

Features

APPLICATIONS: Measurement of water for residential, commercial, industrial and residential fire applications, where sensitivity to low flow is also important. Hersey MVR meters are among the most sensitive vertical turbine meters available and may be used in place of compound meters in some applications. The compact design and integral strainer (separate external strainer is not needed) of Model MVR meters facilitate installation in tight spaces. They are ideal where flexibility is needed to meet wider flow ranges, where water temperatures are elevated between 80°F and 130°F, or where sand particles or other small debris may be encountered. May be installed vertically or horizontally for greater installation flexibility.

CONFORMANCE TO STANDARDS: Hersey Model MVR Water Meters comply with ANSI/AWWA Standard C701 Class I. Each meter is tested to ensure compliance. EnviroBrass® II options conform to the NSF 61 Standard.

CONSTRUCTION: Hersey Model MVR Water Meters consist of three basic parts: maincase; rotor assembly; and a permanently sealed register. Maincases are made of bronze for long life. Rotor assemblies are thermoplastic, which is dimensionally stable and will not corrode. Retro Thrust rotor design extends the life of the meter by dividing wear between two points: during low flow the tungsten carbide thrust bearing floats against a sapphire bearing surface; during high flow the stainless steel shaft gently contacts a second sapphire bearing. During medium flow, the rotor floats between the thrust bearings without contact. Optional test ports are available on all sizes 1-1/2" and larger. The measuring chamber is protected by an internal strainer. No external strainer is required.

REGISTER: Permanently sealed register has a unique seal and heat-treated glass to eliminate dirt, moisture infiltration and lens fogging. The totalizing register has a straight-reading odometer type display, a 360° test circle with center sweep hand and a low flow (leak) detector.

All Hersey Meter models have electronic meter reading systems available for increased reading efficiency (see Meter Reading Systems.)

OPERATION: Water flows through the integral strainer and into the vertical turbine assembly. There the direction of the water flow is directed by the hub into the rotor at the precise angle necessary for accurate measurement over the full range of flow rates. No straight pipe requirements apply before or after the meter. The turbine turns freely and rotates in direct proportion to the volume of water passing through the meter.

The Model MVR turbine operates more quietly than conventional disc or piston meters.

MAINTENANCE: The Hersey Model MVR Water Meters are designed and manufactured to provide long service life. The register on all sizes, and meter interior and strainer on sizes 3" and larger, can be replaced without removing the meter from the line. Modular design and economical internal parts allow for inexpensive, speedy rebuilds. Optional built-in test ports make field testing easy and convenient.

CONNECTIONS: Available with external (N.P.S.M.) straight pipe threads (ANSI B1.20.1) on 3/4" and 1" sizes; integral two-bolt oval flanges or internal (NPT) pipe threads (ANSI B1.20.1) on 1-1/2" and 2" sizes. ANSI class 150 flanges on 3" through 6" sizes (class 125 cast iron or class 150 bronze companion flanges available on request).



3/4", 1", 1-1/2", 2", 3", 4", 6" Magnetic Drive Vertical Turbine Meters



1-1/2", 2" Compact Magnetic Drive Vertical Turbine Meters

Materials and Specifications

- **MODEL NUMBER** MVR 30, MVR 30A, MVR 30B, MVR 50, MVR 100, MVR 160, MVR 350, MVR 650, and MVR 1300.
- **SIZES** 3/4"x1/2", 3/4", 3/4"x1", 1", 1-1/2", 2", 3", 4" and 6"
- **STANDARDS** Manufactured and tested to meet or exceed all applicable parts of ANSI/AWWA C701 Class I Standard.
- **SERVICE** cold water measurement with flow in only one direction.
- **OPERATING FLOW RANGE** See Charts on page 4.2.
- **ACCURACY** See Charts on page 4.3.
- **PRESSURE LOSS** See Charts on page 4.3.
- **MAXIMUM WORKING PRESSURE** 150 PSI
- **TEMPERATURE RANGE** 33°F to 130°F water temperature
Hot water up to 180° available upon request.
- **MEASURING ELEMENT** Rotor
- **REGISTER TYPE** Straight reading, permanently sealed, magnetic drive with low flow indicator. Remote reading units optional.
- **METER CONNECTIONS** 1/2", 3/4" and 1" external (NPSM) straight pipe threads, 1-1/2 size and 2" size available with either two bolt flanged ends or internal thread (NPT) ends same nominal size as size of meter, 3" thru 6" ANSI class 150 flanges.
- **MATERIALS** Maincase - bronze UNSC84400; 3/4"- 1-1/2" Bottom cover - cast iron ASTM A126 CL. B enamel painted; 2" Bottom cover - bronze UNSC84400; Rotor assembly - thermoplastic; Strainer - thermoplastic std. in 3/4" thru 1-1/2"; or stainless steel (2" - 6"); Casing bolts - stainless steel ANSI B18.
- **OPTIONS** Meter case - EnviroBrass® II UNSC89520. Stainless steel ring strainer is available on 3/4", 1" and 1-1/2" meters. AMR Reading Systems.

