

enUS Instructions for use

Dräger Alcotest 5000



WARNING

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.



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1 For your safety

1.1 General safety notes

- Before using this product, carefully read the Instructions for Use.
- 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 it is retained and appropriately used by the product user.
- 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.
- Do not use a faulty or incomplete product. Do not modify the product.
- Notify Dräger in the event of any component fault or failure.

1.2 Liability for proper function or damage

The liability for the proper function of the instrument is irrevocably transferred to the owner or operator if the instrument is improperly serviced or repaired by personnel not employed or authorized by Dräger Safety or if the instrument is used in a manner not conforming to its intended use.

Dräger cannot be held responsible for damage caused by non-compliance with the recommendations given above.

The warranty and liability provisions of the terms of sale and delivery of Dräger are not affected by the recommendations given above.

Dräger Safety AG & Co. KGaA

2 Conventions used in this document

The following alert messages are used in this document to provide and highlight areas of the associated text that require a greater awareness by the user. A definition of the meaning of each alert message is as follows:



CAUTION

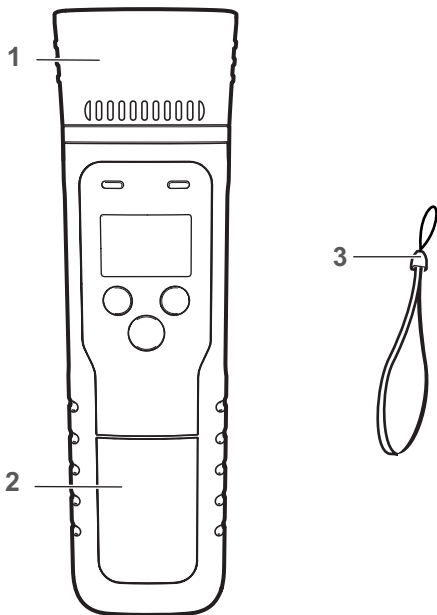
Indicates a potentially hazardous situation which, if not avoided, could result in physical injury. It may also be used to alert against unsafe practices.

NOTICE

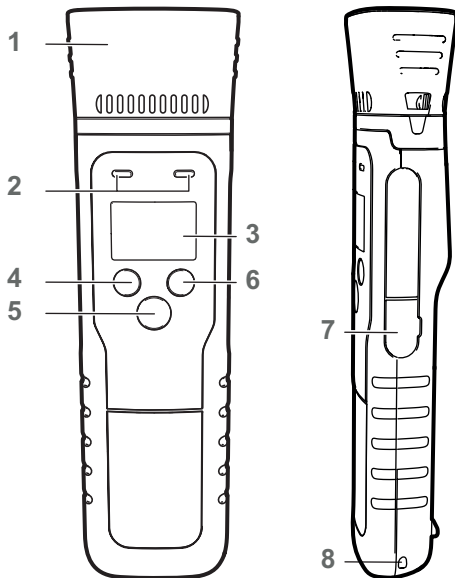
Indicates a situation which, if not avoided, could result in damage to the product or environment.

3 Description

3.1 What's in the box?






- 1 Dräger Alcotest® 5000 (incl. 3 AA alkaline batteries)
- 2 Non-contact funnel (3 pcs)
- 3 Wrist strap



- 1 **Funnel**
- 2 **LED** (red, green)
- 3 **Display**
- 4 **DOWN/MENU** button
- 5 **OK** button
- 6 **UP** button
- 7 **USB** communications socket for service only
- 8 **Wrist strap eyelet**

3.2 Buttons

Button	Function
	Switching on and off the instrument and confirming entries or selected functions. In further text OK .
	Accessing the menu and navigating down in the menu and skipping between digit positions. In further text DOWN or MENU .
	Navigating up in the menu, skipping between digit positions. In further text UP .

4 Intended use

For detecting alcohol in a person's breath, in air over substances, or ambient air (passive test). The measurement is used as an indication for alcohol intoxication. No therapeutic or legal measures should be initiated, based on the detection results.

