Key Automation Product

FESTO

# The key to your daily automation needs

Our goal is to make you more productive. From actuators to accessories for factory automation as well as process automation - you can reduce procurement complexity for both the electric and pneumatic control chain.

At the same time, we work consistently on our production and delivery capacities worldwide to ensure that you receive the products you ordered promptly, even in large quantities.



# A simplified product selection. Check out our new Festo Online Shop!



You are looking for cost-effective automation? You need short delivery times? We deliver large quantities fast and worldwide.









#### Stepper motor Simplified series compact Simplified series mini Simplified series Simplified series rotary Compact electrical cylinder **EMMT-ST** electric cylinder slide electrical drive drive EPCS EGSS ELGS ERMS EPCC F 1 Pg 20 Pg 18 Pg 19 Pg 19 Pg 20 Pg 18 Rotary gripper module Electric gripper Miniature gantry Mini slide EHMD HEPP **EXCL EGSC-BS** Pg 22 Pg 23 Pg 23 Pg 23 Manual valve Mechanical valve Vacuum generator Vacuum generator Proportional pressure Vacuum generator VHEF VMEF OVEL VN control **OVEM** VPPE Pg 28 Pg 28 Pg 29 Pg 29 Pg 30 Pg 30 Valve terminal Valve terminal Valve terminal Harsh environment Harsh environment Proportional VTSA-FB-AP solenoid valve **VTUX** VTEP pilot valve pilot valve VOFC VOFD **VPWS** 0) Pg 35 Pg 35 Pg 36 Pg 36 Pg 37 Pg 37

Parallel gripper

DHPC

Pg 42

Angular gripper

DHWC

Pg 42

Radial gripper

DHRC

Pg 42

Guided linear drive

Share and

DGC

Pg 41

Mini slide

DGST

Pg 41

Linear drive

DGC-K

Pg 41



# Modular Remote I/O System CPX-AP-A Stand alone system or with valve terminal

#### Highlights

- Highly flexible remote IO system in IP65/IP67
- Stand-alone system or in combination with a valve terminal from Festo
- Various I/O modules and IO-Link® are available, including for electric drives
- Maximum level of performance thanks to AP communication in real time: 200 MBaud and 250  $\mu s$  cycle time
- Simple and convenient configuration, quick commissioning of the entire AP system architecture



#### Valve terminal VTUX – maximum functionality and modularity

Compact and lightweight: the versatile, highly modular valve terminal VTUX is ideal for electronics and battery production. The valves and the two sub-base sizes can be positioned in any order within the terminal. There are two sub-base sizes: compact and high-flow. The high-performance valve size offers a maximum flow rate of up to 670 l/min with different tubing diameters.

# Valve terminal MPA-S – compact and versatile

The compact and versatile valve terminal MPA-S with aluminium base plates offers two valve sizes, and can be mixed and matched on the valve terminal. There is also an option to integrate functions for proportional valves, pressure sensors as well as vertical stacking. Manual override and the twocolour diagnostics LED on each valve ensure reliable commissioning.

# Valve terminal VTSA – standardised and versatile

This flexibly configurable valve terminal is sturdy and durable, and is available in several sizes in accordance with ISO 15407-2 /5599-2 (VTSA-FB-AP) or as flow-optimised variant (VTSA-F-FB-AP / VTSA-FCB-AP). Four sizes can be mixed and matched without an adapter plate. The VTSA features various options for function integration, innovative functional modules (pneumatic and mechanical) and numerous safety functions.

# **Distributed Remote I/O**





#### PLC/Modular/Motion/Robotic Controller CPX-E

- CPX-E is a high-performance controller for automation system focusing primarily on motion & robotic controls
- Multi protocol connection widely available
- Extended software functions for seamless integration and simplified control of electric drives
- The following modules are available:
  - PLC/Motion/Robotic Controller
  - Multi Protocol bus Interface modules
  - Input/output modules
  - IO-Link master modules
  - Encoder Module

# Frequently bought together





#### Remote I/O system CPX-E

- Reliable & cost effective remote I/O system
- Multi protocol bus interface module
- The following modules are available:
  - Input/output modules
  - IO-Link master modules

## **Frequently bought together**





Controls

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#### Modular electrical terminal CPX-AP-A

- Comprehensive function integration with technology modules
- Modular and lightweight IO system in IP65/IP67
- Multi Protocol bus Interface modules widely available
- Connect up to Max 79 AP device
- Installation variants
  - Stand-alone as remote I/O
  - With valve terminal VTSA, MPA-L, MPA-S, VTUG, VTUX
  - I/O modules
  - Digital
  - Analogue

## **Frequently bought together**

#### VTSA MPA-S VTUG NFBU MPA-I ντιιχ





## **Frequently bought together**





- IP65/IP67 Remote I/O system brings input/output controls closer to equipment or process, no electrical panel is needed to mount CPX-AP-I modules.
- Cost effective remote I/O system with up to 80 freely combinable modules/valve terminals per bus interface, up to 50 m between every module
- Easy to adapt to difference control system by exchanging the bus interface
- Realtime capability
- Extremely easy to assemble & integrate
- The following modules are available:
  - Multi Protocol bus Interface modules
  - Input/output modules
  - IO-Link master
  - Interface to the valve terminal





#### Human-Machine Interface CDPX

- Linux Operating system
- Display Size: 4.3", 5", 7", 10.4", 15", 21" Inch
- Built in Ethernet port and Serial port available
- Remote target visu and chromium brower
- Optional: PLC with codesys ,I/O , CANopen

## Frequently bought together



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# **Powering Electric Automation**







EAMM

# Preparation & accessor

# Servo drives CMMT-AS

• Easy to integrate into Ethernet-based (All-in-one) host systems with extensive documentation and function blocks

EtherCAT \* Modbus TCP EtherNet/IP

- Specific kit for all electro-mechanical axes from Festo.
- Each kit includes coupling housing, couplings, motor flange and screws.
- IP65 is available and option.



