Process control solutions



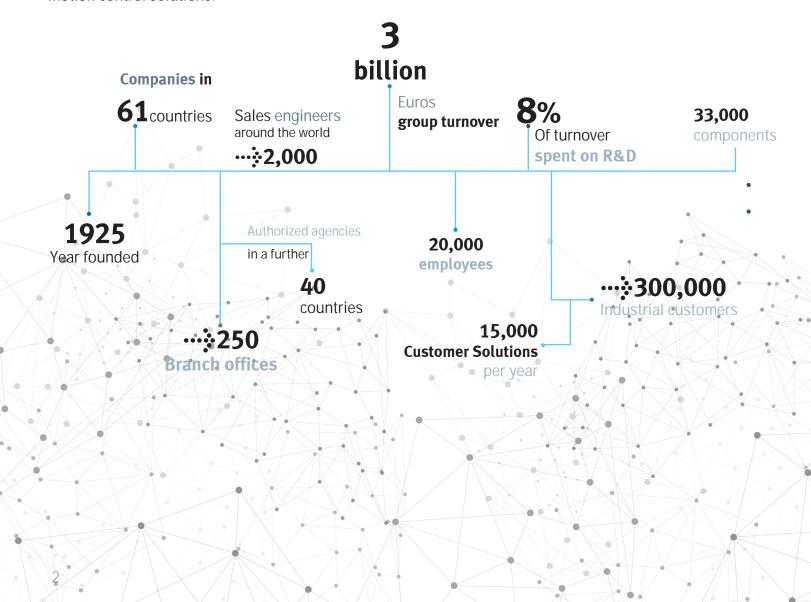




Festo figures, facts & data

The company at a glance

Festo is a leading global manufacturer of pneumatic and electromechanical systems, components, and controls for process control and factory automation solutions. Celebrating more than 40 years of innovation in U.S., and over 80 years globally, Festo continuously elevates the state of manufacturing with innovations and optimized motion control solutions.





All advantages included – with control cabinet solutions from Festo



Control cabinet solutions from Festo almost completely eliminate the complex working processes involved in the construction of a pneumatic sub-system. We construct, bolt, test and deliver pre-assembled control cabinets for the pneumatic actuation of your plant.

Concentrate on your core business while saving time and money by as much as 50% while Festo builds your customized control cabinet.

Utilizing one order and one contact person, you can reduce purchasing costs, enhance process reliability and boost productivity.

Constructing and building production plants is highly complicated and can include many sub-contractors often working closely together. We coordinate all the partners who contribute to planning and building the pneumatic control cabinets for your project, thus relieving a lot of the pressure.



Additional benefits include:

- From pre-assembled to integration to custom solutions, we can provide standard or custom control panels that help to meet your objectives.
- Whether you need one or several hundred control cabinets, Festo is punctual and reliable.
- The uniform design of the control cabinet throughout the entire plant makes it easier to troubleshoot in the event of a problem.







Control cabinets

Festo offers control panels pre-assembled on a flat plate or custom designed mounting structure to facilitate pneumatic and electric components from both Festo and third party manufacturers. The assemblies are function specific based on a customer's requirements, and require minimum effort to integrate the complete assembly into the customer's system.

- Pre-assembled solution to mount directly into the customer's machine
- Flat mounting panel or custom designed structure to fit available footprint
- Pre-wired and pneumatically connected
- Easy integration including interconnect documentation

