

**Competency from a single source –  
Media valves in factory automation**

**FESTO**



# Benefit from our expertise ... in fluid power too!

Your core field is factory automation. Yet many automated manufacturing processes, also have a need for fluid control. So why not take advantage of Festo's expertise

and competency? Whether for cooling or lubrication, cleaning or washing, sterilising or dosing, at Festo factory automation and the control of fluids go hand-in-hand. Our product range includes

automation solutions with media valves for your machines and systems.

## Cooling and lubricating

For example, in the cooling system of industrial cooling installations and production machines

Media: gases, cooling water or cooling oils



## Sterilising

For example, in SIP systems

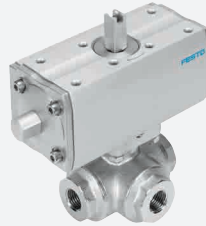
Media: steam



## Washing and cleaning

For example, for cleaning machines in the manufacturing process of semiconductors

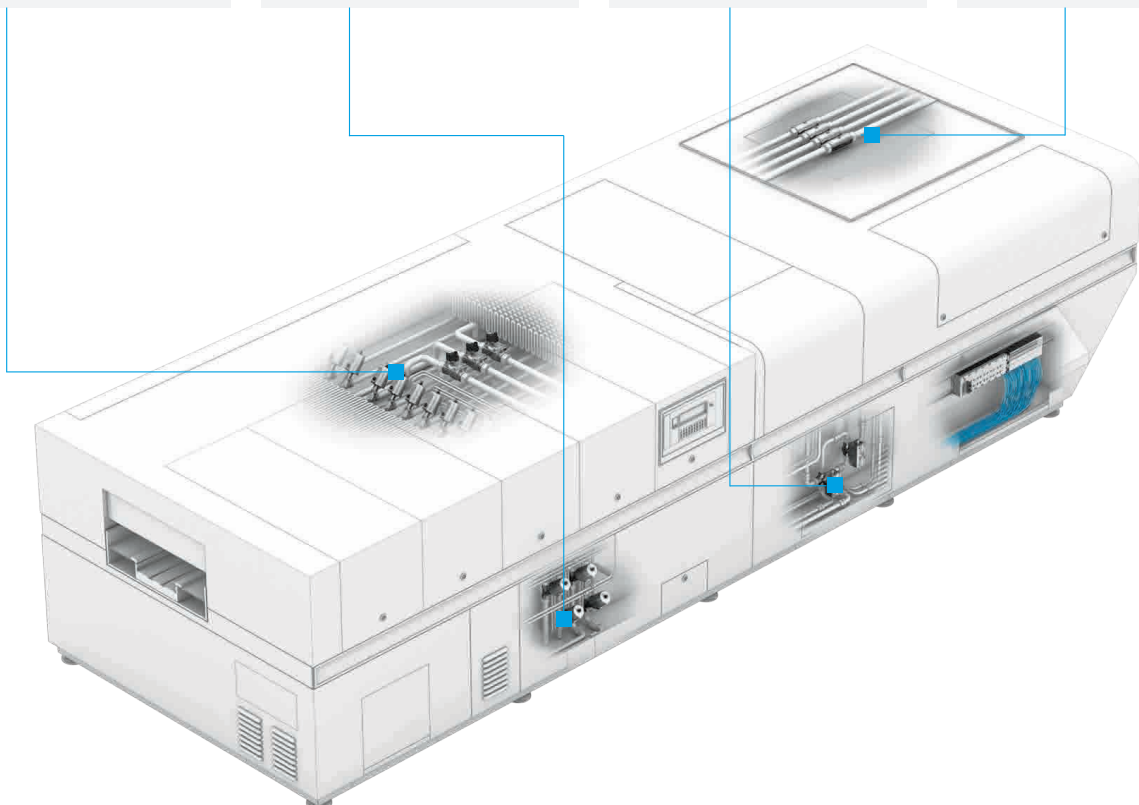
Media: cleaning fluids, gases and liquids



## Dosing and mixing

For example, for filling machines for powders and granulates

Media: granulates, powders, gases and liquids



## Plan your success strategically!

### With media valves and automation technology from a single source

#### With media valves and automation technology from Festo, you

- save time,
- streamline your processes,
- increase their quality and
- save money.

In short, if you combine the two procurement channels, which are usually separate, you will greatly increase your competitiveness. And not only in your own country, because worldwide availability, our replacement service, and Festo's engineering service are central factors for successful operation in the global market.

