

## V200 Screw Drive – Threaded 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.



V200S



V200D

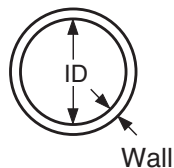
V200 Hot Tap	
<b>Pipe Connection</b>	Threaded (NPT)
<b>Mounting Type</b>	Ball or gate access valve
<b>Features and Benefits</b>	<ul style="list-style-type: none"> <li>• Most commonly used hot tap model</li> <li>• Installation, insertion &amp; retraction without system shutdown</li> <li>• Economical single threaded rod for most applications</li> <li>• Two threaded rods for high pressures</li> <li>• Synchro drive simultaneously rotates both rods (double rod drives only)</li> <li>• Patented, anti-seize orbital bearing aligns threaded rods and eliminates galling</li> <li>• Can mount to existing valves</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>• 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>150#</b>
275 psig @ 100°F (19 bar @ 38°C)
80 psig @ 800°F (5.5 bar @ 426°C)
<b>600#</b>
1440 psig @ 100°F (99.3 bar @ 38°C)
825 psig @ 800°F (56.9 bar @ 426°C)

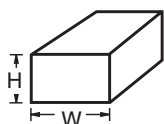
Model Specifications	V200S			V200D	
	05	10	15	10	15
<b>Sensor Code</b>	05	10	15	10	15
<b>Sensor Diameter</b>	7/16" (11mm)	7/8" (22mm)	1-3/8" (35mm)	7/8" (22mm)	1-3/8" (35mm)
<b>Accuracy</b>	±1% of flow rate; up to +/-0.5% if calibrated				
<b>ANSI Class*</b>	600#	150#	150#	600#	600#
<b>Drive Rods</b>	Single			Double	
<b>Pipe Size</b>	2"- 6" (50mm-150mm)	6"- 42" (150mm-1050mm)	12"- 60" (300mm-1500mm)	6"- 42" (150mm-1050mm)	12"- 60" (300mm-1500mm)
<b>Instrument Connection</b>	1/2" NPT or Direct Mount			1/2" NPT or Direct Mount	
<b>Components Furnished</b>	Weld coupling, close nipple, access nipple and valve				
<b>Weld Coupling Size</b>	3/4" NPT	1-1/4" NPT	2" NPT	1-1/4" NPT	2" NPT

\* DIN and JIS flanges available. Consult factory.

## 1. Enter Pipe Dimensions or Duct Dimensions



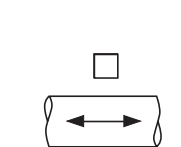
Pipe Size \_\_\_\_\_ Sch \_\_\_\_\_  
 Pipe ID \_\_\_\_\_ and  
 Wall \_\_\_\_\_ Pipe Material \_\_\_\_\_



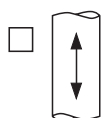
Height (H) \_\_\_\_\_  
 Width (W) \_\_\_\_\_  
 Wall \_\_\_\_\_  
 Duct Material \_\_\_\_\_

Dimension Verabar® spans (H) or (W)

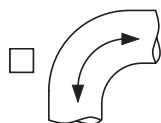
## 2. Pipe or Duct Orientation (Check one box)



(H) Horizontal



(V) Vertical



Short Straight Run  
 Consult Factory

## 3. Enter Flow Conditions

Fluid Name:		Maximum	Nominal	Minimum	Units
<b>Flow Rate</b>					
<b>All Fluids</b>	Pressure @ Flow				
	Temperature @ Flow				
<b>Gas</b>	Specific Gravity, or Molecular Weight				
<b>Liquid</b>	Specific Gravity				
<b>Steam</b>	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.

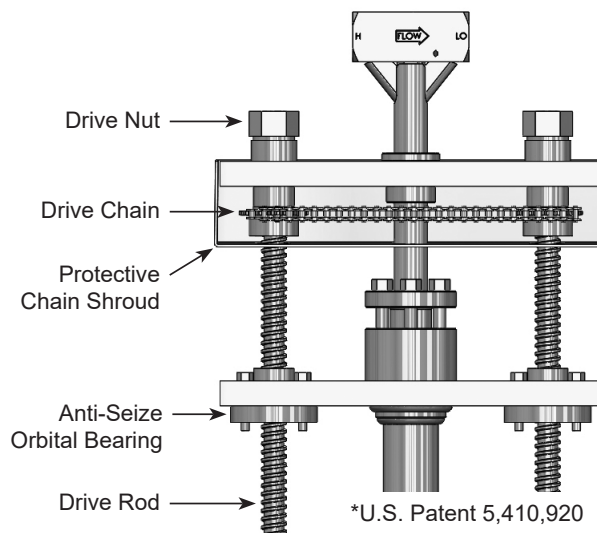
## 5. Flow Calculation

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.

