## **COMPLETE FIELD VERSION**





## SELECTED APPLICATIONS

- Refining: crude oil, light to heavy fuels, bitumen
- Lubricants, hydraulic fluids
  - Polymerization: lacquers, varnishes

Whatever your industry, we understand and develop solutions for many applications. For a personalized approach, contact us at instruments@sofraser.com

## AUTOMATIC ANALYZER, ON-LINE VISCOSITY MEASUREMENT AT REFERENCE TEMPERATURE

Utilizing the acclaimed advancements of our MIVI viscosity sensor and **9731** innovative electronics, **Sofraser's Thermoset-CF** brings the most efficient technology to viscosity measurement at reference temperature.

The **Thermoset-CF with integrated sampling system** draws the fluid from the process, takes it to the required temperature, measures the viscosity and re-injects the fluid to the main line. Viscosity measures are correlated to ASTM D445.

- Guarantee product quality: Thanks to the reliable and repeatable measures obtained in continuous by-pass operation from the main line, the Thermoset-CF maintains strict manufacturing specifications.
- Deliver optimal production efficiency: With one simple installation in permanent process operation, the Thermoset-CF has a small footprint, no annex installation, and outside installation is possible.
- Increase profitability: An integrated measuring chamber with no bath or oven guarantees insignificant cleaning or maintenance down-time. This asset provides tangible savings in both time and cost, while maximizing return on investment.
- Technological versatility: The Thermoset-CF processes myriad parameters. It is highly tolerant to input sample temperature and to particles' size. For extreme input temperatures, a conditioning module can heat or cool fluids before reaching reference temperature. ATEX built, it can be configured to calculate the viscosity index according to ASTM 2270-04, or to provide kinematic viscosity with density measurement.

Ref. 369/4 Non contractual information



## THERMOSET-CF

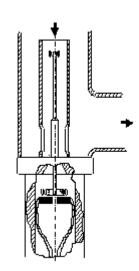
FEATURES AND SPECIFICATIONS	
Measuring range	<ul> <li>Selectable up to 10 000 cP at reference temperature (higher on request)</li> </ul>
Precision	• +/- 1% of reading (between 50% and 100% of full scale range)
Response time	<ul> <li>2 to 10 min (according to input sample and reference temperatures)</li> </ul>
Outputs	<ul> <li>Color and touch screen, display for viscosity, temperature, density (option)</li> <li>4-20 mA (viscosity, temperature, density)</li> <li>RS 485 – RS 232</li> <li>Viscosity and temperature alarms and relays</li> </ul>
Operating conditions	Maximum inlet temperature: 190 °C
	<ul> <li>Reference temperature: according to the requirements from 40 to 150 °C</li> </ul>
	<ul> <li>Maximum working pressure: 16 bar (higher on request)</li> </ul>
	• Flow rate: 60 l/h – Internal volume: 0.15 l
Protection	Frame:
	IP66 – General purpose (to be placed in a safe area)
Process connections	• Standard flanges DN 10 PN 16 (other on request)
Required inputs	<ul> <li>110 or 230 VAC, single phase, 50-60 Hz, &lt;100 W</li> <li>Compressed air: 7 bar, 0.5 m3/h – 100 psi, 0.3 SCFM</li> <li>Heating or cooling fluid (when required)</li> <li>Product flow rate: 60 I/h – 0.25 gpm suggested</li> </ul>
Size and weight (standard)	<ul> <li>Frame: H: 780 mm - W: 920 mm - D: 420 mm - 110 kg approx.</li> <li>Processor: H: 450 mm - W: 405 mm - D 263 mm - 11 kg approx.</li> </ul>
Options and Accessories	<ul> <li>Density measurement / Kinematic viscosity measurement in cSt</li> <li>Cleaning / Filtering module down to 100 microns</li> <li>Conditioning module (sample cooler or heater)</li> <li>Insertion of processor in ex-proof box</li> </ul>

In 1981, Sofraser invented & patented the world's first vibrating viscometer at resonance frequency also called tuning-type.

The vibration amplitude varies according to the viscosity of the product in which the rod is immersed.

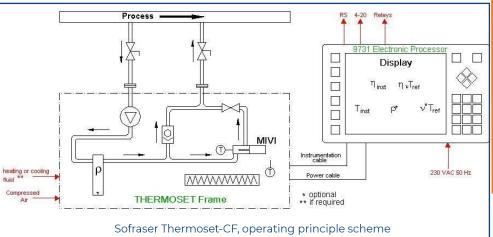
The active part of the sensor, a vibrating rod held in oscillation at resonance frequency, is driven by constant electrical power.

Sofraser remains unsurpassed regarding process reliability and accuracy.









• Specific request

