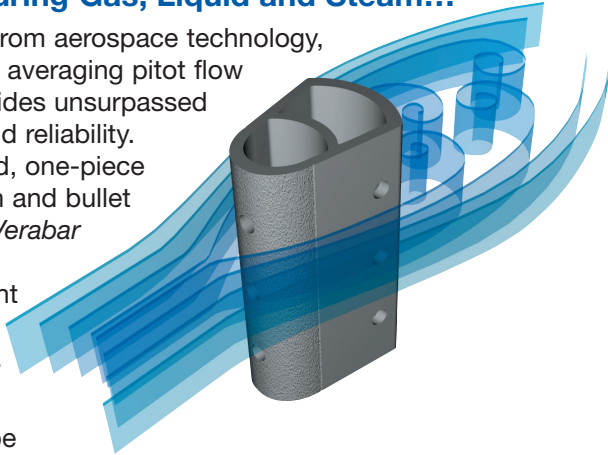


Differential Pressure Flow Sensors

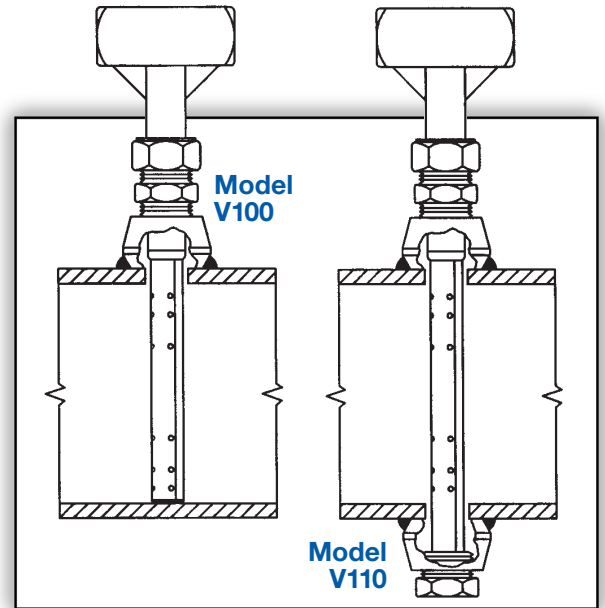
V100 & V110 Compression Fitting

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.



| V100 Single Support V110 Opposite Support | |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pipe Connection | Threaded (NPT) |
| Mounting Type | Tube fitting |
| Features and Benefits | <ul style="list-style-type: none"> • Most cost effective model • Installed in less than one hour • Low and medium pressures |
| Applications | <ul style="list-style-type: none"> • Pipes (steel, PVC, FRP, copper) • Air (compressed, combustion) • Natural gas • Stack/flue gas • Water (raw, cooling, feedwater) • Low pressure steam • Non-hazardous fluids |
| Special Designs – Consult Factory | <ul style="list-style-type: none"> • Custom mounting, lengths, materials, instrument connections, etc. • Short straight run |

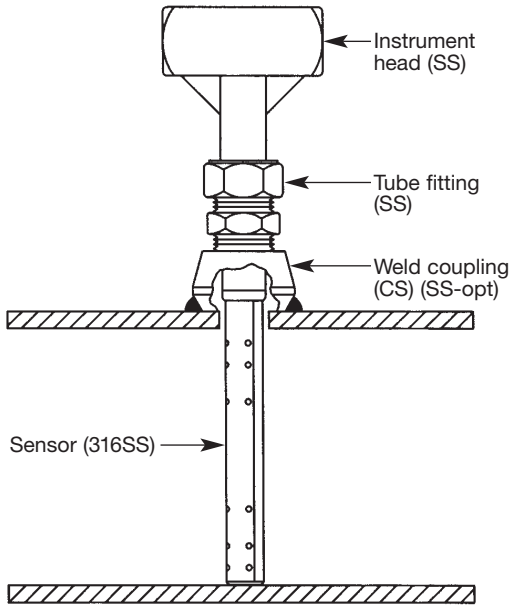
| Temperature Pressure Limits (ANSI Class)* |
|----------------------------------------------|
| 300# |
| 740 psig @ 100°F (51.0 Bars @ 38°C) |
| 410 psig @ 800°F (28.3 Bars @ 426°C) |
| 600# |
| 1440 psig @ 100°F (99.3 Bars @ 38°C) |
| 825 psig @ 800°F (56.9 Bars @ 426°C) |

| Model Specifications | V100 and V110 | |
|------------------------------|---------------------------------------------------------------------------------|----------------------------|
| Sensor Code | 05 | 10 |
| Sensor Diameter | 7/16" (11mm) | 7/8" (22mm) |
| Accuracy | ±1% of flow rate; ±0.5% if calibrated | |
| ANSI Class* | 600# | 300# |
| Pipe Size | 2" - 6" (50mm-150mm) | 6" - 48" (150mm-1200mm) |
| Instrument Connection | 1/2" NPT | 1/2" NPT or Direct Mount |
| Components Furnished | Weld coupling, tube fitting; V110 includes additional weld coupling and plug | |
| Weld Coupling Size | 3/4" NPT | 1" NPT |

