

FMC Technologies Measurement Solutions Meter Tubes afford an extra margin of measurement accuracy by reducing the chance of error in field installation. Alignment, welding and testing is preformed at the plant, where these functions can be performed quickly, precisely, and economically.

FMC Technologies Measurement Solutions standard meter tubes are available in Flangeweld, Flanged and Weldneck styles, with your choice of MeasureMaster and OrificeMaster orifice fittings, or orifice flanges. They can be manufactured with a variety of special metals to meet most service conditions.

Standard meter tubes are manufactured with A106 cold drawn seamless material in 2" to 6". (Deviations can be specified by the customer.) To meet special service conditions meter tubes are also manufactured in Duplex Stainless, 304/316 SS and Low Temperature Carbon Steel. Meter run ends are also manufactured to meet any specific piping requirements.

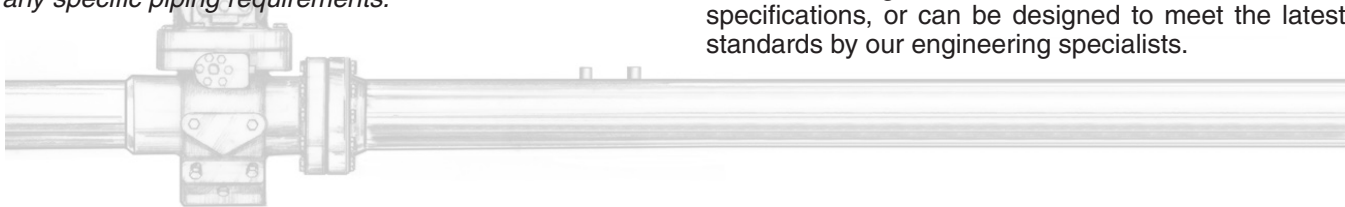
Specifications

FMC Technologies Measurement Solutions meter tube specifications have been established to consistently control internal pipe diameter, roundness and smoothness. Measurement accuracy is enhanced by the performance of prefabrication alignment, welding and testing under a controlled environment. Meter tubes are available with MeasureMaster or OrificeMaster orifice fittings and Orifice Flange Unions.

To ensure that customer specifications are met, all meter tubes are machined to remove any distortions caused during the welding process.

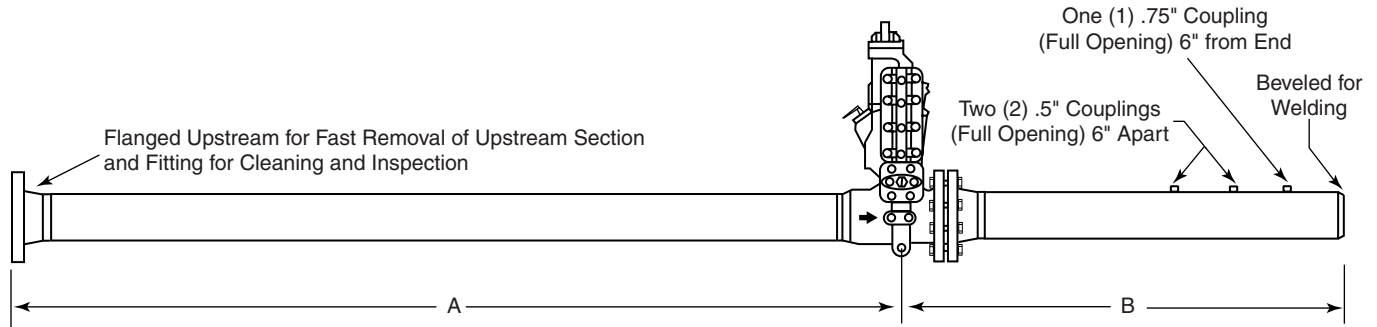
Quality assurance certificates for all orifice fitting meter tubes are available to certify orifice plate concentricity, tap hole locations, orifice plate leak tests, ID surface roughness, and meter tube ID calibration.

