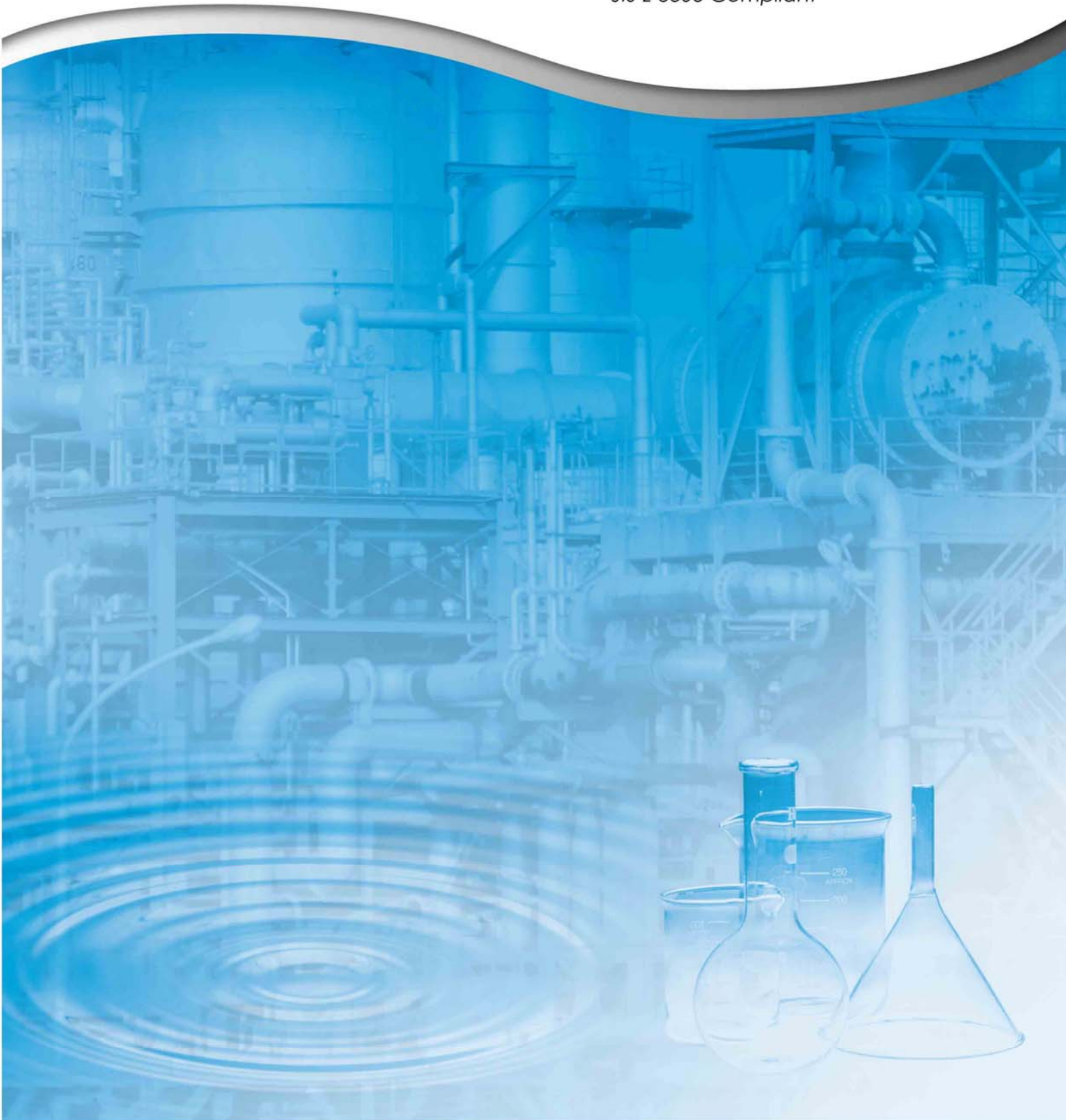


# SEKONIC

## Torsional Oscillation Type VISCOMETER

### VISCOMATE series (PAT.)

*JIS Z 8803 Compliant*

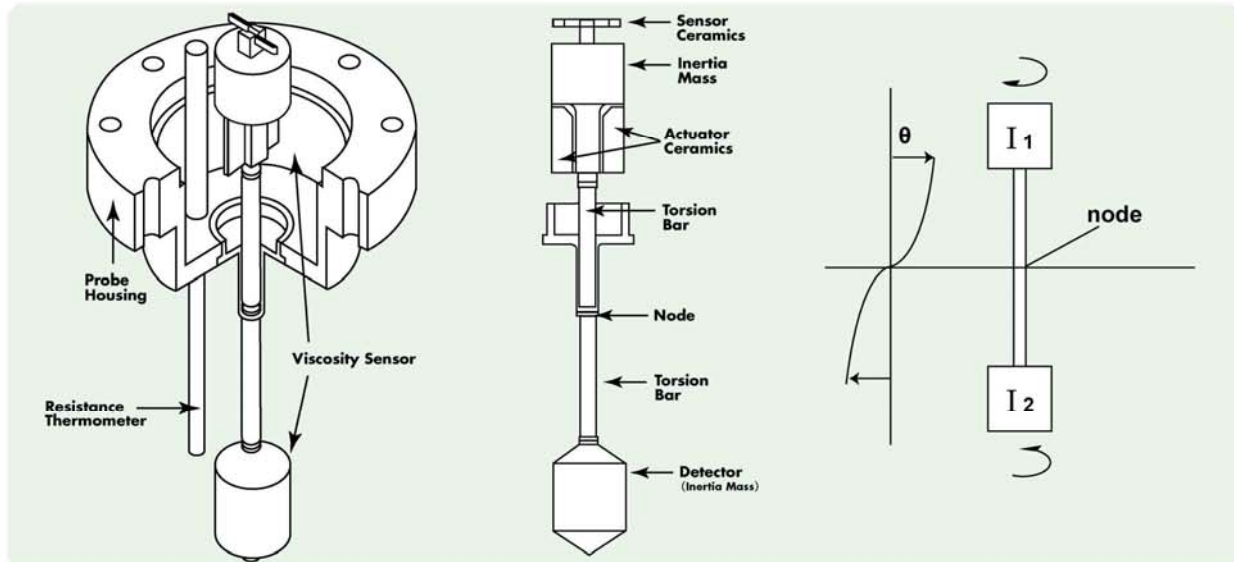


**SEKONIC**  
Sales & Marketing Dept.

# ACCURATE IN-LINE VISCOSITY

## Precision Viscometers for process Applications

Viscomate instruments deliver unprecedented performance for monitoring fluid viscosity directly in the pipeline or process vessel. Patented FVM piezoelectric torsional oscillation technology measures within 1% accuracy of viscosity reading. With no moving parts or drive motor, Viscomate instruments are designed for continuous operation and long-term reliability.



## Principle of Operation

Piezoelectric acceleration drives a bi-directional, torsional rod to measure liquid viscosity by detector amplitude. Mass and vibration of the sensor are balanced, with an immobile node at the center.

## In-line viscometers

- are certified by Technology Institute of Industrial Safety TIIS for the explosion-proof (C15888, C15889, C15890) Exd IICT6
- are approved by FM (in USA) Dust-Ignition proof for Class I Division 1, Groups B, C and D
- are certified by EC-TYPE EXAMINATION, KEMA 04ATEX2045X, II2 G EEx d IICT6, II2D T80 degree C

# FVM-80A Series

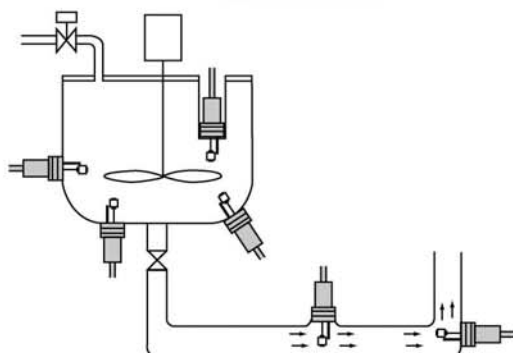
## Shield-type viscometer

Patented piezoelectric torsional oscillation technology measures product viscosity at 1% actual measured value, and 0.5% reproducibility.