Model MVR

Magnetic Drive Vertical Turbine Meters
Sizes 3/4", 1", 1-1/2", 2", 3", 4" and 6"

Meter Registration

Meter Size	Initial Dial *	Capacity	Initial Dial *	Capacity
3/4"	10 Gallons	10 Million	1 Cubic Foot	1 Million
1"	10 Gallons	10 Million	1 Cubic Feet	1 Million
1-1/2"	100 Gallons	100 Million	10 Cubic Feet	10 Million
2"	100 Gallons	100 Million	10 Cubic Feet	10 Million
3"	100 Gallons	100 Million	10 Cubic Feet	10 Million
4"	100 Gallons	100 Million	10 Cubic Feet	10 Million
6"	1000 Gallons	1 Billion	100 Cubic Feet	100 Million

* Registration equal to one full revolution of the sweep hand.

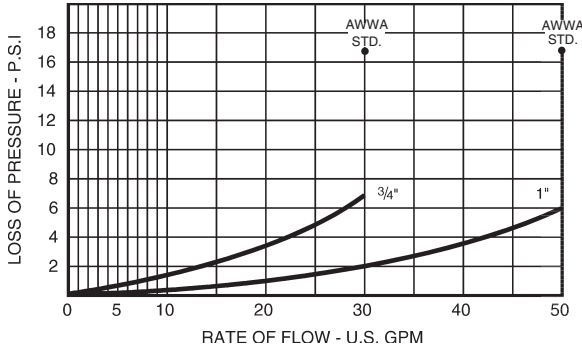
Flow Characteristics

Meter Size	Typical Low Flow (95% Minimum)	Typical Operating Range (100% ± 2%)	Maximum Continuous Operation	Maximum Intermittent Flow
3/4"	1/2 GPM	1 to 30 GPM	25 GPM	35 GPM
1"	3/4 GPM	1-1/2 to 50 GPM	35 GPM	55 GPM
1-1/2"	1-1/2 GPM	2 to 100 GPM	70 GPM	110 GPM
2"	2 GPM	3 to 160 GPM	115 GPM	175 GPM
3"	2-1/2 GPM	4 to 350 GPM	240 GPM	390 GPM
4"	3-1/2 GPM	5 to 650 GPM	450 GPM	715 GPM
6"	5 GPM	15 to 1300 GPM	910 GPM	1430 GPM

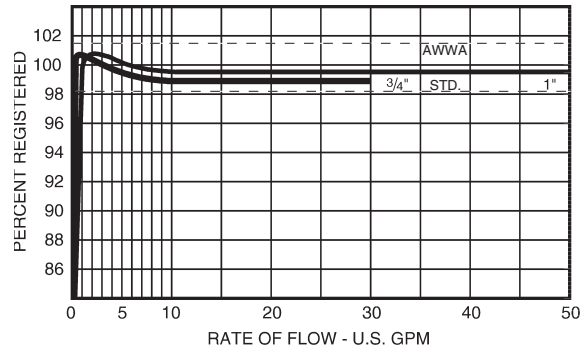
Magnetic Drive Vertical Turbine Meters
 Sizes 3/4", 1", 1-1/2", 2", 3", 4" and 6"

Performance*

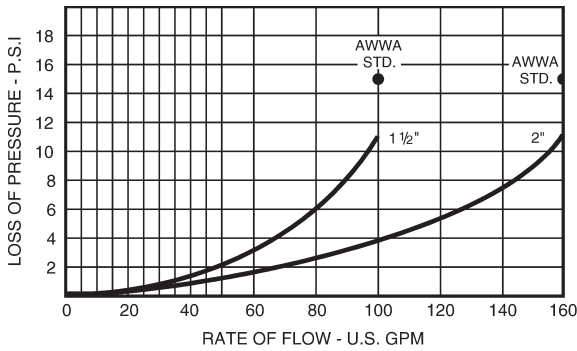
Head loss - 3/4" and 1"