Meter tube lengths can be manufactured to customer specifications, or can be designed to meet the latest standards by our engineering specialists.



Standard Meter Tube – with Flangeweld Orifice Fitting

Shown with MeasureMaster Orifice Fitting



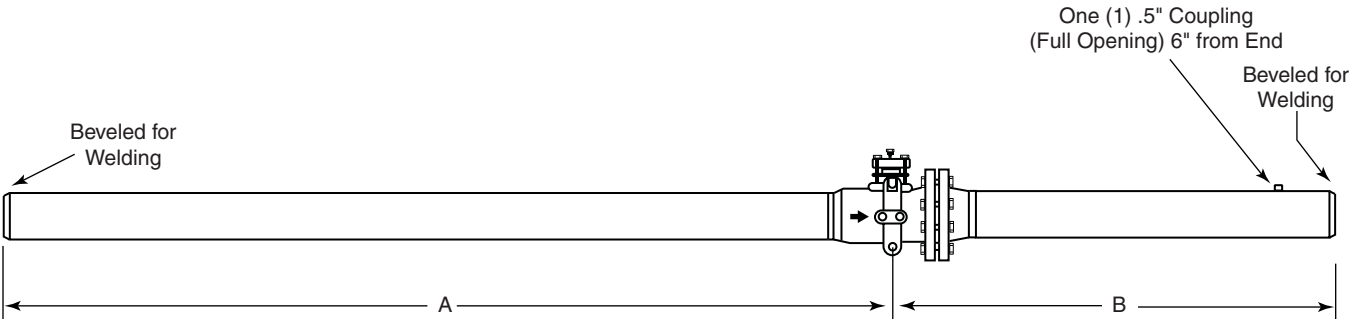
Manufactured to AGA specifications, this standard meter tube offers a straight and smooth upstream tube with no gap caused by gaskets. The upstream section is shop aligned and welded to the orifice fitting. The bore is then machined to remove any distortion caused by welding. Downstream section is aligned with dowel pins or large male and female flange facings. Each unit includes one stainless steel orifice plate bored to size specified by the customer. Available with MeasureMaster and OrificeMaster Fittings.

Dimensions¹

Line Size	A	B
2" (50)	60" (1524)	36" (914)
3" (80)	72" (1828)	48" (1219)
4" (100)	96" (2438)	48" (1219)
6" (150)	144" (3658)	60" (1524)
8" (200)	180" (4572)	60" (1524)
10" (250)	228" (5791)	72" (1829)
12" (300)	276" (7010)	84" (2134)

Standard Meter Tube – with Flangeweld Orifice Fitting

Shown with OrificeMaster Orifice Fitting



This standard meter tube is the same as the meter tube above, except that both outer ends are beveled for welding and is furnished with only one 1/2 inch coupling. Available with MeasureMaster and OrificeMaster Fittings.

Dimensions¹

Line Size	A	B
2" (50)	60" (1524)	36" (914)
3" (80)	72" (1828)	48" (1219)
4" (100)	96" (2438)	48" (1219)
6" (150)	144" (3658)	60" (1524)
8" (200)	180" (4572)	60" (1524)
10" (250)	228" (5791)	72" (1829)
12" (300)	276" (7010)	84" (2134)

