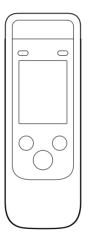




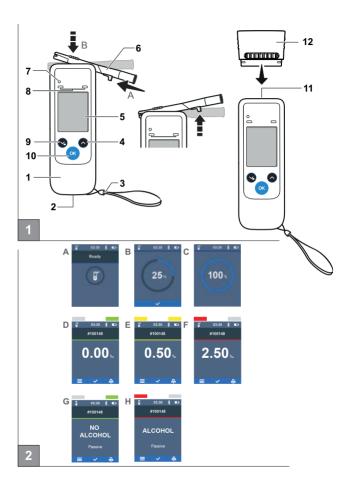
Dräger Alcotest® 7000



Instructions for use

enUS · fr

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1 Safety information

- Before using this product, carefully read these instructions for use and those of the associated products.
- Strictly follow the instructions for use. The user must fully understand and strictly observe the instructions. Use the product only for the purposes specified in the intended use section of this document
- Do not dispose of the instructions for use. Ensure that they are stored and used appropriately by the user.
- Only trained and competent users are permitted to use this product.
- Do not use a faulty or incomplete product. Do not modify the product.
- Notify Dräger in the event of any component fault or failure.
- Comply with all local and national rules and regulations associated with this product.
- Only trained and competent personnel are permitted to inspect, repair and service the product. Dräger recommend a Dräger service contract for all maintenance activities and that all repairs are carried out by Dräger.
- Use only genuine Dräger spare parts and accessories. Otherwise, the proper functioning of the product may be impaired.
- Only use battery chargers, power packs, batteries, or rechargeable batteries that Dräger has approved for this product.
- The power supply unit 3701090 has not been approved for maritime application.

i These instructions for use are available in further languages and can be downloaded in electronic form on the according product website (www.draeger.com) or a printed version can be ordered free of charge via Dräger or specialist shops.

2 Conventions in this document

2.1 Meaning of the warning notes

The following warning notes are used in this document to notify users of possible dangers. The meanings of the warning notes are defined as follows:

Alert icon	Signal word	Classification of warning
\triangle	WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
lack	CAUTION	Indicates a potentially hazardous situation which, if not avoided, could result in injury. It may also be used to alert against unsafe practices.
	NOTICE	Indicates a potentially hazardous situation which, if not avoided, could result in damage to the product or environment.

2.2 Typographical conventions

- **Text** Text marked in bold denotes labeling on the device and on-screen messages.
- This triangle labels possible methods of avoiding the hazards mentioned in warning notices.
- The greater-than sign denotes the navigational path in a menu.
- This symbol denotes information that make using the product easier.

3 Description

3.1 Product overview

See Figure 1 on the fold-out page:

- 1 Breath alcohol testing device
- 2 USB-C port
- 3 Wrist strap
- 5 Display
- 6 Mouthpiece
- 7 Brightness sensor
- 8 LFDs
- 9 button (load menu; set value)
- 11 Mouthpiece receptacle/funnel receptacle
- 12 Funnel

3.2 Intended use

The Dräger Alcotest[®] 7000 breath alcohol testing device¹⁾ is used to measure the concentration of alcohol vapor in a person's breath. This measurement is then used to determine a person's blood alcohol level. The measurement should not be used as grounds for medical or therapeutic treatment.

¹⁾ Alcotest® is a registered trademark of Dräger.



4 Use

4.1 Starting the device for the first time

4.1.1 Attaching the wrist strap

Use the wrist strap (3) to secure the device to the wrist (see Figure 1 on the fold-out page).

- Thread the fastening lug of the wrist strap through the hole in the casing and open up the loop.
- 2. Pull the lower part of the wrist strap through the loop that has just been made.

4.1.2 Charging the rechargeable battery

Observe the following information: "Charging the rechargeable battery", page 24.

4.1.3 Inserting batteries (for battery-operated devices)

Observe the following information: "Replacing the Batteries", page 25.

4.1.4 Turning on the device/setup wizard

The brightness of the display automatically adapts to ambient conditions.

