Angle seat valves VZXF

FESTO

New

Angle seat valves VZXF

Key features and overview

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

- Connecting thread G½ ... G2
- Flow rate Kv 2.8 ... 47.5 m^3/h

Design

- Brass design
- Stainless steel design

Advantages

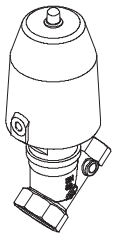
- Insensitive to steam or slightly contaminated media
- No pressure differential required between the inlet and outlet
- Low flow resistance
- No dead space
- Long service life
- Low maintenance

Application

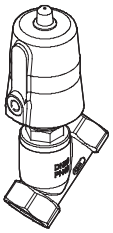
- Angle seat valves control suitable gaseous and liquid media in rigid tubing systems without the need for any pressure differential

Variants

Brass design

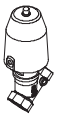
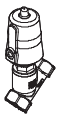


Stainless steel design



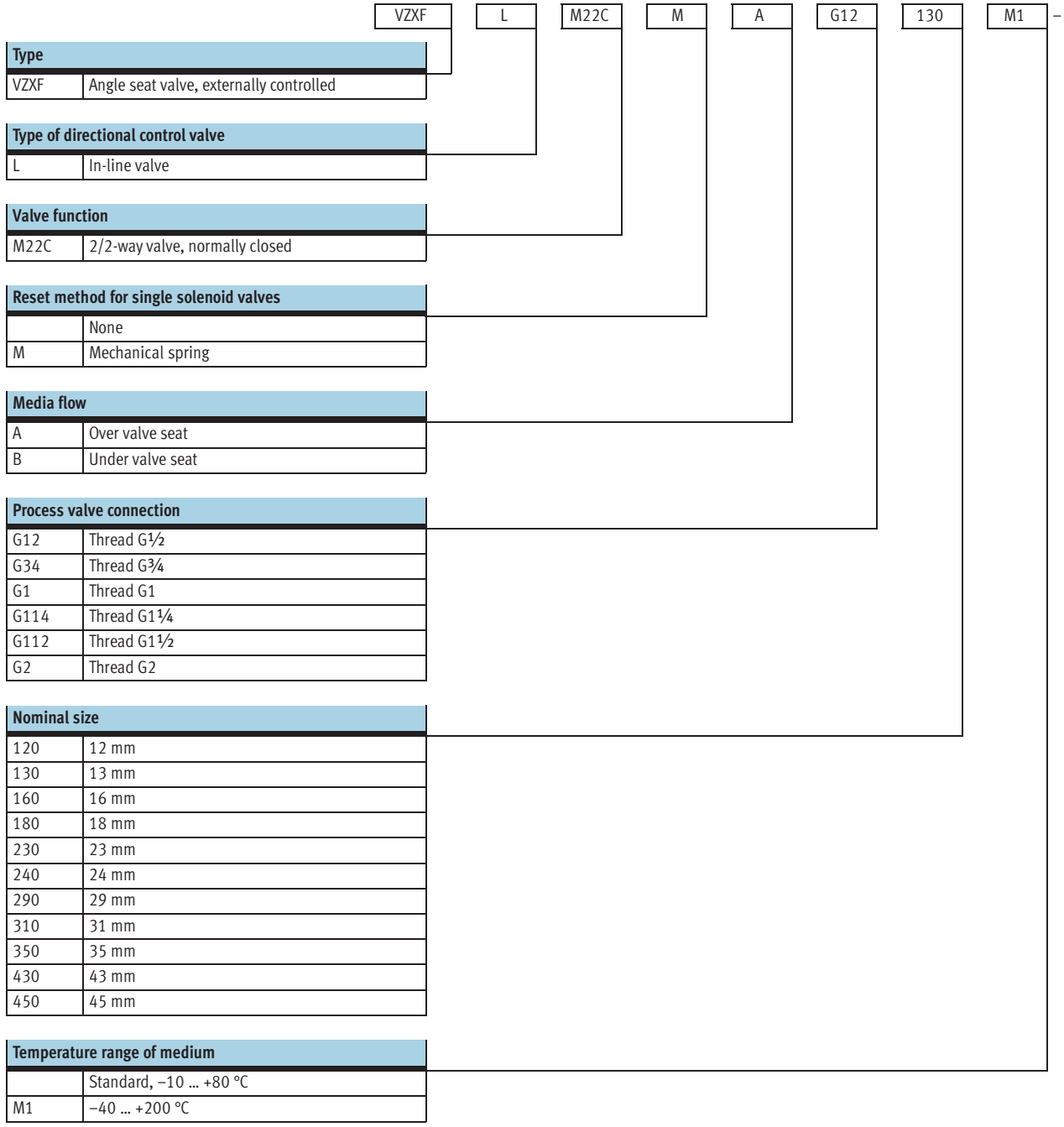
Angle seat valves VZXF

Key features and overview

Design	Type	Process valve connection	Nominal size (DN)	Process valve nominal pressure (PN)	➔ Page/Internet
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