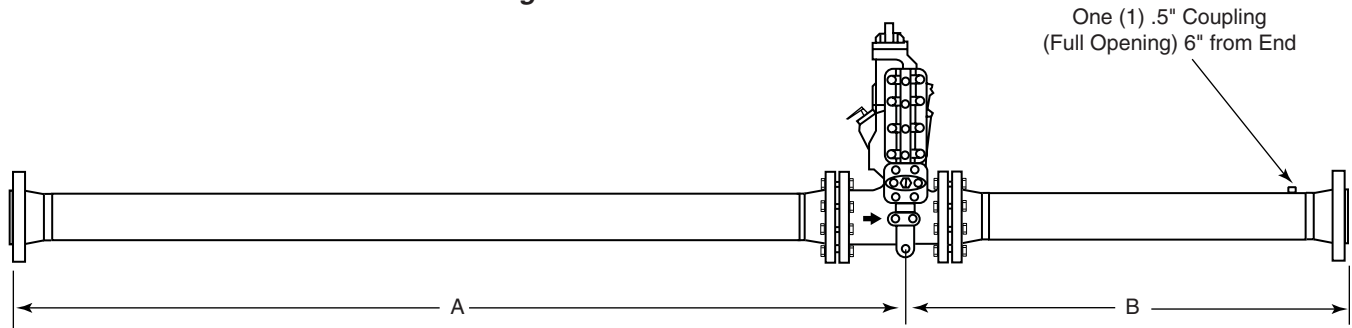
Note: Dimensions — inches to the nearest tenth and millimeters to the nearest whole mm, each independently dimensioned from respective engineering drawings.

Pipe schedule furnished as standard as follows: **Schedule 40:** Sizes 2" thru 6", 150 lb. thru 600 lb. ANSI. Sizes 8" thru 12", 600 lb. ANSI. **Schedule 30:** Sizes 8" thru 12", 150 lb. and 300 lb. ANSI. Pipe schedule or pipe I.D. to be specified by customer for all others. These meter tubes are available in larger sizes and higher pressures on application.

¹ Dimensions meet AGA Fig. 3C, 3D, 3E at .75 Beta, or Fig. 3A and 3B at .75 Beta with straightening vane.

Standard Meter Tube – with Flanged Orifice Fitting

Shown with MeasureMaster Orifice Fitting



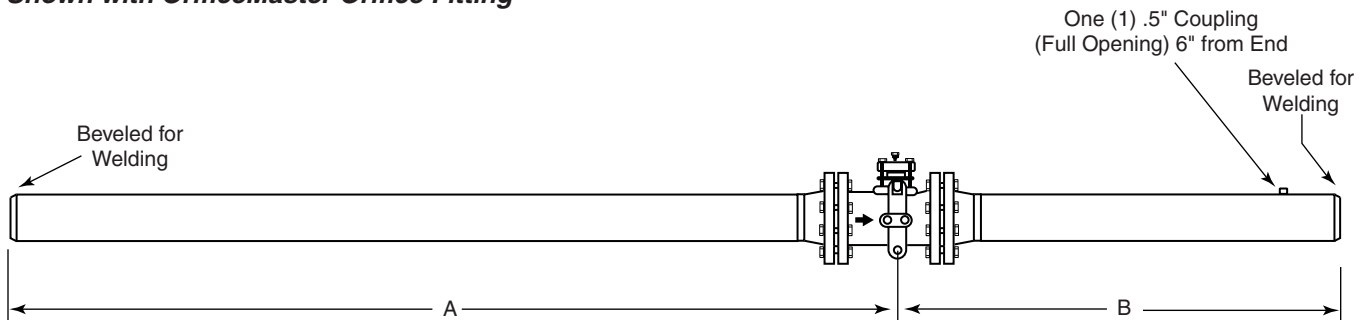
Manufactured for those who prefer meter tubes with flanged orifice fittings and flanges on the outer ends. This meter tube allows for the removal of the fitting and either section of the tube individually for fast cleaning and inspection. Both upstream and downstream sections are aligned to the orifice fitting with dowel pins or large male and female flange facings. Each unit includes one stainless steel orifice plate bored to size specified by the customer. Available with MeasureMaster and OrificeMaster Fittings.

