



## Typical application fields

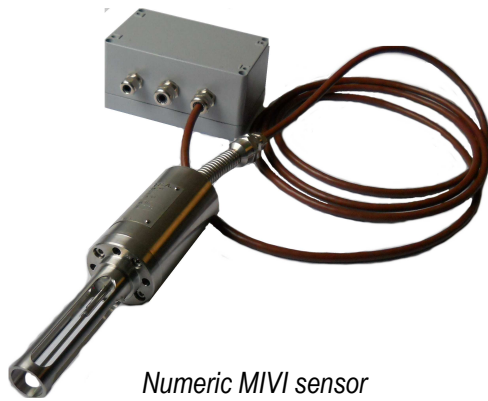
- **Chemical:** polymers, plastics, resins, gels
- **Printing and coating:** inks, paints, lacquers, varnishes
- **Food and beverage:** milk, cheese, juices, sauces
- **Combustion:** fuels, bio fuels, black liquor
- **Refineries:** diesel, gasoline, heavy fuel, bitumen,

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

## THE PROVEN, 30-YEAR SENSOR IN PROCESS VISCOSITY MEASUREMENT

Sofraser's MIVI sensor is the expert viscometer on the market and is used in every process application and quality control condition. Reliable viscosity measurement in every fluid provides complete satisfaction to thousands of users worldwide. The versatile Sofraser MIVI sensor has many options making it the ideal industry instrument.

- **Improved process operations:** **Reliable, repeatable** and continuous measurements combined with superior quality result in permanent **production efficiency** and increased **profitability**.
- **One sensor, myriad choices:** The MIVI sensor is used in standard and sanitary process conditions as well as harsh environments like dust, high temperature, high pressure and hazardous areas. Its measuring range easily adapts to different viscosities; up to 2 mPa.s, it can provide high sensitivity capabilities at 0.01 mPa.s. Multiple mounting options (inline, online, on reactor, measuring chamber) allow for flawless installation.
- **Simple and long-lasting:** The MIVI sensor guarantees a rapid return on investment because it is **easy to install** and is **easy to use**. With non-wearing parts, the MIVI requires almost **no maintenance**.
- **Matched with electronics:** The MIVI sensor matched with state-of-the-art display, data processing, and adjustable outputs capabilities electronic device, easily handles all process and quality control needs.

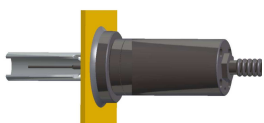


Numeric MIVI sensor

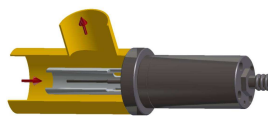
## Standard Features and Specifications

<b>Versions</b>	<ul style="list-style-type: none"> <li>• <b>Analog MIVI sensor</b> To be matched with 9200, 9601 or 9602 electronic devices</li> <li>• <b>Numeric MIVI sensor</b>, with digital transmitter box To be matched with 9610, 9611 or 9612 multi-sensor processor devices</li> </ul>
<b>Measuring range</b>	<ul style="list-style-type: none"> <li>• Any range from 0.1–10 mPa.s to 1 000–1 000 000 mPa.s</li> <li>• High sensitivity option from 0.01–2 mPa.s (more on request)</li> </ul>
<b>Repeatability</b>	<ul style="list-style-type: none"> <li>• <math>\pm 0.1\%</math> of Full Scale Range</li> </ul>
<b>Operating temperature</b>	<ul style="list-style-type: none"> <li>• 0 to 200°C</li> <li>• High temperature option up to 300°C (Analog MIVI sensor only)</li> <li>• Low temperature option down to -30°C (Analog MIVI sensor only)</li> </ul>
<b>Working pressure</b>	<ul style="list-style-type: none"> <li>• Up to 60 bar</li> <li>• High pressure option up to 500 bar (more on request)</li> </ul>
<b>Material</b>	<ul style="list-style-type: none"> <li>• Stainless steel 316L</li> <li>• Optional alloys: Hastelloy, 316Ti, Duplex...</li> </ul>
<b>Coating on vibrating rod</b>	<ul style="list-style-type: none"> <li>• PTFE, Amorphous Diamond-Like Carbon, Enamel</li> </ul>
<b>Weight</b>	<ul style="list-style-type: none"> <li>• Sensor: 2.6 kg</li> <li>• Transmitter box (for Numeric MIVI sensor): 1 kg/4 kg with Ex-proof box</li> </ul>
<b>Size</b>	<ul style="list-style-type: none"> <li>• Length: 238 mm from sensor body to protection tube</li> <li>• Flexible cable length: variable</li> </ul>
<b>Protection</b>	<ul style="list-style-type: none"> <li>• Water-tightness: IP67</li> <li>• ATEX Ex-proof agreement option ATEX Ex dIIC T1...T6 (gas) ATEX Ex tD A21 IP67 T75°C ... T300°C (dust)</li> <li>• Other agreement options: USA (FM), Japan (JIS), South Korea (KGS)</li> </ul>
<b>Regulatory</b>	<ul style="list-style-type: none"> <li>• CE marked (European conformity)</li> </ul>
<b>Options</b>	<ul style="list-style-type: none"> <li>• Internal temperature probe (from -20°C to 250°C)</li> <li>• Sanitary applications: 3A design</li> </ul>
<b>Cable length</b>	<ul style="list-style-type: none"> <li>• Standard 3 meters</li> </ul>
<b>Mounting Accessories</b>	<ul style="list-style-type: none"> <li>• Mounting flange (on reactor wall, on pipe angle)</li> <li>• Measuring chamber - For small pipe diameter: <math>2 \times \text{Ø } \frac{1}{4}"</math></li> <li>• Elbow mounting, complete elbow mounting (inline) – Ø mini: 32 mm</li> <li>• Other on request (immersion tube, etc.)</li> </ul>

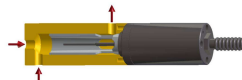
### Mountings:



On reactor wall



On pipe angle



Measuring chamber

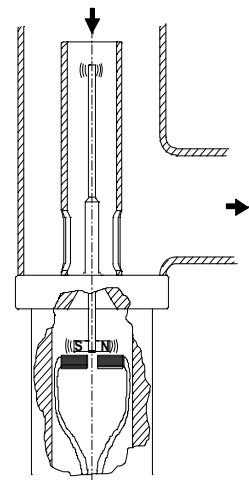
## MIVI Process Viscometer

In 1981, Sofraser invented & patented the world's first vibrating viscometer at resonance frequency.

The MIVI's 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.



Quality System



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