



QS200 INSERTION ULTRASONIC FLOWMETER

The QS200 Insertion Ultrasonic Flowmeter provides an accurate reading of liquid flow rate and accumulated flow. Designed to support commercial irrigation applications, the QS200 is available in five pipe sizes, 1 to 4 in.

The QS200 ultrasonic insert is available with a PVC tee or as an “insert retrofit” for replacement of existing paddlewheel flow sensors.

FEATURES / BENEFITS

- Low-cost, effective and easy installation
- No moving mechanical parts (low-maintenance)
- Simple two-wire connector (for power and pulse)
- Compatible with irrigation controllers (common name brands)
- High accuracy: $\pm 2.0\%$ of reading (compared to full scale accuracy)
- Provides extended leak detection down to 0.1 fps (0.03 m/s)
- LED light indicators: (green for power and amber for pulse)
- Patent pending design
- Ideal for clean water flow measurement
- External wiring: (direct burial wire)

SPECIFICATIONS

Tee Housing Material:	Schedule 80 PVC
Insert Wetted Materials:	Body: PPS (Ryton R-4)
	Sensor: PEI (Uitem 1000)
	O-Ring: EPDM
Temperature Rating:	
Operating:	32° F to 140° F (0° C to 60° C)
Storage:	-20° F to +160° F (-29° C to +71° C)
Flow Range:	0.1 to 15 fps (0.03 to 4.57 m/s)
Accuracy:	Typically $\pm 2\%$ of reading
Operating Pressure:	150 psi @ 73° F (10 bar @ 23° C) 100 psi @ 140° F (7 bar @ 60° C)
Transducer Excitation:	Supply Voltage: 7.5V (dc) min. to 36V (dc) max
	Quiescent Current: 200 μ A (typical)
Output Frequency:	0 to 100 Hz
Output Pulse Width:	4 ms
Electrical Cable for Insert Electronics:	36 inches (914.4 mm) of 18 AWG, solid copper, “Direct Burial” (UL 493 & 83)

INSERT DESCRIPTION

Designed for above and below grade applications, such as irrigation, municipal and underground monitoring where the flow rates are between 0.1 to 15 fps (0.03 to 4.57 m/s) and temperatures are below 140° F (60° C). QS200 inserts are supplied with two single conductors, 18 AWG solid copper wire leads that are 36 inches (914.4 mm) in length with UL Style 116666 direct burial insulation.

APPLICATIONS

- Agriculture Irrigation
- Turf / Landscape Irrigation Systems
- Micro Irrigation Systems
- Groundwater Monitoring
- Sub-Metering Applications:
 - » High Rise Tenant Buildings
 - » Apartment Complex
 - » Universities
 - » Commercial Businesses
 - » Processing Facilities

APPROVALS

IP68 (pending)

FLOW INSERT SELECTION CHART

Flowmeter Model	Pipe Size	Operating Range (Min.)	Operating Range (Max.)	Maximum Water Pressure***	FLOMEC Tee K-Factor (Freq) [*]	Non-FLOMEC Tee K-Factor (Freq) [*]	Offset Value**	Meter Material	Adapter Material	Tee Material	Process Port
QS200-10	1 in.	0.22 GPM (0.83 L/min) 0.1 ft/sec	33 GPM (124.92 L/min) 15 ft/sec	150 psi @ 73°F (10 bar @ 23°C)	0.5386	N/A	0	Ryton	-	PVC	Slip
QS200-15	1.5 in.	0.55 GPM (2.08 L/min) 0.1 ft/sec	82 GPM (310.41 L/min) 15 ft/sec	150 psi @ 73°F (10 bar @ 23°C)	0.7926	0.7947	0	Ryton	-	PVC	Slip
QS200-20	2 in.	0.92 GPM (3.48 L/min) 0.1 ft/sec	138 GPM (522.39 L/min) 15 ft/sec	150 psi @ 73°F (10 bar @ 23°C)	1.3765	1.3583	0	Ryton	-	PVC	Slip
QS200-30	3 in.	2.06 GPM (7.80 L/min) 0.1 ft/sec	309 GPM (1169.70 L/min) 15 ft/sec	150 psi @ 73°F (10 bar @ 23°C)	3.8444	4.2505	0	Ryton	PVC	PVC	Slip
QS200-40	4 in.	3.58 GPM (13.55 L/min) 0.1 ft/sec	537 GPM (2032.78 L/min) 15 ft/sec	150 psi @ 73°F (10 bar @ 23°C)	7.1676	7.2229	0	Ryton	PVC	PVC	Slip
QS200	Insert only			150 psi @ 73°F (10 bar @ 23°C)	use pipe size to determine value	use pipe size to determine value	0	Ryton	PVC	N/A	N/A

