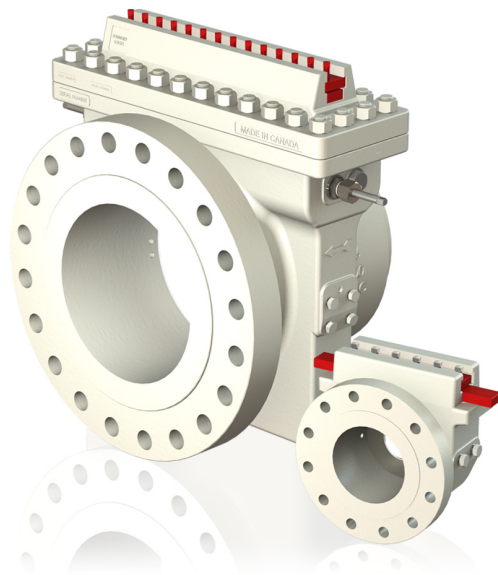


FPD201

Single-chamber orifice fitting

Minimum complexity
with maximum efficiency

Measurement made easy



Economical orifice installation

— plate serviceable without removing fitting from pipeline

Pressures up to ANSI 2500 rating

— for pipe sizes up to 300 mm (12 in.)

Comprehensive testing and documentation package

— supplied as standard

FPD201

Single-chamber orifice fitting

Introduction

ABB's FPD201 Single-chamber orifice fittings are proven systems for safely and quickly inspecting and changing orifice plates.

Orifice meters used in the Oil & Gas industry are typically of either the single chamber or dual chamber design. Single-chamber orifice fittings have an orifice plate that can be replaced without removing the fitting from the pipeline. However, before the plate can be withdrawn, the flow must be stopped and the pipeline vented.

Each product has been fully FEA (Finite Element Analysis) tested at the design stage, ensuring maximum safety to the user and the system. The FPD220 has undergone a series of rigorous test cycles ensuring the repeatability of the seals and equipment. During product assembly, each product is fully pressure-tested to satisfy industry safety and European pressure guidelines. Units are designed and manufactured in compliance with ASME 16.34 and ASME 16.5, ASTM specifications, yAGA-3 Latest Edition and ISO-5167.

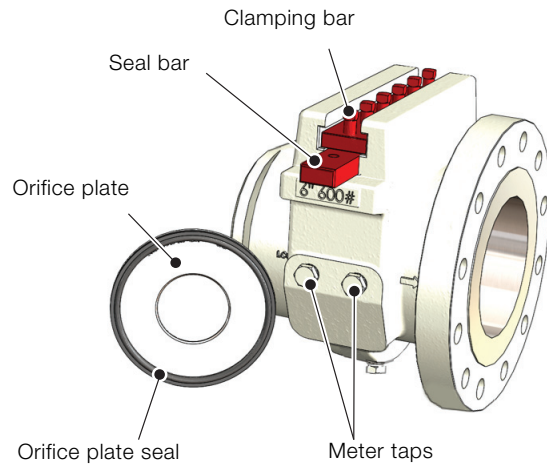


Fig. 1: Key operating parts – 2 to 6 in. models

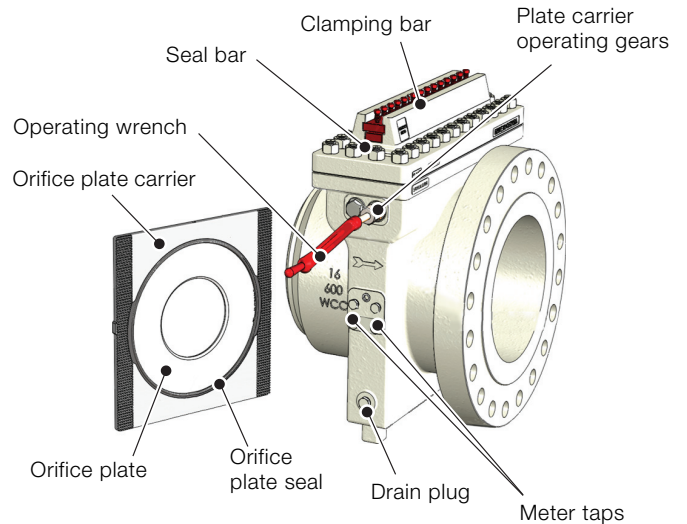


Fig. 2: Key operating parts – 8 to 24 in. models

Specification

Body configuration

- Flange x flange
- Flange x weld
- Weld x weld

Flanges to FF, RF and RTJ are available in the following formats:

- ANSI 16.5 or 16.47
- Techlok & SPO
- Grayloc®
- API 6A
- or to specific client specification

Design codes

- NACE MR-01-75
- ASME B31.1 Power Piping
- ASME B31.3 Liquid Petroleum Transportation Piping Systems
- PED 97/23/EC – Pressure Equipment Directive

Measurement standards

- ISO 5167
- API MPMS 14.3.2 (AGA Report No. 3)

Standard materials of construction

Body casting

- ASTM A216 WCB, WCC
- ASTM A352 LCC
- ASTM A351 CF8M
- ASTM A995 Gr.4A, Gr.6A
- Other materials are available on request

Internal components

- Stainless steel 316 / 316L
- Stainless steel A351 CF8M
- Carbon steel AISI430

Pressure tappings

- 1 or 2 sets per side; 1/2 in. NPT female
- Flanged end pressure tappings available to suit ANSI rating of meter

External bolting

- ASTM A194 Gr.4 (Zinc coated)
- ASTM A320 L7 (Zinc coated)
- Other materials are available on request, including optional coatings such as PTFE, Xylan and Xylar

Seals

Seal bar

HNBR O-ring (standard); gasket (optional)

Shafts (8 in. [DN200] and larger only)

PTFE packing (standard); HNBR O-ring (optional)

Orifice plate

- Type 'K' 2000 edition formed HNBR seal on a 316 SS retainer ring
- Dual ring HNBR O-rings standard on a 316 SS retainer ring
- PTFE snap seal two-piece virgin PTFE assembly

Orifice plates

Industry-standard orifice plate thicknesses as per the guidelines set out within ISO 5167 and API 14.3.

Maximizing performance

To ensure absolute metering accuracy, it is recommended that industry practice is followed and meter tubes are purchased and manufactured to complement the orifice fitting. This ensures concentricity between the pipe and the fitting and eliminates uncertainties associated with misalignment.

ABB can supply the following items for a complete metering solution:

- orifice fitting with meter tube including straightening vane / profiler
- DP transmitters and process transmitters
- flow computer and enclosure
- spare parts for service and commissioning
- product service training

Temperature rating

- 29 to 38 °C (–20 to 100 °F) standard
- 40 to 649 °C (–40 to 1200 °F) option

Pressure rating

Size in. (mm)	ANSI pressure class (fully-rated)
2 (50) to 24 (600)	150, 300, 600, 900, 1500

Note. 600, 900 and 1500 flanges are available as RF or RTJ. 150 and 300 flanges are available as RF only.

Acknowledgements

Grayloc is a registered trademark of Grayloc Products LLC

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Sales



Service