



# Masoneilan\* 21000 Series

**Top-Guided Globe  
Valve with Lo-dB\*/  
Anti-cavitation  
Capabilities**

**Optimum control performance  
for a wide range of automated  
process control applications**



# 21000 Series Globe Style Control Valves

## Versatile

BHGE offers the Masoneilan 21000 Series heavy top-guided globe valve for a wide range of automated process control applications. The 21000 Series product line features a single-ported design configuration, which permits numerous trim, actuation, and instrumentation solutions including:

- Lo-dB<sup>\*</sup> Noise Attenuation
- Anti-Cavitation
- Reduced Capacity & Low Flow Trim
- Cryogenic Configuration
- Tight Shut-off
- Environmental Packing
- Advanced Digital Positioning & Control

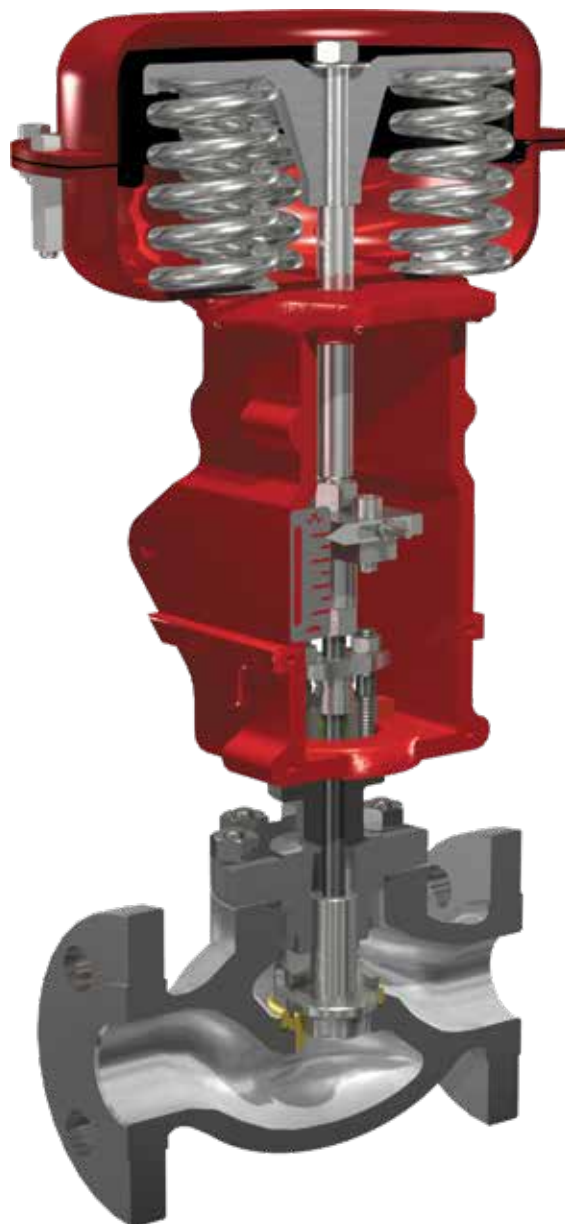
## Reliable

Rugged top-guiding of the plug promotes enhanced valve stability under adverse conditions. The inherent ruggedness of the 21000 Series is field-proven, with thousands of units installed in process control plants around the world operating successfully with various fluids under mild and extreme conditions.

The simple construction and flexible design features of the 21000 Series help to lower maintenance costs and extends product life cycles. This versatile product line helps customers to solve a multitude of control valve application problems using a common platform.

## High Performance

The combination of trim designs, actuator stability, shut-off capabilities, and precise valve positioning offers optimum control performance. Masoneilan 21000 Series is also available in various materials, pressure ratings, and end connections offering a complete high-performance valve platform.



# Key Features

## Model 87/88 Spring Diaphragm Actuator

- Compact Multi-Spring Design Reduces Stem-Side Loading
- Field-Reversible Construction
- Rolling Diaphragm Helps to Reduce Friction and Wear
- Constant Effective Area for Smooth Linear Control
- Four Sizes Available Covering Large Thrust Range
- Four Standard Spring Ranges for Wider Application Envelope
- Side-Mounted Handwheel Option

## Heavy Top Guiding

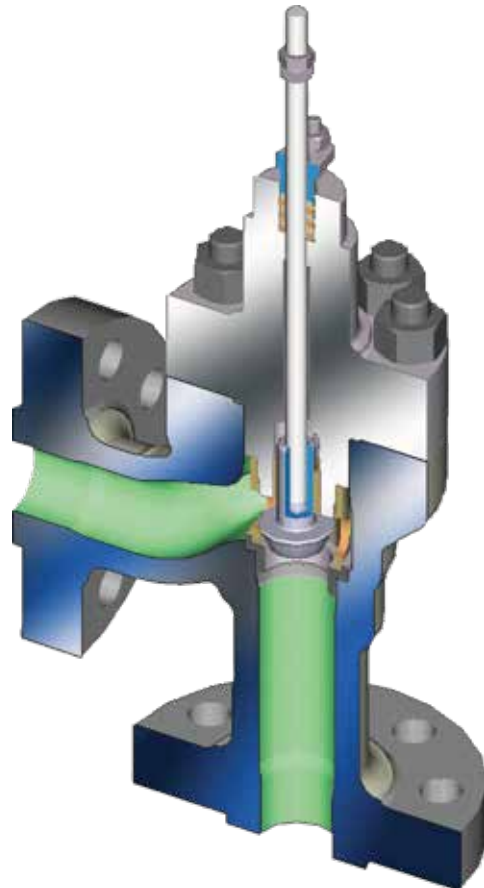
- Larger Post Guide Area for Increased Stability
- Positioned Outside of Direct Fluid Flow Path
- Offers More Reliable Control Performance

