

Masoneilan™ 74000 Series

Erosion Resistant
Control Valves

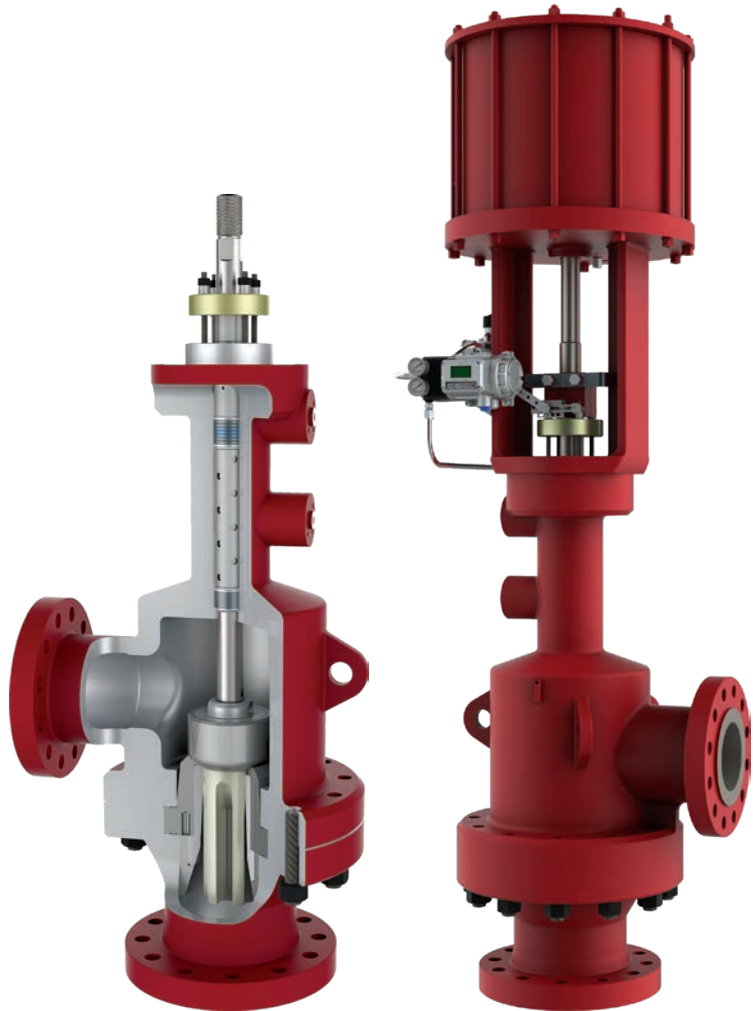


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Features

Masoneilan™ 74000 Series erosion resistant valves are designed for special applications such as hydrocarbon service involving severe operating conditions where high temperatures and/or high pressures, high pressure drops, severe coking conditions and flashing liquids are encountered. They are particularly adapted to pressure or level control systems and emergency blowdown or dropout service.

The inner body contours are streamlined to give maximum throat efficiency and freedom from erosion and to eliminate pockets causing flow reversal and eddy currents.

Provision is made for the introduction of a flushing medium which may be necessary when passing fluids containing solid particles, or to prevent coke formation in refinery service at extremely high temperatures.

For applications involving high pressures, an equalizing connection can be provided to equalize the off-balance force resulting from the single seated design.

The direct actuator is used air-to-push-down action and the reverse actuator for air-to-push-up action.

Direct or reverse actuator can be used, depending on action desired.

