard nominal flow rate	800 ... 1350 l/min	400 ... 2800 l/min
Valve function	5/2 double solenoid, 5/2-way or 3/2-way, convertible, 5/3-way, pressurised, 5/3 exhausted, 5/3 closed	5/2 double solenoid, 5/2-way, monostable, 5/3 exhausted
Electrical connection	3-pin, Type A, Type B, Cable connector M20x1.5, M12x1, A-coded to EN 61076-2-101, Plugs, To EN 175301-803, To industry standard (11 mm)	3-pin, Central plug, Round design, M12x1
Description	- NAMUR connection pattern to VDI/VDE 3845 - Replaceable seal for 3/2-way or 5/2-way valve - Wide choice of EX solenoid systems - Sturdy and powerful - Extended temperature range - Outstanding value for money - All solenoid coils can be used on an armature tube - The variant VSNC-...FN achieves increased energy efficiency thanks to reduced power consumption	- Conforms to ISO 5599-1 - Electrical connection via central plug - Sturdy metal housing - Manifold assembly with mixture of sizes possible
→ Page/ online	173	176

Electrically and pneumatically actuated directional control valves ›

Standards-based directional control valves

		
	Standards-based valves with individual plug VSVA-C1, VSVA-P1	Standards-based valves, plug-in VSVA-T1
Actuation type	Electrical	Electrical
Pneumatic connection 1	Sub-base Size 18 mm ISO 15407-1, Size 26 mm ISO 15407-1	Sub-base size 1 to ISO 5599-2, size 2 to ISO 5599-2, size 18 to ISO 15407-2, size 26 to ISO 15407-2
Operating pressure [MPa]	0.2 ... 1 MPa	-0.09 ... 1 MPa
Operating pressure	2 ... 10 bar	-0.9 ... 10 bar
Standard nominal flow rate	550 ... 1100 l/min	125 ... 2900 l/min
Valve function	2x2/2-way, single solenoid, closed, 2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 5/2-way, double solenoid, 5/2-way, double solenoid, dominant signal, 5/2-way, single solenoid, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed	2x2/2-way, single solenoid, closed, 2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 3/2-way, single solenoid, closed, 5/2-way, double solenoid, 5/2-way, double solenoid, dominant signal, 5/2-way, single solenoid, 5/3-way, pressurised 1 to 2, 4 to 5 closed, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed, 5/3-way, port 2 pressurised, 4 exhausted, 5/3-way, port 4 pressurised, 2 exhausted
Electrical connection	Type B, Type C, With protective earth conductor, To DIN EN 175301-803, To EN 175301-803, To industry standard (11 mm), Without protective earth conductor	2-pin, 4-pin, plug-in, plug, to ISO 15407-2, to ISO 5599-2
Description	• Conforms to ISO 15407-1 and to ISO 15218 for pilot valve with interface • Electrical connection via type C plug • Sturdy metal housing • Manifold assembly with mixture of sizes possible	• For valve terminal VTSA/VTSA-F • Sturdy metal housing
→ Page/online	178	vsva

Product overview

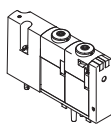
Electrically and pneumatically actuated directional control valves >

Universal directional control valves

				
	Solenoid valves, for individual connection VUVG	Solenoid valves, plug-in VUVG-T1	Solenoid valves VUVS	Solenoid and pneumatic valves, Tiger Classic MCH, MFH, MOCH, MOFH, JMFH, JMFH, VL/O, VL, JH, JDH
Actuation type	Electrical	Electrical	Electrical	Electrical, pneumatic
Pneumatic connection 1	G1/4, G1/8, M3, M5, M7		1/8 NPT, G1/4, G1/8, G3/8	1/8 NPT, 1/4 NPT, 1/2 NPT, G1/2, G1/4, G1/8, G3/4
Pneumatic working port	G1/4, G1/8, M3, M5, M7, QS-1/4, QS-1/8, QS-10, QS-3, QS-3/16, QS-3/8, QS-4, QS-5/16, QS-5/32, QS-6, QS-8	Flange, G1/4, G1/8, M5, M7	1/8 NPT, 1/4 NPT, 3/8 NPT, G1/4, G1/8, G3/8, QS-1/2, QS-1/4, QS-10, QS-12, QS-3/8, QS-4, QS-5/16, QS-5/32, QS-6, QS-8	1/8 NPT, 1/4 NPT, 1/2 NPT, G1/2, G1/4, G1/8, G3/4
Operating pressure [MPa]	-0.09 ... 1 MPa	-0.09 ... 1 MPa	-0.09 ... 1 MPa	
Operating pressure	-0.9 ... 10 bar	-0.9 ... 10 bar	-0.9 ... 10 bar	-0.95 ... 10 bar
Standard nominal flow rate	90 ... 1380 l/min	130 ... 1200 l/min	500 ... 2400 l/min	500 ... 7500 l/min
Valve function	2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 5/2-way, double solenoid, 5/2-way, single solenoid, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed	2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 3/2-way, single solenoid, closed, 3/2-way, single solenoid, open, 5/2-way, double solenoid, 5/2-way, single solenoid, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed	2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 3/2-way, single solenoid, closed, 3/2-way, single solenoid, open, 5/2-way, double solenoid, 5/2-way, single solenoid, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed	3/2-way, single solenoid/monostable, closed, 3/2-way, single solenoid/monostable, open, 3/2-way, single solenoid/monostable, open/closed, 5/2-way, double solenoid/bistable, 5/2-way, double solenoid/bistable, dominant signal, 5/2-way, single solenoid/monostable
Electrical connection	2-pin, 3-pin, plug pattern H, horizontal connection, M8x1 A-coded to EN 61076-2-104, plug, via E-box, via electrical pilot valve	Via sub-base	Type B, Type C, To EN 175301-803, To industry standard (11 mm)	Via F coil, to be ordered separately
Description	• Compact universal valve • Connection technology via electrical connection box (E-box) • High flow rate relative to its size • In-line valves can be used as individual valves or manifold valves	• Sub-base valve, semi in-line valve • For valve terminal VTUG with multi-pin, fieldbus interface • Variants to EU Explosion Protection Directive (ATEX)	• Universal valve, sturdy and durable • Low-cost, no limitations with regard to performance • Can be used as individual valves or manifold valves VTUS	• Sturdy and reliable • Poppet valve • All-metal version • Principle with armature tube • Variants to EU Explosion Protection Directive (ATEX)
→ Page/online	180	180	185	tiger classic

Electrically and pneumatically actuated directional control valves >

Application-specific directional control valves

			
	Pilot valves VOFX	Solenoid valves VOVC	Solenoid valves MHE2, MHP2, MHA2, MHE3, MHP3, MHA3, MHE4, MHP4, MHA4
Design	Directly actuated poppet valve	Poppet valve with spring return	Pressure-relieved poppet valve
Valve function	3/2-way, single solenoid, closed	2x3/2-way, monostable, closed	3/2-way, single solenoid, closed, 3/2-way, single solenoid, open, 5/2-way, single solenoid
Operating pressure [MPa]	-0.09 ... 0.8 MPa	0 ... 0.8 MPa	-0.09 ... 0.8 MPa
Operating pressure	-0.9 ... 8 bar	0 ... 8 bar	-0.9 ... 8 bar
Ambient temperature	-10 ... 50°C	-5 ... 50°C	-5 ... 60°C
Pneumatic connection 1	G1/8	Sub-base	Sub-base, G1/4, G1/8, M7, QS-4, QS-6, QS-8
Standard nominal flow rate	50 l/min	10 l/min	90 ... 400 l/min
Description	- For angle seat valves VZXF and VZXA - Can be used wherever valve terminals are not economically or technically viable - Manual override, detenting	- For valve terminal VTOC - Optimal use of the installation space yet maximum performance - Detenting or non-detenting manual override	- Directly actuated poppet valve - Fast-switching valve: switching times down to 2 ms - Direct mounting, individual sub-base, manifold assembly - Manifold block for 2 ... 10 valves
→ Page/online	390	vovc	mh2

Electrically and pneumatically actuated directional control valves >

Application-specific directional control valves

			
	Fast-switching valves MHJ9, MHJ10	Solenoid valves VOFC	Solenoid valves VOFD
Design	Poppet valve without spring return	Piston spool, piloted poppet valve	Directly actuated poppet valve
Valve function	2/2-way, single solenoid, closed	3/2-way, single solenoid, closed, 5/2-way, double solenoid, 5/2-way, single solenoid	3/2-way, single solenoid, closed, semi-automatic, 3/2-way, single solenoid, closed
Operating pressure [MPa]	0.05 ... 0.8 MPa	0 ... 1 MPa	0 ... 1.2 MPa
Operating pressure	0.5 ... 8 bar	0 ... 10 bar	0 ... 12 bar
Ambient temperature	-5 ... 60°C	-25 ... 60°C	-50 ... 60°C
Pneumatic connection 1	Sub-base, QS-1/4, QS-4, QS-6	1/4 NPT, 1/2 NPT, NAMUR connection pattern, G1/2, G1/4, M5	1/4 NPT, NAMUR connection pattern, G1/4, M5
Standard nominal flow rate	50 ... 160 l/min	595 ... 2794 l/min	52 ... 1900 l/min
Description	- Directly actuated poppet valve - Identical basic valves for direct mounting or manifold installation - Individual valve with integrated plug connection - Switching frequencies up to 1000 Hz - Very good reproducibility - MHJ9: Valve manifold assembly with individual outputs or with air nozzle output - MHJ9: Electrical connection via connecting cable MHJ9-KMH with integrated control electronics - MHJ10: Valve manifold assembly with individual outputs - MHJ10: Electrical connection via moulded-in cable, control electronics included in the valve	- Suitable for process automation, for applications in chemical and petrochemical plants - Suitable for outdoor use under harsh, dusty ambient conditions - Especially suitable for quarter turn actuators thanks to NAMUR flange pattern - Valve can switch between internal and external pilot air - Variants with safety function - Variants to EU Explosion Protection Directive (ATEX)	- Suitable for process automation, for applications in chemical and petrochemical plants - Suitable for outdoor use under harsh, dusty ambient conditions - Especially suitable for quarter turn actuators thanks to NAMUR flange pattern - Variants with safety function - Variants to EU Explosion Protection Directive (ATEX)
→ Page/online	mhj9	vofc	vofd

Product overview

Manually actuated directional control valves >

Swivel lever valves

				
	Hand lever valves VHEF-H	Hand lever valves VHEF, NPT thread	Hand lever valves VHER	Hand lever valves VHER, NPT thread
Valve function	3/2-way bistable, 3/2-way open/closed monostable, 5/2-way bistable, 5/2-way monostable, 5/3-way exhausted, 5/3-way closed	3/2-way bistable, 3/2-way open/closed monostable, 5/2-way bistable, 5/2-way monostable, 5/3-way exhausted, 5/3-way closed	4/3-way pressurised, 4/3-way exhausted, 4/3-way closed	4/3-way exhausted, 4/3-way closed
Type of control	Direct	Direct	Direct	Direct
Standard nominal flow rate	530 ... 1200 l/min	530 ... 1200 l/min	170 ... 3800 l/min	600 ... 3800 l/min
Pneumatic working port	G1/4, G1/8	NPT1/4, NPT1/4-18, NPT1/8, NPT1/8-27	G1/2, G1/4, G1/8, M5	NPT1/2-14, NPT1/4-18, NPT1/8-27
Operating pressure [MPa]	-0.095 ... 1 MPa	-0.095 ... 1 MPa		
Operating pressure	-0.95 ... 10 bar	-0.95 ... 10 bar	0 ... 10 bar	0 ... 10 bar
Description	• With hand lever on the side or on top • Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible	• With hand lever on the side or on top • Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible	• Lever in metal or polymer design • Front panel mounting, through-holes or mounting holes	• Lever in metal design • Front panel mounting, through or mounting holes
→ Page/online	189	189	191	191

Manually actuated directional control valves >

Pushbutton valves

		
	Pushbutton valves VHEF-P	Pushbutton valves VHEF-P, NPT thread
Valve function	3/2-way bistable, 3/2-way open/closed monostable, 5/2-way bistable, 5/2-way monostable	3/2-way bistable, 3/2-way open/closed monostable, 5/2-way bistable, 5/2-way monostable
Type of control	Direct, piloted	Direct, piloted
Standard nominal flow rate	750 ... 1200 l/min	750 ... 1200 l/min
Pneumatic working port	G1/4, G1/8	NPT1/4-18, NPT1/8-27
Operating pressure [MPa]	-0.095 ... 1 MPa	-0.095 ... 1 MPa
Operating pressure	-0.95 ... 10 bar	-0.95 ... 10 bar
Description	• With button switch • Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible	• With button switch • Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible
→ Page/online	193	193

Manually actuated directional control valves >

Finger lever valves

		
	Finger lever valves VHEF-L	Finger lever valves VHEF-L, NPT thread
Valve function	3/2-way open/closed monostable, 5/2-way monostable	3/2-way open/closed monostable, 5/2-way monostable
Type of control	Direct	Direct
Standard nominal flow rate	750 ... 1200 l/min	750 ... 1200 l/min
Pneumatic working port	G1/4, G1/8	NPT1/4-18, NPT1/8-27
Operating pressure [MPa]	-0,095 ... 1 MPa	-0,095 ... 1 MPa
Operating pressure	-0.95 ... 10 bar	-0.95 ... 10 bar
Description	• With finger lever • Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible	• With finger lever • Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible
→ Page/online	195	195

Manually actuated directional control valves >

Selector switches

		
	Selector valves VHEF-ES	Selector valves VHEF-ES, NPT thread
Valve function	3/2-way bistable, 3/2-way open/closed monostable, 5/2-way bistable, 5/2-way monostable, 5/3-way exhausted, 5/3-way closed	3/2-way bistable, 3/2-way open/closed monostable, 5/2-way bistable, 5/2-way monostable, 5/3-way exhausted, 5/3-way closed
Type of control	Direct	Direct
Standard nominal flow rate	530 ... 1200 l/min	530 ... 1200 l/min
Pneumatic working port	G1/4, G1/8	NPT1/4, NPT1/4-18, NPT1/8, NPT1/8-27
Operating pressure [MPa]	-0,095 ... 1 MPa	-0,095 ... 1 MPa
Operating pressure	-0.95 ... 10 bar	-0.95 ... 10 bar
Description	• With selector switch on the side or on top • Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible	• With selector switch on the side or on top • Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible
→ Page/online	197	197

Product overview

Mechanically actuated directional control valves ›

Stem actuated valves

		
	Stem actuated valves VMEF-S	Stem actuated valves VMEF-S, NPT thread
Valve function	3/2-way closed monostable, 5/2-way monostable	3/2-way closed monostable, 5/2-way monostable
Type of control	Direct, piloted	Direct, piloted
Standard nominal flow rate	750 ... 1200 l/min	750 ... 1200 l/min
Pneumatic working port	G1/4, G1/8	NPT1/4-18, NPT1/8-27
Operating pressure [MPa]	-0,095 ... 1 MPa	-0,095 ... 1 MPa
Operating pressure	-0.95 ... 10 bar	-0.95 ... 10 bar
Description	• Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Outstanding pneumatic performance • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible	• Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Outstanding pneumatic performance • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible
→ Page/online	199	199

Mechanically actuated directional control valves ›

Roller lever valves

		
	Roller lever valves VMEF-R	Roller lever valves VMEF-R, NPT thread
Valve function	3/2-way monostable, 5/2-way monostable	3/2-way monostable, 5/2-way monostable
Type of control	Direct	Direct
Standard nominal flow rate	750 ... 1200 l/min	750 ... 1200 l/min
Pneumatic working port	G1/4, G1/8	NPT1/4, NPT1/8
Operating pressure [MPa]	-0,095 ... 1 MPa	-0,095 ... 1 MPa
Operating pressure	-0.95 ... 10 bar	-0.95 ... 10 bar
Description	• Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Outstanding pneumatic performance • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible	• Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Outstanding pneumatic performance • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible
→ Page/online	201	201

Mechanically actuated directional control valves ›

Roller lever valves

	 Roller lever valves VMEF-K	 Roller lever valves VMEF-K, NPT thread
Valve function	3/2-way monostable, 5/2-way monostable	3/2-way monostable, 5/2-way monostable
Type of control	Direct	Direct
Standard nominal flow rate	750 ... 1200 l/min	750 ... 1200 l/min
Pneumatic working port	G1/4, G1/8	NPT1/4, NPT1/8
Operating pressure [MPa]	-0,095 ... 1 MPa	-0,095 ... 1 MPa
Operating pressure	-0.95 ... 10 bar	-0.95 ... 10 bar
Description	• Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Outstanding pneumatic performance • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible	• Durable thanks to tried-and-tested piston spool and disc seat valve technology • Sturdy metal housing • Outstanding pneumatic performance • Attractively priced • Ergonomic and reliable operation • Low actuating forces • Modern design • Reverse operation possible
→ Page/online	203	203

Shut-off valves ›

Check valves

	 Check valves, piloted HGL
Pneumatic connection 1	G1/2, G1/4, G1/8, G3/8, M5, QS-10, QS-12, QS-4, QS-6, QS-8
Standard nominal flow rate 1 → 2 from 6 to 5 bar	130 ... 1600 l/min
Operating pressure [MPa]	0.05 ... 1 MPa
Operating pressure	0.5 ... 10 bar
Description	• Valve function: piloted non-return function • Pneumatically piloted • Screw-in with male thread • Pilot air connection: M5, G1/8, G1/4, G3/8, QS-4 • Manually actuated exhaust possible with separate accessories
→ Page/online	205

Product overview

Shut-off valves ›

Shut-off valves and ball valves

	 Hand slide valves VBOH	 Ball valves QH-QS, QHS-QS	 Ball valves QH
Valve function	3/2-way, bistable	2/2-way, bistable	2/2-way, bistable
Pneumatic connection 1	G1/2, G1/4, G1/8, G3/4, G3/8, M5	QS-4, QS-6, R1/8	G1, G1 1/2, G1/2, G1/4, G3/4, G3/8
Standard nominal flow rate	236 ... 7691 l/min	148 ... 560 l/min	3400 ... 84000 l/min
Operating pressure [MPa]	-0.095 ... 1.2 MPa	-0.1 ... 1 MPa	
Operating pressure	-0.95 ... 12 bar	-1 ... 10 bar	
Description	- Used as a shut-off function for pressurising and exhausting compressed air systems, e.g. upstream of service unit combinations, for air guns and also for exhausting pneumatic cylinders - Non-overlapping, so no pressure losses when switching - Minimal installation effort	- Shut-off valve, manually operated - In-line installation, can be screwed in, bulk-head fitting - Variants: thread at both ends, push-in connector at both ends, thread/push-in connector	- Shut-off valve, manually operated - In-line installation - Female thread at both ends - With hand lever - Pipe thread to ISO 2281
→ Page/online	206	qh	207

Flow control valves ›

One-way flow control valves

	 One-way flow control valves GRLA, GRLZ	 One-way flow control valves VFOE-L	 One-way flow control valves VF0F
Valve function	Exhaust air one-way flow control function, one-way flow control function, supply air one-way flow control function	Exhaust air one-way flow control function, supply air one-way flow control function	Exhaust air one-way flow control function
Pneumatic connection 1	QS-10, QS-12, QS-3, QS-4, QS-6, QS-8	QS-10, QS-4, QS-6, QS-8	QS-6, QS-8
Standard nominal flow rate in flow control direction	100 ... 1580 l/min	85 ... 750 l/min	240 ... 590 l/min
Adjusting element	Knurled screw, Slotted head screw	Rotary knob with detent	Internal hex
Description	- Functional combination of one-way flow control valve and piloted check valve - Flow control valve, flow control at one end - Polymer, metal or stainless steel design - Standard, mini, in-line variants with different flow rates - Connections: thread at both ends, push-in connector at both ends, thread/push-in connector	- Low-cost solution for standard applications - Simple and reliable adjustment of pneumatic cylinder speed - Extremely easy assembly - Quick commissioning - Compact dimensions	- Functional combination of one-way flow control valve and piloted check valve - High flow rate - Can be rotated horizontally through 360° when mounted - Compact and can be operated from the side
→ Page/online	208	210	vfof

Proportional valves >

Pressure regulators

		
	Proportional pressure regulators VPPE	Proportional pressure regulators VPPM
Valve function	3-way proportional pressure regulator, 3-way proportional pressure regulator, closed	3-way proportional pressure regulator
Pneumatic connection 1	G1/8	Sub-base, G1/2, G1/4, G1/8
Pressure regulation range	0.02 ... 10 bar	0.02 ... 10 bar
Operating pressure [MPa]	0.8 MPa	
Operating pressure	8 bar	
Standard nominal flow rate	310 ... 1250 l/min	380 ... 7000 l/min
Description	• Piloted pressure regulator • Setpoint input as analogue voltage signal (0 ... 10 V) • Electrical connection via M12x1 plug, 4 or 5-pin • Available with setpoint module • Variant with display with three retrievable presets and digital controller electronics • For simple control tasks • Variants recommended for production systems for manufacturing lithium-ion batteries	• Piloted pressure regulator • Multi-sensor control (cascade control) • Three default presets for fast commissioning • Integration in valve terminal MPA • User interface with LED displays, LCD display, adjustment/selection buttons • Integrated pressure sensor • Electrical connection via plug, round design, 8-pin, M12 or terminal linking
→ Page/online	vppe	vppm

Solenoid-actuated process and media valves

			
	Solenoid valves VZWD	Solenoid valves VZWF	Solenoid valves VZWM
Design	Directly actuated poppet valve	Diaphragm valve, force pilot operated	Diaphragm valve, servo-controlled
Actuation type	Electrical	Electrical	Electrical
Nominal width	1 ... 6 mm	13.5 ... 27.5 mm	13 ... 50 mm
Flow rate Kv	0.06 ... 0.4 m³/h	1.8 ... 11 m³/h	1.6 ... 39 m³/h
Temperature of medium	-10 ... 80°C	-10 ... 80°C	-10 ... 60°C
Medium pressure	0 ... 50 bar	0 ... 10 bar	
Medium pressure of gaseous media			0.5 ... 10 bar
Medium pressure of liquid media			0.5 ... 6 bar
Process valve connection	1/4 NPT, 1/8 NPT, G1/4, G1/8, NPT1/4	1 NPT, 1 1/2 NPT, 1 1/4 NPT, 1/2 NPT, 1/4 NPT, 2 NPT, 3/4 NPT, 3/8 NPT, G1, G1 1/2, G1 1/4, G1/2, G1/4, G2, G3/4, G3/8	G1, G1 1/2, G1 1/4, G1/2, G1/4, G2, G3/4, G3/8
Description	• Large pressure range • Directly actuated poppet valve • No pressure difference required • Can also be used in vacuum technology	• High flow rates • Large nominal widths with relatively small solenoids • No pressure difference required • Can also be used in vacuum technology	• Brass or stainless steel casting design • Electrical connection via solenoid armature tube • Wide range of coils • Coil can be ordered separately
→ Page/online	395	397	399

Product overview

Solenoid-actuated process and media valves

	 Solenoid valves VZWP	 Media separated solenoid valves VYKA	 Media separated solenoid valves VYKB	 Media separated solenoid valves VYKC
Design	Piloted piston poppet valve	Rocker valve with diaphragm seal	Electrical connection at top, Electrical connection at the side, Rocker valve with diaphragm seal	Electrical connection at the side, Rocker valve with diaphragm seal
Actuation type	Electrical	Electric	Electric	Electric
Nominal width	13 ... 25 mm	1.2 mm	1.6 ... 2 mm	2 mm
Flow rate Kv	1.5 ... 11.5 m³/h	0.013 ... 0.021 m³/h	0.034 ... 0.056 m³/h	0.046 ... 0.048 m³/h
Temperature of medium	-10 ... 80°C		0 ... 50°C	0 ... 50°C
Medium pressure	0.5 ... 40 bar	-0.5 ... 2 bar	-0.75 ... 3 bar	-0.75 ... 2 bar
Process valve connection	1 NPT, 1/2 NPT, 1/4 NPT, 3/4 NPT, 3/8 NPT, G1, G1/2, G1/4, G3/4, G3/8			
Description	- For all applications with a differential pressure of min. 0.5 bar - For high pressures and high flow rates with relatively small solenoids - For controlling gaseous and liquid media in open circuits	- Compact width of 7 mm - Maximum performance and precision in the smallest of spaces - High flow rate with small size - Very easy to clean thanks to media separation - Low media consumption thanks to small internal volume - FDA-listed materials - High-quality materials, therefore also suitable for aggressive media - High repetition accuracy, switching frequency and precision, therefore also suitable for extremely small volumes and dosing tasks - Very flexible in use thanks to 3/2-way and 2/2-way variants as well as 12 ... 26 V DC control - Optionally with slide-on E-box VAVE-K1 with holding current reduction as accessory - Developed according to ISO 13485 - Sustainable operation thanks to efficient control and active air shut-off	- Compact width of 10 mm or 12 mm - Very easy to clean thanks to media separation - High-quality materials, therefore also suitable for aggressive media - Very flexible in use thanks to 3/2-way or 2/2-way variants as well as 12 or 24 V DC actuation - For dosing, aspirating and for continuous flow applications - Developed according to ISO 13485 - Sustainable operation thanks to efficient control and active air shut-off	- Flexible nominal widths (1.2 mm/1.6 mm/2.0 mm) with the same size (16 mm) - High-quality materials, therefore also suitable for aggressive media - Minimised heating effect thanks to intelligent holding current reduction - FDA-listed materials - Visual feedback via two LEDs simplifies use - Optionally with holding current reduction - Sustainable operation thanks to efficient control and active air shut-off
→ Page/online	vzwp	vyka	vykb	vykc

Pneumatically and mechanically actuated industrial process and media valves

	 Ball valves VZBD	 Ball valves VZBE	 Ball valves VZBF
Design	2-way ball valve	2-way ball valve, 2-way ball valve with hand lever, 3-way ball valve, L-shaped hole, T-shaped hole	2-way ball valve
Valve function	2/2	2/2, 3/2	2/2
Actuation type	Mechanical	Mechanical	Mechanical
Nominal width DN	15, 20, 25, 32, 40, 50, 65, 80, 100	8, 10, 15, 20, 25, 32, 40, 50, 65, 80, 100	15, 20, 25, 32, 40, 50, 65, 80, 100, 150, 200
Process valve connection	Clamp to ASME-BPE, clamp to DIN 32676 series B, weld-on end to ASME-BPE, weld-on end to ISO 1127	1 NPT, 1 1/2 NPT, 1 1/4 NPT, 1/2 NPT, 1/4 NPT, 2 NPT, 2 1/2 NPT, 3 NPT, 3/4 NPT, 3/8 NPT, 4 NPT, weld-on end to ASME B16.11	Flange to ANSI B16.5 class 150
Flow rate Kv	13 ... 1641 m³/h	5.1 ... 1637 m³/h	8.5 ... 7816 m³/h
Temperature of medium	-20 ... 200°C	-20 ... 200°C	-20 ... 200°C
Nominal pressure process valve PN	16	63	20
Description	• Electro-polished surfaces SFV4 • PTFE seal with minimal dead space • The powerful ball valve for the pharmaceutical and cosmetics industries • FDA-compliant seal to FDA 21 CFR 177.1550	• 2-way manual, with lockable hand lever • 2-way and 3-way with top flange to ISO 5211, optionally with lockable hand lever • Stainless steel design • Pipe thread to ASME B1.20.1 or welded end to ASME B16.11 • Optionally with pre-assembled hand lever	• Flanged connections to ANSI B 16.5. class 150 • Static discharge assured • API 607 Fire Safe approval • Stainless steel design • Easy to service • Optionally with pre-assembled hand lever
→ Page/online	vzbd	vzbe	vzbf

Product overview

Pneumatically and mechanically actuated industrial process and media valves

	 Ball valves VZBM	 Ball valve actuator units VZBM	 Ball valves VZBA	 Ball valve actuator units VZBA
Design	2-way ball valve, 3-way ball valve, L-hole, T-hole	2-way ball valve, 3-way ball valve, quarter turn actuator	2-way ball valve, 3-way ball valve, L-shaped hole, T-shaped hole	2-way ball valve, 3-way ball valve, L-shaped hole, quarter turn actuator, T-shaped hole
Valve function	2/2, 3/2		2/2, 3/2	
Actuation type	Mechanical	Pneumatic	Mechanical	Pneumatic
Nominal width DN	8, 10, 15, 20, 25, 32, 40, 50	8, 10, 15, 20, 25, 32, 40, 50	8, 10, 15, 20, 25, 32, 40, 50, 65, 80, 100	8, 10, 15, 20, 25, 32, 40, 50, 65, 80, 100
Process valve connection	Rp1, Rp1 1/2, Rp1 1/4, Rp1/2, Rp1/4, Rp2, Rp3/4, Rp3/8	Rp1, Rp1 1/2, Rp1 1/4, Rp1/2, Rp1/4, Rp2, Rp3/4, Rp3/8	Weld-on ends/weld-on ends, Rp1, Rp1 1/2, Rp1 1/4, Rp1/2, Rp1/4, Rp2, Rp2 1/2, Rp3, Rp3/4, Rp3/8, Rp4	Weld-on ends/weld-on ends, Rp1, Rp1 1/2, Rp1 1/4, Rp1/2, Rp1/4, Rp2, Rp2 1/2, Rp3, Rp3/4, Rp3/8, Rp4
Flow rate Kv	5.9 ... 243 m³/h	5.9 ... 243 m³/h	7 ... 1414 m³/h	7 ... 1414 m³/h
Temperature of medium	-20 ... 130°C	-20 ... 130°C	-10 ... 200°C	-10 ... 200°C
Nominal pressure process valve PN	25, 40, 50	25, 40	63	63
Description	- Brass design - Pipe thread to EN 10226-1	- Ball valve actuator unit with double-acting or single-acting quarter turn actuator DFPD - Brass ball valve 2-way ball valve actuator unit with pipe thread to EN 10226-1 3-way ball valve actuator unit with L-shaped hole and pipe thread to EN 10226-1 3-way ball valve actuator unit with T-shaped hole and pipe thread to EN 10226-1 - Flow is fully opened or closed in both directions	- Automatable 2-way or 3-way ball valve - Stainless steel design - Blow-out proof shaft - Manual operation possible using hand lever - Connecting thread to EN 10226-1 - Mounting flange to ISO 5211 - Use in zone 1, 21, 2, 22	- Ball valve actuator unit with double-acting or single-acting quarter turn actuator DAPS - Stainless steel ball valve - NAMUR connection pattern for solenoid valves/limit switch attachments to VDI/VDE 3845 - Flow is fully opened or closed in both directions - Use in zone 1, 21, 2, 22
online: →	vzbm	405	386	401

Pneumatically and mechanically actuated industrial process and media valves

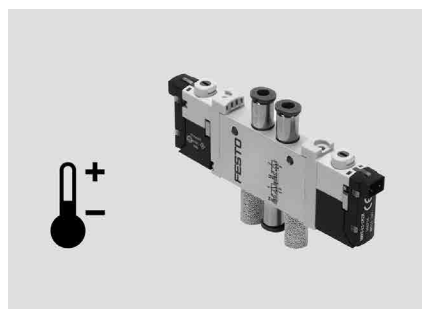
	 Ball valves VZBC	 Ball valve actuator units VZBC
Design	2-way ball valve	2-way ball valve, Semi-rotary drive
Valve function	2/2	
Actuation type	Mechanical	Pneumatic
Nominal width DN	15, 20, 25, 32, 40, 50, 65, 80, 100	15, 20, 25, 32, 40, 50, 65, 80, 100
Process valve connection	Ring housing with threaded flange	Ring housing with threaded flange
Flow rate Kv	19.4 ... 1414 m³/h	19.4 ... 1414 m³/h
Temperature of medium	-10 ... 200°C	-10 ... 200°C
Nominal pressure process valve PN	16, 40	16, 40
Description	• Automatable 2-way compact flanged ball valve • Stainless steel design • Short installed length • Blow-out proof shaft • Manual operation possible using hand lever • Flange to DIN 1092-1 • Mounting flange to ISO 5211 • Use in zone 1, 21, 2, 22	• Ball valve actuator unit with double- or single-acting quarter turn actuator DAPS • Stainless steel ball valve in compact design • NAMUR connection pattern for solenoid valves/limit switch attachments to VDI/VDE 3845 • Flow is fully opened or closed in both directions • Use in zone 1, 21, 2, 22
→ Page/online	vzbc	vzbc

Product overview

Pneumatically and mechanically actuated industrial process and media valves

	 Angle seat valves VZXF	 Angle seat valves VZXA	 Pinch valves VZQA
Design	Poppet valve with piston actuator	Poppet valve with piston actuator, poppet valve with diaphragm actuator	Pinch valve, pneumatically actuated
Valve function	2/2-way, monostable, closed	2/2	2/2-way, monostable, closed, 2/2-way, monostable, open
Actuation type	Pneumatic	Pneumatic	Pneumatic
Nominal width DN	12, 13, 16, 18, 23, 24, 29, 31, 35, 43, 45	13, 20, 25, 32, 40, 50, 65	6, 15, 25
Process valve connection			Clamp to ASME-BPE type A, clamp to ASME-BPE type B, clamp to DIN 32676 series A, 1 NPT, 1/2 NPT, 1/4 NPT, G1, G1/2, G1/4
Flow rate Kv	3.3 ... 43 m³/h	4.6 ... 77.9 m³/h	0.7 ... 18 m³/h
Temperature of medium	-40 ... 200°C	-30 ... 200°C	-15 ... 150°C
Medium pressure [MPa]	-0.09 ... 4 MPa	0 ... 3 MPa	0 ... 0.6 MPa
Medium pressure	-0.9 ... 40 bar	-0 ... 30 bar	0 ... 6 bar
Nominal pressure process valve PN	16, 40	25, 40	10
Description	- Sturdy design - Stainless steel and gunmetal (red brass) process valves with stainless steel, brass or aluminium actuators - Different actuator sizes and housing materials - Selection of different seat and shaft seals - For liquids, gases and other easily contaminated media - Easy-to-clean design	- Highly flexible, extremely high flow rates - Long service life - Stainless steel or Ecobross process valves with stainless steel or polymer actuators - Modular design - Hygienic design, insensitive to dirt - Quick and easy maintenance - Simple and sturdy: an ideal choice for virtually all media with a viscosity of 600 mm²/s - High chemical and thermal resistance - Sustainable in production thanks to the use of alternative materials	- Modular design - Quick and easy replacement of the diaphragm - For critical, abrasive and viscous media - Easy-to-clean design - Flow direction is freely selectable - Versions with end-position sensing
online: →	vzxf	388	392

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- Modified connecting thread
- Modified valve sub-bases

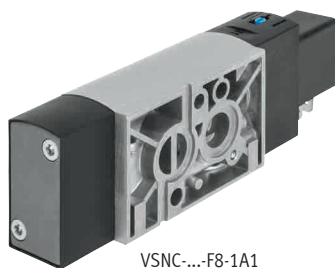
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VSNC-...-F8



VSNC-...-F8-1A1

- Connection G1/4, 1/4 NPT
- Flow rate 900 ... 1350 l/min
- Voltage 12, 24, 48 V DC, 24, 48, 120, 230 V AC
- Namur connection pattern to VDE/VDI 3845
- Solenoid actuated, piloted
- Mechanical spring return
- Can be converted from 3/2-way to 5/2-way function
- Selected types in accordance with ATEX directive for potentially explosive atmospheres
→ www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006	007	008	009	010	011	012
VSNC	F					D					

001	Type
VSNC	Solenoid valve
002	Valve type
F	Flanged valve
003	Design principle
–	Piston spool
004	Additional function
–	None
C	Convertible valve function
005	Valve function
M52	5/2-way valve, single solenoid
B52	5/2-way valve, double solenoid
P53C	5/3-way valve, mid-position closed
P53E	5/3-way valve, mid-position exhausted
P53U	5/3-way valve, mid-position pressurised
006	Reset method for single-solenoid valves
–	None (with double-solenoid valve)
M	Mechanical spring

007	Manual override
D	Non-detenting, detenting
008	Pneumatic connection
G14	G1/4
N14	1/4NPT
009	Exhaust
–	Without fitting
010	Valve pilot control interface
F8	With 8 mm armature tube, long
FN	With 9 mm armature tube
011	Nominal operating voltage
–	Without
1	24 V DC
012	Electrical connection
–	None
A1	Connecting cable type A, to EN 175301
B2	Connecting cable type B, industry standard

Legend: ☐ Mandatory entry ☐ Optional entry

Product options

Design principle	Pneumatic connection	Power consumption	Circuitry
T Poppet valve	Push-in connector 6, 8, 10 mm, 1/4", 5/16", 3/8"	11 1.1 W	F Fuse
Additional function		18 1.8 W	EU certification
AC Connections swapped and convertible valve function	Exhaust	Nominal operating voltage	EX2 II 3GD
Manual override	QN With fitting	12 V DC, 24 V AC/50-60 Hz,	EX4 II 2GD
H Non-detenting	U... With silencer	48 V AC/50-60 Hz, 60V DC/AC,	Certification
S Covered	Valve pilot control interface	110 V AC/50-60 Hz, 230 V AC/50-60 Hz	U4 Class 1 Div 1 to NEC 500
– Without	F19 Electric with 13 mm armature tube for solenoid coil	Electrical connection	Ignition protection type
	F19A Electric with 13 mm armature tube for solenoid coil, intrinsically safe	C3 Cable, 3 m	A Intrinsically safe
	P2 Interface for pilot valve size 30 mm to ISO 15218 (CNOMO)	K4 Cable connector, metric	D Flameproof enclosure
	– Standard	K11 Cable with insulating conduit connection	M Encapsulation
		Degree of protection for electrics	ME Encapsulation, enhanced safety
		S8 IP67	N Non-sparking
		S11 IP66	Electrical accessories, valve
			G Connector socket, without LED

Ordering – Product options

 Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

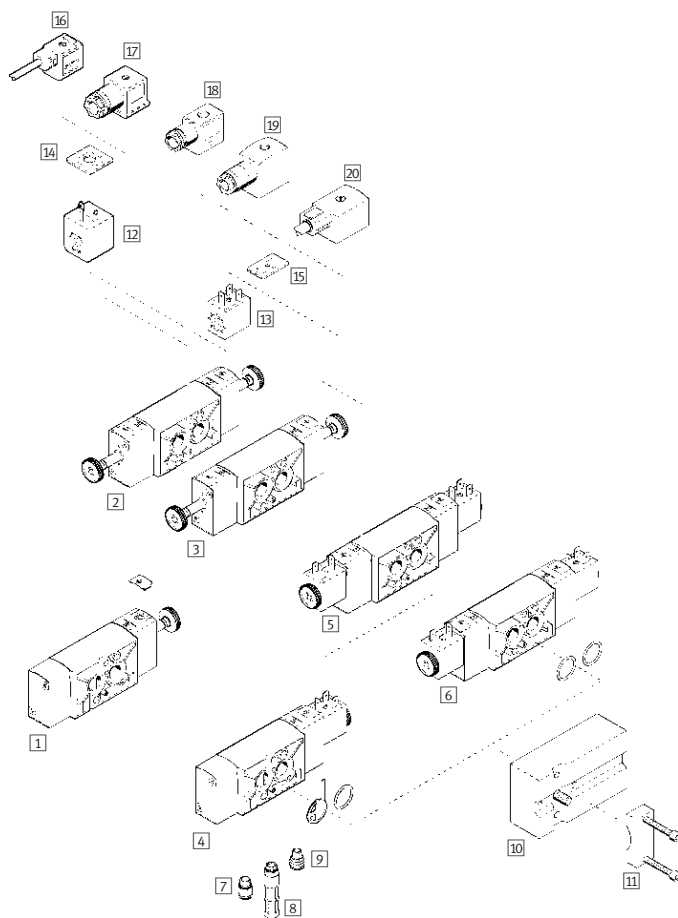
Part no.	Type
8026033	VSNC

Ordering – Basic design

Without solenoid coil, 004 Convertible valve function			With 24 V DC solenoid coil, without plug socket, 004 Convertible valve function		
008 Pneumatic connection	Type	Part no.	008 Pneumatic connection	Type	Part no.
012 Without electrical connection			012 Electrical connection		
005 5/2-way valve, single solenoid			005 5/2-way valve, single solenoid		
010 With 8 mm armature tube, long			010 With 8 mm armature tube, long		
G1/4	VSNC-FC-M52-MD-G14-F8	577257	G1/4	VSNC-FC-M52-MD-G14-F8-1B2	577295
1/4NPT	VSNC-FC-M52-MD-N14-F8	577262	Plug pattern type B, industry standard		
010 With 9 mm armature tube			G1/4	VSNC-FC-M52-MD-G14-F8-1A1	8074945
G1/4	VSNC-FC-M52-MD-G14-FN	577267	Plug pattern type A, to EN 175301		
1/4NPT	VSNC-FC-M52-MD-N14-FN	577272			

Without solenoid coil, 004 Without additional function		
008 Pneumatic connection	Type	Part no.
012 Without electrical connection		
005 5/2-way valve, double solenoid		
010 With 8 mm armature tube, long		
G1/4	VSNC-F-B52-D-G14-F8	577258
1/4NPT	VSNC-F-B52-D-N14-F8	577263
010 With 9 mm armature tube		
G1/4	VSNC-F-B52-D-G14-FN	577268
1/4NPT	VSNC-F-B52-D-N14-FN	577273
005 5/3-way valve, mid-position closed		
010 With 8 mm armature tube, long		
G1/4	VSNC-F-P53C-MD-G14-F8	577259
1/4NPT	VSNC-F-P53C-MD-N14-F8	577264
010 With 9 mm armature tube		
G1/4	VSNC-F-P53C-MD-G14-FN	577269
1/4NPT	VSNC-F-P53C-MD-N14-FN	577274
005 5/3-way valve, mid-position exhausted		
010 With 8 mm armature tube, long		
G1/4	VSNC-F-P53U-MD-G14-F8	577260
1/4NPT	VSNC-F-P53U-MD-N14-F8	577265
010 With 9 mm armature tube		
G1/4	VSNC-F-P53U-MD-G14-FN	577270
1/4NPT	VSNC-F-P53U-MD-N14-FN	577275
005 5/3-way valve, mid-position pressurised		
010 With 8 mm armature tube, long		
G1/4	VSNC-F-P53E-MD-G14-F8	577261
1/4NPT	VSNC-F-P53E-MD-N14-F8	577266
010 With 9 mm armature tube		
G1/4	VSNC-F-P53E-MD-G14-FN	577271
1/4NPT	VSNC-F-P53E-MD-N14-FN	577276

Accessories



Solenoid valves VSNC...-F8

- 1 3/2-way and 5/2-way valve, single solenoid → 174
- 2 5/2-way valve, double solenoid → vsnc
- 3 5/3-way valve, single solenoid, normally open, closed or exhausted → vsnc
- 4 3/2-way and 5/2-way valve, single solenoid, with solenoid coil → 174
- 5 5/2-way valve, double solenoid, with solenoid coil → 174
- 6 5/3-way valve, single solenoid, normally open, closed or exhausted, with solenoid coil → 174
- 7 Push-in fitting QS → 332
- 8 Silencer U → 357
- 9 Exhaust protection VABD-D3-SN-G14 → vsnc
- 10 Connection kit VABF-S7-S-G14 → vsnc
- 11 Mounting bracket VAME-S7-Y → vsnc

- 12 Solenoid coil VACF-A → 175
- 13 Solenoid coil VACF-B → 175
- 14 Illuminating seal MC-LD → vsnc
- 15 Illuminating seal MF-LD → vsnc
- 16 Connecting cable KMC → vsnc
- 17 Plug socket MSSD-C → vsnc
- 18 Plug socket MSSD-F → vsnc
- 19 Plug socket MSSD-F-S → vsnc
- 20 Connecting cable KMF → kmf

For armature tube 8 mm

12/13 Solenoid coil VACF for solenoid valve VSNC-FC-M52-MD-G14-F8

Description	Type	Part no.
Connection pattern to industry standard, type B		
	12 V DC; 3,4 W	VACF-B-B2-5 8030801
	24 V DC; 3,3 W	VACF-B-B2-1 8030802
	48 V DC; 3,4 W	VACF-B-B2-7 8030803
	24 V AC; 50/60 Hz	VACF-B-B2-1A 8030804
	48 V AC; 50/60 Hz	VACF-B-B2-7A 8030805
	110/120 V AC; 50/60 Hz	VACF-B-B2-16B 8030806
	230/240 V AC; 50/60 Hz	VACF-B-B2-3W 8030808

Description	Type	Part no.
Connection pattern to DIN EN 175301-803, type A		
	12 V DC; 2,8 W	VACF-A-A1-5 8030821
	24 V DC; 2,6 W	VACF-A-A1-1 8030822
	48 V DC; 2,8 W	VACF-A-A1-7 8030823
	24 V AC; 50/60 Hz	VACF-A-A1-1A 8030824
	48 V AC; 50/60 Hz	VACF-A-A1-7A 8030825
	110/120 V AC; 50/60 Hz	VACF-A-A1-16B 8030826
	230/240 V AC; 50/60 Hz	VACF-A-A1-3W 8030828

For armature tube 9 mm

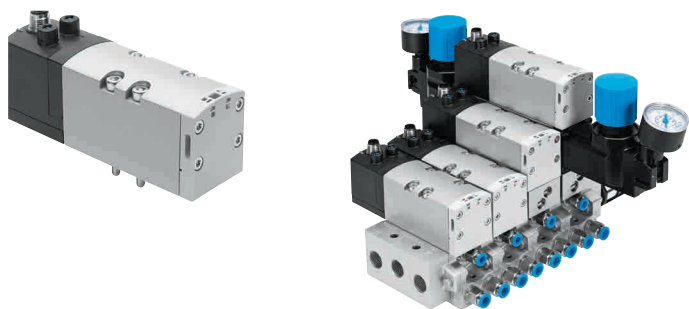
Solenoid coil VACN-N

Description	Type	Part no.
Plug pattern type A, to EN 175301		
Type of ignition protection: intrinsically safe Ex-ia		
	24 V DC, minimum switching current 27 mA	VACN-N-A1-1-EX4-A 8029139
Type of ignition protection: non-sparking Ex nA		
	24 V DC; 2,1 W	VACN-N-A1-1-EX2-N 8029136
	110 V AC; 50/60 Hz	VACN-N-A1-16B-EX2-N 8029137
	230 V AC; 50/60 Hz	VACN-N-A1-3A-EX2-N 8029138
Degree of protection IP65 with socket		
	24 V DC; 0,7 W	VACN-N-A1-1 8029144
	110 V AC; 50/60 Hz	VACN-N-A1-16B 8029134
	230 V AC; 50/60 Hz	VACN-N-A1-3A 8029135

Description	Type	Part no.
Cable		
Type of ignition protection: encapsulated Ex me		
	230 V AC; 50/60 Hz	VACN-N-K11-3A-EX4-M 8029141
	110 V AC; 50/60 Hz	VACN-N-K11-16B-EX4-M 8029142
	24 V DC; 2,6 W	VACN-N-K11-1-EX4-M 8029143
Cable with insulating conduit connection		
Type of ignition protection: encapsulated AEx m, Class 1, Div 1 to NEC 500		
	230 V AC; 50 Hz	VACN-N-K111-3A-0.5-U4-M 8029140
	120 V AC; 60 Hz	VACN-N-K111-16B-0.5-U4-M 8029145
	24 V DC; 4,6 W	VACN-N-K111-1-0.5-U4-M 8029146

Electrically and pneumatically actuated directional control valves › Standards-based directional control valves ›

Solenoid valves VSVA, to ISO 5599-1



- High-performance valves in a sturdy metal design
- Width 42 mm/ISO size 1
- Flow rate up to 1300 l/min
- Solenoid coil with central plug M12, 24 V DC
- Wide range of vertical stacking modules: pressure regulator, flow control, vertical pressure shut-off plate, etc.
- Valve on individual sub-base or for manifold assembly

Order code

001	002	003	004	005	006	007	008	009	010
VSVA	B					D1	1	R5	L

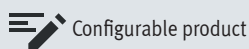
Legend: Mandatory entry Optional entry

001	Type
VSVA	Standards-based valves to ISO 5599-1
002	Valve type
B	Sub-base valve
003	Valve function
M52	5/2-way valve, single solenoid
B52	5/2-way valve, double solenoid
004	Reset method for single-solenoid valves
–	None (with double-solenoid valve)
A	Pneumatic spring
M	Mechanical spring
005	Pilot air
–	Internal

006	Manual override
D	Non-detenting/detenting
H	Non-detenting
007	Pneumatic connection
D1	42 mm (1) ISO 5599-1/-2
008	Nominal operating voltage
1	24 VDC
009	Electrical connection
R5	Central plug M12
010	Signal status display
L	LED

Product options

D52	5/2-way valve, double solenoid, dominant signal	T32U	2x 3/2-way valve, normally open	T32W	2x 3/2-way valve, 1x normally open, 1x normally closed, reversible	Pneumatic connection
P53C	5/3-way valve, mid-position closed	T32H	2x 3/2-way valve, normally 1x open, 1x closed			A2 18 mm (02) ISO 15407-1 → 178
P53E	5/3-way valve, mid-position exhausted	T32F	2x 3/2-way valve, normally open, reversible	T22C	2x 2/2-way valve, normally closed	A1 26 mm (01) ISO 15407-1 → 178
P53U	5/3-way valve, mid-position pressurised	T32N	2x 3/2-way valve, normally closed, reversible	Pilot air		D2 52 mm (2) ISO 5599-1
T32C	2x 3/2-way valve, normally closed			Z	External	Electrical connection
						R2 Central plug M8



Configurable product

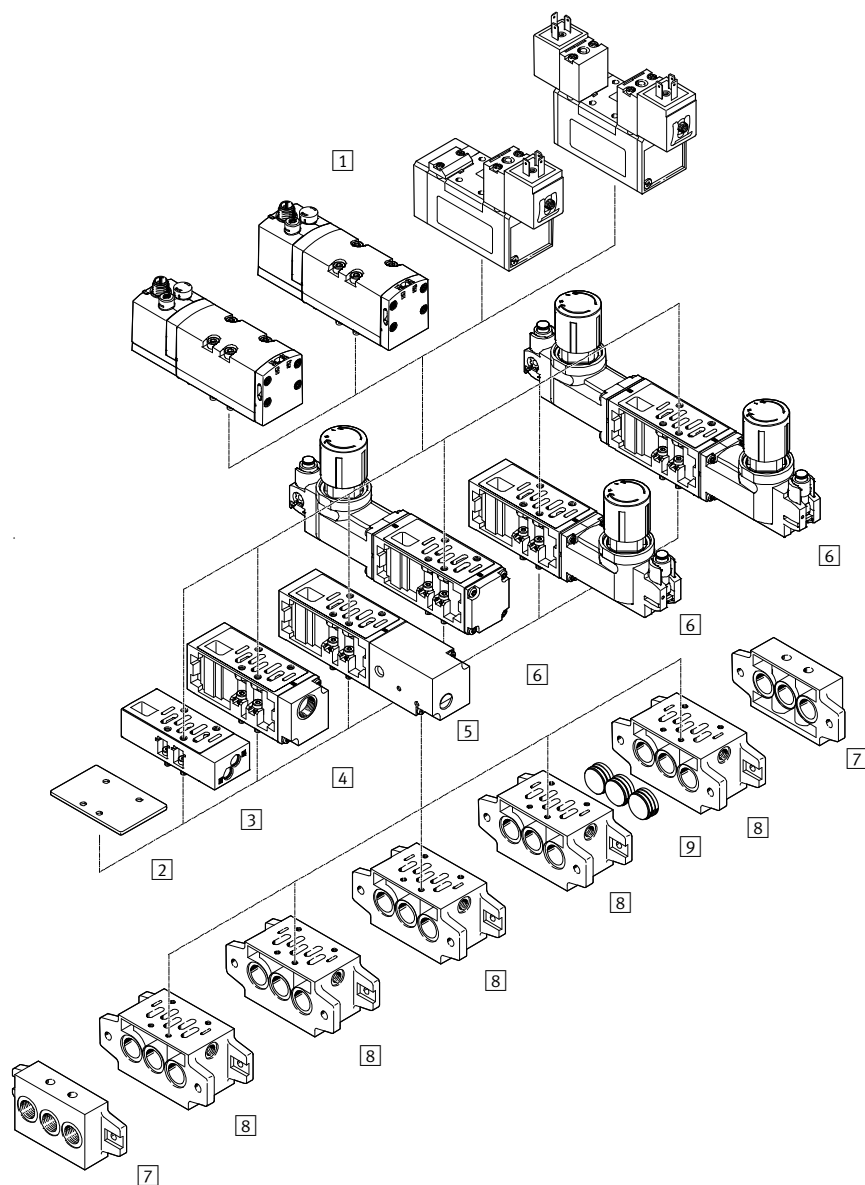
This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/vsva

Ordering – Basic design

003 Valve function	004 Reset method	007 Pneumatic connection	Type	Part no.
5/2-way valve, single solenoid	Reset method: pneumatic spring	42 mm (1) ISO 5599-1/-2	VSVA-B-M52-AD-D1-1R5L	561362
5/2-way valve, single solenoid	Reset method: mechanical spring		VSVA-B-M52-MD-D1-1R5L	561363
5/2-way valve, double solenoid	Without, dominance: 1st signal		VSVA-B-B52-D-D1-1R5L	561364

Accessories



Manifold assembly

- 1 Solenoid valve VSVA with central plug M12, 3-pin
Individual sub-base NAS, NAU
→ 177
- 2 Blanking plate NDV → 177
- 3 Flow control plate
VABF-S1-...-F1B1-C, GRO-ZP-...
→ [vsva](#)
- 4 Vertical pressure supply plate
VABF-S1-...-P1A3-G38 → [vsva](#)
- 5 Vertical pressure shut-off plate
VABF-S1-...-L1D1-C → [vsva](#)
- 6 Regulator plate VABF-S1-...-R...,
LR-ZP-... → [vsva](#)
- 7 End plate kit NEV → 177
- 8 Manifold sub-base NAV → 177
- 9 Isolating disc NSC → 177

Manifold sub-base with 90°
connections NAVW → 177

1 Individual sub-base NAS, NAU		
For	Type	Part no.
Pneumatic ports on the side		
42 mm	NAS-1/4-1A-ISO	9484
Pneumatic ports underneath		
42 mm	NAU-1/4-1B-ISO	9485
2 Blanking plate NDV		
For	Type	Part no.
42 mm	NDV-1-ISO	9489

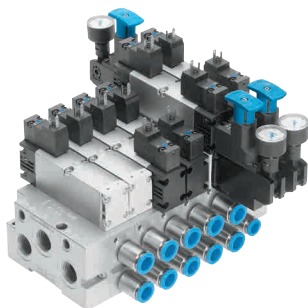
7 End plate kit NEV		
For	Type	Part no.
42 mm	NEV-1DA/DB-ISO	10174
8 Manifold sub-base NAV		
For	Type	Part no.
Connections underneath		
42 mm	NAV-1/4-1C-ISO	10173

9 Isolating disc NSC		
For	Type	Part no.
42 mm	NSC-1/4-1-ISO	11550

Manifold sub-base with 90° connections NAVW		
For	Type	Part no.
Connections on the side and underneath		
42 mm	NAVW-1/4-1-ISO	152789

Electrically and pneumatically actuated directional control valves > Standards-based directional control valves >

Solenoid valves VSVA, to ISO 15407-1



- High-performance valves in a sturdy metal housing
- Width of standards-based valve 18/26 mm, flow rates up to 1400 l/min
- Manifold assembly with mixture of sizes possible
- Electrical connection with round or square plug socket
- Complete and standardised valve range
- Wide range of vertical stacking modules: pressure regulator, flow control valve, vertical pressure shut-off plate, etc.

Order code

001	002	003	004	005	006	007	008	009	010	011
VSVA	B				H		1			

Legend: Mandatory entry Optional entry

001	Type
VSVA	Standards-based valves, to ISO 15407-1
002	Valve type
B	Sub-base valve
003	Valve function
M52	5/2-way valve, single solenoid
B52	5/2-way valve, double solenoid
P53E	5/3-way valve, mid-position exhausted
004	Reset method for single-solenoid valves
–	None (with double-solenoid valve)
A	Pneumatic spring
M	Mechanical spring
005	Pilot air supply
–	Internal
006	Manual override
H	Non-detenting

007	Pneumatic connection
A1	26 mm (01) ISO 15407-1/-2
A2	18 mm (02) ISO 15407-1/-2
008	Nominal operating voltage
1	24 V DC
009	Electrical connection
C1	Connection pattern type C, to EN 175 301
R5	Central plug M12
010	Signal status display
–	None
L	LED (integrated)
011	Position sensing
–	None

Product options

D52	5/2-way valve, double solenoid with dominant signal at 14	T32F	2x 3/2-way valve, normally open, reverse operation	Pilot air	Z External	Electrical connection	R2 Central plug M8x1
P53C	5/3-way valve, mid-position closed	T32N	2x 3/2-way valve, normally open, reverse operation	Manual override	D Non-detenting, detenting		R3 Individual plug M12
P53U	5/3-way valve, mid-position pressurised	T32W	2x 3/2-way valve, normally 1x open, 1x closed, reverse operation	–	Without		P1 Interface for pilot valve (CNOMO small)
T32C	2x 3/2-way valve, normally closed	T22C	2x 2/2-way valve, normally closed	Pneumatic connection	D... ISO 5599-1 → 176	Position sensing	APC Proximity switch PNP with open cable end
T32U	2x 3/2-way valve, normally open			Nominal operating voltage	12 V DC, 24 V AC, 50/60 Hz, 110 V AC, 50/60 Hz, 230 V AC, 50/60 Hz		APP Proximity switch PNP with plug M8
T32H	2x 3/2-way valve, normally 1x open, 1x closed						ANC Proximity switch NPN with open cable end
							ANP Proximity switch NPN with plug M8



Configurable product

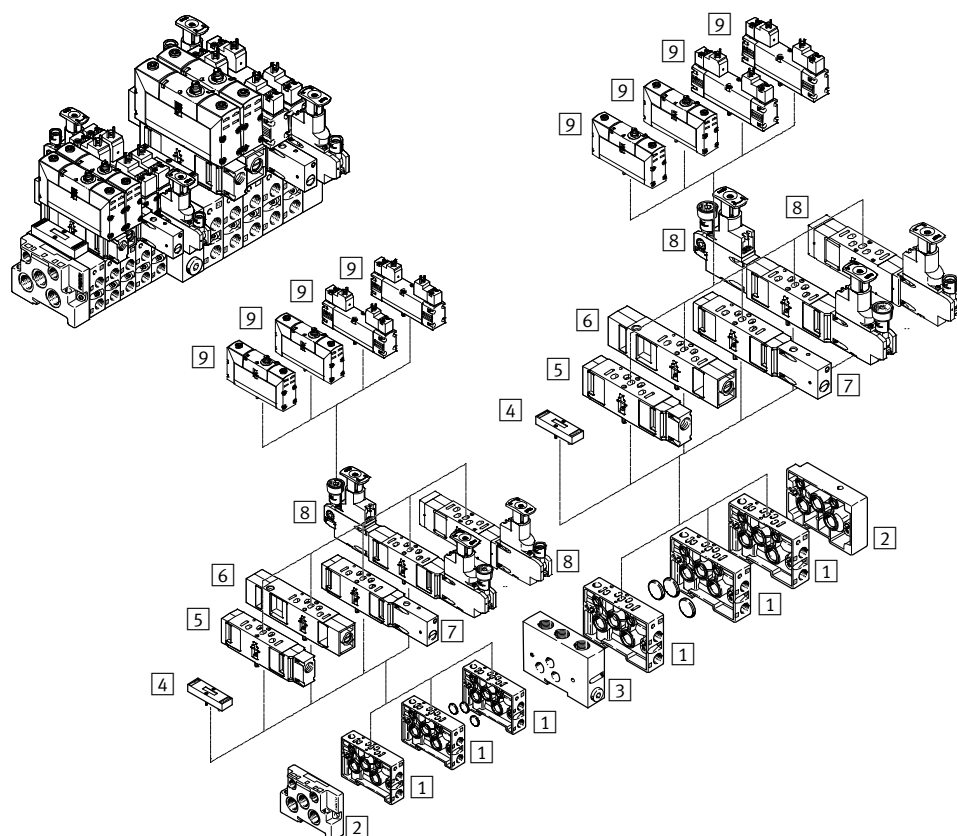
This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/vsva

Ordering – Basic design

003 Valve function	007 Pneumatic connection A1 26 mm (01) ISO 15407-1/-2		007 Pneumatic connection A2 18 mm (02) ISO 15407-1/-2	
	Type	Part no.	Type	Part no.
009 Electrical connection R5: with central plug M12				
5/2-way valve, single solenoid	VSVA-B-M52-AH-A1-1R5L	534555	VSVA-B-M52-AH-A2-1R5L	546767
	VSVA-B-M52-MH-A1-1R5L	534556	VSVA-B-M52-MH-A2-1R5L	546768
5/2-way valve, double pilot	VSVA-B-B52-H-A1-1R5L	534557	VSVA-B-B52-H-A2-1R5L	546769
5/3-way valve, mid-position exhausted	VSVA-B-P53E-H-A1-1R5L	534560		
009 Electrical connection C1: type C to EN 175301 (with pilot control with square plug type C to EN 175301-803)				
5/2-way valve, single solenoid	VSVA-B-M52-AH-A1-1C1	546700	VSVA-B-M52-AH-A2-1C1	546701
	VSVA-B-M52-MH-A1-1C1	546702	VSVA-B-M52-MH-A2-1C1	546703
5/2-way valve, double pilot	VSVA-B-B52-H-A1-1C1	546696	VSVA-B-B52-H-A2-1C1	546697
5/3-way valve, mid-position exhausted	VSVA-B-P53E-H-A1-1C1	546706		

Accessories



Manifold assembly

- 1 Manifold sub-base NAW with ports 2 and 4 on the side → 179
- 2 End plate kit NEV for sealing the manifold sub-bases → 179
- 3 Intermediate plate NZV for connecting width 18 mm with width 26 mm → [vsva](#)
- 4 Blanking plate NDV for vacant or spare positions → [vsva](#)
- 5 Vertical supply plate VABF...P1-A3 for intermediate air supply → [vsva](#)
- 6 Flow control plate VABF...F1-B1 for flow control in ducts 3 and 5 → [vsva](#)
- 7 Vertical pressure shut-off plate VABF...L1-D1 with switch for manual shut-off of duct 1 → [vsva](#)
- 8 Regulator plate VABF...R...-C2 → [vsva](#)
- 9 Solenoid valve VSVA → 178

Individual sub-base NAS → 179

1 Manifold sub-base NAW with ports 2 and 4 on the side		
For	Type	Part no.
26 mm	NAW-1/4-01-VDMA	161102
18 mm	NAW-1/8-02-VDMA	161110

2 End plate kit NEV		
For	Type	Part no.
26 mm	NEV-01-VDMA	161104
18 mm	NEV-02-VDMA	161112

4 Blanking plate NDV		
For	Type	Part no.
26 mm	NDV-01-VDMA	161107
18 mm	NDV-02-VDMA	161114

Individual sub-base NAS		
For	Type	Part no.
26 mm	NAS-1/4-01-VDMA	161109
18 mm	NAS-1/8-02-VDMA	161115

Electrically and pneumatically actuated directional control valves > Universal directional control valves >
Solenoid valves VUVG

Designed for reliable and easy operation

The VUVG has been a huge success since it was introduced. This is without doubt due to its first-class pneumatic performance of the VUVG as well as numerous other technical features.

Integrated LED for 360 degree view – convenient for a fast status overview as well as reduced downtimes.

Standard: the non-detenting/detenting manual override for easy commissioning with cover if required.

Click! Just snap it in and it's done.
 E-box with numerous connection options for optimum integration into your system concept.

Retained mounting screws: robust, secure mounting, no lost parts.

Direction indicator: detent for correct valve installation.

Imperial connections (inch) can be easily realised with hybrid fittings.

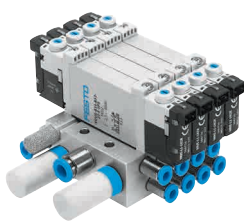
Captive seal integrated into the valve.

Make the most of the available installation space with a host of connection options and functions.

Several pressure zones possible – quickly and easy with separators.

Individual valves can be mounted one behind the other without an extra manifold rail or bracket thanks to the side holes.

No additional components required to mount an individual valve onto a valve manifold.

In-line valve VUVG-L10 with seal
VABD-L1-10XSub-base valve
VUVG-B10

- Connection technology via electrical connection box (E-box)
- Specific I-Port interface from Festo for fieldbus node
- IO-Link mode for direct connection to a higher-level IO-Link master
- Festo-specific I-Port interface with interlock
- Variable multi-pin plug connection using Sub-D or flat cable
- Sturdy and durable metal components
- Reversible piston spool valves
- Up to 24 valve positions

Order code – Basic design

001	002	003	004	005	006	007	008	009	010	011	012	013	014	015
VUVG							T			1		L		

001	Type	008	Manual override
VUVG	Solenoid valve for standard applications	T	Non-detenting, detenting via accessory
002	Valve type	009	Pneumatic connection
B	Sub-base valve	M5	M5 thread
L	In-line valve/individual valve	M7	M7 thread
003	Design principle	G18	G1/8 thread
–	Piston spool with sealing cartridge	G14	G1/4 thread
K	Piston spool with sealing ring	F	Flange/sub-base
004	Size	010	Exhaust
10	Size 10	–	Without fitting
14	Size 14	011	Nominal operating voltage
18	Size 18	1	24 V DC
005	Valve function	012	Electrical connection
B52	5/2-way valve, double solenoid	R8	M8 individual plug, 3-pin
M52	5/2-way valve, single solenoid	H2	Connection pattern H, horizontal plug
P53C	5/3-way valve, mid-position closed	013	Signal status display
T32C	2x 3/2-way valve, normally closed	L	LED (integrated)
006	Reset method for single-solenoid valves	014	Version
–	Without, for valve function B52 and P53	–	Extended features
A	Pneumatic spring, for valve function T32 and M52	S	Core features
M	Mechanical spring, for valve function M52	015	Electrical accessories, valve
R	Pneumatic/mechanical spring, for valve function M52	–	None
007	Pilot air supply		
–	Internal		

Legend: ☐ Mandatory entry ☐ Optional entry

Product options

Valve type	T32H	2x3/2-way valve, 1x closed, 1x open	Exhaust	S...	Connection pattern S
S			U	L...	With flying leads
Valve functions		Pilot air supply	QN	K...	With cable
M32C		Z		R...	Individual plugs
		External		P3	Without electrical connection box
M32U		S			
		Covered		P1	Interface for pilot valve size 15 mm to ISO 15218 (CNOMO)
P53U		H			Electrical accessories, valve
		Non-detenting			Connecting cables, connector sockets
P53E		Y			
		Detenting			
T32C		–			
		Without			
T32U		Pneumatic connection			
		Push-in connector 3 ... 10 mm, 5/32" ... 3/8"			
			Electrical connection		
			T1		
			H...		

Ordering – Product options

 Configurable product

This product and all its product options can be ordered online via the configurator:
→ www.festo.com/catalogue/...
Enter the part number or the type.

Part no.

564212

575203

Type

VUVG

VUVG-...T1

012 Electrical connection

Individual connection

Plug-in

Ordering – Basic design

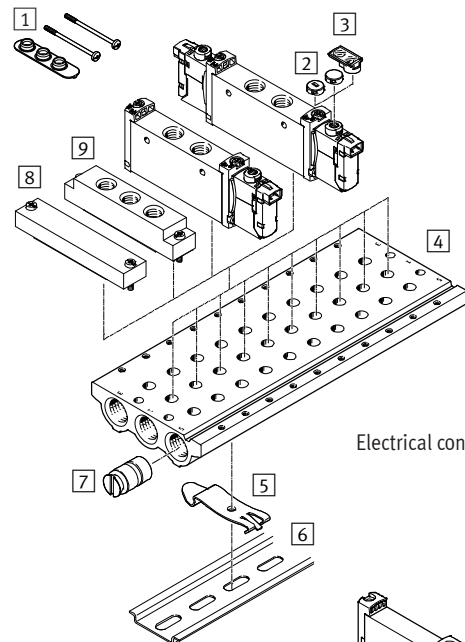
014 Core features						
004 Size	Type	Part no.	Type	Part no.	Type	Part no.
012 Electrical connection box R8 with individual plug M8, 002 In-line valve/individual valve, 003 Piston spool with sealing ring						
	005 2x3/2-way, normally closed		005 5/2-way, single solenoid		005 5/2-way, double solenoid	
	006 Pneumatic spring		006 Pneumatic spring		006 –	
	Size 10	VUVG-LK10-T32C-AT-M5-1R8L-S 8042542	VUVG-LK10-M52-AT-M5-1R8L-S 8042543	VUVG-LK10-B52-T-M5-1R8L-S 8042551	VUVG-LK10-B52-T-M7-1R8L-S 8042552	8042544
	Size 14	VUVG-LK14-T32C-AT-G18-1R8L-S 8042566	VUVG-LK14-M52-AT-G18-1R8L-S 8042567	VUVG-LK14-B52-T-G18-1R8L-S 8042568		
012 Electrical connection box H2 with horizontal plug, 002 In-line valve/individual valve, 003 Piston spool with sealing ring						
	005 2x3/2-way, normally closed		005 5/2-way, single solenoid		005 5/2-way, double solenoid	
	006 Pneumatic spring		006 Pneumatic spring		006 –	
	Size 10	VUVG-LK10-T32C-AT-M5-1H2L-S 8042538	VUVG-LK10-M52-AT-M5-1H2L-S 8042539	VUVG-LK10-B52-T-M5-1H2L-S 8042547	VUVG-LK10-B52-T-M7-1H2L-S 8042548	8042540
	Size 14	VUVG-LK14-T32C-AT-G18-1H2L-S 8042562	VUVG-LK14-M52-AT-G18-1H2L-S 8042563	VUVG-LK14-B52-T-G18-1H2L-S 8042564		
012 Electrical connection box R8 with individual plug M8, 002 Sub-base valve, 003 Piston spool with sealing ring						
	005 2x3/2-way, normally closed		005 5/2-way, single solenoid		005 5/2-way, double solenoid	
	006 Pneumatic spring		006 Pneumatic spring		006 –	
	Size 10	VUVG-BK10-T32C-AT-F-1R8L-S 8042558	VUVG-BK10-M52-AT-F-1R8L-S 8042559	VUVG-BK10-B52-T-F-1R8L-S 8042575	VUVG-BK10-B52-T-F-1R8L-S 8042576	8042560
	Size 14	VUVG-BK14-T32C-AT-F-1R8L-S 8042574	VUVG-BK14-M52-AT-F-1R8L-S 8042575	VUVG-BK14-B52-T-F-1R8L-S 8042576		
012 Electrical connection box H2 with horizontal plug, 002 Sub-base valve, 003 Piston spool with sealing ring						
	005 2x3/2-way, normally closed		005 5/2-way, single solenoid		005 5/2-way, double solenoid	
	006 Pneumatic spring		006 Pneumatic spring		006 –	
	Size 10	VUVG-BK10-T32C-AT-F-1H2L-S 8042554	VUVG-BK10-M52-AT-F-1H2L-S 8042555	VUVG-BK10-B52-T-F-1H2L-S 8042571	VUVG-BK10-B52-T-F-1H2L-S 8042572	8042556
	Size 14	VUVG-BK14-T32C-AT-F-1H2L-S 8042570	VUVG-BK14-M52-AT-F-1H2L-S 8042571	VUVG-BK14-B52-T-F-1H2L-S 8042572		
014 Extended features						
004 Size	Type	Part no.	Type	Part no.	Type	Part no.
012 Electrical connection box R8 with individual plug M8, 002 In-line valve/individual valve, 003 Piston spool with sealing cartridge						
	005 2x3/2-way, normally closed		005 5/2-way, single solenoid		005 5/2-way, double solenoid	
	006 Pneumatic spring		006 Pneumatic/mechanical spring		006 –	
	Size 10	VUVG-L10-T32C-AT-M5-1R8L 577347	VUVG-L10-M52-RT-M5-1R8L 572634	VUVG-L10-B52-T-M5-1R8L 574221	VUVG-L10-B52-T-M7-1R8L 574222	576664
	Size 14	VUVG-L14-T32C-AT-M7-1R8L 574218	VUVG-L10-M52-RT-M7-1R8L 574221	VUVG-L14-B52-T-G18-1R8L ¹⁾ 574229	VUVG-L14-B52-T-G18-1R8L 574230	574222
Size 18	VUVG-L18-T32C-AT-G18-1R8L 8031525	VUVG-L18-M52-AT-G18-1R8L ¹⁾ 8031531	VUVG-L18-M52-RT-G14-1R8L 8031532			
		VUVG-L18-M52-MT-G14-1R8L ²⁾ 8031532				
	005 5/3-way, mid-position closed					
	006 –					
	Size 10	VUVG-L10-P53C-T-M5-1R8L 577346				
	Size 14	VUVG-L10-P53C-T-M7-1R8L 574223				
Size 18	VUVG-L14-P53C-T-G18-1R8L 574231	VUVG-L18-P53C-T-G14-1R8L 8031534				

1) 006 Pneumatic spring

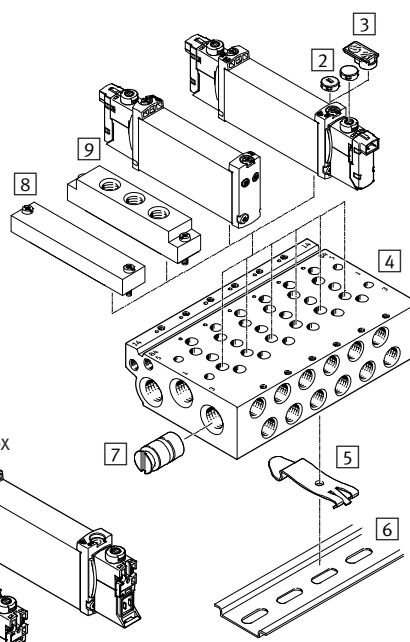
2) 006 Mechanical spring

Accessories

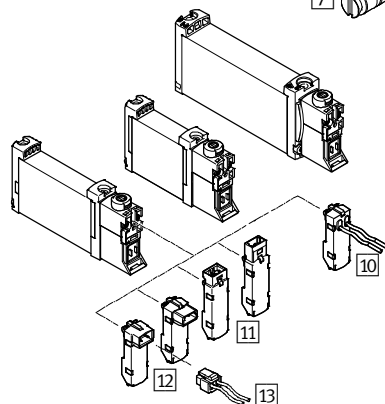
In-line valve VUVG-L with seal



Sub-base valve VUVG-B



Electrical connection box



- 1 Seal VABD-L1-10X for in-line valve → 183
 - 2 Cover VMPA-HBT-B for manual override, non-detenting → 183
 - 3 Inscription label holder ASLR-D for labelling the valves, covering the mounting screw and the manual override → 183
 - 4 Manifold rail VABM for 2 to 10 valve positions → 184
 - 5 H-rail mounting VAME-T-M4 for fitting the valve manifold on an H-rail → 183
 - 6 H-rail NRH-35-2000 for mounting → nrh-35
 - 7 Separator VABD-B for creating pressure zones → 184
 - 8 Blanking plate VABB for covering an unused valve position → 184
 - 9 Supply plate VABF → 184
- Electrical connection box VAVE
- 10 With flying leads → 184
 - 11 With vertical plug → 184
 - 12 With horizontal plug → 184
 - 13 Plug socket with cable NEBV, open end → 184

1 Seal VABD-L1-10X			
Size	Pneum. Connection	Type	Part no.
For VUVG-L			
002 In-line valve/individual valve, 003 Piston spool with sealing cartridge			
10	M5	VABD-L1-10X-S-M5	566672
10	M7	VABD-L1-10X-S-M7	566673
14	G1/8	VABD-L1-14X-S-G18	566675
18	G1/4	VABD-L1-18X-S-G14	574479
18	G1/4	VABD-L1-18B-S-G14	574480
For VUVG-LK			
002 In-line valve/individual valve, 003 Piston spool with sealing ring			
10	M5	VABD-L1-10XK-S-M5	8043718
10	M7	VABD-L1-10XK-S-M7	8043719
14	G1/8	VABD-L1-14XK-S-G18	8043720

2/3/5 Cover VMPA/inscription label holder ASLR/H-rail mounting VAME		
Size	Type	Part no.
10, 14, 18	VMPA-HBT-B (10 Stück)	540897
10, 14, 18	ASLR-D-L1 (10 Stück)	570818
10, 14 18	VAME-T-M4 (2 Stück)	569998

Electrically and pneumatically actuated directional control valves > Universal directional control valves >

Solenoid valves VUVG

Accessories

4 Manifold rail VABM				
Size	Connection ¹⁾	Valve positions	Type	Part no.
For individual valve VUVG-L with seal VABD-L1-10X 1				
10	M5/M7	2	VABM-L1-10S-G18-2	566558
		3	VABM-L1-10S-G18-3	566559
		4	VABM-L1-10S-G18-4	566560
		6	VABM-L1-10S-G18-6	566562
		8	VABM-L1-10S-G18-8	566564
		10	VABM-L1-10S-G18-10	566566
14	G1/4	2	VABM-L1-14S-G14-2	566618
		3	VABM-L1-14S-G14-3	566619
		4	VABM-L1-14S-G14-4	566620
		6	VABM-L1-14S-G14-6	566622
		8	VABM-L1-14S-G14-8	566624
		10	VABM-L1-14S-G14-10	566626
18	G3/8	2	VABM-L1-18S-G38-2	574455
		3	VABM-L1-18S-G38-3	574456
		4	VABM-L1-18S-G38-4	574457
		6	VABM-L1-18S-G38-6	574459
		8	VABM-L1-18S-G38-8	574461
		10	VABM-L1-18S-G38-10	574463
For sub-base valve VUVG-B				
10	M5	2	VABM-L1-10W-G18-2	566582
		3	VABM-L1-10W-G18-3	566583
		4	VABM-L1-10W-G18-4	566584
		6	VABM-L1-10W-G18-6	566586
		8	VABM-L1-10W-G18-8	566588
		10	VABM-L1-10W-G18-10	566590
	M7	2	VABM-L1-10HW-G18-2	566606
		3	VABM-L1-10HW-G18-3	566607
		4	VABM-L1-10HW-G18-4	566608
		6	VABM-L1-10HW-G18-6	566610
		8	VABM-L1-10HW-G18-8	566612
		10	VABM-L1-10HW-G18-10	566614
14	G1/8	2	VABM-L1-14W-G18-2	566642
		3	VABM-L1-14W-G18-3	566643
		4	VABM-L1-14W-G18-4	566644
		6	VABM-L1-14W-G18-6	566646
		8	VABM-L1-14W-G18-8	566648
		10	VABM-L1-14W-G18-10	566650
18	G3/8	2	VABM-L1-18W-G38-2	574467
		3	VABM-L1-18W-G38-3	574468
		4	VABM-L1-18W-G38-4	574469
		6	VABM-L1-18W-G38-6	574471
		8	VABM-L1-18W-G38-8	574473
		10	VABM-L1-18W-G38-10	574475

1) VABM-L1-...S: Supply ports 1, 3, 5
VABM-L1-...W, VABM-L1-...HW: working ports 2, 4

7 Separator VABD-B		
Size	Type	Part no.
For individual valve VUVG-L		
10	VABD-8-B	569995
14	VABD-10-B	569996
18	VABD-12-B	569997
For sub-base valve VUVG-B		
10	VABD-6-B	569994
14	VABD-10-B	569996
18	VABD-12-B	569997

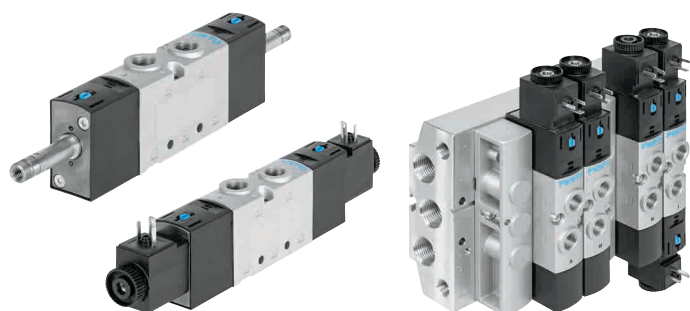
8 Blanking plate VABB		
Size	Type	Part no.
For individual valve VUVG-L		
10	VABB-L1-10-S	566462
14	VABB-L1-14	569989
18	VABB-L1-18	574482
For sub-base valve VUVG-B		
10	VABB-L1-10-W	566495
14	VABB-L1-14	569989
18	VABB-L1-18	574482

9 Supply plate VABF			
Size	Connection	Type	Part no.
For individual valve VUVG-L			
10	M5	VABF-L1-10-P3A4-M5	569991
10	M7	VABF-L1-10-P3A4-M7	569992
14	G1/8	VABF-L1-14-P3A4-G18	569993
18	G1/4	VABF-L1-18-P3A4-G14	574481
For sub-base valve VUVG-B			
10	M5	VABF-L1-10-P3A4-M5	569991
10	M7	VABF-L1-10-P3A4-M7	569992
14	G1/8	VABF-L1-14-P3A4-G18	569993
18	G1/4	VABF-L1-18-P3A4-G14	574481

10/11/12 Electrical connection box VAVE		
Description	Type	Part no.
10 With flying leads, LED, protective circuit		
0.5 m, 24 and 12 V DC	VAVE-L1-1VL1-LP ¹⁾	566722
1 m	VAVE-L1-1VL2-LP ¹⁾	566723
2.5 m	VAVE-L1-1VL3-LP ¹⁾	566724
1 m	VAVE-L1-1VK7-LP ³⁾	573942
11 Vertical plug, LED, protective circuit		
24 and 12 V DC	VAVE-L1-1VH3-LP ¹⁾	566715
aB Horizontal plug, LED, protective circuit		
24 and 12 V DC	VAVE-L1-1VH2-LP ¹⁾	566714
24 V DC	VAVE-L1-1H2-LR ²⁾	566716
24 and 12 V DC	VAVE-L1-1VR8-LP ³⁾	573919

1) Additional functions: spark arresting, bipolar, IP40
2) Additional functions: spark arresting, reduction of holding current, IP40
3) Additional functions: spark arresting, bipolar, IP65

13 Plug socket with cable NEBV			
Description	Cable length	Type	Part no.
Straight socket, 2-pin			
Flying leads, open end	0.5 m	NEBV-H1G2-KN-0.5-LE	566654
	1 m	NEBV-H1G2-KN-1-LE2	566655
	2.5 m	NEBV-H1G2-KN-2.5-LE	566656
Individual cable, 0.5 m, open end, 2-pin	0.5 m	NEBV-H1G2-P-0.5-LE2	566658
	1 m	NEBV-H1G2-P-1-LE2	566659
	2.5 m	NEBV-H1G2-P-2.5-LE2	566660



- Width of valves 20 (21 mm), 25 (26.5 mm), 30 (31 mm), flow rate up to 2300 l/min
- In-line valves can be used as individual valves or manifold valves
- Variable pressure zones
- Universal valve, sturdy and durable
- Low-cost, no limitations with regard to performance
- Can be used as a valve manifold VTUS

Order code – Basic design

001	002	003	004	005	006	007	008	009	010	011	012	013	014
VUVS	L						D				1		

001	Type	008	Manual override
VUVS	Solenoid valve	D	Non-detenting, detenting without accessories
002	Valve type	009	Pneumatic connection
L	In-line valve	G18	G1/8 thread
003	Design principle	G14	G1/4 thread
–	Piston spool with sealing cartridge	G38	G3/8 thread
K	Piston spool with sealing ring	010	Exhaust
004	Size	–	Without fitting
20	Valve width 21 mm	011	Valve pilot control interface
25	Valve width 26.5 mm	–	Standard
30	Valve width 31 mm	F7	With 8 mm armature tube, short
005	Valve function	F8	With 8 mm armature tube, long
B52	5/2-way valve, double solenoid	012	Nominal operating voltage
M52	5/2-way valve, single solenoid	1	24 V DC
P53C	5/3-way valve, mid-position closed	013	Electrical connection
M32C	3/2-way valve, normally closed	C1	Connection pattern type C, to EN 175301
006	Reset method for single-solenoid valves	B2	Connection pattern type B, industry standard
–	Without, for valve function B52	014	Version
A	Pneumatic spring, for valve function M32 and M52	–	Extended features
M	Mechanical spring, for valve function M32, M52 and P53	S	Core features
007	Pilot air supply		
–	Internal		

Legend: Mandatory entry Optional entry

Product options

Design principle

T Poppet valve

Pilot air supply

Z External

Exhaust

QN With fitting
U... Silencer

EU certification

EX2 II 3GD

Valve functions

M32U 3/2-way valve, open
P53U 5/3-way valve, pressurised
P53E 5/3-way valve, exhausted
T32... 2x 3/2-way valve

Manual override

S Covered
H Non-detenting

Pneumatic connection

Push-in connector 4 ... 12 mm, 5/32
... 1/2"

Nominal operating voltage

24 V AC, 230 V AC, 230/240 V AC,
12 V DC, 110/120 V AC

Degree of protection for electrics

S8 IP67

Electrical accessories, valve

G Connector socket, without LED
GL Connector socket, with LED
GS Connector socket, with protective circuit

Ordering – Product options

 Configurable product

This product and all its product options can be ordered online via the configurator:
→ www.festo.com/catalogue/...
Enter the part number or the type.