## Synchro-Drive (Option SYN)

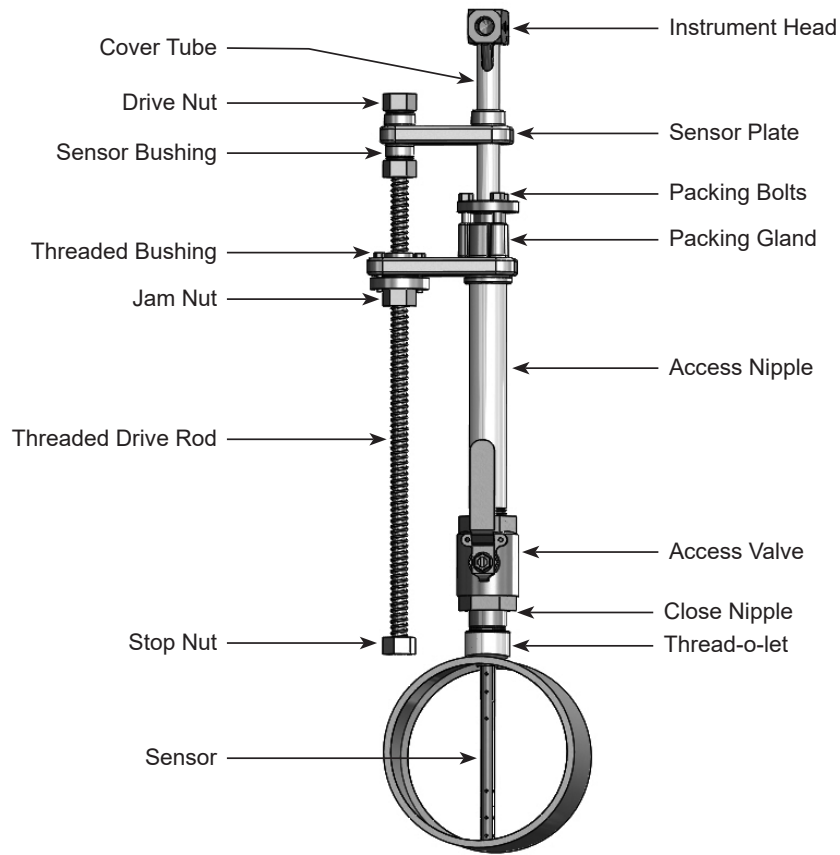
### Synchro-Drive Description

Designed for pressures greater than ANSI Class 150#, Synchro-Drive is equipped with two drive rods that are coupled together by a protected chain drive system. Turning either drive nut simultaneously rotates both rods.

