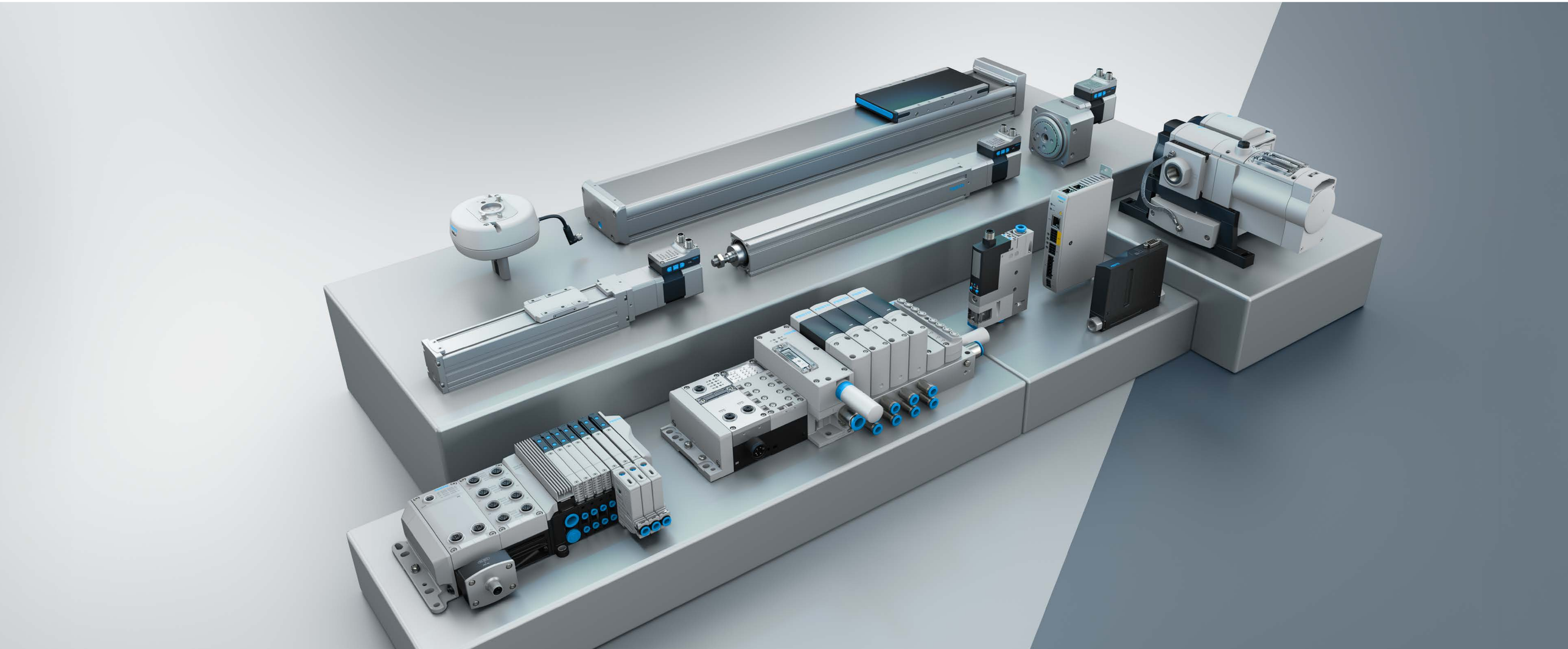
# Sustainable Automation with Top Products from Festo

Products, Services, and Tools for a Future-Proof Industry



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# 1. More Sustainable and Efficient Production with Products from Festo

## A comprehensive approach to the product life cycle: production – operation – recycling

Choosing the right components creates the basis for sustainable systems.
These components are characterized by high availability, excellent energy efficiency, and a sustainable $CO_2$ balance.

Use our components to turn sustainability into a competitive advantage. Festo offers you **pneumatic and electric automation solutions** that are designed to be sustainable throughout the product's entire life cycle, from resource-saving production and energy-efficient operation to repairs and recycling.

These measures:

- Extend the product service life,
- Reduce the consumption of resources, and
- Underline our commitment to sustainability in industry.

