

G6...C(S)(LCS) 2-way Pressure Compensated Flanged Globe Valve



Application

This valve is typically used in Large Air Handling Units on heating or cooling coils. This valve is suitable for use in a hydronic system with variable flow.

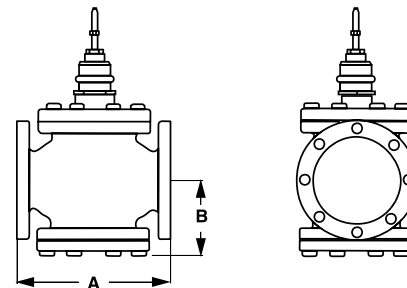
Bronze or stainless steel trim valves can be used for steam applications, depending on actuator and close-off combination.

C _v	Valve Nominal Size		Suitable Actuators		
	Inches	Type	Non-Spring	Spring	Electronic Fail-Safe
65	2½	G665C(S)	NV	AF(X) Series	GK Series
90	3	G680C(S)			
170	4	G6100C(S)	GM Series		
263	5	G6125C(S)			
344	6	G6150C(S)			
65	2½	G665LCS	NV		
90	3	G680LCS			
170	4	G6100LCS	GM Series	GK Series	
263	5	G6125LCS			
344	6	G6150LCS			

Technical Data			
	G6...C	G6...CS	G6...LCS
Service	chilled or hot water, 60% glycol, steam	chilled or hot water, 60% glycol, steam	chilled or hot water, 60% glycol, steam
Flow characteristic	modified equal percentage		linear
Action	stem up - open A to AB		
Sizes	2½" to 6"		
End fitting	125 lb. flanged		
Materials			
Body	iron	iron	iron
Seat	bronze	stainless steel	stainless steel
Stem	stainless steel	stainless steel	stainless steel
Plug	bronze	stainless steel	stainless steel
Packing	NLP (no lip packing)	TFE V-ring	TFE V-ring
ANSI class	ANSI 125		
Leakage	Class III		
Max inlet			
Steam	35 psi (241kPa)	50 psi (340kPa) - NV	50 psi (340kPa) - NV
Steam- Rotary		100 psi (680kPa)	100 psi (680kPa)
Water	150 psi (1034kPa) @ 250°F	150 psi (1034kPa) @ 250°F	150 psi (1034kPa) @ 250°F
Media temperature			
Water	32°F to 300°F (0°C to 148°C)	32°F to 350°F (0°C to 176°C)	32°F to 350°F (0°C to 176°C)
Steam	32°F to 280°F (0°C to 138°C)	32°F to 338°F (0°C to 170°C)	32°F to 338°F (0°C to 170°C)
Maximum ΔP*			
Water	25 psi (172kPa)	50 psi (340kPa)	50 psi (340kPa)
Steam	15 psi (103kPa)	50 psi (340kPa)	50 psi (340kPa)
Rangeability	G665C 85:1 G680C 91:1	G6100C 98:1 G6125C 100:1	G6150C 98:1

* (50% or more open)

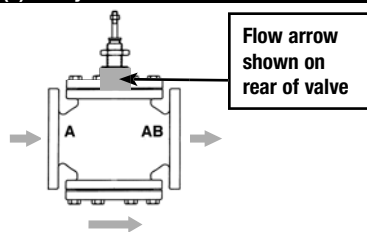
Dimensions



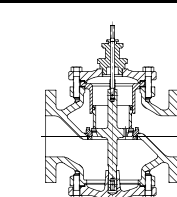
D166-214F

Valve Body	Valve Nominal Size		Dimensions (Inches [mm])	
	Inches	DN [mm]	A	B
G665C(S)	2½"	[65]	9" [229]	4.75" [120]
G680C(S)	3"	[80]	10" [254]	5.37" [137]
G6100C(S)	4"	[100]	13" [330]	6.87" [175]
G6125C(S)	5"	[125]	15.75" [400]	7.87" [200]
G6150C(S)	6"	[150]	17.75" [757]	8.50" [216]
G665LCS	2½"	[65]	9" [229]	4.75" [120]
G680LCS	3"	[80]	10" [254]	5.37" [137]
G6100LCS	4"	[100]	13" [330]	6.87" [175]
G6125LCS	5"	[125]	15.75" [400]	7.87" [200]
G6150LCS	6"	[150]	17.75" [757]	8.50" [216]

G6...C(S) 2-way Flow Patterns



Flow Pattern is marked on valve.



