SONOTEC

Digital Ultrasonic Testing Device

SONAPHONE®

for Preventive Maintenance

MADE IN GERMANY

Preventive Maintenance

SONAPHONE®
Digital Maintenance Process

Planning
Route planning and measurement point organization with the modular web app SONAPHONE DataSuite

Inspection
Transfer the routes to the SONAPHONE and carry out the test with the corresponding app: LevelMeter │ LeakExpert │ SteamExpert
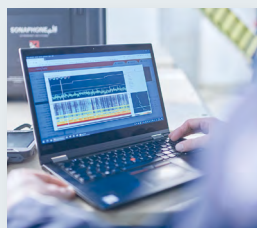
Record Ultrasonic Signal
Recording of the broadband ultrasonic signal in the frequency range from 20 kHz to 100 kHz
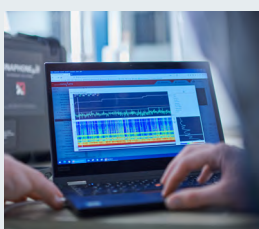
Documentation
Add photos, videos, voice memos and text notes to the measurement point

Trend & Analysis
Evaluation of the data with the help of thresholds, alarm levels, status displays and trend analysis in the SONAPHONE DataSuite

Report
Create a PDF report directly on the handheld device or in SONAPHONE DataSuite

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SONAPHONE®
Digital Ultrasonic Testing Device for Maintenance

Areas of Application: Airborne and structure-borne
Leak detection │ Electrical inspection │ Condition monitoring │ Steam trap test

Intuitive apps
Special apps that guide you through the entire test process

Bundle important information about the measurement point
Record the spectrogram and level and add photos, voice memos and text comments to the measurement point

Broadband ultrasound analysis
Record 20 kHz to 100 kHz simultaneously

Optional: modular software platform DataSuite
for Measurement point organization │ Route planning │ Trend analysis │ documentation

Test reports with just a few clicks
Professional PDF reports created directly on the device

Touchscreen-Technologie
5-inch display with multi-touch screen

Robust housing in a smart design
Well suited for harsh industrial environments

Realizing Maintenance 4.0
Detect problems early and avoid downtimes

Airborne Sensors

BS10

- Range up to 8 m
- Interchangeable attachments
- Integrated laser pointer and LED light

BS30

- Range up to 35 m
- Integrated laser pointer and red dot sight
- Very good directivity and sensitivity
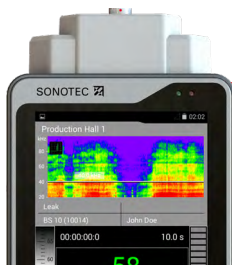
Structure-Borne Sensors

BS20

- Integrated infrared thermometer for -70 °C to +380 °C object temperature
- Exchangeable waveguides

BS40

- Magnetic base for smooth and curved surfaces
- Optional: coupling via UNF 1/4 " - 28 screw connection

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Applications and Apps

LevelMeter®
App for all structure-borne and airborne sound applications

Condition Monitoring

→ **Detect bearing damage early and optimize bearing lubrication**

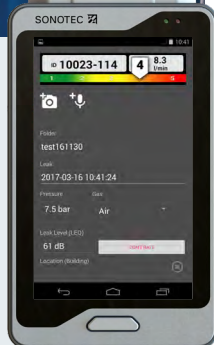## Electrical Inspection

→ **Detect partial discharge early and increase operational safety**

Leak Detection and Assessment

LeakExpert®

- Special App for leak detection and assessment

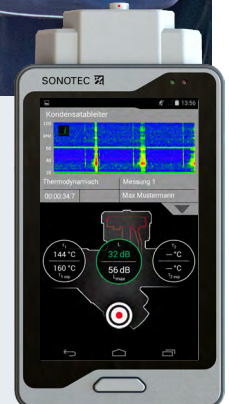- Patented method for leak classification and evaluation in l / min or CFM as well as in € or $

Reduction of energy costs for compressed air by up to 30 %

Steam Trap Testing

SteamExpert

- Special app for steam trap testing

- Optimized workflow for fast testing, including steam loss estimation in the web app

Reduce energy costs for generating steam by up to 20 % and increase process stability
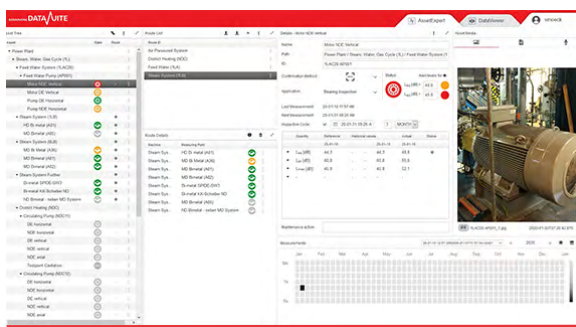
SONAPHONE DataSuite Software
Route Planning, Trending and Analysis

