

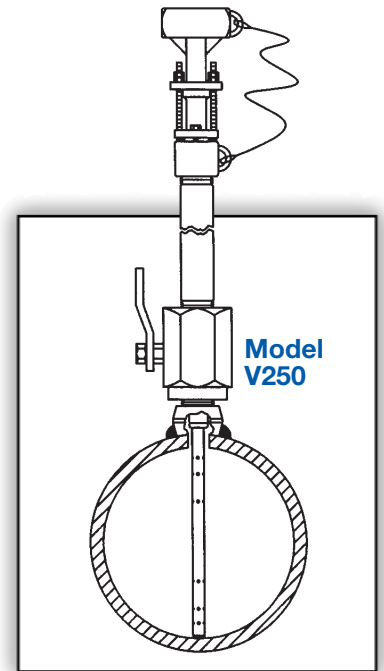
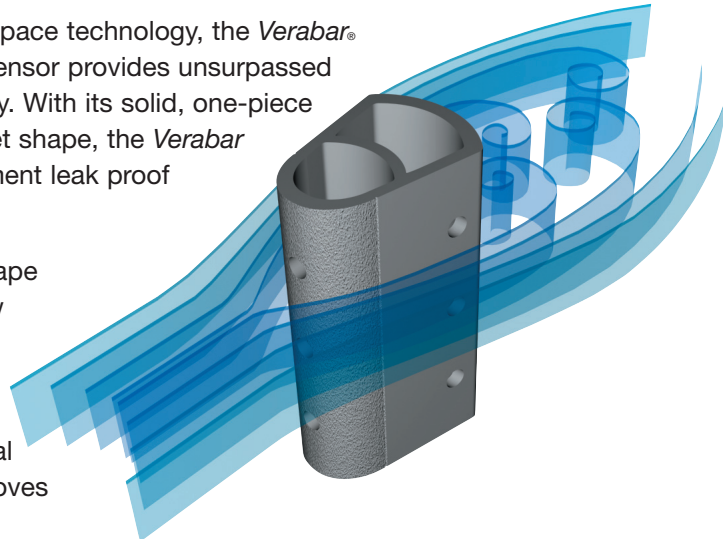
Differential Pressure Flow Sensors

**V250 Low Pressure Hand Insertion  
Threaded Components**

**The Most Accurate and Reliable Technology  
for Measuring Gas, Liquid and Steam...**

Developed from aerospace technology, the Verabar® averaging pitot flow sensor provides unsurpassed accuracy and reliability. With its solid, one-piece construction and bullet shape, the Verabar makes flow measurement leak proof and precise.

The unique sensor shape reduces drag and flow induced vibration. The location of the low-pressure ports eliminates the potential for clogging and improves signal stability.