#### The benefits in detail: technology from a single source

- Our product range is optimally suited to supplementing the automation solutions in your machine with Integrated Automation, Mechatronic Motion Solutions, fluid power and all peripherals, either as individual components or as ready-to-install solutions.
- Our engineering support and outstanding expertise simplify engineering and design – and accelerate them. This includes engineering tools with free CAD models and extensive advice.

#### Make your supply chain simpler, faster and more reliable

- You create simple, reliable and cost-saving procurement processes. One interface for ordering, one invoicing process, one logistics process ...
- Benefit from the easy selection and ordering process from a trusted source for all moving and controlling components, from actuators and peripherals to media valves.
- Work with one project number instead of many part numbers.
- Reliable and on time: make the most of the excellent quality of our worldwide supply chain.



"For us, it's a real advantage that fluid control and auto-

mation technology come from a single source. The two fit together, are harmonised with each other – and make us faster. Not only in engineering, but also in procurement and delivery. This is so much easier than before. Because our partner Festo knows what we are talking about and supports us with advice and assistance."

What used to be a problem is now solved: process valves VZQA facilitate the precise and cost-effective dosing of glass microspheres in the filling machine of the Italian machine manufacturer CO.PACK for the first time. It accurately doses nail varnish and glass microspheres and seals the bottles with plastic caps.

Massimo Gandini,  
Owner of CO.PACK s.r.l.

# Application examples of the process and media valves

## Cooling and lubricating

Coolant and refrigerant in industrial cooling installations or production machines must do their duty reliably and supply the installations with gases, cooling water or cooling oils.



Preferred media valve:  
VZWM

Other media and process valves:  
VZXF, VZQA, VZPR, VZBA.

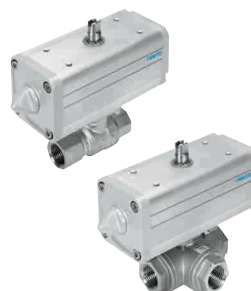
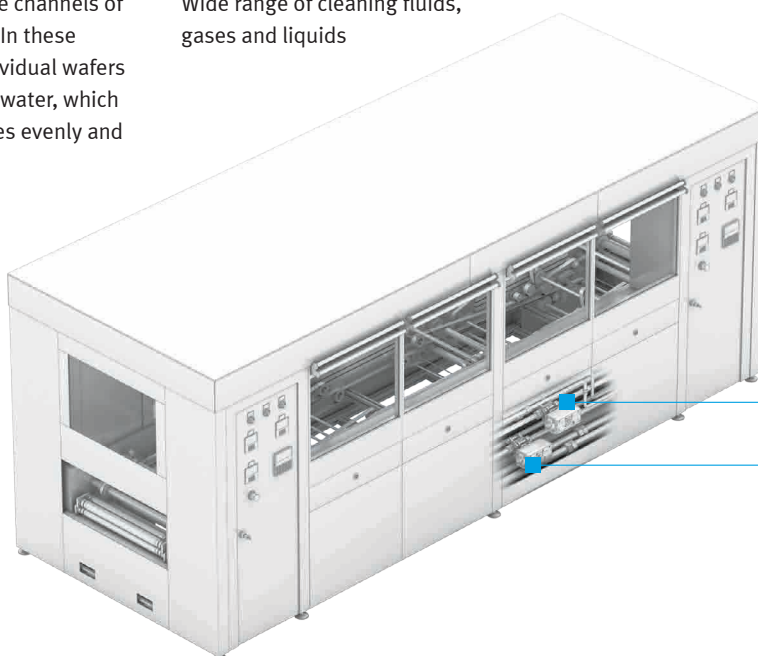


## Washing and cleaning

After being sawed, the wafers/PCs are gently cleaned with the cleaning system. The cleaning medium, usually process water or ultrapure water, is fed through the lances into the channels of the carrier beam. In these recesses, the individual wafers are bathed in the water, which cleans the surfaces evenly and completely.

For example, for cleaning machines in the manufacturing process of semiconductors

Media:  
Wide range of cleaning fluids, gases and liquids



Preferred media valve:  
2 or 3 way ball valve actuator  
units VZPR, VZBA

Other media and process valves:  
VZXF, VZQA.