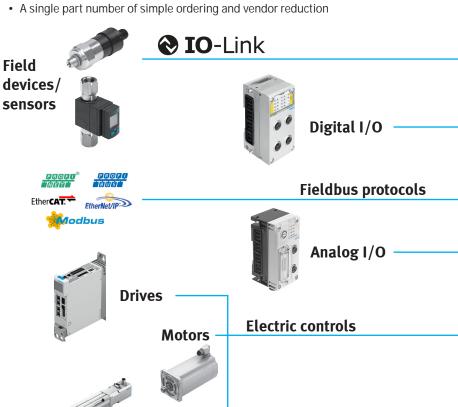
Actuators

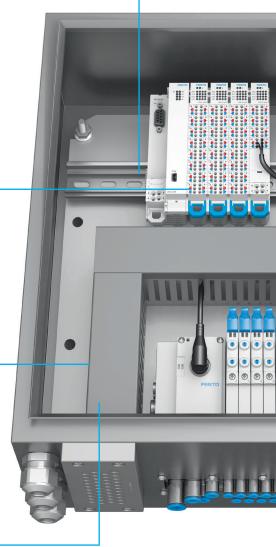
Lab automation solutions

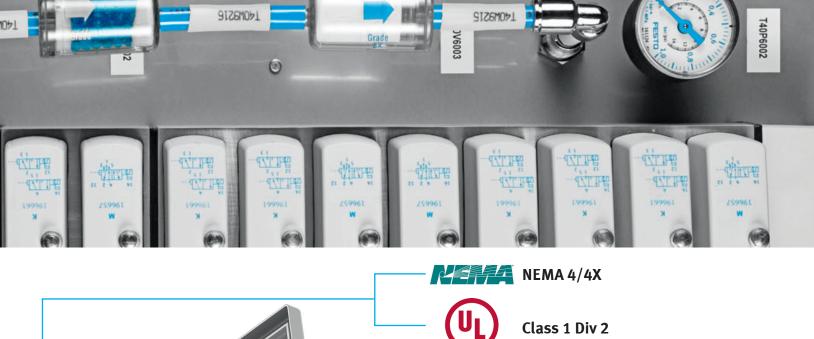


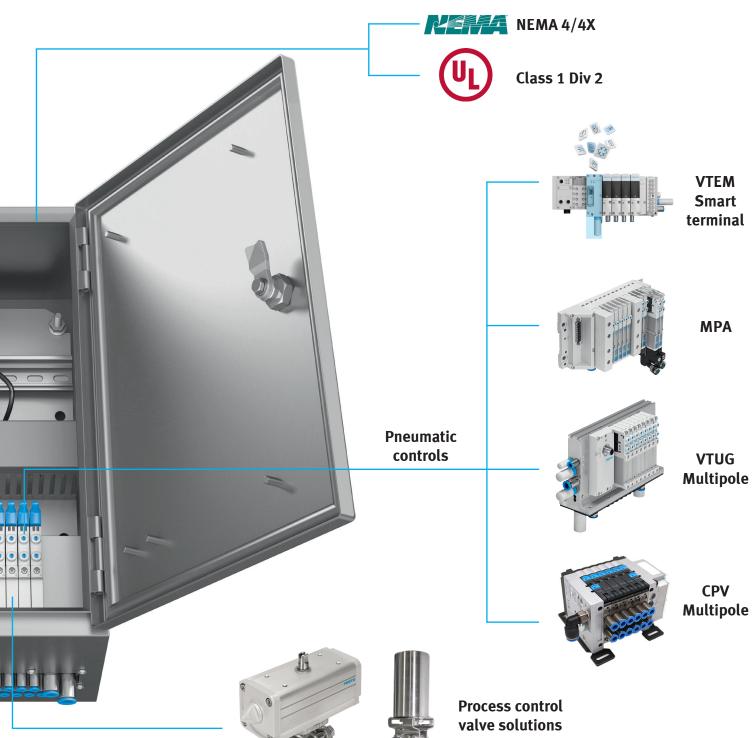
Air supply preparation

E2M Smart air monitoring











Festo: A global manufacturer of process control and factory automation solutions

Festo is a leading global manufacturer of automation technology including systems, components and controls for process control and factory automation solutions. Festo Didactic provides industrial training and education programs aimed to maximize the productivity and competitiveness of its customers.

Our objective is to provide innovative solutions to solve the most challenging automation problems.



Working with designers and manufacturers to increase manufacturing productivity, we continue to advance the state of industrial automation with proven innovations, customized design solutions and exceptional service worldwide.

At the control level, Festo manufactures pneumatic pilot valves, valve terminals, I/O systems and HMIs which integrate seamlessly with leading DCS and controllers.

This reduces risk and cost by simplifying integration and providing a single source supplier. The ability to incorporate standard diagnostic features into solenoid valves and I/O systems helps accurately diagnose problems which reduce downtime and field service calls.

With the comprehensive range of products, engineering competencies and strong design experience. Festo is uniquely positioned to be your complete automation solutions partner.

From initial design to commissioning, Festo will take care of it for you. This allows you to ...

Consultation and design

Design
Review/Proposal

Engineering

Procurement and logistics

5 Pr

Make the most of it at every stage \dots

1. Consultation and design

- Pneumatic, servopneumatic, electrical and mechatronic technologies
- Application and industry specific
- Consideration of application specific requirements
- Systematic support right from the start

2. Quotation and orders

- Design review of engineering concept including 2D/3D model and scope of services
- Detailed proposal
- Single point of contact for pricing and order fulfillment

3. Engineering

- Complete engineering solution
- Technology and component selection
- Solutions based on the latest technological standards
- NEMA, UL and IEC standards
- · UL & CE certifications

4. Procurement and logistics

- Procurement of all Festo and third-party components
- Single point of contact for PM execution

5. Programming

 Software suppo within Rockwell, Emerson enviror



The quick and easy steps to your ready-to-install solution

Excellence in automation

Our engineers are backed by over 80 years of industry experience in building advanced pneumatic and electromechanical control systems and components for OEM's and end-users around the world.