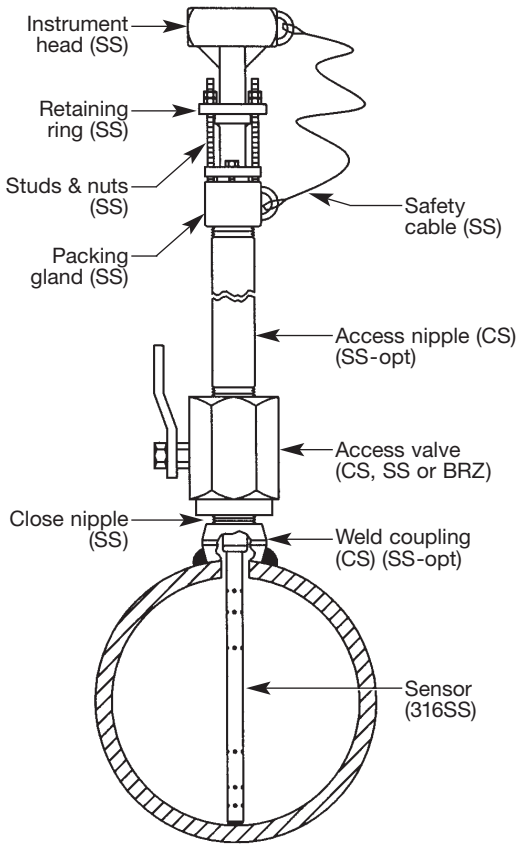


<b>V250 Hot Tap</b>	
<b>Pipe Connection</b>	Threaded (NPT)
<b>Mounting Type</b>	Ball or gate access valve
<b>Features and Benefits</b>	<ul style="list-style-type: none"> <li>• Lowest cost hot tap model</li> <li>• Installation, insertion &amp; retraction without system shutdown</li> <li>• Hand insertion and retraction for low pressures (no threaded rods)</li> <li>• Retaining ring loads sensor to the opposite wall</li> <li>• Can mount to existing valves</li> </ul>
<b>Applications</b>	<ul style="list-style-type: none"> <li>• Low pressure</li> <li>• Air</li> <li>• Stack/flue gas</li> <li>• Water</li> <li>• Hydrocarbon and other gases</li> </ul>
<b>Special Designs – Consult Factory</b>	<ul style="list-style-type: none"> <li>• Custom mounting, lengths, materials, instrument connections, etc.</li> <li>• Short straight run</li> </ul>

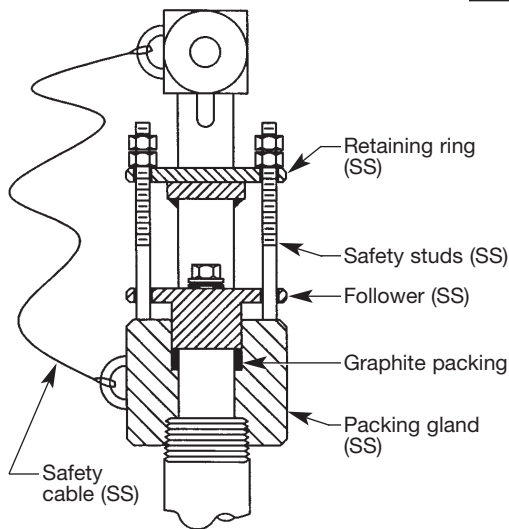
<b>Model Specifications</b>	<b>V250</b>	
<b>Sensor Code</b>	<b>10</b>	<b>15</b>
<b>Sensor Diameter</b>	7/8" (22mm)	1-3/8" (35mm)
<b>Accuracy</b>	±1% of flow rate; ±0.5% if calibrated	
<b>Max Pressure</b>	30 psig (2.1 Bars)	10 psig (0.7 Bars)
<b>Pipe Size</b>	6" - 42" (150mm-1050mm)	12" - 60" (300mm-1500mm)
<b>Instrument Connection</b>	1/2" NPT or Direct Mount	
<b>Components Furnished</b>	Weld coupling, close nipple, access nipple and valve	
<b>Weld Coupling Size</b>	1-1/4" NPT	2" NPT

# Verabar® Hot Tap Models

## V250 Low Pressure

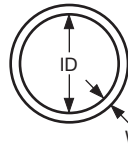


## Model V250

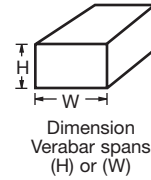


Furnish the following information:

### 1. Enter Pipe Dimensions or Duct Dimensions

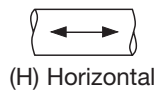


Pipe Size \_\_\_\_ Sch \_\_\_\_  
 Pipe ID \_\_\_\_ and  
 Wall \_\_\_\_ Pipe Mat'l \_\_\_\_



Height (H) \_\_\_\_  
 Width (W) \_\_\_\_  
 Wall \_\_\_\_  
 Duct Mat'l \_\_\_\_

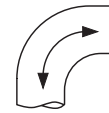
### 2. Pipe or Duct Orientation



(H) Horizontal



(V) Vertical



Short  
 Straight Run  
 Consult Factory

### 3. Enter Flow Conditions

Fluid Name:		Maximum	Normal	Minimum	Units
Flow Rate					
All Fluids	Temperature @ Flow				
	Pressure @ Flow				
Gas	Specific Gravity, or Molecular Weight				
Liquid	Specific Gravity				
Steam	Veracalc Program can calculate Density from Temperature and Pressure				

### 4. Select Model from Page 3

Use the Ordering Information table on Page 3 to determine your model number.

### 5. Flow Calculation



All Verabar applications require a flow calculation to verify the DP, pressure and temperature limits, structural limits and to size the transmitter. The Veracalc PC Program is for use by representatives and end users. It is easy to operate and **includes steam tables**.

