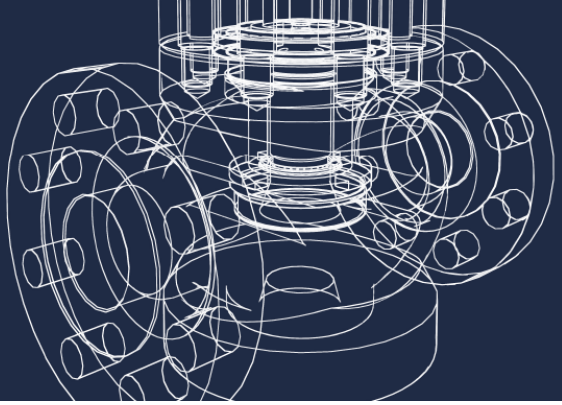

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M.P. Choke Trim Design
IM-25

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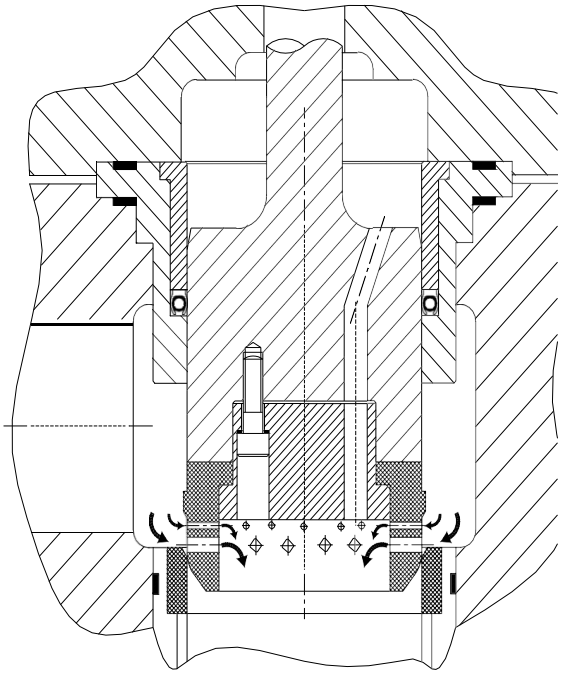


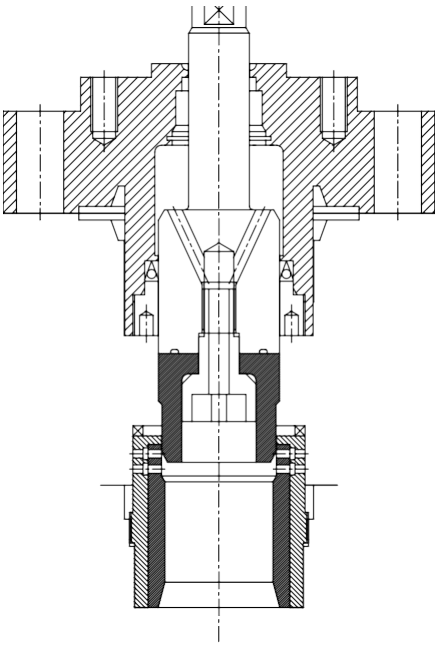
The Medium Pressure (M.P) choke valve trim has been developed to satisfy the particular applications requiring a choke design with the ability to handle significant pressure drops during well start up, whilst providing minimum flow restriction during production.

The trim is a combination of field proven technology, incorporating features developed through years of providing solutions to choke applications throughout the world. This Information Module outlines some of these features.

General Features

- Large section, rugged Tungsten Carbide components
- High-capacity balance ports
- Large cross section extrusion resistant balance seal
- High degree of guiding throughout travel

Trim Performance at Start-up / Significant Pressure drop.

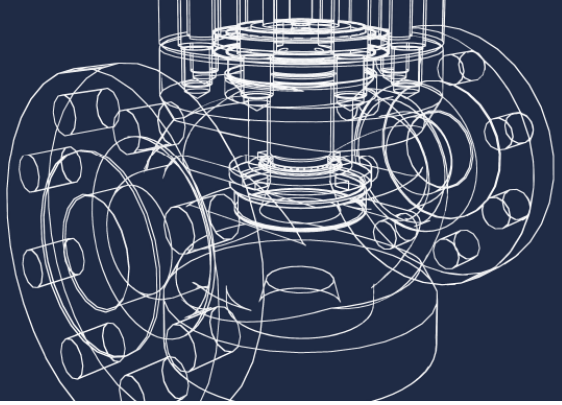


During periods of significant pressure drop over the choke, flow is directed through the hole pattern formed in the nose section of the plug.

These holes, unlike the commonly available large diameter ports often used for this purpose, have a large length to diameter ratio. This high L/D ratio forms a flow path which imparts significant friction on the fluid and results in lower velocities and reduced pressure recovery characteristics.

This reduced fluid velocity results in the reduction of valve noise, erosion, and vibration; thus, the operating life of the choke is increased.

The start-up section of the valve trim comprises the first 30% of rated travel.



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Trim performance During Production

During production when flowing pressure has normalised and pressure drops across the choke is reduced, the operational requirements are for a high-capacity choke.

The M.P. Choke Trim provides this high capacity through the maximisation of flowing area, both in the inlet body cavity, and through the trim and valve outlet section.

Many choke designs utilise a cage or similar to clamp the valve seat in place. This cage provides a restriction to flow and uses up valuable valve body space, the net result being increased fluid velocity and reduced capacity.

The M.P. Choke Valve Trim secures the seat via a screw thread, and maximises the seat bore in order to increase capacity and therefore throughput.

The M.P. Choke design compliments the maximum capacity L.P. design and the severe service H.P. designs available from Severn.

The trims are available both fitted to new valves supplied by the company as well as retrofitted* into existing valve bodies. Valve bodies from virtually all Choke valve manufacturers can be readily retrofitted, affording significant savings in the time and cost of upgrading.

**For further information on Severn's upgrade program, see Information Module IM-11 Retrofit Valve Solutions*