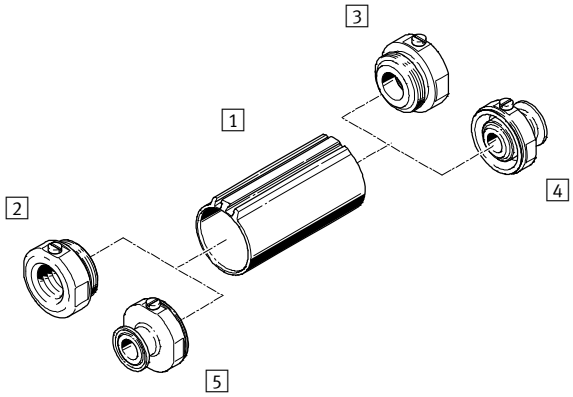
Pinch valves VZQA

Pinch valves VZQA

Features

VZQA-C-M22C function

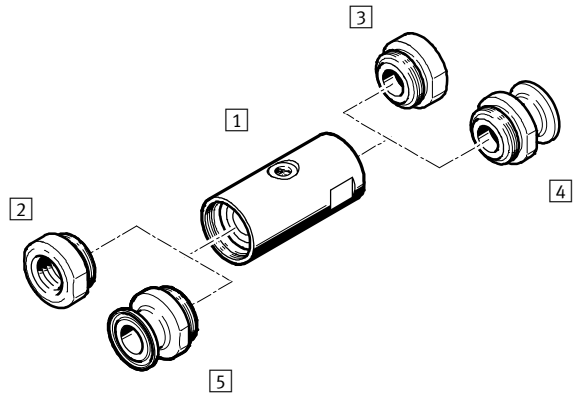
The pinch valve is a 2/2-way valve for controlling material flows. It is closed in normal position. The shut-off element is a tubular pinch valve sleeve made from elastomer. The sleeve opens when the valve is pressurised, releasing the material flow. When pressure is no longer applied, a spring will close the normally open valve. The valve can be used with liquid and gaseous media. The free passage when the valve is opened ensures minimum flow resistance and prevents the valve becoming blocked or clogged.



1 Body, normally closed
2 Process valve connection 1
G female thread, NPT female thread
3 Process valve connection 2
G female thread, NPT female thread
4 Process valve connection 1
Clamp to DIN 32676, clamp to ASME-BPE
5 Process valve connection 2
Clamp to DIN 32676, clamp to ASME-BPE

VZQA-C-M22U function

The pinch valve is a 2/2-way valve for controlling material flows. It is open in normal position. The shut-off element is a tubular pinch valve sleeve made from elastomer. The sleeve closes when the valve is pressurised, completely shutting off the material flow. When pressure is no longer applied, the normally closed valve will open due to the inherent stress of the pinch valve sleeve or the pressure of the medium. The valve can be used to shut off liquid and dusty media, solids (granulate) and mixtures of substances. The free passage when the valve is opened ensures minimum flow resistance and prevents the valve becoming blocked or clogged.



1 Body, normally open
2 Process valve connection 1
G female thread, NPT female thread
3 Process valve connection 2
G female thread, NPT female thread
4 Process valve connection 1
Clamp to DIN 32676, clamp to ASME-BPE
5 Process valve connection 2
Clamp to DIN 32676, clamp to ASME-BPE

Application

- The valve can be used to control liquid and dusty media, solids and material mixtures.

Design

- Easy-to-clean housing (clean design)
- Open or closed in normal position
- Pinch valve sleeve made from elastomer

Note

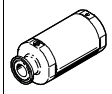
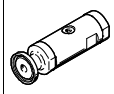
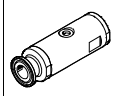
Pilot air port 12:
G⅛ at DN15 (-M22U), M5 at DN6 (-M22U) and DN15 (-M22C), max. permissible thread length 5 mm.

Areas of application

The pinch valve may only be used in systems where a damaged or leaking seal cartridge cannot pose a hazard to people or property. The media circuit must be sized for the set pilot pressure. The designer and operator of the system are responsible for ensuring the product is suitable for the system as well as for ensuring that the seal cartridge material is resistant to the medium used. Appropriate tests are generally required to assess the suitability. The risks associated with a leaking seal cartridge and the corresponding consequences must be taken into account when planning the system.