Type	
VZXF	Angle seat valve, externally controlled

Type of directional control valve	
L	In-line valve

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

Reset method for single solenoid valves	
	None
M	Mechanical spring

Media flow	
A	Over valve seat
B	Under valve seat

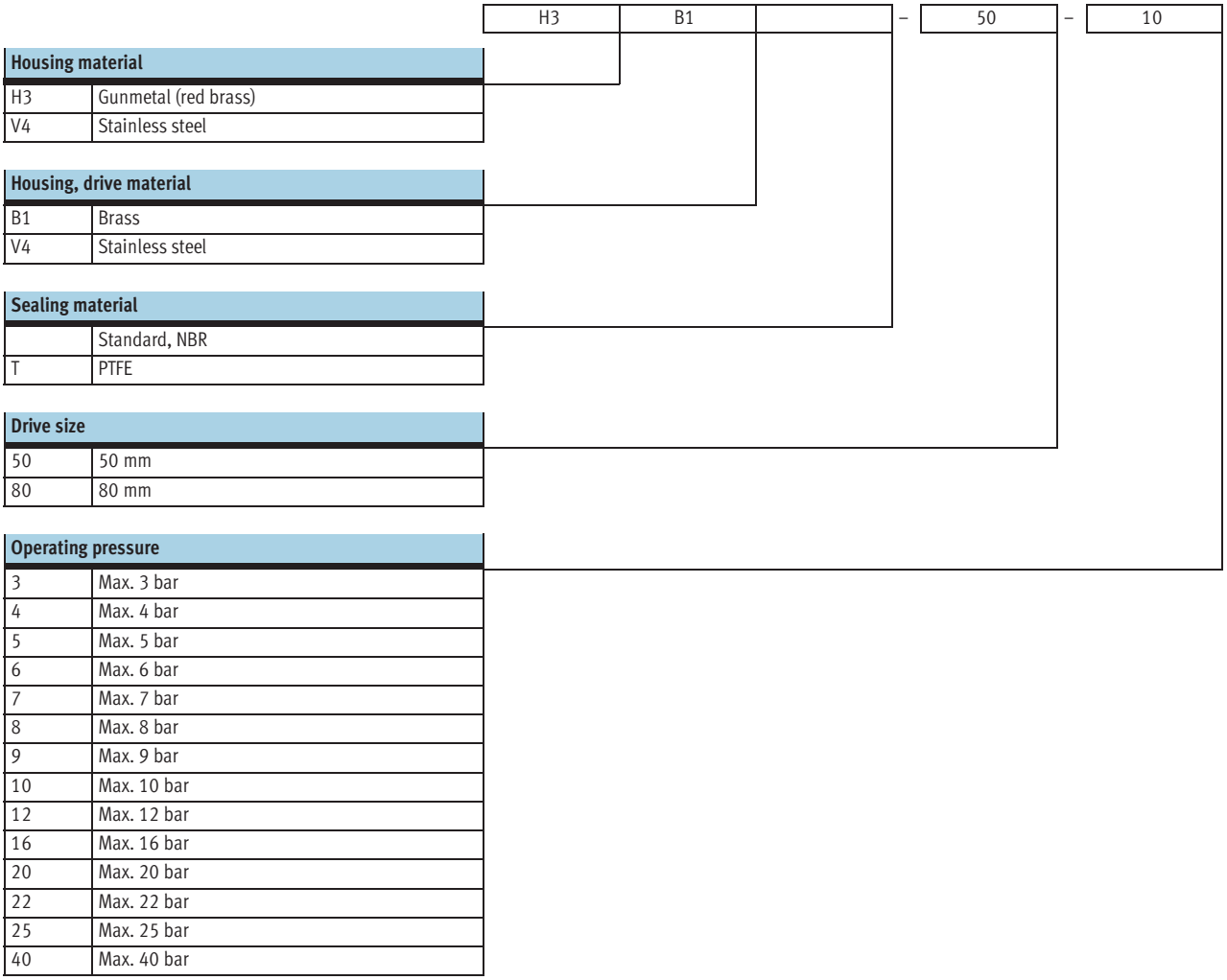
Process valve connection	
G12	Thread G1½
G34	Thread G¾
G1	Thread G1
G114	Thread G1¼
G112	Thread G1½
G2	Thread G2