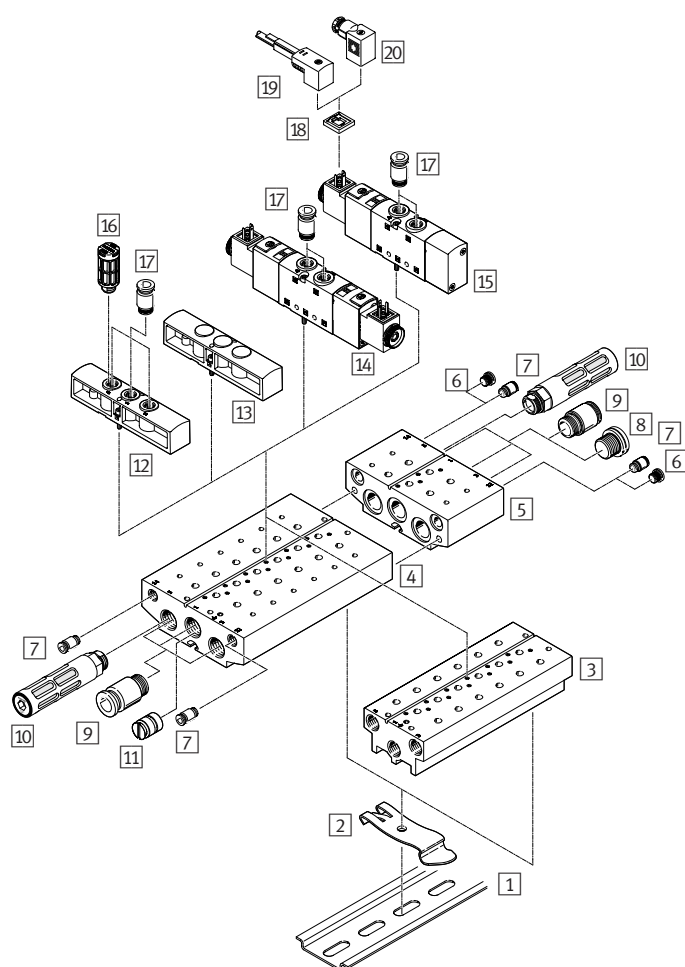
Part no.	Type
576516	VUVS-20
8022014	VUVS-25
8022017	VUVS-30

Ordering – Basic design

014 Core features						
004 Size	Type	Part no.	Type	Part no.	Type	Part no.
013 Connection pattern type C, to EN 175 301, 002 In-line valve, 003 Piston spool with sealing ring, 011 With standard valve pilot control interface						
	005 3/2-way, normally closed		005 5/2-way, double solenoid		005 5/2-way, single solenoid	
	006 Pneumatic spring		006 –		006 Pneumatic spring	
20 (valve width 21 mm)	VUVS-LK20-M32C-AD-G18-1C1-S	8043213	VUVS-LK20-B52-D-G18-1C1-S	8043215	VUVS-LK20-M52-AD-G18-1C1-S	8043214
013 Connection pattern type B, industry standard, 002 In-line valve, 003 Piston spool with sealing ring, 011 With standard valve pilot control interface						
	005 3/2-way, normally closed		005 5/2-way, double solenoid		005 5/2-way, single solenoid	
	006 Pneumatic spring		006 –		006 Pneumatic spring	
25 (valve width 26.5 mm)	VUVS-LK25-M32C-AD-G14-1B2-S	8043217	VUVS-LK25-B52-D-G14-1B2-S	8043219	VUVS-LK25-M52-AD-G14-1B2-S	8043218
30 (valve width 31 mm)	VUVS-LK30-M32C-AD-G38-1B2-S	8049880	VUVS-LK30-B52-D-G38-1B2-S	8049882	VUVS-LK30-M52-AD-G38-1B2-S	8049881

014 Extended features						
004 Size	Type	Part no.	Type	Part no.	Type	Part no.
013 Connection pattern type C, to EN 175 301, 002 In-line valve, 003 Piston spool with sealing cartridge, 011 With armature tube valve pilot control interface						
	005 3/2-way, normally closed		005 3/2-way, normally closed		005 5/2-way, single solenoid	
	006 Mechanical spring		006 Pneumatic spring		006 Mechanical spring	
20 (valve width 21 mm)	VUVS-L20-M32C-MD-G18-F7-1C1	575274	VUVS-L20-M32C-AD-G18-F7-1C1	575269	VUVS-L20-M52-MD-G18-F7-1C1	575264
25 (valve width 26.5 mm)	VUVS-L25-M32C-MD-G14-F8-1C1	575477	VUVS-L25-M32C-AD-G14-F8-1C1	575475	VUVS-L25-M52-MD-G14-F8-1C1	575511
30 (valve width 31 mm)	VUVS-L30-M32C-MD-G38-F8-1C1	575570	VUVS-L30-M32C-AD-G38-F8-1C1	575568	VUVS-L30-M52-MD-G38-F8-1C1	575604
	005 5/2-way, single solenoid		005 5/2-way, double solenoid		005 5/3-way, mid-position closed	
	006 Pneumatic spring		006 –		006 Mechanical spring	
20 (valve width 21 mm)	VUVS-L20-M52-AD-G18-F7-1C1	575263	VUVS-L20-B52-D-G18-F7-1C1	575265	VUVS-L20-P53C-MD-G18-F7-1C1	575268
25 (valve width 26.5 mm)	VUVS-L25-M52-AD-G14-F8-1C1	575503	VUVS-L25-B52-D-G14-F8-1C1	575518	VUVS-L25-P53C-MD-G14-F8-1C1	575525
30 (valve width 31 mm)	VUVS-L30-M52-AD-G38-F8-1C1	575596	VUVS-L30-B52-D-G38-F8-1C1	575611	VUVS-L30-P53C-MD-G38-F8-1C1	575618

Accessories



- 1 H-rail NRH-35-2000 → nrh-35
 - 2 H-rail mounting VAME-T-M4 → vuvs-l
 - 3 Manifold block, compact VABM-B10-...S → 188
 - 4 Manifold block, standard VABM-B10-20E → vuvs-l
 - 5 Extension module for standard manifold block VABM-B10-20EEE → vuvs-l
 - 6 Blanking plug B with connecting thread → 344
 - 7 Push-in fitting QS → 332
 - 8 Blanking plug B with connecting thread → 344
 - 9 Push-in fitting QS → 332
 - 10 Silencer U → 357
 - 11 Separator VABD → vuvs-l
 - 12 Supply plate VABF-B10-20-P1A4 → vuvs-l
 - 13 Blanking plate VABB-B10 → 187
 - 14 Solenoid valve VUVS, 5/3-way valve and 5/2-way valve, double solenoid, with solenoid coil
 - 15 Solenoid valve VUVS, 5/2-way valve, single solenoid, with solenoid coil
 - 16 Silencer U → 357
 - 17 Push-in fitting QS → 332
 - 18 Illuminating seal MEB-LD → vuvs-l
 - 19 Plug socket with cable KMEB → 188
Plug socket with cable KMF → 188
 - 20 Plug socket MSSD → 188
- Solenoid coil VACS-C, VACF-B → 188

13 Blanking plate VABB-B10		
Size	Type	Part no.
For valve position on manifold block for 3/2-way valves		
20	VABB-B10-20-E-P3	576411
25	VABB-B10-25-E-P3	8026210
30	VABB-B10-30-E-P3	8026336
For valve position on manifold block for 5/2-way, 5/3-way valves		
20	VABB-B10-20-E	576410
25	VABB-B10-25-E	8026209
30	VABB-B10-30-E	8026335
For valve position on supply manifold		
20	VABB-B10-20-A	576409
25	VABB-B10-25-A	8026208
30	VABB-B10-30-A	8026334

Electrically and pneumatically actuated directional control valves > Universal directional control valves > Solenoid valves VUVS-L

Accessories

3 Manifold block, compact VABM-B10-...S				
Size (width)	Pneumatic connection	Valve positions	Type	Part no.
For 3/2-way valves, incl. seals and screws for mounting valves				
20 (21 mm)	G1/4	2	VABM-B10-20S-G14-2-P3	576465
		4	VABM-B10-20S-G14-4-P3	576467
		6	VABM-B10-20S-G14-6-P3	576469
		8	VABM-B10-20S-G14-8-P3	576471
		10	VABM-B10-20S-G14-10-P3	576473
25 (26.5 mm)	G3/8	2	VABM-B10-25S-G38-2-P3	8026297
		4	VABM-B10-25S-G38-4-P3	8026299
		6	VABM-B10-25S-G38-6-P3	8026301
		8	VABM-B10-25S-G38-8-P3	8026303
		10	VABM-B10-25S-G38-10-P3	8026305
30 (31 mm)	G1/2	2	VABM-B10-30S-G12-2-P3	8026413
		4	VABM-B10-30S-G12-4-P3	8026415
		6	VABM-B10-30S-G12-6-P3	8026417
		8	VABM-B10-30S-G12-8-P3	8026419
		10	VABM-B10-30S-G12-10-P3	8026421
For 5/2-way and 5/3-way valves, incl. seals and screws for valve assembly				
20 (21 mm)	G1/4	2	VABM-B10-20S-G14-2	576417
		4	VABM-B10-20S-G14-4	576419
		6	VABM-B10-20S-G14-6	576421
		8	VABM-B10-20S-G14-8	576423
		10	VABM-B10-20S-G14-10	576425
25 (26.5 mm)	G3/8	2	VABM-B10-25S-G38-2	8026261
		4	VABM-B10-25S-G38-4	8026263
		6	VABM-B10-25S-G38-6	8026265
		8	VABM-B10-25S-G38-8	8026267
		10	VABM-B10-25S-G38-10	8026269
30 (31 mm)	G1/2	2	VABM-B10-30S-G12-2	8026377
		4	VABM-B10-30S-G12-4	8026379
		6	VABM-B10-30S-G12-6	8026381
		8	VABM-B10-30S-G12-8	8026383
		10	VABM-B10-30S-G12-10	8026385
Common supply manifold for mounting on both sides, incl. seals and screws for valve assembly				
20 (21 mm)	G3/8	2	VABM-B10-20-G38-2-P53	576363
		4	VABM-B10-20-G38-4-P53	576365
		6	VABM-B10-20-G38-6-P53	576367
		8	VABM-B10-20-G38-8-P53	576369
		10	VABM-B10-20-G38-10-P53	576371
25 (26.5 mm)	G1/2	2	VABM-B10-25-G12-2-P53	8026219
		4	VABM-B10-25-G12-4-P53	8026221
		6	VABM-B10-25-G12-6-P53	8026223
		8	VABM-B10-25-G12-8-P53	8026225
		10	VABM-B10-25-G12-10-P53	8026227
30 (31 mm)	G3/4	2	VABM-B10-30-G34-2-P53	8026338
		4	VABM-B10-30-G34-4-P53	8026340
		6	VABM-B10-30-G34-6-P53	8026342
		8	VABM-B10-30-G34-8-P53	8026344
		10	VABM-B10-30-G34-10-P53	8026346

[19] Plug socket with cable KMEB			
Description	Cable length	Type	Part no.
Angled socket, 3-pin, 24 V DC, type C, to EN 175301-803			
For size 20, 25, 30	2.5 m	KMEB-1-24-2,5-LED	151688
With LEDs	5 m	KMEB-1-24-5-LED	151689

[19] Plug socket with cable KMF			
Description	Cable length	Type	Part no.
Angled socket, 3-pin, 24 V DC, type B, industry standard			
For size 25, 30	2.5 m	KMF-1-24DC-2,5-LED	30935
With LED	5 m	KMF-1-24DC-5-LED	30937

[20] Plug socket MSSD		
Description	Type	Part no.
Angled socket, 3-pin, 0 ... 250 V AC/DC, square plug, type C, to EN 175301-803, for size 20, 25, 30		
Cable connector Pg7	MSSD-EB	151687
Angled socket, 3-pin, 0 ... 250 V AC/DC, square design MSF, type B, industry standard, for size 25, 30		
Cable connector Pg9	MSSD-F	34431

Solenoid coil VACS-C for size 20		
Description	Type	Part no.
Connection pattern type C, to EN 175 301		
12 V DC	VACS-C-C1-5	8025331
24 V DC	VACS-C-C1-1	8025330
48 V DC	VACS-C-C1-7	8025336
24 V AC; 50/60 Hz	VACS-C-C1-1A	8025335
48 V AC; 50/60 Hz	VACS-C-C1-7A	8025337
110/120 V AC; 50/60 Hz	VACS-C-C1-16B	8025334
230/240 V AC; 50/60 Hz	VACS-C-C1-3W	8025338

Solenoid coil VACF-B		
Description	Type	Part no.
Plug pattern type B, industry standard, for size 25, 30		
12 V DC	VACF-B-B2-5	8030801
24 V DC	VACF-B-B2-1	8030802
48 V DC	VACF-B-B2-7	8030803
24 V AC; 50/60 Hz	VACF-B-B2-1A	8030804
48 V AC; 50/60 Hz	VACF-B-B2-7A	8030805
110/120 V AC; 50/60 Hz	VACF-B-B2-16B	8030806
230/240 V AC; 50/60 Hz	VACF-B-B2-3W	8030808
Plug pattern type C, to EN 175 301, for size 25, 30		
12 V DC	VACF-B-C1-5	8030810
24 V DC	VACF-B-C1-1	8030811
48 V DC	VACF-B-C1-7	8030812
24 V AC; 50/60 Hz	VACF-B-C1-1A	8030813
48 V AC; 50/60 Hz	VACF-B-C1-7A	8030814
110/120 V AC; 50/60 Hz	VACF-B-C1-16B	8030815
230/240 V AC; 50/60 Hz	VACF-B-C1-3W	8030817
Plug pattern type A, to EN 175301-803, for size 30		
24 V DC	VACF-A-A1-1	8030822

Manually actuated directional control valves ›
Hand lever valves VHEF-HS

- Low actuating forces
- Ergonomic and reliable operation
- Practical connection with threaded connection or connecting pieces
- Fast mounting: via retaining bracket or screwed directly via through-hole
- Sturdy metal housing
- Reverse operation possible

Order code

001	002	003	004	005	006	007	008
VHEF	HS						

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
VHEF	Manually actuated valves
002	Actuation type
HS	Hand lever, on the side
003	Design principle
–	Piston spool
T	Poppet valve
004	Type of control
–	Directly actuated
005	Pilot air
–	Internal

006	Valve function
B32	3/2-way valve, bistable
B52	5/2-way valve, bistable
M32	3/2-way valve, normally closed or open
M52	5/2-way valve, monostable
B53C	5/3-way valve, detenting, mid position closed
B53E	5/3-way valve, detenting, mid-position exhausted
P53C	5/3-way valve, mid-position closed
P53E	5/3-way valve, mid-position exhausted
007	Reset method for monostable valves
–	None (for double pilot valves)
M	Mechanical spring
008	Pneumatic connection
G18	G1/8 thread
G14	G1/4 thread
N18	1/8 NPT thread
N14	1/4 NPT thread

Ordering – VHEF-HS, G thread

006 Valve function	007 Reset method	008 Pneumatic connection	Standard nominal flow rate	Type	Part no.
3/2-way valve	–	G1/8	750 l/min	VHEF-HST-B32-G18	4165861
		G1/4	870 l/min	VHEF-HST-B32-G14	4165862
	Mechanical spring	G1/8	750 l/min	VHEF-HST-M32-M-G18	4165853
		G1/4	870 l/min	VHEF-HST-M32-M-G14	4165854
5/2-way valve	Mechanical spring	G1/8	750 l/min	VHEF-HS-M52-M-G18	4165855
		G1/4	1200 l/min	VHEF-HS-M52-M-G14	4165856
	–	G1/8	750 l/min	VHEF-HS-B52-G18	4165863
		G1/4	1200 l/min	VHEF-HS-B52-G14	4165864
5/3-way valve	–	G1/8	700 l/min	VHEF-HS-B53C-G18	4165865
		G1/4	1200 l/min	VHEF-HS-B53C-G14	4165866
		G1/8	530 l/min	VHEF-HS-B53E-G18	4165867
		G1/4	900 l/min	VHEF-HS-B53E-G14	4165868
	Mechanical spring	G1/8	700 l/min	VHEF-HS-P53C-M-G18	4165857
		G1/4	1200 l/min	VHEF-HS-P53C-M-G14	4165858
		G1/8	530 l/min	VHEF-HS-P53E-M-G18	4165859
		G1/4	900 l/min	VHEF-HS-P53E-M-G14	4165860

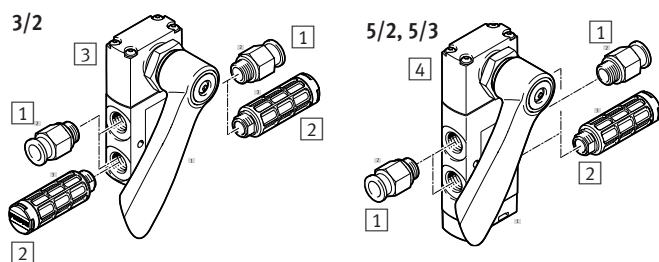
Manually actuated directional control valves >

Hand lever valves VHEF-HS

Ordering – VHEF-HS, NPT thread

006 Valve function	007 Reset method	008 Pneumatic connection	Standard nominal flow rate	Type	Part no.
3/2-way valve	Mechanical spring	1/8 NPT	750 l/min	VHEF-HST-B32-N18	4414861
		1/4 NPT	870 l/min	VHEF-HST-B32-N14	4414862
		1/8 NPT	750 l/min	VHEF-HST-M32-M-N18	4414853
		1/4 NPT	870 l/min	VHEF-HST-M32-M-N14	4414854
5/2-way valve	Mechanical spring	1/8 NPT	750 l/min	VHEF-HS-M52-M-N18	4414855
		1/4 NPT	1200 l/min	VHEF-HS-M52-M-N14	4414856
	–	1/8 NPT	750 l/min	VHEF-HS-B52-N18	4414863
		1/4 NPT	1200 l/min	VHEF-HS-B52-N14	4414864
5/3-way valve	–	1/8 NPT	700 l/min	VHEF-HS-B53C-N18	4414865
		1/4 NPT	1200 l/min	VHEF-HS-B53C-N14	4414866
		1/8 NPT	530 l/min	VHEF-HS-B53E-N18	4414867
		1/4 NPT	900 l/min	VHEF-HS-B53E-N14	4414868
	Mechanical spring	1/8 NPT	700 l/min	VHEF-HS-P53C-M-N18	4414857
		1/4 NPT	1200 l/min	VHEF-HS-P53C-M-N14	4414858
		1/8 NPT	530 l/min	VHEF-HS-P53E-M-N18	4414859
		1/4 NPT	900 l/min	VHEF-HS-P53E-M-N14	4414860

Accessories



- 1 Fitting for supply air/exhaust air ports (1, 3, 5) and working ports (2, 4)
Push-in fittings QS, G thread → 332
Push-in fittings QB, NPT thread → 190
- 2 Silencer U, for exhaust air ports (3, 5)
G thread → 357
NPT thread → 190
- 3 3/2-way valve VHEF-HST...32...
- 4 5/2- or 5/3-way valve VHEF-HS...52..., VHEF-HS...53...

Accessories for VHEF, UNF/NPT thread

1 Push-in fitting QBM/QB, straight Male thread with internal hex			
Connection 1	Connection 2	Type	Part no.
UNF10-32	5/32"	QBM-10-32-UNF-5/32-I-U	572312
1/8 NPT	5/32"	QB-1/8-5/32-I-U	572317
	1/4"	QB-1/8-1/4-I-U	572318
	5/16"	QB-1/8-5/16-I-U	572319
1/4 NPT	5/16"	QB-1/4-5/16-I-U	572321
	3/8"	QB-1/4-3/8-I-U	572322
	1/2"	QB-1/4-1/2-U	567771

1 Push-in fitting QBL, angled, long Male thread with external hex			
Connection 1	Connection 2	Type	Part no.
1/8 NPT	5/32"	QBL-1/8-5/32-U	564668
	1/4"	QBL-1/8-1/4-U	564670
	5/16"	QBL-1/8-5/16-U	564671

1 Push-in fitting QBL, angled Male thread with external hex			
Connection 1	Connection 2	Type	Part no.
1/8 NPT	5/32"	QBL-1/8-5/32-U	533290
	1/4"	QBL-1/8-1/4-U	533292
	5/16"	QBL-1/8-5/16-U	533293
1/4 NPT	5/16"	QBL-1/4-5/16-U	533296
	3/8"	QBL-1/4-3/8-U	533297
	1/2"	QBL-1/4-1/2-U	567775

2 Silencer U, metal variant		
Pneumatic connection	Type	Part no.
1/8 NPT	U-1/8-B-NPT	12638
1/4 NPT	U-1/4-B-NPT	12639



- Lever position sensing
- Connection M5, G1/8, G1/4, G1/2, 1/8 NPT, 1/4 NPT, 1/2 NPT
- Flow rates 170 ... 3800 l/min
- Lockable using accessories

Order code

001	002	003	004	005	006	007
VHER		H				

Legend: Mandatory entry Optional entry

001	Type
VHER	Hand lever valve with detent
002	Design
–	Hand lever, metal version
P	Hand lever, polymer version
003	Actuation type
H	Hand lever, top
004	Valve function
B43C	4/3-way valve, detenting, mid-position closed
B43E	4/3-way valve, detenting, mid-position open
B43U	4/3-way valve, detenting, mid-position pressurised
005	Direction of flow
–	Not reversible

006	Connection direction, pneumatic connection
–	On the side
B	Underneath
007	Pneumatic connection
M5	M5
G18	G1/8
G14	G1/4
G12	G1/2
N18	1/8 NPT
N14	1/4 NPT
N12	1/2 NPT

Ordering – VHER, G thread

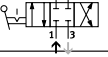
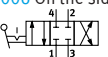
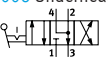
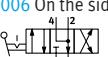
006 Connection direction	007 Connection	Standard nominal flow rate	Type	Part no.
002 Metal lever				
	G1/8	800 l/min	VHER-H-B43U-B-G18	3488215
	G1/4	1500 l/min	VHER-H-B43U-B-G14	3515286
	G1/2	3800 l/min	VHER-H-B43U-B-G12	3192072
	G1/8	600 l/min	VHER-H-B43U-G18	3488214
	G1/4	1150 l/min	VHER-H-B43U-G14	3515108
	G1/2	3200 l/min	VHER-H-B43U-G12	3192071
	G1/8	800 l/min	VHER-H-B43C-B-G18	3488205
	G1/4	1500 l/min	VHER-H-B43C-B-G14	3515202
	G1/2	3800 l/min	VHER-H-B43C-B-G12	3192066
	G1/8	600 l/min	VHER-H-B43C-G18	3488204
	G1/4	1150 l/min	VHER-H-B43C-G14	3514710
	G1/2	3200 l/min	VHER-H-B43C-G12	3192065
	G1/8	800 l/min	VHER-H-B43E-B-G18	3488207
	G1/4	1500 l/min	VHER-H-B43E-B-G14	3515258
	G1/2	3800 l/min	VHER-H-B43E-B-G12	3192068
	G1/8	600 l/min	VHER-H-B43E-G18	3488206
	G1/4	1150 l/min	VHER-H-B43E-G14	3515082
	G1/2	3200 l/min	VHER-H-B43E-G12	3192067

006 Connection direction	007 Connection	Standard nominal flow rate	Type	Part no.
002 Polymer lever				
	M5	260 l/min	VHER-P-H-B43U-B-M5	3410684
	G1/8	800 l/min	VHER-P-H-B43U-B-G18	3488217
	G1/4	1500 l/min	VHER-P-H-B43U-B-G14	3515683
	G1/2	3800 l/min	VHER-P-H-B43U-B-G12	3192084
	M5	170 l/min	VHER-P-H-B43U-M5	3410683
	G1/8	600 l/min	VHER-P-H-B43U-G18	3488216
	G1/4	1150 l/min	VHER-P-H-B43U-G14	3515573
	G1/2	3200 l/min	VHER-P-H-B43U-G12	3192082
	M5	260 l/min	VHER-P-H-B43C-B-M5	3410680
	G1/8	800 l/min	VHER-P-H-B43C-B-G18	3488209
	G1/4	1500 l/min	VHER-P-H-B43C-B-G14	3515601
	G1/2	3800 l/min	VHER-P-H-B43C-B-G12	3192075
	M5	170 l/min	VHER-P-H-B43C-M5	3410679
	G1/8	600 l/min	VHER-P-H-B43C-G18	3488208
	G1/4	1150 l/min	VHER-P-H-B43C-G14	3515361
	G1/2	3200 l/min	VHER-P-H-B43C-G12	3192074
	M5	260 l/min	VHER-P-H-B43E-B-M5	3410682
	G1/8	800 l/min	VHER-P-H-B43E-B-G18	3488211
	G1/4	1500 l/min	VHER-P-H-B43E-B-G14	3515640
	G1/2	3800 l/min	VHER-P-H-B43E-B-G12	3192077
	M5	170 l/min	VHER-P-H-B43E-M5	3410681
	G1/8	600 l/min	VHER-P-H-B43E-G18	3488210
	G1/4	1150 l/min	VHER-P-H-B43E-G14	3515542
	G1/2	3200 l/min	VHER-P-H-B43E-G12	3192076

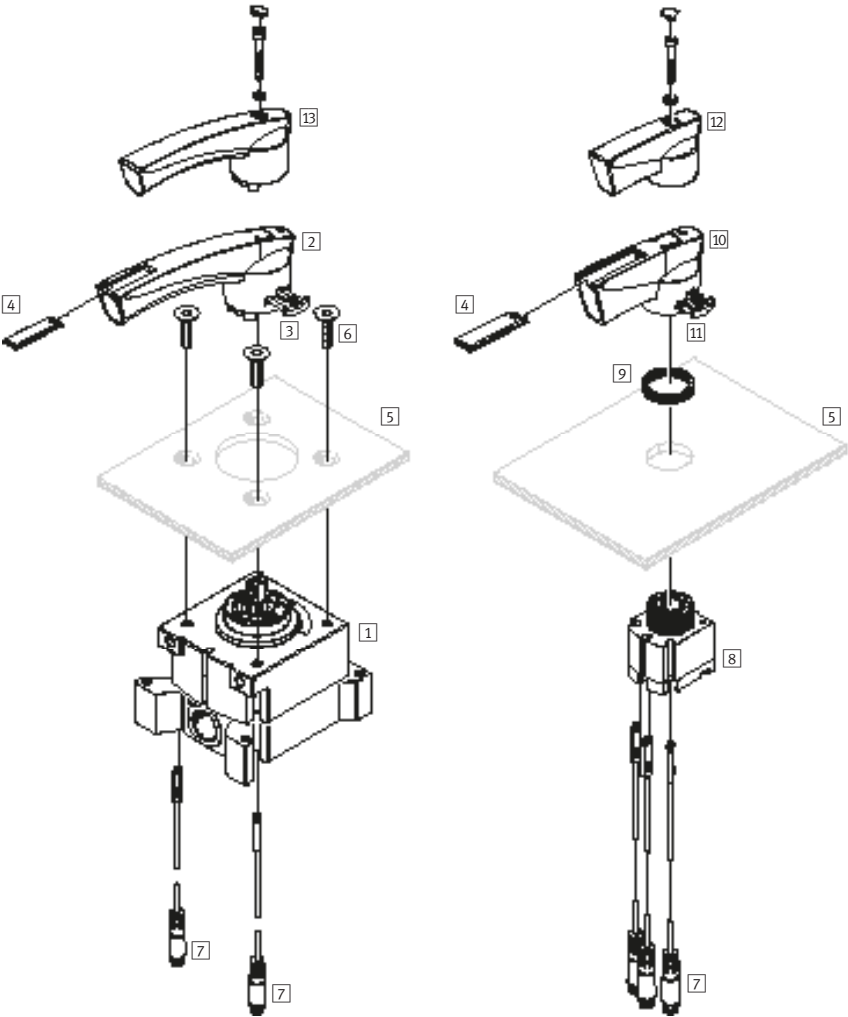
Manually actuated directional control valves >

Hand lever valves VHER

Ordering – VHER, NPT thread

006 Connection direction	007 Connection	Standard nominal flow rate	Type	Part no.
002 Metal lever				
	1/8 NPT	800 l/min	VHER-H-B43C-B-N18	3488213
	1/4 NPT	1500 l/min	VHER-H-B43C-B-N14	3520389
	1/2 NPT	3800 l/min	VHER-H-B43C-B-N12	3192086
	1/8 NPT	600 l/min	VHER-H-B43C-N18	3488212
	1/4 NPT	1150 l/min	VHER-H-B43C-N14	3520365
	1/2 NPT	3200 l/min	VHER-H-B43C-N12	3192085
	1/2 NPT	3800 l/min	VHER-H-B43E-B-N12	3192088
	1/2 NPT	3200 l/min	VHER-H-B43E-N12	3192087

Accessories



- 1

Hand lever valve VHER (pneumatic port on the side)
→ 191
- 2

Actuating lever, large, polymer
- 3

Lever mounting clip, large
- 4

Inscription label
- 5

Control panel (not included in the scope of delivery)
- 6

Mounting screws (not included in the scope of delivery)
- 7

Proximity switch SME-10-... -L-... (electrical connection, in-line) → 192
- 8

Hand lever valve VHER (pneumatic ports underneath)
→ 191
- 9

Knurled nut, control panel mounting
- 10

Actuating lever, small, polymer
- 11

Lever mounting clip, small
- 12

Actuating lever, small, metal
- 13

Actuating lever, large, metal

7 Proximity switch, magnetic reed For valves with pneumatic ports underneath		
Description	Type	Part no.
Cable, 2.5 m, 3-wire	SME-10-KL-LED-24	173210
Connector M8x1, 3-pin	SME-10-SL-LED-24	173212

Manually actuated directional control valves >
Pushbutton valves VHEF-P

- Precise mechanical system
- Low actuating forces
- Ergonomic and reliable operation
- Practical connection with threaded connection or connecting pieces
- Fast mounting: via retaining bracket or screwed directly via through-hole
- Sturdy metal housing
- Reverse operation possible

Order code

001	002	003	004	005	006	007	008
VHEF	P						

Legend: Mandatory entry Optional entry

001	Type
VHEF	Manually actuated valves
002	Actuation type
P	Pushbutton
003	Design principle
–	Piston spool
T	Disc seat
004	Type of control
–	Directly actuated
C	Indirectly actuated
005	Pilot air
–	Internal
Z	External

006	Valve function
B32	3/2-way valve, bistable
B52	5/2-way valve, bistable
M32	3/2-way valve, normally closed or open
M52	5/2-way valve, monostable
007	Reset method for monostable valves
–	Without (for double pilot valves)
M	Mechanical spring
008	Pneumatic connection
G18	G1/8 thread
G14	G1/4 thread
N18	1/8 NPT thread
N14	1/4 NPT thread

Ordering – VHEF-P, G thread

006 Valve function	007 Reset method	008 Pneumatic connection	Standard nominal flow rate	Type	Part no.
3/2-way valve	–	G1/8	750 l/min	VHEF-PTC-B32-G18	5299707
		G1/4	870 l/min	VHEF-PTC-B32-G14	5299713
	Mechanical	G1/8	750 l/min	VHEF-PTC-M32-M-G18	5299705
		G1/4	870 l/min	VHEF-PTC-M32-M-G14	5299711
	–	G1/8	750 l/min	VHEF-PTCZ-B32-G18	5299708
		G1/4	870 l/min	VHEF-PTCZ-B32-G14	5299714
		G1/8	750 l/min	VHEF-PTCZ-M32-M-G18	5299706
		G1/4	870 l/min	VHEF-PTCZ-M32-M-G14	5299712
5/2-way valve	–	G1/8	750 l/min	VHEF-P-B52-G18	5299710
	Mechanical	G1/4		VHEF-P-M52-M-G18	5299709
	–	G1/8	1200 l/min	VHEF-P-B52-G14	5299716
	Mechanical	G1/4		VHEF-P-M52-M-G14	5299715



- Precise mechanical system
- Low actuating forces
- Ergonomic and reliable operation
- Practical connection with threaded connection or connecting pieces
- Fast mounting: via retaining bracket or screwed directly via through-hole
- Sturdy metal housing
- Reverse operation possible

Order code

001 002 003 004 005 006 007 008

VHEF - L - - - - - - -

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
VHEF	Manually actuated valves
002	Actuation type
L	Finger lever
003	Design principle
-	Piston spool
T	Disc seat
004	Type of control
-	Directly actuated
005	Pilot air
-	Internal

006	Valve function
M32	3/2-way valve, normally closed or open
M52	5/2-way valve, monostable
007	Reset method for monostable valves
E	Pneumatic spring
M	Mechanical spring
008	Pneumatic connection
G18	G1/8 thread
G14	G1/4 thread
N18	1/8 NPT thread
N14	1/4 NPT thread

Ordering – VHEF-L, G thread

006 Valve function	007 Reset method	008 Pneumatic connection	Standard nominal flow rate	Type	Part no.
3/2-way valve	Mechanical spring	G1/8	750 l/min	VHEF-LT-M32-M-G18	4500009
		G1/4	870 l/min	VHEF-LT-M32-M-G14	4500008
5/2-way valve	Mechanical spring	G1/8	750 l/min	VHEF-L-M52-M-G18	4500001
	Pneumatic spring	G1/8	750 l/min	VHEF-L-M52-E-G18	4500005
	Mechanical spring	G1/4	1200 l/min	VHEF-L-M52-M-G14	4500000
	Pneumatic spring	G1/4	1200 l/min	VHEF-L-M52-E-G14	4500004

Ordering – VHEF-L, NPT thread

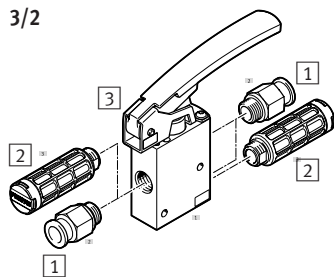
006 Valve function	007 Reset method	008 Pneumatic connection	Standard nominal flow rate	Type	Part no.
3/2-way valve	Mechanical spring	1/8 NPT	750 l/min	VHEF-LT-M32-M-N18	4500011
		1/4 NPT	870 l/min	VHEF-LT-M32-M-N14	4500010
5/2-way valve	Mechanical spring	1/8 NPT	750 l/min	VHEF-L-M52-M-N18	4500003
	Pneumatic spring	1/8 NPT	750 l/min	VHEF-L-M52-E-N18	4500007
	Mechanical spring	1/4 NPT	1200 l/min	VHEF-L-M52-M-N14	4500002
	Pneumatic spring	1/4 NPT	1200 l/min	VHEF-L-M52-E-N14	4500006

Manually actuated directional control valves ›

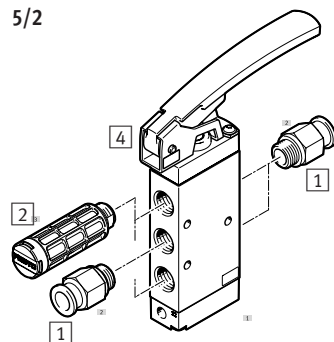
Finger lever valves VHEF-L

Accessories

3/2



5/2



- 1 Fitting for supply air/exhaust air ports (1, 3, 5) and working ports (2, 4)
Push-in fittings QS, G thread → 332
Push-in fittings QB, NPT thread → 190
- 2 Silencer U, for exhaust air ports (3, 5)
G thread → 357
NPT thread → 190
- 3 3/2-way valve VHEF-LT-M32...
- 4 5/2-way valve VHEF-L-M52...

Manually actuated directional control valves ›
Selector valves VHEF-ES

- Precise mechanical system
- Low actuating forces
- Ergonomic and reliable operation
- Practical connection with threaded connection or connecting pieces
- Fast mounting: via retaining bracket or screwed directly via through-hole
- Sturdy metal housing
- Reverse operation possible

Order code

001 002 003 004 005 006 007 008
VHEF - ES - - - - -

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
VHEF	Manually actuated valves
002	Actuation type
ES	Selector switch, on the side
003	Design principle
–	Piston spool
T	Disc seat
004	Type of control
–	Directly actuated
005	Pilot air
–	Internal

006	Valve function
B32	3/2-way valve, bistable
B52	5/2-way valve, bistable
M32	3/2-way valve, normally closed or open
M52	5/2-way valve, monostable
B53C	5/3-way valve, detenting, mid position closed
B53E	5/3-way valve, detenting, mid-position exhausted
P53C	5/3-way valve, mid-position closed
P53E	5/3-way valve, mid-position exhausted
007	Reset method for monostable valves
–	Without (for double pilot valves)
M	Mechanical spring
008	Pneumatic connection
G18	G1/8 thread
G14	G1/4 thread
N18	1/8 NPT thread
N14	1/4 NPT thread

Ordering – VHEF-ES, G thread

006 Valve function	007 Reset method	008 Pneumatic connection	Standard nominal flow rate	Type	Part no.
3/2-way valve	–	G1/8	750 l/min	VHEF-EST-B32-G18	4106814
		G1/4	870 l/min	VHEF-EST-B32-G14	4106815
	Mechanical spring	G1/8	750 l/min	VHEF-EST-M32-M-G18	4106806
		G1/4	870 l/min	VHEF-EST-M32-M-G14	4106807
5/2-way valve	Mechanical spring	G1/8	750 l/min	VHEF-ES-M52-M-G18	4106808
		G1/4	1200 l/min	VHEF-ES-M52-M-G14	4106809
	–	G1/8	750 l/min	VHEF-ES-B52-G18	4106816
		G1/4	1200 l/min	VHEF-ES-B52-G14	4106817
5/3-way valve	–	G1/8	700 l/min	VHEF-ES-B53C-G18	4106818
		G1/4	1200 l/min	VHEF-ES-B53C-G14	4106819
		G1/8	530 l/min	VHEF-ES-B53E-G18	4106820
		G1/4	900 l/min	VHEF-ES-B53E-G14	4106821
	Mechanical spring	G1/8	700 l/min	VHEF-ES-P53C-M-G18	4106810
		G1/4	1200 l/min	VHEF-ES-P53C-M-G14	4106811
		G1/8	530 l/min	VHEF-ES-P53E-M-G18	4106812
		G1/4	900 l/min	VHEF-ES-P53E-M-G14	4106813

Mechanically actuated directional control valves ›
Stem actuated valves VMEF-S

- Precise mechanical system
- Low actuating forces
- Ergonomic and reliable operation
- To be mounted via through-holes
- Stem actuated valves are also suitable for front panel mounting
- Sturdy thanks to metal housing and connecting thread or connecting pieces
- Reverse operation possible in some cases

Order code

001 002 003 004 005 006 007 008
VMEF - S - - - - -

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
VMEF	Mechanically actuated valves
002	Actuation type
S	Plunger
003	Design principle
-	Piston spool
T	Poppet valve
004	Type of control
-	Directly actuated
C	Indirectly actuated (piloted)

005	Pilot air
-	Internal
Z	External
006	Valve function
M32	3/2-way valve, normally closed or open
M52	5/2-way valve, monostable
007	Reset method for monostable valves
E	Pneumatic spring, external
M	Mechanical spring
008	Pneumatic connection
G18	G1/8 thread
G14	G1/4 thread
N18	1/8 NPT thread
N14	1/4 NPT thread

Ordering – VMEF-S, G thread

006 Valve function	004 Type of control	005 Pilot air	007 Reset method	008 Connection	Standard nominal flow rate	Type	Part no.
3/2-way valves	Direct	-	Mechanical	G1/8	750 l/min	VMEF-ST-M32-M-G18	8031295
				G1/4	870 l/min	VMEF-ST-M32-M-G14	8031300
	Piloted	Internal	Mechanical	G1/8	750 l/min	VMEF-STC-M32-M-G18	8031331
				G1/4	870 l/min	VMEF-STC-M32-M-G14	8031332
		External	Mechanical	G1/8	750 l/min	VMEF-STCZ-M32-M-G18	8031335
				G1/4	870 l/min	VMEF-STCZ-M32-M-G14	8031336
5/2-way valves	Direct	-	Mechanical	G1/8	750 l/min	VMEF-S-M52-M-G18	8031297
			Pneumatic	G1/8	750 l/min	VMEF-S-M52-E-G18	8031299
			Mechanical	G1/4	1200 l/min	VMEF-S-M52-M-G14	8031302
			Pneumatic	G1/4	1200 l/min	VMEF-S-M52-E-G14	8031304
	Piloted	Internal	Mechanical	G1/4	1200 l/min	VMEF-SC-M52-M-G14 ¹⁾	8031319
				G1/8	750 l/min	VMEF-SC-M52-M-G18 ¹⁾	8031320
		External	Pneumatic	G1/4	1200 l/min	VMEF-SCZ-M52-E-G14	8031323
				G1/8	750 l/min	VMEF-SCZ-M52-E-G18	8031324
			Mechanical	G1/4	1200 l/min	VMEF-SCZ-M52-M-G14	8031327
				G1/8	750 l/min	VMEF-SCZ-M52-M-G18	8031328

1) Non-reversible

Ordering – VMEF-S, NPT thread

006 Valve function	004 Type of control	005 Pilot air	007 Reset method	008 Connection	Standard nominal flow rate	Type	Part no.
3/2-way valves	Direct	–	Mechanical	1/8 NPT	750 l/min	VMEF-ST-M32-M-N18	8031305
				1/4 NPT	870 l/min	VMEF-ST-M32-M-N14	8031310
	Piloted	Internal	Mechanical	1/8 NPT	750 l/min	VMEF-STC-M32-M-N18	8031333
				1/4 NPT	870 l/min	VMEF-STC-M32-M-N14	8031334
		External	Mechanical	1/8 NPT	750 l/min	VMEF-STCZ-M32-M-N18	8031337
				1/4 NPT	870 l/min	VMEF-STCZ-M32-M-N14	8031338
5/2-way valves	Direct	–	Mechanical	1/8 NPT	750 l/min	VMEF-S-M52-M-N18	8031307
			Pneumatic	1/8 NPT	750 l/min	VMEF-S-M52-E-N18	8031309
			Mechanical	1/4 NPT	1200 l/min	VMEF-S-M52-M-N14	8031312
			Pneumatic	1/4 NPT	1200 l/min	VMEF-S-M52-E-N14	8031314
	Piloted	Internal	Mechanical	1/4 NPT	1200 l/min	VMEF-SC-M52-M-N14 ¹⁾	8031321
				1/8 NPT	750 l/min	VMEF-SC-M52-M-N18 ¹⁾	8031322
		External	Pneumatic	1/4 NPT	1200 l/min	VMEF-SCZ-M52-E-N14	8031325
				1/8 NPT	750 l/min	VMEF-SCZ-M52-E-N18	8031326
			Mechanical	1/4 NPT	1200 l/min	VMEF-SCZ-M52-M-N14	8031329
				1/8 NPT	750 l/min	VMEF-SCZ-M52-M-N18	8031330

1) Non-reversible

Accessories

3/2

3

1

2

1

2

5/2

4

1

2

1

2

1

Fitting for supply air/exhaust air ports (1, 3, 5) and working ports (2, 4)
Push-in fittings QS, G thread → 332
Push-in fittings QB, NPT thread → 190

2

Silencer U, for exhaust air ports (3, 5)
G thread → 357
NPT thread → 190

3

3/2-way valve

4

5/2-way valve

200

www.festo.com/catalogue/...

2024/06 – Subject to change

Mechanically actuated directional control valves ›
Roller lever valves VMEF-R

- Precise mechanical system
- Low actuating forces
- Ergonomic and reliable operation
- To be mounted via through-holes
- Sturdy thanks to metal housing and connecting thread or connecting pieces
- Reverse operation possible

Order code

001 002 003 004 005 006 007 008

VMER - R - - - - - - -

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
VMER	Mechanically actuated valves
002	Actuation type
R	Roller lever
003	Design principle
-	Piston spool
T	Disc seat
004	Type of control
-	Directly actuated
005	Pilot air
-	Internal

006	Valve function
M32	3/2-way valve, normally closed or open
M52	5/2-way valve, monostable
007	Reset method for monostable valves
E	Pneumatic spring, external
M	Mechanical spring
008	Pneumatic connection
G18	G1/8 thread
G14	G1/4 thread
N18	1/8 NPT thread
N14	1/4 NPT thread

Order – VMEF-R, G thread

006 Valve function	004 Type of control	005 Pilot air	007 Reset method	008 Connection	Standard nominal flow rate	Type	Part no.
3/2-way valves	Direct	Internal	Mechanical	G1/8	750 l/min	VMER-RT-M32-M-G18	8049239
				G1/4	870 l/min	VMER-RT-M32-M-G14	8047095
5/2-way valves	Direct	Internal	Pneumatic	G1/8	750 l/min	VMER-R-M52-E-G18	8047092
			Mechanical	G1/8	750 l/min	VMER-R-M52-M-G18	8049238
			Pneumatic	G1/4	1200 l/min	VMER-R-M52-E-G14	8047093
			Mechanical	G1/4	1200 l/min	VMER-R-M52-M-G14	8047094

Ordering – VMEF-R, NPT thread

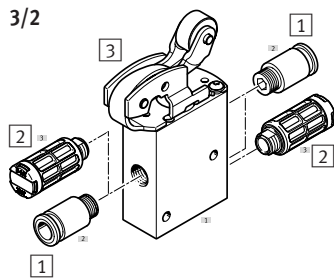
006 Valve function	004 Type of control	005 Pilot air	007 Reset method	008 Connection	Standard nominal flow rate	Type	Part no.
3/2-way valves	Direct	Internal	Mechanical	1/8 NPT	750 l/min	VMER-RT-M32-M-N18	8047098
				1/4 NPT	870 l/min	VMER-RT-M32-M-N14	8047101
5/2-way valves	Direct	Internal	Pneumatic	1/8 NPT	750 l/min	VMER-R-M52-E-N18	8047096
			Mechanical	1/8 NPT	750 l/min	VMER-R-M52-M-N18	8047097
			Pneumatic	1/4 NPT	1200 l/min	VMER-R-M52-E-N14	8047099
			Mechanical	1/4 NPT	1200 l/min	VMER-R-M52-M-N14	8047100

Mechanically actuated directional control valves >

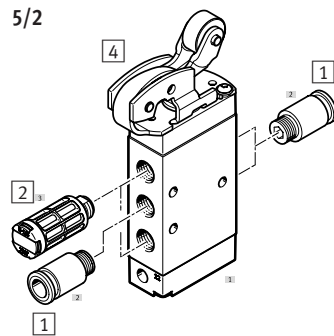
Roller lever valves VMEF-R

Accessories

3/2



5/2



- 1 Fitting for supply air/exhaust air ports (1, 3, 5) and working ports (2, 4)
Push-in fittings QS, G thread → 332
Push-in fittings QB, NPT thread → 190
- 2 Silencer U, for exhaust air ports (3, 5)
G thread → 357
NPT thread → 190
- 3 3/2-way valve
- 4 5/2-way valve

Mechanically actuated directional control valves ›
Roller lever valves VMEF-K

- Precise mechanical system
- Low actuating forces
- Ergonomic and reliable operation
- To be mounted via through-holes
- Sturdy thanks to metal housing and connecting thread or connecting pieces
- Reverse operation possible

Order code

001	002	003	004	005	006	007	008
VMEF	K					M	

Legend:

	Mandatory entry		Optional entry
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001	Type
VMEF	Mechanically actuated valves
002	Actuation type
K	Roller lever
003	Design principle
–	Piston spool
T	Disc seat
004	Type of control
–	Directly actuated
005	Pilot air
–	Internal

006	Valve function
M32	3/2-way valve, normally closed or open
M52	5/2-way valve, monostable
007	Reset method for monostable valves
M	Mechanical spring
008	Pneumatic connection
G18	G1/8 thread
G14	G1/4 thread
N18	1/8 NPT thread
N14	1/4 NPT thread

Ordering – VMEF-K, G thread

006 Valve function	004 Type of control	005 Pilot air	007 Reset method	008 Connection	Standard nominal flow rate	Type	Part no.
3/2-way valves	Direct	Internal	Mechanical	G1/8	750 l/min	VMEF-KT-M32-M-G18	8049241
				G1/4	870 l/min	VMEF-KT-M32-M-G14	8047103
5/2-way valves	Direct	Internal	Mechanical	G1/8	750 l/min	VMEF-K-M52-M-G18	8049240
				G1/4	1200 l/min	VMEF-K-M52-M-G14	8047102

Ordering – VMEF-K, NPT thread

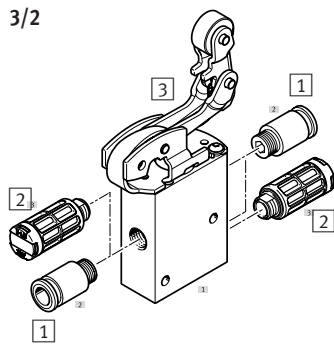
006 Valve function	004 Type of control	005 Pilot air	007 Reset method	008 Connection	Standard nominal flow rate	Type	Part no.
3/2-way valves	Direct	Internal	Mechanical	1/8 NPT	750 l/min	VMEF-KT-M32-M-N18	8047105
				1/4 NPT	870 l/min	VMEF-KT-M32-M-N14	8047107
5/2-way valves	Direct	Internal	Mechanical	1/8 NPT	750 l/min	VMEF-K-M52-M-N18	8047104
				1/4 NPT	1200 l/min	VMEF-K-M52-M-N14	8047106

Mechanically actuated directional control valves >

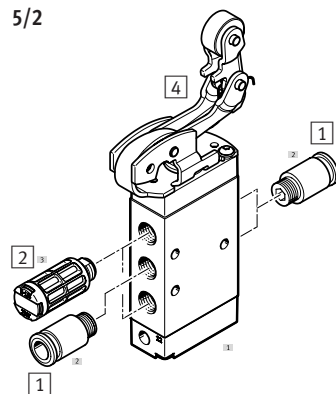
Roller lever valves VMEF-K

Accessories

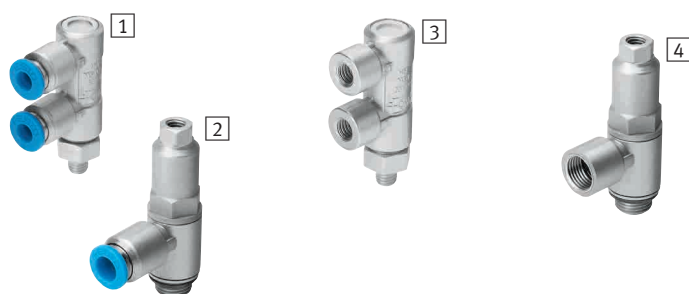
3/2



5/2



- 1 Fitting for supply air/exhaust air ports (1, 3, 5) and working ports (2, 4)
Push-in fittings QS, G thread → 332
Push-in fittings QB, NPT thread → 190
- 2 Silencer U, for exhaust air ports (3, 5)
G thread → 357
NPT thread → 190
- 3 3/2-way valve
- 4 5/2-way valve



- Controlled, piloted non-return function
- Manual exhausting
- Can be rotated when installed
- Push-in connector
Flow rate 130 ... 1400 l/min
- Female thread
Flow rate 130 ... 1600 l/min

- 1 HGL-M5-QS-4
- 2 HGL-...-QS
- 3 HGL-M5-B
- 4 HGL-...-B

Order code

001 002 003 004
HGL - - - -

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
HGL	Check valve, piloted
002	Pneumatic connection 2
M5	Male thread M5
1/8	Male thread G1/8
1/4	Male thread G1/4
3/8	Male thread G3/8
1/2	Male thread G1/2
003	Pneumatic connection 1
-	Connection size as for connection 2, female thread
QS-4	Push-in connector for tubing O.D. 4 mm
QS-6	Push-in connector for tubing O.D. 6 mm
QS-8	Push-in connector for tubing O.D. 8 mm
QS-10	Push-in connector for tubing O.D. 10 mm
QS-12	Push-in connector for tubing O.D. 12 mm

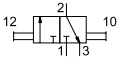
004	Generation
-	None
B	Optimised function

Ordering

	002 Pneumatic connection 2	003 Pneumatic connection 1	Pilot air connection 21	Standard nominal flow rate q _N in flow direction at 6 bar → 5 bar [l/min]	Standard flow rate q _N in flow direction at 6 bar → 0 bar [l/min]	Type	Part no.
Threaded/push-in connector							
1	M5	QS-4	QS-4	130	200	HGL-M5-QS-4	530038
2	G1/8	QS-4	M5	200	300	HGL-1/8-QS-6	530039
	G1/8	QS-6	M5	270	400	HGL-1/8-QS-6	530040
	G1/4	QS-8	G1/8	390	640	HGL-1/4-QS-8	530041
	G1/4	QS-10	G1/8	400	670	HGL-1/4-QS-10	530042
	G3/8	QS-8	G1/4	830	1200	HGL-3/8-QS-8	530043
	G3/8	QS-10	G1/4	890	1300	HGL-3/8-QS-10	530044
	G1/2	QS-12	G3/8	1400	2100	HGL-1/2-QS-12	530045
Threaded connection at both ends							
3	M5	M5	M5	130	200	HGL-M5-B	530029
4	G1/8	G1/8	M5	300	430	HGL-1/8-B	530030
	G1/4	G1/4	G1/8	550	680	HGL-1/4-B	530031
	G3/8	G3/8	G1/4	1100	1500	HGL-3/8-B	530032
	G1/2	G1/2	G3/8	1600	2100	HGL-1/2-B	530033

Shut-off valves > Shut-off valves and ball valves >

Hand slide valves VBOH



- Can be used as a shut-off function for pressurising and exhausting compressed air systems, e.g. upstream of service unit combinations, for air guns or for exhausting pneumatic cylinders
- Non-overlapping, so no pressure losses when switching
- Minimal installation effort
- Standard nominal flow rate 236 ... 7691 l/min
- Operating pressure –0.95 ... +12 bar
- Exclusive design

Order code

001002003004

VBOH-32--

Legend:

Mandatory entry

Optional entry

001	Type
VBOH	Hand slide valve
002	Valve function
32	3/2-way valve, bistable
003	Pneumatic connection 1
M5	Female thread M5
G18	Female thread G1/8
G14	Female thread G1/4
G38	Female thread G3/8
G12	Female thread G1/2
G34	Female thread G3/4

004	Pneumatic connection 2
–	Same size as pneumatic connection 1

Ordering

003 Pneumatic connection 1	004 Pneumatic connection 2	Nominal width [mm]	Standard nominal flow rate qnN [l/min]	Type	Part no.
M5	M5	3.6	236	VBOH-32-M5	1609969
G1/8	G1/8	5.7	777	VBOH-32-G18	1558073
G1/4	G1/4	8.4	1675	VBOH-32-G14	1302994
G3/8	G3/8	9.9	2201	VBOH-32-G38	1482679
G1/2	G1/2	12.1	3420	VBOH-32-G12	1587988
G3/4	G3/4	19.3	7691	VBOH-32-G34	1629664



- Fast, controllable non-return function
- Prevents pneumatic drives from dropping down in the event of a loss of compressed air
- With hand lever
- Pipe thread to ISO 228-1

Order code

001 002 003
QH -

Legend: Mandatory entry Optional entry

001	Type
QH	Ball valve

002	Pneumatic connection 1
1/4	Female thread G1/4
3/8	Female thread G3/8
1/2	Female thread G1/2
3/4	Female thread G3/4
1	Female thread G1
11/2	Female thread G11/2

003	Pneumatic connection 2
–	Same size as pneumatic connection 1

Ordering – Basic design

002 Pneumatic connection 1	003 Pneumatic connection 2	Nominal width [mm]	Standard nominal flow rate qnN [l/min]	Type	Part no.
G1/4	G1/4	10	3400	QH-1/4	9541
G3/8	G3/8	10	7500	QH-3/8	9542
G1/2	G1/2	15	11500	QH-1/2	9543
G3/4	G3/4	20	21000	QH-3/4	9544
G1	G1	25	33000	QH-1	9545
G11/2	G11/2	40	84000	QH-11/2	6837

Flow control valves >

One-way flow control valves GRLA, GRLZ



- Sturdy metal design
- Can be swivelled 360° around the screw-in axis after mounting
- Push-in connector
- Flow rate 100 ... 1580 l/min

Order code – Basic design

001002003004005006007

QS

D

Legend:

Mandatory entry

Optional entry

001	Type
GRLA	One-way flow control valve for exhaust air, elbow outlet
GRLZ	One-way flow control valve for supply air, elbow outlet
002	Pneumatic connection 2
M5	Male thread M5
1/8	Male thread G1/8
1/4	Male thread G1/4
3/8	Male thread G3/8
1/2	Male thread G1/2
003	Pneumatic connection 1, connection type
QS	Push-in connector

004	Pneumatic connection 1, tubing O.D. [mm]
...	3, 4, 6, 8, 10, 12
005	Adjusting element
–	Slotted head screw
006	Flow rate characteristic
–	None
007	Generation
D	D series

Product options

One-way flow control valves		Pneumatic connection		Adjusting element		Flow rate characteristic	
GRLSA	Elbow outlet, with rotary knob	M3	Male thread M3	RS	Knurled screw	LF	Low flow
GR	Straight design	QS-3	Push-in connector 3 mm			MF	Medium flow
CRGRLA	Corrosion-resistant						



Configurable product

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

→ www.festo.com/catalogue/gria

One-way flow control valves GRLA, GRLZ

Ordering – Basic design

Pneumatic connection		Standard nominal flow rate qnN at 6 bar → 5 bar		Standard flow rate qn at 6 bar → 0 bar		Type	Part no.
		In flow control direction	In non-return direction	In flow control direction	In non-return direction		
002	003/004	[l/min]	[l/min]	[l/min]	[l/min]		
001 GRLA: for exhaust air, 005 With slotted head screw							
M5	QS-3	100	60 ... 100	145	150 ... 170	GRLA-M5-QS-3-D	193137
	QS-4	110	65 ... 110	165	140 ... 160	GRLA-M5-QS-4-D	193138
	QS-6	115	70 ... 110	185	145 ... 170	GRLA-M5-QS-6-D	193139
G1/8	QS-3	130	100 ... 130	180	200 ... 220	GRLA-1/8-QS-3-D	193142
	QS-4	160	120 ... 190	250	270 ... 300	GRLA-1/8-QS-4-D	193143
	QS-6	185	160 ... 240	370	330 ... 390	GRLA-1/8-QS-6-D	193144
	QS-8	215	175 ... 250	400	330 ... 410	GRLA-1/8-QS-8-D	193145
G1/4	QS-6	400	290 ... 420	600	570 ... 680	GRLA-1/4-QS-6-D	193146
	QS-8	475	325 ... 500	720	610 ... 760	GRLA-1/4-QS-8-D	193147
	QS-10	480	345 ... 500	760	630 ... 790	GRLA-1/4-QS-10-D	193148
G3/8	QS-6	495	320 ... 495	740	840 ... 890	GRLA-3/8-QS-6-D	193149
	QS-8	820	450 ... 850	1300	1080 ... 1420	GRLA-3/8-QS-8-D	193150
	QS-10	900	540 ... 975	1400	1160 ... 1620	GRLA-3/8-QS-10-D	193151
G1/2	QS-12	1580	925 ... 1605	2220	1910 ... 2500	GRLA-1/2-QS-12-D	193152

Pneumatic connection		Standard nominal flow rate qnN at 6 bar → 5 bar		Standard flow rate qn at 6 bar → 0 bar		Type	Part no.
		In flow control direction	In non-return direction	In flow control direction	In non-return direction		
002	003/004	[l/min]	[l/min]	[l/min]	[l/min]		
001 GRLZ: for supply air, 005 With slotted head screw							
M5	QS-3	100	60 ... 100	135	130 ... 160	GRLZ-M5-QS-3-D	193153
	QS-4	110	65 ... 110	160	150 ... 180	GRLZ-M5-QS-4-D	193154
	QS-6	115	70 ... 110	170	160 ... 200	GRLZ-M5-QS-6-D	193155
G1/8	QS-3	130	100 ... 130	200	180 ... 200	GRLZ-1/8-QS-3-D	193156
	QS-4	160	120 ... 190	300	260 ... 290	GRLZ-1/8-QS-4-D	193157
	QS-6	185	160 ... 240	340	390 ... 460	GRLZ-1/8-QS-6-D	193158
	QS-8	215	175 ... 250	370	390 ... 470	GRLZ-1/8-QS-8-D	193159

Flow control valves >

One-way flow control valves VFOE



Order code – Basic design

001

002

003

004

005

006

007

VFOE

-

L

-

T

-

-

-

001	Type
VFOE	One-way flow control valve
002	Design
L	L-shape
003	Function
E	Exhaust air one-way flow control function
S	Supply air one-way flow control function
004	Adjusting element
T	Rotary knob with detent

Legend:

Mandatory entry

Optional entry

005	Pneumatic connection 2
M5	M5
M7	M7
G18	G1/8
G14	G1/4
G38	G3/8
G12	G1/2
R18	R1/8
R14	R1/4
R38	R3/8
006	Pneumatic connection 1
Q4	Push-in connector 4 mm
Q6	Push-in connector 6 mm
Q8	Push-in connector 8 mm
Q10	Push-in connector 10 mm
007	Package unit
–	Standard

Product options

Package unit

P2020 pieces per pack

P5050 pieces per pack



Configurable product

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

→ www.festo.com/catalogue/vfoe

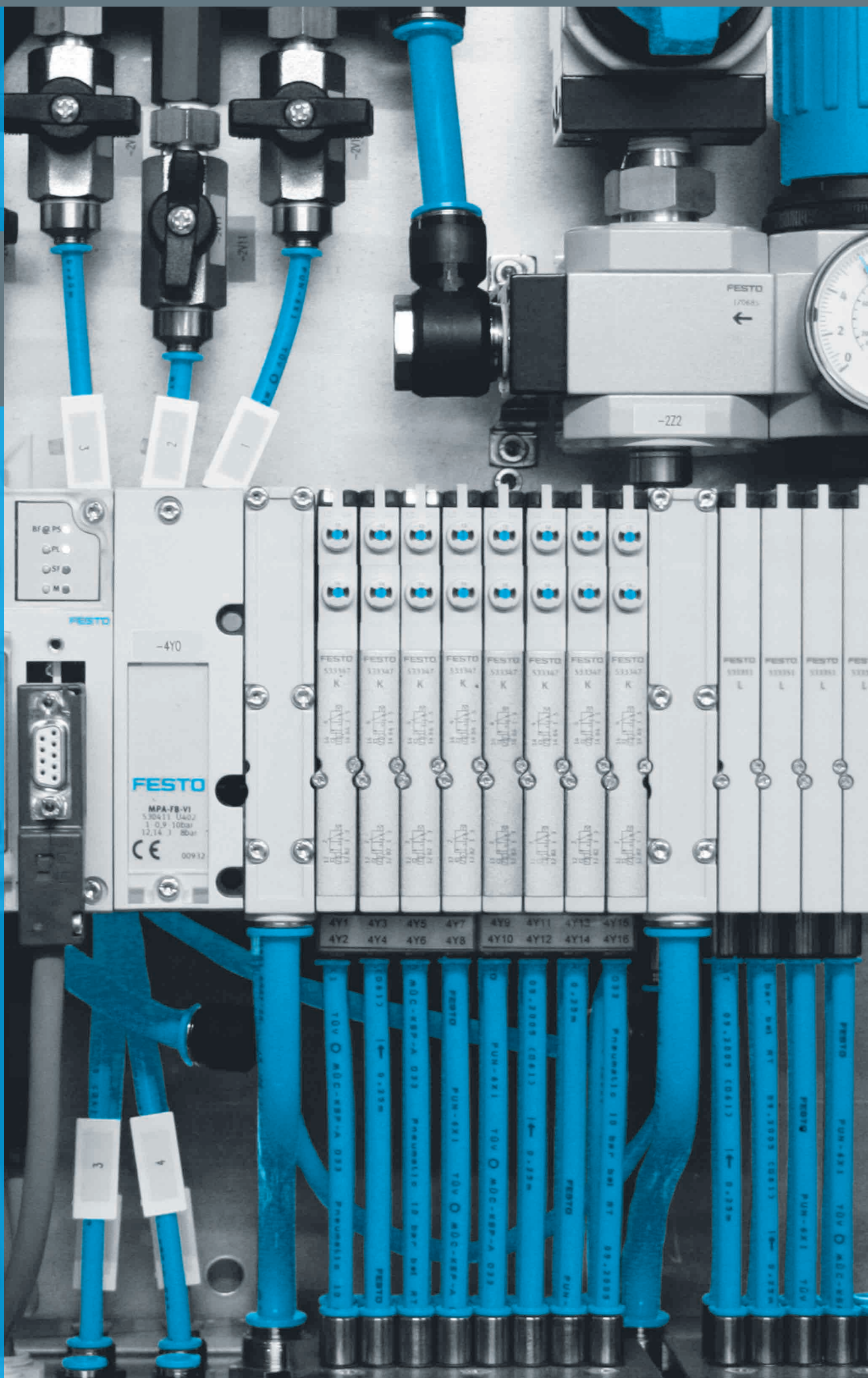
One-way flow control valves VFOE

Ordering – Basic design

Pneumatic connection		Standard nominal flow rate q _N at 0.6 MPa → 0.5 MPa		Standard flow rate q _n at 0.6 MPa → 0 MPa		Type	Part no.
		In flow control direction	In non-return direction	In flow control direction	In non-return direction		
005	006	[l/min]	[l/min]	[l/min]	[l/min]		
002/003 VFOE-LE: L-shape, exhaust air one-way flow control function							
M5	QS-4	90	50 ... 90	150	130 ... 160	VFOE-LE-T-M5-Q4	8068723
	QS-6	105	60 ... 105	160	150 ... 180	VFOE-LE-T-M5-Q6	8068724
G1/8	QS-4	150	90 ... 150	250	240 ... 300	VFOE-LE-T-G18-Q4	8068725
	QS-6	165	110 ... 500	280	300 ... 360	VFOE-LE-T-G18-Q6	8068726
	QS-8	170	130 ... 200	320	320 ... 390	VFOE-LE-T-G18-Q8	8068727
G1/4	QS-6	400	350 ... 450	610	700 ... 800	VFOE-LE-T-G14-Q6	8068728
	QS-8	500	370 ... 500	810	750 ... 900	VFOE-LE-T-G14-Q8	8068729
	QS-10	500	370 ... 500	810	750 ... 900	VFOE-LE-T-G14-Q10	8068730
G3/8	QS-8	700	600 ... 900	1150	1300 ... 1500	VFOE-LE-T-G38-Q8	8068731
	QS-10	800	700 ... 1000	1280	1400 ... 1600	VFOE-LE-T-G38-Q10	8068732
R1/8	QS-4	150	90 ... 150	250	240 ... 300	VFOE-LE-T-R18-Q4	8068734
	QS-6	165	110 ... 200	280	300 ... 360	VFOE-LE-T-R18-Q6	8068735
	QS-8	170	130 ... 200	320	320 ... 390	VFOE-LE-T-R18-Q8	8068736
R1/4	QS-6	400	350 ... 450	610	700 ... 800	VFOE-LE-T-R14-Q6	8068737
	QS-8	500	370 ... 500	810	750 ... 900	VFOE-LE-T-R14-Q8	8068738
	QS-10	500	370 ... 500	810	750 ... 900	VFOE-LE-T-R14-Q10	8068739
R3/8	QS-8	720	600 ... 900	1150	1300 ... 1500	VFOE-LE-T-R38-Q8	8068740
	QS-10	750	700 ... 1000	1280	1400 ... 1600	VFOE-LE-T-R38-Q10	8068741
002/003 VFOE-LS: L-shape, supply air one-way flow control function							
M5	QS-4	85	50 ... 90	135	130 ... 160	VFOE-LS-T-M5-Q4	8068743
	QS-6	100	60 ... 100	165	150 ... 180	VFOE-LS-T-M5-Q6	8068744
M7	QS-4	85	50 ... 90	135	130 ... 160	VFOE-LS-T-M7-Q4	8068745
	QS-6	100	60 ... 100	165	150 ... 180	VFOE-LS-T-M7-Q6	8068746
G1/8	QS-4	165	90 ... 165	260	240 ... 300	VFOE-LS-T-G18-Q4	8068747
	QS-6	170	110 ... 200	270	300 ... 360	VFOE-LS-T-G18-Q6	8068748
	QS-8	170	130 ... 200	270	320 ... 390	VFOE-LS-T-G18-Q8	8068749
R1/8	QS-4	165	90 ... 165	260	240 ... 300	VFOE-LS-T-R18-Q4	8068750
	QS-6	170	110 ... 200	270	300 ... 360	VFOE-LS-T-R18-Q6	8068751
	QS-8	170	130 ... 200	270	320 ... 390	VFOE-LS-T-R18-Q8	8068752

08

Valve terminals



Highlights



Valve terminals

VTUX

- + With IO-Link®/multipin or bus communication or with CPX AP-A remote I/O
- + Modular and cost-effective
- + High flow rates

→ 225

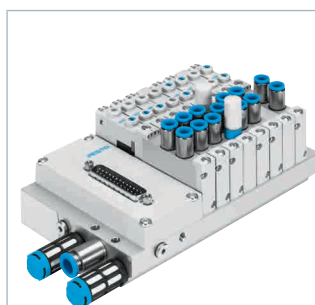


Valve manifolds with individual electrical connection

VTUG-S

- + Compact universal series
- + High flow rate

→ 229



Valve terminals with multi-pin plug or fieldbus connection

VTUG

- + Energy-efficient thanks to reverse operation and targeted pressure reduction
- + Especially suitable for control cabinet installation

→ 231



Valve terminals

MPA-S

- + Extremely flexible
- + Open to PROFIBUS-DP, INTERBUS, CANopen, DeviceNet, CC-LINK

→ 235

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Valve manifolds VTUG-S with individual electrical connection	229
Valve terminals VTUG with multi-pin or fieldbus connection	231
Valve manifolds VTUS	233
Valve terminals MPA-S with CPX terminal	235
Automation system CPX-AP-A	237
Automation system CPX-AP-I	241

Software-Tools

Configurator for valve terminals



Design a product with numerous features reliably and quickly with the help of the configurator.

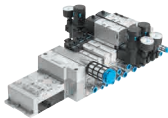
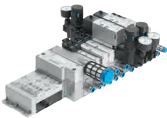
Select all the required product features step-by-step. The use of logic checks ensures that only correct configurations are available for selection.

A dynamic graphic generated on the basis of the configuration provides visual assistance when selecting the correct product features.

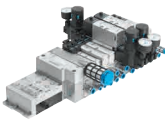
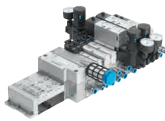
You can find the configurator for the product you want

- at www.festo.com/catalogue/valve terminal
- by selecting the product you want
- and clicking on the blue “Configure product” button

Standards-based valve terminals

	 Valve terminals VTSA	 Valve terminals VTSA-NPT
Valve size	18 mm, 26 mm, 42 mm, 52 mm, 65 mm	18 mm, 26 mm, 42 mm, 52 mm, 65 mm
Valve function	2x2/2-way, single solenoid, closed, 2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 5/2-way, double solenoid, 5/2-way, double solenoid, dominant signal, 5/2-way, single solenoid, 5/2-way, single solenoid, safety function, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed, 5/3-way, port 2 pressurised, 4 exhausted	2x2/2-way, single solenoid, closed, 2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 5/2-way, double solenoid, 5/2-way, double solenoid, dominant signal, 5/2-way, single solenoid, 5/2-way, single solenoid, safety function, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed, 5/3-way, port 2 pressurised, 4 exhausted
Max. standard nominal flow rate	550 l/min at 18 mm, 1100 l/min at 26 mm, 1300 l/min at 42 mm, 2900 l/min at 52 mm, 4000 l/min at 65 mm	550 l/min at 18 mm, 1100 l/min at 26 mm, 1300 l/min at 42 mm, 2900 l/min at 52 mm, 4000 l/min at 65 mm
Max. no. of valve positions	32	32
Max. no. of pressure zones	32	32
Electrical actuation	AP interface, Ethernet, Fieldbus, IO-Link®, Multi-pin plug, Integrated controller	AP interface, Ethernet, Fieldbus, Multi-pin plug, IO-Link®, Integrated controller
Valve terminal design	Modular, valve sizes can be mixed	Modular, valve sizes can be mixed
Description	- Conforms to ISO 15407-2/ISO 5599-2 - Multi-pin plug connection or fieldbus connection via the CPX system - Five valve sizes can be combined on one valve terminal - Integratable safety functions	- Conforms to ISO 15407-2/ISO 5599-2 - Multi-pin plug connection or fieldbus connection via the CPX system - Five valve sizes can be combined on one valve terminal - Integratable safety functions
→ Page/ online	220	vtsa

Universal valve terminals

			
	Valve terminals VTSA-F	Valve terminals VTSA-F-NPT	Valve terminals VTSA-F-CB
Valve size	18 mm, 26 mm, 42 mm, 52 mm, 65 mm	18 mm, 26 mm, 42 mm, 52 mm, 65 mm	18 mm, 26 mm, 42 mm, 52 mm
Valve function	2x2/2-way, single solenoid, closed, 2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 5/2-way, double solenoid, 5/2-way, double solenoid, dominant signal, 5/2-way, single solenoid, 5/2-way, single solenoid, safety function, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed, 5/3-way, port 2 pressurised, 4 exhausted	2x2/2-way, single solenoid, closed, 2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 5/2-way, double solenoid, 5/2-way, double solenoid, dominant signal, 5/2-way, single solenoid, 5/2-way, single solenoid, safety function, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed, 5/3-way, port 2 pressurised, 4 exhausted	2x2/2-way, single solenoid, closed, 2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 5/2-way, double solenoid, 5/2-way, double solenoid, dominant signal, 5/2-way, single solenoid, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed, 5/3-way, connection 2 pressurised, 4 exhausted
Max. standard nominal flow rate	700 l/min at 18 mm, 1350 l/min at 26 mm, 1860 l/min at 42 mm, 2900 l/min at 52 mm, 4000 l/min at 65 mm	700 l/min at 18 mm, 1350 l/min at 26 mm, 1860 l/min at 42 mm, 2900 l/min at 52 mm, 4000 l/min at 65 mm	700 l/min at 18 mm, 1350 l/min at 26 mm, 1860 l/min at 42 mm, 2900 l/min at 52 mm
Max. no. of valve positions	32	32	32
Max. no. of pressure zones	16	16	
Electrical actuation	AP interface, Ethernet, Fieldbus, Multi-pin plug, IO-Link®, Integrated controller	AP interface, Ethernet, Fieldbus, Multi-pin plug, IO-Link®, Integrated controller	Ethernet, Fieldbus, Integrated controller
Valve terminal design	Modular, valve sizes can be mixed	Modular, valve sizes can be mixed	Modular, valve sizes can be mixed
Description	• Flow rate-optimised valve terminal VTSA • Links with increased flow rates • Functions like standard valve terminals VTSA	• Flow rate-optimised valve terminal VTSA • Links with increased flow rates • Functions like standard valve terminals VTSA	• Valve terminal VTSA optimised for flow rate and communication • Extended diagnostic functions via CBUS and LED display • Previous external cabling is now unnecessary, while the installation space remains the same • Up to 96 valve addresses and up to four voltage zones, three of which can be safely shut off • For applications with increased safety requirements such as manual work stations • Control via CPX pneumatic interface with serial communication • Five valve sizes can be combined on one valve terminal
→ Page/online	220	vtsa	vtsa-f

Product overview

Universal valve terminals

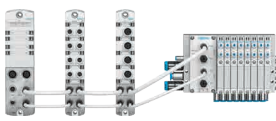
	 Valve terminals VTUX-A-P	 Valve terminals with CPX-AP-A terminal VTUX-A-P-APA	 Valve manifolds VTUG-S	 Valve terminals with multi-pin plug/fieldbus connection VTUG
Valve size	10 mm	10 mm	10 mm, 14 mm, 18 mm	10 mm, 14 mm, 18 mm
Valve function	2x3/2-way, monostable, closed, 2x3/2-way, open, monostable, 5/2 double solenoid, 5/2-way, monostable, 5/3 closed	2x3/2-way, monostable, closed, 2x3/2-way, open, monostable, 5/2 double solenoid, 5/2-way, monostable, 5/3 closed	2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 5/2-way, double solenoid, 5/2-way, single solenoid, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed	2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 3/2-way, single solenoid, closed, 3/2-way, single solenoid, open, 5/2-way, double solenoid, 5/2-way, single solenoid, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed
Max. standard nominal flow rate			380 l/min at 10 mm, 780 l/min at 14 mm, 1380 l/min at 18 mm	330 l/min at 10 mm, 630 l/min at 14 mm, 1200 l/min at 18 mm
Max. no. of valve positions	32	32	16	24
Max. no. of pressure zones	16	16	9	13
Electrical actuation			Individual connection	AP interface, Individual connection, Fieldbus, I-Port, IO-Link®, Multi-pin plug
Valve terminal design	Modular and expandable	Modular and expandable	Fixed grid	Fixed grid
Description	• Flexible for centralised and decentralised installation • Also flexible for decentralised installation • Modular and cost-effective • High flow rates • Versatile options for creating pressure zones	• CPX AP-A remote I/O • Actuating switching valves • Modular and cost-effective • High flow rates • Centralised installation and open for extensions • Compact, lightweight yet robust • Versatile options for creating pressure zones • Max. 32 valves	• Compact with small valves VUVG • Connection technology easy to change via the E-box • Wide range of valve functions • Also with semi in-line valves	• Low-cost fixed grid • Extremely easy assembly • Exchangeable electrical control • IO-Link® capable • Valves VUVG with individual electrical connection can be integrated • Also available with pneumatic multiple connector plate • Part of the VG series • Energy-efficient thanks to reverse operation and targeted pressure reduction • Optimised and space-saving variant available for installation in control cabinets • Variants with hot-swap connections: valves can be replaced during operation • Variants recommended for production systems for manufacturing lithium-ion batteries
→ Page/online	225	225	229	231

Universal valve terminals

	 Valve manifolds VTUS	 Valve terminals MPA-S	 Valve terminals MPA-L
Valve size	21 mm, 26.5 mm, 31 mm	10 mm, 14 mm, 20 mm	10 mm, 14 mm, 20 mm
Valve function	2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 3/2-way, single solenoid, closed, 3/2-way, single solenoid, open, 5/2-way, double solenoid, 5/2-way, single solenoid, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed	2/2-way, single solenoid, closed, 2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 3-way proportional pressure regulator, 3/2-way, single solenoid, closed, 3/2-way, single solenoid, open, 5/2-way, double solenoid, 5/2-way, single solenoid, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed	2/2-way, single solenoid, closed, 2x3/2-way, single solenoid, closed, 2x3/2-way, single solenoid, open, 2x3/2-way, single solenoid, open/closed, 3/2-way, single solenoid, closed, 3/2-way, single solenoid, open, 5/2-way, double solenoid, 5/2-way, single solenoid, 5/3-way, pressurised, 5/3-way, exhausted, 5/3-way, closed
Max. standard nominal flow rate		360 l/min at 10 mm, 550 l/min at 14 mm, 700 l/min at 20 mm	360 l/min at 10 mm, 670 l/min at 14 mm, 870 l/min at 20 mm
Max. no. of valve positions	16	8, 24, 32, 64	32
Max. no. of pressure zones	9	3, 7, 9, 17	20
Electric actuation	Individual connection	AS-Interface, fieldbus, multi-pin plug	Fieldbus, multi-pin plug, IO-Link, I-Port
Valve terminal design	Fixed grid	Modular, valve sizes can be mixed	Valve sizes can be mixed
Description	- Sturdy valves with long service life VUVS - Individual electrical connection - Pilot air supply in the manifold rail - Comprehensive range of accessories	- Valve terminals for universal applications - High-performance valves in a sturdy metal housing - Metal links - Two valve sizes can be combined - Excellent communication thanks to serial links - Fieldbus connection via CPX - Max. 128 valves	- Maximum modularity - System can be extended as required with individual sub-bases and modular tie rods - Polymer sub-bases 3 valve sizes - Tamper-proof fixed flow restrictor - Fieldbus interface via CPX - IO-Link® capable
→ Page/online	233	235	mpa-l

Product overview

Electrical peripherals

	 Automatisierungssysteme CPX-AP-A	 Automation systems CPX-AP-I	 Terminal CPX	 Fieldbus modules CTEU
Protocol	AP	IO-Link, PROFIBUS DP, PROFINET, EtherCAT, EtherNet/IP, Modbus®TCP	Interbus, DeviceNet, CANopen, CC-Link, PROFIBUS DP, PROFINET, EtherCAT, EtherNet/IP, Modbus®TCP, SercosIII, Powerlink, IO-Link®, I-Port, HART	AS-Interface, CANopen, CC-Link, CPI-B, DeviceNet, EtherCAT, EtherNet/IP, PROFINET, Modbus® TCP, PROFIBUS DP, VARAN, I-Port
Electrical actuation	AP interface, Ethernet		Fieldbus, integrated controller	
Max. address volume for inputs	1024 ... 4096 Byte	244 ... 2048 Byte	64 Byte	2 ... 64 Byte
Max. address volume for outputs	1024 ... 4096 Byte	244 ... 2048 Byte	64 Byte	2 ... 64 Byte
Parameterisation			Diagnostic behaviour, failsafe response, forcing of channels, signal setup	Activate diagnostics, diagnostic behaviour, failsafe and idle response, failsafe response, IO-Link mode, watchdog disable, watchdog enable
Degree of protection	IP65, IP67	IP65, IP67	IP65, IP67	IP65, IP67
Nominal operating voltage DC			24 V	24 ... 30 V
Operating voltage range DC			18 ... 30 V	18 ... 31.6 V
Description	- Modular and lightweight IO system in IP65/IP67 - Highly flexible remote IO system with maximum performance - Can be expanded and easily combined with CPX-AP-A and CPX-AP-I to form an integrated system - Seamless connectivity along with advanced diagnostics option increase the machine availability and productivity - Easy to integrate into the controller of your choice: PROFINET, PROFIBUS, EtherCAT®, EtherNet/IP, ModbusTCP, PROFIBUS - Module for IO-Link® available - Real-time capability, transmission rate of 200 Mbit full duplex - Powerful remote I/O system that flexibly links 80 modules at a data rate of 200 Mbaud in real time - Sustainable operation thanks to energy shut-off	- Decentralised and lightweight I/O system in IP65/IP67 - Highly flexible remote IO system with maximum performance - Can be expanded and easily combined with CPX-AP-I and CPX-AP-A to form an integrated system - Seamless connectivity along with advanced diagnostics option increase the machine availability and productivity - Simple integration into the controller of your choice: PROFINET, PROFIBUS, EtherCAT®, EtherNet/IP, ModbusTCP - Module for IO-Link® available - Real-time capability, transmission rate of 200 Mbit full duplex - Powerful remote I/O system that flexibly links 80 modules at a data rate of 200 Mbaud in real-time - Cable lengths of up to 50 m between every module enable vast system dimensions	- Automation platform - Open to all common fieldbus protocols and Ethernet - Integrated diagnostic and maintenance functions - Applicable as stand-alone remote I/O or with valve terminals MPA-S, MPA-L, VTSA/VTSA-F - Choice of polymer or metal interlinking block with individual links - Analogue inputs and outputs, 2-way/4-way, optionally with HART protocol	- For valve terminals VTUG, MPA-L, VTOC - Can be expanded into the installation system CTEL - Fieldbus-typical LEDs, interfaces and switching elements - Isolated power supply for electronics and valves
→ Page/online	237	241	cpx	cteu

Customised components – for your specific requirements



Valve terminals with customised designs

Can't find the valve terminal you need in our catalogue?

