

ABB® UTILITY MANAGEMENT SYSTEMS™



# HIGH PERFORMANCE PROTECTUS® III S FIRE SERVICE METER

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

The High Performance PROTECTUS III Stainless Steel (S) fire service meter is designed to measure both domestic and fire service water usage through a single water line.



The HP PROTECTUS® III S 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, Annex G and Annex F requirements, and are Underwriters Laboratory (UL) Listed and Factory Manual (FM) Approved for fire service use.

APPLICATION

The HP PROTECTUS III S 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

The combined readings of the mainline turbine and the bypass meter indicate total consumption through the HP PROTECTUS III S meter.

- 300 series stainless steel mainline body
- Integral detector check valve (stainless steel spring-loaded type)
- 300 series stainless steel strainer body with stainless steel basket
- Epoxy-coated steel strainer and valve cover
- 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
  - 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

KEY BENEFITS

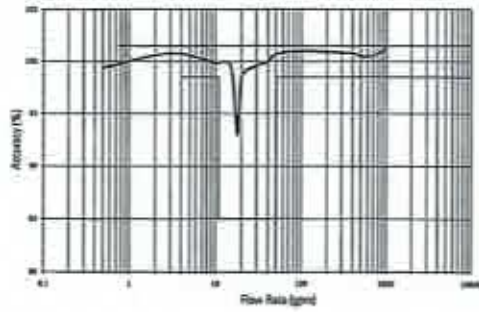
- Component Repair and Maintenance
  - Owner maintenance easily accomplished by replacement of major components
  - Calibration vane allows in-field calibration of unitized measuring element (UME)
- Roll-Sealed Registers
  - Eliminates leaking and fogging
  - In-line serviceability
  - Magnetic driven, low-torque registration
  - Tamperproof seal design

WARRANTY

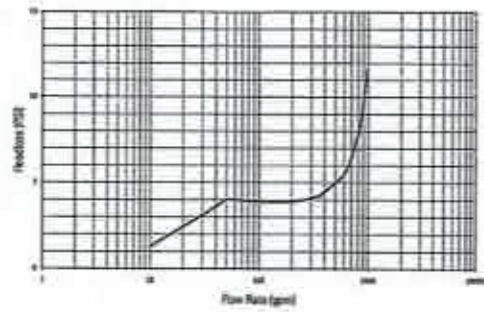
Neptune provides a limited warranty with respect to its HP PROTECTUS III S fire service meter for performance, materials, and workmanship.

