

OMNI™ Fireline (F²) Water Meter

4", 6", 8" and 10" OMNI F² Meter

The OMNI F² meter operation is based on advanced Floating Ball Technology (FBT).

DESCRIPTION:

- Floating Ball Technology (FBT)

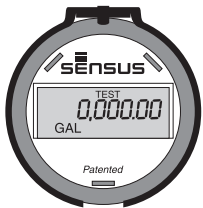
ELECTRONIC REGISTER DISPLAY DIAGRAM



Totalization Mode



AMR/AMI Mode



Resettable Test Mode



Rate of Flow Mode

Conformance to Standards

The OMNI F² meter meets and far exceeds the most recent revision of AWWA Standard C703 class II. Additionally, the meter does not require a valve to meet these standards. Each meter is performance tested to ensure compliance. All OMNI meters are NSF/ANSI Standard 61, Annex F and G approved. The OMNI F² meter is UL (Underwriters Laboratories) Listed and FM (Factory Mutual) approved for use on fire protection and domestic water applications.

Performance

The patented measurement principles of the OMNI F² meter ensure greater accuracy, expanded accuracy range and longer service life than any other comparable class meter. The OMNI F² meter has no restrictions on sustained flow rates within its continuous range. The floating ball measurement technology allows installation in any orientation and flows up to maximum rated capacity without undue wear or accuracy degradation.

Construction

The OMNI F² meter consists of two basic assemblies; the maincase and the measuring chamber. The measuring chamber assembly includes the "floating ball" impeller with a coated titanium shaft, hybrid axial bearings, integral flow straightener and an all electronic programmable register with protective bonnet. The maincase is made from industry proven Ductile Iron with an approved NSF epoxy coating. Maincase features are; easily removable measuring chamber, unique chamber seal to the maincase using a high pressure o-ring, testing port and a convenient integral strainer with optional drain/debris-flushing ports.



OMNI Electronic Register

The OMNI F² electronic register is hermetically sealed with an electronic pickup containing no mechanical gearing. The large character LCD displays AMR, totalization, rate of flow and a resettable test totalizer. OMNI register features include AMR resolution units that are fully programmable, fully programmable pulse output frequency, integral customer data logging capability and integral resettable accuracy testing feature compatible with UniPro and Sensus flow verification software. The large, easy-to-read LCD also displays both forward and reverse flow directions. The OMNI F² electronic register has a 10-year battery life guarantee.

Magnetic Drive

Meter registration is achieved by utilizing a fully magnetic pickup system. This is accomplished by the magnetic actions of the embedded rotor magnets and the ultra sensitive register pickup probe. The only moving component in water is the “floating ball” impeller.

Measuring Element

The hydro-dynamically balanced impeller floats between the bearings. The Floating Ball Technology (FBT) allows the measuring element to operate virtually without friction or wear, thus creating the extended upper and lower flow ranges capable on only the OMNI F² meter.

Strainer

The OMNI F² meter includes the Sensus designed “V” shaped UL Listed/FM approved strainer which utilizes a stainless steel screen along with Floating Ball Technology (FBT) to create a design that provides greatly improved accuracy even in difficult settings. A removable strainer cover permits easy access to the screen for routine maintenance. Strainer drain ports allow for easy discharging of debris without the need to remove the cover.

Maintenance

The OMNI F² meter is designed for easy maintenance. Should any maintenance be required, the measuring chamber and/or strainer cover can be removed independently. Replacement parts or complete measuring chambers are available for repairs.

AMR/AMI Systems

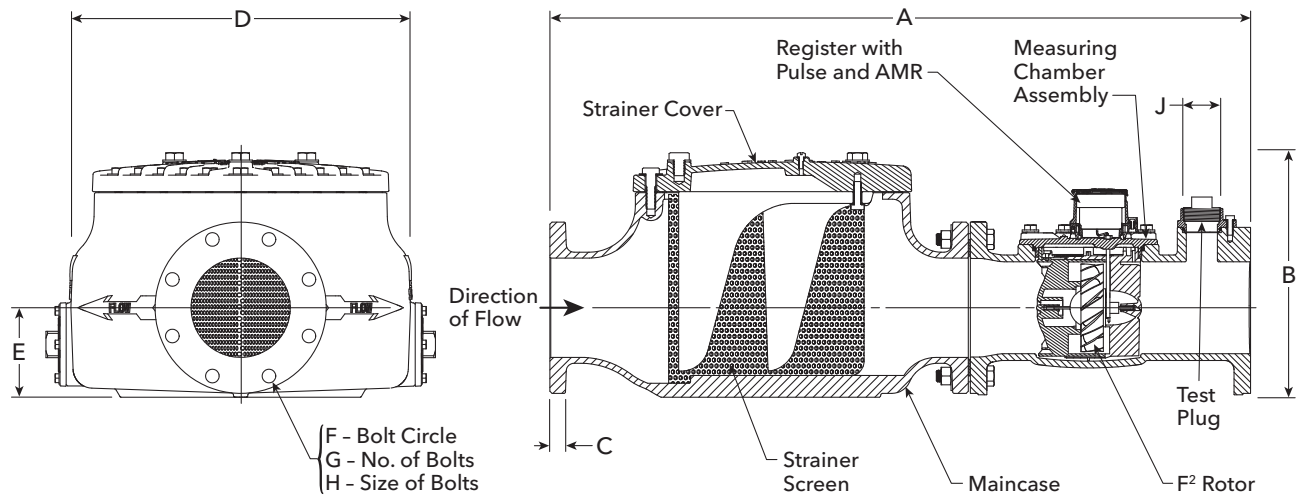
Meters and Electronic Registers are compatible with current Sensus AMR/AMI systems and other AMI communication systems that use the Sensus UI1203 protocol.

