

# OMNI™ Turbo (T<sup>2</sup>) Water Meter

## 1-1/2", 2", 3", 4", 6", 8" and 10" OMNI T<sup>2</sup> Meter

The OMNI T<sup>2</sup> meter operation is based on advanced Floating Ball Technology (FBT).

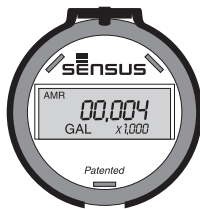
### DESCRIPTION:

- Floating Ball Technology (FBT)

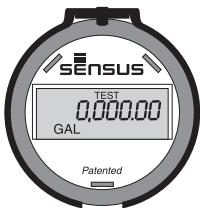
### ELECTRONIC REGISTER DISPLAY DIAGRAM



Totalization Mode



AMR/AMI Mode



Resettable Test Mode



Rate of Flow Mode

### Conformance to Standards

The OMNI T<sup>2</sup> meter meets and far exceeds the most recent revision of AWWA Standard C701 class II standards. Each meter is performance tested to ensure compliance. All OMNI meters are NSF/ANSI Standard 61, Annex F and G approved.

### Performance

The patented measurement principles of the OMNI T<sup>2</sup> meter ensure greater accuracy, expanded accuracy range and longer service life than any other comparable class meter. The OMNI T<sup>2</sup> 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 T<sup>2</sup> 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.

### OMNI Electronic Register

The OMNI T<sup>2</sup> 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 T<sup>2</sup> 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 T<sup>2</sup> meter.

### Strainer

The OMNI T<sup>2</sup> with the AWWA compliant “V” shaped strainer uses a stainless steel screen along with Floating Ball Technology (FBT). This creates a design that greatly improves accuracy, even in difficult settings. A removable strainer cover permits easy access to the screen for routine maintenance.

### Maintenance

The OMNI T<sup>2</sup> 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. OMNI T<sup>2</sup> replacement measuring chambers may also be utilized to upgrade some third-party meters to achieve increased accuracy and extended service life.

### AMR/AMI Systems

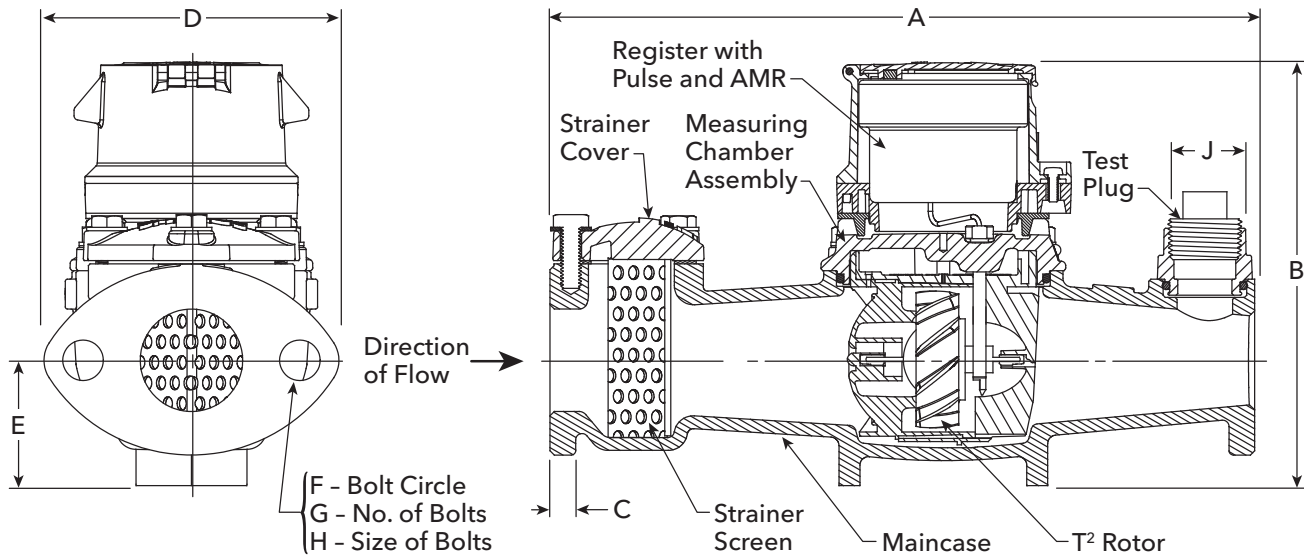
Meters and Electronic Registers are compatible with current Sensus AMR/AMI systems and other AMI communication systems that use the Sensus UI1203 protocol.

