

TVI-3-254-2 Flow Sensors UFC Flow Conditioning

TVI-3-254-2



Description

TVI-3-254-2 Flow Sensors offers the added strength and corrosion resistance of stainless steel for applications with low velocity measurements. Unique internal circuitry eliminates the need for magnets in the process fluid, enabling lower flow measurement while maintaining the advantages of insertion sensor design. Fluoroloy B bearings and Tungsten carbide pin provide exceptional wear resistance. The model TVI-3-254-2 flow sensor offers field replaceable electronics and transient voltage suppression (TVS) to provide greater immunity to large voltage disturbances (ie lightning) sometimes encountered in field wiring. The TVI-3-254-2 Brass High Performance sensor signal allows for remote totalization when coupled with the 5100 Battery operated Flow Monitor.

Technical Features

- a) ½ in. NPT Conduit Port
- b) Solid 316SS or brass construction
- c) Standard 1 ½ in. NPT or ISO 7/R 1 1/2in. connection
- d) Low Mass open cell rotor and Tungsten Carbide pin for greater resistance to wear
- e) Hot-tap version with bleed valve
- f) Standard Viton- O-ring (EPR optional)
- g) Removeable electronics module

Features

- 316SS or Brass Construction
- Measures flow rates as low as 0.1m/s (0.3ft/s) (TVI-3-254-2)
- Standard NPT or ISO process connections
- Hot-tap versions for installation/service without system shutdown
- Non-magnetic RF detection (TVI-3-254-2)

Application

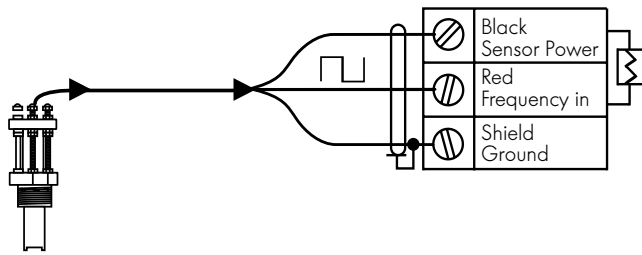
- HVAC
- Turf Irrigation
- Cooling Systems
- Filtration Systems
- Water Distribution
- Leak Detection
- Pump Protection
- Clarified Effluent Totalization
- Ground Water Remediation

Options

		Instrument Options					
		8530	5015	5100	5300	5600	9010
TVI-3-254-2 Flow Sensors	●	●	●	●	●	●	●
	●	●	□	●	●	●	●

Wiring

TVI-3-254-2 Flow Sensors connections to UFC Flow Conditioning



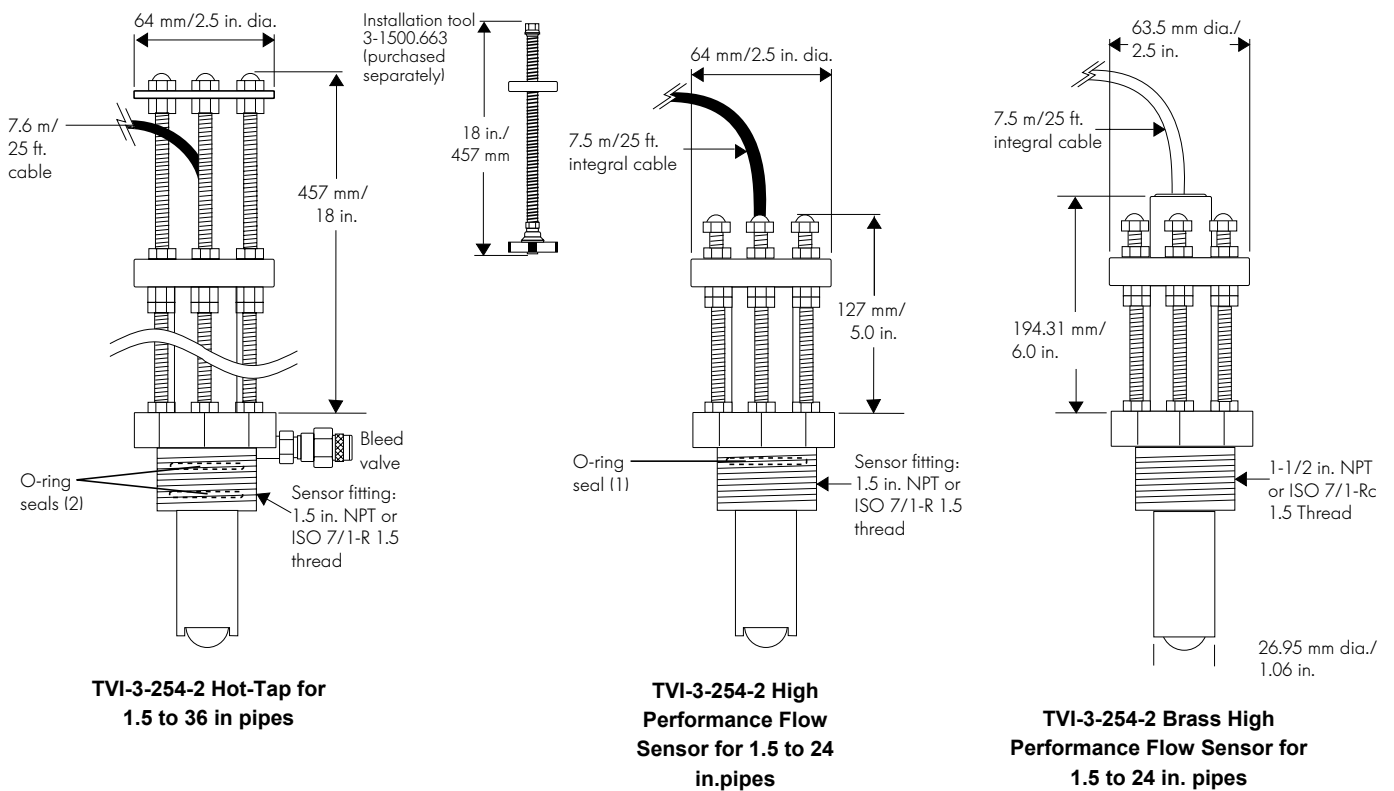
DC sensor power supplied from UFC Flow Conditioning

