EN

IDIAG P100

User manual

Version 1.0

IDIAG

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1 Notes on the Idiag P100 User Manual

Read this manual before unpacking and using the Idiag P100. This user manual contains information on how to use and maintain the Idiag P100 and also how to avoid potential risks.

1.1 Storage

This manual must be stored in printed or electronic form in an easily accessible location for all users. If the device is re-sold, the manual must also be supplied in printed or electronic form.

1.2 Users

It is recommended that the Idiag P100 is only used by persons who have made themselves familiar with the Idiag P100 hardware in advance by reading the user manual.

1.3 Instructions for use

This user manual is also available in PDF format. Hyperlinks and bookmarks allow links to be opened quickly. Moreover, the search function facilitates efficient searching for keywords.

1.4 Icons used

Icons in the user manual

Danger!
Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

Warning!
Indicates a potentially hazardous situation which, if not avoided, may result in death or serious injury.

Caution!
Indicates a possibly hazardous situation which, if not avoided, may result in minor or slight injuries or damage to property.

Tip
Highlights useful tips, recommendations and information for achieving efficient, fault-free operation.

Icons on the device

IPX2 protection against dripping water

D.C. voltage power supply

Observe the operating instructions

The Idiag P100 may not be disposed of together with normal household waste. Before disposing of this product please consult your local authority or your dealer and enquire about the correct method of disposal.

Conforms to Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits.

2 Important safety advice

Warning!

- Read the quick reference guide or this user manual before using the Idiag P100.
- Avoid hazardous situations that are marked “WARNING”.
- Any repair or servicing work may only be carried out by authorised personnel.

2.1 Intended usage

- The Idiag P100 is intended for performing respiratory muscle training with the purpose of improving pulmonary function, respiratory muscle strength and physical condition.
- The use of the device is limited to the predefined purpose and application as described in this user manual. See also Chapter 12.4 “Storage conditions”.
- The underlying principle of the Idiag P100 is forced respiration with controlled CO_2-rebreathing, or so-called isocapnic hyperpnoea.
- The Idiag P100 serves to improve lung function and respiratory muscle strength and also reduce the feeling of breathlessness, which have positive effects on physical condition and quality of life.
- Idiag P100 training is performed approx. 4-5 times a week. Depending upon the desired performance improvement, the training mode, together with the duration and frequency of training sessions, can be varied.
- Using the device in combination with other devices is not permitted.
- The device may not be changed or modified.

Warning!

- The device may only be used for the intended purpose described in this user manual and for its intended application.
- Only use the device after you have read this user manual and understood its contents.
- Never use the device for training without turning it on. Otherwise the electronic monitoring system will not work.
- Only use the device in accordance with the instructions in this user manual.
- Correctly setting-up the device is a pre-requisite for successful training.
- Only breathe through your mouth during training. Use a nose clip if necessary.
- The device may not be used in the vicinity of flammable gas mixtures or gas mixtures of air, oxygen or nitrous oxide (e.g. anaesthetic gases).
- Training must be interrupted in the event of discomfort or illness.
- In rare instances training may cause dizziness, shortness of breath, headaches, nausea or vestibular disorders. In such cases training must be stopped immediately.
- The user carries full responsibility for all types of training application. Idiag assumes no responsibility for the training application.
- Idiag shall not be liable for any side effects whatsoever that occur following training with the Idiag P100.
- Observe the hygiene requirements set out in Chapter 11 “Maintenance” (see page 24).
- The breathing bag is made of TPU and the mouthpiece of silicone. Both components are supplied with the Idiag P100 and neither contain latex. Other OEM breathing bags and/or mouthpieces may contain latex. Latex may trigger allergic reactions. If you are allergic to latex only use breathing bags and mouthpieces made of silicone.
- The device may not be used by persons with reduced physical, sensory or mental capabilities or who have insufficient experience or knowledge, unless they are supervised or under instruction.
- Children may not play with the device even if supervised.
- The maximum sea level at which the device may be used is 2,000 m ASL.

3 Description the Idiag P100

3.1 Component parts of the device

You must first assemble the device according to the instructions in Chapter 9.2 “Assembling the Idiag P100” (the actual parts may deviate slightly from those shown).

3.2 Additional parts

The Idiag P100sport App can be downloaded for iOS and Android from the respective App Stores. Links to the current version of the App can be found on our website at https://www.idiag.ch/p100app/.
The app is needed to activate all available training modules.

4 Introduction

The Idiag P100 is an ergonomic hand-held respiratory muscle training device. It was developed in collaboration with the Swiss Federal Institute for Technology Zurich (ETH) the Berne University of Applied Sciences (BFH) and the University of Zurich (UZH). The consistent usage of the Idiag P100 promises a significant improvement in respiratory muscle strength and overall physical performance capacity in people at various levels of performance.

The Idiag P100 provides the user with respiratory feedback, allowing him to complete controlled bouts of exercise. The device measures airflow, pressure and end-tidal CO_2 concentration. This allows ventilation and CO_2 concentrations to be regulated, thereby preventing the occurrence of hyper- and hypo-ventilation and dizziness.

The Idiag P100 offers users a range of monitored training modules such as endurance training and strength training of the respiratory muscles. The training protocol is automatically customised on the basis of the respiratory muscle assessment test carried out by the user with the Idiag P100.

5 Indications

The Idiag P100 is fundamentally recommended for use by people who intend to train their respiratory muscles. However, none of the contraindications listed below may be present.

6 Contraindications

- Age < 6 years
- Doctor's recommendation to avoid physical stress
- Pregnancy
- Acute disease of the respiratory tract (e.g. common cold, inflammation of the respiratory tract, pneumonia)
- Spontaneous or traumatic pneumothorax
- Pulmonary hypertension
- Artificial respiration
- Sinusitis (inflammation of the paranasal sinuses)
- Injury to the eardrum
- Chest trauma injuries
- Fractures to the chest (e.g. broken ribs)
- The acute phase following a heart attack
- Acute heart failure

7 Adverse effects

Idiag has selected all materials that come into contact with users with the greatest care. Only biocompatible materials are used. Despite this precaution, it cannot be completely ruled out that reactions may occur in the user under exceptional circumstances. Watch for the signs of an allergic reaction. If such reactions occur, do not continue using the Idiag P100. Please have the situation clarified by a doctor first.

