



# Masoneilan

Putting You In Control

## 21000 Series Control Valves



## 21000 Series

High Performance Globe Style  
Control Valves



**VERSATILE  
RELIABLE  
HIGH PERFORMANCE**



EXPERIENCE,  
KNOWLEDGE,  
TECHNOLOGY.



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# Heavy Duty Dependable Solutions



# 21000 Series Globe Style Control Valves

## Versatile

Dresser Masoneilan® offers the 21000 Series heavy top-guided globe valve to meet 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:

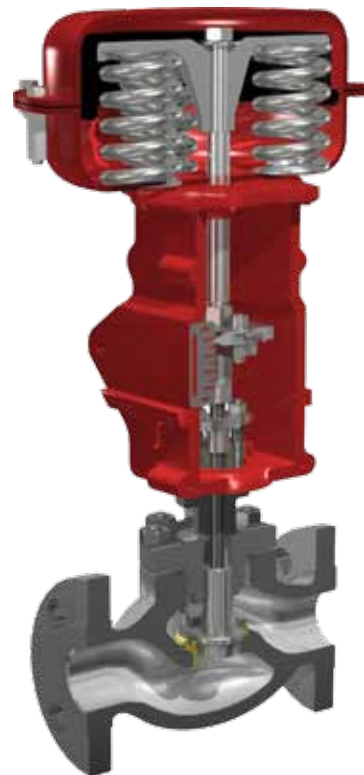
- Lo-dB® Noise Attenuation
- Anti-Cavitation
- Reduced Capacity & Low Flow Trim
- Cryogenic Configuration
- Tight Shutoff
- Environmental Packing
- Advanced Digital Positioning & Control

## Reliable

Rugged top-guiding of the plug ensures maximum valve stability under the most 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.

## High Performance

Optimum control performance is provided through the combination of trim designs, actuator stability and shutoff capabilities, and superior valve positioning. The 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 Minimizes Stem Side Loading
- Field Reversible Construction
- Rolling Diaphragm Minimizes Friction & Wear
- Constant Effective Area for Smooth Linear Control
- 4 Sizes Available Covering Large Thrust Range
- 4 Standard Spring Ranges for Wider Application Envelope
- Side Mounted Handwheel Option

## Heavy Top Guiding

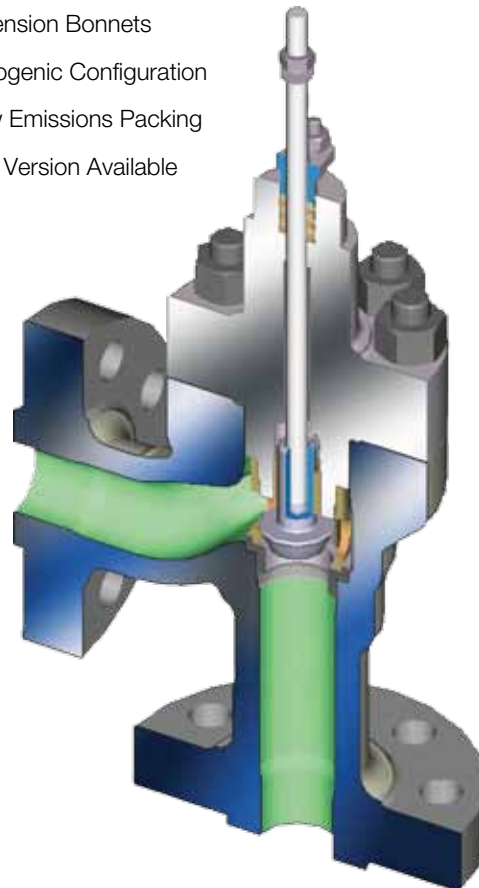
- Larger Post Guide Area for Maximum Stability
- Positioned Outside of Direct Fluid Flow Path
- Provides More Reliable Control Performance

## Various Trim Options

- Single & Double-Stage Low Noise and Anti-Cavitation Trim
- Standard Hardened Trim (Stellited 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