Dimensions¹

Line Size	A	B
2" (50)	60" (1524)	36" (914)
3" (80)	72" (1828)	48" (1219)
4" (100)	96" (2438)	48" (1219)
6" (150)	144" (3658)	60" (1524)
8" (200)	180" (4572)	60" (1524)
10" (250)	228" (5791)	72" (1829)
12" (300)	276" (7010)	84" (2134)

Standard Meter Tube – with Flanged Orifice Fitting

Shown with OrificeMaster Orifice Fitting



Same as the meter tube shown above, except this type has both ends beveled for welding. Available with MeasureMaster and OrificeMaster Fittings.

Dimensions¹

Line Size	A	B
2" (50)	60" (1524)	36" (914)
3" (80)	72" (1828)	48" (1219)
4" (100)	96" (2438)	48" (1219)
6" (150)	144" (3658)	60" (1524)
8" (200)	180" (4572)	60" (1524)
10" (250)	228" (5791)	72" (1829)
12" (300)	276" (7010)	84" (2134)

Note: Dimensions — inches to the nearest tenth and millimeters to the nearest whole mm, each independently dimensioned from respective engineering drawings.

Pipe schedule furnished as standard as follows: **Schedule 40:** Sizes 2" thru 6", 150 lb. thru 600 lb. ANSI. Sizes 8" thru 12", 600 lb. ANSI.

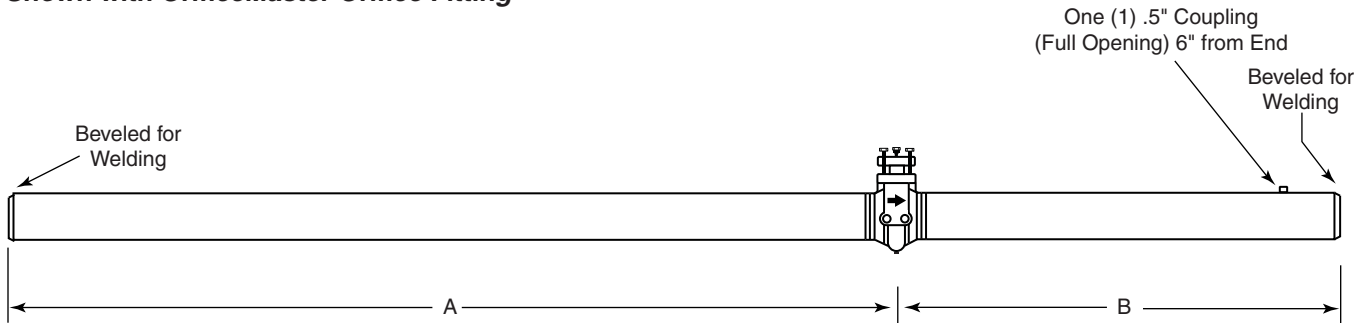
Schedule 30: Sizes 8" thru 12", 150 lb. and 300 lb. ANSI. Pipe schedule or pipe I.D. to be specified by customer for all others.

These meter tubes are available in larger sizes and higher pressures on application.

¹ Dimensions meet AGA Fig. 3C, 3D, 3E at .75 Beta, or Fig. 3A and 3B at .75 Beta with straightening vane.