### 1 In production

At Festo, we focus on sustainability when manufacturing our own products:

**Optimizing materials:**
Using materials with a reduced carbon footprint such as recycled aluminum, and saving materials where technically possible.

**Innovative design concepts:**
Implementing lightweight construction concepts in the product development phase.

**Using new materials:**
Making the most of e.g., polymers made from renewable raw materials.

**Optimizing production processes:**
Continuous improvements to reduce the carbon footprint.

### 2 In operation

The innovative products from Festo support energy savings and $CO_2$ reduction with:

**Intelligent control:**
Adjusting compressed air consumption as required and efficiently controlling actuators.

**Leakage management:**
Identifying and reducing leakages to save energy.

**Energy management:**
Monitoring energy consumption, making AI-supported optimizations and recovering energy.

**Highly efficient control of process gases or liquids:**
Resource-saving use of media in the semiconductor sector or in laboratories.

### 3 To the end of the product life cycle

Festo promotes the circular economy by:

**Focusing on reuse:**
Recycling materials, re-using product parts as well as complete products.

**Supporting on-site repair:**
Enabling repairs at the customer's premises to reduce $CO_2$ emissions and providing repair kits, videos and other documentation.

**Continuously further developing the portfolio:**
Specific focus on "R" strategies (repair, remanufacturing, refurbishing).

# 2. Sustainability in Production

## Top products for **material and resource efficiency**

Thanks to their optimized design, innovative materials, and reduced weight, Festo products save valuable resources and reduce the carbon footprint without compromising on performance.

**How to recognize the technology**
- Pneumatic
- Electric


**Guided actuator**
**DGRC**

The guided actuator DGRC is up to 60% lighter and 30% smaller than comparable models. Its optimized design reduces the carbon footprint, shortens cycle times, and reduces energy consumption.
Copper, zinc and nickel-free components make it ideal for battery production or anywhere where precise guidance and maximum sustainability are required.

→ **www.festo.com/dgrc**

**Savings on materials of up to 60%**


**Mass flow controller**
**VEFC**

The VEFC combines extremely efficient piezo technology with absolute precision and low power consumption. Its compact 24 mm design saves space, and the stable flow control lowers the consumption of inert gases by up to 75%. This makes it ideal for applications with nitrogen and special gases that have stringent demands on efficiency and process stability.

→ **www.festo.com/vefc**

**Savings on process media of up to 75%**


**Valve manifold**
**MPA-C**

The valve manifold MPA-C consists of more than 50% bio-based GRIVORY with a reduced carbon footprint. Its compact shape minimizes cleaning, while the modular design offers flexibility with a flow rate of up to 780 l/min. Replaceable valves together with high corrosion resistance ensure a particularly long service life with minimal environmental impact.

→ **www.festo.com/mpac-vi**

**More than 50% sustainable materials**

# 2. Sustainability in Production

## Top products for **material and resource efficiency**

**How to recognize the technology**
- Pneumatic
- Electric


**Standards-based cylinder**
**DSNU-S**

The DSNU-S is an environmentally friendly further development of the classic standards-based cylinder. It boasts an improved design that saves valuable space and minimizes material usage. Its self-adjusting pneumatic end-position cushioning automatically adapts to different loads – perfect for tight installation spaces.

→ **www.festo.com/DSNU-S**

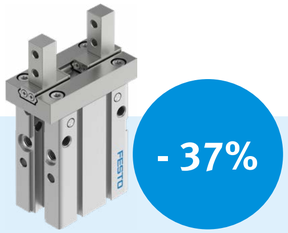
**Material savings of up to 50%**


**Compact cylinder**
**ADN-S**

The significantly reduced dimensions of the ADN-S and its innovative design with a smaller, one-piece housing are truly impressive. The remarkable weight reduction saves resources and reduces the environmental impact during manufacturing, while performance is as exceptional as ever. These features make it ideal for limited installation spaces and production systems for lithium-ion batteries.

→ **www.festo.com/ADN-S**

**Material savings of up to 43%**




**Parallel gripper**
**DHPC**

The DHPC sets new standards as the most compact parallel gripper on the market, offering exceptional gripping force and maximum accuracy. Its well-thought-out design reduces material consumption while maximizing efficiency. The precise ball guide and excellent repeat accuracy guarantee a long service life. It is available as a double-acting or single-acting version, and offers numerous mounting options for different applications.