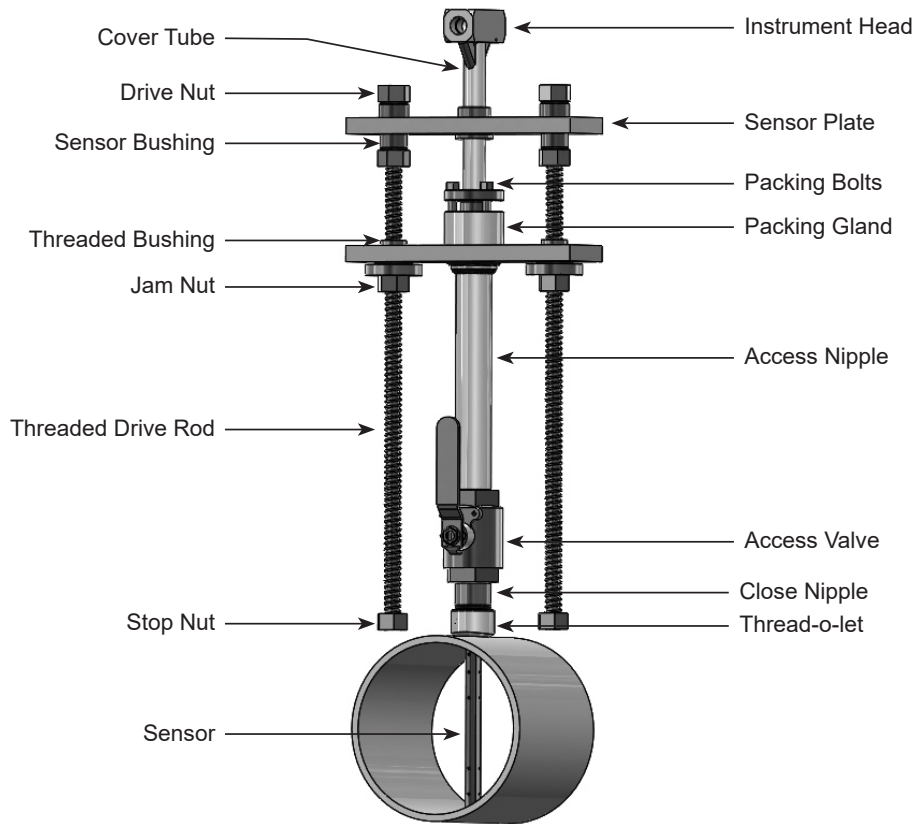


### Synchro-Drive Benefits

95% faster and easier insertion and retraction.  
 Equal load distribution over both rods maintains sensor alignment and eliminates binding.



**V200S (Single Rod)**



**V200D (Double Rod)**

<b>Model</b>	<b>Hot Tap • Threaded Pipe Connections and Components</b>
<b>V200S</b>	Single Rod, Insert/Retract, General Purpose (05 Class 600#, 10 and 15 Class 150#)
<b>V200D</b>	Double Rod, Insert/Retract, Higher Pressures (600# max.) (10 and 15 only)

**Pipe Size and Schedule or Exact ID and Wall Thickness**

Code	Sensor Pipe Size Range
<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)

Code	Pipe Orientation
<b>H</b>	Horizontal
<b>V</b>	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
P	R	D	T Integral	F	G Integral RTD	M Integral

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
<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


Mounting Assembly — Select Valve Type & Material (Includes valve, close nipple & weld coupling)			
Sensor (Valve Size NPT)			Type, Material & Rating
05 (3/4")	10 (1-1/4")	15 (2")	
Code			
<b>B3B</b>	<b>B5B</b>	<b>B8B</b>	Ball, Brz., 600 psig @ 100°F, 100 psig @ 400°F (max.)
<b>B3C</b>	<b>B5C</b>	<b>B8C</b>	Ball, CS, 1000 psig @ 100°F, 100 psig @ 400°F (max.)
<b>B3S</b>	<b>B5S</b>	<b>B8S</b>	Ball, SS, 1000 psig @ 100°F, 100 psig @ 400°F (max.)
<b>G3C</b> <b>G3S</b>	<b>G5C</b> <b>G5S</b>	<b>G8C</b> <b>G8S</b>	Gate, CS, ANSI Class 600# Gate, SS, 1200 psig @ 100°F, 660 psig @ 800°F

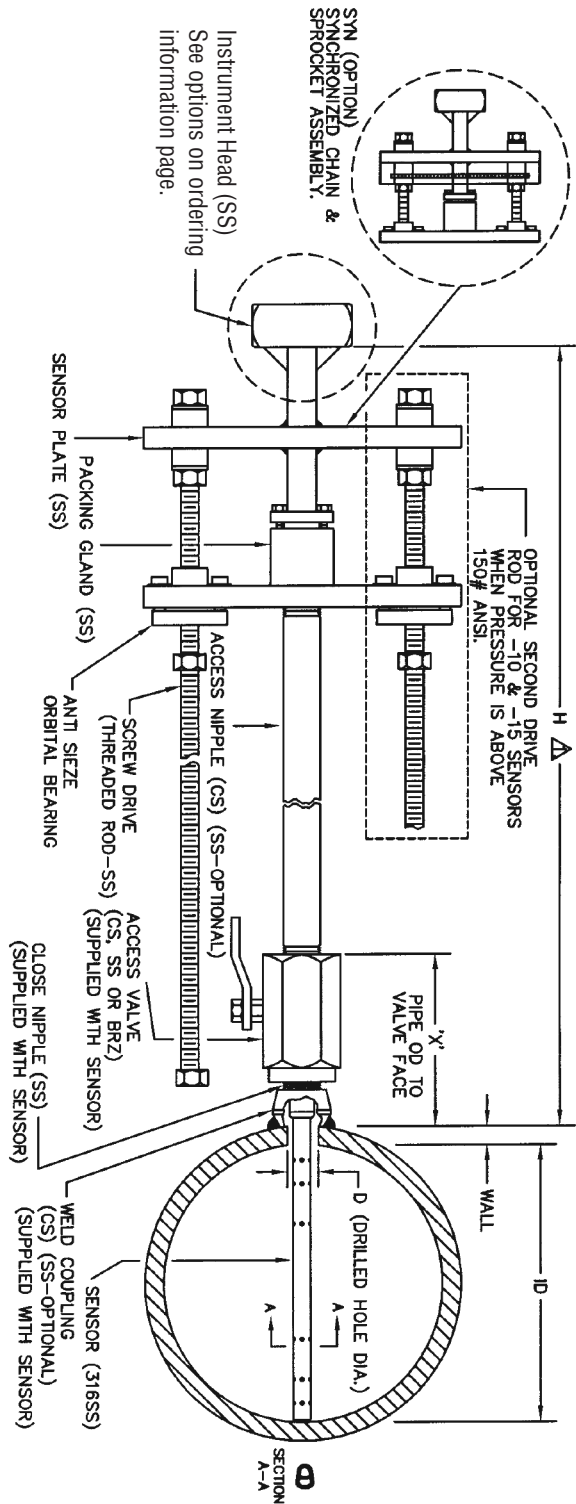
Code	Options
<b>SYN</b>	Synchronized Two Rod Drive System (Available for V200D-10 and V200D-15 sensors only)
<b>WPS</b>	SS Wetted Components (Furnished with SS weld coupling, close & access nipple). Must be ordered with SS access valve.

