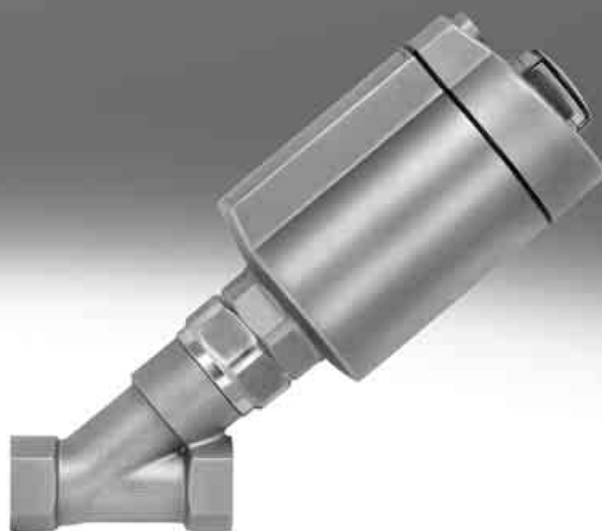


Angle seat valves VZXA

FESTO



Angle seat valves VZXA

Key features

FESTO

Function

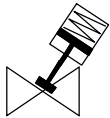
The angle seat valves VZXA are externally actuated valves which are controlled by a direct feed of compressed air and are used to shut off gaseous

or liquid media in pipe systems. In the process, a spindle with a soft-sealing valve disc is raised and lowered with the aid of a pneumatic

actuator. In all the versions mentioned below, the valve seat is slanted around 40° toward the medium flow.

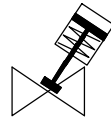
The direction of flow is determined by the design of the valve (process valve and actuator).

NC version (normally closed)



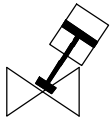
In the normal position, the valve is closed by a spring. When the actuator is supplied with operating pressure, it raises the control piston and, at the same time, the valve disc too – this opens the valve.

NO version (normally open)



In the normal position, the valve is opened by a spring. When the actuator is supplied with operating pressure, it lowers the control piston and, at the same time, the valve disc too – this closes the valve.

DA version (double acting)



The control function is performed by reciprocal pneumatic actuation of the actuator chambers.

Economical

- Modular design
- Hygienic design, insensitive to dirt
- Long service life
- Quick and easy maintenance
- High flow rates achievable

Flexible

- Control of medium flows (gaseous and liquid) in closed and open circuits
- The angle seat valves VZXA are simple and sturdy and are thus perfectly suitable for almost all media with a viscosity of up to 600 mm²/s
- Angle seat valves VZXA made from stainless steel with PTFE seals have high chemical and thermal resistance
- Temperature of medium –10 ... +180 °C

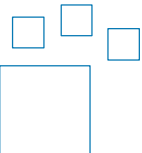
Design

- G thread to DIN ISO 228-1 Parallel Whitworth pipe thread, non-metallically sealing; must either be provided with an annular seal outside the thread or must be sealed by wrapping the thread with PTFE or hemp
- NPT thread to ANSI/ASME B 1.20.1 American tapered pipe thread with sealing material sealing in the thread, female thread tapered, male thread tapered
- Rc thread to DIN 10226-2 Pipe thread for fittings sealing in the thread, female thread tapered, male thread tapered

- Connection sizes 1/2" ... 2" and DN13 ... DN50
- Medium pressure: 0 ... 30 bar
- Operating pressure: 5 ... 10 bar
- Threaded collar connection
- Actuator sizes: piston actuator 46 mm and 75 mm
- ATEX



Product configurator



Configurable product
This product and all its options can be ordered using the configurator.

The configurator can be found under Products on the DVD or at
→ www.festo.com/catalogue/...