→ **www.festo.com/DHPC**

**Material savings of up to 37%**

# 3. Sustainability in Operation

## Top products for **energy efficiency**

Our energy-efficient solutions minimize compressed air and power consumption thanks to intelligent control, demand-based regulation and innovative technologies, providing maximum performance with minimum use of resources.

**How to recognize the technology**
- Pneumatic
- Electric


**Valve manifold VTUX with vacuum functions**

The valve manifolds are made from environmentally friendly materials and are easy to recycle since nothing is encapsulated or glued. When used in vacuum operation, the intelligent air-saving circuit reduces air consumption as continuous vacuum generation is often not required to reliably hold workpieces in place.

→ **www.festo.com/VTUX**

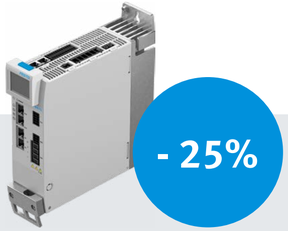
**Energy savings of up to 90%**


**Smart Switching Lite with new multi-efficiency valve**

The 5/4-way multi-efficiency valve –- available for all VTUX variants – switches off the air supply during movement. The cylinder reaches the end position using just expansion energy, thus enabling movement with greatly reduced air consumption. An easy-to-integrate PLC module assumes control for maximum efficiency with minimum effort.

→ **We look forward to receiving your inquiry**

**Energy savings of up to 60%**




**Servo drive CMMT-AS/ST**

Powerful servo motors (CMMT-AS) can be flexibly combined with compact, energy-saving stepper motors (CMMT-ST), even for motion applications. This results in great energy efficiency in a small installation space, and is further enhanced by the energy recovery during the braking process. The optimized carbon footprint and the really easy installation are also made possible by the one-cable solution (OCS).

→ **www.festo.com/CMMT**

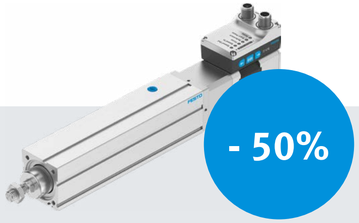
**Energy savings up to 25%**

# 3. Sustainability in Operation

## Top products for **energy efficiency**

**How to recognize the technology**

- Pneumatic
- Electric

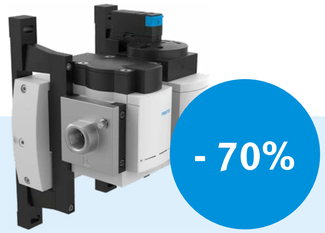



**Simplified Motion Series**

Electric actuators in the typical form of compact pneumatic cylinders, actuated via IO-Link® without taking up any space in the control cabinet – that is what characterizes our Simplified Motion Series. And what's more: commissioning is extremely easy!

→ **www.festo.com/SMS**

**Energy savings of up to 50%**

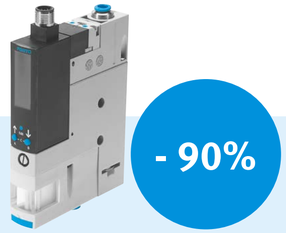



**Energy efficiency module MSE6**

The intelligent module automatically detects machine downtimes and leakages. The energy efficiency modules in the MSE6 series constantly monitor compressed air consumption and switch off the air supply during non-production times after a defined waiting period. MSE6-C2M and MSE6-D2M precisely control the system, ensuring an optimum level of energy and eliminating unnecessary compressed air consumption.

→ **www.festo.com/MSE6**

**Energy savings of up to 70%**




**Vacuum generator OVEM**

The innovative air-saving circuit activates the vacuum only when necessary and reduces compressed air consumption to a minimum. The integrated sensors with IO-Link® interface enable the operating status to be quickly and easily monitored; they support predictive maintenance and increase the sustainability of your production processes.

→ **www.festo.com/OVPN**

**Energy savings of up to 90%**

# 3. Sustainability in Operation

## Top products for **energy efficiency**

**How to recognize the technology**
- Pneumatic
- Electric


**Vacuum generator**
**OVPN**

The pneumatic vacuum generator OVPN is used for applications with high flow rates and low vacuum. This multi-stage vacuum generator is significantly more efficient than single-stage generators. It can be used for either centralized or decentralized vacuum generation and is perfect for applications with porous materials.

