

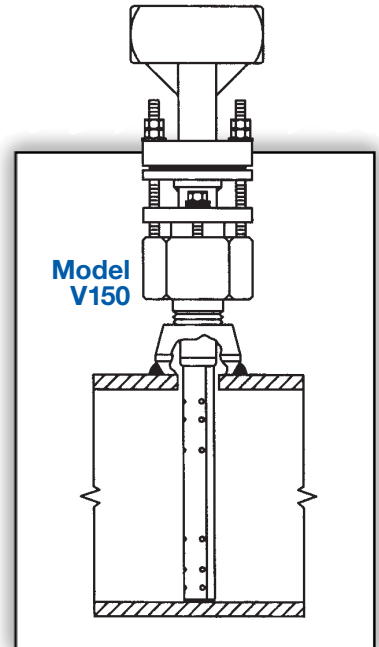
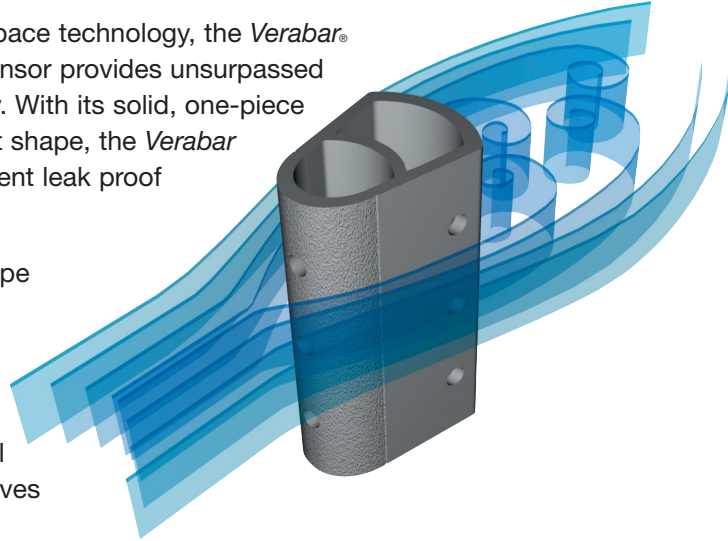
## Differential Pressure Flow Sensors

### V150 Spring Lock 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.



V150 Spring Lock	
<b>Pipe Connection</b>	Threaded (NPT)
<b>Mounting Type</b>	Spring loaded sensor with packing gland
<b>Features and Benefits</b>	<ul style="list-style-type: none"> <li>• Best valued model</li> <li>• Blow-out and leak proof design</li> <li>• Preloads sensor to opposite wall</li> <li>• Four times stronger than conventional mountings</li> <li>• Eliminates need for opposite end support</li> <li>• Compensates for changes in pipe diameter due to pressure, temperature or mechanical force</li> </ul>
<b>Applications</b>	<ul style="list-style-type: none"> <li>• Air (compressed, combustion)</li> <li>• Natural gas</li> <li>• Water (raw, cooling, feedwater)</li> <li>• High velocity fluids</li> <li>• Steam</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>

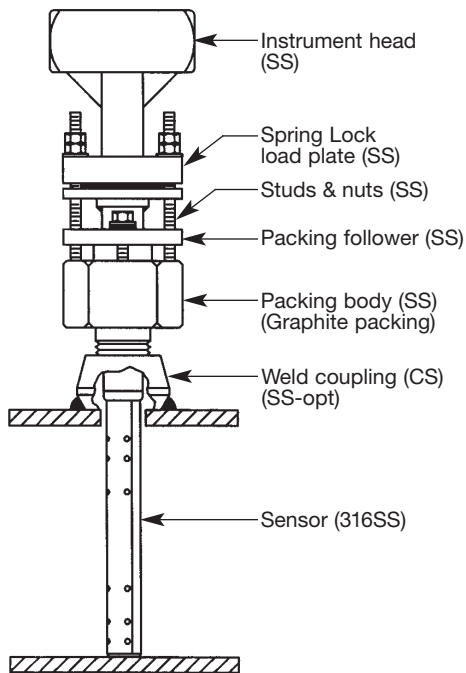
Temperature Pressure Limits (ANSI Class)*
<b>600#</b>
1440 psig @ 100°F (99.3 Bars @ 38°C)
825 psig @ 800°F (56.9 Bars @ 426°C)

Model Specifications	V150		
Sensor Code	05	10	15
<b>Sensor Diameter</b>	7/16" (11mm)	7/8" (22mm)	1-3/8" (35mm)
<b>Accuracy</b>	±1% of flow rate; ±0.5% if calibrated		
<b>ANSI Class*</b>	600#	600#	600#
<b>Pipe Size</b>	2"-6" (50mm-150mm)	6"-42" (150mm-1050mm)	12"-60" (300mm-1500mm)
<b>Instrument Connection</b>	1/2" NPT	1/2" NPT or Direct Mount	
<b>Components Furnished</b>	Weld coupling, Spring lock mounting assembly		
<b>Weld Coupling Size</b>	3/4" NPT	1" NPT	2" NPT

\* DIN and JIS flanges available. Consult factory.