Since the mass of sensor and detector are balanced at an immobile node of the torsional rod, the unit accurately measures viscosity without being affected by process vibration and noise. These features and the ease of installation and operation make the FVM viscometers an ideal solution for a wide range of fluid applications.

FVM viscometers are very useful for viscosity control for various slurry liquids, emulsions, coating liquids, foods & drinks, polymerizations, etc.

## EXAMPLES OF IN-LINE VISCOSIMETERS INSTALLATION



Bi-directionally oscillatory detector head driven by Piezoelectric acceleration allows any direction of flow against the head.

Viscomate probe may be mounted to a pipe or vessel with mating flange 2" or larger, or immersed directly into process fluid.

Wetted parts include a solid SS316 (polished) detector and PT100.



# FVM-80A

## Standard Model In-Line Viscomate

- +/-1% Accuracy of actual measured value
- Small probe and detector (wetted part)
- Completely shielded probe may be installed to pipe or tank, or submersed to an open system
- Any flow direction against the detector allowable
- Wide viscosity range of 0.5 to 20,000 mPa.s
- No moving parts or seals ensures years of reliable operation
- Unaffected by process vibration or noise



## FVM80A-EX

### Explosion-Proof In-Line Viscomate

- EX and EXHT systems function to same performance specifications as FVM-80A
- Probes are installed to process piping or tank via flange
- Certified explosion-proof by Factory Mutual and A-TEX
- EXHT temperatures range to 300°C
- 8 ch multiplex system options