## Various Trim Options

- Single- and Double-Stage Low Noise and Anti-Cavitation Trim
- Standard Hardened Trim (Stellited or Equivalent Trim)
- Quick-Change or Threaded Seat Rings
- Reduced Capacities and Low-Flow Trims
- Equal Percentage and Linear Characteristics
- UOP Lockhopper Trim
- Soft-Seat Design

## Design Flexibility

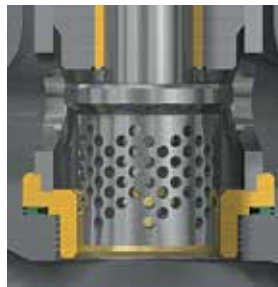
- Multiple End Connections
- Various Materials
- Angle Body Configuration
- Bellows Seal Design
- Piston Actuation Option
- Extension Bonnets
- Cryogenic Configuration
- Low-Emissions Packing
- DIN Version Available



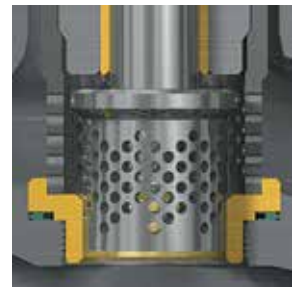
# Customer Benefits

## Reduced Noise Levels

The optional Lo-dB trim designs offer single-stage and double-stage noise attenuation benefits. Noise reduction levels of up to 25 dBA are possible, depending on the specific operating conditions.



Single-stage trim



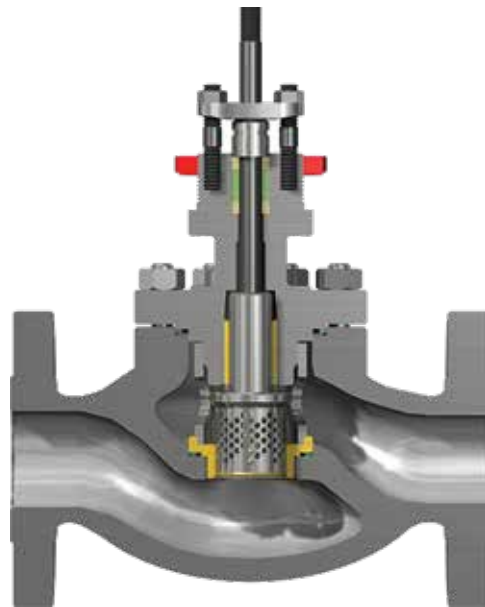
Double-stage trim

## Extended Life Cycle

Optional Anti-Cavitation trim is also available in single-stage and double-stage configurations. Proper control of dynamic cavitation conditions is extremely important for maintaining the continuous high performance and reliability of control valves.

## Lower Costs

Dependable tight shut-off of a control valve helps to reduce the loss of process fluids, and can help eliminate the need for separate isolation valves. The optional soft-seat design provides bubble-tight shutoff capabilities in accordance with ANSI/FCI and IEC requirements.



## Clean Air Compliance

The optional LE\* (Low Emission) Packing system helps to reduce atmospheric emissions from the stem seal area. This unique feature helps to promote compliance with environmental safety and emissions control requirements.

## Hazardous Emissions Control

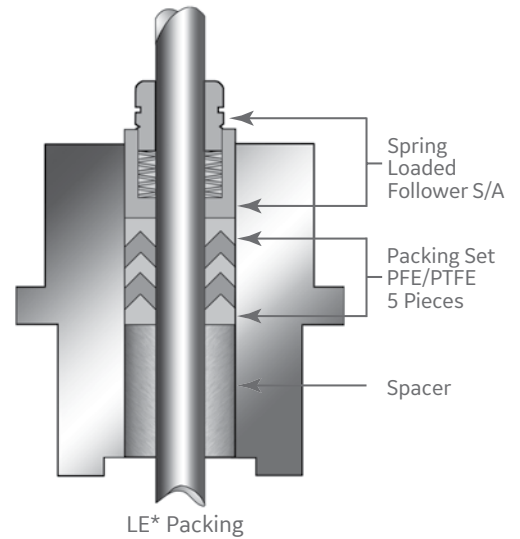
The optional Bellows Seal configuration is well-suited for applications involving highly toxic and dangerous fluids. Positive sealing and extended life-cycle operation combine to promote reliable and safe operation.

## Low Temperature Operation

The 21000 Series valve is also available in a cryogenic configuration for effective process control performance at extremely low temperature conditions. This is accomplished by using a combination of extended bonnets and construction materials.