8 Risk factors

The decision regarding whether the user is compatible with training is always the responsibility of the user himself. The relationship between the potential risks and side effects of training versus its benefits is different in each individual case. Weighing up the risks and benefits is therefore the responsibility of the user.

9 Before operating the Idiag P100

9.1 Charging, installing and removing the battery

CAUTION

Incorrectly installing the battery or reversing polarity may damage the Idiag P100 or the battery.

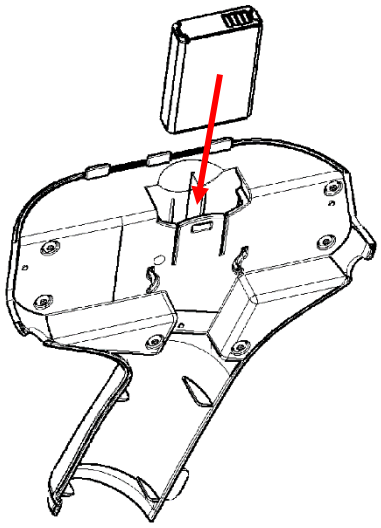
The following situations require the battery to be charged:

- Before first use
- The Idiag P100 will display the low-battery icon.

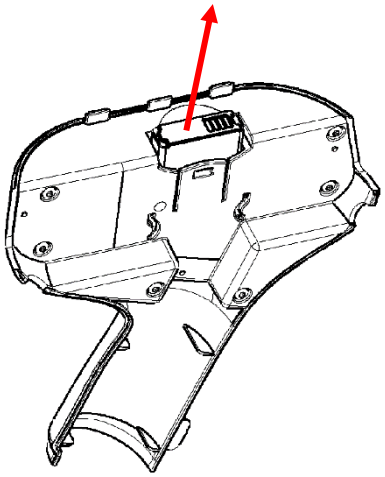
Procedure

Open the Idiag P100 by pulling the opening aid on the detachable module and install the battery as shown. Before closing, carefully check that the battery is correctly positioned.

Installing the battery



Removing the battery



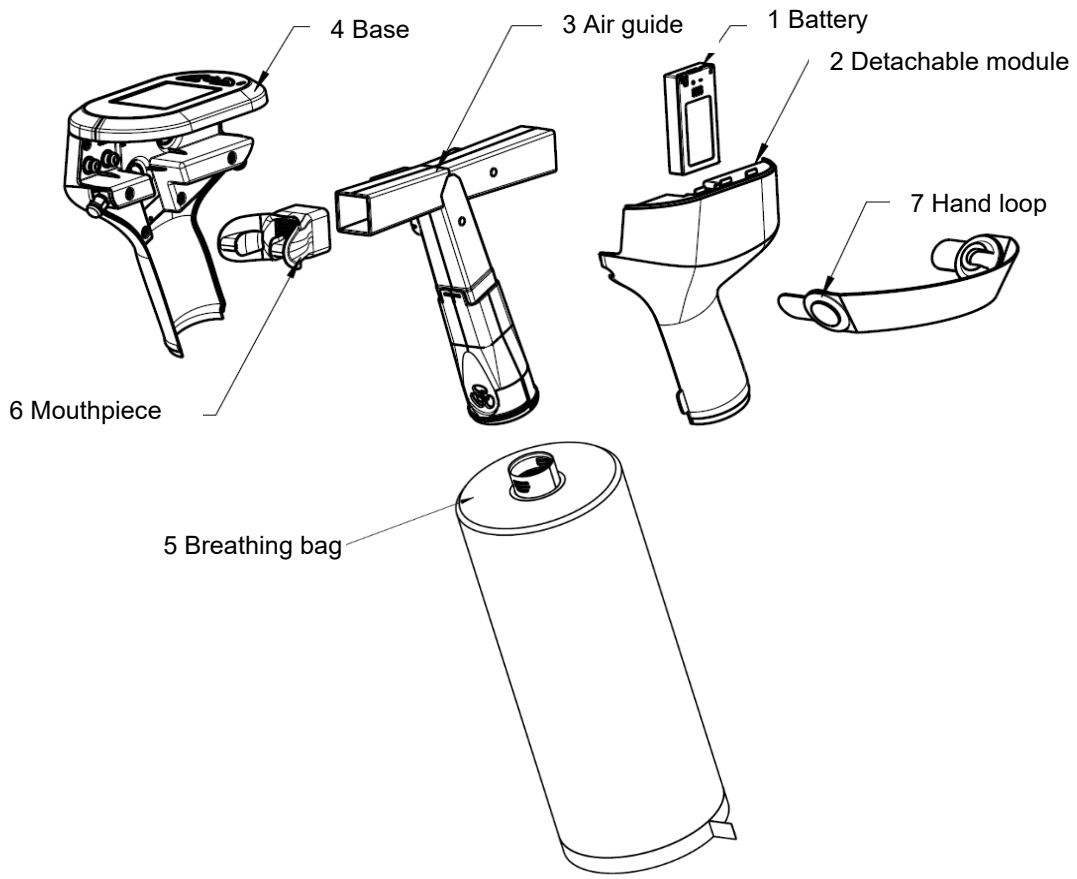
CAUTION

Warnings

- The device may only be used with the supplied battery and associated charger.
- Remove the battery from the device before charging it.
- Remove the battery from the device if it is not to be used for a longer period (several days or weeks).
- Do not dismantle the battery.
- Do not short-circuit the battery terminals.
- Do not subject the battery to shocks or jolts etc.
- Do not touch damaged or leaking batteries.
- Keep batteries away from small children.
- Protect the battery against moisture.
- Protect the environment by disposing of old or used batteries in the proper manner.
- Batteries that can no longer be charged must be removed from the device and disposed of safely.

- The service life of the battery depends upon the level of use of the Idiag P100 (Chapter 13 “Technical specifications”).

9.2 Assembling the P100



CAUTION

Prepare your Idiag P100 before first use in accordance with Chapter 11 “Maintenance”.