Pinch valves VZQA

Product range overview

Feature	Type	Nominal width DN	Process valve connection	Flow rate [m³/h]	➔ Page/Internet
	VZQA-C-M22C-...	15	G½	5	5
			½ NPT		
			Clamp to DIN 32676		
			Clamp to ASME-BPE		
	VZQA-C-M22U-...	6	G¼	0.7	8
			¼ NPT		
			Clamp to DIN 32676		
			Clamp to ASME-BPE		
	VZQA-C-M22U-...	15	G½	5	8
			½ NPT		
			Clamp to DIN 32676		
			Clamp to ASME-BPE		

Note

The hermetic separation between the media circuit and control circuit is no longer guaranteed if wear causes the pinch valve sleeve to leak. The flow medium can then get into the control circuit, from where it can escape. Any potential hazard (e.g. due to aggressive or hot media) must be ruled out. The compressed air supply to the control valve must be protected against the ingress of the flow medium using a suitable check valve, or a suitable protection against return flow must be integrated in the pilot line in the immediate vicinity of the media valve. Pilot medium can get into the media circuit if the pinch valve sleeve fails. The media circuit must therefore be sized for the set pilot pressure. Any potential hazard must be ruled out.

Pinch valves VZQA

Type codes

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VZQA	–	C	–	M22U	–	6	–	G	G	–	V4	V4	N	–	4	–	E

Type	
VZQA	Pinch valve, pneumatically actuated

Product version	
C	Easy-to-clean design

Valve function	
M22C	2/2-way valve, normally closed
M22U	2/2-way valve, normally open

Nominal width DN	
6	6 mm
15	15 mm

Connection type 1	
G	G female thread
T	NPT female thread
S1	Clamp to ASME-BPE
S5	Clamp to DIN 32676

Connection type 2	
G	G female thread
T	NPT female thread
S1	Clamp to ASME-BPE
S5	Clamp to DIN 32676

Housing material	
AL	Aluminium
V2	Stainless steel
V4	Stainless steel

Housing cover material	
AL	Aluminium
V4	Stainless steel
POM	Polyoxymethylene

Shut-off element material	
E	EPDM
N	NBR
S1	Silicone

Pressure range of media	
4	0 ... 4 bar
6	0 ... 6 bar

Sensing type	
–	None
E	End positions

Pinch valves VZQA

Technical data M22C

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Function

General technical data			
VZQA-C-M22C-15...	-S5S5-V2V4E-6	-S5S5-ALV4E-6-E	-GG-V2V4E-6
Nominal width DN	15		
Design	Pinch valve, pneumatically actuated		
Type of actuation	Pneumatic		
Sealing principle	Soft		
Mounting position	Any		
Valve function	2/2-way, closed, monostable		
Direction of flow	Reversible		
Reset method	Mechanical spring		
Type of piloting	Externally actuated		
Type of mounting	In-line installation		
Process valve connection	Clamp to DIN 32676		G½
Auxiliary pilot air port 12	M5		

Operating and environmental conditions		
Switching time on	[ms]	150
Switching time off	[ms]	250
Flow rate Kv	[m^3/h]	5
Medium pressure	[bar]	0 ... 6
Nominal pressure of process valve PN		10
Pilot pressure	[bar]	3.5 ... 6
Burst pressure	[bar]	16
Medium		Compressed air to ISO 8573-1:2010 [-:-:1]
		Water
Pilot medium		Compressed air to ISO 8573-1:2010 [7:4:1]
Ambient temperature	[°C]	−5 ... +60
Temperature of medium	[°C]	−5 ... +100
Max. viscosity	[mm^2/s]	4000
Corrosion resistance class CRC[1)]		4

1) Corrosion resistance class 4 to Festo standard 940 070
Components subject to high corrosion stress. Parts exposed to aggressive media, e.g. in the food or chemical industry. These applications may need to be safeguarded by means of special testing using the media.

