

LFE USR-Series

Ultrasonic cleaning systems

USR-S | Ultrasound Cleaning System for process liquid analytical sensors



Key Features

- ⇒ Cross-flow vessel for up to 3 process liquid analytical sensors
- ⇒ Automatic ultrasonic irradiation of the sensor vessel
- ⇒ Sensor connections for diverse process liquid sensors
- ⇒ Corrosion resistant transducer membrane made of Hastelloy®
- ⇒ Control unit housed in a water-protected, wall-mounted enclosure

Description

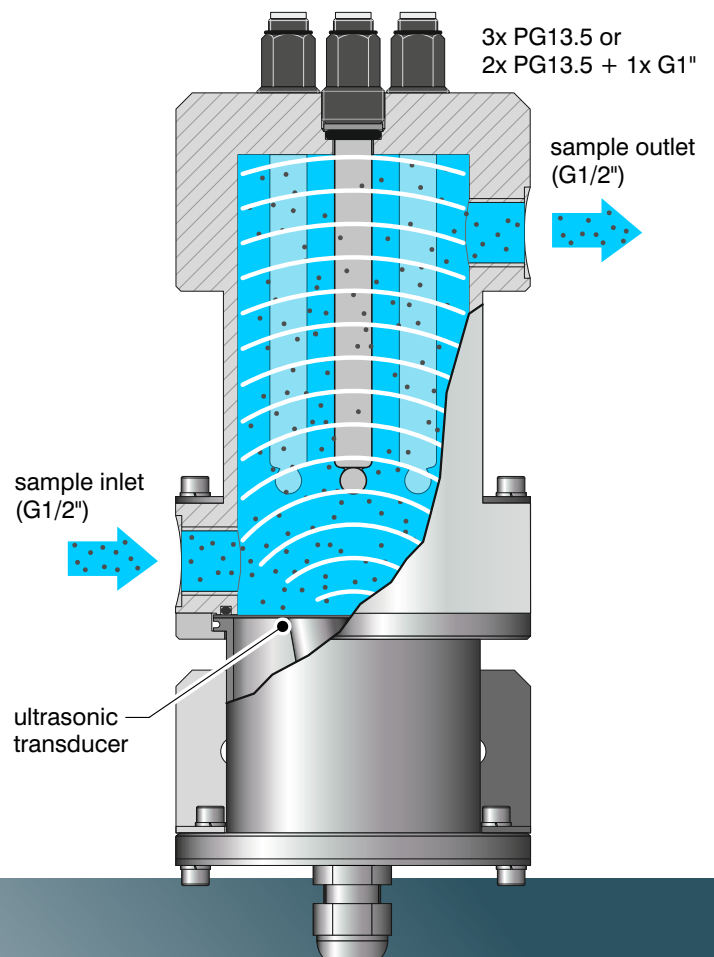
On-line water analysis often places heavy demands on components of analyzer systems. This applies also to process liquid analytical sensors such as pH electrodes, conductivity sensors or sensors for dissolved oxygen and turbidity, which require a high availability in conjunction with low maintenance.

The ultrasound cleaning system manufactured by LFE for this purpose helps meet these requirements. The sensors mounted in a cross-flow vessel are irradiated at adjustable, regular intervals and defined duration by ultrasonic energy. The ultrasound generator creates cavitation bubbles in the water sample which serves as the coupling medium. The implosions of a tremendous number of micro cavitation bubbles results in the familiar excellent cleaning effect. The particles loosened from the sensors are carried away by the sample stream.

LFE's ultrasound cleaning system consists of the sensor vessel with the ultrasonic transducer and a separate control unit with the time controlled and remote controlled ultrasound generator. The control unit is housed in a water-protected (IP65) wall-mounted enclosure.