Attaching the breathing components

1. Place all parts on a table as illustrated above.
2. Insert the battery 1 into the detachable module 2 as described in Chapter 9.1 “Charging, installing and removing the battery’’.
3. Clean and disinfect the air-guiding parts (air guide, mouthpiece and breathing bag) in accordance with the instructions in Chapter 11 “Maintenance”.
4. Insert the air guide 3 into the base module 4. Ensure the air guide 3 is properly inserted into the base module 4 by pressing it into place.
5. Close the Idiag P100 by assembling the base module 4 with the inserted air guide 3 and the detachable module 2 with the inserted battery 1. To do this, place the detachable module 2 at a 45-degree angle, flush to the base module 4 and bring the two halves of the grip together. Once it has been correctly assembled, the unit will beep.
6. Screw the breathing bag 5 at the bottom of the grip to the air guide 3 of the Idiag P100.
7. Adjust the breathing bag 5 to match your breathing capacity.
8. Push the mouthpiece 6 over the open end of the air guide 3.
9. If required, clip the hand loops 7 to the silver pins on the front and rear of the base module 4. To remove the hand loop, pull the tab at the end of the hand loop transversely to the pin until the mount releases from the pin.

To disassemble the Idiag P100 proceed in reverse order.

Determining the bag size

Breathing bag size	Height – female [cm]	Height – male [cm]
XS	<135	<120
L	135-160	120-145
M	160-185	145-180
L	185-200	180-200
XL	>200	>200

9.3 General commands

On/Off button

Press the On/Off button for at least one second to turn the Idiag P100 on and off.

When turning the device on hold it as still as possible or place it on a firm surface.

Back to previous screen

Navigate downwards on the current screen

Navigate upwards on the current screen

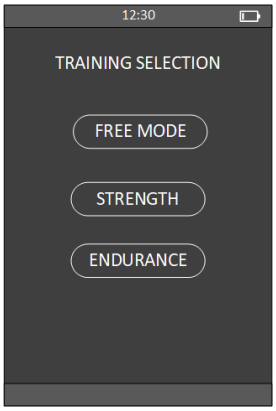
Open loudspeaker settings

Results

Training settings

9.4 Turning the device on and free training

When the device is turned on for the first time the available training modes appear for selection.



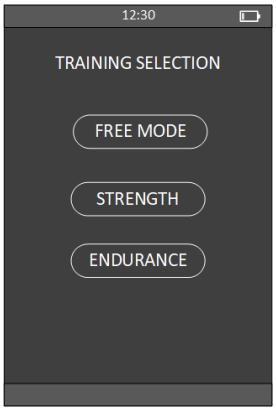
If all of the training modes do not appear when the device is switched on, follow the instructions on the display to download the Idiag P100sport App and activate the other training modes.

FREE TRAINING: This allows you to immediately commence free training. This mode offers free respiratory training with CO_2 regulation, but without individual training settings.

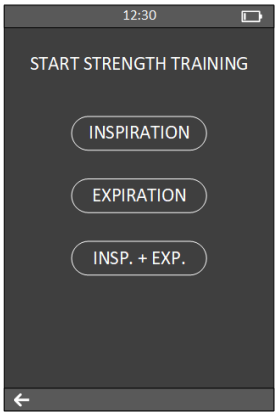
STRENGTH TRAINING: In “Strength” mode you train your respiratory muscle strength with short, intensive bouts of exercise. Before training for the first time, or as necessary, you can take the assessment test to automatically determine your training settings. The parameters can also be manually adjusted at any time.

ENDURANCE TRAINING: In “Endurance” mode you train your respiratory muscle endurance according to the “isocapnic hyperpnoea” principle. Regulating the CO_2 content of your breathing air allows you to train for up to 30 minutes at a time. Before training for the first time, or as necessary, you can take the assessment test to automatically determine your training settings. The parameters can also be manually adjusted at any time.

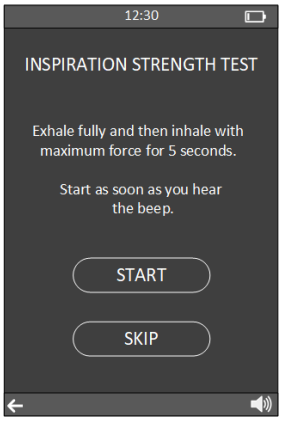
9.5 Starting a strength training session



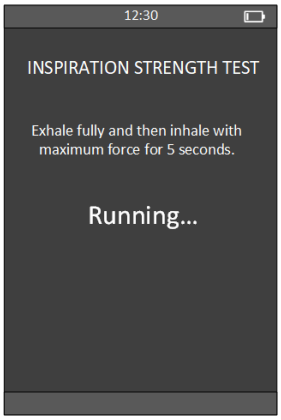
1. Select the Strength training mode by tapping STRENGTH.



2. On the next screen select INSPIRATION for inspiratory muscle strength training, EXPIRATION for expiratory muscle strength training, or INSP. + EXP. For combined muscle strength training. Select the arrow to return to step 1.

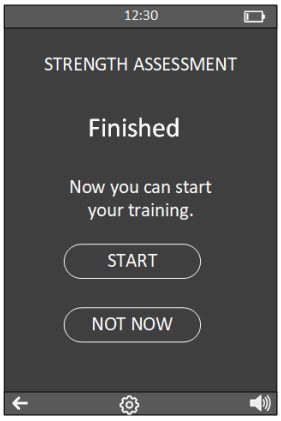


3. If no strength test results are saved on the device or if the last test took place more than two weeks ago, a test is recommended in the next step (e.g. the inspiration strength test, as shown here). Tap START to begin the test or SKIP to skip the test (go directly to step 5b).
(If a test is already saved or if the last test took place less than two weeks ago this step is skipped automatically. Go directly to step 5b).

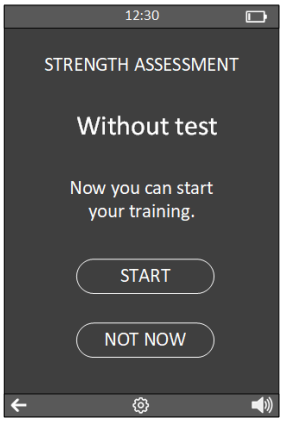


4. On the next screen, follow the instructions on the device (e.g. the inspiration strength test, as shown here).

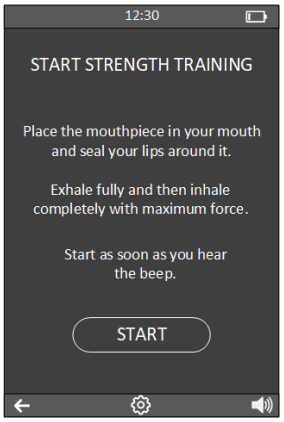
> **CAUTION** Breathe calmly and slowly. If you become dizzy or unwell stop the test and only continue once you are able to breathe calmly and slowly again.



