

PMM® Water Meters

Multi-Jet Type Magnetic Drive Cold Water Meters

1-1/2" (DN 40mm) and 2" (DN 50mm) Sizes

DESCRIPTION

Applications: Measurement of cold water where flow is in one direction only; in residential, commercial and industrial services.

Conformance To Standards: Sensus PMM Water Meters comply with ANSI/AWWA Standard C708-latest revision. Each meter is tested to insure compliance.

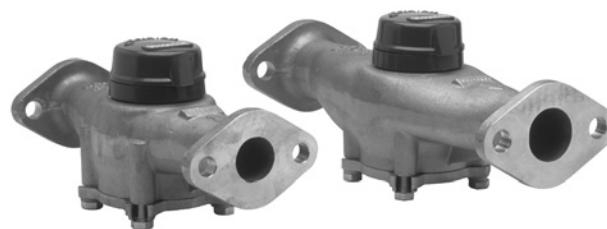
Construction: Sensus PMM Water Meters consist of three basic components: maincase; measuring chamber; and sealed register. Main cases are of bronze with either flanges, internal or externally-threaded spuds. Registers are housed in synthetic polymer ring and lid, a bronze bonnet is available as an option. Measuring chambers are made of Polystyrene, Nylon, and Polycarbonate, they are corrosion-resistant, tailored thermoplastic material formulated for long-term performance and especially suitable for aggressive water conditions. Main case bottom plates are available in bronze.

Sealed Register: Hermetically sealed; proven magnetic drive design eliminates dirt and moisture contamination, tampering and lens fogging problems. Standard register includes a straightreading, odometer-type totalization display; a 360° test circle with center sweep hand; and a low flow (leak) detector. Gears are selflubricating, molded plastic for long life and minimum friction. No change gears are required for accuracy calibration. Encoder-type remote reading systems are available for all PMM Water Meters. (See other side of sheet for additional information.)

Tamperproof Features: A unique locking system prevents customer removal of the register to obtain free water. A special tool, available only to water utilities, is required to remove the register ring. When the optional bronze register bonnet is selected, a tamper detection seal is available.

Magnetic Drive: The PMM features a hydrodynamically cushioned design that eliminates premature wear of components. The meter utilizes a patented positive, reliable drive coupling. The high-strength magnets used will eliminate "drive slip" in normal use and also provide adequate strength to drive remote register units.

Operation: Water flows through the meter's strainer and into the measuring chamber where it drives the impeller. The impeller has a sapphire bearing and is balanced on a tungsten-based titanium stainless steel shaft. The drive magnet transmits the rotation of the impeller to a drive magnet located within the



1-1/2" PMM®
(DN 40mm)

2" PMM®
(DN 50mm)



1,000 gallons



100 cubic feet



1 cubic meter

hermetically sealed register. The drive magnet is connected to the register gear train. It reduces the impeller's rotation into volume totalization units displayed on the register dial face.

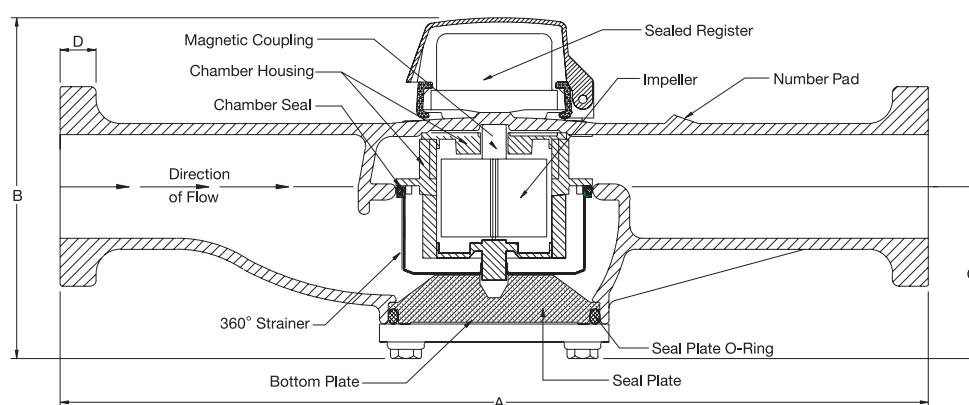
Maintenance: Sensus PMM Water Meters are engineered to provide long-term value and virtually maintenance-free operation. Simplicity of design and precise machining of components allows interchangeability of parts of like-size meters, reduced parts inventory requirements, and ease of maintenance. The register can be removed without relieving the water pressure or removing the case from the installation.

As an alternative to utility repair, Sensus offers maintenance programs to provide factory reconditioning of the main case and replacement component at low fixed prices. See bulletin MJ-299.

Connections: Tailpieces/Unions for installing the meters on a variety of pipe types and sizes are available.

