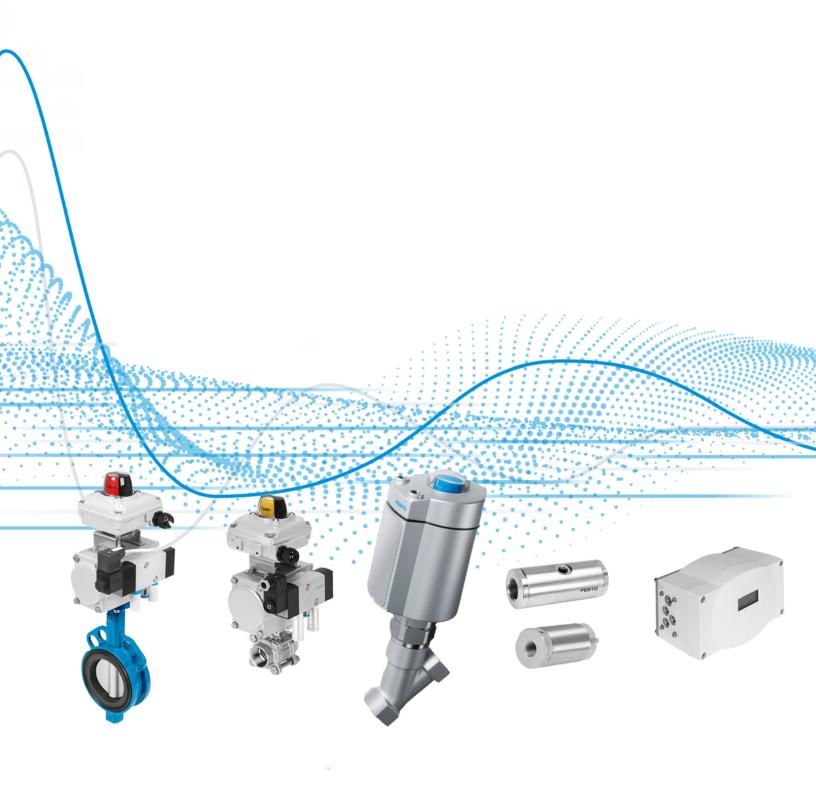
# **Product Overview**

**Process Automation** 





# Industries

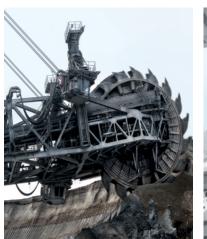
















Printing, Paper and Converting

Food and Beverage

water

**Electronics and Assembly** 

\_\_\_\_\_\_

Mining

Chemical

on, das

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, limit switches and positioners, actuators, process and media valves, compressed air preparation and pneumatic connection technology.

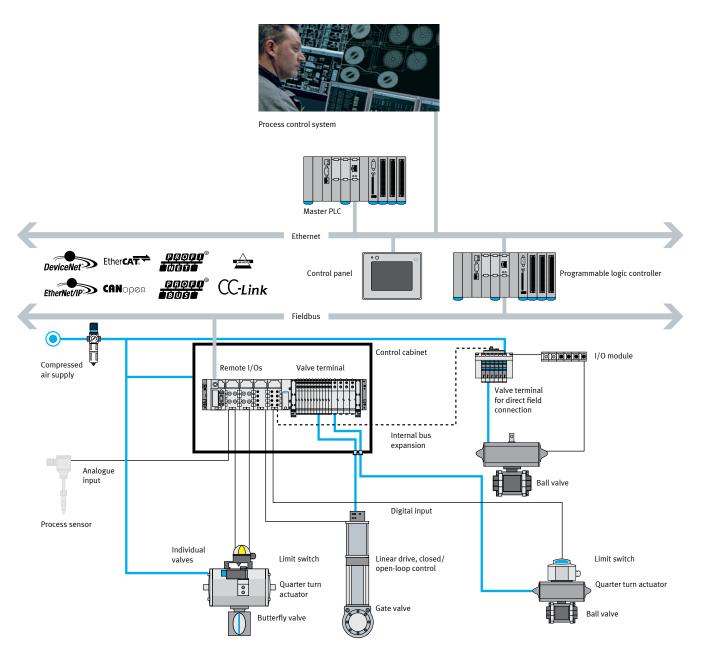
Each year we are keeping abreast with the fast pace of technological progress by continually expanding the range of products for each industry segment. In addition, the functionality of products has been adapted to particular functions of the process technology and process engineering such as explosion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



# **Actuated Ball Valve Assemblies - KVZB**

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.