5a. After you have successfully completed the respiratory muscle strength test, the training settings are configured in accordance with the test results (30 breaths, pressure threshold at 50% of the maximum measured strength). Training can be started by tapping START or you can return to the training mode selection screen by tapping LATER.



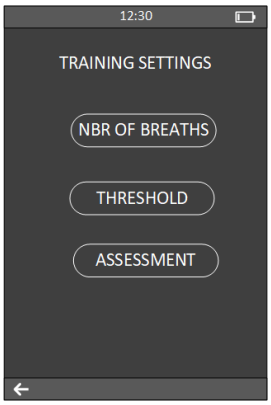
5b. Tap START to begin training with the previous test results. If no test results are available, training takes place with the default settings. Tapping NOT NOW takes you back to the originally selected training mode.



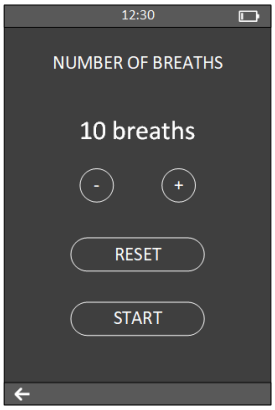
6. Read the training guide on the device carefully and then tap START to begin training (e.g. the inspiration strength test, as shown here). Go to step 9 for a description of the test procedure. To change the training settings, tap TRAINING SETTINGS (⚙) at the lower edge of the screen. Tap the back arrow to return to step 1.

CAUTION

Breathe calmly and slowly. If you become dizzy or unwell stop the test and continue only once you are able to breathe calmly and slowly again.



7. To set the training duration, tap NUMBER OF BREATHS (step 8a). To set the training intensity, tap THRESHOLD (step 8b). Tap the arrow to return to step 6.



8a. Change the number of breaths by tapping +/-. Tap RESET to return to the original values. Tap START to begin training (step 9). Tap the arrow to return to step 7.

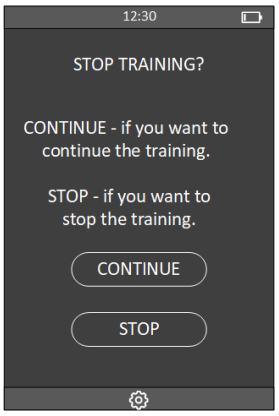
8b. Change the breathing resistance by tapping +/-. Tap RESET to return to the original values. Tap START to begin training (step 9). Tap the arrow to return to step 7.

9. Perform training as specified by the device (see Chapter 10, Respiratory feedback). The intensity and duration can be changed during training using the hard buttons.

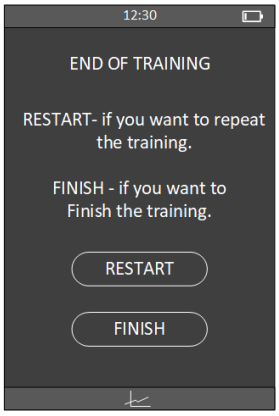
Reduces breathing resistance by max. 5%.

Pause training by pressing for > 1s (jumps to step 10a)

Increases breathing resistance by max. 5%.



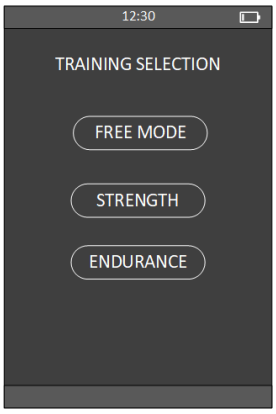
10a. Tap CONTINUE to continue training without any changes. Tap STOP to stop training and go to the currently selected training mode (step 6). Select TRAINING SETTINGS ( ) to change the current training settings (step 7).



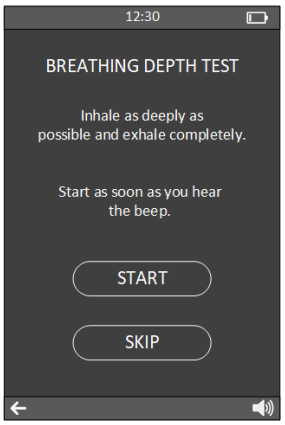
10b. Training completed successfully. Tap RESTART to start training again with the same settings (step 6). Tap FINISH to go to the training mode selection screen. Tap TRAINING RESULTS ( ) to view the results of the concluded training session.

11. Training results – strength training. Tap the arrow to return to the previous screen (step 10b).

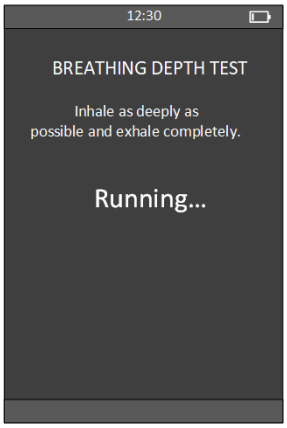
9.6 Starting endurance training



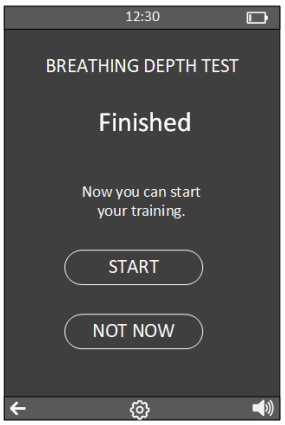
1. Select the endurance module by tapping ENDURANCE.



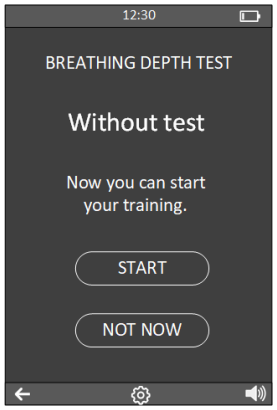
2. If no endurance test results are saved on the device or if the last test took place more than two weeks ago, a breathing depth test is recommended in the next step. Tap START to begin the test or SKIP to skip the test (go directly to step 6b).



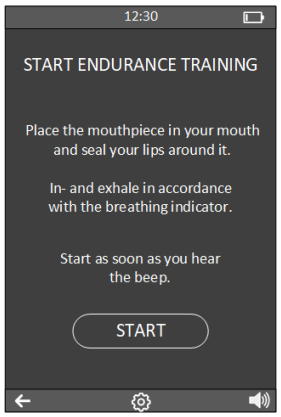
3. Follow the instructions on the device.