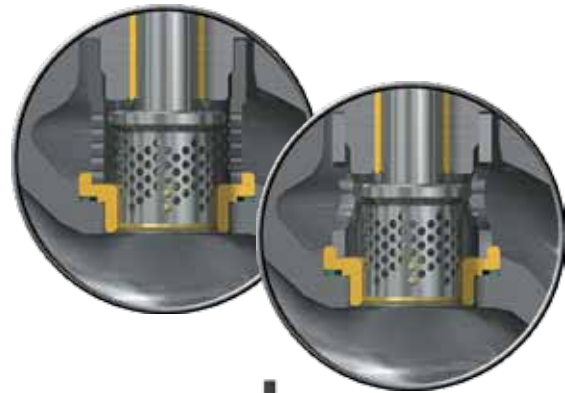




# Customer Benefits

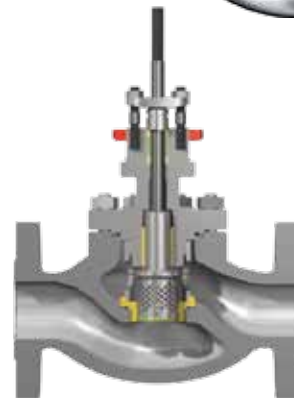
## Reduced Noise Levels

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



## Long 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 continuous high performance and reliability of control valves.



## Lower Costs

Dependable tight shutoff of a control valve minimizes loss of process fluids, and can potentially 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® Packing system significantly minimizes atmospheric emissions from the stem seal area. This unique feature helps to ensure compliance with any environmental safety and emissions control requirement.

## Hazardous Emissions Control

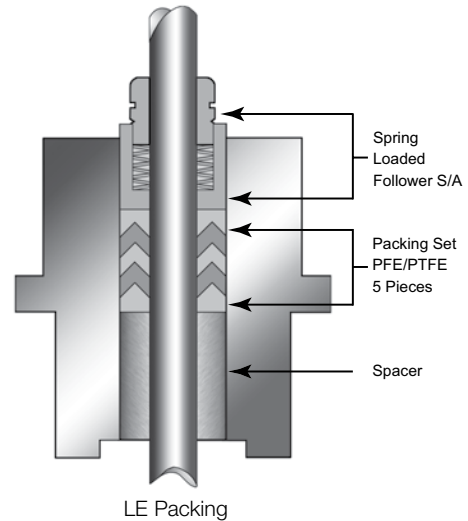
The optional Bellows Seal configuration can ensure zero leakage to atmosphere for any application involving highly toxic and dangerous fluids. Positive sealing and high life-cycle operation are combined for reliable and safe operation.