AMR / AMI Systems: Meters and encoders are compatible with current Sensus AMR/AMI systems.

Guarantee: Sensus PMM Water Meters are backed by "The Sensus Guarantee." Ask your Sensus representative for details or see Bulletin G-500.



DIMENSIONS AND NET WEIGHTS

Meter Size	Connections	A	B	C	D	Width	Bolt Circle	Number of Bolts	Bolt Size	Net Weight
1-1/2" (DN 40mm)	Flanged	13" (330mm)	6-1/2" (165mm)	3-1/4" (83mm)	19/32" (15mm)	5-1/2" (140mm)	4.016" (18mm)	2	5/8" (16mm)	17 lbs. (7.7 kg)
	Male Thread	12-5/8" (321mm)	6-1/2" (165mm)	3-1/4" (83mm)	N/A	5-1/4" (133mm)	N/A	N/A	N/A	13-1/2 lbs. (6.2 kg)
	Female Thread	12-5/8" (321mm)	6-1/2" (165mm)	3-1/4" (83mm)	N/A	5-1/4" (133mm)	N/A	N/A	N/A	13-1/2 lbs. (6.2 kg)
2" (DN 50mm)	Flanged	17" (432mm)	6-3/4" (172mm)	3-5/8" (92mm)	23/32" (18mm)	6-1/8" (156mm)	4.488" (114mm)	2	3/4" (19mm)	22-1/2 lbs. (10.2 kg)
	Male Thread	15-1/4" (388mm)	6-3/4" (172mm)	3-5/8" (92mm)	N/A	5-3/4" (146mm)	N/A	N/A	N/A	15-1/4 lbs. (9.7 kg)
	Female Thread	15-1/4" (388mm)	6-3/4" (172mm)	3-5/8" (92mm)	N/A	5-3/4" (146mm)	N/A	N/A	N/A	15-1/4 lbs. (9.7 kg)
2" Short (DN 50mm)	Oval Flange	10" (254mm)	6-3/4" (172mm)	3-5/8" (92mm)	23/32" (18mm)	6-1/8" (156mm)	4.488" (114mm)	2	3/4" (19mm)	19 lbs. (8.6 kg)
	Round Flange	10" (254mm)	6-3/4" (172mm)	3-5/8" (92mm)	23/32" (18mm)	6-1/8" (156mm)	4.488" (114mm)	4	3/4" (19mm)	20 lbs. (9 kg)

SPECIFICATIONS

SERVICE	Measurement of cold water with flow in only one direction.
NORMAL OPERATING FLOW RANGE ¹	1-1/2" (DN 40mm) size: 5 to 100 gal/min. (1.1 to 23.0 m³/h) 2" (DN 50mm) size: 8 to 160 gal/min. (1.8 to 36.0 m³/h)
ACCURACY	100% ± 1.5% of actual thruput
LOW FLOW REGISTRATION	1-1/2" (DN 40mm) size: 95% at 1.5 gal/min. (0.35 m³/h) 2" (DN 50mm) size: 95% at 2 gal/min. (0.45 m³/h)
MAXIMUM PRESSURE LOSS	1-1/2" (DN 40mm) size: 14.0 psi at 100 gal/min. (0.24 bar at 11.4 m³/h) 2" (DN 50mm) size: 14.0 psi at 160 gal/min. (0.31 bar at 18.2 m³/h)
MAXIMUM OPERATING PRESSURE	150 psi (10.0 bar)
MEASURING ELEMENT	Multi-Jet
REGISTER	Straight reading, hermetically sealed, magnetic drive. Remote reading unit optional.

¹ Maximum rates listed are for intermittent flow only. Maximum continuous flow rates as specified by AWWA are: 1-1/2" (DN 40mm) — 50 gal/min (11.0 m³/h), 2" (DN 50mm) — 80 gal/min (18.0 m³/h).

REGISTRATION	100,000,000 gallons, 100 gallon / sweep hand revolution. 10,000,000 Cubic Feet 10 C.F. / sweep hand revolution. 100,000 Cubic Meter 0.1 m³/h / sweep hand revolution.
METER CONNECTIONS ²	Flanged 1-1/2": two bolt oval flanged. Female 1-1/2": NPT internal pipe threads. Male 1-1/2": NPSM external pipe threads. Flanged 2": two bolt oval flanged. Female 2": NPT internal pipe threads. Male 2": NPSM external pipe threads.
MATERIALS	Maincase — Bronze Register box — synthetic polymer (standard), Bronze (optional) Measuring chamber — Nylon, Polycarbonate Bottom plate — Bronze Magnets — Ceramic material Casing bolts — Stainless steel Strainer — Synthetic polymer

² Flanged spuds are standard for 1-1/2" (DN 40mm) and 2" (DN 50mm) size meters and will be furnished unless otherwise specified.