SONOTEC



Preventive Maintenance

STEAM TRAP TESTING

with Ultrasound

MADE IN GERMANY

Steam Trap Testing with Ultrasound
Detect Faulty Steam Traps Early and Reduce Losses

Steam traps are **central components in every steam and condensate system.** Their function is to reliably drain condensate without losing valuable steam.

Undetected defects have both **economic and technical consequences**: a leaking trap can cause energy losses of thousands of euros per year.



- → High operational stresses such as pressure, temperature, dirt, and wear impair the function of steam traps
- → Leaking steam traps cause energy losses and rising operating costs
- → Blocked or scaled traps increase the risk of water hammer, corrosion, and plant damage
- → Regular inspections are essential to reduce energy losses and ensure process safety – for this purpose, ultrasound has established itself as one of the fastest and most reliable methods

Why Ultrasound?



- Ultrasound makes flow noises in the steam trap audible and measurable – even under difficult operating conditions
- Functioning traps, leakages, and blockages can be reliably distinguished from one another
- Defects are detected before energy losses or plant damage occur

High Accuracy
Even the smallest deviations in flow behavior can be detected

Non-Contact Measurement
Even difficult-to-access steam traps can be inspected

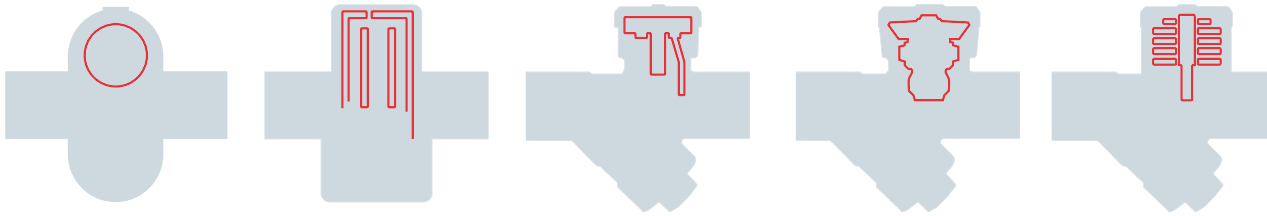
Immediate Evaluation
Malfunctions can be detected and documented on the spot

Inspection During Operation
No downtime, no intervention in the plant

Suitable for All Steam Trap Types
Ultrasound works reliably with all types of steam traps

Universally Applicable
Measurement independent of pressure and temperature

Complexity of Steam Trap Inspection
High Demands on Methodology and Experience



Ball Float Steam Trap | Bucket Steam Trap | Thermodynamic Steam Trap | Thermostatic Capsule Steam Trap | Thermostatic Bimetallic Steam Trap

- **Variety of Steam Trap Types**
  Different steam trap types require different assessment logic
- **Extensive Knowledge Required**
  Temperature and ultrasound measurements must be combined and correctly interpreted in the context of trap type, operating condition, and system pressure
- **Demanding Interpretation**
  The interpretation of measurement results is time-consuming and highly dependent on the user's experience
- **Time Pressure in Maintenance Operations**
  Rushed inspections increase the risk of misassessments and overlooked defects
- **Changing Personnel**
  Varying experience levels lead to inconsistent assessments and results that are difficult to compare
- **Scalability and Repeatability**
  Large plants with many inspection points require structured workflows, complete documentation, and traceable results

Our Complete Solution for Steam Trap Inspection

Our hardware and software solution makes steam trap inspection easier, faster, and more reliable – for users of any experience level.

→ Digital Ultrasound Testing Device SONAPHONE

→ Structure-borne Sound Sensor BS20

→ Dedicated App SteamExpert with Automatic Condition Assessment

→ Optional: PC Software SONAPHONE® DataSuite

→ Optional: SteamExpert Module for SONAPHONE® DataSuite PC Software

SONAPHONE®



- Digital ultrasonic testing device
- Powerful universal tool for preventive maintenance with multiple applications in one device

BS20



- Structure-borne ultrasound sensor
- Integrated infrared thermometer for object temperatures from –70 °C to +380 °C
- Interchangeable waveguides

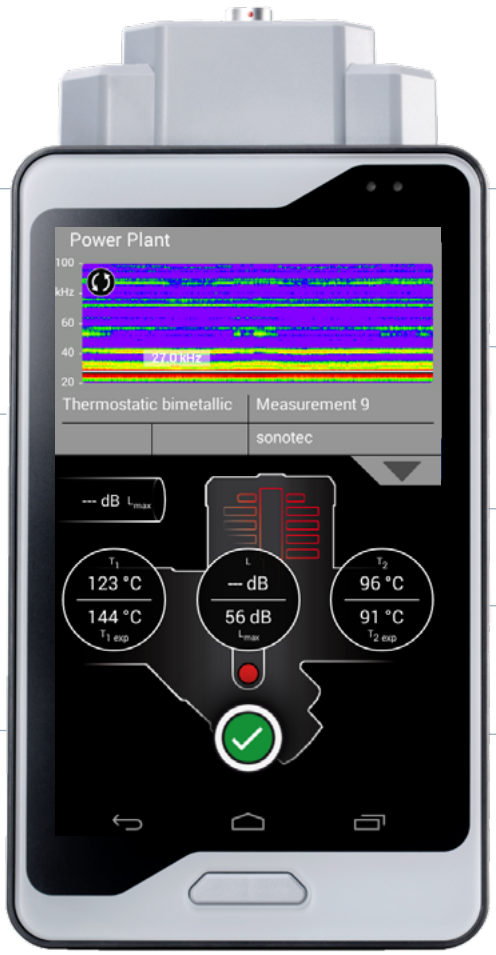
Steam Trap Testing with SONAPHONE® SteamExpert

With Automatic Condition Assessment Directly at the Measurement Point

Structured Guidance Through the Inspection Process
Reduced error susceptibility through an implemented inspection workflow

Intuitive App Design
The SteamExpert App was developed specifically for the digital ultrasound testing device SONAPHONE in combination with the ultrasound and temperature sensor BS20

Optional: Modular Software Platform DataSuite
Messpunktorganisation | Routenplanung | Trend-analyse | Dokumentation



Selection of Steam Trap Types Directly in the App
Thermostatic, thermodynamic, mechanical

Integrated Plausibility Check
Measurement of the inlet temperature and comparison with the target value

Input of System Pressure and Emissivity

Automatic Condition Assessment Directly at the Measurement Point in Real Time

Efficient Capture of All Relevant Inspection Data
Addition of supplementary information such as text and images for each measurement point



How Does the Automatic Condition Assessment Work?

- Temperature and ultrasound measurements are captured by the user directly at the trap. The SteamExpert App guides the user through the entire inspection process.
- The measured values are automatically compared with a comprehensive reference database. On this basis, a well-founded condition assessment is provided directly at the measurement point.

Contact and Support

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