

Baseline Flow Sensors and Hydrometers

Baseline's "smart" flow sensors and hydrometers are two-wire ready flow measurement and control devices that are pre-programmed with the correct K and Offset values. In addition, all Baseline flow devices have the flow biCoder built in—no additional decoders are required. The PFS and BFS Series Flow Sensors offer industry leading low-flow accuracy and built-in diagnostic LEDs. The IDFS Series offers clamp-on indoor flow sensors. The BFM Flow Meters and BHM Hydrometers from Baseline are rugged and accurate units that feature sealed totalizers and diagnostic LEDs.

PFS Series Flow Sensor Features

- Molded Mounting Tee - improved sensor accuracy and low flow performance
- Threaded Retaining Nut - easier to service in valve box, more moisture resistant than competitive sensors
- Lightweight Impeller - improved low flow performance, detects and measures flows as low as 0.25 FPS
- Built-in two-wire decoder
- Pre-configured K and Offset values
- Sensor can be connected directly to the two-wire path on any Baseline controller - no additional equipment required
- Diagnostic LEDs - visual indication of flow, improved troubleshooting
- Detects and properly measures lower flow rates - compatible with micro and sub-surface drip applications
- Highly accurate over a large range of flows
- Available in 1", 1.5", 2", 3", 4", and 6" versions

PFS Series Flow Sensor Specifications

- Wetted Materials
 - Impeller: High Density Polyethylene
 - Shaft: Tungsten Carbide
 - O-ring: BUNA N
 - Tee, housing, and retaining nut: Type 1 PVC
- Connection Type
 - 1", 1.5", & 2" Slip
 - 3", 4", & 6" Saddle mount
- Maximum Working Pressure
 - 1", 1.5", & 2" 240 psi
 - 3", 4", & 6" 150 psi
- Recommended Flow Range
 - 1", 1.5", & 2" 0.25 to 15 FPS
 - 3" & 4" 0.25 to 12 FPS
 - 6" 0.5 to 12 FPS
- Pressure Rating: Designed to Schedule 40 specifications
- Electrical Output: Baseline two-wire, 30 VAC RMS
- Temperature Range: 32°F to 140°F (0°C to 60°C)
- Accuracy: Better than $\pm 1\%$ within recommended flow range
- Repeatability: Better than $\pm 0.3\%$ within recommended flow range

PFS Series Flow Sensor Specifications, cont.

>>>Recommended Flow Range

Size	Recommended Flow Range
1"	0.86 gpm - 52 gpm
1.5"	1.8 gpm - 108 gpm
2"	2.8 gpm - 170 gpm
3"	6 gpm - 300 gpm
4"	10 gpm - 480 gpm
6"	45 gpm - 1100 gpm

>>>Dimensions

Size	Height	Length	Diameter
1"	3.487"	5.625"	1.710"
1.5"	5.097"	6.188"	2.310"
2"	4.573"	7.0"	2.875"
3"	6.5"	5.0"	5.5"
4"	7.5"	5.0"	7.5"
6"	9.75"	5.0"	8.5"

How to Specify PFS Series Sensors

- BL-PFS100 – 1" Two-Wire Ready PVC Flow Sensor
- BL-PFS150 – 1.5" Two-Wire Ready PVC Flow Sensor
- BL-PFS200 – 2" Two-Wire Ready PVC Flow Sensor
- BL-PFS300 – 3" Two-Wire Ready PVC Flow Sensor
- BL-PFS400 – 4" Two-Wire Ready PVC Flow Sensor
- BL-PFS600 – 6" Two-Wire Ready PVC Flow Sensor

BFS Flow Sensor Features

- Brass bodied sensor with female NPT connections
- Threaded Retaining Nut - easier to service in valve box, more moisture resistant than competitive sensors
- Lightweight Impeller - detects and measures flows as low as 0.50 FPS
- Built-in two-wire decoder
- Pre-configured K and Offset values
- Sensor can be connected directly to the two-wire path on any Baseline controller - no additional equipment required
- Diagnostic LEDs - visual indication of flow, improved troubleshooting
- Highly accurate over a large range of flows
- Available in 1.5"