If the brightness sensor (7) - see Figure 1 on the fold-out page - is covered over, the device dims the brightness of the display, making it difficult to read the display in bright light conditions.

Never cover the brightness sensor with labels etc.

- Press the button for approximately 2 seconds to turn on the device.
- The setup wizard opens.
 This step does not apply in the case of preconfigured devices.

The setup wizard will configure the following settings:

- Language
- Date format

- Date
- Time format
- Time
- Measurement module

All settings can be altered at any time via the menu.

4.2 Menu

To access the menu:

Press the button.

To access the context menu:

Press the button.

To navigate to the menu or to configure the settings:

- 1. Press the or button.
- Press the solution to confirm the selected function/input.

To exit the menu:

- In the sub-menus, select Back.
- In the main menu, select *Measuring*.

4.3 Prerequisites for Use

i The device is adjusted in the factory before delivery. Dräger recommends that the device be adjusted every 12 months by DrägerService.

- Wait at least 15 minutes after consuming alcohol.
- This wait time cannot be shortened by rinsing the mouth with water or non-alcoholic drinks.
- Residual mouth alcohol or flavored drinks (e.g. fruit juice), breath sprays containing alcohol, medicinal juices and drops can distort the result.
- Belching and vomiting can distort the result.

- Drafts and climatic conditions such as wind, moisture and dust can distort the result when performing the measurements with the funnel.
- If the device is used for maritime application, a distance of 5 m to the compass must be complied with.

4.4 Preparations for use

- Ensure that the rechargeable battery is charged or that the batteries (for battery-operated devices) have been inserted.
- 2. Press the obutton to turn on the device.
 - ⇒ A self-test is carried out. When the device is ready for measuring: Wait for the display to indicate that the device is ready (see A in Figure 2 on the foldout page).

4.4.1 Before sampling

- The subject must be breathing calmly and steadily.
- The subject should be able to provide the minimum volume of breath (>1.2 L) required for sampling.

4.5 Changing the measuring mode

By default, the device is set to measuring using the mouthpiece. The measuring mode must be changed before measuring using the funnel.

i The active measuring mode is indicated by a corresponding symbol (mouthpiece or funnel) on the display.

To change the measuring mode:

- 1. Press the button to access the context menu.
- 2. Select Funnel.
- 3. Press the on button.
- √ The funnel measuring mode is now set.

 The measuring mode remains set until it is changed in the menu or the device is restarted. Restarting returns the device to the mouthpiece measuring mode.

4.6 Breath sample

4.6.1 Taking an automatic breath sample

i Use a new mouthpiece for each measurement.

Do not expose the sensor to high alcohol concentrations, e.g. by rinsing the mouth with alcoholic drinks with a high alcohol proof shortly before the measurement. Doing so shortens the life span of the sensor.

i Before taking the breath sample, ensure that the correct measuring mode has been selected.

- Remove the mouthpiece (see "Order list", page 29) from its packaging. For hygiene reasons, keep the mouth contact area covered by the packaging to protect it until the mouthpiece is firmly attached to the device.
- Position the mouthpiece at an angle with the serrated marking (contact surface) facing upward and push it up and into the mouthpiece receptacle (see Figure 1 on the fold-out page).
 - ⇒ The mouthpiece audibly clicks into place.
 - i The mouthpiece can be used at a left or right angle.
- 3. Fully remove the packaging.
- 4. Blow evenly and without interruption into the mouthpiece.
 - ⇒ A circular progress bar indicating progress as a percentage value is displayed (see the fold-out page, Figure 2: B, C).

4.6.1.1 Reading the result

i The following settings depend on the configuration.

The preconfigured alcohol threshold values determine when the yellow or red indicator lights up.

Three types of results are possible.

 No alcohol detected (see the fold-out page, Figure 2: D). The green indicator also lights up. The device is ready for use again after 2 seconds.

Or

Low level of alcohol detected (see the fold-out page, Figure 2: E).
 The yellow indicator also lights up. Press the button to proceed with the next measurement.

