

# VG210N 15-50BS



## SPECIFICATIONS

Design	Two Way Plug Valve, Stem up closed.
Pressure Class	PN 16
Flow Characteristic	Equal percentage, modified (for finer opening control)
Stroke	11 mm
Rangeability	> 100:1
Leakage	<0.005% (to EN60534-4 Class IV-S1)
$\Delta P_m^a$	600 kPa, water
Media Compatibility	Chilled or hot water, 60% glycol concentration, low pressure conditioned steam.
Media Temperature	-7° to +150° C
Maximum Steam Pressure	.241 kPa
Connection	NPT

a.  $\Delta P_m$ : Maximum allowable pressure drop across a fully open valve.

### Suitable Actuator

Direct fit	MG600C, MG600C SR
With AV-823 Long Stem adaptor	M400, M800, M1500 and MG900 SR

### Materials

Body	Bronze; ASTM B584; CDA 83450 Oshalloy
Bonnet/Packing Cartridge	Brass; UNS C36000 and PTFE/EPDM chevrons
Stem	AISI 316 SS
Plug	AISI 316 SS
Seat Seal	PTFE, DN 15-20, EPDM, DN 25-50
Slotted Stem Adaptor	RoHS compliant Zinc-plated steel

## Two Way High Performance Globe Valves, Bronze Body with Stainless Trim

The New Venta VG210N 15-50BS is a new range of precision bronze globe valves, suitable for a demanding fluid control applications, including heating, cooling, air handling and domestic hot water systems. The VG210N 15-50BS series works reliably under a wide variety of conditions, including fluids with high glycol concentrations and very high temperature bands.

The valve utilises precision plugs for improved rangeability and fine fluid control on small opening degrees. Soft seating also ensures no seepage of precious energy when not required.

The VG210N 15-50BS range of valves is designed to be used in conjunction with the new short yoke Forta, providing one of the most compact plant room globe valves on the market. This enables the product to be fitted within conventional ceiling voids.

## KEY FEATURES

- U-bolt bonnet and slotted stem adaptor provides quick and simple mounting with the short yoke Forta actuator
- RoHS compliant
- Stainless steel trim for wide media compatibility and large pressure drops
- High rangeability provides fine accurate fluid control for more efficient, responsive and comfortable regulation
- Tight sealing with zero energy leakage on shutoff for improved system efficiency
- Compact Space envelope

The installer/product specifier must verify media compatibility of the valves construction materials with the water treatment/heat transfer solution supplier.

A strainer should be fitted upstream of the valve to increase valve reliability and protection of gland and seat seals.

Adherence to water treatment guidelines as detailed in VDI 2035 must be followed. Valves should be installed in the return pipe to reduce exposure to media temperature extremes.

**PRODUCT SELECTION / CLOSE-OFF PRESSURE RATINGS**

**ΔPc Close-off performance with MG600C (-SR) Actuator**

Size (DN)	Kvs	Connection	Part Number	Type Designation	Rangeability	ΔPc Close Off (kPa) to Leakage Class	
						Class IV-S <sup>1</sup> ≤0.005%	IV <sup>1</sup> ≤0.01%
15	0.4	1/2" NPT	VG210N-15BS02	VG210N 15BS 0.4T SU00	100:1	1600	1600
15	0.63	1/2" NPT	VG210N-15BS03	VG210N 15BS 0.63T SU00			
15	1.0	1/2" NPT	VG210N-15BS04	VG210N 15BS 1T SU00			
15	1.6	1/2" NPT	VG210N-15BS05	VG210N 15BS 1.6T SU00			
15	2.5	1/2" NPT	VG210N-15BS07	VG210N 15BS 2.5T SU00			
15	4.0	1/2" NPT	VG210N-15BS08	VG210N 15BS 4T SU00			
20	6.3	3/4" NPT	VG210N-20BS	VG210N 20BS 6.3T SU00		1100	1200
25	10	1" NPT	VG210N-25BS	VG210N 25BS 10E SU00			
32	17	1-1/4" NPT	VG210N-32BS	VG210N 32BS 17E SU00			
40	24	1-1/2" NPT	VG210N-40BS	VG210N 40BS 24E SU00			
50	35	2" NPT	VG210N-50BS	VG210N 50BS 35E SU00			