We can offer you customised components that are tailored to your specific requirements.

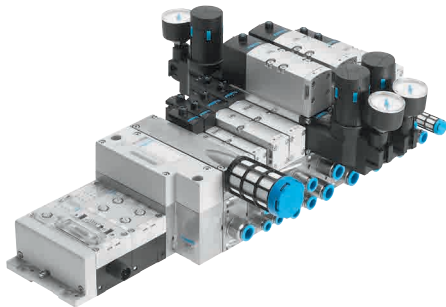
Common product modifications:

- Coatings for special ambient conditions
- Customised cables: length, pin allocation, pre-assembled with plug
- Modified actuating elements
- Modified connecting thread
- Modified valve sub-bases

Many additional variants are possible.

Ask your Festo sales engineer, who will be happy to help:

→ www.festo.com/contact



- Sturdy and flexible valve terminal
- Widths 18 and 26 mm: ISO 15407-2, widths 42 and 52 mm: ISO 5599-2
- Widths 18 mm, 26 mm, 42 mm and 52 mm can be combined on one valve terminal without an adapter
- Complete and standardised valve range
- Wide range of vertical stacking modules: pressure regulator, flow control, vertical pressure shut-off plate, etc.
- Integrated safety functions
- Flow rate: 550 ... 2900 l/min
- Flow-optimised version VTSA-F: 700 ... 4000 l/min
- High pressure range: -0.9 ... 10 bar
- All pneumatic connections can also be supplied with an NPT thread

Key features

Innovative

- High-performance valves in a sturdy metal housing
- Standardised from the multi-pin plug to the fieldbus connection and control block
- Dream team: fieldbus valve terminal suitable for electrical peripherals CPX. This means:
 - Forward-looking internal communication system for actuating the valves and CPX modules
 - Four valve sizes on one valve terminal without adapters
 - Integration of smart valve functions with VTSA-F-CB → vtsa-f-cb
- Valve functions for integration in control architectures of higher categories to EN ISO 13849-1

Versatile

- Modular system offering a range of configuration options
- Expandable with up to 32 solenoid coils
- Conversions and extensions are possible at any time
- Integration of innovative function modules possible
- Flexible air supply and variable pressure zones
- Reverse operation
- High pressure range -0.9 ... 10 bar, flow range 550 ... 4000 l/min
- Wide range of valve functions
- Valve supply 24 V DC

Reliable

- Sturdy and durable metal components
 - Valves
 - Manifold sub-bases
 - Seals
- Fast troubleshooting thanks to LEDs on the valves and diagnostics via fieldbus
- Reliable servicing thanks to valves that can be replaced quickly and easily
- Manual override, either non-detenting, non-detenting/detenting or covered
- Durable thanks to tried-and-tested piston spool valves
- Large and durable labelling system
- 100% duty cycle

Easy to install

- Ready-to-install and tested unit
- Reduced selection, ordering, installation and commissioning costs
- Secure mounting on wall or H-rail
- Manifold sub-bases can be extended using four screws, sturdy duct separation on metal support

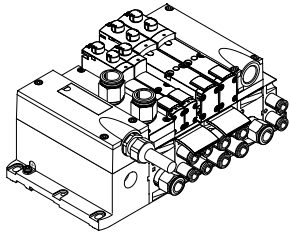
Valve functions

- 2x 2/2-way valve, single solenoid, pneumatic spring, normally closed
- 2x 3/2-way valve, single solenoid
 - Normally open
 - Normally open, reversible
 - Normally closed
 - Normally closed, reversible
 - 1x normally open, 1x normally closed
 - 1x normally open, 1x normally closed, reversible
- 5/2-way solenoid valve
 - Single solenoid, pneumatic spring/mechanical spring
 - Double solenoid
 - Double solenoid with dominant signal
- 5/2-way valves for special functions
- 5/3-way solenoid valve
 - Mid-position pressurised
 - Mid-position closed
 - Mid-position exhausted
- 5/3-way solenoid valve for special functions
- Soft-start valve for slow and safe pressure build-up

Key features

Electrical connection options

Multi-pin plug connection

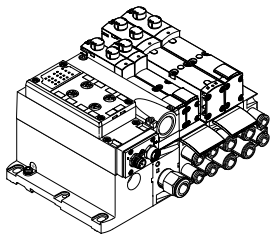


Control signals from the controller to the valve terminal are transmitted via a pre-assembled multi-wire connecting cable or a self-assembled multi-pin plug connection, which substantially reduces installation time.
The valve terminals can be equipped with max. 32 valves with max. 32 solenoid coils.

Versions

- Multi-pin plug connection with terminal strip (spring-loaded terminal), 24 V DC
- Pre-assembled connecting cable, 24 V DC
- Sub-D plug for assembly by the user, 37-pin, 24 V DC
- Round plug M23, 19-pin, 24 V DC

AS-Interface® connection



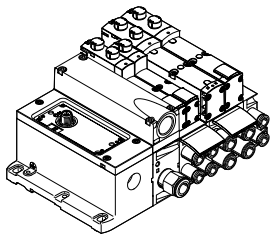
A special feature of the AS-Interface® is the simultaneous transmission of data and supply power via a two-wire cable. The encoded cable profile prevents connection with incorrect polarity.

The valve terminal with AS-Interface® is available in the following versions:

- With 1 to 8 modular valve positions (max. 8 solenoid coils). This corresponds to 1 to 8 VTSA valves.
- With all available valve functions.

The connection technology used for the inputs can be selected as with CPX: M8, M12, quick connector, Sub-D, spring-loaded terminal (terminals to IP20).

I-Port/IO-Link connection

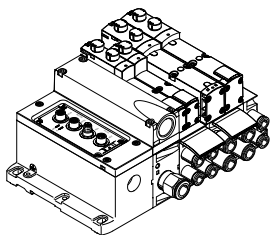


The connection to a higher-order controller can be achieved by:

- Connection to an I-Port master from Festo (e.g. CPX-CTEL)
- Direct mounting of a bus node on the I-Port interface
- Connection to an IO-Link master (in IO-Link mode)

The valve terminal can comprise a maximum of 32 solenoid coils or 16 valve positions.

AP interface

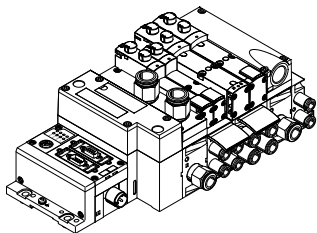


Control signals from the controller to the valve terminal are transmitted via the AP bus protocol from Festo.
The valve terminal can comprise a maximum of 24 solenoid coils or 12 valve positions.

Key features

Electrical connection options

Fieldbus connection via the CPX system



An integrated fieldbus node manages the communications connection with a higher-order PLC. This enables a space-saving pneumatic and electronic solution.

Valve terminals with fieldbus interfaces from the CPX system can be configured with up to 16 manifold sub-bases. With 2 solenoid coils per connection, up to 32 solenoid coils can thus be actuated.

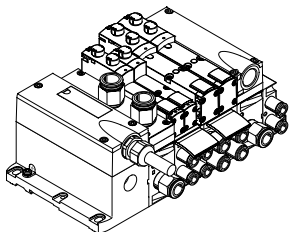
There is an extended range of functions in combination with the CPX system and the smart valve terminal VTSA-F-CB:

- Serial communication in the pneumatic part
- Several voltage zones for load voltage of the valves in the pneumatic part
- Flexible shutdown of up to 3 voltage zones in the CPX interface, either internally with PROFIsafe or externally by 3x M12
- Flexible zoning for electrical and pneumatic sections, for decentralised control of various system/machine areas

Versions:

PROFIBUS, DeviceNet, CANopen, CC-LINK, EtherNet/IP, EtherCAT, Modbus TCP, PROFINET, POWERLINK, Sercos III

Control block connection via the CPX system

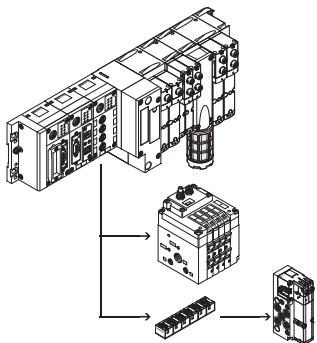


A controller integrated in the Festo valve terminal enables the design of stand-alone control units with protection to IP65 without a control cabinet thanks to two different operating modes.

In the slave operating mode, these valve terminals can be used for intelligent preprocessing and are therefore ideal modules for designs using decentralised intelligence.

In the master operating mode, terminal groups can be designed with many options and functions that can autonomously control a medium-sized machine/system.

CP string extension



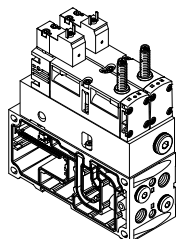
The optional CP string extension enables additional valve terminals and I/O modules to be connected to the fieldbus node of the CPX terminal on up to four CP strings. Different input and output modules as well as valve terminals MPA-S can be connected.

The maximum length of the CP string extension is 10 metres, which means that the extension modules can be mounted directly on site. All the required electrical signals are transmitted via the CP cable, which in turn means that no further installation is needed on the extension module.

One CP string offers:

- 32 input signals
- 32 output signals for output modules 24 V DC or solenoid coils
- Logic and sensor supply for the input modules
- Load voltage supply for the valve terminals
- Logic supply for the output module

Control block with safety function, width 26 mm



5/2-way solenoid valve

These valves are used for special applications, for example for:

- Protecting against unexpected start-up
- Safe reversing
- Drives in manually loaded devices

This control block is suitable for use as a press safety valve to EN 962.

This valve is a safety device in accordance with the Machinery Directive 2006/42/EC.

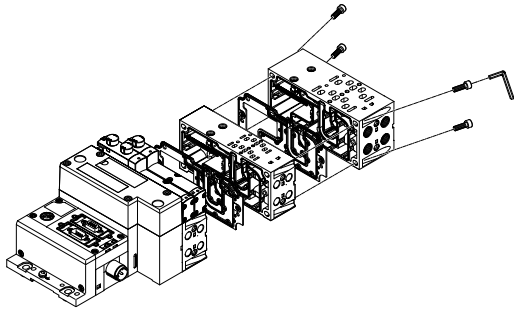
Key features

Modular pneumatic peripherals

The modular design of the VTSA/VTSA-F/VTSA-F-CB enables maximum flexibility right from the planning stage and offers maximum ease of service in operation. The system consists of manifold sub-bases and valves.

The manifold sub-bases are screwed together and thus form the support system for the valves.

Basic system modularity

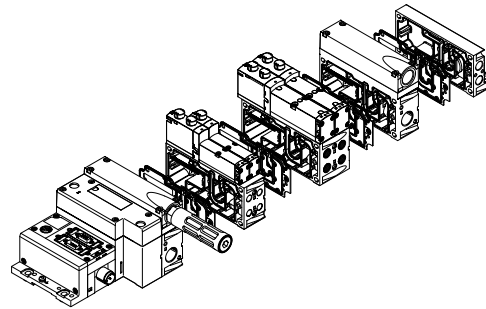


Inside the manifold sub-bases are the ducts for supplying compressed air to and exhausting from the valves on the terminal as well as the working ports for the pneumatic cylinders for each valve.

Each manifold sub-base is connected to the next using four screws.

Individual valve terminal sections can be isolated and further blocks easily inserted by loosening these screws. This ensures that the valve terminal can be rapidly and reliably extended.

Valve modularity



Modular electrical peripherals

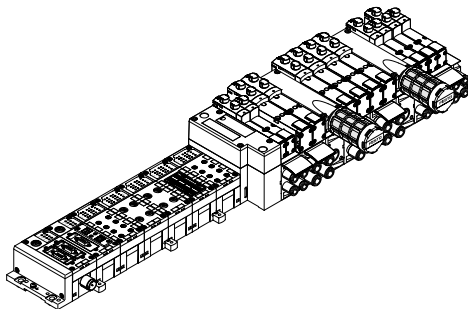
The valves are actuated differently depending on whether a multi-pin terminal or fieldbus terminal is used.

The VTSA/VTSA-F with CPX interface is based on the internal bus system of the CPX terminal and uses this communication system for all solenoid coils and a range of electrical input and output functions.

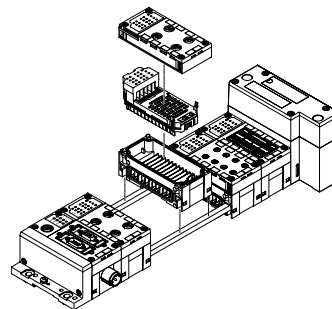
Parallel links enable the following:

- Transmission of switching information
- Compact design
- Position-based diagnostics
- Separate voltage supply for valves
- Flexible conversion without address shifting
- Option of CP interface
- CPX-CEC as stand-alone controller with access via Ethernet and web server
- Transmission of status, parameter and diagnostic data

VTSA with electrical peripherals CPX



Modularity with electrical peripherals CPX



Technical data online → www.festo.com/catalogue/vtsa

 Configurable product

This product and all its product options can be ordered online via the configurator:
→ www.festo.com/catalogue/...
Enter the part number or the type.

Part no.	Type	Electric actuation	Connecting thread
Valve terminal VTSA, conforms to ISO 15407-2 / ISO 5599-2			
539215	VTSA-MP	Multi-pin plug	Metric
539217	VTSA-FB	CPX terminal	Metric
8130716	VTSA-FB-AP	Automation system CPX-AP-A	Metric
Valve terminal VTSA-F, flow-optimised version			
547963	VTSA-F-MP	Multi-pin plug	Metric
547965	VTSA-F-FB	CPX terminal	Metric
8130719	VTSA-F-FB-AP	Automation system CPX-AP-A	Metric

The valve terminals are fully assembled according to your order specifications and are individually tested. This reduces assembly and installation time to a minimum.



- High flow rates of up to 670 l/min
- Lightweight, made of high-performance polymer
- Extremely flexible to use, for communication and machine concepts
- Highly modular
- Open for future developments
- Actuating switching valves
- Versatile options for creating pressure zones
- Max. 32 valves
- VTUX-A-P:
 - IO-Link® / multipin or bus communication
 - Also flexible for decentralised installation
- VTUX-A-P-APA:
 - CPX AP-A remote I/O
 - Centralised installation and open for extensions

Key features

Innovative

- Compact design with low overall height and width
- Manifold sub-bases with different widths for different flow rate with the same valves
- Flow rate up to 670 l/min
- Flexibly configurable push-in fittings as a cartridge, easy to exchange in just a few simple steps
- Wide range of electrical connection options for multi-pin plug: Sub-D, ribbon cable or spring-loaded terminal
- Connection to the automation system CPX-AP-I
- Connection to the automation system CPX-AP-A
- IO-Link® interface

Versatile

- Modular system offering a range of configuration options
- Manifold sub-bases for 4 valves or an individual valve, can be combined as required
- System can be extended as needed with individual manifold sub-bases and modular tie rods
- Up to 32 solenoid coils
- Can be converted and extended at a later date
- Air supply can be extended via additional pressure zones using supply modules
- Can be assembled using individually ordered components

Reliable

- High output reserves thanks to large pneumatic cross sections and exhausting with high flow rates
- Resilient thanks to high mechanical rigidity
- Lightweight polymer components
- Fast troubleshooting with LEDs on the valves
- Easy to service with replaceable valves and manifold sub-bases
- Manual override either non-detenting, detenting or secured against unauthorised activation (concealed)

Easy to install

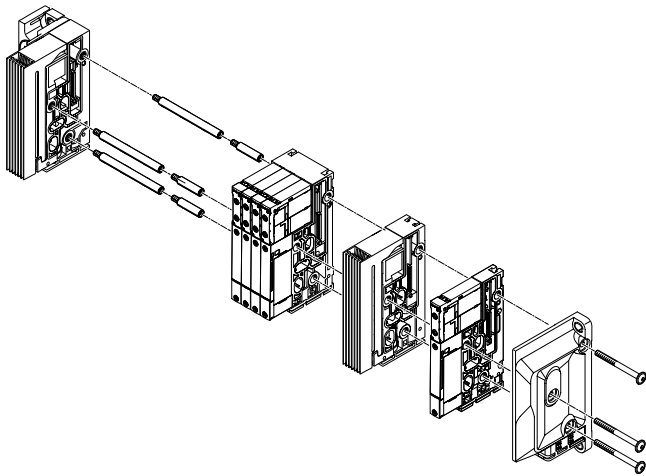
- Fast and reliable delivery as a ready-to-install and tested unit or for self-assembly from individual components
- Reduced selection, ordering, installation and commissioning costs
- Secure wall mounting or H-rail mounting

Valve functions

- 5/2-way valve, single solenoid
- 5/2-way valve, double solenoid
- 2x 3/2-way valve, normally open
- 2x 3/2-way valve, normally closed
- 5/3-way valve, mid-position closed

Key features

Modular pneumatic components



The modular design of the valve terminal VTUX enables outstanding flexibility right from the planning stage and offers maximum ease of service in operation.

The system consists of manifold sub-bases and valves.

The manifold sub-bases form the support system for the valves.

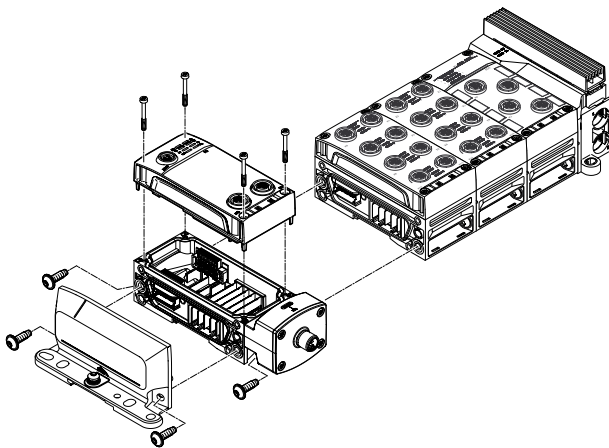
They contain the electrical links, the ducts for supplying compressed air to and exhausting the valve terminal as well as the working ports for the pneumatic drives for each valve.

The manifold sub-bases are connected by a tie rod system. This comprises a tie rods and a screw set. The combination of tie rods and screw set is selected according to the chosen number of individual sub-bases.

A valve terminal can be easily extended by adding individual manifold sub-bases or supply modules. This is done simply by inserting suitable tie rod extenders.

This ensures that the valve terminal can be rapidly and reliably extended.

Modular electrical peripherals

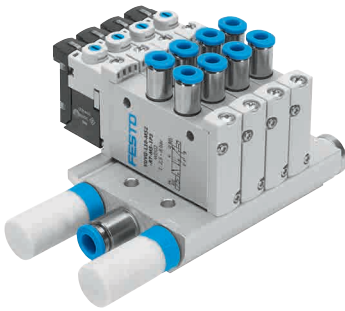


The mechanical connection between the CPX-AP-A modules is created using angled fittings.

The automation system CPX-AP-A can be flexibly expanded at any time. The advantages of polymer (low weight) and metal (sturdy, high EMC compatibility) are perfectly combined by using high-quality polymer materials.

The input/output modules, manifold blocks and bus node of the automation system CPX-AP-A are fastened to the interlinking blocks using 4 screws and can be exchanged or modified in nearly any way.

Valve manifolds VTUG-S with individual electrical connection



- Up to 16 valve positions in a fixed grid
- Perfect for fast applications where a particularly high flow at a consistently small size is required
- Multiple different pressure zones on one valve terminal
- Many electrical connection options
- Comprehensive range of accessories
- Flow rate 380 ... 1380 l/min
- Size 10, 14, 18
- Pressure range –0.9 ... 10 bar

Key features

Innovative

- Can be set to internal or external pilot air supply for manifold assemblies with sub-base valves
- Maximum pressure 10 bar
- Design principle:
 - Piston spool with sealing ring (VUVG-LK, VUVG-BK)
 - Piston spool with sealing cartridge (VUVG-L, VUVG-B)

Versatile

- Wide range of valve functions
- Choice of quick plug connectors
- In-line valves
- Semi in-line valves for manifold assembly
- M5 and M7 in-line valves can be combined on one manifold rail
- Valve manifold with pressure zones
- IP40, IP65
- Connection technology via:
 - Electrical connection box (E-box)
 - Pneumatic interface CNOMO, to ISO 15218

Reliable

- Sturdy and durable metal components
 - Valves
 - Manifold rails
- Fast troubleshooting thanks to 360° LED display
- Reliable servicing thanks to valves that can be replaced quickly and easily
- Choice of manual override: non-detenting, covered, non-detenting/detenting or detenting (without accessories)

Valve functions

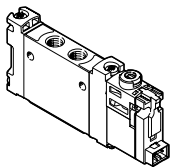
- 2x3/2-way valve
 - Normally open
 - Normally closed
 - 1x normally closed, 1x normally open
- 5/2-way valve
 - Single solenoid
 - Double solenoid
- 5/3-way valve
 - Mid-position pressurised
 - Mid-position exhausted
 - Mid-position closed

Easy to install

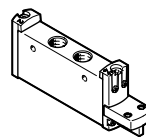
- Secure mounting on wall or H-rail
- Easy mounting, captive screws and seal
- Connection technology easy to change via the E-box
- Inscription label holder for labelling the valves

Individual valves

In-line valves as individual valve

In-line valve VUVG-LK/
VUVG-L

In-line valves are designed to be used without pneumatic links. All pneumatic connections are on the valve and can be equipped with fittings/tubing. The electrical connection is provided by different E-boxes.

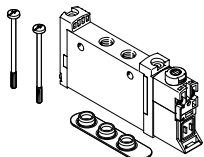
In-line valve VUVG-L to
ISO 15218 (CNOMO)

The in-line valve VTUG-L...-P1 to ISO15218 is a solenoid valve without electrical pilot control. The basic valve with the CNOMO pneumatic interface to ISO15218 can be equipped with the following electrical pilot controls:

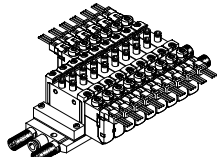
- Connection type C (DIN EN175301-803)
- Connection type C to industry standard
- Connection M12 (IEC61076-2-101)

Valve manifolds

Semi in-line valves for manifold assembly



Semi in-line valve
VUVG-S



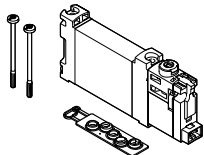
Valve manifold VTUG made up of semi in-line valves VUVG-S

The supply ports (1, 3 and 5) for semi in-line valves are connected to the valve by common pneumatic links (e.g. sub-base).

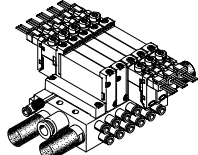
The working ports (2, 4) are on the valve.

The electrical connection is established via variable E-boxes.

Sub-base valves for manifold assembly



Sub-base valve
VUVG-BK/VUVG-B

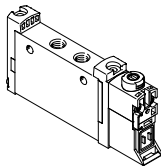


Valve manifold VTUG made up of sub-base valves VUVG-BK/ VUVG-B

The supply ports (1, 3 and 5) and the working ports (2, 4) of sub-base valves are connected to the valve by a pneumatic link (e.g. sub-base).

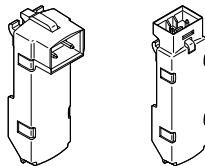
The electrical connection is established via variable E-boxes.

Basic valves VUVG



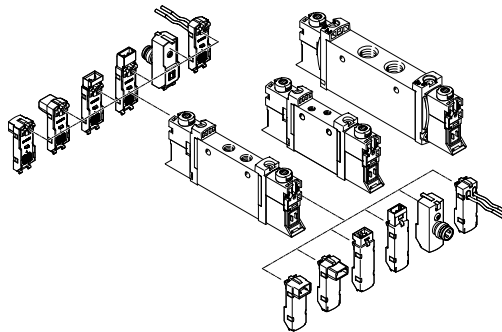
- Size 10, 14 and 18 mm
- In-line valves and semi in-line valves
- Sub-base valves
- 2x 3/2-way, 5/2-way and 5/3-way valves

E-boxes



- 5, 12 and 24 V DC
- With or without holding current reduction
- LED

Combinations of basic valve and E-boxes

 Configurable product

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

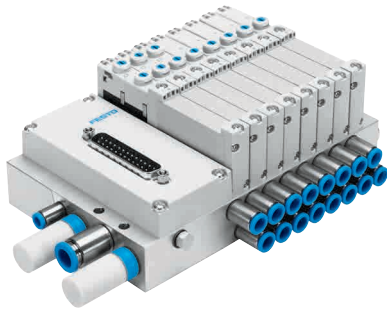
→ www.festo.com/catalogue/...

Enter the part number or the type.

The valve manifold is fully assembled according to your order specification and individually checked. This reduces assembly and installation time to a minimum.

Part no.
572230Type
VTUG-S

Valve terminals VTUG with multi-pin or fieldbus connection



- Up to 24 valve positions in a fixed grid
- Vacuum and pressure on one valve terminal
- Multiple different pressure zones on one valve terminal
- Flexible control cabinet installation
- Flow rate 330 ... 1200 l/min
- Size 10, 14, 18
- Pressure range –0.9 ... 10 bar

Key features

Innovative

- Festo-specific I-Port interface for bus nodes (CTEU)
- IO-Link mode for direct connection to a higher-level IO-Link master
- Festo-specific I-Port interface with interlock
- Flexible multi-pin plug connection using Sub-D or ribbon cable
- Reversible piston spool valves, up to 24 valve positions
- Reduced power consumption
- Excellent price/performance ratio

Versatile

- Choice of quick plug connectors
- Multiple pressure zones possible
- Sub-D variant and fieldbus interface with protection to IP67
- Internal or external pilot air with the same manifold rail possible through the use of blanking plugs
- Sub-base valves with working ports underneath for installation in control cabinets

Reliable

- Sturdy and durable metal components
 - Valves
 - Manifold rails
- Fast troubleshooting thanks to LED indicator
- Manual override: choice of non-detenting, detenting or covered

Easy to install

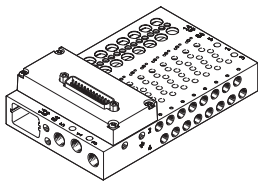
- Easy mounting thanks to captive screws and seal
- Connection technology easy to change
- Inscription label holder for labelling

Valve functions

- 3/2-way valve
 - Single solenoid
 - Normally open
 - Normally closed
- 2x 3/2-way valve
 - Single solenoid
 - Normally open
 - Normally closed
 - 1x normally closed, 1x normally open
 - Mechanical spring
 - Pneumatic spring
- 5/2-way valve
 - Single solenoid
 - Pneumatic/mechanical spring
 - Mechanical spring
 - Pneumatic spring
 - Double solenoid valve
- 5/3-way valve
 - Mid-position pressurised
 - Mid-position exhausted
 - Mid-position closed
- Reversible piston spool valves, up to 24 valve positions

Electrical connection

Multi-pin plug connection



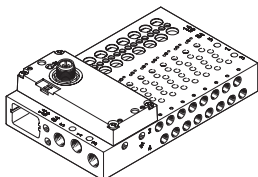
The signals are transmitted from the controller to the valve terminal via a pre-assembled or self-assembled multi-wire cable to the multi-pin plug connection.

This substantially reduces installation time compared to individually connected valves. The valve terminal can be equipped with max. 48 solenoid coils.

Versions:

- Sub-D connection
- Ribbon cable

I-Port interface



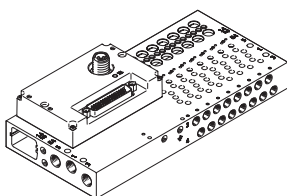
Festo-specific interface as a basis for bus nodes (CTEU) or in IO-Link mode for direct connection to a higher-order IO-Link master.

Communication and power supply take place via a common M12 interface.

Connection options:

- As I-Port interface for bus nodes (CTEU)
- In IO-Link mode for direct connection to an IO-Link master

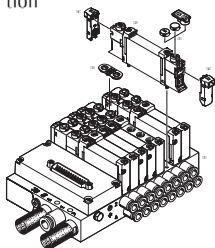
I-Port interface with interlock



The interlock function enables the first 16 solenoid coils to be individually supplied externally.

The external supply guarantees the safety-related enabling of these valves.

Valves with individual electrical actuation



The VTUG variant with multi-pin plug connection and fieldbus interface offers the additional option of individual electrical actuation of the valves.

 Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

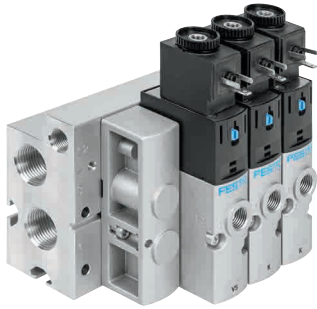
The valve terminal is fully assembled according to your order specifications and individually tested. This reduces assembly and installation time to a minimum.

Part no.

573606

Type

VTUG



- Sturdy valves with long service life
VUVS → 185
- Individual electrical connection
- Pilot air supply in the manifold rail
- Comprehensive range of accessories
- Flow rate 600 ... 2300 l/min
- Sizes 20, 25, 30
- Pressure range -0.9 ... 10 bar

Key features

Innovative

- A reliable, sturdy valve with a long service life
- Design principle:
 - Piston spool with sealing ring (VUVS-LK)
 - Poppet seat, soft-sealing (VUVS-LT)
 - Piston spool with sealing cartridge (VUVS-L)
- Flow rate up to 1800 l/min with VUVS-LK and VUVS-LT
- Flow rate up to 2300 l/min with VUVS-L
- Wide range of valve functions

Versatile

- Operating voltage can be easily altered by changing the solenoid coil (VUVS-L and VUVS-LT)
- In-line valves can be used as individual valves or manifold valves
- Flexible pressure zones
- Wide range of mounting options

Reliable

- Ergonomic and safe operation
- Reliable servicing thanks to valves that can be replaced quickly and easily

Easy to mount

- Pre-assembled units on rails
- Individual valves assembled ready for installation
- Common supply manifolds for mounting on one or both sides
- Secure mounting on wall or H-rail

Valve functions

- Internal/external pilot air supply
- Reset via pneumatic/mechanical spring
- Direction of flow can be reversed in the case of external pilot air supply

Equipment options

- VUVS-LK: 3/2-way and 5/2-way valves, with solenoid coil
- VUVS-LT: 3/2-way, 2x 3/2-way and 5/2-way solenoid valves, with or without solenoid coil
- VUVS-L: 3/2-way, 5/2-way and 5/3-way valves, with or without solenoid coil

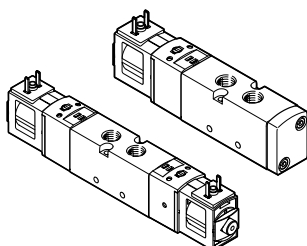
Versions

- A maximum of 16 valve positions can be configured in the standard version (for VUVS-L variant only)
- A maximum of 12 valve positions can be configured in the compact version (maximum of 10 valve positions for VUVS-LK variant)
- Valve positions 2 ... 10 can be configured in increments of 1, valve positions 10 ... 16 in increments of 2
- Manifold block with a maximum of 10 valve positions
- Extension module with 2 valve positions
- Common supply manifold with a maximum of 10 valve positions
- Creation of pressure zones (maximum 9 pressure zones in the case of a valve manifold with 16 valve positions)

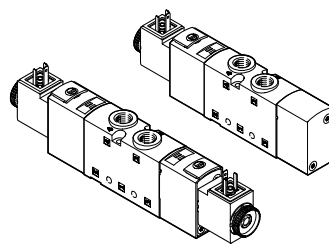
Solenoid valves VUVS

In-line valves are designed to be used without pneumatic links. All pneumatic connections are on the valve and can be equipped with fittings/tubing.

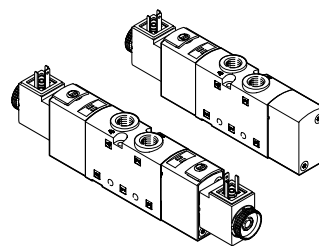
In-line valve VUVS-LK as individual valve (piston spool valve)



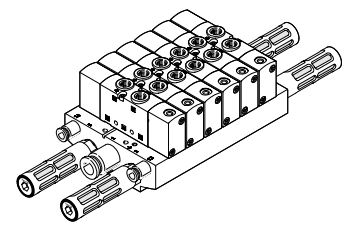
In-line valve VUVS-LT as individual valve (poppet seat valve)



In-line valve VUVS-L as individual valve (piston spool valve)

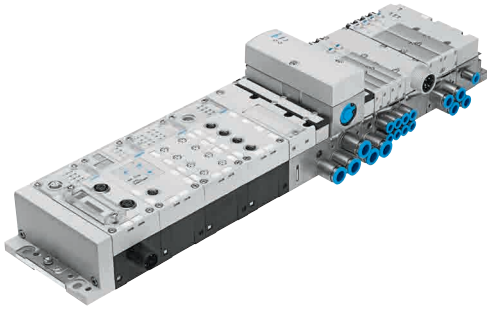


Valve manifold VTUS



By using a special seal set, the in-line valves can also be mounted on a manifold rail (pneumatic links) as semi in-line valves.

Valve terminals MPA-S with CPX terminal



- Actuated via fieldbus or control block
- Max. 64 valve positions/max. 128 solenoid coils
- Digital inputs/outputs
- Analogue inputs/outputs
- Parameterisation of inputs and outputs
- Integrated convenient diagnostic system
- Proportional technology
- Integrated, high-level diagnostics thanks to serial linkage
- Up to 8 voltage zones
- Flow rate 360 ... 850 l/min
- Width 10 mm, 14 mm, 20 mm
- Pressure range -0.9 ... 10 bar (-0.09 ... 1 MPa)

Key features

Innovative

- Compact high-performance valves in sturdy metal housing
- MPA1 Flow rates of up to 360 l/min
- MPA14 Flow rates of up to 670 l/min
- MPA2 Flow rates of up to 840 l/min
- Standardised from the individual valve to the valve terminal multi-pin plug, AS-Interface, CPI and fieldbus connection and control block
- Dream team: fieldbus valve terminal suitable for electrical peripherals CPX. This means:
 - Forward-looking internal communication system for actuating the valves and CPX modules
 - Diagnostics down to the individual valve
 - Valves can be actuated with or without (standard) separate electrical circuits
 - Also available as an interface for the CPX-AP-A automation system

Versatile

- Modular system offering a range of configuration options
- Expandable with up to 128 solenoid coils
- Conversions and extensions possible at a later date
- Further sub-bases can be expanded using just three screws, sturdy separating seals on metal separator plates
- Integration of innovative function modules possible
- Manual regulators, swivelling pressure gauges
- Proportional pressure regulators
- Air supply can be extended via additional pressure zones with supply plates
- Wide range of pressures -0.09 ... 1 MPa
- Wide range of valve functions
- Safety function with switchable pilot air

Reliable

- Sturdy and durable metal components
 - Valves
 - Sub-bases
 - Seals
- Fast troubleshooting thanks to LEDs on the valves and diagnostics via fieldbus
- Extensive operating voltage range $\pm 25\%$
- Easy to service thanks to replaceable valves and electronic modules
- Manual override either non-detenting, detenting or protected against unauthorised activation (covered)
- Durable thanks to tried-and-tested piston spool valves
- Large and durable labelling system, suitable for barcodes

Easy to mount

- Ready-to-install and tested unit
- Reduced selection, ordering, installation and commissioning costs
- Secure mounting on wall or H-rail

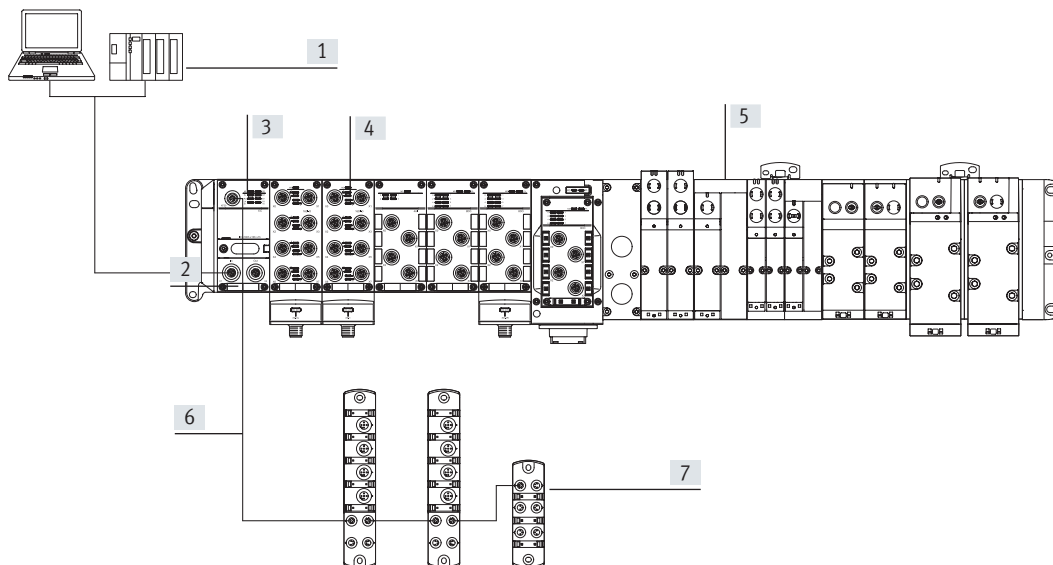


- Modular and lightweight IO system with IP65/IP67 protection
- Can be adapted to Festo valve terminals
- Can be expanded and easily combined with CPX-AP-A and CPX-AP-I to form an integrated system
- Easy to integrate into the controller of your choice: PROFINET, PROFIBUS, EtherCAT®, EtherNet/IP, ModbusTCP, PROFIBUS
- Seamless connectivity along with advanced diagnostics option increase the machine availability and productivity
- Sustainable operation thanks to energy shut-off

Key features

- Highly flexible remote IO system with maximum performance
- Real-time capability, transmission rate of 200 Mbps full duplex
- Parameterisable and scalable
- Up to 15 modules in one automation system CPX-AP-A
- Linkages are connected using angled fitting
- Complete IO-Link master V1.1 with data storage mechanism including device parameterisation tool
- Dedicated data channel for acyclic data (events, diagnostics, parameters) which will be used for big data (status data for connected peripherals) without influencing the deterministic behaviour of the system.
- Transmission of the cyclic process data independently of the non-time-critical data.
- Easily integrated into standard host systems
- Extended diagnostics and predictive maintenance information available, such as valve switching cycle counter and cable quality monitoring
- Presentation of I4.0 features
- Integrated web server
- Festo Automation Suite plug-in for extended engineering and diagnostics
- Easy to mount in any position on any mounting wall using end plates or ITEM profiles and H-rail. Suitable for motion applications with high G-forces (up to 5G)
- Suitable for robot applications
- Separate power supply and communications cable for establishing voltage zones (additional supply possible for every module)
- Stable data transfer and sturdy thank to use of standard cables
- 16 A acceptable current load/logic at 24 V DC
- Potential-separated output channels
- Digital electronic rating plate available
- Commissioning using normal tools from the PLC manufacturer or with the Festo Automation Suite
- High level of EMC
- eoeFlame-retardant, halogen-free material (idea for welding applications)

Overview



- [5] Valve terminal with pneumatic interface for CPX-AP-A. Behaves like an output module within the automation system CPX-AP-A
- [6] Connecting cable for communication with further components via AP interface
- [7] Further components with AP interface

- [1] Higher-order controller
- [2] Automation system CPX-AP-A
- [3] Bus interface for connecting the automation system CPX-AP-A to a higher-order controller via a standard bus protocol such as PROFINET
- [4] Input module, output module or input/output module; allows sensors and actuators to be connected to the automation system CPX-AP-A. Up to 15 modules per terminal possible.

Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

Part no.

8079933

Type

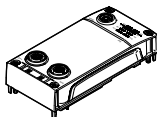
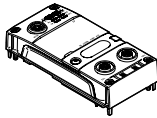
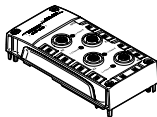
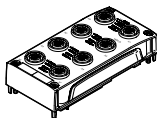
CPX-AP-A

Electrical actuation

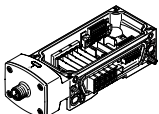
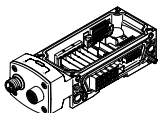
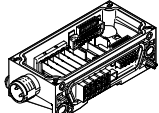
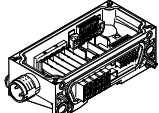
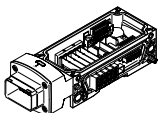
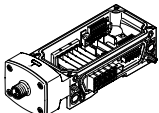
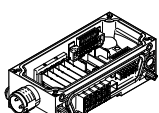
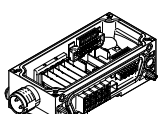
Automation system

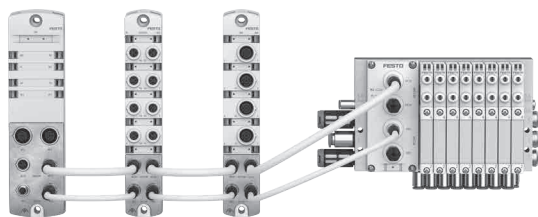
The configurations are assembled and individually tested according to your order specifications. This reduces assembly and installation time to a minimum.

Ordering

Description				Type	Part no.
Bus Interface					
	PROFINET	• Actuation via PROFINET • Two PROFINET connections • One connection for system communication • Connection technology RJ45 or M12x1 D-coded		CPX-AP-A-PN-M12 CPX-AP-A-PN-CU	8129241 8129245
	EtherCAT	• Actuation via EtherCAT • Two EtherCAT connections • One connection for system communication • Connection technology M12x1 D-coded		CPX-AP-A-EC-M12	8129243
	EtherNet/IP	• Actuation via EtherNet/IP • Two Ethernet connections • One connection for system communication • Connection technology M12x1 D-coded		CPX-AP-A-EP-M12	8129244
IO-Link master					
	4 IO-Link connections	• LED indicator • Master V 1.1		CPX-AP-A-4IOL-M12	8129114
Input module digital					
	8 inputs	• Electrical connection M12x1, 5-pin • LED indicator • Diagnostics per module • PNP (positive switching) • Characteristic curve of inputs to IEC 61131-2, type 3	• 4 x socket M12x1, A-coded • 5-pin	CPX-AP-A-8DI-M12-5P	8129109
	16 inputs	• Electrical connection M12x1, 5-pin • LED indicator • Diagnostics per channel • PNP (positive switching) • Characteristic curve of inputs to IEC 61131-2, type 3	• 8 x socket M12x1, A-coded • 5-pin	CPX-AP-A-16DI-M12-5P	8129112
Ausgangsmodul digital					
	8 inputs	• Electrical connection M12x1, 5-pin • LED indicator • Diagnostics per channel • Diagnostics per module • PNP (positive switching) • Characteristic curve of outputs to IEC 61131-2, type 0.5	• 4 x socket M12x1, A-coded • 5-pin	CPX-AP-A-8DO-M12-5P	8129110

Ordering

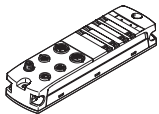
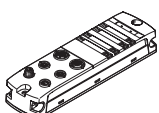
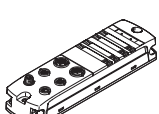
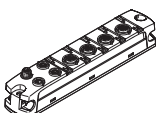
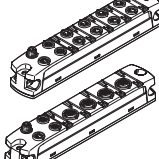
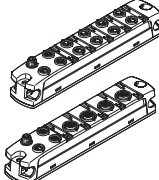
Description			Type	Part no.	
Input/output module digital					
	12 inputs 4 outputs	- Electrical connection M12x1, 5-pin - LED indicator - Diagnostics per channel (outputs only) - Diagnostics per module (outputs and inputs) - PNP (positive switching) - Characteristic curve of inputs to IEC 61131-2, type 3 - Characteristic curve of outputs to IEC 61131-2, type 0.5	8 x socket M12x1, A-coded 5-pin	CPX-AP-A-12DI4DO-M12-5P	8129111
Interlinking block with system supply					
	M12x1, L-coded to EN 61076-2-111			CPX-AP-A-S-1-M12-5P	8129256
	M12x1, L-coded to EN 61076-2-111	Incoming electronics/sensors and load and functional earth		CPX-AP-A-S-2-M12-5P	8129261
	M18x1			CPX-AP-A-S-1-M18-4P	8129254
	7/8" to NFPA/T3.5.29			CPX-AP-A-S-1-7/8-5P	8129255
	Push-pull to IEC 61076-3-126			CPX-AP-A-S-1-PP-5P	8129253
Interlinking block with additional supply					
	M12x1, L-coded to EN 61076-2-111	24 V [XD-AR,PL]		CPX-AP-A-AR-1-M12-5P	8129260
		24 V [XD-AL,PL]		CPX-AP-A-AL-1-M12-5P	8129263
	M18x1	24 V [XD-AR,PL]		CPX-AP-A-AR-1-M18-4P	8129258
	7/8" to NFPA/T3.5.29	24 V [XD-AR,PL]		CPX-AP-A-AR-1-7/8-5P	8129259



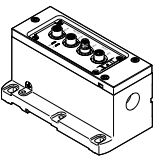
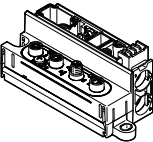
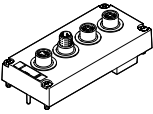
- Decentralised remote I/O system
- Ultra-lightweight and compact
- IO-Link master and IO-Link device tool
- Short bus cycle times up to 250 µs
- 2 kByte of I/O process data
- Parallel data processing of real-time and non-real-time data

- Theoretically up to 500 modules in line, star and tree topology
- Cable lengths up to 50 m between modules
- Best price/performance ratio by combining valve terminals and decentralised I/Os

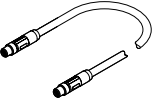
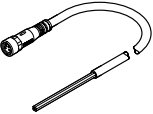
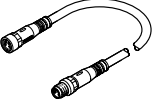
Ordering

Description			Type	Part no.	
Bus interface					
	PROFINET	• Actuation via PROFINET • Two PROFINET connections • Two connections for system communication • Two connections for power supply and transmission	CPX-AP-I-PN-M12	8086607	
	EtherCAT	• Actuation via EtherCAT • Two EtherCAT connections • Two connections for system communication • Two connections for power supply and transmission	CPX-AP-I-EC-M12	8086609	
	EtherNet/IP	• Actuation via EtherNet/IP • Two Ethernet connections • Two connections for system communication • Two connections for power supply and transmission	CPX-AP-I-EP-M12	8086610	
IO-Link master					
	4 IO-Link connections	• LED indicator • Master V 1.1	• Electrical connection, IO-Link 4x sockets M12x1, 5-pin	CPX-AP-I-4IOL-M12	8086604
Input module, digital					
	8 inputs	• LED indicator • PNP (positive switching) • Characteristic curve of inputs to IEC 61131-2, type 3	• Electrical connection input 8x socket, 3-pin, M8x1	CPX-AP-I-8DI-M8-3P	8086600
			• Electrical connection input 4x socket, 5-pin, M12x1	CPX-AP-I-8DI-M12-5P	8086602
Digital input/output module					
	4 inputs 4 outputs	• LED indicator • PNP (positive switching) • Characteristic curve of inputs to IEC 61131-2, type 3 • Characteristic curve of outputs to IEC 61131-2, type 0.5	• Electrical connection input 4x socket, 3-pin, M8x1 • Electrical connection output 4x socket, 3-pin, M8x1	CPX-AP-I-4DI4DO-M8-3P	8086601
			• Electrical connection input 2x socket, 5-pin, M12x1 • Electrical connection output 2x socket, 5-pin, M12x1	CPX-AP-I-4DI4DO-M12-5P	8086603

Ordering

Description				Type	Part no.
Electrical interface for valve terminal					
	Valve terminal VTSA	- LED indicator 4 valve sizes (18 mm, 26 mm, 42 mm and 52 mm) - Modular design - Flow rates of up to 2900 l/min	12 valve positions - Up to 24 solenoid coils	VABA-S6-1-AP	8152356
	Valve terminal VTUX	- LED indicator 1 valve size (10 mm) - Modular design - Flow rates up to 670 l/min	- Max. 32 valve positions - Up to 32 solenoid coils	VABX-A-P-EL-E12-APA-SHUH	8189592
	Valve terminal VTUG	- LED display 3 valve sizes (10 mm, 14 mm and 18 mm) - Fixed-grid linkage 130 ... 1000 l/min flow rate	- Max. 12 valve positions - Max. 24 solenoid coils	VAEM-L1-S-12-AP	8081922
			- Max. 24 valve positions - Max. 48 solenoid coils	VAEM-L1-S-24-AP	8081923

Accessories

Connecting cables						
Description		Electrical connection 1	Electrical connection 2	Cable length	Type	Part no.
	For communication interface	Straight plug, M8x1, 4-pin, D-coded	Straight plug, M8x1, 4-pin, D-coded	0.3 m	NEBC-D8G4-ES-0.3-N-S-D8G4-ET	8082902
				5 m	NEBC-D8G4-ES-5-N-S-D8G4-ET	8065129
		Angled plug, M8x1, 4-pin, D-coded	Angled plug, M8x1, 4-pin, D-coded	0.5 m	NEBC-D8W4-ES-0.5-N-S-D8W4-ET	8065124
				5 m	NEBC-D8W4-ES-5-N-S-D8W4-ET	8065130
	For power supply	Straight socket, M8 x 1, 4-pin, A-coded	Open cable end, 4-wire	5 m	NEBL-M8G4-E-5-N-LE4	8065110
				15 m	NEBL-M8G4-E-15-N-LE4	8065121
	For voltage forwarding	Straight socket, M8 x 1, 4-pin, A-coded	Straight plug, M8 x 1, 4-pin, A-coded	0.3 m	NEBL-M8G4-E-0.3-N-M8G4	8082904
				5 m	NEBL-M8G4-E-5-N-M8G4	8065108

09

Sensors



Highlights

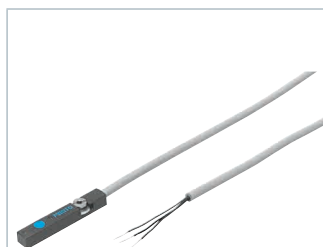


Proximity switches, for T-slot

SDBT-MSX

- + Quick and easy mounting without the need to search for switching points
- + Oil-resistant, welding field-resistant, resistant to welding spatter

→ 254



Proximity switch, for T-slot

SMT-8M

- + Short design
- + Variants suitable for use with energy chains and robots

→ 251



Pressure sensors

SPAN

- + Pressure and vacuum
- + 13 pressure measuring ranges
- + All standard pressure units

→ 261

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Product overview

Software-Tools

Festo Design Tool 3D



The Festo Design Tool 3D is a 3D product configurator for generating specific CAD product combinations from Festo. The configurator makes your search for the right accessory easier, more reliable and faster.

You can then order the module that has been created as a single order item, either completely pre-assembled or as individual parts in a single box. This considerably reduces your bill of materials, and downstream processes such as product ordering, order picking and assembly are significantly simplified.

This tool can be found at
→ www.festo.com/x/festo-design-tool

T-slot proximity sensors ›

Proximity switches, for T-slot

	 Proximity switches SMT-8M-A	 Proximity sensors CRSMT-8M
Electrical connection 1, connection type	Cable, cable with plug	Cable
Electrical connection 1, connection technology	M8x1 A-coded to EN 61076-2-104, M12x1 A-coded to EN 61076-2-101, open end	Open end
Operating voltage range DC	5 ... 30 V	5 ... 30 V
Switching element function	N/C, N/C or N/O, switchable, N/O	N/O contact
Switching output	NPN, PNP, PNP/NPN switchable, contactless, 2-wire	PNP
Description	• Measuring principle: magneto-resistive • For universal use • Individually configurable or pre-assembled • Inserted in the slot from above, flush with the cylinder profile • LED switching status indication • LED operating reserve indication • Cable length 0.1 ... 30 m	• Measuring principle: magneto-resistive • Corrosion-resistant design • Food-safe (see www.festo.com/certificates/CRSMT_8M), resistant to acids and cooling lubricants • Inserted in the slot from above, flush with the cylinder profile • LED switching status indication • Cable length 0.3, 5 m, 10 m
→ Page/ online	251	253

T-slot proximity sensors >

Proximity switches, for T-slot

			
	Proximity switch SME-8M	Proximity switch SME-8	Proximity switches SDBT-MSX
Electrical connection 1, connection type	Cable, Cable with plug	Cable, Plugs	Cable, cable with plug
Electrical connection 1, connection technology	M12x1, A-coded to EN 61076-2-101, M8x1, A-coded, to EN 61076-2-104, Open end	M8x1, A-coded, to EN 61076-2-104, Open end	M8x1 A-coded to EN 61076-2-104, open end
Operating voltage range DC	5 ... 30 V	0 ... 230 V	10 ... 30 V
Switching element function	N/C contact, N/O contact	N/C contact, N/O contact	N/C or N/O contact, switchable
Switching output	Contacting, bipolar	Contacting, bipolar, Without LED function	PNP/NPN switchable
Description	- Measuring principle: magnetic reed - Individually configurable or pre-assembled - Inserted in the slot from above, flush with the cylinder profile - LED switching status indication - Cable length 0.3, 2.5, 5, 7.5, 0.2 ... 10 m	- Measuring principle: magnetic reed - Insertable in the slot lengthwise - LED switching status indication - Cable length 0.3, 2.5, 5, 7.5, 0.2 ... 10 m	- Measuring principle: magnetic Hall - Auto teach-in: automatic teach-in of the switching point at system start-up - Programmable: PNP/NPN, NO/NC and switching window range between 2 ... 15 mm - Insertable in the slot from above, screw-clamped - LED status indicator - Cable length 0.3 ... 5 m
→ Page/online	sme-8m	sme-8	254

C-slot proximity sensors >

Proximity switches, for C-slot

				
	Proximity switch SME-10M	Proximity switch SME-10	Proximity switch SMT-10M	Proximity switch SMT-10G
Electrical connection, connection type	Cable, Cable with plug	Cable, Cable with plug	Cable, Cable with plug	Cable, Cable with plug
Electrical connection, connection technology	M12x1, A-coded to EN 61076-2-101, M8x1, A-coded, to EN 61076-2-104, Open end	M8x1, A-coded, to EN 61076-2-104, Open end	M12x1, A-coded to EN 61076-2-101, M8x1, A-coded, to EN 61076-2-104, Open end	M8x1, A-coded, to EN 61076-2-104, Open end
Electrical connection, number of pins/wires	2, 3	3	2, 3	3
Operating voltage range DC	5 ... 30 V	12 ... 27 V	5 ... 30 V	10 ... 30 V
Switching element function	N/O contact	N/O contact	N/O contact	N/O contact
Switching output	Contacting, bipolar	Contacting, bipolar	NPN, PNP, Non-contacting, 2-wire	NPN, PNP
Description	- Measuring principle: magnetic reed - Individually configurable or pre-assembled - Inserted in the slot from above, flush with the cylinder profile - LED switching status indication - Cable length 0.3, 2.5 m	- Measuring principle: magnetic reed - Insertable in the slot lengthwise - LED switching status indication - Cable length 0.3, 2.5 m	- Measuring principle: magneto-resistive - For universal use - Individually configurable or pre-assembled - Inserted in the slot from above, flush with the cylinder profile - LED switching status indication - Cable length 0.3, 2.5 m	- Measuring principle: magneto-resistive - SMT-10G: design ideal for gripper sensing - Insertable in the slot lengthwise or from above - LED switching status indication - Cable length 0.3, 2.5 m
→ Page/online	sme-10m	sme-10	255	smt-10

Product overview

Inductive sensors



Size	Ø4 mm, Ø6.5 mm, M12, M12x1, M18, M18x1, M30, M30x1.5, M5x0.5, M8x1
Switching output	NPN, PNP
Switching element function	N/C, N/O
Electrical connection	Cable, plug, 3-pin, 3-wire, M8x1, M12x1
Operating voltage range DC	10 ... 30 V
Description	• With standards-based switching distance • For DC voltage • Round design • Metric thread • Flush or non-flush mounting • LED switching status indication • Design with metal or polyamide housing
→ Page/online	257

Size	Ø4 mm, Ø6.5 mm, M12, M12x1, M18, M18x1, M30, M30x1.5, M5x0.5, M8x1
Switching output	NPN, PNP
Switching element function	N/C, N/O
Electrical connection	Cable, plug, 3-pin, 3-wire, M8x1, M12x1
Operating voltage range DC	10 ... 30 V
Description	• With standards-based switching distance • For DC voltage • Round design • Metric thread • Flush or non-flush mounting • LED switching status indication • Design with metal or polyamide housing
→ Page/online	257

Position sensors



Sensors	Design	Round
	Sensing range	>270°
	Analogue output	50 mA
	Electrical connection 1, connection type	Cable with plug
	Electrical connection 1, connection technology	M8x1 A-coded to EN 61076-2-104
	Electrical connection 1, occupied pins/wires	4
	Description	• Used to detect rotation of the shaft on rotary drives DRVS and DSM • Simple and reliable operation using just one pushbutton directly on the device • Switching output 2x PNP or 2x NPN, switchable • Sensor can be quickly mounted without having to manually search for switching points
→ Page/online		srbs

Sensors	Design	Round
	Sensing range	>270°
	Analogue output	50 mA
	Electrical connection 1, connection type	Cable with plug
	Electrical connection 1, connection technology	M8x1 A-coded to EN 61076-2-104
	Electrical connection 1, occupied pins/wires	4
	Description	• Used to detect rotation of the shaft on rotary drives DRVS and DSM • Simple and reliable operation using just one pushbutton directly on the device • Switching output 2x PNP or 2x NPN, switchable • Sensor can be quickly mounted without having to manually search for switching points
→ Page/online		srbs

Pressure and vacuum sensors

			
	Pressure sensors SDE5	Pressure sensors SPAN	Pressure sensors SPAE
Pressure measuring range [MPa]		-0.1 ... 1.6 MPa	-0.1 ... 1 MPa
Pressure measuring range	-1 ... 10 bar	-1 ... 16 bar	-1 ... 10 bar
Switching element function	N/C, N/O, switchable	N/C or N/O, switchable	N/C, N/O, switchable
Switching output	NPN, PNP	2 x PNP or 2 x NPN switchable, PNP/NPN switchable	PNP/NPN switchable
Pneumatic connection	QS-1/4, QS-4, QS-5/32, QS-6	Male thread 1/8 NPT, male thread G1/8, R1/8, female thread G1/8, M5, for tubing O.D. 4	Flange, cartridge 10, push-in sleeve QS-4, QS-6, QS-3, QS-4
Electrical connection	3-wire, 3-pin, Cable, Plugs, To EN 60947-5-2, Round design, M8x1	Plug, square design, 4-pin	Cable, open end, 3-wire
Display type		Illuminated LCD	LED display, 2-digit
Description	• Programmable and configurable pressure switch for simple pressure sensing tasks • Threshold/window comparator • Switching point adjustment by teach-in function • Integrated microprocessor • Switching status indication by an LED visible from all sides • Certification: c UL us Listed (OL), C-Tick	• For monitoring compressed air and non-corrosive gases • For network monitoring, regulator monitoring, leak testing, object detection • Relative measurement method based on a piezoresistive measuring cell • Serial communication integrated using IO-Link® 1.1 • Compact design 30 x 30 mm • High-contrast, blue backlit display	• Electronic pressure sensor with piezoresistive pressure measuring cell, integrated signal processing, numeric pressure indicator in percent, operating key and a switching output, PNP/NPN switchable • Display of minimum and maximum measured value • All parameters entered can be transferred to other SPAEs (replicator function) • IO-Link® communication interface
→ Page/online	259	261	264

Pressure and vacuum sensors

		
	Pressure sensors SPAU	Pressure switches, vacuum switches PEV, VPEV
Pressure measuring range	-1 ... 16 bar	-1 ... 10 bar
Switching element function	N/C or N/O, switchable	Changeover switch
Switching output	2 x PNP or 2 x NPN switchable, 2xPNP	
Pneumatic connection	Flange, 1/8 NPT, G1/8, M5, M7, QS-4, QS-5/32, QS-6, R1/4, R1/8	G1/4, G1/8, M5
Electrical connection		4-pin, Type A, Screw terminal, Plugs, To DIN 43650, To EN 60947-5-2, Round design, Square design, M8x1, M12x1
Display type	Illuminated LCD, LED	
Description	• For monitoring compressed air and non-corrosive gases • With or without display • Transfer of the pressure value as switching signal, analogue signal or via IO-Link® to the connected control system • Maximum flexibility thanks to versatile pneumatic adaptation and switchable electrical outputs	• Mechanical pressure and vacuum switch • Adjustable switching point • Mounting: screw-in, via through-holes or via H-rail • Visual scale for pressure adjustment • Certification: CCC, c UL us – Recognized (OL), RCM
→ Page/online	spau	pev

Product overview

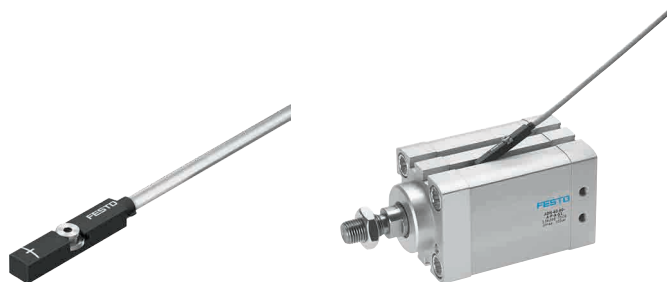
Flow sensors

	
	Flow sensors SFAH
Flow measuring range	0.002 ... 200 l/min
Operating medium	Argon, nitrogen, compressed air to ISO 8573-1:2010 [6:4:4]
Operating pressure	-0.9 ... 10 bar
Pneumatic connection	Female thread G1/4, G1/8, for tubing O.D. 4, 6, 8
Switching output	2 x PNP or 2 x NPN switchable
Electrical connection 1, connection type	Plug
Electrical connection 1, connection technology	Connection pattern L1J, M8x1 A-coded to EN 61076-2-104
Description	• Process, compressed air, forming gas and pneumatic object monitoring, handling of ultra-small parts, leak test • Compact design 20 x 58 mm • Clear 2-line display • Mounting: H-rail mounting, wall or surface mounting, front panel mounting • Serial communication integrated using IO-Link® 1.1
→ Page/online	265

Optical sensors

		
	Retro-reflective sensors, diffuse sensors, light barriers S00D	Retro-reflective sensors, diffuse sensors, distance sensor, light barriers S00E
Measurement method	Retro-reflective sensor, through-beam sensor, transmitter, receiver, diffuse sensor with background suppression	Retro-reflective sensor, distance sensor, through-beam sensor, transmitter, receiver, diffuse sensor with background suppression, laser contrast sensor, retro-reflective sensor for transparent objects, diffuse sensor
Working range	0 ... 10000 mm	0 ... 20000 mm
Setting options		IO-Link®, potentiometer, teach-in
Type of light	Laser, red, LED	Laser, red, LED
Switching output	Push-pull	Push-pull
Description	• Easy to operate • Quick to commission • Reliable and stable sensing • Attractive price/performance ratio	• Easy to operate • Quick to commission • Reliable and stable sensing • Attractive price/performance ratio
→ Page/online	268	268

Proximity switches SMT-8M, for T-slot



- Switching output NPN, PNP, PNP/NPN switchable, contactless, 2-wire
- Insertable in the slot from above, does not protrude beyond the cylinder profile
- Suitable for use with energy chains and robots
- Cable clip and inscription labels included in the scope of delivery
- With switching status indication

Order code – Basic design

001	002	003	004	005	006	007	008	009	010
SMT	8M	A		24V	E				

Legend:

	Mandatory entry		Optional entry
--	-----------------	--	----------------

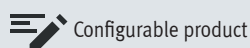
001	Type
SMT	Proximity switch, magneto-resistive
002	Design
8M	For T-slot, insertable in the slot from above
003	Design
A	Short
004	Switching output
PS	3-wire N/O contact, PNP
NS	3-wire N/O contact, NPN
PO	3-wire N/C contact, PNP
005	Rated operating voltage
24V	24 V DC
006	Cable characteristic
E	Suitable for use with energy chains/robots

007	Cable length
0,3	0.3 m
2,5	2.5 m
5,0	5 m
7,5	7.5 m
008	Cable designation
–	With inscription label holder
009	Connection technology
OE	Open end
M8D	Cable with plug M8x1, rotatable thread
M12	Cable with plug M12x1, rotatable thread
010	EU certification
–	None

Product options

SME	Proximity switch, magnetic reed	DS	3-wire N/O contact
		DO	3-wire N/C contact
Switching output		ZS	2-wire N/O contact PNP
NO	3-wire N/C contact NPN	Cable length	
PNS	PNP/NPN switchable	0.1 ... 30 m	
PSO	PNP, N/C, N/O switchable		

Cable designation		Versions:	
N	Without inscription label holder	Corrosion-resistant, heat-resistant	
Connection technology			
M8	M8, snap-on collar		



Configurable product

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

→ www.festo.com/catalogue/smt-8m

Proximity switches CRSMT-8M, for T-slot



- Measuring principle: magneto-resistive
- Corrosion-resistant design
- Food-safe (see www.festo.com/certificates/CRSMT_8M), resistant to acids and cooling lubricants
- Can be inserted into the slot from above, flush with the cylinder profile
- LED switching status indication
- Cable length 5 m

Type codes

001	Series
CRSMT	Proximity sensor
002	Design type
8	For T-slot
003	Sensor version
M	Can be inserted in the slot
004	Switching output
PS	3-wire PNP N/O contact
005	Rated operating voltage
24V	24 V

006	Cable characteristic
K	Standard/suitable for energy chains
007	Cable length [m]
5,0	5 m
008	Connection technology
OE	Open end
008	CE marking
EX2	To EU Explosion Protection Directive (ATEX)

Ordering data

	Switching output	Electrical connection Cable	Cable length [m]	Part no.	Type
N/O contact, corrosion-resistant					
	PNP	3-wire, open end	5	574380	CRSMT-8M-PS-24V-K-5,0-OE-EX2

Accessories

Mounting kits → [crsmt-8m](#)Sensor bracket DASP-M4-...A → [crsmt-8m](#)Positioning element SMM-8 → [crsmt-8m](#)

Connecting cables

NEBA-M...G... → 312

NEBA-M...W... → 312

Sensor tester SM-TEST-1 → [crsmt-8m](#)

T-slot proximity sensors >

Proximity switches SDBT-MSX, for T-slot



- Quick and easy mounting without the need to search for switching points
- Mounting without accessories (power supply)
- Reliable teaching-in of the switching position under load during operation
- Can be programmed flexibly for expanded applications
- Switching output PNP/NPN, switchable
- Insertable in the slot from above, does not protrude beyond the cylinder profile
- Suitable for use with energy chains and robots
- With switching status indication

Order code

001002003004005006007008009010011

SDBT-M-S-X-1L-E-N-

Legend:

Mandatory entry

001	Type
SDBT	Sensor, magnetic Hall
002	Design
M	For T-slot, inserted in the slot from above
003	Sensor principle
S	Contactless (solid state)
004	Additional features
X	Auto teach-in and programmable
005	Nominal operating voltage
1	24 V DC
006	Display
L	LED
007	Digital switching output
PU	3-wire N/O contact, PNP
NU	3-wire N/O contact, NPN

008	Cable characteristic
E	Suitable for use with energy chains/robots
009	Cable length
0.3	0.3 m
2.5	2.5 m
5	5 m
010	Cable designation
N	Without inscription label holder
011	Connection technology
M8	Plug M8, A-coded
LE	Open end

Ordering

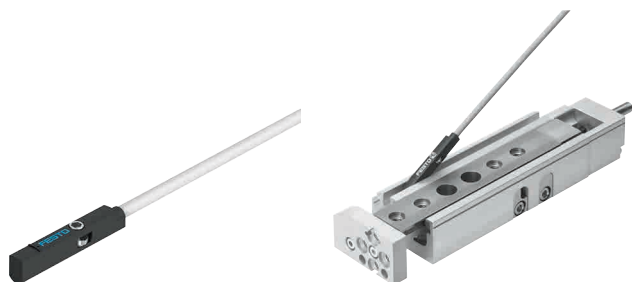
001 Measuring principle	007 Digital switching output	011 Connection technology	009 Cable length	Type	Part no.
007 N/O					
Magnetic Hall	3-wire N/O contact, PNP	Plug M8, A-coded	0.3 m	SDBT-MSX-1L-PU-E-0.3-N-M8	8059120
		Open end	2.5 m	SDBT-MSX-1L-PU-E-2.5-N-LE	8059121
		Open end	5 m	SDBT-MSX-1L-PU-E-5-N-LE	8059122
	3-wire N/O contact, NPN	Plug M8, A-coded	0.3 m	SDBT-MSX-1L-NU-E-0.3-N-M8	8059123
		Open end	2.5 m	SDBT-MSX-1L-NU-E-2.5-N-LE	8059124
		Open end	5 m	SDBT-MSX-1L-NU-E-5-N-LE	8059125

Accessories

- Mounting kit SMBR → 252
- Sensor bracket DASP-M4-... → [sdbt-msx](#)
- Mounting SMBZ-8-... → [sdbt-msx](#)
- Positioning element SMM-8 → [sdbt-msx](#)

- Connecting cables
- NEBA-M...G... → 312
- NEBA-M...W... → 312
- Sensor tester SM-TEST-1 → [sdbt-msx](#)

Proximity switches SMT-10M, for C-slot



- Switching output PNP, NPN or contactless, 2-wire
- Cable clip and inscription labels included in the scope of delivery
- Inserted in the slot from above, does not protrude beyond the cylinder profile
- With switching status indication
- Suitable for use with energy chains and robots

Order code – Basic design

001	002	003	004	005	006	007	008	009	010
SMT	10M		24V	E			L		

Legend: Mandatory entry Optional entry

001	Type
SMT	Proximity switch, magneto-resistive
002	Design
10M	For C-slot, insertable in the slot from above
003	Switching output
PS	3-wire N/O contact, PNP
ZS	2-wire N/O contact, PNP
NS	3-wire N/O contact, NPN
004	Rated operating voltage
24V	24 V DC
005	Cable characteristic
E	Suitable for use with energy chains/robots

006	Cable length
0,3	0.3 m
2,5	2.5 m
007	Display
–	LED
008	Cable outlet
L	In-line
009	Cable designation
–	With inscription label holder
010	Connection technology
OE	Open end
M8D	Cable with plug M8x1, rotatable thread

Product options

SME	Proximity switch, magnetic reed	Q	Lateral cable outlet
		N	Without inscription label holder
DS	N/O, 3-wire		

M8	Cable with plug M8x1, snap-on flange	Cable length 0.2 ... 10 m
M12	Cable with plug M12x1, rotatable thread	

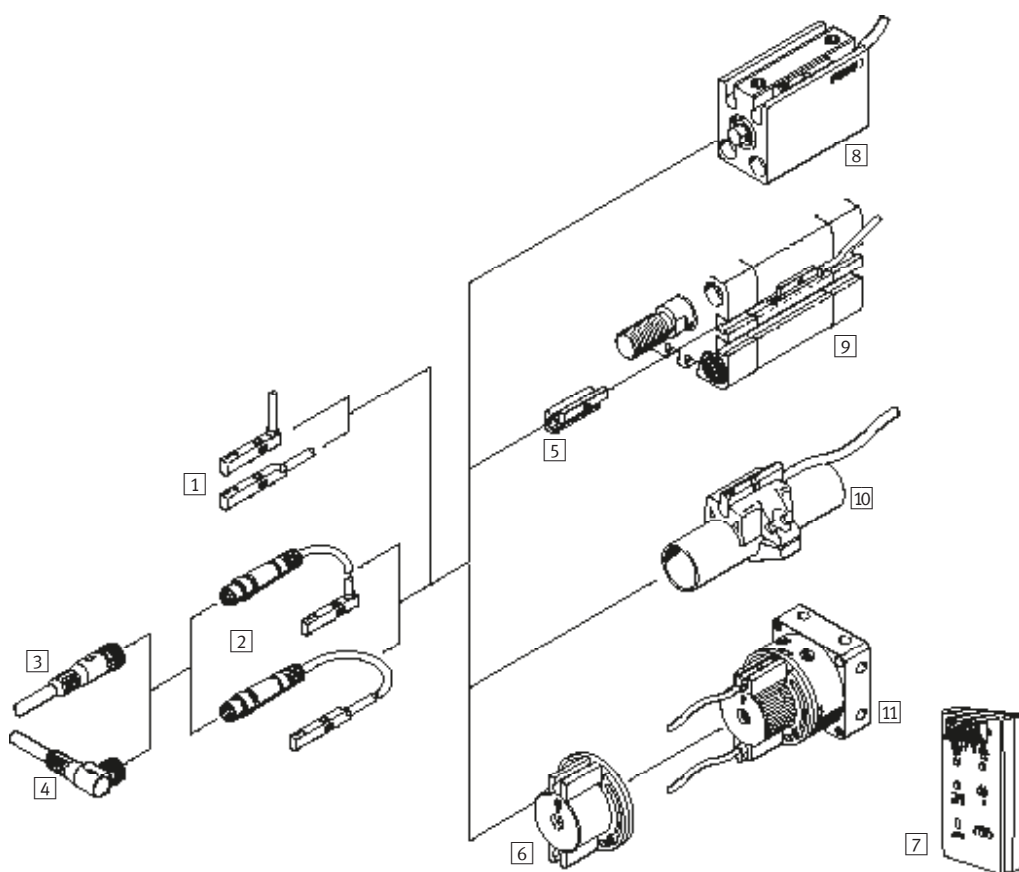


Configurable product

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

→ www.festo.com/catalogue/smt-10m

003 Switching output	008 Cable outlet	Electrical connection		006 Cable length	Type	Part no.
		Cable	Cable with plug, rotatable thread			
003 N/O						
3-wire N/O contact, PNP	In-line	3-wire, open end	–	2.5 m	SMT-10M-PS-24V-E-2,5-L-OE	551373
	In-line	–	3-pin, M8x1 A-coded to EN 61076-2-104	0.3 m	SMT-10M-PS-24V-E-0,3-L-M8D	551375
3-wire N/O contact, NPN	In-line	3-wire, open end	–	2.5 m	SMT-10M-NS-24V-E-2,5-L-OE	551377
	In-line	–	3-pin, M8x1 A-coded to EN 61076-2-104	0.3 m	SMT-10M-NS-24V-E-0,3-L-M8D	551379
Contactless, 2-wire N/O contact, PNP	In-line	2-wire, open end	–	2.5 m	SMT-10M-ZS-24V-E-2,5-L-OE	551382





- With standards-based switching distance
- Round design, metric thread
- Flush installation
- With switching status indication
- Design with metal housing

Order code – Basic design

001	002	003	004	005	006	007	008	009	010
SIE	N			B	N	S		L	

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
SIE	Proximity switches, inductive
002	Design
N	With standards-based switching distance
003	Design
–	Round
004	Size
M5	Metric thread M5x0.5
M8	Metric thread M8x1
005	Type of mounting
B	Flush

006	Switching input/output
N	NPN
007	Switching element function
S	N/O
008	Electrical connection
K	3-wire, open end, cable 2.5 m
S	3-pin, plug, M8x1
009	Display
L	LED
010	Housing material
–	Standard

Product options

Size	Type of mounting
4	Diameter 4 mm
6.5	Diameter 6.5 mm
M...	Metric thread M12x1, M18x1, M30x1.5
	Switching element function
	O N/C

Switching input/output	Housing material
P PNP	PA Polyamide housing



Configurable product

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

→ www.festo.com/catalogue/sien

006 Switching input/output	004 Size	008 Electrical connection	Cable length	Type	Part no.	
		Cable	Plug			
007 N/O contact						
NPN	M5x0.5	3-wire, open end	–	2.5 m	SIEN-M5B-NS-K-L	150368
	M8x1	3-wire, open end	–	2.5 m	SIEN-M8B-NS-K-L	150384
	M5x0.5	–	3-pin, plug, M8x1	–	SIEN-M5B-NS-S-L	150369
	M8x1	–	3-pin, plug, M8x1	–	SIEN-M8B-NS-S-L	150385

This diagram shows the exploded view of the cable assembly components, labeled 1 through 5. Component 1 is a cable with a connector. Component 2 is a cable with a different connector. Component 3 is a cable with a connector. Component 4 is a cable with a connector. Component 5 is a cable with a connector. The diagram illustrates how these components are assembled into a single unit.

