



Product OverviewProcess Automation

Industries

















You are looking for a partner who understands your objectives. You require more efficient production facilities. We are your solution for automation.

→ WE ARE THE ENGINEERS OF PRODUCTIVITY.

Festo - the industry segment partner

For years, Festo has been developing process automation solutions for a broad range of industry sectors. By transferring our experience from one industry to another, we take advantage of valuable synergies and create economies of scale.

You too can benefit from our worldwide network of know-how, because it enables us to develop and implement customized concepts for your system quickly and economically.

Product range for process automation

Festo process automation products offer all the individual levels of the automation pyramid, from the operating level to the field level.

Customers worldwide receive all their components from a single source: control technology and remote I/Os, valve terminals, pilot valves, sensors and positioners, actuators, process and media valves, compressed air preparation and pneumatic connection technology.

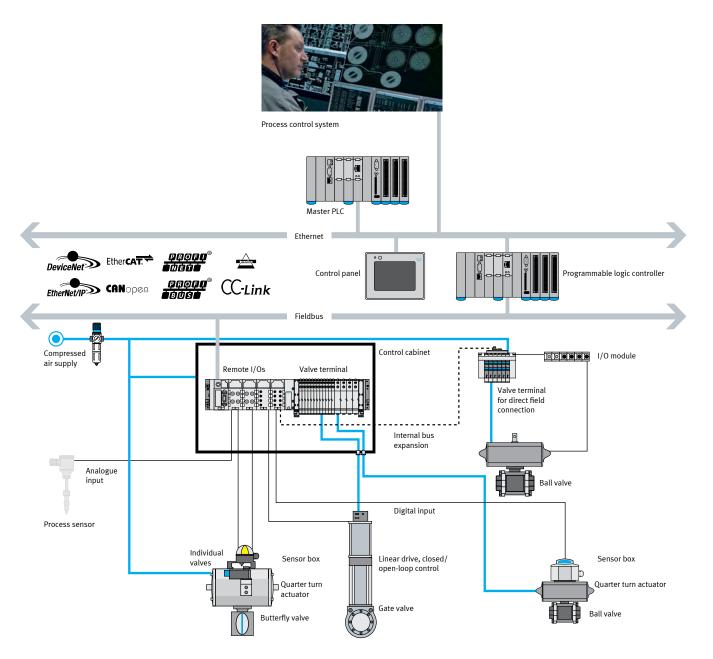
Each year we are keeping abreast with the fast pace of technological progress by continually expanding the range of products for each industry segment. In addition, the functionality of products has been adapted to particular functions of the process technology and process engineering such as explosion protection, corrosion resistant,

Maximum productivity – this is our mission

Our know-how, our holistic approach and our love of detail have made us a global leader in automation technology. With over 50 years' experience in factory and process automation, we are the right partner for you. We are always able to provide an appropriate solution which is characterized by security, simplicity, efficiency and competency.



Giving you a head start: Complete Automation Systems from a Single Source



High visibility indication makes

identifying the valve

distance!

Manual versions also available

Actuated Ball Valve Assemblies

Fully automated ball valves from a single source make planning, procurement and commissioning significantly easier and more cost effective. It eliminates a considerable amount of product configuration, reduces warehousing costs for spare parts and speeds up service and maintenance.

Quarter turn actuator DFPD

- Compact
- Single or double-acting variants
- End-position adjustment at both ends
- Optimized spring setting design

Options

- Corrosion resistant version with epoxy coating and high grade stainless steel shaft
- Extreme temperature versions
- 180° swivel angle

Alternatives

Quarter turn actuator DAPS-CR

• All stainless steel design for corrosive environments



 Direct hand wheel actuation for manual override



Ball valves

A wide range of 2-way and 3-way ball valves for the control of liquids and gaseous media. Can be Normally closed (NC) or Normally open (NO).

