

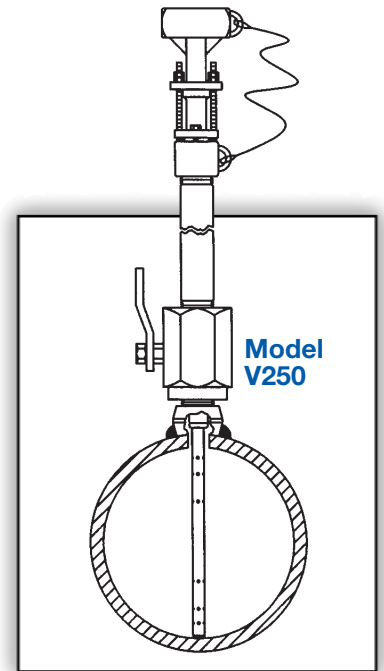
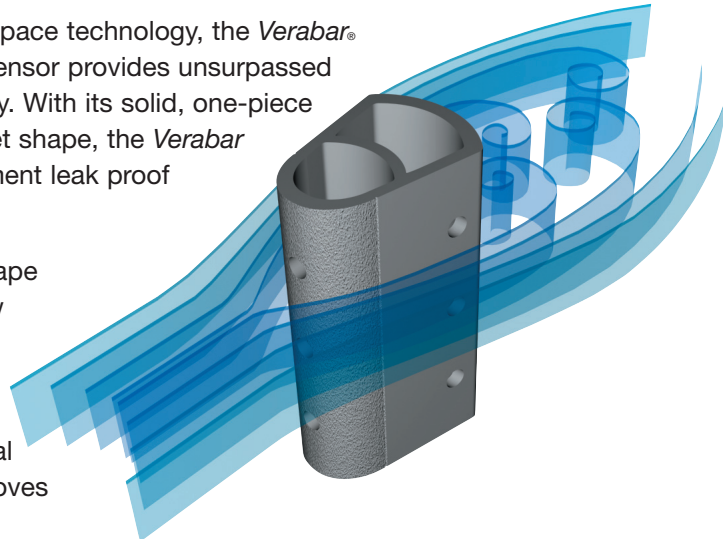
Differential Pressure Flow Sensors

**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.

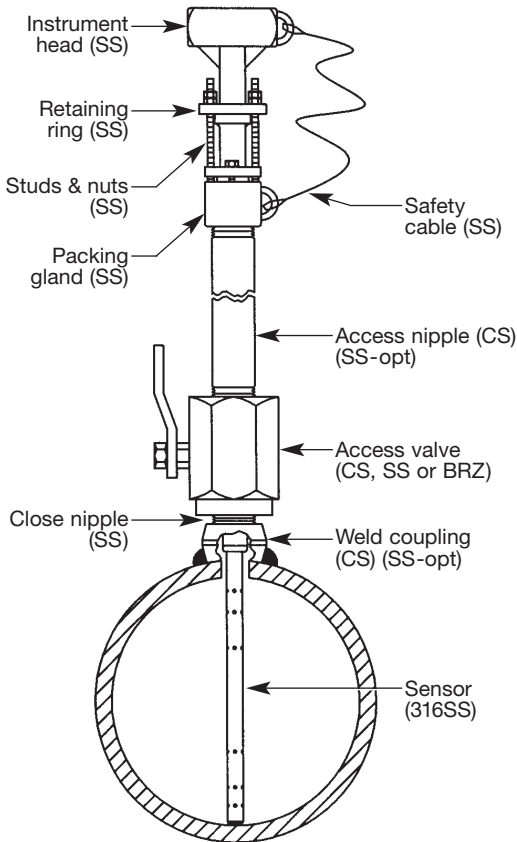


V250 Hot Tap	
Pipe Connection	Threaded (NPT)
Mounting Type	Ball or gate access valve
Features and Benefits	<ul style="list-style-type: none"> • Lowest cost hot tap model • Installation, insertion & retraction without system shutdown • Hand insertion and retraction for low pressures (no threaded rods)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

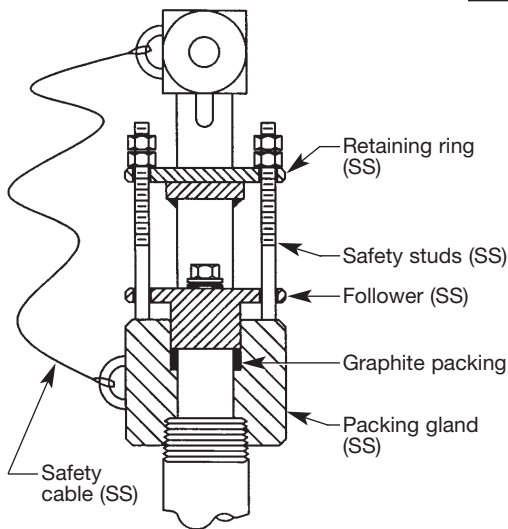
Model Specifications	V250	
Sensor Code	10	15
Sensor Diameter	7/8" (22mm)	1-3/8" (35mm)
Accuracy	±1% of flow rate; ±0.5% if calibrated	
Max Pressure	30 psig (2.1 Bars)	10 psig (0.7 Bars)
Pipe Size	6" - 42" (150mm - 1050mm)	12" - 60" (300mm - 1500mm)
Instrument Connection	1/2" NPT or Direct Mount	
Components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

