

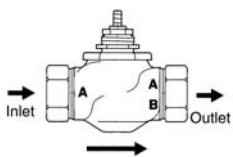
# G2...(S) 2-way Globe Valve, Bronze or Stainless Steel Trim



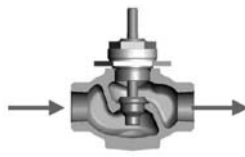
Technical Data		
	G2	G2...S
Service	chilled or hot water, 60% glycol, steam	
Flow characteristic	equal percentage	linear
Action	stem up - open A to AB	
Sizes	½" to 2"	
End fitting	NPT female ends	
Materials		
Body	bronze	bronze
Seat	bronze	stainless steel
Stem	stainless steel	stainless steel
Plug	brass	stainless steel
Packing	spring loaded TFE	spring loaded TFE
Disc	composition (EPDM)	Teflon
ANSI class	ANSI 250 (up to 400 psi below 150°F)	
Leakage	ANSI class IV	
Max steam inlet		
NV actuators	15 psi (103 kPa)	50 psi (345 kPa)
Rotary actuators	35 psi (241 kPa)	100 psi (689 kPa)
Media temperature		
Water	20°F to 250°F (-7°C to 120°C)	20°F to 300°F (-7°C to 149°C)
Maximum ΔP*		
Water	35 psi (241 kPa)	35 psi (241 kPa)
Steam (NV Actuator)	15 psi (103 kPa)	35 psi (241 kPa)
Steam (Rotary Actuator)	20 psi (138 kPa)	35 psi (241 kPa)
Rangeability	5:1 G212(S) 15:1 G213(S) 25:1 G214(S) 40:1 G215(S) 50:1 G219(S) 60:1 G220(S), G224(S) 75:1 all others	

\*(50% or more open)

## G2...(S) 2-way Flow Patterns



Flow Direction



Stem Up - Open A to AB

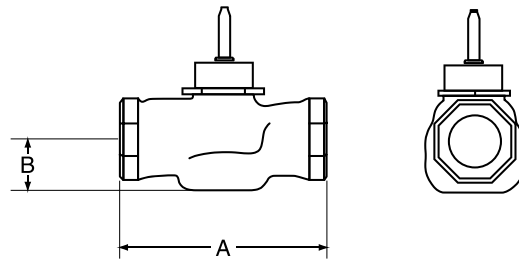
## Application

This valve is typically used in Air Handling Units on heating or cooling coils and Fan Coil Unit heating or cooling coils. Some other common applications include Unit Ventilators, VAV Box reheat coils and bypass loops. This valve is suitable for use in a hydronic system with variable flow.

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

C <sub>v</sub>	Valve Nominal Size		Type	Suitable Actuators		
	Inches	DN [mm]	2-way NPT	Non-Spring	Spring	
0.4	½	15	G212(S)	LM Series	NV Series	LF Series
1.3	½	15	G213(S)			
2.2	½	15	G214(S)			
4.4	½	15	G215(S)			
5.5	¾	20	G219(S)			
7.5	¾	20	G220(S)	NM Series	NV Series	LF Series
10	1	25	G224(S)			
14	1	25	G225(S)			
20	1¼	32	G232(S)	AM Series	NV Series	AF(X)
28	1½	40	G240(S)			
40	2	50	G250(S)			NV Series

## Dimensions



0081-2W

Valve Body	Valve Nominal Size		Dimensions (Inches [mm])	
	Inches	DN [mm]	A	B
G212(S)-G215(S)	½"	15	3.06" [78]	1.06" [27]
G219(S)-G220(S)	¾"	20	3.62" [92]	1.06" [27]
G224(S)-G225(S)	1"	25	4.62" [117]	1.12" [29]
G232(S)	1¼"	32	4.62" [117]	1.37" [35]
G240(S)	1½"	40	5.37" [137]	1.50" [38]
G250(S)	2"	50	6.12" [156]	1.56" [40]

## 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 G2(S) and G3(D) 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 the valve stem vertical or horizontal in relation to the 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.



### Models

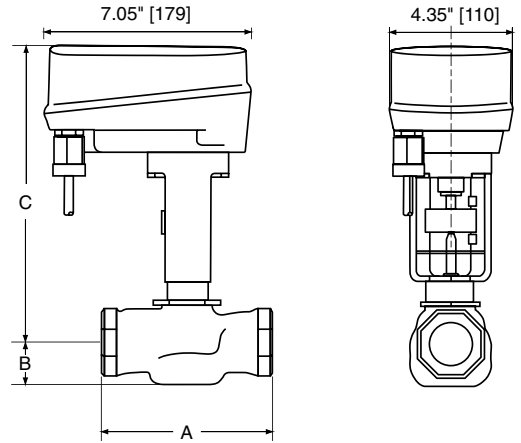
NVF24-MFT US	Spring Up
NVF24-MFT-E US	Spring Down
NVFD24-MFT US	Spring Up
NVFD24-MFT-E US	Spring Down