### Guarantee

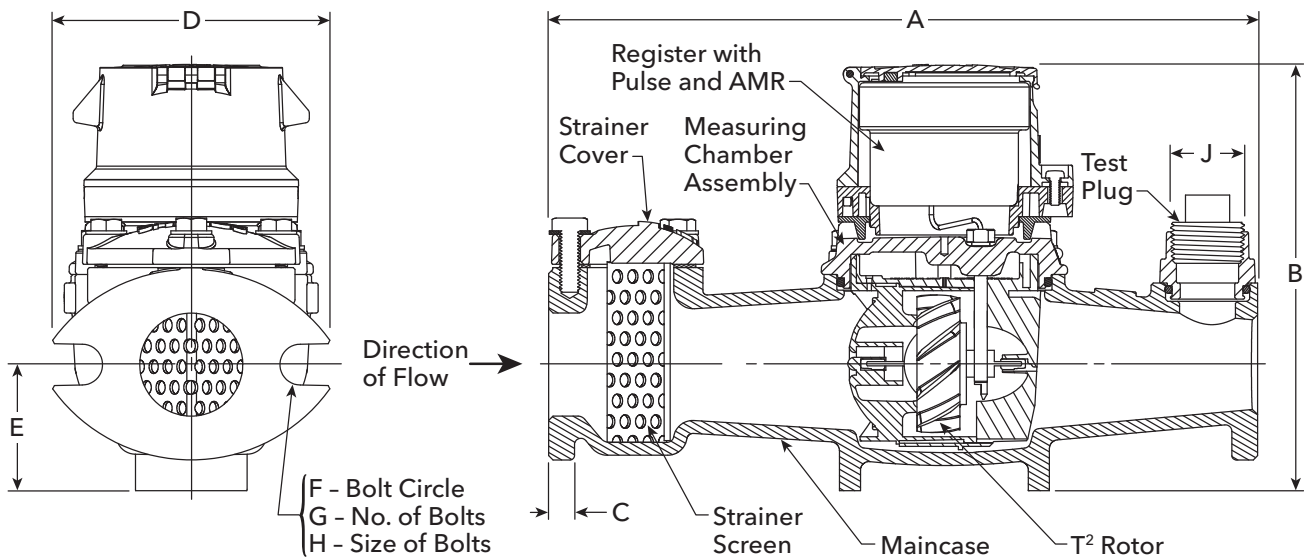
Sensus OMNI T<sup>2</sup> Meters are backed by “The Sensus Guarantee.” Ask your Sensus representative for details or see Bulletin G-500.



OMNI T<sup>2</sup>: 1-1/2"

