

## MIL 77000 - Multi-stage Labyrinth Lo-dB Control Valves

### Standard sizes & rating

2" to 8" : ASME 600# to ASME 2500#

Seat leakage class (as per FCI 70.2)

Standard : Class IV

Optional : Class V



### Applications

#### Hydrocarbon processing

- High pressure hot-separator letdown of flashing liquid hydrocarbons
- Delayed Coker Letdown

#### Oil & Natural gas production

- Gas pressure reduction
- Choke application
- Steam / water injection

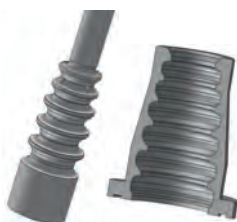
#### High pressure superheated steam

- Turbine bypass
- Steam vent
- Boiler blowdown

More information:  
[www.ksb-mil.com](http://www.ksb-mil.com)



Trim 7C with single stage trim



Multistage trim



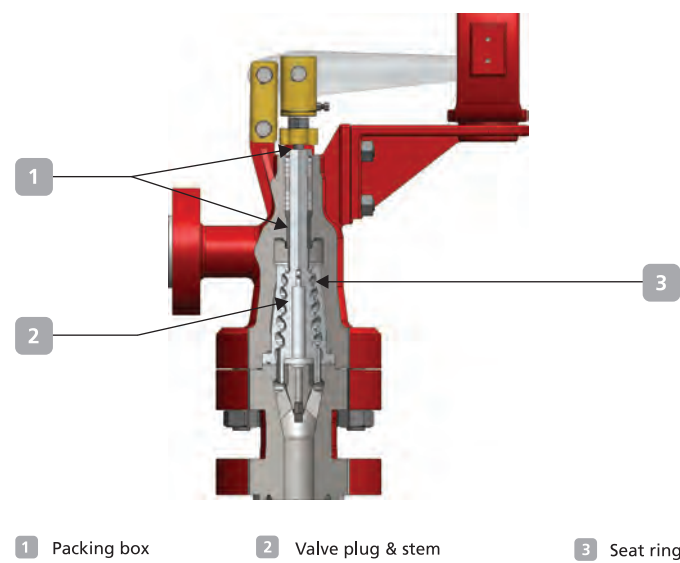
Force Multiplication Actuator

Your contact:



# MIL 77000 - Multi-stage Labyrinth Lo-dB Control Valves

- 1 Intelligent Design Principle**
  - Unbalanced plug design without seal rings
  - Employs adiabatic flow with friction
  - Labyrinth plug which provides a tortuous flow pattern
  - Advanced design that eliminates the damaging erosive effects
- 2 Rugged, Anti-clog Design**
  - Larger flow paths
  - Smooth axial flow path allowing movement of particles
- 3 Seat Protection**
  - Seat on the upstream section of the trim
  - Isolation of seat from the most severe and potentially damaging pressure reduction stages
  - Prevents premature seat wear, avoiding unwanted and undetected leakage
  - Minimized seat damage effects
- 4 Force Multiplication Actuator**
  - Offset actuator to meet the higher actuator thrust requirement
  - Flow-to-open direction gives dynamic stability



MIL 77000 (Trim 7A and 7B)

## Model Decodification

1 <sup>st</sup> -	2 <sup>nd</sup> -	3 <sup>rd</sup> 7	4 <sup>th</sup> 7	5 <sup>th</sup> -	6 <sup>th</sup> -	7 <sup>th</sup> -
Actuator Type		Body Series		Plug Type	Trim Characteristics	Trim Type
37.Direct Spring Diaphragm 38.Reverse Spring Diaphragm 67.Direct Piston Cylinder 68.Reverse Piston Cylinder		77. Multi-stage Labyrinth Lo-dB Control Valves		0. Undefined 7. Labyrinth Lo-dB	0. Undefined 7. Mod. Linear	0. Undefined 7A. Reduced area 7B. Full Area 7C. High Capacity Single Step

## General Data

<b>Body</b>	Type	Angle castings with integral bonnet and bolted outlet flange
	Recommended flow directions	Flow to open (Side inlet - Bottom outlet)
<b>Bonnet</b>	Type	Integral to body
	Temperature range	-27° C to 566° C
<b>Gland Seal</b>	Type	Adjustable double sealed packing box with PTFE or Graphite moulded split rings
	Option	Eco lock ( varying density for low emission, PTFE or Graphite) or PTFE V rings
	Temperature range	≤ 180° C for PTFE, > 180° C for Graphite
<b>Trim</b>	Plug type	Unbalanced
	Options	Multistage, expanding labyrinth High capacity single step (in trim 7C)
	Seat type	Clamped (quick change) with metal seat
	Guiding	Top and bottom guiding
	Rangeability	100:1
	Characteristics	Mod.linear



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