

Restriction orifice

Model FLC-RO-ST, single-step restriction orifice

Model FLC-RO-MS, multi-step restriction orifice

WIKA data sheet FL 10.06

Applications

- Power generation
- Oil production and refining
- Water treatment and distribution
- Gas processing and transmission
- Chemical and petrochemical industry



Single-step restriction orifice, model FLC-RO-ST

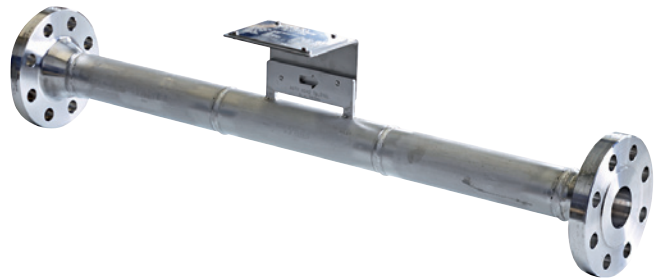
Special features

- Suitable for liquid, gas and steam flow measurement
- Single- and multi-bore designs
- Multi-step designs

Description

When a reduction of pressure or a limitation of the flow rate is required, a restriction orifice must be installed into the pipeline. The restriction orifice is adapted to the individual customer and flow requirements.

During the restriction of the flow rate high differential pressures, changes in state or high noise levels can occur. Multi-step restriction orifices are used to avoid these problems.



Multi-step restriction orifice, model FLC-RO-MS

Specifications

Nominal size and pipe schedule

All nominal sizes are available in accordance with the relevant standard. The pipe schedule must be specified by the customer.

Nominal pressure rating

Available in accordance with all relevant standards.

Materials

A wide range of materials is available.

Designs

The restriction orifice is designed taking the fluid characteristics, the pressure loss and the process data into account.

Plate thickness, see page 3

Thanks to our long-standing experience we will find the right solution for your application to avoid the following problems:

■ Sonic and choke conditions

Our in-house software is able to calculate the maximum differential pressure generated to achieve the sonic condition.

■ Noise level

By increasing the number of bores the noise level generated by the restriction will be reduced. The noise level achieved can be calculated on request.

The maximum acceptable noise level depends on the installation and service conditions. Our upper limit for the noise level is defined by the health and safety requirements applicable to the plant (usually 85 dB(A) for continuous operation).

An important aspect are the conditions under which the restrictor is used, for example:

- Continuous operation
- Intermittent operation
- Emergency operation

■ Cavitation

The only way to avoid the cavitation is to reduce the pressure in several steps. The number of steps is related to the operating conditions of the plant.

The distance of the plates is calculated automatically by our software to ensure a complete pressure recovery. The plate thickness is only calculated from the differential pressure generated.

Sealing face

The restriction orifice can be designed to be mounted between flanges with raised face in accordance with ANSI B16.5 or DIN standards.

Restriction orifices to be mounted between RTJ flanges are also available. These can be supplied in one- or two-piece designs.