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

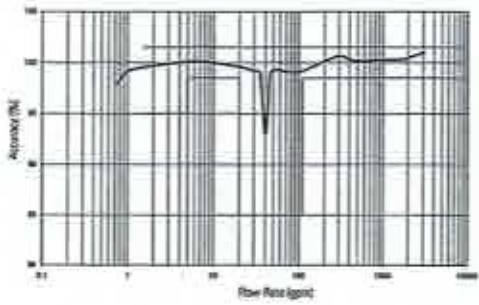
### 4" ACCURACY



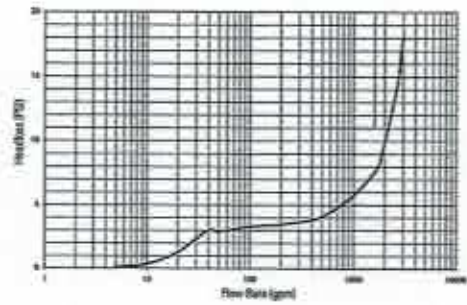
### 4" HEADLOSS



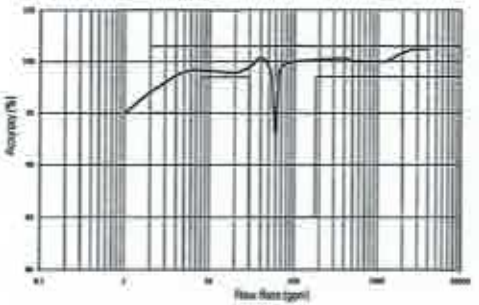
### 6" ACCURACY



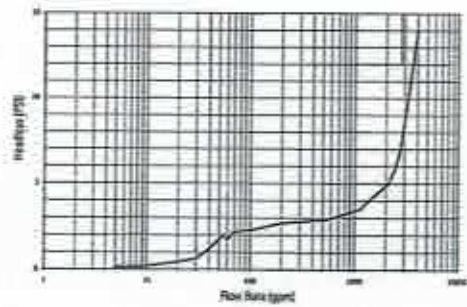
### 6" HEADLOSS



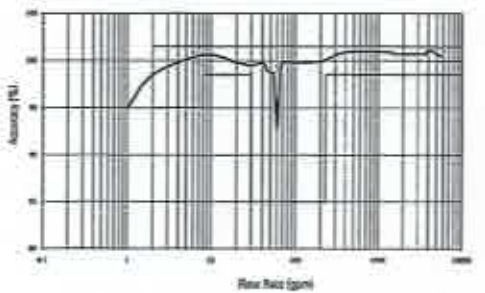
### 8" ACCURACY



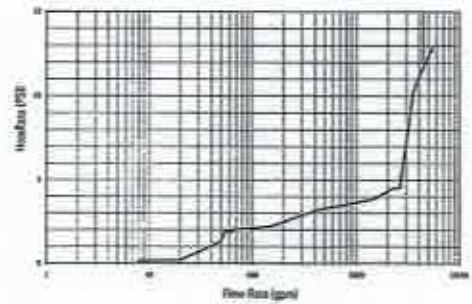
### 8" HEADLOSS



### 10" ACCURACY



### 10" HEADLOSS



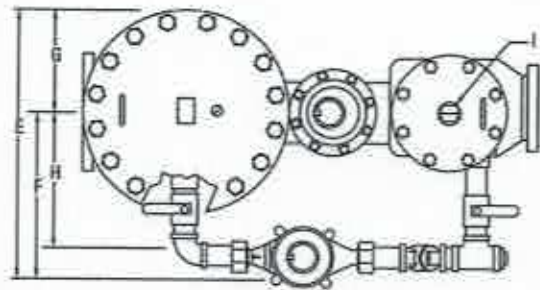
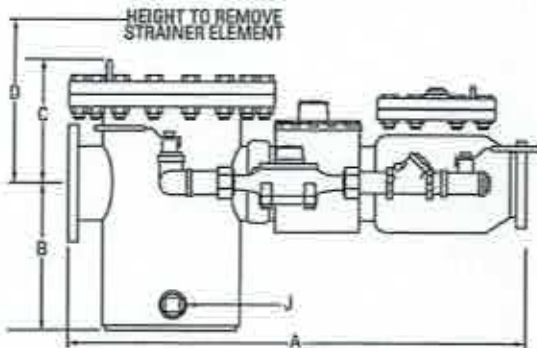
*These charts show typical meter performance. Individual results may vary.*

### 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 0.171 to 272.55 m³/h	4 to 700 US gpm 0.91 to 1.59 m³/h	¾ US gpm 0.09 m³/h	1500 US gpm 340.7 m³/h
6"	1½ 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 1135.6 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	10¾ 273	17½ 445	22 559	15¼ 387	6¾ 171	12 305	2 51	2 51	215 98
6"	45 1143	11¼ 281	11¾ 289	21¼ 540	29 737	19½ 495	9½ 241	16 406	2 51	3 76	570 258
8"	53 1346	11¼ 300	13¾ 342	25¾ 657	34¼ 870	21¾ 552	12½ 318	17 432	3 76	3 76	765 347
10"	68 1727	14¼ 376	15 381	30¼ 764	36¼ 921	22½ 572	13¾ 349	18 457	3 76	3 76	900 408



## GUARANTEED SYSTEMS COMPATIBILITY

All HP PROTECTUS III S fire service meters are guaranteed adaptable to our ARB®V, ProRead™ (ARB VI), E-Coder®, E-Coder®R900™, TRICON®/S, TRICON/E®3, and Neptune meter reading systems without removing the meter from service.

## REGISTRATION

Registration (per sweep hand revolution)	Disc Side			Turbine Side		
	1"	1½"	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"	1½"	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, rotating disc
- Flanges: round flanged ends per AWWA C207, Class D
- NSF/ANSI 61, Annex G and Annex F certified
- UL Listed
- FM Approved
- Sizes: 4", 6", 8", and 10"

## OPTIONS

- 300 series stainless steel strainer cover and valve cover
- 300 series stainless steel bolts
- Left side bypass
- 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/R900, TRICON/S, TRICON/E3
  - Reclaim
- Companion flanges:
  - Cast iron
  - Bronze (4" only)
- Special meter flanges\*\*:
  - 12" (for 10" meter size)

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

\*\*Non-UL/FM approved.

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