BFS Flow Sensor Specifications

- Wetted Materials
 - Impeller: High Density Polyethylene
 - Shaft: Tungsten Carbide
 - O-ring: BUNA N
 - Body and Retaining Nut Material: Lead free Bronze Alloy C89833 Federalloy® I-836
- Connections: Female Pipe Thread (NPT)
- Maximum Working Pressure: 250 psi
- Temperature Range: 32° -140°F (0° - 60°C)
- Recommended Flow Range: 0.50 to 15 FPS
- Electrical: Baseline two-wire (30 VAC RMS)

BFS Flow Sensor Specifications, cont.

>>>Recommended Flow Range

Size	Recommended Flow Range
1.5"	3 gpm - 90 gpm

>>>Dimensions

Size	Height	Length	Diameter
1.5"	4.07"	5.00"	2.38"

How to Specify the BFS Flow Sensor

- BL-BFS150 – 1.5" Two-Wire Ready Brass Flow Sensor

IDFS Series Indoor Flow Sensors

Baseline's IDFS Series Indoor Flow Sensors have clamp-on mounting brackets that fit pipe sizes from ¼" up to 2". These ultrasonic flow sensors send hourly flow data to the Baseline irrigation controller and to BaseManager and BACnet Manager.

IDFS Series Flow Sensor Features

- The sensor clamps onto the outside of a pipe and can accurately sense the flow of liquid through the pipe.
- Requires no pipe modification
- Takes ultrasonic readings
- Specifically designed for indoor use
- Integrated Baseline BL-5309 Flow biCoder
- Pre-configured K and Offset values
- Sensor can be connected directly to the two-wire path on any Baseline controller - no additional equipment required
- Available in ¼", ⅜", ½", ¾", 1", 1¼", 1½", and 2" versions
- Settings are locked to prevent inadvertent changes. Can be unlocked with assistance from Baseline Support.

IDFS Series Flow Sensor Specifications

- Supported Pipe Materials
 - Pre-configured for Schedule 40 copper pipe
 - The settings can be changed to support other types of metal or resin pipe.
- Supported Fluids
 - Water
 - Oils
 - Chemicals
- Supported Fluid Temperature: 32° to 185° F (Pipe surface must be free of condensation or frost, which can affect the ultrasonic pulse)
- Flow Direction
 - Pre-configured for left-to-right flow
 - The settings can be changed to accommodate right-to-left flow
- Connection Type: Clamp on
- Repeatability: 1.5%

IDFS Series Flow Sensor Specifications, cont.

- Maximum Rated Flow

1/4"	5.2 GPM	1"	52.8 GPM
3/8"	7.9 GPM	1 1/4"	79.3 GPM
1/2"	15.9 GPM	1 1/2"	105.7 GPM
3/4"	26.4 GPM	2"	132.1 GPM
- Pipe must be full
- No air pockets in liquid to be measured
- Oil-resistant Polyurethane connector cable
- Temperature Range: 14° to 140°F (-10° to 60°C), no freezing
- Relative Humidity: 35 to 85% non condensing
- Power Supply Voltage: 30 VDC
- Electrical Output: Baseline two-wire, 30 VAC RMS

How to Specify IDFS Series Flow Sensors

Baseline Part #	Nominal Pipe Size	Outside Diameter
BL-IDFS-25	1/4"	13 - 16 mm
BL-IDFS-37	3/8"	16 - 18 mm
BL-IDFS-50	1/2"	18 - 23 mm
BL-IDFS-75	3/4"	23 - 28 mm
BL-IDFS-100	1"	28 - 37 mm
BL-IDFS-125	1 1/4"	37 - 44 mm
BL-IDFS-150	1 1/2"	44 - 52 mm
BL-IDFS-200	2"	52 - 64 mm