VZBA/VZBE

- 2-way
- CF8M body and ball material
- PTFE seals
- Standard BSP or NPT connection



CRN Certified

VZBD



Direct mounting

ISO 5211



- - ANSI flange
- Cavity filled

Weld or tri-clamp

Suitable for a wide range of applications in various industries including



Actuated polymer valves for chemical applications



Sanitary and hygienic options for food processes



Ex approved accessories for hazardous areas

Sensor box SRBC

- Weather-tight aluminum housing for outdoor applications
- Mechanical, inductive or magnetic switch variants
- Two cable inputs for common power supply to the sensor box and solenoid valve

Alternatives

Sensor box SRBE

- Mechanical, inductive or magnetic switch variants
- Ex approved for hazardous area installations

Sensor box SRBG

- Compact design
- Inductive dual sensor
- Direct mounting to VDI/VDE 3845 M12 or terminal port connection
- ASi interface compatible





For positioning and control -**CMSX**

- Excellent price/ performance ratio
- Energy-efficient
- 4-20mA feedback as standard
- Pre-definable safety position for emergency stop



Standard NAMUR valve VSNC-...F8

- Rotatable seal for 3/2 or 5/2-way function
- Multiple coil voltage options
- Excellent price/performance ratio

Options

Pre-assembled with

silencers and fittings

to reduce installation time!

NAMUR valve VSNC-...FN

- Ex solenoid options for hazardous areas
- Aluminum alloy cover material for outdoor applications



Single solenoid 3/2 or 5/2



Double solenoid 5/2 or 5/3





Alternatives

Pilot valves VOFC and VOFD

- Reliable and safe switching
- 3/2-, 5/2-way valves with ports G1/4", G1/2" and NAMUR
- Stainless steel or Ematel body for corrosive environments
- SIL 3 certified
- Ex solenoid options for hazardous areas



Dual valve option for redundant safety requirements







Suitable for food EPDM, FPM, or silicone seat

VZBA/VZBE



2-way and 3-way

Stainless steel L or T port

VZBF

Fire safe Stainless steel

3A Sanitary

Pre-assembled with

silencers and fittings

for a complete ready-to-install

solution

Manual operators

also available

Actuated Butterfly Valve Assemblies

Fully automated butterfly valves from a single source make planning, procurement and commissioning significantly easier and more cost effective. It eliminates a considerable amount of product configuration, reduces warehousing costs for spare parts and speeds up service and maintenance.

Quarter turn actuator DFPD

- Compact
- Single or double-acting variants
- End-position adjustment at both ends
- Optimized spring setting design

- Corrosion resistant with epoxy coating and high grade stainless steel shaft
- Extreme temperature versions



Alternatives

Quarter turn actuator DAPS-CR

All stainless steel design for corrosive environments

Quarter turn actuator DAPS-MW

Direct hand wheel actuation for manual override

Quarter turn actuator DFPD-HD

• For high torque applications

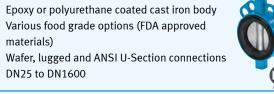


Butterfly valves

Ideal for liquids, gases and solids in applications that are corrosive, abrasive, water based or require food-grade materials. Can be Normally closed (NC) or Normally open (NO).

VZAV

- Wide range of resilient seat options to suit different applications
- Various food grade options (FDA approved
- DN25 to DN1600



Alternative hygienic solution



Vertical style actuator with Festo manufactured control top also available



Hygienic

- Food applications
- EDPM, FPM or Silicone seat DN25 to DN100
 - Stainless steel optional

Direct mounting

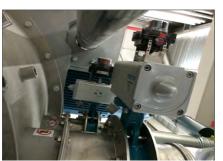
ISO 5211

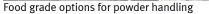
DN32 to DN900

VZAF

Corrosive/high purity

Suitable for a wide range of applications in various industries including





re-wired cable from the sensor box to

the NAMUR valve

simplifies

installation



Valve positioning solutions for flow control



Abrasion resistant options for powders and

Sensor box SRBC

- Weather-tight aluminum housing for outdoor applications
- Mechanical, inductive or magnetic switch variants
- Two cable inputs for common power supply to the sensor box and solenoid valve



Alternatives

Sensor box SRBE

- Mechanical, inductive or magnetic switch variants
- Ex approved for hazardous area installations

Sensor box SRBG

- Compact design
- Inductive dual sensor
- Direct mounting to VDI/VDE 3845
- M12 or terminal port connection ASi interface compatible



For positioning and control -CMSX

- Excellent price/ performance ratio
- Energy-efficient
- 4-20mA feedback as standard
- Pre-definable safety position for emergency



Standard NAMUR valve VSNC-...F8

- Rotatable seal for 3/2 or 5/2-way function
- Multiple coil voltage options
- Excellent price/performance ratio

Options

NAMUR valve VSNC-...FN

- Ex solenoid options for hazardous areas
- Aluminum alloy cover material for outdoor applications







