

V500 Single Support & V510 Double Support – Flanged Components**The Most Accurate and Reliable Technology for Measuring Gas, Liquid and Steam...**

Developed from aerospace technology, the VERIS Verabar® averaging pitot flow sensor provides unsurpassed accuracy and reliability.

With its solid, one-piece construction and bullet shape, the VERIS Verabar® makes flow measurement leak resistant and precise. The unique sensor shape reduces drag and flow induced vibration. The location of the low-pressure ports significantly reduces the potential for clogging and improves signal stability.

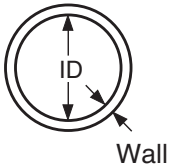
V500**V510**

V500 Single Support & V510 Double Support	
Pipe Connection	Flanged
Mounting Type	Flanged up to ANSI Class 2500#
Features and Benefits	• All welded mounting • Preferred mounting in power, petrochemical and refining industries • Can mount to existing flanges
Applications	• Air • Natural gas • Hydrocarbon liquids and gases • Water (raw, cooling, feedwater) • Hazardous fluids • Steam • Large pipes and ducts
Special Designs - Consult Factory	• Custom mounting, lengths, materials, instrument connections, etc. • Short straight run

Temperature Pressure Limits (ANSI Class)*	
150#	
275 psig @ 100°F (19 bar @ 38°C)	
80 psig @ 800°F (5.5 bar @ 426°C)	
300#	
720 psig @ 100°F (49.6 bar @ 38°C)	
410 psig @ 800°F (28.3 bar @ 426°C)	
600#	
1440 psig @ 100°F (99.3 bar @ 38°C)	
825 psig @ 800°F (56.9 bar @ 426°C)	
1500#	
3600 psig @ 100°F (248.2 bar @ 38°C)	
190 psig @ 1500°F (13.1 bar @ 815°C)	
2500#	
6000 psig @ 100°F (413.7 bar @ 38°C)	
315 psig @ 1500°F (21.7 bar @ 815°C)	

Model Specifications	V500 and V510		
Sensor Code	05	10	15
Sensor Diameter	7/16" (11mm)	7/8" (22mm)	1-3/8" (35mm)
Accuracy	±1% of flow rate; up to +/-0.5% if calibrated		
ANSI Class*	150#, 300#, 600#, 1500# and 2500#		
Pipe Size	2" - 6" (50mm-150mm)	6" - 48" (150mm-1200mm)	12" - 192" (300mm-5000mm)
Instrument Connection	1/2" NPT, Socket Weld or Direct Mount		
Components Furnished	Weld coupling, weldneck flange, gasket, studs & nuts V510 includes additional weld coupling and pipe cap		
Flange Size	1"	1-1/2"	2"

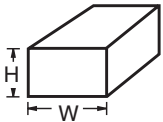
* DIN and JIS flanges available. Consult factory.

1. Enter Pipe Dimensions or Duct Dimensions

Pipe Size _____ Sch _____

Pipe ID _____ and

Wall _____ Pipe Material _____



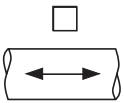
Height (H) _____

Width (W) _____

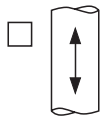
Wall _____

Duct Material _____

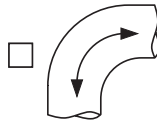
Dimension
Verabar® spans
(H) or (W)

2. Pipe or Duct Orientation (Check one box)

(H) Horizontal



(V) Vertical



Short
Straight Run
Consult Factory

3. Enter Flow Conditions

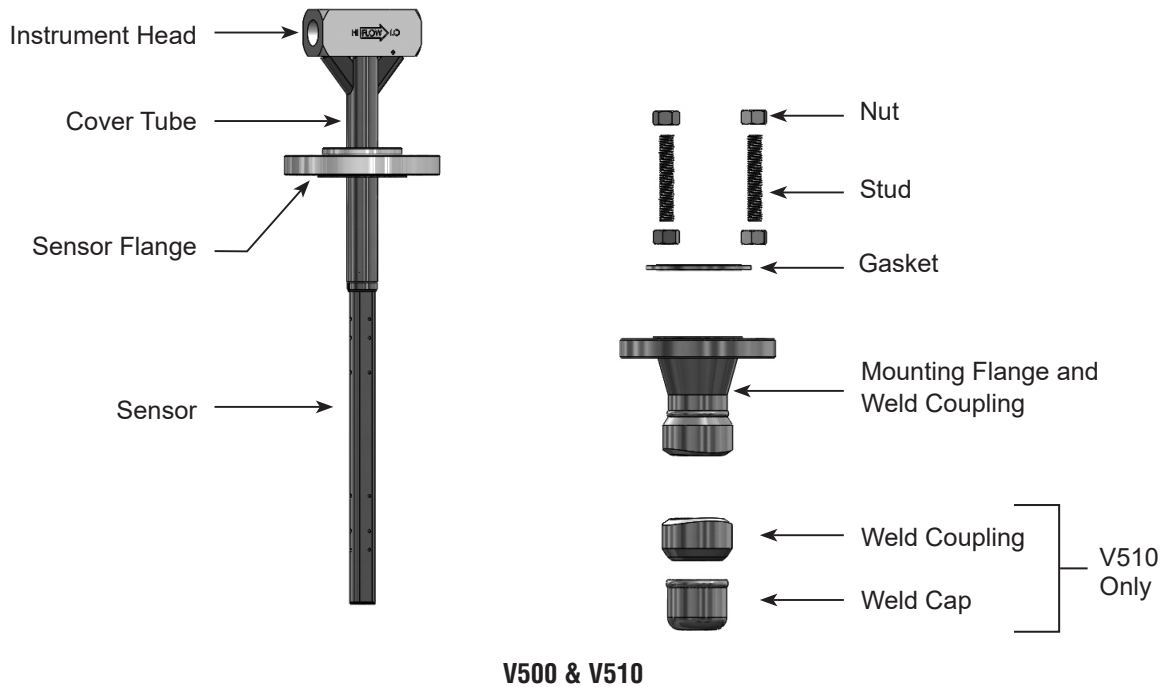
Fluid Name:		Maximum	Nominal	Minimum	Units
Flow Rate					
All Fluids	Pressure @ Flow				
	Temperature @ Flow				
Gas	Specific Gravity, or Molecular Weight				
Liquid	Specific Gravity				
Steam	VeraCalc Program can calculate Density from Temperature and Pressure				

