FLOWMASTER
Optimized Metering Solutions

FLOW MEASUREMENT

INSTRUMENTATION

About Us

FLOWMASTER is a company that provides instrumentation solutions for industrial processes, such as orifice fittings and primary elements for DP flow measurement.

FLOWMASTER'S product line has a proven track record of over 35 years in the Oil & Gas industry. Its orifice fittings for gas measurement are currently working at several Offshore/Onshore facilities from different customers. The company has been providing DP flow meters to large and small companies across a variety of industries.

An ISO 9001: 2015 Certified Company.

Industries

Oil & Gas | Chemical & Petrochemical

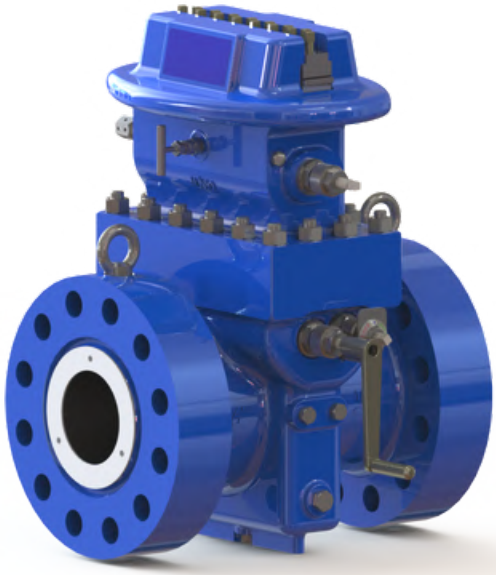
Pulp & Paper | Sugar & Alcohol

Contents

Product Categories

Count on us to define the best measurement and control solution for your application.

FLOWMASTER'S DP flow meters are designed to provide accurate measurements, even in the most challenging operating environments, to meet the demands of different applications to several industries.



DUAL CHAMBER

The Dual Chamber Orifice Fitting was developed to meet Orifice Plate inspections without interrupting the flow.

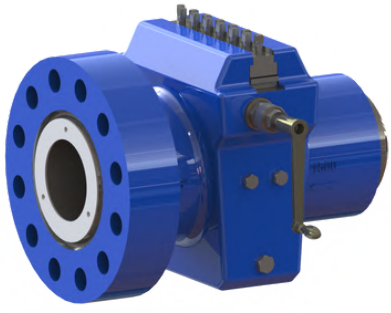
With the O-ring seal system, there is no need for lubrication.

Designed and produced to meet the ISO 5167, AGA-3, ASME B16.5, ASME B16.34 and MSS SP-55 Standards.

Materials: Carbon Steel, Stainless Steel, Duplex. Others on request.

SINGLE CHAMBER

Single Chamber Orifice Fittings provide easy removal of the plate relative to an orifice flange measurement assembly.



Single Chamber Orifice Fitting models DN. 8” and larger incorporate a rack and pinion gear system.

Designed and produced to meet the ISO 5167, AGA-3, ASME B16.5, ASME B16.34 and MSS SP-55 Standards.

Materials: Carbon Steel, Stainless Steel, Duplex. Others on request.

FLOWCONE

FlowCone flow meter is an advanced differential pressure instrument that provides an accuracy of ±0.5% of rate over a 10:1 flow range. A key feature of this device is its ability to fit into small spaces while offering high levels of accuracy and repeatability.

Designed for mild to harsh operating environments, and for a variety of fluids such as liquid, steam or gas where accuracy, low maintenance and cost are important, this advanced flow meter stands out from other flow technologies.
According to ISO 5167 Standard.

Materials: Carbon Steel, 304/316 Stainless Steel, Duplex, Super Duplex, Alloy Steel. Others on request.

WEDGE

Wedge meters are designed for measurements of high viscosity fluids and processes with suspended solids.

It can be supplied with differential pressure taps for diaphragm seals, thus avoiding problems of fluid inlays near the taps.

The Wedge meter is manufactured for many situations, its application is aimed at 1/2" to 24" diameter lines. Designed according to ISO 5167 Standard.

Materials: Carbon Steel, 304/316 Stainless Steel, Duplex, Super Duplex, Alloy Steel. Others on request.