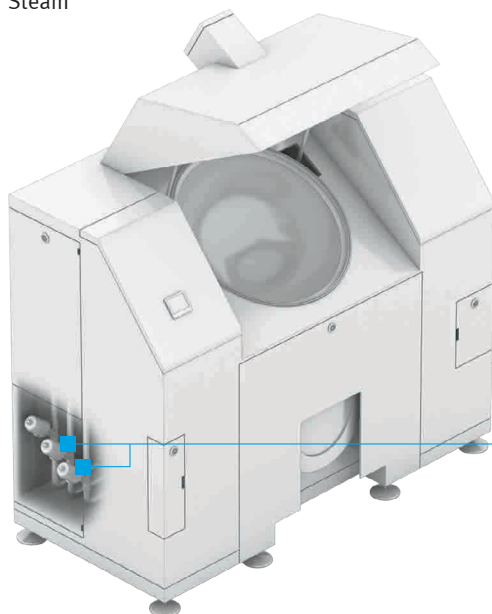
# Application examples of the process and media valves

## Sterilising

Steam sterilisation is used in many different industries that have special requirements. This means that the media valves used must meet stringent demands. They must withstand high temperatures and high pressures and function reliably.

For example, in sterilisers

Medium:  
Steam



Preferred media valve:  
Angle seat valve VZXF in stainless steel design

Other media and process valves:  
VZPR, VZBA

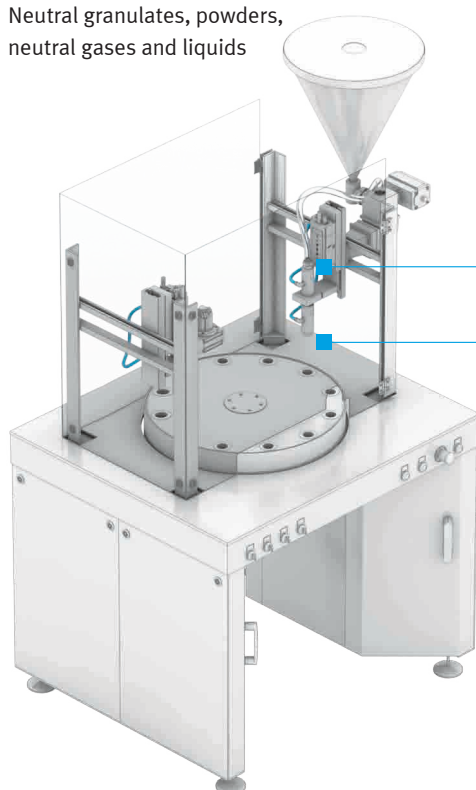


## Dosing and mixing

For controlling material flows such as granulates, liquids containing solids, and high-viscosity and abrasive media, the range of our media valves extends above 4000 mm<sup>2</sup>/s. Ideal, for example, for filling in the relevant machines.

For example, the normally closed NC variant of the pinch valve VZQA is suitable for filling machines for powders and granulates.

Media:  
Neutral granulates, powders,  
neutral gases and liquids



Preferred media valve:  
VZQA – no flow resistance,  
no blockages.