Double solenoid 5/2 or 5/3





Alternatives

Pilot valves VOFC and VOFD

- Reliable and safe switching
- 3/2-, 5/2-way valves with ports G1/4", G1/2" and NAMUR
- Stainless steel or Ematel body for corrosive environments
- SIL 3 certified
- Ex solenoid options for hazardous areas

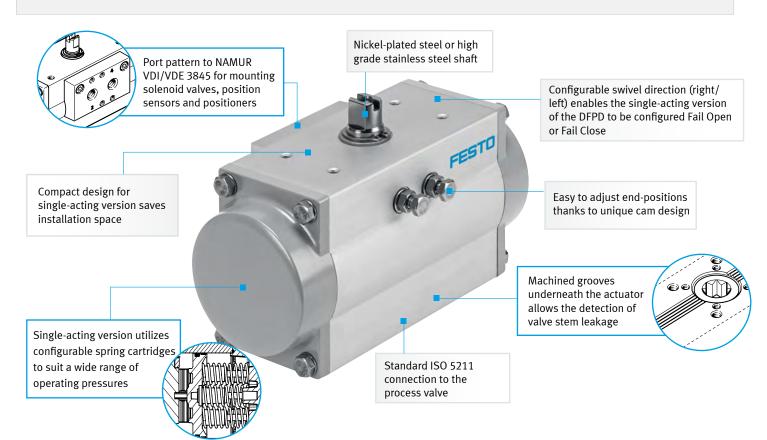


Dual valve option for redundant safety requirements



Quarter-Turn Actuator - DFPD

DFPD is the new benchmark for quarter turn actuators. It can be supplied as an individual actuator or as part of a complete automated process valve system from Festo.



Quarter turn actuator DFPD - Double and single acting

- Corrosion resistant version with epoxy coating and high grade stainless steel shaft
- Low and high temperature versions from -50 °C to 150 °C for extreme operating conditions
- 180° swivel angle available for double acting version

Extreme temperature environments



High corrosion resistance in harsh operating environments



Completely automated process valves from a single supplier

When combined with a sensor box, a pilot valve or positioner,

the quarter turn actuator DFPD forms part of a complete

automated process valve assembly.

Compact design for tight installation spaces

→ www.festo.com/dfpd

Find out more:

Sensor Boxes to VDI/VDE 3845

Sensor boxes are used for electrical feedback and control of the position of process actuated valves with pneumatic quarter turn actuators. No matter which sensor box you choose, they are all designed for quick and easy mounting to reduce installation effort.

Sensor box SRBC turdy design for harsh conditions

- · Weather-tight housing for outdoor applications
- · Mechanical, inductive or magnetic switch variants
- Clearly visible position indicator for detection of current position
- NEMA 4/4X
- IP67 / SIL 2 / CSA

Sensor box SRBE Ideal for explosive atmospheres

- Flame-proof enclosure enables installation without safety barriers
- Ex approved for hazardous area installations
- NEMA 4/4X
- IP67 / SIL 2 / CSA

Sensor box SRBG



- · Direct mounting with minimal space required
- Inductive dual sensor
- Ex version for hazardous
- M12 or terminal port connection
- ASi interface compatible
- IP67 / CSA / cULus

Limit switch DAPZ...AR



- Micro switch or inductive sensor for position sensing
- Integrated solenoid valve actuation
- IP67 rating for water and dust resistance

NAMUR Valves

NAMUR valves are pilot valves for single and double acting quarter turn and linear actuators. They are designed to automate and control process valves and actuators safely and reliably.

NAMUR valve VSNC

One solution for single and double acting actuators

- Rotatable seal for 3/2 or 5/2way function
- Multiple coil voltage options
- Capable of high flow rates
- Extended temperature ranges
- Air-recycling feature for 3/2 configuration to eliminate internal actuator corrosion



- coils with protective cap for
- · Cover material for outdoor

Pilot valve VOFD



- 3/2-way Normally closed (NC), single solenoid
- For outdoor use under harsh ambient conditions
- Extremely reliable for direct actuated valves, in particular for emergency shut-down functions

Pilot valve VOFC



- 3/2-way, 5/2-way single and double solenoid
- Ematal surface treatment offers long lasting protection against wear and corrosion
- For safety-orientated systems up to Safety Integrity SIL 3