<b>V200D</b>	<b>8"sch40</b>	<b>10</b>	<b>H</b>	<b>R</b>	<b>C2NC</b>	<b>B5C</b>	<b>SYN</b>	<b>Typical Model Number</b>
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\* For high pressure (>500psig) or high temperature (>500°F), remote mount RTD in a thermowell is preferred.

† Assuming adequate heat dissipation for transmitter.

		<b>VERIS Verabar® V200</b> <b>Single &amp; Double Rod,</b> <b>Threaded</b>	
<b>VERIS Flow Measurement Group</b> armstronginternational.com/veris			
DATE: 09/20/01	DWG. No. <b>SUB-3936</b>	Rev. A	Page 1 of 1
Scale: NTS			



- NOTES:
- △ H=ID+WALL+X+10.2" (SENSOR -05 INSERTED), H=ID+WALL+X+11.6" (SENSOR -10 INSERTED), H=ID+WALL+X+13.6" (SENSOR -15 INSERTED), H=2(ID+WALL+X)+10.1" (SENSOR -05 RETRACTED), H=2(ID+WALL+X)+11.4" (SENSOR -10 RETRACTED), H=2(ID+WALL+X)+13.3" (SENSOR -15 RETRACTED), ADD 1.5" TO 'H' FOR -10 SYNCHRO DRIVE, ADD 1.75" TO 'H' FOR -15 SYNCHRO DRIVE.
  - 2. INSTRUMENT HEAD AND ACCESS VALVE ORIENTATION FOR SHOWN 90 DEGREES FROM ACTUAL ORIENTATION FOR CLARITY.

ITEM	SENSOR -05	SENSOR -10	SENSOR -15	PRESSURE RATING
SENSOR DIA.	7/16" (11mm)	7/8" (22mm)	1-3/8" (35mm)	-
COUPLING SIZE	3/4" NPT	1-1/4" NPT	2" NPT	-
DIM 'D' DRILLED HOLE DIAMETER	1/2" (13mm)	1" (26mm)	1-1/2" (39mm)	-
DIM 'X*' FOR BRONZE BALL VALVE	5.6" (142mm)	7.2" (183mm)	8.4" (213mm)	600PSI @ 100F/100PSI @ 400F
DIM 'X*' FOR CS BALL VALVE	6.2" (157mm)	7.6" (193mm)	9.1" (231mm)	1000PSI @ 100F/100PSI @ 400F
DIM 'X*' FOR SS BALL VALVE	6.0" (152mm)	7.7" (196mm)	9.1" (231mm)	1000PSI @ 100F/100PSI @ 400F
DIM 'X*' FOR CS GATE VALVE	6.5" (165mm)	7.7" (196mm)	10.1" (257mm)	ANSI CLASS 600#
DIM 'X*' FOR SS GATE VALVE	6.0" (152mm)	7.7" (196mm)	8.8" (224mm)	1200PSI @ 100F/660PSI @ 800F

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



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