

In-Line Non-Explosion Proof 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

## 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. Furthermore, since all wetted parts are stainless steel and the oscillating piston is in constant motion, the sampling area is continually scrubbed clean. The deflector diverts flow into the sensor to continually renew the sample in the measurement chamber. A built-in temperature detector (RTD) senses the actual temperature in the measurement chamber. There is no need for frequent calibration and very little maintenance is required.

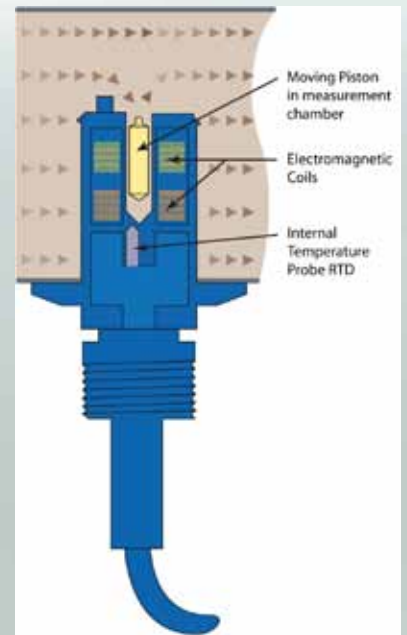
CVI offers several in-line non explosion proof sensors, which are installed in process fluids to provide continuous temperature and viscosity tracking. These sensors can be paired with either the VISCOpro 1600 or VISCOpro 2000 electronics.

### VISCOSITY SENSOR 374 - INLINE VISCOMETER

The Model 374 is a flow through viscometer that is installed in process fluids to provide continuous viscosity and temperature tracking. The 374 has an integrated heater that can be controlled to give spot on viscosity readings at temperatures from 50°C to 100°C.

The model 374 viscometer installs directly into a small process loop using ½ inch sanitary fittings on the sensor. The 374 sensor also has an integrated heater for tight temperature control under flow conditions up to 1 ft/sec. The small sample size requirements, integrated heater and quick release connections make it ideal for miniature or small-scale research projects.

Measurements can be made in 13 different viscosity ranges within an overall span of 0.2 to 20,000 cP or the equivalent cSt. Recommended flow rate over the sensor is up to 30.5cm/sec (1.0 ft/sec.).



#### KEY FEATURES VISCOSITY SENSOR 374

- Integrated RTD for temperature measurement
- 1/2" quick release sanitary fittings
- All stainless steel construction
- Integrated heater for temperature control
- Optional cooling jacket
- Access port for easy servicing

### VISCOSITY SENSOR 501 - MINIATURE VISCOMETER

The viscosity sensor 501 is used extensively for compressor, used oil analysis, on-engine and hydraulic fluid applications. It is ideal for installations where form factor and small sample volume are important.

A built-in temperature detector (RTD) senses the actual temperature in the sampling chamber. Constant in and out motion keeps samples fresh, mechanically scrubs the sampling area and provides excellent viscosity tracking. Measurements can be made in any of 6 different 20:1 viscosity ranges between 0.5 and 500 centipoise (cP). Recommended fluid flow over the sensor is up to 30 cm/sec. (1.0 ft/sec.).

#### Options:

- Multiple Ranges (one piston per range)
- Additional Cable
- \*High Pressure System (also available)



#### KEY FEATURES VISCOSITY SENSOR 501

- Easily installed and serviced
- Internal platinum temperature probe
- Automatic self-cleaning
- No seals
- All 316 stainless steel construction
- Small sample volume
- Proven technology
- Mates to 1/2" NPT threaded opening

### VISCOSITY SENSOR 571 - AUTOMATIC VISCOMETER

The viscosity sensor 571 OILSENSE™ is used extensively for compressor, used oil analysis, on-engine and hydraulic fluid applications. It is ideal for installations where form factor and small sample volume are important.

Measurements can be made in any of 6 different 20:1 viscosity ranges between 0.5 and 500 centipoise (cP). Recommended fluid flow over the sensor is up to 30 cm/sec. (1.0 ft/sec.).

#### Options:

- Multiple Ranges (one piston per range)
- Additional Cable
- \*High Pressure System (also available)



#### KEY FEATURES VISCOSITY SENSOR 571

- Easily installed and serviced
- Internal platinum temperature probe
- Simple to clean
- Proven technology
- Mates to 13/16-20 UNEF threaded opening



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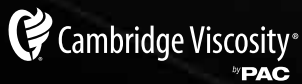
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## SPECIFICATIONS

MODEL	VISCOSITY SENSOR 374	VISCOSITY SENSOR 501	VISCOSITY SENSOR 571
Viscosity Range	0.2-10,000cP	0.5-500cP	
Sensor Range	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,	0.5-10cP, 1-20cP, 2.5-50cP, 5-100cP, 10-200cP, 25-500cP	
Viscosity Accuracy	± 1.0% of full scale with VISCOpro 2000		
Viscosity Repeatability	± 0.8% of Reading		
Temperature Sensor	PT100		
Wetted Components	316L / 430 Stainless Steel		
Maximum Particle Size	25-800 Microns (Range Dependent)	25-100 Microns (Range Dependent)	
Maximum Ambient Temperature	212°F (100°C)	375°F (190°C)	
Maximum Operating Pressure	1,000 psi (70.3 bar)		
Standard Cable Length	15 Feet (4.57 Meter)	3 Feet (1 Meter)	
Power	Requires VISCOpro2000 electronics	Requires VISCOpro electronics	
Heater	24VDC/66w		
System Volume	< 6ml		



**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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