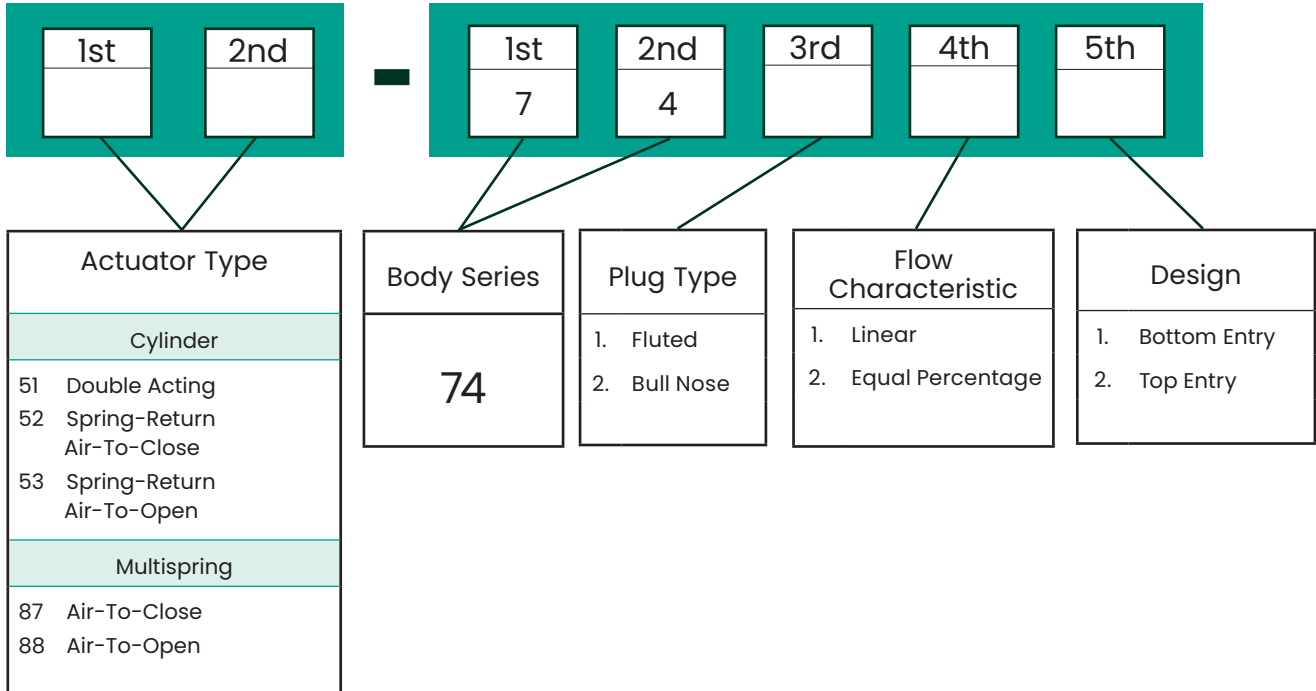
High Performance Materials

Materials of construction have been selected for high performance and long life.

Heavy Oil Valve

The Masoneilan 74000 series control valve is designed to properly handle the difficult service associated with resid hydroprocessing of heavy oils. Such applications commonly find high temperatures, high pressures, erosive particulate and multi-phase flow. The 74000 series is designed as the superior solution for such application difficulties.

Numbering System



74000 Series Control Valve

Rugged Design

The 74000 Series control valve is designed with rugged top guiding to resist vibration associated with high pressure letdown or multi-phase service. Designs featuring Masoneilan's axial flow fluted plug provide additional lower guiding for added stability and vibration resistance. High thrust and high stiffness actuation further extends service life in difficult applications.

Hardened Trim

The 74000 Series is designed for severely erosive applications and thus requires specialty materials to provide high hardness on critical surface. Trim components are available in a wide variety of specialty materials including stellite, tungsten carbide and ceramics.

Options

- Ceramic or tungsten carbide trim
- Fluted plug for improved control
- Dual guiding for added stability
- Flushing connection to prevent coking

Typical Applications

- Resid Hydroprocessing
- Extremely Erosive Hydrocarbons

General Data

Flow

Direction Flow-To-Close (FTC)

Body

Type: Angle Body

Sizes: 1" to 12" (DN 25 to 300)
expanding outlets available

Ratings: ASME Class 150 to ASME Class 2500

End

Connections: Flanged or Hubs

Bonnet Type Thru-bolted

Materials Stainless steel

Trim

Plug type: Heavy-duty, top-guided

Trim size: Full capacity
Reduced capacity

Seat leakage: Class IV (standard)
Class V (optional)

Cv Ratio: 50:1

Flow

Characteristic: Equal percentage or Linear

Actuator

Mounting: Direct mount

Type: Spring-return cylinder
Double-acting cylinder

74000 Series Specifications

Rating Pressure Class 2500

Size	Size ¹	Seat Diameter	Rating	End Connection	Trim A Fluted	Trim B Bull Nose
Inlet (in)	Outlet (in)	Inches (mm)	Pressure Class		Cv	Cv
2	3	1.00 (25.4)	CL2500	RTJ/HUB	6	8
3	4	1.25 (38.1)			12	16
3	4	1.50 (38.1)			20	30
4	6	2.00 (50.8)			30	40
6	8	2.50 (63.5)			45	60
6	8	3.00 (76.2)			90	120
8	10	4.00 (101.6)			150	200
10	12	5.00 (127)			260	340
12	14	6.25 (158.75)			390	530

