

# Flostar

## Residential Meter with Integrated 80W-i Endpoint

### Introduction

In today's water market, accurate measurement is the key to managing finite supplies and capturing revenue for actual consumption. Built upon almost 20 years of industry-leading design and field-proven performance, Itron's Flostar meter has become the most popular single jet residential water meter in the world. The Flostar meter offers unsurpassed accuracy to ensure water used is water measured. Add the wirelessly integrated 80W-i endpoint for an automated meter reading (AMR) solution that delivers measurement accuracy with Itron's proven module performance.

### Flostar features & benefits

The Flostar meter is highly accurate over a wide range of flow rates, ensuring proper measurement of actual consumption, especially at low flows down to 1/16 gallons per minute. Its design and rugged construction ensure long term service and reliability to protect your meter investment. NSF-61 approved, the Flostar residential meter meets stringent industry requirements for the utmost in deployment confidence.

With Flostar residential meters, you can:

- > Realize revenue cycle enhancements with low-flow accuracy, low start-up torque and a wide measuring range.
- > Reduce costs to implement AMR systems with the new integrated 80W-i endpoint, or with the available Cyble module that works with other Itron water AMR products.
- > Enable conservation efforts and programs by more accurately measuring water usage.
- > Receive greater long-term reliability—few moving parts reduce the wear from water-borne grit and particulates that can impact meter performance. A hydro-dynamically balanced impeller and magnetically-coupled register further reduce maintenance efforts.
- > Simplify installation with the availability of meters in a range of industry-standard lay-length models for new and retrofit applications. No upstream or downstream straight pipe is required for the Flostar, further simplifying the installation process.
- > Install the right meter for your application with meter sizes ranging from 1/2 through 1 inch.
- > Improve the efficiency of manual reading with a durable, easy-to-read register with impact resistant glass lens.
- > Deploy products with that are compliant with industry standards. Flostar meters meet or exceed NSF-61 regulations.



#### > Meter performance

- High accuracy at low flows
- Long-term reliability
- Ease of installation

#### > Endpoint reliability

- Wireless integration
- Proven performance
- Leak and tamper alerts
- 20 year battery

### > Flostar 1"



### > 80W-i endpoint



### > Flostar 3/4" with the 80W-i



### > Cyble AMR module



### Working Principle

Flostar's tapered inlet straightens the flow profile, creating a single jet of water that is projected into the measuring chamber, where it strikes the blades of the impeller. The design of the inlet and measuring chamber allows for extremely accurate low flow capabilities. As the impeller turns, a magnetic coupling on top of the shaft rotates the register gears. Coupling the impeller and register magnetically provides reliable measurement in any potable water environment. The register is protected from all outside elements by its hermetically sealed, copper can and glass design. Magnetic tampering is prevented by the placement of an anti-fraud plate in the register.

### 80W-i features & benefits

The new 80W-i AMR endpoint is used exclusively with Itron water meters such as the Flostar, Multimag and Woltex meters and is an integral part of an end-to-end AMR system from Itron. Read by the various collection systems in our ChoiceConnect™ data suite, the 80W-i offers high-power capabilities, wireless integration and advanced leak, reverse flow and tamper detection and a 20-year battery life. The 80W-i is the ideal choice for easy AMR integration with Itron meters. With this endpoint, you can:

- > Simplify installation procedures by mounting the 80W-i directly on meter register with its three locking tabs and mounting screw. A wireless connection to the register streamlines the process and eliminates traditional water intrusion points, making this device ideal for pit installations.
- > Combine highly accurate water consumption detection with proven AMR technology.

