

### APPLICATIONS

The Spectrum Single-Jet Meter is the widest range, single measuring element meter available to U.S. utilities. The Spectrum 1" residential meters are designed for extremely wide range and long-term accuracy. The single-jet technology is highly impervious to dirt, sand or grit in the water system. The combination of design simplicity, superior grade materials, and high quality manufacturing standards allows for years of virtually new meter performance with no maintenance.

The Spectrum S50DL model is a lead-free bronze construction and the S50DLC is a composite (reinforced plastic) construction.

Coupled with the advanced innov8 registers, the Spectrum single-jets are the meter of choice for your revenue assurance and water loss programs.

### OPERATIONS

Incoming water rotates a suspended impeller that is magnetically linked to the register. A low friction tungsten carbide bearing supports the impeller at low flow rates while a tungsten carbide thrust bearing provides the support at high flow rates. This unique "dual bearing" design provides unparalleled accuracy and durability at both high and low flows.



@ low flow



@ high flow

To maintain accuracy, the meter must be installed horizontally ( $\pm 10^\circ$ ) in the direction of water flow.

All Spectrum Model D meters utilize innov8 registers. These sealed electronic registers provide a high resolution interface to the meter and have multiple cellular, AMR, AMI and SCADA outputs. All registers are attached with a robust tamper-resistant housing.



### DESIGN FEATURES

- High accuracy – exceeding high and low range of AWWA residential standards
- Starting flow below 1/16 gpm
- Excellent performance in adverse water conditions
- Advanced materials for long-term durability
- Unaffected by sand or small debris in line
- No straight pipe requirements upstream or downstream of meter
- High resistance to freezing
- Lightweight, compact design for simple installations
- No strainer requirement
- Compatible with all innov8 registers and associated AMR/AMI capabilities.

### MATERIALS

All residential Spectrum Model-D meters are designed and manufactured to meet or exceed AWWA C712 standard design and performance specifications. All Models are maintained with NSF-61G lead-free certifications.

### STANDARDS

AWWA C712 – Single-Jet Meters

NSF-61G – Drinking Water System Components Health Effects

**MECHANICAL SPECIFICATIONS**

<b>Spectrum 50DL</b>	AWWA 1" (25mm)
Construction:	Lead-free brass
Threads	1.25" NPSM
Lay Length	10.75" (273 mm)
<b>Spectrum 50DLC</b>	AWWA 1" (25mm)
Construction:	Composite
Threads	1.25" NPSM
Lay Length	10.75" (273 mm)

**MATERIALS**

S50DL model	
Body:	Low lead Bronze
Impeller:	Polypropylene
Impeller Bearings:	Tungsten Carbide
Impeller Shaft:	AISI 303, Tungsten Carbide tip
S50DLC model	
Composite Body & Top-plate:	Reinforced Nylon (Grivory/Grilamid)
Impeller:	Polypropylene
Impeller Bearing:	Nivaflex
Impeller Pivot:	Sapphire
Impeller Shaft:	Tungsten Carbide
Register Housing:	Thermoplastic

