



HIGH PERFORMANCE PROTECTUS® III FIRE SERVICE METER

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



The High Performance 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 ANSI/NSF 61 Certified, and Underwriters Laboratory (UL) Listed and Factory Manual (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.

The combined readings of the mainline turbine and the bypass meter indicate total consumption through the HP PROTECTUS III 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
- Ball valves used on bypass
- Check valve used on bypass
- 1" T-10 meter (on 4" size)
- 1 1/2" T-10 or 1 1/2" 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
 - Lightweight
 - Lowers new installation 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

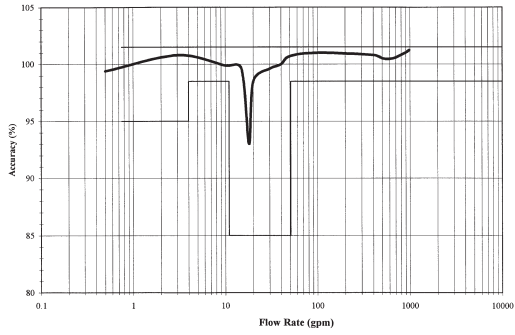
WARRANTY

Neptune provides a limited warranty with respect to its HP PROTECTUS III Fire Service Meter for performance, materials, and workmanship.

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

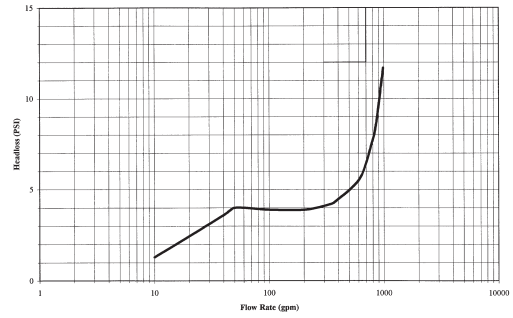
4" ACCURACY

4" HP PROTECTUS III
Accuracy vs. Flow Rate



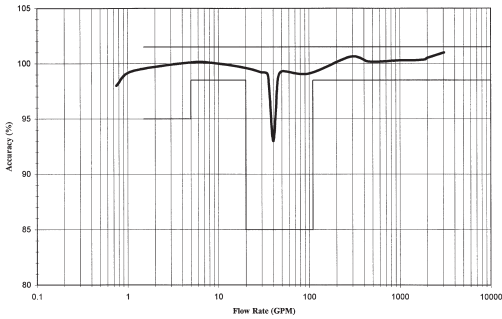
4" HEADLOSS

4" HP PROTECTUS III
HEADLOSS



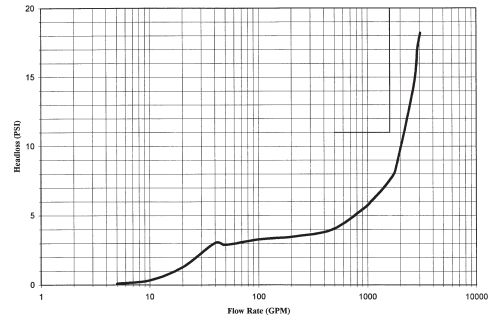
6" ACCURACY

6" HP PROTECTUS III
ACCURACY



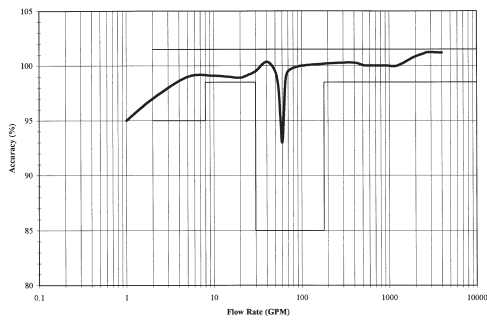
6" HEADLOSS

6" HP PROTECTUS III
HEADLOSS



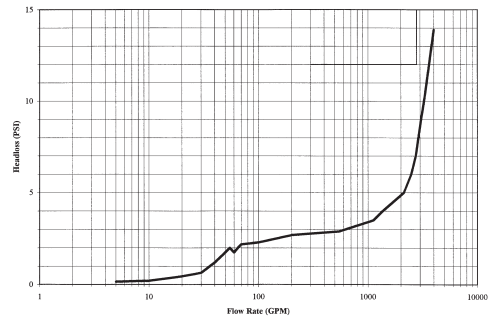
8" ACCURACY

8" HP PROTECTUS III
ACCURACY



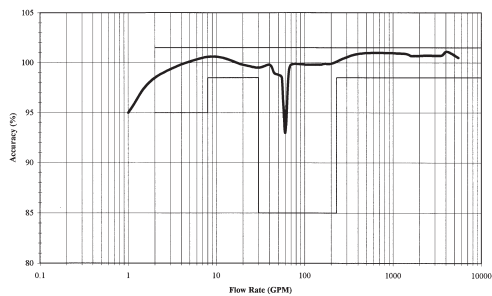
8" HEADLOSS

8" HP PROTECTUS III
HEADLOSS



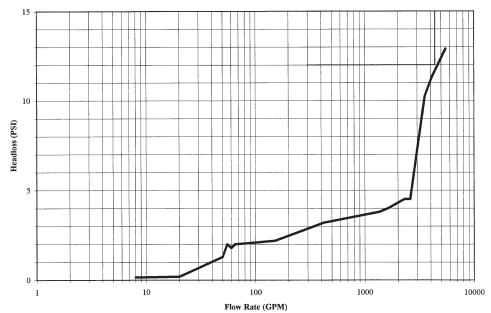
10" ACCURACY

10" HP PROTECTUS III
ACCURACY



10" HEADLOSS

10" HP PROTECTUS III
HEADLOSS



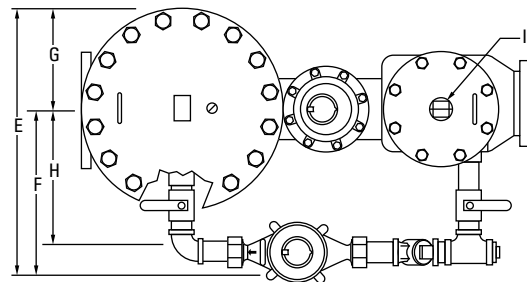
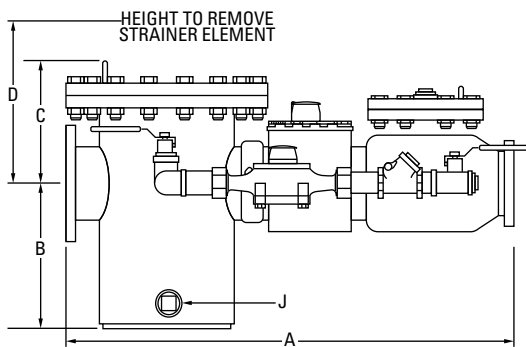
These charts show typical meter performance. Individual results may vary.

OPERATING CHARACTERISTICS

Meter Size	Normal Operating Range* @100% Accuracy (±1.5%)	AWWA Standard	Low Flow @95% Accuracy	Maximum Intermittent Flow Rate
4"	3/4 to 1200 US gpm 0.171 to 272.55 m ³ /h	2 to 700 US gpm 0.45 to 159 m ³ /h	3/8 US gpm 0.09 m ³ /h	1500 US gpm 340.7 m ³ /h