Materials				
VZQA-C-M22C-15...	-S5S5-V2V4E-6	-S5S5-ALV4E-6-E	-GG-V2V4E-6	Material number
Housing	High-alloy stainless steel	–	High-alloy stainless steel	1.4435
	–	Wrought aluminium alloy	–	–
Housing cover	High-alloy stainless steel			1.4435
Seals	FPM			–
Shut-off element	EPDM			–
Note on materials	Contains paint-wetting impairment substances			–
	RoHS compliant			–

Pinch valves VZQA

Technical data M22C

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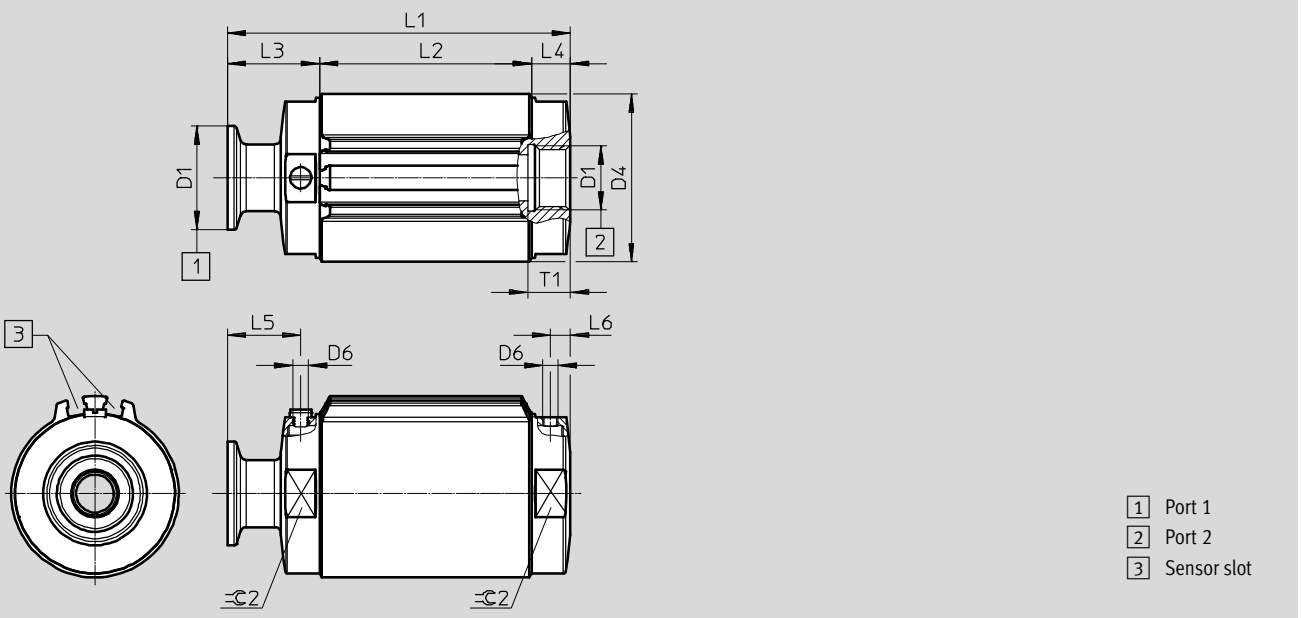
Dimensions Download CAD data ➔ **www.festo.com**

Illustration of port 1: clamp to DIN 32676, port 2: G½



Variant	D1		D6	L1	L2	L3	L4	L5	L6	T1	⊂ 2
	Port 1	Port 2									
...-GG-...	G½	G½	M5	95	69.5	12.8	12.8	6.8	6.8	14	50
...-TT-...	½ NPT	½ NPT		95		12.8	12.8	6.8	6.8		
...-GT-...	G½	½ NPT		95		12.8	12.8	6.8	6.8		
...-TG-...	½ NPT	G½		95		12.8	12.8	6.8	6.8		
...-S1S1-...	ASME-BPE	¼ ASME-BPE		130		30.3	30.3	24	24		
...-S1G-...	ASME-BPE	G½		112.5		12.8	12.8	6.8	6.8		
...-S1T-...	ASME-BPE	½ NPT		112.5		12.8	12.8	6.8	6.8		
...-GS1-...	G½	¼ ASME-BPE		112.5		12.8	12.8	6.8	6.8		
...-TS1-...	½ NPT	¼ ASME-BPE		112.5		12.8	12.8	6.8	6.8		
...-S1S5-...	ASME-BPE	¼ DIN 32676 clamp		130		30.3	30.3	24	24		
...-S5S1-...	DIN 32676 clamp	¼ ASME-BPE		130		30.3	30.3	24	24		
...-S5S5-...	DIN 32676 clamp	¼ DIN 32676 clamp		130		30.3	30.3	24	24		
...-S5G-...	DIN 32676 clamp	G½		112.5		12.8	12.8	6.8	6.8		
...-S5T-...	DIN 32676 clamp	½ NPT		112.5		12.8	12.8	6.8	6.8		
...-GS5-...	G½	¼ DIN 32676 clamp		112.5		12.8	12.8	6.8	6.8		
...-TS5-...	½ NPT	¼ DIN 32676 clamp		112.5		12.8	12.8	6.8	6.8		

