



# HIGH PERFORMANCE TURBINE METER

SIZES: 12", 16" and 20"



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APPLICATION

Each 12"–20" HP Turbine consists of a cast iron maincase, an AWWA Class II turbine measuring element, and a roll-sealed register.

CONSTRUCTION

The polyurethane-coated, cast iron maincase is corrosion resistant. Inlet and outlet connections are flanged. The 12"–20" HP Turbines are available with strainers or spool pieces to meet laying length requirements.

The Unitized Measuring Element (UME) allows for quick, easy, in-line interchangeability. Water volume is measured accurately at all flows by a specially designed assembly.

The thrust compensated rotor configuration relieves pressure on the thrust bearings which minimizes wear and provides sustained accuracy over an extended operating life. Direct coupling of the rotor to the gear train eliminates revenue loss due to slippage during fast starts and line surges. A calibration vane allows in-field calibration of the UME to lengthen service life and to ensure accurate registration.

The roll-sealed register eliminates leaking and fogging. A magnetic drive couples the register with the measuring element.

Adaptability to all present and future systems for flexibility.

SYSTEMS COMPATIBILITY

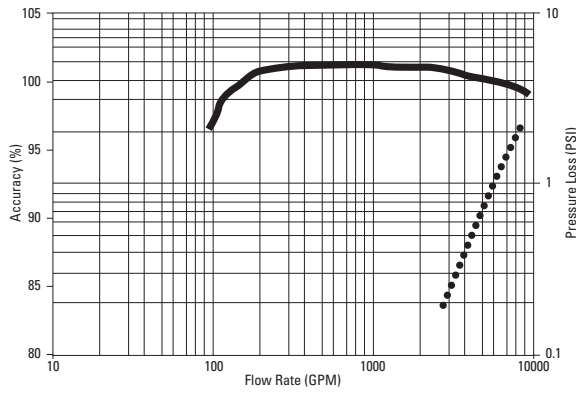
KEY FEATURES

- Register
  - Roll-sealed – eliminates leaking and fogging
  - Glass lens improves readability
  - Magnetic drive, low torque registration ensures accurate registration
  - Tamperproof seal design deters theft and allows in-line service or replacement
- Electronic Transmitter Option
  - TRICON/E3 Digital Pulse and 4–20mA output for monitoring/controlling total flow
  - In-line adaptability allows installation of transmitter without interrupting the meter service
- Maincase Construction
  - Baked polyurethane coating provides high corrosion resistance on cast iron maincase
- Turbine Measuring Element
  - Excellent low flow sensitivity and widest flow ranges available at 98.5%–101.5% accuracy
  - Direct coupling of rotor to gear train prevents slippage and ensures accurate registration
  - Interchangeable measuring element allows for in-line service

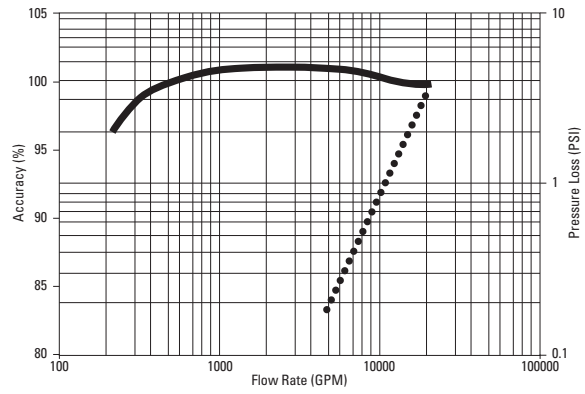
WARRANTY

Neptune provides a limited warranty with respect to its HP Turbine water meters for performance, materials, and workmanship. When desired, owner maintenance is easily accomplished by in-line replacement of major components.

