SONOTEC

Digital Ultrasonic Testing Device

SONAPHONE®

for Preventative 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 the Ultrasonic Signal
Recording of the broadband ultrasonic signal in the frequency range of 20 to 100 kHz and compare with previous measurements

Documentation
Add photos, videos, voice memos and text notes to the measurement point

Trend & Analysis
Evaluation of the data with the help of threshold values, alarm levels, status displays and trend analyses in the SONAPHONE DataSuite

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

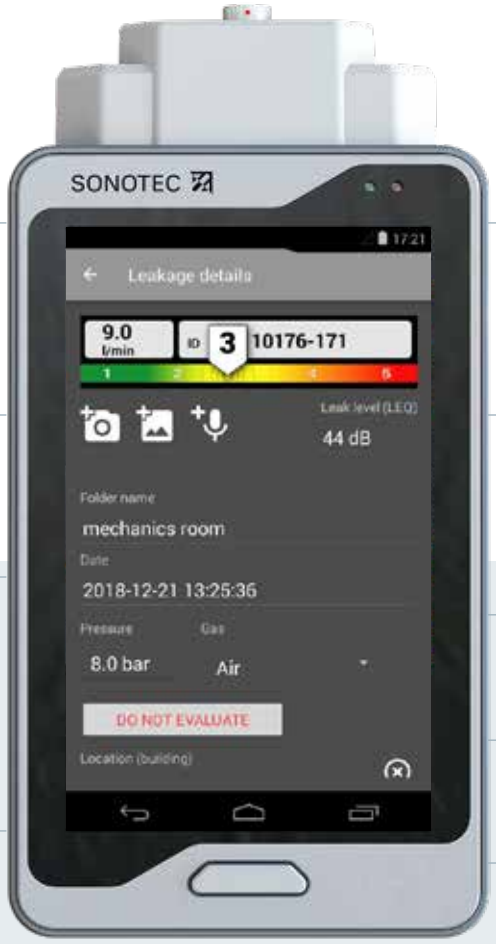
SONAPHONE®
Digital Ultrasonic Testing Device for Maintenance

Areas of Application: Airborne and Structure-Borne Sound
Leak detection | Electrical inspection | Condition monitoring | Steam trap testing

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 each measurement point

Broadband Ultrasound Analysis
Record 20 kHz to 100 kHz simultaneously



Modular Software Platform SONAPHONE 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 or in the SONAPHONE DataSuite

Touchscreen Technology
5-inch display with multi-touch controller

Robust Housing in a Smart Design
Well suited for harsh industrial environments

Realizing Maintenance 4.0
Detect problems early and avoid unplanned downtimes

Airborne Sensors

BS10

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

BS30

- Range of up to 35 meters
- Integrated laser pointer and red dot sight
- Great directivity and sensitivity

Structure-Borne Sensors

BS20

- Integrated infrared thermometer for -70 to +380° C
- Interchangeable waveguides

BS40

- Magnetic base for smooth and curved surfaces
- Optional: coupling via screw connection

SONAPHONE DataSuite
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 asset trees
- Measurement point information in a modern dashboard view
- Easy creation and management of test routes for condition-based planning of maintenance activities
- Integrated DataViewer: display and analysis of ultrasonic test data using various levels, audio files, threshold values, status displays and trend analyses
- Integrated reporting tool for creating PDF reports based on test routes, applications or system status

AssetExpert
App for Route Planning on the SONAPHONE®

- Special app for data acquisition, on-site evaluation and synchronization to the SONAPHONE DataSuite
- Data acquisition based on routes
- Overview of historical data for each test point
- Identification of measurement points via QR code or ID

Applications

LevelMeter®

App for all structure-borne and airborne sound applications

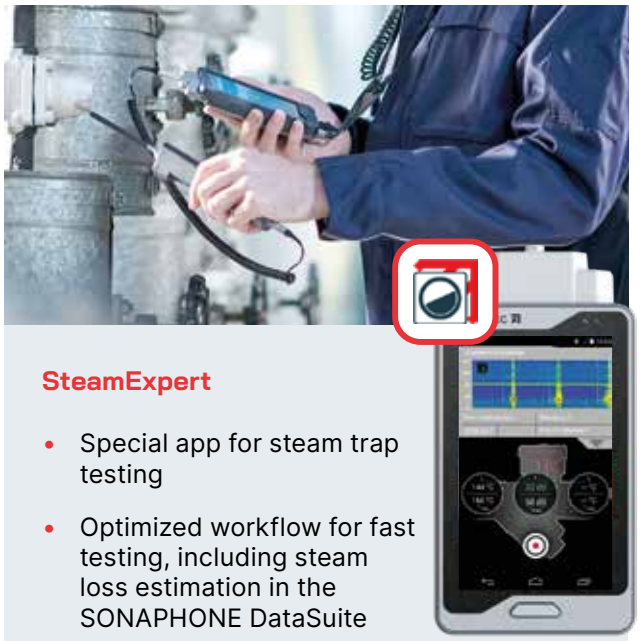
Leak Detection and Assessment

LeakExpert®

- Special app for leak detection and assessment
- Patented method for leak classification and evaluation in l / min or cfm

→ **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 SONAPHONE DataSuite

→ **Reduce energy costs for generating steam by up to 20 % and increase process stability**

Condition Monitoring

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

Electrical Inspection

→ **Detect partial discharges at an early stage and increase operational reliability**

Technical Data

General Data	
Device Design	Digital ultrasonic testing device with touchscreen
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 stereo headphone jack: 3.5 mm; memory for data export: slot for microSD card (up to 32 GB)
Other	5 Megapixel camera on the back of the device; integrated microphone; integrated tilt sensor
Dimensions (W x H x D)	90 mm × 174 mm x 25 mm (90 mm × 174 mm x 30 mm with high capacity battery)
Weight	370 g (420 g incl. high capacity battery)

Power and Battery	
Battery	Type: lithium polymer battery; 3.7 V; 4.05 Ah; 15 Wh (high capacity 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 ... 12 h, in continuous operation: 4 h (or 8 h with high capacity battery)
Charging Time	~ 4 h

Environmental Conditions	
Operating Temperature	–10 °C ... +65 °C
Temperature when Charging the Battery	0 °C ... +20 °C
Storage Temperature	–20 °C ... +65 °C
Protection Class	IP40

Equipment	
Sensors	Airborne sound sensors: BS10, BS30; Structure-borne sound sensors: BS20, BS40
Apps for the Test Device	LeakExpert for leak location and assessment; SteamExpert for steam trap testing AssetExpert for route planning and measuring point organization
PC Software	SONAPHONE DataSuite

Test Software: LevelMeter App	
Display	• Level record • 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 • LF – time-weighted instantaneous level (smoothed) • Lpk – Peak level • Leq – Equivalent continuous sound level • Lmin – Minimum value of the instantaneous level • Lmax – Maximum value of the instantaneous level (in dB, reference p0 = 20 µPa, temporal resolution: 16 ms per level value) • Switch between portrait and landscape format • Measurement time, playback position
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)
Language	Chinese, German, English, French, Italian, Japanese, Korean, Dutch, Polish, Portuguese, Russian, Spanish, Czech, Turkish, Hungarian

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Contact and Support

SONOTEC GmbH
Nauendorfer Str. 2
06112 Halle (Saale)
Germany

+49 345 13317 0
mysonaphone@sonotec.de
www.sonotec.eu
Certified according to ISO 9001