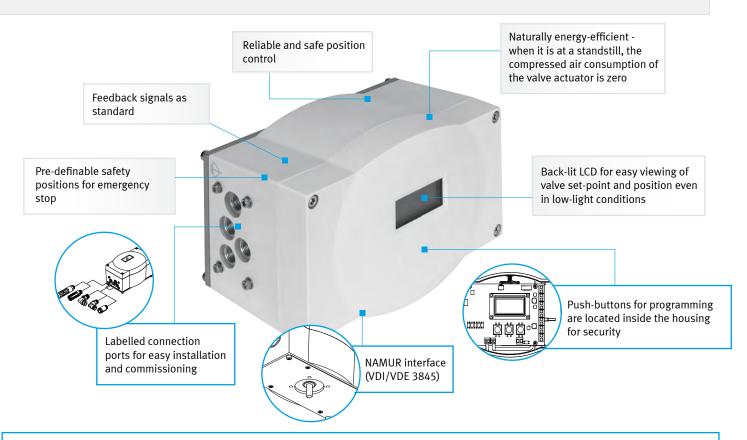




- Optimized for IP65 and Ex armature tube exhaust
- Ex approved
- Air-recycling feature for 3/2 configuration to eliminate internal actuator corrosion
- applications

Positioner - CMSX

The newly optimized positioner CMSX for single and double-acting linear and quarter turn actuators is as economical as it is reliable and a top performer in its class for non-explosive areas.



Positioner for linear and quarter turn actuators CMSX

- Reliable position control
- Analog feedback as standard
- Safety positions for opening, closing and holding in the event of a breakdown
- Set-point value configurable to 0-10V, 0-20mA or

Variants

- Linear input for use with DFPI on applications where the positioner is required to be remote mounted or accessible for programming/calibration
- Higher flow rate [130 liters/minute] to allow faster response time for large actuators

Complete solutions from a single supplier

When combined with linear or quarter-turn actuators, the CMSX forms part of a complete automated solution.





Designed for controlling process valves such as a butterfly valve across a wide range of industry sectors



Valve positioning solutions for flow control



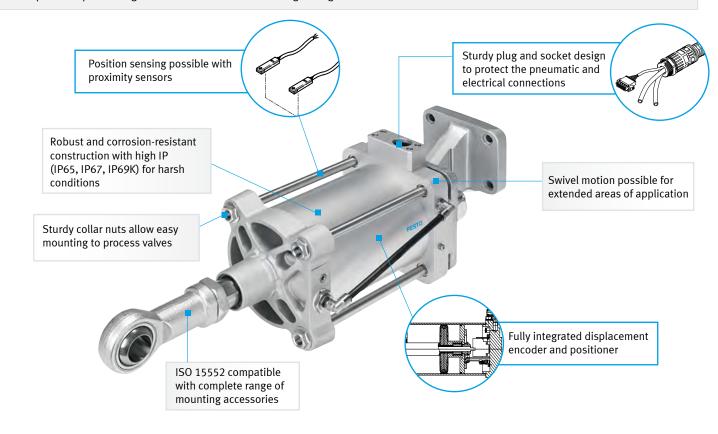
High flow version for large actuators

→ www.festo.com/cmsx

Find out more:

Linear Positioning Cylinder - DFPI

The linear actuator DFPI is suitable for a wide range of applications due to the optional integrated positioner or an integrated displacement encoder for use with an external positioner and an optimized guide rod for swivel motions. It is suitable for regulating air dampers and processing bulk materials as well as for regulating flow and fill levels.



Linear positioning cylinders DFPI

- Double-acting
- ISO 15552 sturdy tie rod design
- Suitable for applications requiring closed-loop control

treatment plant

- Linear actuator with external positioner CMSX
- Fully integrated actuator with positioner to DIN 3358





Actuated process valves with linear positioner

The DFPI is highly suitable for the control of slides, knife gate valves, pinch valves, dart valves, penstocks and more. As a solution supplier, we can offer a complete assembly for easy installation.