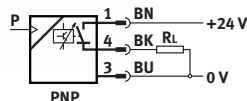
5 SIEZ-UH → sien



With plug M8x1



With cable



- Programmable and configurable pressure switch for simple and quick pressure monitoring tasks
- Relative pressure or differential pressure measurement
- Teach-in function for programming
- Switching status indication by an LED visible from all sides

Order code – Basic design

001	002	003	004	005	006	007
SDE5					P	

Legend: Mandatory entry Optional entry

001	Type
SDE5	Pressure sensor
002	Pressure measuring range
V1	–1 ... 0 bar
D2	0 ... 2 bar
D10	0 ... 10 bar
003	Pressure input
–	Relative pressure
004	Output function
FP	Freely programmable, selectable N/O, N/C
O	Threshold value with fixed hysteresis, 1 teach-in point, N/O contact
C	Threshold value with fixed hysteresis, 1 teach-in point, N/C contact
O1	Threshold value with fixed hysteresis, 2 teach-in points, N/O contact
O2	Threshold value with variable hysteresis, N/O contact
O3	Window comparator with fixed hysteresis, N/O contact
C3	Window comparator with fixed hysteresis, N/C contact

005	Pneumatic connection
Q4	Push-in connector 4 mm, at both ends
Q6	Push-in connector 6 mm, at both ends
Q4E	Push-in connector 4 mm, at one end
Q6E	Push-in connector 6 mm, at one end
006	Electrical output 1
P	PNP
007	Electrical connection
K	3-wire, open end, cable 2.5 m
M8	3-pin, plug, M8x1

Product options

Pressure input

Z Differential pressure

Output function

NF No binary switching function
(analogue output)

Pneumatic connection

Push-in connector 1/4", at one end

Electrical output 1

N NPN
V 0 ... 10 V



Configurable product

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

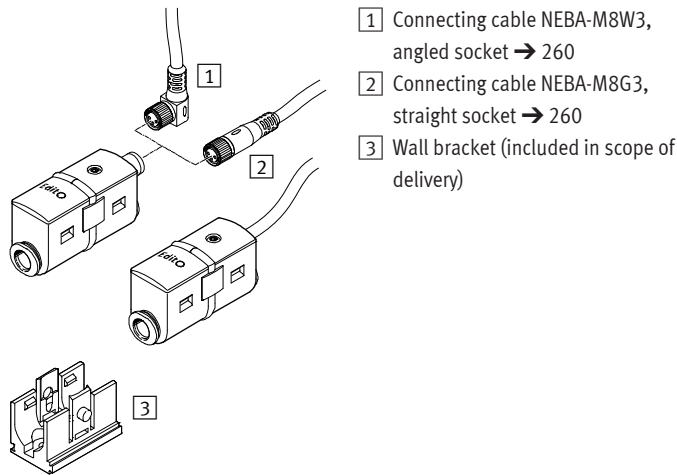
→ www.festo.com/catalogue/sde5

Pressure and vacuum sensors > Pressure sensors SDE5

Ordering – Basic design

004 Output function	002 Pressure measuring range					
	V1: -1 ... 0 bar		D2: 0 ... 2 bar		D10: 0 ... 10 bar	
	Type	Part no.	Type	Part no.	Type	Part no.
Freely programmable (switching/teach-in function, N/O contact, N/C contact)	–	–	–	–	SDE5-D10-FP-Q6E-P-M8	542897
	SDE5-V1-FP-Q6-P-M8	542887			SDE5-D10-FP-Q6-P-M8	542898
	–	–			SDE5-D10-FP-Q4E-P-K	542901
	–	–			SDE5-D10-FP-Q4E-P-M8	542900
	–	–			SDE5-D10-FP-Q6-P-K	542899
Threshold value with fixed hysteresis, 1 teach-in point, N/O contact	SDE5-V1-O-Q6E-P-M8	527461	SDE5-D2-O-Q6E-P-K	542888	SDE5-D10-O-Q6E-P-M8	527467
	–	–			SDE5-D10-O-Q6E-P-K	542890
	SDE5-V1-O-Q6-P-M8	527458			SDE5-D10-O-Q6-P-M8	527464
	SDE5-V1-O-Q4E-P-M8	527460			SDE5-D10-O-Q4E-P-M8	527466
	SDE5-V1-O-Q4-P-M8	527457			SDE5-D10-O-Q4-P-M8	527463
Threshold value with fixed hysteresis, 1 teach-in point, N/C contact	–	–	–	–	SDE5-D10-C-Q6E-P-M8	542894
	–	–			SDE5-D10-C-Q4E-P-M8	542889
	–	–			SDE5-D10-C-Q6E-P-K	542895
Threshold value with fixed hysteresis, 2 teach-in points, N/O contact	SDE5-V1-O1-Q6-P-M8	542886	–	–	–	–
Threshold value with variable hysteresis, N/O contact	–	–	–	–	SDE5-D10-O2-Q6-P-M8	542892
	–	–			SDE5-D10-O2-Q6E-P-M8	542891
Window comparator with fixed hysteresis, N/O contact	–	–	–	–	SDE5-D10-O3-Q6E-P-K	542893
Window comparator with fixed hysteresis, N/C contact	–	–	–	–	SDE5-D10-C3-Q6E-P-K	542896

Accessories



1 Connecting cables NEBA-M8W3, M8x1, angled socket			
Cable length	Connection, right	Type	Part no.
Connection, left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231

2 Connecting cables NEBA-M8G3, M8x1, straight socket			
Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224



- For network monitoring, regulator monitoring, leak test and object detection
- Relative method of measurement, based on a piezoresistive measuring cell
- Serial communication integrated using IO-Link® 1.1
- Compact design
- High-contrast display

Order code – Basic design

001 002 003 004 005 006 007 008 009 010 011 012 013 014 015
 SPAN - - R - - - - L1 + - - - -

001	Type
SPAN	Pressure sensor
002	Product version
-	Standard
B	Basic
003	Pressure measuring range
V1	-1 ... 0 bar
B2	-1 ... +1 bar
P10	0 ... 10 bar
B11	-1 ... +10 bar
004	Pressure input
R	Relative pressure
005	Pneumatic connection
G18	G1/8
R18	R1/8
M5	M5
Q4	Push-in connector 4 mm
006	Thread type
-	None
F	Female thread
M	Male thread
007	Thread material
-	Standard
AL	Aluminium

008	Electrical output 1
PN	PNP or NPN
PNLK	PNP, NPN or IO-Link®
009	Electrical output 2
-	None
PN	PNP or NPN
PNVBA	PNP or NPN or 0 ... 10 V or 1 ... 5 V or 4 ... 20 mA
010	Electrical connection
L1	Plug design L1
011	Mounting accessories
-	None
012	Electrical adapter
-	None
013	Electrical accessories
-	None
2.5S	Straight socket, cable 2.5 m
014	Protective devices
-	None
015	Certificates
-	None

Legend: ☐ Mandatory entry ☐ Optional entry

Product options

Pressure measuring range

B02	-0,1 ... 0,1 bar
P025	0 ... 0,25 bar
P05	0 ... 0,5 bar
P1	0 ... 1 bar
P2	0 ... 2 bar
P6	0 ... 6 bar
P12	0 ... 12 bar
P16	0 ... 16 bar
V025	0 ... -0,25 bar
V05	0 ... -0,5 bar

Pneumatic connection

N18 1/8 NPT

Thread material

PM Polymer

Mounting accessories

A	Mounting bracket
W	Wall mounting
FP	Panel mounting kit

Electrical adapter

EA	Electrical adapter, angled
ES	Electrical adapter, straight

Electrical accessories

5S	Straight socket, cable 5 m
5A	Angled socket, cable 5 m
2.5A	Angled socket, cable 2.5 m

Protective devices

G Safety guard

Certificates

T Test report

Ordering – Product options

 Configurable product

This product and all its product options can be ordered online via the configurator:
→ www.festo.com/catalogue/...
Enter the part number or the type.

Part no.

8003300

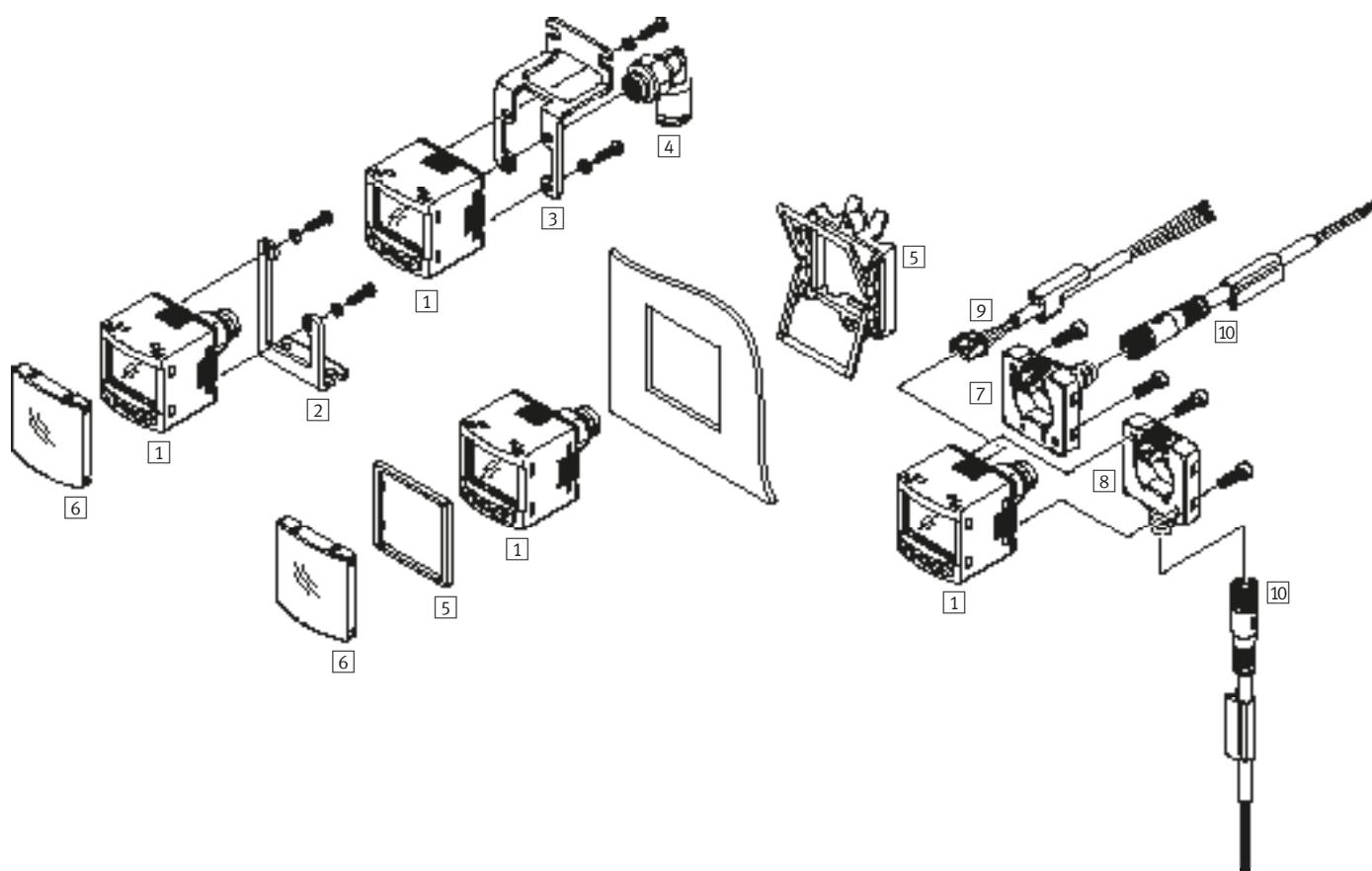
Type

SPAN

Ordering – Basic design

002 Product version: Standard					
Electrical output			005 Pneumatic connection	Type	Part no.
Switching output	Analogue output	Serial interface			
003 Pressure measuring range V1: –1 ... 0 bar					
2 x PNP/NPN Switchable	–	–	G1/8 male, M5 female	SPAN-V1R-G18M-PN-PN-L1	8035546
			R1/8 male, M5 female	SPAN-V1R-R18M-PN-PN-L1	8035549
			Push-in connector 4 mm	SPAN-V1R-Q4-PN-PN-L1	8035554
	0 ... 10 V, 1 ... 5 V 4 ... 20 mA Switchable	IO-Link	G1/8 male, M5 female	SPAN-V1R-G18M-PNLK-PNVBA-L1	8035535
			R1/8 male, M5 female	SPAN-V1R-R18M-PNLK-PNVBA-L1	8035538
			Push-in connector 4 mm	SPAN-V1R-Q4-PNLK-PNVBA-L1	8035543
003 Pressure measuring range B2: –1 ... +1 bar					
2 x PNP/NPN Switchable	–	–	G1/8 male, M5 female	SPAN-B2R-G18M-PN-PN-L1	8035545
			R1/8 male, M5 female	SPAN-B2R-R18M-PN-PN-L1	8035548
			M5 female	SPAN-B2R-M5F-PN-PN-L1	8035551
			Push-in connector 4 mm	SPAN-B2R-Q4-PN-PN-L1	8035553
	0 ... 10 V, 1 ... 5 V 4 ... 20 mA Switchable	IO-Link	G1/8 male, M5 female	SPAN-B2R-G18M-PNLK-PNVBA-L1	8035534
			R1/8 male, M5 female	SPAN-B2R-R18M-PNLK-PNVBA-L1	8035537
M5 female			SPAN-B2R-M5F-PNLK-PNVBA-L1	8035540	
003 Pressure measuring range P10: 0 ... 10 bar					
2 x PNP/NPN Switchable	–	–	G1/8 male, M5 female	SPAN-P10R-G18M-PN-PN-L1	8035544
			R1/8 male, M5 female	SPAN-P10R-R18M-PN-PN-L1	8035547
			M5 female	SPAN-P10R-M5F-PN-PN-L1	8035550
			Push-in connector 4 mm	SPAN-P10R-Q4-PN-PN-L1	8035552
	0 ... 10 V, 1 ... 5 V 4 ... 20 mA Switchable	IO-Link	G1/8 male, M5 female	SPAN-P10R-G18M-PNLK-PNVBA-L1	8035533
			R1/8 male, M5 female	SPAN-P10R-R18M-PNLK-PNVBA-L1	8035536
M5 female			SPAN-P10R-M5F-PNLK-PNVBA-L1	8035539	
003 Pressure measuring range B11: –1 ... +10 bar					
2 x PNP/NPN Switchable	0 ... 10 V, 1 ... 5 V 4 ... 20 mA Switchable	IO-Link	G1/8 male, M5 female	SPAN-B11R-G18M-PNLK-PNVBA-L1	609149
002 Product version: Basic					
Electrical output	013 Electrical accessories	002 Thread material	005 Pneumatic connection	Type	Part no.
Switching output					
003 Pressure measuring range V1: –1 ... 0 bar					
1 x PNP/NPN Switchable	Connecting cable NEBS- L1G4-K-2,5-LE4	Standard	G1/8 male	SPAN-B-V1R-G18M-PN-L1+2.5S	8114767
003 Pressure measuring range B2: –1 ... +1 bar					
1 x PNP/NPN Switchable	Connecting cable NEBS- L1G4-K-2,5-LE4	Standard	G1/8 male	SPAN-B-B2R-G18M-PN-L1+2.5S	8114766
			R1/8 male	SPAN-B-B2R-R18M-PN-L1+2.5S	8114769
		Aluminium	M5 female	SPAN-B-B2R-M5FAL-PN-L1+2.5S	8114772
003 Pressure measuring range B11: –1 ... +10 bar					
1 x PNP/NPN Switchable	Connecting cable NEBS- L1G4-K-2,5-LE4	Standard	G1/8 male	SPAN-B-B11R-G18M-PN-L1+2.5S	8114765
			R1/8 male	SPAN-B-B11R-R18M-PN-L1+2.5S	8114768

Accessories



- 1 Pressure sensor SPAN
2 Mounting bracket SAMH-PU-A
→ [span](#)
3 Wall mounting SAMH-PN-W
→ 263

- 4 Push-in fitting QSML-M5 → 331
5 Front panel mounting kit SAMH-PN-F → 263
6 Safety guard SACC-PN-G → 263

- 7 Electrical adapter SASC-P4-A-M8-S
(only in combination with
NEBA-M8) → 263
8 Electrical adapter SASC-P4-A-M8-A
(only in combination with
NEBA-M8) → 263

- 9 Connecting cable NEBS-L1G4
→ 263
10 Connecting cable NEBA-M8

3 Wall mounting SAMH-PN-W		
Type of mounting	Type	Part no.
Via through-hole and screw	SAMH-PN-W	8035563

5 Panel mounting kit SAMH-PN-F		
Description	Type	Part no.
Mounting kit for front panel	SAMH-PN-F	8035561

6 Safety guard SACC-PN-G		
Description	Type	Part no.
To protect the display and control elements	SACC-PN-G	8035560

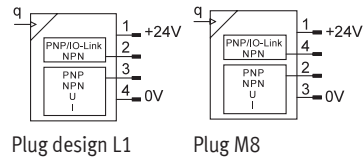
7 Electrical adapter SASC-P4-A-M8-S		
Description	Type	Part no.
For outlet orientation to the rear	SASC-P4-A-M8-S	8000327

8 Electrical adapter SASC-P4-A-M8-A		
Description	Type	Part no.
For outlet orientation underneath	SASC-P4-A-M8-A	8000326

9 Connecting cables NEBS-L1G4, rectangular design L1			
Cable length	Connection, right	Type	Part no.
Connection, left: socket, rectangular design L1, 4-pin			
2.5 m	Cable, open end, 4-wire	NEBS-L1G4-K-2.5-LE4	572576
5 m		NEBS-L1G4-K-5-LE4	572577

10 Connecting cables NEBA-M8G4, M8x1, straight socket			
Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M8x1, 4-pin			
2.5 m	Cable, open end, 4-wire	NEBA-M8G4-U-2.5-N-LE4	8078227
5 m		NEBA-M8G4-U-5-N-LE4	8078228

10 Connecting cables NEBA-M8W4, M8x1, angled socket			
Cable length	Connection, right	Type	Part no.
Connection, left: angled socket, M8x1, 4-pin			
2.5 m	Cable, open end, 4-wire	NEBA-M8W4-U-2.5-N-LE4	8078233
5 m		NEBA-M8W4-U-5-N-LE4	8078234



- High measuring dynamics (1:50)
- Measurement method is based on the thermal heat-transfer method
- Clear 2-line display
- Intuitive menu navigation
- L1 and M8 plugs for fast commissioning
- High pressure range –0.9 bar ... 10 bar
- Degree of protection IP40 or IP54
- Switching output 2 x PNP or 2 x NPN, switchable
- N/C or N/O, switchable

Order code – Basic design

001	002	003	004	005	006	007	008	009	010	011	012	013
SFAH	-	U	-	S	-	PNLK	-	PNVBA	-	+	-	-

001	Type	006	Outlet direction
SFAH	Flow sensor	S	Straight
002	Flow measuring range	007	Electrical output 1
0.1 ¹⁾	Max. 0.1 l/min	PNLK	PNP/NPN/IO-Link®
0.5	Max. 0.5 l/min	008	Electrical output 2
1	max. 1 l/min	PNVBA	PNP or NPN or 0 ... 10 V or 1 ... 5 V or 4 ... 20 mA
5	max. 5 l/min	009	Electrical connection
10	max. 10 l/min	L1	Plug design L1
50	max. 50 l/min	M8	Plug M8, A-coded
100	max. 100 l/min	010	Mounting accessories
200	max. 200 l/min	-	None
003	Flow input	011	Electrical accessories
U	Unidirectional	-	None
004	Pneumatic connection	2.5S	Straight socket, cable 2.5 m
Q4	Push-in connector 4 mm	012	Protective devices
Q6	Push-in connector 6 mm	-	None
Q8	Push-in connector 8 mm	013	Certificates
G14	G1/4	-	None
G18	G1/8		
005	Thread type		
-	None		
F	Female thread		

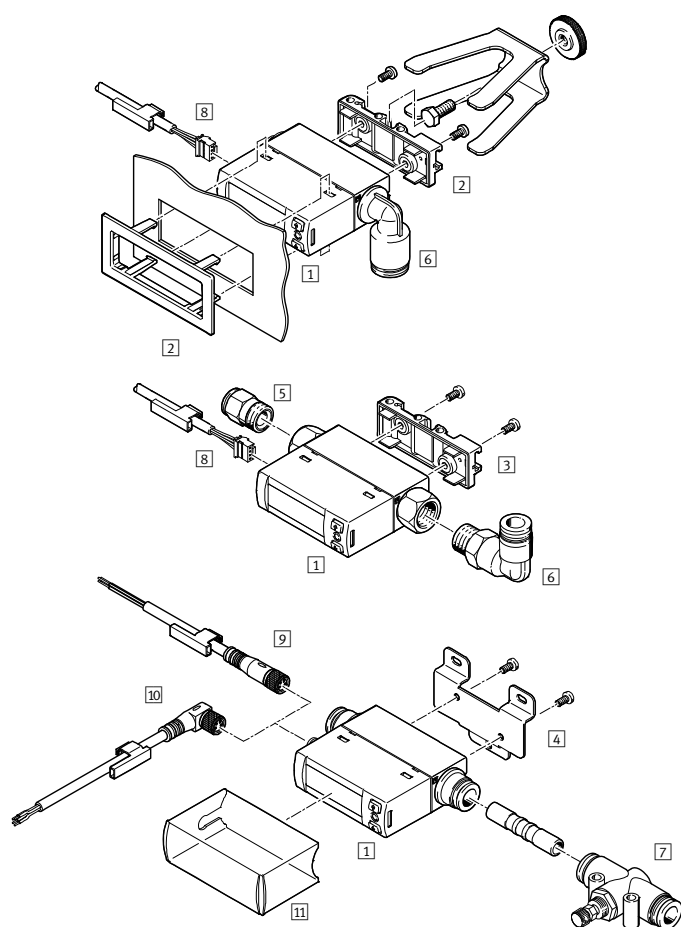
1) For low leakage requirements in the lower measuring range, use G1/4 or G1/8 female thread in combination with pneumatic connection.

Legend: Mandatory entry Optional entry

Product options

B	Bidirectional flow input		Mounting accessories		Electrical accessories		Protective devices
AR	Angled outlet direction, can be adjusted	H	H-rail mounting	2.5S	Straight socket, cable 2.5 m	G	Safety guard
		W	Wall mounting	2.5A	Angled socket, cable 2.5 m		Certificates
		FP	Panel mounting kit	5S	Straight socket, cable 5 m	T	Test report
				5A	Angled socket, cable 5 m		

Accessories



- 1 Flow sensor SFAH → 265
- 2 Front panel mounting kit SAMH-FH-F → 267
- 3 H-rail mounting SAMH-FH-H → 267
- 4 Wall mounting SAMH-FH-W → 267
- 5 Push-in fitting QS → 332
- 6 Push-in fitting QSL → 334
- 7 One-way flow control valve GRO-QS-... → [gro](#)
- 8 Connecting cable NEBS-L1G4-... → 267
- 9 Connecting cable NEBA-M8G4 → 267
- 10 Connecting cable NEBA-M8W4 → 267
- 11 Safety guard SACC-FH-G-S3, only in combination with electrical connection M8 → 267

2 Panel mounting kit SAMH-FH-F		
Description	Type	Part no.
Mounting kit for front panel	SAMH-FH-F	8058459

3 H-rail mounting SAMH-FH-H		
Description	Type	Part no.
For H-rail mounting	SAMH-FH-H	8058460

4 Wall mounting SAMH-FH-W		
Type of mounting	Type	Part no.
Via through-hole and screw	SAMH-FH-W	8036910

8 Connecting cables NEBS-L1G4, rectangular design L1			
Cable length	Connection, right	Type	Part no.
Connection, left: socket, rectangular design L1, 4-pin			
2.5 m	Cable, open end, 4-wire	NEBS-L1G4-K-2.5-LE4	572576

9 Connecting cables NEBA-M8G4, M8x1, straight socket			
Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M8x1, 4-pin			
2.5 m	Cable, open end, 4-wire	NEBA-M8G4-U-2.5-N-LE4	8078227

10 Connecting cables NEBA-M8W4, M8x1, angled socket			
Cable length	Connection, right	Type	Part no.
Connection, left: angled socket, M8x1, 4-pin			
2.5 m	Cable, open end, 4-wire	NEBA-M8W4-U-2.5-N-LE4	8078233

11 Safety guard SACC-FH-G-S3		
Description	Type	Part no.
To protect the display and control elements	SACC-FH-G-S3	8069031

Opto-electronic sensors SOOD/SOOE



SOOD

- Diffuse sensors SOOD-BS
- Retro-reflective sensors SOOD-RS
- Light barriers SOOD-TB
- For very tight application environments



SOOE

- Diffuse sensors SOOE-BS, SOOE-DS, SOOE-KS
- Distance sensors SOOE-MS
- Retro-reflective sensors SOOE-RG, SOOE-RS
- Light barriers SOOE-TB
- IO-Link® interface
- Highly precise multi-pixel technology (MPT)

Diffuse sensors SOOD-BS

- Diffuse sensor with background suppression
- The switching distance is set using optical triangulation
- Switching distance virtually independent of colour and surface
- Can also be used with a shiny or reflective background
- Detection of small differences in distance
- Easy adjustment

Retro-reflective sensors SOOD-RS

- Retro-reflective sensors with two lenses
- Particularly economical

Light barriers SOOD-TB

- Through-beam sensors
- Transmitter and receiver in different housings
- Most reliable principles in harsh ambient conditions

Diffuse sensors SOOE-BS

- Diffuse sensor with background suppression
- The switching distance is set using optical triangulation
- Switching distance virtually independent of colour and surface
- Can also be used with a shiny or reflective background
- Detection of small differences in distance
- Easy adjustment

Diffuse sensors SOOE-DS

- Cheaper
- Longer switching distance
- More reliable for detecting only slightly reflective objects

Diffuse sensors SOOE-KS

- Highly precise, energetic contrast sensor
- Detects small contrast differences within a working range up to 120 mm

Distance sensors SOOE-MS

- Sensors evaluate the distance and transfer the value via IO-Link®

Retro-reflective sensors SOOE-RG

- Retro-reflective sensors with auto-collimation
- No blind zone
- High precision across the entire sensing range
- Radially symmetrical sensing range
- Good repeatability
- Low hysteresis
- Particularly suitable for transparent objects

Retro-reflective sensors SOOE-RS

- Retro-reflective sensors with two lenses
- Particularly economical

Light barriers SOOE-TB

- Through-beam sensors
- Transmitter and receiver in different housings
- Most reliable principles in harsh ambient conditions

Order code – S00D

001	002	003	004	005
S00D			PN	

001	Type
S00D	Opto-electronic sensors
002	Sensor function
BS	Diffuse sensor with background suppression
RS	Retro-reflective sensor
TB	Through-beam sensor, transmitter/receiver
003	Type of light
L	Red laser
R	Red LED
004	Electrical output
PN	PNP or NPN (push-pull)
005	Working range
–	Standard
30	30 mm
50	50 mm
80	80 mm

Legend: ☐ Mandatory entry ☐ Optional entry

Order code – S00E

001	002	003	004	005
S00E			PNLK	T

001	Type
S00E	Opto-electronic sensors
002	Sensor function
BS	Diffuse sensor with background suppression
DS	Diffuse sensor
KS	Contrast sensor
MS	Distance sensor
RG	Retro-reflective sensor for transparent objects
RS	Retro-reflective sensor
TB	Through-beam sensor, transmitter/receiver
003	Type of light
L	Red laser
R	Red LED
004	Electrical output 1
PNLK	PNP/NPN/IO-Link®
005	Setting options
T	Teach-in

Legend: ☐ Mandatory entry

Product options S00D

Working range

1000	1000 mm
2000	2000 mm
10000	10000 mm

Ordering – S00D

003 Type of light	005 Working range	Type	Part no.
002 Diffuse sensor with background suppression			
Red laser	7 ... 30 mm	S00D-BS-L-PN-30	8075658
	7 ... 50 mm	S00D-BS-L-PN-50	8075659
	20 ... 80 mm	S00D-BS-L-PN-80	8075660
Red LED	1 ... 30 mm	S00D-BS-R-PN-30	8075653
	3 ... 50 mm	S00D-BS-R-PN-50	8075654
	15 ... 80 mm	S00D-BS-R-PN-80	8075655
002 Retro-reflective sensor			
Red laser	0 ... 2000 mm	S00D-RS-L-PN	8075662
Red LED	0 ... 1000 mm	S00D-RS-R-PN	8075657
002 Through-beam sensor (transmitter and receiver included in the scope of delivery)			
Red laser	0 ... 10000 mm	S00D-TB-L-PN	8075661
Red LED	0 ... 2000 mm	S00D-TB-R-PN	8075656

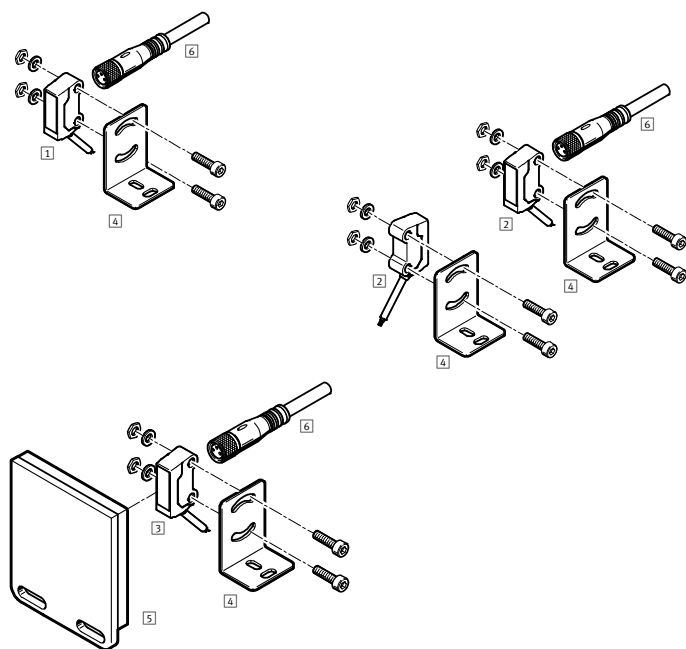
Ordering – S00E

003 Type of light	Working range	Type	Part no.
002 Diffuse sensor with background suppression			
Red laser	7 ... 300 mm	S00E-BS-L-PNLK-T	8075670
Red LED	5 ... 350 mm	S00E-BS-R-PNLK-T	8075664
002 Diffuse sensor			
Red LED	2 ... 1000 mm	S00E-DS-R-PNLK-T	8075663
002 Contrast sensor			
Red laser	25 ... 120 mm	S00E-KS-L-PNLK-T	8075669
002 Distance sensor			
Red laser	40 ... 100 mm	S00E-MS-L-PNLK-T	8075673
Red LED	40 ... 100 mm	S00E-MS-R-PNLK-T	8075668
002 Retro-reflective sensor for transparent objects			
Red LED	0 ... 3500 mm	S00E-RG-R-PNLK-T	8075667
002 Retro-reflective sensor			
Red laser	0 ... 12000 mm	S00E-RS-L-PNLK-T	8075672
Red LED	0 ... 7500 mm	S00E-RS-R-PNLK-T	8075666
002 Through-beam sensor (transmitter and receiver included in the scope of delivery)			
Red laser	0 ... 20000 mm	S00E-TB-L-PNLK-T	8075671
Red LED	0 ... 12000 mm	S00E-TB-R-PNLK-T	8075665

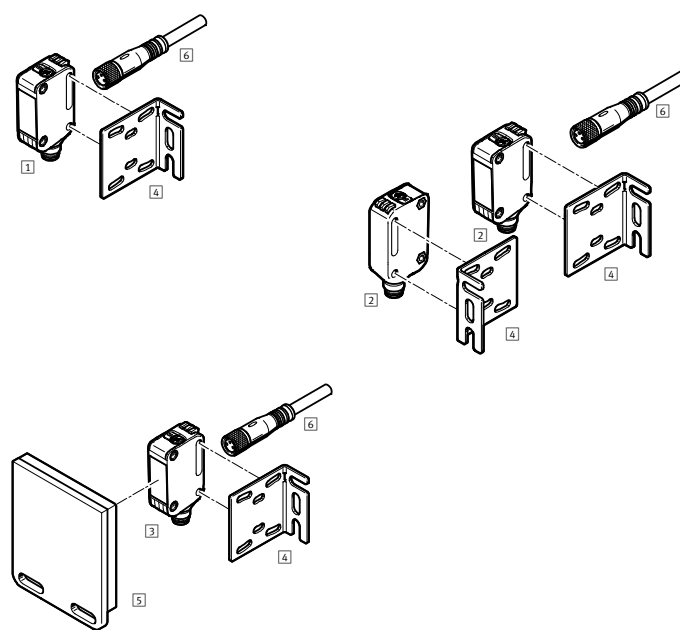
Optical sensors >

Opto-electronic sensors SOOD/SOOE

Accessories – SOOD



Accessories – SOOE



- 1 Diffuse sensor with background suppression, red laser, SOOD-BS-L
- 2 Through-beam sensor SOOD-TB
- 3 Retro-reflective sensor SOOD-RS
- 4 Mounting bracket SAMH-L2-... → [sood](#)
- 5 Reflector, reflective foil SARA-R-... → [sood](#)
- 6 Connecting cable NEBA-M8 → 270

- 1 Retro-reflective sensor SOOE-RS
- 2 Through-beam sensor SOOE-TB
- 3 Retro-reflective sensor with background suppression SOOE-BS
- 4 Mounting bracket SAMH-L3-... → [sooe](#)
- 5 Reflector, reflective foil SARA-R-... → [sooe](#)
- 6 Connecting cable NEBA-M8 → 270

6 Connecting cables NEBA-M8G3, M8x1, straight socket			
Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8G3-U-2.5-N-LE3	8078223
5 m		NEBA-M8G3-U-5-N-LE3	8078224

Connecting cable NEBA-M8W3, M8x1, angled socket			
Cable length	Connection, right	Type	Part no.
Connection, left: angled socket, M8x1, 3-pin			
2.5 m	Cable, open end, 3-wire	NEBA-M8W3-U-2.5-N-LE3	8078230
5 m		NEBA-M8W3-U-5-N-LE3	8078231

10

Compressed air preparation



Highlights

Contents



Service unit combinations, MS series

MSB

+ Combinations of filter regulator,
filter, lubricator, on/off valve and
soft-start valve

+ Sizes: 4, 6

→ 281



Filter regulators, MS-B series

MS-LFR-B

+ Size 2, 4, 6

+ Flow rate 140 ... 5300 l/min

+ Pressure gauge with bar, psi, MPa

→ 285



Pressure regulators, MS-B series

MS-LR-B

+ Size 2, 4, 6

+ Flow rate 170 ... 6000 l/min

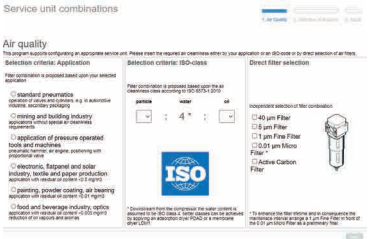
+ Pressure gauge with bar, psi, MPa

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Product overview

Software-Tools

Air consumption		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. It includes a feature for exporting the input table together with the result directly to Excel. This tool can be found at www.festo.com/x/air-consumption
Configurator		Design a product with numerous features reliably and quickly with the help of the configurator. Select all the required product features step by step. The use of logic checks ensures that only correct configurations are available for selection. A dynamic graphic generated on the basis of the configuration provides a visual aid for selecting the correct product features. This tool can be found at www.festo.com/x/service-unit-sizing

Service units >

MS series

 Service unit combinations MSB4, MSB6, MSB9		 Energy efficiency modules MSE6-E2M
Pneumatic connection 1	G1/8, G1/4, G1/2, G3/4, G1, G1 1/4, G1 1/2, 1/2 NPT, 3/4 NPT, 1 NPT, 1 1/4 NPT, 1 1/2 NPT	G1/2
Standard nominal flow rate	750 ... 18000 l/min	4500 l/min
Flow measuring range		50 ... 5000 l/min
Pressure regulation range	0.5 ... 16 bar	
Operating pressure [MPa]	0 ... 2 MPa	0.35 ... 1 MPa
Operating pressure	0 ... 20 bar	3.5 ... 10 bar
Grade of filtration	0.01 ... 40 µm	
Fieldbus interface		2x socket, M12x1, 4-pin, D-coded, Sub-D socket, 9-pin
Description	- Combination of filter regulator, filter, lubricator, on/off valve, soft-start valve - Grid dimensions 40, 62, 90 mm (size 4, 6, 9)	- Intelligent service unit component for optimising the use of compressed air as an energy medium in industrial automation technology - Combination of stop valve, flow sensor, pressure sensor and fieldbus node - Identification of production downtime and leakages - User-controlled shut-off and pressurisation - Equipped with measurement, control and diagnostic functions - Fieldbus connection (PROFIBUS DP, PROFINET IO, EtherNet/IP or EtherCAT®) via integrated fieldbus nodes enables connection to a higher-level controller - Grid dimension 62 mm (size 6) - Sustainable operation with active air shut-off and pressure reduction
→ Page/online	281	mse6

Filter regulators/lubricators >

MS series

	 Service unit combinations MSB4-FRC, MSB6-FRC
Pneumatic connection 1	G1/2, G1/4, G1/8, G3/8
Standard nominal flow rate	850 ... 4800 l/min
Pressure regulation range	0.3 ... 12 bar
Operating pressure	0.8 ... 20 bar
Grade of filtration	5 µm, 40 µm
Description	• Filter, regulator and lubricator functions in a single unit • High flow rate and highly efficient in removing contaminants • Good regulation characteristics with minimal pressure hysteresis • Grid dimensions 40, 62 mm (size 4, 6)
→ Page/ online	283

Filter regulators >

MS-B series

	 Filter regulators MS2-LFR-B, MS4-LFR-B, MS6-LFR-B
Pneumatic connection 1	G1/2, G1/4, M5, QS-6
Standard nominal flow rate	140 ... 5300 l/min
Pressure regulation range [MPa]	0.03 ... 0.7 MPa
Pressure regulation range	0.3 ... 7 bar
Operating pressure [MPa]	0.1 ... 1 MPa
Operating pressure	1 ... 10 bar
Grade of filtration	5 µm, 40 µm
Description	• Competitively priced basic component focused on the most important technical functions • Lightweight and sturdy thanks to modern polymer materials • Compatible with the MS series for the ideal combination of low-cost basic functionality and high-end functional requirements • Stable control response • With or without pressure gauge • Rotary knob with latch • With integrated secondary exhausting and primary exhausting with return flow function • MS2: Directly operated diaphragm regulator • MS4, MS6: directly actuated piston regulator • Grid dimension 25, 40, 62 mm (sizes 2, 4, 6)
→ Page/ online	285

Product overview

Filter regulators >

MS series

	 Filter regulators MS4-LFR, MS6-LFR, MS9-LFR, MS12-LFR
Pneumatic connection 1	Internal, G1/2, G1/4, G1/8, G3/8
Standard nominal flow rate	850 ... 24000 l/min
Pressure regulation range	0,3 ... 16 bar
Operating pressure	0,8 ... 20 bar
Grade of filtration	5 µm, 40 µm
Description	- MS4-LFR, MS6-LFR: directly actuated diaphragm regulator, MS9-LFR: piloted or directly actuated filter-diaphragm regulator, MS12-LFR: piloted diaphragm regulator without internal air consumption - Good control characteristics with minimal pressure hysteresis and primary pressure compensation - Good particle and condensate separation - With or without secondary exhausting - High flow rate - Lockable rotary knob - Return flow option for exhausting from output 2 to input 1 already integrated - Variants to EU Explosion Protection Directive (ATEX) - Grid dimension 40, 62, 90, 124 mm (size 4, 6, 9, 12) - With or without pressure gauge
→ Page/online	287

Filter regulators >

Individual devices

	 Filter regulators PCR
Pneumatic connection 1	1/4 NPT, 1/2 NPT, G1/2, G1/4, NPT1/2-14, NPT1/4-18
Standard nominal flow rate	1600 ... 4115 l/min
Pressure regulation range	0.5 ... 12 bar
Operating pressure [MPa]	0.1 ... 2 MPa
Operating pressure	1 ... 20 bar
Grade of filtration	5 µm, 40 µm
Description	- Robust housing for the specific requirements of the process automation industry - Suitable for use outdoors and at temperatures down to –60 °C - Resistant to UV radiation and corrosive environments - Two pressure gauge connections for different installation options - With manual condensate drain, rotating - Size 44, 64 - Sustainable operation thanks to reduced pressure level
→ Page/online	407

Pressure regulators >

MS-B series

	 Pressure regulators MS2-LR-B, MS4-LR-B, MS6-LR-B
Pneumatic connection 1	M5, QS-6, G1/4, G1/2
Standard nominal flow rate	170 ... 6000 l/min
Pressure regulation range	0.3 ... 7 bar
Operating pressure [MPa]	0.1 ... 1 MPa
Operating pressure	1 ... 10 bar
Description	• Competitively priced basic component focused on the most important technical functions • Lightweight and sturdy thanks to modern polymer materials • Compatible with the MS series for the ideal combination of low-cost basic functionality and high-end functional requirements • Stable control response • With or without pressure gauge • Rotary knob with latch • With integrated secondary exhausting and primary exhausting with return flow function • MS2: Directly operated diaphragm regulator • MS4, MS6: directly actuated piston regulator • Grid dimension 25, 40, 62 mm (sizes 2, 4, 6) • Sustainable operation thanks to reduced pressure level
→ Page/online	289

Pressure regulators >

MS series

	 Pressure regulators MS4-LR, MS6-LR, MS9-LR	 Pressure regulators MS12-LR
Pneumatic connection 1	G1/2, G1/4, G1/8, G3/8	Connecting plate
Standard nominal flow rate	1000 ... 30000 l/min	12000 ... 22000 l/min
Pressure regulation range	0.3 ... 16 bar	0.15 ... 16 bar
Operating pressure [MPa]	0.1 ... 1 MPa	0.08 ... 2.1 MPa
Operating pressure	0.8 ... 20 bar	0.8 ... 21 bar
Description	• High flow rate with minimal pressure drop • Good regulation characteristics with minimal pressure hysteresis and primary pressure compensation • With or without secondary venting • Lockable rotary knob • Optional pressure sensor and rotary knob pressure gauge • Grid dimensions 40, 62, 90 mm (size 4, 6, 9)	• High flow rate performance with minimal pressure drop • Good control characteristics with minimal pressure hysteresis and primary pressure compensation • With secondary exhausting • Lockable rotary knob • With or without pressure gauge • MS12-LR-...-PO: pneumatically actuated (pressure range determined by pilot regulator) • MS12-LR-...-PE6: electrically actuated (pilot control by proportional pressure regulator) • Grid dimension 124 mm (size 12) • Sustainable operation thanks to reduced pressure level
→ Page/online	291	291

Product overview

On/off and soft-start valves >

MS-B series

	 On/off valves MS4-EE-B, MS6-EE-B	 Soft-start valves MS4-EDE-B, MS6-EDE-B
Design	Poppet valve, electrically actuated	Poppet valve, electrically actuated
Pneumatic connection 1	G1/2, G1/4	G1/2, G1/4
Standard nominal flow rate	2000 ... 5000 l/min	2000 ... 5000 l/min
Operating pressure [MPa]	0.3 ... 0.7 MPa	0.3 ... 0.7 MPa
Operating pressure	3 ... 7 bar	3 ... 7 bar
Standard nominal flow rate	2000 ... 5000 l/min	2000 ... 5000 l/min
Exhaust air function		Without flow control option
Electrical connection	Type C, To EN 175301-803	Type C, To EN 175301-803
Description	• Very compact and extremely lightweight series for use close to the process directly in the machine • Electrically operated 3/2-way valve for pressurising and exhausting pneumatic systems • Ducted exhaust air possible via threaded connection with silencer • Detenting and non-detenting manual override • Supply voltage 24 V DC • With solenoid coil, without plug socket • Grid dimension 40, 62 mm (size 4, 6)	• Very compact and extremely lightweight series for use close to the process directly in the machine • Electrically operated 3/2-way valve for slowly pressurising and exhausting pneumatic systems • The switching pressure can be precisely controlled with a solenoid valve • Adjustable switching time delay • Built-in connections into which the tubing can be directly inserted • Detenting and non-detenting manual override • Supply voltage 24 V DC • With solenoid coil, without plug socket • Grid dimension 40, 62 mm (size 4, 6)
→ Page/online	293	293

On/off and soft-start valves >

MS series

	 On/off valves MS4-EM1, MS6-EM1, MS9-EM, MS12-EM	 On/off valves MS4-EE, MS6-EE, MS9-EE, MS12-EE	 Soft-start valves MS4-DL, MS6-DL, MS12-DL
Pneumatic connection 1	Manifold module, G1/2, G1/4, G1/8, G3/8	Manifold module, G1/2, G1/4, G1/8, G3/8	Manifold module, G1/2, G1/4, G1/8, G3/8
Standard nominal flow rate	1200 ... 32000 l/min	1000 ... 32000 l/min	1000 ... 42000 l/min
Operating pressure	0 ... 20 bar	3 ... 18 bar	2 ... 20 bar
Actuation type	Manual	Electrical	Pneumatic
Description	• Manual 3/2-way valve for pressurising and exhausting pneumatic systems • A silencer can be attached or the exhaust air ducted at port 3 • Switching position is immediately recognisable • Optionally with pressure gauge and pressure sensor • Variants to EU Explosion Protection Directive (ATEX) • Grid dimension 40, 62, 90, 124 mm (size 4, 6, 9, 12)	• Electric 3/2-way valve for pressurising and exhausting pneumatic installations • A silencer can be attached or the exhaust air ducted at port 3 • Supply voltage 24 V DC, 110, 230 V AC • Optionally with pressure gauge and pressure sensor • With solenoid coil, without plug socket • Variants to EU Explosion Protection Directive (ATEX) • Grid dimension 40, 62, 90, 124 mm (size 4, 6, 9, 12)	• 2/2-way valve for slowly pressurising pneumatic systems (for use with on/off valves EM(1) and EE) • For building up pressure gradually • Adjustable pressure build-up time • Variants to EU Explosion Protection Directive (ATEX) • Grid dimension 40, 62, 124 mm (size 4, 6, 12)
→ Page/online	295	295	297

On/off and soft-start valves ›

MS series

		
	Soft-start/quick exhaust valves MS6-SV-E, MS6-SV-D	Soft-start/quick exhaust valves MS6-SV-C, MS9-SV-C
Pneumatic connection 1	G1/2	G1/2, G1/4
Standard nominal flow rate	4300 ... 5700 l/min	4300 ... 16550 l/min
Operating pressure	3 ... 10 bar	3 ... 16 bar
Actuation type	Electrical	Electrical
Safety integrity level (SIL)	Exhausting/SIL 3, prevention of unexpected start-up (pressurisation)/SIL 3	
Performance Level (PL)	Exhausting/category 3, Performance Level d, exhausting/up to category 4, Performance Level e, prevention of unexpected start-up (pressurisation)/category 3, Performance Level d, prevention of unexpected start-up (pressurisation)/up to category 4, Performance Level e	Exhausting/category 1, Performance Level c, exhausting/up to category 1, Performance Level c, prevention of unexpected start-up (pressurisation)/category 1, Performance Level c
Description	• With safety functions • For reducing pressure quickly and reliably and for building up pressure gradually • Adjustable pressure build-up time • Optionally with silencer • Supply voltage 24 V DC • Grid dimensions 62 mm (size 6)	• With safety functions • For reducing pressure quickly and reliably and for building up pressure gradually • Adjustable pressure build-up time • Adjustable switch-through pressure • Supply voltage 24 V DC • Grid dimensions 62, 90 mm (size 6, 9)
→ Page/online	ms6-sv-e	297

Compressed air distributors ›

MS series

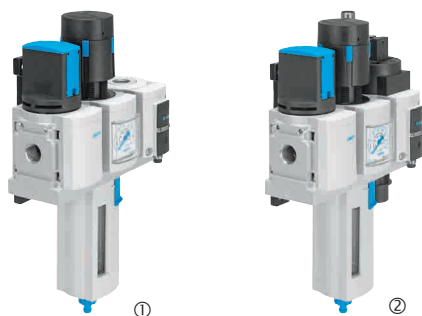
		
	Branching modules MS4-FRM, MS6-FRM, MS9-FRM, MS12-FRM	Distributor blocks MS4-FRM-FRZ, MS6-FRM-FRZ
Pneumatic connection 1	G1/4, G1/2, G1, G2, Manifold module, 1/2 NPT, 3/4 NPT, 1 NPT, 1 1/4 NPT, 1 1/2 NPT, G1, G1 1/2, G1 1/4, G1/2, G1/4, G1/8, G3/4, G3/8	G1/4, G1/2
Standard nominal flow rate in main flow direction 1→2	1200 ... 50000 l/min	4050 ... 14600 l/min
Operating pressure	0 ... 20 bar	0 ... 20 bar
Description	• Optionally with integrated non-return function and pressure sensor • Outlet at top and bottom • Can be used as an intermediate distributor for varying air qualities • Optionally with pressure sensor • Grid dimensions 40, 62, 90, 124 mm (size 4, 6, 9, 12)	• Slim pneumatic distributor • Outlet at top and bottom • Can be used as an intermediate distributor for varying air qualities • Can be used as an adapter between two pressure regulators with large rotary knob with pressure gauge on size 4 • Grid dimensions 40, 62 mm (size 4, 6)
→ Page/online	299	301

MS series

	 Connecting plates MS4-AG..., MS6-AG...
Pneumatic connection 1	G1/4, G3/8, G1/2, G3/4
Pneumatic connection 2	G1/4, G3/8, G1/2, G3/4
Description	• Accessories for size MS4, MS6 • Adapter for pneumatic connection
→ Page/online	302

→ www.festo.com/contact

Service unit combinations MSB4/MSB6, MS series



- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Flow rate 800 ... 4800 l/min
- Operating pressure 1.5 ... 20 bar
- Grade of filtration 0.01 ... 40 µm
- Manual condensate drain

Combinations comprising:

- ① Manually operated on/off valve, filter regulator with lockable pressure gauge, branching module with pressure switch, mounting bracket
 - Electrical pressure monitoring with adjustable switching pressure
- ② Manually operated on/off valve, filter regulator with lockable pressure gauge, electrically actuated on/off valve with pressure sensor for operational status indicator, mounting bracket
 - Electrical pressure monitoring with adjustable switching pressure
 - When the unit is switched off, quick exhausting ensures rapid pressure reduction

Order code – Basic design

001 002 003 004 005 006
MSB - : : C3 : J1 : - WP

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
MSB	MS series
002	Size
4	Grid dimensions 40 mm
6	Grid dimensions 62 mm
003	Pneumatic connection
1/4	G1/4 thread
1/2	G1/2 thread
004	Flow direction
–	From left to right

005	Service unit combination
C3	On/off valve MS4-EM1, MS6-EM1
J1	Filter regulator MS4-LFR, MS6-LFR
D14	On/off valve MS4-EE, MS6-EE
F12	Branching module MS4-FRM, MS6-FRM
006	Type of mounting
WP	Mounting bracket

Product options

- Additional connection sizes
- Connecting plates
- Grade of filtration 5 µm
- Service unit components: filter regulators, soft-start valves, lubricators, on/off valves
- Alternative flow direction
- Fully automatic condensate drain

Configurable product

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

→ www.festo.com/catalogue/...

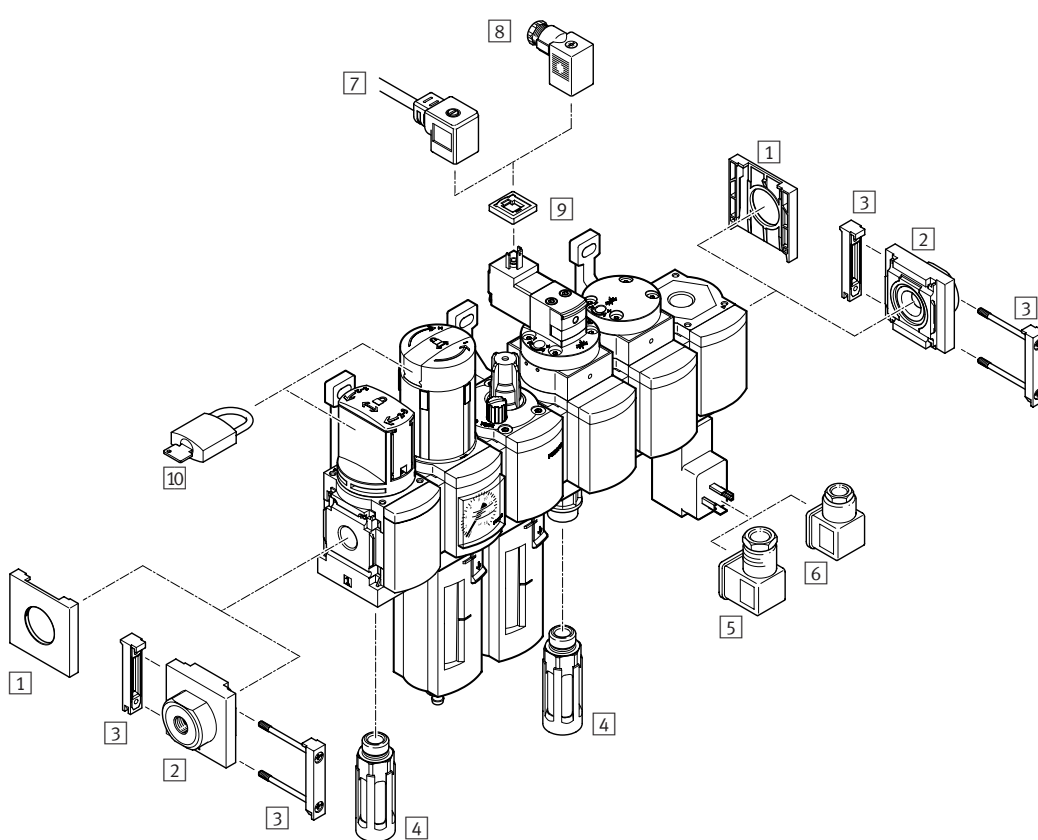
Enter the part number or the type.

Part no.	Type	Standard nominal flow rate	Pressure regulation range	Grade of filtration
531029	MSB4	800 ... 1400 l/min	1 ... 12 bar	0.01 ... 40 µm
531030	MSB6	1700 ... 4800 l/min	1 ... 12 bar	0.01 ... 40 µm

Ordering – Basic design

002 Size	003 Pneumatic connection	Condensate drain	Grade of filtration	Type	Part no.
① Manually operated on/off valve, filter regulator with lockable pressure gauge, branching module with pressure switch, mounting bracket Pressure regulation range 0.5 ... 10 bar, pressure gauge with outer scale in bar and inner scale in psi					
4	G1/4	Manual rotary	40 µm	MSB4-1/4:C3J1F12-WP	8025356
6	G1/2	Manual rotary	40 µm	MSB6-1/2:C3J1F12-WP	8025357
② Manually operated on/off valve, filter regulator with lockable pressure gauge, electrically actuated on/off valve with pressure sensor for operational status indicator, mounting bracket Pressure regulation range 0.5 ... 10 bar, pressure gauge with outer scale in bar and inner scale in psi					
4	G1/4	Manual rotary	40 µm	MSB4-1/4:C3J1D14-WP	8025358
6	G1/2	Manual rotary	40 µm	MSB6-1/2:C3J1D14-WP	8025359

Accessories



- 1 Cover cap MS4/6-END
→ [ms4-end](#)
- 2 Connecting plate kit MS4/6-AG...
→ 302
- 3 Module connector MS-MV
→ 282
- 4 Silencer U-B → 357
- 5 Angled socket PEV-1/4-WD-LED
→ [msb](#)
- 6 Plug socket MSSD-C-4P → [msb](#)
- 7 Plug socket with cable KMEB-3
→ [msb](#)
- 8 Plug socket MSSD-EB → [msb](#)
- 9 Illuminating seal MEB-LD → [msb](#)
- 10 Padlock LRVS-D → [msb](#)

Mounting bracket
 MS4/MS6-WP, MS4/MS6-WPB,
 MS4/MS6-WPM → 282
 MS4/6-WPE → [ms4-wpe](#)

3 Module connector MS-MV		
Size	Type	Part no.
4	MS4-MV1	8119201
6	MS6-MV1	8119204

Mounting bracket MS4/6-WP		
Size	Type	Part no.
For wall mounting		
4	MS4-WP	532184
6	MS6-WP	532195

Mounting bracket MS4/6-WPB		
Size	Type	Part no.
For wall mounting		
4	MS4-WPB	526063
6	MS6-WPB	526074

Mounting bracket MS4/6-WPM		
Size	Type	Part no.
For wall mounting		
4	MS4-WPM-D	526060
6	MS6-WPM-D	526073

Service unit combinations MSB4/MSB6-FRC, MS series



- Filter, regulator and lubricator functions in a single unit
- High flow rate and highly efficient in removing contaminants
- Good regulation characteristics with minimal pressure hysteresis
- Set values are secured by locking the rotary knob
- Flow rate 850 ... 4800 l/min
- Operating pressure 1.5 ... 20 bar
- Grade of filtration 40 µm
- Manual condensate drain

Order code – Basic design

001	002	003	004	005	006
MSB			FRC5:J1	M1	

Legend: Mandatory entry Optional entry

001	Type
MSB	MS series
002	Size
4	Grid dimensions 40 mm
6	Grid dimensions 62 mm
003	Pneumatic connection
1/4	G1/4 thread
1/2	G1/2 thread
004	Service unit combination
FRC5:J1	• Filter regulator with pressure gauge, rotary knob with detent, can be locked using accessories • Lubricator • Pressure regulation range 0.5 ... 12 bar • Plastic bowl with plastic bowl guard • Grade of filtration 40 µm • Manual condensate drain • Pressure gauge with outer scale in bar and inner scale in psi

005	Lubricator
M1	Plastic bowl guard
006	Flow direction
–	From left to right

Product options

- Additional connection sizes
- Grade of filtration 5 µm
- Pressure regulation range 0.3 ... 7 bar
- Metal bowl guard for filter regulator and for lubricator
- Fully automatic condensate drain



Configurable product

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

→ www.festo.com/catalogue/msb

Ordering – Basic design

002 Size	003 Pneumatic connection	Standard nominal flow rate	Pressure regulation range	Grade of filtration	Type	Part no.
Grade of filtration 40 µm, manual rotary condensate drain						
4	G1/4	900 l/min	0.5 ... 12 bar	40 µm	MSB4-1/4-FRC5:J1M1	531117
6	G1/2	3700 l/min	0.5 ... 12 bar	40 µm	MSB6-1/2-FRC5:J1M1	530244

- | 3 Module connector MS-MV | | |
|--------------------------|---------|----------|
| Size | Type | Part no. |
| 4 | MS4-MV1 | 8119201 |
| 6 | MS6-MV1 | 8119204 |

4 Mounting bracket MS4/6-WP		
Size	Type	Part no.
For wall mounting		
4	MS4-WP	532184
6	MS6-WP	532195

5 Mounting bracket MS4/6-WPB		
Size	Type	Part no.
For wall mounting		
4	MS4-WPB	526063
6	MS6-WPB	526074

7 Mounting bracket MS4/6-WPM		
Size	Type	Part no.
For wall mounting		
4	MS4-WPM-D	526060
6	MS6-WPM-D	526073

Filter regulators MS2/MS4/MS6-LFR-B, MS-B series



- Very compact and extremely light-weight series for use close to the process directly in the machine
- Filter and pressure regulator in a single unit
- For stepless, precise adjustment of the required operating pressure
- Flow rate 140 ... 5300 l/min
- Operating pressure 1 ... 10 bar
- Grade of filtration 5 µm, 40 µm
- Manual or fully automatic condensate drain

Order code – MS2-LFR-B

001	002	003	004	005	006	007	008	009	010
MS	2	LFR		D6			C	M	B

001	Type
MS	MS series service unit
002	Size
2	Grid dimensions 25 mm
003	Function
LFR	Filter regulator
004	Pneumatic connection
M5	Female thread M5
QS6	Push-in connector for tubing O.D. 6 mm
005	Pressure regulation range
D6	0.5 ... 7 bar
006	Pressure gauge alternatives
A8	Adapter plate for EN pressure gauge 1/8, without pressure gauge
AR	With pressure gauge
007	Alternative pressure gauge scale
–	None
BAR	Display unit bar/psi
MPA	Display unit MPa
008	Grade of filtration
C	5 µm
009	Condensate drain
M	Manual rotary
010	Version
B	2nd generation

Legend: Mandatory entry Optional entry

Order code – MS4/MS6-LFR-B

001	002	003	004	005	006	007	008	009	010	011
MS		LFR		D6		P		AG		B

001	Type
MS	MS series service unit
002	Size
4	Grid dimensions 40 mm
6	Grid dimensions 62 mm
003	Function
LFR	Filter regulator
004	Pneumatic connection
1/4	Female thread G1/4
1/2	Female thread G1/2
005	Pressure regulation range
D6	0.3 ... 7 bar
006	Grade of filtration
C	5 µm
E	40 µm
007	Bowl type
P	Polymer
008	Condensate drain
M	Manual rotary
VC	Fully automatic, normally closed
009	Pressure gauge alternatives
AG	With MS pressure gauge
010	Alternative pressure gauge scale
BAR	Display unit bar/psi
MPA	Display unit MPa
011	Version
B	2nd generation

Ordering – MS2-LFR-B

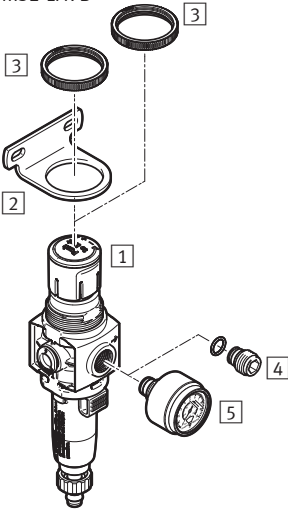
002 Size	004 Pneumatic connection	006 Pressure gauge	007 Pressure gauge scale	008 Grade of filtration	009 Condensate drain	Type	Part no.
005 Pressure regulation range 0.5 ... 7 bar							
2	M5	None	–	5 µm	Manual	MS2-LFR-M5-D6-A8-C-M-B	8086643
	QS-6					MS2-LFR-QS6-D6-A8-C-M-B	8086646
	M5	With	bar	5 µm	Manual	MS2-LFR-M5-D6-AR-BAR-C-M-B	8086641
	QS-6					MS2-LFR-QS6-D6-AR-BAR-C-M-B	8086644
	M5	With	MPa	5 µm	Manual	MS2-LFR-M5-D6-AR-MPA-C-M-B	8086642
	QS-6					MS2-LFR-QS6-D6-AR-MPA-C-M-B	8086645

Ordering – MS4/MS6-LFR-B

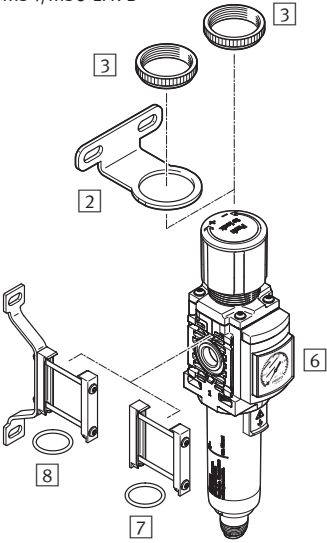
002 Size	004 Pneumatic connection	009 Pressure gauge	010 Pressure gauge scale	006 Grade of filtration	008 Condensate drain	Type	Part no.
005 Pressure regulation range 0.3 ... 7 bar							
4	G1/4	With	bar	5 µm	Manual	MS4-LFR-1/4-D6-C-P-M-AG-BAR-B	8098257
			MPa			MS4-LFR-1/4-D6-C-P-M-AG-MPA-B	8098265
		With	bar	5 µm	Fully automatic	MS4-LFR-1/4-D6-C-P-VC-AG-BAR-B	8098259
			MPa			MS4-LFR-1/4-D6-C-P-VC-AG-MPA-B	8098266
		With	bar	40 µm	Manual	MS4-LFR-1/4-D6-E-P-M-AG-BAR-B	8098258
			MPa			MS4-LFR-1/4-D6-E-P-M-AG-MPA-B	8098254
		With	bar	40 µm	Fully automatic	MS4-LFR-1/4-D6-E-P-VC-AG-BAR-B	8098264
			MPa			MS4-LFR-1/4-D6-E-P-VC-AG-MPA-B	8098256
6	G1/2	With	bar	5 µm	Manual	MS6-LFR-1/2-D6-C-P-M-AG-BAR-B	8098300
			MPa			MS6-LFR-1/2-D6-C-P-M-AG-MPA-B	8098310
		With	bar	5 µm	Fully automatic	MS6-LFR-1/2-D6-C-P-VC-AG-BAR-B	8098309
			MPa			MS6-LFR-1/2-D6-C-P-VC-AG-MPA-B	8098302
		With	bar	40 µm	Manual	MS6-LFR-1/2-D6-E-P-M-AG-BAR-B	8098304
			MPa			MS6-LFR-1/2-D6-E-P-M-AG-MPA-B	8098307
		With	bar	40 µm	Fully automatic	MS6-LFR-1/2-D6-E-P-VC-AG-BAR-B	8098312
			MPa			MS6-LFR-1/2-D6-E-P-VC-AG-MPA-B	8098305

Accessories

MS2-LFR-B



MS4/MS6-LFR-B



- 1

Filter regulator MS2-LFR-B
- 2

Mounting bracket MS-WR-B
→ 286
- 3

Nut MS-WRS → 286
- 4

Plug screw MS2-G18S → 286
- 5

Pressure gauge PAGN → 286
- 6

Filter regulator MS4/MS6-LFR-B
→ 285
- 7

Module connector MS-MV1
→ 286
- 8

Wall mounting kit MS...-WPE-B
→ 290

Filter cartridges → 286

2 Mounting bracket MS-WR-B		
Size	Type	Part no.
For wall mounting, knurled nut included in the scope of delivery		
2	MS2-WR-B	8087978
4	MS4-WR-B	8149680
6	MS6-WR-B	8149681

1) Knurled nut included in the scope of delivery

3 Nut MS-WRS		
Size	Type	Part no.
For front panel mounting		
2	MS2-WRS	8098037
4	MS4-WRS	532187
6	MS6-WRS	532188

4 Plug screw MS2-G18S		
Size	Type	Part no.
For sealing the pressure gauge connection		
2	MS2-G18S	8095766

5 Pressure gauge PAGN, suitable for size 2				
Operating pressure	Outer scale	Inner scale	Type	Part no.
0 ... 10 bar	0 ... 10 bar	–	PAGN-26-10-G18S	8088985
0 ... 1 MPa	0 ... 10 bar	0 ... 1 MPa, 0 ... 145 psi	PAGN-26-1M-G18S	8088986

Filter cartridge LFP			
Size	Grade of filtration	Type	Part no.
2	5 µm	LFP-D-MICRO-5M	526818
4	5 µm	MS4-LFP1-C	8129064
	40 µm	MS4-LFP1-E	8129062
6	5 µm	MS6-LFP1-C	8129063
	40 µm	MS6-LFP1-E	8129061

7 Module connector MS-MV1		
Size	Type	Part no.
For connecting the modules for wall mounting		
4	MS4-MV1	8119201
6	MS6-MV1	8119204

Filter regulators MS4/MS6/MS12-LFR, MS series



- Filter and pressure regulator in a single unit
 - Good regulation characteristics with minimal hysteresis and primary pressure compensation
 - Good particle and condensate separation
 - Flow rate 850 ... 17000 l/min
 - Operating pressure 0.8 ... 20 bar
 - Grade of filtration 5 µm, 40 µm
 - Manual or fully automatic condensate drain
 - Selected types in accordance with ATEX directive for potentially explosive atmospheres
- www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006	007	008	009	010
MS		LFR						AS	

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
MS	MS series service unit
002	Size
4	Grid dimensions 40 mm
6	Grid dimensions 62 mm
12	Grid dimensions 124 mm
003	Function
LFR	Filter regulator
004	Pneumatic connection
1/4	Female thread G1/4
1/2	Female thread G1/2
005	Pressure regulation range
D6	0.3 ... 7 bar
D7	0.5 ... 12 bar

006	Grade of filtration
C	5 µm
E	40 µm
007	Bowl guard
R	Plastic bowl guard
U	Integrated as metal bowl
008	Condensate drain
M	Manual rotary
V	Fully automatic
009	Lockable
AS	Rotary knob with detent, can be locked using accessories
010	Flow direction
–	From left to right

Product options

- Size 9, grid dimensions 90 mm
- Pneumatic connection
 - Connecting plate
 - Module without connecting thread, without connecting plate
- Pressure regulation range 0.3 ... 4 bar
- Condensate drain
 - Semi-automatic
 - External fully automatic condensate drain
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Without secondary exhaust
- Long rotary knob
- Lockable
 - None
 - With integrated lock
- With mounting bracket
- EU certification: II 2GD to EU Explosion Protection Directive (ATEX)
- UL certification
- Flow direction from right to left



Configurable product

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

→ www.festo.com/catalogue/...

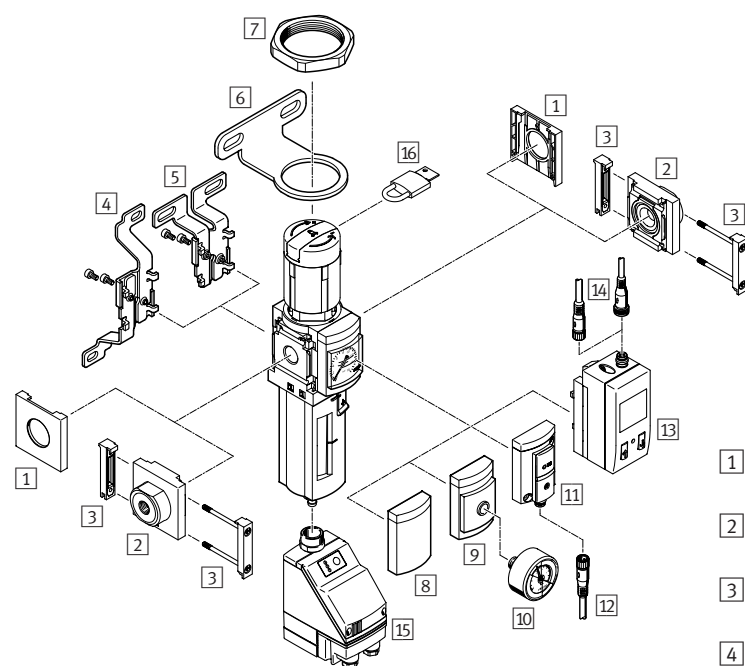
Enter the part number or the type.

Part no.	Type	Standard nominal flow rate	Pressure regulation range	Grade of filtration
526489	MS4-LFR	850 ... 1800 l/min	0.3 ... 12 bar	5 µm, 40 µm
526490	MS6-LFR	2000 ... 7200 l/min	0.3 ... 16 bar	5 µm, 40 µm
535022	MS12-LFR	11000 ... 17000 l/min	0.3 ... 16 bar	5 µm, 40 µm

Ordering – Basic design

			006 Grade of filtration 5 µm		006 Grade of filtration 40 µm	
002 Size	004 Pneumatic connection	008 Condensate drain	Type	Part no.	Type	Part no.
Pressure regulation range 0.3 ... 7 bar, integrated pressure gauge, display unit [bar], standard rotary knob with detent, can be locked using accessories, plastic bowl guard						
4	G1/4	Manual rotary	MS4-LFR-1/4-D6-CRM-AS	529144	MS4-LFR-1/4-D6-ERM-AS	529148
		Fully automatic	MS4-LFR-1/4-D6-CRV-AS	529146	MS4-LFR-1/4-D6-ERV-AS	529150
6	G1/2	Manual rotary	MS6-LFR-1/2-D6-CRM-AS	529176	MS6-LFR-1/2-D6-ERM-AS	529180
		Fully automatic	MS6-LFR-1/2-D6-CRV-AS	529178	MS6-LFR-1/2-D6-ERV-AS	529182
Pressure regulation range 0.5 ... 12 bar, integrated pressure gauge, display unit [bar], standard rotary knob with detent, can be locked using accessories, plastic bowl guard						
4	G1/4	Manual rotary	MS4-LFR-1/4-D7-CRM-AS	529152	MS4-LFR-1/4-D7-ERM-AS	529156
		Fully automatic	MS4-LFR-1/4-D7-CRV-AS	529154	MS4-LFR-1/4-D7-ERV-AS	529158
6	G1/2	Manual rotary	MS6-LFR-1/2-D7-CRM-AS	529184	MS6-LFR-1/2-D7-ERM-AS	529188
		Fully automatic	MS6-LFR-1/2-D7-CRV-AS	529186	MS6-LFR-1/2-D7-ERV-AS	529190
Pressure regulation range 0.5 ... 12 bar, integrated pressure gauge, display unit [bar], standard rotary knob with detent, can be locked using accessories, integrated as metal bowl						
4	G1/4	Manual rotary			MS4-LFR-1/4-D7-EUM-AS	535724
		Fully automatic	MS4-LFR-1/4-D7-CUV-AS	535720	MS4-LFR-1/4-D7-EUV-AS	535722
6	G1/2	Manual rotary	MS6-LFR-1/2-D7-CUM-AS	530338	MS6-LFR-1/2-D7-EUM-AS	529192
		Fully automatic	MS6-LFR-1/2-D7-CUV-AS	530340	MS6-LFR-1/2-D7-EUV-AS	529194

Accessories



- 6 Mounting bracket MS4/6-WR → 288
- 7 Hex nut MS4/6-WRS → [ms4-wrs](#)
- 8 Cover plate VS → [ms4-lfr](#)
- 9 Adapter plate for EN pressure gauge → [ms4-lfr](#)
- 10 Pressure gauge MA → [ms4-lfr](#)
- 11 Pressure sensor without display → [ms4-lfr](#)
- 12 Connecting cable NEBA-M8...-LE3 → 312
- 13 Pressure sensor with display → [ms4-lfr](#)
- 14 Connecting cable NEBA-M8...-LE3/NEBA-M12...-LE4 → 312
- 15 Fully automatic condensate drain, electrically actuated → [ms4-lfr](#)
- 16 Padlock LRVS-D → [ms4-lfr](#)
- 1 Cover cap MS4/6-END → [ms4-end](#)
- 2 Connecting plate kit MS4/6-AG... → 302
- 3 Module connector MS-MV → 288
- 4 Mounting bracket MS4/6-WB → 288
- 5 Mounting bracket MS4/6-WBM → [ms4-wbm](#)

Mounting bracket
 MS4/MS6-WP, MS4/MS6-WPB,
 MS4/MS6-WPM → 288
 MS4/6-WPE → [ms4-wpe](#)
 Filter cartridge MS-LFP → 288

3 Module connector MS-MV		
Size	Type	Part no.
4	MS4-MV1	8119201
6	MS6-MV1	8119204

Module connector MS-MVM		
Size	Type	Part no.
For installing modules with regulator knob pointing downwards		
4	MS4-MVM	532800
6	MS6-MVM	532801

4 Mounting bracket MS-WB		
Size	Type	Part no.
For wall mounting		
4	MS4-WB	532185
6	MS6-WB	532196

6 Mounting bracket MS-WR		
Size	Type	Part no.
For wall mounting		
4	MS4-WR	526064
6	MS6-WR	526075

Mounting bracket MS-WP		
Size	Type	Part no.
For wall mounting		
4	MS4-WP	532184
6	MS6-WP	532195

Mounting bracket MS-WPB		
Size	Type	Part no.
For wall mounting		
4	MS4-WPB	526063
6	MS6-WPB	526074

Mounting bracket MS-WPM		
Size	Type	Part no.
For wall mounting		
4	MS4-WPM-D	526060
6	MS6-WPM-D	526073

Filter cartridge MS-LFP		
Size	Type	Part no.
Grade of filtration 5 µm		
4	MS4-LFP-C	534501
6	MS6-LFP-E	534499

Pressure regulators MS2/MS4/MS6-LR-B, MS-B series



- Very compact and extremely light-weight series for use close to the process directly in the machine
- Maintains a constant working pressure independent of pressure fluctuations and air consumption
- Stable control behaviour
- Integrated secondary exhaust and primary exhaust with return flow function
- Flow rate 170 ... 6000 l/min
- Operating pressure 1 ... 10 bar

Order code

001	002	003	004	005	006	007	008
MS		LR		D6			B

Legend: Mandatory entry Optional entry

001	Type
MS	MS series
002	Size
2	Grid dimensions 25 mm
4	Grid dimensions 40 mm
6	Grid dimensions 62 mm
003	Function
LR	Pressure regulator
004	Pneumatic connection
M5	Female thread M5
QS6	Push-in connector for tubing O.D. 6 mm
1/4	Female thread G1/4
1/2	Female thread G1/2

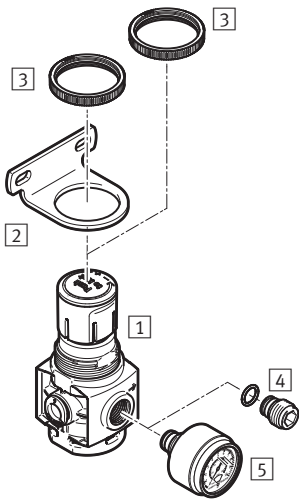
005	Pressure regulation range
D6	Pressure regulation range 0.3 ... 7 bar
006	Pressure gauge alternatives
A8	With adapter plate for EN pressure gauge □, without pressure gauge
AR	With pressure gauge
AG	MS pressure gauge
007	Alternative pressure gauge scale
–	None
BAR	Display unit [bar/psi]
MPA	Display unit [MPa]
008	Version
B	2nd generation

Ordering

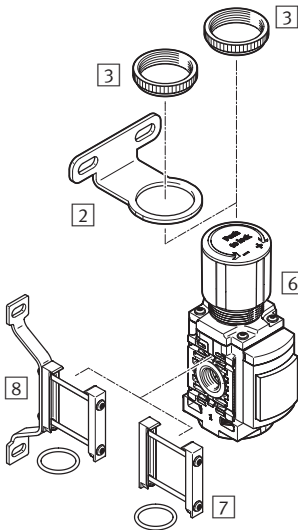
005 Pressure regulation range 0.5 ... 7 bar, rotary knob with detent					
002 Size	004 Pneumatic connection	006 Pressure gauge	007 Pressure gauge scale	Type	Part no.
2	M5	None	–	MS2-LR-M5-D6-A8-B	8086637
	QS-6			MS2-LR-QS6-D6-A8-B	8086640
	M5	With	bar	MS2-LR-M5-D6-AR-BAR-B	8086628
	QS-6			MS2-LR-QS6-D6-AR-BAR-B	8086638
	M5	With	MPa	MS2-LR-M5-D6-AR-MPA-B	8086636
	QS-6			MS2-LR-QS6-D6-AR-MPA-B	8086639
4	G1/4	With	bar	MS4-LR-1/4-D6-AG-BAR-B	8099358
			MPa	MS4-LR-1/4-D6-AG-MPA-B	8099359
6	G1/2	With	bar	MS6-LR-1/2-D6-AG-BAR-B	8099205
			MPa	MS6-LR-1/2-D6-AG-MPA-B	8099204

Accessories

MS2-LR-B



MS4/MS6-LR-B



- 1 Pressure regulator MS2-LR-B → 289
- 2 Mounting bracket MS2-WR → 290
- 3 Nut MS-WRS → 290
- 4 Plug screw MS2-G18S → 290
- 5 Pressure gauge PAGN → 290
- 6 Pressure regulator MS4/MS6-LR-B → 289
- 7 Module connector MS-MV1 → 290
- 8 Wall mounting kit MS...-WPE-B → 290

2 Mounting bracket MS-WR		
Size	Type	Part no.
For wall mounting, knurled nut included in the scope of delivery		
2	MS2-WR-B	8087978
4	MS4-WR-B	8149680
6	MS6-WR-B	8149681

3 Nut MS-WRS		
Size	Type	Part no.
For front panel mounting		
2	MS2-WRS	8098037
4	MS4-WRS	532187
6	MS6-WRS	532188

4 Plug screw MS2-G18S		
Size	Type	Part no.
For sealing the pressure gauge connection		
2	MS2-G18S	8095766

5 Pressure gauge PAGN, suitable for size 2				
Operating pres- sure	Outer scale	Inner scale	Type	Part no.
0 ... 10 bar	0 ... 10 bar	–	PAGN-26-10-G18S	8088985
0 ... 1 MPa	0 ... 10 bar	0 ... 1 MPa, 0 ... 145 psi	PAGN-26-1M-G18S	8088986

7 Module connector MS-MV1		
Size	Type	Part no.
For connecting the modules for wall mounting		
4	MS4-MV1	8119201
6	MS6-MV1	8119204

8 Wall mounting kit MS...-WPE-B		
Size	Type	Part no.
For wall mounting		
4	MS4-WPE-B	8118600
6	MS6-WPE-B	8118599

Pressure regulators MS4/MS6/MS12-LR, MS series



- Maintains a constant working pressure independent of pressure fluctuations and air consumption
- High flow rate with minimal pressure drop
- Flow rate 1000 ... 22000 l/min
- Operating pressure 0.8 ... 20 bar
- Selected types in accordance with ATEX directive for potentially explosive atmospheres

→ www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006	007
MS		LR			AS	

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
MS	MS series
002	Size
4	Grid dimensions 40 mm
6	Grid dimensions 62 mm
12	Grid dimensions 124 mm
003	Function
LR	Pressure regulator
004	Pneumatic connection
1/4	Female thread G1/4
1/2	Female thread G1/2

005	Pressure regulation range
D5	0.3 ... 4 bar, manually actuated
D6	0.3 ... 7 bar, manually actuated
D7	0.5 ... 12 bar, manually actuated
006	Lockable
AS	Standard rotary knob with detent, can be locked using accessories
007	Flow direction
–	From left to right

Product options

- Size 9, grid dimensions 90 mm
- Pneumatic connection
 - Female thread G1/8, G3/8, G3/4, G1
 - Connecting plate
 - Module without connecting thread, without connecting plate
- Pressure regulation range
 - 0.5 ... 16 bar
 - Max. 16 bar, pneumatically actuated
 - 0.15 ... 6 bar, electrically actuated
- Regulator type: directly actuated
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Without secondary exhaust
- Rotary knob alternatives
 - Rotary knob underneath
 - Long rotary knob
 - Rotary knob pressure gauge, small
 - Rotary knob pressure gauge, large
- Lockable
 - None
 - With integrated lock
- With mounting bracket
- EU certification: II 2GD to EU Explosion Protection Directive (ATEX)
- UL certification
- Flow direction from right to left

Configurable product

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

→ www.festo.com/catalogue/...

