

V3FA Series

Characterized Control Valves, 3-way

Description

Suitable for closed and open warm-and cold-water HVAC systems.

Used in water side modulating control of air handling and heating HVAC systems.

Air bubble-tight control.



Order Code	Size/Thread	Kvs Value	Order Code	Size/Thread	Kvs Value
• V3FA.15_1	DN15 / R1/2"	1m ³ /h	• V3FA.25_16	DN25 / R1"	16m ³ /h
• V3FA.15_1.6	DN15 / R1/2"	1.6m ³ /h	• V3FA.32_16	DN32 / R1-1/4"	16m ³ /h
• V3FA.15_2.5	DN15 / R1/2"	2.5m ³ /h	• V3FA.32_25	DN32 / R1-1/4"	25m ³ /h
• V3FA.15_4	DN15 / R1/2"	4m ³ /h	• V3FA.40_25	DN40 / R1-1/2"	25m ³ /h
• V3FA.20_4	DN20 / R3/4"	4m ³ /h	• V3FA.40_40	DN40 / R1-1/2"	40m ³ /h
• V3FA.20_6.3	DN20 / R3/4"	6.3m ³ /h	• V3FA.50_40	DN50 / R2"	40m ³ /h
• V3FA.25_10	DN25 / R1"	10m ³ /h	• V3FA.50_63	DN50 / R2"	63m ³ /h

General data

Technical data

Fluid	Cold and hot water with up to 50% vol. glycol
Fluid temperature	5...90°
Close-Off differential pressure	1,600 kPa
Differential pressure rating	350 kPa
Operational Pressure rating	PN20
Flow	Bypass B-C: 70% of Kvs Valve
Flow characteristic	Control path A-AB Equal percentage
Leakage rate	A-C Air-bubble-tight, B-C 1% of Kvs
Angle of rotation	90°
Pipe connection	Internal Thread (ISO 7-1)
Installation position	Upright (stem on top)
Service	Maintenance free

Material

Body	Brass
Closing / characterizing elements	Chrome Plated brass (DN15...DN20) / Stainless Steel (DN25...DN50)
Stem	Stainless Steel
Stem seal	EPDM O-ring
Seat	PTFE + Graphite

Functional data

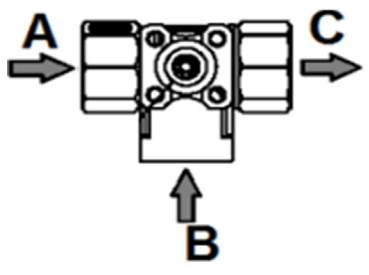
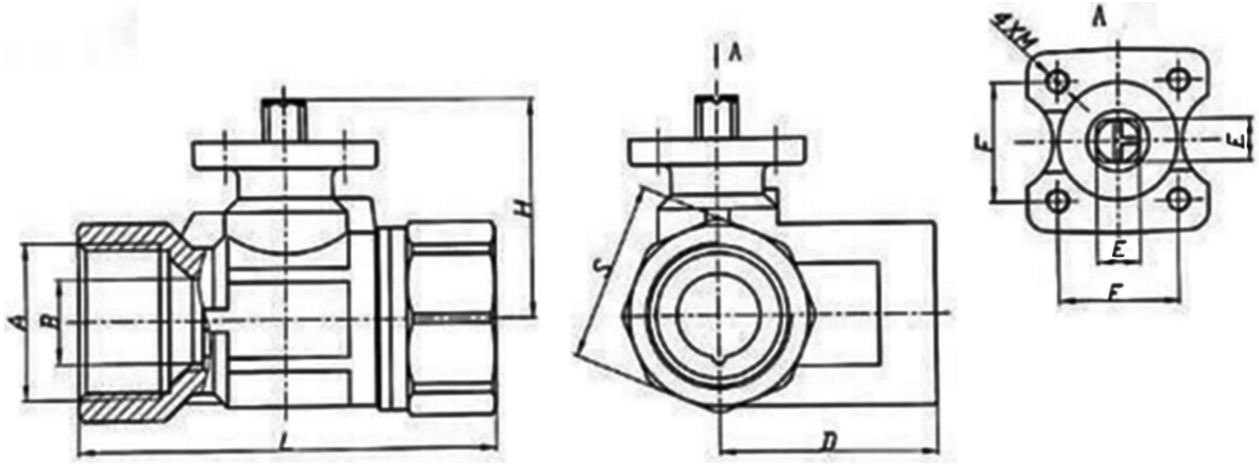
Warranty	5 Year
Application	Water
Installation places	Plant Rooms of Spaces

Security Notes / Disposal Notes

The valve has been designed for use in heating, ventilation and air conditioning systems. The device is not allowed to be used outside the specified field of application, especially in airplanes.