Stem Up - Open A to AB

Piping

The valves should be mounted in a weather-protected area in a location that is within the ambient limits of the actuator. Allow sufficient room for valve with actuator and for service. For the NV Series, allow 6" for cover removal and 12" for complete actuator removal. The G6/G7 preferred mounting position of the valve is with the valve stem vertical above the valve body, for maximum life. However, the assemblies can be mounted with valve stem vertical above the valve or up to 45 degrees in relation to the horizontal pipe. The actuators should never be mounted underneath the valve, as condensation can build up and result in a failure of the actuators. Do not reverse flow direction.

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Models

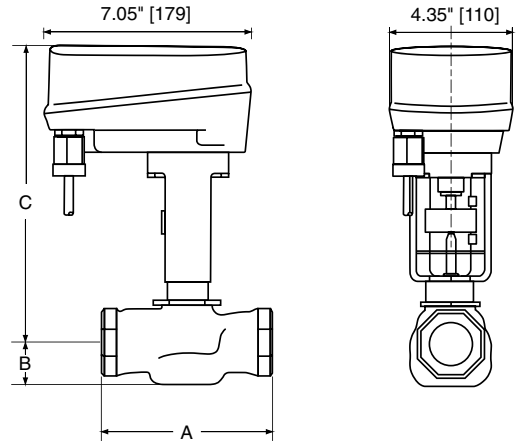
NVF24-MFT US	Spring Up
NVF24-MFT-E US	Spring Down
NVFD24-MFT US	Spring Up
NVFD24-MFT-E US	Spring Down

Technical Data

Power supply	24 VAC ± 20% 50/60 Hz, 24 VDC ± 10%
Nominal Voltage Range	19.2...28.8 VAC, 21.6...28.8 VDC
Power consumption	5.5 W
Transformer sizing	10 VA (Class 2 power source)
Electrical connection	3 ft, 18 GA plenum rated cable ½" conduit connector
Overload protection	electronic throughout stroke
Control Signal Y	2 to 10 VDC (V-10001 default), PWM available
Operating range	2 to 10 VDC
Input impedance	4 to 20 mA (w/500 Ω, ¼ W resistor) ZG-R01 100k Ω for 2 to 10 VDC (0.1 mA) 500 Ω for 4 to 20 mA 1500 Ω for PWM, On/Off and Floating Point
Operating range	2 to 10 VDC
Maximum stroke	¾" [20mm]
Plunger	NVF...24-MFT US: spring up NVF...24-MFT-E US: spring down
Force	NVFD24-MFT(-E) US: 90 lbf [400 N] NVF24-MFT(-E) US: 180 lbf [800 N]
Position indication	stroke indicator on bracket
Manual override	3/16" hex, 5mm hex or phillips screwdriver
Running time	motor: 150 seconds, independent of load and stroke spring: 30 seconds at ¾" [20mm] stroke
Humidity	5 to 95% RH non-condensing
Ambient temperature	32°F to 122°F [0°C to 50°C]
Storage temperature	20°F to 250°F [-7°C to 120°C]
Housing	NEMA 2/IP54 with cable entry down
Housing material	UL94-5V (flammability rating)
Agency listings†	CE, UL 60730-1, CSA C22.2 No. 139 certified
EMC	CE acc. to 89/336/EEC
Software	Class A to UL 60730-1
Mode of operation	Type 1 to UL 60730-1
Noise level	<35 dB(A)
Quality standard	ISO 9001

Dimensions with G2... Series 2-Way Valve

Assembly using UNV-001 Bracket



D081

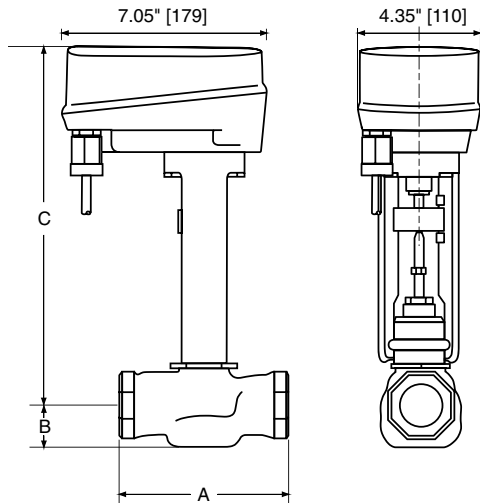
Valve Nominal Size

Dimensions (Inches [mm])