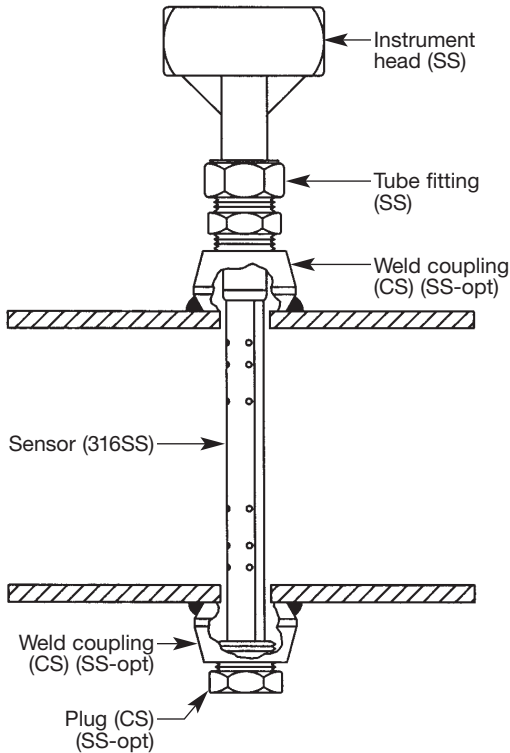
* DIN and JIS flanges available. Consult factory.

Verabar® Regular Models

V100 (Single Support)

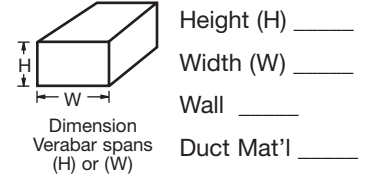
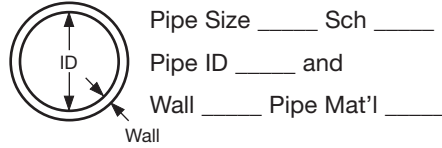


V110 (Double Support)

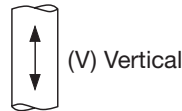
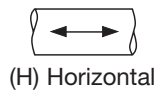


Furnish the following information:

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





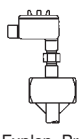
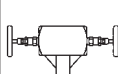
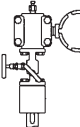
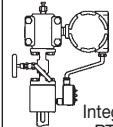
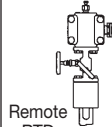
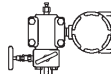


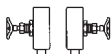
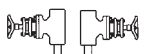
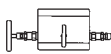
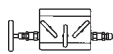
Use the Ordering Information table on Page 3 to determine your model number.

