Datasheet

WEDGE METER

FLOW MEASUREMENT

KEY DATA

- Flow calculation according to ISO5167-1 & ISO5167-6 standard or R.W. MILLER
- Recommended for dirty gas or liquids with small particles
- Pipe dameter : from 12,5 mm to 600 mm
- Reynolds number : from 10^4 to 9.10^6
- Accuracy : from 2% of the max flowrate
- Repeatability of measurement : 0,1%

Wedge meter

BENEFITS

- Cost-effective measurement system : low installation cost and maintenance-free
- Easy and quick installation and commissioning
- Very long life-time product, no drift over time
- Standardized principle : reliability and accuracy of measurement, no need of calibration
- Suitable for a large range of fluids and process conditions

Deltafluid
MEASURING UP TO YOUR EXPECTATIONS

The wedge meter is the most suitable measuring element in the case of flow rates of fluids with impurities. It has the advantage of not clogging and of offering a standardized measurement.

STANDARDS

- ISO 5167-1 & ISO 5167-6
- R.W. MILLER

TECHNICAL CHARACTERISTICS

- Fluid temperature (1) : cryogenic to +800°C
- Fluid type : gas, steam, liquid with impurities
- Materials : carbon steel, stainless steel, monel, hastelloy, inconel, duplex, super duplex, titanium, tantalum, PVC, PTFE...
- Accuracy : from 2% of the max flowrate
- Maximum operating pressure : limited by the flange rating
- Characteristics according to the standard in force :

		ISO 5167-1&6	R.W. MILLER
ReD	Reynolds number in pipe	$10^4 \leq ReD \leq 9.10^6$	ReD > 500
D	Inside pipe diameter	50 mm ≤ D ≤ 600 mm	12,5 mm ≤ D ≤ 600 mm
H	Orifice height	-	H > 12,5 mm
H/D	Height ratio	0,2 ≤ H/D ≤ 0,6	0,2 ≤ H/D ≤ 0,5
β	β equivalent	0,377 ≤ β ≤ 0,791	0,3 ≤ β ≤ 0,71

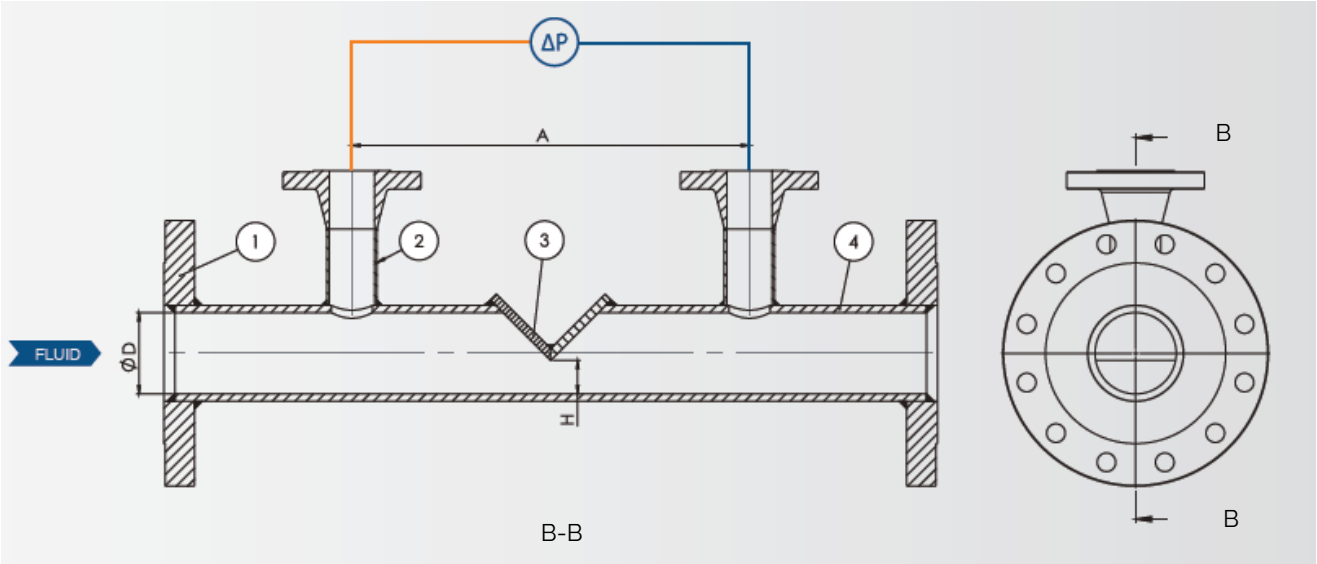
(1) No temperature restriction with remote-mounted transmitter, otherwise +125°C max

