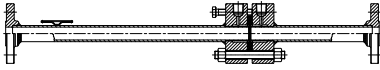


# METER RUN / ORIFICE FLOW METER

## MR Series



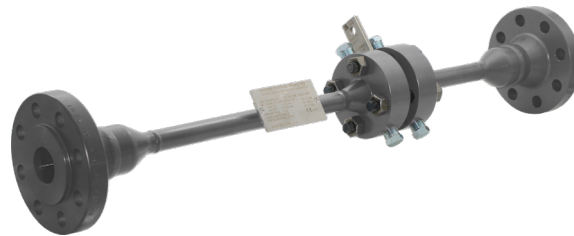
### DESCRIPTION

The Meter Run and Flow Meter (FE) are extensions of Orifice Plate flow measurement, where the meters contains the minimum upstream and downstream straight lengths essential for an accurate measurement.

The term "Meter Run" is used for Line size up to 1-1/2" / DN 40. The "Flow Meter" is used for pipes 2" / DN 50 and up.

The machining carried out and the assembly guarantee better precision.

For the Meter Run in particular, the influence of hydraulic roughness in pipe are decreased. Usually the primary element is a square edge orifice plate.



### FEATURES

- Complete production control fully integrated inside the company and highly competent local suppliers.
- Qualified welders and welding procedures compliant with ASME IX and EN ISO 15614.
- Completely customizable on client's needs thanks to the support of our technical and-sales departments.
- Over 60 years company experience with instruments installed in the entire world.
- Long working life ensured by high quality materials.

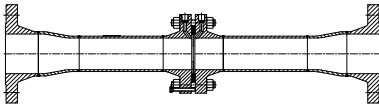
PROS	CONS
High accuracy	Relatively high permanent pressure loss
Suitable for a wide range of fluids, gases and vapors	Range limited to the quadratic relationship between DP and Flow.
Easy construction and installation	
Relatively low price	

### APPLICATIONS

- Oil & Gas plants, Refineries
- Chemical and petrochemical plants
- WATER / GAS treatment and distribution
- Power generation

### ACCESSORIES ON REQUEST

- Spacer Ring, Condensing pots
- "Integral Meter Run", complete with Manifold and Differential Pressure Transmitter
- Nipples and Valves, Fittings
- Manifold and Differential Pressure Transmitter
- Spare parts
- Calibration for orifice flow meter



## TYPICAL PERFORMANCES

- Range: 1 ÷ 4 (1 ÷ 5)
- Max. Pressure and Temperature, allowed by used materials
- Accuracy:  $\pm 1 - 1.5$  % of F.S., with calibration:  $\pm 0.5$  % of F.S
- Repeatability:  $\pm 0.1$  %

## TECHNICAL SPECIFICATIONS

USE	Liquids, Gases, Vapors	
DIMENSIONS	Meter run	ND 1/2" ÷ 1-1/2" / DN 15 ÷ 40
	Orifice Flow Meter	ND 2" ÷ 24" / DN 50 ÷ 600
DESIGN	Flow Calculation & Construction	METER RUN According to ASME MFC-14M ORIFICE FLOW METER According to ISO 5167-1/2
	Pressure Taps Option	On Flange / Corner Taps
	Type of Orifice Plate	Concentric Square Edge (normally); sometime Quarter circle* or Conical entrance*
OPTIONS	Variants or extensions can be adapted to project requirements	
ARRANGEMENTS	Flange ANSI B16.5 / API 6B – 6BX	
	Flange EN-1092-1 / UNI 2223 / DIN	
RATING	ANSI/ASME - 150, 300, 600, 1500, 2500	
	EN-PN - 10, 16, 25, 40, 63, 100	
PROCESS CONNECTION	Flow Element side	ANSI/ASME - RF, FF, RTJ with sealing surface AARH 125 ÷ 250, 63 EN-PN - Type 01, 11, 12 con sealing surface Type A, B1 and B2
	Pipe side	ANSI/ASME - RF, FF, RTJ with sealing surfaces AARH 125 ÷ 250, 63, or BW EN-PN - Type 01, 11, 12 with sealing surfaces Type A, B1 and B2, or BW
INSTRUMENT CONNECTION	Pressure Taps type: NPT-F / SW / PE / BW / Flanged.	
	"Integral Meter Run" option: supplied with Oval Flange for direct connection to a differential pressure transmitter.	
OTHER OPTIONS	Our technical and commercial departments are available to discuss any variation or customization not mentioned in this catalogue	

\* Suitable for viscous fluids, when Reynolds number is low

## MATERIALS

GENERAL	As per project specifications, however mainly according to ANSI/ASME/AISI code or according to EN/UNI/DIN codes. Certificates with requirements like NACE MR-0175 e MR-0103 /ISO 15156, Dual grade, and PED. Others to be evaluated on request.
ORIFICE FLANGE	A105N, A350-LF2, A182-F11 -F22 -F5 -F9 -F91, A182-F316 -F304 -F321 F347, Duplex – Super Duplex, Alloy 825 /625. Others on request
PIPE	As line material. A106 Gr.B, A333 Gr.6, A335 P11 -P22 -P5 -P91, Monel, A312 Tp.316 -304 -321 -347, Duplex - Super Duplex, Alloy 825/625. Others on request
ORIFICE PLATE	AISI 316 /304 /321 /347, Duplex – Super Duplex, Monel, Hastelloy B/C, Alloy 825 /625. Others on request
BOLTS & NUTS	A194-B7/2H, A320-L7/7, A193-B16/7, A193-B8/8, Monel, Nichel Alloy. Others on request. Coatings: PTFE coated, Galvanizing / Hot Dip Galvanizing
JACK SCREW	As Bolts, if request or applicable
GASKETS	Spiral Wound: according to project specifications
	Flat: Aramidic Fiber / PTFE / Graphite
	RTJ - octagonal: Soft iron / St. Steel, or according to project specifications
	Others on request



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