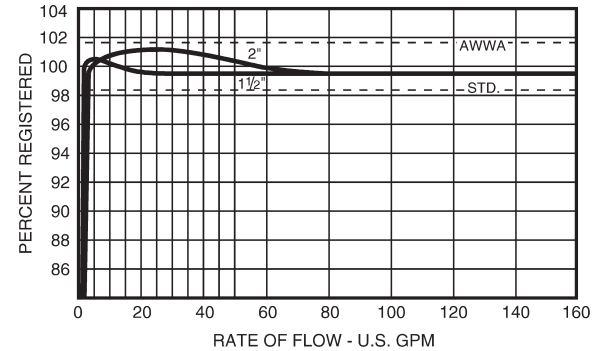
Accuracy - 3/4" and 1"



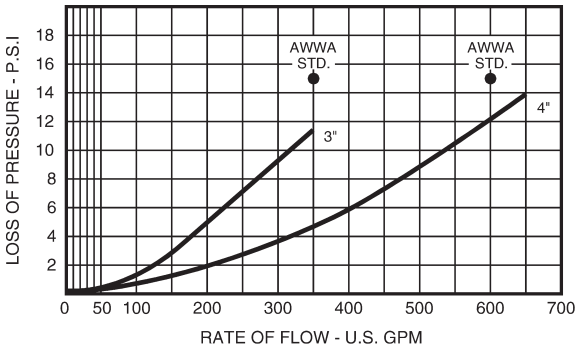
Head loss - 1-1/2" and 2"



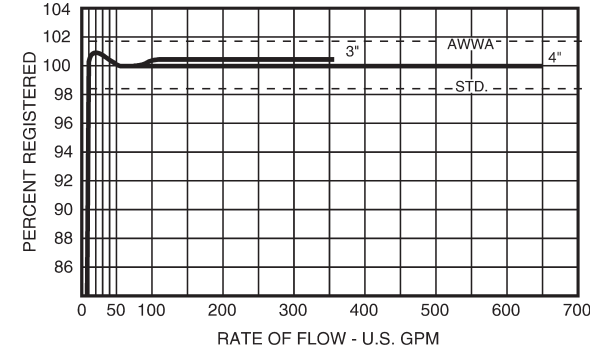
Accuracy - 1-1/2" and 2"



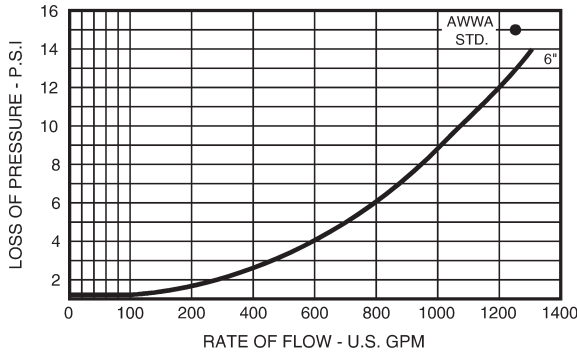
Head loss - 3" and 4"



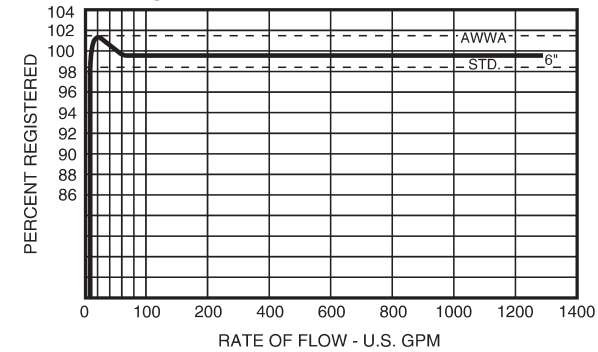
Accuracy - 3" and 4"



Head loss - 6"



Accuracy - 6"

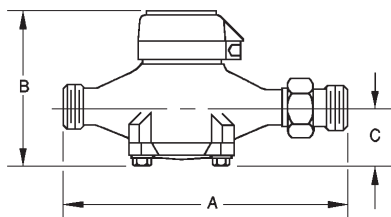


*Performance curves are typical only and not a guarantee of performance.

