



A PRODUCT SHEET OF NEPTUNE TECHNOLOGY GROUP

# High Performance PROTECTUS® III Fire Service Meter

SIZES: 4", 6", 8", and 10"



The Neptune® HP PROTECTUS® III Fire Service meter is designed to measure both domestic and fire service water usage through a single water line.

The HP PROTECTUS III Fire Service meter measures extremely wide flow ranges at 100% +/- 1.5% accuracy. All HP Fire Service meters meet or exceed AWWA C703 Standard, are certified to NSF/ANSI 61 and NSF/ANSI 372 requirements, and are Underwriters Laboratory (UL) Listed and Factory Mutual (FM) Approved for fire service use.

## Application

The HP PROTECTUS III Fire Service meter is designed to measure both domestic and fire service water usage through a single water line. A typical application would be in a warehouse, hotel, or hospital where one water line may supply any number of faucets or bathrooms as well as an automatic sprinkler system.

## Operation

At low flow rates, all flow is through the bypass meter. As flow increases, pressure loss through the bypass meter increases and the detector check valve automatically opens. This condition occurs, for example, when a fire sprinkler system goes into operation. This permits flow through the mainline turbine meter. As flow decreases, reduced pressure loss closes the detector check valve and flow is again directed through the bypass meter.

## Construction

- Epoxy-coated steel mainline body
- Integral detector check valve (stainless steel spring-loaded type)
- Epoxy-coated steel strainer body with stainless steel basket
- HP Turbine measuring element
- All bronze bypass assembly
- Lockable ball valves used on bypass
- Check valve used on bypass
- 1" T-10® meter (on 4" size)
- 1½" T-10 or 1½" HP Turbine meter (on 6" size)
- 2" T-10 or 2" HP Turbine meter (on 8" and 10" sizes)

## KEY FEATURES

### Compact Size

- Standard laying length fits existing installations
- Reduces new installations and replacement costs

### Wide Operating Range

- Measures extremely wide flow ranges at 98.5%-101.5% accuracy
- Combines low-flow sensitivity of disc meter with high-flow capacity of turbine meter
- Registers leaks or unauthorized use of water from fire service lines

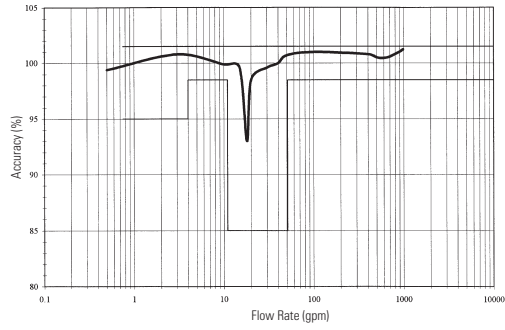
### Component Repair and Maintenance

- Owner maintenance easily accomplished by replacement of major components
- Calibration vane allows in-field calibration of Unitized Measuring Element (UME)

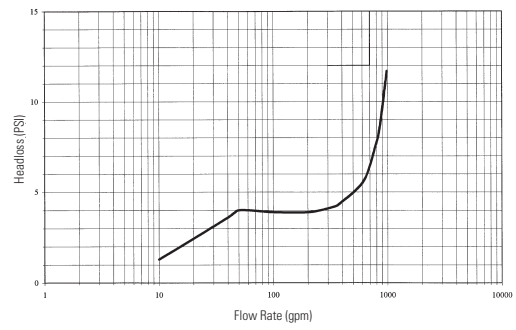
### Roll-Sealed Registers

- Eliminates leaking and fogging
- In-line serviceability
- Magnetic-driven, low-torque registration
- Tamperproof seal design

