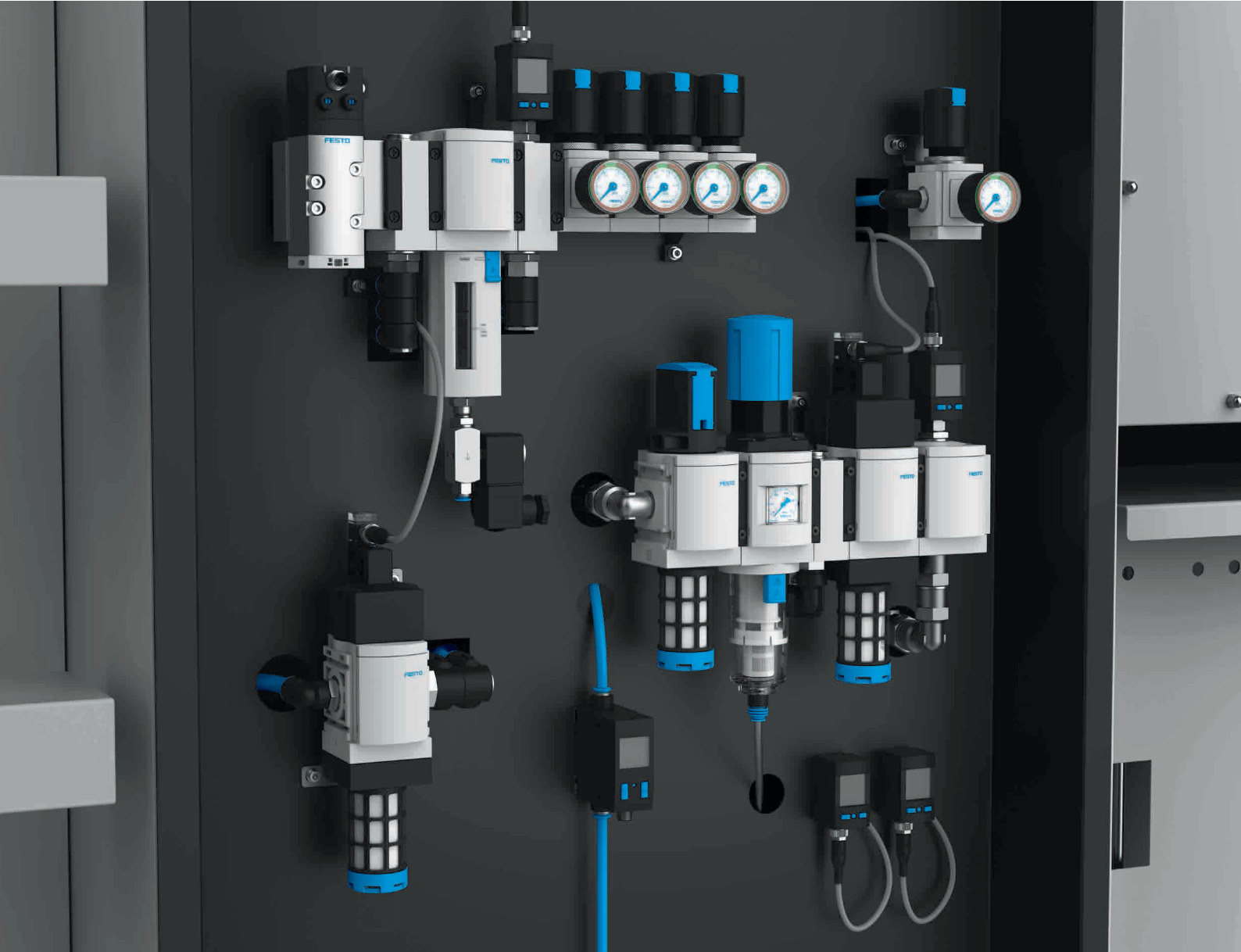


Reliable processes thanks to perfect compressed air preparation



You need perfect compressed air.
You want maximum reliability.
We are your compressed air experts.

→ **WE ARE THE ENGINEERS
OF PRODUCTIVITY.**



Page 4

Air preparation in general

Everything you need to know about compressed air, from compressed air purity to ISO to industry requirements

Page 8

Meeting purity-class requirements with service unit components from Festo

MS series: our tables give you a quick and easy overview of which service unit combination will meet your requirements

Page 10

For all requirements: the MS series

From inexpensive, standard functions to high-end ones, the MS series can provide the answer to virtually every requirement – including condition monitoring, safety functions and energy-efficient compressed air consumption control