<sup>1</sup> Leakage class to as a percentage of a valves to Kvs, EN60534-4 with MG600C (-SR) actuator only

**ΔPc Close-off performance (kPa) with other Forta actuators (Long Stem adaptor required)**

Actuator <sup>2</sup> :		M400		M800		M1500		MG900 SR	
Long stem adaptor:		AV-823		AV-823		AV-823		AV-823	
Leakage class <sup>1</sup> :		IV-S1	IV	IV-S1	IV	IV-S1	IV	IV-S1	IV
Part Number	DN	≤0.005%	≤0.01%	≤0.005%	≤0.01%	≤0.005%	≤0.01%	≤0.005%	≤0.01%
VG210N-15BS..	15	1600	1600	1600	1600	1600	1600	1600	1600
VG210N-20BS	20								
VG210N-25BS	25	650	760	1550				1000	1120
VG210N-32BS	32	350	440	950	1000				
VG210N-40BS	40	180	280	550	660	1170	1280	640	750
VG210N-50BS	50	30	140	230	350	530	700	230	400

<sup>2</sup>M700, MV15B and M3000 will not connect to the VG210R venta valve

<sup>1</sup>Leakage Class to EN60534-4 as a percentage of the valves Kvs

**LEAKAGE NOTES:**

The VG210N valves will provide tight shut from factory delivery, meeting EN60534-4 / VDI2173 to Class IV and Class IV-S1 depending on system pressure drops.

Application usage and system water quality can degrade O-ring performance against seat leakage over time.

**RECOMMENDED ACTUATORS**

This series of valves mounts directly on to the new short yoke Forta Actuators with U-Bolt Connection.