Controlled sluice gate for flowrate Control of dart valve for level regulation in mineral processing of return sludge at a wastewater



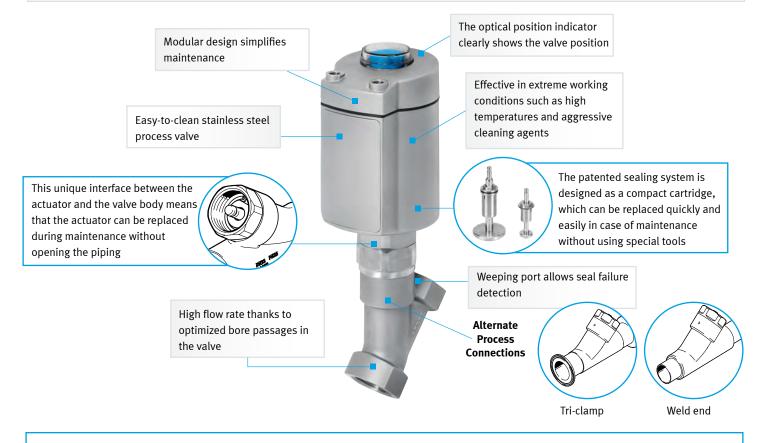
Control of silo discharge in fertilizer processing

Find out more:

→ www.festo.com/dfpi

Angle Seat Valve - VZXA

The VZXA angle seat valve offers long service life, a robust design and high flow rate making it ideal for the control of liquids, gaseous, viscous, contaminated or aggressive media flows.



Angle seat valves VZXA

- 2/2-way valves
- Stainless steel
- Piston style actuator
- Normally open (NO), Normally closed (NC) and Double acting (DA) versions
- Standard temperature -10 to 180° C (optional -30 to 200° C)

Variants

- Diaphragm style actuator
- Normally open (NO) and Normally closed (NC) versions



Angle Seat Valve VZXF

Alternative

- Piston style actuator with optical indicator
- Normally closed (NC) with threaded connection
- High temperature version for steam
- Vacuum rated





KEG washing and filling



Water cooling systems

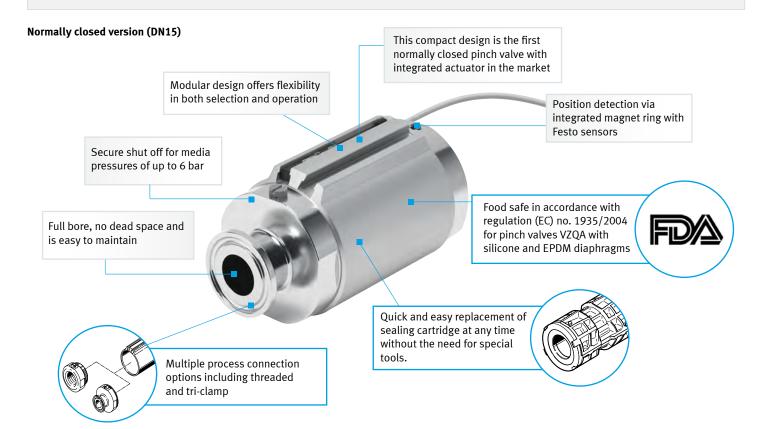


Shut-off control for glycol used in food production

Find out more: → www.festo.com/vzxa

Pinch Valve - VZQA

The VZQA pneumatic pinch valve is a versatile solution for a wide range of media such as gases, granulates, liquids, syrups and media with entrained solids, regardless of whether they are abrasive, corrosive or highly viscous.



Pinch valves VZQA

- 2/2-way valves
- Easy-to-clean housing (clean design)

Variants

Normally open version

- Media pressures up to 4 bar
- Threaded and tri-clamp connections
- Sizes DN6, DN15 and DN25



Materials

Housing material

- Aluminum
- Stainless steel

End cap material

- Aluminum
- Stainless steel
- POM (Acetal) Silicone







Shut-off element

EPDM

NBR



Filling applications



Dispensing



…even as a gripper!

Find out more:

→ www.festo.com/vzqa

Solenoid Valves

The 2/2-way solenoid media valves are suitable for neutral gases and liquid media for both factory and process automation. At Festo, you can find the right valve for your fluid control requirements thanks to our range of solenoid valve options.

Ideal for applications in closed media circuits

- Possible to control high pressures with large nominal diameters
- Zero differential pressure required
- Generally suitable for use in all cases where the medium can be vented downstream of the valve

Direct acting VZWD High pressures with low flow rates

• Operates without differential pressure at

• Valve switches at any pressure from 0 bar

• 3/2-way version available for piloting

Normally closed (NC) function

process valves

up to 90 bar, even in closed media circuits

Diaphragm valve VZWM



- Diaphragm valve
- Brass or stainless steel casting design
- Wide range of coils with a variety of different voltages available.
- Normally closed (NC) and Normally open (NO) versions available
- Variety of different voltages available

Air Preparation

A pneumatic system is not complete unless you have considered the right air preparation and accessories. These components are part of the core range from Festo and are readily available in a range of different variants.

