SONOTEC

User Documentation

SONAPHONE LeakExpert App

Highly Specialized App for localization and documentation of compressed air leakage

Translation of the German Original
Revision: 2.0 | 2021-10-04

Content

1 Introduction

1.1 Notes on this Document

Purpose

This document constitutes an integral part of the product and contains important advice on safe operation as well as all information on intended and efficient use. Thus, any person using the product needs to have read and understood this document.

Accessibility

The staff working with this product has to have constant access to this document to prevent handling errors and guarantee trouble-free operation.

Up-to-dateness

Every effort has been made to ensure that the information contained in this document is complete and correct at the time of release. This document describes all units and functions known of at the current point of time.

1.2 Structure of this Document

Structure

This document is structured in chapters which are organized by technical aspects.

Numbering

All titles and pages in this document are numbered by Arabic numerals.

Cross-references

The content of this document is arranged by topics. If further information on one topic may be found elsewhere in the document, cross-references are set.

1.3 Representations in this Document

Illustrations

Illustrations used in this manual do not always contain all details or special cases. They only represent the relevant information.

Notes

Important notes are marked as follows:

NOTE

Notes describe specific information or particular features that might not be evident, even for experienced users.

The neglect of a note poses no direct safety risk. However, it can lead to workflow disruptions.

Within tables and instructions

ⓘ Notes and additional information in tables and instructions are highlighted within a separate box.

General Icons

The following general icons are used for visual emphasis:

Icon	Function
⧉	Indicates a link to external content.

Inputs and Outputs

Certain recurring symbols or descriptions marking possible inputs and outputs for users are used as follows:

Input/output	Representation
Button	**Button**
Dialog window	`Window`
User interface element	**GUI element**

General icons of the user interface

At several instances, the user interface contains recurring icons with the following general meaning:

Icon	Usage	Function
	Search	Activates the search box.
	Back	Switches the view to the previous screen.

2 User Interface

2.1 Measurement Value Recording

Structure

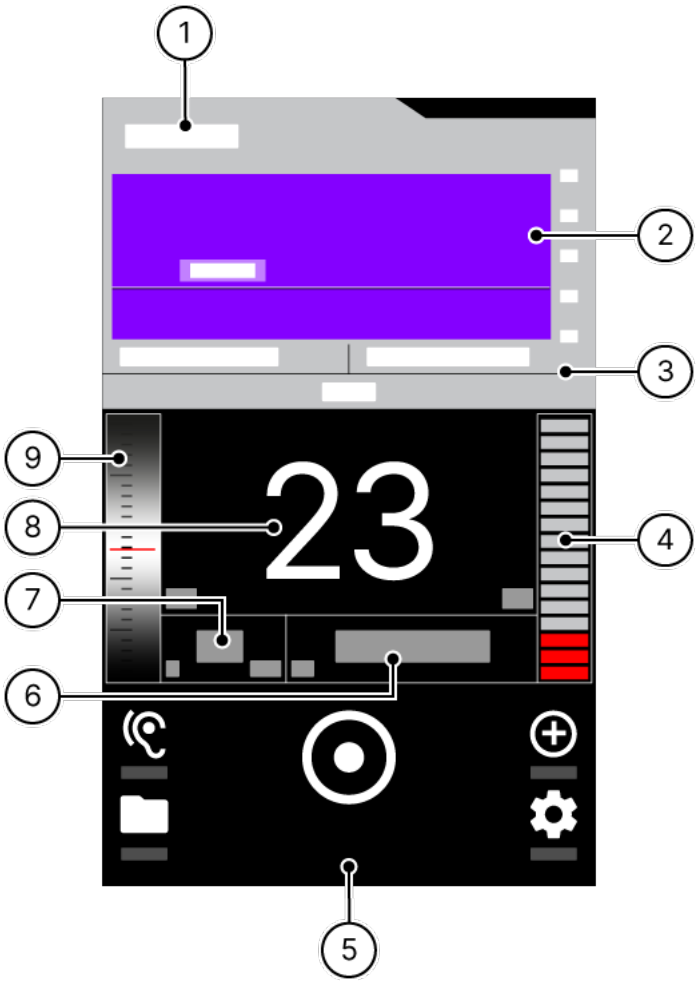


Figure 1: Screen „Measurement value recording“

Description

No.	Type	Description/function
1	Active folder	Shows the name of the folder activated for saving the recorded measurements.

No.	Type	Description/function
2	Spectrogram	Shows the measurement values in the frequency range between 20 and 100 kHz over time. **Customizing spectrogram colors** The spectrogram colors (matching of the color chart to level values) may be customized individually.
3	Meta data	• Set audio mode of the ultrasonic signal • Sensor identification (automatic detection) • Entered name of tester
4	Level bar	Shows the value of the instantaneous level L(t).
5	Operating elements	⊕ (Leakage details): Opens the “Measurements List” screen ⚙ (Settings): Opens the “Settings” screen. ■ (Folders): Opens the “Folder List” screen. (Audio): Opens the “Audio” screen. ⊙ (Record measurement values): Starts measurement value recording
6	Gas	• Opens the “Select gas” screen • Shows the selected gas.
7	System pressure	• Opens a dialog window for entering the relative system pressure. • Shows the entered relative system pressure.
8	Instantaneous level (numerical)	Shows the instantaneous level (L) as numerical value.
9	Level wheel	Shows the instantaneous level L(t).