→ **www.festo.com/OVPN**

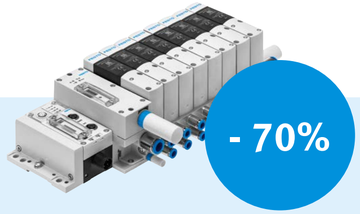
**Energy savings of up to 25%**


**Flow sensor**
**SFAM**

The flow sensor SFAM can be installed as a standalone device or in combination with an MS series service unit. The latest generation with integrated IO-Link® combines precise flow measurement and intelligent energy monitoring functions.

→ **www.festo.com/SFAM**

**Energy savings of up to 20%**




**Motion Terminal**
**VTEM**

Thanks to the use of piezo technology, the compressed air is continuously regulated by the valve. Apps determine the exact functionality of the valve, whether force control, speed control or operation with defined ramps or travel times. Thanks to these features, extremely efficient movements can be carried out.

→ **www.festo.com/VTEM**

**Energy savings of up to 70%**

# 3. Sustainability in Operation

## Top products for **energy efficiency**

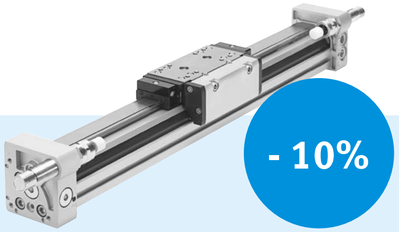
**How to recognize the technology**
- Pneumatic
- Electric


**Rodless linear actuator**
**DGO**

The design of this actuator features a magnetic power transmission without a mechanical connection. There is a hermetic seal between the cylinder chamber and the outer slide, thus preventing leakage losses.

→ **www.festo.com/DGO**

**Energy savings of up to 15%**

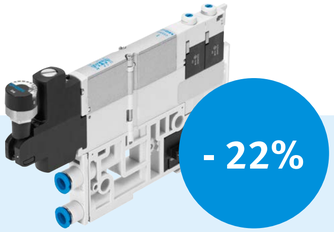



**Pneumatic linear actuator**
**DGC**

The patented sealing strip in the sealing system of the rodless actuator really comes into its own with long strokes. It is virtually leak-free and systematically reduces compressed air consumption.

→ **www.festo.com/DGC**

**Energy savings of up to 10%**




**Vertical pressure control plate**
**VMPA1/VABF**

The working pressure for individual cylinders can be reduced directly on the valve manifold by the pressure control plate. This precise control reduces the energy consumption of pneumatic systems by up to 22%. It is available with control ranges up to 6 or 10 bar and optional pressure gauge display, thus offering an efficient solution for a wide range of applications with optimized compressed air consumption.

→ **www.festo.com/VMPA**
→ **www.festo.com/VMPA1_FT**

**Energy savings of up to 22%**

# 3. Sustainability in Operation

## Top products for **energy efficiency**

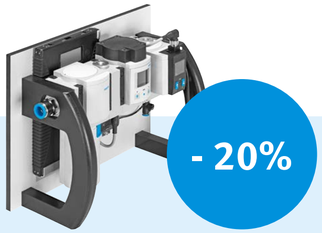
**How to recognize the technology**
- Pneumatic
- Electric


**Pressure vacuum generator**
**PGVA**

The decentralized PGVA pressure and vacuum generator requires only a 24 V power supply to pneumatically supply your pressure or vacuum[1]controlled solution. On-demand, localized generation at the point of use minimizes line losses and significantly lowers energy consumption. Proportional control ensures precise adjustment to actual demand.

→ **www.festo.com/PGVA**

**Demand-optimized pressure generation**

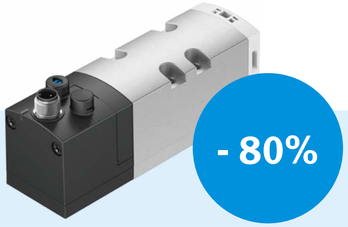



**Air-flow analyzer**
**SFGA**

Measure current flow and pressure values anytime, anywhere – and compare them with historical data. The SFGA mobile measuring device makes it possible. Flow measurements help you quickly identify deviations from optimal performance, caused by issues such as leaks, unexpected pressure fluctuations, or losses. This gives you a reliable basis for taking effective, energy-saving action.