Housing material	D4 ∅
AL	55
V2	52.4

Pinch valves VZQA

Technical data M22C

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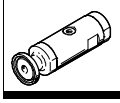
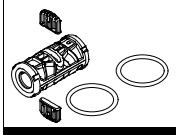
Ordering data					
	Nominal width DN	Process valve connection	Weight [g]	Part No.	Type
	15	Clamp to DIN 32676	666	**3412424**	**VZQA-C-M22C-15-S5S5-V2V4E-6**
		Clamp to DIN 32676	607	**3412425**	**VZQA-C-M22C-15-S5S5-ALV4E-6-E**
		G½	536	**3412426**	**VZQA-C-M22C-15-GG-V2V4E-6**

Ordering data					
Seal cartridge	Nominal width DN	Information on materials, shut-off element	Note on materials	Part No.	Type
	15	EPDM	RoHS compliant	**3418619**	**VAVC-Q-M22C-15-E**

Pinch valves VZQA

Technical data M22U

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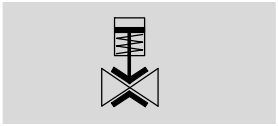
Function



General technical data					
VZQA-C-M22U-...		-6-GG-...	-6-S5S5-...	-15-GG-...	-15-S5S5-...
Nominal width DN		6		15	
Design		Pinch valve, pneumatically actuated			
Type of actuation		Pneumatic			
Sealing principle		Soft			
Mounting position		Any			
Valve function		2/2-way, open, monostable			
Direction of flow		Reversible			
Reset method		Rebound resilience			
Type of piloting		Externally actuated			
Type of mounting		In-line installation			
Process valve connection		G¼	Clamp to DIN 32676	G½	Clamp to DIN 32676
Auxiliary pilot air port 12		M5		G⅛	

Operating and environmental conditions					
VZQA-C-M22U-...		-6-GG-...	-6-S5S5-...	-15-GG-...	-15-S5S5-...
Switching time on	[ms]	125		250	
Switching time off	[ms]	125		250	
Flow rate Kv	[m^3/h]	0.7		5	
Medium pressure	[bar]	0 ... 4			
Nominal pressure of process valve PN		10			
Overload pressure	[bar]	7.8			
Pilot pressure	[bar]	1 ... 6.5			
Differential pressure	[bar]	2.5			
Burst pressure	[bar]	16			
Ambient temperature	[°C]	−5 ... +60			
Max. viscosity	[mm^2/s]	4000			
Corrosion resistance class CRC[1)]		4			

1) Corrosion resistance class 4 to Festo standard 940 070
Components subject to high corrosion stress. Parts exposed to aggressive media, e.g. in the food or chemical industry. These applications may need to be safeguarded by means of special testing using the media.