Guarantee

Sensus OMNI F² Meters are backed by “The Sensus Guarantee.” Ask your Sensus representative for details or see Bulletin G-500.



OMNI F²: 4", 6", 8" and 10"



Dimensions and Net Weights

Meter and Pipe Size	Normal Operating Range	Connections	A	B	C	D	E	F	G	H	J	Net Weight	Shipping Weight	Standard Fireline ¹
4" DN 100mm	1.5 gpm 1200 gpm .34 m ³ /hr 227 m ³ /hr	Flanged	33" 838mm	13-11/16" 348mm	15/16" 24mm	17-1/2" 445mm	4-3/4" 121mm	7-1/2" 191mm	8	5/8" 16mm	2" 51mm	212 lbs. 96 kg.	252 lbs. 114 kg.	51-7/8" 1318mm
6" DN 150mm	3 gpm 2000 gpm .681 m ³ /hr 454 m ³ /hr	Flanged	45" 1143mm	15-3/4" 400mm	15/16" 24mm	22-3/8" 568mm	5-3/4" 146mm	9-1/2" 241mm	8	3/4" 19mm	2" 51mm	394 lbs. 179 kg.	449 lbs. 204 kg.	67-5/8" 1718mm
8" DN 200mm	4 gpm 3500 gpm .91 m ³ /hr 795 m ³ /hr	Flanged	53" 1346mm	18-1/2" 470mm	11/16" 17mm	31" 787mm	6-3/4" 171mm	11-3/4" 298mm	8	3/4" 19mm	2" 51mm	736 lbs. 334 kg.	786 lbs. 357 kg.	77" 1956mm
10" DN 250mm	5 gpm 5500 gpm 1.1 m ³ /hr 1249 m ³ /hr	Flanged	68" 1727mm	22-1/4" 565mm	11/16" 17mm	37-1/3" 948mm	8-1/2" 216mm	14-1/4" 362mm	12	7/8" 22mm	2" 51mm	1155 lbs. 524 kg.	1215 lbs. 551 kg.	90" 2286mm

¹Standard Fireline lay length with optional spool piece added.



Specifications

Service	Measurement of potable and reclaim water. Storage temperature: -22F (-30C) to 155F (68.3C) Operating temperatures: Air: -22F (-30C) to 150F (65.6C) Water: 33F (0.6C) to 80F (26.7C)	
Operating Range (100% ± 1.5%)	4": 1.5 - 1050 GPM (0.34 - 227 m ³ /hr) 6": 3 - 2000 GPM (0.68 - 454 m ³ /hr) 8": 4 - 3500 GPM (0.91 - 795 m ³ /hr) 10": 5 - 5500 GPM (1.1 - 1249 m ³ /hr)	
Low flow (95% - 101.5%)	4": 0.75 GPM (0.17 m ³ /hr) 6": 1.5 GPM (0.34 m ³ /hr) 8": 2.5 GPM (0.57 m ³ /hr) 10": 3.5 GPM (0.79 m ³ /hr)	
UL Minimum Flow	8": 97% @ 3 GPM (0.68 m ³ /hr) 10": 97% @ 4 GPM (0.91 m ³ /hr)	
Maximum Continuous Operation	4": 1000 GPM (227 m ³ /hr) 6": 2000 GPM (454 m ³ /hr) 8": 3500 GPM (795 m ³ /hr) 10": 5500 GPM (1249 m ³ /hr)	
Maximum Intermittent Operation	4": 1250 GPM (284 m ³ /hr) 6": 2500 GPM (568 m ³ /hr) 8": 4700 GPM (1067 m ³ /hr) 10": 7000 GPM (1590 m ³ /hr)	
Pressure Loss	4": 6.4 psi @ 1000 GPM (0.44 bar @ 227 m ³ /hr) 6": 6.7 psi @ 2000 GPM (0.46 bar @ 454 m ³ /hr) 8": 5 psi @ 3500 GPM (0.34 bar @ 795 m ³ /hr) 10": 7 psi @ 5500 GPM (0.48 bar @ 1249 m ³ /hr)	
Maximum Operating Pressure	175 PSI (12 bar)	
Flange Connections	U.S. ANSI B16.1 / AWWA Class 125	
Test Ports	NPT	
Register	Fully electronic sealed register with programmable registration (Gal. /Cu.Ft. / Cu. Mtr. / Imp. Gal. / Acre Ft.) Programmable AMR/AMI reading and pulse outputs Guaranteed 10-year battery life	
NSF Approved Materials	Maincase: Measuring Chamber: Rotor "Floating Ball": Radial Bearings: Thrust Bearings: Magnets: Strainer Screen: Strainer Cover: Test Plug:	Coated Ductile Iron Thermoplastic Thermoplastic Hybrid Thermoplastic Sapphire/Ceramic Jewel Ceramic Stainless Steel Coated Ductile Iron Stainless Steel



Head Loss Curves