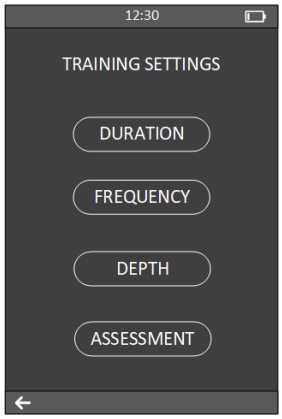
4a. As soon as the respiratory muscle endurance test has been successfully concluded, the training settings will be configured in accordance with the test results. Training can be started by tapping START or you can return to the training mode selection screen by tapping NOT NOW.



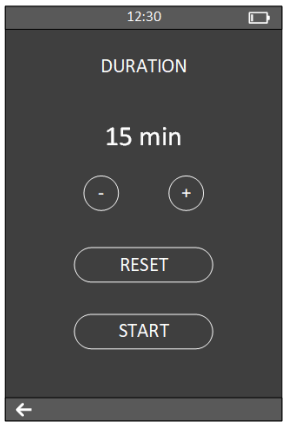
4b. Tap START to begin training using the settings determined during the respiratory muscle endurance test. If no test results are available, training takes place with the default settings. Tapping NOT NOW takes you back to the originally selected training mode.



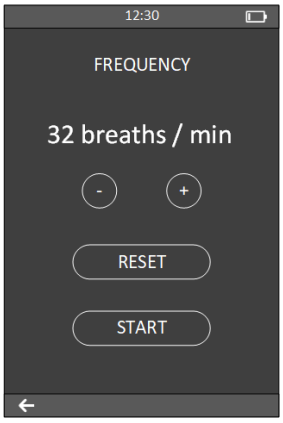
5. Read the training guide on the device carefully and then tap START to begin training. Go to step 8. To change the training settings, tap TRAINING SETTINGS (⚙) at the lower edge of the screen. Tap the arrow to return to step 1.



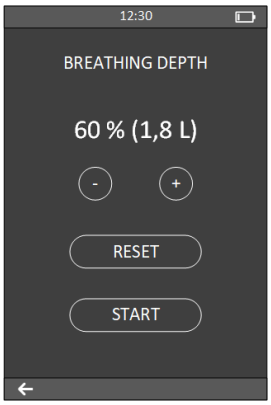
6. To set the training duration, tap DURATION (step 7a). To set the breathing frequency, tap FREQUENCY (step 7b). To set the depth of respiration, tap DEPTH (step 7c). Tap the arrow at the bottom edge of the screen to return to step 4.



7a. Change the duration of training by tapping +/-. Tap RESET to return to the original values. Tap START to begin training (step 10). Select the arrow to return to step 8.



7b. Change the breathing frequency by tapping +/-. Tap RESET to return to the original values. Tap START to begin training (step 8). Tap the arrow to return to step 6.



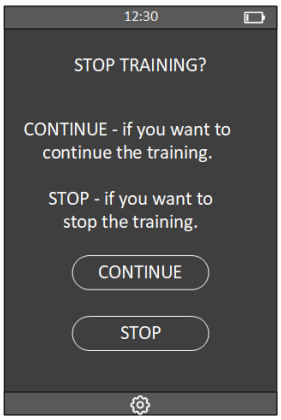
7c. Change the breathing depth by tapping +/-. Tap RESET to return to the original values. Tap START to begin training (step 8). Tap the arrow to return to step 6.

8. Perform training as specified by the device (see Chapter 10, Respiratory feedback). The intensity and duration can be changed during training using the hard (haptic) buttons above the display.

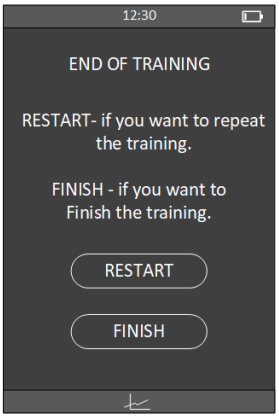
Reduces the breathing frequency by 1 breath/min.

Pause training by pressing for > 1s (jumps to step 11a)

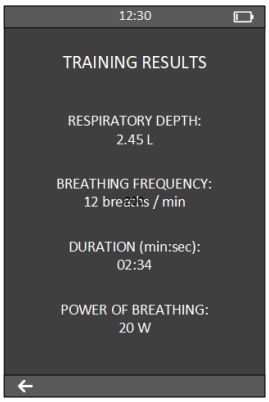
Increases the breathing frequency by 1 breath/min.



9a. Tap CONTINUE to continue training without any changes. Tap STOP to stop training and go to the currently selected training mode (step 5). Select TRAINING SETTINGS (to change the current training settings (step 6).



9b. Training completed successfully. Tap RESTART to start training again with the same settings (step 6). Tap FINISH to go to the training mode selection screen. Tap TRAINING RESULTS
(to view the results of the concluded training session.



10. Training results – endurance training.
Tap the arrow to return to the previous screen (step 9b).

The breathing depth shows you the volume that was set during training.

The breathing frequency shows you how many breaths you took per minute during training.

The duration shows you for how long you trained in minutes and seconds.

The power of breathing shows you an average value of the energy expended during the training session.

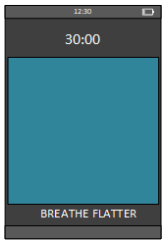
Note
For additional results, result history and calendar function, please download the Idiag P100sport App and follow the instructions in the app.

10 Respiratory feedback

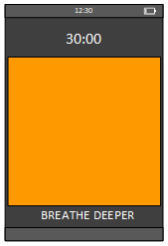
10.1 Visual feedback during endurance training

Breathing depth

Breathing depth OK

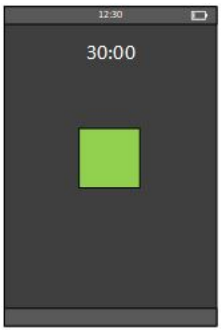


Breathe shallower

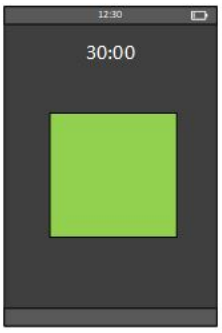


Breathe deeper

Breathing frequency

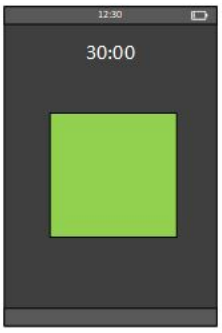


End of expiration

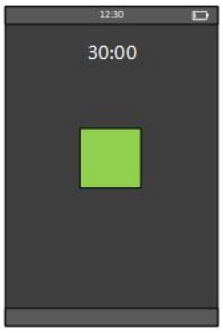


Middle of inspiration

End of inspiration



Middle of expiration



End of expiration

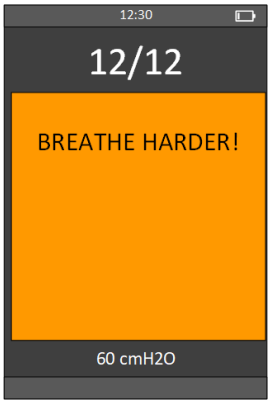
Note
For additional respiratory feedback, please download the Idiag P100sport App and follow the instructions in the app.