Operating and environmental conditions								
VZQA-C-M22U-...	-6-GG-V4V4E-4	-6-S5S5-V4V4E-4	-15-GG-V4V4E-4	-15-S5S5-V4V4E-4	-6-GG-ALV4N-4	-15-GG-V4V4N-4	-15-GG-ALV4N-4	-15-GG-ALPOMN-4
Medium	Compressed air to ISO 8573-1:2010 [-:-:1]				Compressed air to ISO 8573-1:2010 [-:-:-]			
	Water				–			
Pilot medium	Compressed air to ISO 8573-1:2010 [7:4:1]				Compressed air to ISO 8573-1:2010 [7:4:4]			
Temperature of medium [°C]	–5 ... +100				–5 ... +60			

Materials									
VZQA-C-M22U-...	-6-GG-V4V4E-4	-6-S5S5-V4V4E-4	-15-GG-V4V4E-4	-15-S5S5-V4V4E-4	-15-GG-V4V4N-4	-6-GG-ALV4N-4	-15-GG-ALV4N-4	-15-GG-ALPOMN-4	Material number
Housing	High-alloy stainless steel					–			1.4435
	–					Wrought aluminium alloy			–
Housing cover	High-alloy stainless steel							–	1.4435
	–							POM	–
Seals	FPM								–
Shut-off element	EPDM				NBR				–
Note on materials	Contains paint-wetting impairment substances								–
	RoHS compliant								–

Pinch valves VZQA

Technical data M22U

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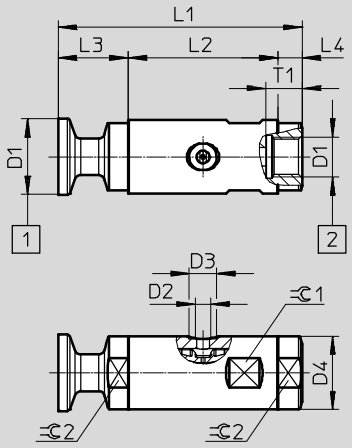
Dimensions Download CAD data ➔ **www.festo.com**

Illustration of port 1: clamp to DIN 32676, port 2: G½



1 Port 1
2 Port 2

Variant	D1		D2	D3 ∅	D4 ∅	L1	L2	L3	L4	T1	⌀C 1	⌀C 2
	Port 1	Port 2										
Nominal width DN6												
...-GG-...	G¼	G¼	M5	9	24	65	49	8	8	12	22	22
...-TT-...	¼ NPT	¼ NPT				65		8	8			
...-GT-...	G¼	¼ NPT				65		8	8			
...-TG-...	¼ NPT	G¼				65		8	8			
...-S1S1-...	ASME-BPE	¼ ASME-BPE				95		23	23			
...-S1G-...	ASME-BPE	G¼				80		23	8			
...-S1T-...	ASME-BPE	¼ NPT				80		23	8			
...-GS1-...	G¼	¼ ASME-BPE				80		8	23			
...-TS1-...	¼ NPT	¼ ASME-BPE				80		8	23			
...-S1S5-...	ASME-BPE	¼ DIN 32676 clamp				95		23	23			
...-S5S1-...	DIN 32676 clamp	¼ ASME-BPE				95		23	23			
...-S5S5-...	DIN 32676 clamp	¼ DIN 32676 clamp				95		23	23			
...-S5G-...	DIN 32676 clamp	G¼				80		23	8			
...-S5T-...	DIN 32676 clamp	¼ NPT				80		23	8			
...-GS5-...	G¼	¼ DIN 32676 clamp				80		8	23			
...-TS5-...	¼ NPT	¼ DIN 32676 clamp				80		8	23			

Pinch valves VZQA

Technical data M22U

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Variant	D1		D2	D3 ∅	D4 ∅	L1	L2	L3	L4	T1	⌀1	⌀2
	Port 1	Port 2										
Nominal width DN15												
...-GG-...	G½	G½	G⅛	15	38	95	81	7	7	14	36	36
...-TT-...	½ NPT	½ NPT				95		7	7			
...-GT-...	G½	½ NPT				95		7	7			
...-TG-...	½ NPT	G½				95		7	7			
...-S1S1-...	¼ ASME-BPE	¼ ASME-BPE				130		24.5	24.5			
...-S1G-...	¼ ASME-BPE	G½				112.5		24.5	7			
...-S1T-...	¼ ASME-BPE	½ NPT				112.5		24.5	7			
...-GS1-...	G½	¼ ASME-BPE				112.5		7	24.5			
...-TS1-...	½ NPT	¼ ASME-BPE				112.5		7	24.5			
...-S1S5-...	¼ ASME-BPE	¼ DIN 32676 clamp				130		24.5	24.5			
...-S5S1-...	¼ DIN 32676 clamp	¼ ASME-BPE				130		24.5	24.5			
...-S5S5-...	¼ DIN 32676 clamp	¼ DIN 32676 clamp				130		24.5	24.5			
...-S5G-...	¼ DIN 32676 clamp	G½				112.5		24.5	7			
...-S5T-...	¼ DIN 32676 clamp	½ NPT				112.5		24.5	7			
...-GS5-...	G½	¼ DIN 32676 clamp				112.5		7	24.5			
...-TS5-...	½ NPT	¼ DIN 32676 clamp				112.5		7	24.5			
...-...-V4POM-...	–	–	G⅛	15	38	100	81	7	12	14	36	36
...-...-ALPOM-...	–	–										