Integrated concepts for your compressed air preparation

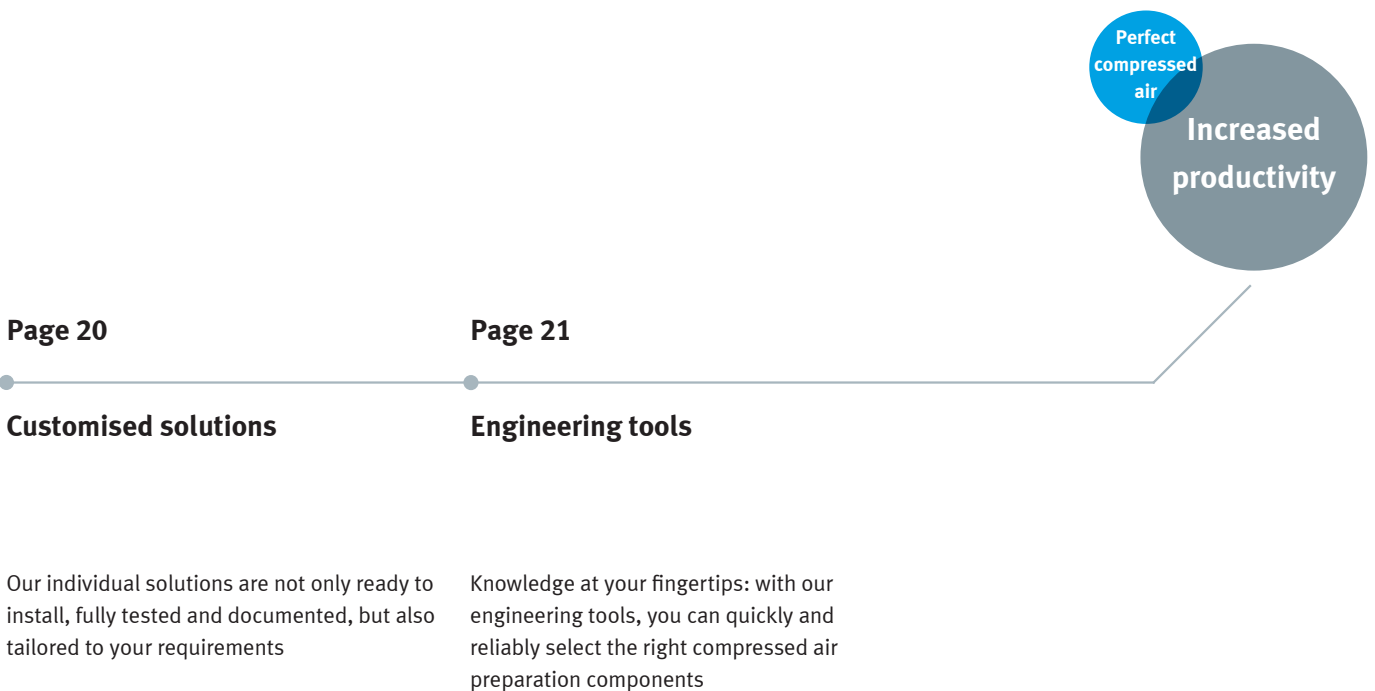
Operators who need high process reliability and availability from their machines have to start right at the beginning: by taking a critical look at their compressed air supply. Particles, water and oil are the natural enemies of perfectly prepared compressed air. They have an adverse effect on components and increase energy costs.

Always the right compressed air quality

You can rely on your service unit precisely meeting your requirements or those of your customer's production operations, regardless of whether these are standard applications or customised solutions which place extremely stringent demands on purity, pressure and flow rates.

Operational reliability and high performance

Pressure, flow rate and consumption will always be in the green zone. Thanks to integrated monitoring functions, you will always be informed about the condition of compressed air filters and can plan needs-based maintenance. With their high flow rates yet compact dimensions, our service unit components allow you to select one size smaller than usual in many cases while still providing the same performance. Sensors, for example for measuring differential pressure, ensure that the performance density of our service unit components will remain at the same high level for many years to come.



Our individual solutions are not only ready to install, fully tested and documented, but also tailored to your requirements

Knowledge at your fingertips: with our engineering tools, you can quickly and reliably select the right compressed air preparation components

Air preparation – a worthwhile investment

With correct compressed air preparation, you can significantly increase the service life of your Festo components and systems – and also increase process and product reliability.

Each cubic metre of compressed air contains millions of dirt particles, significant quantities of water and oil and even heavy metals such as lead, cadmium and mercury. If these are not filtered out, there can be no guarantee that system components will continue to operate trouble-free in the long term.

What's more, these hazardous materials considerably impair product quality. Correct compressed air preparation is therefore vital in order to reduce machine breakdowns and downtime and guarantee process and product reliability.

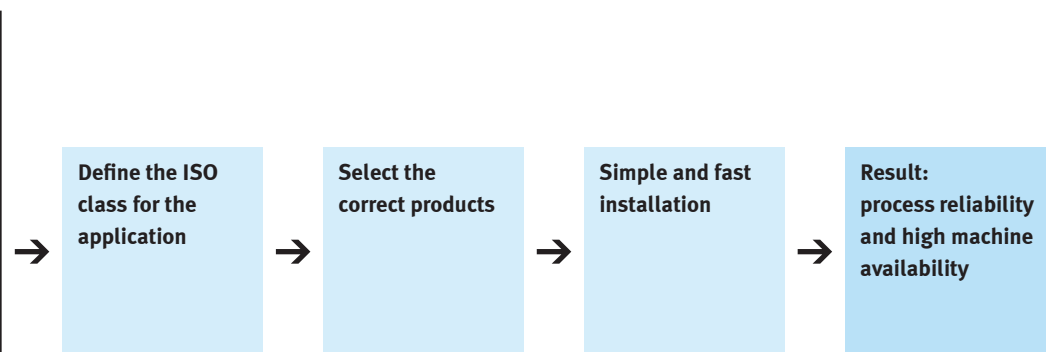
All the more reason why you should pay attention to the quality of your compressed air!

Poorly prepared compressed air causes faults such as:

- Fast seal wear
- Oiled-up valves in system control sections
- Dirty silencers

Possible consequences for users and machines:

- Lower machine availability
- Higher energy costs due to leaks
- Higher maintenance costs
- Reduced service life for systems and components



Compressed air purity in accordance with ISO 8573-1:2010

ISO 8573 is the name for a group of international standards which deal with the purity of compressed air. They define purity requirements for compressed air and specify the maximum levels of solid particles, water and oil that can be present in the different compressed air classes.

Clean solutions

This standard has been mandatory for pneumatic automation since 2010. It is therefore essential to observe certain parameters in order to achieve energy-efficient compressed air preparation in compliance with this standard.