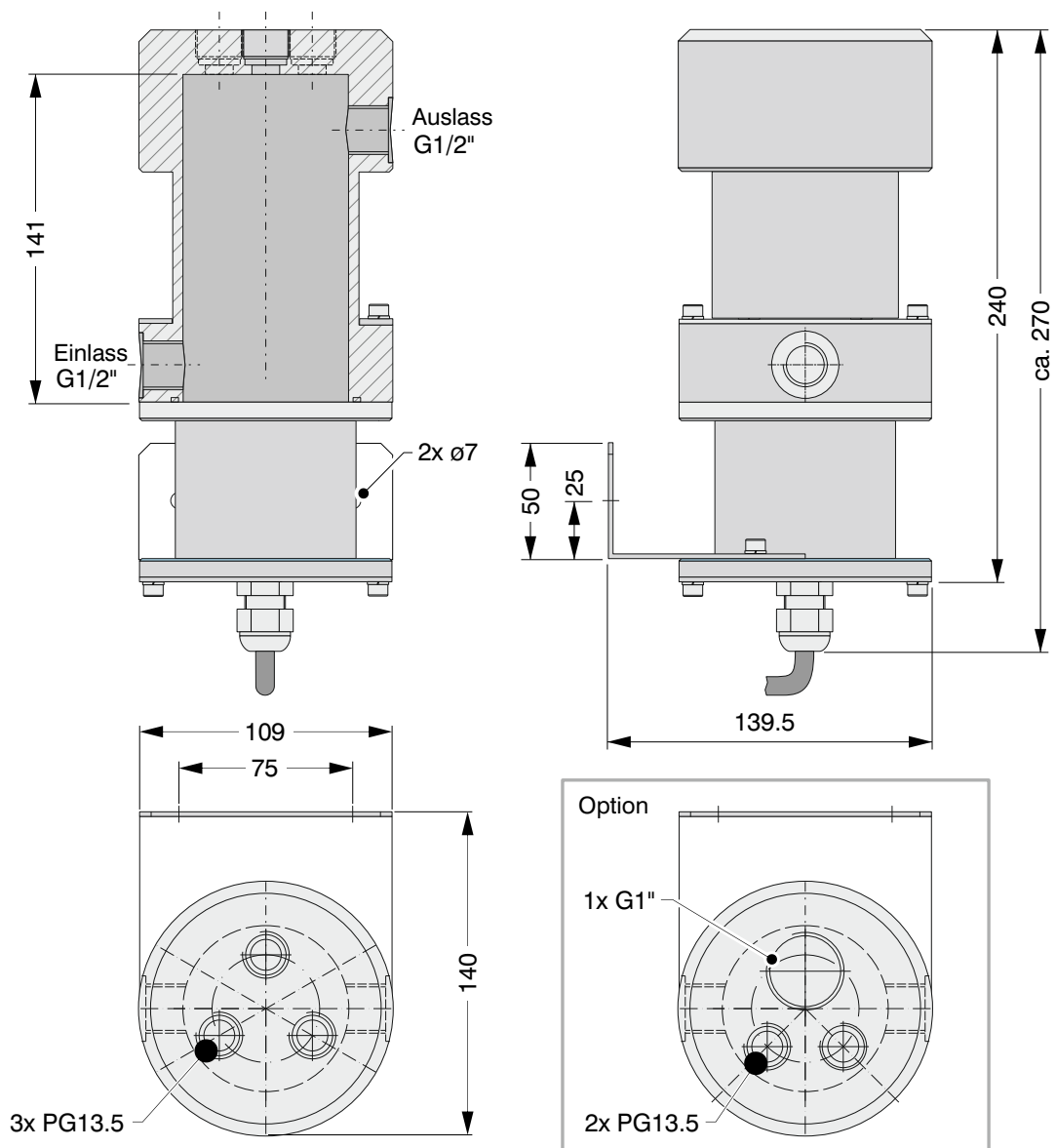
Typical Applications

- ⇒ Long-term stable sensor cleaning for use with process water analyzers
- ⇒ Sampling for analyzers such as conductivity, pH, dissolved O₂, turbidity, etc.
- ⇒ Process water with high corrosion potential and degree of contamination
- ⇒ Defined and constant cleaning



