

## Angle seat valves VZXF

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# Angle seat valves VZXF

Key features and overview


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## Function

The angle seat valve VZXF is an externally controlled 2/2-way valve. Valves of this design are switched by means of an additional pilot medium. The valve is closed by spring force when at rest. It is opened when pilot pressure is

applied to the drive. The supply of the pilot medium into the drive chamber is controlled by an external valve that must be additionally integrated into the supply cable for the pilot medium.

## General information

- N- Connecting thread  
G1/2 ... G2
-  - Flow rate Kv  
2.8 ... 47.5 m³/h

## Design

- Gunmetal (red brass) design
- Stainless steel design

## Advantages

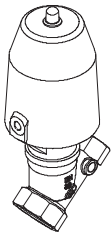
- Insensitive to steam or slightly contaminated media
- No pressure differential required between the inlet and outlet
- Low flow resistance
- Long service life
- Low maintenance

## Application

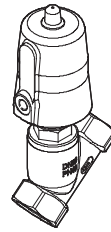
- Angle seat valves control suitable gaseous and liquid media in rigid tubing systems without the need for any pressure differential

## Variants

Gunmetal (red brass) design




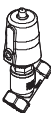
Stainless steel design



# Angle seat valves VZXF

Key features and overview

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Design	Type	Process valve connection	Nominal size (DN)	Process valve nominal pressure (PN)	➔ Page/Internet
Gunmetal (red brass)					
	VZXF-L-...-H3B1-...	G½	15	16	6
		G¾	20		
		G1	25		
		G1¼	32		
		G1½	40		
		G2	50		
Stainless steel					
	VZXF-L-...-V4V4T-...	G½	15	40	9
		G¾	20		
		G1	25		
		G1¼	32		
		G1½	40		
		G2	50		

# Angle seat valves VZXF

Type codes

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		VZXF	L	M22C	M	A	G12	130	M1	-
<b>Type</b>										
VZXF	Angle seat valve, externally controlled									
<b>Type of directional control valve</b>										
L	In-line valve									
<b>Valve function</b>										
M22C	2/2-way valve, normally closed									
<b>Reset method for single solenoid valves</b>										
M	Mechanical spring									
<b>Media flow</b>										
A	Over valve seat, closes with the flow of media									
B	Under valve seat, closes against the flow of media									
<b>Process valve connection</b>										
G12	Thread G1½									
G34	Thread G¾									
G1	Thread G1									
G114	Thread G1¼									
G112	Thread G1½									
G2	Thread G2									
<b>Nominal size</b>										
120	12 mm									
130	13 mm									
160	16 mm									
180	18 mm									
230	23 mm									
240	24 mm									
290	29 mm									
310	31 mm									
350	35 mm									
430	43 mm									
450	45 mm									
<b>Temperature range of medium</b>										
	Standard, -10 ... +80 °C									
M1	-40 ... +200 °C									

# Angle seat valves VZXF

Type codes

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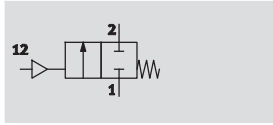
		H3	B1		-	50	-	10
<b>Housing material</b>								
H3	Gunmetal (red brass)							
V4	Stainless steel							
<b>Housing, drive material</b>								
B1	Brass							
V4	Stainless steel							
<b>Sealing material</b>								
	Standard, NBR							
T	PTFE							
<b>Drive size</b>								
50	50 mm							
80	80 mm							
<b>Medium pressure</b>								
3	Max. 3 bar							
4	Max. 4 bar							
5	Max. 5 bar							
6	Max. 6 bar							
7	Max. 7 bar							
8	Max. 8 bar							
9	Max. 9 bar							
10	Max. 10 bar							
12	Max. 12 bar							
16	Max. 16 bar							
20	Max. 20 bar							
22	Max. 22 bar							
25	Max. 25 bar							
40	Max. 40 bar							