You should first clarify the following questions:

- What compressed air purity class is needed for the application?
- What compressed air purity class is needed for consuming devices such as valves and cylinders?
- What compressed air purity class does the compressor deliver?

| ISO 8573-1:2010 Class | Solid particles | | | Mass concentration mg/m ³ | Water | | Oil Total oil content (liquid, aerosol and vapour) mg/m ³ |
|--------------------------|--|---------------------------------|----------------------------|---|-------|---------|---|
| | Maximum number of particles per m ³ | Pressure dew point vapour °C | Liquid g/m ³ | | | | |
| | 0.1 – 0.5 µm | 0.5 – 1 µm | 1 – 5 µm | | | | |
| 0 | In accordance with specifications by the device user, stricter requirements than Class 1 | | | | | | |
| 1 | ≤ 20,000 | ≤ 400 | ≤ 10 | – | ≤ –70 | – | 0.01 |
| 2 | ≤ 400,000 | ≤ 6,000 | ≤ 100 | – | ≤ –40 | – | 0.1 |
| 3 | – | ≤ 90,000 | ≤ 1,000 | – | ≤ –20 | – | 1 |
| 4 | – | – | ≤ 10,000 | – | ≤ +3 | – | 5 |
| 5 | – | – | ≤ 100,000 | – | ≤ +7 | – | – |
| 6 | – | – | – | ≤ 5 | ≤ +10 | – | – |
| 7 | – | – | – | 5 – 10 | – | ≤ 0.5 | – |
| 8 | – | – | – | – | – | 0.5 – 5 | – |
| 9 | – | – | – | – | – | 5 – 10 | – |
| X | – | – | – | > 10 | – | > 10 | > 10 |

Overview of purity classes in compressed air for particles, water and oil to ISO 8573-1:2010.

Different industry segments and applications require different purity classes

Many industry segments place extremely demanding requirements on compressed air purity. In the food and packaging industry, for example, the emphasis is on food safety and on making sure that products can be enjoyed to the full, while in painting applications it is important that compressed air should be free of PWIS (paint-wetting impairment substances). Festo service units and filters ensure trouble-free operation.

Here are some examples:

Applications involving direct contact with “wet” food such as beverages, meat, vegetables etc.

Compressed air is used here for transporting or mixing, as well as for general food production. It therefore comes into direct contact with food.

In packaging machines

If compressed air comes into direct contact with food packaging materials, these materials are considered as being part of the food zone.

For both these applications, the following classification applies:
ISO 85731:2010
Particles = Class 1
Water = Class 4
Oil = Class 1

Applications involving direct contact with dry food

Once again, compressed air is used for transporting or mixing, as well as for general food production. It therefore comes into direct contact with food. More stringent requirements apply in these cases, as air humidity is an important factor.

For this specific case, we recommend the following classification of compressed air purity to ISO 85731:2010
Particles = Class 1
Water = Class 2
Oil = Class 1

It is extremely important that these compressed air purity classes should be adhered to in order to ensure the highest possible level of food safety and protect consumer health.



**Perfect gloss:
PWIS-free painting**

When it comes to paint shops, vehicle manufacturers aim to realise zero defects. This means that the compressed air used in painting applications has to be free of particles and oil. In order to obtain a good bond between the base surface and the paint, this surface must also be clean. Otherwise laborious and costly rework will need to be carried out which will dramatically eat into vehicle manufacturers' profit margins.

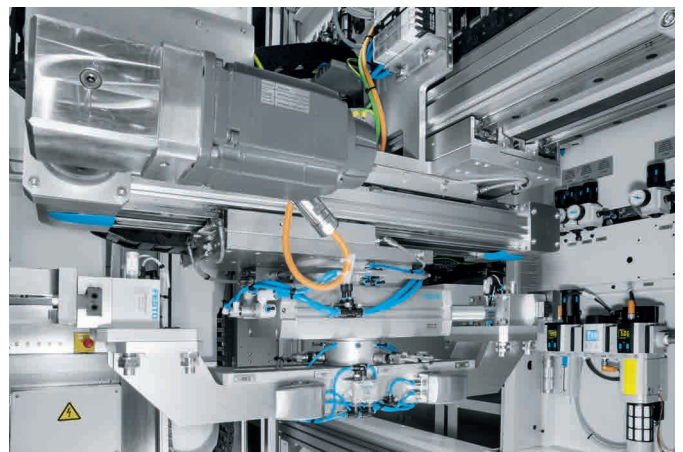
In order to minimise quality problems, the compressed air used must meet the following classes to ISO 85731:2010:
Particles = Class 1
Water = Class 4
Oil = Class 1
Festo components for use in the automotive industry are also produced under PWIS-free conditions.

Clear view: optical displacement encoders for machine tools

Optical displacement encoders, for example for milling machines or other machine tools, require purging air with the following classes to ISO 8573-1:2010 in order to achieve a long service life:

Particles = Class 1
Water = Class 4
Oil = Class 1









This extremely pure compressed air is fed into the machine, thus preventing contaminated ambient air from entering the housing. This ensures that oil mist cannot wet and damage the glass scale – a crucial factor for a long service life with displacement encoders.



Meeting purity-class requirements with Festo service units – the series MS

Check to see which products from the series MS would be best for your system.

In the table you will find recommendations from Festo’s experts based on the limit values specified in ISO 8573-1:2010.









| Compressed air generation | Air distribution | Air preparation | Class ¹⁾ | Typical applications | |
|---------------------------|-----------------------|---|---------------------|--|---|
| Compressor | [-:--:-] | Water separators | [-:7:4] | All applications requiring virtually condensate-free compressed air. No defined particle filtration |  |
| Prefilter Air dryer | [7:4:4] ²⁾ | 40 µm filter | [7:4:4] | Operating medium for valves, cylinders, secondary packaging (standard) |  |
| | [-:4:-] | 5 µm filter | [6:4:4] | Servo-pneumatic positioning with proportional directional control valves, pneumatic tools |  |
| | | 5 µm filter 1 µm filter | [5:4:3] | Applications with a residual oil content of ≤ 0.5 mg/m ³ , metal production and processing |  |
| | | 5 µm filter 0.01 µm filter | [3:4:2] | Textile industry, publishing and printing industries, glass industry, ceramics, paper industry, rubber and plastics industry. Class 1:4:2 can be achieved with an additional 1 µm filter |  |
| | | 5 µm filter 1 µm filter ²⁾ 0.01 µm filter Activated carbon filter | [1:4:1] | Reduction of oil vapour and odours, CD production, handling wet food and primary packaging |  |
| | | 5 µm filter 1 µm filter ²⁾ 0.01 µm filter Membrane air dryer Activated carbon filter | [1:3:1] | Semiconductor industry, pharmaceutical products, measurement and test air, 3D measurement technology and painting |  |
| | | 5 µm filter Adsorption dryer ³⁾ 0.01 µm filter Activated carbon filter | [1:2:1] | Contact with dry pharmaceutical products or products from the food industry, chip and data disc production (1:1:1 can be achieved with a reduced flow) |  |

¹⁾ Purity class to ISO 8573-1:2010 [particles: water: oil]. Achievable purity class under normal operating and environmental conditions for typical compressed air networks.