Air preparation D

Air prep for

standard

applications

Modular product series



• Integrated functions such as

safety and energy efficiency

• Size range from 1/8" up to 2"

- Simple or complex applications
 Individual or pre-assembled
 Basic functions for standard applications
 - Individual or combination units for complete solution
 - Sizes from 1/8" up to 1"
 - Aluminum housing and metal bowl guards
 - 3 grid sizes MINI, MIDI and MAXI
 - Accessories available

Filter regulator PCRP



- 316 stainless steel housing and internal metal parts
- Sizes 1/4" and 1/2"
- Available in low temparature down to -60° C
- ATEX Zone 1

Filter regulator LFR-EX



- Coated zinc and aluminum body
- Sizes 1/4" and 1/2"
- Available in low temparature down to -40° C
- ATEX Zone 1

Valve Terminals

Festo offers the largest and most flexible range of valve terminals. Valve Terminals are completely pre-assembled modules consisting of pneumatic valves, electrical connection technology and communication network capabilities.

Valve terminal VTUG



- Multi-pin, fieldbus, IO-Link
- Up to 24 valve positions
- Degree of protection IP40, IP65, IP67
- Multiple different pressure zones on one valve terminal
- Control cabinet optimized version available
- T-Profile (NEMA 4X)

Valve terminal MPA



- High perfromance valves in sturdy metal housing
- With multi-pin plug, ASi, CPI, fieldbus connection and control block
- Up to 16 2/2-way or 3/2-way valves thanks to two valve function in each valve slide

Valve terminal CPX



- Extremely modular with up to 9 modules per terminal
- Compatible with PROFIBUS DP, PROFINET, Modbus TCP, DeviceNet and Ethernet/IP
- Integration of valve terminal and remote I/O on a single platform saves installation space

Valve terminal CPV10-Ex



- Intrinsically safe design for use in potentially explosive atmospheres
- Ideal for very high flow rates in small spaces
- Up to 16 x 3/2 way valves per valve terminal
 Extremely robust thanks to
- the metal valve designOptimized for control
- cabinets

Sensors

units

Sturdy housing

· Easily expandable

Festo caters to all your sensing needs. Our comprehensive portfolio of sensors combines optimum performance and maximum reliability to ensure smooth and efficient production sequences.

Pressure sensor SPTW



- Pressure and vacuum sensing for gaseous and liquid media
- High media resistance
- Pneumatic connection G1/4 female thread
- Electrical connection via M12, 4-Pin
- Accuracy ± 1% FS
- Repeatability ± 0.1% FS

Pressure transmitter SPAW



- For liquid and gaseous media, pressure and vacuum
- 4-digit LED display, with display options - Bar, MPA, kPA, Psi, Kgf/cm²
- Electrical connection 4-pin Plug M12x1 or 5 pin Plug M12x1
- Accuracy ± 1% FS
- Repeatability ± 0.1% FS

Flow sensor SFAW



 Measures flow rate, consumption and temperature of neutral liquid media

- The display and the housing can be freely rotated
- IO-Link support
- Easy to replace the sensor and fittings

Cylinder sensor CRSMT



- Suitable for outdoor use and washdown applications
- Resistant to oils, acids and alkalis
- Recommended for use with Festo cylinders DFPI and DSBG

Control Cabinets

Control cabinets from Festo are individually designed and adapted to requirements in process automation. Cabinets provide protection for all pneumatic and electrical system components across all industry segments.

Save time and costs with ready-to-install cabinets

Integration of pneumatic and electrical system completely designed and assembled

Technology mix from one single source

Labelling of the connections in the control cabinet and in the documentation

Just one order number for the entire control cabinet

Stainless steel cabinets also available for use in corrosive environments

Provides protection against harsh elements

Quick and easy maintenance thanks to clearly arranged, neat and compact tubing

Options



For hazardous areas with intrinsically safe valve terminals CPV10-Ex



Protection from dust or liquids as per protection class IP66, especially in the mining industry



Integrated control cabinet solution for outdoor use, ideal for the water/ wastewater industry



Stainless steel cabinets for hygienic purposes and mounting in clean rooms



Extremely compact design to protect valve terminal controls with connections underneath

Control cabinets made to measure

- Individually configured
- Adapted to specific requirements in process automation
- Design and sizing included
- Fully tested system
- You receive detailed system documentation:
 - Assembly drawings
 - Parts list
 - Circuit diagrams
 - Operating instructions for components



