

## VXN: Through valve with male thread; nominal pressure 16 bar

For continuous control of cold water, hot water or air. Condition of the water as per VDI 2035. Used together with the AVM 104/114/124 (S) and AVF 124 (S) valve drives as a regulating unit. Variable characteristic (linear, equal percentage or quadratic) with SUT valve drives.

Valve body and seat are of cast brass; spindle of stainless steel; plug of brass with glass-fibre-reinforced Teflon sealing ring; packing box of brass with EPDM O-ring. When the spindle is extended, the valve is closed.

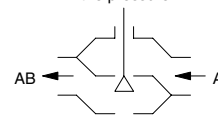


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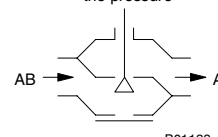


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Closure against  
the pressure



Closure with  
the pressure



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Type	Nominal diameter DN	Connection	$k_{VS}$ -value [m <sup>3</sup> /h]	Weight [kg]
VXN 015 F250	15	G 1B	0,4	0,82
VXN 015 F240	15	G 1B	0,63	0,82
VXN 015 F230	15	G 1B	1	0,82
VXN 015 F220	15	G 1B	1,6	0,82
VXN 015 F210	15	G 1B	2,5	0,82
VXN 015 F200	15	G 1B	4	0,82
VXN 020 F200	20	G 1¼B	6,3	1,00
VXN 025 F200	25	G 1½B	10	1,30
VXN 032 F200	32	G 2B	16	1,74
VXN 040 F200	40	G 2¼B	25	2,52
VXN 050 F200	50	G 2¾B	40	3,44

Operating temperature <sup>1)</sup>	-15...130 °C	Leakage rate	≤ 0.02% of $k_{VS}$ -value
Operating pressure	up to 120 °C 16 bar up to 130 °C 13 bar	Nominal stroke	8 mm
Valve characteristic	linear	Dimension drawing	<a href="#">M07423</a>
Control ratio	50 (typical)		

### Variantes

**VXN .. F2 .. U** Valve with NTP female thread, operating pressure 232 psi and connection:  
DN 15: ½" NTP – DN 20: ¾" NTP – DN25: 1" NTP – DN 32: 1 ¼" NPT – DN 40: 1 ½" NTP - DN 50: 2" NTP

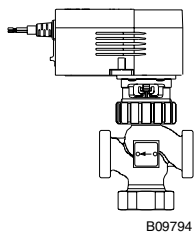
### Accessories

- 0361951 015\*** 1 screw fitting for male thread with flat seal DN 15
- 0361951 020\*** 1 screw fitting for male thread with flat seal DN 20
- 0361951 025\*** 1 screw fitting for male thread with flat seal DN 25
- 0361951 032\*** 1 screw fitting for male thread with flat seal DN 32
- 0361951 040\*** 1 screw fitting for male thread with flat seal DN 40
- 0361951 050\*** 1 screw fitting for male thread with flat seal DN 50
- 0361988 100** Heater for stuffing box: for AVM / AVF 124 (S): 230 V~; [MV 505498](#)
- 0361988 102** Heater for stuffing box: for AVM / AVF 124 (S): 24 V~; [MV 505498](#)
- 0372240 001\*** Manual adjuster for valves with 8 mm of stroke; [MV 505813](#)
- 0372249 001** Temperature adaptor (>100 °C) for AVM; [MV 505932](#)
- 0378070 102** Heating for stuffing box for AVM 104(S) / 114(S); 24 V~, 15 W <sup>2)</sup>

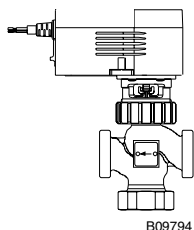
<sup>\*)</sup> Dimension drawing or wiring diagram are available under the same number

1) At temperatures under 0 °C, use stuffing-box heater; at temperatures above 100°C, use temperature adaptor (accessories).

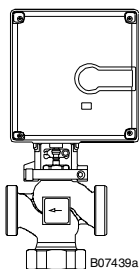
2) With a power supply of 230 V~, a safety transformer for 24 V~ should be employed.


**Combined with electric drive with a pushing force of 250 N**

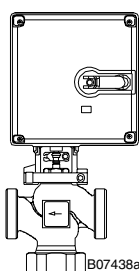
Drive	Closure against the pressure	Input Running time		AVM 104 2-/3-point 120 s	AVM 104 F100 30 s	AVM104S F132 35/65/130s
Valve	$\Delta p_{max}$	$\Delta p_s$	close/off pressure			
VXN 015	4	–	6			
VXN 020	4	–	6			
VXN 025	4	–	5			
VXN 032	3	–	3			
VXN 040	1.9	–	1.9			
VXN 050	1	–	1.2			


**Combined with electric drive with a pushing force of 500 N**

Drive	Closure against the pressure	Input Running time		AVM 114 F020/F022 120 s	AVM 114 F120/F122 120 s	AVM 114S 0...10 V 60/120
Valve	$\Delta p_{max}$	$\Delta p_s$	close/off pressure			
VXN 015	6	–	15			
VXN 020	5	–	10			
VXN 025	4	–	7.5			
VXN 032	3.5	–	6			
VXN 040	3	–	3.6			
VXN 050	2.4	–	2.4			