MOUNTING

- Mounting between flanges or welded to the pipe
- Flange types : ISO PN 2,5 to PN 420, ASME 150# to 2500#, API flanges
- Piping connection between straight sections according to the standard and depending on the upstream fittings - see upstream straight lengths table on page 4
- Gasket types : flat gasket (spiral wound, graphite, PTFE) or RTJ (soft iron, inox, monel…)

DIMENSIONS

- wedge meter drawing



H, orifice height
D, pipe internal diameter
H/D, height ratio
- see page 2 -

1 Flange
2 Pressure tap
3 Wedge
4 Pipe

STRAIGHT LENGTHS

- required straight lengths between the wedge meter and the fittings
- Values expressed as multiples of internal diameter D
- Upstream values measured from the plane of the centerline of the upstream pressure tap of the wedge meter :

Single 90° bend	7D
Two 90° bends in the same plane	21D
Concentric expander (D/2 to D)	7D
Concentric reducer (3D/2 to D)	7D
Partially closed valce	15D
90° pipe tee	8D

These minimum values correspond to zero additional uncertainty (on the discharge coefficient)

- Downstream values measured from the plane of the centerline of the downstream tapping of the wedge meter: a minimum distance of 6D downstream of the wedge meter introduce no additional errors.

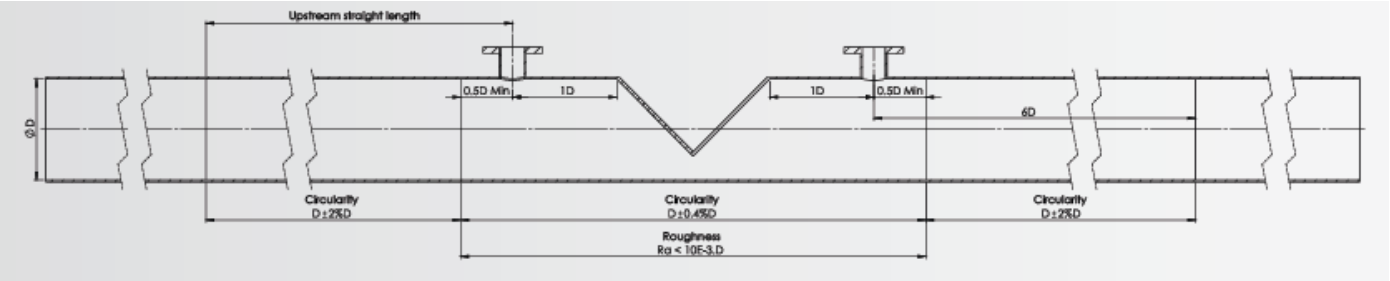
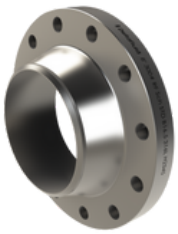


Illustration of upstream and downstream straight lengths and circularity and rugosity values

ACCESSORIES

For flow measurement, we offer a full range of accessories for assembly with wedge meters.

- Flanges
  Gaskets &
  Boltings



Flanges with flat gasket face, raised face, large male/female face, tongue/groove face, RTJ-F face

- Transmitter

Differential pressure transmitter, multivariable transmitter

- Manifold

2-way / 3-way / 5-way manifold with or without direct mounting

- Condensation pot

- Valve

- Siphon

- Flow straightener or conditioner

FURTHER INFORMATION

All information on the mounting of wedge meters (and their accessories) such as :

- pressure taps orientation
- mounting of the differential pressure transmitter
- flange tightening

can be found on the IOM notice "User guide - Installation, operation and maintenance manual".

Chemin Les Augas – RD817
64170 LACQ
FRANCE

delta64@deltafluid.fr

+33 (0)5 59 30 85 20

www.deltafluid.fr

DELTAFLUID