• Suitable selection of servo motors.





## **Frequently bought together**



EMMB-AS



- Complete integration of all components for controller and power unit, including RS232 and pulse direction interface
- Operated as a torque, rotational speed or position controller
- Nominal voltage: 230 V AC
- Nominal current: 1.5 ... 7 A
- Nominal power: 100 ... 750 W





#### AC servo drives high performance CMMT-AS

- Precise force, speed and position control
- Auto-tuning and automatically optimises of control behaviour
- Multi-protocol, the required protocol can be selected via software or directly on the servo drive
- Sustainable operation thanks to energy recovery
- Nominal voltage: 1 phase 230 and 3 phase 400 V AC
- Nominal current: 2.8 ... 29 A
- Nominal power: 0.35 ... 12kW

# **Frequently bought together**





#### Extra low voltage servo drives CMMT-ST

- Space-saving low voltage servo drive for stepper motors and brushless direct current motors (BLDC or EC motor)
- Integrated safety functions STO (safe torque off) Cat 3, Ple / SIL 3 / SILCL 3 ensure safe operation
- Sustainable operation thanks to energy recovery
- The new multiprotocol variant (CMMT-...-MP) has all fieldbuses (PROFINET, EtherCAT®, EtherNet/IP, Modbus®) integrated in one servo drive hardware
- 150 W at 24 V DC, 300 W at 48 V DC
- Nominal current 8 A (peak 10 A)

## **Frequently bought together**















## **Frequently bought together**



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#### AC servo motors high performance EMMT-AS

AC servo motors economical EMMB-AS

• Single-turn/Multi-turn encoder options

Rated torque: 0.32 ... 2.39 Nm
Nominal current: 1.3 ... 3.8 A
Brake and Keyway option

• Size: 40, 60, 80

- Simple connection technology (OCP: one cable plug)
- Single-turn and Multi-turn (battery-less) EnDat 2.2 encoder technology
- Size: 60, 80, 100, 150, 190
- Nominal torque: 0.6 ... 82.4 Nm

Stepper motors economical EMMB-ST

• Holding torqu:e 0.22 ... 5.9 Nm

Voltage: 24 ... 48 V DC
Nominal current: 1.4 ... 9.5 A

Simple connection technology (OCP: one cable plug)Single-turn and Multi-turn (battery-less) encoder

• Voltage: 325 ... 680 V DC

• Size: 42, 57, 87

• IP20

• Nominal current 1.4 ... 20 A

## **Frequently bought together**





# Frequently bought together



CMMT-AS





# Frequently bought together



CMMT-ST



## **ð IO-**Link

# **Frequently bought together**



NEBC SMT-8M-A

#### Stepper motors High Performance EMMT-ST

- Simple connection technology (OCP: one cable plug)
- Single-turn and Multi-turn (battery-less) EnDat 2.2 encoder technology
- Size: 42, 57, 87
- Holding torqu:e 0.22 ... 9.3 Nm
- Voltage: 24 ... 48 V DC
- Nominal current: 1.4 ... 9.5 A
- IP65



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# Simplified series compact electrical cylinder actuators EPCS

- Simplified rod type ball screw actuator series for easy setup
- Easy control with only 2 digital inputs
- Precise closed-loop control of speed, position and force
- Size: 32, 45, 60
- Stroke length: 25 ... 500 mm
- Force: 150 ... 900 N
- Speed up to 0.22 m/s







Electrics

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🚷 IO-Link

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# **Frequently bought together**



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Simplified series mini slide actuators EGSS

• Easy control with only 2 digital inputs

setup

force

• Size: 32, 45, 60

Force: 60 ... 250 NSpeed up to 0.25 m/s

• Stroke length: 25 ... 200 mm

• Simplified guided ball screw actuator series for easy

• Precise closed-loop control of speed, position and



🚷 IO-Link

# **Frequently bought together**



# Simplified series spindle and toothed belt actuators ELGS

- Simplified protected ball screw and toothed belt actuator series for easy setup
- Easy control with only 2 digital inputs
- Precise closed-loop control of speed, position and force
- ELGS-BS
  - Size: 32, 45, 60
  - Stroke length: 100 ... 800mm
  - Force: 40 ... 200 N
  - Speed up to 0.025 m/s
- ELGS-TB
  - Size: 45, 60
  - Stroke length: 200 ... 2000mm
  - Force: 65 ... 75 N
  - Speed up to 1.3 m/s





## **O**IO-Link

#### Simplified series rotary actuators ERMS

- · Simplified rotary actuator series for easy setup
- Easy control with only 2 digital inputs or IO-Link
- Precise closed-loop control of speed, position and force
- Size 25, 32
- Rotation angles 90°, 180° •
- Peak torque 2.7 ... 5.6 Nm
- Speed up to 150 RPM •