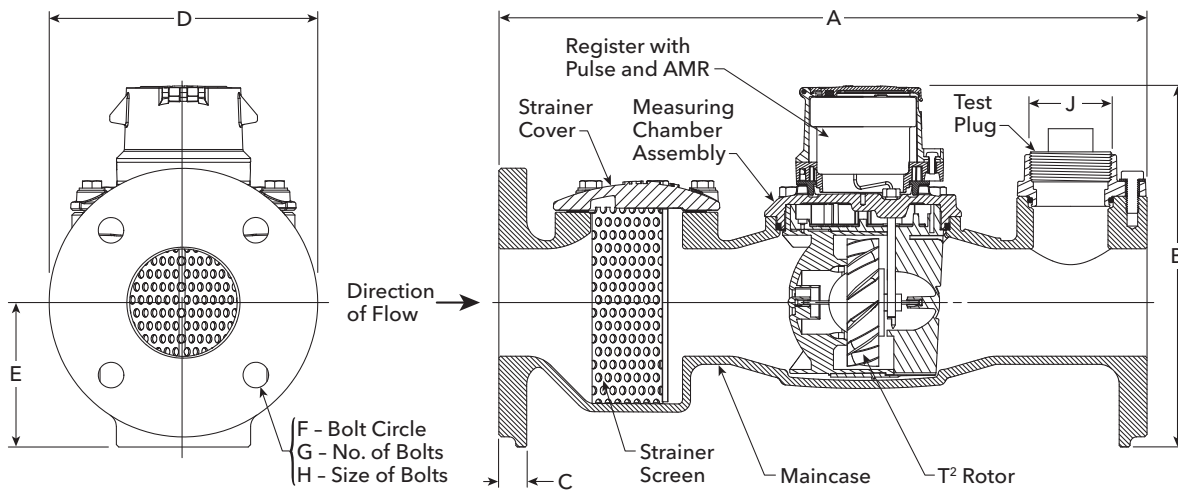


OMNI T<sup>2</sup>: 2"

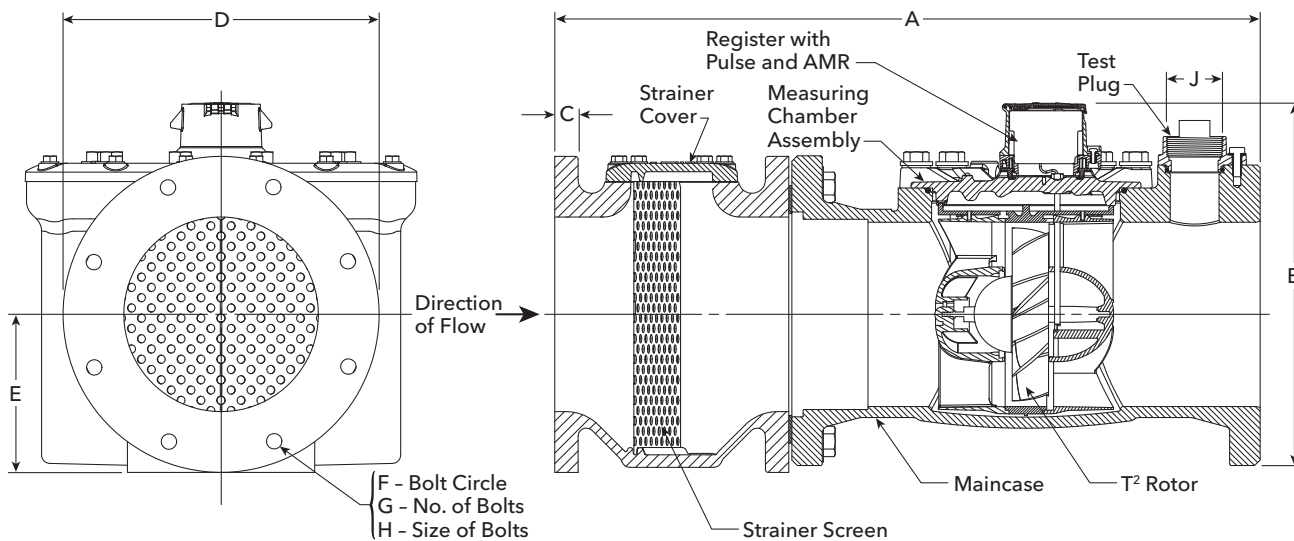




OMNI T<sup>2</sup>: 3" - 6"



OMNI T<sup>2</sup>: 8" - 10"