VENTURI TUBE

The Venturi Tube is suitable for applications where minimal pressure loss is required, such as in water treatments, combustion air measurements and especially liquids with solids in suspension.

The design consists of a convergent cone section, cylindrical bore, and a divergent cone section. According to ISO 5167 Standard.

Materials: Carbon Steel, 304/316 Stainless Steel, Duplex, Super Duplex, Alloy Steel. Others on request.

FLOW NOZZLE

The Flow Nozzle has its characteristic in between the Orifice Plate and Venturi Tube.
The Flow Nozzle format allows its application in services that the fluid is abrasive and corrosive.

Its main use is for steam flow in critical conditions of operation (high speed, temperature and pressure).

There are two types of standard Flow Nozzles, type "ASME" and type "ISA".
The main difference between them is the inlet radius profile and the pressure taps types, where "ASME" uses the Radius Taps (1D-1 / 2D) standard on the tube, and "ISA" uses the Corner Taps in piezometric rings welded together to the nozzle.

Materials: Carbon Steel, 304/316 Stainless Steel, Monel, Hastelloy, F11, F5, F22 Alloy Steel. Others on request.

AVERAGING PITOT TUBE

Averaging Pitot Tubes are designed for flow measurements with negligible load loss and accuracy of ± 1.5% at the bottom of the scale, and can reach below 0.5% calibrated in specialized laboratories. The Averaging Pitot Tube is suitable for liquid, gas and steam flow measurement, in horizontal and vertical lines.

Materials: 316 Stainless Steel. Others on request.

ORIFICE PLATE

Due to its simplicity in installation, low manufacturing cost and high durability, the Orifice Plate is more favorable than other types of flow meters.

For each process situation, FLOWMASTER has the solutions in flow measurement through Orifice Plates with the types: Concentric, Eccentric, Segmental, Quadrant Edge, Conical Entrance. According to ISO 5167 and AGA-3 Standards.

Materials: 304/316 Stainless Steel, Duplex, Super Duplex, Hastelloy, Monel. Others on request.

ORIFICEFLOW

The OrificeFlow has advantages over other primary elements, since only common flanges are used in the installation, not the more expensive orifice flanges.
The fittings are also eliminated, leaving the installation compact and reducing potential leakage points.

FLOWMASTER'S OrificeFlow has a 3 Way Manifold Valve built into the meter and can be connected to any type of differential pressure transmitter.

Materials: 304/316 Stainless Steel, Duplex, Super Duplex, Hastelloy, Monel. Others on request.

ORIFICEFLOW - CONDITIONER

The OrificeFlow - Conditioner is designed to be a compact solution compared to traditional orifice plates, it conditions the passage of the fluid at the same instant it generates the differential pressure through its 4 holes.

This flow meter reduces pipe straight run, requiring only two pipe diameters (2D) upstream and downstream for installation in tight areas, while the traditional orifice plate needs around 20D upstream and 5D downstream.

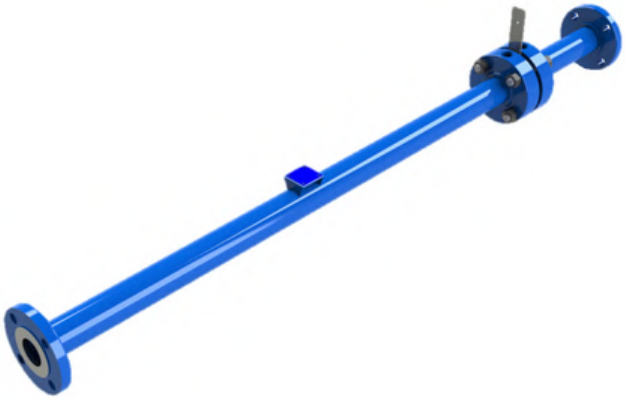
Materials: 304/316 Stainless Steel, Duplex, Super Duplex, Hastelloy, Monel. Others on request.

INTEGRAL ORIFICE

The Integral Orifice is a flow meter for pipes with diameters below 2". It can be directly mounted to the transmitter or remote using an optional adapter kit.

Integral Orifice Assemblies are generally used for flow measurement of clean fluids (liquid, gas) in laboratories and industrial pilot plants. According to ASME MFC 14M Standard.