NEBC



## **Frequently bought together**



#### **Compact electric cylinders EPCC**

- Rod style ball screw actuator
- Size: 25, 32, 45 and 60
- Stroke: 25 ... 500 mm
- Force: 75 ... 1000 N
- Speed up to 0.6 m/s



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#### **Frequently bought together**



EMMB-AS CMMT-AS EMMT-AS SMT-8M-A

#### **Electric cylinders ESBF**

- Rodstyle ball/lead screw actuator
- Motor can be mounted using axial or parallel kit
- Size: 32, 40, 50, 63, 80, 100
- Stroke length: 30 ... 1500 mm
- Force: 600 ... 17000 N
- Speed up to 1.35 m/s
- Optional: Electric ball screw cylinder with clean design (food application)





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CMMB-AS



#### Spindle actuators EGC-BS

- Protected ball screw actuator
- Size: 70, 80, 120, 185 •
- Stroke length: 50 ... 3000 mm •
- Force: 400 ... 3000 N
- Speed up to 2 m/s
- Repetition accuracy ±0.02 mm



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**Frequently bought together** 

CMMB-AS EMMB-AS CMMT-AS EMMT-AS



## **Frequently bought together**



#### Spindle actuators ELGT-BS

- Protected ball screw actuator
- Size 90, 120, 160
- Stroke length: 50 ... 1400 mm
- Force up to 1575 N
- Speed up to 1 m/s
- Repetition accuracy ±0.02 mm
- Optimised for use in the electronics and automotive industry as well as in battery production



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#### Rotary gripper module EHMD

- Compact, Ideal for capping/decapping and Pick&Place application
- Infinite rotational gripper
- Choice of electrical or pneumatic gripping
- Self-locking in case of energy loss
- Optional: mounting with Z-compensation compensates for the thread pitch of covers on vials during opening and closing
- Max. Rotation Torque: 1.0 Nm
- Max.Speed: up to 240rpm
- Stroke per gripper jaw: 0...5mm or 0...15mm

# Frequently bought together



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CPX-E



## **Frequently bought together**



#### High Performance Electric Gripper HEPP

- Intergrated Toothed Belt, Motor and Controller in One
- Multi Protocol bus Interface modules widely available
- Size: 28, 36, 42
- Stroke length: 30 ... 56 mm
- Gripping Force: 320 ... 680 N
- Repetition accuracy ±0.02 mm"



Controls

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## **Frequently bought together**



#### Miniature 3-D Gantry EXCL

- Max. stroke:
  - X/Y-axis: 1000 x 700 mm
  - Z-axis: 50, 100, 150 or 200 mm with 1 or 2 Z-axes
- Max. payload: 1.5 kg (with 2 Z-axes together max. 2 kg)
- Optional 6-axis motion controller
- Programmable via G-code
- Max. acceleration: 1 m/s<sup>2</sup>
- Max. speed: 0.4 m/s





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#### Individual valves VUVG-...-S

- Connection M5, M7, G1/8, G1/4
- Flow rate 180... 660 l/min
- Pressure range 1.5 ... 7 bar
- Temperature range –5 ... +50°C
- Voltage 24 V DC
- In-line valves, semi in-line valves, sub-base valves
- Electrical actuated, piloted
- Pneumatic spring return

# **Frequently bought together**







#### Individual valves VUVG

- Connection M3, M5, M7, G1/8, G1/4
- Flow rate 90 ... 1380 l/min
- Pressure range -0.9 ... 10 bar
- Temperature range -5 ... +60°C
- Voltage 5, 12, 24 V DC
- In-line valves, semi in-line valves, sub-base valves
- Electrical actuated, piloted
- Pneumatic and mechanical spring return

## **Frequently bought together**



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#### Individual valves VUVS-...-S

- Port G1/8, G1/4, G3/8
- Flow rate 500 1600 l/min
- Pressure range 1.5 ... 8 bar
- Temperature range –5 ... +50°C
- Voltage 24 VDC
- In-line valve , manifold
- Electrically actuated, piloted
- Pneumatic spring return

## **Frequently bought together**





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#### Individual valves VUVS

- Port G1/8, G1/4, G3/8
- Flow rate 500 2400 l/min
- Pressure range 1.5 ... 8 bar
- Temperature range -5 ... +50°C
- Voltage 12,24 VDC. 24,110, 230 VAC
- In-line valve , manifold
- Electrically actuated, piloted
- Pneumatic and mechanical spring return

## **Frequently bought together**







#### Individual valves VSNC

- Connection: G1/8, G<sup>1</sup>/4, NPT<sup>1</sup>/4
- Flow rate: 800 ... 1250 l/min
- Operating pressure: 1.5...10 bar
- Voltage: 12, 24, 48 V DC, 24, 48, 120, 230 V AC
- NAMUR port pattern to VDE/VDI 3845
- Solenoid-actuated, piloted / CNOMO interface
- Mechanical spring return
- Explosion proof: Ex ia, Ex d, Ex m, Ex na
- Convertible from 5/2-way function to 3/2-way function

## **Frequently bought together**



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MGXIAH DFPD





#### Hand level valves VHER

- Valve function 4/3. Mid closed, open or pressurised
- M5, G1/8, G1/4, G1/2 connection
- Metal and polymer lever
- Vacuum operation possible
- Flow rate 170 3800 l/min

## **Frequently bought together**





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#### Manually operated valves VHEF

- Valve function 3/2, 5/2, 5/3
- G 1/8, G 1/4 connection
- Selector switch, finger level, hand lever, toggle ever, push-button
- Directly/ Indirect actuated
- Vacuum operation possible
- Flow rate 650 1200 l/min