Standard Meter Tube – with Weldneck Orifice Fitting

Shown with OrificeMaster Orifice Fitting



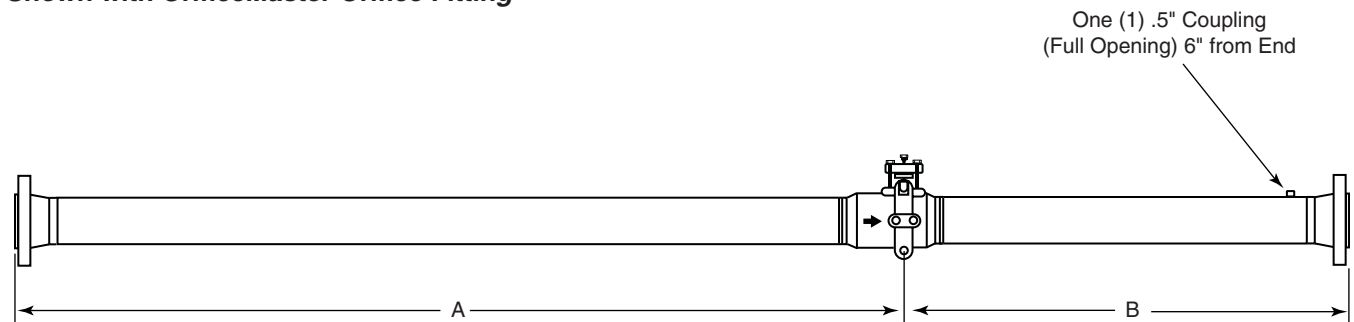
Designed for installation where frequent inspections are not required, this meter tube has its orifice fitting permanently welded to both upstream and downstream sections of the meter tube. This eliminates the possibility of a gap upstream or downstream from the orifice plate. This type of meter tube is economical due to the elimination of costly flanges, stud bolts, nuts, and gaskets. Standard lengths aid engineers in planning and designing installations. Built to AGA specifications. Combining accuracy and economy in an easy to order unit, the meter tube is available with MeasureMaster and OrificeMaster Fittings.

Dimensions¹

Line Size	A	B
2" (50)	60" (1524)	36" (914)
3" (80)	72" (1828)	48" (1219)
4" (100)	96" (2438)	48" (1219)
6" (150)	144" (3658)	60" (1524)
8" (200)	180" (4572)	60" (1524)
10" (250)	228" (5791)	72" (1829)
12" (300)	276" (7010)	84" (2134)

Standard Meter Tube – with Weldneck Orifice Fitting

Shown with OrificeMaster Orifice Fitting



Same as the meter tube shown above, except outer ends are flanged. Available with MeasureMaster and OrificeMaster Fittings.

Dimensions¹

Line Size	A	B
2" (50)	60" (1524)	36" (914)
3" (80)	72" (1828)	48" (1219)
4" (100)	96" (2438)	48" (1219)
6" (150)	144" (3658)	60" (1524)
8" (200)	180" (4572)	60" (1524)
10" (250)	228" (5791)	72" (1829)
12" (300)	276" (7010)	84" (2134)

Note: Dimensions — inches to the nearest tenth and millimeters to the nearest whole mm, each independently dimensioned from respective engineering drawings.

Pipe schedule furnished as standard as follows: Schedule 40: Sizes 2" thru 6", 150 lb. thru 600 lb. ANSI. Sizes 8" thru 12", 600 lb. ANSI.

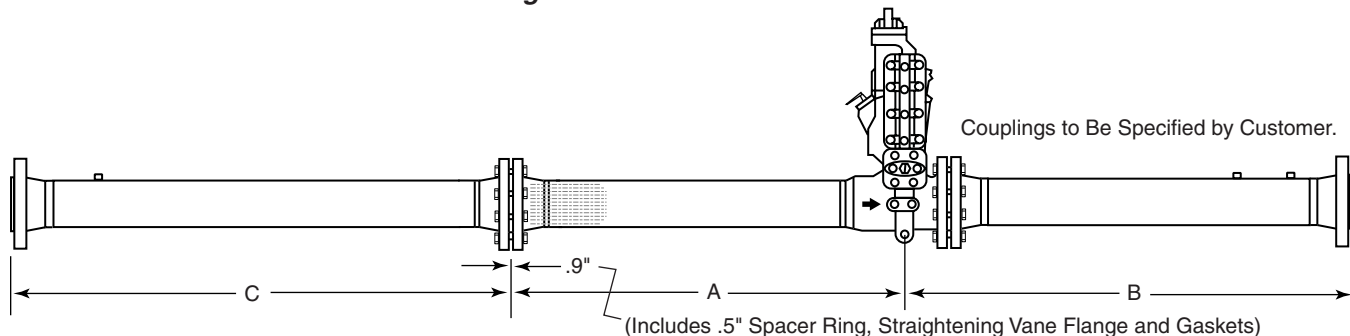
Schedule 30: Sizes 8" thru 12", 150 lb. and 300 lb. ANSI. Pipe schedule or pipe I.D. to be specified by customer for all others.