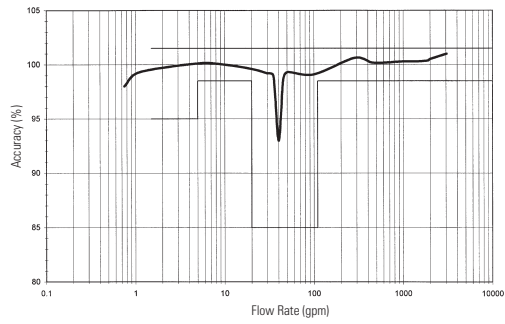
## 4" Accuracy



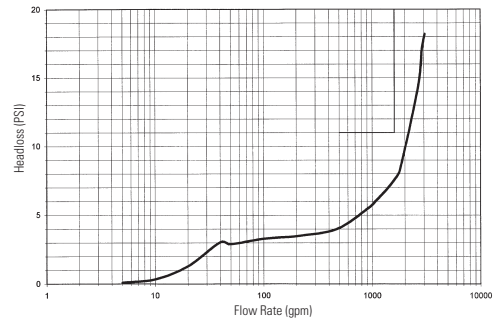
## 4" Headloss



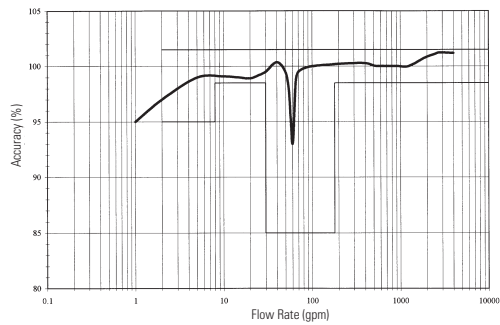
## 6" Accuracy



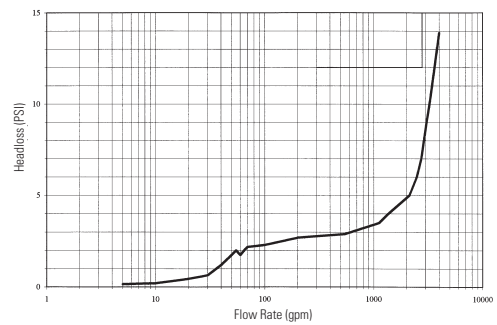
## 6" Headloss



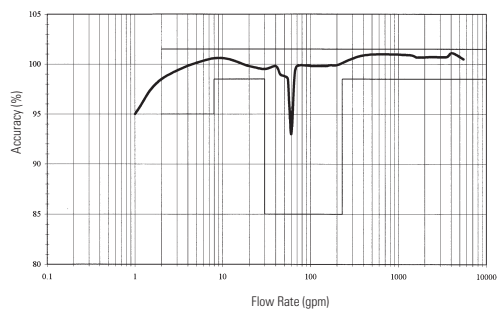
## 8" Accuracy



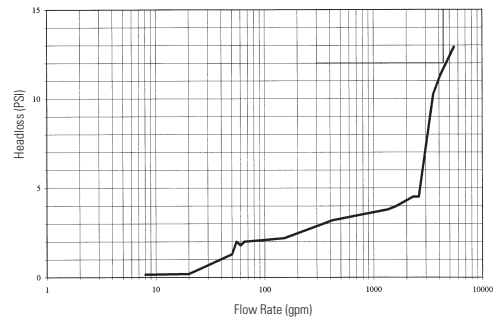
## 8" Headloss



## 10" Accuracy



## 10" Headloss



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

## Operating Characteristics

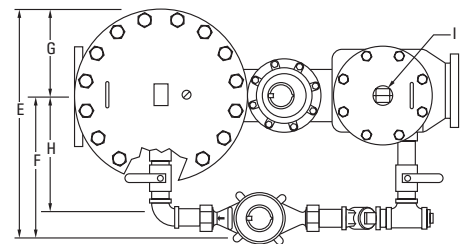
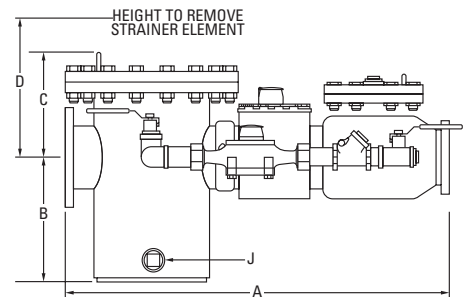
Meter Size	Normal Operating Range @ 100% Accuracy (+/- 1.5%)	AWWA Standard	Low Flow @ 95% Accuracy	Maximum Intermittent Flow Rate
4"	¾ to 1200 US gpm 0.17 to 272.55 m³/h	4 to 700 US gpm 0.91 to 159 m³/h	¾ US gpm 0.09 m³/h	1500 US gpm 340.7 m³/h
6"	1 ½ to 2500 US gpm 0.34 to 567.81 m³/h	5 to 1600 US gpm 1.14 to 363 m³/h	¾ US gpm 0.17 m³/h	3100 US gpm 704.1 m³/h
8"	2 to 4000 US gpm 0.45 to 908.5 m³/h	8 to 2800 US gpm 1.8 to 636 m³/h	1 US gpm 0.23 m³/h	5000 US gpm 1135.5 m³/h
10"	2 to 6500 US gpm 0.45 to 1476.31 m³/h	8 to 4400 US gpm 1.8 to 999 m³/h	1 US gpm 0.23 m³/h	8000 US gpm 1817 m³/h