Pinch valves VZQA

Technical data M22U

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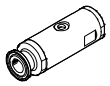
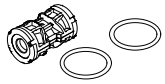
Ordering data					
	Nominal width DN	Process valve connection	Weight [g]	Part No.	Type
	6	G¼	157	**2931678**	**VZQA-C-M22U-6-GG-V4V4E-4**
		G¼	105.5	**2931679**	**VZQA-C-M22U-6-GG-ALV4N-4**
		Clamp to DIN 32676	215	**2931681**	**VZQA-C-M22U-6-S5S5-V4V4E-4**
	15	G½	431	**3022829**	**VZQA-C-M22U-15-GG-V4V4E-4**
		G½	431	**3022830**	**VZQA-C-M22U-15-GG-V4V4N-4**
		G½	265	**3022831**	**VZQA-C-M22U-15-GG-ALV4N-4**
		G½	158	**3022832**	**VZQA-C-M22U-15-GG-ALPOMN-4**
		Clamp to DIN 32676	559	**3022833**	**VZQA-C-M22U-15-S5S5-V4V4E-4**

Ordering data					
Seal cartridge	Nominal width DN	Information on materials, shut-off element	Note on materials	Part No.	Type
	6	NBR	RoHS compliant	**2392881**	**VAVC-Q2-M22U-6-N**
		EPDM		**2392882**	**VAVC-Q2-M22U-6-E**
		Silicone		**2392883**	**VAVC-Q2-M22U-6-S1**
	15	Silicone		**3019144**	**VAVC-Q2-M22U-15-S1**
		EPDM		**3019148**	**VAVC-Q2-M22U-15-E**
		NBR		**3019151**	**VAVC-Q2-M22U-15-N**

Pinch valves VZQA

Ordering data – Modular product system

FESTO

Ordering table

	VZQA-C-...	M22C	M22U	Condi-tions	Code		Entry code
M	Module no.	**3174282**	**2037881**				
	Product type	Pinch valve			**VZQA**		VZQA
	Version	Easy-to-clean design			**-C**		-C
	Valve function	2/2-way valve, normally closed	–		**-M22C**		
		–	2/2-way valve, normally open		**-M22U**		
	Nominal diameter DN	–	6		**-6**		
		15			**-15**		
	Process valve connection type 1	G female thread			**-G**		
		Clamp to ASME-BPE		1	**-S1**		
		Clamp to DIN 32676		1	**-S5**		
		NPT female thread			**-T**		
	Process valve connection type 2	G female thread			**G**		
		Clamp to ASME-BPE		1	**S1**		
		Clamp to DIN 32676		1	**S5**		
		NPT female thread			**T**		
	Housing material	Aluminium			**-AL**		
		Stainless steel (chrome-nickel, austenitic)	–		**-V2**		
		–	Stainless steel (chrome-nickel-molybdenum, austenitic)		**-V4**		
	Housing cover material	Aluminium			**AL**		
		–	Polyoxymethylene	3	**POM**		
		Stainless steel (chrome-nickel-molybdenum)			**V4**		
	Shut-off element material	EPDM			**E**		
		–	NBR		**N**		
		–	Silicone		**S1**		
	Pressure range of media [bar]	–	0 ... 4		**-4**		
		0 ... 6	–		**-6**		
O	Sensing type	None	–				
		End positions	–	2 4	**-E**		

1 **S1, S5** Only in combination with housing cover material V4 (stainless steel)
2 **E** Only in combination with valve function M22C
3 **POM** Not in combination with nominal diameter DN6
4 **E** Not in combination with housing material V2 (stainless steel)

M Mandatory data
O Options

Transfer order code

	VZQA	–	C	–		–		–						–		–	

Product Range and Company Overview

A Complete Suite and Company Overview

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.