Enter the type (or part number) in the search field:

- VZXA 3539410

Angle seat valves VZXA

Product range overview

Product range overview			
	Type	Control function	Direction of flow
	VZXA-A-...	Closed via spring force, NC	- Above valve seat - For gaseous media, “closing in the direction of medium flow” is used
	VZXA-B-...	- Closed via spring force, NC - Opened via spring force, NO - Double-acting, DA	- Below valve seat - For gaseous and liquid media, “closing against the direction of medium flow” is used in order to prevent or reduce water hammer effects

Angle seat valves VZXA

Type codes

FESTO

VZXA - A - - T S7 - 1/2" - M2 - V14 T

Type	
VZXA	Process valve
Direction of flow	
A	Above valve seat for gaseous media
B	Below valve seat for gaseous and liquid media
Control of the medium	
-	On/off operation
Line connection	
T	Threaded collar
Connection standard	
S6	DIN ISO 228-1
S7	ANSI/ASME B 1.20.1
S13	DIN 10226
Connection size	
1/2"	1/2"
3/4"	3/4"
1"	1"
1 1/2"	1 1/2"
1 1/4"	1 1/4"
2"	2"
13	DN13
20	DN20
25	DN25
32	DN32
40	DN40
50	DN50
Temperature of medium	
M2	-10 to +180 °C
Valve housing material	
V13	Stainless steel 1.4409
V14	Stainless steel ASTM A351-CF3M
Seat seal material	
T	PTFE

Angle seat valves VZXA

Type codes

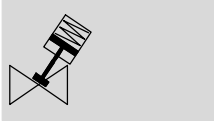
		-	16	-	K	-	46	-	17	-	PR	-		-	V4	-	
Medium pressure																	
4	0 ... 4 bar																
4,4	0 ... 4.4 bar																
4,8	0 ... 4.8 bar																
5,6	0 ... 5.6 bar																
5,8	0 ... 5.8 bar																
6	0 ... 6 bar																
6,2	0 ... 6.2 bar																
6,8	0 ... 6.8 bar																
7,5	0 ... 7.5 bar																
8	0 ... 8 bar																
8,3	0 ... 8.3 bar																
9,3	0 ... 9.3 bar																
10	0 ... 10 bar																
11,5	0 ... 11.5 bar																
12,2	0 ... 12.2 bar																
12,8	0 ... 12.8 bar																
13,5	0 ... 13.5 bar																
14,5	0 ... 14.5 bar																
15,5	0 ... 15.5 bar																
16	0 ... 16 bar																
23	0 ... 23 bar																
25	0 ... 25 bar																
30	0 ... 30 bar																
Actuator																	
K	Piston actuator																
Actuator size																	
46	46 mm																
75	75 mm																
Stroke																	
17	17 mm																
20	20 mm																
Control function																	
-	Closed via spring force, NC																
D	Double-acting																
S	Opened via spring force, NO																
PR	Closed via reduced spring force, NC																
Position sensing																	
-	With mechanical indicator																
Actuator housing material																	
V4	Stainless steel 1.4408																
EU certification																	
-	None																
EX4	II 2GD																

Angle seat valves VZXA with piston actuator

FESTO

Technical data

Function



- Poppet valve with piston actuator
- Line connection
1/2" ... 2", DN13 ... DN50
- Stroke
17 ... 20 mm



General technical data												
Line connection			DN13, 1/2"		DN20, 3/4"		DN25, 1"		DN32, 1 1/4"		DN40, 1 1/2"	DN50, 2"
Actuator			D46		D46	D75	D46	D75	D46	D75	D46	D46
Flow rate Kv	VZXA-A-...	[m3/h]	6.6	–	14.5	–	21.5	–	–	–	–	–
	VZXA-B-...	[m3/h]	6	13.3	13.5	20.3	22.6	27.9	30.3	41.4	50.1	
Design			Poppet valve with piston actuator									
Type of actuation			Pneumatic									
Type of mounting			In-line installation									
Mounting position			Any									
Valve function			2/2									
Pneumatic connection			Female thread G1/8									
Flow direction			Non-reversible									
Reset method			Mechanical spring									
Type of actuation			Externally actuated									
Position sensing			With mechanical indicator									
Control of the medium			On/off operation									
Control function	VZXA-A-...		Closed via reduced spring force, NC									
	VZXA-B-...		Closed via spring force, NC									
Direction of flow	VZXA-A-...		Above valve seat for gaseous media									
	VZXA-B-...		Below valve seat for gaseous and liquid media									

