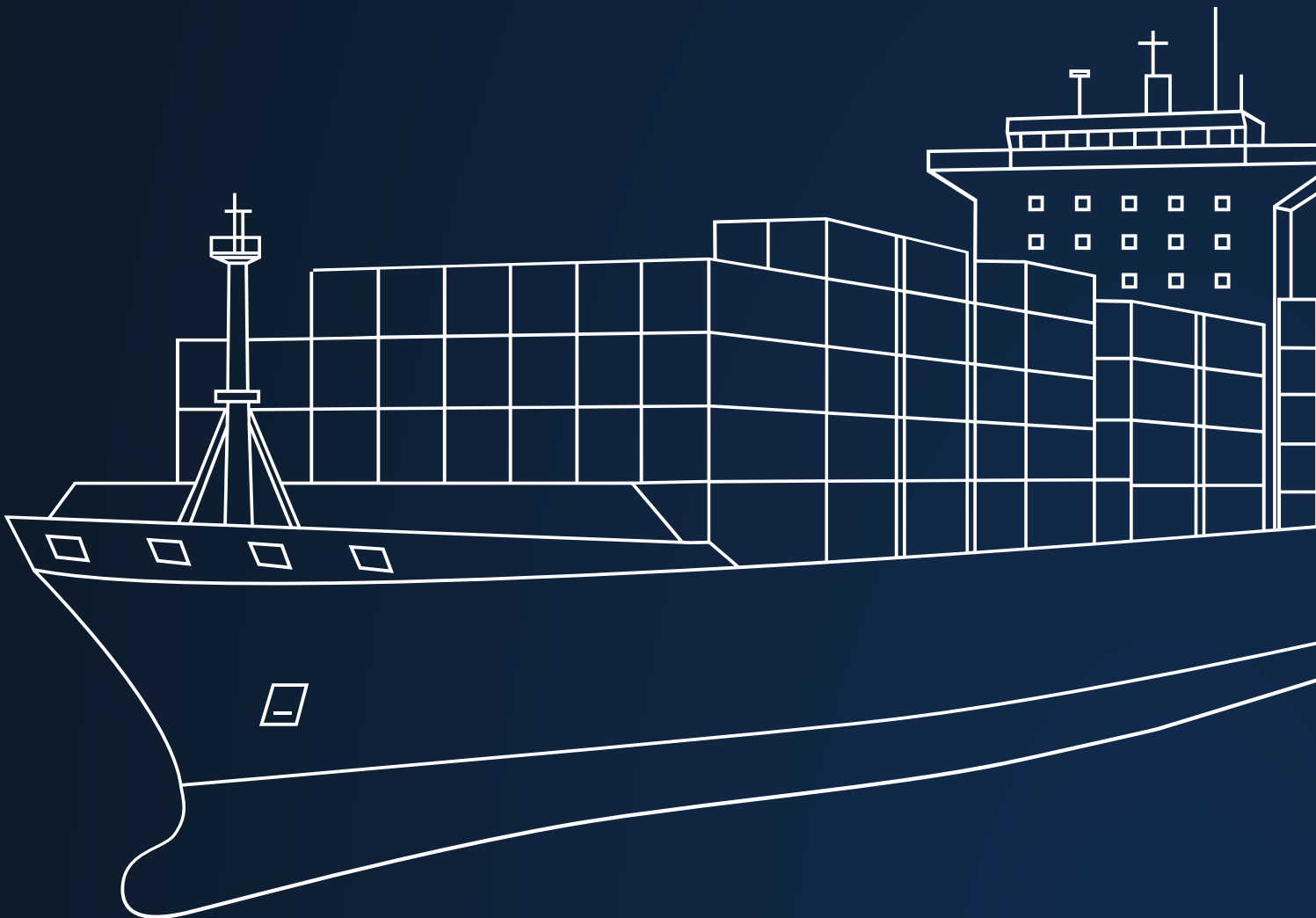


ViscoSense® 3.

In-line viscosity measurement and control system

Control fuel viscosity where it matters.

ViscoSense® 3 provides accurate and stable in-line viscosity measurement for demanding marine and industrial fuel systems. The system follows the actual fuel condition directly in the process and supports reliable monitoring and automatic control.