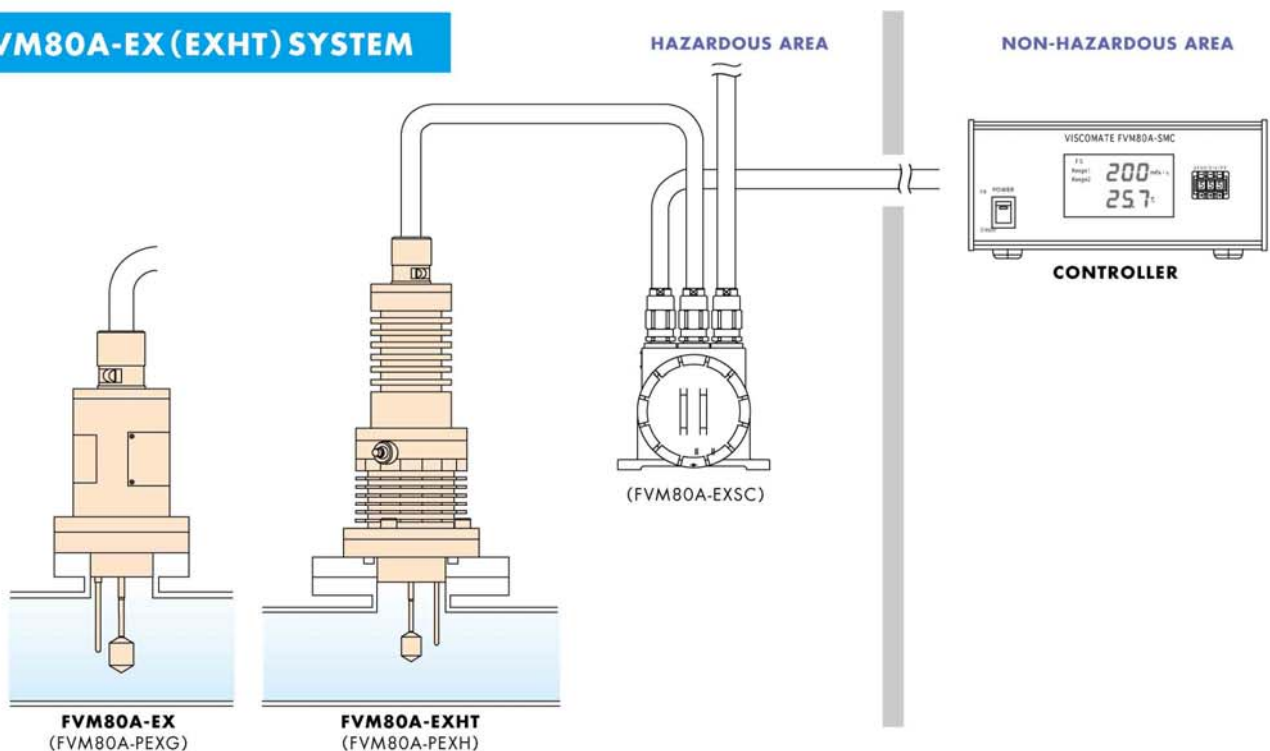
## FVM80A-EXHT

### Explosion-Proof High Temperature In-Line Viscomate



**FVM OPTIONS:** Teflon coating, ferrule, data acquisition software, 8 ch controller, 4 digits display, hastelloy 22, titanium, max temp 300°C

## FVM80A-EX (EXHT) SYSTEM



# Laboratory Viscometers

Viscomate benchtop instruments are a simple, elegant solution for laboratory viscosity measurement. VM model viscometers require only a small sample volume and provide accurate, rapid results. With no moving parts, these instruments offer ease of operation and quick clean-up after measurements.



## VM-100A and VM-10A

- Small sample size < 10ml
- Rapid measurement
- No adjustment or accessories required
- RS-232C output to PC
- Factory calibrated
- Simple operation and cleaning
- Wide viscosity range
- VM-100A includes RTD

## VISCOMETER SPECIFICATIONS

MODELS	FVM-80A	FVM80A-EX	FVM80A-EXHT	VM-100A	VM-10A
ACCURACY	+/-1% of actual measured value			+/-5% of actual measured value	
REPEATABILITY	+/-0.5% of actual measured value			+/-2% of actual measured value	
VISCOSITY RANGE	L:0.5 to 999 mPa.s M:10 to 5,000 mPa.s H:500 to 20,000 mPa.s			L:0.4 to 1000 mPa.s M:100 to 10,000 mPa.s H:5 to 500 Pa.s	L:0.4 to 1000 mPa.s M:10 to 5,000 mPa.s MH:0.5 to 30 Pa.s H:10 to 500 Pa.s
TEMPERATURE RANGE	0 to 70°C		0 to 300°C	-20 to 100°C	10 to 50°C
OUTPUT	RS-232C and analog output: 4-20mA each range			RS-232C, 0-5V DC	RS-232C
DISPLAY	LED 3 digits display			LCD 3 digits	LCD 3 digits
POWER	100 to 240V AC 50/60Hz			DC9 with 100 to 240V AC Adapter	

# SEKONIC

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