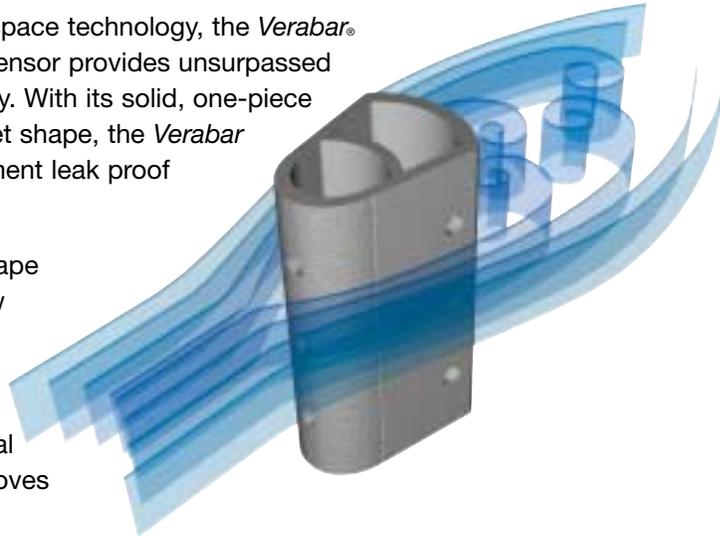


Differential Pressure Flow Sensors

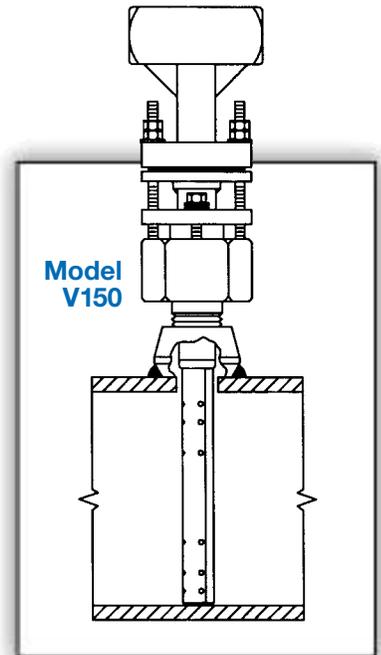
The Most Accurate and Reliable Technology for Measuring Gas, Liquid and Steam...

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 Threaded Components



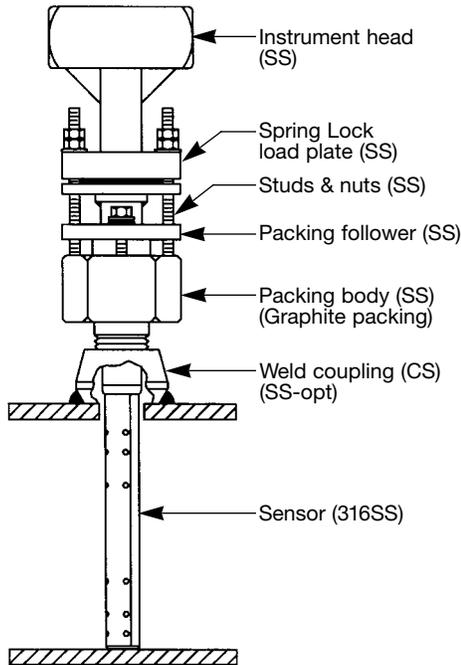
V150 Spring Lock	
Pipe Connection	Threaded (NPT)
Mounting Type	Spring loaded sensor with packing gland
Features and Benefits	<ul style="list-style-type: none"> • Best valued model • Blow-out and leak proof design • Preloads sensor to opposite wall • Four times stronger than conventional mountings • Eliminates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

Temperature Pressure Limits (ANSI Class)
600#
1440 psig @ 100°F (99.3 Bars @ 38°C)
660 psig @ 800°F (45.5 Bars @ 426°C)

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

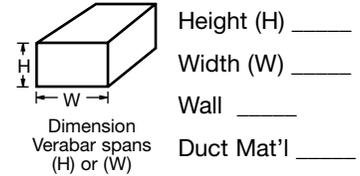
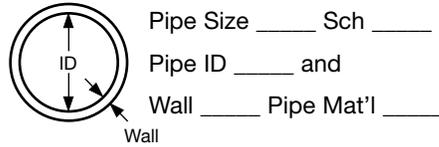
Verabar® Regular Models

V150 Spring Lock

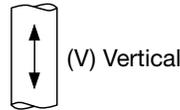
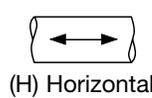


Furnish the following information:

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.