²⁾ The purpose of the 1 µm filter is to extend the maintenance intervals and safeguard the particle class. If the purity of the central compressed air supply is good, this filter can be omitted.

³⁾ The scope of delivery of the adsorption dryer includes a 0.01 µm filter. A 1 µm filter is integrated into the adsorption dryer.

Flow rate with an input pressure of 10 bar, for units with a regulator output pressure of 6 bar in NI/min

| 1,000 | | 3,000 | | 5,000 | | 7,000 | | 9,000 | | 11,000 | | 13,000 | | 15,000 | | 17,000 | | 19,000 | | 21,000 | | 23,000 | | | |
|---|--|-------------------|--|---|--|-------------------|--|---------------------------------------|--|-------------------|--|--------|--|--------------------|--|--------|--|--------|--|--------|--|---|--|---|--|
| 564858 MS6-LWS-1/2-UV-WB | | | | 567857 MS9-LWS-1-UV-WP | | | | | | | | | | | | | | | | | |  | | | |
| *8098380 MS4-EM1FR-1/4-D6-EPV-AG-MPA-B | | | | *8098364 MS6-EM1FR-1/2-D6-EPV-AG-MPA-B | | | | *552938 MSB9-1:C2:J73-WP | | | | | | | | | | | | | |  | | | |
| *8098377 MS4-EM1FR-1/4-D6-CPV-AG-MPA-B | | | | *8098368 MS6-EM1FR-1/2-D6-CPV-AG-MPA-B | | | | *552938 MSB9-1:C2:J71-WP | | | | | | | | | | | | | |  | | | |
| 200 | | 400 | | 600 | | 800 | | 1,000 | | 2,000 | | 3,000 | | 4,000 | | 5,000 | | 6,000 | | 7,000 | | 8,000 | | | |
| *531029 MSB4-1/4:C5:J124B:I1-WP | | | | *531030 MSB6-1/2:C5:J124B:I1-WP | | | | *552938 MSB9-1:C2:J71:I9-WP | | | | | | | | | | | | | |  | | | |
| *531029 MSB4-1/4:C5:J124B:I3-WP | | | | *531030 MSB6-1/2:C5:J124B:I3-WP | | | | *552938 MSB9-1:C2:J71:I8-WP | | | | | | | | | | | | | |  | | | |
| *531029 MSB4-1/4:C5:J124B:I1:I3:L1-WP | | | | *531030 MSB6-1/2:C5:J124B:I1:I3:L4-WP | | | | *552938 MSB9-1:C2:J71:I9:I12:L2-WP | | | | | | | | | | | | | |  | | | |
| 100 | | 200 | | 300 | | 400 | | 500 | | 600 | | 700 | | 800 | | 900 | | 1,000 | | | | | | | |
| *531029 MSB4-1/4:C5:J124B:I1:I3:G7:L1-WP | | | | *531030 MSB6-1/2:C5:J124B:I1:I3:G7:L4-WP | | | | | | | | | | | | | | | | | |  | | | |
| 552170 PDAD-09 | | 552171 PDAD-13 | | 552172 PDAD-22 | | 552173 PDAD-51 | | | | 552174 PDAD-73 | | | | 552175 PDAD-100 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | <p>Required accessories for PDAD:</p> <ul style="list-style-type: none"> • 529607 MS6-LF-1/2-CRM • 529655 MS6-LFM-1/2-ARM • 529679 MS6-LFX-1/2-R • Suitable adapters • Mounting bracket | |  | |

Festo 40 µm and 5 µm filters are additionally equipped with a separator for liquids.

* This table includes only a selection of the available devices and possible combinations. Accessories can be ordered separately.



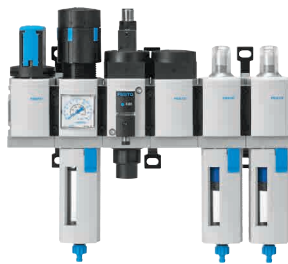
Note: Components from the series MS12 are available for even higher flow rates up to 28,000 NI/min. Ask your sales engineer for the ideal combination for your application.

The powerful portfolio that meets every requirement: MS series and MS Basic

From a simple standard product to application-specific solutions with extremely strict requirements for compressed air quality, the Festo product range makes it easy to find solutions that precisely meet your needs. These are based on decades of expertise and a clear understanding of the demands of tomorrow.

Competency meets innovation!

MS Basic is ideally suited for standard applications. If there are special requirements for compressed air purity, including the high-end area, the MS series with its modular design is the perfect answer.



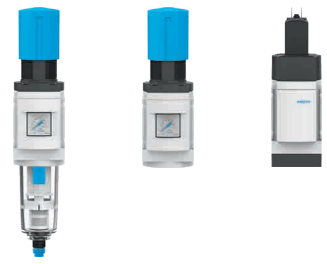
MS series

High performance that pays for itself

High flow rate

Technical details/special features

- Integrated sensors
- Safety functions
- Energy efficiency
- UL and ATEX category 2GD



MS Basic

Powerful, yet lightweight

Lightweight thanks to modern polymer materials

Easy to use

- Easier filter changes
- Transparent filter bowl

Reliability

- Robust condensate drain in manual or fully automatic version

Our finely tuned product portfolio

MS series for safety functions to ISO 13849-1

MS series for increased productivity: intelligent thanks to sensor technology

MS series for greater energy efficiency: flow-optimised size mix

For application-specific solutions: custom configurations with a combination of MS series and MS Basic

For standard tasks: MS Basic

Support

- Complete solutions
- Control cabinets
- Engineering tools

Services

- Compressed air quality analysis
- Compressed air consumption analysis
- Leakage detection and elimination
- Condition monitoring

The service unit portfolio from Festo can be expanded step-by-step in line with the task. A valuable plus: support and services.

