

# Turbine Meters

MMT Turbine Meters

MMT-S Meter/Strainer  
Assemblies

WT Turbine Meters

Fire Hydrant Meter

Strainers



# High Accuracy and Long Life High Volume Water Measurement

## MMT and MMT-S Turbine Meters

*Efficient, High Accuracy, Bronze Case Construction*

For high volume applications where high accuracy is essential, depend on Master Meter MMT or MMT-S Turbine Meters for utility or industrial cold water measurement.

### Efficient Flow Patterns

AWWA C-701 Class II MMT and MMT-S Turbine Meter designs incorporate low head loss and streamlined flow patterns, reducing the energy required for water delivery. And the meters' extended flow ranges allow meter downsizing without revenue loss.

### Durable Construction

Durable bronze case 2" to 8" MMT Turbines and 2" to 4" MMT-S Assemblies provide long service life. For 10" and 12"



sizes, cost-effective cast iron construction affordably provides performance, strength and endurance. Nylon inlet flow conditioners and polypropylene rotors insure high accuracy and long service life.

To protect your turbine from line-debris damage, the MMT-S Assembly houses both turbine and strainer in a single bronze body. The combined assembly simplifies installation and insures proper flow conditions for maximum accuracy.

### Electronic Reading Compatible

Any Master Meter MMT, MMT-S, or WT Turbine Meter can be equipped with a DIALOG® register, which interfaces to an appropriate output module for Master Meter reading systems—DIALOG® on-site reading, T-LINX™ advanced telephone AMR and RF-LINX™ fixed network radio.

## WT Turbine Meters

*Compact, Cost Effective Cast Iron Construction*

For 2" to 8" high volume installations too cramped to accommodate a standard length turbine meter, the Master Meter WT Turbine Meter offers a high accuracy design, 20 to 33 percent shorter than most turbines. Our shorter laying lengths enable accurate measurement without replumbing or customer inconvenience.

### AWWA Class II Accuracy

Despite their shortened laying lengths, WT Turbine Meters provide uncompromised accuracy to AWWA C-701 Class II Turbine standards.

### High Quality, Long Life Materials

The WTs' cast iron, epoxy-coated main cases reduce meter cost while providing durability and corrosion resistance. Nylon inlet flow conditioners and polypropylene rotors insure high accuracy and long service life.



## Fire Hydrant Meter

*Accurate Measurement for Temporary Water Use*

A lightweight aluminum case, replaceable and lockable handle, stainless steel internal inlet strainer, and unitized measuring chamber simplify handling and maintenance for the MFH Fire Hydrant Meter. The 3" MFH boasts high accuracy over broad flow ranges to maximize revenue from construction site or other temporary water use.



## Turbine Meter Operating Characteristics and Dimensions

### MMT Turbine Meters

	1-1/2"	2"	3"	4"	6"	8"
Normal Operating Range ( $\pm 1-1/2\%$ ) [gpm]	3-120	4-350	5-530	9-1350	25-2700	35-3500
Continuous Operating Range [gpm]	3-120	4-200	5-400	9-1000	25-2300	35-2700
Low Flow (95%) [gpm]	2.5	3	4	8	20	27
Maximum Intermittent Flow [gpm]	160	350	530	1350	2700	3500
Maximum Working Pressure [psi]	175	175	175	175	175	175
Maximum Working Temperature [°F]	120	120	120	120	120	120
Length [inches]	10	10	12	14	18	20
Height [inches]	6.8	6.8	9.4	10.0	12.4	13.0
Height, bottom to center line [inches]	2.1	2.2	3.7	4.4	5.5	6.0
Width [inches]	5.4	5.9	7.5	8.9	11.1	13.6
Weight [pounds]	16	24	37	42	108	140
Register Capacity [millions] - U.S. Gal.	100	100	100	1,000	1,000	10,000
Cu. Ft.	10	10	10	100	100	1,000
Maincase Material	Bronze	Bronze	Bronze	Bronze	Bronze	Bronze
Flanges	Elliptical	Elliptical	Round	Round	Round	Round

### MMT Turbine Meters

	10"	12"
Normal Operating Range ( $\pm 1-1/2\%$ ) [gpm]	60-6500	180-8800
Continuous Operating Range [gpm]	60-3300	180-4400
Low Flow (95%) [gpm]	44	50
Maximum Intermittent Flow [gpm]	6500	8800
Maximum Working Pressure [psi]	175	175
Maximum Working Temperature [°F]	120	120
Length [inches]	18	20
Height [inches]	17.5	18.6
Height, bottom to center line [inches]	8.1	9.2
Width [inches]	16.2	18.4
Weight [pounds]	167	211
Register Capacity [millions] - U.S. Gal.	10,000	10,000
Cu. Ft.	1,000	1,000
Maincase Material	Cast Iron	Cast Iron
Flanges	Round	Round

### MMT-S Turbine Meter/ Strainer Assemblies

	2"	3"	4"
Normal Operating Range ( $\pm 1-1/2\%$ ) [gpm]	4-275	5-500	9-1000
Continuous Operating Range [gpm]	4-200	5-400	9-750
Low Flow (95%) [gpm]	3	4	8
Maximum Intermittent Flow [gpm]	275	500	1000
Maximum Working Pressure [psi]	175	175	175
Maximum Working Temperature [°F]	120	120	120
Length [inches]	13	19	23
Height [inches]	7	9.4	10
Height, bottom to center line [inches]	2.3	3.8	4.4
Width [inches]	5.2	7.4	8.9
Weight [pounds]	26.5	56	75
Register Capacity [millions] - U.S. Gal.	100	100	1000
Cu. Ft.	10	10	100
Maincase Material	Bronze	Bronze	Bronze
Flanges	Elliptical	Round	Round