Verabar® Hot Tap Models

V250 Low Pressure

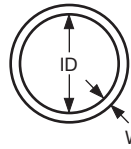


Model V250

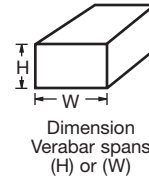


Furnish the following information:

1. Enter Pipe Dimensions or Duct Dimensions

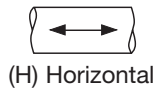


Pipe Size ____ Sch ____
 Pipe ID ____ and
 Wall ____ Pipe Mat'l ____



Height (H) ____
 Width (W) ____
 Wall ____
 Duct Mat'l ____

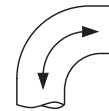
2. Pipe or Duct Orientation



(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

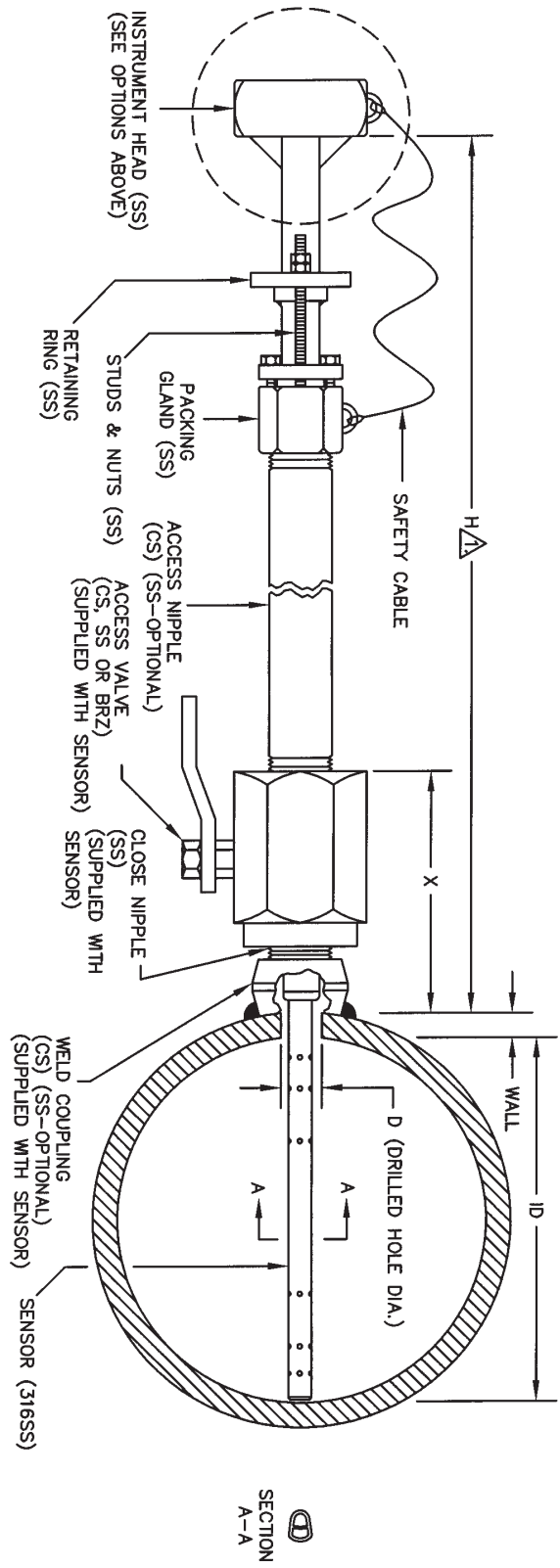
- Eliminates drive rods
- Safety cable limits retraction length to ensure proper sealing of packing gland
- Retaining ring loads sensor to opposite pipe wall

Ordering Information

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

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

PARALLEL	REGULAR	RTD	VALVE	NEEDLE	GATE	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	INT RTD	3 VALVES	5 VALVES		
CODE P	CODE R	CODE D	CODE T	CODE S	CODE S	CODE T	CODE G	CODE E	SOFT SEAT F33C (CS) F33S (SS)	HARD SEAT F3HC (CS) F3HS (SS)	SOFT SEAT F53C (CS) F53S (SS)	HARD SEAT F5HC (CS) F5HS (SS)



- NOTES:
- 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).
 - 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: _____

VERABAR MODEL: V250
HAND INSERTION, THREADED

DATE 09/20/01 DWG NO. SUB-3937

SCALE NTS REV A PAGE 1 OF 1