Virtually limitless configurations: MS series and MS Basic

The breadth of the MS series makes it suitable for virtually every application, whether the need is for standard components or individual complete solutions. From highly sensitive applications in the pharmaceutical and food industries to application-specific solutions with heavy-duty flow rates for the automotive industry, the MS series can be used almost anywhere, with both centralised and decentralised installation.

Tailor-made solutions – product range overview



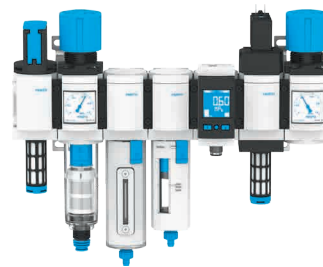
From individual devices ...

Variety of individual devices as: **standard components** directly from the Festo catalogue or **individually selected** using our free configurator.



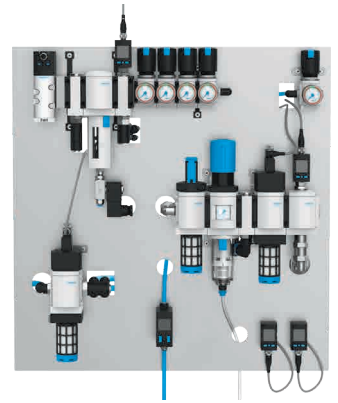
... to pre-assembled standard combinations ...

One package unit, one delivery, one price. Quick delivery: the most popular combinations are available directly from stock.



... and from individually configurable combinations ...

Tailored precisely to your needs: the service unit combinations MSB4 and MSB6. Optionally available with safety functions and integrated sensors. Supplied fully assembled and tested.



... to ready-to-install complete solutions.

Fully assembled and tested complete solutions with Festo plug and work.

Simply added value with complete system solutions

- Everything with just 1 part number, 1 contact person, 1 delivery date
- Complete solutions: fully assembled, tested and ready to install
- Install and get started – minimal installation time
- Significantly reduced goods-in and warehousing times

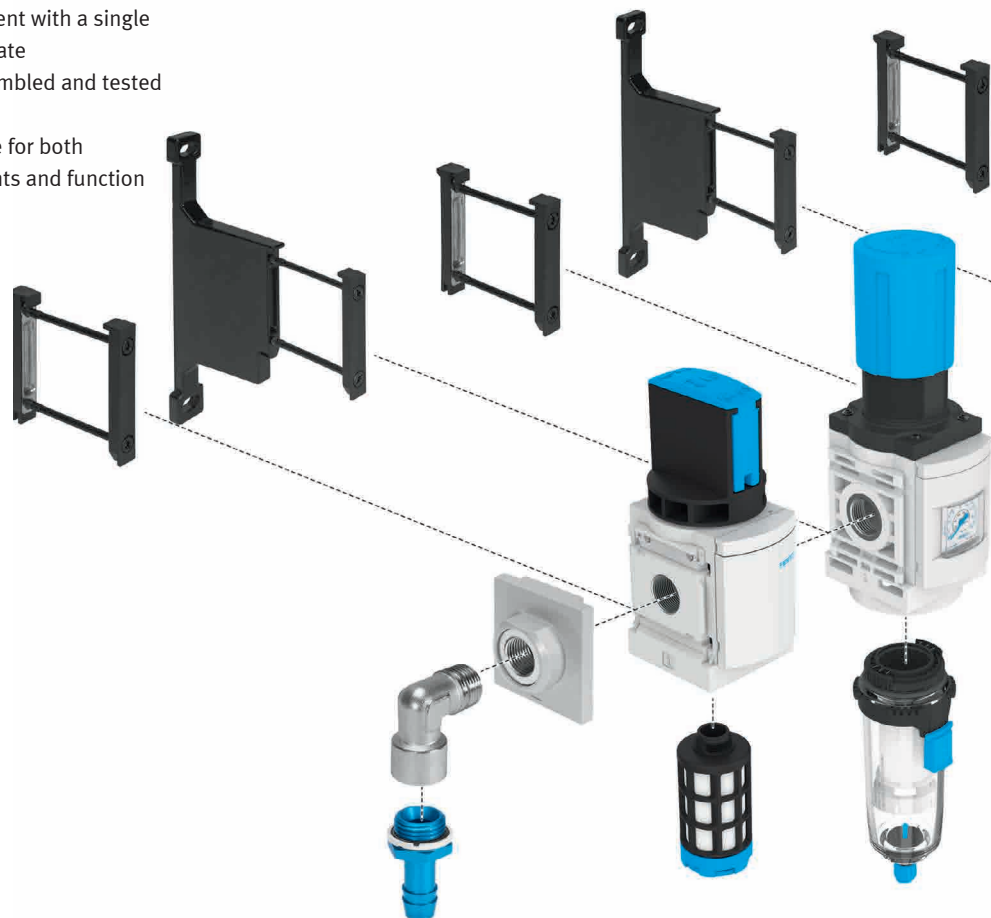
Multiplying advantages: series MS with pre-assembled modules