It may only be installed by suitably trained personnel. Any legal regulations or regulations issued by authorities must be observed during assembly. When determining the flow characteristic, the accepted directives must be observed. The device is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Dimensions



	A	B	L	D	H	S	E	F	M
DN15	G1/2"	014	60	30.5	39	20	9	25.4	MS
DN20	G3/4"	014	67	32	43	32			
DN25	G1"	018	89	46.5	47	39			
DN32	G1-1/4"	022_3	103	49	52_5	48			
DN40	G1-1/2"	026_5	113	52	57	55			
DN50	G2"	033	128	69	62	67			

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Commonly used valve / Actuator Combination

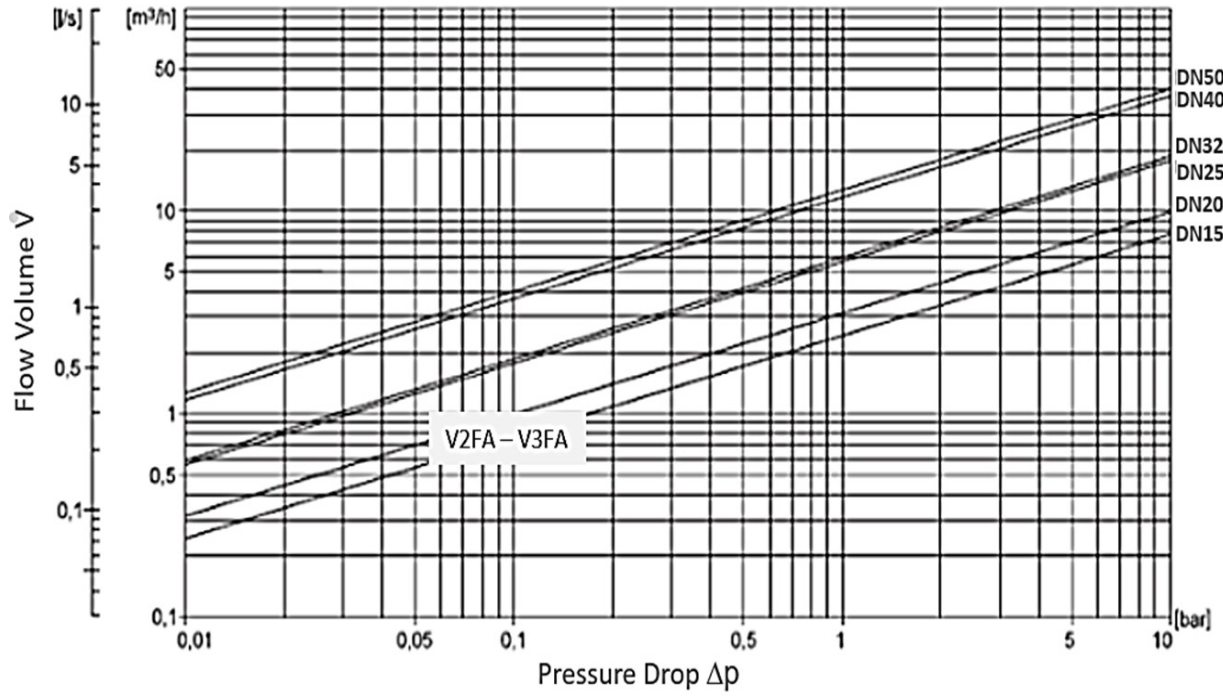
Characterized Control Valve (CCV) / Small HVAC Equipment		Actuators																																				
		Open Close Actuators								Modulating Actuators				Open Close Actuators		Modulating Actuators																						
Valve Size	Order Code	Non Spring Return Actuators																Spring Return Actuators																				
		Running Time (s)	60..120		100		100		100		100		100		100		75/20		100/20																			
		Auxiliary switch	n.a.		x2		n.a.		x1		n.a.		x1		n.a.		x1		n.a.		x2		n.a.		x2													
		IP Rating	IP52		IP52		IP54		IP54		IP54		IP54		IP54		IP54		IP54		IP54		IP54		IP54													
		Power Supply					AC/DC 24V				AC 230V				AC/DC 24V				AC/DC 24V																			
		Order Code	225-024T-05_VNB		225-024T-05-S2_VNB		227-024-08I_VNB		227-024-08I-S1_VNB		227-024-16I_VNB		227-024-16I-S1_VNB		227-230-08I_VNB		227-230-08I-S1_VNB		227-230-16I_VNB		227-230-16I-S1_VNB		227C-024-08I_VNB		227C-024-08I-S1_VNB		227C-024-16I_VNB		227C-024-16I-S1_VNB		341-024-05_VNB		341-024-05-S2F_VNB		341C-024-05_VNB		341C-024-05-S2F_VNB	
		Picture																																				
		Close-Off pressure, max (KPa)																																				
DN15	V3FA.15_1	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600													
	V3FA.15_1,6	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600													
	V3FA.15_2,5	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600													
	V3FA.15_4	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600													
DN20	V3FA.20_4	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600													
	V3FA.20_6,3	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600													
DN25	V3FA.25_10	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600													
	V3FA.25_16	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600													
DN32	V3FA.32_16	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600													
	V3FA.32_25	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600													
DN40	V3FA.40_25					1600	1600			1600	1600			1600	1600			1600	1600																			
	V3FA.40_40					1600	1600			1600	1600			1600	1600			1600	1600																			
DN50	V3FA.50_40					1600	1600			1600	1600			1600	1600			1600	1600																			
	V3FA.50_63					1600	1600			1600	1600			1600	1600			1600	1600																			