**Combined with electric drive with spring return with a pushing force of 500 N**

Drive	Closure against the pressure	Closure with the pressure	Input Running time		AVF 124 3-point 60 / 120 s	AVF 124S 0...10 V 60 / 120 s
Valve	$\Delta p_{max}$		$\Delta p_s$	close/off pressure		
VXN 015	6	4	16	15		
VXN 020	5	2.8	12	10		
VXN 025	4	2.8	8	7.5		
VXN 032	3.5	2	6	6		
VXN 040	3	1.5	3.6	3.6		
VXN 050	2.4	0.8	2.4	2.4		


**Combined with electric drive with a pushing force of 800 N**

Drive	Closure against the pressure	Closure with the pressure	Input Running time		AVM 124 3-point 30 / 60 / 120 s	AVM 124S 0...10 V 30 / 60 / 120 s
Valve	$\Delta p_{max}$		$\Delta p_s$	close/off pressure		
VXN 015	8	6	–	15		
VXN 020	8	6	–	10		
VXN 025	8	5	–	9		
VXN 032	6	4	–	7		
VXN 040	5	2.5	–	6		
VXN 050	3	1.5	–	3.5		

Complete type code: valve and drive each with F-variant

Valve: For F-variant, technical details and accessories, see table of valve types

Drive: For F-variant, technical details, accessories and fitting position, see Section 51

Example: VXN 015 F210 / AVM 114S F132

$\Delta p_{max}$ [bar]= Max. permissible pressure difference across the valve at which the drive can still firmly open and close the valve.

$\Delta p_s$  [bar]= Max. permissible pressure difference across the valve at which, in the event of a malfunction, the drive can close the valve.

close/off pressure The pressure difference across the valve in control mode that can overcome the force of the drive. In this mode, a reduced serviceable life can be expected. Cavitation, erosion and pressure surges may damage the valve. The values stated apply only when the valve is fitted on the drive.

**Operation**

Using an electric drive, the valve can be moved to any position. The valve closes when the valve spindle is extended. Can close either against the operating pressure using the AVM 104/114/124(S) actuator or the AVF 124(S) actuator with spring return. Closing with the operating pressure only with AVM 124(S) and AVF 124(S).

The valve spindle is fixed to the drive spindle. This enables the valve to close either with or against the operating pressure. It also stops the plug from flapping about in the end position and, at the same time, hinders cavitation and erosion. Because there is no opposing spring pressure when the valve closes, the full force of the drive is available for the permissible pressure difference.

**Engineering and fitting notes**

The manual adjuster (accessory) is fitted onto the valve like a drive. The connection to the valve spindle is effected automatically when the valve is opened with the button.

The control unit can be fitted in any position except facing downwards. The ingress of condensate, drops of water etc. into the drive should be prevented.

In order to restrain contaminants in the water (e.g. welding beads, rust particles etc.) and prevent the spindle seal from being damaged, we recommend the employment of collective filters, e.g. for each floor or feed pipe. The composition of the water should be in accordance with VDI 2035.

The valve and drive can be assembled without having to be set up; the drive adapts itself automatically to the valve stroke and to the stops as soon as power is applied.

To prevent the flow of the medium from being audible in quiet rooms, the pressure difference across the valve should not exceed 50% of the stated values.

**Additional technical details**

**Technical information**

- Pressure and temperature specifications DIN EN 764, 1333
- Flow parameters VDI/VDE 2173
- Sauter slide rule for valve sizing 7 090011 003
- Manual for slide rule 7 000129 003
- PC program for Sauter valve and drive sizing 7 000675 003
- Valvedim.exe 7 000477 003
- Technical manual: 'Valves and drives' 7 000477 003
- Parameters, Fitting Notes, Control, General Information
- CE-conformity Pressure Equipment Directive 97/23/EG item 3.3

**Additional specifications**

Chill-cast valve body (EN 1982) with male thread cylindrical as per ISO 228/1 Class B, flat seal on body.

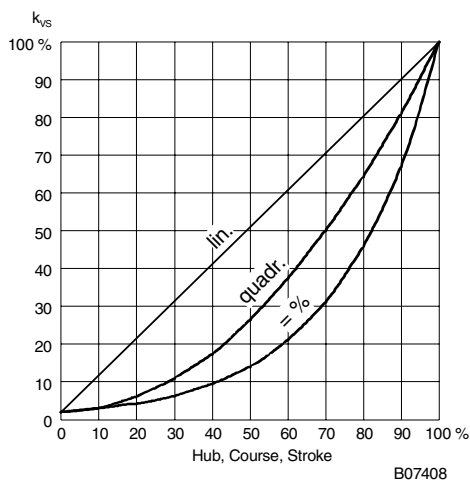
Packing box with O-ring of ethylene-propylene.

