

# Vantage Series 4000 Strap On Sensor Installation- Vee Shot

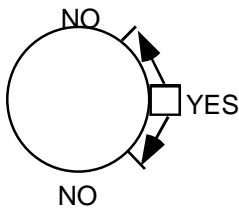
The following is an instruction on installing the strap on sensor for the Vantage Series 4000. There are two styles of strap on sensors. One is referred to as Small Strap On sensor ( used on pipe sizes 1”-8”) the other is the Large Strap On sensor (used on pipe sizes 4”-120”). The Vee Shot sensor rail will accommodate both the Small and Large sensors so the mounting configurations will be the same for either sensor. It is important to note, however, that the electronics unit will need to be programmed for the specific sensor used.

## Where do I place my sensors in relation to upstream and downstream conditions?

The ultrasonic transit time flow meter accuracies are based upon well developed velocity profiles. Upstream disturbances such as pumps or tees and elbows will effect the velocity profile. Below is a recommended straight runs to assure meter accuracies.

Device	Upstream from meter(in pipe diameters)	Downstream from meter(in pipe diameters)
Tees & Elbows	10-15	2-3
Reducers	10	2-3
Increases	20	2-3
Valves (fully opened)	10-15	2-3
Valves (modulating)	20-25	2-3
Pumps	20-25	2-3

In vertical runs, the flow should always be flowing up and never down.



The sensor/sensor holders should always be placed on the side of the pipe as Shown on the left and never on the top or the bottom of the pipe.

**Note:**  
Cast or Ductile Pipe

**Sand pipe to a smooth surface under sensor face**

**1**

**Note:**  
Asbestos Cement Pipe

**Place coat of shellac on pipe surface under sensor face**

**2**

**V-SHOT**  
**Single Rail**  
**Installation Guide**

**3**

**4**

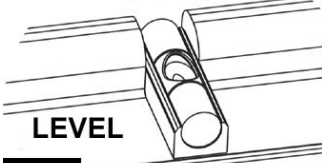
**Attach chains to hook**

**5**

**Rotate Speedrail to center of pipe**

**6**

Use level on side of Speedrail to locate center pipe position



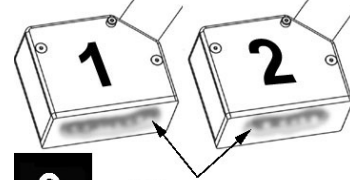
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Finger tighten chains with wingnuts



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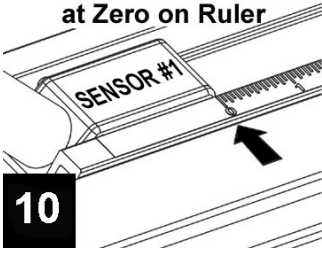
Place bead of silicone grease on face of each sensor



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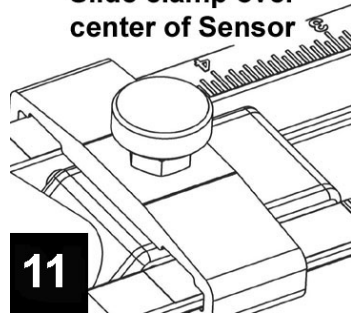
Grease

Place Edge of Sensor #1 at Zero on Ruler



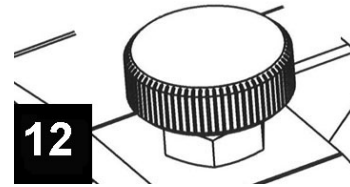
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Slide clamp over center of Sensor



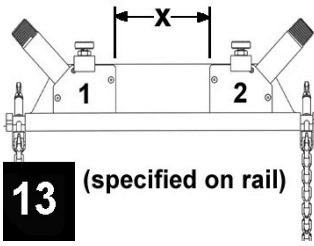
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Secure sensor with thumbscrew (fingertight only)



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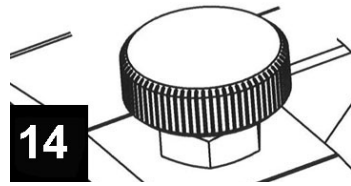
Place edge of sensor #2 at distance (X)



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(specified on rail)

Secure sensor with thumbscrew (fingertight only)



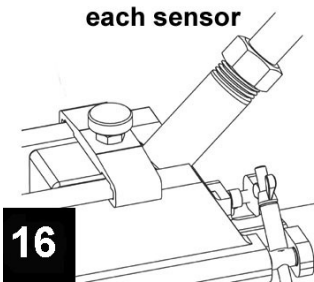
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## IMPORTANT

1. Confirm that both sensors are securely in place.
2. Tighten locknuts

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Attach conduit to each sensor

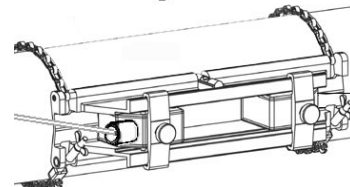


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See Operating Manual for Wiring and Programming Instructions

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V-Shot Rail Configuration



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