

In-Tank Sensors

Viscosity Sensors



The Global Standard for Small Sample Viscosity Measurement

- Accurate and Reliable Viscosity Measurement for the Process
 - Rugged and Durable Due to Unique Design
 - Simple to Install Requiring Little Maintenance

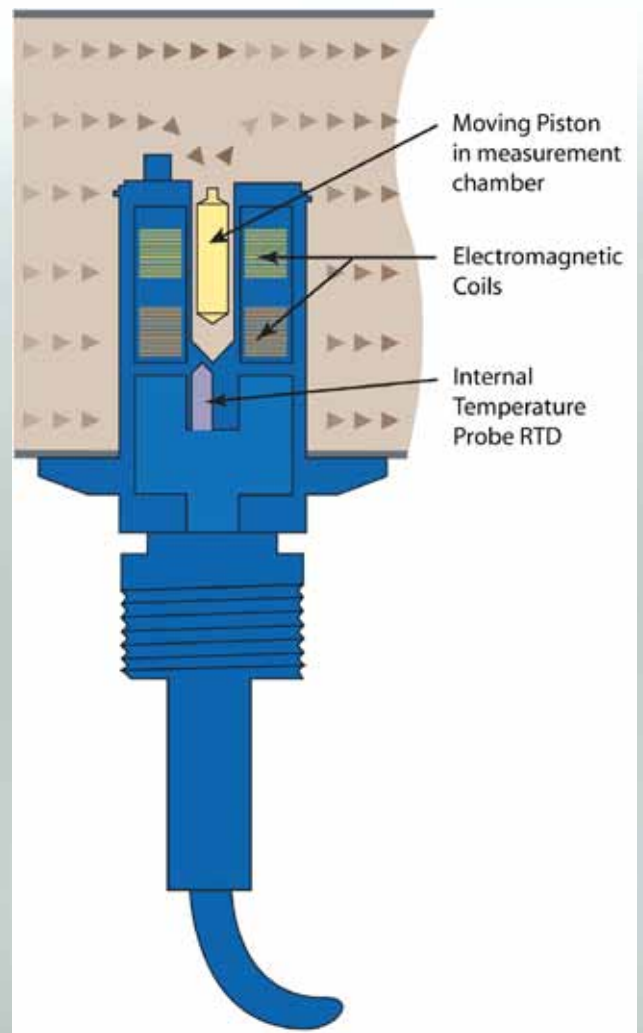
Viscosity Sensors

FAST AND RELIABLE PROCESS VISCOSITY MEASUREMENT

Cambridge Viscosity's (CVI's) patented sensor technology is the preferred choice for small sample viscosity measurement. It uses only one moving part, a piston, driven electromagnetically through fluid in a small measurement chamber. A deflector, positioned over the piston, moves fluid into the measurement chamber, while two coils move the piston back and forth at a constant force. Proprietary circuitry analyzes its two-way travel time to measure absolute viscosity.

Every CVI viscometer uses one of these sensors – ensuring that every viscometer is the most accurate and reliable it can be. Furthermore, since all wetted parts are stainless steel and the piston is in constant motion, the sampling area is continually scrubbed clean. There is no need for frequent calibration and very little maintenance is required.

CVI offers several in-tank sensors, which are installed in process fluids to provide continuous temperature and viscosity tracking. These sensors can be paired with either the VISCOpro 1600 or VISCOpro 2000 instrument.



- Viscosity Measurement from 0.2 To 20,000 centipoise
- Available in 13 different 20:1 ranges.

- Correlation to:
- ASTM D7483
 - ASTM D445

- Coatings
- Lubricants
- Chemicals

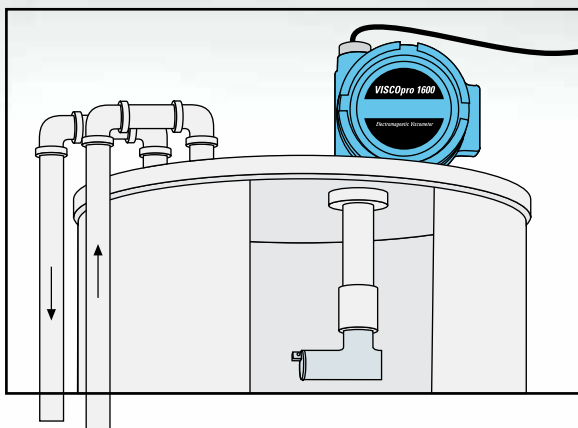
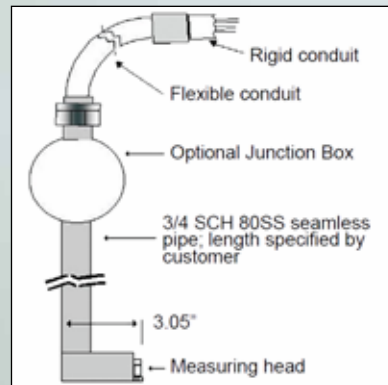


Diagram 1 (left) depicts an in-tank installation of a VISCOpro 1600 with an SPC 321 sensor demonstrating the viscometer's flexibility .