Operating and environmental conditions		
Operating pressure	[bar]	5 ... 10
Ambient temperature	[°C]	0 ... +60
Temperature of medium	[°C]	−10 ... +180
Storage temperature	[°C]	−10 ... +60
Degree of protection		IP65
		IP67
		IP69K
Max. viscosity	[mm²/s]	600
Medium		Vapour
		Inert gases
		Filtered compressed air, grade of filtration 200 µm
	VZXA-B-... additionally	Mineral oil-based hydraulic oil
		Mineral oil
		Water
		Neutral fluids
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]

Angle seat valves VZXA with piston actuator

Technical data

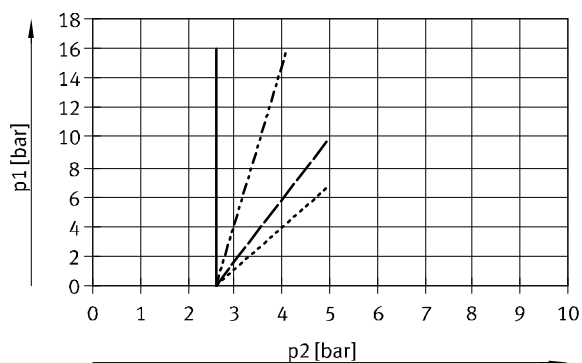
ATEX						
Connection size	DN13, 1/2"	DN20, 3/4"	DN25, 1"	DN32, 1 1/4"	DN40, 1 1/2"	DN50, 2"
ATEX category for gas	II 2G					
Type of ignition protection for gas	c T6 ... T3 X					
ATEX category for dust	II 2D					
Type of ignition protection for dust	c T80°C ... T200°C X					
Explosion ambient temperature [°C]	0°C ≤ Ta ≤ +60°C					
CE mark (see declaration of conformity) ¹⁾	–			To EU Pressure Equipment Directive		

1) Additional information www.festo.com/sp → Certificates.

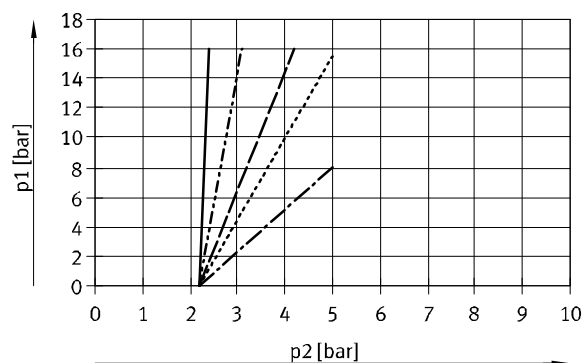
Materials	Material number	
Piston rod	High-alloy stainless steel	
End cap	Stainless steel casting	
Seals	FPM	
Spindle washer	PTFE	
Seat seal	PTFE	
Actuator housing	Stainless steel casting	1.4408
Valve housing	Stainless steel casting	1.4409
		ASTM A351-CF3M
Note on materials	Contains paint-wetting impairment substances	
	RoHS compliant	

Permissible operating pressure as a function of medium pressure for control function NC, type B				
Nominal width	Max. medium pressure		Min. operating pressure	
	D46	D75	D46	D75
DN13, 1/2"	30	–	4.8	–
DN20, 3/4"	12.8	30	4.8	4.6
DN25, 1"	8.3	23	4.8	4.6
DN32, 1 1/4"	4.4	13.5	4.8	4.6
DN40, 1 1/2"	–	9.3	–	4.6
DN50, 2"	–	5.6	–	4.6

Permissible operating pressure p ₂ as a function of medium pressure p ₁ for control function NC, type A	
VZXA-A-...-K-46-...-PR	VZXA-A-...-K-75-...-PR



— DN13, 1/2"
 - - - DN20, 3/4"
 — DN25, 1"
 - - - DN32, 1 1/4"



— DN20, 3/4"
 - - - DN25, 1"
 — DN32, 1 1/4"
 - - - DN40, 1 1/2"
 — DN50, 2"