- > Reliably gather AMR data with enhanced power output on every fourth bubble-up message; mobile reading performance improved when mounted in pit boxes with metal lids and fixed network coverage is enhanced.
- > Easily migrate your ChoiceConnect™ solution from handheld meter reading to mobile collection to fixed network technology as your business drivers warrant.
- > Operate in the non-licensed 900 MHz RF band.
- > Identify common tamper flags including cut cable, reverse flow and removal events.
- > Actively detect in-home leaks to save water losses and reduce high bills
- > Report up to seven register dials with resolution to 1/10th of a gallon.
- > Ensure optimal performance in the field with a 20 year battery life.
- > Rest easy with a 20 year product warranty.

### Cyble

Cyble technology enables Flostar residential meters to be read with AMR module technologies like the 60 Series and the Water SaveSource endpoint. There are two Cyble module choices: the Cyble Coder and the Cyble Sensor. The Cyble Coder can be configured for a two or three wire application, making it compatible with all major touch pad and AMR systems. The Cyble Sensor is a pulse output device to suit various remote reading applications. A Cyble module can be installed on any meter in the field without having to upgrade the register.

Made in the US.

### Dimensions

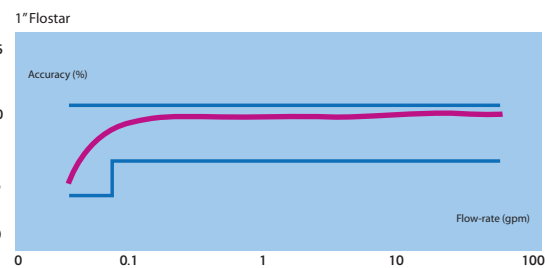
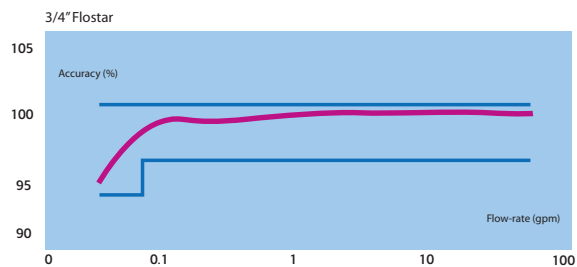
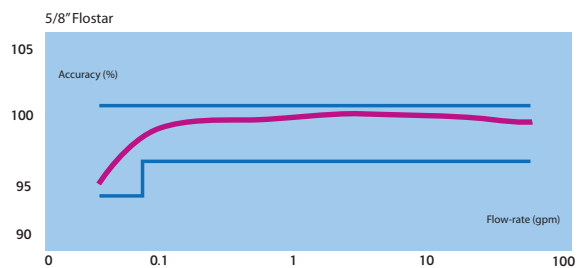
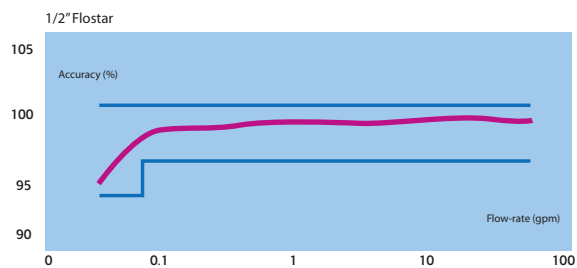
	Units	1/2 x 5/8"	5/8 x 3/4"	3/4" SL*	3/4"	1"
<b>A - Length</b>	inch	7 1/2	7 1/2	7 1/2	9	10 3/4
	mm	190	190	190	229	273
<b>B - Overall Height</b>	inch	4 1/8	5	5	5	5
	mm	105	128	128	128	128
<b>C - Centerline to left side</b>	inch	1 7/8	2 1/2	2 1/2	2 1/2	2 1/2
	mm	46	64	64	64	64
<b>D - Centerline to right side</b>	inch	1 7/8	1 1/8	1 1/8	1 1/8	1 1/8
	mm	46	28	28	28	28
<b>Weight</b>	lb	3.2	3.8	3.8	4.4	5.6
	kg	1.4	1.7	1.7	2	2.6