Other media and process valves:  
VZPR, VZBA





# Overview of media and process valves from Festo

## Pneumatic

### Technical data



	VZQA-NO	VZQA-NC	VZXF	VZPR	VZBA and VZBC
<b>Function</b>	2/2-way valve Normally open (NO): DN6, DN15	2/2-way valve Normally closed (NC): DN15	2/2-way valve Normally closed (NC)	2-way ball valve actuator unit	2-way or 3-way ball valve actuator unit
<b>Sizes</b>	NO: DN6, DN15	NC: DN15	1/2" to 2"	2-way: 1/4" to 2 1/2"	2-way: 1/4" to 4" 2-way compact flange: DN15 to DN100 3-way: 1/4" to 2"
<b>Design</b>	Pinch valve, pneumatically actuated	Pinch valve, pneumatically actuated with spring return	Angle seat valve, pneumatically activated with spring return	Ball valve actuator unit	Ball valve actuator unit
<b>Connection</b>	G thread DIN ISO 228, NPT thread ANSI/ASME B.1.20.1, Clamp ferrule ASME-BPE, Clamp ferrule DIN 32676	G thread DIN ISO 228, NPT thread ANSI/ASME B.1.20.1, Clamp ferrule ASME-BPE, Clamp ferrule DIN 32676	G thread DIN ISO 228, NPT thread ANSI/ASME B.1.20.1	Rp thread DIN EN 10226	VZBA: Rp thread DIN EN 10226 VZBC: compact flange DIN EN 1092-1
<b>Materials</b>	Housing: stainless steel, aluminium Cover: stainless steel, aluminium, POM Pinch valve sleeve: NBR, EPDM (FDA), silicone (FDA)	Housing: stainless steel, aluminium Cover: stainless steel, aluminium Pinch valve sleeve: EPDM (FDA)	Housing: stainless steel/ gunmetal (red brass) Actuator: stainless steel, aluminium, nickel-plated brass/aluminium, brass Seat seal: NBR, PTFE, FKM	Housing: brass Actuator: aluminium Seat seal: PTFE	Housing: stainless steel Actuator: aluminium Seat seal: PTFE
<b>Nominal pressure process valve PN</b>	PN10	PN10	Stainless steel housing: PN40 Gunmetal (red brass) housing: PN16	PN40 or PN25	VZBA: PN63 VZBC: PN16 or PN40
<b>Operating pressure</b>	1 ... 6.5 bar	1 ... 8.5 bar	6 ... 10 bar	1 ... 8 bar	1 ... 8 bar
<b>Temperature of medium</b>	NBR: -10 ... +60 °C EPDM: -5 ... +100 °C Silicone: -5 ... +150 °C	EPDM: -5 ... +100 °C	NBR: -10 ... +80 °C PTFE: -40 ... +200 °C FKM/FPM: -5 ... +80 °C	Dependent on the pressure-temperature diagram	Dependent on the pressure-temperature diagram
<b>Media pressure</b>	0 ... 4 bar	0 ... 6 bar	Stainless steel housing pressure: 0 ... 40 bar, Gunmetal (red brass) pressure housing: 0 ... 16 bar, Vacuum -0.9 ... 0 bar	See PN	See PN
<b>Flow*</b>	DN6: 0.7 m³/h DN15: 5 m³/h	DN15: 5 m³/h	Stainless steel housing: 2.8 m³/h - 47.5 m³/h Gunmetal (red brass) housing: 2.8 m³/h - 40 m³/h	5.9 m³/h - 535 m³/h	VZBA: 7 m³/h - 1414 m³/h VZBC: 19.4 m³/h - 1414 m³/h
<b>Standards/ compliance</b>	FDA-compliant components	FDA-compliant components	ATEX II 2GD, vacuum Gunmetal (red brass) housing: PWIS-free		ATEX II 2GD

\*Note: The value is calculated with water as the medium with a differential pressure of 1 bar

# Overview of media and process valves from Festo

## Electric



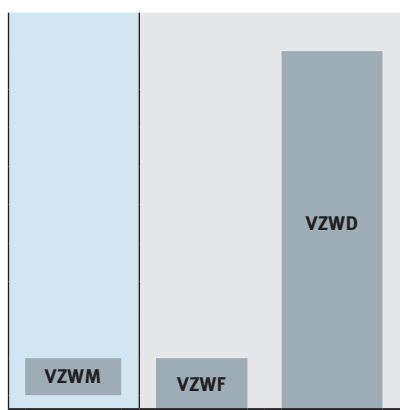
### Technical data

	VZWE	VZWM	VZWF	VZWD
<b>Function</b>	2/2-way valve, NC	2/2-way valve, NC	2/2-way valve, NC	2/2-way valve, NC
<b>Design</b>	Pilot-actuated valve	Poppet valve, indirectly actuated with diaphragm control	Poppet valve with spring return	Poppet valve with spring return
<b>Installation position</b>	Coil on top (preferred)	Coil on top (preferred)	Coil on top (preferred)	Coil on top (preferred)
<b>Connection</b>	G thread	G thread and NPT thread	G thread and NPT thread	G thread and NPT thread
<b>Valve housing material</b>	Aluminium	Brass or stainless steel	Brass or stainless steel	Brass or stainless steel
<b>Seal material</b>	NBR	NBR	NBR FPM EPDM	FPM
<b>Port sizes</b>	Angled version: 3/4", 1", 1 1/2", 2", 2 1/2" Flange version: 1", 1 1/2", 2", 2 1/2", 3"	1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"	1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"	1/8" or 1/4"
<b>Nominal width DN</b>	20/25/40/50/62/76 mm	13.5/27.5/40 mm	13.5/27.5/40/50 mm	1.0/1.5/2.0/2.5/3.0/4.0/5.0/ 6.0 mm
<b>Operating pressure</b>	0.35 ... 8 bar	0.5 ... 10 bar	0 ... 10 bar	0 ... 90 bar
<b>Required differential pressure</b>	0.35 bar	0.5 bar	0 bar	0 bar
<b>Nominal operating voltage</b>	24 V DC, 110 V AC, 230 V AC	24 V DC, 110 V AC, 230 V AC	24 V DC, 110 V AC, 230 V AC	24 V DC, 110 V AC, 230 V AC
<b>Temperature of medium</b>	-20 ... +60 °C	-10 ... +60 °C	-10 ... +80 °C	-10 ... +80 °C
<b>Flow*</b>	15 ... 210 m³/h	1.6 ... 39 m³/h	1.8 ... 28 m³/h	0.06 ... 0.4 m³/h

