Residential Construction

320 W. Central Ave.
Springboro, Ohio 45066
(937) 748-9791 PH
(937) 748-6860 FX
build@cityofspringboro.com

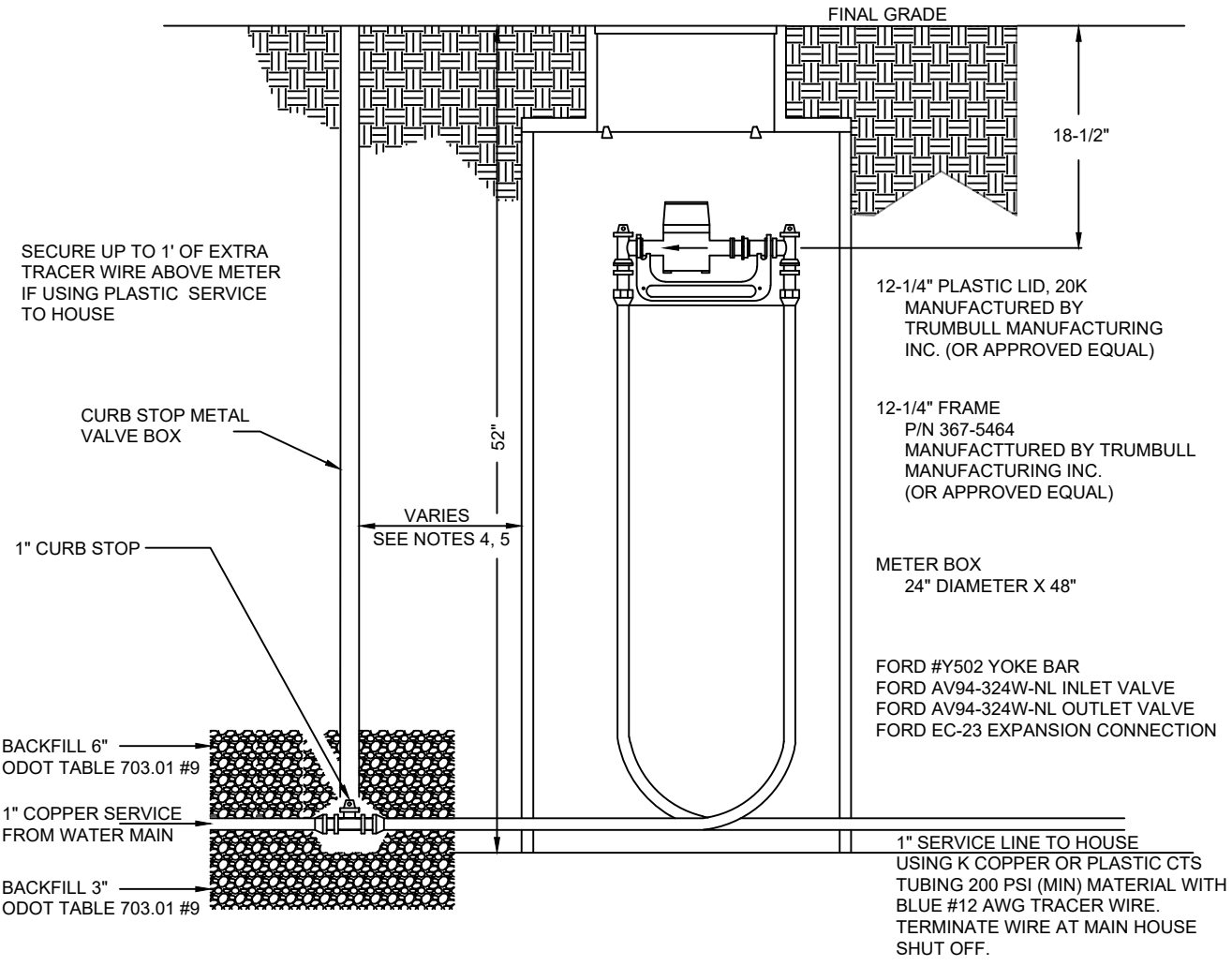
SANITARY SEWER LATERAL

1. All sewer laterals shall be inspected in their entirety before covering.
2. Sewer laterals shall be 4 inch diameter minimum SDR 35 or schedule 40 PVC with a minimum 2 % slope.
3. All joints shall be glued with a minimum of 24 inches between elbows.
4. All "bell" ends of piping must be oriented upstream of flow.
5. All laterals shall be bedded with 6 inches minimum of gravel, pea gravel, sand, or sandy nines.
6. Maximum spacing between cleanouts is 100 feet.
7. Slab on grade homes are to have a cleanout within 3 feet of foundation.
8. Sanitary laterals installed prior to foundation installation shall be terminated with a glued Schedule 40 cap.
9. Sewer laterals in driveways or aprons must be backfilled to grade with gravel.
10. Sewer laterals shall be installed a minimum of 10 feet from or 12 inches below any waterline.

WATER LATERAL

1. See Page 2 for pit meter requirements
2. See water meter specifications below. **Please direct all questions regarding water meter specifications to the Utility Clerk at 937-748-4360.**
3. 48 inch minimum depth.
4. Minimum water line size: 1 inch.
5. All waterlines shall be inspected in their entirety before covering.
6. All waterlines shall be bedded with 6 inches minimum of gravel, sandy nines, sand or pea gravel.
7. All couplers (pack joints) shall be compression type. Flare type couplers and valves are not permitted.
8. Water laterals may be placed under footings but shall **not** be installed under porches.
9. Water laterals in crawlspaces must be installed underground until the point directly below entry into the house.
10. A pressure regulator shall be installed. **The City does not provide or install the required pressure regulator.**
11. A dual check valve complying with ASSE No. 1024 and approved by the Service Director shall be installed immediately inside the structure and prior to any point of use.
12. Installation of a water meter jumper shall result in substantial fines.
13. **Please call the Utility Clerk at 748-4360 for water meter installation.**

CITY OF SPRINGBORO
STANDARD INSTALLATION FOR RESIDENTIAL (5/8" X 3/4" METER)
WATER SERVICE CONNECTION



FORD COMPRESSION B44-444 OR MUELLER NO. B-25209, OR APPROVED EQUAL

NOTES:

1. WATER METER AND REMOTE READER (MTU) TO BE FURNISHED UPON REQUEST TO UTILITY DEPARTMENT (937-748-4343), AND PAYMENT OF SERVICE CONNECTION CHARGE.
2. SERVICE LINE FROM MAIN TO YOKE ASSEMBLY INLET (LOCK) STOP TO BE 1" DIAMETER NOMINAL TYPE K COPPER
3. SERVICE LINE FROM YOKE ASSEMBLY OUTLET STOP TO BE 1" DIAMETER NOMINAL MATERIAL K COPPER OR PLASTIC CTS TUBING 200 PSI (MIN.) MATERIAL WITH BLUE #12 AWG TRACER WIRE.
4. CENTER OF WATER METER PIT TO BE LOCATED 2 FEET OUTSIDE OF UTILITY EASEMENT AND IS NOT PERMITTED TO BE IN DRIVEWAY OR SIDEWALK.
5. CURB STOP AND VALVE BOX TO BE LOCATED IN TREE LAWN, 1 FOOT FROM SIDEWALK, 1 FOOT MIN. OUTSIDE OF DRIVE APRON.
6. BACKFLOW DEVICE AND PRESSURE REDUCER MUST BE INSTALLED PRIOR TO WATER METER BEING FURNISHED.
7. WATER LATERAL TO HOUSE SHALL NOT BE LOCATED UNDER ANY PORCH.

