

Multiple Stage Orifice

Technical Data · Model MSO

Usage

The multiple stage orifice Model MSO is provided for high pressure reduction applications which require accurate flow volume with quiet operation without flashing or cavitation.

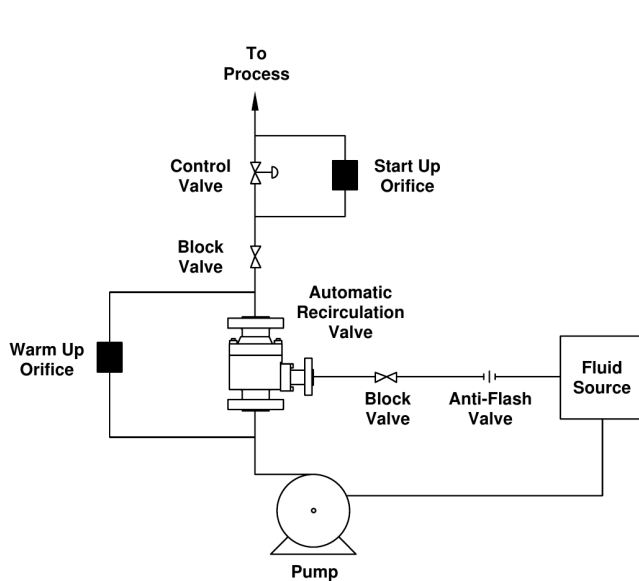
Applications

In general, any high pressure fixed flow requirement. Specific examples include: centrifugal pump minimum flow protection, warm up lines, strainer blow off and control valve bypass.

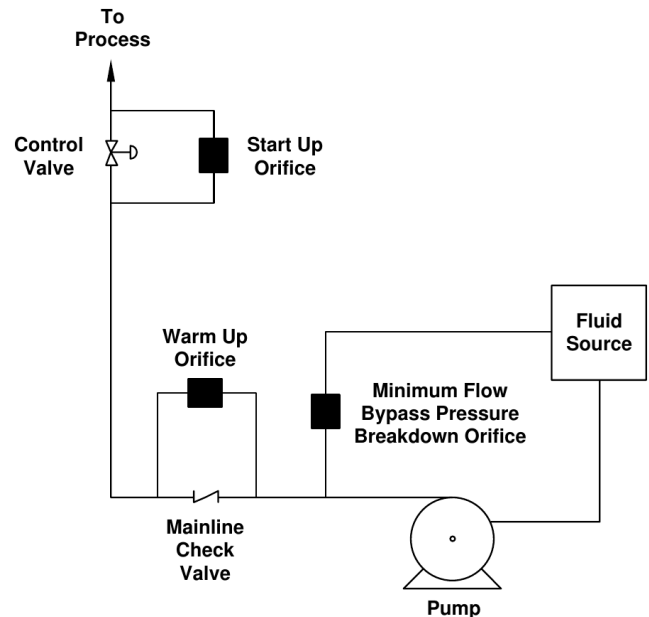
How It Works

The orifice operates similarly to many high pressure drop control valves except it operates in a fixed open position. The fluid is directed into a vortex flow across multiple stages which progressively reduces the pressure. The multiple stages result in the fluid not falling below vapor pressure. The outlet of the orifice is a multi hole flow straightener, which directs the fluid as a laminar spray, preventing damage to downstream piping.

Typical Installations



Start-up & warm-up orifices with an automatic recirculation valve and anti-flash valve.



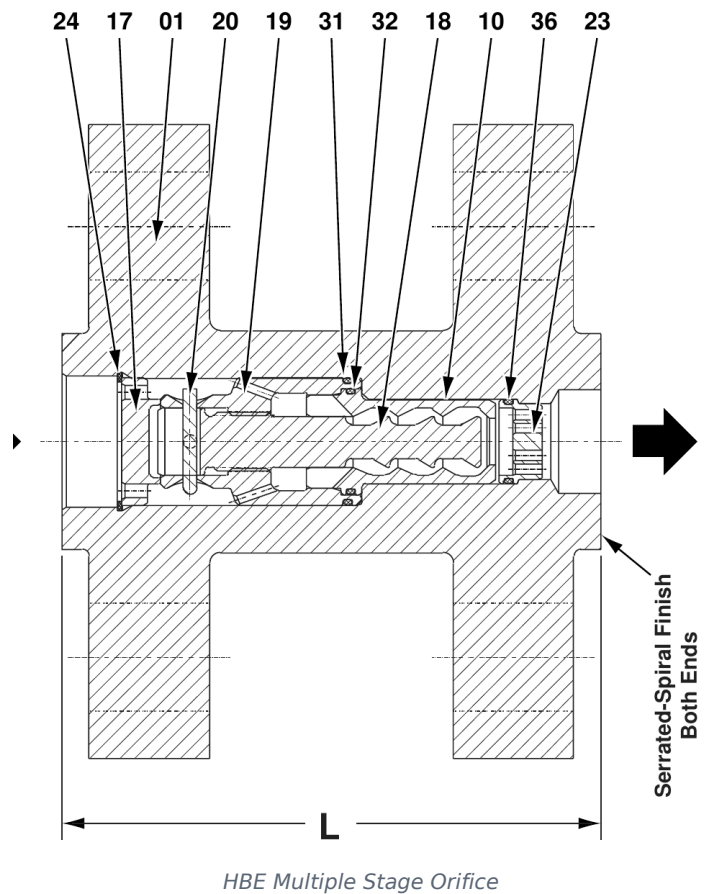
Warm-up orifice and minimum-flow bypass pressure-breakdown orifice.

Materials of Construction and Dimensions

Pos.	Qty.	Description	Material
01	1	Body	A105 Carbon Steel
10	1	Vortex Housing	416 Stainless Steel
17	1	Orifice Bushing	416 Stainless Steel
18	1	Vortex Insert	431 Stainless Steel
19	1	Linkage	416 Stainless Steel
20	1	Pin	316 Stainless Steel
23	1	Flow Straightener	431 Stainless Steel
24	1	Snap Ring	316 Stainless Steel
31	1	O-Ring	Application Dependent
32	1	O-Ring	Application Dependent
36	1	O-Ring	Application Dependent

Size	L
1"	5"
1-1/2"	6-1/2"
2"	7-1/2"
2-1/2"	8-1/2"
3"	10-1/2"
4"	12-1/2"
6"	18-1/8"

Contact HBE for larger sizes



Required Application Data

• Fluid _____

• Temperature _____

• Inlet Pressure _____

• Piping Size & Rating _____

• Outlet Pressure _____

• Flow Required _____

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