\*Note: The value is calculated with water as the medium with a differential pressure of 1 bar



Max. operating pressure ↑



Require differential pressure

Do not require differential pressure

### VZWD

Directly actuated solenoid valve  
0 ... 90 bar

### VZWF

Force pilot operated solenoid valve  
0 ... 10 bar

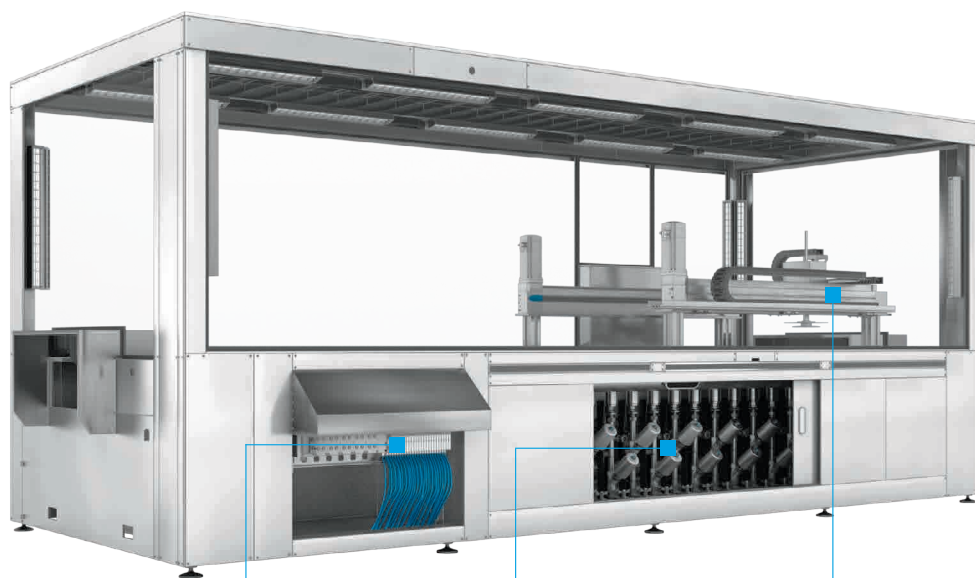
### VZWM

Indirectly actuated solenoid valve  
0.5 ... 10 bar

# Combine motion and fluid control: fluid power and factory automation from a single source.

Cooling and lubricating, cleaning and washing, sterilising or dosing and mixing: with Festo as your partner, you are on the safe side worldwide. And you save travel, time and money.

Combine motion and fluid control – and benefit from the advantages of a partner that has mastered both fields.



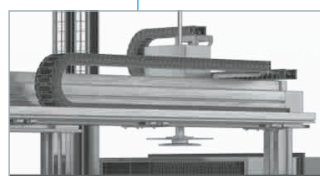
## Integrated automation

Valves, valve terminals, proportional pneumatics, servopneumatics, electronic components, safety engineering plus integrated motion control: you benefit from the comprehensive function integration with simpler, faster and more reliable processes on the unique automation platform CPX.



## Fluid power from Festo

Whether for gases, highly viscous fluids, pastes or granulates, at Festo you will find the right media and process valves for fluid power requirements.



## Mechatronic Motion Solutions

This unique platform strategy with free combination of technologies is the only one of its kind in the world.

It meets your requirements for linear and rotary motion with pneumatic and electric components, either individually or in a system, as well as for mechanical gripping and vacuum.



## Engineering support from the start

Your design processes remain as lean as possible as we will provide you with detailed advice and engineering support right from the start of the project.