Dimensions and Net Weights

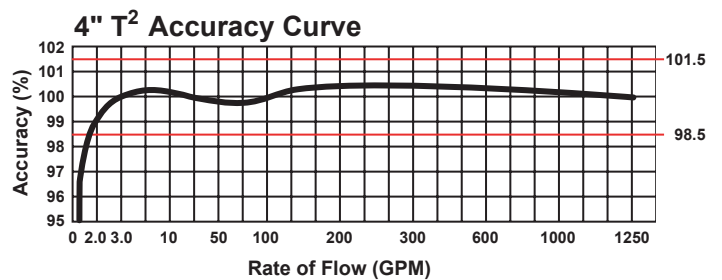
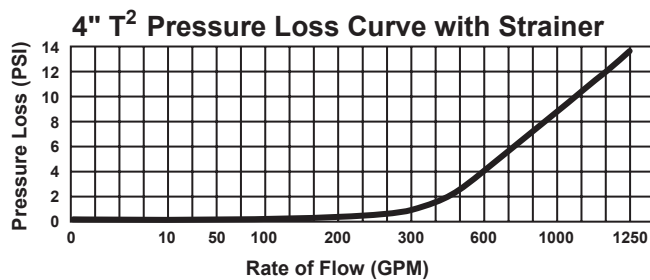
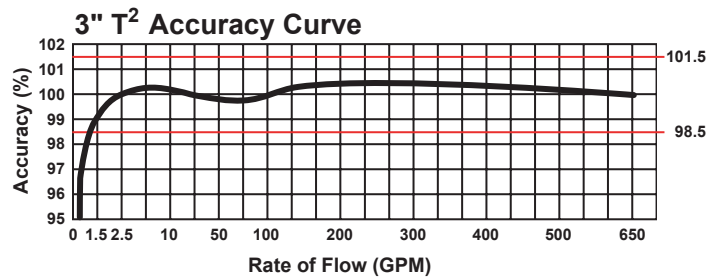
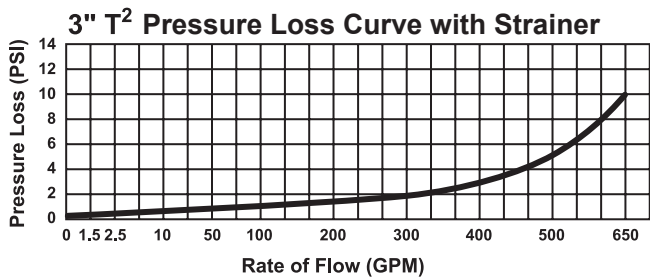
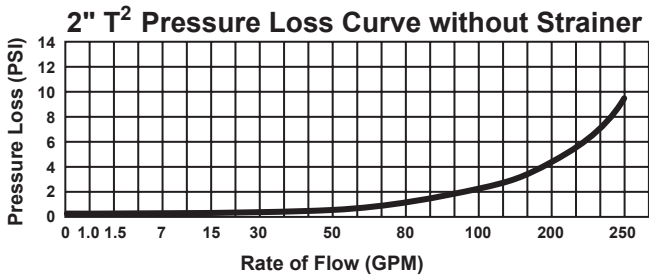
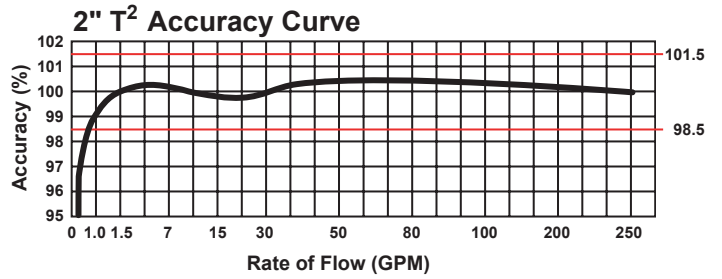
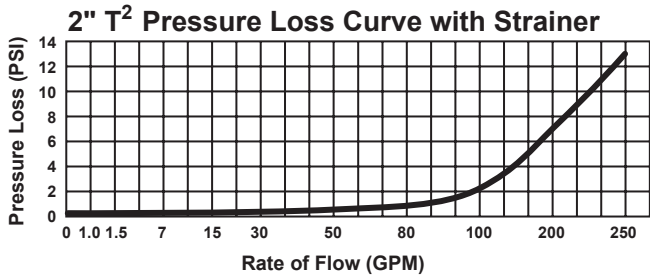
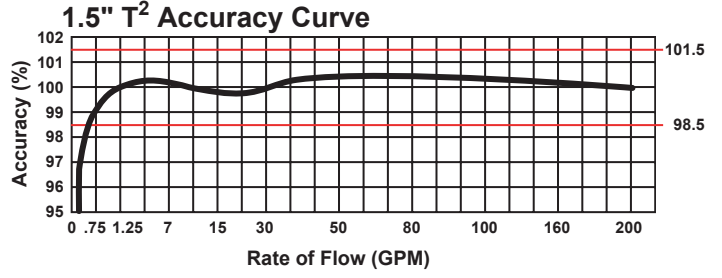
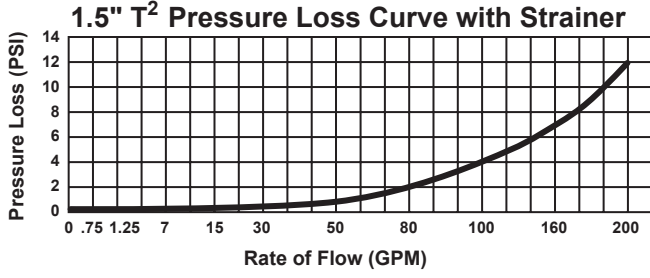
Meter and Pipe Size	Normal Operating Range		Connections	A	B	C	D	E	F	G	H	J	Net Weight	Shipping Weight
1-1/2" DN 40mm	1.25 gpm .28 m <sup>3</sup> /hr	200 gpm 45 m <sup>3</sup> /hr	Flanged	13" 330mm	7-7/8" 200mm	15/16" 24mm	5-7/16" 138mm	2-5/16" 59mm	4" 102mm	2	5/8" 16mm	1" 25mm	18.8 lbs. 8.53 kg.	22.5 lbs. 10.2 kg.
2" DN 50mm	1.5 gpm .34 m <sup>3</sup> /hr	250 gpm 57 m <sup>3</sup> /hr	Flanged	17" 432mm	7-7/8" 200mm	1" 25mm	5-3/4" 146mm	2-5/16" 59mm	4-1/2" 114mm	2	3/4" 19mm	1-1/2" 38mm	27.4 lbs. 12.4 kg.	34.5 lbs. 15.6 kg.
2" w/o Strainer DN 50mm	1.5 gpm .34 m <sup>3</sup> /hr	250 gpm 57 m <sup>3</sup> /hr	Flanged	10" 254mm	7-7/8" 200mm	1" 25mm	5-3/4" 146mm	2-5/16" 59mm	4-1/2" 114mm	2	3/4" 19mm	N/A	17.4 lbs. 7.9 kg.	24.5 lbs. 11.1 kg.
