

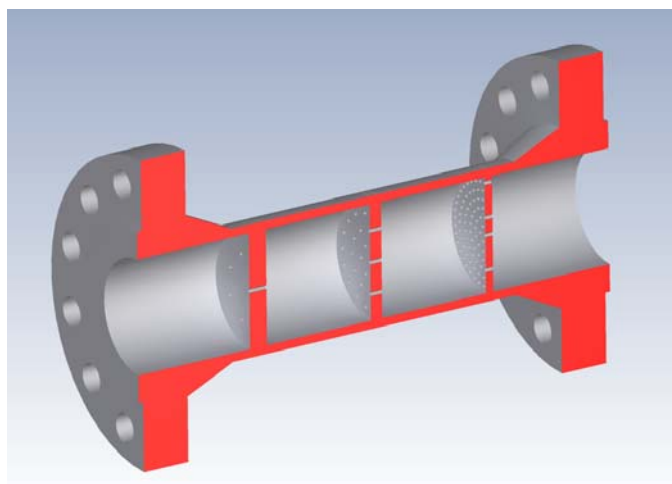
EMCO Multi hole/Multi stage Pressure Reducing Unit for Liquid Type MDP-L

Principle

EMCO multi hole multi stage pressure reducing units are used to prevent critical/high pressure drops in continuous liquid flow pipe lines.

By reducing the pressure in stages using multi hole plates the damaging cavitation is avoided. This secures long life time of the equipment. Multi hole plates can handle higher pressure drops than single hole plates. Cavitation occurs during pressure reduction when the pressure in the Vena Contracta (the bore of the plate) is lower than the vapour pressure. Cavitation generates noise, erosion and vibrations.

The calculation is based on ISO 5167, and a critical flow factor or cavitation factor for determining allowed pressure loss across each stage. Each of the pressure reducing stages are connected and supplied as a unit.



Main applications

Boiler feed water by-pass lines. Boiler feed water pump circulation and warm up systems. , Boiler drum blow down.

Construction

Design and calculation standards

: ISO 5167, Handbook, R.W. Miller: Flow Measurement Engineering Handbook, etc., ASME

Sizes

: DN 50 – 300, 2" - 12", larger sizes on request.

Pressure rating

: PN 16 – 400, 150 - 2500 lbs

Multi stage design

: Constant cavitation factor.

Orifice plate shape

: Square edge concentric.

Thickness calculation

: ASME standard.

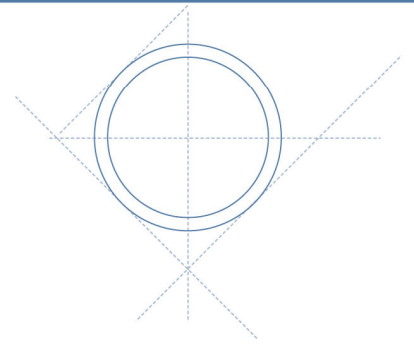
Plate thickness

: Minimum 3 mm, thickness is calculated to handle the differential pressure.

Distance between each stage

: 2- 3 times inner pipe diameter.

0-07-033-0e



Discharge coefficient : ca. 0,6

Material, plates : AISI 316 (standard), and other erosion resistance materials like 13CrMo4-5 (F11), 10CrMo9-10 (F22)

Material, spool piece : P235GH (A106 Gr. B or C), 16Mo3 (F1), other materials on request.

Mounting style : Between flanges according to ANSI B16.5 or DIN Standards or butt or socket weld ends.

Overall length : Depends on number of stages and pipe size.
Each MDP-L is calculated individually.

Documentation : Material certificate according to EN 10204-3.1.