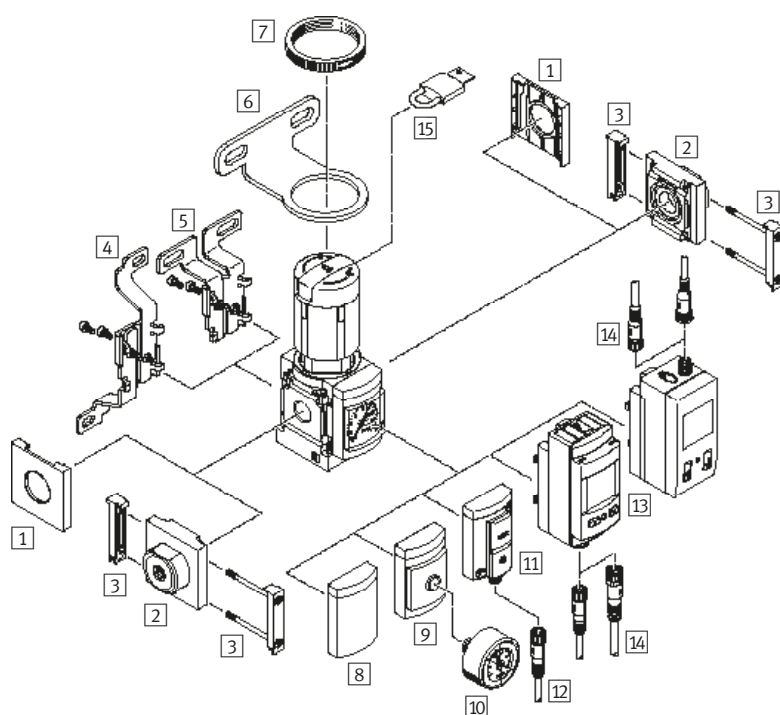
Enter the part number or the type.

Part no.	Type	Standard nominal flow rate	Pressure regulation range
527690	MS4-LR	1000 ... 2200 l/min	0.3 ... 12 bar
527663	MS6-LR	2200 ... 7500 l/min	0.3 ... 16 bar
535021	MS12-LR	12000 ... 22000 l/min	0.15 ... 16 bar

Ordering – Basic design

		005 Pressure regulation range 0.3 ... 4 bar		005 Pressure regulation range 0.3 ... 7 bar		005 Pressure regulation range 0.5 ... 12 bar	
002 Size	004 Pneumatic connection	Type	Part no.	Type	Part no.	Type	Part no.
Integrated MS pressure gauge with standard scale, display unit [bar], rotary knob with latch, can be locked using accessories							
4	G1/4	MS4-LR-1/4-D5-AS	529415	MS4-LR-1/4-D6-AS	529417	MS4-LR-1/4-D7-AS	529419
6	G1/2	MS6-LR-1/2-D5-AS	529989	MS6-LR-1/2-D6-AS	529991	MS6-LR-1/2-D7-AS	529993

Accessories



- 1 Cover cap MS4/6-END → [ms4-end](#)
- 2 Connecting plate kit MS4/6-AG... → 302
- 3 Module connector MS-MV → 292
- 4 Mounting bracket MS4/6-WB → 292
- 5 Mounting bracket MS4/6-WBM → [ms4-wbm](#)
- 6 Mounting bracket MS4/6-WR → 292
- 7 Knurled nut MS-LR (included in the scope of delivery)
- 8 Cover plate VS → [ms4-lr](#)
- 9 Adapter plate for EN pressure gauge → [ms4-lr](#)
- 10 Pressure gauge MA → [ms4-lr](#)
- 11 Pressure sensor without display → [ms4-lr](#)
- 12 Connecting cable NEBA-M8...-LE3 → 312
- 13 Pressure sensor with LCD display → [ms4-lr](#)
- 14 Connecting cable NEBA-M8...-LE3/NEBA-M12...-LE4 → 312
- 15 Padlock LRV5-D → [ms4-lr](#)

Mounting bracket
 MS4/MS6-WP, MS4/MS6-WPB, MS4/MS6-WPM
 → 292
 MS4/6-WPE → [ms4-wpe](#)

3 Module connector MS-MV		
Size	Type	Part no.
4	MS4-MV1	8119201
6	MS6-MV1	8119204

Module connector MS-MVM		
Size	Type	Part no.
For installing modules with regulator knob pointing downwards		
4	MS4-MVM	532800
6	MS6-MVM	532801

4 Mounting bracket MS-WB		
Size	Type	Part no.
For wall mounting		
4	MS4-WB	532185
6	MS6-WB	532196

6 Mounting bracket MS-WR		
Size	Type	Part no.
For wall mounting		
4	MS4-WR	526064
6	MS6-WR	526075

Mounting bracket MS-WP		
Size	Type	Part no.
For wall mounting		
4	MS4-WP	532184
6	MS6-WP	532195

Mounting bracket MS-WPB		
Size	Type	Part no.
For wall mounting		
4	MS4-WPB	526063
6	MS6-WPB	526074

Mounting bracket MS-WPM		
Size	Type	Part no.
For wall mounting		
4	MS4-WPM-D	526060
6	MS6-WPM-D	526073

On/off valves MS4/MS6-EE-B, soft-start valve MS4/MS6-EDE-B, MS-B series



- Very compact and extremely light-weight series for use close to the process directly in the machine
- Detenting and non-detenting manual override
- Connection G1/4, G1/2
- Flow rate 2000, 5000 l/min
- Operating pressure 3 ... 7 bar

Order code

001	002	003	004	005	006
MS				V24	B

Legend: ☐ Mandatory entry

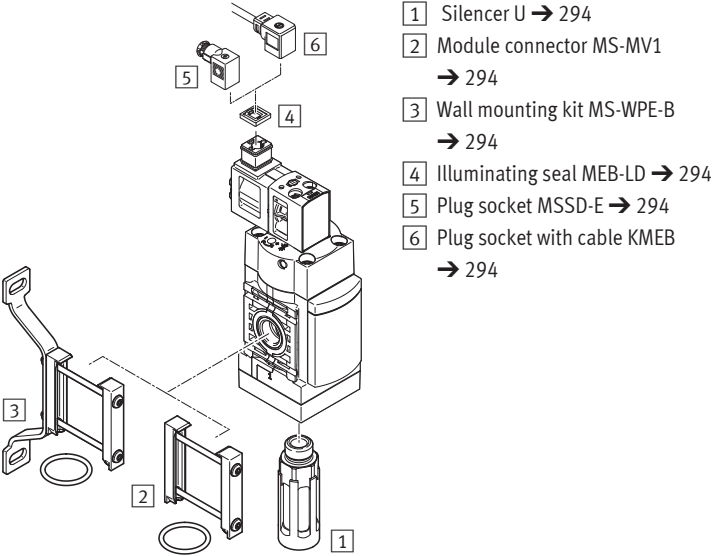
001	Type
MS	MS series
002	Size
4	Grid dimensions 40 mm
6	Grid dimensions 62 mm
003	Function
EE	Electrically actuated on/off valve
EDE	Soft-start valve, electrically actuated
004	Pneumatic connection
1/4	Female thread G1/4
1/2	Female thread G1/2

005	Supply voltage
V24	24 V DC (plug pattern to EN 175301)
006	Version
B	2nd generation

Ordering

002 Size	004 Pneumatic connection	003 Function	Type	Part no.
003 Manually operated on/off valve, 3/2-way valve, bistable, closed				
005 Supply voltage 24 V DC				
4	G1/4	For pressurising and exhausting pneumatic systems	MS4-EE-1/4-V24-B	8091771
6	G1/2		MS6-EE-1/2-V24-B	8091578
003 Soft-start valve, electrically actuated, 3/2-way valve, single solenoid, closed				
005 Supply voltage 24 V DC				
4	G1/4	For slowly pressurising and exhausting pneumatic systems	MS4-EDE-1/4-V24-B	8080815
6	G1/2		MS6-EDE-1/2-V24-B	8080855

Accessories



1 Silencer U		
Size	Type	Part no.
4	U-1/4	2316
6	U-1/2	2310

5 Plug socket MSSD-E			
Electrical connection	Cable connection	Type	Part no.
3-pin	Screw terminal	MSSD-EB	151687
4-pin		MSSD-EB-S-M14	192745

2 Module connector MS-MV1		
Size	Type	Part no.
For connecting the modules for wall mounting		
4	MS4-MV1	8119201
6	MS6-MV1	8119204

6 Plug socket with cable KMEB			
Electrical connection	Cable length	Type	Part no.
24 V DC, with LED			
3-pin	2.5 m	KMEB-1-24-2.5-LED	151688
	5 m	KMEB-1-24-5-LED	151689
	10 m	KMEB-1-24-10-LED	193457

3 Wall mounting kit MS-WPE-B		
Size	Type	Part no.
For wall mounting		
4	MS4-WPE-B	8118600
6	MS6-WPE-B	8118599

4 Illuminating seal MEB-LD		
Operating voltage range	Type	Part no.
For plug socket with cable KMEB and plug socket MSSD-EB		
12 ... 24 V DC	MEB-LD-12-24DC	151717



- For pressurising and exhausting pneumatic systems
- Connection G1/4, G1/2
- Flow rate 1000 ... 8700 l/min
- Operating pressure 0 ... 18 bar
- Selected types in accordance with ATEX directive for potentially explosive atmospheres
→ www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006
MS					

Legend: Mandatory entry Optional entry

001	Type
MS	MS series
002	Size
4	Grid dimensions 40 mm
6	Grid dimensions 62 mm
003	Function
EM1	Manually operated on/off valve
EE	Electrically actuated on/off valve
004	Pneumatic connection
1/4	Female thread G1/4
1/2	Female thread G1/2

005	Supply voltage
–	Without (manually operated on/off valve)
10V24	24 V DC
006	Silencers
–	Without silencer
S	With silencer

Product options

- Size
 - 9, grid dimensions 90 mm
 - 12, grid dimensions 124 mm
- Additional connection sizes
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Additional supply voltages
- With mounting bracket
- Other valve functions
- EU certification
- UL certification
- Flow direction from right to left



Configurable product

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

→ www.festo.com/catalogue/ms-e

Ordering – Basic design

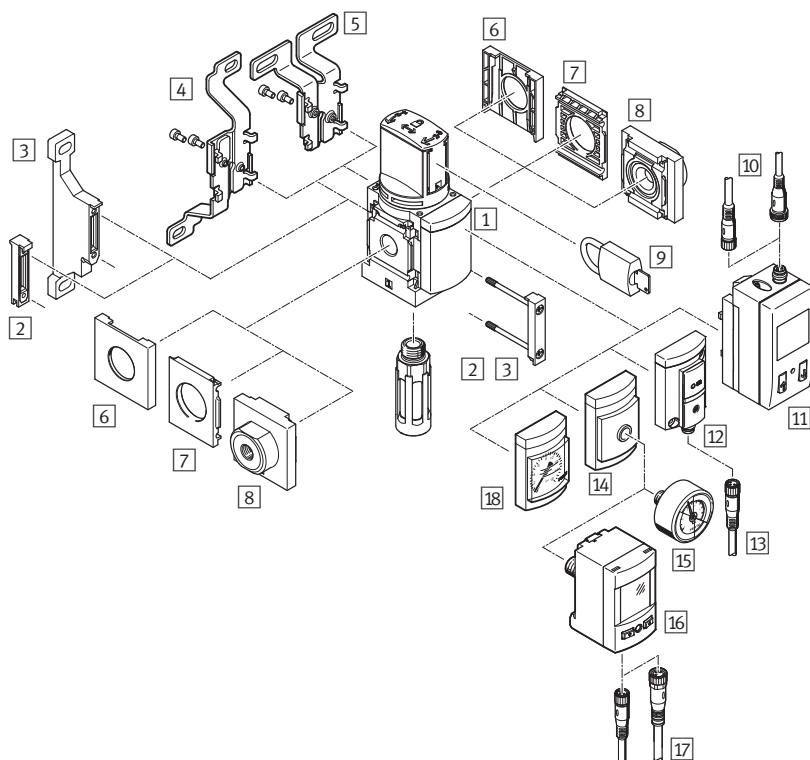
		006 Without silencer		006 With silencer	
002 Size	004 Pneumatic connection	Type	Part no.	Type	Part no.
003 Manually operated on/off valve, 3/2-way valve, bistable					
4	G1/4	MS4-EM1-1/4	541258	MS4-EM1-1/4-S	541259
6	G1/2	MS6-EM1-1/2	541267	MS6-EM1-1/2-S	541268
003 Electrically actuated on/off valve, 3/2-way valve, single solenoid, closed					
005 Supply voltage 24 V DC					
4	G1/4	MS4-EE-1/4-10V24	542578	MS4-EE-1/4-10V24-S	542598
6	G1/2	MS6-EE-1/2-10V24	542582	MS6-EE-1/2-10V24-S	542602

On/off valves and soft-start valves > MS series > Manually/electrically actuated on/off valves >

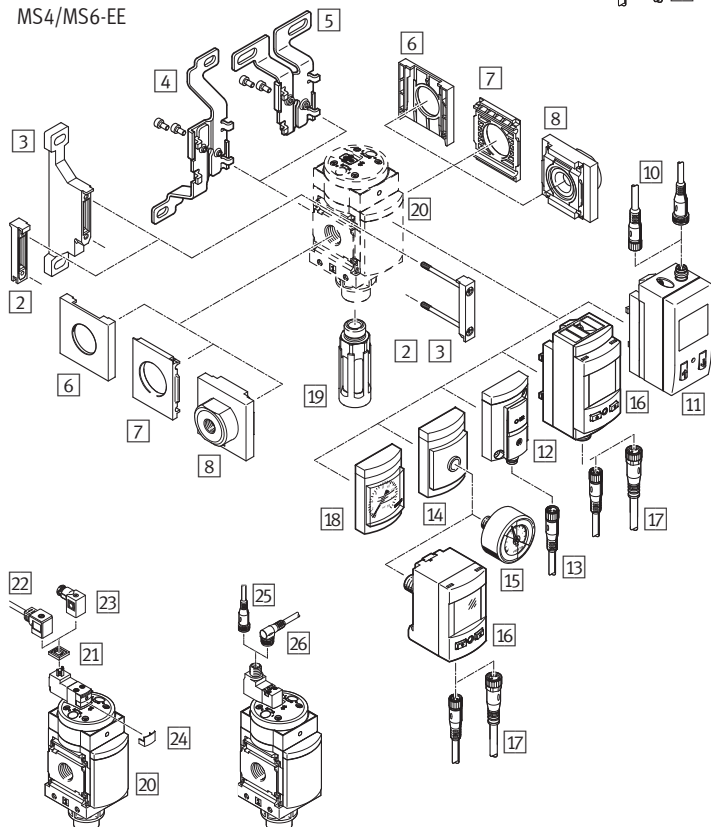
On/off valves MS4/MS6-EM1, MS4/MS6-EE, MS series

Accessories

MS4/MS6-EM1



MS4/MS6-EE



- 1 On/off valve MS4/6-EM1
- 2 Module connector MS-MV → 288
- 3 Mounting bracket MS4/6-WP → 288
- 4 Mounting bracket MS4/6-WB → 288
- 5 Mounting bracket MS4-WBM → [ms4-wbm](#)
- 6 Cover cap MS4/6-END → [ms4-end](#)
- 7 Mounting plate MS4/6-AEND → [ms4-aend](#)
- 8 Connecting plate kit MS4/6-AG... → 302
- 9 Padlock LRVS-D → [ms4-e](#)
- 10 Connecting cable NEBA-M8...-LE3, NEBA-M12...-LE4 → 312
- 11 Pressure sensor SDE1 with LCD display → [ms4-e](#)
- 12 Pressure sensor SDE5 with status indicator → [ms-e](#)
- 13 Connecting cable NEBA-M8...-LE3 → 312
- 14 Adapter plate for EN pressure gauge → [ms4-e](#)
- 15 Pressure gauge MA → [ms4-e](#)
- 16 Pressure sensor SPAU → [ms4-e](#)
- 17 Connecting cable NEBA-M8...-LE4, NEBA-M12...-LE4 → 312
- 18 MS pressure gauge → [ms4-e](#)
- 19 Silencer U → 357

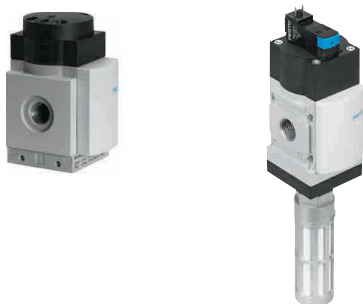
- 20 On/off valve MS4/6-EE
- 21 Illuminating seal MEB-LD → [ms4-e](#)
- 22 Plug socket with cable KMEB → [ms4-e](#)
- 23 Plug socket MSSD-EB → [ms4-e](#)
- 24 Locking clip CPV18-HV → [ms4-e](#)
- 25 Connecting cable NEBA-M12G5 → 312
- 26 Connecting cable NEBA-M12W5 → [ms4-e](#)

Mounting bracket

MS4/MS6-WPB, MS4/MS6-WPM → 288

MS4/6-WPE → [ms4-wpe](#)

Soft-start/quick exhaust valves MS4/MS6-DL, MS6-SV, MS series



MS-DL:

- For slowly pressurising and exhausting pneumatic systems (for use with on/off valves EM1 and EE)

MS-SV-C:

- For the gradual pressurisation and quick exhausting of system components (single channel)

- Connection G1/4, G1/2
- Flow rate 1000 ... 6450 l/min
- Operating pressure 3 ... 18 bar
- Selected types in accordance with ATEX directive for potentially explosive atmospheres

→ www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006	007
MS						

Legend: Mandatory entry Optional entry

001	Type
MS	MS series
002	Size
4	Grid dimensions 40 mm
6	Grid dimensions 62 mm
003	Service function
DL	Pneumatically actuated soft-start valve
SV	Soft-start/quick exhaust valve
004	Pneumatic connection
1/4	Female thread G1/4
1/2	Female thread G1/2

005	Performance Level
–	None
C	Category 1, to EN ISO 13849-1
006	Supply voltage
–	Without (pneumatically actuated soft-start valve)
10V24	24 V DC, 10 bar, connection pattern to EN 175301
007	Silencer
–	Without silencer
S	With silencer

Product options

- Size
 - 12, grid dimensions 124 mm
- Additional connection sizes
- Additional supply voltages
- Pressure gauge/pressure gauge alternatives
- Alternative pressure gauge scale
- With mounting bracket
- With tamper protection
- EU certification
- UL certification
- Flow direction from right to left



Configurable product

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

→ www.festo.com/catalogue/ms-dl

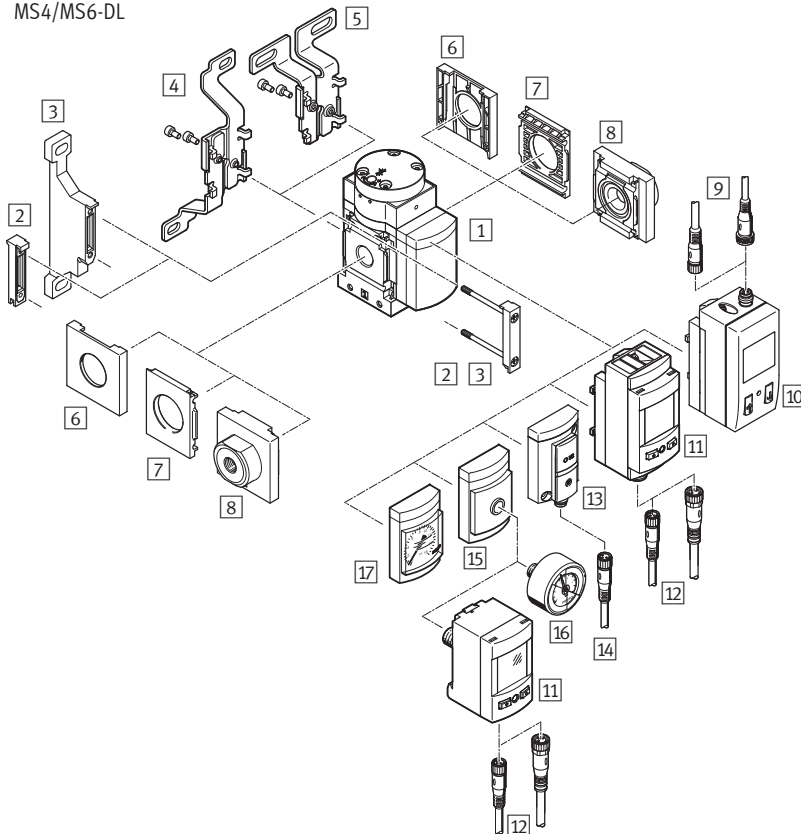
→ www.festo.com/catalogue/ms-sv

Ordering – Basic design

002 Size	004 Pneumatic connection	007 Silencer	Type	Part no.
003 Pneumatically actuated soft-start valve, 2/2-way valve				
4	G1/4	–	MS4-DL-1/4	529531
6	G1/2		MS6-DL-1/2	529817
003 Electro-pneumatically actuated soft-start/quick exhaust valve, 3/2-way valve, single solenoid, closed				
6	G1/2	With	MS6-SV-1/2-C-10V24-S	8001469

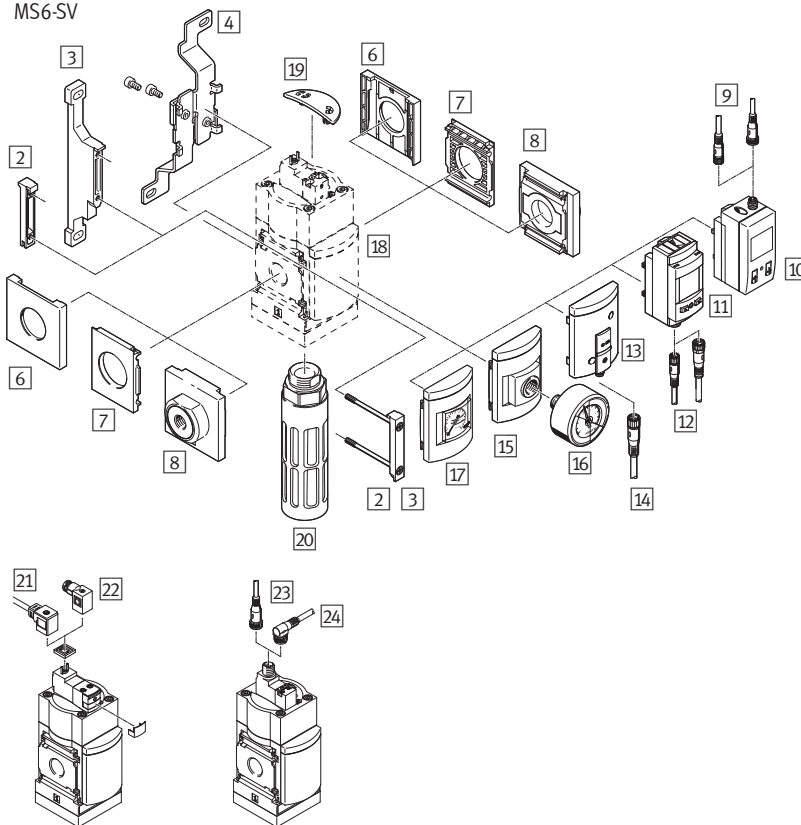
Accessories

MS4/MS6-DL



- 1 Soft-start valve MS4/6-DL
- 2 Module connector MS-MV → 288
- 3 Mounting bracket MS-WP → 288
- 4 Mounting bracket MS-WB → 288
- 5 Mounting bracket MS-WBM → [ms4-wbm](#)
- 6 Cover cap MS-END → [ms4-end](#)
- 7 Mounting plate MS6-AEND → [ms6-aend](#)
- 8 Connecting plate kit MS4/6-AG... → 302
- 9 Connecting cable NEBA-M8...-LE3/
NEBA-M12...-LE4 → 312
- 10 Pressure sensor SDE1 with LCD display
→ [ms4-dl](#)
- 11 Pressure sensor SPAU with LCD display
→ [ms4-dl](#)
- 12 Connecting cable NEBA-M8...-LE4,
NEBA-M12...-LE4 → 312
- 13 Pressure sensor SDE5 with status indicator
→ [ms4-dl](#)
- 14 Connecting cable NEBA-M8...-LE3 → 312
- 15 Adapter plate for EN pressure gauge → [ms4-dl](#)
- 16 Pressure gauge MA → [ms4-dl](#)
- 17 MS pressure gauge → [ms4-dl](#)

MS6-SV



- 18 Soft-start/quick exhaust valve MS6-SV-C
- 19 Cover MS6-SV-C-MK → [ms6-sv](#)
- 20 Silencer U-3/4-B → [ms6-sv](#)
- 21 Plug socket with cable KMEB → [ms6-sv](#)
- 22 Plug socket MSSD-EB → [ms6-sv](#)
- 23 Connecting cable NEBA-M12G5 → 312
- 24 Connecting cable NEBA-M12W5 → [ms6-sv](#)

Mounting bracket
 MS4/MS6-WPM → 288
 MS4/6-WPE → [ms4-wpe](#)



- Compressed air distributors with 4 connections
- Can be used as an intermediate distributor for varying air qualities
- Outlet at top and bottom
- Flow rate 1200 ... 14700 l/min
- Operating pressure 0 ... 20 bar

Order code – Basic design

001	002	003	004	005
MS		FRM		

Legend: Mandatory entry Optional entry

001	Series
MS	MS series
002	Size
4	Grid dimensions 40 mm
6	Grid dimensions 62 mm
003	Service function
FRM	Branching module

004	Pneumatic connection
1/4	Female thread G1/4
1/2	Female thread G1/2
005	Non-return function/pressure switch
–	Standard

Product options

- Size
 - 12, grid dimensions 124 mm
- Additional connection sizes
- With integrated non-return function
- Pressure gauge/pressure gauge alternatives
- Alternative pressure gauge scale
- With pressure switch
- With mounting bracket
- EU certification
- UL certification
- Flow direction from right to left



Configurable product

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

→ www.festo.com/catalogue/...

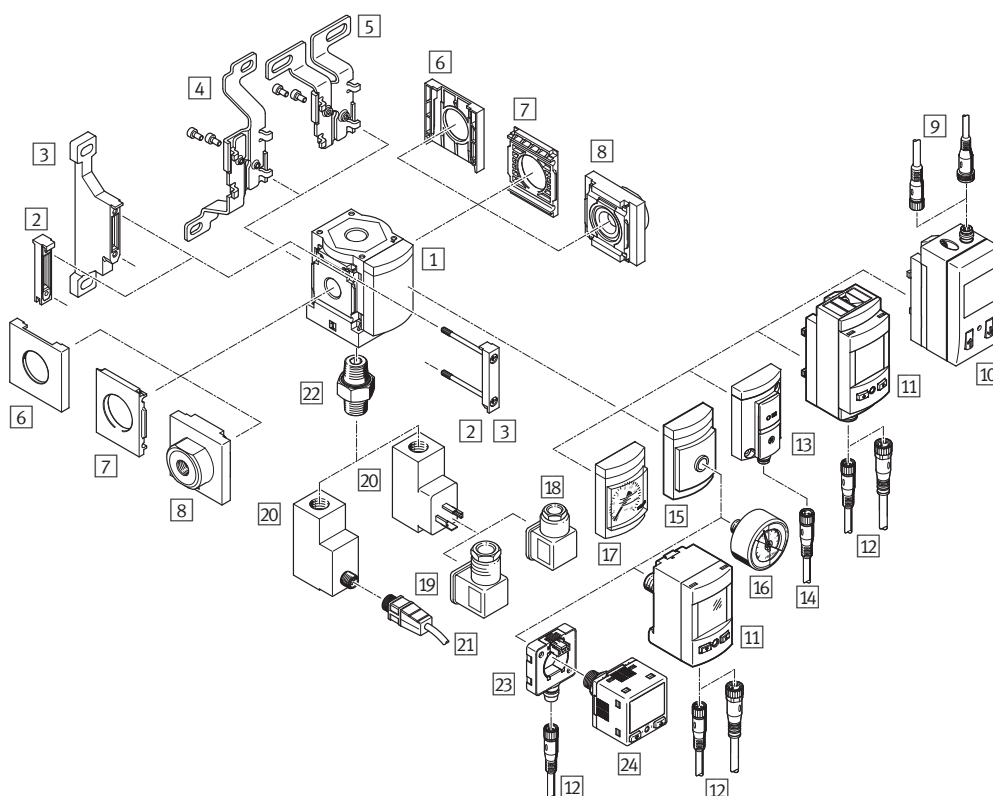
Enter the part number or the type.

Part no.	Type	Standard nominal flow rate	Operating pressure
527703	MS4-FRM	1200 ... 4600 l/min	0 ... 14 bar
527676	MS6-FRM	3200 ... 14700 l/min	0 ... 20 bar

Ordering – Basic design

002 Size	004 Pneumatic connection	Type	Part no.
6	G1/4	MS6-FRM-1/4	529857
6	G1/2	MS6-FRM-1/2	529853

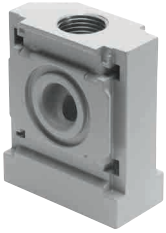
Accessories



- 1 Branching module MS4/6-FRM
- 2 Module connector MS-MV → 288
- 3 Mounting bracket MS4/6-WP
→ [ms4-wp](#)
- 4 Mounting bracket MS4/6-WB → 288
- 5 Mounting bracket MS4/6-WBM
→ [ms4-wbm](#)
- 6 Cover cap MS4/6-END → [ms4-end](#)
- 7 Mounting plate MS4/6-AEND
→ [ms4-aend](#)
- 8 Connecting plate kit MS4/6-AG...
→ 302
- 9 Connecting cable NEBA-M8...-LE3,
NEBA-M12...-LE4 → 312
- 10 Pressure sensor SDE1 with LCD display
→ [ms4-frm](#)
- 11 Pressure sensor SPAU → [ms4-frm](#)
- 12 Connecting cable NEBA-M8...-LE4,
NEBA-M12...-LE4 → 312
- 13 Pressure sensor SDE5 with status indi-
cator → [ms4-frm](#)
- 14 Connecting cable NEBA-M8...-LE3
→ 312
- 15 Adapter for EN pressure gauge
→ [ms4-frm](#)
- 16 Pressure gauge MA → [ms4-frm](#)
- 17 MS pressure gauge → [ms4-frm](#)
- 18 Plug socket MSSD-C-4P → [ms4-frm](#)
- 19 Angled socket PEV-1/4-WD-LED
→ [ms4-frm](#)
- 20 Pressure switch PEV → [ms4-frm](#)
- 21 Connecting cable NEBA-M12...-LE4
→ 312
- 22 Double nipple ESK → [ms4-frm](#)
- 23 Electrical adapter SASC → [ms4-frm](#)
- 24 Pressure sensor SPAN → [ms4-frm](#)

Mounting bracket
 MS4/MS6-WPM → 288
 MS4/6-WPE → [ms4-wpe](#)

Distributor blocks MS4/MS6-FRM-FRZ, MS series



- Compressed air distributors with 4 connections
- Can be used as an intermediate distributor for varying air qualities
- Outlet at top and bottom
- Flow rate 2900 ... 14600 l/min
- Operating pressure 0 ... 20 bar

Order code

001 002 003

MS - FRM - FRZ

Legend: Mandatory entry

001	Series
MS	MS series
002	Size
4	Grid dimensions 40 mm
6	Grid dimensions 62 mm
003	Service function
FRM-FRZ	Distributor block

Ordering

002 Size	Pneumatic connection 3, 4	Type	Part no.
4	G1/4	MS4-FRM-FRZ	549336
6	G1/2	MS6-FRM-FRZ	549337

Connecting plate kit MS4/MS6-AG...



- MS series
- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G3/4

Ordering

Size	Pneumatic connection	Type	Part no.
4	G1/4	MS4-AGB	526069
4	G3/8	MS4-AGC	526070
6	G1/2	MS6-AGD	526082
6	G3/4	MS6-AGE	526083

11

Electrical connection technology



Highlights

Contents



Connecting cables

NEBA

- + Suitable for harsh environments and applications in constant motion or subject to vibration
- + For measuring, control and laboratory devices
- + High IP65, IP68, IP69k degree of protection

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Product overview	306
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Connecting cables NEBM	316
Connecting cables NEBS	318

Product overview

Software-Tools

Configurator for connecting cables



Design a product with numerous features reliably and quickly with the help of the configurator.

Select all the required product features step by step. The use of logic checks ensures that only correct configurations are available for selection.

A dynamic graphic generated on the basis of the configuration provides a visual aid for selecting the correct product features.

You will find the configurator

1. at www.festo.com/catalogue/neba
2. Click on the product
3. Click on the blue „Configure product“ button

Connecting cables ›

Connecting cables, universal

	 Connecting cables NEBA
Electrical connection, connection type	Socket, Cable, Plugs
Electrical connection, cable outlet	Straight, Straight, angled, Angled
Electrical connection, design	Round
Electrical connection, connection technology	M12x1, A-coded to EN 61076-2-101, M8x1, A-coded to EN 61076-2-104, M8x1, A-coded, to EN 61076-2-104, Open end, Diameter 8 mm, A-coded to EN 61076-2-104
Electrical connection, number of pins/wires	3, 4, 5
Cable length	0.3 ... 30 m
Description	• Powerful universal connecting cables • Suitable for harsh environments and applications in constant motion or vibration • Meets the safety requirements of IEC 61010-1 and IEC 61010-2-202 for electrical equipment for measurement, control, and laboratory devices • High IP65, IP68, IP69k degree of protection • Resistant to abrasion and low adhesion • Suitable for use with energy chains and robots • Flame-retardant and self-extinguishing • Recommended for production systems for manufacturing lithium-ion batteries
→ Page/ online	312

Connecting cables ›

Connecting cables for controllers

	 Connecting cables NEBC
Electrical connection	25-pin, 5-pin, straight plug, straight plug/open end, Sub-D/-, Sub-D/ Sub-D, square design/angled, M12x1
Electrical connection, connection type	Socket, plug, hybrid plug, plug and socket strip, cable
Electrical connection, cable outlet	Straight, angled
Electrical connection, design	Square, round
Electrical connection, connection technology	Connection pattern P1, M12x1 A-coded to EN 61076-2-101, M12x1 Festo-specific coding, connection pattern type A to EN 175301-803, HR25, M8x1, D-coded to EN 61076-2-114, M12x1, D-coded to EN 61076-2-101, M9x0.5, RJ45 to IEC 60603-7-3, USB 2.0 type A, USB 3.0 type A, open end, M8x1 A-coded to EN 61076-2-104, RJ45, RJ45 and socket strip 12 pins, 2 rows, Sub-D, USB 2.0 type B, USB 3.0 type B micro
Electrical connection, number of pins/wires	3, 4, 5, 8, 9, 10, 15, 17, 20, 25, 26
Cable length	0.2 ... 50 m
Description	• Variants in easy-to-clean design • Standard variants, variants with shielding or as a hybrid cable • Variants suitable for energy chains • Variants with Ethernet, CANopen, I-Port or RS232
→ Page/online	nebc

Connecting cables ›

Connecting cables for motors

	 Motor, encoder cables NEBM
Electrical connection, connection type	Socket, hybrid socket, cable, plug, plug and cable
Electrical connection, cable outlet	Straight, angled
Electrical connection, design	Square, round
Electrical connection, connection technology	Connection pattern F1, connection pattern H6, coded for motor, connection pattern H7, coded for motor brake, connection pattern L4, connection pattern L5, connection pattern RE, ITT M3, M12x1 A-coded to EN 61076-2-101, RJ45, RJ45 and open end, Sub-D, M16x0.75, M23x1, open end
Electrical connection, number of pins/wires	2, 4, 6, 8, 9, 10, 12, 14, 15, 18, 28, 31
Cable length	0.2 ... 100 m
Description	• For servo motors EMMB-AS, EMME-AS, EMMT-AS and stepper motor EMMS-ST • Can be used in a wide temperature range • For motor controller CMMS-ST, CMMP-AS, servo drive CMMT-AS • Suitable for use with energy chains
→ Page/online	316

Product overview

Connecting cables ›

Connecting cables for valves

	 Connecting cables NEBV	 Plug sockets with cable KMEB-1, KMEB-2, KMEB-3	 Plug sockets with cable KMF
Electrical connection	4-pin/2-wire, 4-pin/3-pin, 44-pin, socket, angled socket/cable, angled socket/straight plug, M8x1/M8x1, Sub-D, M8x1	2-pin, 3-pin, 4-pin, 5-pin, angled socket, type C, to DIN EN 175301-803	Socket
Electrical connection, connection type	2x single wire, socket, socket, slim, cable with socket, cable, plug, twin cable	Socket	
Electrical connection, cable outlet	Straight, angled	Angled	
Electrical connection, design	Square, round	Angular	
Electrical connection, connection technology	Connection pattern ZB, self-tapping screw, connection pattern ZC, self-tapping screw, connection pattern ZC, metric screw, connection pattern H, connection pattern HP, connection pattern Q7, M12x1 A-coded to EN 61076-2-101, connection pattern S, connection pattern type A based on EN 175301-803, connection pattern type B to industry standard 11 mm, connection pattern type C to EN 175301-803, M8x1 A-coded to EN 61076-2-104, open end, Sub-D	Open end	
Electrical connection, number of pins/wires	2, 3, 4, 5, 8, 10, 25, 26, 27, 36, 37, 44	2, 3	
Cable length	0.1 ... 30 m	0.5 ... 10 m	2.5 ... 10 m
Description	• For solenoid coils form A, form B or form C • For solenoid coils with thread M8x1 or M12x1 A-coded • For solenoid coils ZC or various special connection patterns • Pre-assembled at one or both ends • Cable length 0.1 ... 30 m • With PUR cable • Ambient temperature -25 ... +80 °C	• For solenoid coils with plug pattern type C according to EN 175301-803 • For EB solenoid coils • With PVC or PUR cable • Ambient temperature -20 ... +80 °C	• For solenoid coils with plug pattern type B as per industrial standard, 11 mm • For F solenoid coils • With PVC cable • Ambient temperature -20 ... +80 °C
→ Page/online	nebv	kmeb-1	kmf

Connecting cables ›

Connecting cables for valve terminals

	 Connecting cables NEBV-S1, NEBV-C
Electrical connection	44-pin, Socket, Sub-D
Electrical connection, connection type	Socket, Cable
Electrical connection, cable outlet	Straight, Angled
Electrical connection, design	Angular
Electrical connection, connection technology	Open end, Sub-D
Electrical connection, number of pins/wires	10, 25, 26, 27, 36, 37, 44
Cable length	2.5 ... 10 m
Description	• For multi-pin plug connection Sub-D • Connecting cable between valve terminal and controller • Variants in easy-to-clean design • With PVC or PUR cable • Pre-assembled at one end • Ambient temperature -5 ... +50 °C
online: ➔	nebv

Connecting cables ›

Connecting cables for sensors

	 Connecting cables NEBS
Electrical connection, connection type	Socket, cable, plug
Electrical connection, cable outlet	Straight
Electrical connection, design	Square, round
Electrical connection, connection technology	Plug pattern L1J, M12x1, A-coded to EN 61076-2-101, M16x0.75, open end
Electrical connection, number of pins/cores	4, 5, 12, 24, 25
Cable length	0.3 ... 15 m
Description	• For connecting with rectangular design L1, grid dimension 5.8 mm • For thread M12x1, A-coded to EN 61076-2-101 • For thread M16x0.75 • Connecting cable for pressure sensor SPAN • Degree of protection IP40, IP65, IP67, IP69K, when mounted • With PVC or PUR cable • Ambient temperature -40 ... +70°C
online: ➔	318

Product overview

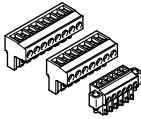
Plug connectors >

Universal plug connectors

	 Distributors NEDY
Electrical connection, connection type	2x socket, 2x cable, cable, plug
Electrical connection, design	Square, round
Electrical connection, connection technology	Connection pattern ZB, self-tapping screw, connection pattern ZC, self-tapping screw, connection pattern ZC, metric screw, connection pattern H, connection pattern type A to EN 175301-803, connection pattern type B to EN 175301-803, connection pattern type B to industry standard 11 mm, connection pattern type C to EN 175301-803, connection pattern type C to industry standard 9.4 mm, M12x1 A-coded to EN 61076-2-101, M8x1 A-coded to EN 61076-2-104, open end
Electrical connection, number of pins/wires	2, 3, 4, 5
Degree of protection	IP65, IP67, IP68, IP69K
Description	- Collecting signals between field devices (sensors) and controller inputs with double assignment - Distributing signals between controller outputs with double assignment and field devices (actuators, e.g. valves)
→ Page/online	nedy

Plug connectors >

Plug connectors for controllers

	 Plug assortments NEKM	 Plug, adapter, manifold block NEFC
Electrical connection, connection technology	Screw connector	M12x1 A-coded to EN 61076-2-101
Electrical connection, number of pins/wires	2 ... 9	5, 8
Description	- For motor controller CMMS-ST, CMMP-AS - For servo drive CMMT-AS	- Adapter, 5-pin M12, for mini USB socket with controller software for CPX terminal - Adapter for rotary drive unit ERMS as connection between motor and IO-Link master - Plug and connection block for motor controller as connection from I/O interface to the controller
→ Page/online	nekm	nefc

Plug connectors ›

Plug connectors for valves

	 Plug sockets MSSD
Electrical connection	3-pin, 4-pin, socket, angled socket, type A, type B, type C, to DIN EN 175301-803, to DIN EN 61984, square design, square design MSC, square design MSEB, square design MSF, square design MSN1, square design MSN2, square design MSV
Electrical connection, connection type	Socket
Electrical connection, design	Square
Electrical connection, connection technology	Connection pattern type A to EN 175301-803, connection pattern type B to industry standard 11 mm, screw terminal
Electrical connection, number of pins/wires	3
Connection cross section	0.25 ... 1.5 mm ²
Degree of protection	IP50, IP65, IP67, to IEC 60529
Description	• For valves with F, D, N1, V, E, EB, N2, Y, Z, ZB, ZC, MD-2 and MH-2 solenoid coils • For connecting individual valves • Optionally with LED indicator
→ Page/online	mssd

Connecting cables › Connecting cables, universal ›

Connecting cables NEBA, universal



- Powerful universal connecting cables
- Suitable for harsh environments and applications in constant motion or vibration
- Meets the safety requirements of IEC 61010-1 and IEC 61010-2-202 for electrical equipment for measurement, control, and laboratory devices
- High IP65, IP68, IP69k degree of protection
- Resistant to abrasion and low adhesion
- Suitable for use with energy chains and robots
- Flame-retardant and self-extinguishing
- Recommended for production systems for manufacturing lithium-ion batteries

Type code

001	Series	
NEBA	Connecting cable	

002	Connection technology left, field device side	
LE	Open end	
M8	Socket M8x1 A-coded, EN 61076-2-104	
M8C	Socket diameter 8 mm with snap-locking, A-coded, EN 61076-2-104	
M12	Socket M12x1 A-coded, EN 61076-2-101	

003	Cable outlet left	
	None	
G	Straight	
W	Angled	

004	Number of pins/wires on the left	
3	3	
4	4	
5	5	

005	Display	
	None	
N	LED switching state, NPN	
P	LED switching state, PNP	

006	Cable characteristic	
U	Suitable for energy chains/robot applications	

007	Cable length	
	...m	
0.5	0.5 m	
1	1 m	
1.5	1.5 m	
2	2 m	
2.5	2.5 m	
5	5 m	
10	10 m	
20	20 m	

008	Cable identification	
N	Without label holder	

009	Connection technology right, controller side	
LE	Open end	
M8	Plug M8x1 A-coded, EN 61076-2-104	
M12	Plug M12x1 A-coded, EN 61076-2-101	

010	Cable outlet right	
	None	
G	Straight	
W	Angled	

011	Number of pins/wires on the right	
3	3	
4	4	
5	5	

Ordering data



Configurable product

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

→ www.festo.com/catalogue/...

Modular product system					
Electrical connection 1, connector system	Cable characteristic	Cable length	Electrical connection 2, connector system	Part no.	Type
M12x1, A-coded to EN 61076-2-101, M8x1, A-coded, to EN 61076-2-104, Open end, Diameter 8 mm, A-coded to EN 61076-2-104	Suitable for energy chains/robot applications, Abrasion-resistant, Low adhesion, Flame-retardant and self-extinguishing	0.3 ... 30 m	M12x1, A-coded to EN 61076-2-101, M8x1, A-coded to EN 61076-2-104, Open end	8078221	NEBA-

Ordering data

Ordering data – Electrical connection 1 open end						
Electrical connection 1, number of connections/cores	Electrical connection 2, cable outlet	Electrical connection 2, number of connections/cores	Cable length	Product weight	Part no.	Type
3	Straight	3	2.5 m	50 g	8078270	NEBA-LE3-U-2.5-N-M8G3
			5 m	96 g	8078271	NEBA-LE3-U-5-N-M8G3
4		4	2.5 m	67 g	8078272	NEBA-LE4-U-2.5-N-M8G4
			5 m	129 g	8078273	NEBA-LE4-U-5-N-M8G4
5		5	2.5 m	77 g	8078268	NEBA-LE5-U-2.5-N-M12G5
			5 m	144 g	8078269	NEBA-LE5-U-5-N-M12G5

Ordering data – Electrical connection 1 M8 socket, 3-pin, with switching status indication						
Electrical connection 1, cable outlet	Electrical connection 2, connector system	Electrical connection 1, display	Cable length	Product weight	Part no.	Type
Angled	Open end	Status indicator LED green, Switching status indication, yellow LED for PNP N/O contact	2.5 m	50 g	8078260	NEBA-M8W3P-U-2.5-N-LE3
			5 m	96 g	8078261	NEBA-M8W3P-U-5-N-LE3
		Status indicator LED green, Switching status indication, yellow LED for NPN N/O contact	2.5 m	50 g	8078262	NEBA-M8W3N-U-2.5-N-LE3
			5 m	96 g	8078263	NEBA-M8W3N-U-5-N-LE3

Ordering data – Electrical connection 1 M8 socket, 3-pin, without switching status indication							
Electrical connection 1, cable outlet	Electrical connection 2, connector system	Electrical connection 2, cable outlet	Cable length	Product weight	Part no.	Type	
Straight	M12x1, A-coded to EN 61076-2-101	Straight	0.5 m	23 g	8078278	NEBA-M8G3-U-0.5-N-M12G3	
			1 m	33 g	8078279	NEBA-M8G3-U-1-N-M12G3	
			2.5 m	60 g	8078280	NEBA-M8G3-U-2.5-N-M12G3	
			5 m	107 g	8078281	NEBA-M8G3-U-5-N-M12G3	
	M8x1, A-coded to EN 61076-2-104		0.5 m	17 g	8078282	NEBA-M8G3-U-0.5-N-M8G3	
			1 m	26 g	8078283	NEBA-M8G3-U-1-N-M8G3	
			1.5 m	35 g	8078284	NEBA-M8G3-U-1.5-N-M8G3	
			2 m	44 g	8078285	NEBA-M8G3-U-2-N-M8G3	
			2.5 m	54 g	8078286	NEBA-M8G3-U-2.5-N-M8G3	
			5 m	100 g	8078287	NEBA-M8G3-U-5-N-M8G3	
	Open end		10 m	192 g	8078288	NEBA-M8G3-U-10-N-M8G3	
				1 m	22 g	8078222	NEBA-M8G3-U-1-N-LE3
		2.5 m		50 g	8078223	NEBA-M8G3-U-2.5-N-LE3	
		5 m		96 g	8078224	NEBA-M8G3-U-5-N-LE3	
		10 m		188 g	8078225	NEBA-M8G3-U-10-N-LE3	
	20 m	373 g		8078226	NEBA-M8G3-U-20-N-LE3		
	Angled	M8x1, A-coded to EN 61076-2-104	Straight	0.5 m	17 g	8078298	NEBA-M8W3-U-0.5-N-M8G3
				1 m	26 g	8078299	NEBA-M8W3-U-1-N-M8G3
				2.5 m	54 g	8078300	NEBA-M8W3-U-2.5-N-M8G3
5 m				100 g	8078301	NEBA-M8W3-U-5-N-M8G3	
Open end			2.5 m	50 g	8078230	NEBA-M8W3-U-2.5-N-LE3	
			5 m	96 g	8078231	NEBA-M8W3-U-5-N-LE3	
			10 m	189 g	8078232	NEBA-M8W3-U-10-N-LE3	

Ordering data

Ordering data – Electrical connection 1 M8 socket, 3-pin, with snap-locking					
Electrical connection 1, cable outlet	Electrical connection 2, connector system	Cable length	Product weight	Part no.	Type
Straight	Open end	2.5 m	49 g	8078264	NEBA-M8CG3-U-2.5-N-LE3
		5 m	95 g	8078265	NEBA-M8CG3-U-5-N-LE3
Angled		2.5 m	49 g	8078266	NEBA-M8CW3-U-2.5-N-LE3
		5 m	95 g	8078267	NEBA-M8CW3-U-5-N-LE3

Ordering data – Electrical connection 1 M8 socket, 4-pin								
Electrical connection 1, cable outlet	Electrical connection 2, connector system	Electrical connection 2, cable outlet	Cable length	Product weight	Part no.	Type		
Straight	M12x1, A-coded to EN 61076-2-101	Straight	0.5 m	27 g	8078289	NEBA-M8G4-U-0.5-N-M12G4		
			1 m	39 g	8078290	NEBA-M8G4-U-1-N-M12G4		
			2.5 m	77 g	8078291	NEBA-M8G4-U-2.5-N-M12G4		
			5 m	139 g	8078292	NEBA-M8G4-U-5-N-M12G4		
	M8x1, A-coded to EN 61076-2-104		0.5 m	20 g	8078293	NEBA-M8G4-U-0.5-N-M8G4		
			1 m	33 g	8078294	NEBA-M8G4-U-1-N-M8G4		
			2.5 m	70 g	8078295	NEBA-M8G4-U-2.5-N-M8G4		
			5 m	133 g	8078296	NEBA-M8G4-U-5-N-M8G4		
	Open end		2.5 m	66 g	8078227	NEBA-M8G4-U-2.5-N-LE4		
			5 m	129 g	8078228	NEBA-M8G4-U-5-N-LE4		
			10 m	254 g	8078229	NEBA-M8G4-U-10-N-LE4		
			Angled		2.5 m	66 g	8078233	NEBA-M8W4-U-2.5-N-LE4
					5 m	129 g	8078234	NEBA-M8W4-U-5-N-LE4
10 m	254 g	8078235			NEBA-M8W4-U-10-N-LE4			

Ordering data – Electrical connection 1 M12 socket, 5-pin, with switching status indication						
Electrical connection 1, cable outlet	Electrical connection 2, connector system	Electrical connection 1, display	Cable length	Product weight	Part no.	Type
Angled	Open end	Status indicator LED green, Switching status indication, yellow LED for PNP N/O contact	2.5 m	56 g	8078256	NEBA-M12W5P-U-2.5-N-LE3
			5 m	103 g	8078257	NEBA-M12W5P-U-5-N-LE3
		Status indicator LED green, Switching status indication, yellow LED for NPN N/O contact	2.5 m	56 g	8078258	NEBA-M12W5N-U-2.5-N-LE3
			5 m	103 g	8078259	NEBA-M12W5N-U-5-N-LE3

Ordering data

Ordering data – Electrical connection 1 M12 socket, 5-pin, without switching status indication									
Electrical connection 1, cable outlet	Electrical connection 2, connector system	Electrical connection 2, cable outlet	Electrical connection 2, number of connections/ cores	Cable length	Product weight	Part no.	Type		
Straight	M12x1, A-coded to EN 61076-2-101	Straight	5	0.5 m	34 g	8078274	NEBA-M12G5-U-0.5-N-M12G5		
				1 m	47 g	8078275	NEBA-M12G5-U-1-N-M12G5		
				2.5 m	87 g	8078276	NEBA-M12G5-U-2.5-N-M12G5		
				5 m	153 g	8078277	NEBA-M12G5-U-5-N-M12G5		
	Open end		3	2.5 m	55 g	8078236	NEBA-M12G5-U-2.5-N-LE3		
				5 m	102 g	8078237	NEBA-M12G5-U-5-N-LE3		
				10 m	194 g	8078238	NEBA-M12G5-U-10-N-LE3		
			4	2.5 m	72 g	8078239	NEBA-M12G5-U-2.5-N-LE4		
				5 m	134 g	8078240	NEBA-M12G5-U-5-N-LE4		
				10 m	259 g	8078241	NEBA-M12G5-U-10-N-LE4		
			5	2.5 m	85 g	8078242	NEBA-M12G5-U-2.5-N-LE5		
				5 m	142 g	8078243	NEBA-M12G5-U-5-N-LE5		
				10 m	274 g	8078244	NEBA-M12G5-U-10-N-LE5		
			Angled		3	2.5 m	56 g	8078245	NEBA-M12W5-U-2.5-N-LE3
						5 m	103 g	8078246	NEBA-M12W5-U-5-N-LE3
						10 m	195 g	8078247	NEBA-M12W5-U-10-N-LE3
4	2.5 m	73 g			8078248	NEBA-M12W5-U-2.5-N-LE4			
	5 m	135 g			8078249	NEBA-M12W5-U-5-N-LE4			
	10 m	260 g			8078250	NEBA-M12W5-U-10-N-LE4			
5	2.5 m	76 g			8078251	NEBA-M12W5-U-2.5-N-LE5			
	5 m	143 g			8078252	NEBA-M12W5-U-5-N-LE5			
	10 m	275 g			8078253	NEBA-M12W5-U-10-N-LE5			

Accessories

Inscription label holder		
Type of mounting	Part no.	Type
Clip	8078307	NEAU-LH-3
	8143238	NEAU-LH-4

Safety clip		
Function	Part no.	Type
Safety clip	548068	NEAU-M12-GD
Safety clip	548067	NEAU-M8-GD

Connecting cables > Connecting cables for motors >

Connecting cables NEBM



NEBM-M16G8-E-...-Q7-LE8

NEBM-M23G15-EH-...-Q9N-R3LEG14

- For servo motor EMMT-AS and stepper motor EMMS-ST
- Suitable for use with energy chains

Order code – Basic design

001002003004005006007008009010

NEBM- - - - - - - - - - -

Legend: Mandatory entry Optional entry

001	Type
NEBM	Connecting cables for motors
002	Connection technology left, field device side
M12	Socket M12x1, A-coded, EN 61076-2-101
M16	M16
M23	M23
S1	Sub-D
003	Cable outlet left
G	Straight
W	Angled
004	Number of pins/wires, left
8	8-pin
9	9-pin
15	15-pin
005	Cable characteristic/version
E	Suitable for energy chains/standard
EH	Suitable for energy chains/hybrid cable
006	Cable length [m]
...	1,5, 2,5, 5, 7, 7,5, 10, 15, 20

007	Wire cross section
–	Standard
Q5	0.34 mm²
Q7	0.75 mm²
Q9	1.5 mm²
008	Cable designation
–	With inscription label holder
N	Without inscription label holder
009	Connection technology right, controller side
LE	Open end
S1G	Sub-D, straight
R3LEG	RJ45 and open end, straight plug and cable outlet
010	Number of pins/wires, right
6	6-pin
8	8-pin
9	9-pin
14	14-pin
15	15-pin

Product options

- Connection technologies
 - M40, ITT M3, connection pattern L4, connection pattern L5
- Cable length
 - 0.5 ... 25 m
- Cable characteristics
 - Suitable for robot applications
- Number of pins/wires
 - 2, 4, 12, 18, 28, 31



Configurable product

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

→ www.festo.com/catalogue/nebm

Ordering – Basic design

Encoder cable for stepper motors EMMS-ST, motor controller CMMS-ST		
Cable length	Type	Part no.
Straight plug, min. bending radius: 51 mm, ambient temperature: –40 ... +70 °C		
5 m	NEBM-M12G8-E-5-S1G9	550748
10 m	NEBM-M12G8-E-10-S1G9	550749
15 m	NEBM-M12G8-E-15-S1G9	550750

Motor cable for stepper motors EMMS-ST-28, motor controller CMMS-ST		
Cable length	Type	Part no.
Straight plug, min. bending radius: 62 mm, ambient temperature: –40 ... +80 °C		
1.5 m	NEBM-M12G8-E-1.5-Q5-LE6	1449600
2.5 m	NEBM-M12G8-E-2.5-Q5-LE6	1449601
5 m	NEBM-M12G8-E-5-Q5-LE6	1449602
7 m	NEBM-M12G8-E-7-Q5-LE6	1449603
10 m	NEBM-M12G8-E-10-Q5-LE6	1449604

Motor cable for stepper motors EMMS-ST-42/57, motor controller CMMS-ST		
Cable length	Type	Part no.
Straight plug, min. bending radius: 62 mm, ambient temperature: –40 ... +80 °C		
1.5 m	NEBM-S1G9-E-1.5-Q5-LE6	1450368
2.5 m	NEBM-S1G9-E-2.5-Q5-LE6	1450369
5 m	NEBM-S1G9-E-5-Q5-LE6	1450370
7 m	NEBM-S1G9-E-7-Q5-LE6	1450371
10 m	NEBM-S1G9-E-10-Q5-LE6	1450372
Angled plug, min. bending radius: 62 mm, ambient temperature: –40 ... +80 °C		
1.5 m	NEBM-S1W9-E-1.5-Q5-LE6	1450736
2.5 m	NEBM-S1W9-E-2.5-Q5-LE6	1450737
5 m	NEBM-S1W9-E-5-Q5-LE6	1450738
7 m	NEBM-S1W9-E-7-Q5-LE6	1450739
10 m	NEBM-S1W9-E-10-Q5-LE6	1450740

Motor cable for stepper motors EMMS-ST-87, motor controller CMMS-ST		
Cable length	Type	Part no.
Straight plug, min. bending radius: 80 mm, ambient temperature: –40 ... +80 °C		
1.5 m	NEBM-S1G15-E-1.5-Q7-LE6	1450834
2.5 m	NEBM-S1G15-E-2.5-Q7-LE6	1450835
5 m	NEBM-S1G15-E-5-Q7-LE6	1450836
7 m	NEBM-S1G15-E-7-Q7-LE6	1450837
10 m	NEBM-S1G15-E-10-Q7-LE6	1450838
Angled plug, min. bending radius: 80 mm, ambient temperature: –40 ... +80 °C		
1.5 m	NEBM-S1W15-E-1.5-Q7-LE6	1450943
2.5 m	NEBM-S1W15-E-2.5-Q7-LE6	1450944
5 m	NEBM-S1W15-E-5-Q7-LE6	1450945
7 m	NEBM-S1W15-E-7-Q7-LE6	1450946
10 m	NEBM-S1W15-E-10-Q7-LE6	1450947

Encoder cable for stepper motors EMMS-ST, motor controller CMMS-ST		
Cable length	Type	Part no.
Straight plug, min. bending radius: 68 mm, ambient temperature: –40 ... +80 °C		
1.5 m	NEBM-M12G8-E-1.5-LE8	1451586
2.5 m	NEBM-M12G8-E-2.5-LE8	1451587
5 m	NEBM-M12G8-E-5-LE8	1451588
7 m	NEBM-M12G8-E-7-LE8	1451589
10 m	NEBM-M12G8-E-10-LE8	1451590
Angled plug, min. bending radius: 68 mm, ambient temperature: –40 ... +80 °C		
1.5 m	NEBM-M12W8-E-1.5-LE8	1451674
2.5 m	NEBM-M12W8-E-2.5-LE8	1451675
5 m	NEBM-M12W8-E-5-LE8	1451676
7 m	NEBM-M12W8-E-7-LE8	1451677
10 m	NEBM-M12W8-E-10-LE8	1451678

Motor cable for servo motors EMME-AS, motor controller CMMP-AS		
Cable length	Type	Part no.
Straight plug (cable cross section: 0.75 mm²)		
2.5 m	NEBM-M16G8-E-2.5-Q7-LE8	8004662
5 m	NEBM-M16G8-E-5-Q7-LE8	8003770
7 m	NEBM-M16G8-E-7.5-Q7-LE8	8004663
10 m	NEBM-M16G8-E-10-Q7-LE8	8003771
15 m	NEBM-M16G8-E-15-Q7-LE8	8003772
Straight plug (cable cross section: 0.15 mm²)		
2.5 m	NEBM-M16G8-E-2.5-Q9-LE8	8004660
5 m	NEBM-M16G8-E-5-Q9-LE8	8003766
7 m	NEBM-M16G8-E-7.5-Q9-LE8	8004661
10 m	NEBM-M16G8-E-10-Q9-LE8	8003767
15 m	NEBM-M16G8-E-15-Q9-LE8	8003768

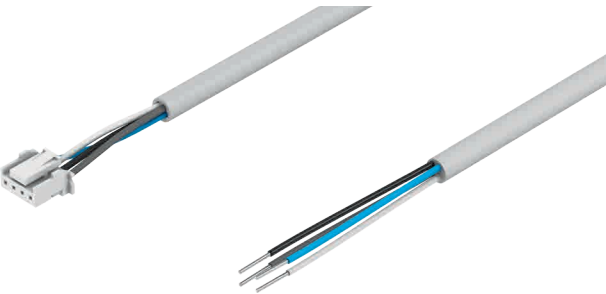
Encoder cable for servo motors EMME-AS, motor controller CMMP-AS		
Cable length	Type	Part no.
Straight plug		
2.5 m	NEBM-M12G8-E-2.5-N-S1G15	8004664
5 m	NEBM-M12G8-E-5-N-S1G15	8003762
7 m	NEBM-M12G8-E-7.5-N-S1G15	8004665
10 m	NEBM-M12G8-E-10-N-S1G15	8003763
15 m	NEBM-M12G8-E-15-N-S1G15	8003764

Motor cable for servo motors EMMT-AS, hybrid cable		
Cable length	Type	Part no.
Straight plug and cable outlet		
2.5 m	NEBM-M23G15-EH-2.5-Q9N-R3LEG14	5251381
5 m	NEBM-M23G15-EH-5-Q9N-R3LEG14	5251382
7 m	NEBM-M23G15-EH-7.5-Q9N-R3LEG14	5251383
10 m	NEBM-M23G15-EH-10-Q9N-R3LEG14	5251384
15 m	NEBM-M23G15-EH-15-Q9N-R3LEG14	5251385
20 m	NEBM-M23G15-EH-20-Q9N-R3LEG14	5251386
X length ¹⁾	NEBM-M23G15-EH-...-Q9N-R3LEG14	5251380

1) Choice of cable lengths: 0.5 ... 99.9 m, in increments of 0.1 m.

Servo motors EMMT-AS → 111
Stepper motors EMMS-ST → 114Servo motors EMME-AS → [emme-as](#)
Motor controller CMMP-AS → [cmmp-as](#)

Connecting cables NEBS



- For connecting with rectangular design L1, grid dimension 5.8 mm
- For thread M12x1, A-coded to EN 61076-2-101
- For thread M16x0.75
- Pre-assembled at one or both ends

Order code – Basic design

001002003004005006007008009010

NEBS- - - - - - - - - -

Legend: Mandatory entry Optional entry

001	Type
NEBS	Connecting cable for sensors
002	Connection technology left, field device side
L1	Socket connection pattern L1
M12	Socket M12x1, A-coded, EN 61076-2-101
SM12	Plug M12x1, A-coded, EN 61076-2-101
SM16	Plug M16x0.75
003	Connection technology version, left
G4	Straight, 4-pin
G5	Straight, 5-pin
G12	Straight, 12-pin
G24	Straight, 24-pin
004	Cable characteristic
K	Standard
E	Suitable for use with energy chains
005	Cable design
-	Standard
S	With shielding
006	Cable length [m]

...	0.3, 0.5, 1, 2, 2.5, 5, 10, 15
007	Cable designation
-	With inscription label holder
N	Without inscription label holder
008	Connection technology right, controller side
M12	Plug M12x1, A-coded, EN 61076-2-101
SM12	Socket M12x1, A-coded
LE	Open cable end
009	Plug/socket
-	None
G	Straight
010	Number of pins/cores on the right
4	4
5	5
12	12
24	24

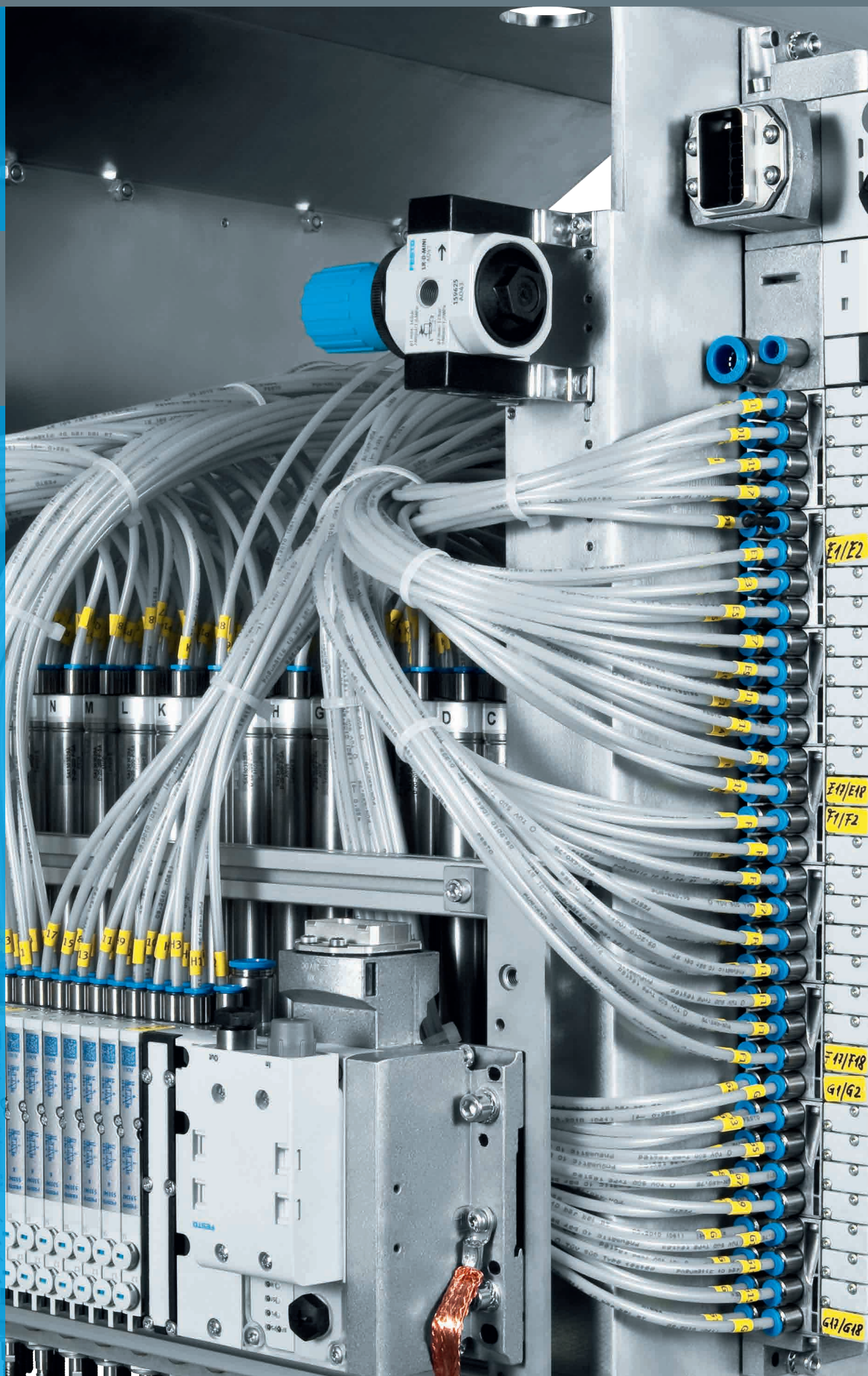
Ordering

Electrical connection 2	Cable length	Type	Part no.
Electrical connection 1: Socket, 4-pin, rectangular design L1			
Plug M12x1, A-coded, 4-pin	1 m	NEBS-L1G4-K-1-N-M12G4	8091514
Open end, 4-core	2.5 m	NEBS-L1G4-K-2.5-LE4	572576
	5 m	NEBS-L1G4-K-5-LE4	572577
Electrical connection 1: socket M12x1, 5-pin, straight design			
Open end, 5-core	5 m	NEBS-M12G5-ES-5-LE5	8030962
	10 m	NEBS-M12G5-ES-10-LE5	8030963
	15 m	NEBS-M12G5-ES-15-LE5	8097576
Electrical connection 1: socket M12x1, 12-pin, straight design			
Socket, straight design, 12-pin	0.5 m	NEBS-M12G12-KS-0.5-SM12G12	3056124
	2 m	NEBS-M12G12-KS-2-SM12G12	3058527
Open end, 12-core	5 m	NEBS-M12G12-KS-5-LE12	3058614
	10 m	NEBS-M12G12-KS-10-LE12	2912452

Electrical connection 2	Cable length	Type	Part no.
Electrical connection 1: Plug M12x1, 12-pin, straight design			
Plug, straight design, 12-pin	0.3 m	NEBS-SM12G12-E-0.3-N-M12G12	3947404
Open end, 12-core	0.5 m	NEBS-SM12G12-E-0.5-N-LE12	3947401
	5 m	NEBS-SM12G12-E-5-N-LE12	3947395

12

Pneumatic connection technology



Highlights



Plastic tubing
PUN-H

- + Wide choice of variants
- + PUN-H: high resistance to microbes and hydrolysis and approved for use in the food industry
- + PUN-H-T: translucent black, blue, green, red, yellow

→ 327



Push-in fittings
QSM, QS

- + QSM: mini series for maximum component density in small installation spaces
- + QS: standard series for maximum flexibility in standard applications

→ 330, 332

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You can find the answer to these and many other questions about media resistance right here.
You can search for chemical reactions from A to Z.
You can filter the media either by name or chemical formula and/or select the material in question.

This tool can be found at
[➔ www.festo.com/x/media-resistance](http://www.festo.com/x/media-resistance)

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Select all the required product features step-by-step. The use of logic checks ensures that only correct configurations are available for selection.

You can find the configurator for the product you want

1. at www.festo.com/catalogue/tubing
2. by selecting the product you want
3. and clicking on the blue “Configure product” button

The configurator makes your search for the right accessory easier, more reliable and faster.

This considerably reduces your bill of materials, and downstream processes such as product ordering, order picking and assembly are significantly simplified.

This tool can be found at
➔ www.festo.com/x/festo-design-tool

Tubing >

Standard O.D. tubing

			
	Plastic tubing PUN-H, PUN-H-DUO	Plastic tubing PUN, PUN-DUO	Plastic tubing, NPT PTFEN
O.D.	2 ... 16 mm	3 ... 16 mm	3.97 ... 12.7 mm
I.D.	1.2 ... 11 mm	2 ... 11 mm	2.9 ... 8.5 mm
Temperature-dependent operating pressure [MPa]	-0.095 ... 1 MPa	-0.095 ... 1 MPa	-0.095 ... 1.2 MPa
Temperature-dependent operating pressure	-0.95 ... 10 bar	-0.95 ... 10 bar	-0.95 ... 12 bar
Ambient temperature	-35 ... 60°C	-35 ... 60°C	-20 ... 150°C
Description	• Polyurethane • High resistance to microbes and hydrolysis • Suitable for use with energy chains • Clean room-compatible combination with fitting NPKA • Also available as DUO plastic tubing • Operating media compressed air, vacuum, water. Water as per the manufacturer's declaration, see www.festo.com/certificates/PUN_H	• Polyurethane • Highly resistant to stress cracks • Suitable for energy chains • Also available as DUO tubing • Operating media: compressed air, vacuum	• Polytetrafluoroethylene • Food-safe see www.festo.com/certificates/PTFEN • Highly resistant to chemicals • High temperature resistance • Operating media: compressed air, vacuum
→ Page/online	327	pun	ptfen

Tubing >

Standard O.D. tubing

		
	Plastic tubing PEN	Plastic tubing PLN
O.D.	4 ... 16 mm	4 ... 16 mm
I.D.	2.7 ... 10.8 mm	2.9 ... 12 mm
Temperature-dependent operating pressure [MPa]	-0.095 ... 1 MPa	-0.095 ... 1.4 MPa
Temperature-dependent operating pressure	-0.95 ... 10 bar	-0.95 ... 14 bar
Ambient temperature	-30 ... 60°C	-30 ... 80°C
Description	• Polyethylene • High resistance to chemicals and very high resistance to hydrolysis • Resistant to most cleaning agents and lubricants • Suitable for energy chains • Operating media: compressed air, vacuum, water	• Polyethylene • Highly resistant to chemicals, microbes and hydrolysis • Food-safe see www.festo.com/certificates/PLN • Resistant to most cleaning agents and lubricants • Operating media: compressed air, vacuum, water
→ Page/online	pen	pln

Product overview

Fittings >

Push-in fittings

	 Push-in fittings/connectors, mini series QSM	 Push-in fittings/connectors, standard series QS	 Push-in fittings/connectors NPQH	 Push-in fittings/connectors, metal, standard series NPQM
Pneumatic connection 1	Male thread M8x1.25, male thread G1/8, M3, M5, M6, M6x0.75, M7, M8x0.75, R1/8, female thread M3, M5, push-in sleeve QS-2, QS-3, QS-4, QS-6, for tubing O.D. 2 mm, 3 mm, 4 mm, 6 mm	Male thread G1/2, G1/4, G1/8, G3/4, G3/8, M5, R1/2, R1/4, R1/8, R3/8, female thread G1/2, G1/4, G1/8, G3/8, push-in sleeve QS-10, QS-12, QS-16, QS-4, QS-6, QS-8, for tubing O.D. 10 mm, 12 mm, 16 mm, 4 mm, 6 mm, 8 mm	Female thread G1/4, G1/8, For tubing O.D. 10 mm, 12 mm, 14 mm, 4 mm, 6 mm, 8 mm, Male thread G1/2, G1/4, G1/8, G3/8, M5, M7, Push-in sleeve QS-10, QS-12, QS-14, QS-4, QS-6, QS-8	Female thread G1/4, G1/8, For tubing O.D. 10 mm, 12 mm, 14 mm, 4 mm, 6 mm, 8 mm, Male thread G1/2, G1/4, G1/8, G3/8, M5, M7, Push-in sleeve QS-10, QS-12, QS-14, QS-4, QS-6, QS-8
Pneumatic connection 2	For tubing O.D. 2 mm, 3 mm, 4 mm, 6 mm	Female thread G1/2, G1/4, G1/8, G3/8, push-in sleeve QS-10, QS-12, QS-16, QS-4, QS-6, QS-8, for tubing O.D. 10 mm, 12 mm, 16 mm, 22 mm, 4 mm, 6 mm, 8 mm	For tubing O.D. 10 mm, 12 mm, 14 mm, 4 mm, 6 mm, 8 mm, Push-in sleeve QS-10, QS-12, QS-14, QS-4, QS-6, QS-8	For tubing O.D. 10 mm, 12 mm, 14 mm, 3 mm, 4 mm, 6 mm, 8 mm, Push-in sleeve QS-10, QS-12, QS-14, QS-4, QS-6, QS-8
Temperature-dependent operating pressure	-0.95 ... 14 bar	-0.95 ... 14 bar		
Operating pressure for entire temperature range	-0.95 ... 6 bar	-0.95 ... 14 bar	-0.95 ... 20 bar	-0.95 ... 16 bar
Ambient temperature	-10 ... 80°C	-20 ... 80°C	0 ... 150°C	-20 ... 70°C
Description	• Mini series • Compact for maximum component density in confined installation spaces • PBT and nickel-plated brass • Operating medium: compressed air, vacuum • Straight shape, L-shape, T-shape, X-shape, Y-shape, push-in bulkhead connector	• Standard series • Wide range of variants: wide selection for maximum flexibility in standard applications • PBT and nickel-plated brass • Operating media compressed air, vacuum, water. Water as per the manufacturer's declaration, see www.festo.com/certificates/QS • Straight shape, L-shape, T-shape, at 45° angle, X-shape, Y-shape, push-in bulkhead connector	• Solid-metal brass, chemically nickel-plated • High corrosion and chemical resistance • Highly resistant to temperatures and pressure • Food grade see www.festo.com/certificates/NPQH • Operating media compressed air, vacuum, water. Water as per the manufacturer's declaration, see www.festo.com/certificates/NPQH • Straight shape, L-shape, T-shape, Y-shape, push-in bulkhead connector	• Solid-metal brass, nickel-plated • Attractively priced metal push-in fitting • Sturdy • Operating medium: compressed air, vacuum • Straight shape, L-shape, T-shape, Y-shape, push-in bulkhead connector
→ Page/online	330	332	337	npqm

Fittings ›

Threaded fittings

		
	Threaded fittings NPFC	Blanking plug B
Pneumatic connection 1	G1, G1/2, G1/4, G1/8, G3/4, G3/8, M3, M5, M7, R1, R1/2, R1/4, R1/8, R3/4, R3/8	Male thread G1, G1/2, G1/4, G1/8, G3/4, G3/8, M3, M5, M7
Pneumatic connection 2	G1, G1/2, G1/4, G1/8, G3/4, G3/8, M3, M5, R1, R1/2, R1/4, R1/8, R3/4, R3/8	
Operating pressure	-0.95 ... 50 bar	
Ambient temperature	-20 ... 150°C	
Description	• Nickel-plated brass • Sleeve • Extension • Double nipple • Reducing nipple • L-, T-, Y- or X-fitting • Operating media: compressed air, vacuum	• Aluminium, stainless steel • With sealing ring • Variants recommended for production systems for manufacturing lithium-ion batteries
→ Page/online	341	344

Couplings

		
	Quick coupling sockets, quick coupling plugs NPHS-D6, NPHS-S6	Quick coupling sockets, quick coupling plugs KD, KD1, KD2, KD3, KD4, KS, KS1, KS2, KS3, KS4
Pneumatic connection 1	For plug-in nipple I.D. 9 mm, male thread G1/2, G1/4, G1/8, G3/8, female thread G1/2, G1/4, G3/8	N-6, N-9, male thread G1/2, G1/4, G1/8, G3/8, M3, M5, female thread G1/2, G1/4, G1/8, G3/8, M5, CK-3, CK-4, CK-6, CK-9, CN-2
Standard nominal flow rate	875 ... 2100 l/min	44 ... 1350 l/min
Operating pressure	-0.95 ... 20 bar	-0.95 ... 12 bar
Ambient temperature	-20 ... 80°C	-10 ... 80°C
Description	• Safety coupling • Shut-off at one end • Exhaust the air on the connector side without releasing the coupling • Combination of coupling and hand slide valve • Can be used as an on/off valve • Nickel-plated brass or galvanised hardened steel	• Quick connection coupling for standard applications without safety function • Shut off at one or both ends • With male or female thread or with barbed fitting or quick connector • Nickel-plated brass, PP • Operating media: compressed air, vacuum
→ Page/online	345	345

Overview: Tubing/fitting combinations

Everything from a single source – for the ideal combination

Our range of tubing and fittings covers every conceivable task. Regardless of whether your selection is determined by standard requirements or extreme conditions such as heat, welding spatter, high pH values or resistance to hydrolysis – at Festo you'll always find the right tubing/fitting combination.

Tubing

Material	Polyurethane (PU)					Polyethylene (PE)		Polyamide (PA)				Perfluoroalkoxy alkane	
Designation	PUN/PUN-DUO → pun	PUN-H ³ /PUN-H-DUO → 327	PUN-CM → pun	PUN-VO → pun-vo	PUN-VO-C → pun-vo	PEN → pen	PLN → pln	PAN → pan	PAN-R → pan-r	PAN-VO → pan-vo	PAN-MF → pan-mf	PFAN → pfan	PTFEN → ptfen
Operating medium	Compressed air, vacuum	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum	Compressed air, vacuum	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum
Temperature [°C]	–35 ... +60	–35 ... +60	–35 ... +60	–35 ... +60	–35 ... +60	–30 ... +60	–30 ... +80	–30 ... +80	–30 ... +80	–30 ... +90	–60 ... +100	–20 ... +150	–20 ... +150
Temperature-dependent operating pressure [MPa]	–0,095 ... +1	–0,095 ... +1	–0,095 ... +1	–0,095 ... +1	–0,095 ... +1	–0,095 ... +1	–0,095 ... +1,4	–0,095 ... +1,9	–0,095 ... +3,5	–0,095 ... +1,2	–0,095 ... +3,1	–0,095 ... +1,6	–0,095 ... +1,5
Temperature-dependent operating pressure [bar]	–0,95 ... +10	–0,95 ... +10	–0,95 ... +10	–0,95 ... +10	–0,95 ... +10	–0,95 ... +10	–0,95 ... +14	–0,95 ... +19	–0,95 ... +35	–0,95 ... +12	–0,95 ... +31	–0,95 ... +16	–0,95 ... +15
Resistant to chemicals	–	+	+	+	+	++	++	+	+	+	+	+++	+++
Food-safe	–	²⁾	–	–	–	–	²⁾	–	–	–	–	²⁾	²⁾
Hydrolysis-resistant	+	++	++	++	++	+++	+++	++	++	++	++	+++	+++
Fire tested	UL 94 HB	UL 94 HB	–	UL 94 V0...V2	UL 94 V0...V2	–	–	–	–	UL 94 V0	–	UL 94 V0	UL 94 V0
Halogen-free	+++	+++	+++	+++	+++	+++	+++	+++	+++	–	+++	–	–
Flexibility	+++	+++	++	++	++	++	+	++	+	++	+	+	+
Special features	Wide choice of variants	Hydrolysis-resistant	Anti-static	Flame-retardant	Resistant to welding spatter	Suitable for use with energy chains	Weather-resistant	High load bearing capacity	Suitable for pressures up to 35 bar	Resistant to welding spatter	DIN 73378 KFZ approval	Highly resistant to chemicals	Highly resistant to chemicals

- 1) Other media on request
- 2) Suitable for use with food in accordance with supplementary material information/declaration of conformity → [www.festo.com/support](#) > Conceptualise and design > Certificates, approvals and product conformity
- 3) O.D. 3 mm and above
- +++ Highly suitable
- ++ Very suitable
- + Limited suitability (on request)
- Not suitable

Fittings

Material	Polymer				Metal				
Designation	NPKA → npka	NPQP → npqp	QS, QSM → 332, 330	QS-VO → qs-vo	NPQM → npqm	NPQH → 337	NPFC → 341	NPCK → npck	CRQS → crqs
Operating medium	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum ¹⁾	Compressed air, vacuum, water ¹⁾	Compressed air, vacuum, water ¹⁾
Temperature [°C]	–10 ... +60	–20 ... +60	–10 ... +80	0 ... +60	–20 ... +70	0 ... +150	–20 ... +150	–20 ... +120	–15 ... +120
Temperature-dependent operating pressure [MPa]	–0,095 ... +1	–0,095 ... +1	–0,095 ... +1,4	–0,095 ... +1	–0,095 ... +1,6	–0,095 ... +2	–0,095 ... +5	–0,095 ... +1,2	–0,095 ... +1
Temperature-dependent operating pressure [bar]	–0,95 ... +10	–0,95 ... +10	–0,95 ... +14	–0,95 ... +10	–0,95 ... +16	–0,95 ... +20	–0,95 ... +50	–0,95 ... +12	–0,95 ... +10
Housing material	POM and PA66	PP	PBT and nickel-plated brass	PBT	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Stainless steel	Stainless steel
Thread	G thread	R thread	M, G and R thread	G and R threads	M and G thread	M and G thread	M, G and R thread	M and G thread	M and R thread
Resistant to chemicals	++	+++	+	+	+	++	+	+++	+++
Food-safe ²⁾	²⁾	²⁾	–	–	–	²⁾	–	²⁾	²⁾
Corrosion resistance class (CRC)	4	4	1	1	1	3	1	4	4
Special features	Cleanroom-compatible, 100% polymer	Highly resistant to chemicals	Wide choice of variants	Resistant to welding spatter	Sturdy	High temperature resistance	Economical, suitable for high pressure and temperature ranges	Clean design	Highly resistant to corrosion

- 1) Other media on request
- 2) Suitable for use with food in accordance with supplementary material information/declaration of conformity → [www.festo.com/support](#) > Conceptualise and design > Certificates, approvals and product conformity
- +++ Highly suitable
- ++ Very suitable
- + Limited suitability (on request)
- Not suitable

Reliable selection has never been this easy: our Product Finder for tubing and fittings helps you to select a tailored combination.