Or

 Alcohol detected (see the fold-out page, Figure 2: F). The red indicator also lights up. Press the button to proceed with the next measurement.

Once the sensor's recovery time has elapsed (see "Technical data", page 27), the display indicates that the device is ready for measurement.

 Repeat step four of the process for taking an automatic breath sample.

With passive breath samples

Two types of results are possible.

 No alcohol detected (see the fold-out page, Figure 2: G). The green indicator also lights up. Press the button to continue with the next measurement.

Or

 Alcohol detected (see the fold-out page, Figure 2: H). The red indicator also lights up. Press the button to continue with the next measurement.

4.6.2 Taking a manual breath sample (optional)

If the subject cannot provide the required minimum volume of breath, manual sampling can be activated.

To take a manual breath sample:

- Follow steps one to four of the process for taking an automatic breath sample.
- 2. Briefly press the button if the circular progress bar is displayed once breath sampling has begun.
 - ⇒ In the results display, *MANUAL* is also displayed.

4.6.3 Taking a passive breath sample (optional)

During passive sampling, sampling is manually activated by the user of the device. Possible applications for this include testing the ambient air or a person's breath for the presence of alcohol.

To take a passive breath sample:

- Hold the ready device without the mouthpiece in the air to be analyzed.
- 2. Briefly press the obutton to start the measurement.
 - ⇒ If alcohol is detected, the message ALCOHOL is displayed and the red LED lights up.
 - ⇒ If no alcohol is detected, the message NO ALC. is displayed and the green LED lights up.
 - ⇒ In the results display, PASSIVE is also displayed.

4.6.4 Low-volume breath sample (optional)

If the subject cannot provide the required minimum volume of breath, a sample with a low volume can be taken. To take a breath sample with a low volume, this option must be activated in the device menu.

When a breath sample is taken, the device checks whether this option is activated. When the option is active, the device may take an early breath sample and display **Low volume** next to the result.

4.7 Breath sampling with the funnel

4.7.1 Taking a breath sample

A CAUTION

Hygiene

- ▶ Do not touch the upper part of the funnel.
- Always maintain a distance of 2–3 cm from the subject or object to be tested.
- Do not touch excretions, surfaces or a subject's skin with the funnel.
- Avoid direct contact with substances to be tested.
- Replace contaminated funnels.

A CAUTION

Incorrect measurement results

If multiple samples are taken over a short period of time, there is a risk of condensation building up inside the funnel and entering the device.

- ▶ Replace the funnel if condensation or drops are visible.
- i Before taking the breath sample, ensure that the correct measuring mode has been selected.
- 1. Remove the funnel from its packaging.
- Hold the funnel using the grip areas on the sides and attach it firmly to the top of the device (it can only point in one direction).

- Ask the subject to blow evenly and without interruption into the funnel without touching it.
 - ⇒ A continuous tone signals a sufficient flow of air.
 - ⇒ While the sample is being taken, an animated circular progress bar that also indicates progress as a percentage value is displayed (see B and C in Figure 2 on the fold-out page).
 - ⇒ If sampling was successful, the tone ends with a clear, audible click.
 - ⇒ The display shows a spinning progress bar during an ongoing analysis process.
 - ⇒ The result is displayed after a few seconds and stored by the device.

4.7.1.1 Reading the result

For further information see: "Reading the result", page 14.

4.8 Turning off the device

Press and hold the button. The device turns off after 3 seconds

i The device turns off automatically after 4 minutes of not being used.

4.9 Removing the mouthpiece

 Push the mouthpiece out of the mouthpiece receptacle in an upward motion and dispose of it (see Figure 1 on the fold-out page).

4.10 Removing the funnel

 Hold the funnel using the grip areas on its sides, pull it out of the device in an upward motion and dispose of it.

4.11 Menu items

The menu (see "Menu", page 11) contains the following items:

4.11.1 Test results

Displays all stored results with the measuring mode, measuring unit, date, time and sample number, including whether the sample was taken manually or passively.

4.11.2 Info screen

Displays the part number and serial number of the device, the firmware and database versions and the date of the last service.