Materials: Carbon Steel, 304/316 Stainless Steel, Duplex, Super Duplex. Others on request.



METER RUN

The Meter Run (calibrated Meter Tube) is used for flow measurements where higher accuracy is required for pipes smaller than 2".

Used for measurements of clean fluids (liquid, gas).
According to ASME MFC 14M Standard.

Materials: Carbon Steel, 304/316 Stainless Steel, Duplex, Super Duplex. Others on request.

ORIFICE FLANGE UNION

It consists of an Orifice Plate with flanges.
Used in the piping system to measure the flow of liquids and gases through the Orifice Plate. It incorporates the 1/2" NPT or SW pressure taps into the flanges, as requested by the customer.

This flow meter can be applied to a wide variety of measurements, involving most gases and liquids, including fluids with solids in suspension, as well as viscous fluids over a wide range of temperature and pressure. It can be applied in any tube size. According to ISO 5167 and AGA-3 Standards.

Materials: Carbon Steel, 304/316 Stainless Steel, Duplex, Super Duplex. Others on request.

ORIFICE ASSEMBLY

It is the most practical solution to place a flow measurement point on an existing line, avoiding the placement of orifice flanges or in the case of lines with special alloys, replacing these flanges with conventional flanges, reducing the installation cost.

It can be manufactured with flange taps, corner taps or piezometric.
Its manufacturing is performed according to the ISO Standard, thus giving a greater reliability to its measurement.

Materials: Carbon Steel, 304/316 Stainless Steel, Duplex, Super Duplex. Others on request.

PARSHALL FLUME

The Parshall Flume is a device traditionally used for flow measurement in open channels, widely used in water treatment plants.

Materials: Fiberglass, Carbon Steel, 304/316 Stainless Steel. Others on request.

ULTRASONIC SPOOL

Designed to meet the needs of manufacturers of ultrasonic meters.

All spools are manufactured with the quality required for this type of meter and tested according to customer needs.

Materials: Carbon Steel, 304/316 Stainless Steel, Duplex, Super Duplex. Others on request.

ORIFICE METER TUBE

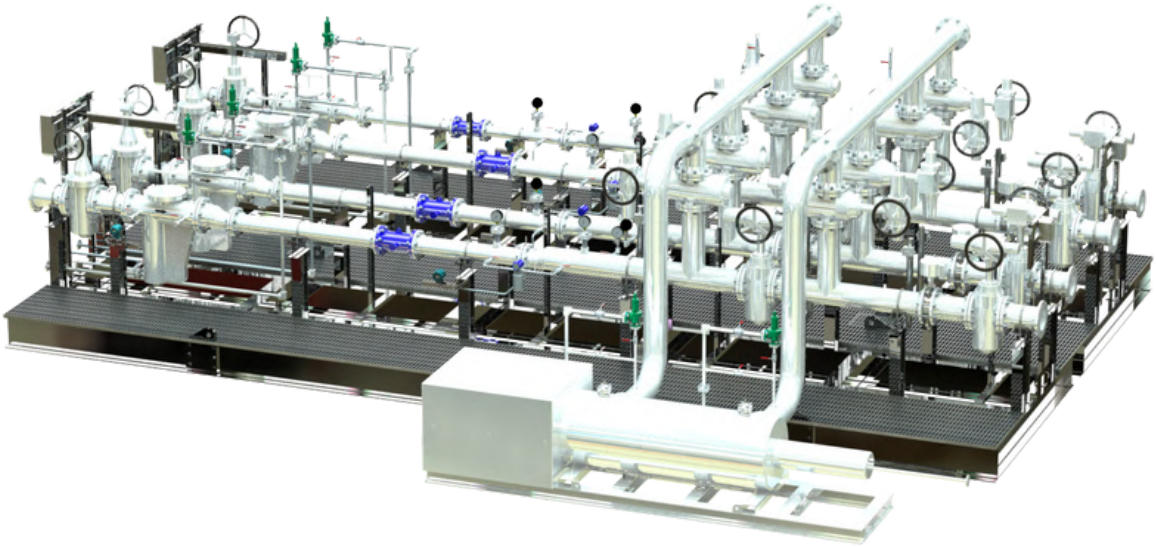
Orifice Meter Tubes are required to meet ISO 5167 or AGA-3 standards for the installation of flow measurement elements, ensuring standardized levels of uncertainty.