CITY OF SPRINGBORO ENGINEERING DEPARTMENT		
RESIDENTIAL SERVICE CONNECTION		
DATE 2025-2-2	NOT TO SCALE	

METRON Spectrum JET

Residential Spectrum Jet Meters

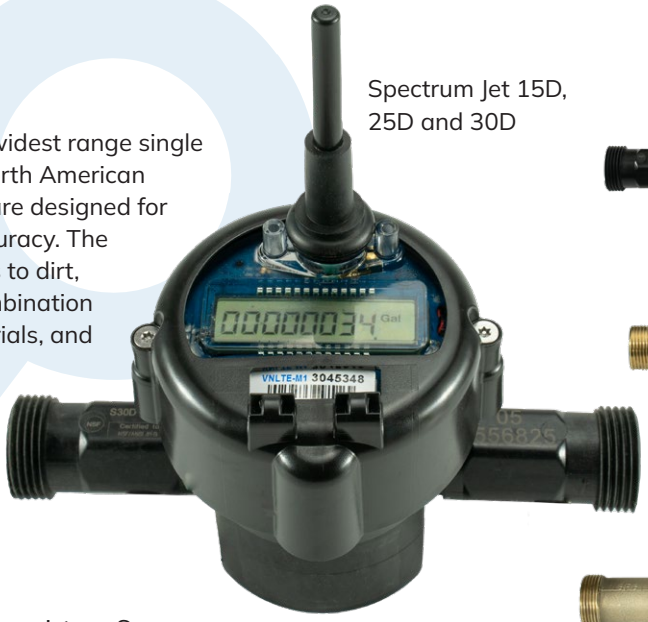
Product Datasheet

Applications

The Spectrum Jet single-jet meter is the widest range single measuring element meter available to North American utilities. Spectrum Jet 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.

Spectrum Jet residential meters are available in composite (reinforced plastic) and lead-free bronze models across all common residential sizes.

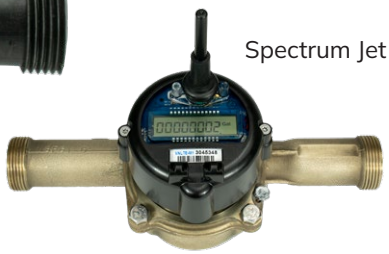
Coupled with the advanced Prism cellular registers, Spectrum Jet single-jets are the meters of choice for your revenue assurance and water loss programs.



Spectrum Jet 15D, 25D and 30D

Spectrum Jet 30DL

Spectrum Jet 30DB



Spectrum Jet 50DL

All meters are shown with Prism cellular registers installed

Spectrum Jet 50DLC

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.

To maintain accuracy, the meter must be installed horizontally (±10°) in the direction of water flow.

All Spectrum Jet Model D meters utilize Prism 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.

Materials

All residential Spectrum Jet 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

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 Metron Prism registers and associated AMR/AMI capabilities

Mechanical Specifications

CONSTRUCTION	THREADS	LAY LENGTH
Spectrum Jet 15D - AWWA ⅝ x ½" (15mm) Short		
Composite	¾" NPSM	3.9" (100mm)
Spectrum Jet 25D - AWWA ⅝ x ½" (15mm)		
Composite	¾" NPSM	7.5" (190mm)
Spectrum Jet 30D - AWWA ⅝ x ¾" (15x20mm)		
Composite	1" NPSM	7.5" (190mm)
Spectrum Jet 30DB - AWWA ⅝ x ¾" (15x20mm)		
Lead-free brass body + Composite plates	1" NPSM	7.5" (190mm)
Spectrum Jet 30DL - AWWA ¾ x ¾" (20mm)		
Composite	1" NPSM	9.0" (230mm)
Spectrum Jet 50DL - AWWA 1" (25mm)		
Lead-free brass	1.25" NPSM	10.75" (273mm)
Spectrum Jet 50DLC - AWWA 1" (25mm)		
Lead-free brass	1.25" NPSM	10.75" (273mm)

Materials

Spectrum Jet 25/30Dx Models

Composite Body & Top-plate	Brass Body & Top-plate	Impeller	Impeller Bearing	Impeller Pivot	Impeller Shaft
Reinforced Nylon (Polyamide 12)	EcoBrass™- Lead Free Brass	Polypropylene	Nivaflex	Sapphire	Tungsten Carbide

Spectrum Jet 50DL/50DLC Models

Body	Impeller	Impeller Bearings	Impeller Shaft
Low-lead Bronze: ASTM C875	Polypropylene	Tungsten Carbide	AISI 303 Tungsten Carbide Tip

Register Housing: Thermoplastic

Markings

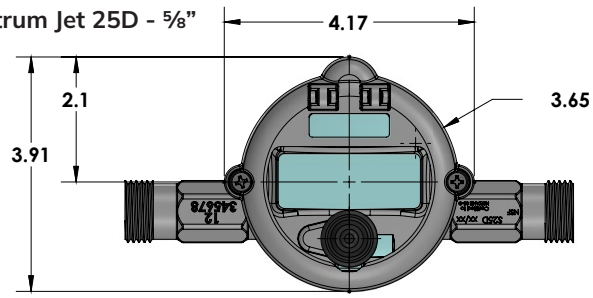
Engraved on Meter Body:

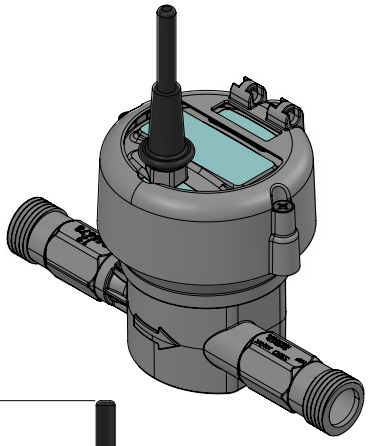
- Model
- Serial Number
- Date of Manufacture
- NSF-6
- Direction of Flow

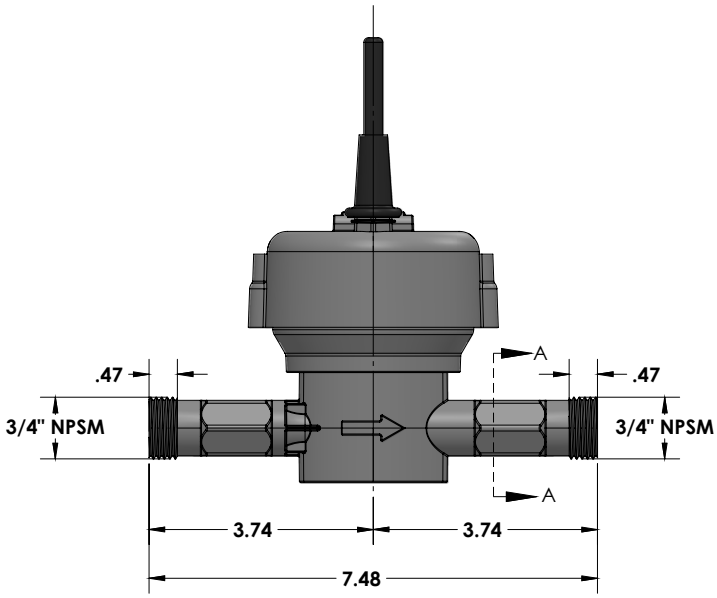
Dimensions (inches)

