

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 Sensors

The Baseline PFS Series Flow Sensors have a unique low drag, a lightweight impeller design, and a specially engineered tee cavity and impeller placement to ensure smooth flow and precise performance at the lowest flow rates. Every Baseline PFS Series Flow Sensor is two-wire ready with a Flow biCoder built into the tee insert. Because a Flow biCoder is built into each flow sensor, every device comes pre-configured with the correct K and offset values.

PFS Series 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 ft/sec
- Built-in two-wire decoder (Refer to the [Flow biCoder Technical Specification](#) on the Baseline website.)
- 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 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 ft/sec
 - 3" & 4" 0.25 to 12 ft/sec
 - 6" 0.5 to 12 ft/sec
- 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 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

PFS Series 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 Flow 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 Sensors

The Baseline BFS Brass Flow Sensor has a unique low drag, a lightweight impeller design, and a specially engineered tee cavity and impeller placement to ensure smooth flow and precise performance at the lowest flow rates. Every Baseline BFS Series Flow Sensor is two-wire ready with a Flow biCoder built into the tee insert. Because a Flow biCoder is built into each flow sensor, every device comes pre-configured with the correct K and offset values.

BFS 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 ft/sec
- Built-in two-wire decoder (Refer to the [Flow biCoder Technical Specification](#) on the Baseline website.)
- 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 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° to 140°F (0° to 60°C)
- Electrical: Baseline two-wire (30 VAC RMS)

BFS Recommended Flow Range

Size	Recommended Flow Range
1.5"	0.50 - 15 ft/sec 3 gpm - 90 gpm

BFS 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 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 (Refer to the [Flow biCoder Technical Specification](#) on the Baseline website.)
- 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 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%
- Maximum Rated Flow

¼"	5.2 gpm	1"	52.8 gpm
⅜"	7.9 gpm	1¼"	79.3 gpm
½"	15.9 gpm	1½"	105.7 gpm
¾"	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 the IDFS Series Flow Sensors

Baseline Part #	Nominal Pipe Size	Outside Diameter
BL-IDFS-25	¼"	13 - 16 mm
BL-IDFS-37	⅜"	16 - 18 mm
BL-IDFS-50	½"	18 - 23 mm
BL-IDFS-75	¾"	23 - 28 mm
BL-IDFS-100	1"	28 - 37 mm
BL-IDFS-125	1¼"	37 - 44 mm
BL-IDFS-150	1½"	44 - 52 mm
BL-IDFS-200	2"	52 - 64 mm

BFM Series Flow Meters

Baseline's BFM Series Flow Meters are small, rugged, and highly reliable flow meters that are Baseline two-wire ready. The K and offset values are preconfigured in the flow meters.

BFM 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 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)

BFM Flow Performance

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

BFM 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

Baseline’s BHM Series Hydrometer is a Flow Meter and Master Valve combination and is available in Normally Open and Normally Closed Configurations. Every hydrometer is two-wire ready with a built-in Flow biCoder and pre-configured K and offset values.

BHM Features

- 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 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)

BHM Dimensions and 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

BHM Flow Performance

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)