→ **We look forward to receiving your inquiry**

**Energy savings of up to 20%**




**Pulse valve**
**VSVA**

Thanks to the built-in pulse feature, the valve automatically lowers energy consumption when using blast air. This enables you to save a significant amount of compressed air during pauses. Another benefit is that the blast pulse is stronger than with a continuous air flow.

→ **www.festo.com/VSVA**

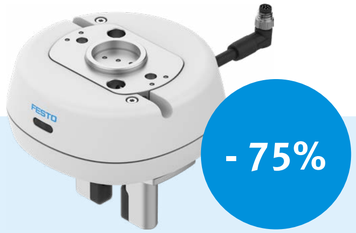
**Energy savings of up to 80%**

# 2. Sustainability in Operation

## Top products for **material and resource efficiency**

**How to recognize the technology**

- Pneumatic
- Electric




- 75%

**Parallel gripper/valve combination**
**HPPH**

The HPPH combination unites gripper, valve and sensors in a space-saving unit for collaborative robot (cobot) technology. This compact design significantly reduces the need for materials and increases functionality at the same time. As it is TÜV certified according to ISO 15066, the HPPH combination is suitable for various cobots. The integrated force retention guarantees reliable operation, while actuation via digital I/O or IO-Link® opens up a wide range of application possibilities.

→ **www.festo.com/HPPH**

**Compressed air savings of up to 75%**

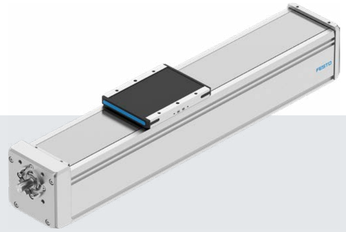
# 4. Sustainability to the End of the Product Life Cycle

## Top products for the **circular economy**

Our components support the principle of the circular economy by having a modular and durable design, and being easy to repair. This extends product life cycles and minimizes waste.

**How to recognize the technology**

- Pneumatic
- Electric



**Ball screw axis**
**ELGD-BS**

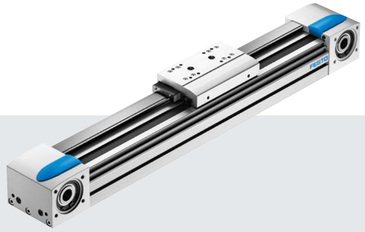
The ball screw axis ELGD-BS combines high performance with sustainability. Its optimized design enables a smaller size with the same performance to be used in 60% of cases, saving significantly on materials and space. The WD version (wide version) weighs 30% less while the guide has an identical load capacity. Local production minimizes transport routes and $CO_2$ emissions. The repair kits, which make repairs really easy, and the services offered considerably extend the life cycle.

→ **www.festo.com/ELGD-BS**

**Electric cylinder**
**ESBF**

The electric cylinder ESBF is mainly made of materials such as aluminum and steel that can be easily recycled and the cylinder itself can simply be dismantled into individual parts at the end of its life cycle. Repair instructions and spare parts are also available, making it even more sustainable. The optimum design of the complete functional unit – consisting of the actuator (ESBF), motor (EMMT-AS or EMMT-ST) and servo drive (CMMT-AS or CMMT-ST) – means that smaller and lighter motors can be used, or travel profiles optimized for the motion cycle can be selected.

→ **www.festo.com/ESBF**



**Toothed belt axis**
**EGC-TB**

The EGC-TB with strokes up to 8.5 meters has an impressive cross-section that is optimized for excellent stability and load-bearing capacity. As a dynamic linear actuator, it manages high speeds even with heavy loads. Its excellent design often allows the use of smaller sizes. The intelligent design simplifies maintenance and increases the service life in the long term.