# Limit switch SRBC

- Weather-tight aluminum housing for outdoor applications
- Mechanical, inductive or magnetic switch variants



### **Alternative**

# **Puck Sensor SRBG**

- Compact design Inductive dual sensor
- M12 or terminal port connection



### For positioning and control

### Digital positioner CMSX

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



## Quarter turn actuator DFPD

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



### **Options**

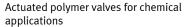
 Corrosion resistant version with epoxy coating and stainless steel shaft





# Suitable for a wide range of applications in various industries including







Sanitary and hygienic options for food processes



Ex approved accessories for hazardous areas

# Create your flow: with ball valve units KVZB



Do you need to move your media from A to B with full available pipe diameter for flow? The Festo ball valve units KVZB with a particularly high flow factor. Design the optimum ball valve units in the shortest possible time. Determine every detail to create the perfect solution for your needs.

### **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).

- CF8M body and ball material
- Reinforced PTFE seals
- Standard North American connections



### 2-way and 3-way Stainless steel L or T port

VZBA/VZBE

# **VZBF**

Stainless steel

• ANSI flange

• Fire safe



**VZBD** 

- 3A Sanitary
- Cavity filled Weld or tri-clamp

Manual versions

also available

### Standard NAMUR valve VSNC-...F8

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

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







Double solenoid 5/2 or 5/3

NAMUR valve VSNC-...FN

# **Actuated Butterfly Valve Assemblies - KVZA**

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.

# Limit switch SRBC

- Weather-tight aluminum housing for outdoor
- Mechanical, inductive or magnetic switch variants



### Puck sensor SRBG

- Compact design
- Inductive dual sensor
- M12 or terminal port connection



### For positioning and control

### Digital positioner CMSX

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



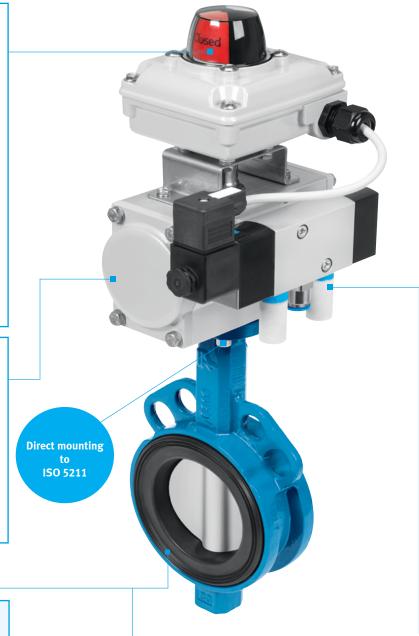
### Quarter turn actuator DFPD

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



 Corrosion resistant version with epoxy coating and stainless steel shaft





### **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).

- Wide range of resilient seat options to suit different applications
- Epoxy or polyurethane coated cast iron body
- Wafer and lugged ANSI connections



# **VZAV**

# Standard applications

# **VZAF**

- Corrosive/high purity application
- Stainless steel optional

Manual operators

also available

Suitable for a wide range of applications in various industries including







Valve positioning solutions for flow control



Abrasion resistant options for powders and solids

# Create your flow: with butterfly valve units KVZA



Do you need a robust valve to control flows in small and large pipes? From the manually operated to the fully automated process valve: With the configurator for butterfly valve units you will find the right solution. Put together your optimum butterfly valve unit KVZA in just a few minutes.