2.2 Measurement Details

Structure

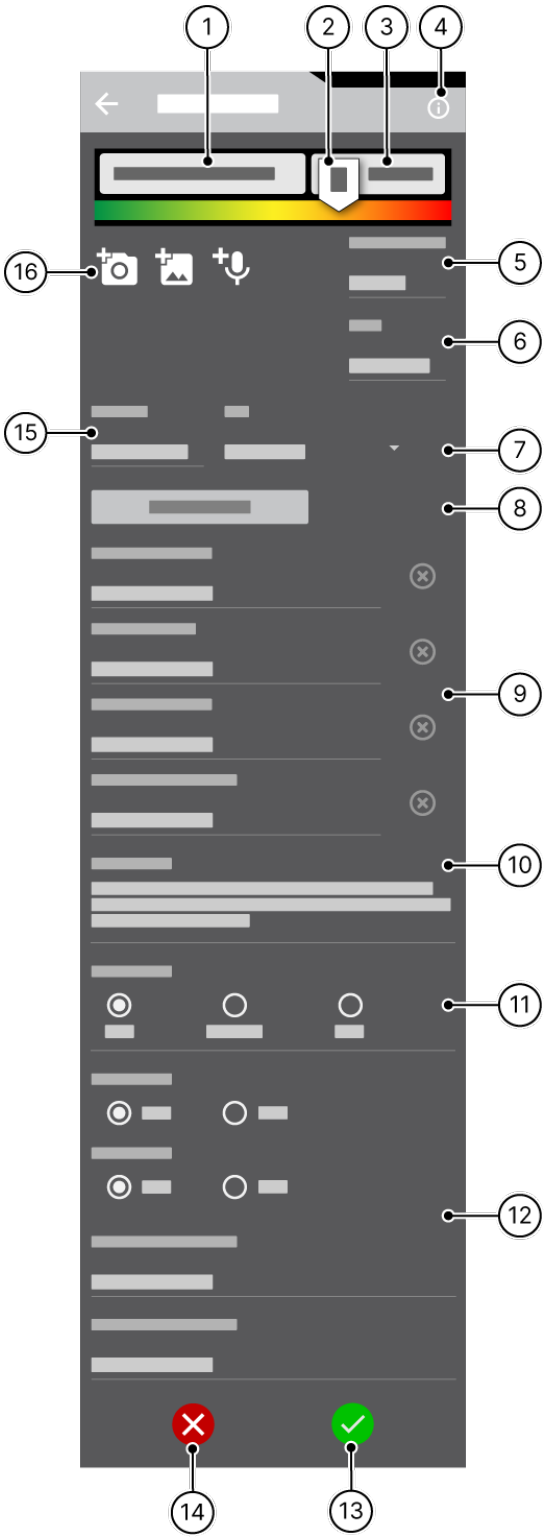


Figure 2: Screen „Measurement details“

Description

No.	Type	Description/function
1	ID	Shows the ID under which the measurement is stored.
2	Leakage class	Shows the detected leakage class (rating) according to the applied rating template and the set gases or the status “Repaired”. ⓘ Leakages may only be rated for the gases air and nitrogen as well as an instantaneous level > 28 dB.
3	Volumetric flow loss	Shows the detected volumetric flow loss in l/min. ⓘ The volumetric flow loss may only be rated for the gases air and nitrogen as well as an instantaneous level > 28 dB. Further information on loss calculation may be found in the FAQs under https://www.sonotec.eu/en/products/preventive-maintenance/faq/: FAQ-L.6
4	Meta data	Opens a window with the following metadata of the respective measurement: • User name • Sensor type used • Serial number of the SONAPHONE handheld unit used for the measurement • Name of folder in which the measurement has been stored • Date and time of recording
5	Leak level (LEQ)	Shows the recorded leak level in dB (ultrasound level). LEQ = equivalent continuous sound level
6	Loss	Shows the detected loss (in €/a) according to the applied cost estimation template.
7	Gas	• Shows the gas selected for the measurement. • Allows to subsequently modify the selected gas.
8	Rating	Allows to activate/deactivate leakage rating.
9	Location data	Contains the following fields for specifying measurement locations: • Building • Area • System • Component
10	Description	Allows to enter a description of the measurement.
11	Priority	Contains options for determining leakage priority in the following degrees: • Low • Medium • High

No.	Type	Description/function
12	Repair details	Contains the following options and fields for determining repair details: • To be repaired: Determination of repair requirement • Repaired:* Determination of repair state • Repair technician:* For entering the name of the repair technician • Repair date and time* *) Will only be displayed if repair requirement or repair state are indicated as “yes”.
13	Conclude and save measurement	Saves the measurement in the activated folder and switches to the “Measurement Value Recording” screen. ⓘ Measurement details (e. g. additional data, location data etc.) of saved measurements may be edited subsequently. ⓘ This icon is not available during the subsequent editing of a saved measurement. When editing a saved measurement subsequently, all modifications will be saved instantly.
14	Cancel measurement	Switches to the “Measurement Value Recording” screen to record a new measurement. All entered values are rejected. ⓘ This icon is not available during the subsequent editing of a saved measurement. When editing a saved measurement subsequently, all modifications will be saved instantly.
15	System pressure	• Shows the relative system pressure entered for the measurement in bar. • Allows to subsequently modify the set relative system pressure.
16	Additional data	Contains the following icons for adding additional data to a measurement: : Taking a photo with the camera : Selecting a photo from the gallery : Recording a voice memo

2.3 Folder List

Structure

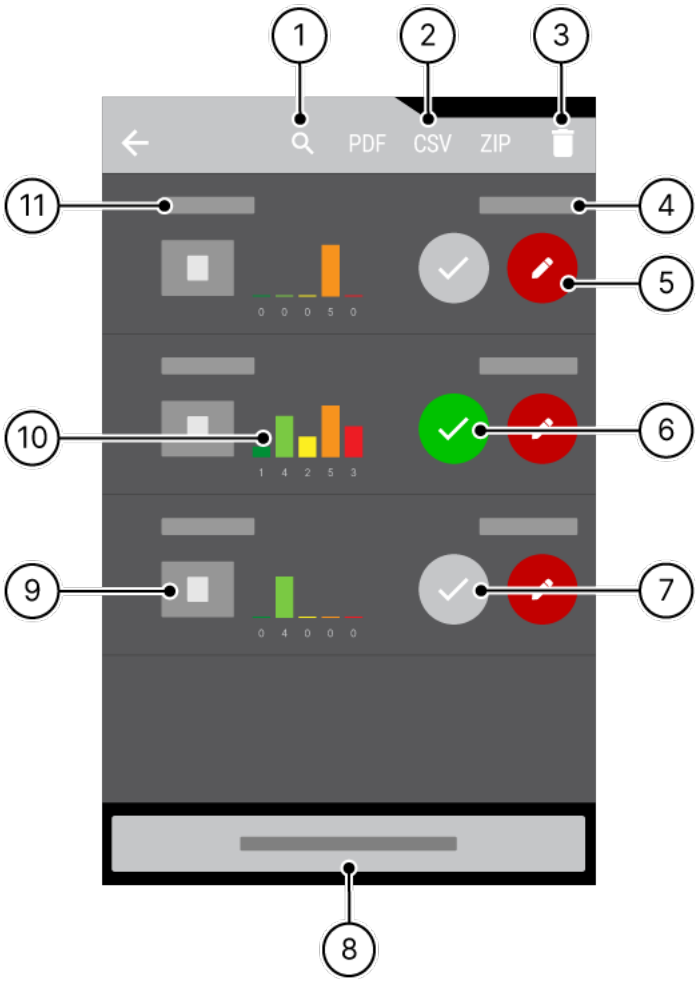


Figure 3: Screen „Folder list“

Description

No.	Type	Description/function
1	Search	Opens a search box and the on-screen keyboard for entering a search term (folder name). ⓘ The creation of many different folders leads to a long list of folders. Using a search function may simplify the search for folders.
2	Export	• PDF: Marking folders for export as PDF report. • CSV: Marking folders for export as CSV file. • ZIP: Marking folders for export as ZIP file.
3	Delete	Marking folders for deletion.

No.	Type	Description/function
4	Creation date	Shows the date of folder creation.
5	Edit	Opens the “Folder Details” screen for editing folder details.
6	Active folder	Marks the active folder. ⓘ New measurements will be saved in the active folder.
7	Select	Selecting a folder as saving location for the subsequent measurements.
8	Create new folder	Opens the “Create new folder” screen for creation of a new folder.
9	Number of saved measurements	• Shows the number of measurements saved in the folder. • Opens the “Measurements List” screen.
10	Mini statistics	Shows a diagram of all saved measurements sorted by their rating (leakage classes).
11	Folder name	Shows the specified name of the folder.