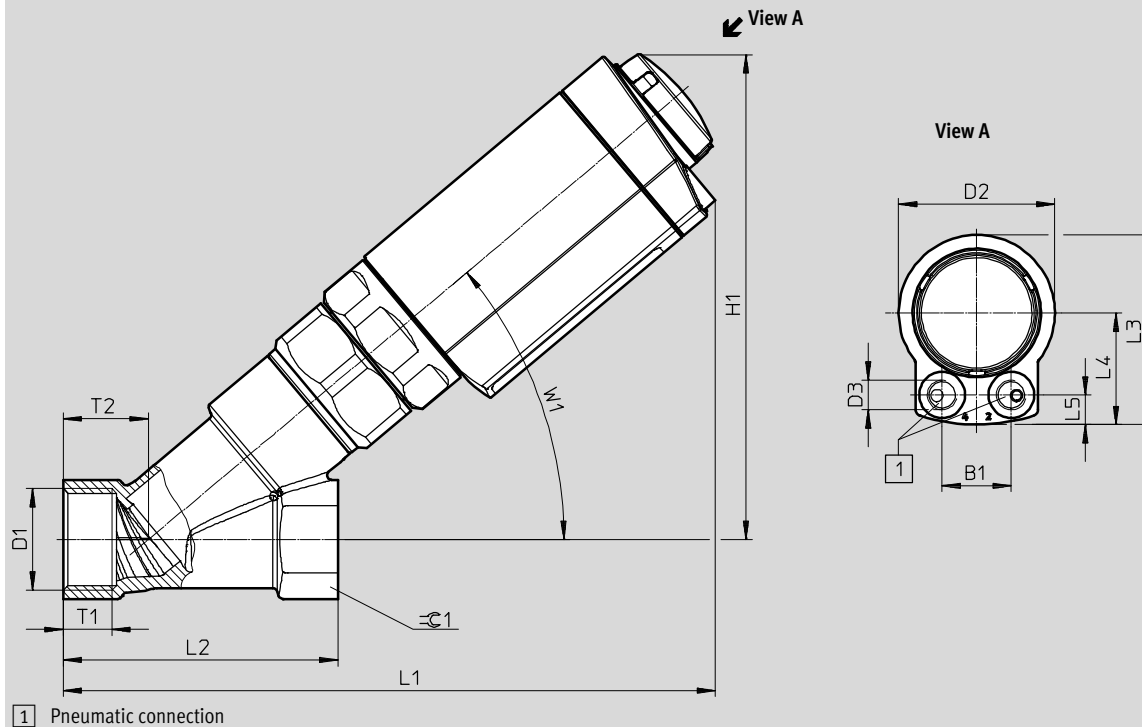
Angle seat valves VZXA with piston actuator

Technical data

FESTO

Dimensions

Download CAD data → www.festo.com



Type	B1	D1			D2 Ø	D3	H1	L1	L2
		S6	S7	S13					
VZXA-A-...-13-...-16-...-46-17-...	22.6	G1/2	1/2 NPT	Rc1/2	51	G1/8	159	202	65
VZXA-A-...-20-...-16-...-75-20-...	41	G3/4	3/4 NPT	Rc3/4	82.6		187	234	75
VZXA-A-...-25-...-16-...-75-20-...	41	G1	1" NPT	Rc1	82.6		192	244	90
VZXA-B-...-13-...-30-...-46-17-...	22.6	G1/2	1/2 NPT	Rc1/2	51		159	202	65
VZXA-B-...-20-...-12.8-...-46-17-...	22.6	G3/4	3/4 NPT	Rc3/4	51		158	203	75
VZXA-B-...-20-...-30-...-75-20-...	41	G3/4	3/4 NPT	Rc3/4	82.6		187	234	75
VZXA-B-...-25-...-8.3-...-46-17-...	22.6	G1	1" NPT	Rc1	51		164	214	90
VZXA-B-...-25-...-23-...-75-20-...	41	G1	1" NPT	Rc1	82.6		192	244	90
VZXA-B-...-32-...-4.4-...-46-17-...	22.6	G11/4	11/4 NPT	Rc11/4	51		168	218	110
VZXA-B-...-32-...-13.5-...-75-20-...	41	G11/4	11/4 NPT	Rc11/4	82.6		198	248	110
VZXA-B-...-40-...-9.3-...-75-20-...	41	G11/2	11/2 NPT	Rc11/2	82.6		216	270	120
VZXA-B-...-50-...-5.6-...-75-20-...	41	G2	2" NPT	Rc2	82.6		215	286	150