→ Central data hub for the organization, presentation and analysis of ultrasonic tests

→ Modern web app technology – available as a desktop, server or cloud application

→ Organization of ultrasonic measurement data in measurement points and system trees

→ Measurement point information in a modern dashboard view

→ Easy creation and management of inspection routes for condition-based planning of maintenance activities

→ Integrated DataViewer: display and analysis of ultrasonic test data using various dB levels, audio files, thresholds, status displays and trend analyses

→ Integrated reporting tool for creating PDF test reports based on test routes and system status

AssetExpert
App for Route Planning with SONAPHONE®

→ Special app for data acquisition, on-site evaluation and synchronization to the SONAPHONE DataSuite

→ Date acquisition based on routes

→ An overview of historical data for each test point

→ Identification of measurement points via QR code or ID

Technical Data

General Data	
Device Design	Digital ultrasonic testing device with touchscreen
Frequency Range	1 kHz to 128 kHz
Display	5"-TFT-Display, Resolution WVGA 800 Pixel × 480 Pixel
Touchscreen	PCT, 5-Point Multi-Touch-Controller
Acoustic Output of Signals	Via loudspeakers or wired headphones
Storage	8 GB Flash System Memory; 16 GB Flash Internal Measurement Storage 2 GB SDRAM
Connection and Interface	Ultrasonic sensors: Lemo; Charging power supply: USB 2.0 Micro-B Jack plug stereo headphones: 3.5 mm; Memory for data export: slot for microSD card (up to 32 GB)
Others	5 MP camera on the back of the device; Integrated microphone; Integrated tilt sensor
Dimensions (B x H x T)	90 mm × 174 mm x 25 mm (90 mm × 174 mm x 30 mm with large battery)
Weight	370 g (420 g inkl. großem Akku)
Standard and Guidelines	EMV RL 2014/30/EU; WEEE RL 2012/19/EU; RoHS RL 2011/65/EU; ASTM E1002-2005

Power and Battery	
Battery	Type: Lithium polymer battery; 3,7 V; 4,05 Ah, 15 Wh (large battery: 3,7 V; 7,35 Ah, 27,2 Wh)
Power supply	Charging adapter with micro USB connection (5 V, 2 A)
Operating Time	In practical use: 8 h... 12 h, In continuous operation: 4 h (or 8 h with large battery)
Charging Time	~ 4 h

Environmental conditions	
Operating temperature	–10 °C ... +65 °C (according to DIN EN 60068-2-2:2007)
Storage temperature	–20 °C ... +65 °C
Protection Class	IP40

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SONAPHONE partners get exclusive access to PC software updates and the latest SONAPHONE app versions.

Accessories	
Sensors	Airborne sensors: BS10, BS30; Structure-borne sensors: BS20, BS40
Apps for testing device	LeakExpert for leak detection; SteamExpert for steam trap testing; AssetExpert for route planning and measurement point organization
PC Software	SONAPHONE DataSuite

Inspection Software: LevelMeter App 2.0	

Details	• Level Record (in dB, reference p0 = 20 µPa, temporal resolution: 16 ms per level value)
	• Spectrogram (temporal resolution: 16 ms per frequency spectrum)
	• Level wheel and level bar (current level)
	• Level table, with configurable arrangement, number (max. 5) and type of level displayed
	• The following can be displayed:
	  • Sound pressure level and temperature
	  • (T, only active with structure-borne sound sensor BS20)
	  • L – instantaneous level
	  • Leq – Equivalent continuous sound level
	  • LF – time-weighted instantaneous level (smoothed)
	  • Lpk – Peak level
	  • Lmin – Minimum value of the instantaneous level
	  • Lmax – Maximum value of the instantaneous level
	  • CREST factor
	• Switch between portrait and landscape format
	• Measurement time

Functions	• Take photos to attach to data sets or measurements • Inserting markers immediately after the photo • Record voice memos for attaching to data sets and measurements • Storage of text comments • Select the current application (leak, bearing, etc.) for the context for measurements • Creation of PDF reports of selected records • Export of selected data records for further analysis on the computer (e.g. in the DataViewer)
Languages	Chinese, English, French, German, Italian, Japanese, Korean, Dutch, Polish, Portuguese, Russian, Spanish, Czech, Turkish, Hungarian

Contact and Support