3" DN 80mm	2.5 gpm .57 m <sup>3</sup> /hr	650 gpm 148 m <sup>3</sup> /hr	Flanged	19" 483mm	8-3/4" 225mm	3/4" 19mm	7-7/8" 200mm	4-1/8" 105mm	6" 153mm	4	5/8" 16mm	2" 51mm	48.5 lbs. 22.0 kg.	57.4 lbs. 26.0 kg.
4" DN 100mm	3.0 gpm .68 m <sup>3</sup> /hr	1250 gpm 284 m <sup>3</sup> /hr	Flanged	23" 584mm	11- 3/16" 284mm	15/16" 24mm	9-1/8" 232mm	4-3/4" 121mm	7-1/2" 191mm	8	5/8" 16mm	2" 51mm	67.9 lbs. 30.8 kg.	75.8 lbs. 34.4 kg.
6" DN 150mm	4 gpm .91 m <sup>3</sup> /hr	2500 gpm 568 m <sup>3</sup> /hr	Flanged	27" 686mm	13-1/4" 337mm	15/16" 24mm	11" 279mm	5-3/4" 146mm	9-1/2" 241mm	8	3/4" 19mm	2" 51mm	140 lbs. 63.5 kg.	165 lbs. 74.8 kg.
8" DN 200mm	5 gpm 1.1 m <sup>3</sup> /hr	3500 gpm 795 m <sup>3</sup> /hr	Flanged	30-1/8" 765mm	15" 381mm	11/16" 17mm	13-1/2" 343mm	6-3/4" 171mm	11-3/4" 298mm	8	3/4" 19mm	2" 51mm	471 lbs. 214 kg.	521 lbs. 236 kg.
10" DN 250mm	6 gpm 1.4 m <sup>3</sup> /hr	5500 gpm 1249 m <sup>3</sup> /hr	Flanged	41-1/8" 1045mm	19" 483mm	11/16" 17mm	16" 406mm	8-1/2" 216mm	14-1/4" 362mm	12	7/8" 22mm	2" 51mm	685 lbs. 311 kg.	745 lbs. 338 kg.