## **Frequently bought together**





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#### Mechanically actuated valves VMEF

- Valve function 3/2, 5/2
- G 1/8, G 1/4 connection
- Toggle lever, Roller, Stem
- Directly actuated, pneumatic piloted
- Vacuum operation possible
- Flow rate 750 1200 l/min

## **Frequently bought together**







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#### Vacuum generators OVEL

- Mounting on supply manifold with max. 8 spaces
- Nominal size: 0.45 ... 0.95 mm
- Connection:
  - Push-in connector QS3, QS4, QS6
- Vacuum solenoid valve ON/OFF
- Optional with ejector pulse
- Integrated vacuum sensor

## **Frequently bought together**







#### Vacuum generators VN

- Nominal size 0.45 to 3 mm
- Connection:
  - Plug connector QS4, QS6, QS8, QS10, QS12
  - Thread M5, G1/8, G1/4, G3/8
- Standard:
  - Vacuum port 90° to supply port
- Inline:
  - Vacuum port in line with supply port
- Pneumatic ejector pulse valve or Integrated vacuum switch

## **Frequently bought together**







#### Vacuum generators OVEM

- Adjustment of the ejector pulse •
- Visualisation of vacuum pressure via LCD display
- Pneumatic ejector pulse valve or Integrated vacuum switch.
- Nominal size 0.45 to 3 mm
- Vacuum generator characteristics
  - High vacuum
- High suction rate
- Normally opened
- Normally closed
- Switching output
  - NPN
  - PNP
  - 10-Link®

# **Frequently bought together**







#### Proportional pressure control VPPE

- Suitable for secondary battery production application
- Assembly as in-line valve or on profile strip
- Visualisation of pressure via 7 segments LED display
- Setpoint input : 0...5, 0...10V & 4...20mA
  - Connection G1/8
- Flowrate: 310- 1250 l/min
- Pressure range
  - 0.02 ... 2 bar
- 0.06 ... 6 bar
- 0.1 ... 10 bar

Electrics







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#### **Proportional pressure regulators VEAA & VEAB**

- High precision and stable
- Very low power consumption
- Integrated piezo technology
- Silent operation
- Efficient pressure regulation characteristics
- Integrated pressure sensor
- Setpoint input : 0...5V, 0...10V & 4...20mA •
- Setpoint output : 1...5V, 0...10V & 4...20mA
- VEAA
  - Flowrate: 7 l/min
  - 3 Pressure regulation ranges from 0.02 to 10 bar
- VEAB
  - Flowrate: 20 l/min

Proportional flow regulators VEMD

time

Silent operation

• 9 Pressure regulation ranges from -1 to 6 bar

## **Frequently bought together**



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# **Frequently bought together**





Valves







Mass flow controller (MFC) with integrated control electronics Dynamic and precise flow regulation with short response

Operating medium: air, oxygen, inert gases, nitrogen Minimal power consumption thanks to piezo technology

Flowrate regulation range: 0...200 l/m Operating voltage: 12 or 24 V DC Operating pressure: 0...2.5 bar

Setpoint input & output: 0.2...10V

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#### **Proportional flow control VEFC**

- Very compact with 24 mm wide
- Directly controlled, dynamic piezo valve
- Very flexible via customisable control parameters
- Connection R1/4, G1/4
- Pressure range 3...7 bar
- Flow rate 10...200 l/min
- Set point 0-10V , 4- 20mA

## Frequently bought together





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#### Valve terminal VTUG

- Flow rate: 220 ... 1300 l/min
- Valve size 10, 14, 18 mm
- Multi-pin / IO-Link / I-Port connection/ Multi-Protocol Fieldbus available
- Voltage 24 V DC
- Pressure -0.9 ... 10 bar
- Degree of protection IP40/IP67
- Semi in-line and sub-base valves
- Control-cabinet option available

# Frequently bought together







#### Valve terminal VTUS

- Flow rate 700 ... 2000 l/min.
- Valve size 20, 25,30 mm
- Individual electrical connection
- Voltage 12, 24 V DC, 24, 110, 120, 230, 240 V AC
- Pressure -0.9 ... 10 bar
- Degree of protection IP65,IP67
- Inline valves
- Solenoid/Pneumatic actuated
- Metal manifold block

# Frequently bought together







#### Valve terminals MPA-FB-AP-VI

- Mix of valve size for optimum flowrate
- Flow rate 360 to 700 l/min
- Valve size 10, 14, 20 mm
- Expandable up to 64 valve positions with 128 solenoid coils
- IO-Link / Multi-Protocol interface ready
- Diagnostics function available
- Function integration with propotional pressure regulator VPPM

## **Frequently bought together**





Valves

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#### Valve terminals VTSA-FB-AP

- Mix of valve size for optimum flowrate
- Flow rate 770 ... 4000 l/min
- Valve size 18, 26, 42, 52 mm
- Maximum 32 valves postition
- IO-Link / Multi-Protocol interface ready
- Diagnostics function available
- Function integration with safetly related pneumatic and vacuum generator

## **Frequently bought together**







#### Valve terminal VTUX

- High flow rates up to 670 l/min
- Up to 32 solenoid coils
- Lightweight, made of high-performance polymer
- Extremely flexible for communication with CPX-AP-I, CPX-AP-A, IO-Link and multipin system.
- Highly modular sub-bases with different widths for different flow rate with the same valves
- Flexibly configurable push-in fittings as a cartridge, easy to exchange in just a few simple steps
- It combines all the benefits of CPV, MPA and VTUG in one platform
- Suitable for secondary battery production application