## Low Temperature Operation

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

## High Process Yields

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



21000 Series  
Cryogenic Configuration



FVP



SVI II AP



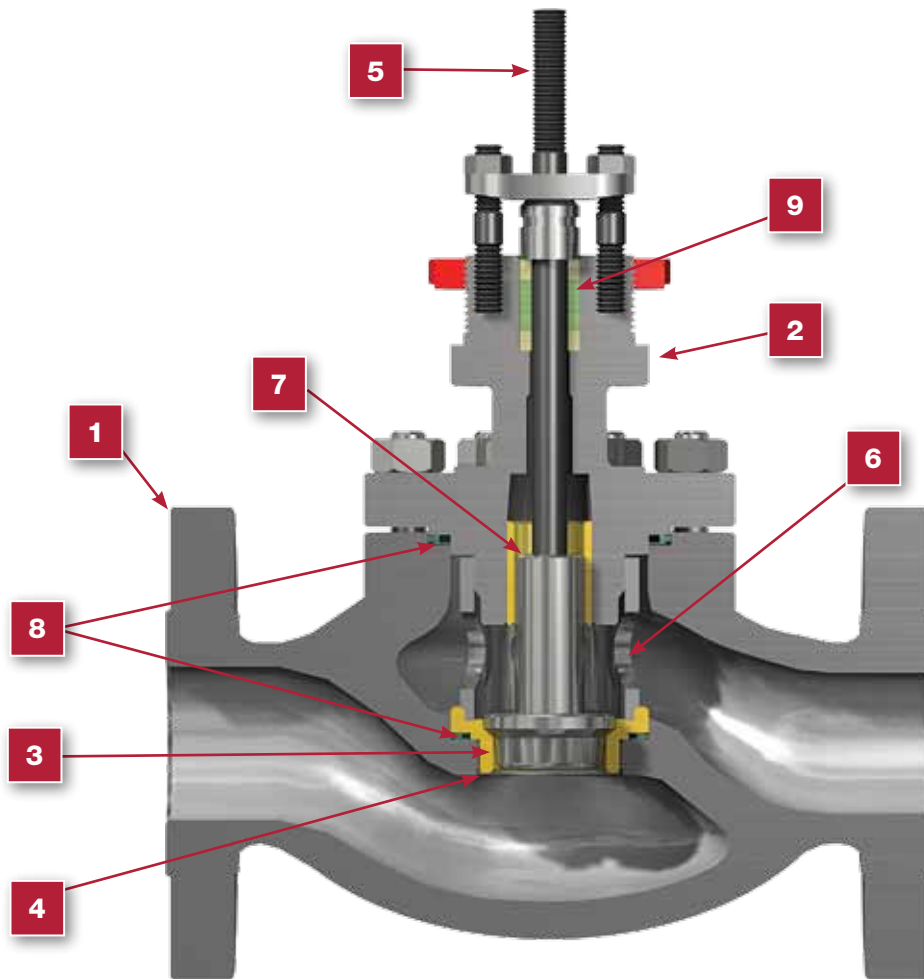
# Product Specifications

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, Teflon 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.



# Customer For Life

Dresser Masoneilan has established a global network of fully authorized repair and service centers, MARC® – Masoneilan authorized repair centers, providing comprehensive regional and local service and support. Masoneilan is driven by a “Customer for Life” philosophy, focused on supporting our customers through a comprehensive suite of aftermarket services, including OEM Rapid Parts, on-site diagnostics, field service, repair, and replacement. The service offerings from Masoneilan span all phases of the equipment life cycle from engineering to start-up through operation, maintenance, and end-of-life:

- Technical support from custom design to applications analysis
- Support of installation, set-up and commissioning
- Products with best in class control performance
- Diagnostic tools that can support process control optimization objectives
- Tools providing the intelligence necessary for preventive maintenance

The simple construction and flexible design features of the 21000 Series result in lower maintenance costs and longer product life-cycles. This versatile product line allows customers to solve a multitude of control valve applications using a common platform.

## Life-Cycle Services

### Engineering

Applications Engineering  
Interoperability Engineering  
Extreme Service Valve Design  
Custom Valve Testing

### Procurement / Start-Up & Commissioning

Valve Sizing & Selection – ValSpeQ®  
Resident Engineer  
Project Management  
Start-Up Assistance  
Configuration Services  
Systems Integration  
Factory Technical Support

### Operations

OEM Parts Performance Optimization  
– SVI® II AP / FVP  
Diagnostics Hot Swap Program  
Inventory Management  
Valve Survey / Assessment

### Maintenance

Factory Certified Repair - MARC®  
Turnaround Management  
Valve Technician Training  
Asset Data Management  
– ValvKeep® Preventive Maintenance  
– ValScope® On-Line Diagnostics Mobile Valve Servicing

### Life Extension

Re-Manufactured Valves  
Smart Instrument Refurbishment  
Valve Trim Retrofits  
Re-Instrumentation