### WT Turbine Meters

	2"	3"	4"	6"	8"	3" Fire Hydrant Meter
Normal Operating Range ( $\pm 1-1/2\%$ ) [gpm]	4.4-175	6-330	9-440	35-1150	37-2000	5-530
Continuous Operating Range [gpm]	4.4-175	6-330	9-440	35-1150	37-2000	5-400
Low Flow (95%) [gpm]	2.5	4.5	7.0	19	30	4
Maximum Intermittent Flow [gpm]	285	485	880	1800	3200	530
Maximum Working Pressure [psi]	175	175	175	175	175	175
Maximum Working Temperature [°F]	120	120	120	120	120	120
Length [inches]	7.9	9.1	9.9	11.7	13.7	17.3
Height [inches]	8.5	9.2	9.9	12.3	13.5	10.1 to top of handle
Height, bottom to center line [inches]	2.8	3.6	4.3	5.4	6.6	2.6
Width [inches]	6.5	7.9	8.6	11.1	13.4	6.4
Weight [pounds]	27	35	43	78	105	20
Register Capacity [millions] - U.S. Gal.	100	100	1,000	1,000	10,000	100
Cu. Ft.	10	10	100	100	1,000	10
Maincase Material	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Cast Iron	Aluminum
Flanges/End Connections	Round	Round	Round	Round	Round	Inlet: 2-1/2" NST Swivel Outlet: 2-1/2" Male NST

## Strainers

### Flow Conditioning and Meter Protection

Strainers are recommended for all services above 2" to screen debris from the line that could cause damage to the measurement element. In addition to protection, strainers condition flows to improve meter performance.



## Strainer Characteristics and Dimensions

	2"	3"	4"	6"
Length, without gaskets [inches]	7.0	6.0	7.5	8.9
Height [inches]	5.2	7.4	8.8	10.8
Height, bottom to center line [inches]	2.0	3.5	4.3	5.5
Height, for strainer/plug removal [inches]	6.0	7.0	8.0	10.0
Weight [pounds]	10	25	41	66
Body Material	Bronze	Bronze	Bronze	Bronze
Flanges	Elliptical	Round	Round	Round
Bolt Holes	2	4	8	8

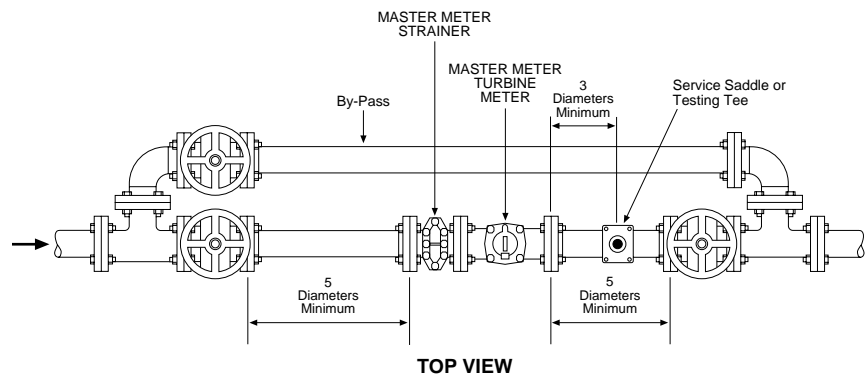
	8"	10"	12"
Length, without gaskets [inches]	10.0	22.0	25.3
Height [inches]	14.3	25.3	35.4
Height, bottom to center line [inches]	7.4	16.0	23.8
Height, for strainer/plug removal [inches]	18.5	30.0	42.0
Weight [pounds]	118	350	716
Body Material	Cast Iron	Cast Iron	Cast Iron
Flanges	Round	Round	Round
Bolt Holes	8	12	12

## Recommended Turbine Meter Installation

Proper installation is essential to maximize the accuracy and life of Turbine Meters. Turbine Meters are sensitive to unbalanced water flow patterns caused by upstream piping arrangements including pumps, valves, tees and elbows. Care should be taken to install the meter as far from these turbulence producing devices as possible.

Master Meter endorses the recommendations for Turbine Meter installations published by AWWA in Manual M-6:

- 1 When no AWWA C-701 strainer is installed, seven to ten pipe diameters of straight pipe are recommended immediately upstream of the meter.
- 2 When an AWWA C-701 strainer is installed, a minimum five



- 3 Downstream of the meter a minimum of three pipe diameters of straight pipe is recommended between the meter and a Service Saddle or Testing Tee.

- 4 There should be straight, unobstructed pipe, a minimum of five pipe diameters, downstream of the outlet flange and turbulence producing fittings.
- 5 Valves immediately upstream of the meter should only be full-open gate valves.



100 E. 15th Street, Suite 350  
Fort Worth, TX 76102  
800-765-6518  
817-336-3837 (817-33-METER)  
FAX: 817-336-3840  
e-mail: sales@mastermeterinc.com

Distributed by:

