

INTEGRATED ORIFICE

Complete measuring element with special flanges
Suitable for diameters of pipes ≤ 40 mm

GENERAL DATA

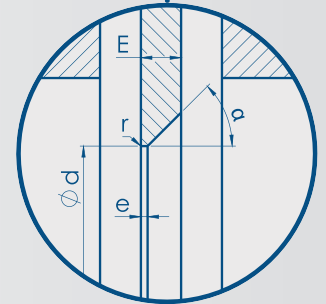
- Standard: ASME MFC-14M
- Mounting of the sharp edge orifice plate between special flanges (direct mounting of the manifold and of the differential pressure transmitter)
- Weld-end (BW) or flanged connection⁽¹⁾
- Material:
 - o Standard: carbon steel, stainless steel
 - o Others⁽¹⁾: according to your application
- Fluid: liquid, gas, steam
- Pipes from ϕ 6 to 40 mm
- Accuracy: 0.5 % of the max flow rate
- Repeatability of measurement: 0.1 %



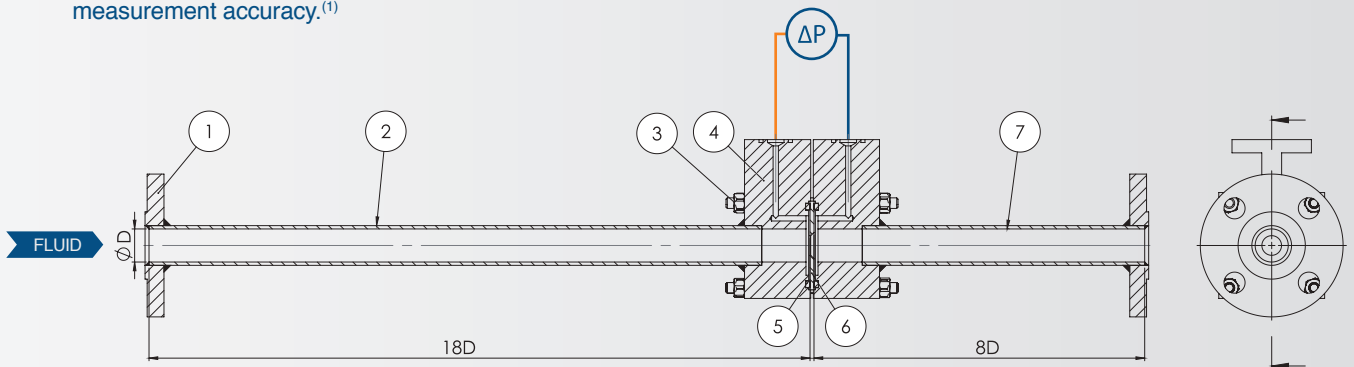
ΔP
0/0

pressure tap⁽¹⁾

MARK	DESIGNATION
1	Flange
2	Upstream pipe
3	Bolts
4	Annular chamber
5	Gasket
6	Sharp edge orifice plate
7	Upstream pipe



The construction is carried out in compliance with the standards (primary element, roughness of upstream and downstream pipes, centering of the primary element, pipe circularity, upstream and downstream straight lengths...) in order to achieve optimum measurement accuracy.⁽¹⁾



TECHNICAL CHARACTERISTICS

TECHNICAL CHARACTERISTICS		ASME MFC-14M
Re_D	Reynolds number in the pipe	$Re_D > 1\,000$
D	Inside pipe diameter	$6\text{ mm} \leq D \leq 40\text{ mm}$
β	d/D	$0.1 \leq \beta \leq 0.8$
Sharp edge orifice plate		
Ra	Roughness of the upstream face	$Ra < 1.27\ \mu\text{m}$
r	Sharp edge radius	$r < 0.000\ 4\cdot d$ or ⁽²⁾ $0.025\ \mu\text{m}$
e	Orifice thickness	$e < 0.02\cdot D$ or ⁽²⁾ $0.125\cdot d$
E	Plate thickness	$E < 3.2\text{ mm}$
α	Angle of the downstream bevel of the plate	$\alpha = 45^\circ \pm 15^\circ$
t	Flatness tolerance	$t < 0.01\cdot(D - d)/2$

⁽¹⁾ For more details, see «Technical information» section on page 54.

⁽²⁾ Consider the smaller value.