These meter tubes are available in larger sizes and higher pressures on application.

¹ Dimensions meet AGA Fig. 3C, 3D, 3E at .75 Beta, or Fig. 3A and 3B at .75 Beta with straightening vane.

Tri-Section Meter Tube – Transmission Type

Shown with MeasureMaster Orifice Fitting

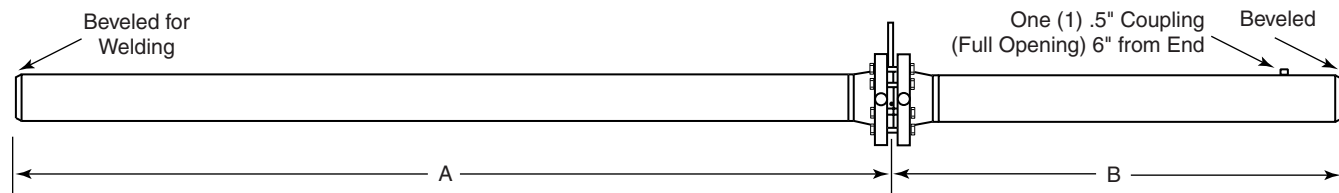


This type of meter tube is designed primarily for transmission lines and is composed of three sections. The spacer ring (shown in drawing) is installed at the straightening vane flange to allow easy removal of the upstream tube and fitting for inspection and cleaning. Tube lengths, both upstream and downstream, are in excess of minimum lengths required by AGA Report No. 3, all figures. This allows for the installation of larger tubes in case of increased volume. This unit includes one flange type straightening vane and one stainless steel orifice plate bored to specified size. Available with MeasureMaster and OrificeMaster Fittings.

Dimensions¹

Line Size	A	B	C
2" (50)	42" (1067)	54" (1372)	42" (1067)
3" (80)	42" (1067)	54" (1372)	42" (1067)
4" (100)	54" (1372)	61" (1549)	54" (1372)
6" (150)	76" (1930)	91" (2311)	76" (1930)
8" (200)	101" (2565)	121" (3073)	101" (2565)
10" (250)	126" (3200)	152" (3860)	126" (3200)
12" (300)	150" (3810)	181" (4597)	150" (3810)

Orifice Flange Meter Tubes



The meter tube shown has a Weldneck Raised Face Orifice flange. It is available with all types of flanges and facings. Specify desired flange facing, if other than Raised Face is required. If more couplings are required, specify quantity, size, and location. Manufactured and assembled with extreme care to assure precise, accurate, and economical measurement.

Dimensions¹

Line Size	A	B
2" (50)	60" (1524)	36" (914)
3" (80)	72" (1828)	48" (1219)
4" (100)	96" (2438)	48" (1219)
6" (150)	144" (3658)	60" (1524)
8" (200)	180" (4572)	60" (1524)
10" (250)	228" (5791)	72" (1829)
12" (300)	276" (7010)	84" (2134)

Note: Dimensions — inches to the nearest tenth and millimeters to the nearest whole mm, each independently dimensioned from respective engineering drawings.

Pipe schedule furnished as standard as follows: **Schedule 40:** Sizes 2" thru 6", 150 lb. thru 600 lb. ANSI. Sizes 8" thru 12", 600 lb. ANSI.

Schedule 30: Sizes 8" thru 12", 150 lb. and 300 lb. ANSI. Pipe schedule or pipe I.D. to be specified by customer for all others. These meter tubes are available in larger sizes and higher pressures on application.

¹ Dimensions meet AGA Fig. 3C, 3D, 3E at .75 Beta, or Fig. 3A and 3B at .75 Beta with straightening vane.

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

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