4. Select Model from Page 3

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

5. Flow Calculation

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



High Pressure and Temperature Head Option

Unique Design Features

High Pressure Threaded (HPT) and High Pressure Socket (HPS) designs offer the highest possible pressure and temperature capabilities. When pressure containment and safety are primary concerns, the HPT/HPS has the strongest and safest design in the industry.

As with all VERIS designs, it meets ANSI/ASME B31.1 and can be supplied with code welding (ASME Section IX), hydrostatic testing, N.A.C.E. and material traceability.

Applications

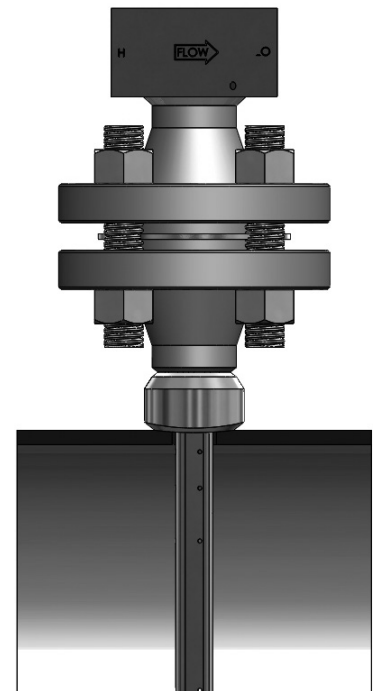
Main Header Steam Lines

Used for high pressure and temperature applications such as main header steam lines.

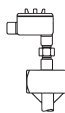
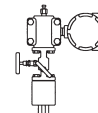
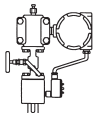
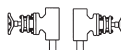
For these applications, pipe mounting assemblies are available in chrome-moly material (ASTM A182 F11, F22 & F91).

Other Applications

- High pressure and temperature gases and liquids
- Natural gas transmission lines
- Boiler feed water lines
- Oil well injection lines



Applications up to ANSI Class 2500#

Model	Flanged					
V500	Single Support					
V510	Double Support					
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 48" (150mm to 1200mm)					
15	12" to 192" (300mm to 5000mm)					
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
			 Integral		 Integral RTD	 Integral
P	R	D	T	F	G	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 Material & Rating (Includes SS sensor flange, WN flange, weld coupling, spiral-wound gaskets, studs & nuts)						
Sensor (Flange Size)			Mating Flange Material & ANSI Class			
05 (1")	10 (1-1/2")	15 (2")				
Code						
F415C F415S	F615C F615S	F815C F815S	CS			
F430C F430S	F630C F630S	F830C F830S	SS			
F460C F460S	F660C F660S	F860C F860S	CS			
			SS			
High Pressure Instrument Head (ANSI Class 1500# & 2500#)						
HPT	1/2" NPT		High Pressure Mounting Assy (HPT & HPS Connections)			
HPS	Socket Weld					
Sensor (Flange Size)			Mating Flange Material & ANSI Class			
05 (1")	10 (1-1/2")	15 (2.5" or 3")				
Code						
F4150C F4150S F4150F11 F4150F22	F6150C F6150S F6150F11 F6150F22	F10150C F10150S F10150F11 F10150F22	CS			
			SS			
F4250C F4250S F4250F11 F4250F22	F6250C F6250S F6250F11 F6250F22	F12250C F12250S F12250F11 F12250F22	F11			
			F22			
			CS			
			SS			

