

Since 1972

SOFRASER

Leader in Process Viscometry

THERMOSET-CF — COMPLETE FIELD VERSION

Correlated with ASTM D445



With integrated
sampling system

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.



Thermoset-CF

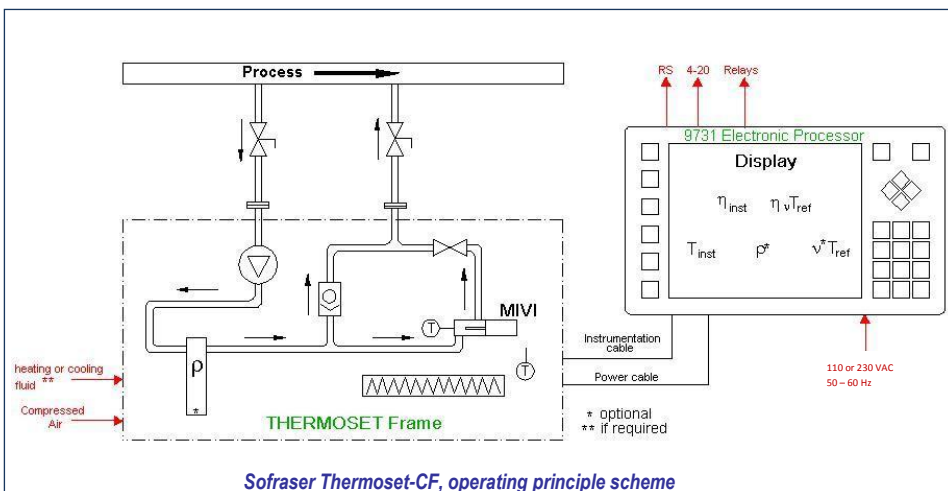
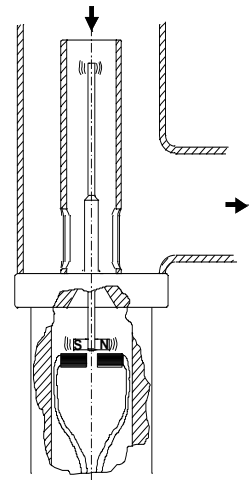
FEATURES AND SPECIFICATIONS

Measuring range	<ul style="list-style-type: none"> Selectable up to 10 000 cP at reference temperature (higher on request)
Precision	<ul style="list-style-type: none"> +/- 1% of reading (between 50% and 100% of full scale range)
Response time	<ul style="list-style-type: none"> 2 to 10 min (according to input sample and reference temperatures)
Outputs	<ul style="list-style-type: none"> Color and touch screen, display for viscosity, temperature, density (option) 4-20 mA (viscosity, temperature, density) RS 485 – RS 232 Viscosity and temperature alarms and relays
Operating conditions	<ul style="list-style-type: none"> Maximum inlet temperature: 190 °C Reference temperature: according to the requirements from 40 to 150 °C Maximum working pressure: 16 bar (higher on request) Flow rate: 60 l/h – Internal volume: 0.15 l
Protection	<p><u>Frame:</u></p> <ul style="list-style-type: none"> ATEX II 2 G Ex IIB or II 3 G Ex IIB (temperature classification depending on fluid temperature) IP55 <p><u>Processor:</u></p> <ul style="list-style-type: none"> IP66 – General purpose (to be placed in a safe area)
Process connections	<ul style="list-style-type: none"> Standard flanges DN 10 PN 16 (other on request)
Required inputs	<ul style="list-style-type: none"> 110 or 230 VAC, single phase, 50-60 Hz, <100 W Compressed air: 7 bar, 0.5 m³/h – 100 psi, 0.3 SCFM Heating or cooling fluid (when required) Product flow rate: 60 l/h – 0.25 gpm suggested
Size and weight (standard)	<ul style="list-style-type: none"> <u>Frame:</u> H: 780 mm - W: 920 mm - D: 420 mm - 110 kg approx. <u>Processor:</u> H: 450 mm – W: 405 mm – D 263 mm – 11 kg approx.
Options and Accessories	<ul style="list-style-type: none"> Density measurement / Kinematic viscosity measurement in cSt Cleaning / Filtering module down to 100 microns Conditioning module (sample cooler or heater) Insertion of processor in ex-proof box Specific request

In 1981, Sofraser invented and patented the world's first vibrating-type viscometer at resonance frequency and remains unsurpassed regarding process reliability and accuracy.

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

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



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