# Angle seat valves VZXF

Technical data – Gunmetal (red brass) design

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Function



Flow rate Kv  
2.8 ... 33.8 m³/h

-N- Connecting thread  
G1½ ... G2



General technical data			
Process valve connection	G1½	G¾	G1
Auxiliary pilot air connection	G1/8		
Nominal size (DN)	15	20	25
Valve function	2/2-way, single solenoid, closed		
Design	Poppet valve with spring return		
Type of mounting	In-line installation		
Mounting position	Any		
Direction of flow	Non-reversible		
Exhaust function	No flow control		
Sealing principle	Soft		
Reset method	Mechanical spring		
Actuation type	Pneumatic		
Type of control	External		
Pilot medium	Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated		
Switching time on [ms]	100		
Switching time off [ms]	310		
Product weight [g]	1,200	1,300	1,500

Process valve connection	G1¼	G1½	G2
Auxiliary pilot air connection	G1/8		
Nominal size (DN)	32	40	50
Valve function	2/2-way, single solenoid, closed		
Design	Poppet valve with spring return		
Type of mounting	In-line installation		
Mounting position	Any		
Direction of flow	Non-reversible		
Exhaust function	No flow control		
Sealing principle	Soft		
Reset method	Mechanical spring		
Actuation type	Pneumatic		
Type of control	External		
Pilot medium	Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated		
Switching time on [ms]	110		120
Switching time off [ms]	320		320
Product weight [g]	1,800	2,400	3,500

# Angle seat valves VZXF

Technical data – Gunmetal (red brass) design

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Operating and environmental conditions			
Process valve connection	G1/2	G3/4	G1
Process valve nominal pressure (PN)	16		
Pilot pressure [bar]	4 ... 10		
Standard nominal flow rate [l/min]	3,000	6,800	12,000
Flow rate [m <sup>3</sup> /h]	2.8	6.4	11.2
Medium	Filtered compressed air, grade of filtration 200 µm Mineral oil-based hydraulic oil Inert gases Mineral oil Neutral fluids Water		
Max. viscosity [mm <sup>2</sup> /s]	600		
Ambient temperature [°C]	-10 ... +60		
Temperature of medium [°C]	-10 ... +80		
CE marking (see declaration of conformity)	–		
Corrosion resistance class CRC <sup>1)</sup>	1		

- 1) Corrosion resistance class 1 according to Festo standard 940 070  
 Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Process valve connection	G1 1/4	G1 1/2	G2
Process valve nominal pressure (PN)	16		
Pilot pressure [bar]	4 ... 10		
Standard nominal flow rate [l/min]	18,600	23,500	36,100
Flow rate [m <sup>3</sup> /h]	17.5	22	33.8
Medium	Filtered compressed air, grade of filtration 200 µm Mineral oil-based hydraulic oil Inert gases Mineral oil Neutral fluids Water		
Max. viscosity [mm <sup>2</sup> /s]	600		
Ambient temperature [°C]	-10 ... +60		
Temperature of medium [°C]	-10 ... +80		
CE marking (see declaration of conformity)	To EU Pressure Equipment Directive		
Corrosion resistance class CRC <sup>1)</sup>	1		

- 1) Corrosion resistance class 1 according to Festo standard 940 070  
 Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Materials		
Angle seat valve		Material number
1 Housing	Gunmetal (red brass)	CC499K
2 Drive head	Brass	–
3 Seals	Nitrile rubber	–
– Note on materials	Contains PWIS (paint-wetting impairment substances), RoHS-compliant	–