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Adapter to the 225 / 227 Series - Actuators: 227-SHT-VA.

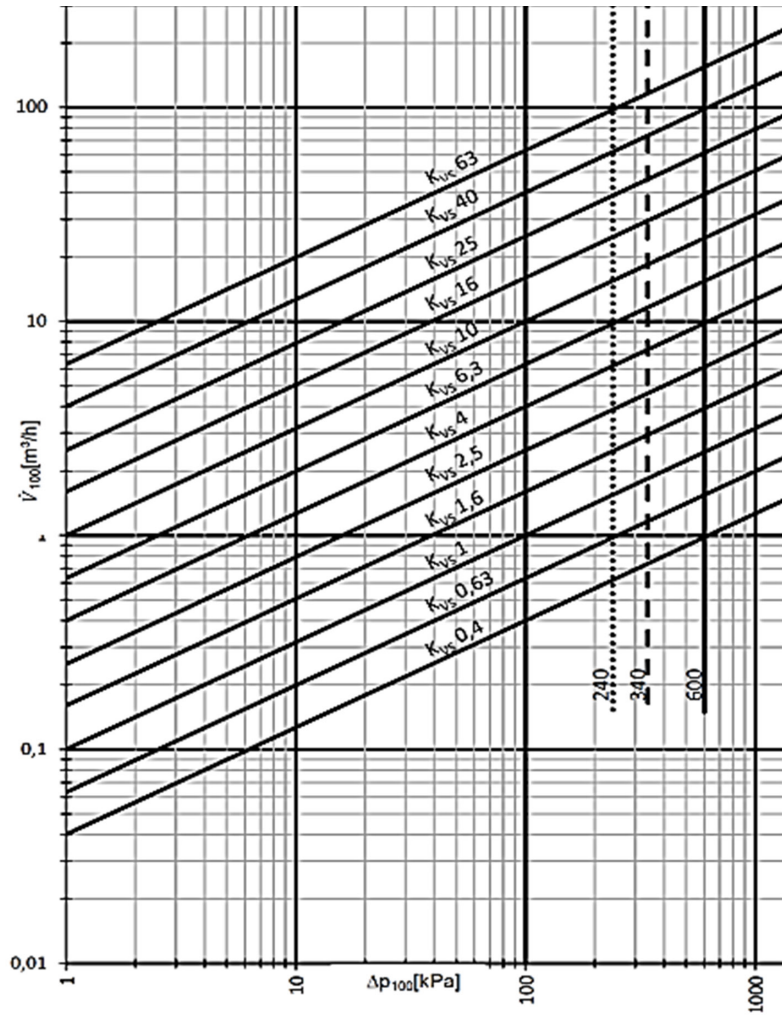
For other Valve and Actuator combination, please see the Gruner AP Valve / Actuator Guide.

Pressure drop over characteristic



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KVs diagram



Note:

DN10 Valves with KVs values 0.4 and 0.63 are

Available as OEM version

Calculation :

Formula Kvs for water

Kvs	[m ³ /h]	$Kvs = \sqrt{\frac{\dot{V}100}{\frac{\Delta p_{v100}}{100}}}$
$\dot{V}100$	[m ³ /h]	
Δp_{v100}	[kPa]	