## **Frequently bought together**





PUN-H





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#### Valve terminal VTEP

- Simple electrical connections via EtherCAT
- Pressure and vacuum control can be combined
- Flexible: 2 ... 10 channels, 1 ... 5 valves
- Flow rate up to 35 l/min
- Powered by Piezo technology
- No wear
- No tear
- No particle abrasion
- No heat generation
- Low power consumption

#### **Frequently bought together**



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#### Harsh environment pilot valve VOFC

- Titanium coated valve body (option: stainless steel)
- Connection type: In-line, NAMUR interface
- Connection size: 1/4", 1/2" (G / NPT thread)
- Operating pressure: 2.5...8 bar
- Flow rate: 595...2686 l/min
- Valve type: 3/2 way, 5/2 way single or double solenoid
- Voltage: 24V, 110V, 230V (AV/DC)
- Ex protection: Ex ia, Ex m

# **Frequently bought together**






#### Harsh environment pilot valve VOFD

- Titanium coated valve body (option: stainless steel, brass)
- Connection type: In-line, NAMUR interface
- Connection size: 1/4", 1/2" (G / NPT thread)
- Operating pressure: 0...12 bar
- Flow rate: 52...1900 l/min
- Valve type: 3/2 way single solenoid
- Voltage: 24V, 48V, 60V, 110V, 230V (AV/DC)
- Ex protection: Ex ia, Ex m, Ex d

**Proportional solenoid valve VPWS** 

Operating voltage: 24 VDC Max pressure: 10 bar Flow rate: 1.3....310 l/min Stainless steel body

2/2 way proportional gas flow valve

Suitable for air, oxygen, neutral gases

Control signal: 0...225mA / 24V PWM (>3kHz)

## **Frequently bought together**



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Valves



# Actuators

**Mini slides DGST** 



- Shock absorber at both ends, self-adjusting, with end-position adjustment.
- Precise end-position adjustment is possible from one side.

• Two sensor slots for sensing.





## Actuators



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## Frequently bought together

# SDBT-MSB SDBC-MSB

#### Short stroke cylinder ADN-S

- Size : 6, 10, 12, 16, 20, 25, 32, 40, 50, 63mm
- Stroke length: 5, 10, 15, 20, 25, 30, 35,40, 45,50 mm
- Male and female thread
- Space and weight saving
- Double-acting and single acting
- Copper and zinc free variant available





#### **Compact cylinders ADN**

- Compact cylinder
- Diameter: 12, 16, 20, 25, 32, 40, 50, 63, 80, 100, 125 mm
- Stroke length: 1... 500 mm
- Force: 68 ... 7363 N
- Double-acting / single acting
- Position sensing
- Fixed/self-adjusting cushioning
- Numerous variants

## **Frequently bought together**







## Frequently bought together

QS



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### Compact round cylinders DSNU-S

- Compact round cylinder
- Diameter: 8, 12, 16, 20,25 mm
- Stroke length: 10 ... 200 mm
- Force: 30 ... 294 N
- Double-acting
- Position sensing
- Fixed/self-adjusting cushioning 185)



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### Standard cylinders DSBC

- Standard cylinder with two sensor slots
- Numerous variants
- Diameter: 32, 40, 50, 63, 80, 100, 125 mm
- Stroke length: 1 ... 2800 mm
- Force: 483 ... 7363 N
- Double-acting
- Position sensing
- Fixed/adjustable/self-adjusting cushioning

## **Frequently bought together**





### Standard round cylinders DSNU

- Diameter: 8, 10, 12, 16, 20, 25, 32, 40, 50, 63 mm
- Stroke length: 1 ... 500 mm
- Force: 19 ... 1870 N
- Double-acting and single acting
- Position sensing
- Fixed/adjustable/self-adjusting cushioning







## **Frequently bought together**



#### **Guided drives DFM**

- Diameter 6, 10, 12, 16, 20, 25, 32, 40, 50, 63, 80, 100 mm
- Stroke length 5 ... 400 mm
- Force 51 ... 4712 N
- Position sensing
- Fixed/adjustable cushioning
- Plain-bearing guide
- Recirculating ball bearing guide
- Variants available





<u>controls</u>

**Electri** 

Actuators

Sensors



SDBT-MSB

VFOE

PUN-H

NPQE

QS

 $\mathbf{C}$ 

## Actuators



#### Parallel grippers DHPC

- Size 6, 10, 16, 20, 25, 32, 40
- Stroke length 2 ... 15 mm per gripper jaw
- Force: 3.9 ... 388 N per gripper jaw
- Position sensing
- NO/ NC gripping
- Standard and flat gripper finger design

## **Frequently bought together**









#### Angular grippers DHWC

- Size 6, 10, 16, 20, 25, 32
- Opening angle : 300
- Total gripping torgue : 5.4 ...687.6 Ncm
- Position sensing
- NO gripping

## **Frequently bought together**







#### Radial grippers DHRC

- Size 6, 10, 16, 20, 25, 32
- Opening angle : 1800
- Total gripping torgue : 4.8 ...725.6 Ncm
- Position sensing
- NO gripping