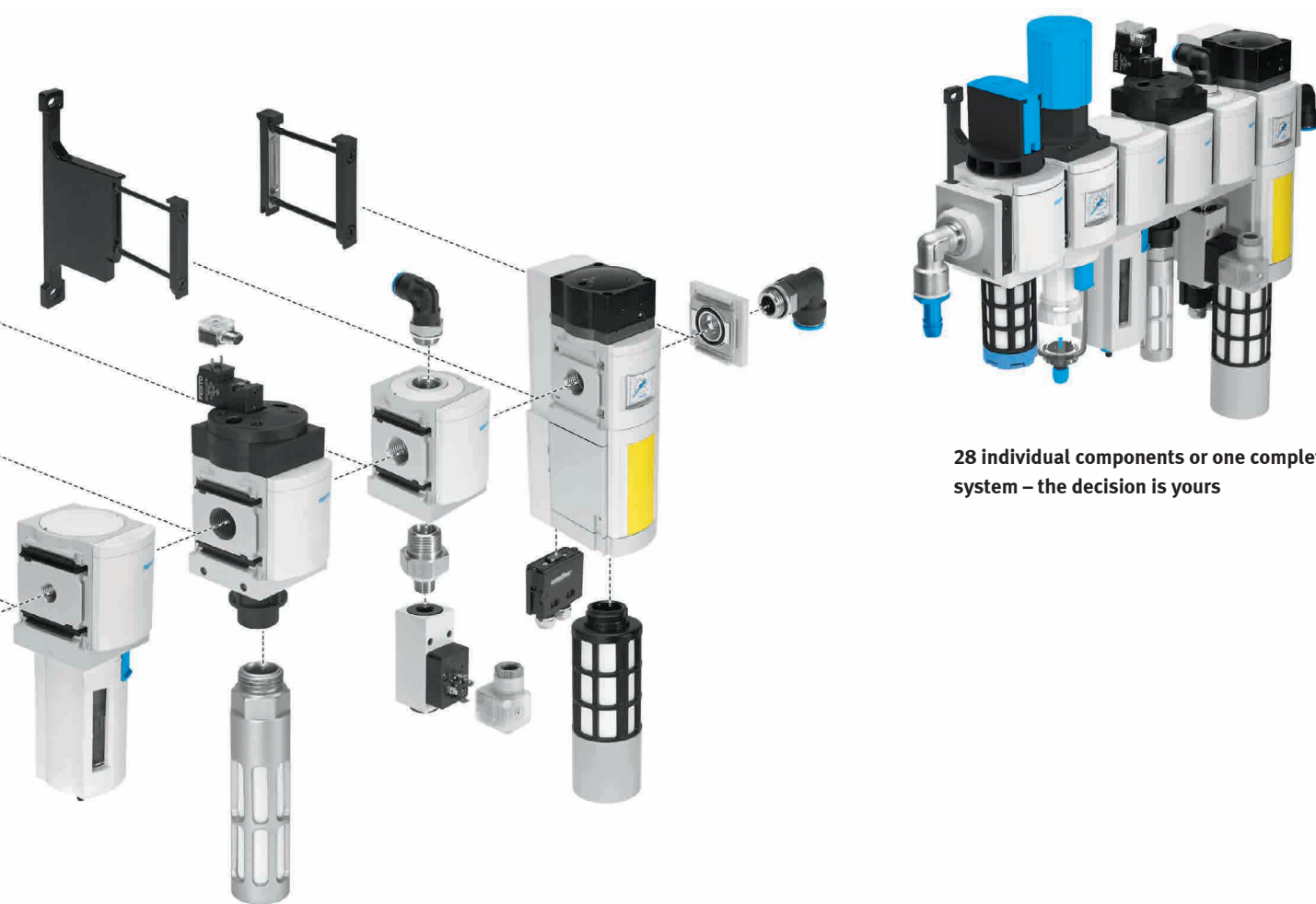
Pre-assembled modules reduce purchasing costs, increase process reliability and boost your productivity. And they also save you time and money.

If you choose a ready-to-install module instead of individual components, you can save yourself a great deal of work, such as the effort involved in selecting 28 items from the catalogue, ordering them, storing them, assembling all 28 parts, integrating them into the system and documenting the whole process. And these are just some of the time- and cost-intensive working steps required.

The advantages of all-inclusive packages with pre-assembled modules

- Engineering expertise of the Festo specialists
- Ability to order a complete system with one ID number
- Reduced logistics costs
- Delivered as a single consignment with a single delivery date
- Fully assembled and tested system
- Guarantee for both components and function





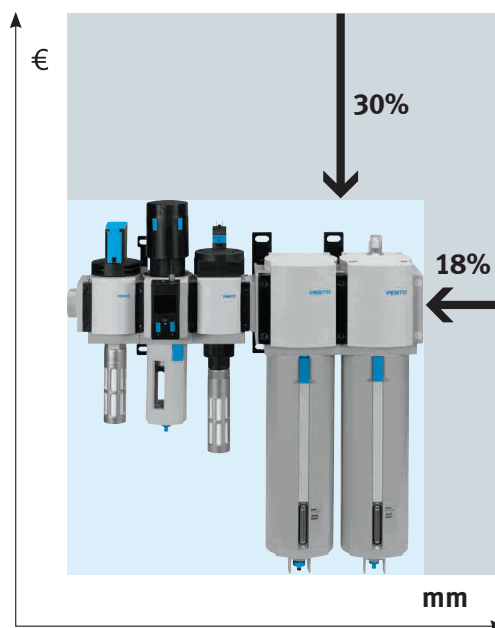
28 individual components or one complete system – the decision is yours

Unique and energy-efficient: the mix of sizes with the series MS

Combines optimum flow rate and compact design

Simply choose one size smaller! An intelligent mix of sizes is one of the hallmarks of the series MS and offers you decisive advantages. It allows combinations to be created that are space- and cost-optimised. One example is the combination of MS6 and MS9.

The service unit combination shown in the graphic, designed for an operating pressure of 6 bar, a flow rate of 5,000 NI/min and a degree of filtration of 0.01 µm, enables you to save up to 30% on component costs and 18% on installation space!



A clever mix: MS6 and MS9. MS6 = standard devices EM, LFR, EE; MS9 = fine and micro filters LFM-B and LFM-A.

Original design: MS9 as standard

Tailor-made solutions – sizes



MS 4
(grid 40 mm
1,700 NI/min)



MS 6
(grid 62 mm
6,200 NI/min)



MS 9
(grid 90 mm
20,000 NI/min)



MS 12
(grid 124 mm
28,000 NI/min)

Same performance with lower operating pressure = save costs

An intelligent combination of sizes also offers considerable potential to reduce energy consumption and thus save money. The combination shown, with standard units in size MS6 and fine and micro filters in MS9, significantly reduces the pressure drop within the whole unit compared to that of a unit assembled only using MS6 components. This means that you can reduce the pressure in the main compressed air supply network while maintaining the same flow rate. With this example of a service unit, the supply pressure can be easily

reduced from 8 bar to 6 bar. For each bar of pressure reduction, the expected saving on energy costs will be approx. 6% – the higher investment costs will pay for themselves in a very short time. This unique ability to combine sizes thus contributes to the energy-efficient use of compressed air in automation.

