

78400/18400 API 6A Series LincolnLog™

The 78400/18400 API 6A Series severe service control valves are available in sizes up to 6" and are designed to meet API 6A Standard for high pressure applications.

Forged Body

Globe or Angle forged bodies are rated for operation up to 15K psi.

Body/Bonnet Bolted Joint

API 6A 78400/18400 design uses a body bonnet bolting joint with a metal seal rated for pressures up to 15K psi in operation.

Body/Bonnet Metallic Seal

The metallic VG seal is self- and pressure-energized, ensuring low leakage through the body/bonnet joint.

High Pressure Capability

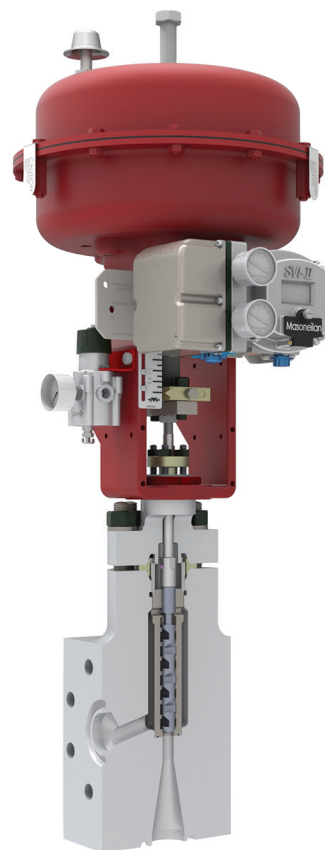
Valve design complies with API 6A standards and are rated for 10K psi (690 bar) and 15K psi (1034 bar) pressure.

Leakage Rate

Meets class IV and V leakage standard, as per IEC-60534-4.

Additional Stages for Higher Pressure Drop

8 Stage and 10 Stage are available as standard options.



Size and ratings

Pressure ratings: API class from 10K psi (690 bar) to 15K psi (1034 bar)

End Connections and Shutoff

Valve Size	Valve Ends Size (NPS)	Body Rating	Packing Material	Seat Type	St. St. F6NM		St. St. F51		St. St. F55		Nickel-Alloy 718		Seat Leakage Class IEC 60534-4 / ANSI / FC170-2	
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		
1"	1" 13/16	API 10K API 15K	PTFE	Metal	-76°F (-60°C)	+356°F (+180°C)	-50°F (-46°C)	+356°F (+180°C)	-50°F (-46°C)	+356°F (+180°C)	-76°F (-60°C)	+356°F (+180°C)	IV	V
1.5"	1" 13/16 (1.8125)													
2"	2" 1/16 (2.0625)													
3"	3" 1/16 (3.0625)													
4"	4" 1/16 (4.0625)													
6"	7" 1/16													

Notes:

- 78400/18400 API 6A should be closed only for a short period of time. There is a risk of damaging trim parts for a long period of closing. 78400/18400 API 6A valves are designed as control valves, not as isolating valves.
- 78400/18400 API 6A valves in service above 800 psi/stage pressure drop are at high risk for erosion and should be serviced in regular intervals. Operation for extended periods of time is not recommended.
- Lifting lugs are provided as standard for this valve series for safety and ease of handling.
- For F51 material construction, only API 10K body rating is available.

NACE Compliance

NACE compatible materials are available for Sour Service applications, using design and construction methods in accordance with ANSI/NACE MR0175/ISO 15156-1.

Packing

For improved flange stiffness, the standard packing flange/follower have been designed into one piece.

Both standard and fugitive emission packing (certified to ISO-158548-1) options are available.

Specifications

Flow Direction	
Standard	Flow-to-open
Body	
Type:	Forged Globe Body Forged Angle Body
Body and Bonnet	
Materials:	F6NM Stainless Steel F51 Duplex Stainless Steel F55 Duplex Stainless Steel Nickel-Alloy Inconel 718
Trim	
Plug type:	Balanced Unbalanced
Trim type:	C
Capacity:	Full area Reduced Area Cv 0.4 (1" Size Only) Reduced Area Cv 0.2 (1" Size Only)
Cv ratio:	See "Staging Ratios & Pressure Drop Guidelines" Tables
Flow characteristic:	Modified Linear
Actuator	
Type:	Spring diaphragm (standard 87/88) Cyclinder (51/52/53)
Handwheel:	Optional Handwheel

Flow Characteristics

The LincolnLog trim provides a smooth modified linear control characteristic with "clearance flow" capacity over the initial 15 percent of valve travel.

Incorporation of the multi-stage "clearance flow" design concept prevents high pressure drops across the LincolnLog seating area while throttling at low lifts. This feature helps to extend trim life significantly, resulting in dependable and tight shut-off whenever required. It also improves the throttling control stability and performance at low lifts, while providing smooth, accurate and continuous capacity control from 15 percent to 100 percent plug travel. Controllability extends from the Maximum Rated C_v to the Minimum Controllable C_v for any valve size resulting in typical turndown ratios of 50:1.

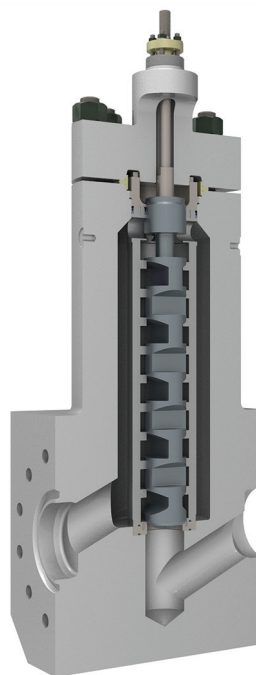


Figure 1 – 6" Cross Sectional Cutout