10.2 Acoustic feedback during endurance training

The Idiag P100 signals each change between inspiration and expiration and vice-versa with a short beep during visual feedback. The short beep is replaced with a motivating tone if the depth of respiration is too shallow or a calming tone if the depth of respiration is too deep.

10.3 Visual feedback during strength training

Threshold value achieved, successful breath (is counted)



Threshold value not achieved, breath must be repeated with greater force (is not counted)

Note
For additional respiratory feedback, please download the Idiag P100sport App and follow the instructions in the app.

11 Maintenance

11.1 Inspection by the user

Check the Idiag P100 before each training session. If it does not work perfectly, send it to a local point of sale so it can be checked and/or repaired. Repairs may only be carried out by Idiag or an authorised competence centre. Defective or damaged parts may only be replaced with original spare parts.

Warning!

- Clean and disinfect the air-guiding parts before first use in accordance with Chapter 11.3 “Hygiene overview”.
- Check the Idiag P100 for any damage before each training session.
- Never use a damaged or not perfectly functioning Idiag P100.
- Never use an Idiag P100 if its battery is damaged.
- Never open a part of the Idiag P100 if opening that part is not described in Chapter 9 “Before operating the Idiag P100”.

Before each training session:

- Ensure that the Idiag P100 is in hygienically perfect condition (see Chapter 11.2 “General information regarding hygiene”).
- Check the Idiag P100 and its accessories for defective parts, markings and warning information.
- Ensure that you place no one at risk when you are using the Idiag P100 for training.

11.2 General information regarding hygiene

The following chapters deal with maintaining the Idiag P100 from a hygiene perspective.

- For hygiene reasons, the air guide, mouthpiece and breathing bag may only be used by one person. Additional user sets can be purchased from Idiag.
- Clean and disinfect the air-guiding parts after every training session (Chapter 11.3 “Hygiene overview").
- Regularly check the breathing bag and mouthpiece for cracks and leaks.
- Wear parts, particularly the breathing bag and mouthpiece, must be regularly replaced for hygiene and safety reasons according to the information in Chapter 13 “Technical specifications”.
- Immediately replace defective parts with original spare parts.
- Cleaning and disinfecting may cause the colour of the parts to change slightly.

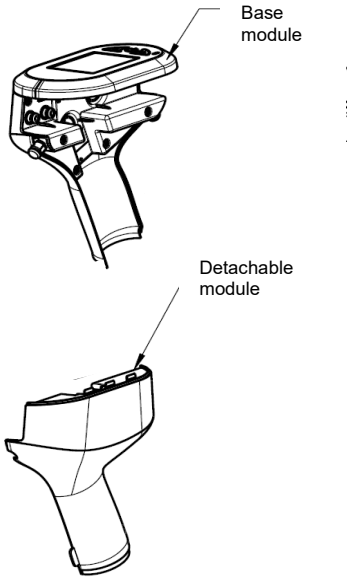
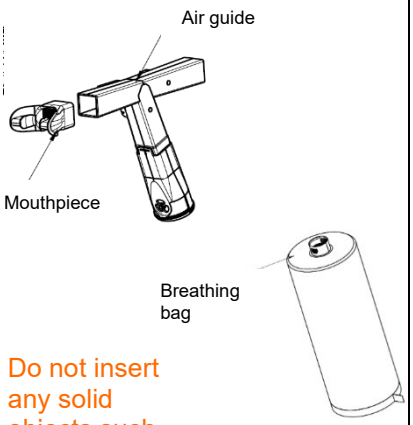
Drying

- Allow all cleaned parts to dry thoroughly before using them again for training and before storing them.
- Always allow the breathing bag to dry with the large opening at the bottom.
- Lay all of the parts on a clean, absorbent surface without covering them.

Storage

- Store the dry air-guiding parts and breathing bag in a clean, dry and dust-free environment.
- Storage of the disinfected parts: Ensure that the parts are completely dry. Comply with general hygiene rules and guidelines for storage (see Chapter 12.4 “Storage conditions”).

11.3 Hygiene overview

Situation	Base module and detachable module	Air-guiding parts
		 Do not insert any solid objects such as brushes, cloths or even your fingers when cleaning the device. These may damage the sensors and mechanism.
Before first use		Clean and disinfect
After each use	Clean as necessary	Clean
Before changing user	Clean	The air-guiding parts are not intended for use by different users!
Every 2-3 weeks	Clean	Clean and disinfect
Replace	See “Technical specifications” on page 28	

11.4 Cleaning

Frequency

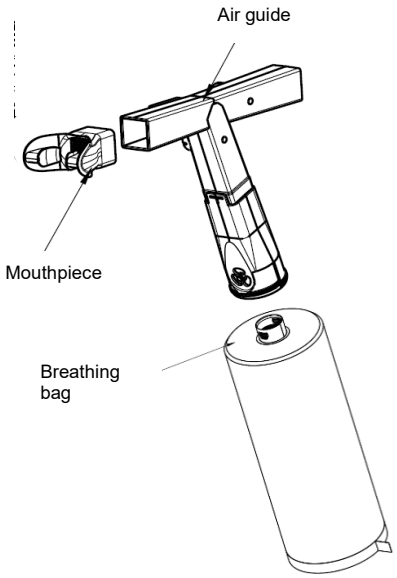
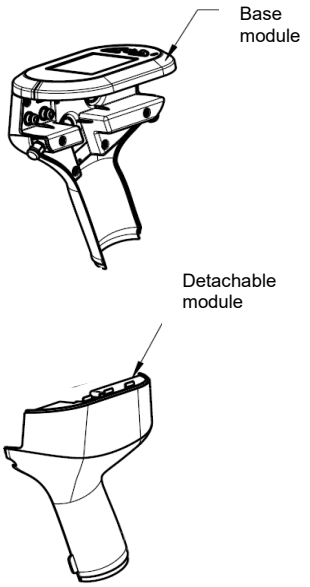
- See table in the preceding Chapter.
- Clean the Idiag P100 parts as required.