### 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

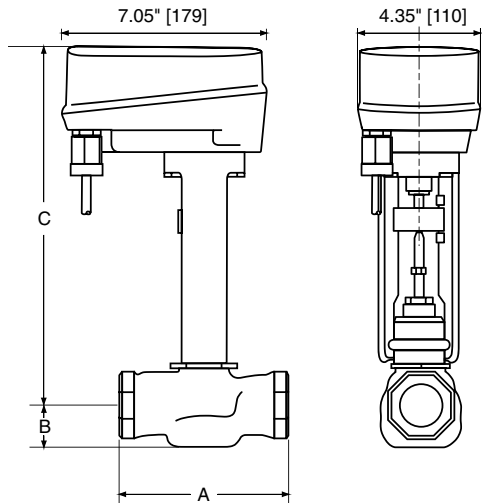
### Valve Nominal Size

### 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)



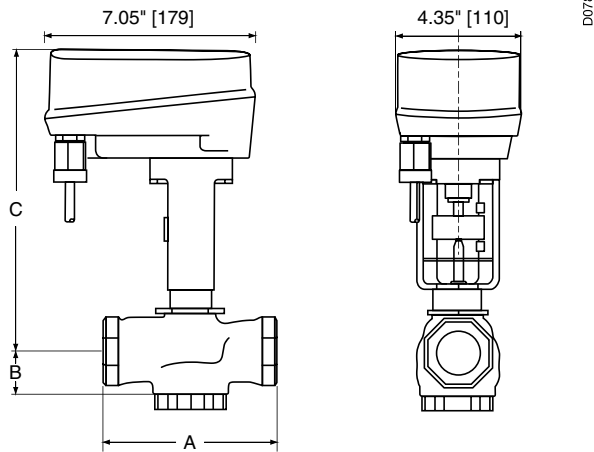
D056

### 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

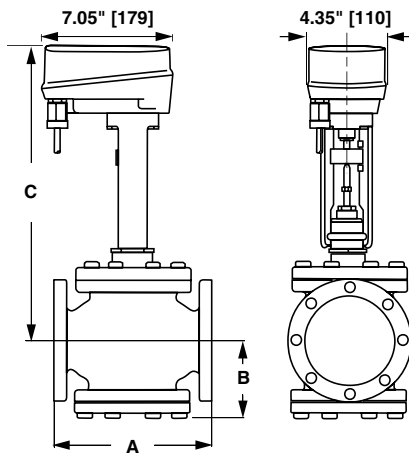


D078

Valve Nominal Size Dimensions (Inches [mm])

Valve Body	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

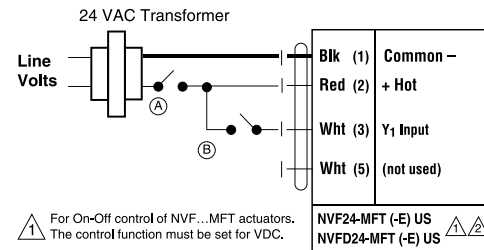


D068

Valve Nominal Size Dimensions (Inches [mm])

Valve Body	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



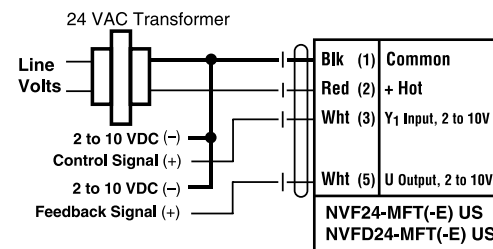
W136-MFT

- 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

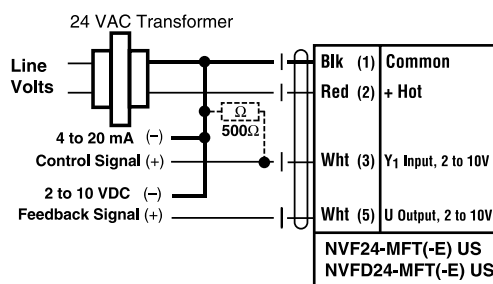
If the switch location "A" is selected, the switch in location "B" is not required. If the switch location "B" is selected, the switch in location "A" is not required.

## On/Off Control



W135-MFT

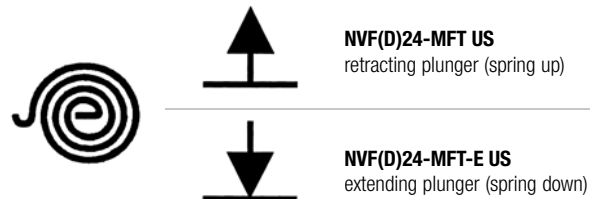
## 2 to 10 VDC



W135-MFT

## 4 to 20 mA

## Spring Return Actuators Model Designation



	Non-Spring Return						Spring Return					
	NVD	NV	NVG	LM	NM	AM	NVFD	NVF	LF	NF	AF	AFX
<b>2-way</b>												
G212(S)	250			250			250		250			
G213(S)	250			250			250		250			
G214(S)	250			250			250		250			
G215(S)	250			250			250		250			
G219(S)	250			250			250		185			
G220(S)	250			250			250		185			
G224(S)		250			250			207		250		
G225(S)		250			250			207		250		
G232(S)		162			158			130		158		
G240(S)		110	160			230		88			169	230
G250(S)		58	190			127		47			93	127
<b>3-way Mixing</b>												
G314	250			250			250		250			
G315	250			250			250		250			
G320	250			250			250		250			
G325		250			168			207		250		
G332		162			105			130		158		
G340		110				169		88			169	230
G350		58				93		47			93	127
<b>3-way Diverting</b>												
G315D	250			250			250		250			
G320D	250			250			250		250			
G325D	250				250		250			250		
G332D		250			250			250		250		
G340D		250				250		250			250	250
G350D		250				250		250			250	250