Custom systems and components, from concept to completion

Our project teams will work with you every step of the way, from concept through system design and delivery of a complete automated system.

- · You contact us and describe your task to us.
- We design your system and develop your ready-to-install solution in close consultation with you.
- We produce a customized quotation for you.
- We procure the components.
- We build, test and document your solution.
- We deliver the ready-to-install system.
- If desired, we will also commission the system.

Total quality assurance

Festo established a certified management system as a basis for implementing, maintaining and continuously improving quality, safety and environment practices. This is applied to all production and design facilities globally. We adhere to the following standards:

- ISO 9001
- ISO 14001



... significantly shorten the individual process solution steps and save up to 50% of total costs

ramming

6 Production and assembly

Testing and validation

8.

Documentation

9.

Delivery and commissioning

... by providing value and flexibility along the entire project life cycle plan

rt for integration Siemens and nments

6. Production and assembly

 Application specific fabrication and assembly of all solenoid panel components

7. Testing and validation

- 100% functional testing
- F.A.T. & validation protocol execution
- Certifications, e.g. EN 60204-1, ATEX, UL-508A

8. Documentation

- · Detailed system documentation:
 - Assembly drawing
 - Parts list
 - Circuit diagrams
 - Operating instructions
 - User manual

9. Delivery and commissioning

- Commissioning and startup services
- We provide solutions that have been assembled and tested for a ready-to-install system



Solenoid control cabinet

ISO Clean Room

Solenoid panel overview

- Materials: 316SS & 304SS Cabinet
- Rating: NEMA 4X & UL rated
- **Standard Sizes:** 16, 32 and 48 solenoids
- **Filtration:** Ultra low particle filters (01um)
- I/O: Analog and discrete





Mechanical Room

Solenoid panel overview

- Materials: Painted steel or 304SS
- Rating: NEMA 4/12 & UL rated
- **Standard Sizes:** 16, 32 and 48 solenoids
- I/O: Analog and discrete





Hazardous area

Solenoid panel overview

- Materials: Painted steel or 316SS cabinet
- Rating: NEMA 4X & CD12 & UL rated
- Standard Sizes: 16, 32 and 48 solenoids
- I/O: Intrinsically safe I/O







Benefits from innovative products, services and best practices

Reduce field service costs



Diagnostic information from Festo valves and I/O can be extracted by DCS/PLC over fieldbus. Information such as shorted wire, failed solenoid valve or number of cycles can pinpoint issues quickly and help diagnose issues remotely.

Energy efficient & increased uptime



Utilization of flow sensors can provide real time usage and volumetric consumption, both of which can be used as a benchmark to market your equipment improvements. Measuring flow at FAT and monitoring it over the lifetime of the equipment is an excellent and cost effective diagnostic tool. An increase in air consumption is an early indication of a leak or component breakdown.

Hot swap valve replacement



At times valve replacement is necessary while parts of the skid remain active. Utilization of a hot swappable valve provides the ability to isolate and replace a single valve while the manifold stays pressurized and operational. Helpful for preventative maintenance of valves controlling reactor processes.

Ensure clean air



Festo offers complete range of regulators, filters and dryers to ensure equipment uptime and a safe quality air supply for all applications. Contact a local Festo sales representative or refer to our Air Quality Guide to ensure air quality at your facility meets FDA requirements.

Improve image support



Partnering with a manufacturer located in 176 countries improves market acceptance and ensures global support for you and your customers. Festo is recognized as the technology leader in automation solutions within the life science industry.

Single source supplier



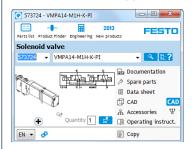
Reduce costs with a single partner for process control and automation. Festo is the leading supplier of valves, I/O, air preparation, fittings, tubing, sensors, process valves and additionally manufacturers a complete range of handling and motion control solutions.



Services and support

Our goal is to increase your productivity. Our software tools play an integral part in achieving this goal and are constantly being refined. They help you tap into productivity reserves and generate additional productivity along the entire value chain. In every phase of your project, from the initial contact to the modernization of your machine, you will come across a number of different tools which will be of use to you.