Custom Automation Components
Complete custom engineered solutions

Custom Control Cabinets
Comprehensive engineering support and on-site services

Complete Systems
Shipment, stocking and storage services

The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.

Electromechanical
Electromechanical actuators, motors, controllers & drivers

Pneumatics
Pneumatic linear and rotary actuators, valves, and air supply

PLCs and I/O Devices
PLC's, operator interfaces, sensors and I/O devices

Supporting Advanced Automation... As No One Else Can!
Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 16,000 employees in 60 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

Quality Assurance, ISO 9001 and ISO 14001 Certifications
Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.

9001:CERTCS-16248-2006-AQ-ESN-TGA
ISO 9001
ISO 14001
DNV
Certified Company
14001:CERTCS-16248A-2006-AQ-ESN-TGA

UL REGISTERED FIRM

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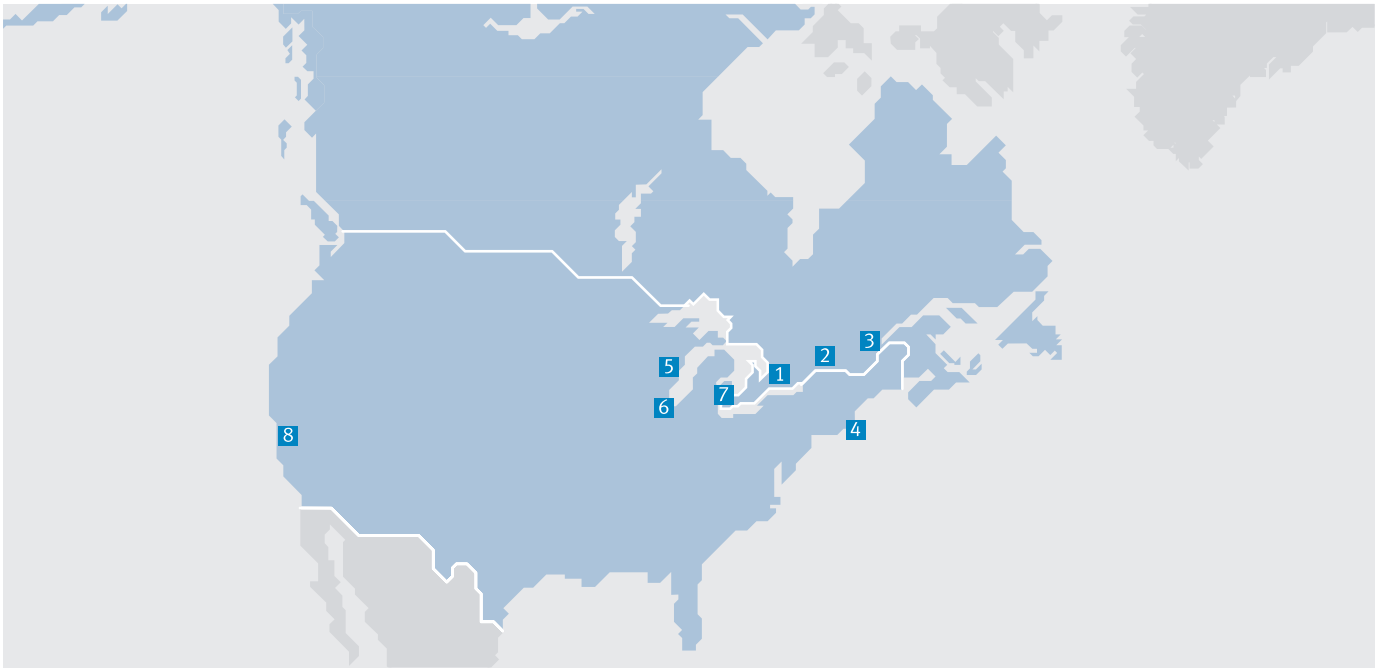
Festo North America



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