2.4 Folder Details

Structure

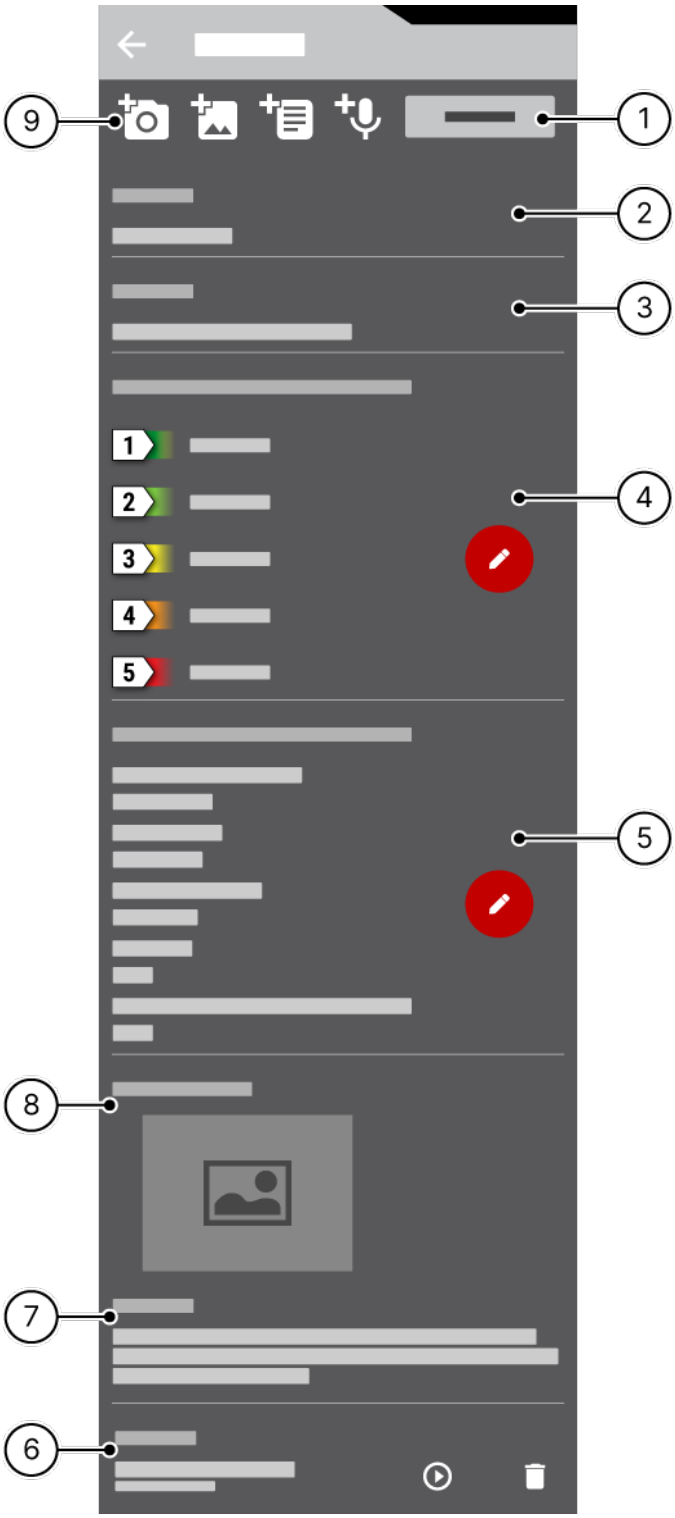


Figure 4: “Folder details” screen

Description

No.	Type	Description/function
1	Select	Selecting a folder as saving location for the subsequent measurements.
2	Name	Shows the folder name and allows for editing.
3	Creation date	Shows date and time of folder creation.
4	Rating Template	• Shows the set limit values of the five leakage classes. • Allows to create profiles with customized limit values for leakage classes.
5	Cost Estimation Template	• Shows the set values for loss calculation. • Allows to create customized profiles for loss calculation.
6	Voice memos	Display, playback or deletion of voice memos saved in the folder.
7	Text note	Display, editing or deletion of text notes saved in the folder.
8	Image preview	Display, editing or deletion of images saved in the folder.
9	Additional data	Contains the following icons for adding additional data to the folder:  : Taking a photo with the camera  : Selecting a photo from the gallery  : Writing a text note  : Recording a voice memo

2.5 Classification Profiles

Structure

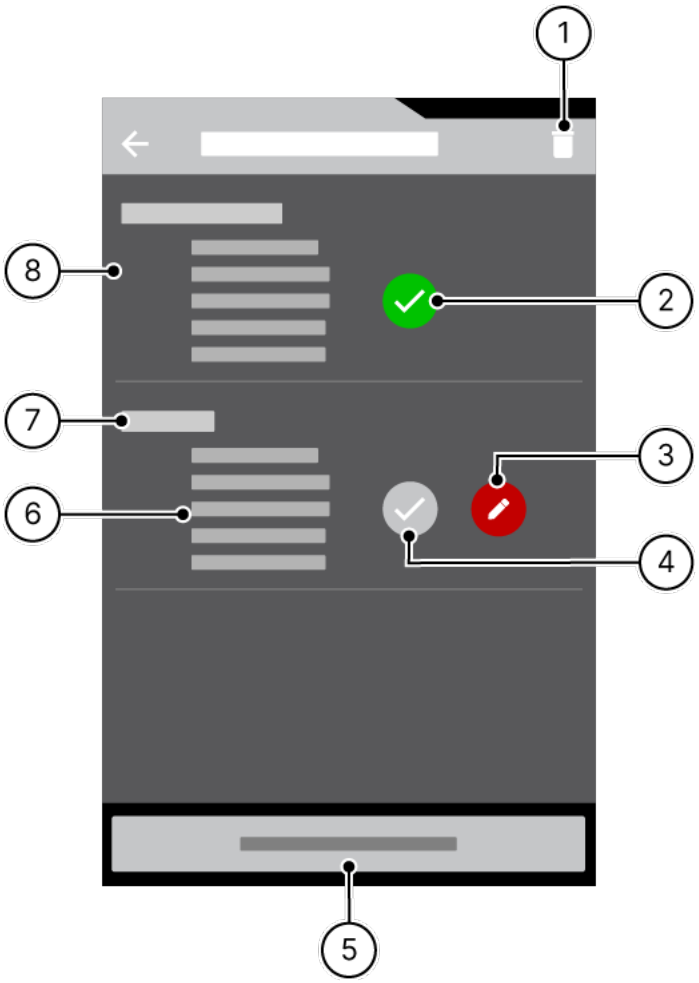


Figure 5: “Classification Profiles” screen

Description

No.	Type	Description/function
1	Delete	Marking profiles for deletion.
2	Active profile	Indicates the active profile. ⓘ The parameters of the active profile are used for the calculation.
3	Edit	Opens the screen for customizing profile details.
4	Select	Selecting a profile as default for the subsequent measurements.
5	Create	Opens a dialog window for creating a new profile.

No.	Type	Description/function
6	Profile details	Shows the parameters set in the profile.
7	Profile name	Shows the entered name of the profile.
8	Default Profile	Factory-set pre-configured default profile ⓘ The default profile cannot be edited or deleted.

2.6 Cost Estimation Profiles

Structure

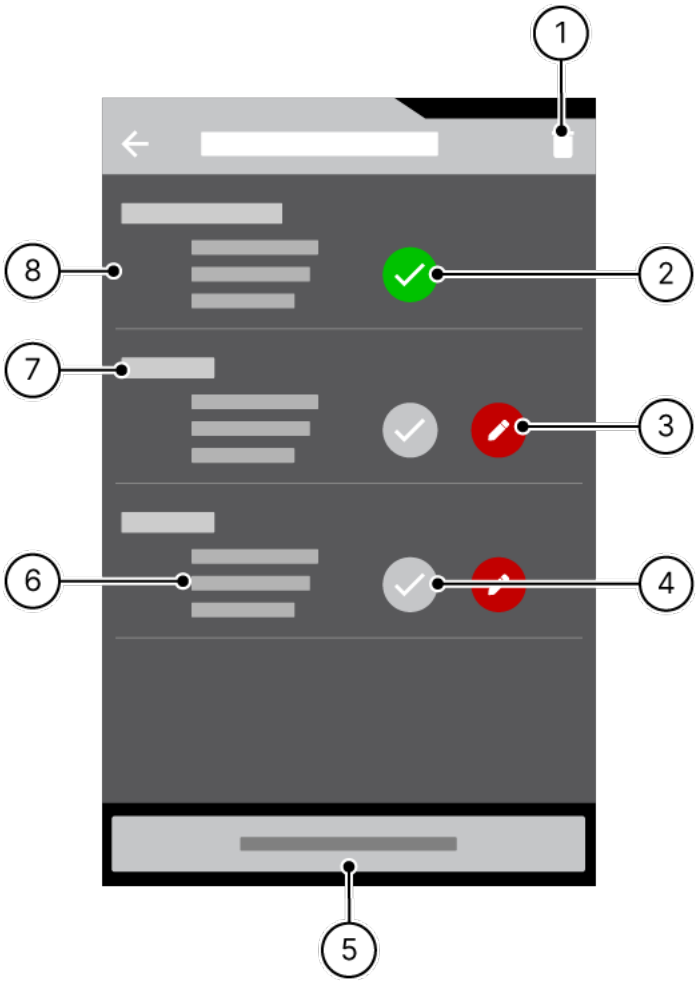


Figure 6: “Cost Estimation Profiles” screen

Description

No.	Type	Description/function
1	Delete	Marking profiles for deletion.
2	Active profile	Indicates the active profile. ⓘ The parameters of the active profile are used for the calculation.
3	Edit	Opens the screen for customizing profile details.
4	Select	Selecting a profile as default for the subsequent measurements.
5	Create	Opens a dialog window for creating a new profile.

No.	Type	Description/function
6	Profile details	Shows the parameters set in the profile.
7	Profile name	Shows the entered name of the profile.
8	Default Profile	Factory-set pre-configured default profile ⓘ The default profile cannot be edited or deleted.

