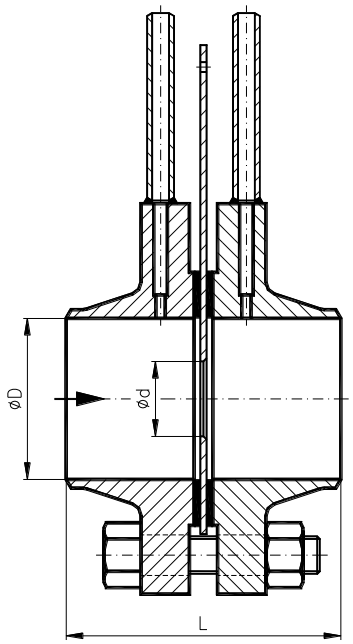
Orifice Flanges with Orifice Plates

Application

Orifice flanges are used in conjunction with orifice plates for flow measurement of aggressive and non-aggressive gases, steam and liquids.



Design

Orifice flanges are specially manufactured for the differential pressure flow measurement. The pressure tap bore holes are located at a specific distance (25,5 mm) in front of/ behind the orifice plate. We deliver them completely mounted with screws and gaskets.

Standard orifice flanges according to ASME B16.36 are manufactured with two pressure taps ½“ NPT-F per flange which can be closed with plugs. The taps are positioned in a 180° angle to each other. Available jack screws help to mount or remove the orifice plate on site when the flanges are already welded to their final position.

Other standards (e.g. DIN 19214, NORSOK, JIS) are available as well. The weld-end pipe dimensions are defined by the customer and standards. More details regarding orifice plates are described in our separate brochure E91N.

Nominal Diameter

DN 10 to DN 500 (DIN) / 1“ to 24” (ASME),
special dimensions are available on request

Pressure Rating

PN 10 to 400 (DIN) / 300# to 2500# (ASME),
other pressure ratings upon request

Flange Facing

according to EN 1092-1:

- flat (Form B1 and B2)
- groove (Form D)
- female (Form E)

according to ASME B16.5:

- flat (RF and SF)
- groove (small/large)
- female (small/large)
- RTJ female

or according to other flange standards specified by the customer.

Techn. Stand 04-2021

Installation Length „L“

The installation length equals the sum of the orifice flange length, gasket thickness and the mounted orifice plate thickness.

Materials

The materials of the flanges correspond to the pipe materials or the equivalent forged materials. Bolts and gasket materials are selected based on the operating conditions and flange material.

Common materials for ASME orifice flanges:
non-alloy/heat resistant steels: A105N; A350 LF2; A182 Gr. F1; A182 Gr.F11/12; A182 Gr. F22
stainless steels: A182 Gr. 316/316 L; A182 Gr. 321; A182 Gr. 304/304L; A182 Gr. 316Ti

Common materials for DIN orifice flanges:
non-alloy/heat resistant steels: P250GH (C22.8/1.0460); 16Mo3 (1.5415); 13CrMo45 (1.7335)
stainless steels: 1.4571; 1.4404; 1.4301

Gaskets

Typical gaskets are e.g. spiral-wound gaskets with stainless steel inner/outer ring and graphite-filler, Klingersil C4400 or graphite with stainless steel insert.

Quality Control

Manufacture and Test work is done according to the relevant codes and standards such as AD 2000, EN 13480, ASME Codes (without stamp) or customer specifications.
Inspection certificates according to EN 10204 3.1 and 3.2. are furnished if ordered. Special inspections are available upon request.

Design Alternatives

Orifice flanges may also be designed with corner tappings as depicted in ASME B16.36. Meter runs with

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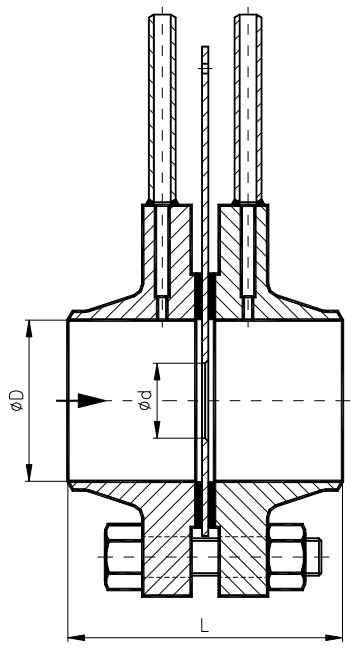
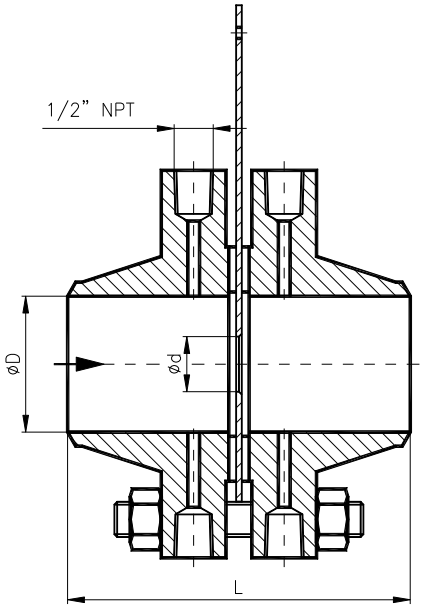
Accessories

Instrument valves, condensate pots, manifolds and mounting accessories can be offered upon request.

Example Drawings



single tapping



double tapping

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