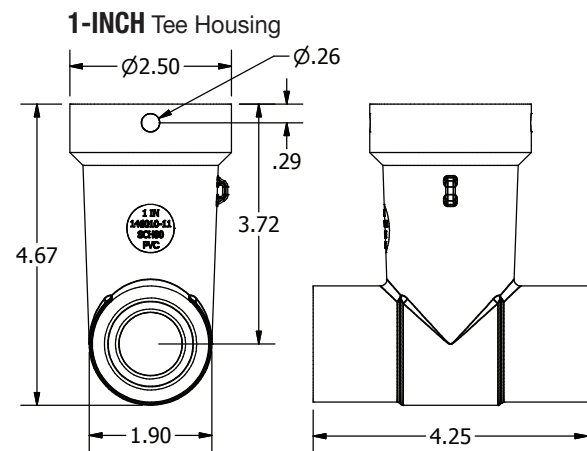
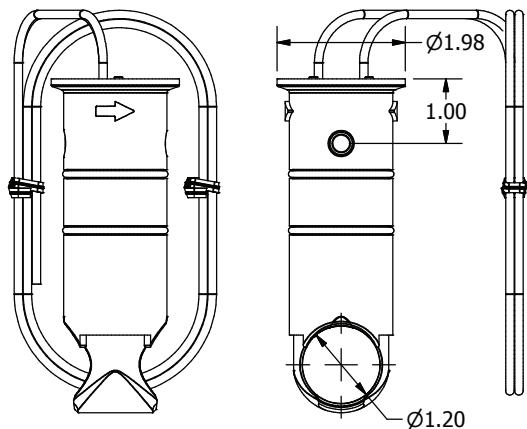
*K and offset values are used to calculate the frequency of the pulses from the QS200 electronics

The formula for frequency is $Freq = (GPM/K) - offset$

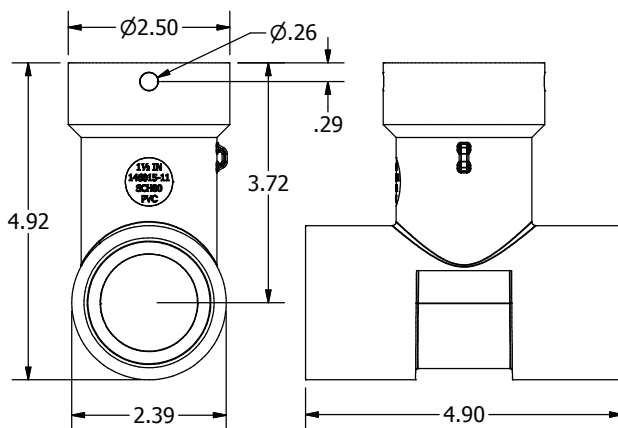
** Offsets listed in this table are expected to be calibrated at the factory and therefore no additional correction should be required.

*** Maximum water pressure for larger line sizes would be based on the material of the sensor, adapter, and pipe. Pressure is also derated due to temperature (1.20 psi / °F).

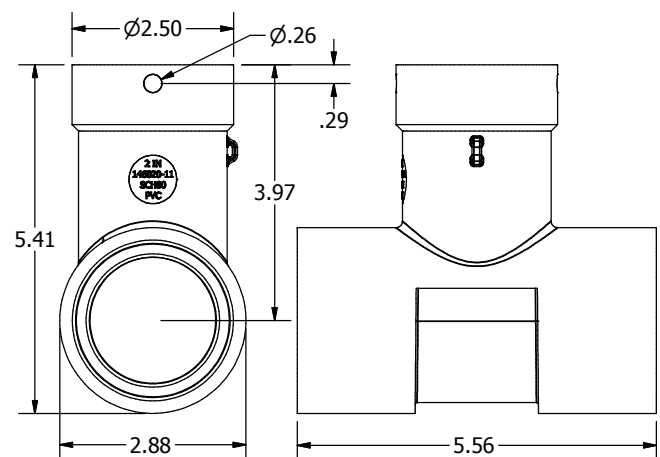
DIMENSIONS



1.5-INCH Tee Housing



2-INCH Tee Housing



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