Typical application areas for service units with fine and micro filters can be found, for instance, in the painting industry, the food industry, the pharmaceutical and semiconductor industries as well as in measurement and test systems.



Intelligent MS series with integrated sensors and safety functions

The MS series sets new standards when it comes to enhanced safety, machine availability and efficient energy usage. This is thanks to the many functions that you can integrate effortlessly.



Flow sensor SFAM and MS

This sensor can be integrated into an MS unit without additional installation effort. The two fit together perfectly. Their characteristic features are:

- Highly dynamic starting point of 1%
- Extremely accurate within a huge measuring range of up to 15,000 l/min
- Absolute flow rate and consumption data
- Convenient operation



Pressure and vacuum sensor SPAU on MS

Increase productivity and process reliability: with the sensor SPAU for pressure monitoring you will have the system pressure on the MS service unit components under control. With the large, easy-to-read and two-colour blue/red LCD display, you can immediately tell whether the pressure level is acceptable.



Differential pressure sensor SDE1 with MS fine and micro filters

Differential pressure measurement with filter contamination indicator for preventive maintenance and for improved compressed air quality and compliance with ISO guidelines. This also helps you avoid excessive pressure drops across filters, which would cost additional energy.



Soft-start/quick exhaust valves MS-SV

MS6-SV-E

For maximum safety for people and machines in the case of a sudden emergency stop in safety-critical areas of a system, MS6-SV-E has a reliable and quick exhaust function. It can also be used for a direct AS-Interface Safety at Work bus connection with integrated switching status and pressure sensing via the bus.

MS with integrated sensors

Integrated sensors expand the spectrum of possible applications and make processes more stable.

And they will make you more productive.

It is possible to integrate into the MS series without any problem:

- safety functions
- energy efficiency
- condition monitoring
- preventive maintenance
- remote monitoring of pressure, flow rates and differential pressure

The benefits to you:

- Reduced downtimes
- Minimised energy consumption
- Cost control with consumption measurements
- Easy monitoring of process parameters
- Plannable maintenance intervals
- Protection for people and machines



MS6-SV-D

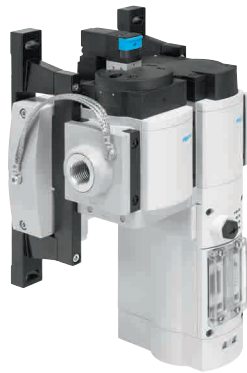
This is a low-cost alternative to the MS6-SV-E for applications with Performance Levels d to e.

IFA certification

Documented safety – to DIN EN ISO 13849-1, category 4, Performance Levels d and e.

MS6-SV-C and MS9-SV-C

For medium safety requirements up to Performance Level c to DIN EN ISO 13849-1.



**Energy efficiency module
MSE6-E2M**

The integrated intelligence of this module makes energy saving and condition monitoring easy. The automatic compressed air shut-off and leak detection significantly reduce compressed air losses. A direct fieldbus link allows important process data such as pressure, flow rate and consumption to be uploaded to a controller.



**Energy efficiency module
MSE6-D2M**

All fully automatic: the intelligent combination of service unit components and sensors detects stoppages like the end of production and then shuts off the compressed air supply. With the built-in leakage measurement system, you can service the system when it needs it. The module can be connected to the new MSE6-C2M or to a CPX terminal. This provides a cost-effective way of implementing further energy efficiency and monitoring functions without additional fieldbus nodes!



**Energy efficiency module
MSE6-C2M**

The intelligent MSE6-C2M fully automatically regulates the compressed air consumption of your system. The integrated proportional pressure regulator ensures optimum production by regulating the pressure according to your specifications. You specify the waiting time after which the pressure level automatically drops to a particular stand-by pressure. You save energy and thus CO₂ when the system is at a standstill. The soft start ensures safe processes.

MS Basic – powerful, lightweight, inexpensive

The MS Basic in a polymer housing offers you low-cost basic components focused on the most important technical functions of compressed air preparation such as pressure regulation, filter regulation and manual or electrical switch-on. And it is fully compatible with the MS series. This allows you to create the best possible mix of low-cost basic and high-end functions.

Simple and inexpensive: the MS Basic series

The MS Basic service unit component series with its light and sturdy polymer housing is ideally suited to the core functionalities of compressed air preparation. It offers reliable compressed air preparation in proven Festo quality for applications. The sturdy connection technology also

guarantees a long service life. The core functions of the MS Basic series, comprising pressure regulator, filter regulator and manual as well as electric on/off valves, are compatible with other components of the MS series. In typical compressed air networks, service unit combinations of this series achieve a compressed air purity class of 7:4:4.

Safer systems

Another advantage of the pressure regulators of this series is the standard return flow feature via the main valve seat. This rapid return flow also further increases system safety.

Pre-assembled and fully tested standard combinations

There are additional pre-assembled and fully tested standard combinations available from stock, such as the EM1FR with manual on/off valve (EM1) and filter regulator (LFR). The benefit to you is shorter delivery times, fast availability and simplified installation and speeding up your time to market.



Technology for greater process reliability

Now even better protection against contamination: the condensate drain in manual or fully automatic version. The integrated QS6 connection makes it easy to connect and release the tubing.

Space-saving and reliable: bowl closure with integrated filter

Don't have much space in your application? Not a problem! In the MS Basic filter regulator, the filter is integrated in the bowl. This makes changing the filters easy and saves installation space. And with the transparent bowl you can quickly see whether the filter element is contaminated and needs to be replaced.