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 (26.7)	Pressure Loss	1-1/2": 6.9 psi @ 160 GPM (0.48 bar @ 36 m <sup>3</sup> /hr) 2": 7.0 psi @ 200 GPM (0.48 bar @ 45 m <sup>3</sup> /hr) 3": 5.1 psi @ 500 GPM (0.35 bar @ 114 m <sup>3</sup> /hr) 4": 8.7 psi @ 1000 GPM (0.60 bar @ 227 m <sup>3</sup> /hr) 6": 8.2 psi @ 2000 GPM (0.57 bar @ 454 m <sup>3</sup> /hr) 8": 5.1 psi @ 3500 GPM (0.35 bar @ 795 m <sup>3</sup> /hr) 10": 7.2 psi @ 5500 GPM (0.50 bar @ 1249 m <sup>3</sup> /hr)
Operating Range (100% ± 1.5%)	1-1/2": 1.25 - 200 GPM (0.28 - 45 m <sup>3</sup> /hr) 2": 1.5 - 250 GPM (0.34 - 57 m <sup>3</sup> /hr) 3": 2.5 - 650 GPM (0.57 - 148 m <sup>3</sup> /hr) 4": 3 - 1250 GPM (0.68 - 284 m <sup>3</sup> /hr) 6": 4 - 2500 GPM (0.91 - 568 m <sup>3</sup> /hr) 8": 5 - 3500 GPM (1.1 - 795 m <sup>3</sup> /hr) 10": 6 - 5500 GPM (1.4 - 1249 m <sup>3</sup> /hr)	Maximum Operating Pressure	200 PSI (13.8 bar)
Low flow (95% - 101.5%)	1-1/2": 0.75 GPM (0.17 m <sup>3</sup> /hr) 2": 1.0 GPM (0.23 m <sup>3</sup> /hr) 3": 1.5 GPM (0.34 m <sup>3</sup> /hr) 4": 2.0 GPM (0.45 m <sup>3</sup> /hr) 6": 2.5 GPM (0.57 m <sup>3</sup> /hr) 8": 4 GPM (0.91 m <sup>3</sup> /hr) 10": 5 GPM (1.1 m <sup>3</sup> /hr)	Flange Connections	U.S. ANSI B16.1 / AWWA Class 125
Maximum Continuous Operation	1-1/2": 160 GPM (36 m <sup>3</sup> /hr) 2": 200 GPM (45 m <sup>3</sup> /hr) 3": 500 GPM (114 m <sup>3</sup> /hr) 4": 1000 GPM (227 m <sup>3</sup> /hr) 6": 2000 GPM (454 m <sup>3</sup> /hr) 8": 3500 GPM (795 m <sup>3</sup> /hr) 10": 5500 GPM (1249 m <sup>3</sup> /hr)	Test Ports	NPT
Maximum Intermittent Operation	1-1/2": 200 GPM (45 m <sup>3</sup> /hr) 2": 250 GPM (57 m <sup>3</sup> /hr) 3": 650 GPM (148 m <sup>3</sup> /hr) 4": 1250 GPM (284 m <sup>3</sup> /hr) 6": 2500 GPM (568 m <sup>3</sup> /hr) 8": 4700 GPM (1067 m <sup>3</sup> /hr) 10": 7000 GPM (1590 m <sup>3</sup> /hr)	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: Coated Ductile Iron Measuring Chamber: Thermoplastic Rotor "Floating Ball": Thermoplastic Radial Bearings: Hybrid Thermoplastic Thrust Bearings: Sapphire/Ceramic Jewel  Magnets: Ceramic Strainer Screen: Stainless Steel Strainer Cover: Coated Ductile Iron Test Plug: Stainless Steel



Head Loss Curves





Head Loss Curves