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
- ✓ 4,000 part numbers
- ✓ Festo quality at an attractive price
- → www.festo.com/stars

Circuit Diagrams and 2D/3D CAD

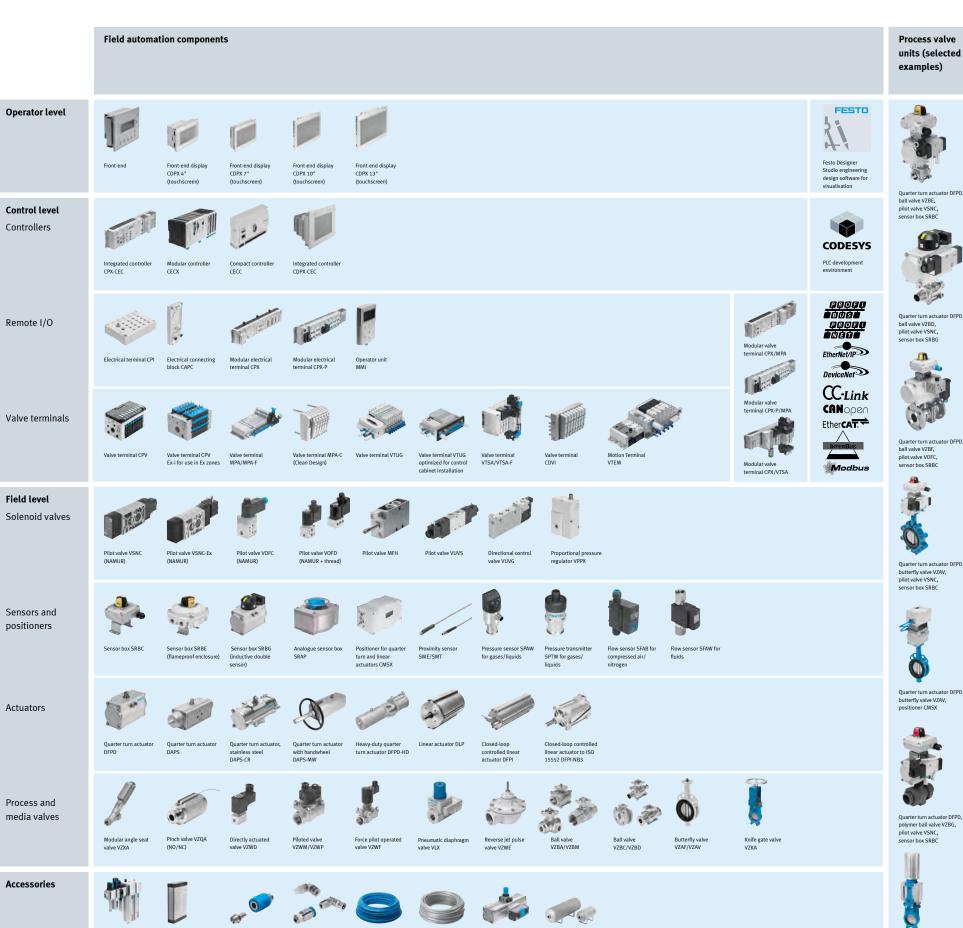


Many solutions can only be envisioned if they can be seen. Whether pneumatic or electrical, we create a circuit diagram for your solution using our simulation tools.

It's time to enjoy the benefits of accessing CAD data

- ✓ 2D/3D CAD interfaces for: AutoCAD®; Autodesk® Inventor™; CATIA® V5; Creo®; Pro/ENGINEER®; NX™; SOLID EDGE®; SolidWorks®
- ☑ EPLAN macros simplify and speed up electrical design
- ☑ FluidDraw for quickly creating electrical and pneumatic circuit diagrams

Process Automation Solutions - Complete Portfolio



Customized systems

Automation concepts

Modular automation

Application solutions



Control of dart valve for level regulation in mineral processing



Bottle filling applications



Abrasion resistant options for powders and solids



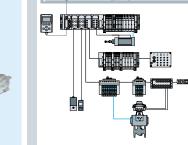
Shut-off control for glycol used in food production



High corrosion resistance in extremely dusty and contaminated environments

(centralized/decentralized)

Hybrid installation



Centralized installation

Automation with pneumatic operator panel







Festo - Your Partner in Automation







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