Nominal size	
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

Temperature range of medium	
	Standard, –10 … +80 °C
M1	–40 … +200 °C

Angle seat valves VZXF

Type codes



Housing material	
H3	Gunmetal (red brass)
V4	Stainless steel

Housing, drive material	
B1	Brass
V4	Stainless steel

Sealing material	
	Standard, NBR
T	PTFE

Drive size	
50	50 mm
80	80 mm

Operating pressure	
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

New

Angle seat valves VZXF

Technical data – Brass design

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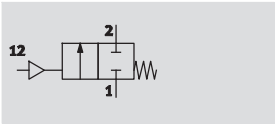
Function



Flow rate Kv
2.8 ... 33.8 m³/h

Connecting thread
G½ ... G2

General technical data				
Process valve connection		G½	G¾	G1
Auxiliary pilot air connection		G⅛		
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		G⅛		
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 – Brass design

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Operating and environmental conditions				
Process valve connection		G½	G¾	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^3/h]	2.8	6.4	11.2
Process valve operating medium		Neutral gases		
		Filtered compressed air, filter with pore width 0.2 mm, lubricated or unlubricated		
		Non-aggressive fluid		
		Water		
		Mineral oil-based hydraulic oil		
		Compressed air		
		Mineral oil		
Max. viscosity	[mm^2/s]	600		
Ambient temperature	[°C]	–10 ... +60		
Temperature of medium	[°C]	–10 ... +80		
CE marking (see declaration of conformity)		–		
Corrosion resistance class CRC[1)]		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		G1¼	G1½	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^3/h]	17.5	22	33.8
Process valve operating medium		Neutral gases		
		Filtered compressed air, filter with pore width 0.2 mm, lubricated or unlubricated		
		Non-aggressive fluid		
		Water		
		Mineral oil-based hydraulic oil		
		Compressed air		
		Mineral oil		
Max. viscosity	[mm^2/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[1)]		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 – Brass design

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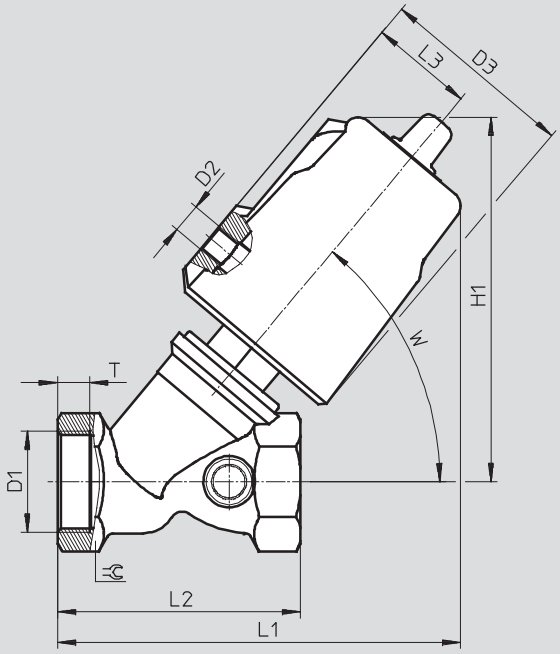
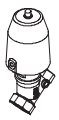
Dimensions Download CAD data ➔ **www.festo.com**



	D1	D2	D3 ∅	H1	L1	L2	L3	T	W	⫧
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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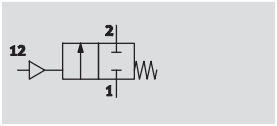
Function



Flow rate Kv
2.8 ... 47.5 m^3/h

Connecting thread
G½ ... G2

General technical data						
Process valve connection		G½	G¾	G1		G1¼
Auxiliary pilot air connection		G⅛				
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		G⅛				
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