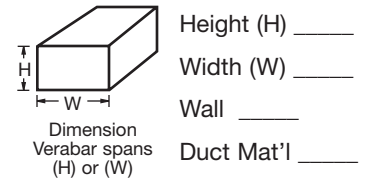
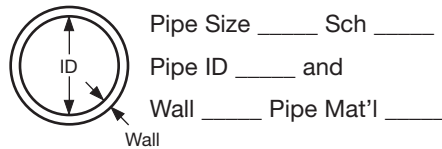
# Verabar® Regular Models

## V150 Spring Lock

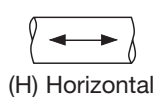


## Furnish the following information:

### 1. Enter Pipe Dimensions or Duct Dimensions



### 2. Pipe or Duct Orientation



### 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

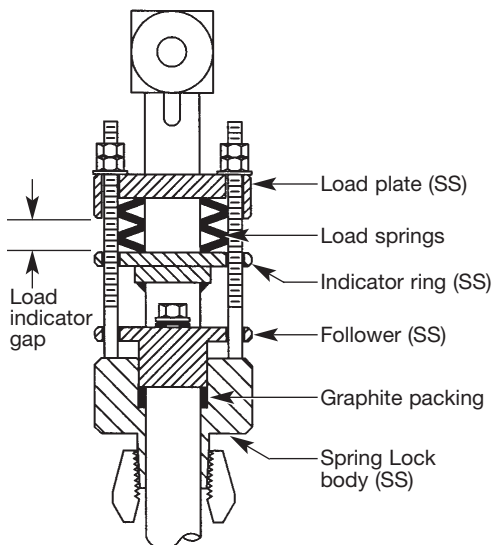
Use the Ordering Information table on Page 3 to determine your model number.

### 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**.









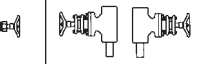
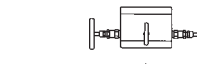

## Model V150



## Spring Lock Mount

- Design ensures the sensor is sealed, locked and pre-loaded to the opposite wall, regardless of changes in pipe diameter due to pressure, temperature or mechanical vibrations.
- Leak-proof...compensates for differential in packing and body growth rates due to increased temperatures.
- Increases sensor strength (eliminates the need for an opposite wall support). A locked, pre-loaded sensor is four times stronger than a non pre-loaded, cantilevered sensor.
- Spring Lock is engineered with three standard spring configurations equivalent to ANSI class 150#, 300# and 600# ratings.
- By loading the sensor and packing independently, the sensor can move axially to maintain a precise load on the pipe wall.