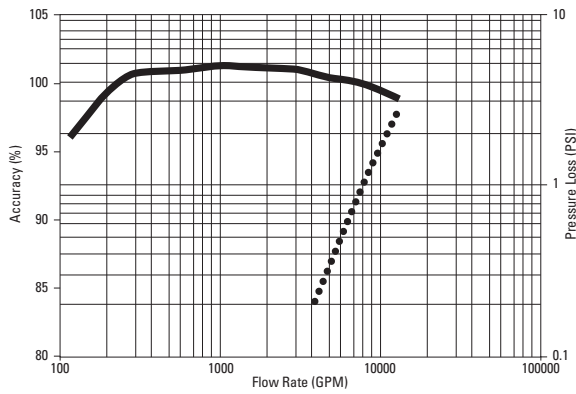
## 12" ACCURACY



## 20" ACCURACY



## 16" PRESSURE LOSS



— Accuracy  
..... Head Loss

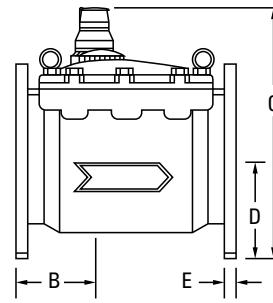
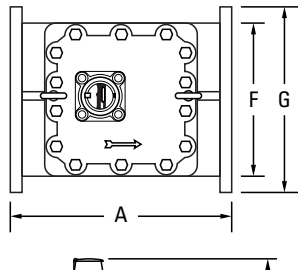
*These charts show typical meter performance. Individual results may vary.*

## OPERATING CHARACTERISTICS

Meter Size	Extended Low Flow @ 95%	Normal Operating Range* @100% Accuracy (±1.5%)	Maximum Intermittent Flow	AWWA Standard
12"	95 US gpm 21.60 m3/h	100 to 8000 US gpm 27.27 to 1818.18 m3/h	10000 US gpm 2272.73 m3/h	120 to 5000 US gpm 27 to 1136 m3/h
16"	120 US gpm 27.27 m3/h	200 to 10000 US gpm 45.45 to 3068.18 m3/h	16500 US gpm 3750 m3/h	N/A
20"	200 US gpm 45.45 m3/h	300 to 16500 US gpm 68.18 to 5000 m3/h	27500 US gpm 6250 m3/h	N/A

## DIMENSIONS

Meter Size	A in/mm	B in/mm	C in/mm	D in/mm	E in/mm	F in/mm	G in/mm	Weight lbs/kg
12"	19 11/16 500	7 7/8 200	26 5/32 664	9 1/16 230	1 1/4 32	16 25/32 426	19 482.6	385 175
16"	23 5/8 600	9 27/32 250	28 1/2 724	11 13/32 290	1 3/8 36	18 5/16 465	23 1/2 597	561 255
20"	31 1/2 800	13 25/32 350	31 5/32 791	14 1/16 357.5	1 5/8 42	21 7/8 556	28 5/32 715	858 390



## GUARANTEED SYSTEMS COMPATIBILITY

All HP Turbine water meters are guaranteed adaptable to our ARB®V, ProRead™ (ARB VI), E-Coder™, E-Coder)R900*i*, TRICON®/S, TRICON/E3®, and Neptune meter reading systems without removing the meter from service.

## REGISTRATION

Registration (per sweep hand revolution)		
	12"	16" & 20"
10,000 US Gallons		✓
10,000 Imperial Gallons		✓
1,000 US Gallons	✓	
1,000 Imperial Gallons	✓	
1,000 Cubic Feet		✓
100 Cubic Feet	✓	
100 Cubic Metres		✓
10 Cubic Metres	✓	
Register Capacity (6-wheel odometer)		
	12"	16" & 20"
10,000,000,000 US Gallons		✓
10,000,000,000 Imperial Gallons		✓
1,000,000,000 US Gallons	✓	
1,000,000,000 Imperial Gallons	✓	
1,000,000,000 Cubic Feet		✓
100,000,000 Cubic Feet	✓	
100,000,000 Cubic Metres		✓
10,000,000 Cubic Metres	✓	

### SPECIFICATIONS

- Application: cold water measurement in one direction.
- Maximum operating pressure: 175 psi (1206 kPa)
- Maximum operating temperature: 120°F
- Register: direct reading, center sweep, roll-sealed magnetic drive with low-flow indicator
- Measuring element: AWWA Class II Turbine, hydrodynamically balanced rotor
- Flanges: round flanged ends per AWWA C207, Class D

### OPTIONS

- Sizes: 12", 16", 20"
- Units of measure: U.S. gallons, imperial gallons, cubic feet, cubic metres
- Register types:
  - Remote Reading Systems\*: ARBV, ProRead, E-Coder, E-Coder)R900*i*, TRICON/S, TRICON/E3
  - Reclaim

\* Consult factory for meter performance specifications when fitted with ARB.

Neptune engages in ongoing research and development to improve and enhance its products. Therefore, Neptune reserves the right to change product or system specifications without notice.

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