## **Frequently bought together**





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Actuators

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### Semi-rotary drives DRVS

- Housing protected against splash water and dust
- Size 6, 8, 12, 16, 25, 32, 40 mm
- Torque 0.15 ... 20 Nm
- Swivel angle 90, 180, 270°
- Position sensing
- Fixed elastic cushioning elements on both sides

## **Frequently bought together**





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# Actuators



### Semi-rotary drives DGSS

- Stroke adjustment and external cushioning using accessories
- Size 6, 10, 16, 20 mm
- Stroke 5, 10, 15, 20, 25, 30, 40, 50, 60 mm
- Position sensing
- Cushioning: elastic (P), hydraulic shock absorbers

## Frequently bought together







#### Semi-rotary drives DRRS

- Size 8, 10, 12, 16, 20, 25, 32, 40 mm
- Torque 0.29 ... 33.9 Nm
- Swivel angle 0 ... 180°
- Position sensing
- Cushioning: elastic (P), hydraulic shock absorbers
- Flanged shaft

## **Frequently bought together**





Sensore

## **Butterfly valve unit KVZA**







Used in the production of honey

SIL certified ing IEC 61508



- With rack and pinion gear unit
- Size: 10 ... 2300
- Torque: 10 ... 2300 Nm
- Swivel angle: 0 ... 90°, 0 ... 180°
- Flange hole pattern to ISO 5211
- NAMUR connection pattern for solenoid valves
- Sensor boxes connection to VDI/VDE 3845
- Positioner connection to VDI/VDE 3847-2
- Up to SIL3 low demand mode
- ATEX II 2GD c105°C (T4)X

## **Frequently bought together**

VSNC







SRBI SASE





#### Media separated valve VYKA

- Extremely precise, suitable for small volume dosing application
- High flow rate with compact size of 7mm width
- Easy to clean thanks to media separation
- Low media consumption thanks to small internal volume
- Suitable for aggressive media
- Low power consumption as a result of holding current reduction
- Developed according to ISO 13485
- FDA-listed materials: PEEK(Housing), FFPM/FPM/EPDM(Diaphragm)
- 2/2 or 3/2-Way valve (NO/NC) available
- Flow rate Kv (with water at 1 bar): 0.35 l/min
- Operating pressure: -0.5...2 bar
- Operating voltage: 12...26 V DC

## **Frequently bought together**







#### Solenoid valves VZWD

- 2/2 way valve
- Port: 1/8", 1/4"
- G threads or NPT threads
- Operating pressure: 0 ... 90 bar
- Nominal pressure: 40 bar
- Electrical actuation
- Voltage 24 V DC, 110 V AC, 230 V AC
- 2/2 way poppet valve (NC), directly actuated
- FPM sealing material
- Suitable for high-pressure applications with low flow rates
- Available in brass or stainless steel versions
- Medium temperature -10 ... 80°C
- Flow rate 0.06 ... 0.16 m<sup>3</sup>/h

## **Frequently bought together**











- 2/2 way function
- Normally open/closed versions
- Connection 1/4", 1/2", 1, 2"
- G or NPT thread or clamp versions available
- Pressure range 0 ... 2 ,4 ,6 bar
- Pneumatic actuation
- 2/2 way pinch valve
- Aluminium or stainless steel housing (Clean Design)
- Sealing material EPDM, NBR, silicone
- For controlling fluid/powder media, solids, and material mixtures up to viscosity level of 4000 mm<sup>2</sup>/s
- Suitable for use with closing application

### **Frequently bought together**





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according IEC 61508

#### Angle seat valves VZXA

- Port DN 13, 1/2"; DN20, 3/4"; DN25, 1"; DN32, 1 1/4"; DN40, 1 1/2"; DN50, 2"; DN65, 2 1/2"
- G-thread to DIN ISO 228-1 or NPT-thread to ANSI/ASME B 1.20.1 or Rc-thread to DIN 10226-2
- Medium pressure 0 ... 30 bar
- Valve function 2/2, Normally Closed, Normally Open, Double Acting
- ATEX-approval
- Use with slightly contaminated media, up to 600mm<sup>2</sup>/s viscosity
- Use for steam applications possible
- Available with 3/2 banjo valve options

### **Frequently bought together**







#### Linear actuators DFPC

- Optimised for process valves
- Diameter: 80, 100, 125, 160, 200, 250, 300 mm
- Stroke length: 40 ... 1600 mm
- Double-acting
- Mounting interface: ISO 5210, ISO 15552
- Option: Position sensor
- Fixed cushioning at both ends
- ATEX Declaration

### **Frequently bought together**





Controls

Actuators

Process

Sensors

Air Preparation & accessories



Process



#### Sensor boxes SRBC

- Measuring principle electromechanical magnetic reed or inductive
- Switching element function Toggle switch, single-pole (SPDT)
- For DC and AC
- Pre-fitted mounting bridge
- Cable connector and blanking plug included in the scope of delivery
- IP67, NEMA 4/4X protection
- ATEX II 2GD: Ex-ia-NAMUR version
- SIL2 according to IEC61508

### **Frequently bought together**



( and )	

DFPD



#### **Positioners CMSX**

- Positioner for double/single-acting quarter-turn actuator or linear
- Namur connection interface (VDI/VDE 3845)
- Configurable characteristic curves: Linear/Equal percentage/User free
- Polycarbonate housing
- Configurable set-point signal 0-10V/0-20mA/4-20mA
- 24VDC operating voltage
- IP65 protection
- Analogue feedback signal 4-20mA
- Configurable emergency input signal: Open/Close/Hold
- Pressure range 3-8 bar
- Operating temperature -5 ... 60°C
- Rotation angle 0 ... 110°
- Repetition accuracy ± 1%