Rating Pressure Class 600

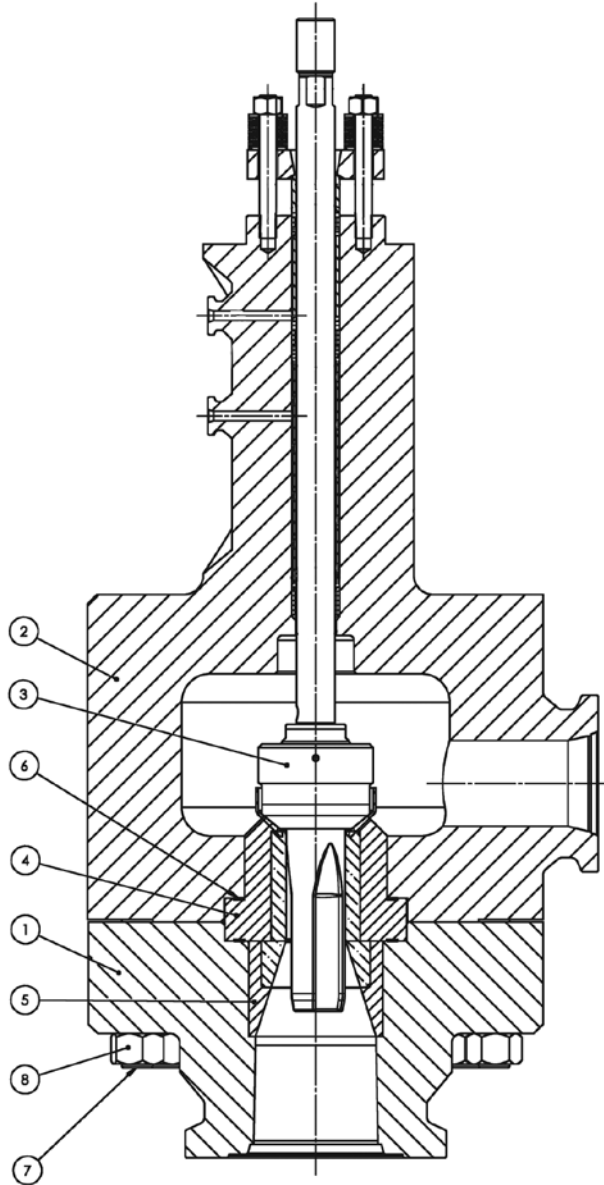
Size	Size ¹	Seat Diameter	Rating	End Connection	Trim A Fluted	Trim B Bull Nose
Inlet (in)	Outlet (in)	Inches (mm)	Pressure Class		Cv	Cv
4	8	3.00 (76.2)	CL600	RF/RTJ/HUB	100	130
6	8	3.50 (88.9)			150	200
6	8	4.50 (114.3)			260	340
8	10	5.00 (127)			300	400
8	10	6.50 (152.4)			520	700
10	12	8.00 (203.2)			800	1100

Only full flow capacities are presented.

Note:

1. Outlet Size is always higher than inlet size due to fluid vaporization.

74000 Series Materials



Item No.	Description	Materials
1	Bottom Flange	A351 Gr C8C (347 SST)
2	Body	A351 Gr C8C (347 SST)
3	Plug and Stem S/A	Inconel 718 w/Tungsten Carbide
4	Seat Ring S/A	Inconel 718 w/Tungsten Carbide
5	Venturi S/A	Ceramic
• 6	Gasket	316L SST with Graphite
7	Body Stud	A453 GR Gr 660 or A193 Gr B8RA
8	Body Nut	A194 Gr 8 or A194 Gr 8A

- Recommended spare parts for each maintenance interval

Direct Sales Office Locations

Australia

Brisbane
Phone: +61-7-3001-4319

Perth
Phone: +61-8-6595-7018

Melbourne
Phone: +61-3-8807-6002

Brazil

Phone: +55-19-2104-6900

China

Phone: +86-10-5738-8888

France

Courbevoie
Phone: +33-1-4904-9000

India

Mumbai
Phone: +91-22-8354790

New Delhi

Phone: +91-11-2-6164175

Italy

Phone: +39-081-7892-111

Japan

Tokyo
Phone: +81-03-6871-9008

Korea

Phone: +82-2-2274-0748

Malaysia

Phone: +60-3-2161-03228

Mexico

Phone: +52-55-3640-5060

Russia

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

Moscow

Phone: +7 495-585-1276

Saudi Arabia

Phone: +966-3-341-0278

Singapore

Phone: +65-6861-6100

South Africa

Phone: +27-11-452-1550

South & Central America and the Caribbean

Phone: +55-12-2134-1201

Spain

Phone: +34 935 877 605

United Arab Emirates

Phone: +971-4-8991-777

United Kingdom

Bracknell
Phone: +44-1344-460-500

United States

Houston, Texas

Phone: +1-713-966-3600

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Tech Field Support & Warranty:

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