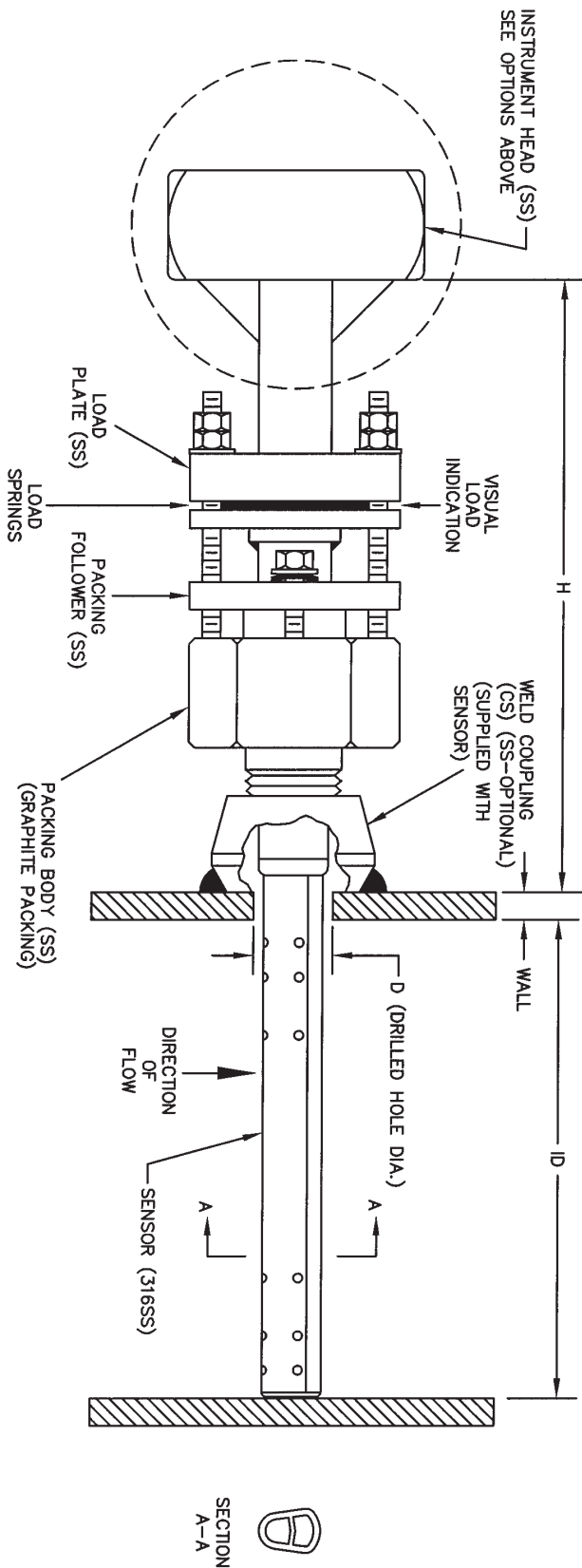
# Ordering Information

<b>Model</b>	<b>Regular</b>					
<b>V150</b>	Spring Lock					
<b>Pipe Size and Schedule or Exact ID and Wall Thickness</b>						
<b>Code</b>	<b>Sensor Pipe Size Range</b>					
<b>05</b>	2" to 6" (50mm to 150mm)					
<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) (Transmitter sold separately)</b>						
<b>Remote Mount Transmitter (1/2" NPT)</b>				<b>Direct Mount Transmitter (Flanged 450°F/232°C Max.)†</b>		
Parallel	Regular	RTD*	Valve	Transmount	Mass Transmount*	Manifold
		 Explsn. Proof	 Integral		 Integral RTD	 Integral
<b>P</b>	<b>R</b>	<b>D</b>	<b>T</b>	<b>F</b>	<b>G</b>	<b>E</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>	
Optional						
<b>Code</b>	<b>Options</b>					
<b>WNS</b>	For stainless steel pipes. For V150, furnished with one SS weld coupling.					
<b>V150</b>	<b>8"sch40</b>	<b>10</b>	<b>H</b>	<b>R</b>	<b>C2NC</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.

CODE	PARALLEL	REGULAR	RTD	VALVE	NEEDLE	GATE
1/2" NPT	1/2" NPT	X PROOF	INTEGRAL	1/2" NPT	1/2" NPT	
P	R	D	T	S	C2GC (CS) C2GS (SS)	C2GC (CS) C2GS (SS)

CODE	TRANSMOUNT	MASS TRANSMOUNT	MANIFOLD	MANIFOLDS
F	INT RTD	INT RTD	INTEGRAL	3-VALVES SOFT SEAT F3SC (CS) F3SS (SS)
				HARD SEAT F3HC (CS) F3HS (SS)
				5-VALVES SOFT SEAT F5SC (CS) F5SS (SS)
				HARD SEAT F5HC (CS) F5HS (SS)



CUSTOMER: \_\_\_\_\_  
 PROJECT: \_\_\_\_\_  
 ORDER NO: \_\_\_\_\_  
 TAG NO: \_\_\_\_\_  
 PIPE SIZE & SCHEDULE: \_\_\_\_\_  
 CATALOG NO: \_\_\_\_\_  
 SERIAL NO: \_\_\_\_\_  
 CERTIFIED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

ITEM	SENSOR -05	SENSOR -10	SENSOR -15
ANSI RATING	CLASS 600#	CLASS 600#	CLASS 600#
SENSOR DIA.	7/16" (11mm)	7/8" (22mm)	1-3/8" (35mm)
DIM "D" DRILLED HOLE DIAMETER	1/2" (13mm)	1" (26mm)	1-1/2" (39mm)
COUPLING SIZE	3/4" NPT	1" NPT	2" NPT
DIM "H"	7.5" (191mm)	10.2" (259mm)	11.7" (297mm)

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

VERABAR MODEL: V150  
 SPRING LOCK, THREADED

DATE	09/20/01	DWG NO.	SUB-3935
SCALE	NTS	REV A	PAGE 1 OF 1