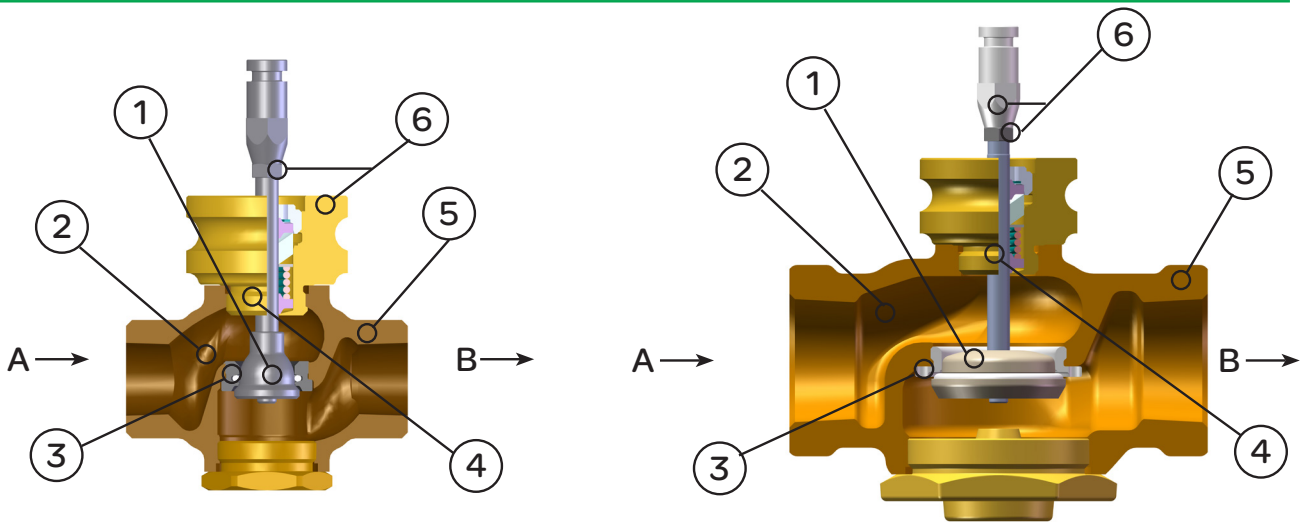


MG600C  
Non Spring Return



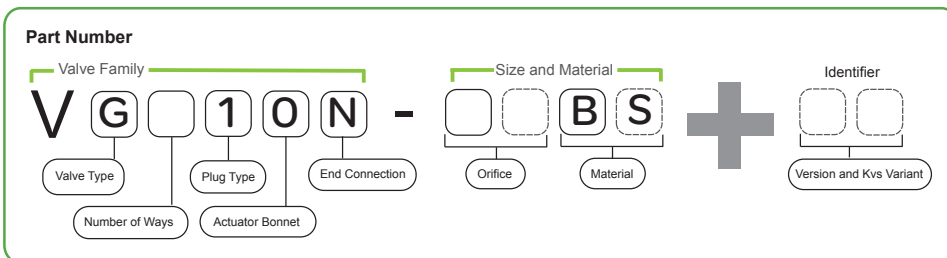
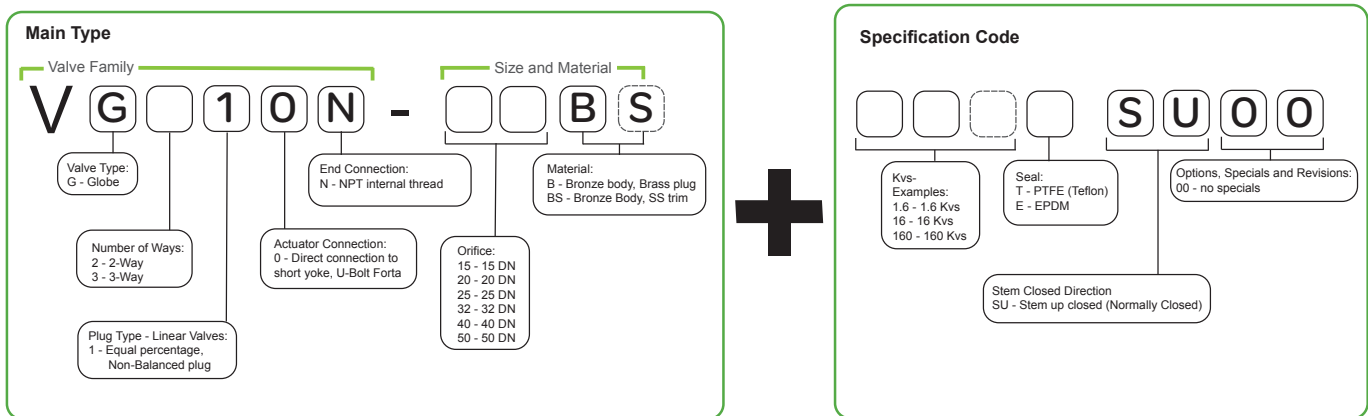
MG600C SR  
Spring Return

### KEY FEATURES



#	Part	Description
1	Plug and Seat Trim	AISI 316 stainless for cavitation resistance and long life
2	Internal Cavity	Carefully charted fluid dynamics to ensure low pressure drop and high flow capacity.
3	Seal	PTFE seat seal and EPDM plug seal for tight close off and zero loss of energy
4	Packing	Triple-temp packing for use in cold water, hot water, and steam applications.
5	Body	Made from RoHS compliant materials.
6	Bonnet and Slotted Stem Adaptor	Quick and simple mounting with the short yoke MG600C and MG600C-SR Actuators.