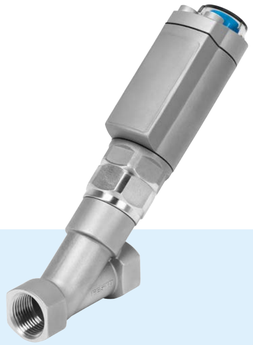
→ **www.festo.com/EGC-TB**

# 4. Sustainability to the End of the Product Life Cycle

## Top products for the **circular economy**

**How to recognize the technology**

- Pneumatic
- Electric



**Angle seat valve**
**VZXA**

The VZXA combines extremely high flow rates with a circular economy concept. Its modular design with freely combinable valve bodies and actuators significantly extends the product service life. It is easy to repair without the need for tools, thus reducing resource consumption and waste. The use of Ecobrass as a sustainable alternative material further minimizes the environmental impact. Its hygienic design and high resistance make the VZXA the ideal solution for demanding media up to 600 mm²/s.

→ **www.festo.com/VZXA**

# 5. Our Services and Tools for Your Sustainable Production

## We make your production more sustainable, step by step

Festo offers a comprehensive range of services designed to optimize your production processes, increase your energy efficiency, and reduce your carbon emissions:

### Festo AX – intelligent solutions for Industry 4.0

Festo AX Industrial Intelligence is revolutionizing production by using artificial intelligence (AI). This innovative solution enables companies to record and analyze real-time production data in order to identify and rectify problems at an early stage.