## Flostar technical characteristics

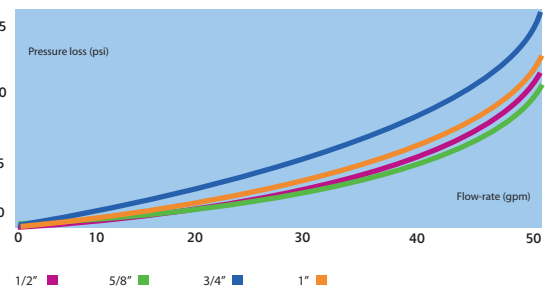
	Units	1/2" x 5/8"	5/8" x 3/4"	3/4"	1"
Normal flow range	gpm	1/8-15	1/4-20	1/2-30	3/4-50
	m3/h	0.03-3.4	0.06-4.55	0.12-6.82	0.17-11.36
Low flow rate – Qmin	gpm	1/32	1/16	1/8	1/4
	L/h	7	15	29	57
Register capacity	USG		10 000 000		100 000 000
	Cu Ft		1 000 000		10 000 000
	m3		100 000		100 000
Sweep hand registration	USG	0.1	0.1	0.1	1
	Cu Ft	0.01	0.01	0.01	0.1
	L/h	1	1	1	1
Maximum working pressure	psi	200	200	200	200
	bar	13.8	13.8	13.8	13.8
Maximum working temperature	o F	122	122	122	122
	o C	50	50	50	50

## Flostar residential meter flow curves

### Accuracy



### Pressure loss



## 80W-i specifications

### Functional

- > Power source: One "D" cell lithium battery rated for an average life of 20 years
- > Operating temperatures: -4°F to +140°F (-20° C to +60°C)
- > Storage temperatures: -40°F to +158° F (-40°C to +70°C)
- > Humidity limits: 0 to 100% (submersible)
- > Meter compatibility: Itron Flostar, Multimag and Woltex meters

### Transmission parameters

- > Data message: Multiple RF channel transmissions of meter register value, cut cable tamper, removal tamper, reverse-flow and system leak status messages broadcast every seven seconds
- > Transmitter frequencies: 910 – 920 MHz
  - Transmit Power: A repeating sequence of three transmit cycles at + 10 dBm (10 milliwatts) followed by one cycle at +24 dBm (1/4 watt). Each transmission is spaced at seven second intervals.

### Approved reading devices

- > Walk-by system: Itron G5, FC200 and FC300 radio equipped handheld computers
- > Drive-by system: Itron Mobile Collection System and Mobile Collector Lite
- > Network system: Fixed Network
- > Minimum software versions:
  - MV-RS: v7.7
    - v7.8 for MC Lite
    - v7.8.6 for FC200SR
  - FCS : v1.6
    - v1.8 for FC200SR
  - PremierPlus4: v3.2
  - Integrator: v5.2

### Approved programming devices

- > FC200SR and FC300 with Endpoint-Link or Endpoint-Link Pro: v5.3.1 or higher

### Physical attributes

- > Dimensions:
  - Length 3"; Width 5 ¼"; Height 2 ½"
- > Weight:
  - 13 oz.

### Mounting requirements

- > Meter register housing must be the three tab design

### Regulatory and standards

- > FCC Part 15.247
- > Industry Canada #210, Section 6.2.2(o)

### About Itron Inc.

Itron Inc. is a leading technology provider to the global energy and water industries. Our company is the world's leading provider of metering, data collection and utility software solutions, with nearly 8,000 utilities worldwide relying on our technology to optimize the delivery and use of energy and water. Our products include electricity, gas and water meters, data collection and communication systems, including automated meter reading (AMR) and advanced metering infrastructure (AMI); meter data management and related software applications; as well as project management, installation, and consulting services. To know more, start here: [www.itron.com](http://www.itron.com)



### Corporate Headquarters

2111 North Molter Road  
Liberty Lake, WA 99019  
USA  
Phone: 1.800.635.5461  
Fax: 1.509.891.3355  
[www.itron.com](http://www.itron.com)