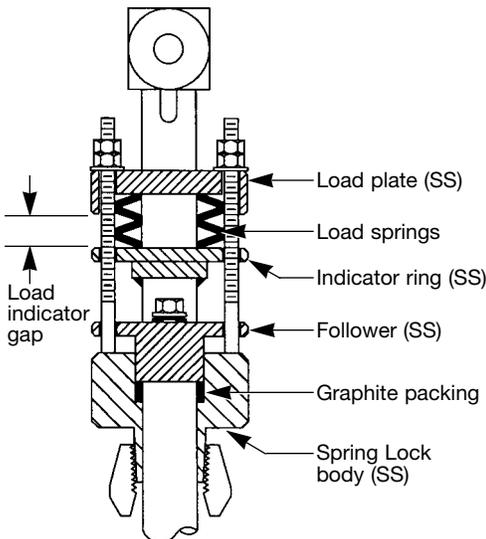
Use the Ordering Information table on page 3 to determine your model number.

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.

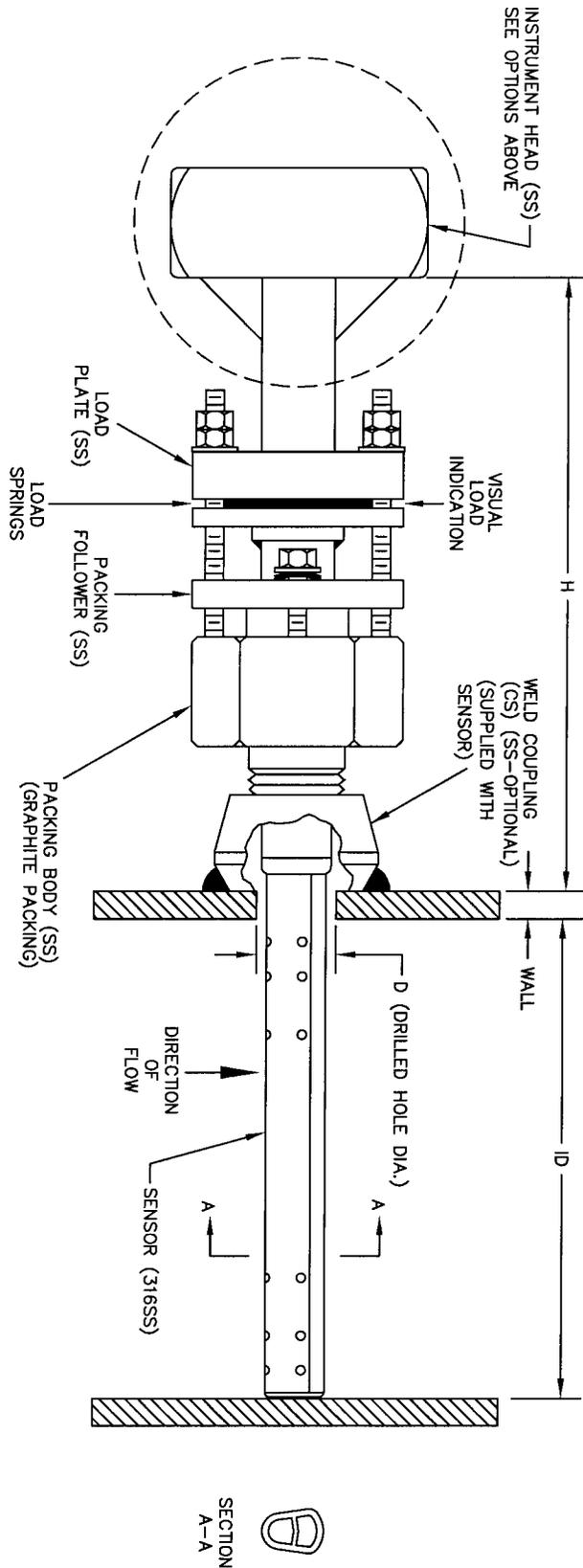
Ordering Information

Model	Regular						
V150	Spring Lock						
Pipe Size and Schedule or Exact ID and Wall Thickness							
Code	Sensor Pipe Size Range						
05	2" to 6" (50mm to 150mm)						
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; see Field Flow Systems literature)							
Remote Mount Transmitter (1/2" NPT)				Direct Mount Transmitter (Flanged 250°F/120°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)		
Optional							
Code	Options						
WNS	For stainless steel pipes. For V150, furnished with one SS weld coupling.						
V150	8"sch40	10	H	R	C2NC	Typical Model Number	

* For high pressure (>500psig) and high temperature (>500°F) remote mount RTD in a thermowell is preferred.

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)	

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



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"	7.3" (185mm)	9.7" (246mm)	11.1" (282mm)

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: V150
 SPRING LOCK, THREADED

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