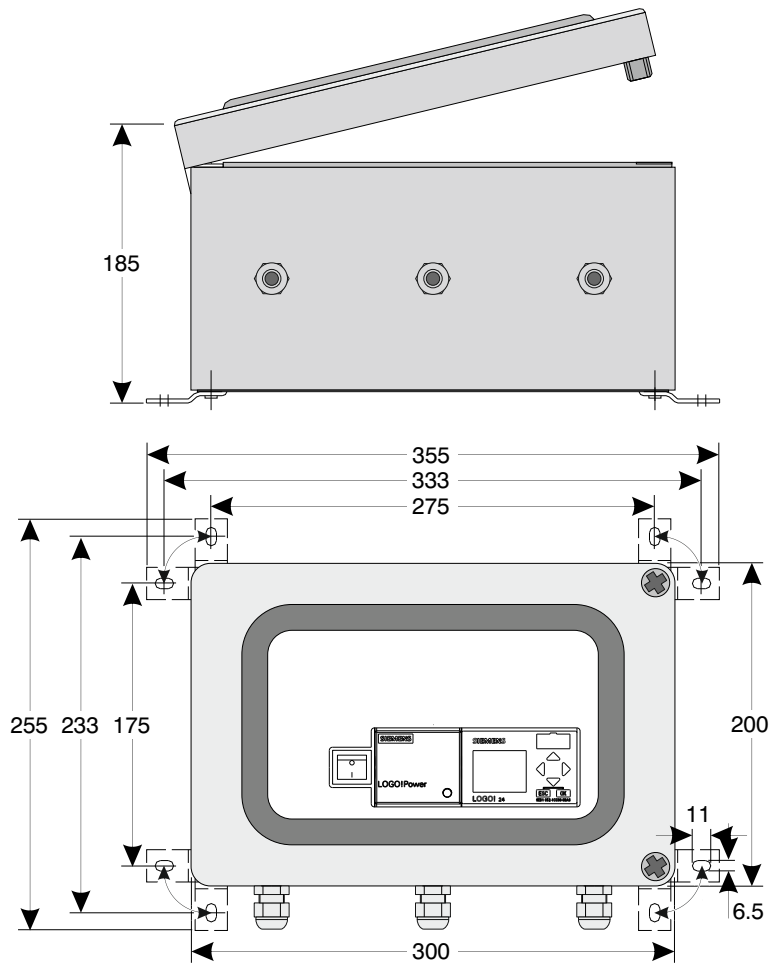
Technical Data

Ultrasound module –Sensor cleaner	
Housing	Ultrasound module / sensor vessel assembly: Wall-mounted, stainless steel housing with Hastelloy® transducer diaphragm Flow-through vessel: PVC (optional PVDF) for up to 3 process liquid analytical sensors: 3x PG13.5 or optionally 2x PG13.5 & 1x G1"
Dimensions	see dimensional diagram below
Weight	1.5 kg
Protection class	IP65
Connecting cable	btwn. control unit and ultrasound module assembly: approx. 3 m
Ambient temperature	+10°C - +35°C



all dimensions in millimeters

Ultrasound generator - Control unit	
Housing	Synthetic housing with viewing pane; wall-mounted
Dimensions	see dimensional diagram below
Weight	6 kg
Protection class	IP65
Connecting cable	Cable btwn. control unit and ultrasound module assembly: 300cm
Power supply	Model variations <ul style="list-style-type: none"> • 95 -120 VAC / 50-60 Hz / 80 VA max • 190-240 VAC / 50-60 Hz / 80 VA max
Ultrasound frequency	approx. 35 kHz
Ultrasound irradiation duration	internal timer: irradiation- and pause durations adjustable remote control: via digital inputs
Ambient temperature	+10°C - +35°C



all dimensions in millimeters

Note:

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