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Operating and environmental conditions						
Process valve connection		G½	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	[m^3/h]	2.8	6.4	11.2	14.3	17.4
Process valve operating medium		Neutral gases				
		Filtered compressed air, filter with pore width 0.2 mm, lubricated or unlubricated				
		Non-aggressive fluid				
		Water				
		Mineral oil-based hydraulic oil				
		Compressed air				
		Mineral oil				
Max. viscosity	[mm^2/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[1)]		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				
Overload pressure	[bar]	28	9	22	5	14
Standard nominal flow rate	[l/min]	23,000	23,500	28,200	36,100	50,700
Flow rate	[m^3/h]	21.5	22	26.4	33.8	47.5
Process valve operating medium		Neutral gases				
		Filtered compressed air, filter with pore width 0.2 mm, lubricated or unlubricated				
		Non-aggressive fluid				
		Water				
		Mineral oil-based hydraulic oil				
		Compressed air				
		Mineral oil				
Max. viscosity	[mm^2/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[1)]		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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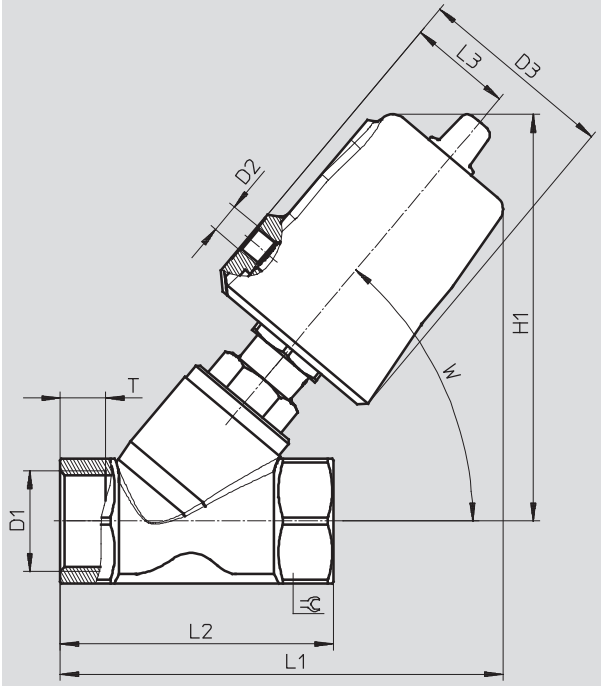
Dimensions Download CAD data ➔ **www.festo.com**



	D1	D2	D3 ∅	H1	L1	L2	L3	T	W	⫧
VZXF-L-...-G12-...-V4V4T-50-...	G½	G⅛	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		15		42
VZXF-L-...-G1-...-V4V4T-80-...	G1		94	177	184		48			
VZXF-L-...-G114-...-V4V4T-50-...	G1¼		62	151	155	110	34	17		50
VZXF-L-...-G114-...-V4V4T-80-...	G1¼		94	183	194		48			
VZXF-L-...-G112-...-V4V4T-50-...	G1½		62	155	174	120	34	19		55
VZXF-L-...-G112-...-V4V4T-80-...	G1½		94	187	202		48			
VZXF-L-...-G2-...-V4V4T-50-...	G2		62	167	193	150	34	21		70
VZXF-L-...-G2-...-V4V4T-80-...	G2		94	199	222		48			

Angle seat valves VZXF

Technical data – Stainless steel design

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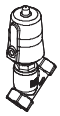
Ordering data Angle seat valve VZXF			
	Process valve connection	Part No.	Type
	G½	1002512	VZXF-L-M22C-M-A-G12-130-M1-V4V4T-50-25
		1002513	VZXF-L-M22C-M-B-G12-130-M1-V4V4T-50-40
	G¾	1002514	VZXF-L-M22C-M-A-G34-180-M1-V4V4T-50-20
		1002515	VZXF-L-M22C-M-B-G34-180-M1-V4V4T-50-20
	G1	1002516	VZXF-L-M22C-M-A-G1-240-M1-V4V4T-50-16
		1002517	VZXF-L-M22C-M-B-G1-240-M1-V4V4T-50-10
		1002525	VZXF-L-M22C-M-A-G1-240-M1-V4V4-T-80-40
		1002526	VZXF-L-M22C-M-B-G1-240-M1-V4V4-T-80-22
	G1¼	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
	G1½	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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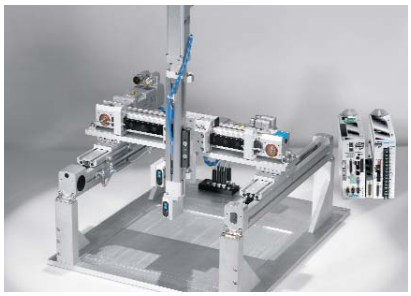

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