### Standard NAMUR valve VSNC-...F8

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

# NAMUR valve VSNC-...FN

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

# Single solenoid 3/2 or 5/2



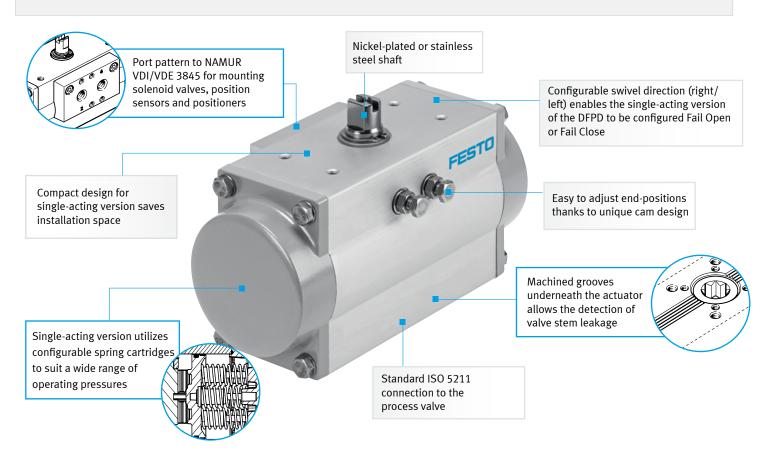
Double solenoid 3/2 or 5/2





# **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 stainless steel shaft
- Low and high temperature versions from -50 °C to 150 °C for extreme operating conditions
- Chemical version suitable for
- · chemical industry with blow-out
- proof adjustment screws

Extreme temperature environments



High corrosion resistance in harsh operating environments



Completely automated process valves from a single supplier When combined with a limit switch, a pilot valve or positioner, the quarter turn actuator DFPD forms part of a complete

automated process valve assembly.

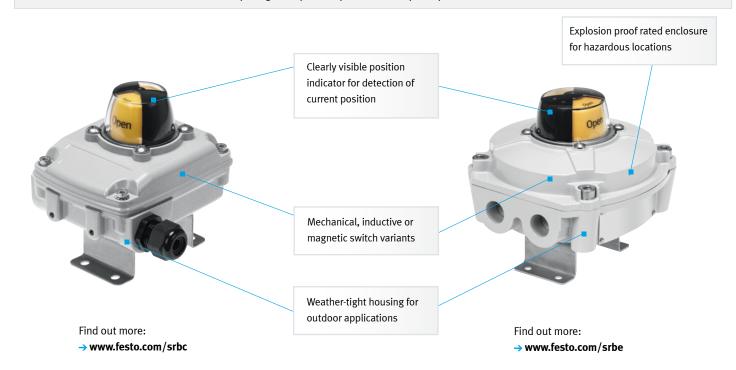
Compact design for tight installation spaces

→ www.festo.com/dfpd

Find out more:

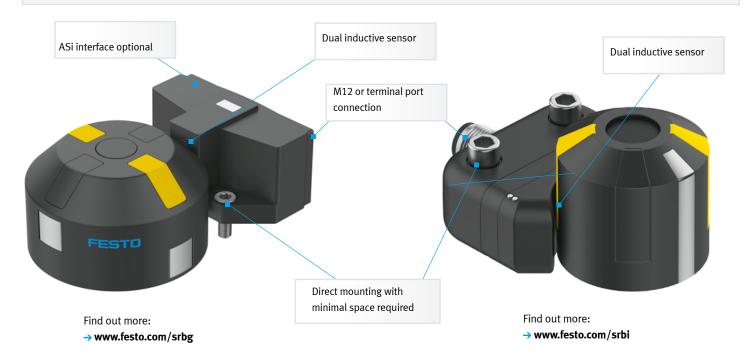
# **Limit Switch - SRBC/SRBE**

Limit switches are used for electrical feedback of the position of process actuated valves with pneumatic quarter turn actuators. They are designed for quick and easy mounting to reduce installation effort. The SRBC is intended for use in general purpose applications while the SRBE is suitable for hazardous locations requiring an explosion-proof or flameproof protection method.



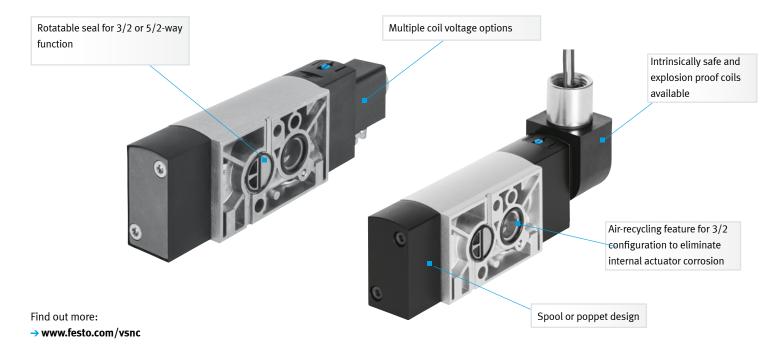
# **Puck Sensor – SRBG/SRBI**

Puck sensors are a common alternative to limit switch boxes. Like their counterparts, they are used for electrical feedback and are quick and easy to mount onto quarter turn actuators. The SRBG is suitable for most applications and has a wide range of options, while the SRBI is a cost effective alternative typically only used on smaller actuators.