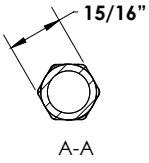
Spectrum Jet 15D - ⅝” Short: Contact Metron

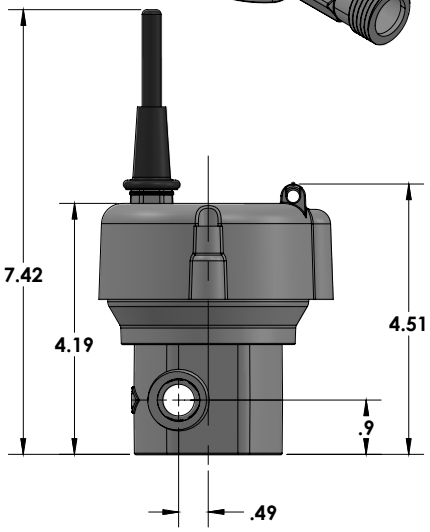
Spectrum Jet 25D - ⅝”



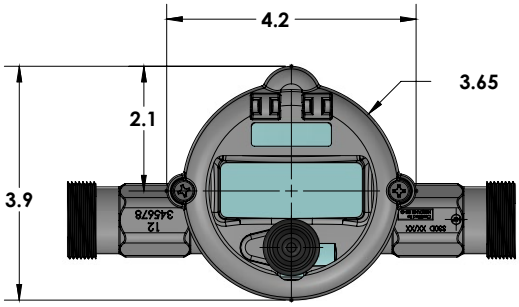


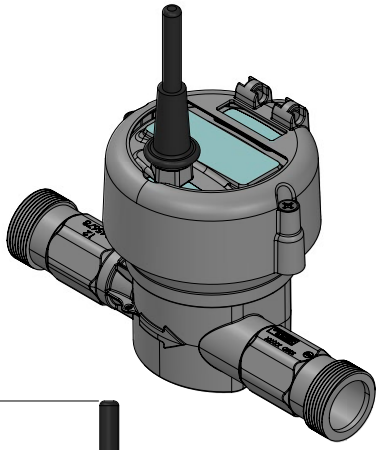


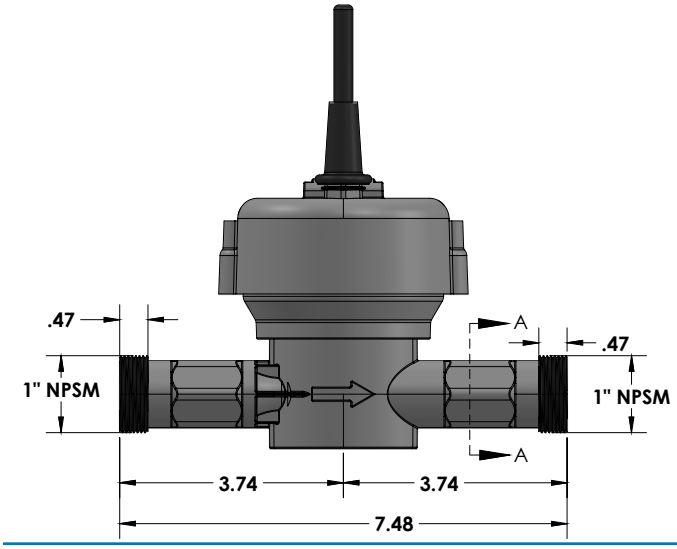


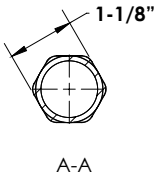


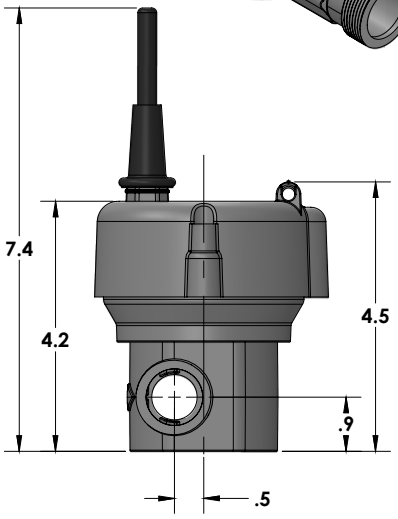
Spectrum Jet 30D and 30DB - ⅝ x ¾”



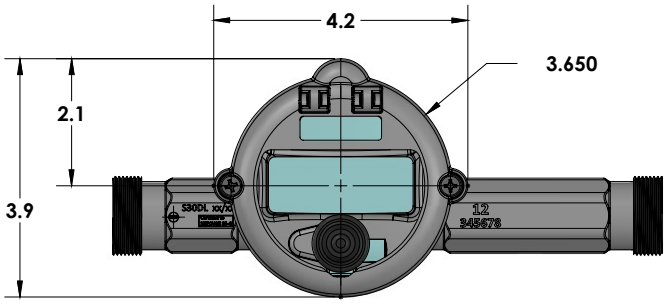


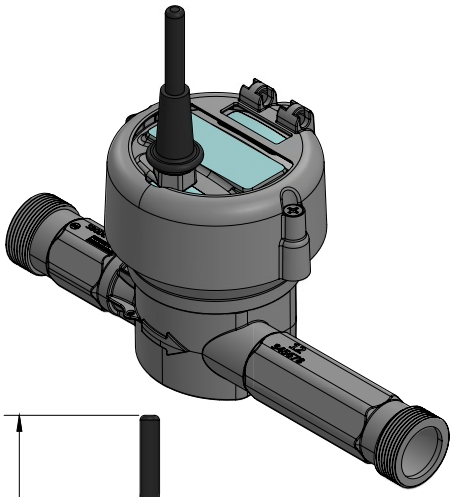


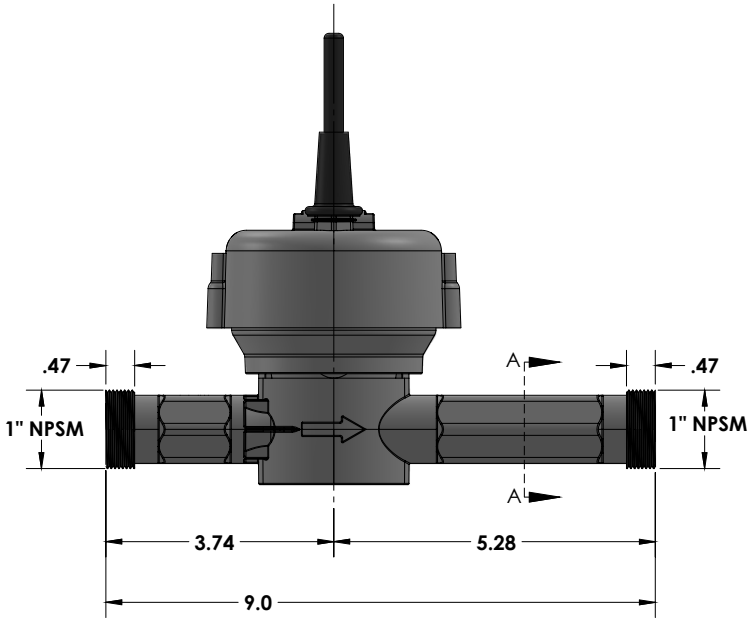


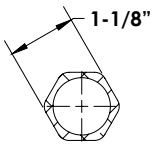


Spectrum Jet 30DL - ¾”