Preparation

- Remove the battery before cleaning the Idiag P100.
- Dismantle the air-guiding parts (see Chapter 9.2).

Methods

- Air-guiding parts: wash by hand with water
- Base module and detachable module: Wipe surfaces

Clean	Wash by hand with water  	Wipe surfaces 

Procedure

CAUTION

- Ensure that water or other fluids cannot penetrate the base module or detachable module.
- This precaution prevents electric short circuits and corrosion of the sensitive electronic and mechanical parts.
- Never use corrosive polishes that contain solvents or abrasive cleaning agents.
- Alcohol and solvents will cause the material to become matt or brittle.
- Do not insert any objects such as brushes, cloths or even your fingers when cleaning the air guide! These may damage the sensors and mechanism.

- Hand-held unit: Wipe surfaces with a lint-free cloth dampened with water and mild soap.
- Rinse air-guiding parts by hand.
- Allow all cleaned parts to dry thoroughly before using them again for training and before storing them.
- Allow the breathing bag to dry with the large opening at the bottom.

11.5 Disinfection

Frequency

- See the “Hygiene overview” table in Chapter 11.3.
- Disinfect the Idiag P100 parts as required.

Methods

- Chemical methods (see below)

Preparation

- Remove the battery before disinfecting the Idiag P100
- Dismantle the air-guiding parts (see Chapter 9.2)
- Clean all parts before disinfecting them (see Chapter 11.4 “Cleaning”).

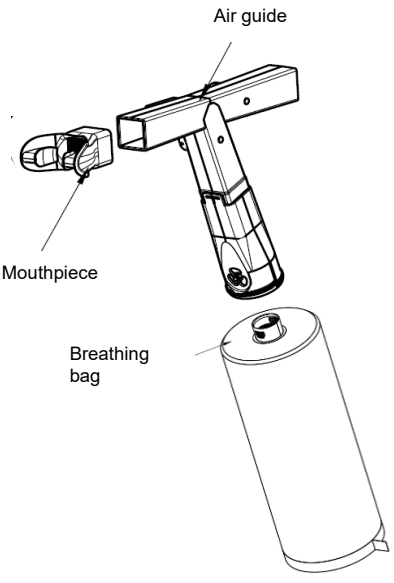
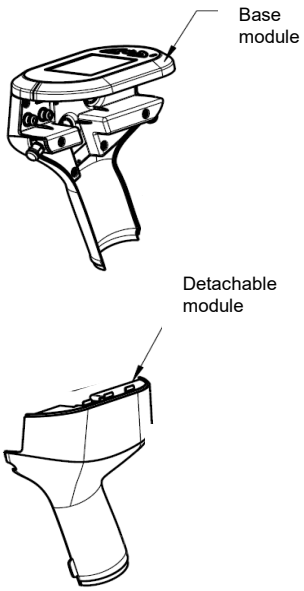
Chemical disinfection

CAUTION

- Disinfection must be carried out in accordance with the general rules and guidelines, taking into account explosion protection requirements.
- Use a disinfectant that does not leave residues.
- Use a disinfectant that is suitable for use on plastic.
- Use a disinfectant that is compatible with the materials (air-guiding parts: PC, silicone, TPU).
- Use a disinfectant that is certified by the German Society for Hygiene and Microbiology (Deutsche Gesellschaft für Hygiene und Mikrobiologie – DGHM).
- Alcohol and other solvents will cause the material to become matt or brittle.
- Never use corrosive polishes that contain solvents or abrasive disinfectants.
- Never expose the device to a disinfectant containing alcohol for more than 5 minutes.
- Never immerse the base module or detachable module in disinfectant.
- The use of a spray is not recommended because the disinfectant could penetrate the mechanical parts of the Idiag P100.

DANGER

If a disinfectant has been used which produces explosive gas mixtures, these must have evaporated before you switch on the device.

Chemical disinfection	Through immersion	Only by wiping the surface
		

Procedure

- First clean all parts according to the instructions in Chapter 11.4 “Cleaning”
- Disinfect the hand-held unit by wiping the surface with a lint-free cloth dampened with disinfectant.
- Disinfect the air-guiding parts in a bath of disinfectant according to the instructions on the disinfectant.
- Open the breathing bag and rinse it with disinfectant.
- After disinfection, rinse the immersed parts with water to remove disinfectant residues and ensure that all parts are allowed to dry thoroughly.

- Allow the breathing bag to dry with the large opening at the bottom.
- See also Chapter 12.4 “Storage conditions”.

CAUTION	**The components of the Idiag P100 are not suitable for disinfection by boiling.**

12 Operating, storage and transport conditions

12.1 General recommendations

- The parts could be damaged by strong vibrations or shocks.
- Always store and transport the Idiag P100 in assembled form.
- Never drop the Idiag P100. Handle the device with care.
- Do not expose the Idiag P100 for long periods to either high or low temperatures or direct sunlight.
- Avoid contact with high levels of humidity and water.
- Do not place heavy objects onto any part of the Idiag P100.
- Remove the battery from the Idiag P100 if you are not going to use the device for a period of several days or longer.

12.2 Operating conditions

- Temperature: +10°C to +40°C (50°F to 104°F)
- Relative humidity: 30% to 90%, non-condensing
- Air pressure: 650 hPa to 1200 hPa
- Typical operating environment: Interior and exterior spaces

DANGER	Do not use the Idiag P100 in the vicinity of flammable or combustible mixtures (e.g. oxygen, anaesthetic).

12.3 Transport conditions

- Temperature: -20°C to +7°C
- Humidity: 10% to 90% relative humidity, non-condensing
- Air pressure: 500 hPa to 1200 hPa
- Remove battery

12.4 Storage conditions

- Temperature: -20°C to +7°C
- Humidity: 10% to 90% relative humidity, non-condensing
- Air pressure: 500 hPa to 1200 hPa
- Remove battery
- Store the Idiag P100 in a dust-free environment.
- Use the original packaging or Idiag-certified accessories for storage.