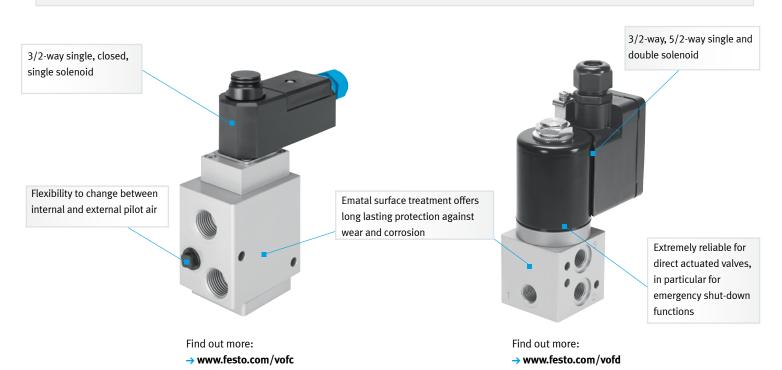
# **NAMUR Valve – VSNC**

NAMUR valves are pilot valves that mount directly to quarter turn actuators. They are designed to automate process valves and actuators safely and reliably. The VSNC comes with a wide range of variants including intrinsically safe and explosion proof coils suitable for hazardous locations.



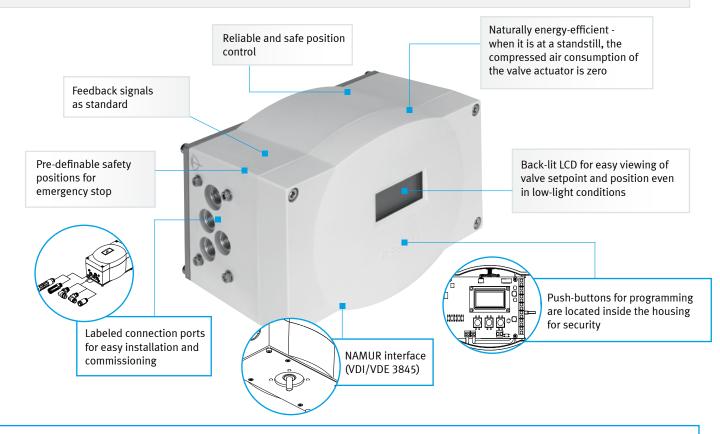
# Pilot Valve - VOFC/VOFD

These special pilot valves are used in process applications that require the existence of safety architecture. With a SIL3 safety integrity level rating, these valves can be found in various industries, including chemical, petrochemical, and oil and gas. The VOFC is pilot-operated, while the VOFD is direct-acting, making it suitable for emergency shutdown (ESD) 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 $\mbox{CMSX}$

- Reliable position control
- Analogue 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 4-20mA

### **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



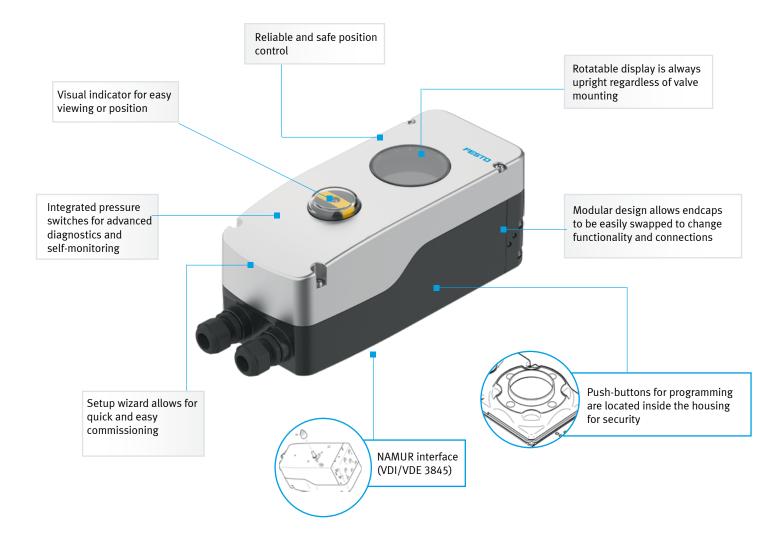
High flow version for large actuators

Find out more:

→ www.festo.com/cmsx

# **Positioner - CMSH**

Featuring 2-wire technology, HART communication, condition monitoring functions and a modular system with many variants, the CMSH offers excellent flexibility for a great number of applications.