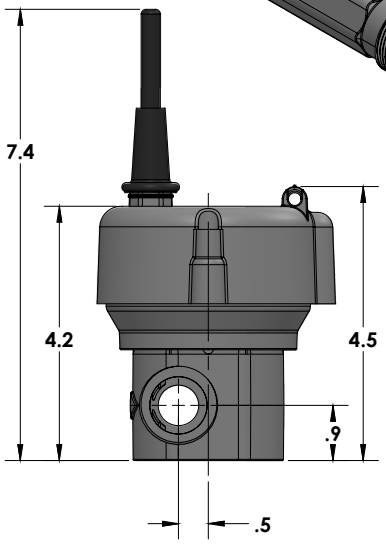




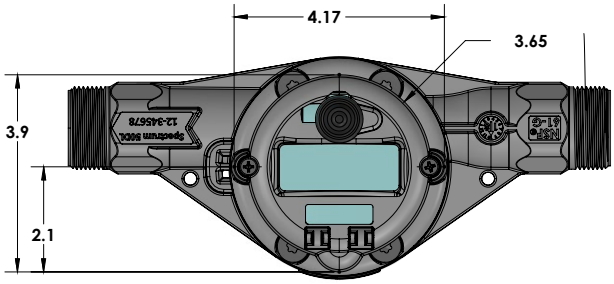


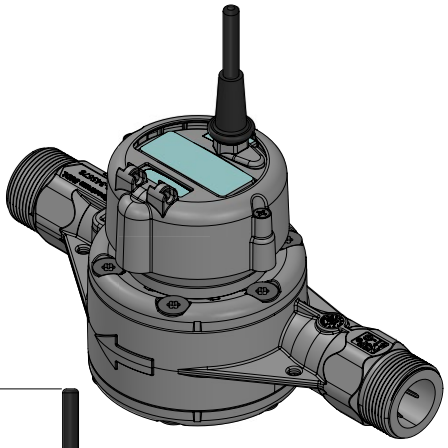


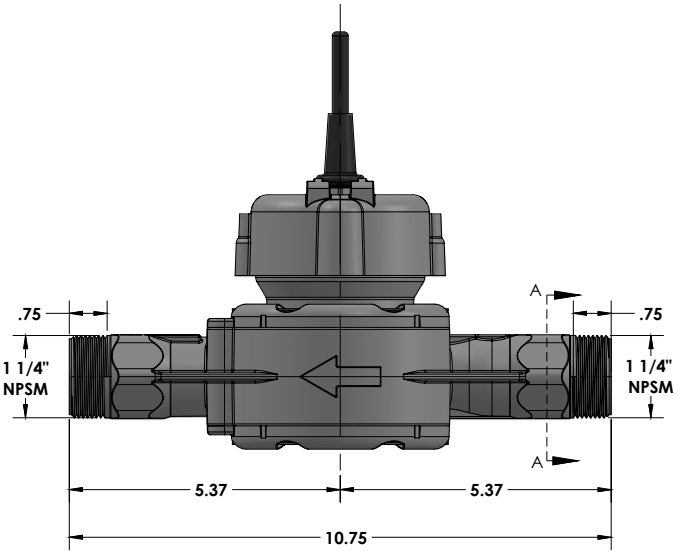
SECTION A-A

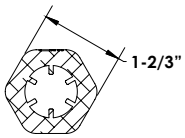


Spectrum Jet 50DL - 1”









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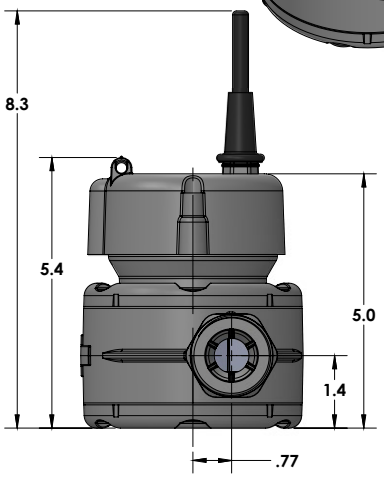
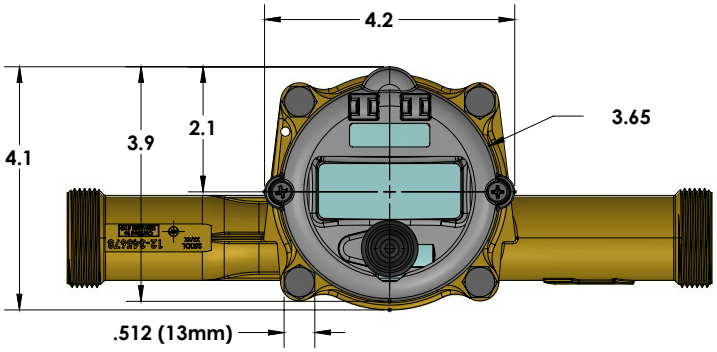
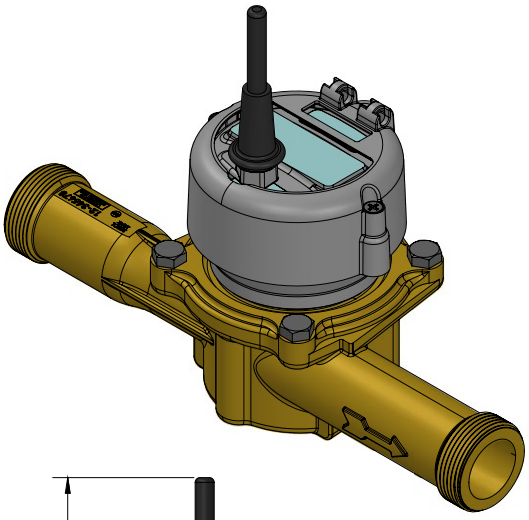
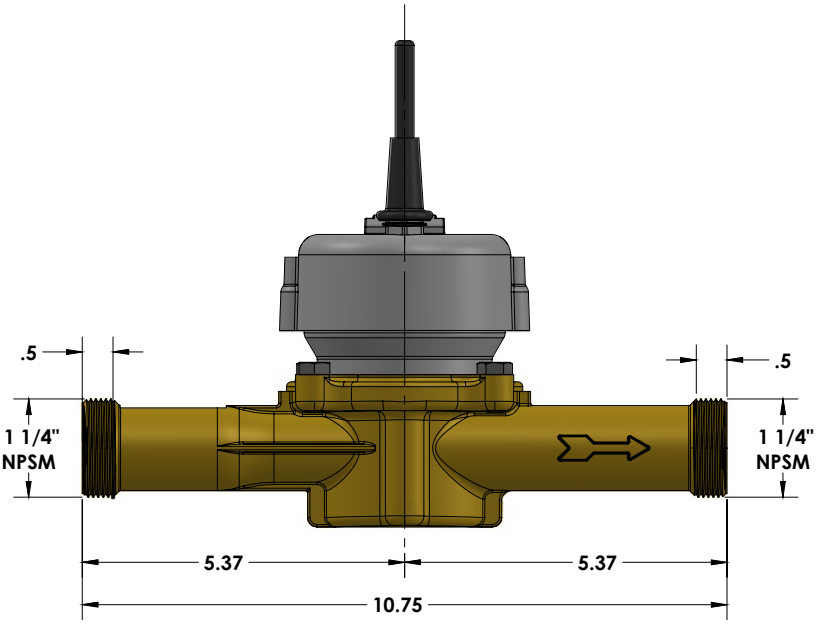
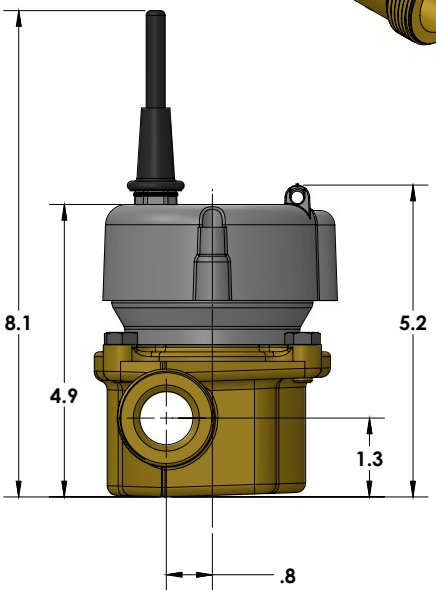