### Retaining Hardware

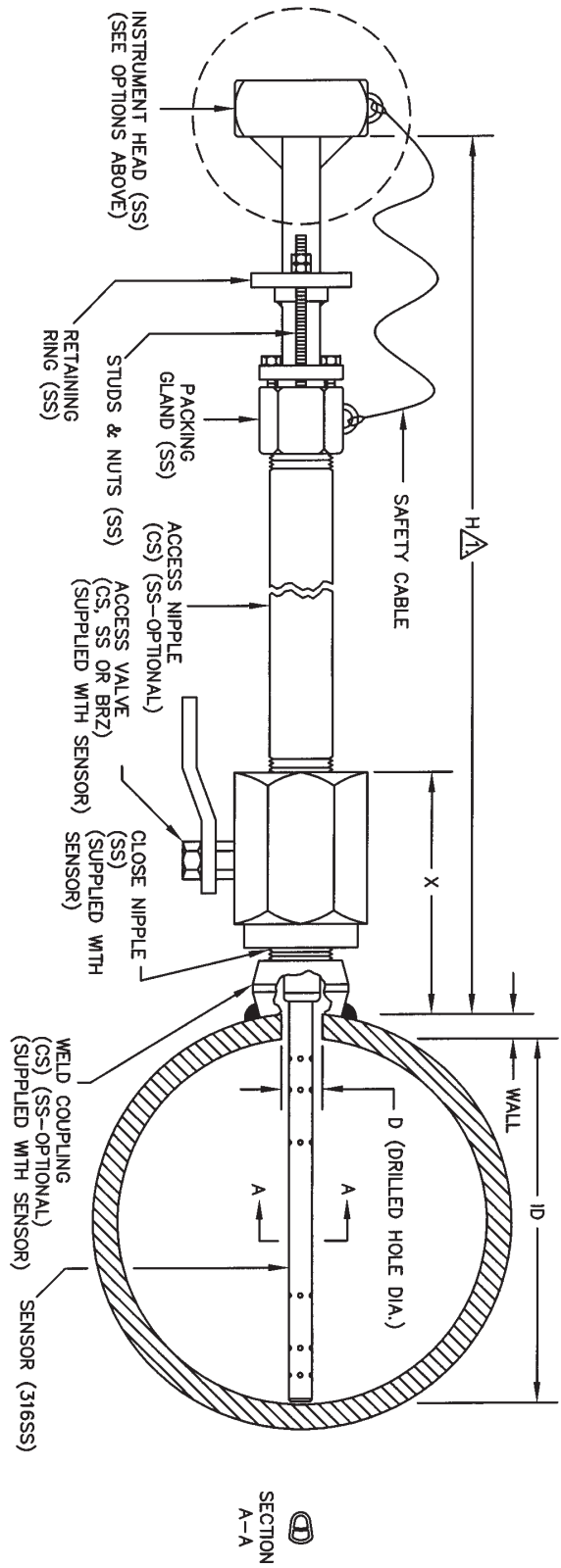
- Eliminates drive rods
- Safety cable limits retraction length to ensure proper sealing of packing gland
- Retaining ring loads sensor to opposite pipe wall

# Ordering Information

<b>Model</b>	<b>Hot Tap • Threaded Pipe Connections and Components</b>						
<b>V250</b>	Hand Insert/Retract, Low Pressure						
<b>Pipe Size and Schedule or Exact ID and Wall Thickness</b>							
<b>Code</b>	<b>Sensor Pipe Size Range</b>						
<b>10</b>	6" to 42" (150mm to 1050mm)						
<b>15</b>	12" to 60" (300mm to 1500mm)						
<b>Code</b>	<b>Pipe Orientation</b>						
<b>H</b>	Horizontal						
<b>V</b>	Vertical						
<b>Instrument Connections (Select Remote or Direct Mount)</b> (Transmitter sold separately)							
<b>Remote Mount Transmitter</b> (1/2" NPT)				<b>Direct Mount Transmitter</b> (Flanged 450°F/232°C Max.)†			
Parallel	Regular	RTD*	Valve	Transmount	Mass Transmount*	Manifold	
		 Explsn. Proof	 Integral		 Integral RTD	 Remote RTD	 Integral
<b>P</b>	<b>R</b>	<b>D</b>	<b>T</b>	<b>F</b>	<b>G</b>	<b>E</b>	<b>M</b>
<b>Instrument Valves (Opt.)</b>				<b>Manifolds (Optional)</b>			
<b>Remote Mount</b>				<b>Direct Mount</b>			
Needle	Gate	3-Valve		5-Valve			
 1/2" NPT	 1/2" NPT	 Soft Seat	 Hard Seat	 Soft Seat	 Hard Seat		
<b>C2NC (CS)</b> <b>C2NS (SS)</b>	<b>C2GC (CS)</b> <b>C2GS (SS)</b>	<b>F3SC (CS)</b> <b>F3SS (SS)</b>	<b>F3HC (CS)</b> <b>F3HS (SS)</b>	<b>F5SC (CS)</b> <b>F5SS (SS)</b>	<b>F5HC (CS)</b> <b>F5HS (SS)</b>		
<b>Mounting Assembly – Select Valve Type &amp; Material</b> (Includes valve, close nipple & weld coupling)							
<b>Sensor (Valve Size NPT)</b>				<b>Type &amp; Material</b>			
<b>10 (1-1/4")</b>		<b>15 (2")</b>					
<b>Code</b>							
<b>B5B</b>		<b>B8B</b>		Ball, Brz			
<b>B5C</b>		<b>B8C</b>		Ball, CS			
<b>B5S</b>		<b>B8S</b>		Ball, SS			
<b>G5C</b> <b>G5S</b>		<b>G8C</b> <b>G8S</b>		Gate, CS Gate, SS			
<b>Code</b>	<b>Options</b>						
<b>WPS</b>	SS Wetted Components (Furnished with SS weld coupling, close & access nipple). Must be ordered with SS access valve.						
<b>V250</b>	<b>8"sch40</b>	<b>10</b>	<b>H</b>	<b>R</b>	<b>C2NC</b>	<b>B5C</b>	<b>Typical Model Number</b>