10k ohm Pull-up resistor maybe required for non- UFC Flow Conditioning

Dimensions

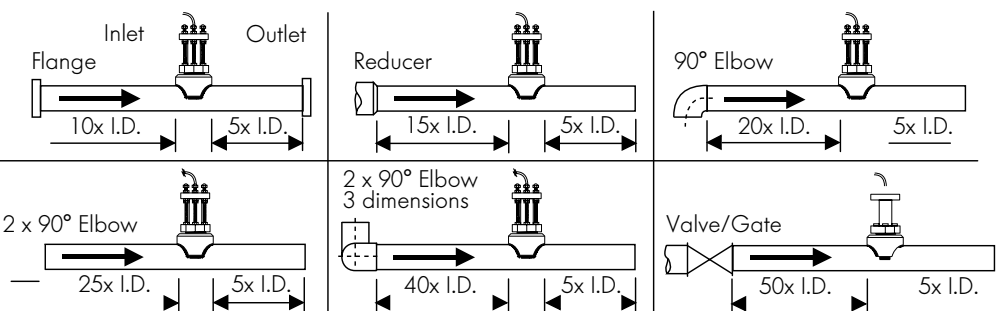
3ft. recommended clearance for Hot-tap installation

16" recommended clearance for TVI-3-254-2



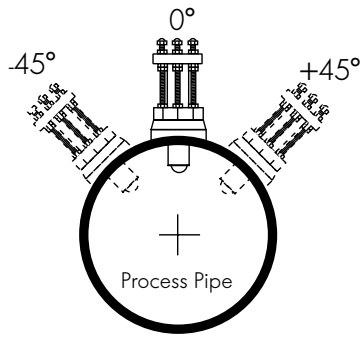
Installation

Six common installation configurations are shown here as guidelines to help you select the best location in your system for a paddlewheel flow sensor. Always maximize distance between sensor and pump sources.



Sensor Mounting Position

TVI-3-254-2



Technical Data

General

Flow Rate Range : 0.1 to 6 m/s (0.3 to 20 ft/s)

TVI-3-254-2 : 0.5 to 6 m/s (1.6 to 20 ft/s)

Linearity : $\pm 1\%$ of full range

Repeatability : $\pm 0.5\%$ of full range

Minimum Reynolds Number Required : 4500

Maximum operating pressure/temperature :

Sensor with standard Viton sensor fitting O-rings : 17 bar (250 psi) @ 82°C (180° F)

Sensor with optional EPR sensor fitting O-rings : 17 bar (250 psi) @ 100°C (212° F)

Piping range :

Standard version : 40 to 600 DIN (1.5 to 24 in.)

Hot-Tap version : 40 to 1000 DIN (1.5 to 36 in.)

Sensor fitting options : 1.5in NPT threads

ISO 7/1-R 1.5 threads

Cable length : 7.6m (25 ft), can splice up to 300m (1,000 ft)

Cable type : 2-conductor twisted-pair with shield, 22AWG

UFC UNIVERSAL FLOW CONDITIONING



Features

- Easy installation – Rail mount
- Low Cost
- Provides excitation voltage for flow sensors.
- Output 0 to 10VDC / 2 to 10VDC
- OR Output 4/20mA or 0 to 20mA
- Easy replacement
- Universal Calibration

Description

The UFC Flow Conditioning is a solid state signal converter which designed to operate TVI-3-254-2 series of Flow sensors. The output from the signal conditioning gives 0 to 10 VDC, 2 to 10VDC or 4 to 20mA, 0 to 20mA option . With an option of adjustment of 1 to 5VDC if required..

Analog Output (0 to 10VDC, 4/20mA)

The UFC Flow conditioning converts all pulses from flow signal into pre-calibrated voltage output or current output. Default : 0 to 10VDC analog output. The UFC can be calibrated to different pipe size, type, and maximum flow rate. No resistor is required.

Specifications

Supply voltage : 24VDC @ 70mA
Operating temperature : 0 to 80 degree C
Operating humidity : 5 to 95% non-condensing.
Input : Dry or electronic contact or pulse.
Output : 0 to 10VDC / 2 to 10VDC or 4 to 20mA / 0 to 20mA
Accuracy : +/- 0.5%

Pin Connection

- Pin 1 – 24 Ground
- Pin 2 - +24VDC input supply
- Pin 3 – Flow Sensor Ground
- Pin 4 – Flow Sensor Powered (Optional for powered Sensor)
- Pin 5 – Flow Sensor Input
- Pin 6 – Not Used
- Pin 7 – Output + (0 to 10VDC or 4/20mA)
- Pin 8 – Common (-)