Get started by following these links:

[→ www.festo.com/productfinder/tubing](#)
[→ www.festo.com/productfinder/fittings](#)

Plastic tubing PUN-H, hydrolysis-resistant



- Extremely flexible polyurethane tubing
- Suitable for energy chains
- Operating media: compressed air, vacuum, water
- PUN-H-T: transparent version for greater safety, e.g. solid particles can be detected immediately
- Individual configuration for plastic tubing

Order code – Basic design

001 002 003 004 005
PUN - H - - -

Legend: Mandatory entry Optional entry

001	Type
PUN	Polyurethane tubing, standard O.D.
002	Alternative material characteristic
H	Hydrolysis-resistant
003	O.D. x wall thickness [mm]
2x0,4	2.0 x 0.4
3x0,5	3.0 x 0.5
4x0,75	4.0 x 0.75
6x1	6.0 x 1.0
8x1,25	8.0 x 1.25
10x1,5	10 x 1.5
12x2	12.0 x 2.0
14x2	14.0 x 2.0
16x2,5	16.0 x 2.5

004	Colour
NT	Natural
SW	Black
BL	Blue
SI	Silver
TBL	Translucent blue
TGE	Translucent yellow
TGN	Translucent green
TRT	Translucent red
TSW	Translucent black
005	Packaging unit
-	50 m

Product options

Materials:

PUN	(Standard) polyurethane
PAN	Polyamide
PFAN	Perfluoralkoxy alkane
PEN	Polyethylene

Certifications:

CM	Anti-static
V0	Flame-retardant to UL 94 V0
R	Sturdy
MF	Automotive approval certificate
VOC	Resistant to welding spatter

Paired tubing:

DUO DUO tubing

Packaging units:

100 m, 200 m, 300 m, 400 m, 500 m
Customer-specific tubing inscription

Colours:

GN	Green
RT	Red
WS	White
GE	Yellow
BR	Brown
BS	Blue/Black



Configurable product

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

→ www.festo.com/catalogue/pun

Tubing > Standard O.D. tubing >
Plastic tubing PUN-H, hydrolysis-resistant

Ordering – Basic design

003 O.D. [mm]	004 Colour	001 + 002 PUN-H: Polyurethane, hydrolysis-resistant		001 + 002 PUN-H-T: Polyurethane, hydrolysis-resistant, translucent	
		Type	Part no.	Type	Part no.
2	Natural	PUN-H-2x0,4-NT	133038	–	
	Black	PUN-H-2x0,4-SW	133039	–	
3	Natural	PUN-H-3x0,5-NT	197375	–	
	Silver	PUN-H-3x0,5-SI	558277	–	
	Blue	PUN-H-3x0,5-BL	197382	–	
	Black	PUN-H-3x0,5-SW	197389	–	
4	Natural	PUN-H-4x0,75-NT	197376	–	
	Silver	PUN-H-4x0,75-SI	558278	–	
	Yellow	–		PUN-H-4x0,75-TGE	8048679
	Red	–		PUN-H-4x0,75-TRT	8048675
	Green	–		PUN-H-4x0,75-TGN	8048677
	Blue	PUN-H-4x0,75-BL	197383	PUN-H-4x0,75-TBL	8048671
	Black	PUN-H-4x0,75-SW	197390	PUN-H-4x0,75-TSW	8048673
6	Natural	PUN-H-6x1-NT	197377	–	
	Silver	PUN-H-6x1-SI	558279	–	
	Yellow	–		PUN-H-6x1-TGE	8048689
	Red	–		PUN-H-6x1-TRT	8048685
	Green	–		PUN-H-6x1-TGN	8048687
	Blue	PUN-H-6x1-BL	197384	PUN-H-6x1-TBL	8048681
	Black	PUN-H-6x1-SW	197391	PUN-H-6x1-TSW	8048683
8	Natural	PUN-H-8x1,25-NT	197378	–	
	Silver	PUN-H-8x1,25-SI	558280	–	
	Yellow	–		PUN-H-8x1,25-TGE	8048699
	Red	–		PUN-H-8x1,25-TRT	8048695
	Green	–		PUN-H-8x1,25-TGN	8048697
	Blue	PUN-H-8x1,25-BL	197385	PUN-H-8x1,25-TBL	8048691
	Black	PUN-H-8x1,25-SW	197392	PUN-H-8x1,25-TSW	8048693
10	Natural	PUN-H-10x1,5-NT	197379	–	
	Silver	PUN-H-10x1,5-SI	558281	–	
	Yellow	–		PUN-H-10x1,5-TGE	8048709
	Red	–		PUN-H-10x1,5-TRT	8048705
	Green	–		PUN-H-10x1,5-TGN	8048707
	Blue	PUN-H-10x1,5-BL	197386	PUN-H-10x1,5-TBL	8048701
	Black	PUN-H-10x1,5-SW	197393	PUN-H-10x1,5-TSW	8048703
12	Natural	PUN-H-12x2-NT	197380	–	
	Silver	PUN-H-12x2-SI	558282	–	
	Yellow	–		PUN-H-12x2-TGE	8048719
	Red	–		PUN-H-12x2-TRT	8048715
	Green	–		PUN-H-12x2-TGN	8048717
	Blue	PUN-H-12x2-BL	197387	PUN-H-12x2-TBL	8048711
	Black	PUN-H-12x2-SW	197394	PUN-H-12x2-TSW	8048713
14	Blue	PUN-H-14x2-BL	570386	–	
	Black	PUN-H-14x2-SW	570387	–	
16	Natural	PUN-H-16x2,5-NT	197381	–	
	Silver	PUN-H-16x2,5-SI	558283	–	
	Blue	PUN-H-16x2,5-BL	197388	–	
	Black	PUN-H-16x2,5-SW	197395	–	

Tubing/fitting combination

Fitting	Tubing	
	PUN	PUN-H
Push-in fitting QSM, mini series → 330 	—	■ For O.D. 2 mm: recommended fitting
Push-in fitting QS, standard series → 332 	■ For O.D. 3 ... 12, 16 mm: recommended fitting	■ For O.D. 3 ... 12, 16 mm: recommended fitting
Push-in fitting NPQH, metal → 337 	■ For O.D. 4 ... 14 mm: recommended fitting	■ For O.D. 4 ... 14 mm: recommended fitting
Push-in fitting NPQM → npqm 	■ For O.D. 4 ... 14 mm	■ For O.D. 4 ... 14 mm
Quick connector CK → ck 	■ For O.D. 4 ... 8 mm	■ For O.D. 4 ... 8 mm

Fittings >Push-in fittings/connectors QSM, mini series



- Simple and reliable connection and release
- Compact for maximum component density in confined installation spaces

Order code

001002003004005

Legend: Mandatory entry Optional entry

001	Type	003	Pneumatic connection 2
QSM	Push-in fitting/push-in connector, straight, mini series	–	Same size as connection 1
QSML	Push-in fitting/push-in connector, L-shape, mini series	3	Push-in connector 3 mm
QSMT	Push-in connector, T-shape, mini series	4	Push-in connector 4 mm
QSMY	Push-in connector, Y-shape, mini series	6	Push-in connector 6 mm
QSMS	Push-in bulkhead connector, mini series	004	Packaging unit
002	Pneumatic connection 1	–	10 pieces
M3	M thread M3	005	Installation method
M5	M thread M5	–	Standard
M6	M thread M6	I	With internal hex
M7	M thread M7		
G1/8	G thread G1/8		
1/8	R thread R1/8		
	3H		
	4		
	4H		
	6		
	6H		

Product options

Push-in connector 2 mm, 8 mm, 10 mm,
12 mm
Packaging unit: 100 pieces



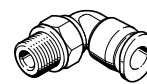
Configurable product

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

Ordering

Push-in fitting QSM, straight
Male thread with external hex

Connection 1	Connection 2	Type	Part no.
M thread with sealing ring			
M3	3 mm	QSM-M3-3	153301
	4 mm	QSM-M3-4	153303
M5	3 mm	QSM-M5-3	153302
	4 mm	QSM-M5-4	153304
	6 mm	QSM-M5-6	153306
M6	6 mm	QSM-M6-6	132600
R thread			
R1/8	4 mm	QSM-1/8-4	153305
	6 mm	QSM-1/8-6	153307
G thread with sealing ring			
G1/8	4 mm	QSM-G1/8-4	186264
	6 mm	QSM-G1/8-6	186265

Push-in fitting QSML, L-shape, rotatable
Male thread with external hex

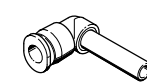
Connection 1	Connection 2	Type	Part no.
M thread with sealing ring			
M3	3 mm	QSML-M3-3	153330
	4 mm	QSML-M3-4	153332
M5	3 mm	QSML-M5-3	153331
	4 mm	QSML-M5-4	153333
	6 mm	QSML-M5-6	153335
M7	4 mm	QSML-M7-4	186352
	6 mm	QSML-M7-6	186353
R thread			
R1/8	4 mm	QSML-1/8-4	153334
	6 mm	QSML-1/8-6	153336
G thread with sealing ring			
G1/8	4 mm	QSML-G1/8-4	186268
	6 mm	QSML-G1/8-6	186269

Push-in connector QSM-...-I, straight
Male thread with internal hex

Connection 1	Connection 2	Type	Part no.
M thread with sealing ring			
M3	3 mm	QSM-M3-3-I	153312
	4 mm	QSM-M3-4-I	153314
M5	3 mm	QSM-M5-3-I	153313
	4 mm	QSM-M5-4-I	153315
	6 mm	QSM-M5-6-I	153317
M7	4 mm	QSM-M7-4-I	153319
	6 mm	QSM-M7-6-I	153321
R thread			
R1/8	4 mm	QSM-1/8-4-I	153316
	6 mm	QSM-1/8-6-I	153318
G thread with sealing ring			
G1/8	4 mm	QSM-G1/8-4-I	186266
	6 mm	QSM-G1/8-6-I	186267

Push-in L-connector QSML, L-shape

Connection 1	Connection 2	Type	Part no.
3 mm	3 mm	QSML-3	153343
4 mm	4 mm	QSML-4	153344
6 mm	6 mm	QSML-6	153345

Push-in L-connector QSML-...H, L-shape
With push-in sleeve

Connection 1	Connection 2	Type	Part no.
3 mm	3 mm	QSML-3H	153346
4 mm	4 mm	QSML-4H	153347
6 mm	6 mm	QSML-6H	153348
Reducing			
4 mm	3 mm	QSML-4H-3	153349
6 mm	4 mm	QSML-6H-4	153350

Push-in connector QSM, straight

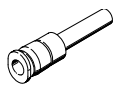
Connection 1	Connection 2	Type	Part no.
3 mm	3 mm	QSM-3	153323
4 mm	4 mm	QSM-4	153324
6 mm	6 mm	QSM-6	153325
Reducing			
4 mm	3 mm	QSM-4-3	153326
6 mm	4 mm	QSM-6-4	153327

Push-in T-connector QSMT, T-shape

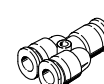
Connection 1	Connection 2	Type	Part no.
3 mm	3 mm	QSMT-3	153365
4 mm	4 mm	QSMT-4	153366
6 mm	6 mm	QSMT-6	153367
Reducing			
4 mm	3 mm	QSMT-4-3	153368
6 mm	4 mm	QSMT-6-4	153369

Push-in bulkhead connector QSMS

Connection 1	Connection 2	Type	Part no.
3 mm	3 mm	QSMS-3	153375
4 mm	4 mm	QSMS-4	153376
6 mm	6 mm	QSMS-6	153377

Push-in connector QSM-...H
With push-in sleeve

Connection 1	Connection 2	Type	Part no.
4 mm	3 mm	QSM-4H-3	153328
6 mm	4 mm	QSM-6H-4	153329

Push-in Y-connector QSMY, Y-shape

Connection 1	Connection 2	Type	Part no.
Push-in connector/push-in connector			
3 mm	3 mm	QSMY-3	153370
4 mm	4 mm	QSMY-4	153371
6 mm	6 mm	QSMY-6	153372
Reducing			
4 mm	3 mm	QSMY-4-3	153373
6 mm	4 mm	QSMY-6-4	153374

Fittings >

Push-in fittings/connectors QS, standard series



- Simple and reliable connection and release
- Wide selection for maximum flexibility in standard applications
- Male or female thread with external or internal hexagon
- Resistant to pressure: economical for pneumatic installations up to 14 bar

Order code

001 002 003 004 005 006 007
 - - - - -

Legend: Mandatory entry Optional entry

001	Type
QS	Push-in fitting/push-in connector, straight, standard series
QSF	Push-in fitting, straight, standard series
QSL	Push-in fitting/push-in connector, L-shape, standard series
QSL	Push-in fitting, L-shape, long, standard series
QSLF	Push-in fitting, L-shape, standard series
QSLV	Push-in fitting, L-shape, standard series
QST	Push-in fitting/push-in connector, T-shape, standard series
QSTL	Push-in fitting, T-shape, standard series
QSY	Push-in fitting/push-in connector, Y-shape, standard series
QSVL	Push-in fitting, Y-shape, standard series
QSS	Push-in bulkhead connector, standard series
QSC	Push-in cap/blanking plug, standard series

002	Pneumatic connection 1		
M5	M thread M5	4	Push-in connector 4 mm
G1/8	G thread G1/8	4H	Push-in sleeve 4 mm
G1/4	G thread G1/4	6	Push-in connector 6 mm
G3/8	G thread G3/8	6H	Push-in sleeve 6 mm
G1/2	G thread G1/2	8	Push-in connector 8 mm
1/8	R thread R1/8	8H	Push-in sleeve 8 mm
1/4	R thread R1/4	10	Push-in connector 10 mm
3/8	R thread R3/8	10H	Push-in sleeve 10 mm
1/2	R thread R1/2	12	Push-in connector 12 mm
		12H	Push-in sleeve 12 mm
		14	Push-in connector 14 mm
		16	Push-in connector 16 mm
		16H	Push-in sleeve 16 mm

003	Additional feature
–	Standard
L	Long push-in sleeve
F	With fixed collar

004	Pneumatic connection 2
4	Push-in connector 4 mm
6	Push-in connector 6 mm
8	Push-in connector 8 mm
10	Push-in connector 10 mm
12	Push-in connector 12 mm
16	Push-in connector 16 mm

005	Packaging unit
–	10 pieces

006	Installation method
–	Standard
I	With internal hex

007	Generation
–	First generation
B	Second generation

Product options

Types:
QS-V0, resistant to welding spatter
CRQS, stainless steel

Designs:
W-shape, X-shape

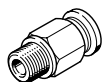
Packaging units:
20 pieces, 50 pieces, 100 pieces

Configurable product

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

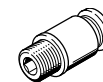
→ www.festo.com/catalogue/qs

Ordering

**Push-in fitting QS, straight
Male thread with external hex**

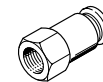
Connection 1	Connection 2	Type	Part no.
R thread			
R1/8	4 mm	QS-1/8-4	153001
	6 mm	QS-1/8-6	153002
	8 mm	QS-1/8-8	153004
	10 mm	QS-1/8-10	190643
R1/4	4 mm	QS-1/4-4	190644
	6 mm	QS-1/4-6	153003
	8 mm	QS-1/4-8	153005
	10 mm	QS-1/4-10	153007
	12 mm	QS-1/4-12	164980
R3/8	6 mm	QS-3/8-6	190645
	8 mm	QS-3/8-8	153006
	10 mm	QS-3/8-10	153008
	12 mm	QS-3/8-12	153009
	16 mm	QS-3/8-16 ¹⁾	164957
R1/2	10 mm	QS-1/2-10 ¹⁾	190646
	12 mm	QS-1/2-12 ¹⁾	153010
	16 mm	QS-1/2-16 ¹⁾	153011
G thread with sealing ring			
G1/8	4 mm	QS-G1/8-4	186095
	6 mm	QS-G1/8-6	186096
	8 mm	QS-G1/8-8	186098
G1/4	6 mm	QS-G1/4-6	186097
	8 mm	QS-G1/4-8	186099
	10 mm	QS-G1/4-10	186101
	12 mm	QS-G1/4-12	186350
G3/8	8 mm	QS-G3/8-8	186100
	10 mm	QS-G3/8-10	186102
	12 mm	QS-G3/8-12	186103
	16 mm	QS-G3/8-16 ¹⁾	186347
G1/2	12 mm	QS-G1/2-12 ¹⁾	186104
	16 mm	QS-G1/2-16 ¹⁾	186105

1) Packaging unit 1 piece

**Push-in fitting QS-...-I, straight
Male thread with internal hex**

Connection 1	Connection 2	Type	Part no.
R thread			
R1/8	4 mm	QS-1/8-4-I	153012
	6 mm	QS-1/8-6-I	153013
	8 mm	QS-1/8-8-I	153015
	10 mm	QS-1/8-10-I	190647
R1/4	6 mm	QS-1/4-6-I	153014
	8 mm	QS-1/4-8-I	153016
	10 mm	QS-1/4-10-I	153018
	12 mm	QS-1/4-12-I	190649
R3/8	8 mm	QS-3/8-8-I	153017
	10 mm	QS-3/8-10-I	153019
	12 mm	QS-3/8-12-I	153020
R1/2	10 mm	QS-1/2-10-I ¹⁾	190648
	12 mm	QS-1/2-12-I ¹⁾	153021
G thread with sealing ring			
G1/8	4 mm	QS-G1/8-4-I	186106
	6 mm	QS-G1/8-6-I	186107
	8 mm	QS-G1/8-8-I	186109
	10 mm	QS-G1/8-10-I	132999
G1/4	6 mm	QS-G1/4-6-I	186108
	8 mm	QS-G1/4-8-I	186110
	10 mm	QS-G1/4-10-I	186112
G3/8	8 mm	QS-G3/8-8-I	186111
	10 mm	QS-G3/8-10-I	186113
	12 mm	QS-G3/8-12-I	186114
G1/2	12 mm	QS-G1/2-12-I ¹⁾	186115

1) Packaging unit 1 piece

**Push-in fitting QSF, straight
Female thread with external hex**

Connection 1	Connection 2	Type	Part no.
G thread			
G1/8	4 mm	QSF-1/8-4-B	153022
	6 mm	QSF-1/8-6-B	153023
	8 mm	QSF-1/8-8-B	153025
G1/4	4 mm	QSF-1/4-4-B	190650
	6 mm	QSF-1/4-6-B	153024
	8 mm	QSF-1/4-8-B	153026
	10 mm	QSF-1/4-10-B	153028
	12 mm	QSF-1/4-12-B	190651
G3/8	6 mm	QSF-3/8-6-B	190652
	8 mm	QSF-3/8-8-B	153027
	10 mm	QSF-3/8-10-B	153029
	12 mm	QSF-3/8-12-B	153030
G1/2	12 mm	QSF-1/2-12-B ¹⁾	190653
	16 mm	QSF-1/2-16-B ¹⁾	190654

1) Packaging unit 1 piece

Fittings >

Push-in fittings/connectors QS, standard series

Ordering

Push-in connector QS, straight

Connection 1	Connection 2	Type	Part no.
4 mm	4 mm	QS-4	153031
6 mm	6 mm	QS-6	153032
8 mm	8 mm	QS-8	153033
10 mm	10 mm	QS-10	153034
12 mm	12 mm	QS-12	153035
16 mm	16 mm	QS-16 ¹⁾	153036
Reducing			
6 mm	4 mm	QS-6-4	153037
8 mm	4 mm	QS-8-4	130606
	6 mm	QS-8-6	153038
10 mm	6 mm	QS-10-6	130607
	8 mm	QS-10-8	153039
12 mm	8 mm	QS-12-8	130608
	10 mm	QS-12-10	153040



1) Packaging unit 1 piece

Push-in bulkhead connector QSS

Connection 1	Connection 2	Type	Part no.
4 mm	4 mm	QSS-4	153157
6 mm	6 mm	QSS-6	153158
8 mm	8 mm	QSS-8	153159
10 mm	10 mm	QSS-10	153160
12 mm	12 mm	QSS-12	153161
With fixed collar			
8 mm	8 mm	QSS-8-F	130642
10 mm	10 mm	QSS-10-F	130643
12 mm	12 mm	QSS-12-F	130644



Push-in cap QSC

Connection 1	Connection 2	Type	Part no.
4 mm	–	QSC-4	153262
6 mm	–	QSC-6	153263
8 mm	–	QSC-8	153264
10 mm	–	QSC-10	153265
12 mm	–	QSC-12	153266



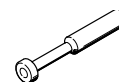
Push-in connector QS-...H, straight With push-in sleeve

Connection 1	Connection 2	Type	Part no.
Reducing			
6 mm	4 mm	QS-6H-4	153041
8 mm	4 mm	QS-8H-4	130622
	6 mm	QS-8H-6	153042
10 mm	6 mm	QS-10H-6	130623
	8 mm	QS-10H-8	153043
12 mm	6 mm	QS-12H-6	132981
	8 mm	QS-12H-8	130624
	10 mm	QS-12H-10	153044



Blanking plug QSC-...H Push-in sleeve

Connection 1	Connection 2	Type	Part no.
4 mm	Without	QSC-4H	153267
6 mm	Without	QSC-6H	153268
8 mm	Without	QSC-8H	153269
10 mm	Without	QSC-10H	153270
12 mm	Without	QSC-12H	153271
16 mm	Without	QSC-16H ¹⁾	153272



1) Packaging unit 1 piece

Push-in L-fitting QSL, L-shape, rotatable Male thread with external hex

Connection 1	Connection 2	Type	Part no.
R thread			
R1/8	4 mm	QSL-1/8-4	153045
	6 mm	QSL-1/8-6	153046
	8 mm	QSL-1/8-8	153048
	10 mm	QSL-1/8-10	190658
R1/4	4 mm	QSL-1/4-4	190659
	6 mm	QSL-1/4-6	153047
	8 mm	QSL-1/4-8	153049
	10 mm	QSL-1/4-10	153051
R3/8	6 mm	QSL-3/8-6	190660
	8 mm	QSL-3/8-8	153050
	10 mm	QSL-3/8-10	153052
	12 mm	QSL-3/8-12	153053
R1/2	16 mm	QSL-3/8-16 ¹⁾	164958
	10 mm	QSL-1/2-10 ¹⁾	190661
	12 mm	QSL-1/2-12 ¹⁾	153054
	16 mm	QSL-1/2-16 ¹⁾	153055
G thread with sealing ring			
G1/8	4 mm	QSL-G1/8-4	186116
	6 mm	QSL-G1/8-6	186117
	8 mm	QSL-G1/8-8	186119
G1/4	6 mm	QSL-G1/4-6	186118
	8 mm	QSL-G1/4-8	186120
	10 mm	QSL-G1/4-10	186122
	12 mm	QSL-G1/4-12	186351
G3/8	8 mm	QSL-G3/8-8	186121
	10 mm	QSL-G3/8-10	186123
	12 mm	QSL-G3/8-12	186124
	16 mm	QSL-G3/8-16 ¹⁾	186348
G1/2	12 mm	QSL-G1/2-12 ¹⁾	186125
	16 mm	QSL-G1/2-16 ¹⁾	186126

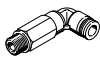


1) Packaging unit 1 piece

Ordering

Push-in fitting QSLL, L-shape, long, rotatable

Connection 1	Connection 2	Type	Part no.
R thread (male thread with external hexagon)/push-in connector			
R1/8	4 mm	QSLL-1/8-4	153076
	6 mm	QSLL-1/8-6	153077
	8 mm	QSLL-1/8-8	153079
R1/4	4 mm	QSLL-1/4-4	190662
	6 mm	QSLL-1/4-6	153078
	8 mm	QSLL-1/4-8	153080
	10 mm	QSLL-1/4-10	153082
R3/8	6 mm	QSLL-3/8-6	190663
	8 mm	QSLL-3/8-8	153081
	10 mm	QSLL-3/8-10	153083
	12 mm	QSLL-3/8-12	153084
R1/2	10 mm	QSLL-1/2-10 ¹⁾	190664
	12 mm	QSLL-1/2-12 ¹⁾	153085



1) Packaging unit 1 piece

Push-in L-fitting QSLF, L-shape, rotatable
Female thread with external hex

Connection 1	Connection 2	Type	Part no.
G thread			
G1/8	4 mm	QSLF-1/8-4-B	153273
	6 mm	QSLF-1/8-6-B	153274
	8 mm	QSLF-1/8-8-B	153276
G1/4	6 mm	QSLF-1/4-6-B	153275
	8 mm	QSLF-1/4-8-B	153277
	10 mm	QSLF-1/4-10-B	153279
G3/8	8 mm	QSLF-3/8-8-B	153278
	10 mm	QSLF-3/8-10-B	153280

Push-in L-fitting QSLV, L-shape, rotatable
Male thread with external hex

Connection 1	Connection 2	Type	Part no.
M thread			
M5	6 mm	QSLV-M5-6	190666
R thread			
R1/8	4 mm	QSLV-1/8-4	153086
	6 mm	QSLV-1/8-6	153087
	8 mm	QSLV-1/8-8	153089
R1/4	6 mm	QSLV-1/4-6	153088
	8 mm	QSLV-1/4-8	153090
	10 mm	QSLV-1/4-10	153092
R3/8	8 mm	QSLV-3/8-8	153091
	10 mm	QSLV-3/8-10	153093
	12 mm	QSLV-3/8-12	153094
R1/2	12 mm	QSLV-1/2-12 ¹⁾	153095
	16 mm	QSLV-1/2-16 ¹⁾	153096
G thread			
G1/8	4 mm	QSLV-G1/8-4	186137
	6 mm	QSLV-G1/8-6	186138
	8 mm	QSLV-G1/8-8	186140
G1/4	6 mm	QSLV-G1/4-6	186139
	8 mm	QSLV-G1/4-8	186141
	10 mm	QSLV-G1/4-10	186143
G3/8	8 mm	QSLV-G3/8-8	186142
	10 mm	QSLV-G3/8-10	186144
	12 mm	QSLV-G3/8-12	186145
G1/2	12 mm	QSLV-G1/2-12 ¹⁾	186146
	16 mm	QSLV-G1/2-16 ¹⁾	186147



1) Packaging unit 1 piece

Push-in L-connector QSL, L-shape

Connection 1	Connection 2	Type	Part no.
4 mm	4 mm	QSL-4	153070
6 mm	6 mm	QSL-6	153071
8 mm	8 mm	QSL-8	153072
10 mm	10 mm	QSL-10	153073
12 mm	12 mm	QSL-12	153074
16 mm	16 mm	QSL-16 ¹⁾	153075



1) Packaging unit 1 piece

Push-in L-connector QSL-...H, L-shape
With push-in sleeve

Connection 1	Connection 2	Type	Part no.
4 mm	4 mm	QSL-4H	153056
6 mm	6 mm	QSL-6H	153057
8 mm	8 mm	QSL-8H	153058
10 mm	10 mm	QSL-10H	153059
12 mm	12 mm	QSL-12H	153060
Reducing			
6 mm	4 mm	QSL-6H-4	153061
8 mm	6 mm	QSL-8H-6	153062
10 mm	6 mm	QSL-10H-8	153063
12 mm	10 mm	QSL-12H-10	153064
Long push-in sleeve			
4 mm	4 mm	QSL-4HL	153065
6 mm	6 mm	QSL-6HL	153066
8 mm	8 mm	QSL-8HL	153067
10 mm	10 mm	QSL-10HL	153068
12 mm	12 mm	QSL-12HL	153069

Push-in T-fitting QST, T-shape, rotatable
Male thread with external hex

Connection 1	Connection 2	Type	Part no.
R thread			
R1/8	4 mm	QST-1/8-4	153106
	6 mm	QST-1/8-6	153107
	8 mm	QST-1/8-8	153109
	10 mm	QST-1/8-10	190667
R1/4	4 mm	QST-1/4-4	190668
	6 mm	QST-1/4-6	153108
	8 mm	QST-1/4-8	153110
	10 mm	QST-1/4-10	153112
R3/8	12 mm	QST-1/4-12	190669
	6 mm	QST-3/8-6	190670
	8 mm	QST-3/8-8	153111
	10 mm	QST-3/8-10	153113
R1/2	12 mm	QST-3/8-12	153114
	16 mm	QST-3/8-16 ¹⁾	164959
	10 mm	QST-1/2-10 ¹⁾	190672
	12 mm	QST-1/2-12 ¹⁾	153115
	16 mm	QST-1/2-16 ¹⁾	153116



1) Packaging unit 1 piece

Fittings >

Push-in fittings/connectors QS, standard series

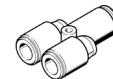
Ordering

Push-in T-connector QST, T-shape			
Connection 1	Connection 2	Type	Part no.
4 mm	4 mm	QST-4	153128
6 mm	6 mm	QST-6	153129
8 mm	8 mm	QST-8	153130
10 mm	10 mm	QST-10	153131
12 mm	12 mm	QST-12	153132
16 mm	16 mm	QST-16 ¹⁾	153133
Reducing			
6 mm	4 mm	QST-6-4	153134
8 mm	4 mm	QST-8-4	130613
	6 mm	QST-8-6	153135
10 mm	6 mm	QST-10-6	130614
	8 mm	QST-10-8	153136
12 mm	8 mm	QST-12-8	130615
	10 mm	QST-12-10	153137
16 mm	12 mm	QST-16-12 ¹⁾	130616



1) Packaging unit 1 piece

Push-in Y-connector QSY, Y-shape			
Connection 1	Connection 2	Type	Part no.
Push-in connector/push-in connector			
4 mm	4 mm	QSY-4	153148
6 mm	6 mm	QSY-6	153149
8 mm	8 mm	QSY-8	153150
10 mm	10 mm	QSY-10	153151
12 mm	12 mm	QSY-12	153152
16 mm	16 mm	QSY-16 ¹⁾	130609
Reducing (2 reduced outlets)			
6 mm	4 mm	QSY-6-4	153153
8 mm	4 mm	QSY-8-4	130610
	6 mm	QSY-8-6	153154
10 mm	6 mm	QSY-10-6	130611
	8 mm	QSY-10-8	153155
12 mm	8 mm	QSY-12-8	130612
	10 mm	QSY-12-10	153156
16 mm	12 mm	QSY-16-12 ¹⁾	190708



1) Packaging unit 1 piece

Push-in T-fitting QSTL, T-shape, rotatable Male thread with external hex			
Connection 1	Connection 2	Type	Part no.
R thread			
R1/8	4 mm	QSTL-1/8-4	153117
	6 mm	QSTL-1/8-6	153118
	8 mm	QSTL-1/8-8	153120
R1/4	6 mm	QSTL-1/4-6	153119
	8 mm	QSTL-1/4-8	153121
	10 mm	QSTL-1/4-10	153123
R3/8	8 mm	QSTL-3/8-8	153122
	10 mm	QSTL-3/8-10	153124
	12 mm	QSTL-3/8-12	153125
R1/2	12 mm	QSTL-1/2-12 ¹⁾	153126
	16 mm	QSTL-1/2-16 ¹⁾	153127



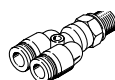
1) Packaging unit 1 piece

Push-in Y-fitting QSYL, Y-shape, rotatable Male thread with external hex			
Connection 1	Connection 2	Type	Part no.
R thread			
R1/8	4 mm	QSYL-1/8-4 ¹⁾	153172
	6 mm	QSYL-1/8-6 ¹⁾	153173
	8 mm	QSYL-1/8-8 ¹⁾	153175
R1/4	6 mm	QSYL-1/4-6 ¹⁾	153174
	8 mm	QSYL-1/4-8 ¹⁾	153176
	10 mm	QSYL-1/4-10 ¹⁾	153178
R3/8	8 mm	QSYL-3/8-8 ¹⁾	153177
	10 mm	QSYL-3/8-10 ¹⁾	153179
	12 mm	QSYL-3/8-12 ¹⁾	153180
R1/2	12 mm	QSYL-1/2-12 ¹⁾	153181



1) Packaging unit 1 piece

Push-in Y-fitting QSY, Y-shape, rotatable Male thread with external hex			
Connection 1	Connection 2	Type	Part no.
M thread with sealing ring			
M5	4 mm	QSY-M5-4	190673
	6 mm	QSY-M5-6	190674
R thread			
R1/8	4 mm	QSY-1/8-4	153138
	6 mm	QSY-1/8-6	153139
	8 mm	QSY-1/8-8	153141
R1/4	4 mm	QSY-1/4-4	190675
	6 mm	QSY-1/4-6	153140
	8 mm	QSY-1/4-8	153142
	10 mm	QSY-1/4-10	153144
R3/8	8 mm	QSY-3/8-8	153143
	10 mm	QSY-3/8-10	153145
	12 mm	QSY-3/8-12	153146
R1/2	10 mm	QSY-1/2-10 ¹⁾	133196
	12 mm	QSY-1/2-12 ¹⁾	153147



1) Packaging unit 1 piece



NPQH-H-G18F-Q8-P10



NPQH-H-Q4-E-P10



NPQH-L-G14-Q10-P10



NPQH-T-G14-Q6-P10



NPQH-D-S8-Q6-P10



NPQH-D-Q8-E-P10



NPQH-Y-Q10-E-P10



NPQH-P-S8-P10

- All metal push-in fitting/connector made of chemically nickel-plated brass
- High corrosion and chemical resistance
- FDA-compliant for the food and packaging industry (see www.festo.com/certificates/NPQH)
- For pneumatic applications with a temperature range up to 150 °C and a pressure range up to 20 bar

Order code

001	002	003	004	005	006	007	008
NPQH							P10

Legend: Mandatory entry Optional entry

001	Type
NPQH	All metal push-in fitting/connector

002	Design
B	Plug screw
D	Straight
H	Push-in bulkhead connector
L	L-shape
P	Blanking plug
T	T-shape
Y	Y-shape

003	Additional features
–	Without
L	Long

004	Installation method
–	Standard
K	Internal hex

005	Pneumatic connection 1		
M5	M thread M5	Q10	Push-in connector 10 mm
M7	M thread M7	Q12	Push-in connector 12 mm
G18	G thread G1/8	Q14	Push-in connector 14 mm
G14	G thread G1/4	S4	Push-in sleeve 4 mm
G38	G thread G3/8	S6	Push-in sleeve 6 mm
G12	G thread G1/2	S8	Push-in sleeve 8 mm
Q4	Push-in connector 4 mm	S10	Push-in sleeve 10 mm
Q6	Push-in connector 6 mm	S12	Push-in sleeve 12 mm
Q8	Push-in connector 8 mm	S14	Push-in sleeve 14 mm

006	Connection type
–	Standard
F	Female thread

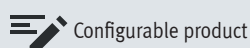
007	Pneumatic connection 2		
–	Without	Q14	Push-in connector 14 mm
E	Same size as connection 1	S4	Push-in sleeve 4 mm
Q4	Push-in connector 4 mm	S6	Push-in sleeve 6 mm
Q6	Push-in connector 6 mm	S8	Push-in sleeve 8 mm
Q8	Push-in connector 8 mm	S10	Push-in sleeve 10 mm
Q10	Push-in connector 10 mm	S12	Push-in sleeve 12 mm
Q12	Push-in connector 12 mm	S14	Push-in sleeve 14 mm

008	Packaging unit
P10	10 pieces

Product options

Additional features:

- S Rotatable
LS Long, rotatable



Configurable product

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

→ www.festo.com/catalogue/npqh

Fittings >

Push-in fittings/connectors NPQH

Ordering

Push-in fitting NPQH-D Male thread with external hex			
Connection 1	Connection 2	Type	Part no.
M thread with sealing ring			
M5	4 mm	NPQH-D-M5-Q4-P10	578334
	6 mm	NPQH-D-M5-Q6-P10	578335
M7	4 mm	NPQH-D-M7-Q4-P10	578336
	6 mm	NPQH-D-M7-Q6-P10	578337
G thread with sealing ring			
G1/8	4 mm	NPQH-D-G18-Q4-P10	578338
	6 mm	NPQH-D-G18-Q6-P10	578339
	8 mm	NPQH-D-G18-Q8-P10	578340
G1/4	6 mm	NPQH-D-G14-Q6-P10	578341
	8 mm	NPQH-D-G14-Q8-P10	578342
	10 mm	NPQH-D-G14-Q10-P10	578343
	12 mm	NPQH-D-G14-Q12-P10	578344
G3/8	8 mm	NPQH-D-G38-Q8-P10	578345
	10 mm	NPQH-D-G38-Q10-P10	578346
	12 mm	NPQH-D-G38-Q12-P10	578347
	14 mm	NPQH-D-G38-Q14-P10	578348
G1/2	10 mm	NPQH-D-G12-Q10-P10	578349
	12 mm	NPQH-D-G12-Q12-P10	578350
	14 mm	NPQH-D-G12-Q14-P10	578351



Push-in fitting NPQH-DK Male thread with internal hex			
Connection 1	Connection 2	Type	Part no.
M thread with sealing ring			
M5	4 mm	NPQH-DK-M5-Q4-P10	578370
	6 mm	NPQH-DK-M5-Q6-P10	8114987
M7	4 mm	NPQH-DK-M7-Q4-P10	578372
	6 mm	NPQH-DK-M7-Q6-P10	8114986
G thread with sealing ring			
G1/8	4 mm	NPQH-DK-G18-Q4-P10	578374
	6 mm	NPQH-DK-G18-Q6-P10	578375
	8 mm	NPQH-DK-G18-Q8-P10	578376
G1/4	8 mm	NPQH-DK-G14-Q8-P10	578377
	10 mm	NPQH-DK-G14-Q10-P10	578378
G3/8	12 mm	NPQH-DK-G38-Q12-P10	578379



Push-in fitting NPQH-D Female thread with external hex			
Connection 1	Connection 2	Type	Part no.
G1/8	4 mm	NPQH-D-G18F-Q4-P10	578352
	6 mm	NPQH-D-G18F-Q6-P10	578353
	8 mm	NPQH-D-G18F-Q8-P10	578354
G1/4	4 mm	NPQH-D-G14F-Q4-P10	578355
	6 mm	NPQH-D-G14F-Q6-P10	578356
	8 mm	NPQH-D-G14F-Q8-P10	578357



Push-in connector NPQH-D			
Connection 1	Connection 2	Type	Part no.
4 mm	4 mm	NPQH-D-Q4-E-P10	578323
6 mm	6 mm	NPQH-D-Q6-E-P10	578324
8 mm	8 mm	NPQH-D-Q8-E-P10	578325
10 mm	10 mm	NPQH-D-Q10-E-P10	578326
12 mm	12 mm	NPQH-D-Q12-E-P10	578327
14 mm	14 mm	NPQH-D-Q14-E-P10	578328



Push-in connector NPQH-D Reducing			
Connection 1	Connection 2	Type	Part no.
6 mm	4 mm	NPQH-D-Q6-Q4-P10	578329
8 mm	6 mm	NPQH-D-Q8-Q6-P10	578330
12 mm	8 mm	NPQH-D-Q12-Q8-P10	578331
14 mm	10 mm	NPQH-D-Q14-Q10-P10	578332
14 mm	12 mm	NPQH-D-Q14-Q12-P10	578333



Push-in fitting NPQH-D With push-in sleeve			
Connection 1	Connection 2	Type	Part no.
M thread with sealing ring			
M5	4 mm	NPQH-D-M5-S4-P10	578358
	6 mm	NPQH-D-M5-S6-P10	578359
G thread with sealing ring			
G1/8	4 mm	NPQH-D-G18-S4-P10	578360
	6 mm	NPQH-D-G18-S6-P10	578361
	8 mm	NPQH-D-G18-S8-P10	578362
G1/4	6 mm	NPQH-D-G14-S6-P10	578363
	8 mm	NPQH-D-G14-S8-P10	578364
	10 mm	NPQH-D-G14-S10-P10	578365
	12 mm	NPQH-D-G14-S12-P10	578366
G3/8	10 mm	NPQH-D-G38-S10-P10	578367
	12 mm	NPQH-D-G38-S12-P10	578368
G1/2	12 mm	NPQH-D-G12-S12-P10	578369



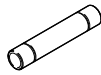
Push-in connector NPQH-D With push-in sleeve			
Connection 1	Connection 2	Type	Part no.
4 mm	6 mm	NPQH-D-S6-Q4-P10	578304
	8 mm	NPQH-D-S8-Q4-P10	578305
	10 mm	NPQH-D-S10-Q4-P10	578307
6 mm	8 mm	NPQH-D-S8-Q6-P10	578306
	10 mm	NPQH-D-S10-Q6-P10	578308
	12 mm	NPQH-D-S12-Q6-P10	578310
	14 mm	NPQH-D-S14-Q6-P10	578313
8 mm	10 mm	NPQH-D-S10-Q8-P10	578309
	12 mm	NPQH-D-S12-Q8-P10	578311
	14 mm	NPQH-D-S14-Q8-P10	578314
10 mm	12 mm	NPQH-D-S12-Q10-P10	578312
	14 mm	NPQH-D-S14-Q10-P10	578315
12 mm	14 mm	NPQH-D-S14-Q12-P10	578316



Ordering

Push-in sleeve NPQH-D

Connection 1	Connection 2	Type	Part no.
4 mm	4 mm	NPQH-D-S4-E-P10	578317
6 mm	6 mm	NPQH-D-S6-E-P10	578318
8 mm	8 mm	NPQH-D-S8-E-P10	578319
10 mm	10 mm	NPQH-D-S10-E-P10	578320
12 mm	12 mm	NPQH-D-S12-E-P10	578321
14 mm	14 mm	NPQH-D-S14-E-P10	578322



Push-in bulkhead fitting NPQH-H

Female thread with external hex

Connection 1	Connection 2	Type	Part no.
G thread with sealing ring			
G1/8	4 mm	NPQH-H-G18F-Q4-P10	578294
	6 mm	NPQH-H-G18F-Q6-P10	578295
	8 mm	NPQH-H-G18F-Q8-P10	578296
G1/4	6 mm	NPQH-H-G14F-Q6-P10	578297
	8 mm	NPQH-H-G14F-Q8-P10	578298



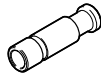
Push-in bulkhead fitting NPQH-H

Connection 1	Connection 2	Type	Part no.
4 mm	4 mm	NPQH-H-Q4-E-P10	578299
6 mm	6 mm	NPQH-H-Q6-E-P10	578300
8 mm	8 mm	NPQH-H-Q8-E-P10	578301
10 mm	10 mm	NPQH-H-Q10-E-P10	578302
12 mm	12 mm	NPQH-H-Q12-E-P10	578303



Blanking plug NPQH-P

Connection 1	Connection 2	Type	Part no.
4 mm	–	NPQH-P-S4-P10	578257
6 mm	–	NPQH-P-S6-P10	578258
8 mm	–	NPQH-P-S8-P10	578259
10 mm	–	NPQH-P-S10-P10	578260
12 mm	–	NPQH-P-S12-P10	578261
14 mm	–	NPQH-P-S14-P10	578262



Plug screw NPQH-BK

Connection 1	Connection 2	Type	Part no.
M thread with sealing ring			
M5	–	NPQH-BK-M5-P10	578404
M7	–	NPQH-BK-M7-P10	578405
G thread with sealing ring			
G1/8	–	NPQH-BK-G18-P10	578406
G1/4	–	NPQH-BK-G14-P10	578407
G3/8	–	NPQH-BK-G38-P10	578408
G1/2	–	NPQH-BK-G12-P10	578409



Push-in L-fitting NPQH-L

Rotatable 360°, male thread, with external hex

Connection 1	Connection 2	Type	Part no.
M thread with sealing ring			
M5	4 mm	NPQH-L-M5-Q4-P10	578276
	6 mm	NPQH-L-M5-Q6-P10	578277
M7	4 mm	NPQH-L-M7-Q4-P10	578278
	6 mm	NPQH-L-M7-Q6-P10	578279
G thread with sealing ring			
G1/8	4 mm	NPQH-L-G18-Q4-P10	578280
	6 mm	NPQH-L-G18-Q6-P10	578281
	8 mm	NPQH-L-G18-Q8-P10	578282
G1/4	6 mm	NPQH-L-G14-Q6-P10	578283
	8 mm	NPQH-L-G14-Q8-P10	578284
	10 mm	NPQH-L-G14-Q10-P10	578285
	12 mm	NPQH-L-G14-Q12-P10	578286
G3/8	8 mm	NPQH-L-G38-Q8-P10	578287
	10 mm	NPQH-L-G38-Q10-P10	578288
	12 mm	NPQH-L-G38-Q12-P10	578289
	14 mm	NPQH-L-G38-Q14-P10	578290
G1/2	10 mm	NPQH-L-G12-Q10-P10	578291
	12 mm	NPQH-L-G12-Q12-P10	578292
	14 mm	NPQH-L-G12-Q14-P10	578293



Push-in L-fitting, long, NPQH-LL

Rotatable 360°, male thread, with external hex

Connection 1	Connection 2	Type	Part no.
G1/8	4 mm	NPQH-LL-G18-Q4-P10	578263
	6 mm	NPQH-LL-G18-Q6-P10	578264
	8 mm	NPQH-LL-G18-Q8-P10	578265
G1/4	6 mm	NPQH-LL-G14-Q6-P10	578266
	8 mm	NPQH-LL-G14-Q8-P10	578267
	10 mm	NPQH-LL-G14-Q10-P10	578268
G3/8	10 mm	NPQH-LL-G38-Q10-P10	578269



Push-in L-connector NPQH-L

Connection 1	Connection 2	Type	Part no.
4 mm	4 mm	NPQH-L-Q4-E-P10	578270
6 mm	6 mm	NPQH-L-Q6-E-P10	578271
8 mm	8 mm	NPQH-L-Q8-E-P10	578272
10 mm	10 mm	NPQH-L-Q10-E-P10	578273
12 mm	12 mm	NPQH-L-Q12-E-P10	578274
14 mm	14 mm	NPQH-L-Q14-E-P10	578275



Fittings >

Push-in fittings/connectors NPQH

Ordering

Push-in T-fitting NPQH-T			
Rotatable 360°, male thread, with external hex			
Connection 1	Connection 2	Type	Part no.
M thread with sealing ring			
M5	4 mm	NPQH-T-M5-Q4-P10	578390
	6 mm	NPQH-T-M5-Q6-P10	578391
G thread with sealing ring			
G1/8	4 mm	NPQH-T-G18-Q4-P10	578392
	6 mm	NPQH-T-G18-Q6-P10	578393
	8 mm	NPQH-T-G18-Q8-P10	578394
G1/4	6 mm	NPQH-T-G14-Q6-P10	578395
	8 mm	NPQH-T-G14-Q8-P10	578396
	10 mm	NPQH-T-G14-Q10-P10	578397
	12 mm	NPQH-T-G14-Q12-P10	578398
G3/8	8 mm	NPQH-T-G38-Q8-P10	578399
	10 mm	NPQH-T-G38-Q10-P10	578400
	12 mm	NPQH-T-G38-Q12-P10	578401
G1/2	10 mm	NPQH-T-G12-Q10-P10	578402
	12 mm	NPQH-T-G12-Q12-P10	578403



Push-in Y-connector NPQH-Y			
Connection 1	Connection 2	Type	Part no.
6 mm	6 mm	NPQH-Y-Q6-E-P10	578410
8 mm	8 mm	NPQH-Y-Q8-E-P10	578411
10 mm	10 mm	NPQH-Y-Q10-E-P10	578412
Reducing			
6 mm	4 mm	NPQH-Y-Q6-Q4-P10	578413
8 mm	6 mm	NPQH-Y-Q8-Q6-P10	578414
10 mm	8 mm	NPQH-Y-Q10-Q8-P10	578415



Push-in T-connector NPQH-T			
Connection 1	Connection 2	Type	Part no.
4 mm	4 mm	NPQH-T-Q4-E-P10	578380
6 mm	6 mm	NPQH-T-Q6-E-P10	578381
8 mm	8 mm	NPQH-T-Q8-E-P10	578382
10 mm	10 mm	NPQH-T-Q10-E-P10	578383
12 mm	12 mm	NPQH-T-Q12-E-P10	578384
14 mm	14 mm	NPQH-T-Q14-E-P10	578385
Reducing			
6 mm	4 mm	NPQH-T-Q6-Q4-P10	578386
8 mm	6 mm	NPQH-T-Q8-Q6-P10	578387
10 mm	8 mm	NPQH-T-Q10-Q8-P10	578388
12 mm	10 mm	NPQH-T-Q12-Q10-P10	578389



Threaded fittings NPFC



- Nickel-plated brass
- Resistant to mechanical loads
- For service units, control cabinet construction or the easy installation of pneumatic controllers
- For pneumatic applications with a temperature range up to 150 °C and a pressure range up to 50 bar

Order code

001 002 003 004 005 006 007
 NPFC - - - - - -

Legend: Mandatory entry Optional entry

001	Type
NPFC	Threaded fitting
002	Design
S	Sleeve, straight
R	Reducing sleeve, straight
E...	Extension, straight, length 1 ... length 4
D	Double nipple, male thread/male thread
R	Reducing nipple
H	Bulkhead fitting
L	Fitting, L-shape
T	Fitting, T-shape
Y	Fitting, Y-shape
X	Fitting, X-shape

003	Number connection type 1
–	1x available
2	2x available
3	3x available
4	4x available

004	Pneumatic connection 1		
M3	M thread M3	R18	R thread R1/8
M5	M thread M5	R14	R thread R1/4
M7	M thread M7	R38	R thread R3/8
G18	G thread G1/8	R12	R thread R1/2
G14	G thread G1/4	R34	R thread R3/4
G38	G thread G3/8	R1	R thread R1
G12	G thread G1/2		
G34	G thread G3/4		
G1	G thread G1		

005	Pneumatic connection 2		
M3	M thread M3	R18	R thread R1/8
M5	M thread M5	R14	R thread R1/4
M7	M thread M7	R38	R thread R3/8
G18	G thread G1/8	R12	R thread R1/2
G14	G thread G1/4	R34	R thread R3/4
G38	G thread G3/8	R1	R thread R1
G12	G thread G1/2		
G34	G thread G3/4		
G1	G thread G1		

006	Thread type
F	With female thread
M	With male thread

007	Packaging unit
–	10 pieces

Fittings >

Threaded fittings NPFC

Ordering

Sleeve NPFC-S, straight Female thread



Connection 1	Connection 2	Type	Part no.
M thread			
M5	M5	NPFC-S-2M5-F	8030290
G thread			
G1/8	G1/8	NPFC-S-2G18-F	8030291
G1/4	G1/4	NPFC-S-2G14-F	8030292
G3/8	G3/8	NPFC-S-2G38-F	8030293
G1/2	G1/2	NPFC-S-2G12-F	8030294
G3/4	G3/4	NPFC-S-2G34-F	8030295

Reducing sleeve NPFC-R, straight Female thread



Connection 1	Connection 2	Type	Part no.
M thread			
M5	G1/8	NPFC-R-G18-M5-F	8069219
G thread			
G1/8	G1/4	NPFC-R-G14-G18-F	8069220
	G3/8	NPFC-R-G38-G18-F	8030296
	G1/2	NPFC-R-G12-G18-F	8069222
G1/4	G3/8	NPFC-R-G38-G14-F	8069221
	G1/2	NPFC-R-G12-G14-F	8069223
G3/8	G1/2	NPFC-R-G12-G38-F	8069224
G1/2	G3/4	NPFC-R-G34-G12-F	8030297
	G1	NPFC-R-G1-G12-F	8069225
G3/4	G1	NPFC-R-G1-G34-F	8069226

Extension NPFC-E..., straight Male thread/female thread



Connection 1	Connection 2	Type	Part no.
Length 1			
M5	M5	NPFC-E1-2M5-FM	8069218
G1/8	G1/8	NPFC-E1-2G18-FM	8030298
G1/4	G1/4	NPFC-E1-2G14-FM	8030299
G3/8	G3/8	NPFC-E1-2G38-FM	8030300
G1/2	G1/2	NPFC-E1-2G12-FM	8030301
Length 2			
G1/8	G1/8	NPFC-E2-2G18-FM	8030302
G1/4	G1/4	NPFC-E2-2G14-FM	8030303
Length 3			
G1/8	G1/8	NPFC-E3-2G18-FM	8030304
G1/4	G1/4	NPFC-E3-2G14-FM	8030305
Length 4			
G1/8	G1/8	NPFC-E4-2G18-FM	8030306

Double nipple NPFC-D, straight Male thread



Connection 1	Connection 2	Type	Part no.
M thread			
M3	M3	NPFC-D-2M3-M	8069210
M5	M5	NPFC-D-2M5-M	8030267
	G1/8	NPFC-D-M5-G18-M	8069211
M7	G1/8	NPFC-D-M7-G18-M	8030268
G thread			
G1/8	G1/8	NPFC-D-2G18-M	8030269
	G1/4	NPFC-D-G18-G14-M	8030270
	G3/8	NPFC-D-G18-G38-M	8030271
G1/4	G1/4	NPFC-D-2G14-M	8030272
	G3/8	NPFC-D-G14-G38-M	8030273
	G1/2	NPFC-D-G14-G12-M	8030274
G3/8	G3/8	NPFC-D-2G38-M	8030275
	G1/2	NPFC-D-G38-G12-M	8030276
G1/2	G1/2	NPFC-D-2G12-M	8030277
	G3/4	NPFC-D-G12-G34-M	8069216
G3/4	G3/4	NPFC-D-2G34-M	8069217
R thread			
R1/8	R1/8	NPFC-D-2R18-M	8030278
	R1/4	NPFC-D-R18-R14-M	8030279
	R3/8	NPFC-D-R18-R38-M	8030280
R1/4	R1/4	NPFC-D-2R14-M	8030281
	R3/8	NPFC-D-R14-R38-M	8030282
	R1/2	NPFC-D-R14-R12-M	8030283
R3/8	R3/8	NPFC-D-2R38-M	8030284
	R1/2	NPFC-D-R38-R12-M	8030285
R1/2	R1/2	NPFC-D-2R12-M	8030286
	R3/4	NPFC-D-R12-R34-M	8030287
R3/4	R3/4	NPFC-D-2R34-M	8030288
R1	R1	NPFC-D-2R1-M	8030289

Reducing nipple NPFC-R



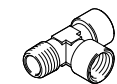
Connection 1	Connection 2	Type	Part no.
Female thread/male thread			
M5	G1/8	NPFC-R-G18-M5-FM	8030314
G1/8	G1/4	NPFC-R-G14-G18-FM	8030315
	G3/8	NPFC-R-G38-G18-FM	8030316
G1/4	G3/8	NPFC-R-G38-G14-FM	8030317
G3/8	G1/4	NPFC-R-G12-G38-FM	8030318
Male thread/female thread			
M5	M3	NPFC-R-M5-M3-MF	8069227
M7	M5	NPFC-R-M7-M5-MF	8069228
G1/8	M5	NPFC-R-G18-M5-MF	8030307
G1/4	M5	NPFC-R-G14-M5-MF	8069229
	G1/8	NPFC-R-G14-G18-MF	8030308
G3/8	G1/8	NPFC-R-G38-G18-MF	8030309
	G1/4	NPFC-R-G38-G14-MF	8030310
G1/2	G1/4	NPFC-R-G12-G14-MF	8030311
G1/2	G3/8	NPFC-R-G12-G38-MF	8030312
G3/4	G1/4	NPFC-R-G34-G14-MF	8069234
	G3/8	NPFC-R-G34-G38-MF	8069235
	G1/2	NPFC-R-G34-G12-MF	8030313
G1	G1/2	NPFC-R-G1-G12-MF	8069237
	G3/4	NPFC-R-G1-G34-MF	8069238

Ordering

Bulkhead fitting NPFC-H			
Connection 1	Connection 2	Type	Part no.
Female thread/female thread			
M5	M5	NPFC-H-M5-F	8069239
G1/8	G1/8	NPFC-H-G18-F	8069240
G1/4	G1/4	NPFC-H-G14-F	8069241
G3/8	G3/8	NPFC-H-G38-F	8069242
G1/2	G1/2	NPFC-H-G12-F	8069243

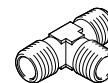


Elbow fitting NPFC-L, L-shape			
Connection 1	Connection 2	Type	Part no.
Female thread/female thread			
M5	M5	NPFC-L-2M5-F	8030208
G1/8	G1/8	NPFC-L-2G18-F	8030209
G1/4	G1/4	NPFC-L-2G14-F	8030210
G3/8	G3/8	NPFC-L-2G38-F	8030211
G1/2	G1/2	NPFC-L-2G12-F	8030212
G3/4	G3/4	NPFC-L-2G34-F	8030213
G1	G1	NPFC-L-2G1-F	8030214
Male thread/female thread			
M5	M5	NPFC-L-2M5-MF	8030215
R1/8	G1/8	NPFC-L-R18-G18-MF	8030216
R1/4	G1/4	NPFC-L-R14-G14-MF	8030217
R3/8	G3/8	NPFC-L-R38-G38-MF	8030218
R1/2	G1/2	NPFC-L-R12-G12-MF	8030219
R3/4	G3/4	NPFC-L-R34-G34-MF	8030220
R1	G1	NPFC-L-R1-G1-MF	8030221
Male thread/male thread			
M5	M5	NPFC-L-2M5-M	8030222
R1/8	R1/8	NPFC-L-2R18-M	8030223
R1/4	R1/4	NPFC-L-2R14-M	8030224
R3/8	R3/8	NPFC-L-2R38-M	8030225
R1/2	R1/2	NPFC-L-2R12-M	8030226
R3/4	R3/4	NPFC-L-2R34-M	8030227



T-fitting NPFC-T, T-shape			
Connection 1	Connection 2	Type	Part no.
Female thread/female thread/female thread			
G1/8	G1/8	NPFC-T-3G18-F	8030235
G1/4	G1/4	NPFC-T-3G14-F	8030236
G3/8	G3/8	NPFC-T-3G38-F	8030237
G1/2	G1/2	NPFC-T-3G12-F	8030238
G3/4	G3/4	NPFC-T-3G34-F	8030239
G1	G1	NPFC-T-3G1-F	8030240
Female thread/male thread/female thread			
M5	M5	NPFC-T-3M5-FMF	8030245
G1/8	R1/8	NPFC-T-2G18-R18-FMF	8030246
G1/4	R1/4	NPFC-T-2G14-R14-FMF	8030247
G3/8	R3/8	NPFC-T-2G38-R38-FMF	8030248
G1/2	R1/2	NPFC-T-2G12-R12-FMF	8030249
G3/4	R3/4	NPFC-T-2G34-R34-FMF	8030250
G1	R1	NPFC-T-2G1-R1-FMF	8030251
Female thread/male thread/male thread			
G1/8	R1/8	NPFC-T-G18-2R18-FMM	8030255
G1/4	R1/4	NPFC-T-G14-2R14-FMM	8030256
G3/8	R3/8	NPFC-T-G38-2R38-FMM	8030257
G1/2	R1/2	NPFC-T-G12-2R12-FMM	8030258

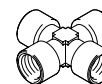
T-fitting NPFC-T, T-shape			
Connection 1	Connection 2	Type	Part no.
Male thread/male thread/male thread			
R1/4	R1/4	NPFC-T-3R14-M	8030252
R3/8	R3/8	NPFC-T-3R38-M	8030253
R1/2	R1/2	NPFC-T-3R12-M	8030254
Male thread/male thread/female thread			
R1/8	G1/8	NPFC-T-2R18-G18-MMF	8030259
R1/4	G1/4	NPFC-T-2R14-G14-MMF	8030260
R1/2	G1/2	NPFC-T-2R12-G12-MMF	8030261
Male thread/female thread/female thread			
M5	M5	NPFC-T-3M5-MFF	8069244
R1/8	G1/8	NPFC-T-R18-2G18-MFF	8030241
R1/4	G1/4	NPFC-T-R14-2G14-MFF	8030242
R3/8	G3/8	NPFC-T-R38-2G38-MFF	8030243
R1/2	G1/2	NPFC-T-R12-2G12-MFF	8030244



Fitting NPFC-Y, Y-shape			
Connection 1	Connection 2	Type	Part no.
Female thread/female thread/female thread			
G1/4	G1/4	NPFC-Y-3G14-F	8030228
G3/8	G3/8	NPFC-Y-3G38-F	8030229
G1/2	G1/2	NPFC-Y-3G12-F	8030230
Male thread/female thread/female thread			
R1/8	G1/8	NPFC-Y-R18-2G18-MFF	8030231
R1/4	G1/4	NPFC-Y-R14-2G14-MFF	8030232
R3/8	G3/8	NPFC-Y-R38-2G38-MFF	8030233
R1/2	G1/2	NPFC-Y-R12-2G12-MFF	8030234



Fitting NPFC-X, X-shape			
Connection 1	Connection 2	Type	Part no.
Female thread/female thread/female thread/female thread			
G1/4	G1/4	NPFC-X-4G14-F	8030262
G3/8	G3/8	NPFC-X-4G38-F	8030263
G1/2	G1/2	NPFC-X-4G12-F	8030264
Male thread/female thread/female thread/female thread			
G1/4	R1/4	NPFC-X-R14-3G14-MFFF	8030265
G1/2	R1/2	NPFC-X-R12-3G12-MFFF	8030266



Blanking plugs B-...



- With sealing ring
- High-alloy stainless steel, aluminium, steel, CU/ZN/NI metals excluded
- M thread, G thread

Order code

001

002

003

004

B

-

-

Legend: Mandatory entry Optional entry

001	Type
B	Blanking plug

002	Pneumatic connection
M3	M thread M3
M5	M thread M5
M7	M thread M7
1/8	G thread G1/8
1/4	G thread G1/4
3/8	G thread G3/8
1/2	G thread G1/2
3/4	G thread G3/4
1	G thread G1

003	Version
–	Standard
S9	Corrosion- and acid-resistant version
F1A	CU/ZN/NI metals excluded (recommended for battery manufacturing)

004	Generation
–	First generation
B	Second generation

Ordering

Blanking plug B				
Pneumatic connection	Material	Type	Part no.	PU ¹⁾
M thread				
With external hexagon and sealing ring				
M3	High-alloy stainless steel	B-M3-S9	30979	10
M5	Aluminium	B-M5	3843	10
With internal hex and sealing ring				
M5	Galvanised steel	B-M5-B	174308	10
	CU/ZN/NI metals excluded	B-M5-F1A ²⁾	8142288	10
M7	Galvanised steel	B-M7	174309	10
	CU/ZN/NI metals excluded	B-M7-F1A ²⁾	8144525	10
G thread				
With internal hex and sealing ring				
G1/8	Galvanised steel	B-1/8	3568	10
	CU/ZN/NI metals excluded	B-1/8-F1A ²⁾	8142289	10
G1/4	Galvanised steel	B-1/4	3569	10
	CU/ZN/NI metals excluded	B-1/4-F1A ²⁾	8142290	10
G3/8	Galvanised steel	B-3/8	3570	10
G1/2		B-1/2	3571	10
G3/4		B-3/4	3572	1
G1		B-1	5763	1

1) Packaging unit
2) Recommended for battery manufacturing



Safety coupling NPHS

- To ISO 4414
- Releasing sleeve made of metal or polymer
- Integrated hand slide valve
- Shut-off at one end

Plug-in coupling KD4/KS4

- For standard applications, without safety function
- Housing made from nickel-plated brass
- Releasing sleeve made from polymer
- Shut-off at one end

Order code

Safety coupling NPHS

001	002	003	004	005	006
NPHS		6			

001	Type
NPHS	Safety coupling
002	Coupling element
D	Quick coupling socket
S	Quick coupling plug
003	Coupling size
6	Size 6
004	Releasing sleeve version
M	Metal
P	Polymer
005	Pneumatic connection 1
G18	G1/8
G14	G1/4
G38	G3/8
G12	G1/2
006	Thread type connection 1
-	Male thread
F	Female thread

Order code

Plug-in coupling KD/KS

001	002	003	004
	4		A

001	Type
KD	Plug-in coupling with quick coupling socket
KS	Plug-in coupling with quick coupling plug
002	Coupling size
4	Size 4
003	Pneumatic connection 1
1/4	G1/4
3/8	G3/8
1/2	G1/2
004	Thread type connection 1
A	Male thread

Legend:

	Mandatory entry
--	-----------------

	Optional entries
--	------------------

Product options

Pneumatic connection 1:

- Barbed fitting
- Female thread
- Quick connector with union nut
- Bulkhead quick connector with union nut

Configurable product

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

→ www.festo.com/catalogue/nphs

→ www.festo.com/catalogue/kd

Ordering – Safety coupling: quick coupling socket/plug NPHS

Quick coupling socket/plug combination NPHS – 004 Metal releasing sleeve						
		Type	Quick coupling socket NPHS-D6-M			
		Part no.	–	NPHS-D6-M-G14	NPHS-D6-M-G38	NPHS-D6-M-G12
			Male thread G1/8	Male thread G1/4	Male thread G3/8	Male thread G1/2
Standard nominal flow rate qnN ¹⁾ for quick coupling socket/plug combination						
Quick coupling plug NPHS-S6	Male thread G1/4	NPHS-S6-M-G14	–	1833 l/min	2100 l/min	2100 l/min
		8059258				
	Male thread G3/8	NPHS-S6-M-G38	–	1800 l/min	2050 l/min	2050 l/min
		8059259				
	Male thread G1/2	NPHS-S6-M-G12	–	1750 l/min	2000 l/min	2000 l/min
		8059260				

1) Measured at p1 = 6 bar and Δp = 1 bar

Quick coupling socket/plug combination NPHS – 004 Polymer releasing sleeve						
		Type	Quick coupling socket NPHS-D6-P			
		Part no.	–	NPHS-D6-P-G18	NPHS-D6-P-G14	NPHS-D6-P-G38
			Male thread G1/8	Male thread G1/4	Male thread G3/8	Male thread G1/2
Standard nominal flow rate qnN ¹⁾ for quick coupling socket/plug combination						
Quick coupling plug NPHS-S6	Male thread G1/8	NPHS-S6-M-G18	875 l/min	1183 l/min	1216 l/min	1233 l/min
		8059257				
	Male thread G1/4	NPHS-S6-M-G14	1038 l/min	1916 l/min	2033 l/min	2016 l/min
		8059258				
	Male thread G3/8	NPHS-S6-M-G38	1038 l/min	1883 l/min	2033 l/min	1983 l/min
		8059259				
Quick coupling plug NPHS-S6	Male thread G1/2	NPHS-S6-M-G12	1002 l/min	1883 l/min	1966 l/min	1950 l/min
		8059260				
	Female thread G1/4	NPHS-S6-M-G14F	1002 l/min	1883 l/min	1950 l/min	1916 l/min
		8059262				
	Female thread G3/8	NPHS-S6-M-G38F	1050 l/min	1966 l/min	2083 l/min	2016 l/min
		8059263				
Quick coupling plug NPHS-S6	Female thread G1/2	NPHS-S6-M-G12F	1038 l/min	1883 l/min	2000 l/min	1983 l/min
		8059264				

1) Measured at p1 = 6 bar and Δp = 1 bar

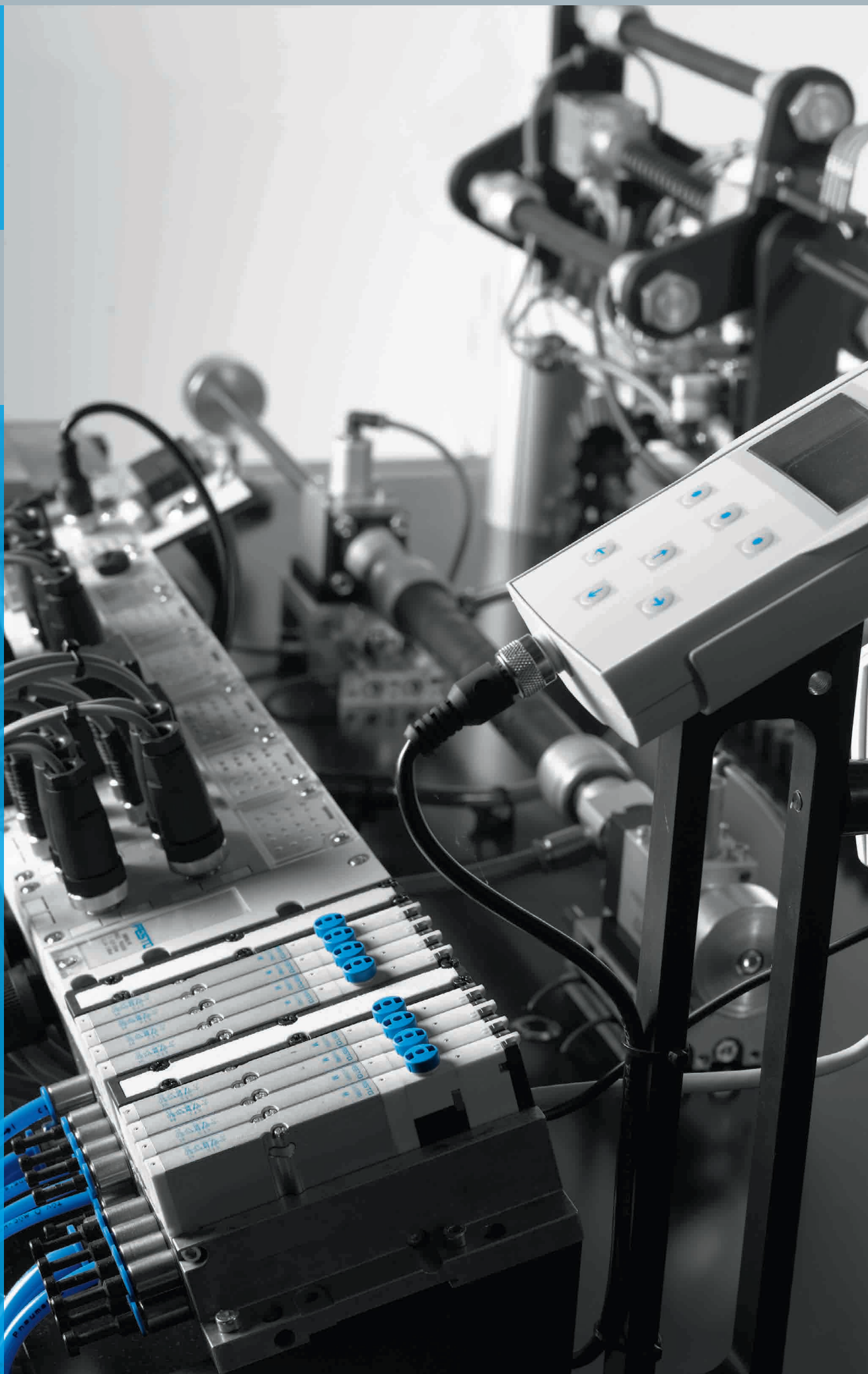
Ordering – plug-in coupling: quick coupling socket/plug KD/KS

Combination of quick coupling socket KD4/plug KS4						
		Type	Quick coupling socket KD4			
		Part no.	–	KD4-1/4-A	KD4-3/8-A	KD4-1/2-A
			Male thread G1/8	Male thread G1/4	Male thread G3/8	Male thread G1/2
Standard nominal flow rate qnN ¹⁾ for quick coupling socket/plug combination						
Quick coupling plug KS4	Male thread G1/4	KS4-1/4-A	–	1260 l/min	1242 l/min	1296 l/min
		2154				
	Male thread G3/8	KS4-3/8-A	–	1283 l/min	1274 l/min	1319 l/min
		2155				
	Male thread G1/2	KS4-1/2-A	–	1283 l/min	1260 l/min	1301 l/min
		531676				

1) Measured at p1 = 6 bar and Δp = 1 bar

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Control technology and software



Highlights

Contents



Automation systems

CPX-AP-A

- + Modular and lightweight IO system in IP65/IP67
- + Powerful remote I/O system that flexibly links 80 modules at a data rate of 200 Mbaud in real time

→ 350



Automation systems

CPX-AP-I

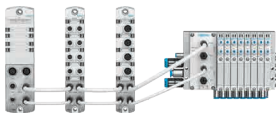
- + Best value for money by combining valve terminals and decentralised I/Os
- + IO-Link master and IO-Link device tool
- + Theoretically up to 500 modules in line, star and tree topology

→ 350

Product overview _____ 350

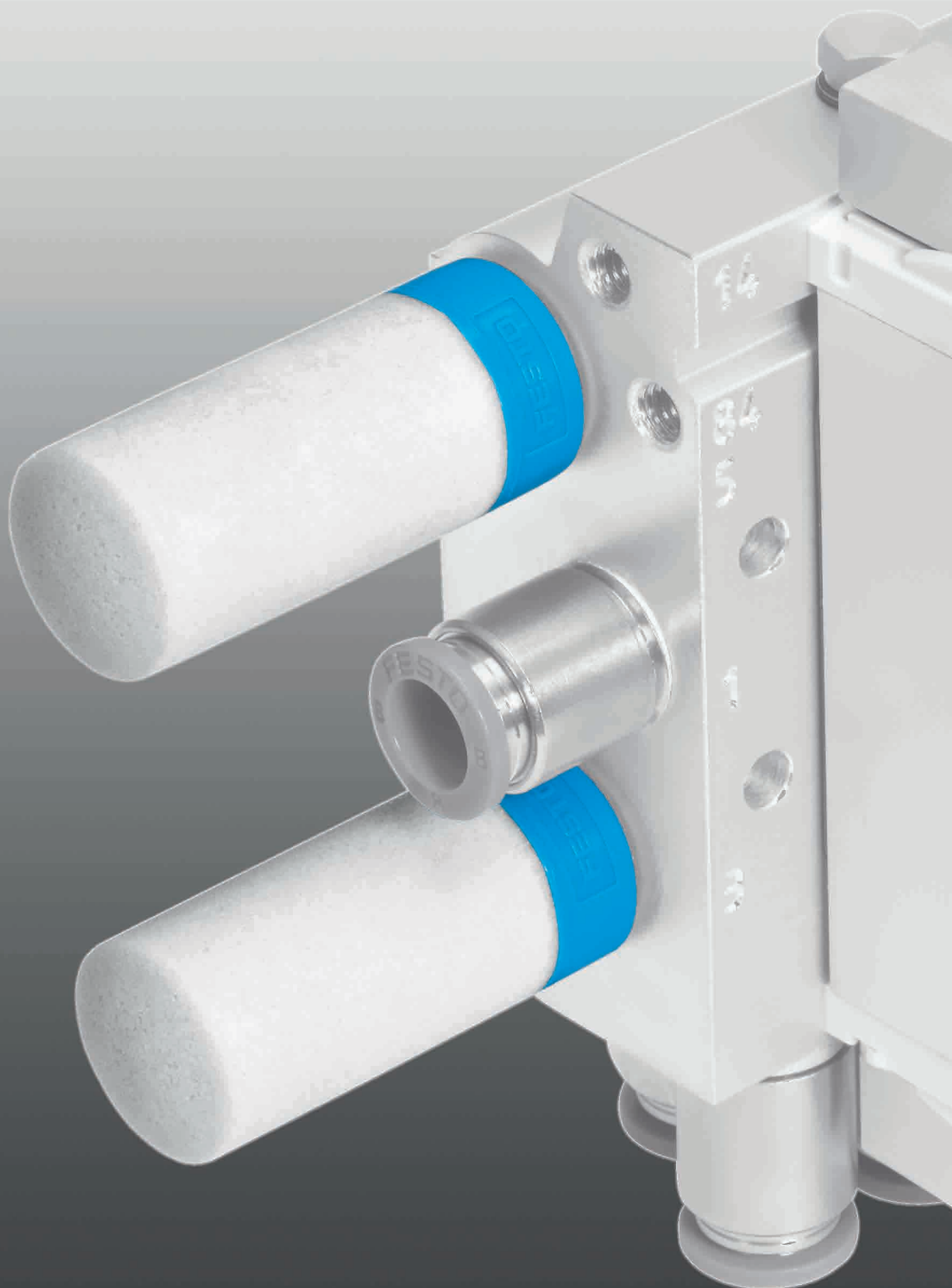
Product overview

Electrical peripherals

	 Automatisierungssysteme CPX-AP-A	 Automation systems CPX-AP-I	 Terminal CPX	 Fieldbus modules CTEU
Protocol	AP	IO-Link, PROFIBUS DP, PROFINET, EtherCAT, EtherNet/IP, Modbus®TCP	Interbus, DeviceNet, CANopen, CC-Link, PROFIBUS DP, PROFINET, EtherCAT, EtherNet/IP, Modbus®TCP, SercosIII, Powerlink, IO-Link®, I-Port, HART	AS-Interface, CANopen, CC-Link, CPI-B, DeviceNet, EtherCAT, EtherNet/IP, PROFINET, Modbus® TCP, PROFIBUS DP, VARAN, I-Port
Electrical actuation	AP interface, Ethernet		Fieldbus, integrated controller	
Max. address volume for inputs	1024 ... 4096 Byte	244 ... 2048 Byte	64 Byte	2 ... 64 Byte
Max. address volume for outputs	1024 ... 4096 Byte	244 ... 2048 Byte	64 Byte	2 ... 64 Byte
Parameterisation			Diagnostic behaviour, failsafe response, forcing of channels, signal setup	Activate diagnostics, diagnostic behaviour, failsafe and idle response, failsafe response, IO-Link mode, watchdog disable, watchdog enable
Degree of protection	IP65, IP67	IP65, IP67	IP65, IP67	IP65, IP67
Nominal operating voltage DC			24 V	24 ... 30 V
Operating voltage range DC			18 ... 30 V	18 ... 31.6 V
Description	- Modular and lightweight IO system in IP65/IP67 - Highly flexible remote IO system with maximum performance - Can be expanded and easily combined with CPX-AP-A and CPX-AP-I to form an integrated system - Seamless connectivity along with advanced diagnostics option increase the machine availability and productivity - Easy to integrate into the controller of your choice: PROFINET, PROFIBUS, EtherCAT®, EtherNet/IP, ModbusTCP, PROFIBUS - Module for IO-Link® available - Real-time capability, transmission rate of 200 Mbit full duplex - Powerful remote I/O system that flexibly links 80 modules at a data rate of 200 Mbaud in real time - Sustainable operation thanks to energy shut-off	- Decentralised and lightweight I/O system in IP65/IP67 - Highly flexible remote IO system with maximum performance - Can be expanded and easily combined with CPX-AP-I and CPX-AP-A to form an integrated system - Seamless connectivity along with advanced diagnostics option increase the machine availability and productivity - Simple integration into the controller of your choice: PROFINET, PROFIBUS, EtherCAT®, EtherNet/IP, ModbusTCP - Module for IO-Link® available - Real-time capability, transmission rate of 200 Mbit full duplex - Powerful remote I/O system that flexibly links 80 modules at a data rate of 200 Mbaud in real-time - Cable lengths of up to 50 m between every module enable vast system dimensions	- Automation platform - Open to all common fieldbus protocols and Ethernet - Integrated diagnostic and maintenance functions - Applicable as stand-alone remote I/O or with valve terminals MPA-S, MPA-L, VTSA/VTSA-F - Choice of polymer or metal interlinking block with individual links - Analogue inputs and outputs, 2-way/4-way, optionally with HART protocol	- For valve terminals VTUG, MPA-L, VTUC - Can be expanded into the installation system CTEL - Fieldbus-typical LEDs, interfaces and switching elements - Isolated power supply for electronics and valves
→ Page/online	237	241	cpx	cteu

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Other pneumatic equipment



Highlights

Contents



Silencers

AMTE

- + Metal design
- + High temperature resistance up to 80 °C
- + Slim width
- + Many different variants
- + Universal applications

→ 356



Silencers

U

- + Polymer design
- + Connection thread G1/8, G1/4, G3/8, G1/2, G3/4, G1
- + Noise level 74 ... 90 dB(A)

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Air reservoirs CRVZS	355
Silencers AMTE	356
Silencers U	357

Product overview

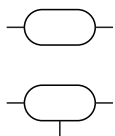
Air reservoirs

	 Air reservoirs CRVZS
Volume	0.1 l, 0.4 l, 0.75 l, 5 l, 2 l, 10 l, 20 l
Information on air reservoir materials	High-alloy stainless steel
Conforms to standard	AD 2000
Condensate drain connection	G3/8
Description	• Corrosion-resistant • Compensation of pressure fluctuations and as accumulators in the event of sudden air consumption • Providing large volumes of compressed air for supplying fast pulsing drives • With connection for condensate drain in some cases • Food-safe, see www.festo.com/catalogue/crivzs > Support / Downloads > Certificates • Designs to EU Pressure Equipment Directive EN 286-1 • Operating media: compressed air, vacuum
→ Page/online	355

Silencers

	 Silencers AMTE	 Silencers U	 Silencers UOM, UOMS
Information on silencer insert materials	Bronze	PE, bronze	PU foam
Pneumatic connection	G1, G1/2, G1/4, G1/8, G3/4, G3/8, M3, M5, 1/8 NPT, 1/4 NPT, 3/8 NPT, 1/2 NPT, 10-32 UNF-2A	G1, G1/2, G1/4, G1/8, G3/4, G3/8, NPT3/4, PK-3, PK-4	G1/4, G3/8
Noise level	55 ... 95 dB(A)	70 ... 90 dB(A)	
Description	• Long or short design • Metal design • Operating medium: compressed air • High temperature resistance up to 80 °C • Slim width • Many different variants • Universal applications	• Compact design, polymer or die-cast metal • Barbed connector or threaded connection • Operating medium: compressed air	• Special open minimal resistance silencer • For vacuum generators • Facilitates trouble-free operation of the vacuum generator • Silencer extension for extending the silencer for further noise reduction • Operating medium: compressed air
→ Page/online	356	357	uom

Air reservoirs CRVZS



- Corrosion-resistant
- Volume up to 20 l
- Compensation of pressure fluctuations and as accumulators in the event of sudden air consumption
- Providing large volumes of compressed air for supplying fast-pulsing drives
- CRVZS-5, -10 and -20 according to EU Pressure Equipment Directive
- Optionally with condensate drain

Ordering

Pneumatic connection	Condensate drain connection	Type of mounting	Volume	Type	Part no.
G1/8	–	Via retaining clips	0.1 l ±20%	CRVZS-0.1	160233
G1/4	–	Via retaining clips	0.4 l ±20%	CRVZS-0.4	160234
		Via retaining clips	0.75 l ±20%	CRVZS-0.75	160235
G1/2	–	Via through-hole	2 l ±10%	CRVZS-2	160236
G1	G3/8	Via through-hole	5 l ±10%	CRVZS-5	192159
		Via through-hole	10 l ±10%	CRVZS-10	160237
		Via through-hole	20 l ±10%	CRVZS-20	534845

Silencers AMTE



- Suitable for reducing noise at the exhaust ports of pneumatic systems
- Metal design
- Long version

Ordering

Version	Type	Part no.	PU ¹⁾	Connection D1		Noise level
				M thread	G thread	[dB (A)]
Long version						
	AMTE-M-LH-M5	1205858	20	M5	–	< 72
	AMTE-M-LH-G18	1205860	20	–	G1/8	< 76
	AMTE-M-LH-G14	1205861	20	–	G1/4	< 83
	AMTE-M-LH-G38	1205862	10	–	G3/8	< 82
	AMTE-M-LH-G12	1205863	10	–	G1/2	< 88
	AMTE-M-LH-G34	1205864	10	–	G3/4	< 85
	AMTE-M-LH-G1	1205865	10	–	G1	< 88

1) Packaging unit

Product options

Connection D1

- M3
- NPT thread

Short version

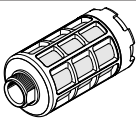
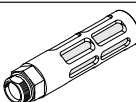
Silencers U



- For noise reduction at the exhaust ports of pneumatic components

- Polymer or die-cast metal design

Ordering

Version	Type	Part no.	PU ¹⁾	Connection D1 G thread	Noise level [dB (A)]
Polymer, male thread					
	U-1/8	2307	1	G1/8	< 74
	U-1/4	2316	1	G1/4	< 76
	U-3/8	2309	1	G3/8	< 82
	U-1/2	2310	1	G1/2	< 82
	U-3/4	2311	1	G3/4	< 85
	U-1	2312	1	G1	< 90
Die-cast metal					
	U-1/8-B	6841	1	G1/8	< 74
	U-1/4-B	6842	1	G1/4	< 80
	U-3/8-B	6843	1	G3/8	< 80
	U-1/2-B	6844	1	G1/2	< 81

1) Packaging unit

Product options

Version

- Sintered metal
- Polymer, female thread
- NPT thread

Connection

- PK-3, PK-4

15

Process automation



Highlights



Limit switch attachments

SRBK

- + Sturdy design perfect for harsh conditions
- + Quick and easy assembly
- 372



Positioners

CMSH

- + Highly dynamic positioning system
- + Large display
- + Setup wizard for efficient and easy commissioning
- 380



Quarter turn actuators

DFPD

- + Flange hole pattern to ISO 5211
- + NAMUR connection pattern for solenoid valves and limit switch attachments to VDI/VDE 3845
- 384



Angle seat valves

VZXA

- + Highly flexible, extremely high flow rates
- + Hygienic design, insensitive to dirt
- + Modular
- 388

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Standardising and automating process valves

Fully automated process valves from a single source make planning, procurement and commissioning significantly easier and cost effective. They eliminate a considerable amount of project management work, reduce warehousing costs for spare parts, and speed up service and maintenance.