Type	L3	L4	L5	T1			T2	W1	≈C1
				S6	S7	S13			
VZXA-A-...-13-...-16-...-46-17-...	62	36.5	26.8	14	13.7	13.2	21.5	40	25
VZXA-A-...-20-...-16-...-75-20-...	94.4	53.1	41	16	14	14.5	24	40	32
VZXA-A-...-25-...-16-...-75-20-...	94.4	53.1	41	16	16.8	16.8	28	40	41
VZXA-B-...-13-...-30-...-46-17-...	62	36.5	26.8	14	13.7	13.2	21.5	40	25
VZXA-B-...-20-...-12.8-...-46-17-...	62	36.5	26.8	16	14	14.5	24	40	32
VZXA-B-...-20-...-30-...-75-20-...	94.4	53.1	41	16	14	14.5	24	40	32
VZXA-B-...-25-...-8.3-...-46-17-...	62	36.5	26.8	16	16.8	16.8	28	40	41
VZXA-B-...-25-...-23-...-75-20-...	94.4	53.1	41	16	16.8	16.8	28	40	41
VZXA-B-...-32-...-4.4-...-46-17-...	62	36.5	26.8	20	17.3	19.1	36	42	50
VZXA-B-...-32-...-13.5-...-75-20-...	94.4	53.1	41	20	17.3	19.1	36	42	50
VZXA-B-...-40-...-9.3-...-75-20-...	94.4	53.1	41	22	17.3	19.1	38	42	55
VZXA-B-...-50-...-5.6-...-75-20-...	94.4	53.1	41	24	17.6	23.4	43	40	65

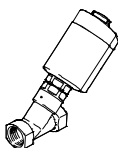
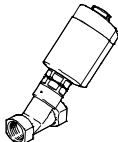
Angle seat valves VZXA with piston actuator

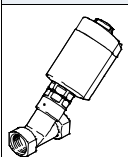
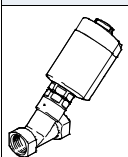
Technical data

Ordering data

Key features:

- Control function closed via spring force, NC
- Without ATEX certification

VZXA-A-..., flow direction above valve seat		Flow rate Kv [m³/h]	Medium pressure [bar]	Weight [g]	Part No.	Type
G thread to DIN ISO 228-1						
	DN13, D46 actuator	6.6	0 ... 16	1775	8060513	VZXA-A-TS6-13-M2-V13T-16-K-46-17-PR-V4
	DN20, D75 actuator	14.5		3155	8060514	VZXA-A-TS6-20-M2-V13T-16-K-75-20-PR-V4
	DN25, D75 actuator	21.5		3395	8060515	VZXA-A-TS6-25-M2-V13T-16-K-75-20-PR-V4
NPT thread to ANSI/ASME B 1.20.1						
	1/2", D46 actuator	6.6	0 ... 16	1775	8060520	VZXA-A-TS7-1/2"-M2-V14T-16-K-46-17-PR-V4
	3/4", D75 actuator	14.5		3155	8060521	VZXA-A-TS7-3/4"-M2-V14T-16-K-75-20-PR-V4
	1", D75 actuator	21.5		3395	8060522	VZXA-A-TS7-1"-M2-V14T-16-K-75-20-PR-V4