## **Frequently bought together**





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### **Positioners CMSH**

- Intelligent positioner for double/single-acting quarter-turn actuator or linear
- Namur connection interface (VDI/VDE 3845-1 or VDI/VDE 3847-2
- HART interface
- 4-20mA loop-powered, 2-wire
- Aluminium, powder-coated housing
- IP66, IP67 protection
- Swapable manifold block for double/single acting function
- Self monitoring and diagnostics option
- Partial-stroke test
- Option for pressure gauge connection
- Pressure range 1.4-8 bar
- Operating temperature -40 ... 80°C
- Rotation angle 0 ... 115°

## **Frequently bought together**

SIL certified ccording IEC 61508



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S PCKP



### Linear positioning actuator DFPI

- Integrated displacement encoder
- Integrated positioning controller (option: external positioner)
- Mounting interface: ISO 15552
- Control signal: 4-20mA
- Actuator diameter: 100...320 mm
- Stroke length: 40....990 mm
- IP65, IP67, IP69K
- Explosion proof protection: up to ATEX II 2GD

## **Frequently bought together**







#### Stainless steel filter regulators PCRP

- Robust housing for the specific requirements of the PA industry
- Suitable for use outdoors and at temperatures down to - 60°
- Resistant to UV radiation and corrosive environments
- Port G 1/8, G 1/4, NPT 1/4, NPT 1/2
- Pressure 0.5 ... 7 bar, 0.5 ... 12 bar
- Flow rate 1600 ... 6440 L/min
- Manual or auto drain
- Stainless steel filter cartridge



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### **Frequently bought together**





**Frequently bought together** 

#### Sensor boxes SRBK

- Polymer limit switch box
- Switch types: mechanical, inductive and magnetic reed switches
- IP66, IP67, NEMA 4/4x protection
- Up to SIL 2 according to IEC 61508
- Ambient temperature -20 ... 70°C



DFPD

Sensors

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Media separated solenoid valve VYKC

- Extremely precise, suitable for small volume dosing application
- High flow rate with body size of 16mm width
- Easy to clean thanks to media separation
- Low media consumption thanks to small internal volume
- Suitable for aggressive media
- Low power consumption as a result of holding current reduction
- FDA-listed materials: PEEK(Housing), EPDM(Diaphragm)
- 2/2 or 3/2-Way valve (NO/NC) available
- Reversible flow possible
- Flow rate Kv (with water at 1 bar): 0.8 l/min
- Operating pressure: -0.75...3 bar
- Operating voltage: 12...24 V DC

### **Frequently bought together**



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#### Media separated solenoid valve VYKB

- Extremely precise, suitable for small volume dosing application
- High flow rate with body size of 10 or 12mm width
- Easy to clean thanks to media separation
- Low media consumption thanks to small internal volume
- Suitable for aggressive media
- Low power consumption as a result of holding current reduction
- 2/2 or 3/2-Way valve (NO/NC) available
- Flow rate Kv (with water at 1 bar): 0.93 l/min
- Operating pressure: -0.75...4.5 bar
- Operating voltage: 12...24 V DC

### **Frequently bought together**





## **Pressure sensors SPAN**



- Compact design 30 x 30 mm with IP40.
- 3 pressure measuring ranges -1 to 10 • bar.
- 1 switchable digital electrical output, PNP/NPN, NO/NC.
- Cu, ZN, Ni-free.



Valves

Process

Sensors

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NEBA

NEBA

NEBS

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DRVS



**Frequently bought together** 

#### **Position sensors SRBS**

- For semi-rotary drives DRVS 6 ... 40 and DSM 8, 10, 12
- Switching outputs PNP, NPN and NO, NC freely programmable
- Electrical connection: M8
- Sensing range: 0 ... 270°
- Speed up to 1.2m/s
- Optional: Electric ball screw cylinder with clean design (food application)



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#### **Pressure sensors SPAN-B**

- Best fit for basic application
- Compact 30 x 30 mm design
- Blue display with white writing, changeable to red display colour
- 3 pressure measuring range from -1 to 10 bar
- 1 switchable digital electrical output, PNP/NPN, NO/NC
- Intuitive menu navigation
- Pneumatic connection: G1/8,R1/8,M5, push-in connector 4mm
- Protection class IP40
- Cu, Zn, Ni-free
- Optional with electrical connection M8 cable



ctuators

## **Frequently bought together**





#### **Pressure sensors SPAN**

- Compact design 30 x 30 mm
- High-contrast display with blue backlighting
- 13 Pressure measuring range from -1 to 16 bar
- Voltage 20 ... 30 V DC
- 2 Switching output PNP / NPN , NO/NC selectable
- Electrical output 0.1 ... 10 V, 1 ... 5 V, 4 ... 20 mA
- Pneumatic connection G1/8, R1/8, NPT1/8, M5, push-in connector 4 mm,
- Pressure/vacuum switches

## **Frequently bought together**



**OIO-**Link





#### Pressure sensors SDE5

- Pressure measuring range -1 ... 10 bar
- Voltage 15 ... 30 V DC
- PNP/NPN digital output and 0...10V analogue output available
- Pressure/vacuum switches
- Switch status display by a visible LED
- Freely programmable