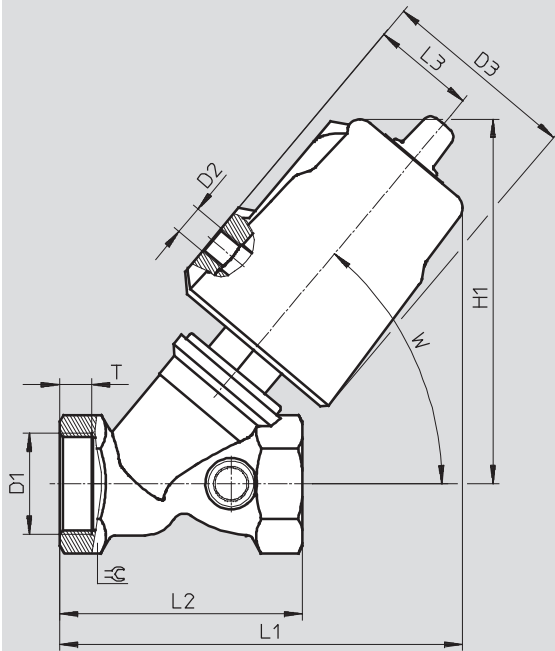
# Angle seat valves VZXF

Technical data – Gunmetal (red brass) design

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## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



	D1	D2	D3 Ø	H1	L1	L2	L3	T	W	50°
VZXF-L-...-G12-...-H3B1-50-...	G½	G⅛	62	112	123	66	34	8	50°	27
VZXF-L-...-G34-...-H3B1-50-...	G¾			117	130	75		9		33
VZXF-L-...-G1-...-H3B1-50-...	G1			121	133	80		10.5		41
VZXF-L-...-G114-...-H3B1-50-...	G1¼			139	154	97		12.5		50
VZXF-L-...-G112-...-H3B1-50-...	G1½			145	161	107		14.5		56
VZXF-L-...-G2-...-H3B1-50-...	G2			154	171	124		16.5		68

## Ordering data Angle seat valve VZXF

	Process valve connection	Part No.	Type
	G½	1002500	VZXF-L-M22C-M-A-G12-120-H3B1-50-16
		1002501	VZXF-L-M22C-M-B-G12-120-H3B1-50-16
	G¾	1002502	VZXF-L-M22C-M-A-G34-160-H3B1-50-16
		1002503	VZXF-L-M22C-M-B-G34-160-H3B1-50-16
	G1	1002504	VZXF-L-M22C-M-A-G1-230-H3B1-50-16
		1002505	VZXF-L-M22C-M-B-G1-230-H3B1-50-10
	G1¼	1002506	VZXF-L-M22C-M-A-G114-290-H3B1-50-10
		1002507	VZXF-L-M22C-M-B-G114-290-H3B1-50-7
	G1½	1002508	VZXF-L-M22C-M-A-G112-350-H3B1-50-8
		1002509	VZXF-L-M22C-M-B-G112-350-H3B1-50-6
	G2	1002510	VZXF-L-M22C-M-A-G2-430-H3B1-50-4
		1002511	VZXF-L-M22C-M-B-G2-430-H3B1-50-3

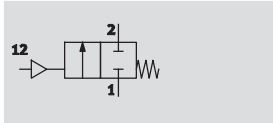


# Angle seat valves VZXF

Technical data – Stainless steel design

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Function



Flow rate Kv  
2.8 ... 47.5 m³/h

-N- Connecting thread  
G1/2 ... G2



General technical data					
Process valve connection	G½	G¾	G1		G1¼
Auxiliary pilot air connection	G⅜				
Nominal size (DN)	15	20	25	25	32
Valve function	2/2-way, single solenoid, closed				
Design	Poppet valve with spring return				
Type of mounting	In-line installation				
Mounting position	Any				
Direction of flow	Non-reversible				
Exhaust function	No flow control				
Sealing principle	Soft				
Reset method	Mechanical spring				
Actuation type	Pneumatic				
Type of control	External				
Pilot medium	Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated				
Switching time on [ms]	100			150	110
Switching time off [ms]	310			390	320
Product weight [g]	1,300	1,400	1,600	3,600	2,200