2.7 Measurements List

Structure

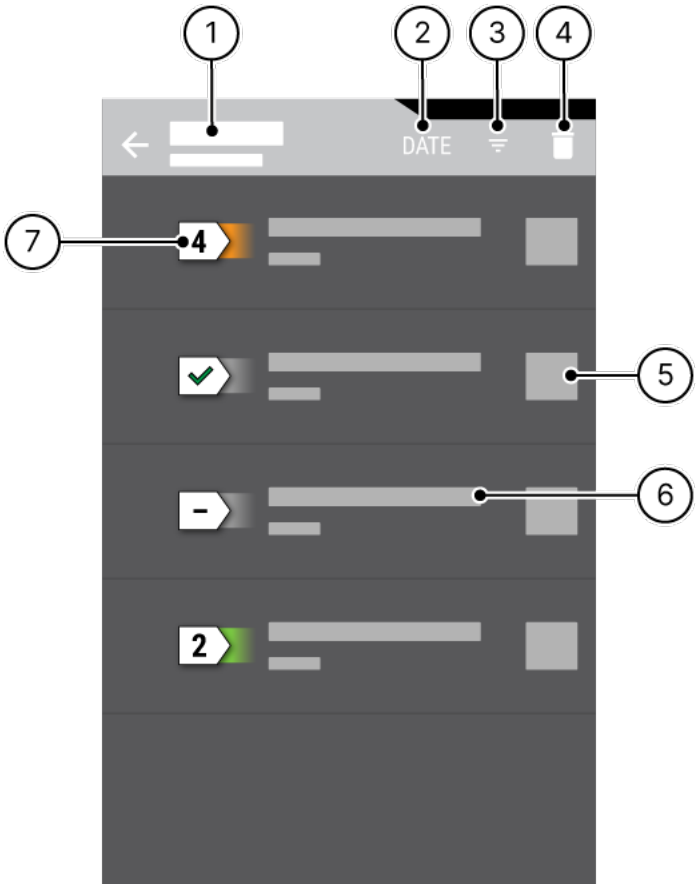


Figure 7: Screen „Measurements list“

Description

No.	Type	Description/function
1	Folder name	Shows the name of the folder where the measurements have been saved.
2	Toggle switch	Toggles the measurement identification between “Date” and “ID”.
3	Filter	Opens a dialog window for filtering the measurements list according to priority and/or repair details.
4	Delete	Selecting one or more measurements for deletion.

No.	Type	Description/function
5	Volumetric flow loss	Shows the detected volumetric flow loss in l/min. ⓘ The volumetric flow loss may only be rated for the gases air and nitrogen as well as an instantaneous level > 28 dB. Further information on loss calculation may be found in the FAQs under https://www.sonotec.eu/en/products/preventive-maintenance/faq/: FAQ-L.6
6	Identification	Shows a value assigned to the measurement depending on the settings (see “toggle switch”): • Creation date (date and time) • ID
7	Leakage class	Shows the detected leakage class (rating) according to the applied rating template and the set gases or the status “Repaired”. ⓘ Leakages may only be rated for the gases air and nitrogen as well as an instantaneous level > 28 dB.

2.8 Settings

Description

Opening the “Settings” screen is possible via the “Measurement Value Recording” screen. The following global options may be set and following information may be found in the “Settings” screen:

Option	Setting/information
Gas	Selecting a gas. (see 3.2.2 Managing Gases, page 38)
Pressure	Setting the relative system pressure. (see 3.2.1 Setting the System Pressure, page 37)
Audio	Setting the audio mode of the ultrasonic signal. ⓘ Further information on the audio modes of the ultrasonic signal may be found in the FAQs on sonotec.eu under: FAQ-G2
Units and currencies	• Switching the units between metric and imperial. • Setting the used currency.
Device	Activation/deactivation of the screen lock.
Storage	Information on storage allocation of the measurement data storage.
Licenses	List of and detailed information on used software packages.
About	Information on the installed SONAPHONE LeakExpert App version.

3 Working with the LeakExpert App

This section contains instructions on working with the SONAPHONE LeakExpert App. The structure and order of these instructions follow the typical (recommended) work flow.

3.1 Preparing a Work Order

3.1.1 Starting the App

Description

Leakage measurements are performed with a SONAPHONE handheld unit and the SONAPHONE LeakExpert App .

Procedure

1. Turn on the SONAPHONE handheld unit.
   → The start screen appears.
2. Unlock the start screen.
3. Tap the SONAPHONE LeakExpert App icon.
   → The app starts up.
   → A dialog window opens for entering the tester's name.
   → The type of the sensor connected to the SONAPHONE handheld unit is verified.

3.1.2 Managing Folders

Description

The individual measurements are managed in folders. For a structured collection and export of measurements, separate folders may be set up for each leakage to be checked or each current route. All folders are managed in the “Folder List” screen.

The following tasks are part of managing folders:

Creating folders

1. In the “Measurement Value Recording” screen, tap the “Folders” (🗀) icon.
   → The “Folder List” screen opens.
2. Tap the **Create new folder** button.
   → The “Create new folder” screen opens.
3. Enter a folder name in the **Name** field.
4. Tap the **Save** button.
   → The “Create New Folder” screen closes. The folder is saved and displayed in the “Folder List” screen.

Editing folders

Editing folder names

1. In the “Folder List” screen, tap the “Edit” icon of the particular folder.

   → The “Folder Details” screen opens.
2. Tap the **Folder** input field.
   → The `Edit folder name` dialog window opens.
3. Enter your preferred name in the dialog window.
4. Tap the **OK** button.
   → The dialog window closes. The entered name is applied.

Adding additional data

1. In the “Folder List” screen, tap the “Edit” icon of the particular folder.
   → The “Folder Details” screen opens.
2. Depending on the type of additional data, tap the respective icon.

   → Depending on the selection, the following will open:
   - camera for taking a photo
   - photo gallery for selecting an existing photo
   - text field including on-screen keyboard for writing a text note
   - dialog window for recording a voice memo

Deleting folders

ATTENTION

Data loss during deletion

When deleting one or several folders, all measurements within these folders will be deleted. This may lead to data loss.

- Before deletion of one or several folders, please make sure that these folders may indeed be deleted.

Selected folder

1. In the “Folder List” screen, tap the “Delete” (🗑) icon.

→ A checkbox is displayed in front of each folder.

2. Activate the checkbox of the particular folder.
3. Tap the **OK** button.
   → A window for confirmation of the deletion opens.
4. Tap the **OK** button.
   → The dialog window closes. The selected folder is deleted.

All folders

1. In the “Folder List” screen, tap the “Delete” (🗑) icon.
2 Tap the “Select all” (⧈) icon.

→ The checkboxes of all folders are activated.

3. Tap the **OK** button.
   → A window for confirmation of the deletion opens.
4. Tap the **OK** button.
   → The dialog window closes. All folders are deleted.

Further Information

For the management of folders, please also see the description of the following screens:

- Measurement Value Recording
- Folder List
- Folder Details

3.1.3 Managing Classification Profiles

Description

A classification profile contains five leakage classes for automatic rating of the volumetric flow loss.

Apart from the default profile with factory-set leakage classes, customized classification profiles may be created. The limit values of all leakage classes may be adapted.

For each folder, a particular classification profile is activated as rating template. The activated classification profile applies to all measurements saved within the particular folder.

Classification profiles may be managed in the “Classification Profiles” screen.

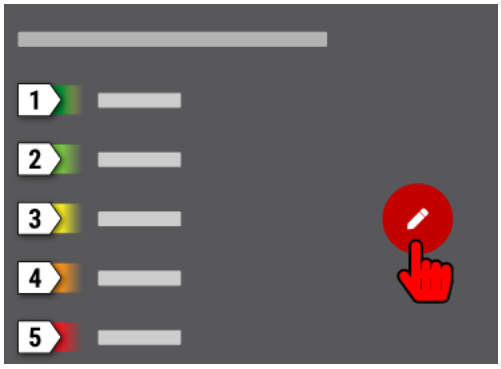
NOTE

Volumetric flow loss and leakages may only be rated for the gases air and nitrogen as well as an instantaneous level > 28 dB.

Opening the “Classification Profiles” screen

1. In the “Measurement Value Recording” screen, tap the “Folders” (🖿) icon.
   → The “Folder List” screen opens.
2. In the “Folder List” screen, tap the “Edit” icon of the particular folder.

   → The “Folder Details” screen opens.
3. In the “Folder details” screen, scroll downwards to the “Rating Template” section.
4. Tap the “Edit” icon.



   → The “Classification Profiles” screen opens.