Stable fuel conditioning starts with actual viscosity

By helping maintain the required viscosity before injection or combustion, ViscoSense® 3 supports stable engine and burner operation, effective fuel preparation and reduced maintenance requirements.

Fuel oil quality and composition can vary significantly. As a result, the heating temperature required to achieve the correct injection or combustion viscosity can also vary.

Continuous in-line viscosity measurement gives operators direct insight into the actual fuel condition instead of relying only on laboratory samples or fixed temperature assumptions.

From fuel variation to stable operation

Process condition	Operational effect
Fuel quality or composition changes	The heating requirement needed to reach the target viscosity can change.
Actual viscosity is measured in-line	The fuel condition can be monitored continuously before injection or combustion.

Operational benefits

Benefit	Result	Operational value
Stable fuel conditioning	Reliable engine and burner operation	Continuous visibility of the actual fuel condition
Improved atomization	Better fuel preparation before combustion	Supports efficient and stable combustion

From measurement to control

Depending on the selected configuration, the viscosity signal can be used for local monitoring, automatic viscosity control and integration with external systems. The system can include an interface box, electronic controller, control valve and optional signal outputs.

Measure. Connect. Perform.
Turning data into confident decisions.

Proven in-line viscosity measurement

ViscoSense® 3 is based on a torsional vibration measuring principle. The sensor head is electronically actuated at its resonance frequency, and the damping of this vibration is directly related to the viscosity of the liquid.

How the measuring principle works

The sensor probe is installed directly in the liquid flow and excited electronically. As the liquid surrounds the vibrating sensor head, its resistance to the movement changes with viscosity.

From damping to a continuous signal

The electronics measure the damping effect and convert it into a continuous viscosity signal for monitoring or automatic control. Because the measurement is taken in-line, the system follows the actual process condition continuously.

What the system measures

Measured value	Measurement location	Operational use
Viscosity	Directly in the process liquid	Continuous monitoring and automatic control
Process temperature	At the sensor, where configured	Optional temperature indication or signal output

Key characteristics



Continuous in-line measurement of the actual liquid condition.



Calibrated for life; no periodic recalibration required.



Insensitive to flow velocity, flow direction and pulsations.



Designed for demanding marine and industrial fuel-system applications.



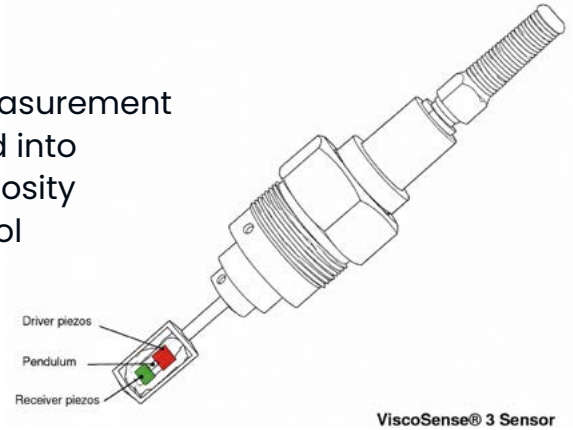
No rotating or wearing measuring parts in the measuring section.

The result is stable and repeatable viscosity data from the process itself, available for monitoring, control and long-term operation under varying fuel qualities and operating conditions.

ViscoSense® 3 measurement principle

Fuel viscosity plays a critical role in efficient combustion and reliable engine operation. Variations in fuel quality and temperature can directly affect atomization, fuel consumption and engine performance, making accurate and continuous viscosity control essential.

ViscoSense® 3 provides real-time, in-line viscosity measurement using a proven torsional vibration principle. Integrated into the fuel system, the sensor continuously monitors viscosity and temperature, providing the data needed to control the heater and control valve. This enables the fuel to reach the engine at the required viscosity, supporting efficient combustion, reliable operation and reduced maintenance.