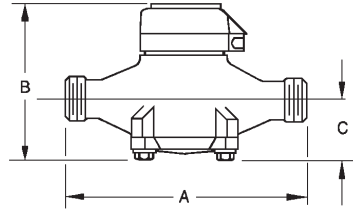
Model MVR

Magnetic Drive Vertical Turbine Meters
 Sizes 3/4", 1", 1-1/2", 2", 3", 4" and 6"

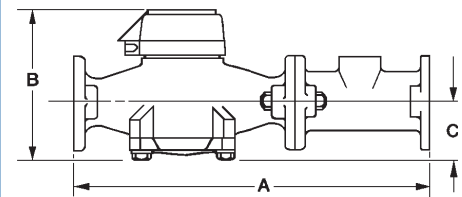
Dimensions and weights



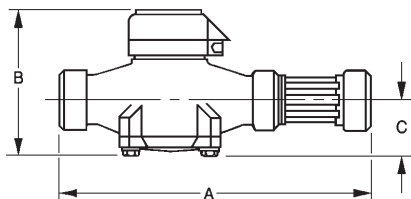
3/4" and 1" **STANDARD** MVR



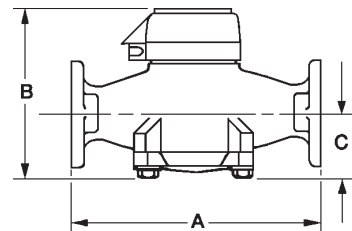
3/4" and 1" **COMPACT** MVR



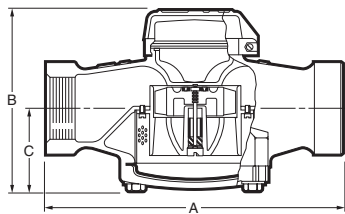
1-1/2" and 2" **STANDARD** MVR with 2 bolt flange ends** and spool piece



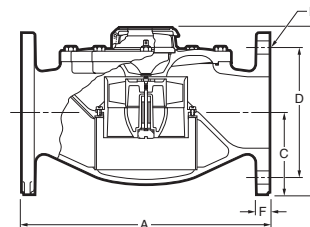
1-1/2" and 2" **STANDARD** MVR with Internal NPT ends



1-1/2" and 2" **COMPACT** MVR with integral 2 bolt flange ends**



1-1/2" and 2" **COMPACT** MVR with Internal NPT ends



3", 4" and 6" MVR

Meter Size	3/4"x1/2"	3/4"	3/4"x1"	1"	1-1/2"	2"	1-1/2"	2"	3"	4"	6"
Ends	Threaded (screwed)						Flanged				
Model	MVR30	MVR30A	MVR30B	MVR50	MVR100	MVR160	MVR100	MVR160	MVR350	MVR650	MVR1300
Dimensions											
A	9"	9"	9"	10-3/4"	12-5/8"	15-1/4"	13"	17"	12"	14"	18"
AA *	7-1/2"	7-1/2"	7-1/2"	9"	9"	10-1/2"	9"	10"	-	-	-
B	5"	5"	5"	5-1/2"	5-3/4"	6-1/4"	5-3/4"	6-1/4"	8-7/16"	9-3/8"	12-9/16"
C	1-13/16"	1-13/16"	1-13/16"	2-3/8"	2-3/8"	3"	2-3/8"	3"	3-7/8"	4-5/8"	6"
D	N/A	N/A	N/A	N/A	N/A	N/A	4"	4-1/2"	6"	7-1/2"	9-1/2"
E	N/A	N/A	N/A	N/A	N/A	N/A	5/8"	5/8"	3/4"	3/4"	7/8"
F	N/A	N/A	N/A	N/A	N/A	N/A	11/16"	15/16"	5/8"	11/16"	13/16"
Max. width	3-3/4"	3-3/4"	3-3/4"	4-1/4"	4-3/8"	5-3/8"	5-3/8"	5-15/16"	7-7/8"	9-3/4"	12-7/8"
Net weight	6 (5*)	6 (5*)	6 (5*)	8 (7*)	11 (9*)	15 (14 *)	12 (9*)	20 (14*)	38	68	140

* Compact length

** 1-1/2" and 2" Flanged meters have 2 bolt oval flange pattern.

NOTE: Meter couplings are optional and must be ordered separately. Weights are in pounds and are approximate.