With Predictive Maintenance, Quality and Energy, Festo AX offers comprehensive options for optimizations for avoiding unplanned downtimes, ensuring product quality, and reducing energy costs. The results are impressive and speak for themselves.
Festo AX is thus making an important contribution to sustainable Industry 4.0 and is significantly increasing efficiency in production.

**Reduce downtimes by up to 25%**

**Reduce rejects by up to 20%**

**Reduce leakages by up to 65%**

Request a consultation now
→ **www.festo.com/AX**

# 5. Our Services and Tools for Your Sustainable Production

## We make your production more sustainable, step by step

### Festo Energy Saving Services: Maximum transparency for optimized compressed air systems

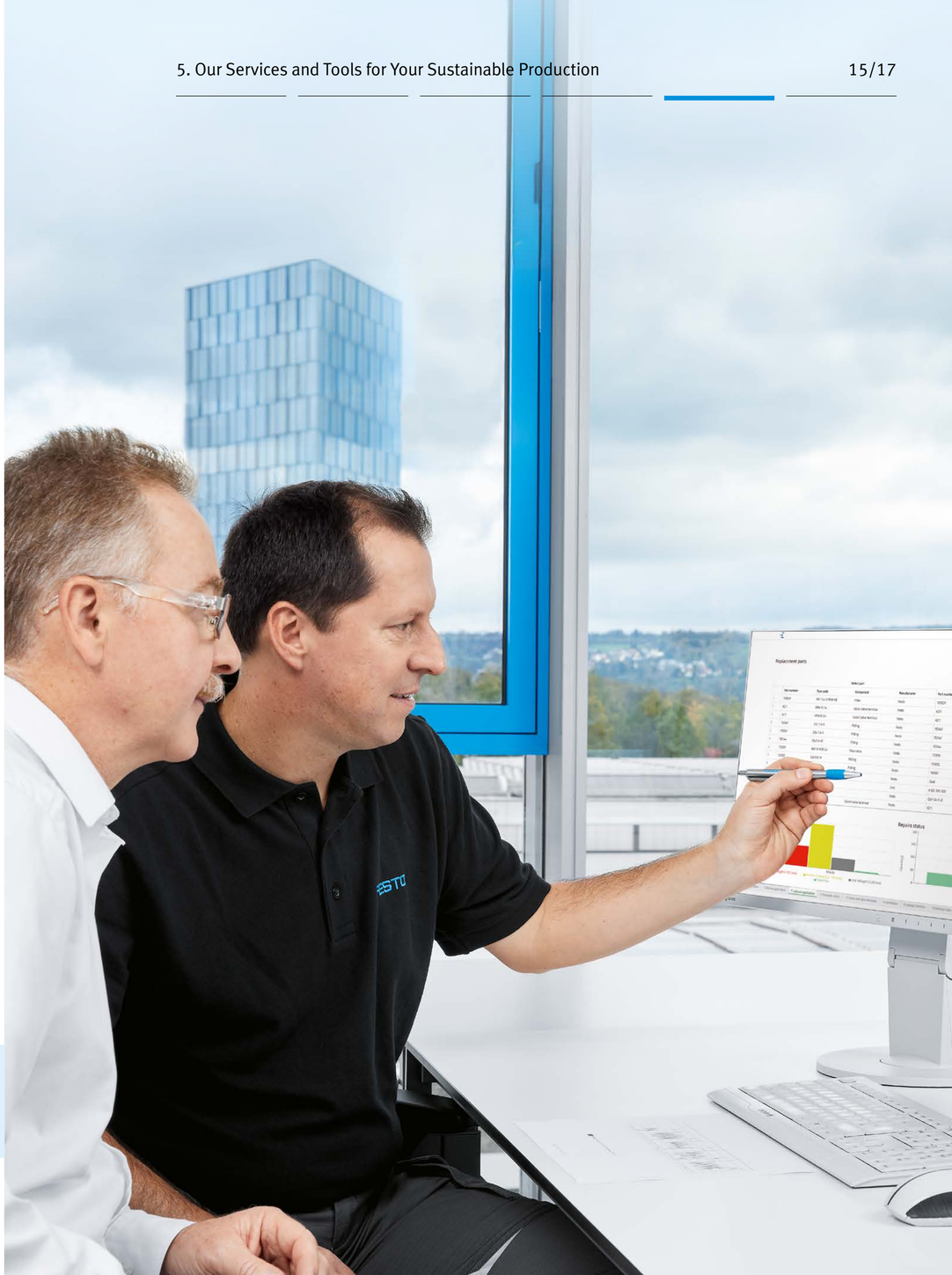
Festo Energy Saving Services offer a modular service package for analyzing and optimizing compressed air systems to identify energy losses, cut operating costs, and sustainably reduce $CO_2$ emissions. With the help of these three services, companies are provided with a sound basis for making decisions on improving the energy efficiency, the sustainability and the effectiveness of their compressed air systems, while also driving forward their environmental goals.