Creating a classification profile

1. Open the “Classification Profiles” screen.
2. Tap the **CREATE** button.
   → A dialog window for entering the profile name opens.
3. Enter the profile name.
4. Tap the **OK** button.
   → The classification profile is created and opened.
5. Tap a leakage class icon.
   → A dialog window for entering the volumetric flow loss opens.

6 Enter the particular value.

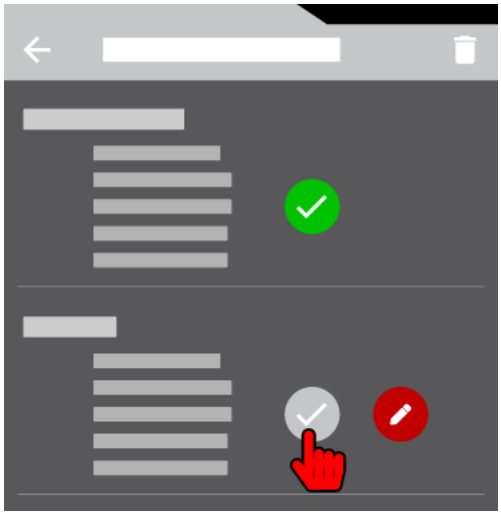
7. Tap the **OK** button.
   → The dialog window closes. The entered value is saved for the edited leakage class.
8. Enter the particular values for all leakage classes.

9 Tap the “Apply” icon.

→ The customized classification profile is created and saved with the set values for the leakages classes.

Assigning a classification profile to a folder

1. In the “Folder List” screen, tap the “Edit” icon of the particular folder.
   → The “Folder Details” screen opens.
2. Tap the “Edit” icon in the “Classification Profile” section.
   → The “Classification Profiles” screen opens.
3. Tap the “Activate” icon of the particular classification profile.



→ The “Classification Profiles” screen closes. The activated classification profile is assigned to the folder.

Deleting classification profiles

NOTE

It is not possible to delete the default profile with factory-set pre-configured leakage classes.

Selected customized classification profile

1. Open the “Classification Profiles” screen.
2. Tap the “Delete” (🗑) icon.

→ A checkbox is displayed in front of each customized classification profile.

3. Activate the checkbox of the particular profile.
4. Tap the **OK** button.

→ A window for confirmation of the deletion opens.

5. Tap the **OK** button.

→ The dialog window closes. The selected classification profile is deleted.

All customized classification profiles

1. Open the “Classification Profiles” screen.
2. Tap the “Delete” (🗑) icon.
3. Tap the “Select all” (⧈) icon.

→ The checkboxes of all customized classification profiles are activated.

4. Tap the **OK** button.

→ A window for confirmation of the deletion opens.

5. Tap the **OK** button.

→ The dialog window closes. All customized classification profiles are deleted.

Further Information

For the management of classification profiles, please also see the description of the following screens:

- Measurement Value Recording
- Folder List
- Folder Details
- Classification Profiles

3.1.4 Managing Cost Estimation Profiles

Description

A cost estimation profile contains the following parameters for determining the financial loss due to a leakage:

- Compressed air index in kWh/m³
- Energy costs in €/kWh
- Production hours per year
- Deviation in %
- Ratio of energy cost to total costs in %

Apart from the default profile with factory-set parameters, customized cost estimation profiles may be created.

For each folder, a particular cost estimation profile is activated as template. The activated cost estimation profile applies to all measurements saved within the particular folder.

Cost estimation profiles may be managed in the “Cost Estimation Profiles” screen.

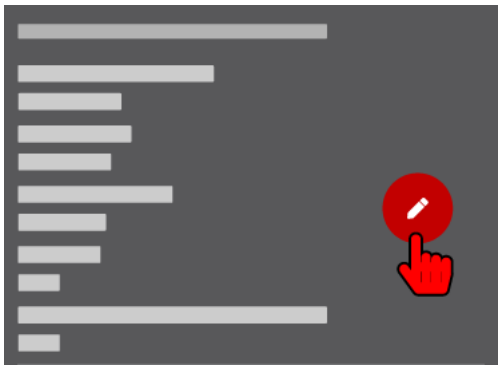
NOTE

Further information on financial loss calculation may be found in the FAQs under https://www.sonotec.eu/en/products/preventive-maintenance/faq/: FAQ-L.4

Opening the “Cost Estimation Profiles” screen

1. In the “Measurement Value Recording” screen, tap the “Folders” (🖿) icon.
   → The “Folder List” screen opens.
2. In the “Folder List” screen, tap the “Edit” icon of the particular folder.

   → The “Folder Details” screen opens.
3. In the “Folder details” screen, scroll downwards to the “Cost Estimation Template” section.
4. Tap the “Edit” icon.



   → The “Cost Estimation Profiles” screen opens.

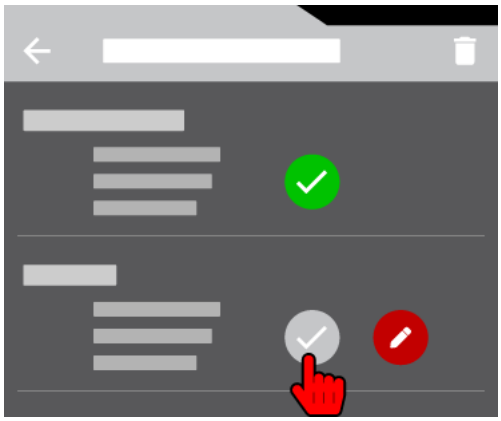
Creating a cost estimation template

1. Open the “Cost Estimation Profiles” screen.
2. Tap the **CREATE** button.
   → A dialog window for entering the profile name opens.
3. Enter the profile name.
4. Tap the **OK** button.
   → The cost estimation profile is created and opened.
5. Enter the particular values for all parameters.
6 Tap the “Apply” icon.

   → The cost estimation profile is created and saved with the set parameters.

Assigning a cost estimation profile to a folder

1. In the “Folder List” screen, tap the “Edit” icon of the particular folder.
   → The “Folder Details” screen opens.
2. Tap the “Edit” icon in the “Cost Estimation Template” section.
   → The “Cost Estimation Profiles” screen opens.
3. Tap the “Activate” icon of the particular cost estimation profile.



   → The “Cost Estimation Profiles” screen closes. The activated cost estimation profile is assigned to the folder.

Deleting cost estimation profiles

NOTE

It is not possible to delete the default profile with factory-set pre-configured parameters.

Selected customized cost estimation profile

1. Open the “Cost Estimation Profiles” screen.
2. Tap the “Delete” (🗑) icon.

→ A checkbox is displayed in front of each customized cost estimation profile.

3. Activate the checkbox of the particular profile.
4. Tap the **OK** button.

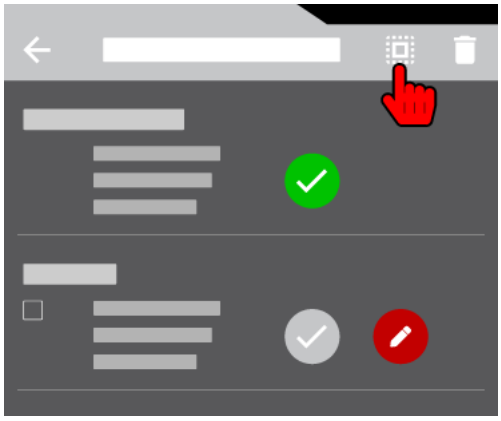
→ A window for confirmation of the deletion opens.

5. Tap the **OK** button.

→ The dialog window closes. The selected cost estimation profile is deleted.

All customized cost estimation profiles

1. Open the “Cost Estimation Profiles” screen.
2. Tap the “Delete” ( ) icon.
3 Tap the “Select all” ( ) icon.



→ The checkboxes of all customized cost estimation profiles are activated.

4. Tap the **OK** button.
   → A window for confirmation of the deletion opens.
5. Tap the **OK** button.
   → The dialog window closes. All customized cost estimation profiles are deleted.

Further Information

For the management of cost estimation profiles, please also see the description of the following screens:

- Measurement Value Recording
- Folder List
- Folder Details
- Cost Estimation Profiles

3.1.5 Selecting Folders

Description

Before performing a measurement, a folder is selected as saving location for the subsequent measurements.

Procedure

1. In the “Measurement Value Recording” screen, tap the “Folder” (🖿) icon.
   → The “Folder List” screen opens.
2 Tap the “Select” icon of the particular folder.