V500

8"sch40

10

H

R

C2NC

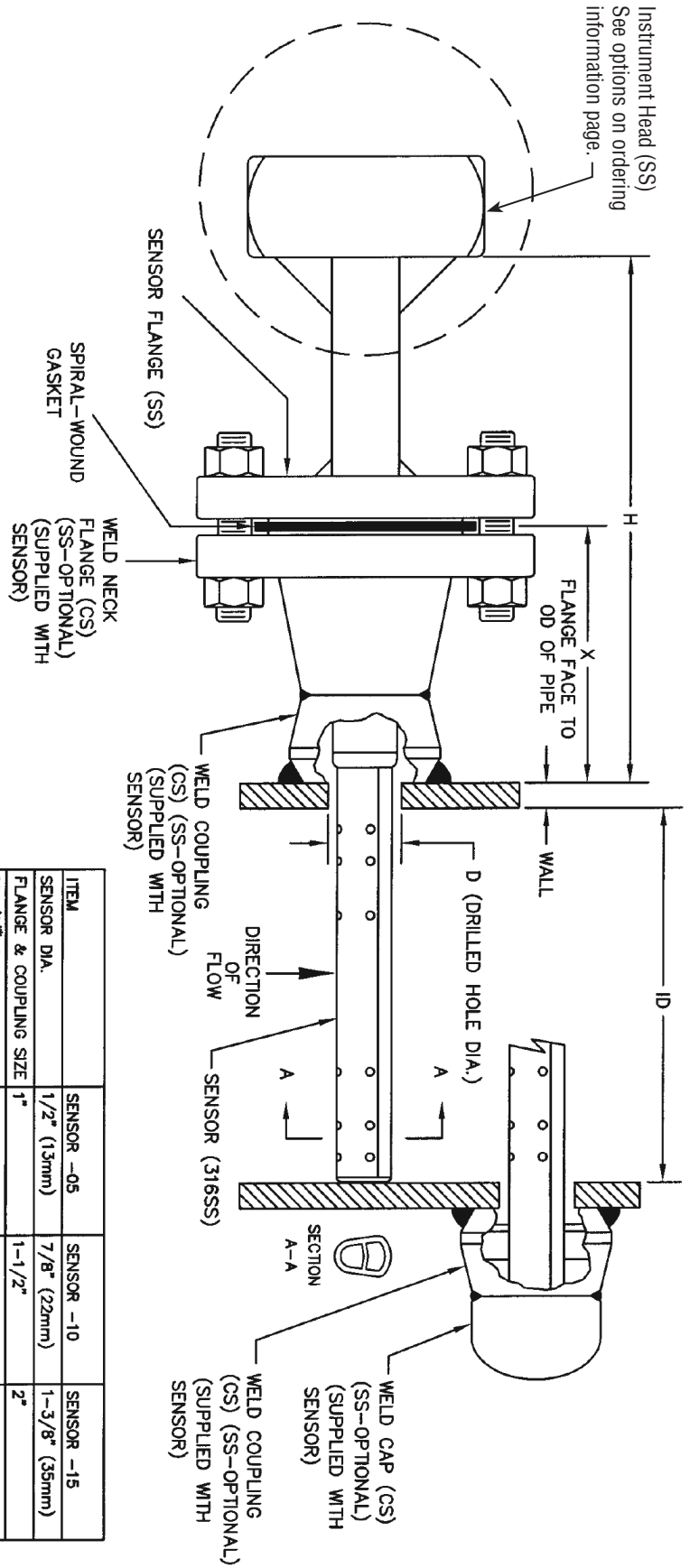
F615C

Typical Model Number

V500 8"sch40 10 H R C2NC F615C 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.



NOTES:
1. CONTACT VERIS FOR DIMENSIONAL DRAWING FOR HIGH PRESSURE THREADED (HPT) & HIGH PRESSURE SOCKET (HPS)

ITEM	SENSOR -05	SENSOR -10	SENSOR -15
SENSOR DIA.	1/2" (13mm)	7/8" (22mm)	1-3/8" (35mm)
FLANGE & COUPLING SIZE	1"	1-1/2"	2"
DIM D" DRILLED HOLE DIA.	1/2" (13mm)	1" (26mm)	1-1/2" (39mm)
DIM H" ANSI CLASS 150#	6.7" (170mm)	7.9" (200mm)	9.3" (235mm)
DIM H" ANSI CLASS 300#	7.3" (186mm)	8.4" (214mm)	9.8" (249mm)
DIM H" ANSI CLASS 600#	7.8" (198mm)	9.1" (230mm)	10.6" (268mm)
DIM X" ANSI CLASS 150#	3.31" (84mm)	3.81" (97mm)	4.06" (103mm)
DIM X" ANSI CLASS 300#	3.56" (90mm)	4.06" (103mm)	4.31" (110mm)
DIM X" ANSI CLASS 600#	3.81" (97mm)	4.38" (111mm)	4.69" (119mm)

* H' & X' DIMENSIONS ARE APPROXIMATE (FOR SIZING PURPOSES ONLY)

		VERIS Verabar® V500 / V510 Flanged Connection	
VERIS Flow Measurement Group armstronginternational.com/veris		DWG. No. SUB-3941	
DATE: 09/20/01		Rev: A	
Scale: NTS		Page 1 of 1	