### Positioner for linear and guarter turn actuators CMSH

- Commissioning, operation, servicing and diagnostics on the local display via the user-friendly software menu or via remote access via EDD-based (Electronic Device Description) or FDT-based (Field Device Tool) transmission
- 2-conductor technology
- Perfect interaction with the VTOP pneumatic extension
- Sustainable operation due to efficient control

## Complete solutions from a single supplier

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

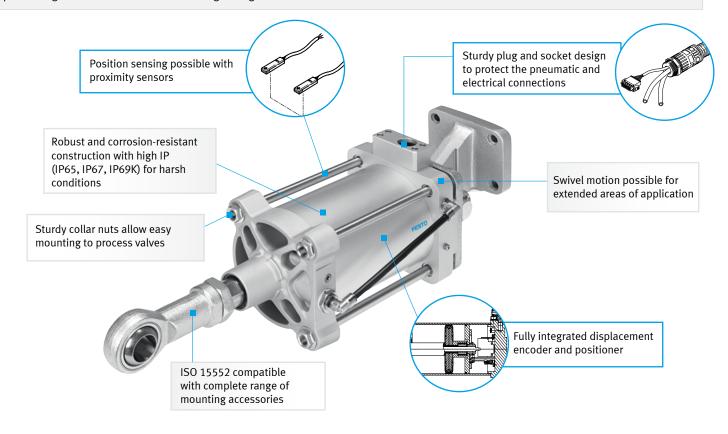


Find out more:

→ www.festo.com/cmsh

# **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

- 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 of return sludge at a wastewater treatment plant



Control of dart valve for level regulation in mineral processing



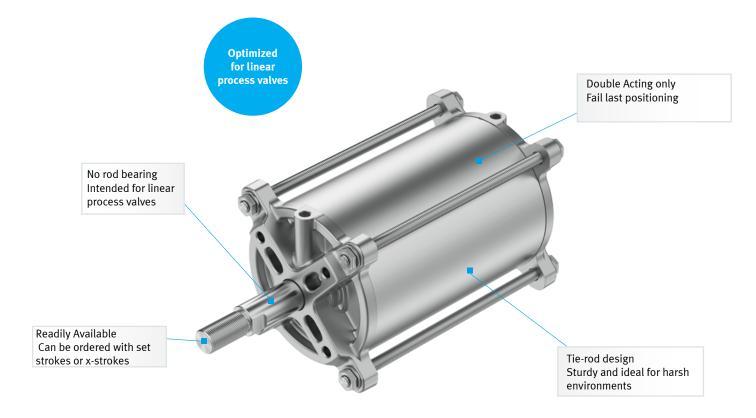
Control of silo discharge in fertilizer processing

Find out more:

→ www.festo.com/dfpi

# **Linear Cylinder - DFPC**

The linear actuator can be configured from stock or individually configured. The new, double-acting linear actuator DFPC can be both. It has been specially designed for actuating process valves such as gate valves or knife-gate valves, pinch valves or valve bodies without housing. Perfect, for example, for the requirements in water and wastewater treatment, the mining industry, and power stations.



# Linear positioning cylinders DFPC

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

Use of a control plate will allow for direct mounting a NAMUR valve to the DFPC



## Actuated process valves with linear actuator

The DFPC linear actuator is highly suitable for open/close operation 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.





Find out more:

→ www.festo.com/dfpc

# **Quarter-Turn Actuator - DFPD-C**

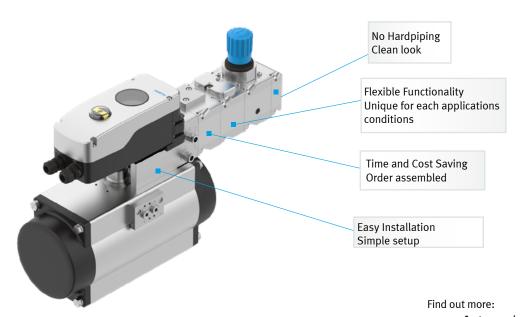
The design features of the DFPD-C make it perfectly suitable for use in the harsh conditions often found in the chemical industry. Having the manifold block on top of the actuator provides access to the extended NAMUR port pattern and saves you the trouble of timeconsuming and expensive tubing.