Spectrum Jet 50DLC - 1”









Flow & Pressure Specifications

Spectrum Jet 15D - ⅝ Short Model

Operating Range (98.5 to 101.5%)	0.088 to 15 gpm	0.02 to 3.4 m³/hr
Low Flow (95% min)	0.06 gpm	0.014 m³/hr
Max Continuous Duty[1]	15 gpm	3.4 m³/hr
Max Intermittent[2]	20 gpm	4.5 m³/hr
Pressure Loss at Max Continuous	10 psi	0.69 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	140° F	60° C

Notes:

1. Starting flow rate for reference only
2. Max Continuous defined by AWWA as flow rate which can be maintained 24 hrs/day x 7 days/week
3. Max Intermittent defined as flow rate which can be maintained 1 hr/day average

Flow & Pressure Specifications

Spectrum Jet 25D - ⅝” Model

Operating Range (98.5 to 101.5%)	0.125 to 20 gpm	0.028 to 4.5 m³/hr
Low Flow (95% min)	0.0625 gpm	0.0142 m³/hr
Max Continuous Duty[1]	20 gpm	4.5 m³/hr
Max Intermittent[2]	30 gpm	6.8 m³/hr
Pressure Loss at Max Continuous	22 psi	1.51 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	140° F	60° C

Spectrum Jet 30D/30DB - ⅝ x ¾” Model

Operating Range (98.5 to 101.5%)	0.125 to 30 gpm	0.028 to 6.8 m³/hr
Low Flow (95% min)	0.0625 gpm	0.0142 m³/hr
Max Continuous Duty[1]	30 gpm	6.8 m³/hr
Max Intermittent[2]	40 gpm	9.1 m³/hr
Pressure Loss at Max Continuous	13 psi	0.9 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	140° F	60° C

Spectrum Jet 30DL - ¾” Model

Operating Range (98.5 to 101.5%)	0.125 to 30 gpm	0.028 to 6.8 m³/hr
Low Flow (95% min)	0.0625 gpm	0.0142 m³/hr
Max Continuous Duty[1]	30 gpm	6.8 m³/hr
Max Intermittent[2]	40 gpm	9.1 m³/hr
Pressure Loss at Max Continuous	13 psi	0.9 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	140° F	60° C

Notes:

1. Starting flow rate for reference only
2. Max Continuous defined by AWWA as flow rate which can be maintained 24 hrs/day x 7 days/week
3. Max Intermittent defined as flow rate which can be maintained 1 hr/day average

Flow & Pressure Specifications

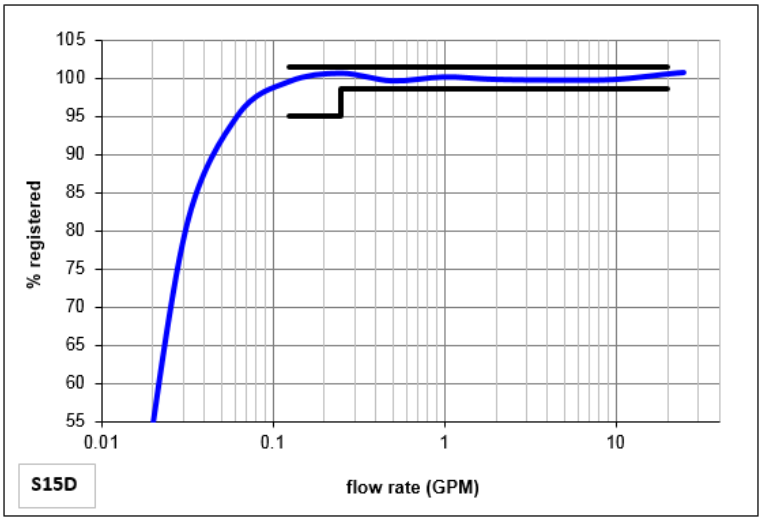
Spectrum Jet 50DL - 1” Model

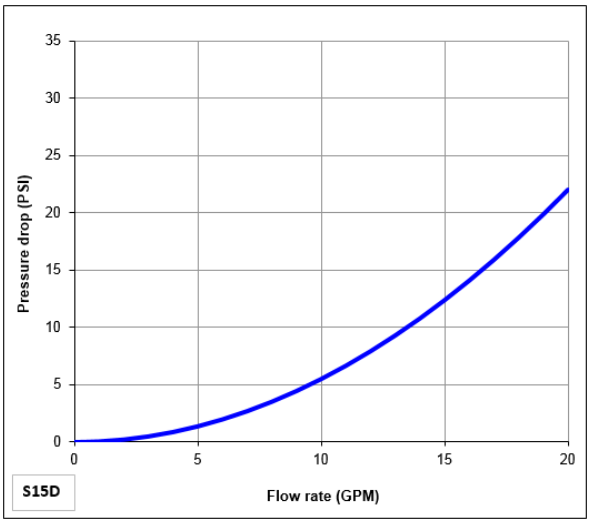
Operating Range (98.5 to 101.5%)	0.5 to 70 gpm	0.114 to 15.9 m³/hr
Low Flow (95% min)	0.125 gpm	0.028 m³/hr
Max Continuous Duty[1]	50 gpm	11.4 m³/hr
Max Intermittent[2]	70 gpm	15.9 m³/hr
Pressure Loss at Max Continuous	8.0 psi	0.55 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	140° F	60° C

Spectrum Jet 50DLC - 1” Model

Operating Range (98.5 to 101.5%)	0.5 to 70 gpm	0.114 to 15.9 m³/hr
Low Flow (95% min)	0.125 gpm	0.028 m³/hr
Max Continuous Duty[1]	50 gpm	11.4 m³/hr
Max Intermittent[2]	70 gpm	15.9 m³/hr
Pressure Loss at Max Continuous	8.0 psi	0.55 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	194° F	90° C