→ The selected folder is used as saving location for the subsequent measurements.

Further Information

For the selection of a folder, please also see the following descriptions and/or instructions:

- Folder List
- Managing Folders

3.1.6 Specifying Audio Settings

Description

The audio settings define the audibility mode of the ultrasonic signal audible.

NOTE

Further information on the audibility of the ultrasonic signal may be found in the FAQs on sonotec.eu under: FAQ-G2

Procedure

1. In the “Measurement Value Recording” screen, tap the “Audio” ( ) icon.
   → The “Audio” screen opens.
2. Select the particular option.
3. Tap the **CLOSE** button.
   → The screen closes. The selected setting is applied for the audibility of the ultrasonic signal.

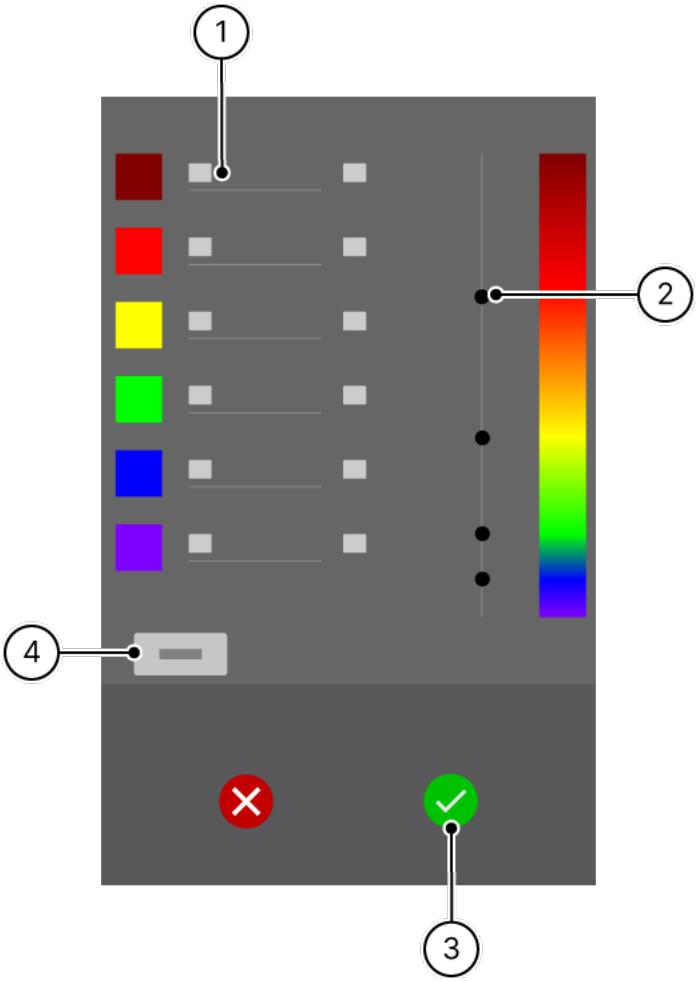
3.1.7 Customizing the Spectrogram View

Description

The spectrogram view for leakage measurement may be set according to specific requirements. Especially the color range limits may be customized.

Procedure

1. In the “Measurement Value Recording” screen, tap the spectrogram for three seconds.
   → A screen for setting the color range limits opens.



2 Tap the input field (1) of a color field and enter the particular value.
or
Move the slider (2) to the height of the particular color.

3 Tap the “Apply” (3) icon.
   → The screen closes. The set color values are saved and displayed in the spectrogram.

NOTE

Resetting the settings

By tapping the **Reset** button (4), the color range limits may be reset to the default values.

3.2 Performing Measurements

For each leakage, a short measurement will be performed. As soon as measurement values have been collected, you may:

- rate the measurement by the measurement results and
- document the measurement in detail including location data and additional information.

As soon as a measurement contains all desired/required data, the measurement may be marked as completed to continue with further measurements.

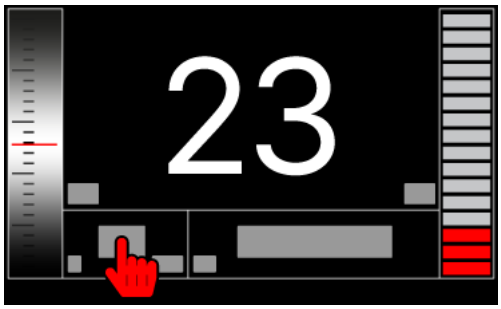
3.2.1 Setting the System Pressure

Description

The relative system pressure is a parameter that needs to be set before recording measurement values. For each measurement, an individual system pressure may be entered. It is possible to subsequently edit the system pressure in recorded measurements.

Procedure

1. In the “Measurement Value Recording” screen, tap the “System pressure” section.



→ A dialog window for entering the relative system pressure value opens.

2 Enter the particular value.

3. Tap the **OK** button.

→ The dialog window closes. The entered value is applied.

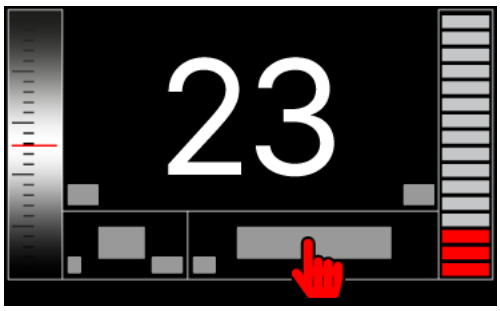
3.2.2 Managing Gases

Description

Gas is a parameter that needs to be selected before recording measurement values. For each measurement, a different gas may be selected from a list. It is possible to subsequently edit the gas in recorded measurements.

Opening the “Select gas” screen

In the “Measurement Value Recording” screen, tap the “Gas” section.



Creating a gas

1. Open the “Select gas” screen.
2. Tap the **CREATE** button.
   → A dialog window for entering the gas name opens.
3 Enter the name of the gas.
4. Tap the **OK** button.
5 The gas is created and saved.

Selecting gas

1. Open the “Select gas” screen.
2 Tap the “Select” icon of the particular gas.

→ The selected gas is applied for the subsequent measurements.

Deleting gas

NOTE

The factory-set pre-configured gases (Argon, Air, Nitrogen, Carbon dioxide, Water steam) cannot be deleted.

Selected customized gas

1. Open the “Select gas” screen.
2. Tap the “Delete” (🗑) icon.

→ A checkbox is displayed in front of each customized gas.

3. Activate the checkbox of the particular gas.
4. Tap the **OK** button.
   → A window for confirmation of the deletion opens.
5. Tap the **OK** button.
   → The dialog window closes. The selected gas is deleted.

All customized gases

1. Open the “Select gas” screen.
2. Tap the “Delete” (🗑) icon.
3. Tap the “Select all” (⬚) icon.

→ The checkboxes of all customized gases are activated.

4. Tap the **OK** button.
   → A window for confirmation of the deletion opens.
5. Tap the **OK** button.
   → The dialog window closes. All customized gases are deleted.

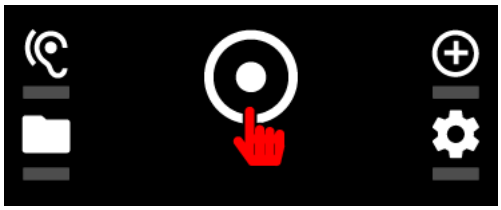
3.2.3 Recording Measurement Values

Description

Measurement values are recorded with the SONAPHONE handheld unit and a connected airborne sound sensor. After the recording, the measurement values are saved as a “Measurement” in the activated folder.

Procedure

1. Check the set system pressure and the selected gas.
2. Align the airborne sound sensor depending on the particular measurement.
3. In the “Measurement Value Recording” screen, tap the “Record measurement values” (⊙) icon.



→ The measurement values are recorded. After conclusion of the measurement, the “Measurement Details” screen opens.

Further Information

For recording of measurement values, please also see the following descriptions and/or instructions:

- Measurement Value Recording
- Preparing a Work Order
- Setting the System Pressure
- Managing Gases

3.2.4 Managing Location Data

Description

For better documentation, location data may be added to the measurement values. Following the principle of a plant, these location data are structured hierarchically:

- Building
- Area
- System
- Component

All location data are added and managed in the “Measurement Details” screen.