VZXA-B-..., flow direction below valve seat		Flow rate Kv [m³/h]	Medium pressure [bar]	Weight [g]	Part No.	Type
G thread to DIN ISO 228-1						
	DN13, D46 actuator	6	0 ... 30	1830	8060527	VZXA-B-TS6-13-M2-V13T-30-K-46-17-V4
	DN20, D46 actuator	13.3	0 ... 12.8	1910	8060528	VZXA-B-TS6-20-M2-V13T-12.8-K-46-17-V4
	DN20, D75 actuator	13.5	0 ... 30	3360	8060529	VZXA-B-TS6-20-M2-V13T-30-K-75-20-V4
	DN25, D46 actuator	20.3	0 ... 8.3	2150	8060530	VZXA-B-TS6-25-M2-V13T-8.3-K-46-17-V4
	DN25, D75 actuator	22.6	0 ... 23	3600	8060531	VZXA-B-TS6-25-M2-V13T-23-K-75-20-V4
	DN32, D46 actuator	27.9	0 ... 4.4	2480	8060533	VZXA-B-TS6-32-M2-V13T-4.4-K-46-17-V4
	DN32, D75 actuator	30.3	0 ... 13.5	3930	8060534	VZXA-B-TS6-32-M2-V13T-13.5-K-75-20-V4
	DN40, D75 actuator	41.4	0 ... 9.3	4610	8060536	VZXA-B-TS6-40-M2-V13T-9.3-K-75-20-V4
	DN50, D75 actuator	50.1	0 ... 5.6	5430	8060538	VZXA-B-TS6-50-M2-V13T-5.6-K-75-20-V4
NPT thread to ANSI/ASME B 1.20.1						
	1/2", D46 actuator	6	0 ... 30	1830	8060541	VZXA-B-TS7-1/2"-M2-V14T-30-K-46-17-V4
	3/4", D46 actuator	13.3	0 ... 12.8	1910	8060542	VZXA-B-TS7-3/4"-M2-V14T-12.8-K-46-17-V4
	3/4", D75 actuator	13.5	0 ... 30	3360	8060543	VZXA-B-TS7-3/4"-M2-V14T-30-K-75-20-V4
	1", D46 actuator	20.3	0 ... 8.3	2150	8060544	VZXA-B-TS7-1"-M2-V14T-8.3-K-46-17-V4
	1", D75 actuator	22.6	0 ... 23	3600	8060545	VZXA-B-TS7-1"-M2-V14T-23-K-75-20-V4
	1 1/4", D46 actuator	27.9	0 ... 4.4	2480	8060547	VZXA-B-TS7-1 1/4"-M2-V14T-4.4-K-46-17-V4
	1 1/4", D75 actuator	30.3	0 ... 13.5	3930	8060548	VZXA-B-TS7-1 1/4"-M2-V14T-13.5-K-75-20-V4
	1 1/2", D75 actuator	41.4	0 ... 9.3	4610	8060550	VZXA-B-TS7-1 1/2"-M2-V14T-9.3-K-75-20-V4
	2", D75 actuator	50.1	0 ... 5.6	5430	8060552	VZXA-B-TS7-2"-M2-V14T-5.6-K-75-20-V4

Angle seat valves VZXA

Ordering data – Modular product system

FESTO

Ordering table				
VZXA-...		Condi- tions	Code	Entry code
M	Module no.	3539410		
	Product type	VZXA	VZXA	VZXA
	Direction of flow	Above valve seat for gaseous media	-A	
		Below valve seat for gaseous and liquid media	-B	
O	Control of the medium	On/off operation		
M	Line connection	Threaded collar	-T	-T
	Connection standard	DIN ISO 228-1	S6	
		ANSI/ASME B 1.20.1	S7	
		DIN 10226	S13	
	Connection size	DN13	-13	
		DN20	-20	
		DN25	-25	
		DN32	-32	
		DN40	-40	
		DN50	-50	
		1/2"	-1/2"	
		3/4"	-3/4"	
		1"	-1"	
		1 1/4"	-1 1/4"	
		1 1/2"	-1 1/2"	
		2"	-2"	
	Temperature of medium [°C]	-10 ... +180	-M2	-M2
	Valve housing material	Stainless steel 1.4409	-V13	
		Stainless steel ASTM A351-CF3M	-V14	
↓	Seat seal material	PTFE	T	T