**Material numbers as per DIN**

	DIN material no.	DIN code
Valve body	CC 754S-GM	Cu Zn 39 Pb 1 Al-C
Valve seat	CC 754S-GM	Cu Zn 39 Pb 1 Al-C
Spindle	1.4305	X 8 Cr Ni S 18-9 + 1G
Plug	2.0402.26	Cu Zn 40 Pb 2 F43
Packing box	2.0401.10	CU Zn 39 Pb 3 F36

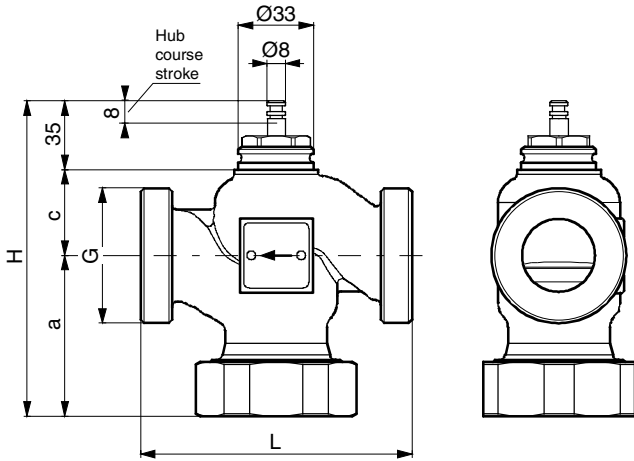
**Characteristic for drives with positioner**

On AVM 124S or AVF 124S and AVM/AVM 114 drive (only lin and = %): settable with coding switch



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**Dimension drawings**

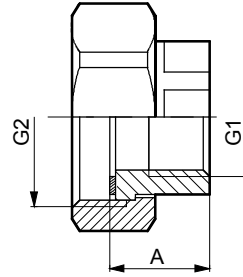


DIN	G	a	c	L	H	
15	1/2"	G1B	58	32	100	125
20	3/4"	G1 1/4B	58	33	100	126
25	1"	G1 1/2B	63	36	110	134
32	1 1/4"	G2B	70	38	120	143
40	1 1/2"	G2 1/4B	75	48	130	158
50	2"	G2 3/4B	86	54	150	175

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**Accessories**

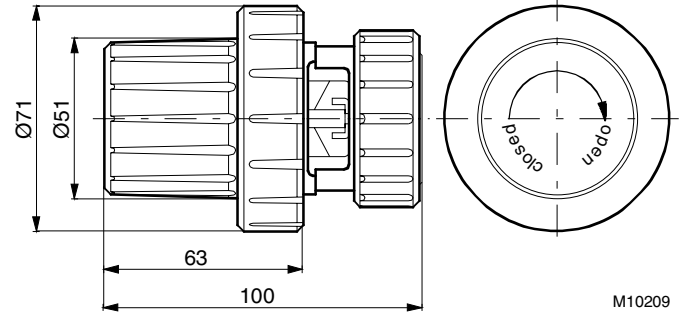
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A	DN	G1	G2
32,3	50	Rp2	G2 3/4
33	40	Rp1 1/2	G2 1/4
26,5	32	Rp1 1/4	G2
24,7	25	Rp1	G1 1/2
20,8	20	Rp3/4	G1 1/4
18,7	15	Rp1/2	G1

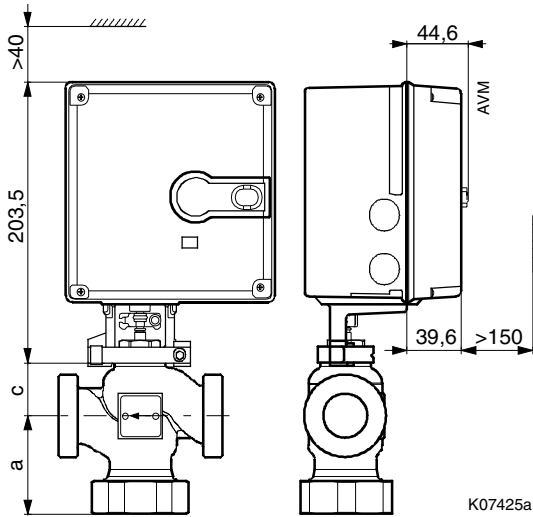
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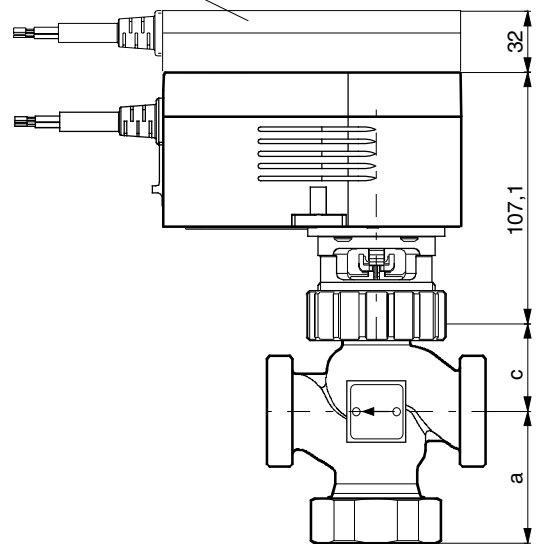
AVF 124 and AVM 124



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AVM 104 and AVM 114

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