6"	1 1/2 to 2500 US gpm 0.34 to 567.81 m ³ /h	4 to 1600 US gpm 0.91 to 363 m ³ /h	3/4 US gpm 0.17 m ³ /h	3100 US gpm 704.1 m ³ /h
8"	2 to 4000 US gpm 0.45 to 908.5 m ³ /h	7 to 2800 US gpm 1.6 to 636 m ³ /h	1 US gpm 0.23 m ³ /h	5000 US gpm 1135.6 m ³ /h
10"	2 to 6500 US gpm 0.45 to 1476.31 m ³ /h	12 to 4400 US gpm 2.7 to 999 m ³ /h	1 US gpm 0.23 m ³ /h	8000 US gpm 1817 m ³ /h

DIMENSIONS

Meter Size	A	B	C	D	E	F	G	H	I	J	Weight lbs/kg
	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	in/mm	
4"	33 838	10 254	10 3/4 273	17 1/2 445	22 559	15 1/4 387	6 3/4 171	12 305	2 51	2 51	215 98
6"	45 1143	11 1/16 281	11 3/8 289	21 1/4 540	29 737	19 1/2 495	9 1/2 241	16 406	2 51	3 76	570 258
8"	53 1346	11 13/16 300	13 29/64 342	25 7/8 657	34 1/4 870	21 3/4 552	12 1/2 318	17 432	3 76	3 76	765 347
10"	68 1727	14 13/16 376	15 381	30 1/16 764	36 1/4 921	22 1/2 572	13 3/4 349	18 457	3 76	3 76	900 408



GUARANTEED SYSTEMS COMPATIBILITY

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

REGISTRATION

Registration (per sweep hand revolution)		Disc Side			Turbine Side		
		1"	1 1/2"	2"	4"	6"	8" & 10"
1,000	US Gallons				✓	✓	
100	Gallons		✓	✓	✓		
100	Cubic Feet				✓	✓	
10	US Gallons	✓					
10	Cubic Feet		✓	✓	✓		
1	Cubic Foot	✓					
10	Cubic Metres					✓	✓
1	Cubic Metre			✓	✓		
0.1	Cubic Metre	✓	✓				

Register Capacity (6 active wheel odometer)		Disc Side			Turbine Side		
		1"	1 1/2"	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 pressure: 175 psi (1206 kPa)
- Register: 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
- ANSI/NSF 61 Certified
- UL Listed
- FM Approved

OPTIONS

- Sizes: 4", 6", 8", and 10"
- Units of measure: U.S. gallons, imperial gallons, cubic feet, cubic metres
- Register types:
 - Direct reading: Bronze box and cover (standard)
 - Remote reading systems*: ARB V, ProRead, E-Coder, E-Coder)R900i, TRICON/S, TRICON/E3
 - Reclaim
- Companion flanges:
 - Cast iron
 - Bronze (4" only)

* 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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