Spectrum Jet 15D



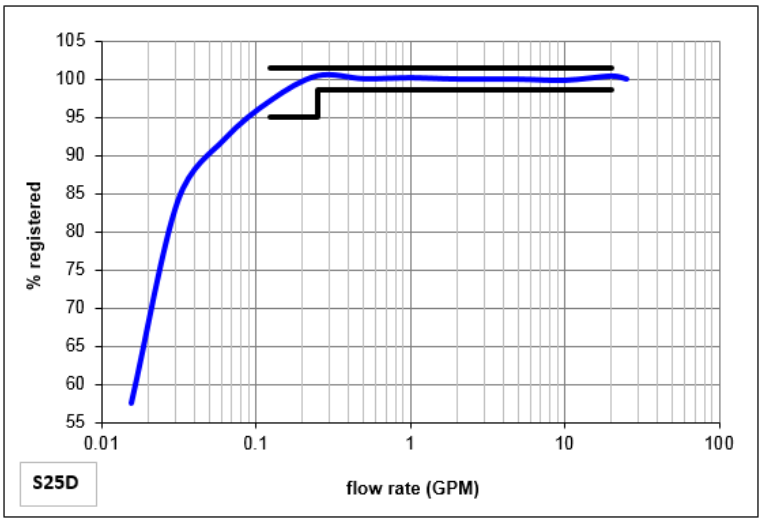


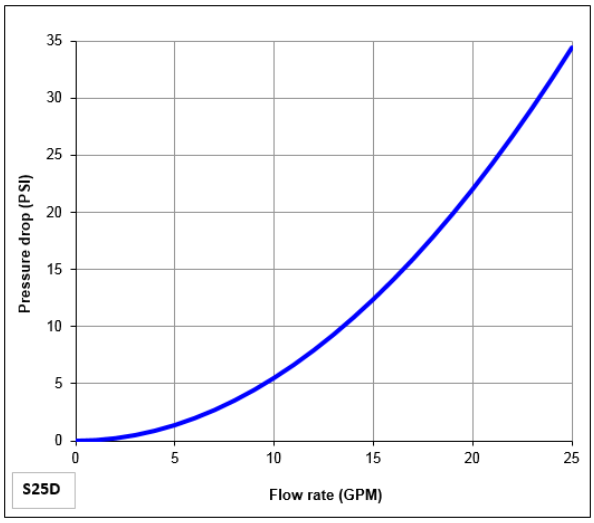
Notes:

1. Starting flow rate for reference only
2. Max Continuous defined by AWWA as flow rate which can be maintained 24 hrs/day x 7 days/week
3. Max Intermittent defined as flow rate which can be maintained 1 hr/day average

