

Real-time, high quality viscosity monitoring extends equipment life

Overview

The VISCOpro 2100 is the next generation viscosity transmitter for real-time monitoring on high-vibration applications. By incorporating the oscillating piston method, an industry-proven sensor technology, the VISCOpro 2100 is the best choice for applications requiring fast, real-time and reliable data to get the most out of rotating equipment.

Using technology developed by CVI and built with the same robust sensor design that is installed at more than 10,000 locations 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 viscosity transmitter to prevent damage and help extend the life of engines or compressors.



Key Features

- Designed for high-vibration environments
- Temperature compensated viscosity to minimize false alarms (ASTM D341)
- Hazardous area certified
 - ATEX
 - IECEX
 - FM
- Self-cleaning allows for year of operation without recalibration
- Robust and durable design limits downtime

Applications

- Hydrogen screw compressors - lube oil
- Engine lubrication systems
- HFO (heavy fuel oil) booster skids

Detects

- Fuel dilution
- Soot
- Water in oil contamination
- Oxidation

Robust Technology

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 virtually no downtime. No seals-one moving part.

Highly Robust

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

Real-Time Data

Repeatability of 0.5% or 1.5% available depending on your requirements

- Correlation to ASTM D7483 and ASTM D445
- Precisely calibrated viscosity ranges in 20:1 spans covering 0.2 to 10,000 cP
- Accurate results for difficult applications, up to 375°C and up to 2,000 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

Flexible system fits 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

Specifications

| | |
|---------------------------------------|---|
| Viscosity Range | 0.25-10,000 cP, 11 Ranges in 20:1 spans |
| Repeatability | CV1 1.5% of reading CV2 0.5% of reading |
| Temperature Sensor | PT100 |
| Input Power | 24 VDC, all Models |
| Display | Embedded bright OLED Display Viscosity, Temperature, Temperature Compensated Viscosity, Quality Indicator |
| Electronics Ambient Temperature Range | Up to 60°C |
| Certifications | E1 Models : Safe Area E2 Models: Class 1 Div 1, Group B,C,D Class 1 Zone 1, AEx d IIB+H2 Class 1 Zone 1, Ex d IIB+H2 cFM, FM, Ex, IECeX, and CE |
| Analog Output | CV1 (2) 4-20mA outputs (500 ohm max loop resistance) CV2 (4) 4-20 mA out |
| Digital Outputs | CV1 None CV2 RS485 Modbus RTU (Full Duplex) |
| Maximum Process Temperature rating | LT Models: Up to 190C HT Models: Up to 375C |
| Maximum Pressure Rating | C1, C2, C3, C4, C5, C6 Up to 1,000 psi C7 up to 200 psi (393-2" ANSI 150#) C8 up to 600 psi (393 DN50 PN40) C9 up to 375 psi (393- 3" ANSI 300#) C10 up to 700 psi (393- 2" ANSI 600#) C11 up to 1,000 psi (2" RTJ 900#) |
| 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) |
| Power | 24VDC (15W max.) |
| Alarm Output | 190mA open collector (3V-50VDC) |
| Weight | DIN 3 lb 1.4kg Ex 4 lb 1.8kg |
| Wetted Components | Standard 316L/430 Stainless Steel, Other material available upon request |
| Options | 140-0018 DIN Rail mount - Power Supply, 100-240VAC to 24VDC, IDEC 60W Class 1 Div 2 803-2100 ViscoPro 2100 Wireless Router Assembly Kit |

Product Code Definitions

To configure your VISCOpro 2100 and review all options available, please see the configuration guide located on the VISCOpro 2100 product page at amot.com.

VISCOpro features a modular design with many sensor types.



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