

MALEMA KINETIC FLOW METER MODEL KFM 2100

KFM 2100 SERIES is an advanced flow element that is suitable for liquid, gas and steam flow measurement with high accuracy and repeatability. Thanks to its patented design that uses a stream lined bullet shaped flow element that causes minimum disruption to the flowing medium with low pressure drop but providing unmatched turndown.

KFM 2100 series is available as a separate flow element as well as with flow transmitter. In the earlier option you have a choice to use a differential pressure transmitter of your preference. Alternatively, we can integrate KFM flow element with any DP transmitter of your choice and supply as a fully calibrated unit.

FEATURES:

A novel design approach in fluid flow measurement.

High turn down: 30:1 typical; up to 50:1 for some applications.

No moving parts

Stream lined measuring section: Low pressure drop

Measurement is independent of flow regime: Suitable for laminar, turbulent and transition flow conditions.

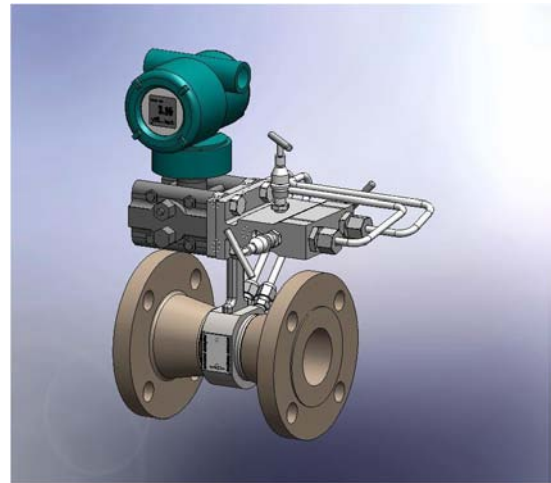
Volumetric and mass flow measurement with built-in temperature sensor option

No need for straight runs

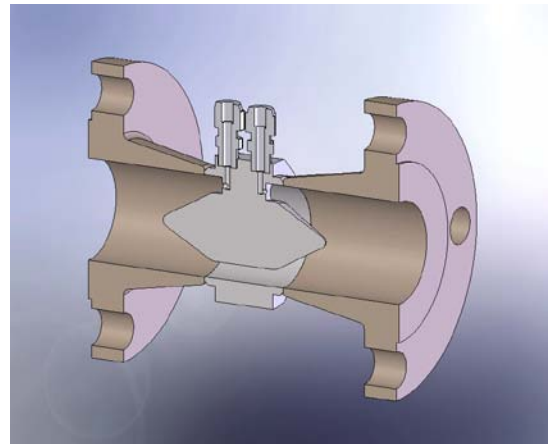
High accuracy and repeatability

Suitable for liquids, gases and steam

Patented design (Patent No. US 7,478,565 B2)



KFM FLOW METER



KFM FLOW ELEMENT AS A SEPARATE UNIT
(Patent No. US 7,478,565 B2)

APPLICATIONS:

- WATER AND WASTE WATER
- CONDENSATE, COOLING WATER & HOT WATER
- PETROLEUM PRODUCTS
- ACIDS AND ALKALIES
- COMPRESSED AIR
- INDUSTRIAL GASES
- STEAM

PRINCIPLE OF MEASUREMENT

An elongated flow-body of streamlined shape transforms the incident fluid flow in such a way that the sensor's response is immune to flow regime and variations in flow velocity profile.

Dynamic pressures, P_1 and P_2 , are measured in proximity to the streamlined flow-body. One pressure-sensing port faces upstream, the other downstream. The two signals are combined in a unique way to simultaneously measure fluid volumetric flow rate, mass flow rate and density (for gases).

$$P_1 = \frac{1}{2} \rho V^2 + P_0$$

$$P_2 = -\frac{1}{2} \rho V^2 + P_0$$

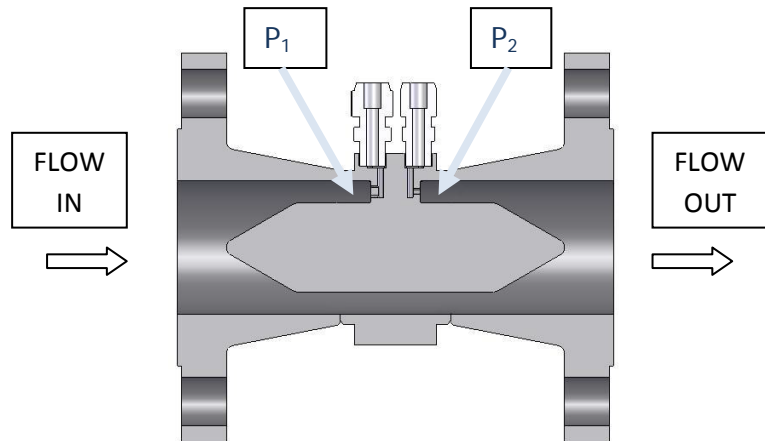
P_0 = static pressure

V = average flow velocity

$$\rho = \text{gas density} = (P_1 + P_2) / (2ZRT)$$

$$\text{Mass flow } Q_m = K \times \sqrt{(\Delta P \times \rho)}$$

Where K = meter constant



General Specification:

Sizes:	1/2" to 3"
End Connection:	Flanged, Screwed and Weld type
End Connection rating:	ANSI #150, 300 & 600; other options possible
Medium:	Liquids, gas (pending) and steam (pending)
Primary Element accuracy:	+/- 0.5% of the rate
Repeatability:	+/- 0.1% of the rate
Materials:	SS 316L; Other options on request
Versions:	Primary Element sold separately Complete flow meter (volumetric flow) Complete flow meter (mass flow)
Types:	In-line and insertion (pending)
Transmitter mounting:	Remote or integral (compact)

To get a quote from us please visit our website: http://malema.com/Industrial/pdf/Flow_Meter_Application_Sheet.pdf and fill-in the details requested in the flow application questionnaire and email/fax the same to us. We will get back to you at the earliest.

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Specifications are subject to change without notice.

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