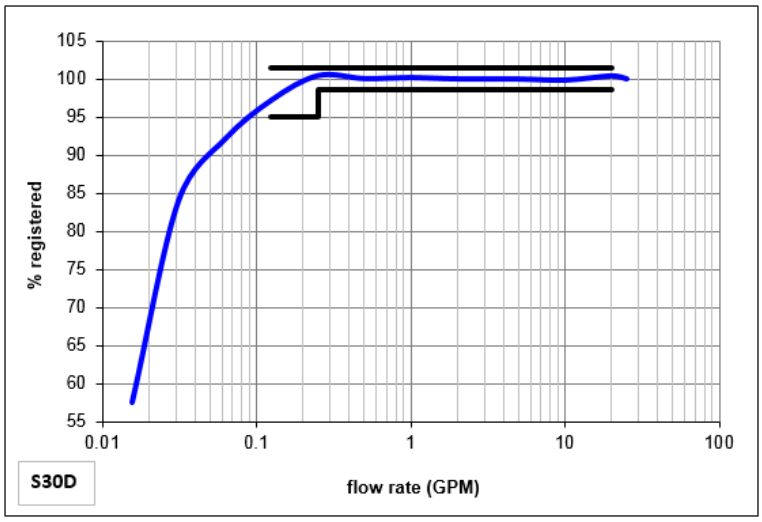
Flow & Pressure Specifications

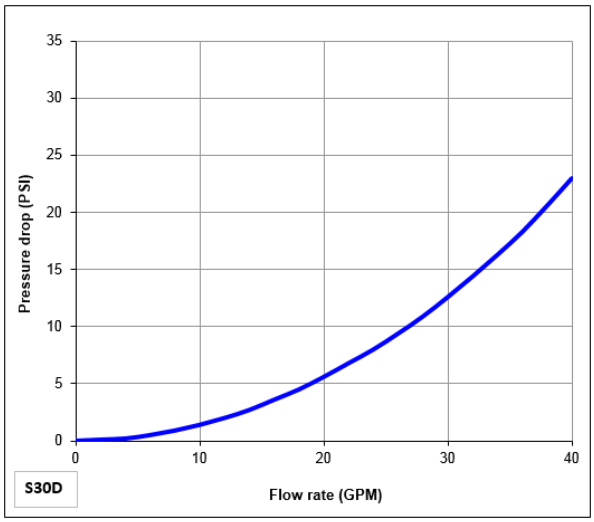
Spectrum Jet 25D



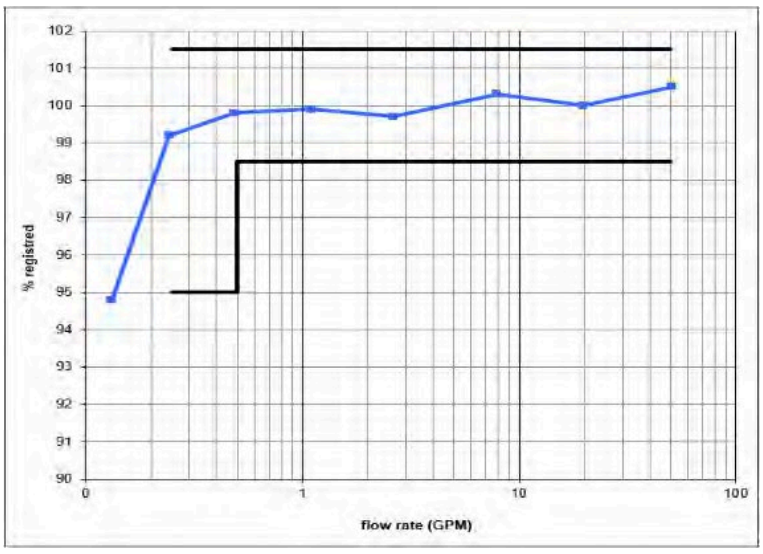


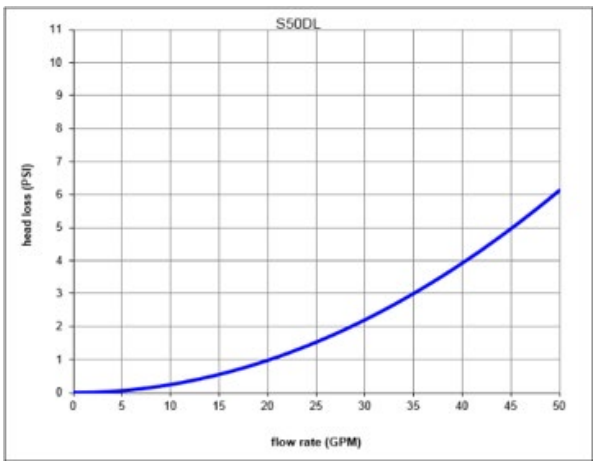
Spectrum Jet 30D / 30DB / 30DL





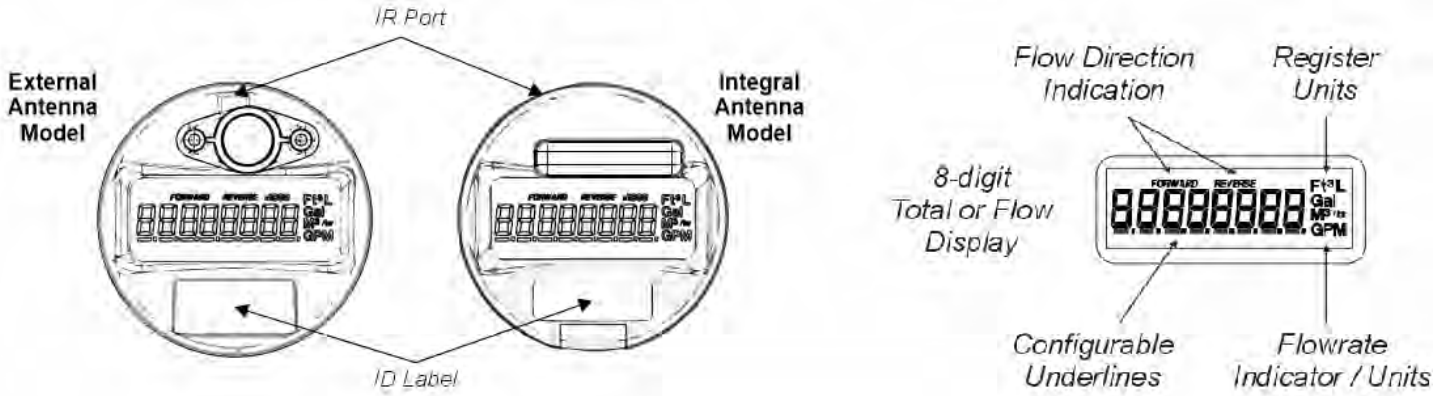
Spectrum Jet 50DL / 50DLC

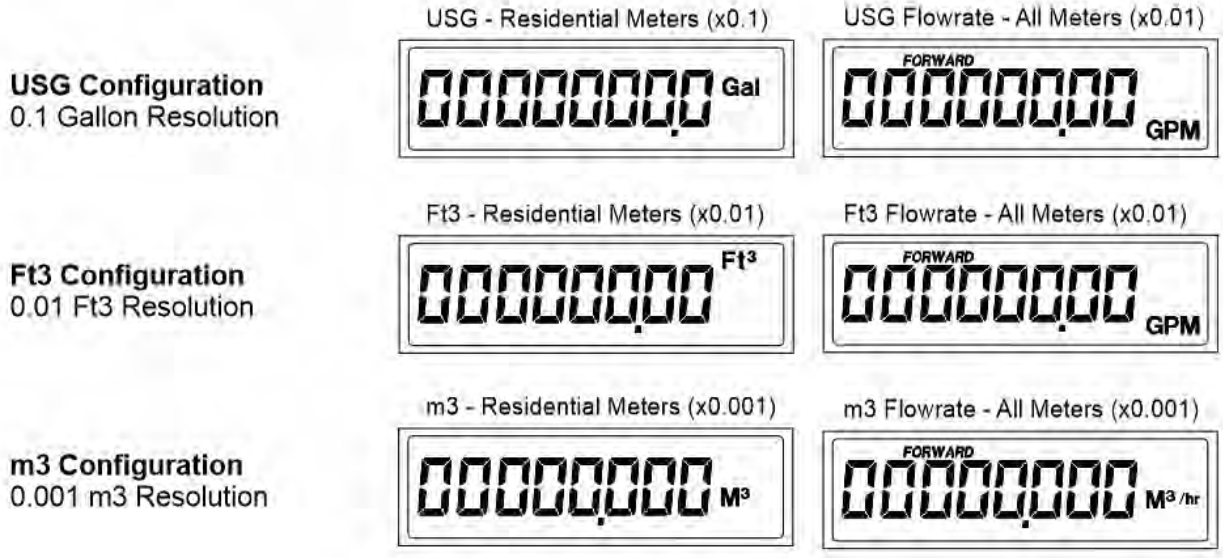




Applications

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





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.

METRON Spectrum PD

Spectrum PD Ultra-Low Flow Meter

Product Datasheet

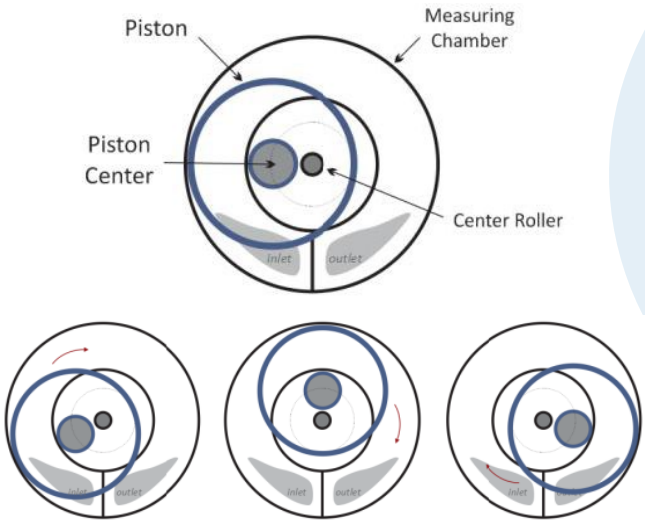
Applications

The Spectrum PD is a high performance oscillating piston water meter providing extreme low flow measurement. It improves upon traditional positive displacement meters with a unique self-cleaning mechanism, which allows the meter to operate with dirty, gritty water. The composite meter is extremely light and does not require any straight pipe for installation.

The Spectrum PD meter is paired with the Prism register to provide smart metering capabilities with high resolution data-logging and a variety of AMR and AMI options. This combination of design simplicity, superior grade materials, and high quality manufacturing standards allows for years of virtually new meter performance with no maintenance.

Operations

The Spectrum PD meter is designed with an oscillating piston with unique features to eliminate friction due to debris in the water. As shown, water enters from inlet, drives the piston around the center roller and then exits the outlet.



Artistic rendering only

To maintain accuracy, the meter must be installed horizontally (±10°) in the direction of water flow.

The Spectrum PD residential meter utilizes the Prism register. This sealed electronic register provides a high resolution interface to the meter and has multiple cellular, AMR, AMI and SCADA outputs. The register is attached with a robust tamper-resistant housing.

Design Features

- High accuracy – exceeding high and low range of AWWA residential standards
- Accurate measurement above 1/30th gpm
- Unaffected by sand or small debris in line
- Resistant to friction wear
- No measurement of air in line
- No straight pipe requirements upstream or downstream of meter
- No strainer requirement
- Lightweight and tough composite meter body

Materials

The Spectrum PD meter is designed and manufactured to meet or exceed AWWA C710 standards design and performance specifications. All models are maintained with NSF-61G lead-free certifications.