4.11.3 Next service

Displays the time until readjustment or service is due in days.

4.11.4 Bluetooth®

NOTICE

Risk of other devices malfunctioning.

This device contains the Bluetooth[®] function. Bluetooth[®] must not be used on aircrafts.

▶ Do not enable Bluetooth[®] when on aircraft.

i The device is ready to print via Bluetooth® and to connect to an app via Bluetooth®.

An active Bluetooth[®] connection is indicated by the Bluetooth[®] symbol on the display.

Turns the Bluetooth[®] feature on or off. Displays coupled and last used printers. Searches for available printers and removes printers.

Bluetooth ON/OFF:

- Select Bluetooth[®] On or Off with the or button.
- Press to confirm.

Recent devices:

- Select the printer using the and buttons.
- Press or to confirm.
- ⇒ The Bluetooth[®] connection to the printer is established. The printer appears in the menu.

Scan for devices:

- 1. Press .
 - ⇒ The device searches for available printers and displays them.

■ To couple and connect a printer for the first time, see the Dräger Mobile Printer BT instructions for use.

Remove device:

- Select the printer using the and buttons.
- 2. Press on to confirm.
- Press or to confirm the query.
 - \Rightarrow The printer is removed.

4.11.5 Date and time

Sets the format, date and time.

- Select the date or time format using the or button.
- Press on to confirm.
- Change the digits using the and buttons.
- Press on to confirm.

4.11.6 Display

Adjusts the brightness of the display screen.

- Adjust the brightness using the and buttons.
- Press on to confirm.



4.11.7 Sounds

Turns the sounds on or off.

- Turn the sounds on or off using the and buttons.
- Press to confirm.

4.11.8 Language

Sets the language.

- Select the language using the and buttons.
- Press on to confirm.

4.11.9 Measuring unit

Sets the measuring unit.

The default unit setting for the measured value of breath alcohol is mg/L (= milligrams of alcohol per liter of breath). The device can be set to all common measuring units.

- Select the measuring unit using the and buttons.
- Press on to confirm.

4.11.10 Automatic shutdown

Sets the time until automatic shutdown.

- Set the time using the and buttons.
- Press to confirm.

4.11.11 Automatically switch to next test

Sets whether the device automatically switches to the next test after a breath sample. In the default setting, the device switches to the next measurement only after confirmation with the button. The setting can be used for both measurement results.

- Select the result (Alcohol or No alcohol) using the and buttons.
- Press on to confirm.
- Select activated or deactivated using the and buttons.

Press or to confirm.

4.11.12 Low-volume breath sample

Defines whether taking a breath sample with a low volume is activated or deactivated.

- Select activated or deactivated using the and buttons.
- Press on to confirm.

4.11.13 Battery type of the AA batteries

Defines the battery type of the AA batteries that are used in the device.

- Select the battery type using the and buttons.
- Press on to confirm.

4.11.14 Software version

Displays the software version number and the associated part number

4.11.15 Log in

For service personnel only.

• Enter the four-digit code to open the service menu.

4.11.16 Turn off

Turns off the device.

- Tap the button.
- ⇒ The device turns off.

4.12 GPS (Global Positioning System, optional)

NOTICE

Risk of other devices malfunctioning!

If GPS is installed, the device must not be used on aircrafts.

Do not use the device when on aircraft.

The unit can be equipped at the factory with GPS (Global Positioning System) for the satellite-based determination of the device's position.

If the GPS option has been installed, the determined position data is stored together with the measurement results and output when the device is read out.

4.13 Printing results

The device can be connected to the Dräger Mobile Printer BT (see "Order list", page 29) via Bluetooth[®] to print results.

i Follow the Dräger Mobile Printer BT instructions for use.

Alternatively, the results can also be printed using the Dräger Mobile Printer.

i Follow the Dräger Mobile Printer instructions for use.

4.14 Exporting data

The data stored by the device can be exported and then analyzed in $\mathsf{Microsoft}^{\text{(B)}}$ Excel, for example.