BFM Series Flow Meter Features

- Small, rugged, highly reliable - only one moving part
- No straight pipe installation requirement
- Highly accurate over a large range of flows
- Magnetically driven sealed register with totalizer
- Baseline two-wire ready - no decoder required
- Compatible with all Baseline controllers
- Pre-configured K and Offset values

BFM Series Flow Meter Specifications

- Maximum Working Pressure: 140 psi
- Maximum Liquid Temperature: 122°F (50°C)
- Body Material: Corrosion proof copper alloy with polyester coating
- Connections: Male Pipe Thread (NPT)
- Electrical: Baseline two-wire (30 VAC RMS)

>>>Flow Performance Information

Size	Lowest (gpm ± 5%)	Nominal (gpm ± 2%)	Maximum (gpm ± 2%)
.75"	0.2	0.9 - 11.0	14.0
1"	0.3	1.2 - 15.4	20.0
1.5"	0.9	3.5 - 44.0	55.0

>>>Dimensions and Weight

Size	Height	Length	Width	Weight
.75"	4.25"	11.25"	3.75"	4.8 lbs
1"	4.25"	14.75"	4.25"	7.3 lbs
1.5"	6.75"	17.25"	15"	7.6 lbs

How to Specify BFM Series Flow Meters

- BL-BFM075 - 0.75" Two-Wire Ready Flow Meter with Integrated Flow biCoder
- BL-BFM100 - 1" Two-Wire Ready Flow Meter with Integrated Flow biCoder
- BL-BFM150 - 1.5" Two-Wire Ready Flow Meter with Integrated Flow biCoder

BHM Series Hydrometer & Master Valve

- Combination master valve, water meter, and flow sensor
- Rugged, heavy-duty construction
- Fast and highly reliable double-chambered valve
- No straight pipe installation requirement
- Highly accurate over a large range of flows
- Magnetically driven sealed register with totalizer
- Baseline two-wire ready – no additional decoders required
- Compatible with all Baseline controllers
- Pre-configured K and Offset values
- Optional pressure regulation available

BHM Series Hydrometer Specifications

- Maximum Working Pressure: 235 psi
- Minimum Working Pressure: 14 psi
- Connections: National Pipe Thread or ANSI Flange
- Body Material: Cast iron with polyester coating
- Diaphragm Material: Reinforced natural rubber
- Electrical: Baseline two-wire (30 VAC RMS)

>>>Dimensions & Weight

Size	Height	Length	Width	Weight
1.5"	10.31"	6.31"	4.75"	10.7 lbs
2"	13.81"	6.25"	4.75"	16.4 lbs
3"	16.94"	9.56"	8.25"	52.5 lbs
4"	17.75"	10.94"	9.06"	65.5 lbs

>>>Flow Performance Information

Size	Lowest (gpm ± 5%)	Nominal (gpm ± 2%)	Maximum (gpm ± 2%)
1.5"	1.8	4.4 - 44	55
2"	5.3	20 - 66	95
3"	14	53 - 176	220
4"	21	79 - 264	380

How to Specify BHM Series Hydrometers

- BL-BHM150 1.5" Two-Wire Ready Hydrometer, Normally Closed (NPT Male Threaded)
- BL-BHM150-NO 1.5" Two-Wire Ready Hydrometer, Normally Open (NPT Male Threaded)
- BL-BHM200 2" Two-Wire Ready Hydrometer, Normally Closed (NPT Female Threaded)
- BL-BHM200-NO 2" Two-Wire Ready Hydrometer, Normally Open (NPT Female Threaded)
- BL-BHM300 3" Two-Wire Ready Hydrometer, Normally Closed (Flanged)
- BL-BHM300-NO 3" Two-Wire Ready Hydrometer, Normally Open (Flanged)
- BL-BHM400 4" Two-Wire Ready Hydrometer, Normally Closed (Flanged)
- BL-BHM400-NO 4" Two-Wire Ready Hydrometer, Normally Open (Flanged)