Standards

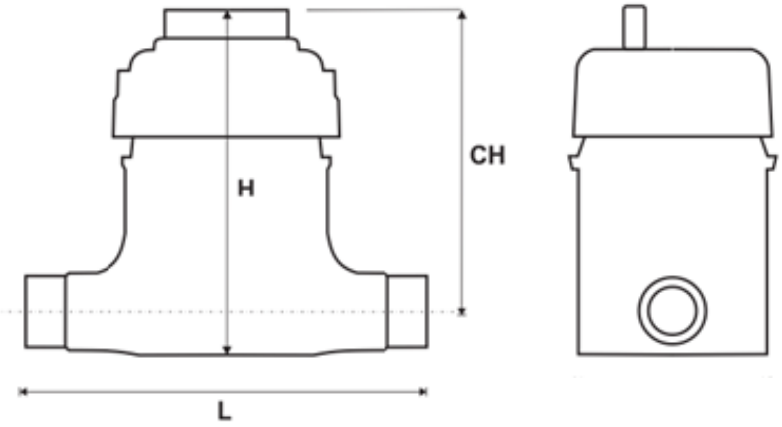
AWWA C710 – Displacement Type, Plastic Case

NSF-61G – Drinking Water System Components Health Effects

Mechanical Specifications

DIMENSIONS

Size	AWWA 5/8x3/4” (15x20mm)
Lay Length, L	7.5” (190 mm)
Overall Height, H	6.5” (165 mm)
Centerline Height, CH	5.75” (146 mm)
Overall Width	3.4” (86 mm)
Weight	2.05 lb (0.93 kg)
Threads	1” NPSM



MATERIALS

Body and top plate	Nylon composite
Register housing	Thermoplastic

MARKINGS

Engraved on meter body: Model, Serial Number, Date of Manufacture, NSF-6, Direction of Flow arrow

Flow & Pressure Specifications

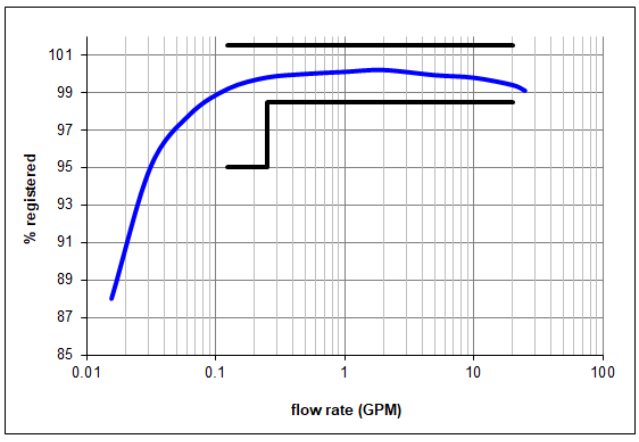
Normal Operating Range (98.5 to 101.5%)	0.10 to 25 gpm	(0.022 to 5.68 m3/hr)
Low Flow (95% min)	0.03 gpm	(0.0068 m3/hr)
Max Continuous Duty[1]	15 gpm	(2.3 m3/hr)
Safe Maximum Operating Capacity[2]	30 gpm	(6.8 m3/hr)
Pressure Loss at Max Continuous	4.0 psi	(0.28 bar)
Max Operating Pressure	230 psi	(15.9 bar)
Max Operating Temperature	140 °F	(60 °C)

Notes

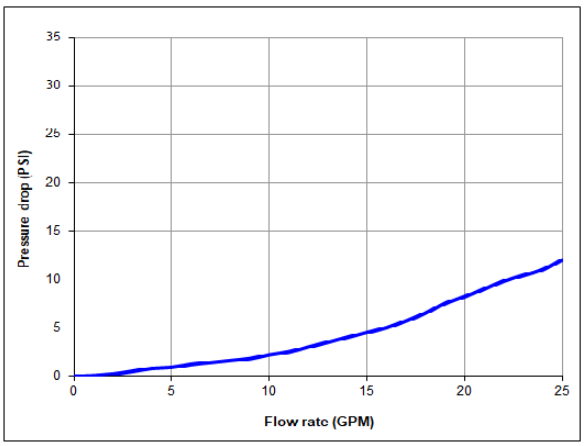
1 Max Continuous defined by AWWA as flow rate which can be maintained 24 hrs/day x 7 days/week

2 Max Intermittent defined as flow rate which can be maintained 1 hr/day average

Flow Accuracy

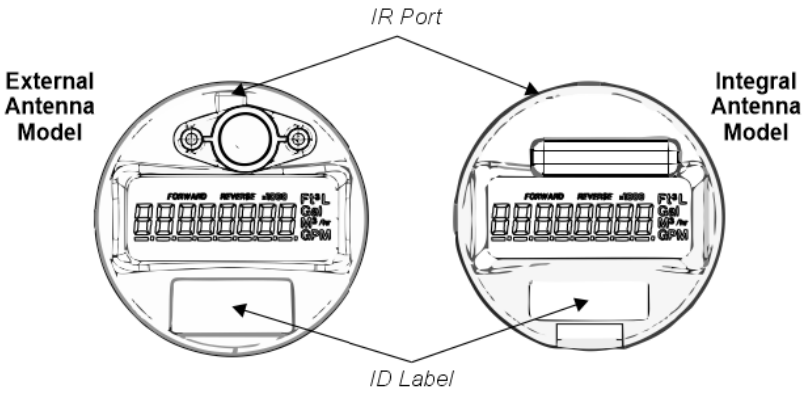


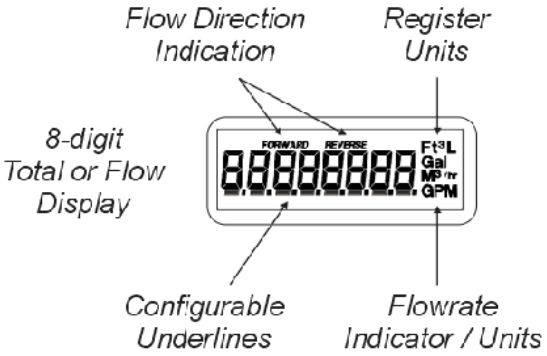
Pressure Drop



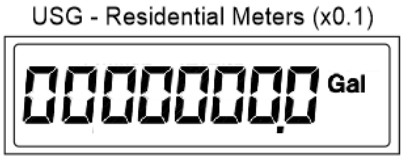
Registers

The Prism electronic register is the water industry's new standard for register performance, offering maximum resolution, a multitude of standard features, on-board data logging and a variety of cellular, AMI, AMR and SCADA output options. The Prism is designed for all environments and incorporates the largest battery available for utility applications. It can be deployed on any Metron Spectrum Jet and Spectrum PD water meter.

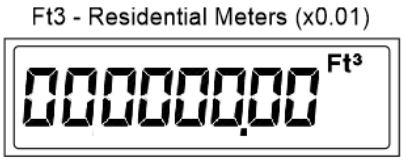


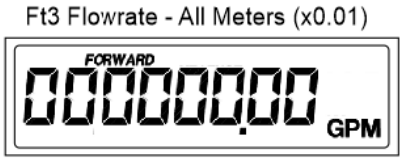


USG Configuration
0.1 Gallon Resolution

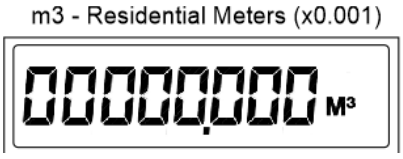


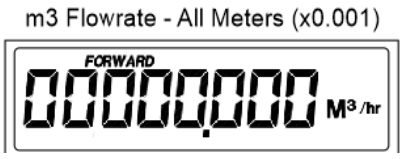
Ft3 Configuration
0.01 Ft3 Resolution





m3 Configuration
0.001 m3 Resolution





Warranty

Please contact your Metron representative for formal warranty certificates.

Legal

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