# **VTOP**

The valve terminal VTOP can be used to implement additional pneumatic functions in combination with a positioner. Together with the DFPD-C, these products are perfect for the chemical market.

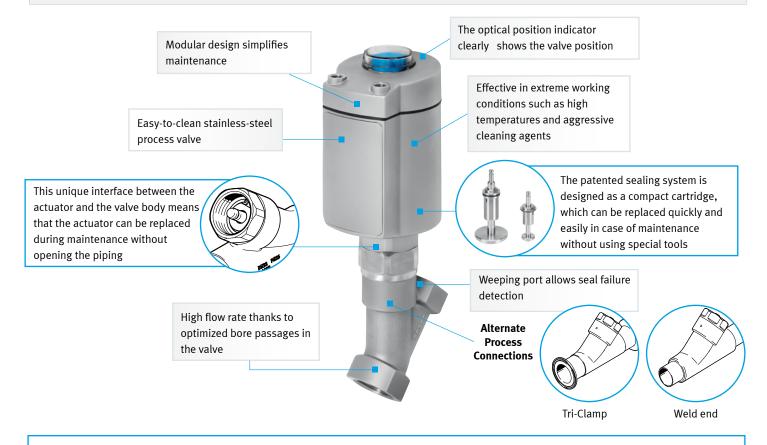




→ www.festo.com/vtop

# **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 230° C)

### **Variants**

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



# Alternative

# **Angle Seat Valve VZXF**

- 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



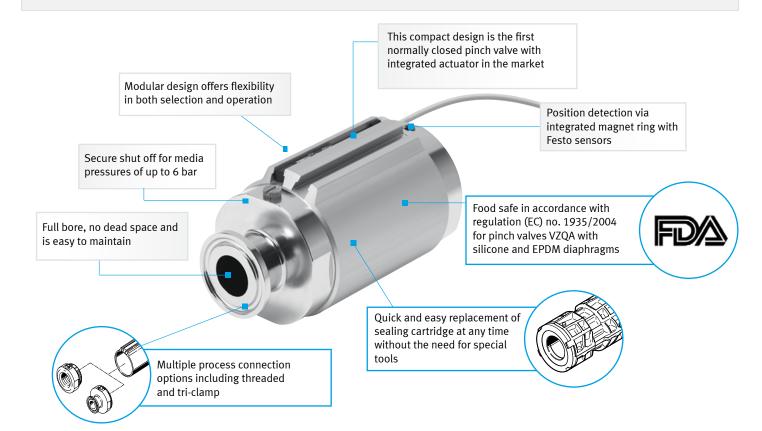
Shut-off control for glycol used in food productionh

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 or Normally closed
- Media pressures vary depending on size
- Threaded and tri-clamp connections
- Sizes DN6, DN15 and DN25



### Materials

# **Housing material**

- Aluminum
- Stainless steel

# End cap material

- Aluminum
- Stainless steel
- POM (Acetal)





EPDM

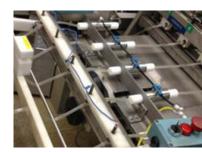
Shut-off element



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.

# Forced pilot VZWF **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**



- Operates without differential pressure at up to 90 bar, even in closed media circuits
- Valve switches at any pressure from 0 bar
- Normally closed function
- 3/2-way version available for piloting process valves

# Diaphragm valve VZWM



- Diaphragm valve
- Brass or stainless steel casting design
- · Wide range of coils with a variety of different voltages available
- Cost effective for media piloted applications
- Variety of different voltages available



- Simple or complex applications
  - Individual or pre-assembled units

**Air Preparation** 

Air preparation MS

Modular

- Integrated functions such as safety and energy efficiency
- Sturdy housing
- · Easily expandable
- Size range from 1/8" up to 2"

# Air preparation D

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.