Valve Body	Inches	DN [mm]	A	B	C
G2	1/2"	15	3.00" [76]	1.06" [27]	9.75" [248]
G2	3/4"	20	3.62" [92]	1.06" [27]	9.75" [248]
G2	1"	25	4.62" [117]	1.12" [29]	10.43" [265]
G2	1-1/4"	32	4.62" [117]	1.37" [35]	10.43" [265]
G2	1-1/2"	40	5.37" [137]	1.50" [38]	10.50" [267]
G2	2"	50	6.12" [156]	1.56" [40]	10.81" [275]

Dimensions with G2...S Series 2-Way Valve

Assembly using UNV-035 Bracket (Bracket is 1.563" longer than UNV-001)



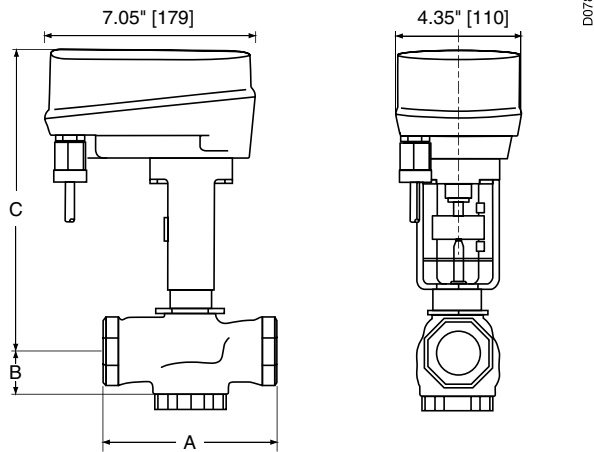
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Valve Nominal Size

Dimensions (Inches [mm])

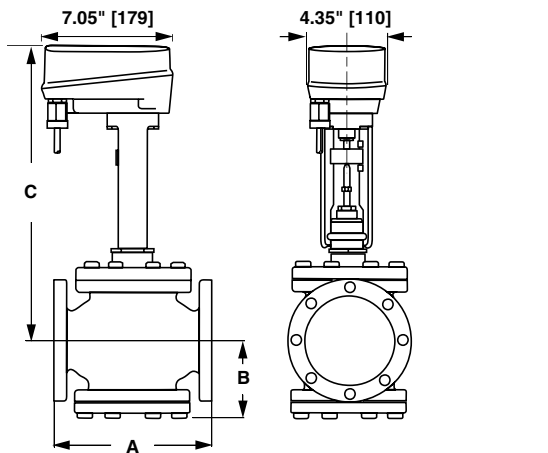
Valve Body	Inches	DN [mm]	A	B	C
G2S	1/2"	15	3.00" [76]	1.06" [27]	11.31" [287]
G2S	3/4"	20	3.62" [92]	1.06" [27]	11.31" [287]
G2S	1"	25	4.62" [117]	1.12" [29]	12.00" [305]
G2S	1-1/4"	32	4.62" [117]	1.37" [35]	12.00" [305]
G2S	1-1/2"	40	5.37" [137]	1.50" [38]	12.06" [306]
G2S	2"	50	6.12" [156]	1.56" [40]	12.37" [314]

Dimensions with G3...(D) Series 3-Way Valve



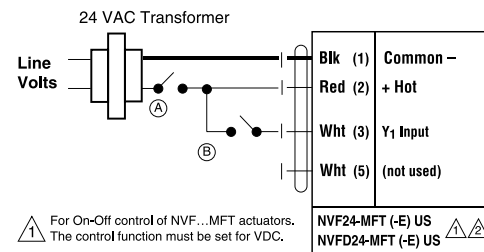
Valve Body	Valve Nominal Size		Dimensions (Inches [mm])		
	Inches	DN [mm]	A	B	C
G3(D)	1/2"	15	3.00" [76]	1.37" [35]	9.75" [248]
G3(D)	1/2"	15	3.00" [76]	1.37" [35]	9.75" [248]
G3(D)	3/4"	20	3.62" [92]	1.68" [43]	9.75" [248]
G3(D)	1"	25	4.62" [117]	1.56" [40]	9.81" [249]
G3(D)	1-1/4"	32	4.62" [117]	1.62" [41]	10.06" [256]
G3(D)	1-1/2"	40	5.37" [137]	1.62" [41]	9.18" [234]
G3(D)	2"	50	6.12" [156]	1.87" [48]	9.25" [235]