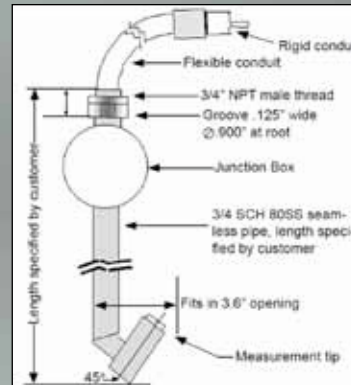
SENSOR 321 - IN-TANK VISCOMETER

The in-tank viscometer sensor 321 can be immersed directly into a blend tank or a vessel. It is used for applications where agitation is low, as well as where cleaning and flushing of the process fluids or particles may be an issue. The sensor head is attached to its stem at a 90° angle. It has 1 inch (25.4mm) NPT threads just above the sensor head and can be fitted to any pipe configuration without welding. Typical stem lengths can vary from 1-18 feet. Common applications include coatings and chemicals.



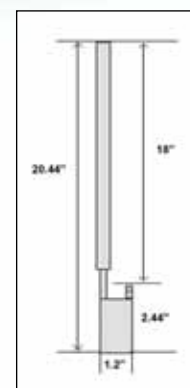
SENSOR 322 - IN-TANK VISCOMETER

Sensor 322 is a viscosity testing sensor used for inline process viscosity applications and can be immersed directly into a blend tank or a vessel. It is recommended where the tanks have good agitation and employ regular cleaning/flushing, as well as in fluid processes where entrained air bubbles can be an issue. The sensor head is permanently mounted at a 45° angle. Stem lengths are available from 1-18 feet. Common applications include lubricants, coatings, chemicals.



SENSOR 324 - PORTABLE VISCOMETER

The 324 sensor may be inserted into stirred reaction vessels, small tanks, or open containers. It has a diameter of 1.2 inches (30.5mm) suitable for a 45/50 mm port. The stem length is 18 inches (45.7cm) long and 1/2 inch (12.7mm) in diameter. It is best used in fluid volumes of 1 gallon (3.8 Litres) or larger. This sensor is not rated for use in hazardous environments. Common applications include coatings and chemicals.





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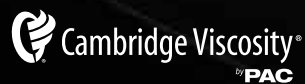
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SPECIFICATIONS

Sensor Range*	0.2-20,000cP (0.2-2cP, 0.25-5cP, 0.5-10cP, 1-20cP, 2.5-50cP, 5-100cP, 10-200cP, 25-500cP, 50-1,000cP, 100-2,000cP, 250-5,000cP, 500-10,000cP, 1,000-20,000cP)
Sensor Type	Electromagnetic-U.S. and Worldwide patents granted and applied
Wetted Components	316L / 430 STAINLESS STEEL
Maximum Temperature	375°F (190°C)
Maximum Operating Pressure	1000 psi (70.3 bar)
Temperature Sensor Type	PT 100
Compatible Electronics	VISCOpro 2000 & VISCOpro 1600
Certifications	FM and CE ATEX approveD, NEMA4, IP-66 Approved for Class 1, Div. 1, Group B, C, & D Approved for Ex d IIC T6 Gb, -20°C < Tamb < 40°C Approved for Ex d IIC T5 Gb, -20°C < Tamb < 60°C Approved for EEx d IIC T4, -20°C < Tamb < 95°C Approved for Ex d IIC T3 Gb, -20°C < Tamb < 160°C Approved for EEx d IIC T2, -20°C < Tamb < 190°C

* 324 Sensor: 1-10,000cP with 9 20:1 ranges



Cambridge Viscosity

With more than 10,000 installations worldwide, Cambridge Viscosity is the proven leader in viscosity management technology. With over 25 years of experience, Cambridge Viscosity understands and meets the needs of laboratory researchers and process engineers in a wide range of industries whose jobs depend on the quality, accuracy, and reliability of viscosity measurement equipment. With their patented sensor technology, Cambridge Viscosity has become the gold standard in small sample viscosity measurement.

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