Quick Search Plus Application



The Quick Search Plus Application is a must have for your desktop. It helps you find the right product and gives you quick access to the online catalogue.

It's time to take advantage of the tools that save you valuable time

- ✓ Find the right products easily with built in type code search
- ✓ Select multiple products for comparision of data
- ☑ Direct connection to engineering tools and online shop
- ☑ Add products to basket or create your own parts list to export
- ☑ Direct connection to selection and dimensioning tools
- ☑ Easy to find suitable accessories and even spare part products
- → www.festo.com/quicksearch

Online Shop 24h



Online is the most convenient way to purchase products. Our Online Shop is faster than ever before, more reliable and allows customer's to select from a vast range of over 30,000 products.

It's time to enjoy the benefits of online ordering

- Quick and easy selection of products
- ☑ Create, save and share product baskets and parts lists
- Check net prices for all products in your product basket
- Check delivery times and track orders to your door
- ✓ View and accept quotations online
- ☑ Import parts lists using copy and paste functions
- → www.festo.com/ols

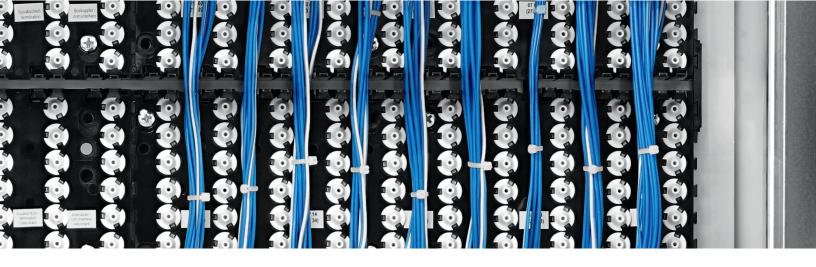
Stars of Automation



The "Stars of Automation" offers thousands of products including valves, cylinders, service units, sensors and accessories. In our Online catalog, the "Stars of Automation" are noted with a solid blue star to quickly see what products are available to be shipped within 24 hours.

It's time to enjoy the Festo quality for a great value

- ☑ Ready for delivery in 24 hours from Festo stock
- ☑ Globally in 13 Regional Service Centers in stock
- Festo quality at an attractive price
- → www.festo.com/stars



Solenoid cabinet checklist

Name:			Date:		
OVERVIEW	Brief Description:				
	Supply Pressure:	(psi)		No. of Systems:	
	Avg. Temperature	(°C or °F)		Quote Needed By:	
	Environment				
BACKGROUND	System	☐ New Design ☐ Retrofit ☐ Customer Design			
	Components	CPX/MPA Manifold VTUG Manifold CPV Manifold		3/2 valve 5/2 valve Total valves:	
	Quote	☐ Budgetary Quote ☐ Formal Quote		☐ Preliminary Drawings	
	Certification	□UL □C1D2 □ ATEX □ OTHER			
ENCLOSURE	Enclosure Type	General Purpose Hazardous Area ISO Clean Room		☐ 304 SS ☐ 316L SS ☐ Fiberglass	☐ White ☐ Gray ☐ Custom
	NEMA Rating	□ NEMA 4X □ NEMA 4 □ NEMA 12 □ OTHER			
	Door & Frame	☐ Right ☐ Top ☐ Left ☐ Bottom		Sloped Special Frame Window Labels	
	Size (WxHxD)				
CONNECTIONS & OPTIONS	Working Ports	Connection	Port Size	Mounting	Special
		☐ Quick Connect ☐ Compression ☐ Multipole Plate	☐ 1/4 in ☐ 5/16 in ☐ 6 mm	☐ Bottom ☐ Right Side ☐ Left Side	Conduit Cable Tray Other
	Air Prep	Regulator	Filtration	☐ Valve	Location
		☐ 7 bar ☐ 12 bar	☐ 40 Microns ☐ 5 Microns	☐ Hand ☐ Auto	☐ In ☐ Left ☐ Out ☐ RT
		Other (specify)			
	Electrical	☐ DI	ot 16 pt	☐ AC In ☐ DC In ☐ Fuses	☐ 110V ☐ 24V ☐ Cir Breaker
	Communication	☐ Ethernet IP ☐ Profinet ☐ Profibus ☐ Multipin ☐ IO-Link			
		☐Other (specify)			
	Options	☐ Turnover (TOP) Package ☐ Startup Support ☐ FAT Support			
		☐ Other (specify)			

Festo: Your partner in automation







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