5. Flow Calculation



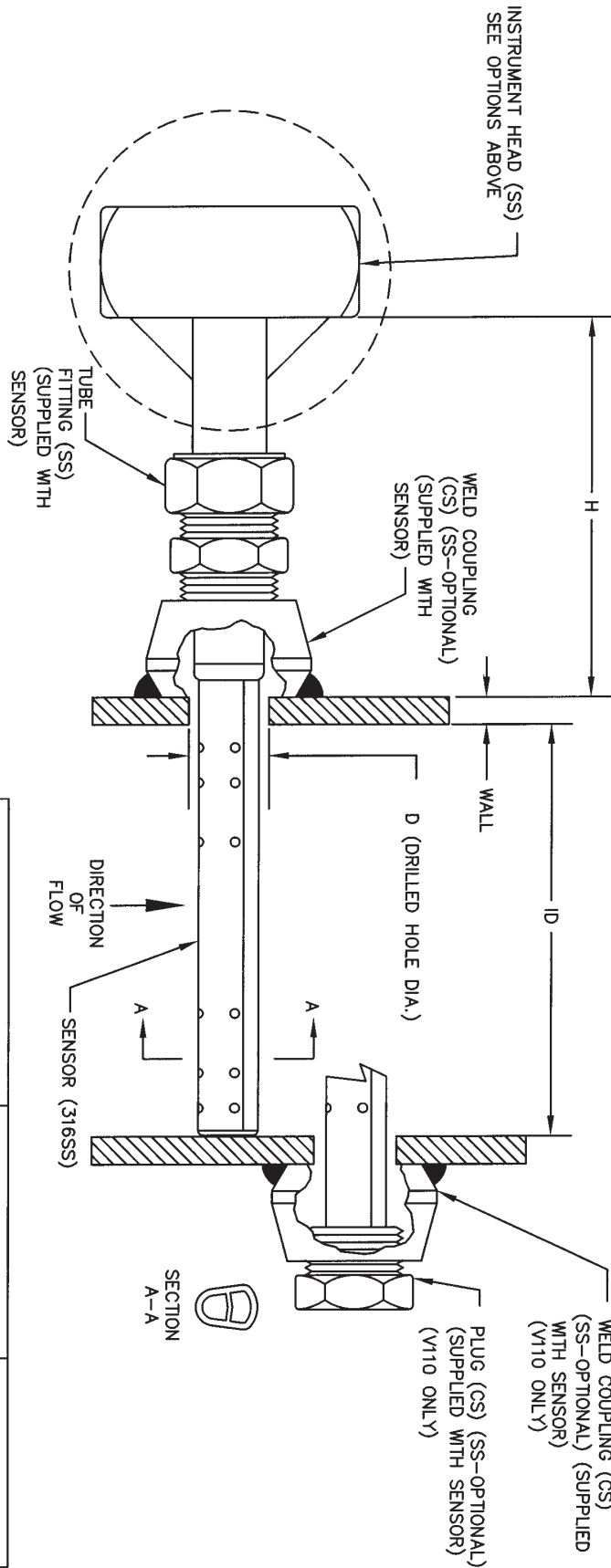
All Verabar applications require a flow calculation to verify the DP, pressure and temperature limits, structural limits and to size the transmitter. The Veracalc PC Program is for use by representatives and end users. It is easy to operate and **includes steam tables**.

Ordering Information

| Model | Regular | | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| V100 V110 | Compression Fitting (Single Support) Compression Fitting (Double Support) | | | | | | |
| Pipe Size and Schedule or Exact ID and Wall Thickness | | | | | | | |
| Code | Sensor Pipe Size Range | | | | | | |
| 05 10 | 2" to 6" (50mm to 150mm) 6" to 48" (150mm to 1200mm) | | | | | | |
| Code | Pipe Orientation | | | | | | |
| H V | Horizontal 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) | | |
| Optional | | | | | | | |
| Code | Options | | | | | | |
| WNS | For stainless steel pipes. For V100, furnished with one SS weld coupling. For V110, furnished with two SS weld couplings and one SS plug. | | | | | | |
| V100 | 8"sch40 | 10 | H | R | C2NC | 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.

| | | | | | | | |
|-----------------|------------|-----------------|----------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|
| R M O M O N T E | PARALLEL | REGULAR | RTD | VALVE | VALVE | NEEDLE | GATE |
| | 1/2" NPT | 1/2" NPT | X PROOF | INTEGRAL | 1/2" NPT | 1/2" NPT | 1/2" NPT |
| CODE | P | R | D | T | S | C2NC (CS) C2NS (SS) | C2GC (CS) C2GS (SS) |
| D I R U E N T | TRANSMOUNT | MASS TRANSMOUNT | MANIFOLD | MANIFOLDS | | | |
| | F | INT RTD | RMT RTD | INTEGRAL | 3-VALVES | 5-VALVES | |
| CODE | F | G | E | M | SOFT SEAT F3SC (CS) F3SS (SS) | HARD SEAT F3HC (CS) F3HS (SS) | SOFT SEAT F5SC (CS) F5SS (SS) |
| | | | | | | HARD SEAT F5HC (CS) F5HS (SS) | |



| | | |
|-------------------------------|----------------------|------------------|
| ITEM | SENSOR -05 | SENSOR -10 |
| ANSI RATING | CLASS 600# | CLASS 300# |
| SENSOR DIA. | 7/16" (11mm) | 7/8" (22mm) |
| DIM 'D' DRILLED HOLE DIAMETER | 1/2" (13mm) | 1" (26mm) |
| FITTING SIZE | 5/8" TUBE X 3/4" NPT | 1" TUBE X 1" NPT |
| COUPLING SIZE | 3/4" NPT | 1" NPT |
| DIM 'H' | 4.0" (102mm) | 5.5" (140mm) |

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

| | |
|-------------------------|-------------------|
| VERABAR MODEL: V100/110 | |
| TUBE FITTING, THREADED | |
| DATE 09/20/01 | DWG NO. SUB-3934 |
| SCALE NTS | REV A PAGE 1 OF 1 |