Fast or soft switch-on

The new electric on/off valve can be ordered as a soft-start/quick exhaust valve (EDE) or an on/off valve (EE). With the soft-start version (EDE), the first half of the air supply flow is controlled – you can individually adjust this flow control rate.

Top quality even in large quantities

A glimpse into the hall where the MS Basic is manufactured. Compared to manual processes, fully automated production reduces the error rate to almost

zero and the automated final inspection ensures that you only receive top quality from Festo. Another advantage: even if you need large quantities of MS Basic

at short notice, we can deliver quickly and worldwide. This is one of the great benefits of the products in the Core Range.

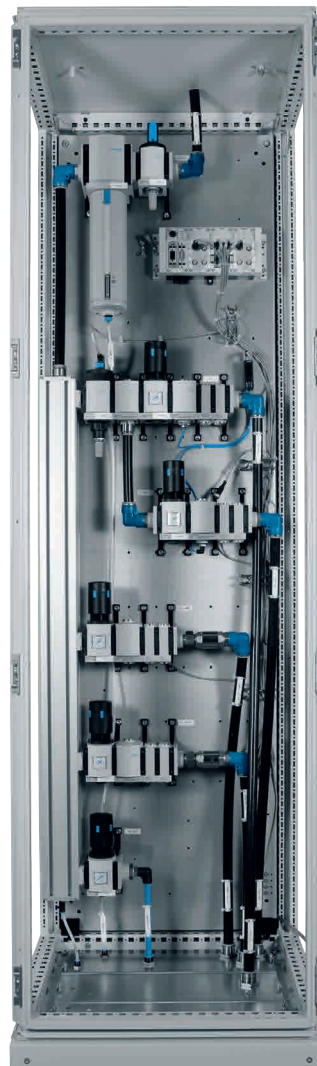


Everything matches: customised solutions

Do you have a specific requirement but cannot find the right product in our catalogue? If so, we can offer you customised solutions, from minor product modifications to completely new developments or ready-to-install solutions.

Take advantage of the comprehensive expertise of our automation specialists and make sure you receive nothing less than an innovative and cost-effective solution which reflects the latest technological standards. Comprehensive product testing ensures the best possible quality, while precisely defined interfaces ensure easy integration into your machines.

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



Ready to install: control cabinet for compressed air preparation and distribution, individually tailored for your application

Reach your goals more quickly and easily with: engineering tools from Festo

Find the best service unit for your application with our selector tool

It allows you to assemble the right service unit combination for your application. The tool uses typical application parameters to produce a recommendation for the air quality class and components. Alternatively, you can specify a compressed air purity class or assemble a filter cascade directly. If you wish to add any of our most popular service modules, the tool will recommend the right layout and size of the units in accordance with the required flow rate – the service unit is pre-configured.

Overdimensioning thus becomes a thing of the past!

For more details of our selector tool go to www.festo.com/x/service-unit-sizing

Configure your own individual service unit!

Combinations and individual units can be configured and ordered quickly and easily using the free configurator in our Online Shop so that you can be sure you will receive the combination you need.

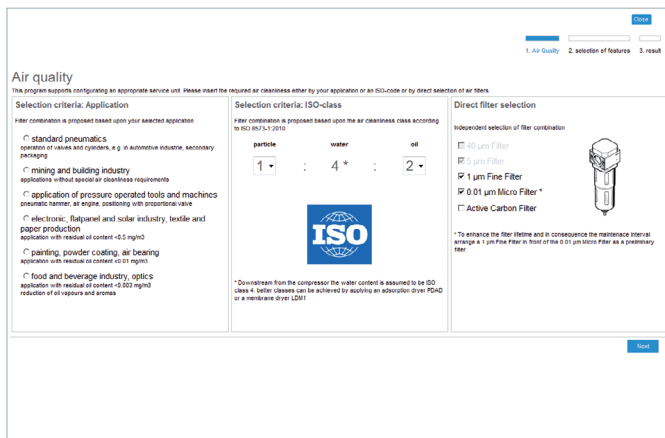
Make use of our free 2D/3D CAD models in many native formats

Reduce your workload and integrate CAD models for over 25,000 products into your design. These are available in over 45 interchange formats, with many advantages for native formats, such as dynamically generated data.

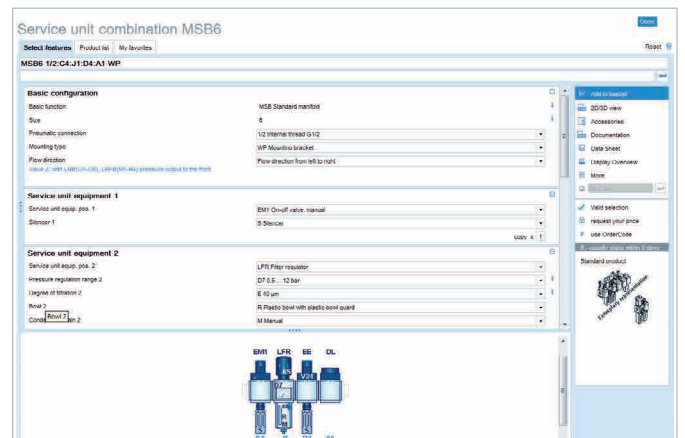
Online Shop for purchasing and after sales

In the Online Shop, it takes just a few clicks to order products, and to receive a delivery date and personal price information. You can also track your orders. This shows you clearly where your order is at all times. Our Online Shop provides you with all product details, including after sales information. It is your central access point for all product information, including information on products which are no longer available. In these cases, the Online Shop will suggest alternative products.

For more details of our Online Shop and Support Portal go to www.festo.com/catalogue



The selector tool allows you to determine the required purity class quickly and accurately.



Once the purity class has been determined, the configurator will suggest appropriate products.



Productivity

Maximum productivity is a question of ambition

Do you share this attitude? We will be glad to help you achieve this goal – through our four outstanding qualities:

- Security • Efficiency • Simplicity • Competency

We are the engineers of productivity.

Discover new dimensions for your company:

→ www.festo.com/whfesto