- Connect the USB-C cable to the USB-C port of the device and the USB port of a PC or laptop.
 - ⇒ The **Alcotest 7000** drive appears on the PC/laptop.
- 2. Select the Datalog directory on the Alcotest 7000 drive.
- 3. Select the **Datalog** file in the **Datalog** directory.
- 4. Select Copy.
- 5. Select the desired drive and directory for the file export.
- 6. Select Save.
- ✓ The file is saved.

5 Troubleshooting

An error message is displayed in the event of a device malfunction. The number below the message is for service purposes. If the error persists even after turning the device off and on multiple times, contact authorized personnel, such as DrägerService.

Error/Message	Cause	Remedy
Device does not turn on.	(Rechargeable) batteries are empty.	Charge the recharge- able battery or replace the batteries.
Insufficient volume of breath/ invalid sample.	Subject is not blow- ing for long enough or intermittently.	Blow more strongly and without interruption into the mouth-piece/funnel. If necessary, take a manual or passive breath sample.
Device out of tem- perature range.	Device is too warm or too cold.	Allow the device to cool down or warm up.
↑↑↑ (Measuring range exceeded).	Measuring range exceeded. Residual mouth alcohol can distort the measured values.	A wait time of at least 15 minutes after alcohol was last consumed must have elapsed. To repeat, press the button.
Insufficient volume of breath. [Only for breath samples using the mouthpiece]	Volume of breath sample insufficient.	Repeat the breath sample after pressing the button. If necessary, take a manual or passive breath sample.

Error/Message	Cause	Remedy
Sampling interrupted.	Irregular exhalation, abrupt cessation or inhalation.	Repeat the breath sample after pressing the button. If necessary, take a manual or passive breath sample.
Error number.	Device error.	Turn the device off and then back on. If the error persists, contact DrägerService or your dealer.
The red LED flashes three times in close succession and the device turns off.	(Rechargeable) bat- teries are empty. Device is too warm or too cold.	Charge the recharge- able battery or replace the batteries. Allow the device to cool down or warm up.

6 Maintenance

The device is delivered with default adjustment settings. The date of the last adjustment can be recalled in the menu.

Dräger recommends that the device be adjusted once a year. Have the device adjusted only by authorized persons, e.g. DrägerService.

i Comply with the national guidelines governing adjustment.

6.1 Charging the rechargeable battery

⚠ WARNING

Risk of burns and electric shock!

The use of power supply units that have not been approved by Dräger can cause burns and electric shocks when charging the rechargeable battery.

▶ Use only the power supply unit specified in the order list.

- Connect the USB-C cable to the USB-C port of the device and a USB charger.
- ⇒ The rechargeable battery will charge.

6.2 Replacing the Batteries

MARNING

Risk of explosion

Risk of explosion if the incorrect battery type is used.

- ▶ Only use the battery types specified by Dräger.
- Turn off the device.
- 2. Slide off the battery cover.
- 3. Replace the batteries (3 x 1.5 V alkaline battery [LR06 Mignon AAI), ensuring that they are inserted the right way round.
- 4. Slide the battery cover back into place.

6.3 Cleaning

Clean the device using an alcohol-based cleaning agent.

To clean the device:

- Apply the cleaning agent to a disposable cloth and wipe the device. Do not apply cleaning agent directly to the device.
 - i Make sure that no liquid enters the gas inlet.
- 2. After cleaning, store the device without its packaging at room temperature (20–25°C) for at least 24 hours.
- Then check that the there is no residual alcohol inside the device via passive sampling and checking that the result NO ALC. is displayed.

7 Storage

Do not permanently store the device in its delivery packaging.

NOTICE

Risk of damaging the device!

Leaking battery acid can damage the device.

▶ Remove the batteries if the device is not used for a prolonged period of time.

i Maintain the charge level of the rechargeable batteries.

For nickel-metal hydride batteries:

To ensure the operational readiness of the device, fully charge the rechargeable battery at least every three months, even if it is not used

For lithium-ion batteries:

Charge to at least 50% every 6 months if not used for a prolonged period of time to avoid shortening the life span.