Benefits



Accurate viscosity measurement



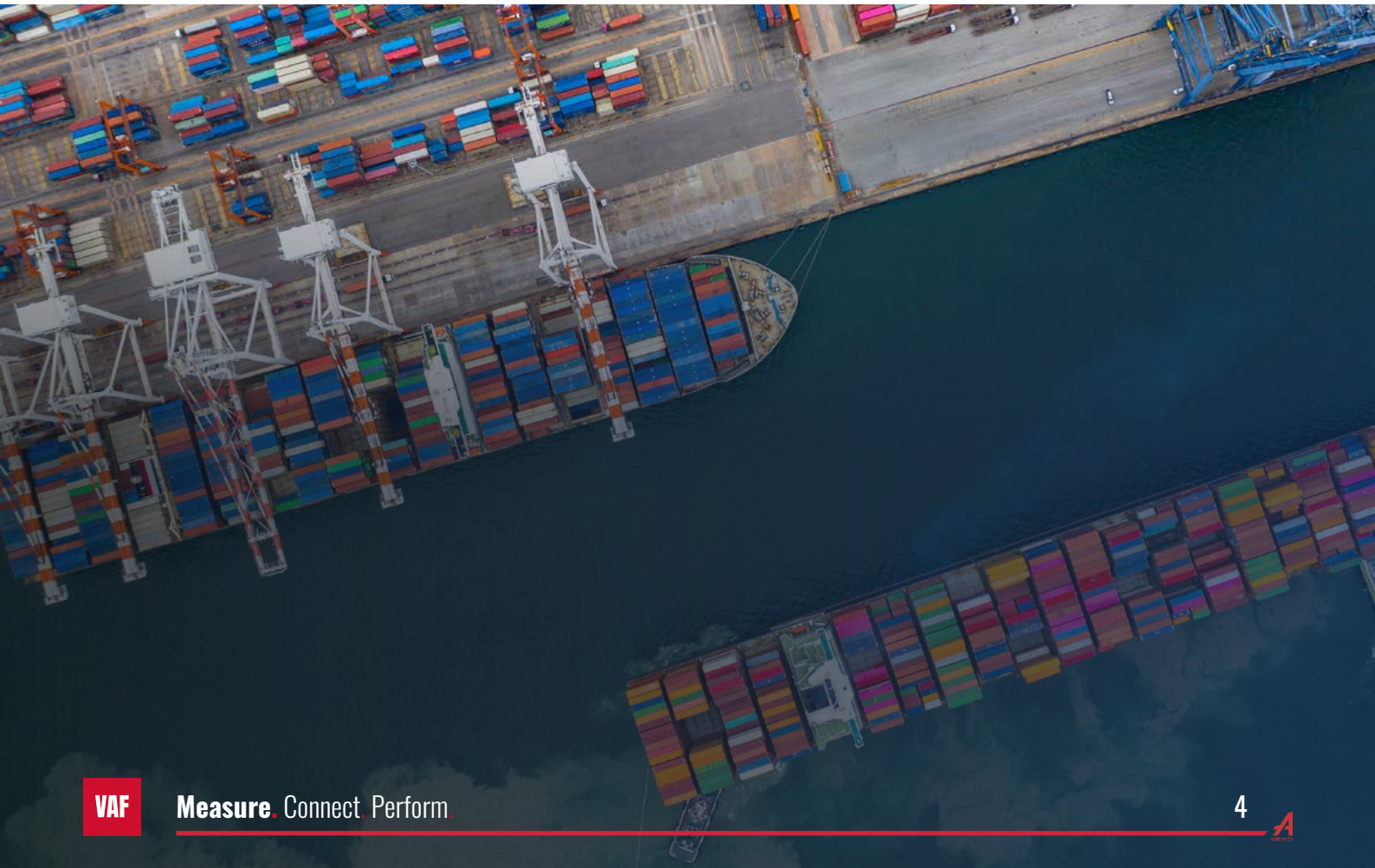
Optimal combustion



Efficient fuel consumption



Robust and low-maintenance



Automatic control and integration

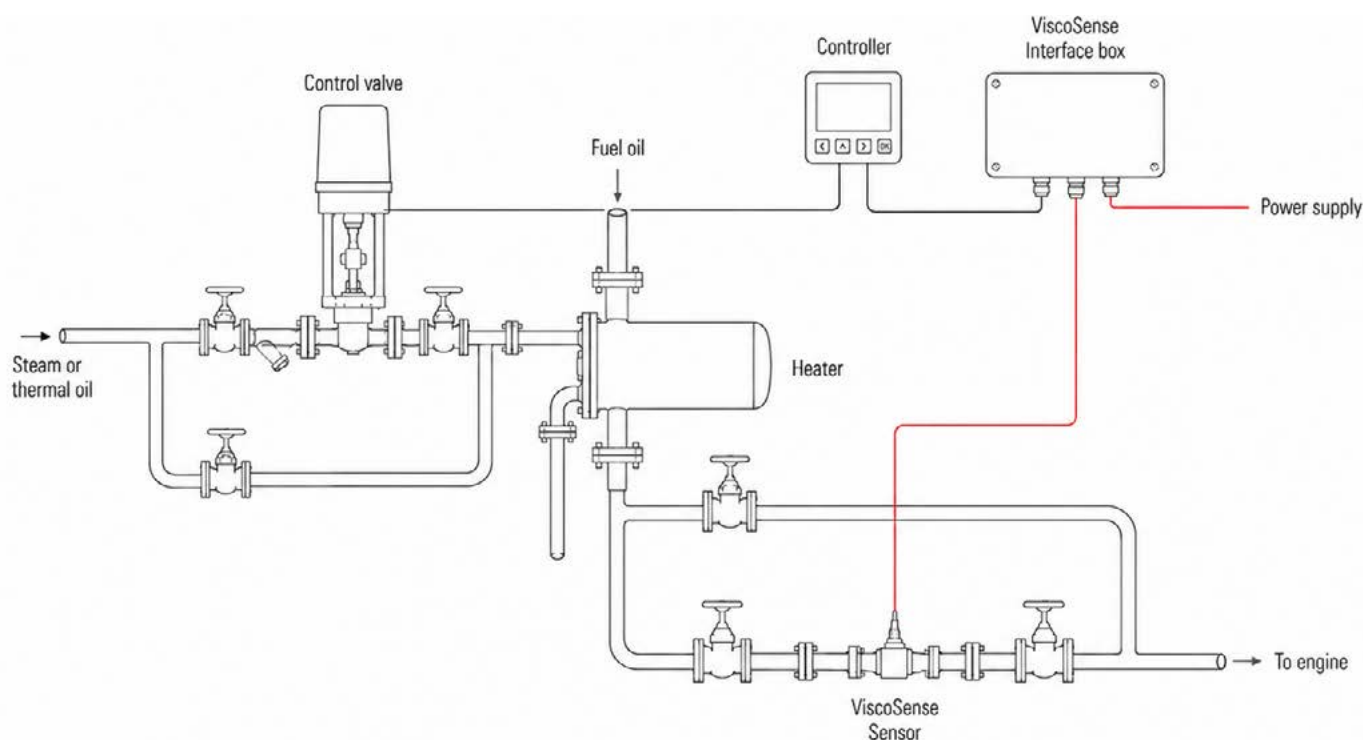
ViscoSense® 3 system

ViscoSense® 3 is designed to operate as part of a complete viscosity control system. By continuously measuring fuel viscosity and temperature, the sensor provides the data required to monitor and regulate fuel conditions in real time. The controller uses this information to adjust the heating medium via the control valve, helping maintain the required viscosity before the fuel reaches the engine.

Automatic viscosity control for stable fuel conditioning

Depending on the selected configuration, ViscoSense® 3 can be supplied with an interface box, electronic controller and control valve. The measured viscosity is processed continuously and can be used to position the control valve within the fuel-conditioning system.

This supports stable fuel viscosity before injection or combustion while giving operators direct visibility of the actual process condition.



Stable viscosity through continuous control

ViscoSense® 3 continuously measures fuel viscosity and provides the data required to maintain stable fuel conditions. Combined with an interface box, electronic controller and control valve, the system automatically responds to changes in the process and helps ensure the required viscosity before injection or combustion.

Output and integration options

The exact system scope depends on the application, required control function, available installation arrangement and signal requirements.

System element / output	Typical use
Viscosity signal	Continuous monitoring of the actual liquid condition
Optional temperature output	Separate process-temperature indication or retransmission where configured
Electronic controller	Local processing and automatic viscosity control
Control valve	Adjustment within the selected viscosity-control loop
External signal output	Integration with automation, monitoring or data-acquisition systems
Classification inspection	Project-specific inspection or certification where required



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Get in touch With our experts.

Have a question or want to learn more about VAF? Our team is ready to help. Get in touch using the contact details below.

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The VAF logo consists of the letters 'VAF' in white, bold, sans-serif font, centered within a solid red square.

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