Process valve connection	G1¼	G1½			G2
Auxiliary pilot air connection	G1⁄8				
Nominal size (DN)	32	40	40	50	50
Valve function	2/2-way, single solenoid, closed				
Design	Poppet valve with spring return				
Type of mounting	In-line installation				
Mounting position	Any				
Direction of flow	Non-reversible				
Exhaust function	No flow control				
Sealing principle	Soft				
Reset method	Mechanical spring				
Actuation type	Pneumatic				
Type of control	External				
Pilot medium	Filtered compressed air, grade of filtration 40 µm, lubricated or unlubricated				
Switching time on [ms]	150	110	150	120	150
Switching time off [ms]	390	320	390	320	390
Product weight [g]	4,200	2,500	4,400	3,500	5,500

# Angle seat valves VZXF

Technical data – Stainless steel design

**FESTO**

Operating and environmental conditions					
Process valve connection	G1½	G¾	G1		G1¼
Process valve nominal pressure (PN)	40				
Pilot pressure [bar]	4 ... 10				
Standard nominal flow rate [l/min]	3,000	6,800	12,000	15,200	18,600
Flow rate [m³/h]	2.8	6.4	11.2	14.3	17.4
Medium	Filtered compressed air, grade of filtration 200 µm				
	Mineral oil-based hydraulic oil				
	Inert gases				
	Mineral oil				
	Neutral fluids				
	Water				
Max. viscosity [mm²/s]	600				
Ambient temperature [°C]	-10 ... +60				
Temperature of medium [°C]	-40 ... +200				
CE marking (see declaration of conformity)	–				To EU Pressure Equipment Directive
Corrosion resistance class CRC <sup>1)</sup>	3				

1) Corrosion resistance class 3 according to Festo standard 940 070

Components subject to high corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as solvents and cleaning agents.

Process valve connection	G1¼	G1½			G2
Process valve nominal pressure (PN)	40				
Pilot pressure [bar]	4 ... 10				
Standard nominal flow rate [l/min]	23,000	23,500	28,200	36,100	50,700
Flow rate [m³/h]	21.5	22	26.4	33.8	47.5
Medium	Filtered compressed air, grade of filtration 200 µm				
	Mineral oil-based hydraulic oil				
	Inert gases				
	Mineral oil				
	Neutral fluids				
	Water				
Max. viscosity [mm²/s]	600				
Ambient temperature [°C]	−10 ... 60				
Temperature of medium [°C]	−40 ... 200				
CE marking (see declaration of conformity)	To EU Pressure Equipment Directive				
Corrosion resistance class CRC <sup>1)</sup>	3				

1) Corrosion resistance class 3 according to Festo standard 940 070

Components subject to high corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as solvents and cleaning agents.

Materials		
Angle seat valve		Material number
1) Housing	Stainless steel casting	1.4408
2) Drive head	Stainless steel	–
3) Seals	PTFE	–
– Note on materials	Contains PWIS (paint-wetting impairment substances), RoHS-compliant	–

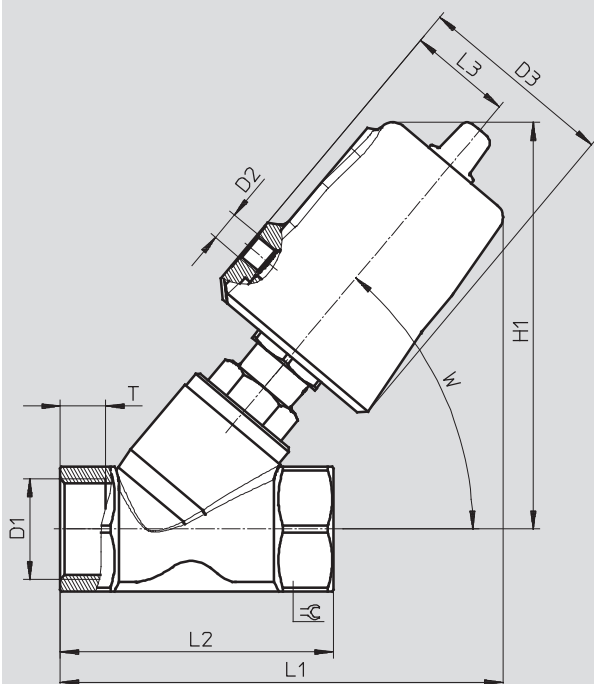
# Angle seat valves VZXF

Technical data – Stainless steel design

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## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