### TYPE DESIGNATION

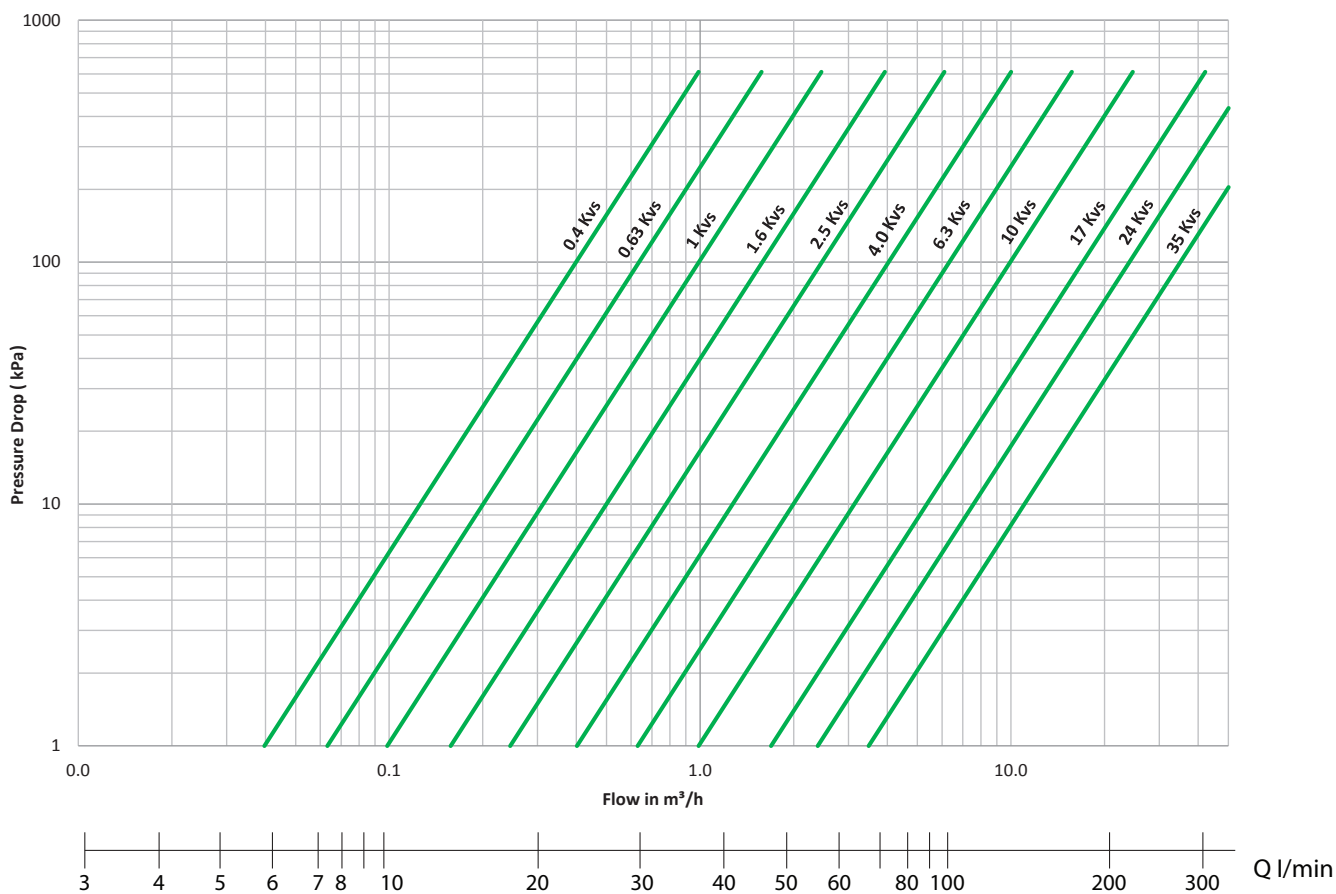


This is representative of the new Venta product series.

## VALVE SIZING

### Capacity Chart, Kvs

N.B. Capacity chart based on water with a Specific Gravity of 1.0



To size the ideal Kv, calculate pressure drops or refine selection sizing based on a glycol of density different to water, the following equations can be used.

For good fluid control and authority, the pressure drop through the valve should be as near as practicable equal to the pressure drop through the rest of the circuit which it controls.

$$Kv = Q \times \sqrt{\rho / \Delta P}$$

$$Q = Kv \times \sqrt{\Delta P / \rho}$$

$$\Delta P = \rho \times (Q / Kv)^2$$

Kv = Valve Capacity (m³/h)  
 Q = Volume flow (m³/h)  
 ΔP = Pressure drop across valve (bar)  
 ρ = Specific Gravity of fluid (kg/m³)

1 Bar = 100 kPa = 14.5 psi

1m³/h = 0.278 l/s = 0.167 l/min = 4.403 gpm (US)

## DIMENSIONS mm

Size	L	H <sup>1</sup>	H <sup>2</sup>
DN15	78	30	29
DN20	92		29
DN25	118	44	30
DN32		44	37
DN40	137	46	40
DN50	156	57	57

Valve assembled onto MG600C actuator.