## Dimensions

Meter Size	A in/mm	B in/mm	C in/mm	D in/mm	E in/mm	F in/mm	G in/mm	H in/mm	I in/mm	J in/mm	Weight lbs/kg
4"	33 838	10 254	10 ¾ 273	17 ½ 445	22 559	15 ¼ 387	6 ¾ 171	12 305	2 51	2 51	215 98
6"	45 1143	11 ⅙ 281	11 ⅜ 289	21 ¼ 540	29 737	19 ½ 495	9 ½ 241	16 406	2 51	3 76	570 258
8"	53 1346	11 ⅓ 300	13 ⅔ 342	25 ⅞ 657	34 ¼ 870	21 ¾ 552	12 ½ 318	17 432	3 76	3 76	765 347
10"	68 1727	14 ⅓ 376	15 381	30 ⅙ 764	36 ¼ 921	22 ½ 572	13 ¾ 349	18 457	3 76	3 76	900 408

## Capacity

Register Capacity	Disc Side			Turbine Side		
	1"	1 ½"	2"	4"	6"	8" & 10"
1,000,000,000 Gallons					✓	✓
100,000,000 Gallons		✓	✓	✓		
100,000,000 Cubic Feet					✓	✓
10,000,000 Gallons	✓					
10,000,000 Cubic Feet		✓	✓	✓		
10,000,000 Cubic Metres					✓	✓
1,000,000 Cubic Metres			✓	✓		
1,000,000 Cubic Feet	✓					
100,000 Cubic Metres	✓	✓				



## Specifications

### Application

- Cold water measurement of flow in one direction

### Maximum Operating Water Pressure

- 175 psi (1206 kPa)

### Registers

- Direct reading, center-sweep, roll-sealed magnetic drive with low-flow indicator

### Measuring Element

- AWWA Class II turbine, hydrodynamically-balanced rotor, nutating disc

### Flanges

- Round flanged ends per AWWA C207, Class D

### NSF/ANSI 61 and 372 Certified

### UL Listed

### FM Approved

## Options

### Sizes

- 4", 6", 8", and 10"

### 300 Series Stainless Steel

#### Meter Body with:

- 300 series stainless steel bolts
- 300 series stainless steel strainer cover and valve cover
- Epoxy-coated steel strainer and valve cover

### Units of Measure

- U.S. gallons, imperial gallons, cubic feet, cubic metres

### Register Types

- Direct reading: bronze box and cover (standard)
- Remote reading system: ProRead™, ProCoder™, E-CODER®, E-CODER®)R900i™, E-CODER®)R450i™, TRICON®/S, TRICON/E®3

- Reclaim

### Companion Flanges

- Cast iron
- Bronze (4" only)

### Special Meter Flanges \*

- 12" (for 10" meter size)

\*Non UL/FM approved

## Warranty

Neptune provides a limited warranty for performance, materials, and workmanship. See warranty statement for details.

When desired, owner maintenance is easily accomplished either by in-line replacement of the UME.

## Systems Compatibility

Adaptability to all present and future systems for flexibility.

## Guaranteed Systems Compatibility

- All HP PROTECTUS III Fire Service meters are guaranteed adaptable to our ARB® V, ProRead (ARB VI), ProCoder, E-CODER, E-CODER)R900i, E-CODER)R450i, TRICON/S, TRICON/E3, and Neptune meter reading systems without removing the meter from service.



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