

Dräger Alcotest[®] 3000 Breath Alcohol Measuring Device

Instructions for Use



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For Your Safety

Strictly follow the Instructions for Use

Any use of the device requires full understanding and strict observation of these instructions.

The device may only be used for the purposes specified here.

Maintenance

Repair of the device may only be carried out by trained service personnel.

We recommend having Dräger service personnel carried out repair and maintenance work.

Only Dräger original parts may be used for maintenance.

Observe the "Maintenance Intervals" chapter.

Accessories

Only use accessories mentioned in the order list.

Safety Symbols used in this Manual

While reading this manual, you will come across a number of warnings concerning some of the risks and dangers you may face while using the device. These warnings contain "signal words" that will alert you to the degree of hazard you may encounter. These signal words and the hazard they describe are specified as follows:

 CAUTION
--

Indicates a potentially hazardous situation which, if not avoided, could result in physical injury to you, or damage to the product. It may also be used to alert against unsafe practices.

Notice

Additional information on how to use the device.
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® Alcotest is a registered trademark of Dräger.

Intended Use

This device is used to quickly determine the intoxication of individuals by measuring the breath alcohol concentration. For mobile, self-contained operation.

Preparation

Dräger Alcotest® 3000 is calibrated before delivery.

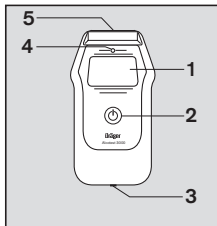
If the calibration dates back more than 12 months:

Have an authorised person calibrate the device. We recommend commissioning Dräger for servicing the device.

The calibration date can be taken from the power up display and/or the label on the rear of the device.

What is What?

- 1 Display
- 2 "ON/OFF" button
- 3 Socket (for the Dräger service personnel only!)
- 4 Lamp red/green
- 5 Mouthpiece connection



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Preparation

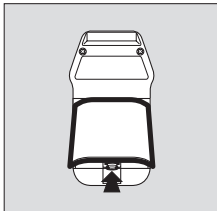
Inserting the Batteries

When using the device for the first time or when using an alkaline cell as power supply and the battery symbol on the display indicates "empty".

- Gently press the lock on the battery cover and remove the cover.
- When inserting the batteries, ensure correct polarity!
- Close the battery cover.

Required batteries:

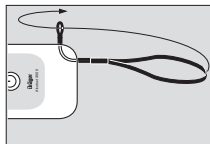
2 x 1.5 V alkaline cells (Mignon, LR6, AA)



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Attaching the Wrist Strap

- Push the fixing strap of the wrist strap through the hole in the housing and make a loop.
- Pull the bigger loop through the smaller eyelet.



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Symbols and Displays

In the basic setting of the device, the measurement value of the breath alcohol is indicated in the corresponding unit.

Battery Symbol

Indicates the state of charge of the batteries:



Full battery



Battery capacity 2/3 full



Battery capacity 1/3 full



Low battery

CAUTION

The engraved symbols under the lock of the battery cover have the following meaning: Attention, read the Instructions for Use! Always observe the Instructions for Use before replacing the batteries. The service socket is not a charging socket. Never apply mains voltage!

Buttons

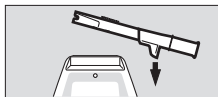


"ON/OFF" button

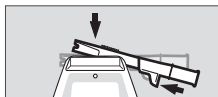
Button to switch the device on/off and to continue the measurement.

Mounting the Mouthpiece

- Open the mouthpiece packaging. For hygienic reasons, remove the packaging from the mouth contact area only after the mouthpiece is firmly connected to the device.
- Press the mouthpiece in the mouthpiece connection with the ribbed marking (=pressing surface) face up. The mouthpiece audibly locks into place.
- Completely remove the packaging.



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Notice

The mouthpiece can be used with left or right orientation.

Switching ON and OFF


Switching ON

- Keep the  button pressed for approx. 1 second until the start screen is displayed.



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Switching OFF

- Keep the  button pressed. The device switches off after two seconds.



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Automatic Switch OFF

The device switches off automatically four minutes after the last use.



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Notice

The device switches off automatically when the batteries are empty.