Schematic drawings

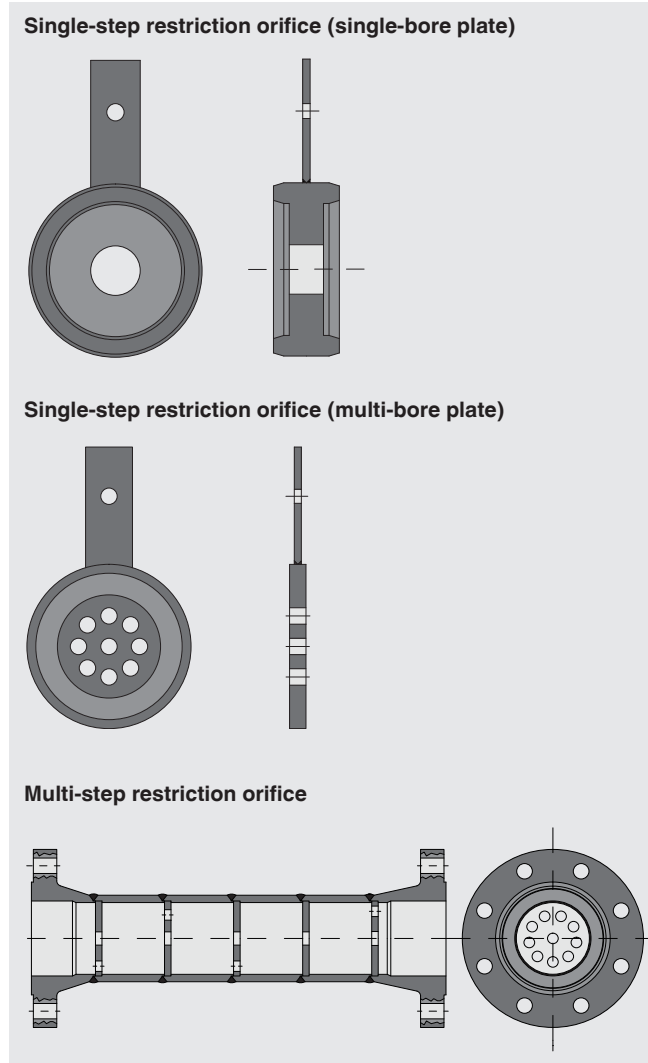
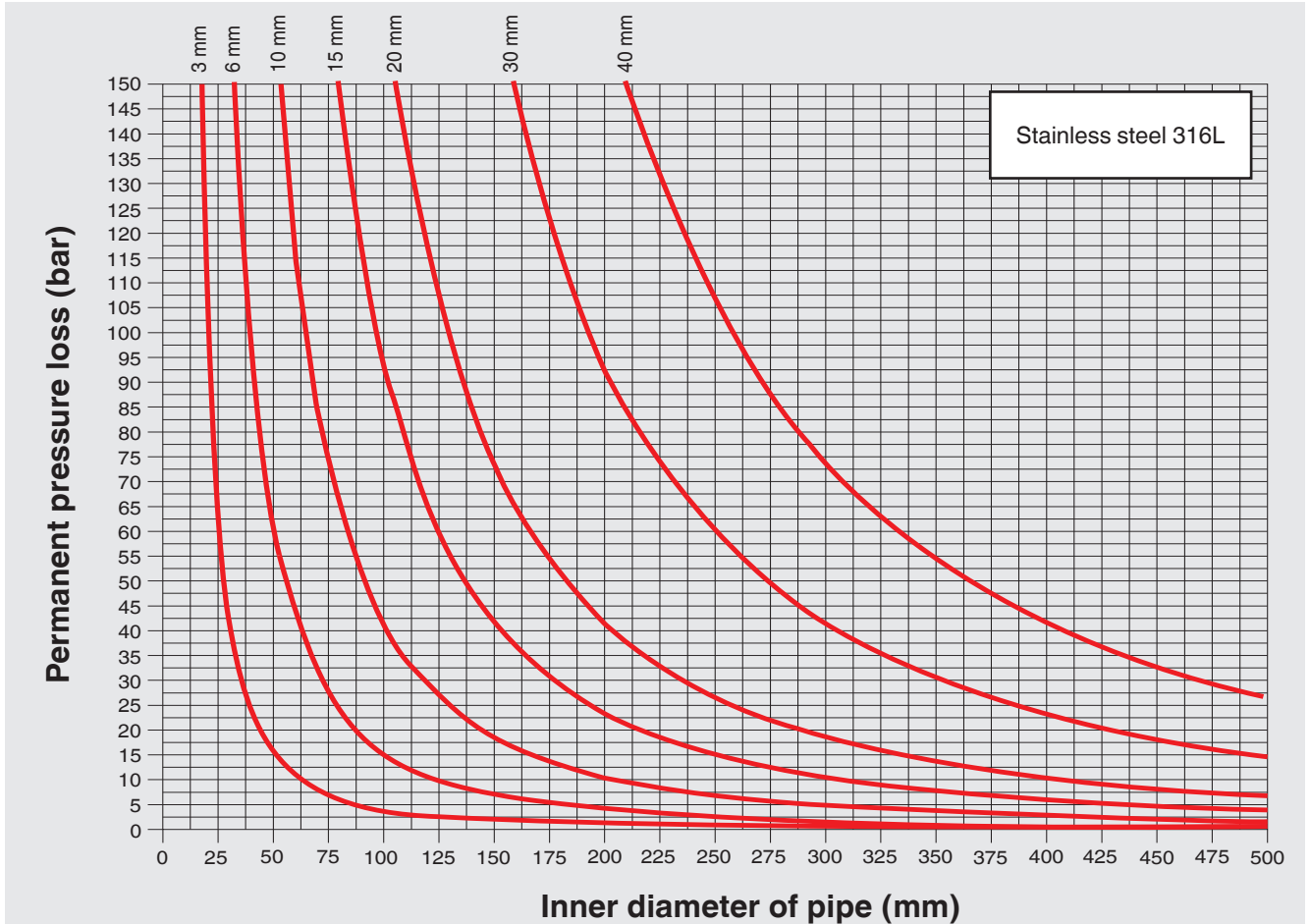


Plate thickness

The plate thickness (min. 3 mm) is calculated taking the differential pressure and the pipe size into account in order to prevent the plate from bending under operating conditions.

The graph shows the recommendation for the minimum thickness.

During the design phase a detailed calculation is performed.



Ordering information

Nominal size / Pipe schedule / Nominal pressure rating / Sealing face / Material / Process data / Fluid characteristics

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