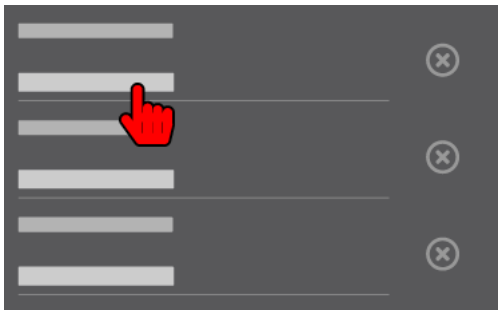
NOTE

The following instructions apply to all kinds of location data.

Selecting location data

For adding content to location data, the correct location needs to be selected. Use the following procedure to select location data:

1. In the “Measurement Details” screen, scroll downwards to the “Location” section.
2 Tap the input field of the particular location.



→ A list of all available locations opens.

Creating Location Data

Use the following procedure to create location data:

1. Select the location.
2. Tap the **Create new ...** button.
   → A dialog window for entering a location name opens.
3. Enter the particular name.
4. Tap the **OK** button.
   → The window closes. The location is saved in the list.

Searching location data

The creation of many different locations leads to a long list of location data. Using a search function may simplify the searching of location data.

1 Select the location.

2 Tap the “Search” (🔍) icon.

→ The search box opens. The on-screen keyboard appears.

3 Enter the particular location.

→ During typing, the list of available locations is already restricted to entries corresponding to the input.

Applying Location Data

Use the following procedure to apply location data:

1. Select the location.
2. Tap the "Apply" icon of the particular location.

→ The list closes. The selected location is applied.

Deleting Location Data

ATTENTION

Data loss during deletion

Deleting location data may lead to data loss.

- Before deletion of a location, please make sure that this location has not been used for other measurements and may indeed be deleted.

Use the following procedures to delete location data:

Deletion of selected location data

1. Select the location.
2. Tap the "Delete" icon ( ).
   → A checkbox is displayed in front of each location.
3. Activate the checkbox of the particular location.
4. Tap the **OK** button.
   → The `Delete selected data?` window opens with a confirmation prompt.
5. Tap the **OK** button.
   → The window closes. The selected location is deleted.

Deletion of all location data

1. Select the location.
2. Tap the "Delete" icon ( ).
3. Tap the "Select all" icon ( ).
   → The checkboxes of all locations are activated.
4. Tap the **OK** button.
   → The `Delete selected data?` window opens with a confirmation prompt.
5. Tap the **OK** button.
   → The window closes. The selected location is deleted.

3.2.5 Specifying Repair Information

Description

After recording measurement values, priority and repair details may be specified for a measurement. This information may also be added subsequently to previously-saved measurements.
Priority and repair details are specified in the “Measurement Details“ screen.

Procedure

1. In the “Measurement Details” screen, scroll downwards to the “Priority” section.
2. Select one of the pre-defined priority options.
3. Specify repair information as follows:

If ...	then ...
the measured leakage needs to be repaired:	tap the option **Yes** in the “To be repaired” section.
the measured leakage has already been repaired:	• tap the option **Yes** in the “Repaired” section. • enter the name of the repair technician in the field **Repair technician**. • set date and time in the field **Repair date and time**. As a default, the current time stamp is set for the option **Yes**.

3.2.6 Adding Additional Data

Description

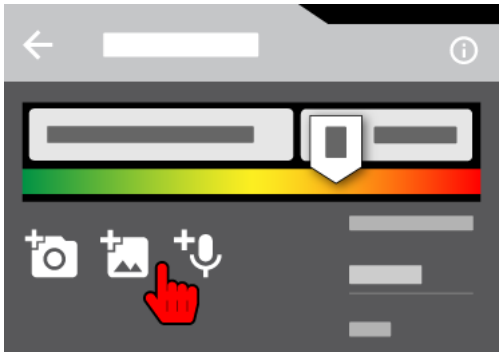
For documentation of the measurement results, the following additional data may be added to measurements:

- Photos
- Voice memos

All additional data are added and managed in the “Measurement Details” screen.

Procedure

1. In the “Measurement Details” screen, tap the icon of the particular additional data in the “Additional Data” section.



→ Depending on the selection, the following will open:

- camera for taking a photo
- photo gallery for selecting an existing photo
- dialog window for recording a voice memo

3.2.7 Adding Markers to Photos

Description

Markers may be used to highlight particular areas in a photo (e.g. points of measurements). Markers may be added to photos during adding or managing additional data of a measurement:

- after taking a photo with the camera,
- after selecting a photo from the gallery,
- during editing of photos that were previously added.

Procedure

1. Tap the **New marker** button.
   → A list of all available marker colors opens.
2. Tap the particular color.
   → A marker with the selected color is added to the center of the photo.
3. Tap the marker and move it to the particular position within the photo.
4. Optional: Zoom the marker in or out by using the **+** or **–** buttons.
5. Check marker position and size.
   ⓘ During editing, a marker may be deleted by tapping the **Remove marker** button.
6. Tap the **OK** button.
   → The marker is edited into the photo. The photo is saved.

NOTE

Careful positioning of markers

Markers are added to the photo when saving it and cannot be edited or deleted afterwards.

Further Information

For adding markers to photos, please also see the following descriptions and/or instructions:

- Measurement Details
- Adding Additional Data

3.2.8 Saving a Measurement

Description

After recording measurement values, a measurement including all details (e.g. rating, location data, additional data, ...) may be confirmed and saved. Subsequent editing of all measurement details (rating of measurement results, location data and additional data) is possible even for saved measurements.

Procedure

1. In the “Measurement Details” screen, scroll downwards.
2. Tap the “Save measurement” icon.

→ The measurement is saved. The view switches to the “Measurement Value Recording” screen to record the subsequent measurement values.

Further Information

For saving measurements, please also see the following descriptions and/or instructions:

- Measurement Value Recording
- Measurement Details
- Recording Measurement Values

3.3 Concluding a Work Order

3.3.1 Editing Measurement Details

Description

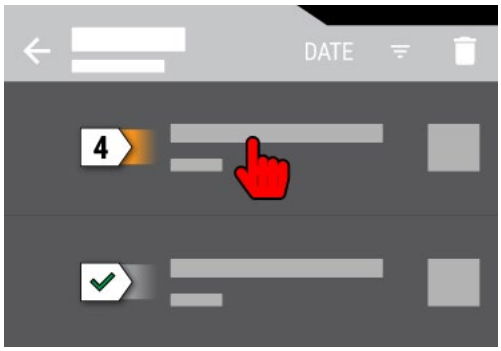
For saved measurements, the following data may be edited or added subsequently:

- Additional data
- System pressure
- Gas
- Rating
- Location data
- Description
- Priority
- Repair details

Procedure

1 Open the “Measurements List” screen.

2. Tap the particular measurement.



→ The “Measurement Details” screen opens.

3. In the “Measurement Details” screen, scroll down to the particular section to edit or add the required information.

Further Information

For editing measurement details, please also see the following descriptions and/or instructions:

- Measurements List
- Measurement Details
- Managing Location Data
- Adding Additional Data

3.3.2 Deleting a Measurement

Description

Before creating a report or exporting an archive, the measurements saved in folders may be reviewed and deleted if necessary.

ATTENTION

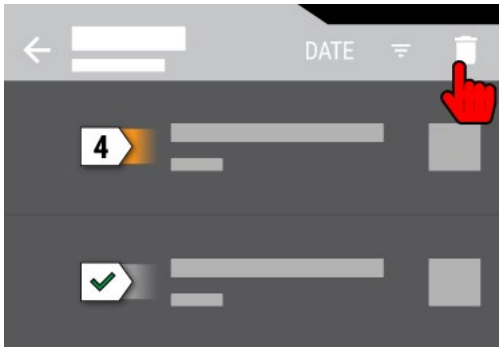
Data loss during deletion

Deleting measurements may lead to data loss.

- Before deletion of one or several measurements, please make sure that these measurements may indeed be deleted.