According to ASME B16.5, ASME B31.4, ASME B31.8, N-0076 Standards.

Materials: Carbon Steel, 304/316 Stainless Steel, Duplex, Super Duplex. Others on request.

METERING STATION

FLOWMASTER supplies Metering Stations and customized Metering Systems for different applications. The company manufactures mechanical parts and assembles equipment for metering skids.



Aplications: Custody Transfer Measurement | Allocations | Onshore | Offshore

FLOW CONDITIONERS

STRAIGHTENING VANES

Mounted upstream of the meter to reduce the length of the measuring tube, conditioning the flow and avoiding turbulence caused by valves and fittings.

Flow conditioners are dimensioned and constructed according to International Standards AGA-3 and ISO 5167.

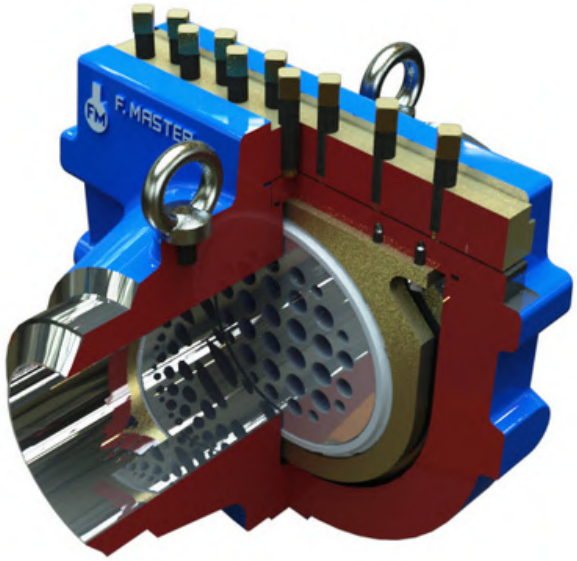
ZANKER FLOW CONDITIONER

The Zanker Flow Conditioner is mounted between flanges upstream of the meter to reduce the length of the measuring tube, conditioning the flow and avoiding turbulence caused by valves and fittings.

Materials: Carbon Steel, 304/316 Stainless Steel. Others on request.

ZANKER HOLDER

The Zanker Holder is a device used to facilitate the installation of the conditioner in the pipe, replacing flange assemblies, eliminating joints, and facilitating maintenance and cleaning.



Designed and produced to meet ISO 5167, AGA-3, ASME B16.5, ASME B16.34 and MSS SP-55 Standards.

Materials: Carbon Steel, 304/316 Stainless Steel Hastelloy, Monel. Others on request.

SEAL / CONDENSATE POT

Seal Pots are used in the flow measurement of high-density and corrosive media to protect differential pressure measuring instruments from these media.

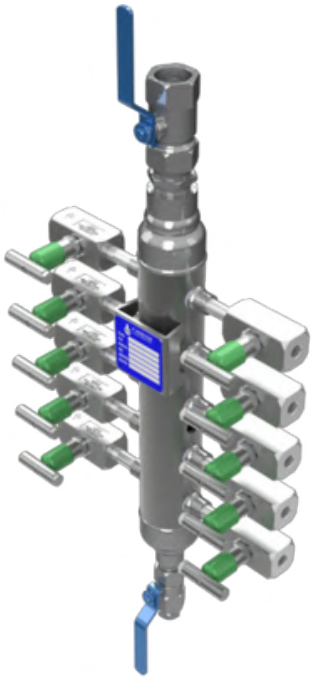
Condensate Pots are indispensable for the measurement of steam. They maintain a constant condensate head within the measuring line above the differential pressure transmitter in order to ensure an accurate measurement.
According to ASME standard.

Materials: Carbon Steel, 304/316 Stainless Steel, Hastelloy, Monel. Others on request.

AIR HEADER

The Air Header is used in pneumatic lines to distribute compressed air to some instruments. All outlets have needle valves or according to customer specifications.

Materials: Carbon Steel, 304/316 Stainless Steel, Alloy Steel. Others on request.



RESTRICTION ORIFICE

The Restriction Orifice is used where pressure loss in the process is required, decreasing pressure in branches of a main line.
It can also be used in the main line to reduce the process pressure permanently.

