

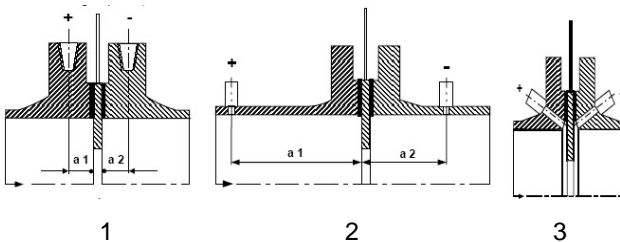


For flow rate measurement of aggressive and non-aggressive media – particularly in large pipelines.

Technical Description

Construction and Design:

Orifice plate with welded-on handle/spade for direct installation between flanges with smooth sealing faces. Available as a sharp edged, rounded or quarter circle nozzle according to appropriate conditions of use. The construction depends on nominal size, media and the required sealing-type. Normal configuration is the orifice plate (figure 1). A special configuration is the reducer orifice plate (figure 2). It serves mainly in small pipes for pressure-reduction and for flow-limitation. The quarter circle nozzle (figure 3) is assigned for use with small Reynold's figures. Orifice with nose, lense-sealing and ring-joint-sealing (figures 4-6) show you the possible sealing-types. Quarter circle nozzles according to VDI/VDE 2041 for special requirements are available for delivery.



Differential-Pressure Measurement:

Normally taken through the flange blade or in the pipeline at distances a_1 and a_2 from the orifice. There is a differentiation between pressure taps as flange taps according to DIN 19214 (figure 1) and D-D/2-pressure tapping within the pipe (figure 2) whereas a_1 is equivalent to the pipe diameter D and a_2 is identical with $D/2$. In special cases the pressure tapping may occur norm-like as corner tapping in the flange (figure 3).

Sealing surface type:

The installation takes place between flange and orifice flange. The types of sealing are smooth (DIN 19206 part 1), nose- and tongue (DIN 19206 part 2) and lens (DIN 19206 part 3). According to API- and ANSI-regulations as smooth make and as ring-joint-gasket (RTJ).

Materials:

Manufacturing is possible in different usual and other special materials. When selecting the material special consideration has to be taken for high given temperatures and aggressive materials.

Material Certificates:

Material certificates i.e. according to EN 10204 can be supplied for the used materials.

Specifications

Nominal Pressure:

PN 1 up to PN 100 for sealing-type: smooth
PN 10 up to PN 100 for sealing-type: nose and tongue
PN 64 up to PN 400 for sealing-type: lense

Nominal Diameter:

DN 50 up to DN 2000 for sealing-type: smooth, DN 10 up to DN 400 for sealing-type: nose and tongue, lense

Outer Diameter d_4 :

The outer diameter of smooth orifice plates is a result - according to DIN- of the bolt circle diameter of the pipe flange minus whole bolt circle. For other designs and regulations see appropriate respectives.

Bore Diameter d :

The calculation of the bore diameter will be done by us from the supplied data considering the relevant standards and regulations and is part of the scope of deliveries

Pressure Loss:

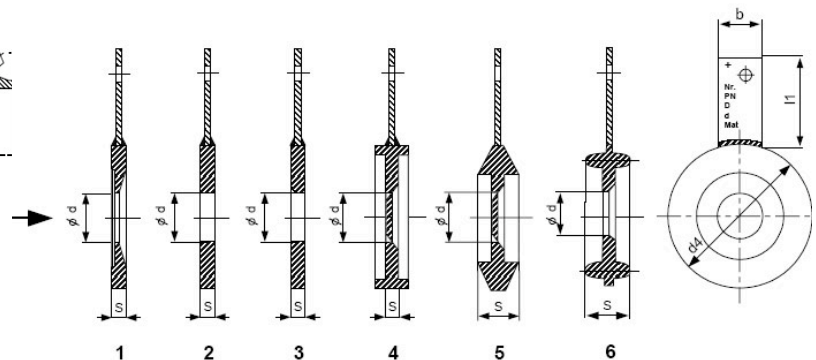
The remaining pressure loss depends on nozzle opening ratio $d:D$ approx. 30-80% of differential pressure and is part of the data-sheet. If smaller pressure losses are necessary you have to use venturi tubes

Identification:

On inlet side of handle: +, Tag-No., PN, D, d and material.

Straight In- and Outlet Section:

Minimum requirement $28 \times D$ in- and $7 \times D$ outlet section.



Ordering Information

Please determine for quotation request

- Flow range(s)
- Gas type(s)
- Pipe nominal diameter
- Material
- Operation condition pressure / temperature
- Allowed pressure loss
- Accuracy
- Environment conditions