

Compact orifice plate

For the direct mounting of differential pressure transmitters

Model FLC-CO

WIKA data sheet FL 10.10

Flow-Compact

Applications

- Chemical and petrochemical industries
- Process plants and power generation
- Water treatment and distribution
- Gas processing and transport
- Oil production and refining

Special features

- Compact and robust design per ISO 5167-2
- Installation between existing flanges (ASME/EN)
- Complete measuring point consisting of orifice plate, valve manifold and differential pressure transmitter available
- Simple installation without differential pressure lines
- Accuracy $\leq \pm 0.5\%$ of the actual flow rate and a repeatability of the measurement of 0.1 %

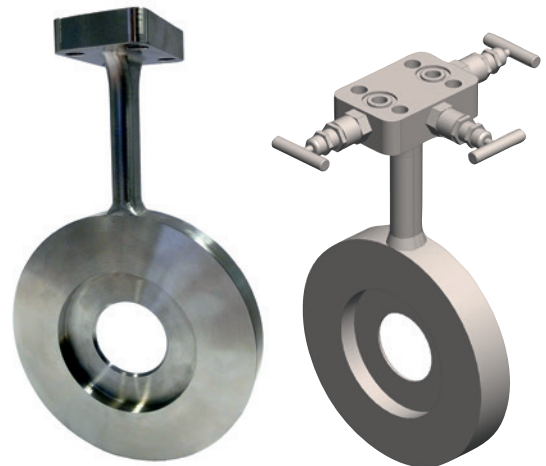


Fig. left: For the direct mounting of differential pressure transmitters

Fig. right: For the direct mounting of differential pressure transmitters via 3-way valve manifold

Description

Compact orifice plates can be used without difficulty for the measurement of liquids, gases and vapours.

Differential pressure flow meters are used in many technical applications. As primary flow elements, orifice plates represent the most common solution. Orifice plates are notable for their easy installation and management.

The differential pressure generated by the primary flow element is normally transformed into an electrical signal proportional to the flow rate by a differential pressure transmitter.

Compact orifice plates enable the simple assembly of the measuring arrangement as a plug-and-play solution, through which significant cost savings can be achieved. Differential pressure transmitters and valve manifolds are attached via compact pressure tapings. These measuring arrangements have the advantage that differential pressure lines can be eliminated.

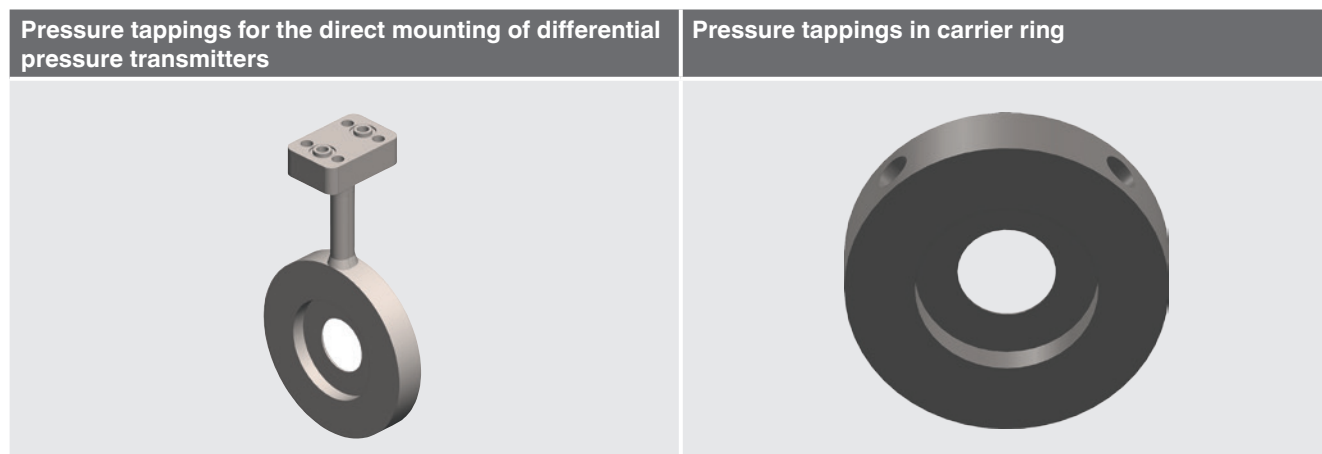
The compact orifice plates are offered as standard in two beta ratios. In the case of customer-specific requirements for the beta ratio, our software simplifies the design and selection process.

General specifications

The opening is concentric to the carrier ring and its leading edge is designed with a quarter round profile.

The pressure tapping points are designed as corner taps.