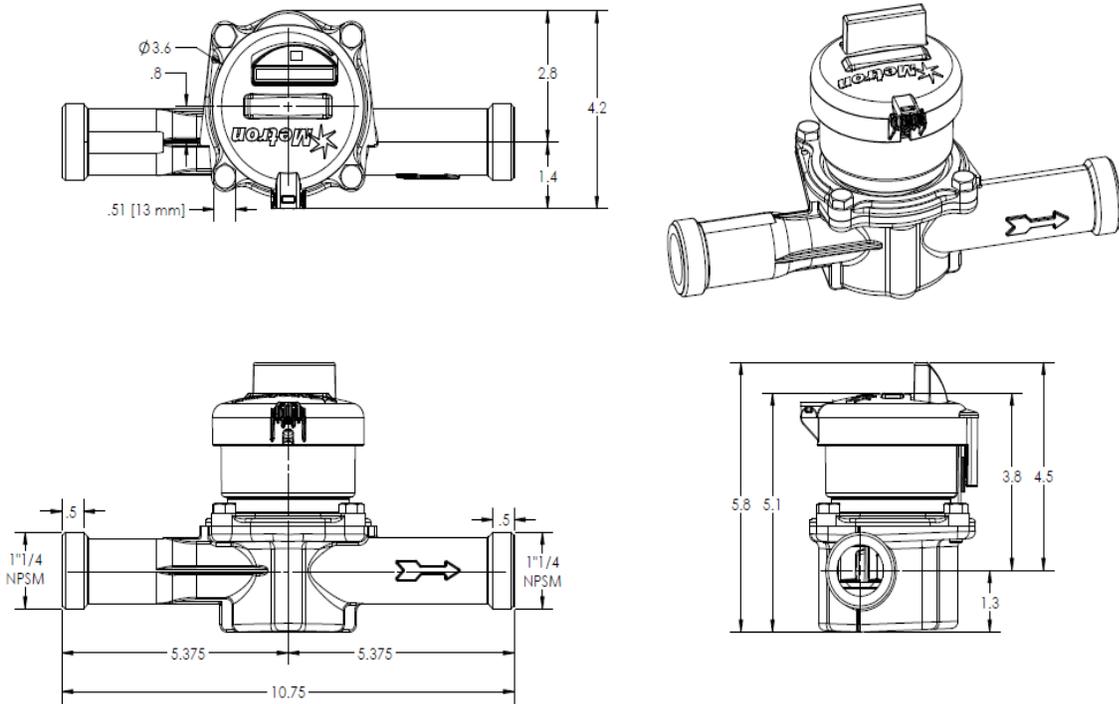
**MARKINGS**

S50DL: Cast/Engraved  
S50DLC: Molded/Engraved

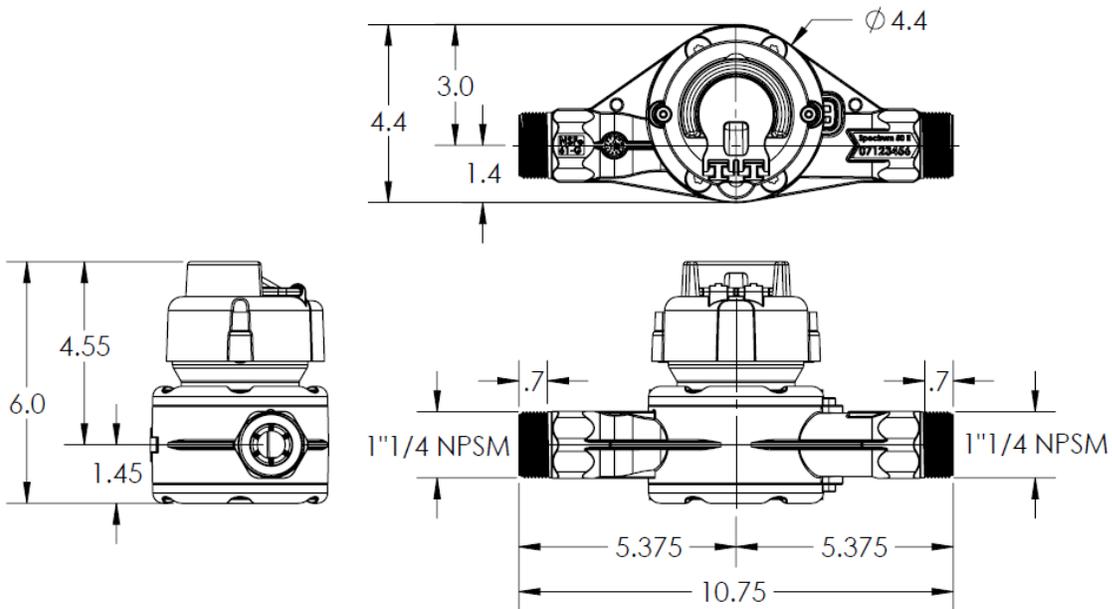
Markings on Meter Body:	Model
	Serial Number
	Date of Manufacture
	NSF-61G
	Direction of Flow

**DIMENSIONS**

**Spectrum 50DL**



**Spectrum 50DLC**



**FLOW & PRESSURE SPECIFICATIONS**

**Spectrum 50DL / 50DLC**

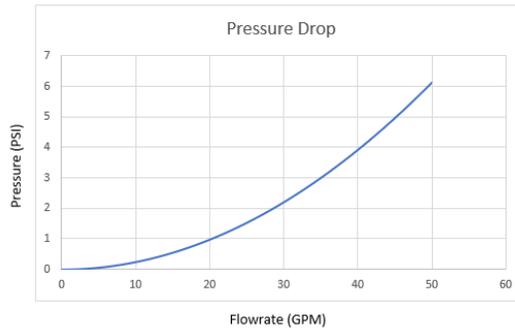
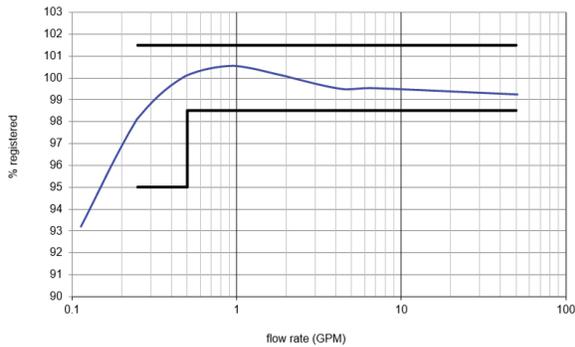
Operating Range (98.5 to 101.5%)	0.5 to 70 gpm	(0.114 to 15.9 m3/hr)
Starting Flow (90% min)	0.125 gpm	(0.028 m3/hr)
Low Flow (95% min)	0.25 gpm	(0.057 m3/hr)
Max Continuous Duty <sup>1</sup>	50 gpm	(11.4 m3/hr)
Max Intermittent <sup>2</sup>	70 gpm	(15.9 m3/hr)
Pressure Loss at Max Continuous		
S50DL	6.1 psi	(0.42 bar)
S50DLC	14.1 PSI	(0.97 bar)
Max Operating Pressure	230 psi	(15.9 bar)
Max Operating Temperature	140 °F	(60 °C)