- 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 design • Optimized for control cabinets

# Sensors

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,
- 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/
- 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-instal 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 comparison 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/engineeringtools

# 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/login
- → www.festo.com/register

### **Stars in 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
- oxdot Festo quality at an attractive price
- → www.festo.com/stars

# **Process Automation Toolkit**

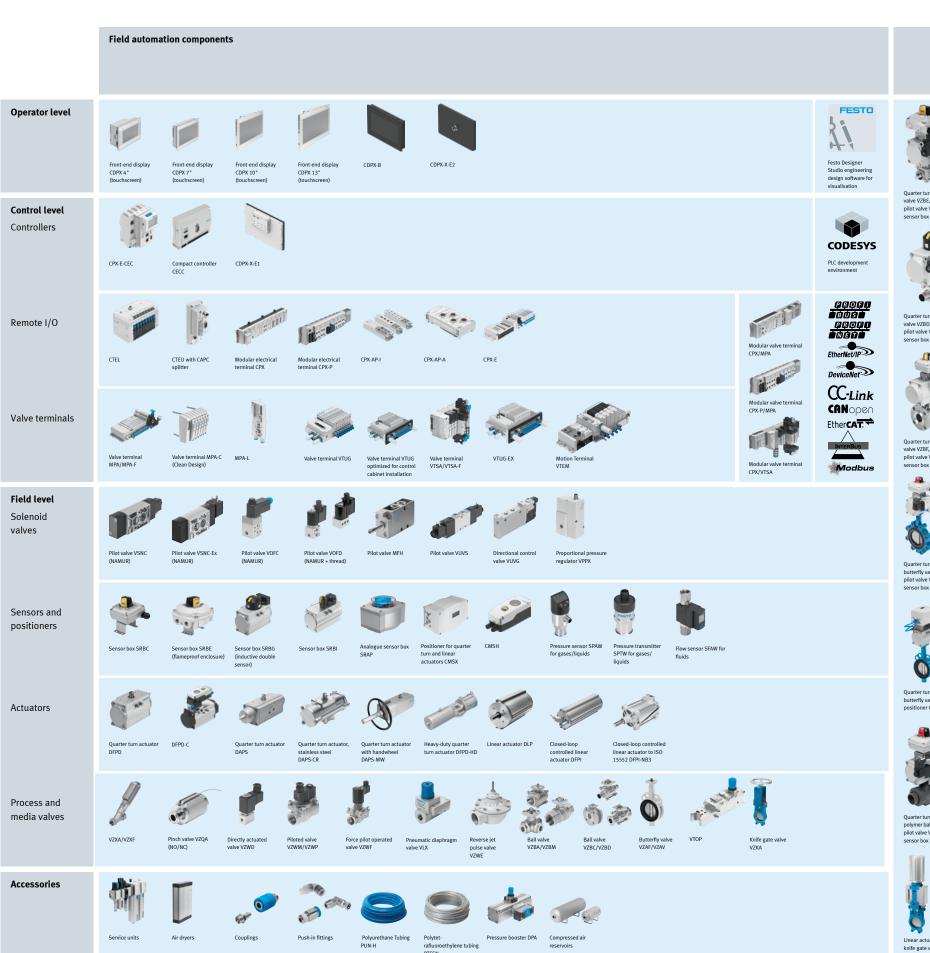


Modular programming of your applications process
The PA-Toolkit and its library for CODESYS (IEC 61131-3) allows you to program your applications process intuitively. Each module has its own controller agreement with the MTP standard (Module Type Package).

# It's time to enjoy scheduling tools that save you valuable time

- ✓ Pre-tested function blocks and visualisation elements you or your application programmers can concentrate exclusively on the process.
- ✓ It allows the simple and intuitive development of control logics and user interfaces
- Worldwide support from Festo support teams
- Export of the MTP description file available
- ✓ You are involved in the entire development process

# **Process Automation Solutions - Complete Portfolio**





Quarter turn actuator DFPD, ball valve VZBE, pilot valve VSNC,



orn actuator DFPD, ball Pneumatic of



Quarter turn actuator DFPD, bai valve VZBF, pilot valve VOFC,



urn actuator DFPD, Linear a valve VZAV, position e VSNC,



urn actuator DFPD, Quarter turn valve VZAV, individual sv

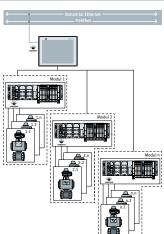


actuator DFPD, Units for high a valve VZBG, temperature a NC.

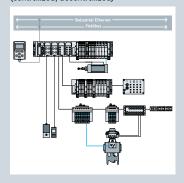


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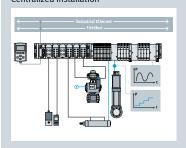
Modular automation



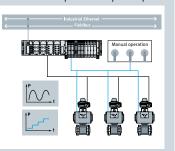
Hybrid installation (centralized/decentralized)



Centralized installation



Automation with pneumatic operator panel



**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

# Your Partner in Automation





Festo Canada

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