

# Petroleum and Viscosity Testing

## Cannon FVM-80A Process Viscometer

- \* **Oscillating-type viscometer - measures viscosity between 0.5 and 20,000 mPa-s (cP)**
- \* **Easily installed in pipeline or tank to determine inline viscosity**
- \* **Suitable for all types of liquids, including slurries and emulsions**
- \* **Applications in lubricants, additives, base oils, polymers, coatings, foods, fuels, and more**
- \* **Offered in partnership with CBC (America)**

The FVM-80A is an inline process viscometer that provides accurate, real-time viscosity data (cP;mPa-s) for process monitoring. For superior accuracy, the FVM-80A uses a piezoelectric acceleration sensor, providing viscosity measurements with a less than 1% error against the measuring values. The piezoelectric oscillator drives a balanced, torsional oscillating detector that vibrates in a fluid; viscosity is measured as a damping effect of vibration due to fluid resistance. Compared to motor-driven systems, this mechanism is more accurate and reliable because there is no mechanical resistance or moving parts. It allows the unit to be installed in any orientation and to be installed in-line to accurately measure the viscosity of a flowing liquid. Real time measurements are possible, with viscosity fluctuations detected within 20ms. The probe is completely shielded so it can be immersed in liquid and installed in a tank or directly in a pipeline through the use of a flange.

The durable FMV-80A instrument family is suitable for many applications. Rapid response to viscosity changes, and the ability to withstand harsh processing conditions make the FMV-80A an ideal tool for monitoring chemical reactions. Its ability to measure in real time is an essential feature when blending product, so that viscosity can be corrected before a large out of compliance quantity is produced.

An explosion-proof model is available, as well as an explosion-proof high-temperature model. Each model may be configured for low, middle, or high viscosity applications. Please specify the instrument type and desired test range when obtaining a quote for the instrument. Three viscosity ranges of each model are available: Standard Type -0.05 to 1000 mPa's, Medium Viscosity -10 to 5000 mPa's, and High Viscosity - 500 to 20,000 mPa's.



### FVM-80A Specification

Viscosity Range:	0.5 mPa's (specify Low, Medium, or High Viscosity instrument when ordering)
Temperature Range	-20°C to +60°C.
Resolution:	0.1mPa's.
Controller:	10 to 40°C, 20 to 80% RH (non-condensing).
Accuracy:	+/-1% viscosity measurement; +/-0.2°C temperature measurement.
Reproducibility:	+/- 0.5%; +/- 0.1°C
Calibration:	Factory calibration using certified viscosity standards
Linear output:	Viscosity; DC-power 4 to 20mA (max load 650) Temperature; DC-power 4 to 20mA (max load 650) Resolution; 12 bits
Interface:	RS-232C
Display function:	Viscosity:LED 3 digits (excluding decimal point) Temperature:LED 3 digits (excluding decimal point)
Liquid-contacting material:	Probe Detector: SUS 316L O-ring: NBR (Other available on request) Probe connector: Zinc alloy (nickle plating)
Pressure resistance:	30kgf/cm <sup>2</sup> (246 PSI)
Power Source:	AC-115V,+/- 10%, 50/60 Hz
Dimensions:	Probe: 70 x 165mm Controller: 118 x 200 x 330mm
Weight:	Probe: 1.4kg Controller: 3.6kg

### FVM 80A Order Information

Product no	Description
<b>13660/40</b>	FVM-80A CBC Inline Process Viscometer-Low Vis (0.5-999mPa's)
<b>13660/41</b>	FVM-80A CBC Inline Process Viscometer-Med Vis (10-5000 mPa's)
<b>13660/42</b>	FVM-80A CBC Inline Process Viscometer-Hi Vis (5-20 Pa's)
<b>13660/43</b>	FVM-80A-EX* Process Viscometer-Explosion Proof Low Vis (0.5-999 mPa's)
<b>13660/44</b>	FVM-80A-EX* Process Viscometer-Explosion Proof Med Vis (10-5000 mPa's)
<b>13660/45</b>	FVM-80A-EX* Process Viscometer-Explosion Proof Hi Vis (5-20 Pa's)
<b>13660/46</b>	FVM-80-AEXHT* Process Visc.-Explosion Proof-Hi Temp-Low Vis. (0.5-999 mPa's) (to 260°C)
<b>13660/47</b>	FVM-80A-EXHT* Process Visc.-Explosion Proof-Hi Temp-Med Vis. (10-5000 mPa's) (to 260°C)
<b>13660/48</b>	FVM-80A-EXHT* Process Visc.-Explosion Proof-Hi Temp-Hi Vis (5-20 Pa's) (to 260°C)

\* Factory Mutual Standards FM3600, FM3615, FM3810, (includes Supplement 1), ANSI/NEMA 250.