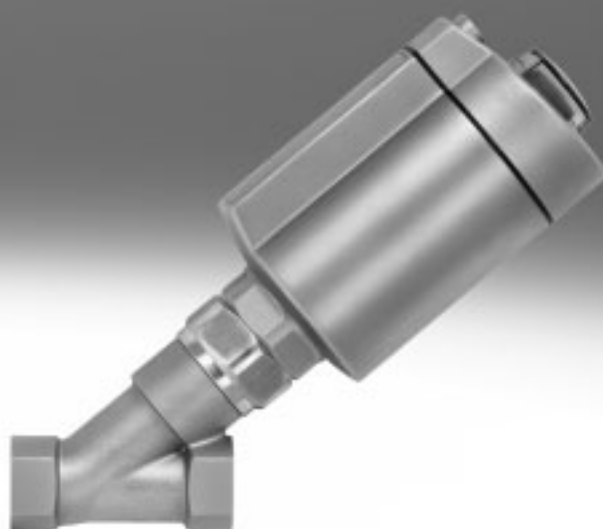


Angle seat valves VZXA

FESTO



Angle seat valves VZXA

Key features

FESTO

Function

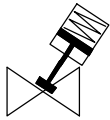
The angle seat valves VZXA are externally actuated valves which are controlled by a direct feed of compressed air and are used to shut off gaseous

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.

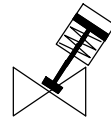
The direction of flow is determined by the design of the valve (process valve and actuator).

NC version (normally closed)



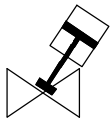
In the normal position, the valve is closed by a spring. When the actuator is supplied with operating pressure, it raises the control piston and, at the same time, the valve disc too – this opens the valve.

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

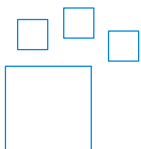
Design

- 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



Ordering data – Product options



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

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

Part No. Type
3539410 VZXA

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

FESTO

- 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

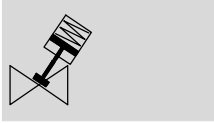
EU certification	
-	None
EX4	II 2GD

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"	
Actuator		D46		D46		D75		D46	
Flow rate Kv		D46		D75		D46		D75	
VZXA-A-...		[m ³ /h]		6.6		–		14.5	
VZXA-B-...		[m ³ /h]		6		13.3		13.5	
Design		Poppet valve with piston actuator		D46		D75		D46	
Type of actuation		Pneumatic		D75		D46		D75	
Type of mounting		In-line installation		D75		D46		D75	
Mounting position		Any		D75		D46		D75	
Valve function		2/2		D75		D46		D75	
Pneumatic connection		Female thread G1/8		D75		D46		D75	
Flow direction		Non-reversible		D75		D46		D75	
Reset method		Mechanical spring		D75		D46		D75	
Type of actuation		Externally actuated		D75		D46		D75	
Position sensing		With mechanical indicator		D75		D46		D75	
Control of the medium		On/off operation		D75		D46		D75	
Control		VZXA-A-...		Closed via reduced spring force, NC		VZXA-B-...		Closed via spring force, NC	
function		VZXA-A-...		Above valve seat for gaseous media		VZXA-B-...		Below valve seat for gaseous and liquid media	
Direction of		VZXA-A-...		Above valve seat for gaseous media		VZXA-B-...		Below valve seat for gaseous and liquid media	
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		0 ... +60		–10 ... +180	
Ambient temperature		[°C]		0 ... +60		–10 ... +60		–10 ... +60	
Temperature of medium		[°C]		–10 ... +180		–10 ... +60		–10 ... +60	
Storage temperature		[°C]		–10 ... +60		–10 ... +60		–10 ... +60	
Degree of protection		IP65		IP67		IP69K		IP65	
Max. viscosity		[mm ² /s]		600		600		600	
Medium		Vapour		Inert gases		Filtered compressed air, grade of filtration 200 µm		Mineral oil-based hydraulic oil	
VZXA-B-... additionally		Mineral oil		Water		Neutral fluids		Compressed air to ISO 8573-1:2010 [7:4:4]	
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]		Compressed air to ISO 8573-1:2010 [7:4:4]		Compressed air to ISO 8573-1:2010 [7:4:4]		Compressed air to ISO 8573-1:2010 [7:4:4]	

Angle seat valves VZXA with piston actuator

Technical data

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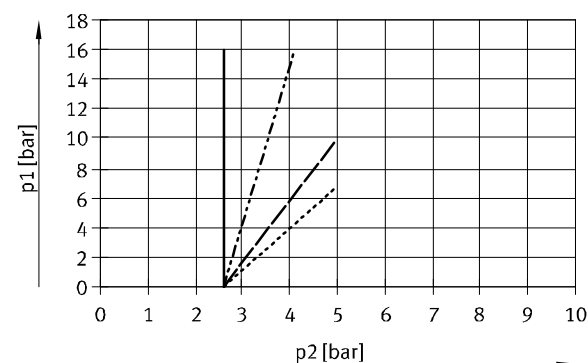
ATEX						
Connection size	DN13, 1/2"	DN20, 3/4"	DN25, 1"	DN32, 1 1/4"	DN40, 1 1/2"	DN50, 2"
ATEX category for gas	II 2G					
Type of ignition protection for gas	c T6 ... T3 X					
ATEX category for dust	II 2D					
Type of ignition protection for dust	c T80°C ... T200°C X					
Explosion ambient temperature [°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.