**Notes**

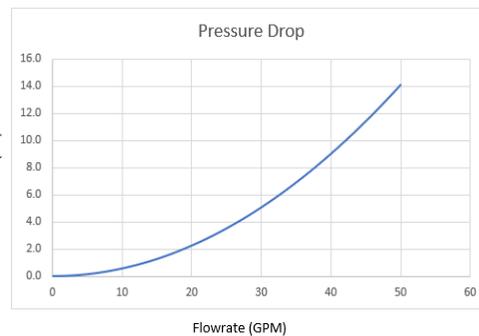
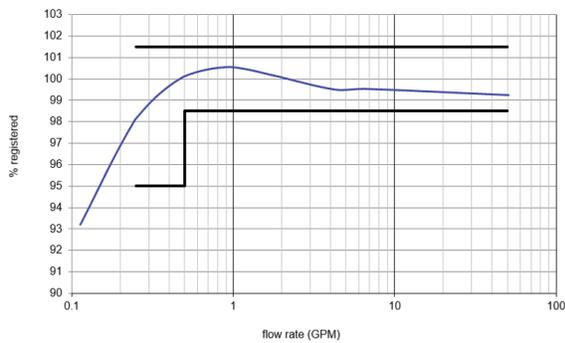
- 1 Max Continuous defined by AWWA as flow rate which can be maintained 24 hrs/day x 7 days/week
- 2 Max Intermittent defined as flow rate which can be maintained 1 hr/day average

**ACCURACY & PRESSURE DROP CURVES**

**S50DL**

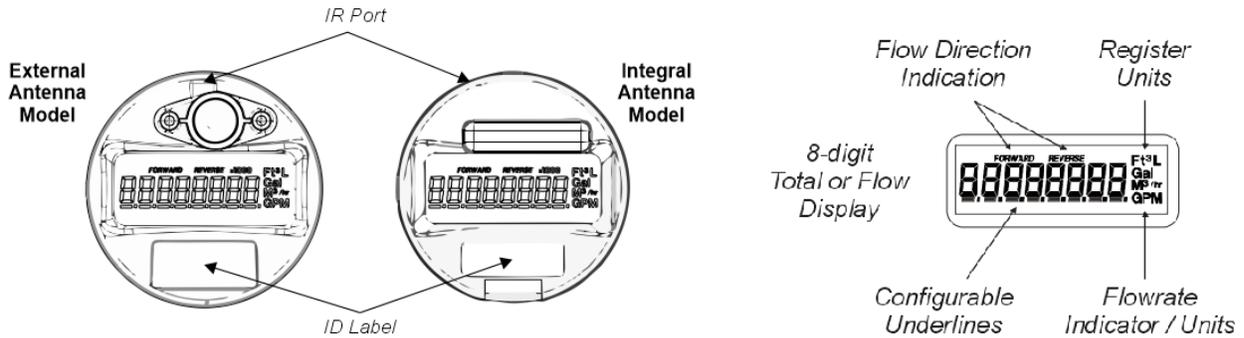


**S50DLC**



**REGISTERS**

The innov8 electronic register is the water industry’s new standard for register performance. The innov8 offers maximum resolution, a multitude of standard features, on-board datalogging and a variety of cellular, AMI, AMR and SCADA output options. The innov8 is designed for all environments and incorporates the largest battery available for utility applications. The innov8 can be deployed on any Metron Spectrum or Enduro Model D water meter.



<p><b>USG Configuration</b> 0.1 Gallon Resolution</p>	<p>USG - Residential Meters (x0.1)</p>	<p>USG Flowrate - All Meters (x0.01)</p>
<p><b>Ft3 Configuration</b> 0.01 Ft3 Resolution</p>	<p>Ft3 - Residential Meters (x0.01)</p>	<p>Ft3 Flowrate - All Meters (x0.01)</p>
<p><b>m3 Configuration</b> 0.001 m3 Resolution</p>	<p>m3 - Residential Meters (x0.001)</p>	<p>m3 Flowrate - All Meters (x0.001)</p>

**WARRANTY**

Please contact your Metron representative for formal warranty certificates.

**LEGAL**

Due to updated regulations and product improvements, Metron-Farnier reserves the right to change the product specifications without notice.

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