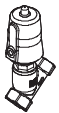


	D1	D2	D3 Ø	H1	L1	L2	L3	T	W	≈C	
VZXF-L-...-G12-...-V4V4T-50-...	G1½	G1/8	62	129	135	65	34	12	50°	27	
VZXF-L-...-G34-...-V4V4T-50-...	G¾			130	138	75		13		32	
VZXF-L-...-G1-...-V4V4T-50-...	G1			135	146	90	48	15		42	
VZXF-L-...-G1-...-V4V4T-80-...	G1		94	177	184			17		50	
VZXF-L-...-G114-...-V4V4T-50-...	G1¼		62	151	155	110	34				
VZXF-L-...-G114-...-V4V4T-80-...	G1¼		94	183	194		48	19		55	
VZXF-L-...-G112-...-V4V4T-50-...	G1½		62	155	174	120	34				
VZXF-L-...-G112-...-V4V4T-80-...	G1½		94	187	202		48	21		70	
VZXF-L-...-G2-...-V4V4T-50-...	G2		62	167	193	150	34				
VZXF-L-...-G2-...-V4V4T-80-...	G2		94	199	222		48				

# Angle seat valves VZXF

Technical data – Stainless steel design

**FESTO**

Ordering data Angle seat valve VZXF			
	Process valve connection	Part No.	Type
	G $\frac{1}{2}$	1002512	VZXF-L-M22C-M-A-G12-130-M1-V4V4T-50-25
		1002513	VZXF-L-M22C-M-B-G12-130-M1-V4V4T-50-40
	G $\frac{3}{4}$	1002514	VZXF-L-M22C-M-A-G34-180-M1-V4V4T-50-20
		1002515	VZXF-L-M22C-M-B-G34-180-M1-V4V4T-50-20
	G1	1002516	VZXF-L-M22C-M-A-G1-240-M1-V4V4T-50-16
		1002517	VZXF-L-M22C-M-B-G1-240-M1-V4V4T-50-10
		1002525	VZXF-L-M22C-M-A-G1-240-M1-V4V4T-80-40
		1002526	VZXF-L-M22C-M-B-G1-240-M1-V4V4T-80-22
	G1 $\frac{1}{4}$	1002518	VZXF-L-M22C-M-A-G114-310-M1-V4V4T-50-9
		1002519	VZXF-L-M22C-M-B-G114-310-M1-V4V4T-50-7
		1002527	VZXF-L-M22C-M-A-G114-310-M1-V4V4T-80-25
		1002528	VZXF-L-M22C-M-B-G114-310-M1-V4V4T-80-10
	G1 $\frac{1}{2}$	1002520	VZXF-L-M22C-M-A-G112-350-M1-V4V4T-50-7
		1002521	VZXF-L-M22C-M-B-G112-350-M1-V4V4T-50-6
		1002529	VZXF-L-M22C-M-A-G112-350-M1-V4V4T-80-20
		1002530	VZXF-L-M22C-M-B-G112-350-M1-V4V4T-80-8
	G2	1002522	VZXF-L-M22C-M-A-G2-450-M1-V4V4T-50-4
		1002523	VZXF-L-M22C-M-B-G2-450-M1-V4V4T-50-3
		1002531	VZXF-L-M22C-M-A-G2-450-M1-V4V4T-80-12
		1002532	VZXF-L-M22C-M-B-G2-450-M1-V4V4T-80-5

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