Dimensions with G6...C Series 2-Way Valve



Valve Body	Valve Nominal Size		Dimensions (Inches [mm])		
	Inches	DN [mm]	A	B	C
G6C ANSI 125	2-1/2"	65	9.00" [229]	4.75" [120]	15.00" [381]
G6C ANSI 125	3"	80	10.00" [254]	5.37" [137]	15.43" [392]

Wiring Diagrams

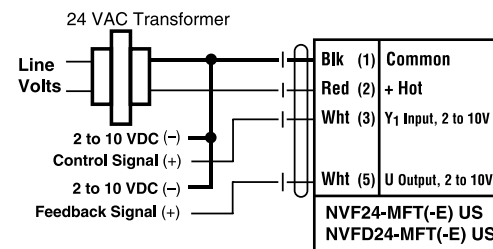


- 1 For On-Off control of NVF...MFT actuators. The control function must be set for VDC.
- 2 V-40... configurations do not require programming.

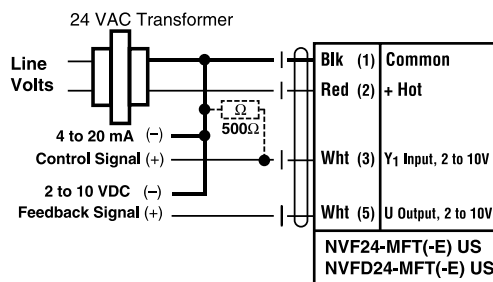
	Actuator		Control Switch Location	Correct LED Indication
	"Open" (Switch Selectable)	"Closed" (Switch Selectable)		
OFF/ON Drive "open" Spring "closed"	150 sec. (MFT selectable)	30 sec. Spring return	(A)	Flashing Red
OFF/ON Drive "open" Drive "closed"	150 sec. (MFT selectable)	150 sec. (MFT selectable)	(B)	Steady Green

If the switch location "A" is selected, the switch in location "B" is not required. If the switch location "B" is selected, the switch in location "A" is not required.

On/Off Control

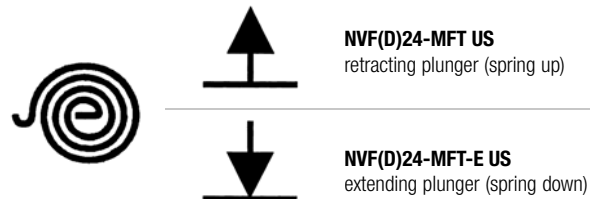


2 to 10 VDC



4 to 20 mA

Spring Return Actuators Model Designation



	Non-Spring Return				Spring Return					Electronic Fail-Safe
	NV	NVG	GM	2 x GM	NVF	AF	2x AF	AFX	2 x AFX	GK
2-way ANSI 125										
G665, G665S		62	113	150		36	59	51	82	113
G680, G680S		42	78	121		24	40	34	56	78
2-way Pressure Comp										
G665C, G665CS, G665LCS	150				150	150		150		
G680C, G680CS, G680LCS	150				136	150		150		
G6100C, G6100CS, G6100LCS			150				132		150	150
G6125C, G6125CS, G6125LCS			150				87		150	150
G6150C, G6150CS, G6150LCS			150				50		150	150
2-way ANSI 250										
G665-250, G665S-250		62	113	176		36	59	51	82	113
G680-250, G680S-250		42	78	121		24	40	34	56	78
3-way ANSI 125 Mixing										
G765, G765S		62	113	150		36	59	51	82	114
G780, G780S		42	78	121		24	40	34	56	78
G7100, G7100S			19	31					13	19
G7125, G7125S				19						
G7150, G7150S				13						
3-way ANSI 250 Mixing										
G765-250, G765S-250		62	113	176		35	58	40	114	114
G780-250, G780S-250		42	78	121		23	40	25	77	78
G7100-250, G7100S-250				31					24	19
G7125-250, G7125S-250				19						
G7150-250, G7150S-250				13						
3-way ANSI 125/250 Diverting										
G765D, G765DS, G765DS-250		100	100			100		100		100
G780D, G780DS, G780DS-250		100	100			100		100		100
G7100D, G7100DS, G7100DS-250		100	100			100		100		100
G7125D, G7125DS, G7125DS-250			100				100		100	100
G7150D, G7150DS, G7150DS-250			100				100		100	100

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