

# Measuring Beyond Limits



**RHOSONICS**  
COMPANY BROCHURE

## Our company



### RHOSONICS

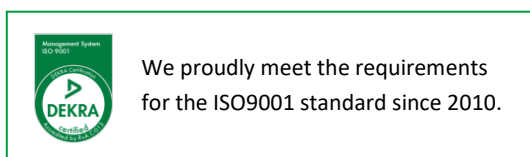
Rhosonics was founded In April 1992 by Mr. van Ballegoijen de Jong with the goal to provide sustainable measuring instruments to the industry. Rhosonics is based in the Netherlands, in Putten. At our headquarters we design, develop, produce and supply state of the art ultrasonic sensors and analysers for a variety of industries, such as the mineral processing, dredging and flat panel display manufacturers.

We help the industry to become more sustainable by using reliable and robust ultrasonic technology for real time measurements. Real-time process data is the key for a true process control, optimization, and cost effective operation.

Through the years, we became a leading supplier of non-nuclear density meters in the mineral processing industry.

### ISO9001 CERTIFICATION

Rhosonics is ISO9001:2015 certified. We manage our internal processes to guarantee the highest quality products and services.



### OUR CORE VALUES

Our core value is to be excellent in the market by being visionary and reliable. We want to optimise industrial processes by providing insight by means of in-line, real-time ultrasonic measurement technology.

### MEASURING BEYOND LIMITS

Rhosonics is innovative and looks beyond traditional ways to achieve reliable results. Our R&D experts are continuously improving existing products through innovative and sustainable measurement solutions. All is contributing to excellence in measurements for a greener and smarter industry.

### GLOBAL SUPPORT

Customer satisfaction is important to us. Thus, our support team is ready to assist whenever needed. Furthermore, we work with local representatives who are trained to offer high level technical support.



*Rhosonics service team supporting the end-user*

## Our technology



### TECHNOLOGY

Rhosonics meters and analysers are based on ultrasonic measuring technologies. Ultrasonic pulses (approx.: 2.3 MHz) are generated by piezo elements (crystals) located in the sensor element. These crystals are responsible for sending and receiving signals through the medium. The received signals are then transferred to a meter or analyser transmitter to be processed and converted to measuring results.

Rhosonics meters can have their measurements based on three ultrasonic methods, which can be used in combination or individually: sound velocity, attenuation and acoustic impedance.

All these parameters are influenced by temperature. Therefore the temperature is also measured in most of the applications, for example by a Pt100 temperature probe.

The ultrasonics are translated to measurement values by making use of polynomials. These polynomials are unique for every application and developed by Rhosonics. The final choice for the use of one or multiple ultrasonic methods depends on the specific application, fluid properties and installation requirements.

### DIFFERENT MEASUREMENTS

#### ■ Acoustic impedance



The acoustic impedance is the reflection of energy at the interface between the sensor and the slurry or liquid. This is used for density measurement and for certain concentration applications.

#### ■ Sound velocity



The sound velocity or speed of sound is determined by measuring the time that the ultrasonic signal is traveling over a known distance. This distance can be between the sensor tip and a reflector plate or over the pipe diameter. The sound velocity is used for the measurement of a concentration.

#### ■ Attenuation



Solids attenuate ultrasonic energy. We measure the loss of energy over a particular distance, such as a pipe diameter. Those losses are a value for the amount of solids, expressed in wt% or g/liter.

#### ■ Combined sensor technology



The ultrasonic parameters mentioned above are sometimes combined with a conductivity measurement to measure two components of a ternary liquid.

## Product range



### DENSITY METERS

Rhosonics Density Meters are used in the mining, dredging, construction and energy industries to measure the density of mineral slurries. The flagship product is the Slurry Density Meter (SDM).



*SDM Slurry Density Meter*

### SOLIDS METERS

The Solids Meter can be used for measuring the amount of solids in tanks or pipes in many industries. Examples of applications are measuring solids in pulp slurries and extractions of minerals like KCl and NaCl.



*Model 9670 Solids Meter*

### RCU: REMOTE CONTROL UNIT

The RCU Remote Control Unit can be used combined to the SDM for remote control from a safe and convenient location of choice. This device is available in three different versions to suit client needs.



*RCU Remote Control Unit*

### CONCENTRATION METERS

Concentration meters are used to accurately measure one component of a chemical solution, for example the concentration of NaOH or H<sub>2</sub>SO<sub>4</sub>. Our model 8500 is usually used for these kind of applications.



*Model 8500 Concentration Meter*



## METERS FOR TERNARY AND QUATERNARY LIQUIDS

Concentration Meters for ternary or quaternary liquids can measure two or three components of a (chemical) liquid solution. The B31, for example, can be used for TMAH+PR concentrations in the flat panel industry.



Concentration Meter B31

## COD METERS

COD Meters are used in the influent flow of sugar based industrial wastewater streams. The COD meter helps to protect the plant against high COD peak loads and allows further optimization of the WWTP.



Model 9585 COD Meter

## APPLICATIONS



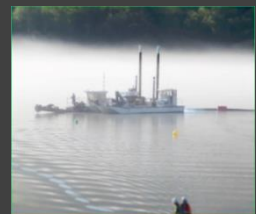
Thickening circuit



Grinding circuit



Flotation circuit



Dredging



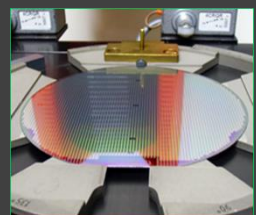
Beer wastewater



Pulp and Paper



Chemicals



Photolithography

## About us



### MEASURING BEYOND LIMITS

Rhosonics cooperates with partners worldwide to offer the best technology solutions. Beyond limits stands for our ambition to create process instrumentation with leading product quality and reliability.



We proudly meet the requirements for the ISO9001

### CONTACT US

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