

71000 Series Heavy Duty, Streamlined Angle Control Valve

The **Masoneilan™** 71000 Series single ported, heavy top guided control valves are designed with built in versatility making them well-suited to handle a wide variety of heavy duty, erosive process applications, commonly found in crude oil refining and gasifier units.

Crude oil refining generates residues, or 'bottom-of-the-barrel' dirty hydrocarbons that are fed to conversion units such as delayed cokers, visbreakers or flexi-cokers. These dirty fluids crystallize and become highly erosive, making it difficult to process without downstream quenching. Similar challenges exist within crude oil upgraders using bitumen from tar sands with entrained sands.

Streamlined Angle Body Design

The unique angle body interiors are designed to minimize and prevent particulate build-up against the valve walls. With reduced fluid momentum change, particulate within the flow stream yield less impact energy against the valve, thus extending useful life in harsh service.

Heavy Guided, Hardened Plug Design

The heavy duty plug design of the 71000 series includes a solid stainless steel base material, with a hardened surface to prevent premature application induced erosion. Combined with optional flushing connections, the 71000 series is designed to prevent crystallization, or coke build-up through a robust plug designed to break through any residual formation when equipped with high force actuation. Heavy port guiding and stem guiding reduce trim vibration for longer installed life under severe service.

Corrosion Resistance Materials

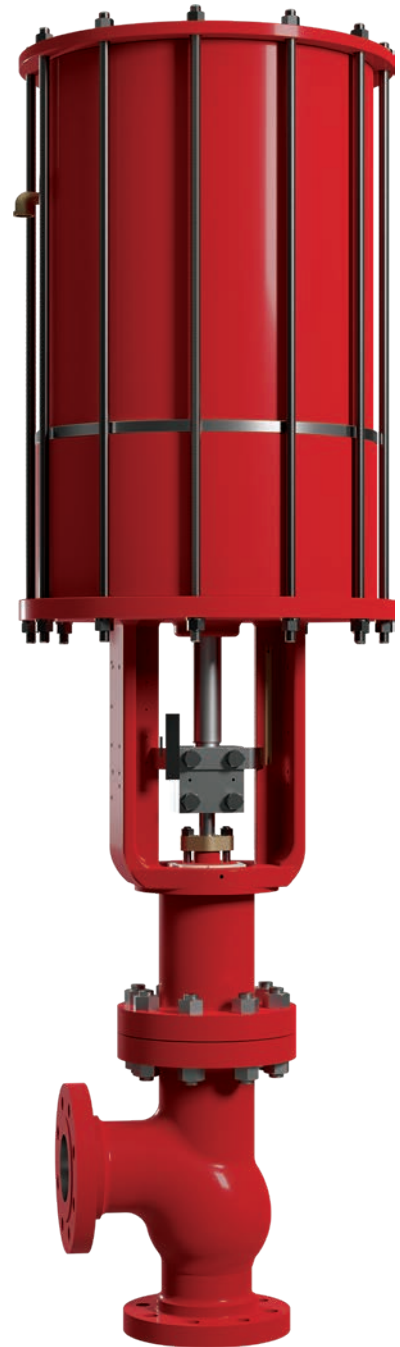
The 71000 Series is available for sour service applications using materials and construction methods in accordance with ANSI/NACE MR0175/ISO 15156-1 & MR0103..

Low Emission Certification

Using the Masoneilan Low-E series of low-emission packing, the 71000 series achieves ISO 15848 Class A, and far exceeds EPA CLLT requirements of <100 ppm.

Tight Shutoff

Class IV leakage is standard. High thrust actuation provided to meet IEC 534-60534-4 and ANSI/FCI 70.2 Class V.



Specifications

Flow Direction	
Streamlined:	Flow-to-open / Flow-to-close
Body	
Type:	Erosion resistance streamlined angle 90° streamlined angle configuration
Bonnet	
Type:	Bolted standard Bolted extension
Body and Bonnet	
Materials:	Carbon Steel (WCC) Low Carbon Content (LCC) Steel Chrome Moly (WC9) 316 Stainless Steel 347 Stainless Steel
Trim	
Plug type:	Heavy Duty, Single Seat Plug
Seat ring:	Threaded Seat Ring Single Seating Surface Venturi Style Liner
Guide:	Heavy Duty Plug and Stem guiding for increased stability and side loading
Cv ratio:	50:1
Flow characteristic:	Equal Percentage
Packing:	PTFE Graphite Low-E Low Emissions Packing
Actuator	
Type:	Piston Cylinder (51/52/53) Model 87/88 Spring Diaphragm
Handwheel:	Optional Handwheel/Hand Jack
Additional Options	
	Quenching/Flushing ports to remove coke

Application Based Solutions

The 71000 Series includes a series of reduced area trims to provide wide flow range capabilities in all valve sizes.

A venturi seat liner is provided to protect high velocity outlet area erosion for applications with exceptional particulate content.

A flushing connection can be provided on the body (optional on the bonnet) to prevent coke formation or particles impregnation in the guiding area and avoid binding or sticking of the valve plug.

An equalizing connection can be provided on the bonnet for high pressure application to equalize the off-balance force resulting from single seated construction.

A variety of actuators are available to handle low to high pressure drop requirements.



Figure 1 - 90° Streamlined Angle Configuration