

## VISCOSITE SPECIFICATIONS

### PERFORMANCE

Range	0.1 – 1,000, 000 cP (depends on transducer model / probe type)
Accuracy	± 2% of reading
Repeatability	0.25% of reading
Reproducibility	± 1% of reading
Response time	Real time analysis
Analysis frequency	1 Hz

### ENVIRONMENT

Ambient temperature	Transmitter: 0-60°C (32-140°F) Sensor: Depends on model
Dimensions	Transmitter: 301mm (H) x 335mm (W) x 172mm (D) (12" x 13" x 7") Sensor: Depends on application
Weight	Transmitter: 5.5kg (12lb) Sensor: Depends on application

### UTILITIES

Power supply	10 W @ 24VDC or 90-265VAC
Power consumption	10 W @ 24VDC or 90-265VAC

### COMMUNICATIONS

Communication	Modbus RS 232, Modbus RS 485, USB, Ethernet
Digital outputs	2 – SPDT Alarm relays, 4A @30VDC/120VAC OR 2A @ 240VAC
Analog output	3 – 0-10VDC/2-10VDC/0-20mA/4-20mA analog outputs (isolated, scaled to range, user configurable)
Analog input	1 – 0-10VDC/2-10VDC/0-20mA/4-20mA analog input for density transducer (isolated, scaled to range, user configurable, no sourcing current) 2 – RTD Inputs (Transducer Dome and Probe temperature), factory configured

### APPROVALS & CERTIFICATIONS

Transmitter	Up to Class 1 Division 2 Groups ABCD T4
Transducer	Up to Class 1 Division 1 or ATEX/IECEx Class 1 Zone 1

### About Galvanic

Galvanic Applied Sciences Inc. solves critical process-analysis and measurement problems for customers worldwide with our full line of rugged, fit-for-purpose gas- and liquid-measurement systems. We engineer all of our systems and components to deliver uncompromising accuracy, reliability, and long-term value to users, even in the most-challenging process environments. That's why multinationals and small companies alike turn to us again and again – they count on our attention to detail, applications know-how, and exacting quality standards. We work with customers to tailor each system to meet their site-specific process requirements and to provide unparalleled support through installation, training, and long-term product maintenance. A private company headquartered in Calgary, AB, Canada, with a facility in Lowell, MA, USA, Galvanic supports a global network of dedicated sales and service engineers, as well as value-added distributors to serve the needs of customers.

**GALVANIC**  
APPLIED SCIENCES



ViscoSite Viscometers

## Delivering the utmost in ease-of-operation, precise measurements, consistent, field-proven performance – and value

Whether you are blending asphalts or foods, refining oil or petrochemicals, or manufacturing consumer products, pharmaceuticals, or industrial polymers – precise, real-time viscosity measurements are critical to assuring product consistency and quality. Galvanic's ViscoSite viscometers are dual component systems consisting of the transmitter and the sensor. The sensor is hermetically sealed from the process and welded to a base that is installed in the reactor, tank, or pipe. This ensures that the desired product quality will be achieved because the sensor can be installed at the point in the process where the critical viscosity measurement must occur. The application specific sensors are suitable for many applications including:

- Batch polymer processing
- Continuous polymer processing
- Asphalt blending
- Fuel blending
- Food processing
- Paper coating manufacturing
- Liquid detergent blending

## Measurement Principle

The ViscoSite measures the dynamic viscosity directly in the process by the torsion oscillation method. The transmitter powers the sensor drive and detector. The drive oscillates at a constant amplitude in the sample, while the sensor responds in real time according to changes in the viscosity of the process stream. The viscosity is determined by the power required to restore the sensor's amplitude of oscillation, while taking into account the density and temperature of the process stream. There are four different sensor heads available depending on the viscosity range being measured.

Each viscometer is factory calibrated to NIST traceable standards so that calibration transfer between viscometers is possible, minimizing the cost of ownership.

## Application Examples

Application	Process Conditions	Savings Realized
Batch polymer processing	Viscosity: 1 – 100,000 cP Temp.: 200°F to 500°F Pressure: up to 150 psig	
Continuous polymer processing	Viscosity: 10 – 100,000 cP Temp.: 250°F to 500°F Pressure: up to 200 psig	\$130,000 /month
Asphalt blending	Viscosity: 10 – 10,000 cP Temp.: 250°F to 500°F Pressure: up to 60 psig	
Fuel blending	Viscosity: 5 – 5000 cP Temp.: 250°F to 500°F Pressure: up to 60 psig	
Food processing	Viscosity: 1 – 10,000 cP Temp.: 32°F to 212°F Pressure: up to 150 psig	
Paper coating manufacturing	Viscosity: 50 to 600 cP Temp.: 50°F to 120°F Pressure: up to 150 psig	Up to \$50,000 / month
Liquid detergent blending	Viscosity: 50 to 600 cP Temp.: 50°F to 120°F Pressure: up to 150 psig	

### ViscoSite Installed Within NEMA 4X Enclosures



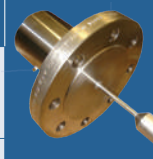
Galvanic designed the ViscoSite line to meet specifications regardless of the process setting – from the pristine environment of the pharmaceutical bottling facility to the grimy heat of an asphalt mixer

## Choose the sensor that's right for your specific application needs

VISCOSITE SPHERE	
Dimensions ø (diameter) x L (length)	ø: 32 mm (1.25") L: 127 mm (5.0")
Viscosity range cP x g/cm <sup>3</sup>	10 : 100,000



VISCOSITE CYLINDER	
Dimensions ø (diameter) x L (length)	ø: 38 mm (1.5") L: 165 mm (6.5")
Viscosity range cP x g/cm <sup>3</sup>	0.1 : 1,000



VISCOSITE CYLINDER	
Dimensions ø (diameter) x L (length)	ø: 38 mm (1.5") L: 140 mm (5.5")
Viscosity range cP x g/cm <sup>3</sup>	1 : 10,000



VISCOSITE ROD	
Dimensions ø (diameter) x L (length)	ø: 11 mm (0.45") L: 127 mm (5.0")
Viscosity range cP x g/cm <sup>3</sup>	1,000 : 1,000,000



## Features

- Reliable measurement in harsh flow conditions – varying flow rate, suspended solids, high temperature, and high pressure
- Flow variations as generated by a tank stirrer or agitator and pipeline flow does not influence the measurement
- An RTD (PT100) is integrated into the sensors to provide temperature measurement at the same location as the viscosity measurement
- Safety barriers (i.e., Zener) are used to make ViscoLiner sensors suitable for installation in hazardous areas
- Factory-calibrated to NIST-traceable standards and no moving parts – because there is no wear and tear from the instrument itself, recalibration is not necessary