Versatile  
Reliable  
High Performance

# DIRECT SALES OFFICE LOCATIONS

## BELGIUM

Phone: +32-2-344-0970  
Fax: +32-2-344-1123

## BRAZIL

Phone: +55-11-2146-3600  
Fax: +55-11-2146-3610

## CANADA

Ontario  
Phone: +905-335-3529  
Fax: +905-336-7628

## CHINA

Phone: +86-10-8486-4515  
Fax: +86-10-8486-5305

## FRANCE

Courbevoie  
Phone: +33-1-4904-9000  
Fax: +33-1-4904-9010

## GERMANY

Viersen  
Phone: +49-2162-8170-0  
Fax: +49-2162-8170-280

## INDIA

Mumbai  
Phone: +91-22- 8354790  
Fax: +91-22-8354791

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New Delhi  
Phone: +91-11-2-6164175  
Fax: +91-11-5-1659635

## ITALY

Phone: +39-081-7892-111  
Fax: +39-081-7892-208

## JAPAN

Chiba  
Phone: +81-43-297-9222  
Fax: +81-43-299-1115

## KOREA

Phone: +82-2-2274-0748  
Fax: +82-2-2274-0794

## MALAYSIA

Phone: +60-3-2161-0322  
Fax: +60-3-2163-6312

## MEXICO

Phone: +52-5-310-9863  
Fax: +52-5-310-5584

## THE NETHERLANDS

Phone: +31-15-3808666  
Fax: +31-18-1641438

## RUSSIA

Veliky Novgorod  
Phone: +7-8162-55-7898  
Fax: +7-8162-55-7921

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Moscow  
Phone: +7 495-585-1276  
Fax: +7 495-585-1279

## SAUDI ARABIA

Phone: +966-3-341-0278  
Fax: +966-3-341-7624

## SINGAPORE

Phone: +65-6861-6100  
Fax: +65-6861-7172

## SOUTH AFRICA

Phone: +27-11-452-1550  
Fax: +27-11-452-6542

## SOUTH & CENTRAL AMERICA AND THE CARIBBEAN

Phone: +55-12-2134-1201  
Fax: +55-12-2134-1238

## SPAIN

Phone: +34-93-652-6430  
Fax: +34-93-652-6444

## UNITED ARAB EMIRATES

Phone: +971-4-8139-200  
Fax: +971-4-8838-038

## UNITED KINGDOM

Wooburn Green  
Phone: +44-1628-536300  
Fax: +44-1628-536319

## UNITED STATES

Massachusetts  
Phone: +1-508-586-4600  
Fax: +1-508-427-8971

Corpus Christi, Texas  
Phone: +1-361-881-8182  
Fax: +1-361-881-8246

Dresser Direct  
Deer Park, Texas  
Phone: +1-281-884-1000  
Fax: +1-281-884-1010

Dresser Flow Technologies  
Houston, Texas  
Phone: +1-281-671-1640  
Fax: +1-281-671-1735

California  
Phone: +1-562-941-7610  
Fax: +1-562-941-7810

## About Dresser, Inc.

Dresser, Inc. is one of the leading providers of reliable, highly engineered infrastructure products for the global energy industry. Dresser's highly regarded portfolio of brands includes Wayne® payment and fueling systems; Waukesha® natural gas-powered engines and generator sets, Masoneilan® control valves, Consolidated® pressure relief valves, and Roots® blowers and compressors. With locations worldwide, Dresser, Inc. serves customers in more than 100 countries. [www.dresser.com](http://www.dresser.com).

## About Dresser Masoneilan

Dresser Masoneilan, headquartered in Houston, Texas, has been the leading global partner in process control valves and solutions for more than 100 years. A business segment of Dresser, Inc., the company delivers customized products, services and diagnostic solutions for oil and gas, process and power generation applications. [www.dresser.com](http://www.dresser.com)

## Dresser Masoneilan Dresser, Inc., Flow Technologies

10343 Sam Houston Park Drive  
Houston, Texas 77064 U.S.A  
T. +1-281-671-1640  
F. +1-281-671-1735  
E. [sales@masoneilan.com](mailto:sales@masoneilan.com)