Position sensing for all application areas

Whether an open solution with the sensor SRBG, the sturdy limit switch attachment SRBC for basic applications indoors and outdoors or the allrounder SRBE for explosion-proof areas. Festo always has the right solution.

→ 374



Alternative to the limit switch box: the positioners CMSX and CMSH for analogue control, for example for flow rates

The CMSX can be used for basic position controls tasks, while the CMSH is suitable for highly challenging control with 2-conductor connection technology.

→ 363



Standard NAMUR valve VSNC

Controls quarter turn actuators and linear actuators with a VDI/VDE 3845 interface. Globally certified in accordance with current Ex standards. Now also available with poppet valve technology.

→ 173



Pilot valves VOFD/VOFC

An extremely sturdy alternative to the valve VSNC. Ideal for outdoor areas and potentially explosive atmospheres. The extremely sturdy VOFD/VOFC can control valve actuators in the chemical, petrochemical and pharmaceutical production plants of leading companies worldwide.

→ 361

Configurator for butterfly valve unit KVZA, ball valve unit KVZB, drive unit KDFP



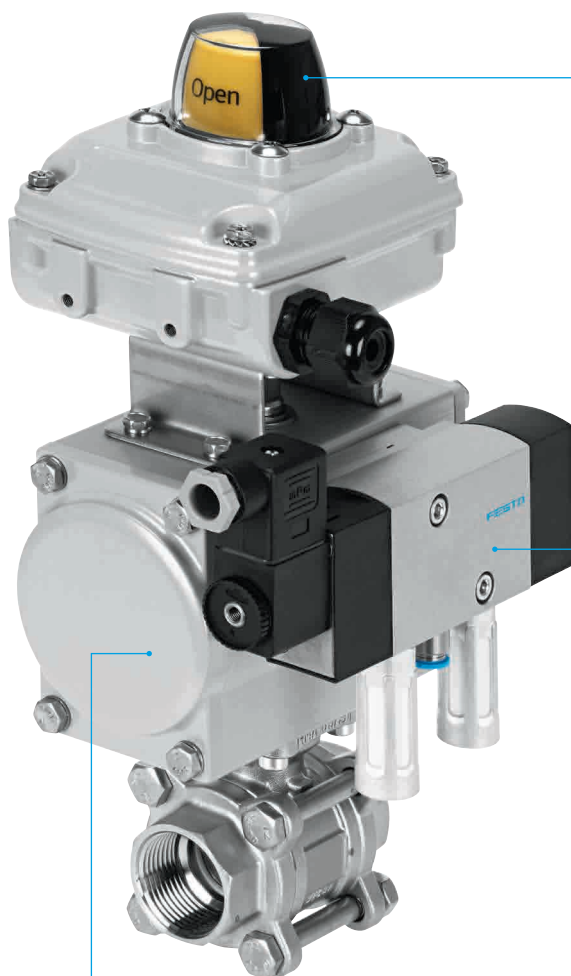
Software tools for easy selection and configuration of process valve units.

→ www.festo.com/process



We offer a wide selection of tubing and fittings for a broad range of applications, from standard applications to applications with specific external influences.

→ Pneumatic connection technology
→ 320



Quarter turn actuator DFPD

The new benchmark for quarter turn actuators. Its range of variants and standardised hole patterns to NAMUR VDI/VDE 3845 for pilot valves open up a wide variety of possible applications.

→ 365

You can find the appropriate components here:

→ www.festo.com/productfinder/fittings

Pilot valves

	 Solenoid valves VSNC	 Solenoid valves VOFC	 Solenoid valves VOFD
Valve function	5/2 double solenoid, 5/2-way or 3/2-way, convertible, 5/3-way, pressurised, 5/3 exhausted, 5/3 closed	3/2-way, single solenoid, closed, 5/2-way, double solenoid, 5/2-way, single solenoid	3/2-way, single solenoid, closed, semi-automatic, 3/2-way, single solenoid, closed
Operating pressure [MPa]	0.15 ... 1 MPa	0 ... 1 MPa	0 ... 1.2 MPa
Operating pressure	1.5 ... 10 bar	0 ... 10 bar	0 ... 12 bar
Ambient temperature	-20 ... 60°C	-25 ... 60°C	-50 ... 60°C
Pneumatic port 1	1/4 NPT, G1/4, G1/8, QS-1/4, QS-10, QS-3/8, QS-5/16, QS-6, QS-8	1/4 NPT, 1/2 NPT, NAMUR connection pattern, G1/2, G1/4, M5	1/4 NPT, NAMUR connection pattern, G1/4, M5
Standard nominal flow rate	800 ... 1350 l/min	595 ... 2794 l/min	52 ... 1900 l/min
Explosion prevention and protection	Class I, Div. 1 (US), Class I, Div. 2 (US), Class II, Div. 1 (US), Class II, Div. 2 (US), Class III, Div. 1 (US), Class III, Div. 2 (US), The information in the certificate must be observed., Zone 0 (IEC-EX), Zone 0 (KR), Zone 1 (ATEX), Zone 1 (IEC-EX), Zone 1 (KR), Zone 2 (ATEX), Zone 2 (KR), Zone 20 (IEC-EX), Zone 21 (ATEX), Zone 21 (IECEX), Zone 21 (KR), Zone 22 (ATEX), Zone 22 (KR)	Zone 1 (ATEX), Zone 1 (IEC-EX), Zone 1 (KR), Zone 2 (ATEX), Zone 21 (ATEX), Zone 21 (IECEX), Zone 21 (KR), Zone 22 (ATEX)	Zone 1 (ATEX), Zone 2 (ATEX), Zone 21 (ATEX), Zone 22 (ATEX)
Safety integrity level (SIL)		Up to SIL 2 High Demand mode, up to SIL 2 Low Demand mode, up to SIL 3 High Demand mode, up to SIL 3 Low Demand mode	Up to SIL 3 High Demand mode, up to SIL 3 Low Demand mode
Description	• NAMUR connection pattern to VDI/VDE 3845 • Rotatable seal for 3/2-way or 5/2-way valve • Wide choice of EX solenoid systems • Sturdy and powerful • Extended temperature range • Outstanding value for money • All solenoid coils can be used on an armature tube • The VSNC-...FN variant achieves higher energy efficiency with reduced power consumption	• Suitable for process automation, for applications in chemical and petrochemical plants • Suitable for outdoor use under harsh ambient conditions • Especially suitable for quarter turn actuators thanks to NAMUR flange pattern • Valve can switch between internal and external pilot air • Variants with safety functions • Variants to EU Explosion Protection Directive (ATEX)	• Suitable for process automation, for applications in chemical and petrochemical plants • Suitable for outdoor use under harsh ambient conditions • Especially suitable for quarter turn actuators thanks to NAMUR flange pattern • Variants with safety functions • Variants to EU Explosion Protection Directive (ATEX)
→ Page/online	173	vofc	vofd

Product overview

Limit switch attachments

	 Limit switch attachments SRBK	 Limit switch attachments SRBC
Information on housing materials	PA	Die-cast aluminium
Operating voltage range AC	0 ... 250 V	0 ... 250 V
Operating voltage range DC	0 ... 175 V	0 ... 175 V
Measuring principle	Inductive, Magnetic reed, Mechanical/electrical	Inductive, magnetic reed, mechanical/electrical
Switching element function	N/O contact, Toggle switch, single-pole	N/C contact, N/O contact, toggle switch, single-pole
Safety integrity level (SIL)		SIL 2
Description	- Sturdy polymer housing with UV resistance - Different switch variants – mechanical, inductive and reed switches - Multifunctional mounting adapter for adaptations on the ISO3845 interface - Variants with M12 plug connection for easy installation (plug&play)	- Pre-assembled mounting adapter for ease of installation - The trip cams can be easily set without additional tools - Sturdy, corrosion-resistant design, ideal for use in harsh ambient conditions - Clearly visible 3D position indicator allows the current position of the quarter turn actuator to be quickly detected - With safety functions - Variants to EU Explosion Protection Directive (ATEX)
→ Page/online	372	374

Limit switch attachments

	 Limit switch attachments SRBG	 Limit switch attachments SRBE
Information on housing materials	PBT	Die-cast aluminium
Operating voltage range AC		0 ... 250 V
Operating voltage range DC	6 ... 60 V	0 ... 60 V
Measuring principle	Inductive	Inductive, magnetic reed, mechanical/electrical, for proximity sensor
Switching element function	N/C contact, N/C contact or N/O contact, switchable, N/O contact	N/C contact, N/O contact, toggle switch, single-pole, toggle switch, double-pole
Safety integrity level (SIL)	SIL 2	SIL 2
Description	- Compact housing with M12 plug connection - Direct mounting on quarter turn actuators to VDI/VDE 3845 - For quarter turn actuators for process automation with position indicators - AS-Interface version with extended addressing options - LED status indicator for switching status, supply voltage and solenoid valve output - With safety functions - Variants to EU Explosion Protection Directive (ATEX)	- The trip cams can be easily set without additional tools - Sturdy, corrosion-resistant design, ideal for use in harsh ambient conditions - Clearly visible 3D position indicator allows the current position of the quarter turn actuator to be quickly detected - With safety functions - To EU Explosion Protection Directive (ATEX)
→ Page/online	376	srbe

Accessories for limit switch attachments

	 Position indicators SASF-S2
Setting range of swivel angle	0 ... 360°
Ambient temperature	-25 - 70°C
Type of mounting	To VDI/VDE 3845
Description	• For limit switch attachments SRBG • For mounting on drive shaft of standard actuators to VDI/VDE 3845 • Four fixed actuating lugs offset by 90° or two adjustable metal bands around the circumference • For clockwise and anticlockwise rotating actuators with 90° and 180° rotation
→ Page/ online	377

Positioners

	 Positioners CMSX	 Positioners CMSH
Mode of operation	Double-acting, single-acting	Double-acting, single-acting
Standard nominal flow rate	50 ... 130 l/min	
Ambient temperature	-5 ... 60°C	-40 ... 80°C
Reference value	0 - 20 mA, 4 - 20 mA, 0 - 10 V	
Operating voltage range DC	21.6 ... 26.4 V	
Operating pressure [MPa]	0.3 ... 0.8 MPa	0.14 ... 0.8 MPa
Operating pressure	3 ... 8 bar	1.4 ... 8 bar
Design features	Safety position – pneumatic output 4 exhausted, safety position – pneumatic output 2 pressurised, safety position – pneumatic outputs closed	Safety position – pneumatic outputs closed, safety position – pneumatic output 2 exhausted, safety position – pneumatic output 4 pressurised
Degree of protection	IP65	IP66, IP67
Type of mounting	Via accessories	Via accessories, to VDI/VDE 3845, to VDI/VDE 3847-2
Information on housing materials	Reinforced PC	Aluminium, powder-coated
Description	• Digital, electropneumatic positioner • Simple and efficient position control of single-acting and double-acting pneumatic rotary and linear drives • With integrated or external path/angular detection • Simple commissioning through automatic initialisation function • Intuitive menu navigation • 3-conductor technology • Variants with safety functions	• Intelligent, digital electropneumatic positioner with HART communication • Fast and precise position control of single- and double-acting pneumatic rotary and linear drives • With integrated or external path/angular detection • Commissioning, operation, maintenance and diagnostics on the local display via the user-friendly software menu or via remote access with EDD-based (Electronic Device Description) or FDT-based (Field Device Tool) transmission • 2-conductor technology • Perfect interaction with the pneumatic extension modules VTOP • Variants with safety functions • Sustainable operation thanks to efficient control
→ Page/ online	378	380

Product overview

Drives >

Linear actuators

	 Linear actuators DFPC	 Linear actuators with displacement encoder DFPI -ND2P	 Linear actuators with displacement encoder DFPI-NB3
Design	Piston, piston rod, tie rod, cylinder barrel	Piston, Piston rod, Tie rod, Cylinder barrel	Piston, piston rod, tie rod, cylinder barrel
Mode of operation	Double-acting	Double-acting	Double-acting
Size of valve actuator	80, 100, 125, 160, 200, 250, 320	100, 125, 160, 200, 250, 320	100, 125, 160, 200, 250, 320
Stroke	10 ... 1600 mm	40 ... 990 mm	40 ... 990 mm
Operating pressure [MPa]	0.06 ... 0.8 MPa	0.3 ... 0.8 MPa	
Operating pressure	0.6 ... 8 bar	3 ... 8 bar	3 ... 8 bar
Ambient temperature	-20 ... 80°C	-20 ... 80°C	-20 ... 80°C
Description	• Robust and corrosion-resistant tie-rod design • Ideal for use in harsh ambient conditions • Numerous configuration options • Variants with mounting interface to ISO 5210 or ISO 15552 with extended tie rods	• Mounting interfaces for process valves to DIN EN ISO 5210 • Integrated air supply • Optionally with integrated displacement encoder or fully integrated positioner • IP65, IP67, IP69K, NEMA4 • To EU Explosion Protection Directive (ATEX)	• Mounting interfaces to ISO 15552 on bearing and end caps • Robust and corrosion-resistant tie-rod design • Optionally with integrated displacement encoder or fully integrated positioner • IP65, IP67, IP69K, NEMA4 • To EU Explosion Protection Directive (ATEX)
→ Page/online	382	dfpi	dfpi

Drives >

Quarter turn actuators

		
	Quarter turn actuators DFPD	Quarter turn actuators DAPS
Design	Rack and pinion	Scotch yoke system
Mode of operation	Double-acting, single-acting	Double-acting, single-acting
Size of valve actuator	10, 20, 40, 80, 120, 160, 240, 300, 480, 700, 900, 1200, 2300	0008, 0015, 0030, 0053, 0060, 0090, 0106, 0120, 0180, 0240, 0360, 0480, 0720, 0960, 1440, 1920, 2880, 3840, 4000, 5760, 8000
Flange hole pattern	F03, F04, F05, F07, F10, F12, F14, F16, F0507, F0710, F1012, F1216	F03, F04, F05, F07, F10, F12, F14, F16, F25
Swivel angle	90°, 120°, 135°, 180°	90°, 92°
Ambient temperature	-50 ... 150°C	-50 ... 150°C
Operating pressure [MPa]	0.2 ... 0.8 MPa	0.1 ... 0.84 MPa
Operating pressure	2 ... 8 bar	1 ... 8.4 bar
Safety function	The safety function consists of the drive switching to the defined safety switching position. This switching movement is realised by pressurising the relevant pressure chamber with compressed air. The value of the torque generated depends on the pressure difference between the two pressure chambers separated by the piston. The safety function consists of the drive switching to the defined safety switching position when the compressed air is switched off and the spring chamber is exhausted. This switching movement is realised by the spring force of the spring assembly.	
Safety integrity level (SIL)	To SIL 2 Low Demand mode, Up to SIL 3 in a redundant architecture, Up to SIL 1 high demand mode	Up to SIL 2 High Demand mode, up to SIL 2 Low Demand mode
Description	• Uniform torque characteristic across the entire rotation angle of 90° with the double-acting version • Process valve connection to ISO 5211 • Mounting hole pattern to VDI/VDE 3845 • Sturdy, non-slip and easy-to-clean aluminium housing • Long service life, low wear • Version with swivel angle 120°, 135°, 180° for the sizes 40, 120, 240, 480, double-acting • Variants with safety functions • To EU Explosion Protection Directive (ATEX)	• High breakaway torques • Flange hole pattern to ISO 5211 • Mounting hole pattern to VDI/VDE 3845 • Optionally with handwheel as a manual emergency override • Corrosion-resistant version made from stainless steel • To EU Explosion Protection Directive (ATEX) • With safety functions
→ Page/online	384	daps

Product overview

Software-Tools

Process Valve Automation Tool (PVA-Tool) engineering software



User-friendly software for sizing and selecting the appropriate quarter turn actuators for automating butterfly and ball valves

The torque curve of the selected actuator will be displayed for visual confirmation. The specifications for the application can be changed at any time and the results will be automatically adjusted in line with the new requirements.

You can find the engineering software at
www.festo.com/x/engineering

Process and media valves >

Ball valves

	 Ball valves VZBD	 Ball valves VZBE	 Ball valves VZBF
Design	2-way ball valve	2-way ball valve, 2-way ball valve with hand lever, 3-way ball valve, L-bore, T-bore	2-way ball valve
Actuation type	Mechanical	Mechanical	Mechanical
Nominal width DN	15, 20, 25, 32, 40, 50, 65, 80, 100	8, 10, 15, 20, 25, 32, 40, 50, 65, 80, 100	15, 20, 25, 32, 40, 50, 65, 80, 100, 150, 200
Process valve connection	Clamp to ASME-BPE, clamp to DIN 32676 series B, weld-on end to ASME-BPE, weld-on to ISO 1127	1 NPT, 1 1/2 NPT, 1 1/4 NPT, 1/2 NPT, 1/4 NPT, 2 NPT, 2 1/2 NPT, 3 NPT, 3/4 NPT, 3/8 NPT, 4 NPT, weld-on end to ASME B16.11	Flange to ANSI B16.5 class 150
Flow rate Kv	13 ... 1641 m ³ /h	5.1 ... 1637 m ³ /h	8.5 ... 7816 m ³ /h
Temperature of medium	-20 ... 200°C	-20 ... 200°C	-20 ... 200°C
Nominal pressure PN of process valve	16	63	20
Description	• Electro-polished surfaces SFV4 • PTFE seal with only little dead space • The powerful ball valve for the pharmaceutical and cosmetic industries • FDA-compliant seal to FDA 21 CFR 177.1550	• 2-way manual, with lockable hand lever • 2-way and 3-way with top flange to ISO 5211, optionally with lockable hand lever • Stainless steel design • Pipe thread to ASME B1.20.1 or welded end to ASME B16.11 • Optionally with pre-assembled hand lever	• Flange connections to ANSI B 16.5. class 150 • Static discharge ensured • API 607 Fire Safe approval • Stainless steel design • Easy to service • Optionally with pre-assembled hand lever
→ Page/online	vzbd	vzbe	vzbf

Process and media valves >

Ball valves

			
	Ball valves VZBM	Ball valves VZBC	Ball valves VZBA
Design	2-way ball valve, 3-way ball valve, L-bore, T-bore	2-way ball valve	2-way ball valve, 3-way ball valve, L-bore, T-bore
Actuation type	Mechanical	Mechanical	Mechanical
Nominal width DN	8, 10, 15, 20, 25, 32, 40, 50	15, 20, 25, 32, 40, 50, 65, 80, 100	8, 10, 15, 20, 25, 32, 40, 50, 65, 80, 100
Process valve connection	Rp1, Rp1 1/2, Rp1 1/4, Rp1/2, Rp1/4, Rp2, Rp3/4, Rp3/8	Ring housing with threaded flange	Weld-on ends/weld-on ends, Rp1, Rp1 1/2, Rp1 1/4, Rp1/2, Rp1/4, Rp2, Rp2 1/2, Rp3, Rp3/4, Rp3/8, Rp4
Flow rate Kv	5.9 ... 243 m ³ /h	19.4 ... 1414 m ³ /h	7 ... 1414 m ³ /h
Temperature of medium	-20 ... 130°C	-10 ... 200°C	-10 ... 200°C
Nominal pressure PN of process valve	25, 40, 50	16, 40	63
Description	• Brass design • Pipe thread to EN 10226-1	• Automatable 2-way compact flanged ball valve • Stainless steel design • Short installed length • Blow-out proof shaft • Manual operation possible using hand lever • Flange to DIN 1092-1 • Mounting flange to ISO 5211 • Use in zones 1, 21, 2, 22	• Automatable 2-way or 3-way ball valve • Stainless steel design • Blow-out proof shaft • Manual operation possible using hand lever • Connecting thread to EN 10226-1 • Mounting flange to ISO 5211 • Use in zones 1, 21, 2, 22
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Product overview

Process and media valves >

Angle seat valves

	 Angle seat valves VZXF	 Angle seat valves VZXA
Design	Poppet valve with piston actuator	Poppet valve with piston actuator, poppet valve with diaphragm actuator
Actuator size	50 mm, 80 mm	46 mm, 75 mm, 90 mm
Valve function	2/2-way, closed, monostable	2/2
Control function	Closed by spring force, NC	Closed by reduced spring force, NC, double-acting, opened by spring force, NO, closed by spring force, NC
Actuation type	Pneumatic	Pneumatic
Nominal width DN	12, 13, 16, 18, 23, 24, 29, 31, 35, 43, 45	13, 20, 25, 32, 40, 50, 65
Flow rate Kv	3.3 ... 43 m ³ /h	4.6 ... 77.9 m ³ /h
Medium pressure [MPa]	-0.09 ... 4 MPa	0 ... 3 MPa
Medium pressure	-0.9 ... 40 bar	0 ... 30 bar
Temperature of medium	-40 ... 200°C	-30 ... 230°C
Nominal pressure PN of process valve	16, 40	25, 40
Description	• Sturdy design • Stainless steel and gunmetal (red brass) process valves with stainless steel, brass or aluminium actuators • Different actuator sizes and housing materials • Selection of different seat and shaft seals • For liquids, gases and other easily contaminated media • Easy-to-clean design	• Highly flexible, extremely high flow rates • Long service life • Stainless steel or Ecobross process valves with stainless steel or polymer actuators • Modular design • Hygienic design, insensitive to dirt • Quick and easy maintenance • Simple and sturdy: an ideal choice for virtually all media with a viscosity of 600 mm²/s • High chemical and thermal resistance • Sustainable in production thanks to the use of alternative materials
→ Page/online	vzxf	388

Electrically actuated directional control valves >

Application-specific directional control valves

	 Pilot valves VOFX
Design	Directly actuated poppet valve
Valve function	3/2-way, single solenoid, closed
Operating pressure	-0.9 ... 8 bar
Ambient temperature	-10 ... 50°C
Pneumatic connection 1	G1/8
Standard nominal flow rate	50 l/min
Description	• For angle seat valves VZXF and VZXA • Can be used wherever valve terminals are not economically or technically viable • Manual override, detenting
→ Page/online	390

Process valves >

Pinch valves



**Pinch valves
VZQA**

Design	Pinch valve, pneumatically actuated
Actuation type	Pneumatic
Valve function	2/2-way, monostable, closed, 2/2-way, monostable, open
Nominal width DN	6, 15, 25
Process valve connection	Clamp to ASME-BPE type A, clamp to ASME-BPE type B, clamp to DIN 32676 series A, 1 NPT, 1/2 NPT, 1/4 NPT, G1, G1/2, G1/4
Flow rate Kv	0.7 ... 18 m ³ /h
Medium pressure [MPa]	0 ... 0.6 MPa
Medium pressure	0 ... 6 bar
Temperature of medium	-5 ... 150°C
Nominal pressure PN of process valve	10
Description	• Modular design • Quick and easy replacement of the diaphragm • For critical, abrasive and viscous media • Easy-to-clean design • Flow direction is freely selectable • Versions with end-position sensing
→ Page/online	392

Process valves >

Solenoid actuated media valves



**Solenoid valves
VZWD**



**Solenoid valves
VZWF**



**Solenoid valves
VZWM**

Design	Directly actuated poppet valve	Diaphragm valve, force pilot operated	Diaphragm valve, servo-controlled
Actuation type	Electrical	Electrical	Electrical
Nominal size	1 ... 6 mm	13.5 ... 50 mm	13 ... 50 mm
Process valve connection	1/4 NPT, 1/8 NPT, G1/4, G1/8, NPT1/4	1 NPT, 1 1/2 NPT, 1 1/4 NPT, 1/2 NPT, 1/4 NPT, 2 NPT, 3/4 NPT, 3/8 NPT, G1, G1 1/2, G1 1/4, G1/2, G1/4, G2, G3/4, G3/8	G1, G1 1/2, G1 1/4, G1/2, G1/4, G2, G3/4, G3/8
Flow rate Kv	0.06 ... 0.4 m ³ /h	1.8 ... 28 m ³ /h	1.6 ... 39 m ³ /h
Medium pressure [MPa]	0 ... 9 MPa	0 ... 1 MPa	
Medium pressure	0 ... 90 bar	0 ... 10 bar	0.5 ... 10 bar
Temperature of medium	-10 ... 80°C	-10 ... 80°C	-10 ... 60°C
Description	• Extensive pressure range • Directly actuated poppet valve • No pressure difference required • Can also be used in vacuum technology	• High flow rates • Large nominal diameters with relatively small solenoids • No pressure difference required • Can also be used in vacuum technology	• Brass or stainless steel casting design • Electrical connection via solenoid armature tube • Wide range of coils • Coil can be ordered separately
→ Page/online	395	397	399

Product overview

Process valves >

Solenoid actuated media valves

	 Solenoid valves VZWP	 Media separated solenoid valves VYKA	 Media separated solenoid valves VYKB	 Media separated solenoid valves VYKC
Design	Pilot-actuated piston poppet valve	Rocker valve with diaphragm seal	Electrical connection at top, Electrical connection at the side, Rocker valve with diaphragm seal	Electrical connection at the side, Rocker valve with diaphragm seal
Actuation type	Electrical	Electric	Electric	Electric
Nominal size	13 ... 25 mm	1.2 mm	1.6 ... 2 mm	2 mm
Process valve connection	1 NPT, 1/2 NPT, 1/4 NPT, 3/4 NPT, 3/8 NPT, G1, G1/2, G1/4, G3/4, G3/8			
Flow rate Kv	1.5 ... 11.5 m ³ /h	0.013 ... 0.021 m ³ /h	0.034 ... 0.056 m ³ /h	0.046 ... 0.048 m ³ /h
Medium pressure [MPa]	0.05 ... 4 MPa	-0.05 ... 0.2 MPa	-0.075 ... 0.3 MPa	-0.075 ... 0.2 MPa
Medium pressure	0.5 ... 40 bar	-0.5 ... 2 bar	-0.75 ... 3 bar	-0.75 ... 2 bar
Temperature of medium	-10 ... 80°C		0 ... 50°C	0 ... 50°C
Description	- For all applications with a differential pressure of min. 0.5 bar - For high pressures and high flow rates with relatively small solenoids - For controlling gaseous and liquid media in open circuits	- Compact width of 7 mm - Maximum performance and precision in the smallest of spaces - High flow rate with small size - Very easy to clean thanks to media separation - Low media consumption thanks to small internal volume - FDA-listed materials - High-quality materials, therefore also suitable for aggressive media - High repetition accuracy, switching frequency and precision, therefore also suitable for extremely small volumes and dosing tasks - Very flexible in use thanks to 3/2-way and 2/2-way variants as well as 12 ... 26 V DC control - Optionally with slide-on E-box VAVE-K1 with holding current reduction as accessory - Developed according to ISO 13485 - Sustainable operation thanks to efficient control and active air shut-off	- Compact width of 10 mm or 12 mm - Very easy to clean thanks to media separation - High-quality materials, therefore also suitable for aggressive media - Very flexible in use thanks to 3/2-way or 2/2-way variants as well as 12 or 24 V DC actuation - For dosing, aspirating and for continuous flow applications - Developed according to ISO 13485 - Sustainable operation thanks to efficient control and active air shut-off	- Flexible nominal widths (1.2 mm/1.6 mm/2.0 mm) with the same size (16 mm) - High-quality materials, therefore also suitable for aggressive media - Minimised heating effect thanks to intelligent holding current reduction - FDA-listed materials - Visual feedback via two LEDs simplifies use - Optionally with holding current reduction - Sustainable operation thanks to efficient control and active air shut-off
→ Page/online	vzwp	vyka	vykb	vykc

Process valve units >

Actuated ball valves

			
	Ball valve actuator units VZBA	Ball valve actuator units VZBM	Ball valve actuator units VZBC
Design	2-way ball valve, 3-way ball valve, L-bore, quarter turn actuator, T-bore	2-way ball valve, 3-way ball valve, quarter turn actuator	2-way ball valve, quarter turn actuator
Actuation type	Pneumatic	Pneumatic	Pneumatic
Nominal width DN	8, 10, 15, 20, 25, 32, 40, 50, 65, 80, 100	8, 10, 15, 20, 25, 32, 40, 50	15, 20, 25, 32, 40, 50, 65, 80, 100
Process valve connection	Weld-on ends/weld-on ends, Rp1, Rp1 1/2, Rp1 1/4, Rp1/2, Rp1/4, Rp2, Rp2 1/2, Rp3, Rp3/4, Rp3/8, Rp4	Rp1, Rp1 1/2, Rp1 1/4, Rp1/2, Rp1/4, Rp2, Rp3/4, Rp3/8	Ring housing with threaded flange
Flow rate Kv	7 ... 1414 m³/h	5.9 ... 243 m³/h	19.4 ... 1414 m³/h
Temperature of medium	-10 ... 200°C	-20 ... 130°C	-10 ... 200°C
Nominal pressure PN of process valve	63	25, 40	16, 40
Description	• Ball valve actuator unit with double-acting or single-acting quarter turn actuator DAPS • Stainless steel ball valve • NAMUR connection pattern for solenoid valves/ limit switch attachments to VDI/VDE 3845 • Flow is fully opened or closed in both directions • Use in zones 1, 21, 2, 22	• Ball valve actuator unit with double-acting or single-acting quarter turn actuator DFPD • Brass ball valve • 2-way ball valve actuator unit with pipe thread to EN 10226-1 • 3-way ball valve actuator unit with L-bore and pipe thread to EN 10226-1 • 3-way ball valve actuator unit with T-bore and pipe thread to EN 10226-1 • Flow is fully opened or closed in both directions	• Ball valve actuator unit with double-acting or single-acting quarter turn actuator DAPS • Stainless steel ball valve in compact design • NAMUR connection pattern for solenoid valves/ limit switch attachments to VDI/VDE 3845 • Flow is fully opened or closed in both directions • Use in zones 1, 21, 2, 22
online: →	401	405	vzbc

Compressed air preparation > Filter regulators >

Individual devices

	
	Filter regulators PCRP
Pneumatic connection 1	1/4 NPT, 1/2 NPT, G1/2, G1/4, NPT1/2-14, NPT1/4-18
Standard nominal flow rate	1600 ... 4115 l/min
Pressure regulation range	0.5 ... 12 bar
Operating pressure [MPa]	0.1 MPa ... 2 MPa
Operating pressure	1 ... 20 bar
Grade of filtration	5 µm, 40 µm
Description	• Robust housing for the specific requirements of the process automation industry • Suitable for use outdoors and at temperatures down to -60 °C • Resistant to UV radiation and corrosive environments • Two pressure gauge connections for different installation options • With manual condensate drain, rotating • Size 44, 64 • Sustainable operation thanks to reduced pressure level
→ Page/online	407

Limit switch attachments SRBK



- Sturdy polymer housing with UV resistance
- Different switch variants – mechanical, inductive and reed switches
- Multifunctional mounting adapter for adaptations on the ISO3845 interface
- Variants with M12 plug connection for easy installation (plug&play)

Type code

001	Series
SRBK	Limit switch box SRBK
002	Design
C	Limit switch boxes
003	Mechanical interface
A4	Flexible mounting adapter to standard VDI/VDE 3845
A5	EN ISO 5211 / F05
004	Display type
YR	Position indicator yellow/red
005	Measuring range
90	0 ... 90°
006	Sensor principle
MW	Floating contact, changeover contact
N	Proximity sensor, inductive
R	With contacts (reed)
007	Nominal operating voltage
1	24 V DC
2A	110 V AC/50-60 Hz
22A	250 V AC
008	Electrical output 1
1W	1-pin toggle switch
1WG	1-pole changeover switch (gold contact)
P	PNP
ZU	2-wire N/O contact
009	Electrical connection
C2	Screw terminal
M12	Plug M12, A-coded

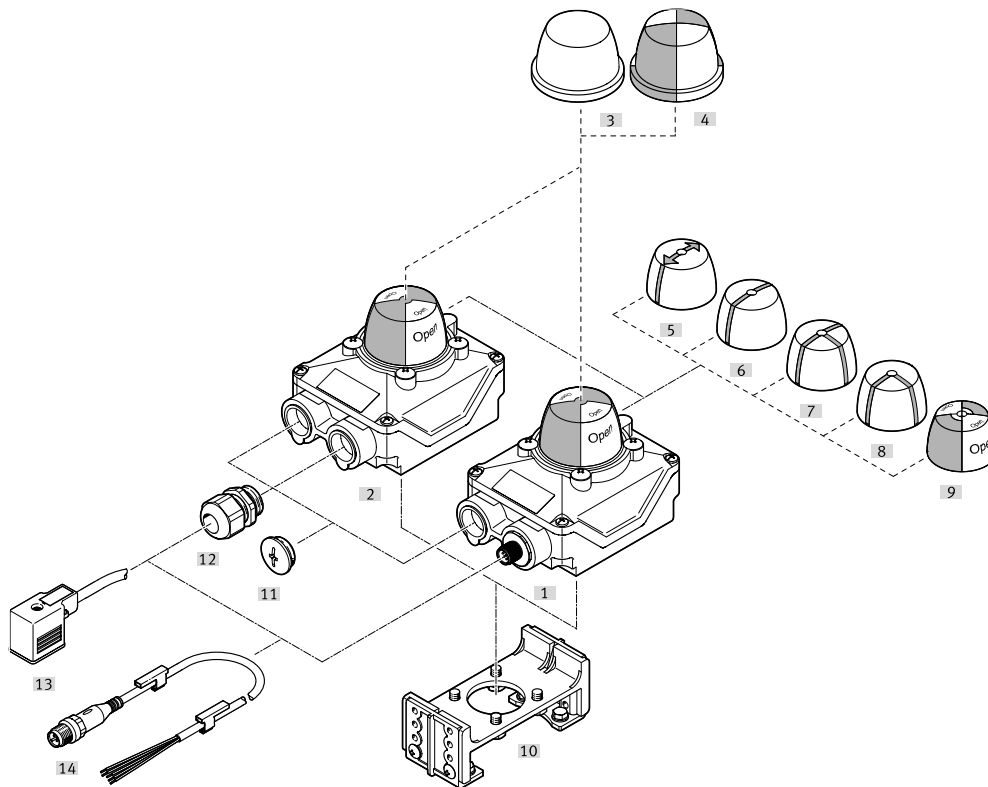
Ordering data

Electrical connection with screw terminal, with mounting adapter					
Nominal operating voltage	Electrical output 1	Cable connector	Product weight	Part no.	Type
24 V DC	1-pole changeover switch (gold contact)	Without	460 g	8191214	SRBK-CA4-YR90-MW-1-1WG-C2
	PNP			8182178	SRBK-CA4-YR90-N-1-P-C2
	2-wire N/O contact			8182179	SRBK-CA4-YR90-N-1-ZU-C2
110 V AC/50-60 Hz	1-pin toggle switch	Without	460 g	8182180	SRBK-CA4-YR90-R-2A-1W-C2
250 V AC				8182177	SRBK-CA4-YR90-MW-22A-1W-C2

Electrical connection with screw terminal, without mounting adapter					
Nominal operating voltage	Electrical output 1	Cable connector	Product weight	Part no.	Type
24 V DC	1-pole changeover switch (gold contact)	Without	360 g	8191215	SRBK-CA5-YR90-MW-1-1WG-C2
	PNP			8182184	SRBK-CA5-YR90-N-1-P-C2
	2-wire N/O contact			8182185	SRBK-CA5-YR90-N-1-ZU-C2
110 V AC/50-60 Hz	1-pin toggle switch	Without	360 g	8182186	SRBK-CA5-YR90-R-2A-1W-C2
250 V AC				8182183	SRBK-CA5-YR90-MW-22A-1W-C2

Electrical connection with M12 plug, A-coded					
Nominal operating voltage	Electrical output 1	Cable connector	Product weight	Part no.	Type
24 V DC	1-pin toggle switch	Without	500 g	8182181	SRBK-CA4-YR90-MW-1-1W-M12
	PNP			8182182	SRBK-CA4-YR90-N-1-P-M12

Peripherals overview



Accessories			→ Internet
Typ/Bestellcode	Beschreibung		
[1] Limit switch box SRBK-...-M12	Electrical connection M12 plug, A-coded		srbk
[2] Limit switch box SRBK-...-C2	Electrical connection with screw terminal		srbk
[3] Protective cap SACC-S4-T-T	Is mounted on the SBRK and protects the position indicator SASF		srbk
[4] Protective cap SACC-S4-T	Is mounted on the SBRK and protects the position indicator SASF		srbk
[5] Position indicator SASF-S4-EN-A1	Arrow, 180°		srbk
[6] Position indicator SASF-S4-EN-A2	I-version		srbk
[7] Position indicator SASF-S4-EN-A3	T-version		srbk
[8] Position indicator SASF-S4-EN-A4	L-version		srbk
[9] Position indicator SASF-S4-EN	Yellow/red		srbk
[10] Mounting adapter DARQ-K-X1-A3-F05-R14	For limit switch box variants SRBK-CA4-...		srbk
[11] Plug screw NETC	The plug screw is not included in the scope of delivery		srbk
[12] Cable connector NETC	- Polymer cable connector M20x1.5 - Can be ordered separately as an accessory		srbk
[13] Connecting cables NEBV	- For valve connection for limit switch boxes with terminal rail connection - Angled socket, plug pattern type A, EN 175301-803 or plug pattern type B, according to industrial standard 11 mm - Can be ordered separately as an accessory		srbk
[14] Connecting cables NEBU	- For valve connection for limit switch boxes with terminal rail connection - Angled socket, plug pattern type B according to industry standard, 11 mm - Can be ordered separately as an accessory		srbk

Limit switch attachments SRBC



- Measuring principle: electromagnetic, magnetic reed or inductive
- Switching element function: toggle switch, single-pole (SPDT), N/C or N/O
- For DC and AC voltage
- Pre-assembled mounting adapter
- Ambient temperature -40° ... $+80^{\circ}$ °C
- Cable connector and blanking plug included in the scope of delivery
- Selected types in accordance with ATEX directive for potentially explosive atmospheres

→ www.festo.com/ex

*) Electrical output: 1WG

Order code

001	002	003	004	005	006	007	008	009	010	011
SRBC	C		YR	90						

Legend: Mandatory entry Optional entry

001	Type
SRBC	Limit switch attachment
002	Design
C	Sensor box
003	Mechanical interface
A3	Mounting adapter, hole pattern 30x80 mm, shaft height 20 mm
A4	Flexible mounting adapter (30x80 mm and 30x130 mm, shaft height 20 mm in each case)
A5	EN ISO 5211/F05 (without mounting adapter)
004	Display type
YR	Position indicator yellow/red
005	Measuring range
90	0 ... 90°
006	Sensor principle
N	Proximity switch, inductive
R	Reed with contact
MW	Floating contact, changeover switch
007	Nominal operating voltage
1	24 V DC
2A	110 V AC, 50-60 Hz
20N	8.2 V DC, NAMUR
22A	250 V AC

008	Electrical output 1
1W	1-pin toggle switch
1WG	1-pin toggle switch (gold contact)
ZC	2-wire N/C contact
ZU	2-wire N/O
P	PNP
N	NPN
009	Electrical connection
C2	Screw terminal
M12	M12 plug, A-coded
010	Cable connector
–	None
P20	M20x1.5, polymer
011	EU certification
–	Without
EX6	II 1 GD



Configurable product

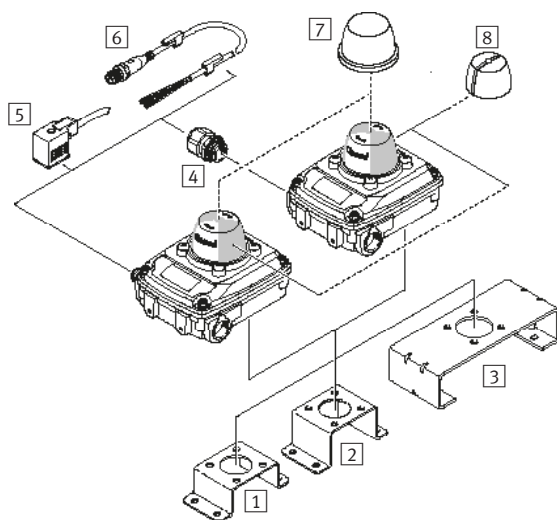
This product and all its product options can be ordered online via the configurator:

→ www.festo.com/catalogue/srbc

Ordering

007 Nominal operating voltage	008 Electrical output	009 Electrical connection	010 Cable conduit fitting	011 EU certification	Type	Part no.
006 Proximity switch, inductive						
003 Mounting adapter, hole pattern 30x80 mm, shaft height 20 mm						
8.2 V DC, NAMUR	2-wire N/C	Screw terminal	M20x1.5, polymer	II2GD	SRBC-CA3-YR90-N-20N-ZC-C2P20-EX6	3482807
24 V DC	PNP	Screw terminal	M20x1.5, polymer	–	SRBC-CA3-YR90-N-1-P-C2P20	3482808
24 V DC	NPN	Screw terminal	M20x1.5, polymer	–	SRBC-CA3-YR90-N-1-N-C2P20	3482809
24 V DC	2-wire N/O	Screw terminal	M20x1.5, polymer	–	SRBC-CA3-YR90-N-1-ZU-C2P20	3482810
8.2 V DC, NAMUR	2-wire N/C	M12 plug, A-coded	–	–	SRBC-CA3-YR90-N-20N-ZC-M12	8137100
24 V DC	PNP	M12 plug, A-coded	–	–	SRBC-CA3-YR90-N-1-P-M12	8137101
003 Flexible mounting adapter (30x80 mm and 30x130 mm, shaft height 20 mm in each case)						
8.2 V DC, NAMUR	2-wire N/C	Screw terminal	–	II2GD	SRBC-CA4-YR90-N-20N-ZC-C2-EX6	8137096
24 V DC	PNP	Screw terminal	–	–	SRBC-CA4-YR90-N-1-P-C2	8137097
003 Mechanical interface to EN ISO 5211/F05 (without mounting adapter)						
8.2 V DC, NAMUR	2-wire N/C	Screw terminal	–	II2GD	SRBC-CA5-YR90-N-20N-ZC-C2-EX6	8137105
24 V DC	PNP	Screw terminal	M20x1.5, polymer	–	SRBC-CA5-YR90-N-1-P-C2	8137106
006 Electromechanical and contacting reed						
003 Mounting adapter, hole pattern 30x80 mm, shaft height 20 mm						
110 V AC, 50-60 Hz	1-pin toggle switch	Screw terminal	M20x1.5, polymer	–	SRBC-CA3-YR90-R-2A-1W-C2P20	3482811
006 Floating contact, changeover switch						
003 Mounting adapter, hole pattern 30x80 mm, shaft height 20 mm						
250 V AC	1-pin toggle switch	Screw terminal	M20x1.5, polymer	–	SRBC-CA3-YR90-MW-22A-1W-C2P20	3482805
24 V DC	1-pin toggle switch (gold contact)	Screw terminal	–	II2GD	SRBC-CA3-YR90-MW-1-1WG-C2-EX6	8137093
24 V DC	1-pin toggle switch	M12 plug, A-coded	–	–	SRBC-CA3-YR90-MW-1-1W-M12	8137098
24 V DC	1-pin toggle switch (gold contact)	M12 plug, A-coded	–	–	SRBC-CA3-YR90-MW-1-1WG-M12	8137099
003 Flexible mounting adapter (30x80 mm and 30x130 mm, shaft height 20 mm in each case)						
250 V AC	1-pin toggle switch	Screw terminal	–	–	SRBC-CA4-YR90-MW-22A-1W-C2	8137094
24 V DC	1-pin toggle switch (gold contact)	Screw terminal	–	II2GD	SRBC-CA4-YR90-MW-1-1WG-C2-EX6	8137095
24 V DC	1-pin toggle switch	M12 plug, A-coded	–	–	SRBC-CA4-YR90-MW-1-1W-M12	8137102
003 Mechanical interface to EN ISO 5211/F05 (without mounting adapter)						
250 V AC	1-pin toggle switch	Screw terminal	–	–	SRBC-CA5-YR90-MW-22A-1W-C2	8137103
24 V DC	1-pin toggle switch (gold contact)	Screw terminal	M20x1.5, polymer	II2GD	SRBC-CA5-YR90-MW-1-1WG-C2-EX6	8137104

Accessories



- 1 Mounting adapter for mounting on standard actuators in accordance with VDI/VDE 3845
DARQ-K-X1-A1-F05-20-R1¹⁾
→ 375
- 2 Mounting adapter for mounting on standard actuators in accordance with VDI/VDE 3845
DARQ-K-X1-A1-F05-30-R1
→ 375
- 3 Mounting adapter for mounting on standard actuators in accordance with VDI/VDE 3845
DARQ-K-X1-A2-F05-30-R1
→ 375
- 4 Cable connector
NETC-P-M20¹⁾ → [srbc](#)
- 5 Connecting cables for valve connection for limit switch attachment with terminal rail connection
NEBV → [srbc](#)
- 6 Connecting cable NEBU → [srbc](#)
- 7 Safety guard SACC → [srbc](#)
- 8 Position indicator SASF → [srbc](#)

1) Included in the scope of delivery of the limit switch attachment.

1 Mounting adapter DARQ-K-X1-A1-F05-20-R1			
Hole pattern actuator outlet	Height [mm]	Type	Part no.
30x80 mm	20	DARQ-K-X1-A1-F05-20-R1	3636269

2 Mounting adapter DARQ-K-X1-A1-F05-30-R1			
Hole pattern actuator outlet	Height [mm]	Type	Part no.
30x80 mm	30	DARQ-K-X1-A1-F05-30-R1	3636270

3 Mounting adapter DARQ-K-X1-A1-F05-20-R1			
Hole pattern actuator outlet	Height [mm]	Type	Part no.
30x130 mm	30	DARQ-K-X1-A2-F05-30-R1	3886114

Limit switch attachments SRBG



SRBG-...-M12



SRBG-...-C2

- Inductive double sensor
- Direct mounting on quarter turn actuators to VDI/VDE 3845
- No adjustment is necessary when mounting the sensor
- Suitable for clockwise and anticlockwise rotating actuators in the setting range 0 ... 180°
- Selected types in accordance with ATEX directive for potentially explosive atmospheres
→ www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006	007	008
SRBG	C1	N	1				

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type
SRBG	Limit switch attachment
002	Design
C1	Dual sensor
003	Sensor principle
N	Proximity switch, inductive
004	Nominal operating voltage
1	24 V DC
005	Electrical output 1
P	PNP
ZU	2-wire N/O
AS	AS-Interface®

006	Electrical connection
C2	Screw terminal
M12	M12x1 plug, A-coded
007	Electrical connection, valve
–	Without
C2	Screw terminal
M12	M12 plug, A-coded
008	EU certification
–	None

Product options

Nominal operating voltage

- 8.2 V DC, NAMUR

Electrical output

- 2-wire N/C

EU certification

- II1G



Configurable product

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

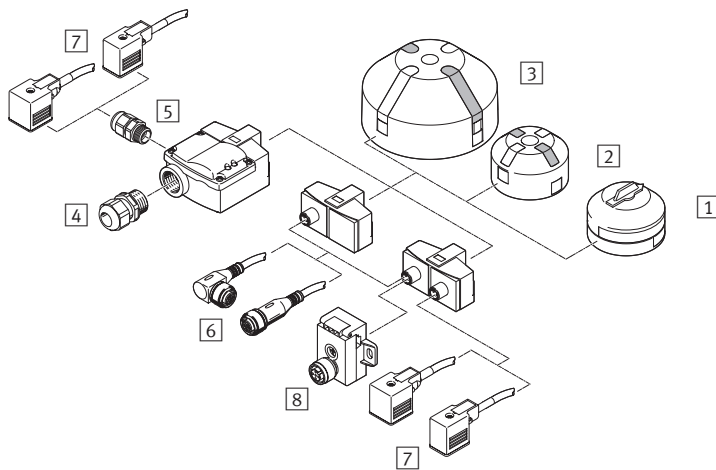
→ www.festo.com/catalogue/srbg

Ordering – Basic design

006 Limit switch attachment with plug M12		
005 Electrical output	Type	Part no.
PNP	SRBG-C1-N-1-P-M12	3568055
2-wire N/O	SRBG-C1-N-1-ZU-M12	3568056
AS-Interface®	SRBG-C1-N-1-AS-M12-M12	3567908

006 Limit switch attachment with screw terminal		
005 Electrical output	Type	Part no.
PNP	SRBG-C1-N-1-P-C2-C2	3568165
2-wire N/O	SRBG-C1-N-1-ZU-C2-C2	3568166

Accessories



[1] Position indicator SASF-S2...-A20

→ 377

[2] Position indicator SASF-S2...-A34

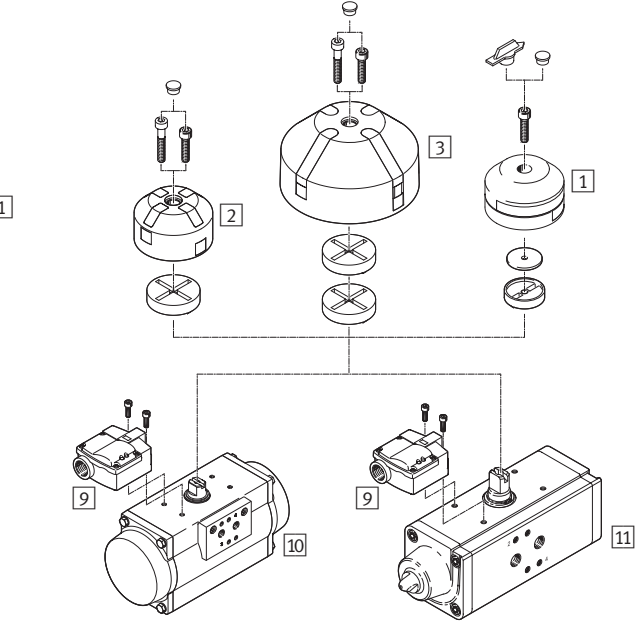
→ 377

[3] Position indicator SASF-S2...-A56

→ 377

[4] Cable connector NETC-P-M20

→ 377



[5] Cable connector NETC-P-M12

→ 377

[6] Connecting cables NEBA-M12

→ 377

[7] Connecting cables NEBV → [srbg](#)[8] AS-Interface components → [srbg](#)

[9] Limit switch box SRBG

[10] Quarter turn actuators DFPD

→ 384

[11] Quarter turn actuators DAPS

→ [daps](#)

[1] / [2] / [3] Position indicator SASF

- With four fixed actuating lugs offset by 90° or two adjustable metal bands around the circumference
- Mounting on drive shaft of standard actuators in accordance with VDI/VDE 3845

Setting range of swivel angle Type Part no.

[1] Position indicator SASF-... -A20

With adjustable actuating lug

0 ... 360° SASF-S2-B-V-A20 8140395

[2] Position indicator SASF-... -A34

0 ... 90° SASF-S2-B-F-A34 4046082

[3] Position indicator SASF-... -A56

0 ... 90° SASF-S2-B-F-A56 4077125

Possible combinations of quarter turn actuator and position indicator SASF

Quarter turn actuator Size [2] SASF-S2-B-F-A34 [3] SASF-S2-B-F-A56

Double-acting

DFPD → 384	10 ... 480	■	—
DAPS → daps	0015 ... 1920	■	—
DAPS → daps	2880 ... 8000	—	■
DAPS-CR → daps	0120 ... 0480	■	—

Single-acting

DFPD → 384	20 ... 480	■	—
DAPS → daps	0015 ... 0960	■	—
DAPS → daps	1440 ... 4000	—	■
DAPS-CR → daps	0060 ... 0240	■	—

[4] / [5] Cable connectors NETC

Description	Type	Part no.
[4] Cable connectors NETC-P-M20		
M20x1.5 made from polymer	NETC-P-M20	4464895
[5] Cable connectors NETC-P-M12		
M12x1.5 made from polymer	NETC-P-M12	4197367

[6] Connecting cable NEBA

Cable length	Connection, right	Type	Part no.
Connection, left: straight socket, M12x1, 5-pin			
2.5 m	Cable, open end, 4-wire	NEBA-M12G5-U-2.5-N-LE4	8078239
5 m		NEBA-M12G5-U-5-N-LE4	8078240
Connection, left: angled socket, M12x1, 5-pin			
2.5 m	Cable, open end, 4-wire	NEBA-M12W5-U-2.5-N-LE4	8078248
5 m		NEBA-M12W5-U-5-N-LE4	8078249

Positioners CMSX



- Positioners for single-acting and double-acting pneumatic quarter turn actuators and double-acting linear actuators in process automation systems
- High process reliability thanks to analogue and digital feedback signals
- Fail-safe or fail-in-place safety function
- Extremely energy-efficient: no internal air consumption at rest
- For automated butterfly valves, ball valves, bulk goods deflectors, etc.

Order code

001	002	003	004	005	006	007	008	009
CMSX	P		C	U	F1			

Legend: Mandatory entry

001	Type
CMSX	Positioner, for process automation
002	Product version
P	Primarily polymers
003	Design
S	Positioner, integrated displacement/angle detection
SE	Positioner, external displacement/angle detection
004	Display type
C	LCD, backlit
005	Setpoint value
U	Configurable (0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA)
006	Position feedback
F1	4 ... 20 mA

007	Function
D	Double-acting
S	Single-acting
008	Flow rate
50	50 l/min
130	130 l/min
009	Safety function
A	Opening or closing in the event of system failure ¹⁾
C	Holding position in the event of system failure ¹⁾

1) Failure of the operating voltage supply or the setpoint specification.

Ordering

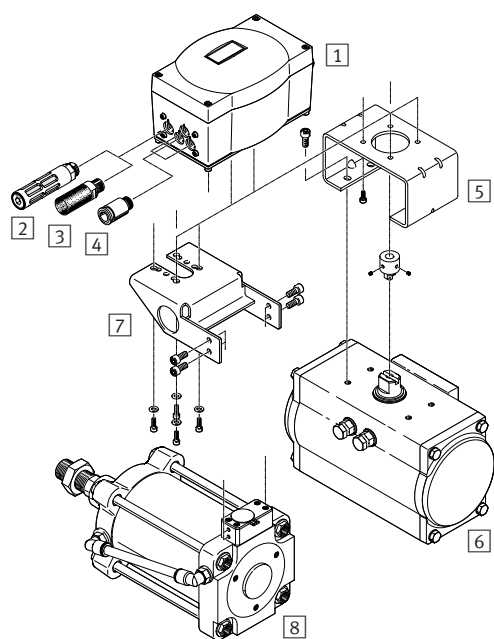
003 Design	007 Function	008 Flow rate	009 Safety function	Type	Part no.
Positioner, integrated displacement/angle detection	Single-acting	50 l/min	Can be set to opening or closing in the event of system failure ¹⁾	CMSX-P-S-C-U-F1-S-50-A	3929370
	Double-acting	50 l/min		CMSX-P-S-C-U-F1-D-50-A	3929313
Positioner, external displacement/angle detection		130 l/min		CMSX-P-SE-C-U-F1-D-130-A	3929539
Positioner, integrated displacement/angle detection		130 l/min		CMSX-P-S-C-U-F1-D-130-A	3929312
	Single-acting	130 l/min		CMSX-P-S-C-U-F1-S-130-A	3929369
Positioner, external displacement/angle detection	Double-acting	130 l/min	Holding position in the event of system failure ¹⁾	CMSX-P-S-C-U-F1-D-130-C	3929314
		50 l/min		CMSX-P-S-C-U-F1-D-50-C	3929315
		130 l/min		CMSX-P-SE-C-U-F1-D-130-C	3929540

1) Failure of the operating voltage supply or the setpoint specification.

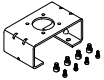
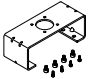
Combinations ²⁾ of positioners and actuators			
Positioners CMSX	Quarter turn actuator DFPD → 384	Quarter turn actuator DAPS → daps	Linear actuator DFPI → dfpi
008 Flow rate	Size	Size	Piston Ø
50 l/min	≤160	≤180	–
130 l/min	≥240	≥240	≥100

2) The precise selection of the positioner for the actuator is dependent on the specific application. Please consult your local Festo contact.

Accessories



- 1 Positioner CMSX → 378
- 2 Silencer U, polymer, male thread → 357
- 3 Silencer UC, for reducing noise at valve exhaust ports → [uc](#)
- 4 Push-in fitting QS → 332
- 5 Mounting adapter DARQ, for mounting on standards-based actuators according to VDI/VDE 3845 → 379
- 6 Quarter turn actuator DFPD → 384
- 7 Adapter kit DADG, for direct mounting of a positioner on the linear actuator DFPI → [dadg](#)
- 8 Linear actuator DFPI → [dfpi](#)

5 Mounting adapter DARQ			
	Size	Type	Part no.
	AA 1 to VDI/VDE 3845	DARQ-K-P-A1-F05-20-R1	2197135
	AA 2 to VDI/VDE 3845	DARQ-K-P-A1-F05-30-R1	2197136

Valve positioners CMSH



- Highly dynamic positioning system with high air output for fast and precise control of both small and large actuators without additional instruments
- Large display with plain text and rotatable reading direction for ease of operation
- Fail-safe or fail-in-place safety function
- Low internal air consumption
- Setup wizard for efficient and easy commissioning

Order code

001002003004005006007008009010011012

CMSH- - - -AL- -C1- -HA- - -

001	Type
CMSH	Positioner for process automation
002	Design
S	Positioner, integrated displacement/angle detection
SE	Positioner, external displacement/angle detection
003	Mechanical interface
V	Prepared for sub-base
VDE1	VDI/VDE 3845
004	Function
D	Double-acting
S	Single-acting
SD	Double-acting/single-acting, switchable
005	Safety position
-	None
A	Exhausting
006	Housing material
AL	Aluminium

007	Pneumatic connection
-	Without
G14	G1/4
N14	1/4NPT
008	Electrical connection
C1	Spring-loaded terminal
009	Connecting thread
M20	M20
N12	1/2NPT
010	Bus protocol/activation
HA	HART
011	I/O variant
-	None
012	Pressure gauge connection
-	None

Legend: Mandatory entry Optional entry

Product options

- Mechanical interface

 - VDI/VDE 3847-2
- Safety position

 - Holding the last position
- I/O variant

 - 1AO, 1DI and 2DO
- Pressure gauge connection

 - Prepared



Configurable product

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

→ www.festo.com/catalogue/...

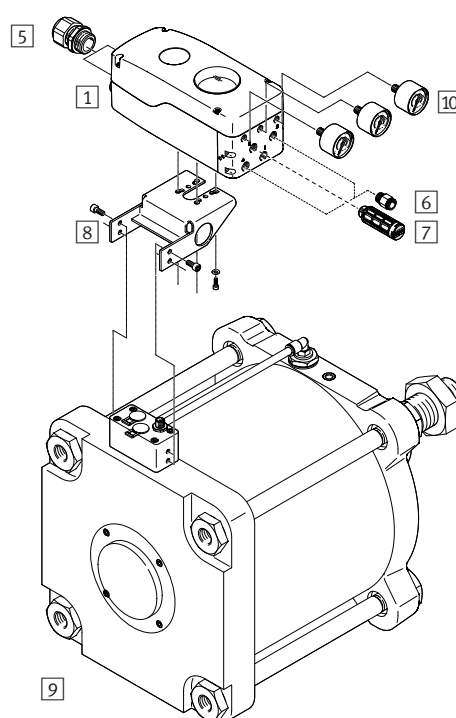
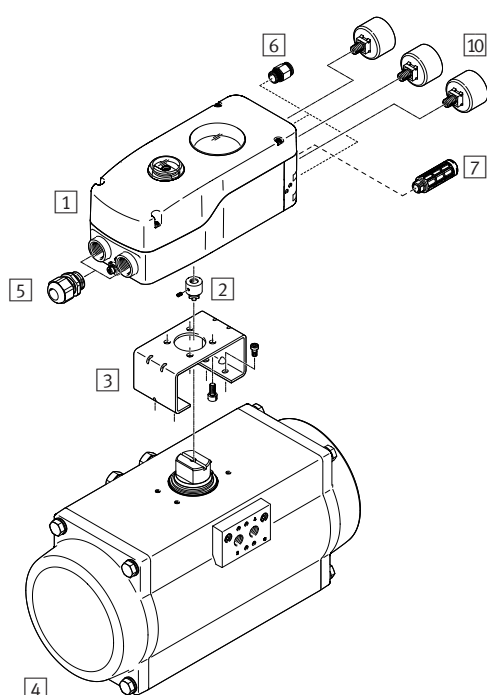
Enter the part number or the type.

Part no.	Type
8148076	CMSH

Ordering

002 Design	003 Mechanical interface	004 Function	005 Safety position	007 Pneumatic connection	Type	Part no.
Positioner, integrated displacement/angle detection	VDI/VDE 3845	Single-acting	Exhausting	G1/4	CMSH-S-VDE1-S-A-AL-G14-C1M20-HA	8097412
	VDI/VDE 3845	Single-acting	Exhausting	1/4NPT	CMSH-S-VDE1-S-A-AL-N14-C1N12-HA	8097413
	VDI/VDE 3845	Double-acting	Exhausting	G1/4	CMSH-S-VDE1-D-A-AL-G14-C1M20-HA	8097420
	VDI/VDE 3845	Double-acting	Exhausting	1/4NPT	CMSH-S-VDE1-D-A-AL-N14-C1N12-HA	8097421
Positioner, external displacement/angle detection	VDI/VDE 3845	Double-acting	Exhausting	G1/4	CMSH-SE-VDE1-D-A-AL-G14-C1M20-HA	8097423
Positioner, integrated displacement/angle detection	Prepared for sub-base	Convertible	–	–	CMSH-S-V-SD-AL-C1M20-HA	8097425
			–		CMSH-S-V-SD-AL-C1N12-HA	8097426

Accessories



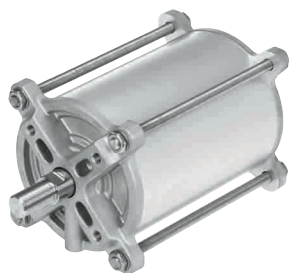
- 1 Positioner CSMH
- 2 Coupling CAFM-M1-CK-N1
→ [cmsh](#)
- 3 Mounting adapter CAFM-M1-K-N1
→ 381
- 4 Quarter turn actuator DFPI
→ 384

- 5 Cable connector NETC-P-M20
→ [cmsh](#)
- 6 Push-in fitting QS → 332

- 7 Silencer
AMTE, metal design → 356
U, polymer, male thread → 357

- 8 Adapter kit DADG, for direct mounting of a positioner on the linear actuator DFPI → [dfpi](#)
- 9 Linear actuator DFPI → [dfpi](#)
- 10 Pressure gauge PAGN, MA
→ [cmsh](#)

3 Mounting adapter CAFM-M1-K-N1 For quarter turn actuators with interface to VDI/VDE 3845			
	Size	Type	Part no.
	30x80, height 20 mm	CAFM-M1-K-N1-AA1	8148117
	30x80, height 30 mm	CAFM-M1-K-N1-AA2	8148118
	30x130, height 30 mm	CAFM-M1-K-N1-AA3	8148119
	30x130, height 50 mm	CAFM-M1-K-N1-AA4	8148120



- www.festo.com/ex

Order code

[illegible]

001	Type
DFPC	Linear actuator
002	Piston Ø [mm]
...	80, 100, 125, 160, 200, 250, 320
003	Stroke [mm]
...	50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400
004	Function
D	Double-acting
005	Piston rod thread type
—	Male thread
006	Housing surface treatment
—	Without
007	EU certification
—	None

008	Piston rod extension
—	Without
009	Piston rod thread extension
—	Without
010	Piston rod thread shortener
—	Without
011	Piston rod thread
—	Standard
012	Thread length of spacer bolts on the bearing cap
—	Without

Legend: Mandatory entry Optional entry

Product options

Variable stroke
... 10 ... 1600 mm

Piston rod thread extension
...L 0 ... 70 mm

Piston rod thread
M16, M16x1.5, M20, M20x1.5, M24,
M24x1.5, M27, M27x2, M30, M30x2,
M36, M36x2, M42, M42x2, M48,
M48x2

Thread length of spacer bolts on the bearing cap
...LB2 10 ... 140 mm

EU certification
EX4 II 2GD

Piston rod thread shortening
...S 1 ... 74 mm

Piston rod extension
...E 1 ... 500 mmm

 Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

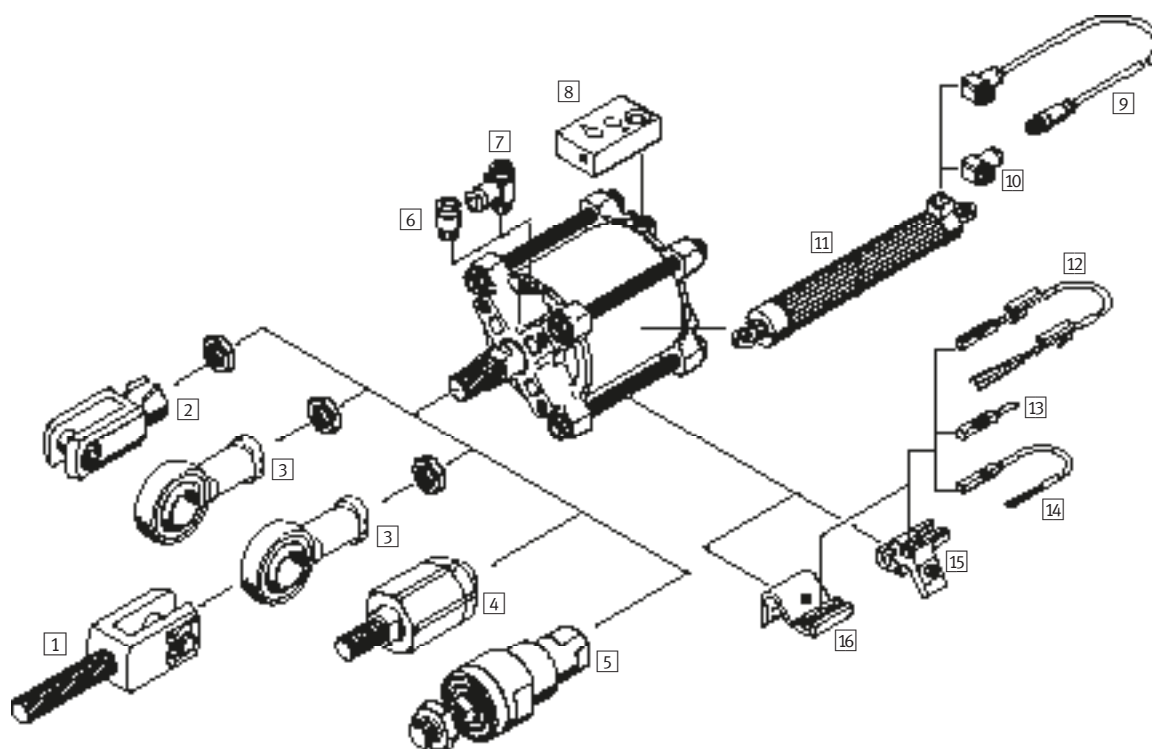
Part no.	Type	Part no.	Type
8110796	DFPC-80-...	8133072	DFPC-200-...
8110785	DFPC-100-...	8141420	DFPC-250-...
8110797	DFPC-125-...	8141421	DFPC-320-...
8133065	DFPC-160-...		

Ordering

002 Piston Ø [mm]	003 Stroke [mm]	Type	Part no.
Double-acting linear actuator with cushioning at both ends			
80	50	DFPC-80-50-D	8110815
	65	DFPC-80-65-D	8110817
	80	DFPC-80-80-D	8110816
100	80	DFPC-100-80-D	8110777
	100	DFPC-100-100-D	8110776
	125	DFPC-100-125-D	8110775
125	100	DFPC-125-100-D	8110773
	125	DFPC-125-125-D	8110774
	150	DFPC-125-150-D	8110772

002 Piston Ø [mm]	003 Stroke [mm]	Type	Part no.
Double-acting linear actuator with cushioning at both ends			
160	150	DFPC-160-150-D	8133079
	200	DFPC-160-200-D	8133080
	250	DFPC-160-250-D	8133081
	300	DFPC-160-300-D	8133082
200	300	DFPC-200-300-D	8133104
	350	DFPC-200-350-D	8133105
	400	DFPC-200-400-D	8133106

Accessories



- 1 Rod clevis SGA → dfpc
- 2 Rod clevis SG/CRSG → 66
- 3 Rod eye SGS/CRSGS → 66
- 4 Self-aligning rod coupler FK → 66

- 5 Self-aligning rod coupler CRFK → dfpc
- 6 Push-in fitting QS → 332
- 7 One-way flow control valve GRLA, GRLZ → 208
- 8 Control plate DADG → 383

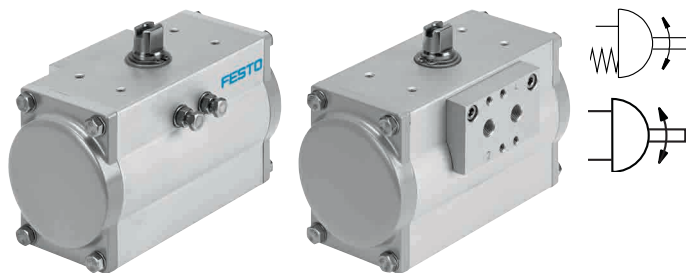
- 9 Connecting cable NEBC → dfpc
- 10 Plug socket SD → dfpc
- 11 Displacement encoder MLO-POT → dfpc
- 12 Proximity switch CRSMT-8 → dfpc

- 13 Proximity switch SDBT → dfpc
- 14 Proximity switch SMT-8M-A → dfpc
- 15 Mounting kit SMBZ-8-... → dfpc
- 16 Sensor bracket DASP-M4-... → dfpc

8 Control plate, NAMUR DADG		
Pneumatic connection	Type	Part no.
For mounting a valve to VDI/VDE 3845 (NAMUR) using a hollow bolt		
G1/8	DADG-FM-VDE1G18	8131546
G1/4	DADG-FM-VDE1G14	8131548

Actuators >

Quarter turn actuators DFPD



- Suitable for the automation of butterfly valves, ball valves and air dampers
- Also suitable for water/wastewater, beverage and pharmaceutical industries as well as process automation
- Size 10 ... 2300
- Torque 10 ... 2200 Nm
- Swivel angle 90°, 120°, 135°, 180°
- Flange hole pattern to ISO 5211
- Port pattern to NAMUR VDI/VDE 3845 for mounting solenoid valves, position sensors and positioners

Order code – Basic design

001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016
DFPD				RP		90	R								

001	Type
DFPD	Quarter turn actuator
002	System of units
–	Metric
003	Version
–	Standard
004	Size
...	10, 20, 40, 80, 120, 160, 240, 300, 480, 700, 900, 1200, 2300
005	Design
RP	Rack and pinion
006	Yoke type
–	None
007	Swivel angle
90	90°
008	Swivel direction
R	To the right
009	Function
D	Double-acting
S	Single-acting
010	Spring force
–	None
60	For connection pressure 6 bar

011	Flange pattern 1
F03	Hole pattern F03
F04	Hole pattern F04
F05	Hole pattern F05
F07	Hole pattern F07
F10	Hole pattern F10
F12	Hole pattern F12
F14	Hole pattern F14
012	Flange pattern 2
–	None
07	Hole pattern F07
10	Hole pattern F10
12	Hole pattern F12
16	Hole pattern F16
013	Manual override
–	None
014	Temperature range
–	Standard
015	Shaft material
–	Standard
016	Housing surface treatment
–	None

Legend: Mandatory entry Optional entry

Product options

System of units

- Imperial

Swivel angle

- 120°, 135°, 180°
- 0 ... 180°

Swivel direction

- To the left

Spring force

- For connection pressure 2 ... 5.5 bar

Temperature range

- 0 ... +150° C
- –50 ... +60° C

Shaft material

- Stainless steel

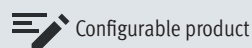
Housing surface treatment

- Epoxy-coated

DFPD-C

- Version for use in chemical and petrochemical plants

Ordering – Product options



Configurable product

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

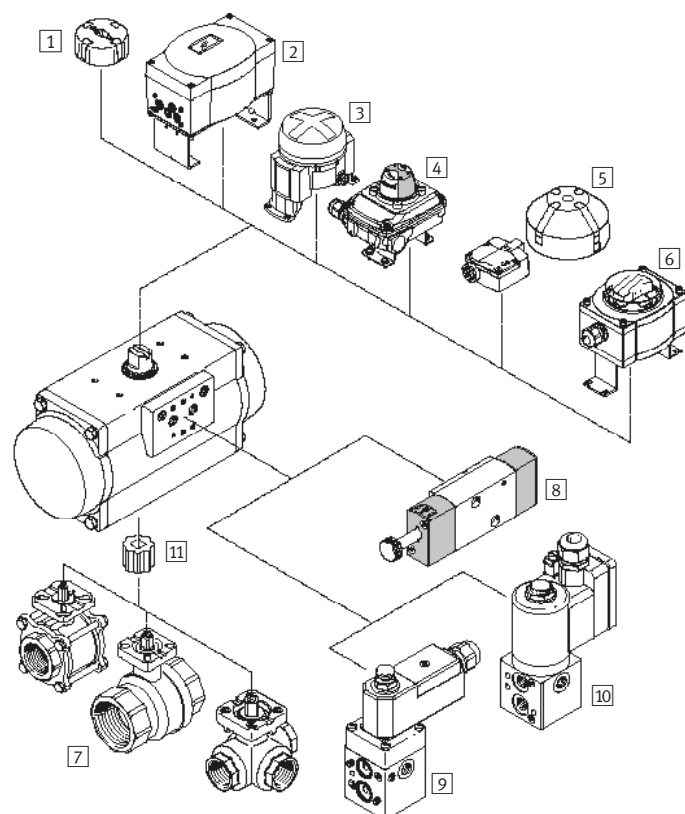
→ www.festo.com/catalogue/dfpd

Ordering – Basic design

004 Size	Type	Part no.
009 Quarter turn actuators DFPD, single-acting		
10	–	
20	DFPD-20-RP-90-RS60-F04	8047622
	DFPD-20-RP-90-RS60-F05	8048015
40	DFPD-40-RP-90-RS60-F0507	8047624
80	DFPD-80-RP-90-RS60-F0507	8047626
120	DFPD-120-RP-90-RS60-F0507	8048134
160	DFPD-160-RP-90-RS60-F0710	8048136
240	DFPD-240-RP-90-RS60-F0710	8048138
300	DFPD-300-RP-90-RS60-F0710	8048140
480	DFPD-480-RP-90-RS60-F1012	8048142
700	DFPD-700-RP-90-RS60-F1012	8065262
900	DFPD-900-RP-90-RS60-F14	8065266
1200	DFPD-1200-RP-90-RS60-F14	8065270
2300	DFPD-2300-RP-90-RS60-F1216	8065274

004 Size	Type	Part no.
009 Quarter turn actuators DFPD, double-acting		
10	DFPD-10-RP-90-RD-F03	8047613
	DFPD-10-RP-90-RD-F04	8048010
20	DFPD-20-RP-90-RD-F04	8047614
40	DFPD-40-RP-90-RD-F0507	8047615
80	DFPD-80-RP-90-RD-F0507	8047616
120	DFPD-120-RP-90-RD-F0507	8048123
160	DFPD-160-RP-90-RD-F0710	8048124
240	DFPD-240-RP-90-RD-F0710	8048125
300	DFPD-300-RP-90-RD-F0710	8048126
480	DFPD-480-RP-90-RD-F1012	8048127
700	DFPD-700-RP-90-RD-F1012	8065261
900	DFPD-900-RP-90-RD-F14	8065265
1200	DFPD-1200-RP-90-RD-F14	8065269
2300	DFPD-2300-RP-90-RD-F1216	8065273

Accessories



- 1 Position indicator SASF → [dfpd](#)
- 2 Positioner CMSX → 378
- 3 Limit switch attachment DAPZ → [dapz](#)
- 4 Limit switch attachment SRBC → 374
- 5 Limit switch attachment SRBG with position indicator SASF → 376
- 6 Limit switch attachment SRAP → [srap](#)
- 7 Ball valve VAPB → [vapb](#)
Ball valve VZBA → [vzba](#)
- 8 Solenoid valve VSNC → 173
- 9 Solenoid valve VOFC → [vofc](#)
- 10 Solenoid valve VOFD → [vofd](#)
- 11 Reducing sleeve DARQ → [dfpd](#)

Process and media valves >

Ball valves VZBA



- Automatable 2-way or 3-way ball valve
- Stainless steel design
- Blow-out proof shaft
- Manual operation possible using hand lever
- Connecting thread to EN 10226-1
- Mounting flange to ISO 5211
- Use in zone 1, 21, 2, 22

Type code

001	Series
VZBA	Ball valve

002	Nominal diameter DN
1/4	1/4"
3/8	3/8"
1/2	1/2"
3/4	3/4"
1	1"
1 1/4	1 1/4"
1 1/2	1 1/2"
2	2"
2 1/2	2 1/2"
3	3"
4	4"

003	Process valve connection type 1
G	Rp female thread
W	Suitable for welding

004	Process valve connection type 2
G	G female thread
W	Suitable for welding

005	Process valve connection type 3
	None
G	G female thread

006	Nominal pressure [bar]
63	63

007	Design type
	Standard
T	Three-part

008	Valve function
22	2/2-way
32L	3/2-way, L-bore
32T	3/2-way, T-bore

009	Flanged connection
F0304	Hole pattern 03 and 04
F0405	Hole pattern 04 and 05
F0507	Hole pattern 05 and 07
F0710	Hole pattern 07 and 10
F10	Hole pattern 10

010	Housing material
V4	Stainless steel (chrome-nickel-molybdenum, austenitic/1.4401, 1.4404 (AISI 316L), 1.4408)

011	Shut-off element material
V4	Stainless steel (chrome-nickel-molybdenum, austenitic/1.4401, 1.4404 (AISI 316L), 1.4408)

012	Sealant
T	PTFE

Ordering data

Process valve with pipe thread			
Connection Process valve	Product weight	Part no.	Type
Rp1	1,250 g	1686640	VZBA-1"-GG-63-T-22-F0405-V4V4T
Rp1 1/2	2,800 g	1686643	VZBA-1 1/2"-GG-63-T-22-F0507-V4V4T
Rp1 1/4	1,850 g	1686641	VZBA-1 1/4"-GG-63-T-22-F0405-V4V4T
Rp1/2	650 g	1686636	VZBA-1/2"-GG-63-T-22-F0304-V4V4T
Rp1/4		1686625	VZBA-1/4"-GG-63-T-22-F0304-V4V4T
Rp2	4,550 g	1686646	VZBA-2"-GG-63-T-22-F0507-V4V4T
Rp2 1/2	9,200 g	1686648	VZBA-2 1/2"-GG-63-T-22-F0710-V4V4T
Rp3	13,950 g	1686651	VZBA-3"-GG-63-T-22-F0710-V4V4T
Rp3/4	850 g	1686639	VZBA-3/4"-GG-63-T-22-F0304-V4V4T
Rp3/8	650 g	1686632	VZBA-3/8"-GG-63-T-22-F0304-V4V4T
Rp4	22,300 g	1686654	VZBA-4"-GG-63-T-22-F10-V4V4T

Process valve with welding ends			
Connection Process valve	Product weight	Part no.	Type
Weld-on ends/weld-on ends	650 g	1686656	VZBA-1/4"-WW-63-T-22-F0304-V4V4T
		1686662	VZBA-3/8"-WW-63-T-22-F0304-V4V4T
		1686663	VZBA-1/2"-WW-63-T-22-F0304-V4V4T
	850 g	1686665	VZBA-3/4"-WW-63-T-22-F0304-V4V4T
	1,250 g	1686689	VZBA-1"-WW-63-T-22-F0405-V4V4T
	1,850 g	1686696	VZBA-1 1/4"-WW-63-T-22-F0405-V4V4T
	2,800 g	1686697	VZBA-1 1/2"-WW-63-T-22-F0507-V4V4T
	4,550 g	1686699	VZBA-2"-WW-63-T-22-F0507-V4V4T
	9,200 g	1686702	VZBA-2 1/2"-WW-63-T-22-F0710-V4V4T
	13,950 g	1686704	VZBA-3"-WW-63-T-22-F0710-V4V4T
	22,300 g	1686705	VZBA-4"-WW-63-T-22-F10-V4V4T

Process valve with pipe thread, L-shaped drilled hole			
Connection Process valve	Product weight	Part no.	Type
Rp1	1,600 g	1692215	VZBA-1"-GGG-63-32L-F0405-V4V4T
Rp1 1/2	3,800 g	1692218	VZBA-1 1/2"-GGG-63-32L-F0405-V4V4T
Rp1 1/4	2,800 g	1692217	VZBA-1 1/4"-GGG-63-32L-F0405-V4V4T
Rp1/2	700 g	1692212	VZBA-1/2"-GGG-63-32L-F0304-V4V4T
Rp1/4		1692210	VZBA-1/4"-GGG-63-32L-F0304-V4V4T
Rp2	7,400 g	1692219	VZBA-2"-GGG-63-32L-F0507-V4V4T
Rp3/4	1,000 g	1692214	VZBA-3/4"-GGG-63-32L-F0405-V4V4T
Rp3/8	700 g	1692211	VZBA-3/8"-GGG-63-32L-F0304-V4V4T

Process valve with pipe thread, T-shaped drilled hole			
Connection Process valve	Product weight	Part no.	Type
Rp1	1,600 g	1692227	VZBA-1"-GGG-63-32T-F0405-V4V4T
Rp1 1/2	3,800 g	1692229	VZBA-1 1/2"-GGG-63-32T-F0405-V4V4T
Rp1 1/4	2,800 g	1692228	VZBA-1 1/4"-GGG-63-32T-F0405-V4V4T
Rp1/2	700 g	1692224	VZBA-1/2"-GGG-63-32T-F0304-V4V4T
Rp1/4		1692220	VZBA-1/4"-GGG-63-32T-F0304-V4V4T
Rp2	7,400 g	1692230	VZBA-2"-GGG-63-32T-F0507-V4V4T
Rp3/4	1,000 g	1692226	VZBA-3/4"-GGG-63-32T-F0405-V4V4T
Rp3/8	700 g	1692221	VZBA-3/8"-GGG-63-32T-F0304-V4V4T

Accessories

Hand lever VAOH → [vzba](#)Reducing sleeve DARQ-R → [vzba](#)Mounting kit DARQ-KV → [vzba](#)Mounting kit DARQ-K-Z → [vzba](#)Mounting flange adapter DARQ-B
→ [vzba](#)

Process and media valves >

Angle seat valves VZXA



- Suitable for virtually all media
- High chemical and thermal resistance
- Modular design
- Hygienic design, insensitive to dirt
- Long service life
- Quick and easy maintenance
- High flow rates can be achieved
- Selected types in accordance with ATEX directive for potentially explosive atmospheres

→ www.festo.com/ex

Order code – Basic design

001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017
VZXA			T					T		K						

001	Type		
VZXA	Process valve		
002	Flow direction		
A	Over valve seat, for gaseous media		
B	Under valve seat, for gaseous and liquid media		
003	Control of the medium		
–	On/off operation		
004	Cable connection		
T	Threaded collar		
005	Connection standard		
S6	DIN ISO 228-1		
S7	ANSI/ASME B 1.20.1		
006	Connection size	006	Connection size
1/2"	1/2"	13	DN13
3/4"	3/4"	20	DN20
1"	1"	25	DN25
1 1/4"	1 1/4"	32	DN32
007	Temperature of medium		
M2	–10 ... +180°C		
M6	–10 ... +60 °C		
008	Valve housing material		
V13	Stainless steel 1.4409		
V14	Stainless steel ASTM A351-CF3M		
B1	Brass		
009	Seat seal material		
T	PTFE		

010	Medium pressure
4.4	0 ... 4.4 bar
8.3	0 ... 8.3 bar
12.8	0 ... 12.8 bar
16	0 ... 16 bar
23	0 ... 23 bar
30	0 ... 30 bar
011	Actuator
K	Piston actuator
012	Actuator size
46	46 mm
75	75 mm
013	Stroke
17	17 mm
20	20 mm
014	Control function
–	Closed via spring force, NC
PR	Closed via reduced spring force, NC
015	Position sensing
–	Via mechanical indicator
016	Actuator housing material
V4	Stainless steel 1.4408
PM	Polymer
017	EU certification
–	None

Legend: Mandatory entry Optional entry

Product options

Connection standard

- Rc thread to DIN 10226
- Connection sizes
- DN40, DN50, DN65
- 1 1/2", 2"

Temperature of medium

- –30 ... +200 °C

Seat seal material

- PTFE modified

Medium pressure

- 4 ... 25 bar

Actuator

- Diaphragm actuator

Actuator size

- 90 mm

Stroke

- 26 mm

Control function

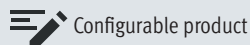
- Double-acting

- Opened via spring force, NO

EU certification

- II 2GD

Ordering – Product options



Configurable product

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

→ www.festo.com/catalogue/...