\* For high pressure (>500psig) or high temperature (>500°F), remote mount RTD in a thermowell is preferred.  
† Assuming adequate heat dissipation for transmitter.

R E M O U N T E CODE	PARALLEL	REGULAR	RTD	VALVE	NEEDLE	GATE	D I O U R N E N T CODE	TRANS MOUNT	MASS TRANS MOUNT	MANIFOLD	MANIFOLDS		
	1/2" NPT	1/2" NPT	X PROOF	INTEGRAL	1/2" NPT	1/2" NPT		F	INT RTD	RMT RTD	INTEGRAL	3-VALVES SOFT SEAT F3SC (CS) F3SS (SS)	HARD SEAT F3HC (CS) F3HS (SS)



- NOTES:
- 1. H=ID+WALL+X+11.7" (SENSOR -10 INSERTED).  
H=ID+WALL+X+13.5" (SENSOR -15 INSERTED).  
H=2(ID+WALL+X)+11.5" (SENSOR -10 RETRACTED).  
H=2(ID+WALL+X)+13.2" (SENSOR -15 RETRACTED).
  - 2. INSTRUMENT HEAD AND ACCESS VALVE ORIENTATION FOR SHOWN 90 DEGREES FROM ACTUAL ORIENTATION FOR CLARITY.

ITEM	SENSOR -10	SENSOR -15
SENSOR DIA.	7/8" (22mm)	1-3/8" (35mm)
COUPLING SIZE	1-1/4" NPT	2" NPT
DIM "D" DRILLED HOLE DIAMETER	1" (26mm)	1-1/2" (39mm)
DIM "X" FOR BRONZE BALL VALVE	7.2" (183mm)	8.4" (213mm)
DIM "X" FOR CS BALL VALVE	7.6" (193mm)	9.1" (231mm)
DIM "X" FOR SS BALL VALVE	7.7" (196mm)	9.1" (231mm)
DIM "X" FOR CS GATE VALVE	7.7" (196mm)	10.1" (257mm)
DIM "X" FOR SS GATE VALVE	7.7" (196mm)	8.8" (224mm)
MAX. PRESSURE RATING	30 PSI	10 PSI

\*"H" & "X" DIMENSIONS ARE APPROXIMATE (FOR SIZING PURPOSES ONLY).

CUSTOMER: \_\_\_\_\_

PROJECT: \_\_\_\_\_

ORDER NO: \_\_\_\_\_

TAG NO: \_\_\_\_\_

PIPE SIZE & SCHEDULE: \_\_\_\_\_

CATALOG NO: \_\_\_\_\_

SERIAL NO: \_\_\_\_\_

CERTIFIED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

**Veris, inc.**

6315 MONARCH PARK PLACE  
NIWOT, CO 80503  
PHONE: 303-652-8550  
FAX: 303-652-8552

VERABAR MODEL: V250  
HAND INSERTION, THREADED

DATE 09/20/01 DWG NO. \_\_\_\_\_  
SCALE NTS SUB-3937  
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