The design principle of the Restriction Orifice is based on the design of the Orifice Plate, being the method of calculating permanent loss of charge to be generated and the standardized discharge coefficients.

Materials: 304/316 Stainless Steel, Duplex, Super Duplex, Hastelloy, Monel. Others on request.

FIGURE 8

With its "8" shaped design, having a closed portion and another one with a hole, Figure 8 is used to block the flow of a line, usually for testing and maintenance.
According to ASME B16.48 Standard.

Materials: Carbon Steel, 304/316 Stainless Steel, Alloy Steel. Others on request.

SPACER RING

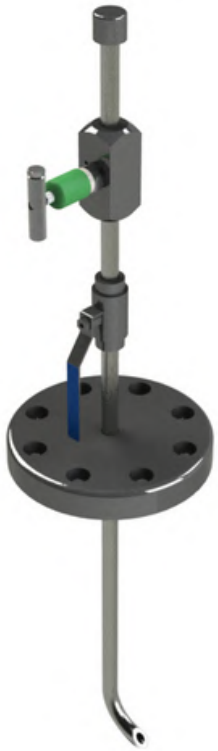
The Spacer Ring has the function of generating a small extension of a line for possible mechanical assembly needs in the line without the need for boiler services and welding in the field.
According to ASME B16.48 Standard.

Materials: Carbon Steel, 304/316 Stainless Steel, Alloy Steel. Others on request.

RTJ PLATE HOLDER

The RTJ Plate Holder is used for mounting Orifice Plates and Restriction Orifices between RTJ flanges in pressure classes from 150 to 2,500 lbs.
According to ASME B16.20 and ASME B16.5 Standards.

Materials: Carbon Steel, 304/316 Stainless Steel, Alloy Steel. Others on request.



SAMPLERS

GAS SAMPLER

Gas Samplers are used to collect fluid (gas) samples in the pipeline with ease and safety.

Samplers are manufactured according to API 14, ISO 10715 Standards or according to customer specifications.

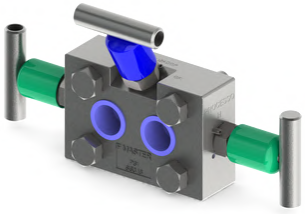
OIL SAMPLER

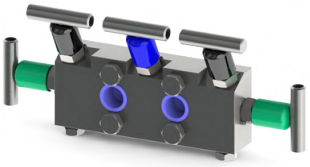
Oil Samplers are used to collect fluid (oil) samples in the pipeline and it can also collect in several sections of the flow.

Materials: Carbon Steel, 304/316 Stainless Steel. Others on request.

2 Way

3 Way





5 Way

MANIFOLD VALVES

The Manifold Valves are designed to operate in industrial processes where any model of transmitters, manometers and other reading instruments are installed.

The manufacture of the needle type sealing system with a rotary conical tip provides a perfect seal, preventing process leakage and locking of the stem near the valve bonnet.

Materials: Stainless Steel. Others on request.

BLOCK & BLEED VALVE

The Block & Bleed Valve is designed to facilitate interruption, calibration, drainage and relief in processes.

This two-way model is used in connections of manometers, pressure switches and pressure transmitters.

Materials: Stainless Steel. Others on request.

NEEDLE LOCKING VALVE

Needle Locking Valves are used in processes that require flow interruption, ensuring safety and operational ease.

Materials: Stainless Steel. Others on request.

DOUBLE FERRULE FITTINGS

Designed to ensure compatibility with double ferrule type connections.
The double ferrule system ensures a perfect fit in the tube, providing excellent sealing in low, medium and high pressure.

Materials: 304/316 Stainless Steel. Others on request

Dimensions: O.D. Tubes 1/4" - 3/8 " - 1/2" - 3/4"

FLOWMASTER

Optimized Metering Solutions

An ISO 9001:2015 Certified Company

Phone: +55 (11) 4013-8855
Email: sales@flowmaster.com.br
Web: www.flowmaster.com.br

70 Rua Luiz Licco Neto
Itu, SP 13313-521 Brazil

The catalog is subject to change without prior consultation or notice.

Flowmaster Sistemas de Medição Eireli.
March 2022

Printed in Brazil 03/07/2022