8 Disposal



This product must not be disposed of as household waste. This is indicated by the adjacent icon.

You can return this product to Dräger free of charge. For information please contact the national marketing organisations and Dräger.



Batteries must not be disposed of as household waste. They are therefore marked with the adjacent symbol. Dispose of batteries and rechargeable batteries at battery collection centers as specified by the applicable regulations.

9 Technical data

Measurement principle	Electrochemical sensor
Measuring range	
Breath alcohol concentration	0.00 to 3.00 mg/L (mass of alcohol per minimum volume of breath at 34°C and 1013 hPa)
Blood alcohol concentration	0.00 to 6.00‰ (mass of alcohol per blood volume or mass of blood at 20°C and 1013 hPa)
concentration using the b	00 is used to calculate the blood alcoholoreath alcohol concentration data (factory conversion factors can be configured).
Measuring units	
mg%, mg/mL	μg/L, g/210 L, g/L, ‰, %, mg/100 mL,
Ambient conditions	
During operation	-10 to +55 °C 10 to 100 % r.h. (non-condensing) 600 to 1300 hPa
In storage	−20 to +60 °C 15 to 75 % r.h. (10 to 100 % r.h. <48 h)
Data storage	
	Up to 30,000 tests (depending on the configuration) Warning that data storage is almost full at 90 % Default: FIFO (oldest test is overwritten) Optional: Device locks at 100 %
Sampling	
Minimum volume of breath	>1.2 L (default setting)
Breath flow	>10 L/min (default setting)

>1.6 s (default setting) atability using standard alcohol 0.008 mg/L 1.7 % of the measured value 0.017 ‰ or 1.7 % of the measured value
0.008 mg/L 1.7 % of the measured value 0.017 ‰ or
1.7 % of the measured value 0.017 % or
0.017 ‰ or
0.01. 700 0.
1.7 % of the measured value
Depending on which value is higher
Typically 0.4 % of the measured value per month
ement can be taken following a pre-
0.50‰ 20 s
1.00‰ 40 s
2.00‰ 80 s
>3.00‰ 120 s
Recommended: every 12 months
$1 \text{ mm} \times 172 \text{ mm} \times 36 \text{ mm} (\text{W} \times \text{H} \times \text{D})$
.85 g
775 g
Permanently installed in the device
3 x 1.5 V (Mignon AA), not rechargeable
3 x 1.2 V (Mignon AA), not rechargeable via device
3 x 1.5 V alkaline (LR06 Mignon

Lithium-ion battery for up to 3000 measurements, batteries for up to 1500 measurements using the mouthpiece/funnel (depending on use and ambient conditions)

Interface	USB-C
LED risk group	2
Protection class	IP 54
CE marking	Electromagnetic compatibility
	Low Voltage Directive

The device meets the requirements of EN 15964. It can be configured in accordance with the standard. Display of measured values if configured in accordance with EN 15964:

Measured value	Display
0.0 mg/L to 0.03 mg/L	0.0 mg/L
> 0.03 mg/L	Measured value

¹⁾ At low temperatures, the number of tests may be limited (EN 15964).

10 Order list

Designation and description	Order no.
Mouthpiece with exhalation non-return valve (100 pieces)	6811055
Mouthpiece with exhalation non-return valve (250 pieces)	6811060
Mouthpiece with exhalation non-return valve (1000 pieces)	6811065
Mouthpiece without exhalation non-return valve (100 pieces)	6810690
Mouthpiece without exhalation non-return valve (250 pieces)	6810825
Mouthpiece without exhalation non-return valve (1000 pieces)	6810830
Funnel (10 pieces)	8327718
AA lithium batteries (3 pieces)	3700415
AA alkaline battery	1335804
AA NiMH battery	1890092
Wrist strap	3700416

Order list

Designation and description	Order no.
Charging cradle (for rechargeable battery-operated devices)	3700420
USB-C cable	3700418
Power supply unit	3701090
Dräger Mobile Printer BT	3700421

IIII Manufacturer
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