Selected Measurement

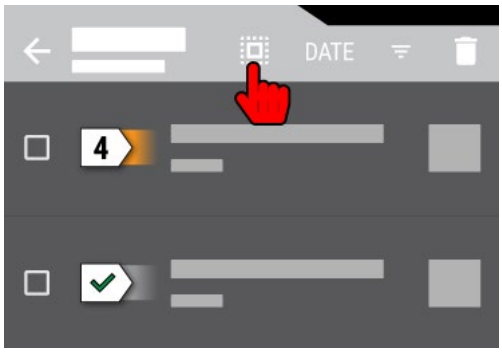
1. Open the “Folder List” screen.
2. Tap the “Number of saved measurements” button.
   → The “Measurements List” screen opens.
3. Tap the “Delete” ( ) icon.



   → A checkbox is displayed in front of each measurement.
4. Activate the checkbox of the particular measurement.
5. Tap the **OK** button.
   → A window opens with a confirmation prompt.
6. Tap the **Yes** button.
   → The window closes. The selected measurement is deleted.

All Measurements

1. Open the “Folder List” screen.
2. Tap the “Number of saved measurements” button.
   → The “Measurements List” screen opens.
3. Tap the “Delete” ( ) icon.
4. Tap the “Select all” ( ) icon.



   → The checkboxes of all measurements are checked.
5. Tap the **OK** button.
   → A window opens with a confirmation prompt.
6. Tap the **Yes** button.
   → The window closes. All measurements are deleted.

Further Information

For deleting measurements, please also see the descriptions of the following screens:

- Folder List
- Measurements List

3.3.3 Creating a PDF Report

Description

For each folder with saved measurements, a report may be saved as a PDF file. A PDF report contains all recorded measurement values as well as additional data, ratings and location data entered in connection with the saved measurement.

Each PDF report has its own front page. Apart from general information on the report, this front page also shows additional data (image, text note) of the respective folder.

These additional data contain the image and the text note.

Saving Options

Before saving a report, the following options may be defined:

Saving option	Description/function
Paste	Activation/deactivation of options and/or views in the PDF report: • **Images:** Display of images (additional data) in the detail pages of individual measurements • **Add overview:** Summary of the data of all measurements contained in the folder as a table • **Add repaired:** Additional display of repaired leakages data • **Add monetary overview:** Summary of losses and savings as tables and graphics
Leakage sort	Specification of the leakage order in the overview and detail pages.
Paper format	Page format of the created PDF report: • DIN A4 • Letter
Saving location	Saving location for the created PDF report: • internal storage (storage within the SONAPHONE handheld unit) • external SD card (microSD card inserted in the SONAPHONE handheld unit) ⓘ **Default folder within internal storage** If the user does not select a specific folder within the internal storage, the report will be saved in the default folder "Reports".
Author (optional)	Name of the report author ⓘ The name of the report author is shown on the report's front page.
Address (optional)	Address data ⓘ Address data are shown on the report's front page.
Logo (optional)	Logo as graphic or photo ⓘ The logo graphic is shown on the report's front page.

Creating PDF reports for selected folders

1 Open the “Folder List” screen.
2 Tap the “PDF” icon.

→ A checkbox is displayed in front of each folder.

3. Activate the checkbox of the particular folders.
4. Tap the **OK** button.
→ A screen for specifying saving options opens.
5 Specify saving options.
6 Tap the “Next” icon.

7. Enter the optional saving information.
8. Tap the “Apply and create” icon.

→ The screen closes. A PDF report is created for each selected folder and stored in the selected saving location.

Creating PDF reports for all folders

1 Open the “Folder List” screen.
2 Tap the “PDF” icon.
3 Tap the “Select all” (⬚) icon.

→ The checkboxes of all folders are activated.

4. Tap the **OK** button.
→ A screen for specifying saving options opens.

5 Specify saving options.
6 Tap the “Next” icon.
7. Enter the optional saving information.
8. Tap the “Apply and create” icon.
   → The screen closes. A PDF report is created for each folder and stored in the selected saving location.

Viewing a PDF report

Created PDF reports may be viewed on the SONAPHONE with the Acrobat app. Alternatively, the SONAPHONE handheld unit may be connected to a desktop computer to transfer the created PDF reports to the desktop computer and open them on the computer.

Further Information

For the creation of PDF reports, please also see the following descriptions and/or instructions:

- Folder List
- Managing Folders

3.3.4 Exporting a ZIP File

Description

Folders with saved measurements may be exported as a ZIP file. A ZIP file contains all recorded measurement values as well as additional data, ratings and location data entered in connection with the saved measurement.

Saving Options

Before saving a ZIP file, the following saving options may be specified:

Saving option	Description/function
Saving location	Saving location for the created PDF report: • internal storage (storage within the SONAPHONE handheld unit) • external SD card (microSD card inserted in the SONAPHONE handheld unit) **Default folder within internal storage** If the user does not select a specific folder within the internal storage, the report will be saved in the default folder "Reports".

Exporting a ZIP file for selected folders

1 Open the “Folder List” screen.

2 Tap the “ZIP” icon.

→ A checkbox is displayed in front of each folder.

3. Activate the checkbox of the particular folders.

4. Tap the **OK** button.

→ A screen for specifying saving options opens.

5 Specify saving options.

6. Tap the “Apply and export” icon.

→ The screen closes. A ZIP file of the selected folders is exported to the selected saving location.

Exporting a ZIP file for all folders

1 Open the “Folder List” screen.
2 Tap the “ZIP” icon.
3 Tap the “Select all” (⿻) icon.

→ The checkboxes of all folders are activated.

4. Tap the **OK** button.
   → A screen for specifying saving options opens.
5 Specify saving options.
6. Tap the “Apply and export” icon.
   → The screen closes. A ZIP file of all folders is exported to the selected saving location.

Further Information

For exporting a ZIP file, please also see the following descriptions and/or instructions:

- Folder List
- Managing Folders

3.3.5 Exporting a CSV File

Description

For each folder with saved measurements, a CSV file may be saved. A CSV file contains the following data regarding the folder and the measurements saved within:

- data of the used classification profile
- ratings
- recorded measurement values
- location data
- priority and repair details
- saving location of added images

Saving Options

Before saving a CSV file, the following saving options may be specified:

Saving option	Description/function
Leakage sort	Specification of the leakage order in the overview and detail pages.
Saving location	Saving location for the created PDF report: • internal storage (storage within the SONAPHONE handheld unit) • external SD card (microSD card inserted in the SONAPHONE handheld unit) **Default folder within internal storage** If the user does not select a specific folder within the internal storage, the report will be saved in the default folder "Reports".

Exporting a CSV file for selected folders

1 Open the “Folder List” screen.

2 Tap the “CSV” icon.

→ A checkbox is displayed in front of each folder.

3. Activate the checkbox of the particular folders.

4. Tap the **OK** button.

→ A screen for specifying saving options opens.

5 Specify saving options.

6. Tap the “Apply and export” icon.

→ The screen closes. For each selected folder, a CSV file is exported to the selected saving location.

Exporting CSV files for all folders

1 Open the “Folder List” screen.
2 Tap the “CSV” icon.
3 Tap the “Select all” (⬚) icon.

→ The checkboxes of all folders are activated.

4. Tap the **OK** button.
→ A screen for specifying saving options opens.
5 Specify saving options.
6. Tap the “Apply and export” icon.
→ The screen closes. For each folder, a CSV file is exported to the selected saving location.

Further Information

For exporting a CSV file, please also see the following descriptions and/or instructions:

- Folder List
- Managing Folders

3.3.6 Closing the App

Description

Apart from the methods for hiding or ending an app that are common in Android operating systems, the SONAPHONE LeakExpert App may be closed as follows.

Procedure

1. Tap the “Back” icon on the “Measurement Value Recording” screen.

→ The `Close App` window opens.

2. Tap the **YES** button.
→ The app closes.

4 Legal Information and Regulations

The product has been thoroughly tested at the manufacturer's site and is a state-of-the-art product that adheres to all applicable safety regulations at the time of delivery. Operating errors can never be completely eliminated by the manufacturer. SONOTEC GmbH is in no way liable for any direct or indirect damage caused by operating errors (e.g. damage on software and / or hardware, damage by downtime, damage by malfunction as well as damage or loss of measurement and test data).

It lies within the responsibility of the users to ensure that the product has been installed and set-up properly and is used in a manner that does not impair safe operation.

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