**FESS Portal –** The digital heart of the services. It is used for systematically recording, documenting and evaluating all energy-saving measures. Data from on-site analyses is bundled, leakages are recorded, potential savings are calculated, and measures are prioritized. All this is done transparently, clearly, and in compliance with ISO-50001.

**Compressed Air Energy Efficiency Audit –** a comprehensive analysis of the entire compressed air system, from generation to application. During the audit, leakages, pressure losses and energy consumption are identified and quantified. The results include specific recommendations for increasing the efficiency and amortization of planned measures.

**Pneumatics Sustainability Check –** this service specifically evaluates the efficiency of pneumatic components and applications. This means checking where energy can be saved and how the service life of systems can be extended by optimizing the valve technology, control, or sizing.

Calculate leakages now free of charge and request a test license.
→ **www.festo.com/ESS**



# 5. Our Services and Tools for Your Sustainable Production

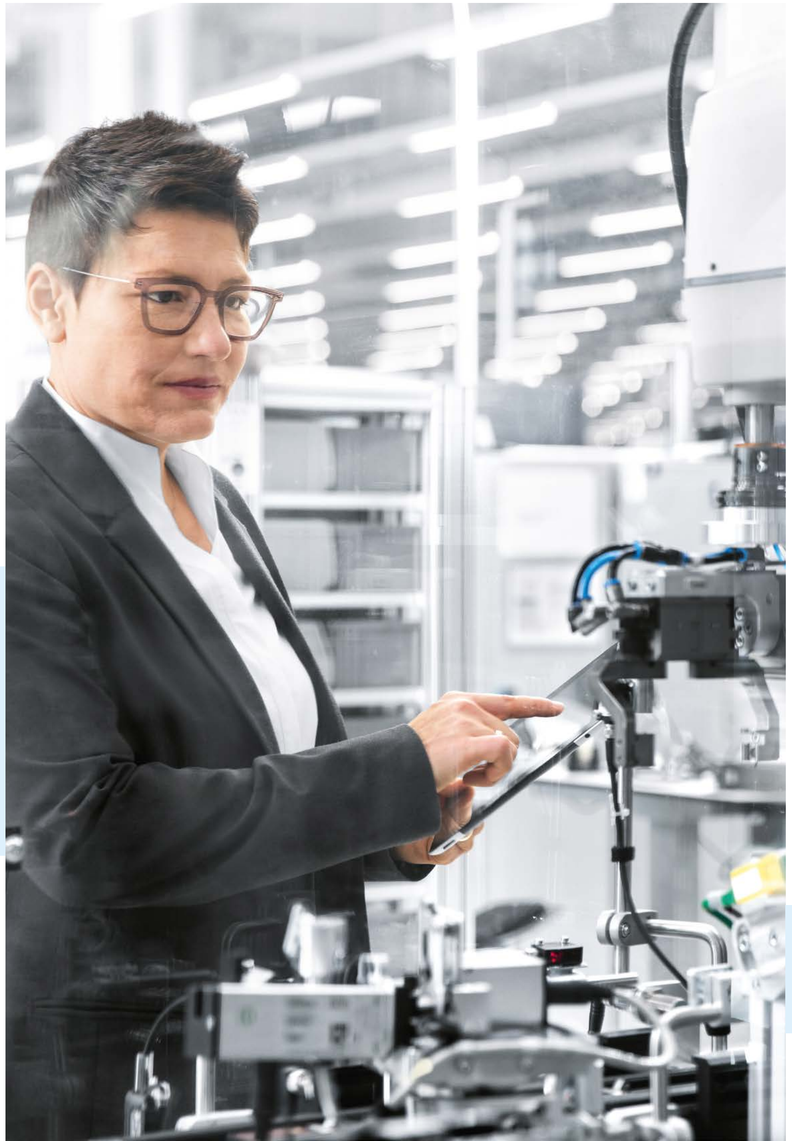
## We make your production more sustainable, step by step

### $CO_2$ and TCO solution comparison

The intelligent decision-making tool for efficient actuator solutions. Festo offers a wide range of options for selecting the right products to suit your requirements.

In MyFesto Projects, you can now also compare your product selection according to $CO_2$ and TCO (total cost of ownership).

You can find more tools to help you plan pneumatic and electric actuator technologies efficiently and sustainably on our website
→ **www.festo.com/pneumatic-simulation**
→ **www.festo.com/ems**



### Engineering tools

We support you in making your automation solutions future-proof and environmentally friendly, and turning sustainability into a success factor. These other tools will help you to make your automation more sustainable.

**Pneumatic automation**

- Handling Guide Online
- Vacuum design
- Gripper sizing
- Pneumatic sizing
- Flow rate calculation
- Air preparation unit calculation
- Cylinder air consumption calculation
- Spare parts catalog
- Festo Maintenance Tool

**Electric automation**

- Electric motion sizing
- Simplified Motion Series – Solution Finder
- Festo Energy Saving Services Portal

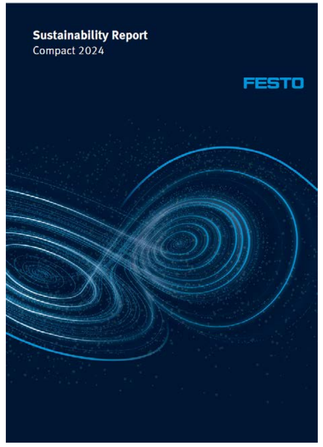
To the engineering tools
→ **www.festo.com/engineering-tools**

# 6. Design Sustainable Automation Together

## Festo supports you on your journey to greater efficiency and responsibility in production

As a family business with a long-term perspective, we focus on comprehensive sustainability in the areas of environment, social affairs and governance (ESG). With us as your responsible partner, you can achieve your sustainability goals. You can find out more about this topic in our sustainability report.

You can find out more about this topic in our Sustainability Report
→ **Festo Sustainability Report**





**Festo – Your partner for sustainable automation solutions.**

Make the most of our expertise and optimize your automation solutions. Together, we can make the future of machine and system building more environmentally friendly and efficient.

Would you like to find out more about sustainability in automation?
→ **www.festo.com/sustainability in automation**

**Contact**
Do you have any questions or would you like personalized advice?
Our team of experts will be happy to help.
→ **www.festo.com/contact**

en 2025/10 – Errors and omissions excepted