

Robust, Accurate, Real-time Viscosity Results

# ViscoPro 2100

  
www.paclp.com



## Optimize Your Process with Viscosity Analysis You Can Trust

- Robust Technology Ensures Confidence in Viscosity Measurements
- Accurate, Real-Time Analysis Supports Critical Decision Making
- Easy to Install Process Viscosity Transmitter

## MEETING TODAY'S NEEDS FOR HIGH QUALITY VISCOSITY ANALYSIS

The PAC ViscoPro 2100 is the next generation viscometer for the process industry. By incorporating the oscillating piston method, which is an industry-proven sensor technology, the ViscoPro 2100 is the best choice for applications requiring fast, real-time analysis and deep, reliable data that correlates tightly with laboratory results.

Built using the same robust sensor technology that has more than 10,000 installations worldwide, the ViscoPro 2100 delivers highly reliable, real-time viscosity data. With a small sample size, easy installation, flexible configuration, and minimal maintenance needs, the ViscoPro 2100 is the ideal process viscometer for almost any refinery, petrochemical, or coatings application.

✓ ROBUST TECHNOLOGY ENSURES CONFIDENCE IN VISCOSITY MEASUREMENTS

✓ ACCURATE, REAL-TIME ANALYSIS SUPPORTS CRITICAL DECISION MAKING



✓ EASY TO INSTALL PROCESS VISCOSITY TRANSMITTER

### ROBUST TECHNOLOGY ENSURES CONFIDENCE IN VISCOSITY MEASUREMENTS

**Our Unique Oscillating Piston Method Delivers Unmatched Benefits**

#### Insensitive to Outside Environment

The ViscoPro 2100 is insensitive to vibration and flow. The sensor is designed to protect itself from any outside elements.

#### Long-Term Calibration

The ViscoPro 2100 is self-cleaning due to the constant piston motion. This makes it possible to run for years without recalibration.

#### Extremely Durable

With no mechanical linkages, the ViscoPro 2100 has hardly any downtime.

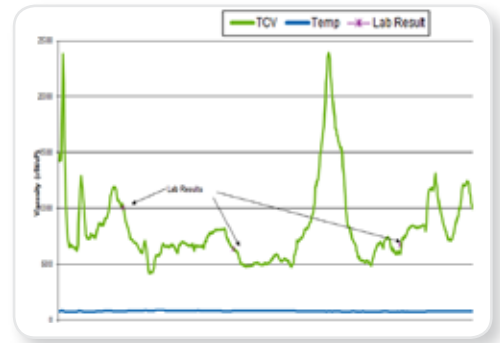
#### Highly Robust

With the ViscoPro 2100, the process can go above or below range without any damage to the system. It is also robust enough to handle heavy samples, such as asphalt and adhesives.

## ACCURATE, REAL-TIME ANALYSIS SUPPORTS CRITICAL DECISION MAKING

### Repeatability of 0.5% or 1.5% available depending on application package

- Correlation to ASTM D7483 and ASTM D445
- Precisely calibrated viscosity ranges in 20:1 spans covering 0.2 to 10,000cP
- Accurate results for difficult applications, up to 375°C and up to 1,000 psi
- Diagnostic indication of system performance with alarms if below quality standards via Modbus or system user interface
- Simultaneous temperature measurement of the sample
- Optional temperature-compensated viscosity (TCV) measurements available; TCV relates process measurements to a reference temperature value to estimate the effects of temperature per ASTM D341



## EASY TO INSTALL PROCESS VISCOMETER

### Flexible System to Fit Your Needs

- Small sample size requirements enable easy installation and also reduces waste
- Optional user-friendly, password-protected field configuration tool for troubleshooting via a wired/wireless webserver
- Offers a wide range of probes, from ¼" NPT to 3" ANSI connections
- Real-time data and diagnostics via Modbus
- Hazardous Area Certifications, including FM, IECEX, and ATEX
- Automatic date and time-coded data logging provides an audit trail tool for troubleshooting via a wired/wireless webserver

*Significantly improving user convenience with the ViscoPro 2100 Webserver Interface*



## APPLICATION BENEFITS

### COATINGS

#### BIOMEDICAL, OPTICAL, WIRE, AND CAN

For Coatings applications, applying the proper film thickness can be the most difficult part of the process. Since film thickness is a function of the amount of solids in the coating fluid, viscosity is an excellent measurement to determine if the thickness is correct. The ViscoPro 2100 has significant benefits for coatings applications, including:

- Ease of installation due to its compact size
- Small sample volume reduces the amount of waste of expensive coating materials



### REFINERY AND PETROCHEMICAL OIL, LUBRICANT, AND ASPHALT

Viscosity measurements are essential in refinery and petrochemical applications to ensure that end products meet specification. With the ViscoPro 2100, these operations are able to optimize their operations by providing:

- Accurate real-time data that enables process control
- Results that correlate to lab measurements to ensure specification
- A low maintenance transmitter that is low cost to operate





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## PAC L.P.

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## STANDARD SPECIFICATIONS

Input Power	24 VDC, 12 W
Outputs	Up to four 4-20mA outputs, Modbus RTU, (Full Duplex)
Accuracy	Accuracy $\pm$ 1% Full Scale* Correlates to ASTM D7483 & D445  <i>*<math>\pm</math> of 5% of full scale 500-10,000 Range</i>
Repeatability	$\pm$ 1.5% of reading in CV1 software package $\pm$ 0.5% of reading in CV2 software package
Ranges	0.25-10,000cP (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)
Wetted Components	Standard 316L/430 Stainless Steel, Optional Hastelloy and Silicone Coating
Maximum Process Temperature	190°C; high temperature option up to 375°C
Ambient Temperature Range	Up to 60°C (electronics)
Maximum Process Pressure	Up to 1000 psi (70.3 bar), Optional: 2200 psi (151 bar)
Temperature Sensor	PT100
Certifications	FM, cFM, CE, ATEX, IECeX, NEMA4,IP-66
Dimensions	DIN 3.3" 9(h) x 7.1"(w) x 4" (d), 84mm(h) x 180mm(w) x 100mm (d) Ex (w/o sensor) 4.5" (w) x 4.8" (h)x5.7" (d)
Alarm	Output 190mA open collector (3V-50VDC)
Weight	DIN 3 lb 1.4kg Ex 4lb 1.8kg