- | | |
|---|---|
| 1 1/2", 3/4", 1", 1 1/4", 1 1/2", 2" | Not with connection standard S6, S13 |
| 2 30 | Not with connection size DN50, 2", DN40, 1 1/2", DN32, 1 1/4" or flow direction A |
| 3 V13 | Not with imperial connection size |
| 4 V14 | Not with metric connection size |
| 5 DN13, 20, 25, 32, 40, 50 | Not with connection standard S7 |

- M** Mandatory data
O Options

Transfer order code

VZXA - - - T - - - M2 - - - T

Angle seat valves VZXA

Ordering data – Modular product system

FESTO

Ordering table					Condi- tions	Code	Entry code	
VZXA-...								
↓	Medium pressure	[bar]	0 ... 4	6	-4			
M		[bar]	0 ... 4.4	6	-4,4			
		[bar]	0 ... 4.8	6	-4,8			
		[bar]	0 ... 5.6	6	-5,6			
		[bar]	0 ... 5.8	6	-5,8			
		[bar]	0 ... 6	6	-6			
		[bar]	0 ... 6.2	6	-6,2			
		[bar]	0 ... 6.8	9	-6,8			
		[bar]	0 ... 7.5	6	-7,5			
		[bar]	0 ... 8	7	-8			
		[bar]	0 ... 8.3	6	-8,3			
		[bar]	0 ... 9.3	6	-9,3			
		[bar]	0 ... 10		-10			
		[bar]	0 ... 11.5	6	-11,5			
		[bar]	0 ... 12.2	6	-12,2			
		[bar]	0 ... 12.8	6	-12,8			
		[bar]	0 ... 13.5	6	-13,5			
		[bar]	0 ... 14.5	6	-14,5			
		[bar]	0 ... 15.5	9	-15,5			
		[bar]	0 ... 16		-16			
		[bar]	0 ... 23	8, 6	-23			
		[bar]	0 ... 25	8, 6	-25			
		[bar]	0 ... 30	9, 6	-30			
		Actuator	Piston actuator				-K	
		Actuator size	[mm]	46			-46	
		[mm]	75		-75			
	Stroke	[mm]	17	10	-17			
		[mm]	20	11	-20			
O	Control function	Closed via spring force, NC						
		Double-acting			13	-D		
		Opened via spring force, NO			13	-S		
		Closed via reduced spring force, NC			12	-PR		
	Position sensing	With mechanical indicator						
M	Actuator housing material	Stainless steel 1.4408				-V4	-V4	
O	EU certification	None						
		II 2GD				-EX4		