Enter the part number or the type.

Part no. Type

3539410 VZXA

Ordering – Basic design

Angle seat valve with stainless steel piston actuator

002 Flow direction below the valve seat, for gaseous and liquid media

006 Connection size	Type	Part no.	006 Connection size	Type	Part no.
007 Temperature of medium –10 ... +180 °C 012 Actuator size 46 mm 013 Stroke 17 mm					
	005 Connection standard DIN ISO 228-1 008 Valve housing: Stainless steel 1.4409			005 Connection standard ANSI/ASME B 1.20.1 008 Valve housing: Stainless steel ASTM A351-CF3M	
DN13	VZXA-B-TS6-13-M2-V13T-30-K-46-17-V4	8060527	1/2"	VZXA-B-TS7-1/2"-M2-V14T-30-K-46-17-V4	8060541
DN20	VZXA-B-TS6-20-M2-V13T-12.8-K-46-17-V4	8060528	3/4"	VZXA-B-TS7-3/4"-M2-V14T-12.8-K-46-17-V4	8060542
DN25	VZXA-B-TS6-25-M2-V13T-8.3-K-46-17-V4	8060530	1"	VZXA-B-TS7-1"-M2-V14T-8.3-K-46-17-V4	8060544
007 Temperature of medium –10 ... +180 °C 012 Actuator size 75 mm 013 Stroke 20 mm					
	005 Connection standard DIN ISO 228-1 008 Valve housing: Stainless steel 1.4409			005 Connection standard ANSI/ASME B 1.20.1 008 Valve housing: Stainless steel ASTM A351-CF3M	
DN20	VZXA-B-TS6-20-M2-V13T-30-K-75-20-V4	8060529	3/4"	VZXA-B-TS7-3/4"-M2-V14T-30-K-75-20-V4	8060543
DN25	VZXA-B-TS6-25-M2-V13T-23-K-75-20-V4	8060531	1"	VZXA-B-TS7-1"-M2-V14T-23-K-75-20-V4	8060545

Angle seat valve with polymer piston actuator

002 Flow direction below the valve seat, for gaseous and liquid media

006 Connection size	Type	Part no.	006 Connection size	Type	Part no.
007 Temperature of medium –10 ... +180 °C 012 Actuator size 46 mm 013 Stroke 17 mm					
	005 Connection standard DIN ISO 228-1 008 Valve housing: Brass			005 Connection standard ANSI/ASME B 1.20.1 008 Valve housing: Brass	
DN13	VZXA-B-TS6-13-M2-B1T-30-K-46-17-PM	8111589	1/2"	VZXA-B-TS7-1/2"-M2-B1T-30-K-46-17-PM	8111604
DN20	VZXA-B-TS6-20-M2-B1T-12.8-K-46-17-PM	8111590	3/4"	VZXA-B-TS7-3/4"-M2-B1T-12.8-K-46-17-PM	8111605
DN25	VZXA-B-TS6-25-M2-B1T-8.3-K-46-17-PM	8111592	1"	VZXA-B-TS7-1"-M2-B1T-8.3-K-46-17-PM	8111607
			1 1/4"	VZXA-B-TS7-1 1/4"-M2-B1T-4.4-K-46-17-PM	8111609

Angle seat valve with polymer piston actuator

002 Flow direction over the valve seat, for gaseous media

006 Connection size	Type	Part no.	006 Connection size	Type	Part no.
007 Temperature of medium –10 ... +180 °C 012 Actuator size 46 mm 013 Stroke 17 mm					
	005 Connection standard DIN ISO 228-1 008 Valve housing: Brass			005 Connection standard ANSI/ASME B 1.20.1 008 Valve housing: Brass	
DN13	VZXA-A-TS6-13-M2-B1T-16-K-46-17-PR-PM	8111583	1/2"	VZXA-A-TS7-1/2"-M6-B1T-16-K-46-17-PR-PM	8111598
DN32	VZXA-A-TS6-32-M2-B1T-4.4-K-46-17-PM	8111594			



- For angle seat valves VZXF and VZXA
- For use wherever valve terminals are not economically or technically viable
- Manual override, detenting

Type codes

001	Series	
VOFX	Pilot valve	
002	Type of directional control valve	
L	In-line valve	
003	Constructions principle	
T	Poppet valve	
004	Valve function	
M32C	3/2-way valve, normally closed	
005	Reset method for monostable valves	
M	Mechanical spring	
006	Manual override	
Y	Detenting	
007	Pneumatic connection	
G18	G1/8	

008	Valve pilot control interface	
SG18	Interface with thread G1/8	
009	Nominal operating voltage	
1	24 V DC	
3A	230 V AC, 50/60 Hz	
010	Electrical connection	
A1	Connection pattern type A, to EN 175 301	
B2	Connection pattern type B, industry standard	
011	EU certification	
	None	
EX2	II 3GD	
EX4	II 2GD	
012	Ignition protection type	
	Without	
M	Moulded encapsulation	
N	Non-sparking	

Ordering data

Pilot valve			
Operating voltage	Product weight	Part no.	Type
230V AC	160 g	8178210	VOFX-LT-M32C-MY-G18-SG18-3AA1
24V DC		8178211	VOFX-LT-M32C-MY-G18-SG18-1A1-EX2-N
		8119587	VOFX-LT-M32C-MY-G18-SG18-1B2
	418 g	8178212	VOFX-LT-M32C-MY-G18-SG18-1-EX4-M

Process valves >
Pinch valves VZQA



- Easy-to-clean housing (clean design)
- Shut-off element made of elastomer
- For controlling fluid/powdery media, solids and mixtures of substances
- Selected types in accordance with ATEX directive for potentially explosive atmospheres
→ www.festo.com/ex

Order code – Basic design

001002003004005006007008009010011

VZQAC- - - - - - - - - - -

Legend: Mandatory entry Optional entry

001	Type
VZQA	Pinch valve, pneumatically actuated
002	Product version
C	Easy-to-clean design
003	Valve function
M22C	2/2-way valve, normally closed
M22U	2/2-way valve, normally open
004	Nominal diameter DN
6	6 mm
15	15 mm
25	25 mm
005	Process valve connection type 1
G	G female thread
S5	Clamp ferrule to DIN 32676, series A
006	Process valve connection type 2
G	G female thread
S5	Clamp ferrule to DIN 32676, series A

007	Housing material
AL	Aluminium
V2	Stainless steel (chrome-nickel, austenitic)
V4	Stainless steel (chrome-nickel-molybdenum, austenitic)
008	Housing cover material
AL	Aluminium
V4	Stainless steel (chrome-nickel-molybdenum, austenitic)
POM	Polyoxymethylene
009	Shut-off element material
E	EPDM
N	NBR
S1	Silicone
010	Pressure range of media
2	0 ... 2 bar
4	0 ... 4 bar
011	Sensing type
–	None

Product options

- Process valve connection type
 - NPT female thread
 - Clamp ferrule to ASME-BPE, type A
 - Clamp ferrule to ASME-BPE, type B
- Pressure range of media
 - 0 ... 6 bar
- Sensing type
 - End positions

Configurable product

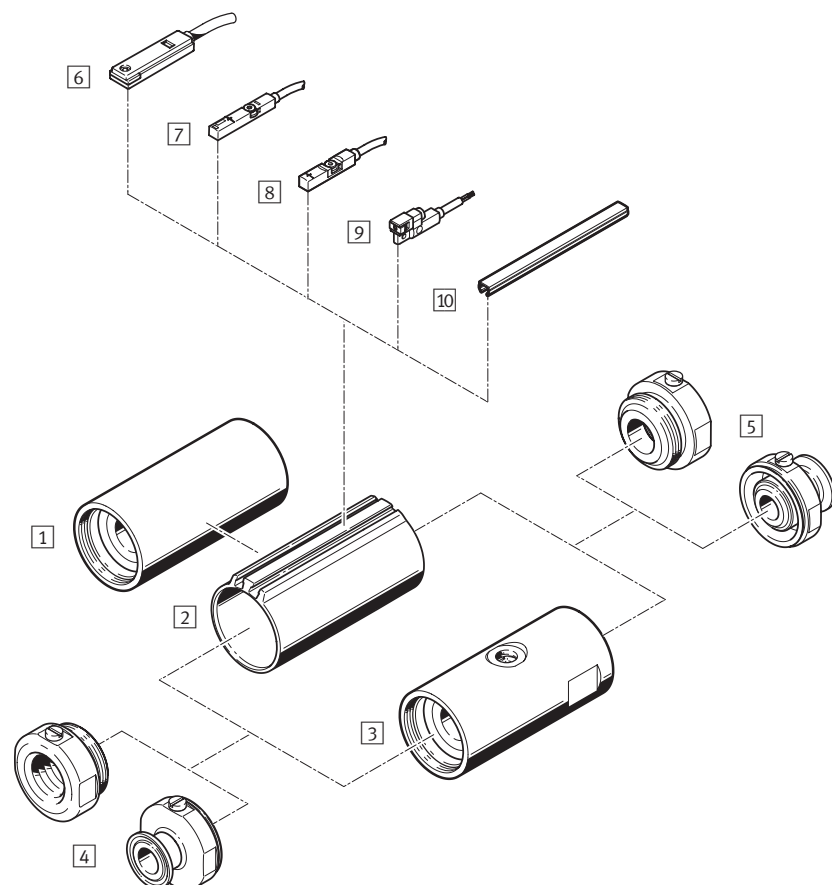
This product and all its product options can be ordered online via the configurator:
→ www.festo.com/catalogue/...
Enter the part number or the type.

Part no.	Type	003 Valve function	004 Nominal diameter DN	010 Pressure range of media
2037881	VZQA-C-M22U-4	2/2-way valve, normally open	Selectable	0 ... 4 bar
3174282	VZQA-C-M22C-15-6	2/2-way valve, normally closed	15 mm	0 ... 6 bar

Ordering – Basic design

003 Valve function	004 Nominal diameter DN	005 Process valve connection type	009 Shut-off element material	Type	Part no.
010 Pressure range of media: 0 ... 2 bar					
2/2-way valve, normally closed	6	Clamp ferrule to DIN 32676, series A	Silicone	VZQA-C-M22C-6-S5S5-V2V4S1-2	8117022
	15	Clamp ferrule to DIN 32676, series A	Silicone	VZQA-C-M22C-15-S5S5-V2V4S1-2	3412427
	6	G female thread G1/4	Silicone	VZQA-C-M22C-6-GG-V2V4S1-2	8117024
	15	G female thread G1/2	Silicone	VZQA-C-M22C-15-GG-V2V4S1-2	3412428
010 Pressure range of media: 0 ... 4 bar					
2/2-way valve, normally open	6	Clamp ferrule to DIN 32676, series A	EPDM	VZQA-C-M22U-6-S5S5-V4V4E-4	2931681
	6	Clamp ferrule to DIN 32676, series A	Silicone	VZQA-C-M22U-6-S5S5-V4V4S1-4	2931682
	15	Clamp ferrule to DIN 32676, series A	EPDM	VZQA-C-M22U-15-S5S5-V4V4E-4	3022833
	15	Clamp ferrule to DIN 32676, series A	Silicone	VZQA-C-M22U-15-S5S5-V4V4S1-4	3022834
	25	Clamp ferrule to DIN 32676, series A	EPDM	VZQA-C-M22U-25-S5S5-V4V4E-4	3968924
	25	Clamp ferrule to DIN 32676, series A	Silicone	VZQA-C-M22U-25-S5S5-V4V4S1-4	3968925
2/2-way valve, normally open	6	G female thread G1/4	EPDM	VZQA-C-M22U-6-GG-V4V4E-4	2931678
	6	G female thread G1/4	NBR	VZQA-C-M22U-6-GG-ALV4N-4	2931679
	6	G female thread G1/4	Silicone	VZQA-C-M22U-6-GG-V4V4S1-4	2931683
	15	G female thread G1/2	EPDM	VZQA-C-M22U-15-GG-V4V4E-4	3022829
	15	G female thread G1/2	NBR	VZQA-C-M22U-15-GG-V4V4N-4	3022830
	15	G female thread G1/2	Silicone	VZQA-C-M22U-15-GG-V4V4S1-4	3022835
	15	G female thread G1/2	NBR	VZQA-C-M22U-15-GG-ALV4N-4	3022831
	15	G female thread G1/2	NBR	VZQA-C-M22U-15-GG-ALPOMN-4	3022832
	25	G female thread G1	EPDM	VZQA-C-M22U-25-GG-V4V4E-4	3968922
	25	G female thread G1	EPDM	VZQA-C-M22U-25-GG-ALALE-4	3968923
	25	G female thread G1	Silicone	VZQA-C-M22U-25-GG-V4V4S1-4	3968926

Accessories



Base body

- 1 VZQA-C-M22C, normally closed, stainless steel housing
- 2 VZQA-C-M22C, normally closed, aluminium housing (always with T-slots)
- 3 VZQA-C-M22U, normally open
- 4 Connection 1
G female thread
Clamp ferrules
- 5 Connection 2
G female thread
Clamp ferrules

Proximity switch for T-slot

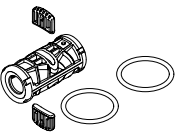
- 6 SME-8 → [vzqa](#)
- 7 SME-8M → [vzqa](#)
- 8 SMT-8M → 394
- 9 SMT-8G → 394
- 10 Slot cover ABP-5-S → 394

Process valves >

Pinch valves VZQA

Accessories

Seal cartridge VAVC-Q2

	For valve function	Nominal diameter DN	Shut-off element material	Type	Part no.
	2/2-way valve, normally open	6	NBR	VAVC-Q2-M22U-6-N	2392881
			EPDM	VAVC-Q2-M22U-6-E	2392882
			VMQ (silicone)	VAVC-Q2-M22U-6-S1	2392883
		15	VMQ (silicone)	VAVC-Q2-M22U-15-S1	3019144
			EPDM	VAVC-Q2-M22U-15-E	3019148
			NBR	VAVC-Q2-M22U-15-N	3019151
		25	NBR	VAVC-Q2-M22U-25-N	3970092
			EPDM	VAVC-Q2-M22U-25-E	3970093
			VMQ (silicone)	VAVC-Q2-M22U-25-S1	3970094
	2/2-way valve, normally closed	6	EPDM	VAVC-Q2-M22C-6-E	3418620
		15	EPDM	VAVC-Q2-M22C-15-E	3418619

8 Proximity switch, N/O contact, magneto-resistive SMT-8M

Description	Type	Part no.
PNP, short design		
Cable, 3-wire, 2.5 m	SMT-8M-A-PS-24V-E-2,5-OE	574335
Plug M8x1, 3-pin, 0.3 m	SMT-8M-A-PS-24V-E-0,3-M8D	574334
NPN, short design		
Cable, 3-wire, 2.5 m	SMT-8M-A-NS-24V-E-2,5-OE	574338
Plug M8x1, 3-pin, 0.3 m	SMT-8M-A-NS-24V-E-0,3-M8D	574339

8 Proximity switch, N/C contact, magneto-resistive SMT-8M

Description	Type	Part no.
PNP, short design		
Cable, 3-wire, 7.5 m	SMT-8M-A-PO-24V-E-7,5-OE	574340

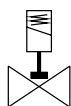
9 Proximity switch, N/O contact, magneto-resistive SMT-8G

Description	Type	Part no.
PNP		
Cable, 3-wire, 2.5 m	SMT-8G-PS-24V-E-2,5Q-OE	547859
Plug M8x1, 3-pin, 0.3 m	SMT-8G-PS-24V-E-0,3Q-M8D	547860
Plug M8x1, 3-pin	SMT-8-SL-PS-LED-24-B	562019

10 Slot cover ABP-5-S, for T-slot

Length	Type	Part no.
Insertable		
2x 0.5 m	ABP-5-S	151680

Solenoid valves VZWD, directly actuated



- Suitable for applications with high pressure and low flow rates
- Solenoid actuation
- Operating pressure 0 ... 90 bar
- Nominal pressure of process valve PN 50, PN 100
- Flow rate Kv 0.06 ... 0.4 m³/h

Order code – Basic design

001	002	003	004	005	006	007	008	009	010	011
VZWD	L	M22C	M			V	1	P4		

001	Type		
VZWD	Solenoid valve, directly actuated		
002	Valve type		
L	In-line valve		
003	Valve function		
M22C	2/2-way valve, normally closed		
004	Reset method		
M	Mechanical spring		
005	Process valve connection		
G18	G1/8 thread		
G14	G1/4 thread		
006	Nominal width DN		
10	1 mm	40	4 mm
20	2 mm	60	6 mm
30	3 mm		

007	Sealing material
V	FPM
008	Nominal operating voltage
1	24 V DC
009	Electrical connection
P4	Plug socket, 3-pin
010	Medium pressure
4	Max. 4 bar
8	Max. 8 bar
15	Max. 15 bar
50	Max. 50 bar
011	Corrosion protection
–	Brass
R1	Stainless steel

Legend: ☐ Mandatory entry ☐ Optional entry

Product options

Nominal width

- 1.5 mm
- 2.5 mm
- 5 mm

Nominal operating voltage

- 110 V AC /50-60 Hz
- 230 V AC /50-60 Hz

Medium pressure

- 5 ... max. 90 bar



Configurable product

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

→ www.festo.com/catalogue/vzwd

Process valves >

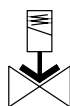
Solenoid valves VZWD, directly actuated

Ordering – Basic design

005 Process valve connection	006 Nominal width DN	010 Medium pressure ¹⁾	Type	Part no.
008 Nominal operating voltage 24 V DC				
	011 Corrosion protection: brass			
G1/8	1 mm	0 ... 50 bar	VZWD-L-M22C-M-G18-10-V-1P4-50	1491825
	2 mm	0 ... 15 bar	VZWD-L-M22C-M-G18-20-V-1P4-15	1491827
	3 mm	0 ... 15 bar	VZWD-L-M22C-M-G18-30-V-1P4-15	1491836
	4 mm	0 ... 8 bar	VZWD-L-M22C-M-G18-40-V-1P4-8	1491837
G1/4	3 mm	0 ... 15 bar	VZWD-L-M22C-M-G14-30-V-1P4-15	1491844
	4 mm	0 ... 8 bar	VZWD-L-M22C-M-G14-40-V-1P4-8	1491845
	6 mm	0 ... 4 bar	VZWD-L-M22C-M-G14-60-V-1P4-4	1491847
	011 Corrosion protection: stainless steel			
G1/8	3 mm	0 ... 15 bar	VZWD-L-M22C-M-G18-30-V-1P4-15-R1	1491852
	4 mm	0 ... 8 bar	VZWD-L-M22C-M-G18-40-V-1P4-8-R1	1491853
G1/4	3 mm	0 ... 15 bar	VZWD-L-M22C-M-G14-30-V-1P4-15-R1	1491860
	4 mm	0 ... 8 bar	VZWD-L-M22C-M-G14-40-V-1P4-8-R1	1491861
	6 mm	0 ... 4 bar	VZWD-L-M22C-M-G14-60-V-1P4-4-R1	1491863

1) The valves are suitable for vacuum with Pabs > 100 mbar. Please ensure the flow direction corresponds to the direction of the arrow.

Solenoid valves VZWF, force pilot operated



- Suitable for closed applications such as cooling or filling systems
- For controlling gaseous and liquid media
- Solenoid actuation
- Medium pressure 0 bar or higher
- Process valve PN 40 nominal pressure
- Flow rate Kv 1.8 ... 28 m³/h

Order code – Basic design

001	002	003	004	005	006	007	008	009	010	011
VZWF	B	L	M22C				1	P4		

001	Type
VZWF	Solenoid valve, force pilot operated
002	Product version
B	Optimised function
003	Valve type
L	In-line valve
004	Valve function
M22C	2/2-way valve, normally closed
005	Process valve connection
G14	G1/4 thread
G38	G3/8 thread
G12	G1/2 thread
006	Nominal width DN
135	13.5 mm
275	27.5 mm

007	Sealing material
–	Standard (NBR)
E	EPDM
008	Nominal operating voltage
1	24 V DC
009	Electrical connection
P4	Plug socket, 3-pin
010	Medium pressure
6	Max. 6 bar
10	Max. 10 bar
011	Corrosion protection
–	Standard (brass)
R1	Stainless steel

Legend: ☐ Mandatory entry ☐ Optional entry

Product options

Product version

- Standard

Process valve connection

- G1, G1¼, G1½, G2

Nominal width DN

- 40 mm
- 50 mm

Sealing material

- FPM

Nominal operating voltage

- 110 V AC/50-60Hz
- 230 V AC/50-60Hz



Configurable product

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

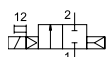
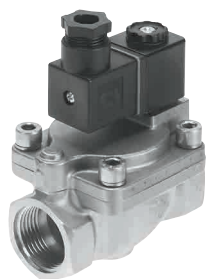
→ www.festo.com/catalogue/vzwf

Process valves >

Solenoid valves VZWF, force pilot operated

Ordering – Basic design

005 Process valve connection	006 Nominal width DN	010 Medium pressure	Type	Part no.
008 Nominal operating voltage 24 V DC				
	007 Seal material NBR, 011 Standard corrosion protection (brass)			
G1/4	13.5 mm	0 ... 10 bar	VZWF-B-L-M22C-G14-135-1P4-10	1492110
G3/8	13.5 mm	0 ... 10 bar	VZWF-B-L-M22C-G38-135-1P4-10	1492111
G1/2	13.5 mm	0 ... 10 bar	VZWF-B-L-M22C-G12-135-1P4-10	1492112
G3/4	27.5 mm	0 ... 6 bar	VZWF-B-L-M22C-G34-275-1P4-6	1492113
G1	27.5 mm	0 ... 6 bar	VZWF-B-L-M22C-G1-275-1P4-6	1492114
	007 Sealing element material EPDM, 011 Stainless steel corrosion protection			
G1/4	13.5 mm	0 ... 10 bar	VZWF-B-L-M22C-G14-135-E-1P4-10-R1	1492134
G3/8	13.5 mm	0 ... 10 bar	VZWF-B-L-M22C-G38-135-E-1P4-10-R1	1492135
G1/2	13.5 mm	0 ... 10 bar	VZWF-B-L-M22C-G12-135-E-1P4-10-R1	1492136
G3/4	27.5 mm	0 ... 6 bar	VZWF-B-L-M22C-G34-275-E-1P4-6-R1	1492137
G1	27.5 mm	0 ... 6 bar	VZWF-B-L-M22C-G1-275-E-1P4-6-R1	1492138



- Indirectly actuated poppet valve with diaphragm seal
- Available in brass or stainless steel casting
- Wide range of coils
- Flow rate 1400 ... 31000 l/min

Order code – Basic design

001	002	003	004	005	006
VZWM	L	M22C			

Legend: ☐ Mandatory entry ☐ Optional entry

001	Type		
VZWM	Solenoid valve, process valve		
002	Valve type		
L	In-line valve		
003	Valve function		
M22C	2/2-way valve, normally closed		
004	Process valve connection		
G14	G1/4 thread	G34	G3/4 thread
G38	G3/8 thread	G1	G1 thread
G12	G1/2 thread		

005	Electrical connection
F4	With armature tube for solenoid coil MD-2- ... -PA
F5	With armature tube for solenoid coil MH-2- ... -PA
006	Corrosion protection
–	Standard (brass)
R1	Stainless steel

Product options

Process valve connection

- G1¼, G1½, G2



Configurable product

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

→ www.festo.com/catalogue/vzwm

Ordering – Basic design

004 Process valve connection	Type	Part no.
	006 Standard corrosion protection (brass)	
G1/4	VZWM-L-M22C-G14-F4	546146
G3/8	VZWM-L-M22C-G38-F4	546147
G1/2	VZWM-L-M22C-G12-F4	546148
G3/4	VZWM-L-M22C-G34-F4	546149
G1	VZWM-L-M22C-G1-F4	546150

004 Process valve connection	Type	Part no.
	006 Stainless steel corrosion protection	
G1/4	VZWM-L-M22C-G14-F5-R1	546162
G3/8	VZWM-L-M22C-G38-F5-R1	546163
G1/2	VZWM-L-M22C-G12-F5-R1	546164
G3/4	VZWM-L-M22C-G34-F5-R1	546165
G1	VZWM-L-M22C-G1-F5-R1	546166

Process valves >

Solenoid valves VZWM

Accessories

Solenoid coil MD		
Voltage	Type	Part no.
Solenoid coil for VZWM- ... -F4- ...		
24 V DC	MD-2-24VDC-PA	549903
110 V AC, 50 ... 60 Hz	MD-2-110VAC-PA	549904
230 V AC, 50 ... 60 Hz	MD-2-230VAC-PA	549905

Solenoid coil MH		
Voltage	Type	Part no.
Solenoid coil for VZWM- ... -F5- ...		
24 V DC	MH-2-24VDC-PA	549906
110 V AC, 50 ... 60 Hz	MH-2-110VAC-PA	549907
230 V AC, 50 ... 60 Hz	MH-2-230VAC-PA	549908

Plug socket MSSD		
Electrical connection	Type	Part no.
Connection pattern to EN 175301-803 type A		
3-pin, square design	MSSD-N	550067

Mounting bracket HRM		
Material	Type	Part no.
Galvanised steel	HRM-1	9769
	HRM-2	9770
	HRM-3	9771

Ball valve actuator unit VZBA



- Ball valve actuator unit with double- or single-acting quarter turn actuator DAPS
- Stainless steel ball valve
- NAMUR connection pattern for solenoid valves/limit switch attachments to VDI/VDE 3845
- Flow is fully opened or closed in both directions
- Use in zone 1, 21, 2, 22

Type codes

001	Series	
VZBA	Ball valve	
002	Nominal diameter DN	
1/4	1/4"	
3/8	3/8"	
1/2	1/2"	
3/4	3/4"	
1	1"	
1 1/4	1 1/4"	
1 1/2	1 1/2"	
2	2"	
2 1/2	2 1/2"	
3	3"	
4	4"	
003	Process valve connection type 1	
G	Rp female thread	
W	Suitable for welding	
004	Process valve connection type 2	
G	G female thread	
W	Suitable for welding	
005	Process valve connection type 3	
	None	
G	G female thread	
006	Nominal pressure [bar]	
63	63	
007	Design type	
	Standard	
T	Three-part	
008	Valve function	
22	2/2-way	
32L	3/2-way, L-bore	
32T	3/2-way, T-bore	

009	Flanged connection	
F0304	Hole pattern 03 and 04	
F0405	Hole pattern 04 and 05	
F0507	Hole pattern 05 and 07	
F0710	Hole pattern 07 and 10	
F10	Hole pattern 10	
010	Housing material	
V4	Stainless steel (chrome-nickel-molybdenum, austenitic/1.4401, 1.4404 (AISI 316L), 1.4408)	
011	Shut-off element material	
V4	Stainless steel (chrome-nickel-molybdenum, austenitic/1.4401, 1.4404 (AISI 316L), 1.4408)	
012	Sealant	
T	PTFE	
013	Drive	
PP	DAPS, double-acting	
PS	DAPS, single-acting	
014	Torque [Nm]	
15	15	
30	30	
53	53	
60	60	
90	90	
106	106	
120	120	
180	180	
240	240	
015	Swivel direction	
R	Right	
016	Nominal swivel angle [°]	
90	90	
017	Spring ID	
	None	
4	4	
018	End-position adjustment	
C	Closed	

Process valve units >

Ball valve actuator unit VZBA

Ordering data

DAPS double-acting with welded ends, 2-way		
Nominal size DN	Part no.	Type
8	1810730	VZBA-1/4"-WW-63-T-22-F0304-V4V4T-PP15-R-90-C
10	1810731	VZBA-3/8"-WW-63-T-22-F0304-V4V4T-PP15-R-90-C
15	1810732	VZBA-1/2"-WW-63-T-22-F0304-V4V4T-PP15-R-90-C
20	1810733	VZBA-3/4"-WW-63-T-22-F0304-V4V4T-PP30-R-90-C
25	1810734	VZBA-1"-WW-63-T-22-F0405-V4V4T-PP30-R-90-C
32	1810735	VZBA-1 1/4"-WW-63-T-22-F0405-V4V4T-PP60-R-90-C
40	1810736	VZBA-1 1/2"-WW-63-T-22-F0507-V4V4T-PP60-R-90-C
50	1810737	VZBA-2"-WW-63-T-22-F0507-V4V4T-PP60-R-90-C
65	1810738	VZBA-2 1/2"-WW-63-T-22-F0710-V4V4T-PP106-R-90-C
80	1810739	VZBA-3"-WW-63-T-22-F0710-V4V4T-PP180-R-90-C
100	1810740	VZBA-4"-WW-63-T-22-F10-V4V4T-PP240-R-90-C

Nominal size DN	Part no.	Type
8	1774103	VZBA-1/4"-WW-63-T-22-F0304-V4V4T-PS15-R-90-4-C
10	1774104	VZBA-3/8"-WW-63-T-22-F0304-V4V4T-PS15-R-90-4-C
15	1774105	VZBA-1/2"-WW-63-T-22-F0304-V4V4T-PS15-R-90-4-C
20	1774106	VZBA-3/4"-WW-63-T-22-F0304-V4V4T-PS30-R-90-4-C
25	1774107	VZBA-1"-WW-63-T-22-F0405-V4V4T-PS30-R-90-4-C
32	1774108	VZBA-1 1/4"-WW-63-T-22-F0405-V4V4T-PS53-R-90-4-C
40	1774109	VZBA-1 1/2"-WW-63-T-22-F0507-V4V4T-PS53-R-90-4-C
50	1774110	VZBA-2"-WW-63-T-22-F0507-V4V4T-PS90-R-90-4-C
65	1774111	VZBA-2 1/2"-WW-63-T-22-F0710-V4V4T-PS120-R-90-4-C
80	1774112	VZBA-3"-WW-63-T-22-F0710-V4V4T-PS180-R-90-4-C
100	1774113	VZBA-4"-WW-63-T-22-F10-V4V4T-PS240-R-90-4-C

DAPS double-acting, 2-way		
Connection Process valve	Part no.	Type
Rp1	1809655	VZBA-1"-GG-63-T-22-F0405-V4V4T-PP30-R-90-C
Rp1 1/2	1809657	VZBA-1 1/2"-GG-63-T-22-F0507-V4V4T-PP60-R-90-C
Rp1 1/4	1809656	VZBA-1 1/4"-GG-63-T-22-F0405-V4V4T-PP60-R-90-C
Rp1/2	1809653	VZBA-1/2"-GG-63-T-22-F0304-V4V4T-PP15-R-90-C
Rp1/4	1809651	VZBA-1/4"-GG-63-T-22-F0304-V4V4T-PP15-R-90-C
Rp2	1809658	VZBA-2"-GG-63-T-22-F0507-V4V4T-PP60-R-90-C
Rp2 1/2	1809659	VZBA-2 1/2"-GG-63-T-22-F0710-V4V4T-PP106-R-90-C
Rp3	1809660	VZBA-3"-GG-63-T-22-F0710-V4V4T-PP180-R-90-C
Rp3/4	1809654	VZBA-3/4"-GG-63-T-22-F0304-V4V4T-PP30-R-90-C
Rp3/8	1809652	VZBA-3/8"-GG-63-T-22-F0304-V4V4T-PP15-R-90-C
Rp4	1809661	VZBA-4"-GG-63-T-22-F10-V4V4T-PP240-R-90-C

Connection Process valve	Part no.	Type
Rp1	1758073	VZBA-1"-GG-63-T-22-F0405-V4V4T-PS30-R-90-4-C
Rp1 1/2	1758075	VZBA-1 1/2"-GG-63-T-22-F0507-V4V4T-PS53-R-90-4-C
Rp1 1/4	1758074	VZBA-1 1/4"-GG-63-T-22-F0405-V4V4T-PS53-R-90-4-C
Rp1/2	1758071	VZBA-1/2"-GG-63-T-22-F0304-V4V4T-PS15-R-90-4-C
Rp1/4	1758069	VZBA-1/4"-GG-63-T-22-F0304-V4V4T-PS15-R-90-4-C
Rp2	1758076	VZBA-2"-GG-63-T-22-F0507-V4V4T-PS90-R-90-4-C
Rp2 1/2	1758077	VZBA-2 1/2"-GG-63-T-22-F0710-V4V4T-PS120-R-90-4-C
Rp3	1758078	VZBA-3"-GG-63-T-22-F0710-V4V4T-PS180-R-90-4-C
Rp3/4	1758072	VZBA-3/4"-GG-63-T-22-F0304-V4V4T-PS30-R-90-4-C
Rp3/8	1758070	VZBA-3/8"-GG-63-T-22-F0304-V4V4T-PS15-R-90-4-C
Rp4	1758079	VZBA-4"-GG-63-T-22-F10-V4V4T-PS240-R-90-4-C

Ordering data

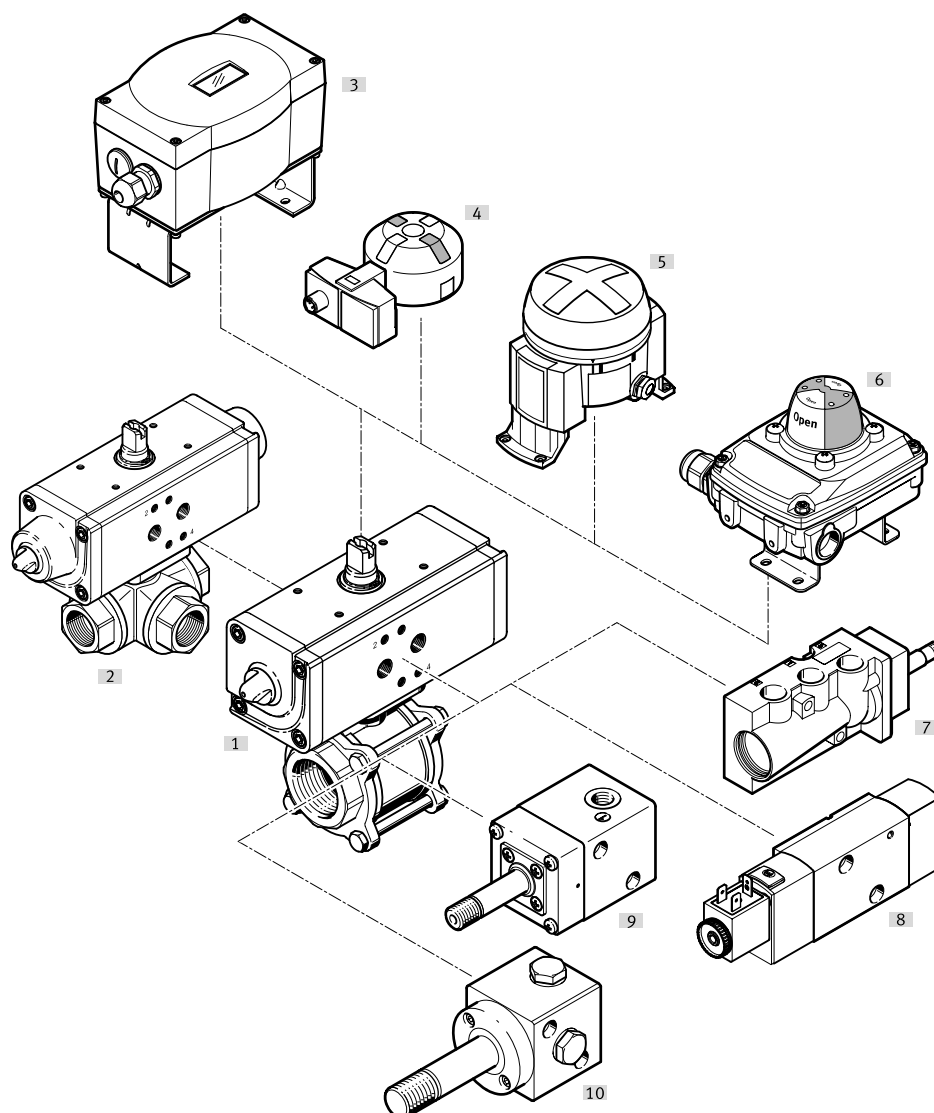
DAPS double-acting, 3-way				
Connection Process valve	Flow rate Kv L hole	Part no.	Type	
Rp1		1915076	VZBA-1"-GGG-63-32T-F0405-V4V4T-PP30-R-90-C	
	11.8 m3/h	1914789	VZBA-1"-GGG-63-32L-F0405-V4V4T-PP30-R-90-C	
Rp1 1/2		1915078	VZBA-11/2"-GGG-63-32T-F0405-V4V4T-PP60-R-90-C	
	33.2 m3/h	1914791	VZBA-11/2"-GGG-63-32L-F0405-V4V4T-PP60-R-90-C	
Rp1 1/4		1915077	VZBA-11/4"-GGG-63-32T-F0405-V4V4T-PP60-R-90-C	
	19.6 m3/h	1914790	VZBA-11/4"-GGG-63-32L-F0405-V4V4T-PP60-R-90-C	
Rp1/2		1915074	VZBA-1/2"-GGG-63-32T-F0304-V4V4T-PP30-R-90-C	
	4.7 m3/h	1914787	VZBA-1/2"-GGG-63-32L-F0304-V4V4T-PP30-R-90-C	
Rp1/4		1915072	VZBA-1/4"-GGG-63-32T-F0304-V4V4T-PP30-R-90-C	
	4.5 m3/h	1914785	VZBA-1/4"-GGG-63-32L-F0304-V4V4T-PP30-R-90-C	
Rp2		1915079	VZBA-2"-GGG-63-32T-F0507-V4V4T-PP106-R-90-C	
	53.7 m3/h	1914792	VZBA-2"-GGG-63-32L-F0507-V4V4T-PP106-R-90-C	
Rp3/4		1915075	VZBA-3/4"-GGG-63-32T-F0405-V4V4T-PP30-R-90-C	
Rp3/4	5.1 m3/h	1914788	VZBA-3/4"-GGG-63-32L-F0405-V4V4T-PP30-R-90-C	
Rp3/8		1915073	VZBA-3/8"-GGG-63-32T-F0304-V4V4T-PP30-R-90-C	
	4.5 m3/h	1914786	VZBA-3/8"-GGG-63-32L-F0304-V4V4T-PP30-R-90-C	

Connection Process valve	Flow rate Kv L hole	Flow rate Kv T hole angled	Flow rate Kv T hole straight	Part no.	Type
Rp1		10.9 m3/h	22.4 m3/h	1915748	VZBA-1"-GGG-63-32T-F0405-V4V4T-PS30-R-90-4-C
	11.8 m3/h			1915547	VZBA-1"-GGG-63-32L-F0405-V4V4T-PS30-R-90-4-C
Rp1 1/2		30 m3/h	62 m3/h	1915750	VZBA-11/2"-GGG-63-32T-F0405-V4V4T-PS90-R-90-4-C
	33.2 m3/h			1915549	VZBA-11/2"-GGG-63-32L-F0405-V4V4T-PS90-R-90-4-C
Rp1 1/4		18 m3/h	36.5 m3/h	1915749	VZBA-11/4"-GGG-63-32T-F0405-V4V4T-PS53-R-90-4-C
	19.6 m3/h			1915548	VZBA-11/4"-GGG-63-32L-F0405-V4V4T-PS53-R-90-4-C
Rp1/2		4.8 m3/h	8.3 m3/h	1915746	VZBA-1/2"-GGG-63-32T-F0304-V4V4T-PS30-R-90-4-C
	4.7 m3/h			1915545	VZBA-1/2"-GGG-63-32L-F0304-V4V4T-PS30-R-90-4-C
Rp1/4		4.5 m3/h	8 m3/h	1915744	VZBA-1/4"-GGG-63-32T-F0304-V4V4T-PS30-R-90-4-C
	4.5 m3/h			1915543	VZBA-1/4"-GGG-63-32L-F0304-V4V4T-PS30-R-90-4-C
Rp2		48.8 m3/h	100 m3/h	1915751	VZBA-2"-GGG-63-32T-F0507-V4V4T-PS90-R-90-4-C
	53.7 m3/h			1915550	VZBA-2"-GGG-63-32L-F0507-V4V4T-PS90-R-90-4-C
Rp3/4		4.8 m3/h	8.3 m3/h	1915747	VZBA-3/4"-GGG-63-32T-F0405-V4V4T-PS30-R-90-4-C
	5.1 m3/h			1915546	VZBA-3/4"-GGG-63-32L-F0405-V4V4T-PS30-R-90-4-C
Rp3/8		4.5 m3/h	8 m3/h	1915745	VZBA-3/8"-GGG-63-32T-F0304-V4V4T-PS30-R-90-4-C
	4.5 m3/h			1915544	VZBA-3/8"-GGG-63-32L-F0304-V4V4T-PS30-R-90-4-C

Process valve units >

Ball valve actuator unit VZBA

Peripherals overview



Accessories			→ Internet
Type/Ordering data	Description		
[1] Ball valve actuator unit VZBA	Combination of double-acting or single-acting quarter-turn actuator DAPS and 2-way ball valve, brass		vzba
[2] Ball valve actuator unit VZBA	Combination of double-acting or single-acting quarter-turn actuator DAPS and 3-way ball valve, brass		vzba
[3] Positioner CMSX	For controlling the position of quarter-turn actuators in process automation systems		cmsx
[4] Sensor boxes SRBG	For electrical feedback and control of the position of process valves actuated by quarter-turn actuators		srbg
[5] Limit switch attachments DAPZ	Round design, variant AR, electrical sensing, inductive or inductive explosion-proof		dapz
[6] Sensor boxes SRBC	For electrical feedback and control of the position of process valves operated by quarter-turn actuators		srbc
[7] Solenoid valve NVF3	For F solenoid coil and explosion-proof F solenoid coil		nvf3
[8] Solenoid valves VSNC	For single-acting and double-acting quarter-turn actuators with a connection pattern VDI/VDE 3845		vsnc
[9] Solenoid valves VOFC	Solenoid valve with solenoid coil, NAMUR connection pattern		vofc
[10] Solenoid valves VOFD	Solenoid valve with solenoid coil, NAMUR connection pattern		vofd

Ball valve actuator units VZBM



- Pneumatic actuation
- Ball valve actuator unit with double-acting or single-acting quarter turn actuator
- Swivel angle 0 ... 90°
- Brass design
- Pipe thread to EN 10226-1
- Flange hole pattern to ISO 5211
- Flow is fully opened or closed in both directions
- Limit switch attachments or limit switches can be mounted directly on the actuator unit for sensing the end positions
- Flow rate 5.9 ... 243 m³/h

Order code

001	002	003	004	005	006	007	008	009	010
VZBM	A		RP				B2		

Legend: ☐ Mandatory entry

001	Type
VZBM	Ball valve
002	Version
A	Ball valve actuator unit
003	Nominal width DN
1/4"	DN8
3/8"	DN10
1/2"	DN15
3/4"	DN20
1"	DN25
1 1/4"	DN32
1 1/2"	DN40
2"	DN50
004	Process valve connection type
RP	Rp thread
005	Nominal pressure
25	25 bar
40	40 bar
006	Design
D	Two-part
F	Four-part

007	Valve function
2	2/2 way
3L	3/2-way, L-bore
3T	3/2-way, T-bore
008	Housing material
B2	Brass, nickel-plated
009	Version
PA	Quarter turn actuator DFPD, double-acting
PB	Quarter turn actuator DFPD, single-acting
010	Size
10	10
20	20
40	40
80	80
120	120

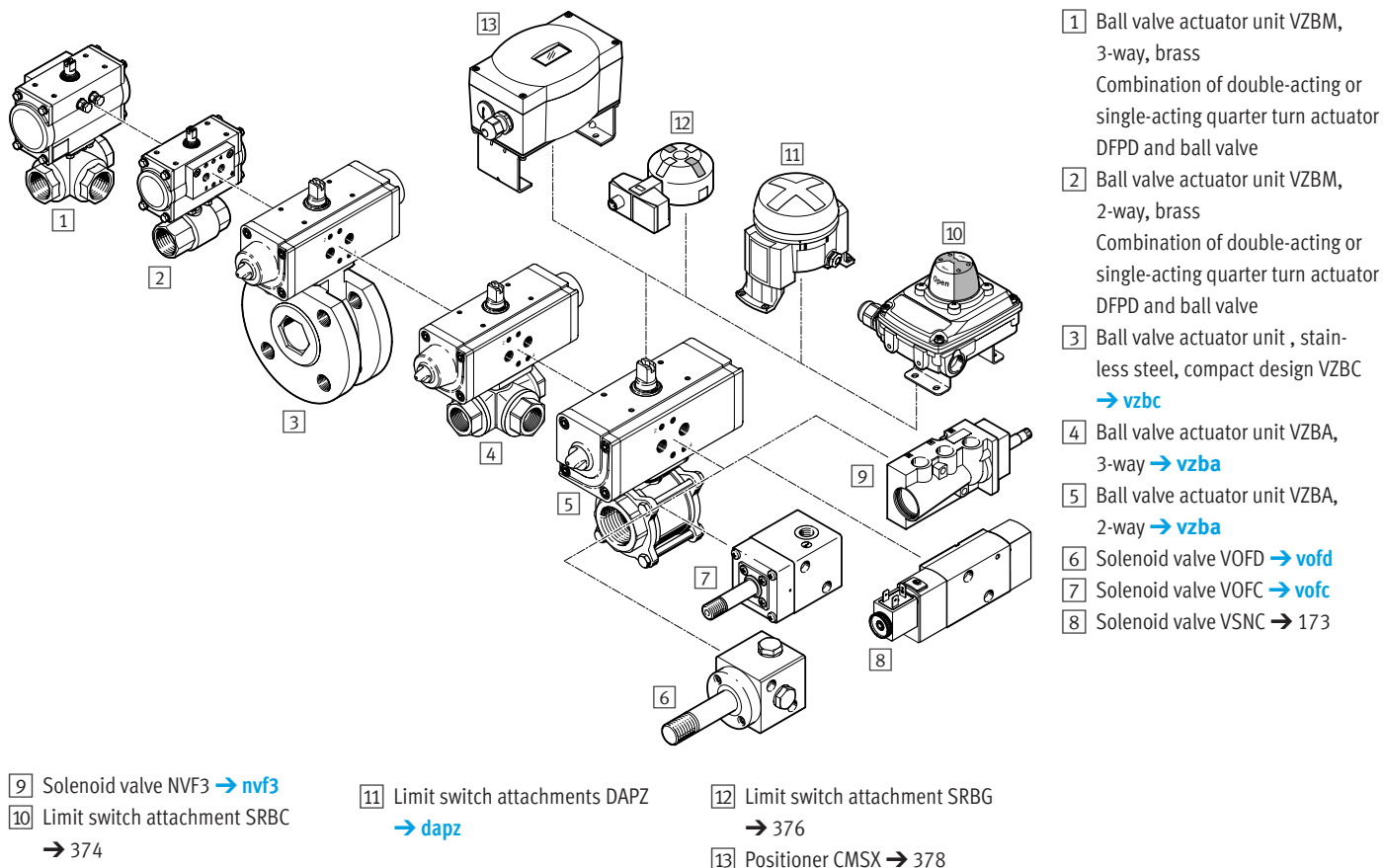
Process valve units >

Ball valve actuator units VZBM

Ordering

007 Valve function	003 Nominal width DN	Connecting thread	Type	Part no.	Type	Part no.
			009 Quarter turn actuators DFPD, single-acting	009 Quarter turn actuators DFPD, double-acting		
2/2 way	8	Rp1/4	VZBM-A-1/4"-RP-40-D-2-B2-PB20	8070242	VZBM-A-1/4"-RP-40-D-2-B2-PA10	8070234
	10	Rp3/8	VZBM-A-3/8"-RP-40-D-2-B2-PB20	8070243	VZBM-A-3/8"-RP-40-D-2-B2-PA10	8070235
	15	Rp1/2	VZBM-A-1/2"-RP-25-D-2-B2-PB20	8070244	VZBM-A-1/2"-RP-25-D-2-B2-PA10	8070236
	20	Rp3/4	VZBM-A-3/4"-RP-25-D-2-B2-PB20	8070245	VZBM-A-3/4"-RP-25-D-2-B2-PA10	8070237
	25	Rp1	VZBM-A-1"-RP-25-D-2-B2-PB20	8070246	VZBM-A-1"-RP-25-D-2-B2-PA10	8070238
	32	Rp1 1/4	VZBM-A-1 1/4"-RP-25-D-2-B2-PB20	8070247	VZBM-A-1 1/4"-RP-25-D-2-B2-PA10	8070239
	40	Rp1 1/2	VZBM-A-1 1/2"-RP-25-D-2-B2-PB40	8070248	VZBM-A-1 1/2"-RP-25-D-2-B2-PA20	8070240
	50	Rp2	VZBM-A-2"-RP-25-D-2-B2-PB80	8070249	VZBM-A-2"-RP-25-D-2-B2-PA40	8070241
3/2-way, L-bore	8	Rp1/4	VZBM-A-1/4"-RP-25-F-3L-B2-PB20	8070266	VZBM-A-1/4"-RP-25-F-3L-B2-PA10	8070250
	10	Rp3/8	VZBM-A-3/8"-RP-25-F-3L-B2-PB20	8070267	VZBM-A-3/8"-RP-25-F-3L-B2-PA10	8070251
	15	Rp1/2	VZBM-A-1/2"-RP-25-F-3L-B2-PB20	8070268	VZBM-A-1/2"-RP-25-F-3L-B2-PA10	8070252
	20	Rp3/4	VZBM-A-3/4"-RP-25-F-3L-B2-PB40	8070269	VZBM-A-3/4"-RP-25-F-3L-B2-PA20	8070253
	25	Rp1	VZBM-A-1"-RP-25-F-3L-B2-PB40	8070270	VZBM-A-1"-RP-25-F-3L-B2-PA20	8070254
	32	Rp1 1/4	VZBM-A-1 1/4"-RP-25-F-3L-B2-PB80	8070271	VZBM-A-1 1/4"-RP-25-F-3L-B2-PA40	8070255
	40	Rp1 1/2	VZBM-A-1 1/2"-RP-25-F-3L-B2-PB120	8070272	VZBM-A-1 1/2"-RP-25-F-3L-B2-PA80	8070256
	50	Rp2	VZBM-A-2"-RP-25-F-3L-B2-PB120	8070273	VZBM-A-2"-RP-25-F-3L-B2-PA80	8070257
3/2-way, T-bore	8	Rp1/4	VZBM-A-1/4"-RP-25-F-3T-B2-PB20	8070274	VZBM-A-1/4"-RP-25-F-3T-B2-PA10	8070258
	10	Rp3/8	VZBM-A-3/8"-RP-25-F-3T-B2-PB20	8070275	VZBM-A-3/8"-RP-25-F-3T-B2-PA10	8070259
	15	Rp1/2	VZBM-A-1/2"-RP-25-F-3T-B2-PB20	8070276	VZBM-A-1/2"-RP-25-F-3T-B2-PA10	8070260
	20	Rp3/4	VZBM-A-3/4"-RP-25-F-3T-B2-PB40	8070277	VZBM-A-3/4"-RP-25-F-3T-B2-PA20	8070261
	25	Rp1	VZBM-A-1"-RP-25-F-3T-B2-PB40	8070278	VZBM-A-1"-RP-25-F-3T-B2-PA20	8070262
	32	Rp1 1/4	VZBM-A-1 1/4"-RP-25-F-3T-B2-PB80	8070279	VZBM-A-1 1/4"-RP-25-F-3T-B2-PA40	8070263
	40	Rp1 1/2	VZBM-A-1 1/2"-RP-25-F-3T-B2-PB120	8070280	VZBM-A-1 1/2"-RP-25-F-3T-B2-PA80	8070264
	50	Rp2	VZBM-A-2"-RP-25-F-3T-B2-PB120	8070281	VZBM-A-2"-RP-25-F-3T-B2-PA80	8070265

Accessories





- Robust housing for the specific requirements of process automation
- Suitable for use outdoors and at temperatures down to –60 °C
- Resistant to UV radiation and corrosive environments
- Connection G1/4, G1/2, NPT1/4-18, NPT1/2-14
- Pressure regulation ranges 0.5 ... 7 bar; 0.5 ... 12 bar
- Flow rate 1600 ... 4115 l/min

Order code

001	002	003	004	005	006	007	008
PCRP					R1	M	

Legend: ☐ Mandatory entry

001	Type
PCRP	Filter regulator
002	Size
44	44
64	64
003	Pneumatic connection
G14	G1/4
G12	G1/2
N14	1/4 NPT
N12	1/2 NPT
004	Pressure regulation range
7	Up to 7 bar
12	Up to 12 bar

005	Filter version
C	5 µm
E	40 µm
006	Bowl type
R1	Stainless steel
007	Condensate drain
M	Manual
008	Temperature range
T18	–20 ... +80 °C
T19	–60 ... +80 °C

Ordering

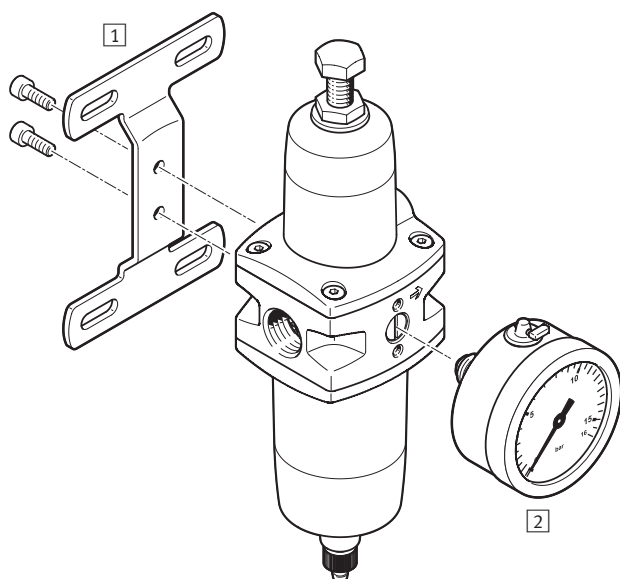
008 Temperature range –20 ... +80 °C					
002 Size	003 Pneumatic connection	005 Grade of filtration 5 µm		005 Grade of filtration 40 µm	
		Type	Part no.	Type	Part no.
004 Pressure regulation range 0.5 ... 7 bar					
64	G1/4	PCRP-64-G14-7-C-R1-M-T18	4787803	PCRP-64-G14-7-E-R1-M-T18	4787805
	G1/2	PCRP-64-G12-7-C-R1-M-T18	4787811	PCRP-64-G12-7-E-R1-M-T18	4787813
	1/4 NPT	PCRP-64-N14-7-C-R1-M-T18	4787799	PCRP-64-N14-7-E-R1-M-T18	4787801
	1/2 NPT	PCRP-64-N12-7-C-R1-M-T18	4787807	PCRP-64-N12-7-E-R1-M-T18	4787809
004 Pressure regulation range 0.5 ... 12 bar					
44	G1/4	PCRP-44-G14-12-C-R1-M-T18	8120907	PCRP-44-G14-12-E-R1-M-T18	8120906
	G1/2	PCRP-44-G12-12-C-R1-M-T18	8120905	PCRP-44-G12-12-E-R1-M-T18	8120904
	1/4 NPT	PCRP-44-N14-12-C-R1-M-T18	8120903	PCRP-44-N14-12-E-R1-M-T18	8120902
	1/2 NPT	PCRP-44-N12-12-C-R1-M-T18	8120901	PCRP-44-N12-12-E-R1-M-T18	8120900
64	G1/4	PCRP-64-G14-12-C-R1-M-T18	4787804	PCRP-64-G14-12-E-R1-M-T18	4787806
	G1/2	PCRP-64-G12-12-C-R1-M-T18	4787812	PCRP-64-G12-12-E-R1-M-T18	4787814
	1/4 NPT	PCRP-64-N14-12-C-R1-M-T18	4787800	PCRP-64-N14-12-E-R1-M-T18	4787802
	1/2 NPT	PCRP-64-N12-12-C-R1-M-T18	4787808	PCRP-64-N12-12-E-R1-M-T18	4787810

Filter regulators PCRP

Ordering

008 Temperature range –60 ... +80 °C					
002 Size	003 Pneumatic connection	005 Grade of filtration 5 µm		005 Grade of filtration 40 µm	
		Type	Part no.	Type	Part no.
004 Pressure regulation range 0.5 ... 7 bar					
64	G1/4	PCRP-64-G14-7-C-R1-M-T19	5394669	PCRP-64-G14-7-E-R1-M-T19	5394671
	G1/2	PCRP-64-G12-7-C-R1-M-T19	5394677	PCRP-64-G12-7-E-R1-M-T19	5394679
	1/4 NPT	PCRP-64-N14-7-C-R1-M-T19	5394665	PCRP-64-N14-7-E-R1-M-T19	5394667
	1/2 NPT	PCRP-64-N12-7-C-R1-M-T19	5394673	PCRP-64-N12-7-E-R1-M-T19	5394675
004 Pressure regulation range 0.5 ... 12 bar					
44	G1/4	–	–	PCRP-44-G14-12-E-R1-M-T19	8120898
	G1/2	–	–	PCRP-44-G12-12-E-R1-M-T19	8120899
	1/4 NPT	–	–	PCRP-44-N14-12-E-R1-M-T19	8120896
	1/2 NPT	–	–	PCRP-44-N12-12-E-R1-M-T19	8120897
64	G1/4	PCRP-64-G14-12-C-R1-M-T19	5394670	PCRP-64-G14-12-E-R1-M-T19	5394672
	G1/2	PCRP-64-G12-12-C-R1-M-T19	5394678	PCRP-64-G12-12-E-R1-M-T19	5394680
	1/4 NPT	PCRP-64-N14-12-C-R1-M-T19	5394666	PCRP-64-N14-12-E-R1-M-T19	5394668
	1/2 NPT	PCRP-64-N12-12-C-R1-M-T19	5394674	PCRP-64-N12-12-E-R1-M-T19	5394676

Accessories



- 1 Mounting bracket PAMP → 408
- 2 Pressure gauge PAGN → 408

Filter cartridge MS4-LFP, filter made of PE
→ 408

Filter cartridge PFEP, filter made of high-alloy stainless steel → 408

1 Mounting bracket PAMP		
Size	Type	Part no.
44	PAMP-MB-44	8123058
64	PAMP-MB-64	8081356

2 Pressure gauge PAGN, G1/4			
Nominal size	Display range	Operating pressure	Type
Outer scale in bar			
63	0 ... 16 bar	0 ... 16 bar	PAGN-63-16-G14-R1-1.6-0.5-V2
			8081401

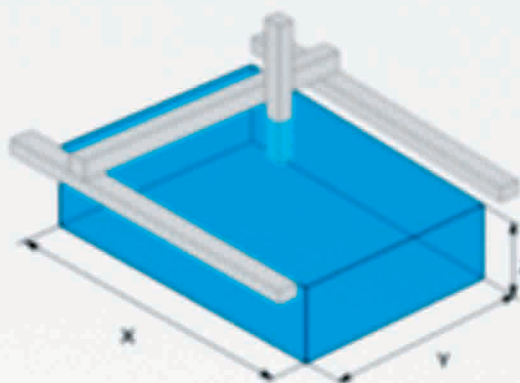
Filter cartridge MS4-LFP, PFEP			
Size	For filter regulator	Type	Part no.
Degree of filtration 5 µm			
44	PCR-44-...-C-...-T18	MS4-LFP-C	534501
64	PCR-64-...-C	PFEP-64-C	8081360
Degree of filtration 40 µm			
44	PCR-44-...-E-...-T19	PFEP-44-E	8123059
	PCR-44-...-E-...-T18	MS4-LFP-E	534502
64	PCR-64-...-E	PFEP-64-E	8081365



Appendix

Axis definition

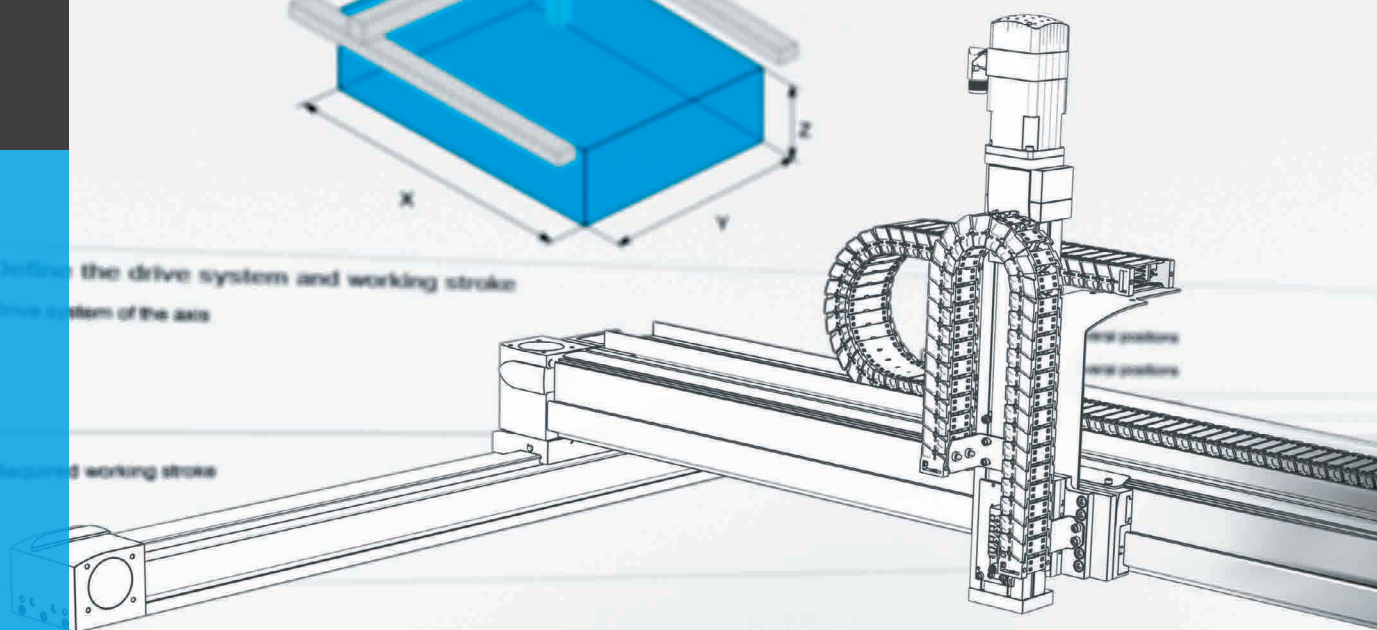
Find your handling solution in a few steps

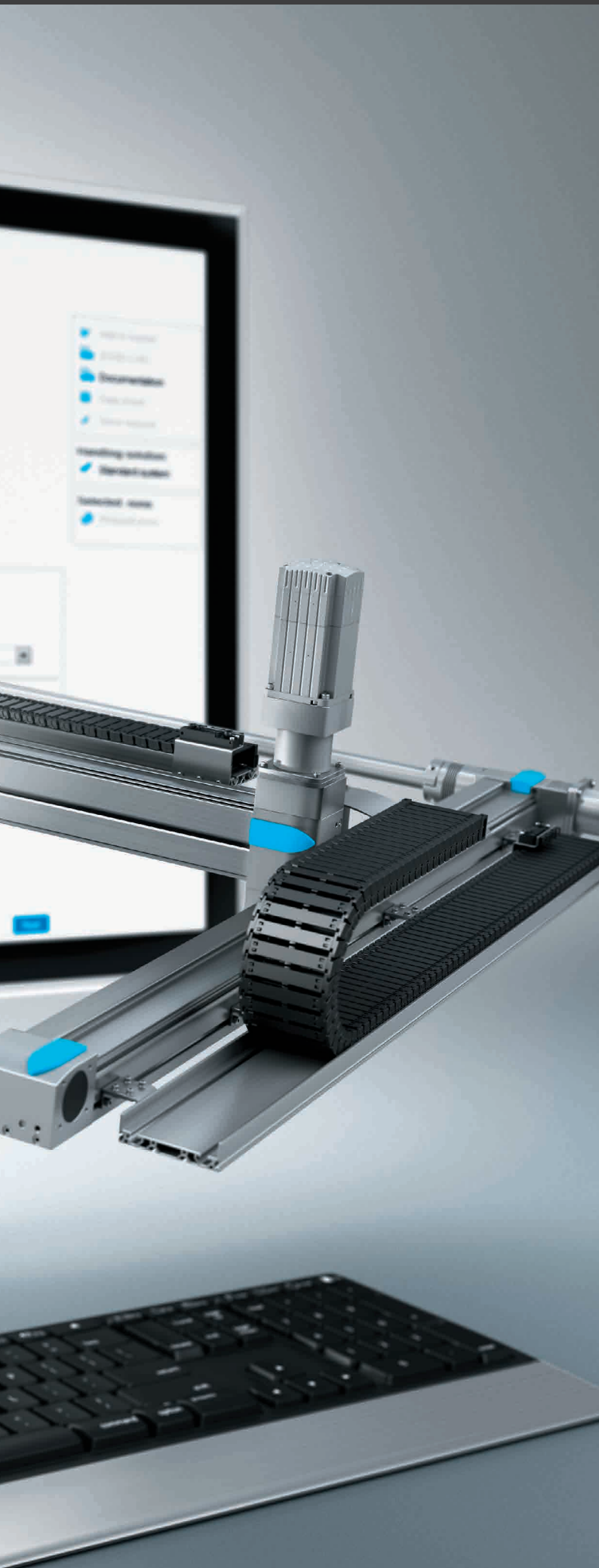


Define the drive system and working stroke

Drive system of the axis

Required working stroke





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What must be taken into account when using Festo products?	417
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Energy efficiency

Sustainability in manufacturing

Automation solutions enable faster, more flexible and more cost-efficient production, but they also consume energy – whether to generate compressed air in pneumatic systems or to operate electric components. We support you in four core areas to achieve greater sustainability in manufacturing: our products and solutions have the greatest impact on

your energy footprint and on protecting the climate. The sustainability of our portfolio extends from its production and operation, right through to the end of its long service life. We support you with digital tools for the design of energy-efficient systems. Our services help you to identify potential savings in your compressed air system and our offer of basic and

further training gives your current and future experts the knowledge they need to work sustainably. Improve your energy efficiency and productivity with us. We are your partner on the journey to CO₂-neutral production.

Products for sustainable operation



Festo offers products and solutions that use energy more efficiently so that you can realise significant potential savings right now, whether with high-performance, simple pneumatic systems or precise, dynamic electric automation technology.

Save energy with good design



Your applications are most efficient when they are tailored exactly to your individual requirements. By selecting the right technology and optimally sizing components, you will create the framework for long-term energy savings. And by using our numerous engineering tools this process is made even easier.

Save more energy with Festo services



High energy prices, rising cost pressure and a growing awareness of climate protection have undoubtedly made industrial energy efficiency a key activity in your business. Festo Energy Saving Services according to DIN EN ISO 11011 offer you a tailor-made range of services that enable you to identify and utilise potential compressed air savings in an optimal, integrated and sustainable way.

Sustainability in basic and further training



Energy efficiency and sustainability start in the minds of your employees. Festo Didactic is the world's leading specialist in technical education. We teach the specialists of today and tomorrow the knowledge and skills they need to identify potential savings in their work and implement them systematically, from the design of your systems through to day-to-day operation.

Simply ask your local contact person or find out more at → www.festo.com/energyefficiency

Ways to make automation more efficient



MSE6-C2M with pressure reduction and soft start for restarting

Up to
20%

Energy efficiency modules from the MSE6 series

Avoid unnecessary compressed air consumption. In some work cycles, the energy supply can be temporarily stopped – right up to zero energy consumption and zero leakage. That is why the intelligent energy efficiency modules of the MSE6 series constantly monitor the compressed air consumption and shut

off the compressed air during non-production times after a certain amount of time. The MSE6-C2M and MSE6-D2M also maintain the system pressure at a minimum standby pressure level.

→ www.festo.com/mse6



MSE6-E2M with complete pressure shut-off



MSE6-D2M as an extension for a second string on the MSE6-C2M or a CPX terminal



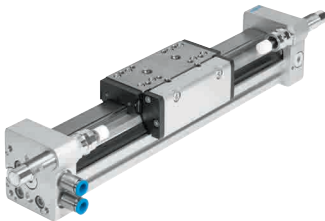
Up to
20%

Flow sensor SFAM

You can install the flow sensor SFAM as a stand-alone device or in combination with an MS series service unit so you get a transparent impression of

the compressed air consumption straight away. Because a changing flow value is often a sign that there is a potential for savings.

→ www.festo.com/sfam



Up to
10%

Pneumatic linear drive DGC

The patented sealing band in the rodless drive's sealing system really comes into its own with long strokes. Virtually leakage free, the drive systemati-

cally reduces compressed air consumption.

→ www.festo.com/dgc



Up to
60%

Vacuum generator OVEM

Reliably holding objects using vacuum does not necessarily require a constant vacuum pressure. In particular with smooth surfaces, you can avoid continuous air consumption with an air-saving circuit.

The intelligent vacuum generator OVEM monitors the vacuum pressure, generates vacuum only when it is needed and thus significantly reduces energy consumption.

→ www.festo.com/ovem

Up to
20%

The percentage values for energy saving potential are based on calculations carried out at Festo for a sample application. We will be happy to explain the details to you and also to calculate your specific cost benefits.



The saving is not generated by using the product itself, but rather by detecting the status and monitoring for leakages.

Festo Services and Support

Consistent and comprehensive support

The service and support philosophy of Festo is based on a constant analysis of the value chains of different types of customers.

Festo has built on this knowledge to develop a sophisticated portfolio that supports you along your entire value chain.

It includes numerous services such as the Energy Saving Services, customised developments of ready-to-install solutions and special designs.

Our networked digital information system now consists of a database-driven catalogue with over 30,000 products and accessories as well as tools for configuration, planning and design. Globally standardised application platforms for product lifecycle, production, logistics, sales and finance help to create integrated, global processes that will benefit you.

Engineering



- Consulting
- Design aids
- 2D/3D CAD drawings and models
- Design and sizing tools
- Selection tools
- Engineering of ready-to-install solutions

Procurement/logistics



- Festo Online Shop
- 24-hour delivery service
- Logistics optimisation service
- PrePack

Assembly and commissioning



- Commissioning axis systems
- Compressed air consumption analysis
- Commissioning and training for servo-pneumatic welding guns

Operation



- Worldwide after-sales service
- Energy Saving Services
- Compressed air quality analysis
- Support Portal with documentation for the entire product lifecycle

Are you interested in these services?

Simply ask your local contact person or find out more at [→ www.festo.com/services](https://www.festo.com/services)

You will find further information about our services there.



Food safety and efficiency ...

... are key requirements.

Our clever mix of solutions provides the perfect ingredients for production systems that produce high-quality food and drink economically.

→ www.festo.com/food

Reliable and efficient compressed air



Decide what kind of compressed air quality you need for your application. Our preconfigured service units are designed to meet your requirements and can be ordered with just a single part number. Save energy by automatically shutting off the compressed air in stand-by mode. Our energy efficiency modules MSE6-... monitor the compressed air supply fully automatically.

Certified food safe



Manage demanding applications for clean and safe food dispensing with the pneumatic pinch valve VZQA. Its silicone diaphragm comes in an N/O variant and with a declaration of conformity in accordance with Regulation (EC) No. 1935/2004. This pinch valve variant has thus been approved for direct contact with food products.

Maximum performance



Fast, easy and energy-efficient.

Decentralised valve terminal concepts increase the productivity of your systems. With the clean design valve terminal MPA-C there's no need for a control cabinet thanks to degree of protection IP69K.

Or you can use valve terminal VTUG in the control cabinet, with multi-pin plug, all common fieldbuses or IO-Link®.

High operational reliability



Reliable components are essential for high machine availability.

Take the stainless-steel cylinder CRDSNU from our clean design drive portfolio, for example. It's always correctly set thanks to the self-adjusting end position cushioning system PPS – and has no adjusting screw where dirt can accumulate.

Training programme for industry

Festo Didactic is a leading global solution provider for technical basic and further training with a strong industrial DNA.

Thanks to a state-of-the-art approach to training and education, we ensure the employability and productivity of our customers. Our product and service portfolio offers comprehensive training solutions for key technology areas in factory and

process automation. We integrate technical teaching content with expertise and training from other specialist areas such as process optimisation, management and communication to offer you a complete training experience. Our experienced trainers teach content that is relevant and tailored to each specific group.

Our offer

The aim is to maximise added value. This can be achieved through training on a variety of topics and formats.



Technology

Development of technical skills: core technologies in factory and process automation



Organisation

Driving continuous improvement: strategic planning and process optimisation along the value chain



People

Development of behaviour and attitude: teamwork, communication skills and leadership qualities



Innovations

Skills development for the future: learning, managing and being ready for future production in the context of Industry 4.0



Overview of topics

- | | |
|---|--|
| <ul style="list-style-type: none"> • Pneumatics • Hydraulics • PLCs (programmable logic controllers) • Electrical engineering/electronics • Process automation • Handling systems • Water management | <ul style="list-style-type: none"> • Maintenance • Supply chain management • Lean production • Process optimisation • Service and sales competence • Industry 4.0 • Machine safety • Battery life cycle management |
|---|--|



Quality offer

- | | |
|--|--|
| <ul style="list-style-type: none"> • Public courses • Company-specific training courses • Consulting • Coaching • Skills programmes • Business games | <ul style="list-style-type: none"> • Learning needs analyses, certifications, blended learning concepts |
|--|--|

+++ NEW – Battery cycle management training +++

Basics of battery life cycle management (duration: 4 hours online)

Main points of emphasis:

- Introduction to battery life cycle management
- What do terms such as free of non-ferrous metals, cleanroom, dry room mean?
- Making battery cell production energy-efficient
- Safety in general and specifically in the applications for battery life cycle management
- End-of-life of a battery cell – battery recycling
- Training employees

What are you waiting for? Contact us:

Festo Didactic SE | Rechbergstraße 3 | D-73770 Denkendorf | did@festo.com

→ www.festo-didactic.com

What must be taken into account when using Festo products?

The limit values specified in the technical data and any specific safety instructions must be adhered to by the user in order to ensure correct functioning.

The pneumatic components must be supplied with correctly prepared compressed air without aggressive media.

Take the ambient conditions at the place of use into consideration. Corrosive, abrasive and dusty environments (e.g. water, ozone, grinding dust) will reduce the service life of the product.

Check the resistance of the materials of Festo products to the media used and surrounding media.

When using Festo products in safety-oriented applications, all national and international laws and regulations, for example the EC Machinery Directive, must be observed and complied with together with the relevant references to standards, trade association rules and the applicable international regulations.

Unauthorised conversions or modifications to products and systems from Festo constitute a safety risk and are thus not permitted.

Festo doesn't accept any liability for any resulting damage.

You should contact Festo if one of the following applies to your application:

- The ambient conditions and conditions of use or the operating medium differ from the specified technical data.
- The product is to perform a safety function.
- A risk or safety analysis is required.
- You are unsure about the product's suitability for the planned application.
- You are unsure about the product's suitability for use in safety-oriented applications.

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