### **Frequently bought together**







**OIO**-Link

### **Flow sensors SFAH**

- ECO function with option to switch off the display
- Serial communication integrated using IO-Link® 1.1
- Flow measuring ranges:
  - 0.002 ... 0.1 l/min
  - 0.01 ... 0.5 l/min
  - 0.02 ... 1 l/min
  - 0.1 ... 5 l/min
  - 0.2 ... 10 l/min
  - 1 ... 50 l/min
  - 2 ... 100 l/min
  - 4 ... 200 l/min
- Switching output:
  - NPN • PNP

  - IO-Link®
- Analogue output:
  - 0..10V
  - 1 ... 5V
  - 4 ... 20mA

## **Frequently bought together**





- Sensor identification, diagnostics and teach-in possible via IO-Link®
- Flow measuring ranges
- 1000, 3000, 5000,10000,15000 l/min
- Switching output
  - NPN
  - PNP
  - IO-Link®
- Analogue output
- 0..10V
- 4 ... 20mA

## **Frequently bought together**



**O**IO-Link



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# Polyurethane tubings PUN-H



• Suitable for use in clean rooms, FDA compliant and corrosion-resistant





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Air Preparation & accessories

# Fre





### Air preparation MS2-B

- Regulator, filter regulator
- Connection: QS6, M5
- Flow rate: 140 ... 350 l/min
- Pressure range: 0.5... 7 bar
- Temperature range: -5... +50°C
- Filtration grade: 5 um

## Frequently bought together





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#### Air preparation MS4-B

- Regulator, filter regulator, manual on/off valve, electrical on/off valve
- Connection: G1/4
- Flow rate: 1200 ... 1400 l/min
- Pressure range: 0.5 ... 10 bar
- Temperature range: -5 ... +50°C

## **Frequently bought together**





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#### Air preparation MS6-B

- Regulator, filter regulator, manual on/off valve, electrical on/off valve
- Connection: G1/2
- Flow rate: 1500 ... 5800 l/min
- Pressure range: 0.5 ... 10 bar
- Temperature range: -5 ... +50°C
- Filtration grade: 5, 40 um

## **Frequently bought together**





С



### Air preparation MS4/6

- Port: G1/8, G1/4, G3/8, G1/2
- Proof pressure: 20 bar
- Pressure: 0.3 ... 7 bar, 0.3 ... 4 bar, 0.5 ... 12 bar, 0.5 ... 16 bar
- + Filtration: 5 and 40  $\mu m$
- Flow rate: 850 ... 7,200 l/min
- Plastic or metal bowl option
- Manual or Auto drain option

## **Frequently bought together**





#### Polyurethane tubings PUN-H

- Large selection of variants
- Highly resistant to stress cracks, microbes and hydrolysis
- Outside diameter: 3 ... 16 mm
- Internal diameter: 2.1 ... 11 mm
- Temperature-dependent operating pressure: -0.95 ... 10 bar
- Ambient temperature: -35 ... 60° C
- Operating medium:
- Compressed air
- Vacuum
- Water

## **Frequently bought together**



С



Controls



### **Push-in fittings NPQE**

- Wide designs & variations
- Standard thread :M3, M5, M7, R1/8, R1/4, R3/8, R1/2

Stainless steel fitting for use in areas subject to intensive

Operating medium: compressed air, vacuum, water Standard thread : M5, M7, G1/8, G1/4, G3/8, G1/2

High corrosion and chemical resistance Very good temperature resistance

OD Tubing: 4, 6, 8, 10, 12, 14, 16 mm

- OD Tubing: 3, 4, 6, 8, 10, 12, 14, 16 mm
- Threaded connection: R thread

**Push-in fittings NPQR** 

cleaning.

## **Frequently bought together**







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## **Frequently bought together**



C



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# **Frequently bought together**

# PUN-H

### C



- Wide designs & variations
- Mini-series port: M3, M5, M7, M 6x0.75, M 8x0.75, R1/8, G1/8
- Standard-series port: R1/8, R1/4, R1/2, R3/8, G1/8, G1/4, G1/2, G3/8, G3/
- OD Tubing: 2, 3, 4, 6, 8, 10, 12, 16, 22 mm
- Threaded connection: R, G
- Suitable for vacuum



# **Air Preparation & accessories**





### **Pressure regulator VRPA**

- In line with /without pressure gauge
- L-shape with pressure gauge
- Connection: QS4, QS6, QS8, M5, R1/4, R1/2
- Flow rate: 80 ... 130 l/min
- Pressure range: 1 ... 8 bar

## **Frequently bought together**





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#### Silencers U

- Threaded connection: M5, G1/2, G1/4, G1/8, G3/8, G3/4,G1
- Barbed connector connection: PK-3, PK-4
- Noise level: 65 ... 84 dB(A)





### Silencers AMTE

- High-temperature resistance up to 80°C
- Metal variant
- Connecting threads M3, M5, G1/8, G1/4, G3/8, G1/2, G3/4,G1,
- •Sound pressure level 71 ... 95 dB(A)



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### **Suction cups VAS**

- Suction cup size diameter 1 to 125 mm
- Connection:
  - Male thread
- Round suction cup:
  - Standard
  - Bellows, 1.5 convolutions









## **Frequently bought together**



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#### Pressure vacuum generator PGVA

- Integrated compressor
- Proportional pressure and vacuum regulation
- 24V DC powered
- Operating pressure: -0.62....0.8 Bar
- Communication: RS232 / RJ45 Modbus TCP
- Integrated 0.01um air filter







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