13 Technical specifications

Dimensions	L x W x H: 188 x 85 x 190 mm	
Weight	approx. 500 g	
Service life	Base module/detachable module:	5 years
	Air guide:	1 year
	Breathing bag:	1 year
	Mouthpiece:	1 year
	Hand loop:	1 year
Battery	RRC1120; 3.7V 2000mAh 7.4Wh; lithium-ion rechargeable battery pack	
Classification	Base module and detachable module: Degree of protection against electric shock: Protection rating III Classification of degree of protection against water ingress: IPX2	
Safety certification:	EN 60335-1 Safety standards for household appliances and similar applications EN 61326-1 Electrical equipment for measurement, control and laboratory use – EMC requirements	

Disinfection method:

	All parts may only be disinfected according to the guidelines in Chapter 11.5 “Disinfection”.

Degree of application safety in the presence of a flammable anaesthetic mixture with air or with oxygen or nitrous oxide: The device is not suitable for use in/contact with flammable mixtures.

Mode of operation: Continuous.

Information regarding faults and fault prevention: This device has been tested and complies with the EMC Directives and the Medical Device Directives IEC 601-1-2:1994. These Directives are designed to provide reasonable protection against harmful interference during typical use in a domestic environment. This device may radiate high frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. If you wear a heart pacemaker or other implanted device, keep at least 20 centimetres away from the Idiag P100. However, there is no guarantee that interference will not occur, even if the device is used in accordance with the instructions. If this device causes harmful interference to other equipment, which can be determined by turning the equipment on and off, it is recommended that the user attempts to correct the interference using one or more of the following measures:

- Increase the distance between the interfering components.
- Contact the manufacturer or a technician for assistance.

14 Troubleshooting (problem/possible cause/solution)

Send any questions about the Idiag P100 and its accessories or equipment to the address on the last page of this user manual. To allow immediate processing and a faster response, please provide a complete return address and the serial number of the Idiag P100 in question.

Problem	Possible cause	Solution
The device does not turn on	Low battery level	Charge the battery and try again
The device does not turn on	Battery not installed correctly	See Chapter 9.1. Ensure that the battery is installed with the contacts the right way around.
The device does not turn on	The detachable module is not correctly fitted	Place the detachable module with its three struts at a 45-degree angle to the base module and then bring the two halves of the grip together. Once it has been correctly assembled, the unit will beep.
The device does not turn on or off or the training intensity cannot be changed.	Defective button/device crashed	Remove the battery and reinstall it. Re-start the device. If the problem persists, return the device to Idiag after contacting us by telephone (see address on last page).
Menu navigation does not work as desired.	Software error	Turn the device off, remove the battery, reinstall it and turn the device on again. If the problem cannot be resolved, check the Idiag P100sport App to see if there are any software updates available.
The air guide is not recognised	Air guide not fitted correctly	Remove the air guide from the base module and refit it. The air guide may need to be pressed on with some force to ensure the contacts connect properly. Ensure that the air guide is completely dry after washing it.
The base module and detachable module cannot be properly connected	The detachable module is not properly engaged	Remove the detachable module and refit it. Ensure that the top Chapter is fitted first, before connecting the handles.
The battery does not charge	Battery not installed correctly	Check that the battery is correctly installed such that the contacts are correctly positioned in the charger. Also check that the mains plug is properly inserted into the charger.
Breathing bag is leaking	The breathing bag is not correctly rolled up	Ensure that the breathing bag is correctly rolled up and sealed before connecting it to the device.
The mouthpiece loses its shape	Normal wear and tear	The mouthpiece is a wear part. If the mouthpiece loses its shape, we recommend that you purchase a new mouthpiece to ensure the best possible training.
Immediately after switching on, a warning signal sounds and the device switches off	Air guide not properly recognised	After cleaning, allow the air guide to dry completely (inside and out), reinsert it and restart the device. Alternatively, check that the detachable module has been correctly inserted into the base module.

15 Disposal

This product, including its associated battery, must not be disposed of together with normal household waste. Before disposing of this product please consult your local authority or your dealer and enquire about the correct method of disposal.

16 Warranty

Dear Customer,
Congratulations on your purchase of the Idiag P100 and thank you very much for placing your trust in us. The Idiag P100 was developed according to the latest scientific findings and manufactured using cutting edge production methods. The selected materials ensure reliable function and a long service life. Should the Idiag P100 still require service under warranty, please contact the address listed on the last page.

16.1 Warranty conditions

Idiag grants a two-year warranty from the date of sale which covers production and material defects. Warranty service can only be provided if the Idiag P100 is returned in its original packaging together with the original invoice.

16.2 Warranty coverage

The warranty covers repair of the device free of charge. Shipping, packaging, insurance and other costs shall be borne by the buyer.
The following items are excepted from the warranty:

- Battery, air guide, breathing bag, hand loops and mouthpiece
- Repair or replacement of parts due to normal wear and tear.
- Transport costs and risks directly or indirectly related to this device warranty.
- Damage to this device caused by:
    - Misuse and abuse, especially if the Idiag P100 is used for a purpose other than for which it is intended or if the operating and maintenance instructions are not observed.
    - Unauthorised modification of the hardware and software to rectify suspected defects. Only a customer service organisation authorised by the manufacturer may perform any necessary repairs.
    - Accidents, force majeure or other causes beyond Idiag's control, such as water damage, fire, unauthorised modifications, alterations or acid damage caused by leaking batteries.
- The warranty extends only to devices sold by Idiag.
- This warranty does not affect consumers' statutory rights under correspondingly applicable national law. Unless applicable national law stipulates otherwise, consumers' claims shall be limited to the provisions of this warranty and Idiag shall accept no further liability for direct or indirect damages.

16.3 Legal provisions

Idiag accepts no liability whatsoever for training recommendations and their consequences made on the basis of data from the Idiag P100. Without a diagnostic assessment by a medical professional the data provides no basis for a decision on further treatment. The responsibility for evaluating and interpreting the results lies solely with the executing professional.

16.4 Limitation of liability

Idiag shall not be liable for any detriments such as loss of profit, economic loss or other consequential damages, even if Idiag had been informed of the possibility of such damages. This limitation also applies to third parties. In some countries the exclusion or limitation of liability for certain consequential damages is not permitted. The above statements may, therefore, not apply to you.

Idiag accepts no liability for damages caused by improper use or incorrect operation. Idiag shall not be held liable for damages caused by failure to observe the instructions in this user manual.

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