Two different versions are available:



Specifications	
Beta ratio	Standard 0.40 or 0.65 Customer-specific values are individually calculated
Centring	via flange studs
Sealing face finish	3.2 ... 6.3 µm (125 ... 250 AARH)

Further bore variants on request

Specifications (version for direct mounting)

Pipe size

2 ... 14" per ANSI/ASME

DN 50 ... 350 per EN

Pressure ratings

Class 150, 300, 600 raised face (RF) per ANSI/ASME B16.5

PN 16, 40, 100 raised face (RF) per EN 1092

Material

AISI 316/L

Orifice plate body

Manufactured from bar stock

Main body thickness: 30 mm for all sizes

Orifice plate thickness: 3 or 6 mm

Pressure tap

Same shape and dimensions for all sizes and connection options

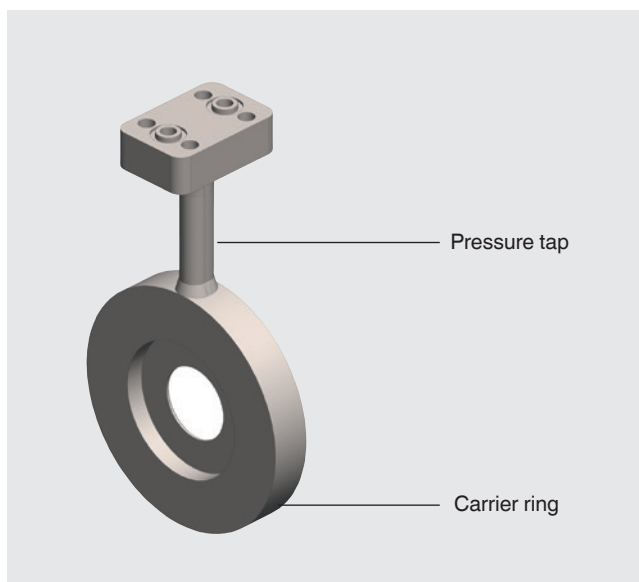
Maximum operating pressure

600# per ANSI B16.5

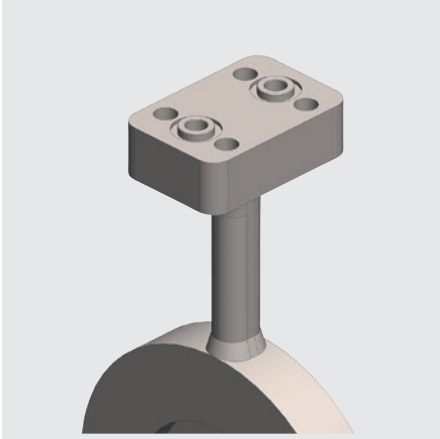
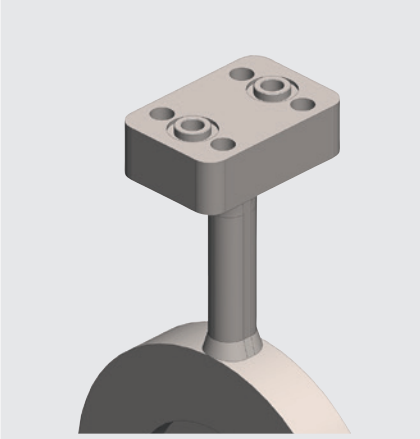
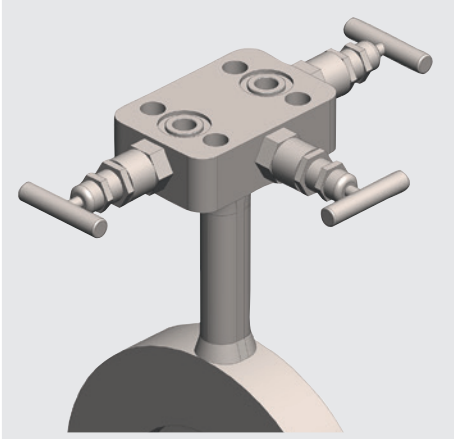
PN 100 per EN 1092

Maximum operating temperature

Limited by the maximum permissible temperature of the differential pressure transmitter



Connection variants

For valve manifold IEC type A (with spigot)	For valve manifold IEC type B (without spigot)	With integrated 3-way valve manifold IEC type B for differential pressure transmitter (without spigot)
		

Customer-specific connections on request

Options

- Mounted differential pressure gauge or transmitter
- Mounted thermowell with thermometer
- Flat gaskets and valve manifold seal in Graphoil (standard: PTFE)
- Studs and nuts for pipelines in accordance with customer requirements

Examples for differential pressure transmitters



Example for thermometers



Specifications (carrier ring)

Pipe size

2 ... 24" per ANSI/ASME
DN 50 600 per EN
Other sizes on request

Pressure rating

Class 150 ... 2500 with raised face (RF) and ring-type joint (RTJ) per ANSI/ASME B16.5
PN 10 ... 400 with raised face (RF) per EN 1092

Materials

AISI 316/316L
Special alloys on request

Orifice plate body

Welded or turned from one piece
Main body thickness: 25 ... 65 mm

Pressure taps

- NPT thread
- Weld stub
- Nipple

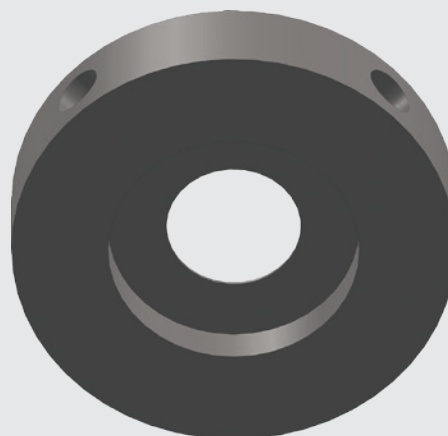
Max. operating pressure and temperature

Depending on material, pressure rating and applicable flange standard

Options

Customer-specific versions on request (e.g. vapour measurement via nipple, condensate vessels, valves)

Orifice plate body with pressure tapings



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