Making Measurement

Requirements

- Use a new mouthpiece for each test subject.
- Do not expose the sensor to high alcohol concentrations, e.g. by rinsing the mouth with high-proof alcoholic beverages just before starting the measurement. This reduces the sensor service life.
- Keep sufficient distance from transmitters and mobile phone antennas.

Requirements for the Test Subject

- Maintain a waiting period of at least 15 minutes after drinking alcohol!
- Alcohol residues within the mouth may cause incorrect measurement values. Incorrect measurements can also happen after the test subject burps or vomits, drinks aromatic beverages (e.g. fruit juices), uses alcoholic mouth spray, or consumes medical syrup or drops. Rinsing out the mouth with water or non-alcoholic beverages will not help reduce the waiting period!

Before sampling, the test subject should breathe normally and calmly. Rapid inhaling and exhaling through the mouth is to be avoided. The test subject must be able to provide the required minimum respiratory volume of 1.2 L. For this purpose, the breathing flow must be constant for a certain minimum blowing period.

Automatic Measurement

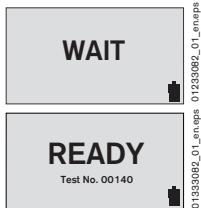
The sampling is automatically triggered after reaching the minimum respiratory volume and the minimum blowing period.

Preparation

- Insert a new mouthpiece into the mouthpiece connection (see page 6).
- Switch on the device (see page 6).



- After two seconds, **"WAIT"** appears on the display.
- After six seconds, **"READY"** appears on the display and a short acoustic signal sounds. Simultaneously, the current test number is displayed. The green lamp flashes. The device is ready to start the measurement.

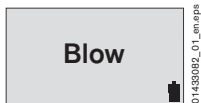


Performing the Measurement

- The test subject must breathe evenly and continuously into the mouthpiece. A continuous tone sounds and the green lamp flashes when a sufficient breathing flow volume has been reached.

"Blow" appears on the display while the breath sample is taken.

After delivering a sufficient breath sample, the green lamp goes out and the continuous tone falls silent.



"WAIT Analyzing" appears on the display.



Test Result


After 5 to 25 seconds (depending on the device temperature and the measured concentration), the measuring result appears on the display.



Errors during Breath Sample Delivery

If the breath sample volume is insufficient, **"Insufficient Volume"** appears on the display. A horn sounds briefly and the red lamp flashes.




- To repeat the breath sample, press the  button.
The device can be used again after approx. four seconds.

When exhaling unsteadily, e.g. by abruptly stopping to exhale or by sucking towards the end of the breath sample, "**Blow Interruption**" appears on the display.


A horn sounds and the red lamp flashes.



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To repeat the breath sample, press the  button. The device can be used again after 4 to 30 seconds.

Further Measurement

- Press the  button to prepare a new measurement. During the recovery period of the sensor (see "Technical Data" on page 13), "**WAIT**" appears on the display



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Notice

Temporarily switching off the device will not reduce the waiting period!

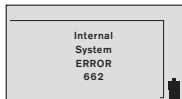
Removing the Mouthpiece

- Push the mouthpiece upwards out of the mouthpiece holder.
- Dispose of the mouthpiece according to the local regulations.

Errors

An error message indicates malfunctions of the device.

The number below the message is for service purposes. Contact Dräger if switching the device off and on several times fails to restore normal operation.



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Maintenance

Maintenance Intervals

As required:

- Replace the batteries, see page 11.

Annually:

- Have the device calibrated at least once a year, as the measuring inaccuracy increases gradually due to drift factors.
Only authorised persons may carry out the calibration.
We recommend commissioning Dräger for servicing the device.

Storage

- The device consumes a small amount of current even when switched off. Therefore, remove the batteries if the device will not be used for a longer period of time.

<i>Notice</i>
If case of long-term storage: Remove the batteries from the device if it will not be used for more than six months. This prevents possible damage to the device caused by leaking battery acid.

Cleaning

- Do not dip the device into liquids and do not allow the connection sockets to get wet!

For cleaning:

- Wipe the device with a disposable cloth.
- Do not use cleaning agents containing alcohol or solvents.

Replacing the Batteries

Insert a new battery when using an alkaline cell as power supply and the battery symbol on the display indicates "empty".