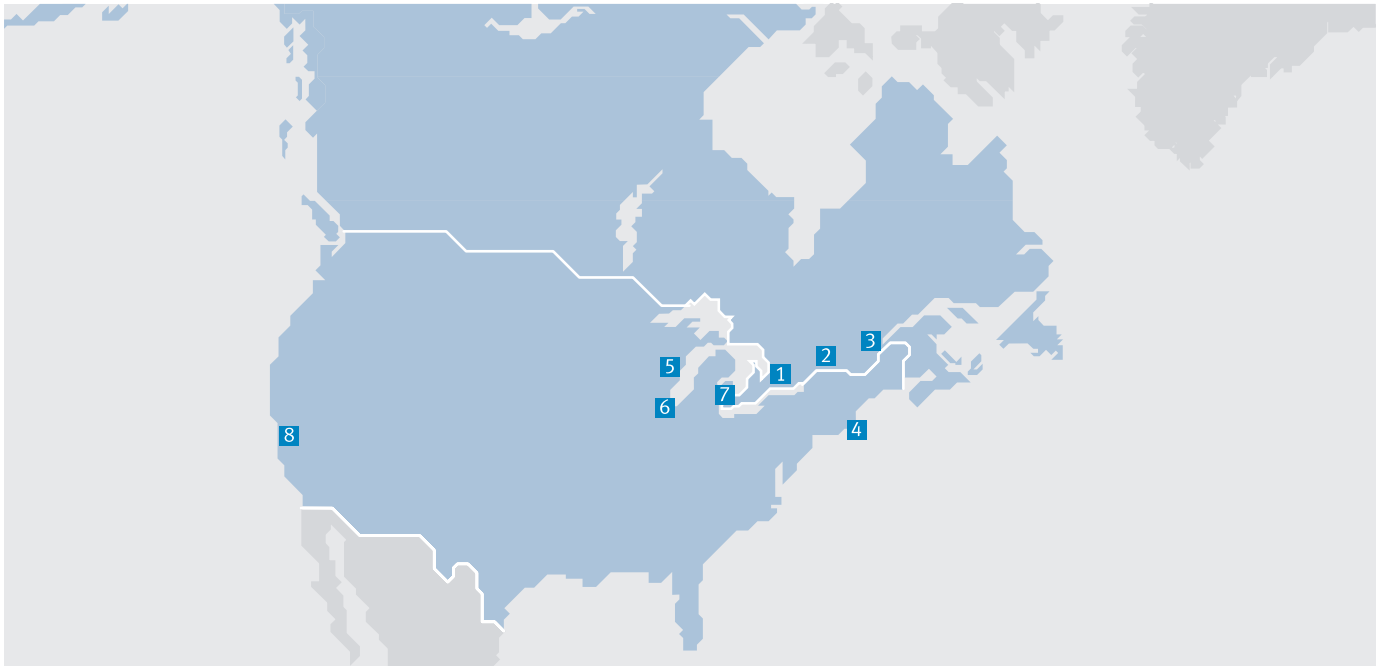
- | | | |
|------|---|---|
| [6] | 4...6.2, 8.3, 9.3, 11.5, 12.8, 13.5, 2...30 | Not in conjunction with flow direction A |
| [7] | 6.8, 8, 15.5 | Not in conjunction with flow direction B |
| [8] | 18, 20, 23, 25 | Not with connection size DN50, 2", DN40, 1 1/2" or flow direction A |
| [9] | 30 | Not with connection size DN50, 2", DN40, 1 1/2", DN32, 1 1/4" or flow direction A |
| [10] | Stroke 17 | Only with size 46 |
| [11] | Stroke 20 | Only with size 75 |
| [12] | Control function PR | Must be in combination with flow direction A |
| [13] | Control function D, S | Must be in combination with flow direction B |

- [M] Mandatory data
[O] Options

Transfer order code

- [] - [] - [] - [] - [] - V4 - []

Festo North America



**1 Festo Canada
Headquarters**
Festo Inc.
5300 Explorer Drive
Mississauga, ON
L4W 5G4

2 Montréal
5600, Trans-Canada
Pointe-Claire, QC
H9R 1B6

3 Québec City
2930, rue Watt#117
Québec, QC
G1X 4G3



**4 Festo United States
Headquarters**
Festo Corporation
395 Moreland Road
Hauppauge, NY
11788

5 Appleton
North 922 Tower View Drive, Suite N
Greenville, WI
54942

7 Detroit
1441 West Long Lake Road
Troy, MI
48098

6 Chicago
85 W Algonquin - Suite 340
Arlington Heights, IL
60005

8 Silicon Valley
4935 Southfront Road, Suite F
Livermore, CA
94550

Festo Regional Contact Center

Canadian Customers

Commercial Support:
Tel: 1 877 GO FESTO (1 877 463 3786)
Fax: 1 877 FX FESTO (1 877 393 3786)
Email: festo.canada@ca.festo.com

Technical Support:
Tel: 1 866 GO FESTO (1 866 463 3786)
Fax: 1 877 FX FESTO (1 877 393 3786)
Email: technical.support@ca.festo.com

USA Customers

Commercial Support:
Tel: 1 800 99 FESTO (1 800 993 3786)
Fax: 1 800 96 FESTO (1 800 963 3786)
Email: customer.service@us.festo.com

Technical Support:
Tel: 1 866 GO FESTO (1 866 463 3786)
Fax: 1 800 96 FESTO (1 800 963 3786)
Email: product.support@us.festo.com

Subject to change

Internet: www.festo.com/us