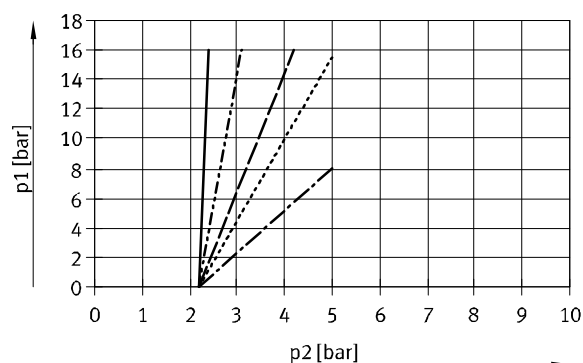
Materials		Material number
Piston rod	High-alloy stainless steel	
End cap	Stainless steel casting	
Seals	FPM	
Spindle washer	PTFE	
Seat seal	PTFE	
Actuator housing	Stainless steel casting	1.4408
Valve housing	Stainless steel casting	1.4409
		ASTM A351-CF3M
Note on materials	Contains paint-wetting impairment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

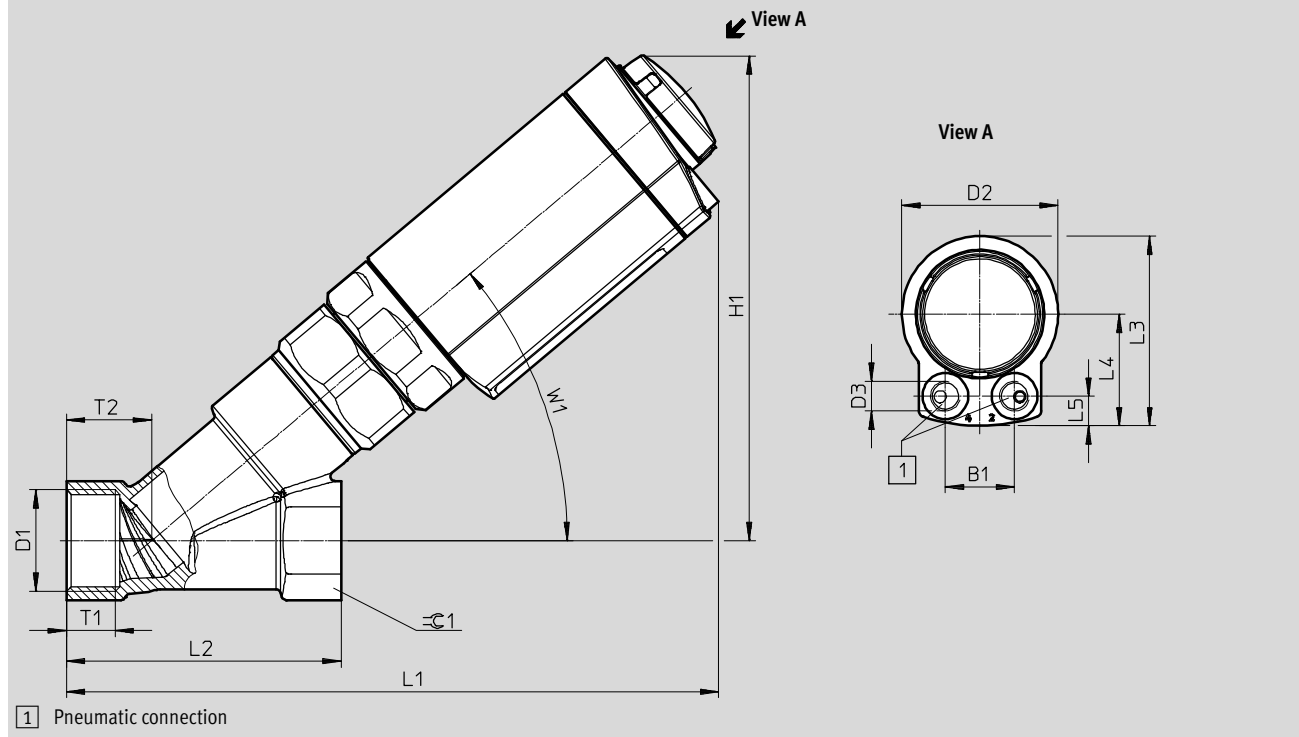
Angle seat valves VZXA with piston actuator

Technical data

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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

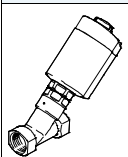
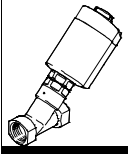
Technical data

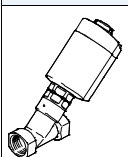
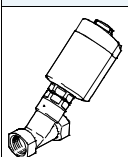
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Ordering data

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

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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	5 -13	
		DN20	5 -20	
		DN25	5 -25	
		DN32	5 -32	
		DN40	5 -40	
		DN50	5 -50	
		1/2"	1 -1/2"	
		3/4"	1 -3/4"	
		1"	1 -1"	
		1 1/4"	1, 2 -1 1/4"	
		1 1/2"	1 -1 1/2"	
		2"	1 -2"	
	Temperature of medium [°C]	-10 ... +180	-M2	-M2
	Valve housing material	Stainless steel 1.4409	3 -V13	
		Stainless steel ASTM A351-CF3M	4 -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						
VZXA-...				Condi- tions	Code	Entry code
↓ M	Medium pressure	[bar]	0 ... 4	6	-4	
		[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 - []