- Gently press the lock on the battery cover and remove the cover.
- Remove the used batteries and insert new ones
 - ensure correct polarity!
- Close the battery cover.

Required batteries:

2 x 1.5 V alkaline cells (Mignon, LR6, AA)

CAUTION

Danger of explosion!

Do not throw used alkaline cells into open fire, do not recharge them and do not try to force them open.

Dispose of batteries as special waste according to local waste disposal regulations.

Information can be obtained at local environmental protection agencies and town clerk offices as well as at suitable waste disposal companies.

Always have spare batteries at hand to be able to immediately continue use of the device after the first set of batteries is spent.

How to Dispose of the Device





Since August 2005, regulations concerning the disposal of electrical and electronic devices have come into force in the entire European Union; these regulations are specified in the Directive 2002/96/EC of the European Parliament and in

national laws relating to this device.

Special collection and recycling possibilities have been established for private households.

Fault, Cause, Remedy

Fault	Cause	Remedy
The device switches off automatically.	Batteries are discharged.	Replace the batteries, page 11.
	The device has been ready to measure for more than four minutes.	Switch the device on again.
Device does not power up.	Batteries are discharged.	Insert new batteries.
Insufficient volume/sample invalid.	The test subject is not breathing continuously or vigorously enough.	Ask test subject to breathe continuously and more vigorously into the mouthpiece.

Error message on the display	Cause	Remedy
	The measuring range is exceeded. Alcohol residues within the mouth may cause incorrect measurement values.	Maintain a waiting period of at least 15 minutes after drinking alcohol (see page 7). To repeat the breath sample, press the  button.
"Internal System ERROR" with error code.	Device Errors	Remove the batteries (for 2 seconds), then insert them again; contact Dräger service personnel if necessary.

Technical Data

Principle of Measurement Electrochemical Sensor

Measuring Range

Breath alcohol concentration	0.00 to 2.5 mg/L 0 to 2500 µg/L 0.000 to 0.500 g/210L 0 to 250 µg/100mL 0 to 250 µg%
Blood alcohol concentration	0.00 to 5.00 ‰ 0.000 to 0.500 % 0.00 to 5.00 g/L 0 to 500 mg/100 mL 0 to 500 mg% 0.00 to 5.00 mg/mL (This data is given using a conversion factor of 2100 between breath and blood alcohol concentration.)

Range of Indication

The range of indication and the measuring range are identical.
If the measuring result is outside the measuring range, three arrows "↑↑↑" will be displayed to indicate over-range.

Ambient Conditions

For operation	0 to 40°C 10 to 90 % rel. hum. 700 to 1200 hPa
For storage	-20 to 60°C

Sampling

Minimum blowing time	2 s
Minimum volume	1.2 L

Accuracy

max. repeatability error with an ethanol standard

0 to 1.00 ‰	±0.05 ‰
0 to 0.100 ‰	±0.005 ‰
0 to 0.50 mg/L	±0.03 mg/L
0 to 50 µg/100 mL	±3 µg/100 mL
0 to 1.00 g/L	±0.05 g/L
>1.00 ‰	±5 % of the measurement value
>0.100 ‰	
>0.50 mg/L	
>50 µg/100 mL	
>1.00 g/l	

Dimensions

140 mm x 80 mm x 35 mm
(W x H x D)

Weight

approx. 195 g

Power Supply

Batteries	2 x 1.5 V alkaline cells (Mignon, LR6, AA), approx. 1500 measurements
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CE Marks

Electromagnetic compatibility
(Directive 89/336/EEC),
for residential, commercial and
light-industrial environments.

Order List

Designation and Description	Part No.
Dräger Alcotest [®] 3000 (measuring device, 3 mouthpieces, 2 batteries, wrist strap and pouch)	83 20 470
Accessories	
Mouthpieces are hygienically tested	
10 pcs.	68 12 287
100 pcs.	68 10 690
250 pcs.	68 10 825
1000 pcs.	68 10 830
Alkaline cell (1)	13 35 804

Dräger Safety AG & Co. KGaA

Revalstrasse 1

D-23560 Lübeck

Germany

Phone+49 451 882-0

Telefax +49 451 882-20 80

www.draeger.com

90 33 083 - GA 4754.510 en

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