## Improved Process Yields

The 21000 Series can be equipped with various Masoneilan advanced digital positioners and controllers for enhanced performance and control. This results in improved process yields and real-time diagnostics capabilities to support predictive plant maintenance programs. BHGE offers the Masoneilan SVI' II AP (Advanced Performance) with HART® communications and the Masoneilan SVI FF for FOUNDATION® Fieldbus applications. Both instruments are available in single- or double-acting configurations and offer advanced control technology to provide enhanced precision for pneumatically actuated control valves. We also offer the Masoneilan Valvue\* Software Suite for PC-based communications with these advanced devices.



21000 Series  
Globe-style valve



SVI FF Digital  
Valve Positioner



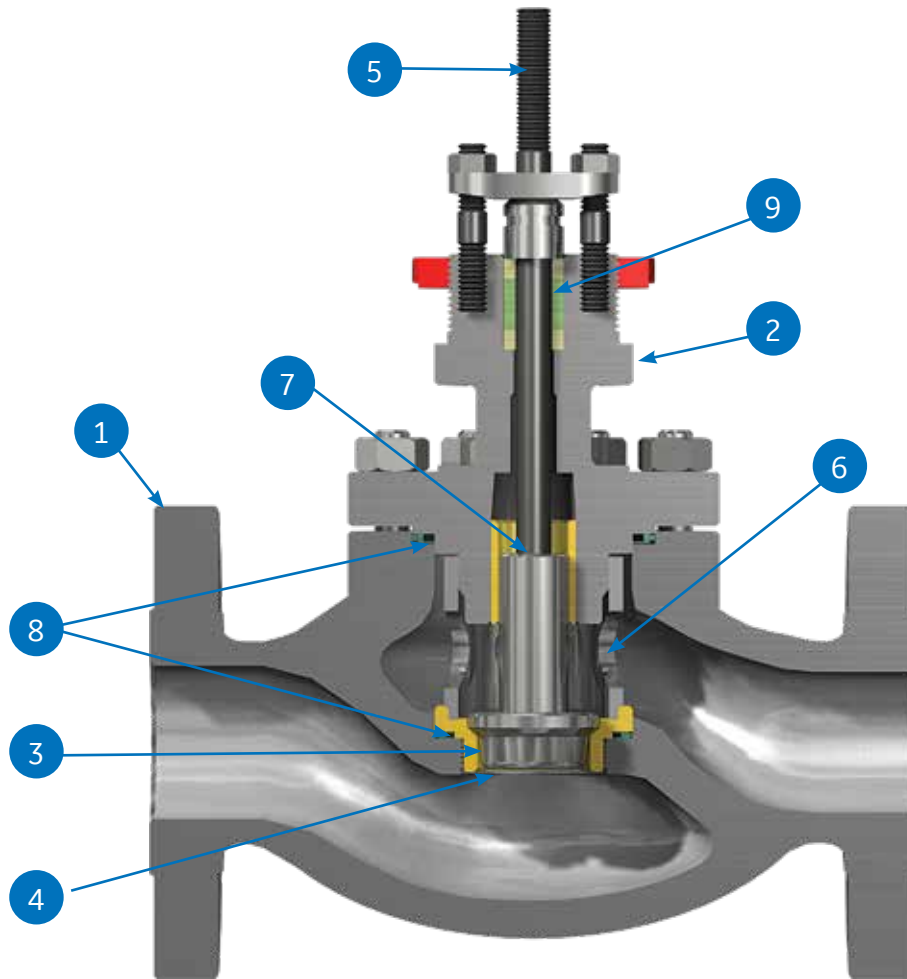
SVI II AP Digital  
Valve Positioner

# Product Specifications

Operating Range	
Sizes	3/4" to 8" (20mm to 200mm)
Body Ratings	ASME Class 150 to 2500 (Equivalent PN)
Leakage	ANSI/FCI/IEC Class IV, V and VI
C <sub>v</sub> Range	0.1 to 640
Temperature Range	-320°F to +800°F (-196°C to +427°C)

End Connections		
Connections	Valve Sizes	
	3/4" to 2" (20mm to 50mm)	3" to 8" (80mm to 610mm)
RF Flanged	●	●
Socket Weld	●	
Threaded	●	
RT Joint	●	●
Butt Weld	●	●

# Materials of Construction



Materials of Construction		
1	Body	Carbon Steel, Stainless Steel, Chrome-Moly, Other Alloys
2	Bonnet	Carbon Steel, Stainless Steel, Chrome-Moly, Other Alloys
3	Plug	Stainless Steel, Stainless Steel with Hardfacing, Stellite or Equivalent, PTFE Soft Seat
4	Seat Ring	Stainless Steel, Stainless Steel with Hardfacing
5	Stem	Stainless Steel
6	Cage	Stainless Steel
7	Guide Bushing	Stainless Steel
8	Gaskets	Stainless Steel with Flexible Graphite Filler
9	Packing	PTFE, Flexible Graphite, LE Packing

Note: Consult factory for availability of other materials, ratings and connections.

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GEA19532B 09/2018

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