Before starting the measurement the instrument has to be set up.

- Inserting batteries (see page 16 section "Inserting or replacing the batteries")
- Fitting strap (Continue at 5.2 Mounting the wrist strap.)
- Mounting funnel (Continue at 5.5 Funnel.)



WARNING

Small parts of the device can come loose and be swallowed.

- ▶ Keep the device out of reach of children under the age of 3.

NOTICE

The measurement is used as an indication for alcohol intoxication. No therapeutic or legal measures should be initiated based on the detection result.

4.1 Prerequisites

NOTICE

Avoid taking the samples in the draft of wind. The test result could be affected.



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4.1.1 Adequate breath sample

- The test person should breathe regularly and calmly before the sample is taken.
- The test person must be capable of exhaling the minimum breath volume.
- For a valid test, the exhaling breath must constantly flow for at least 1 second (factory settings).
- The distance between the funnel and the test person's mouth must be approx. 2-3 cm.

4.1.2 Waiting time after the last drink

- Maintain a waiting time of at least 10 minutes after drinking alcohol!
- Rinsing the mouth with water or non-alcoholic drinks does not reduce this waiting period!
- Residual alcohol in the mouth or aromatic drinks (e.g. fruit juice), mouth sprays containing alcohol as well as medicines can distort the measurement.

4.1.3 Initial start-up

A setup wizard is opened when the instrument is switched on for the first time.

The following settings are made using the setup wizard:

- Language
- Date
- Time format
- Time

All settings can be changed later on via menu.

NOTICE

Loss of pre settings. If the batteries are removed longer than 5 minutes, the date and time have to be set again.

4.2 Preparation for use

1. Make sure the batteries are charged and inserted.
2. Make sure a clean funnel is attached.
3. Make sure the instrument is held tightly and safely by using the wrist strap or telescope bar properly.
4. Switch on the instrument by pressing **OK** (see page 15 section "Switching the instrument on and off").
 - If the instrument is ready for measurement, an empty bar is shown in the display.

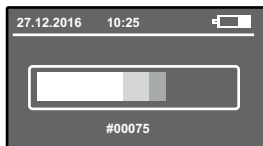
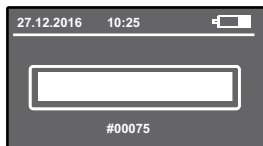
4.3 Performing the measurement



HYGIENE

Do not touch the funnel at the top. It is mandatory to keep a distance of 2-3 cm to the object or the person to be tested. A test person's skin, any secretions or surfaces must not be touched with the funnel. Also avoid direct contact with the substances to be tested. In case of a contamination, attach a clean funnel.

1. Make sure all prerequisites (see page 10 section "Prerequisites") are met and all preparations (see page 11 section "Preparation for use") are made.
2. Ask the test person to blow evenly into the funnel without interruption and without touching the funnel.
 - A sufficient flow is indicated by a continuous tone.
 - While the sample is taken, the display shows an empty bar that is filled gradually (See Picture **A** and **B**).
 - If the sampling was successful, the tone will stop with a prominent "click" sound.
 - The display shows a rotating progress symbol for the momentary analyzing process.
 - The result is shown in the display.

A**B**

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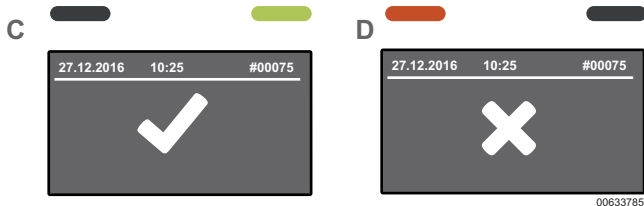
CAUTION

Distortion of results

Condensation can accumulate inside the funnel after several tests in a short time. ► Change the funnel before the condensation enters the instrument.

4.4 Results

After 2 to 7 seconds (depending on the measured concentration and the instrument temperature) the test result is shown in the display and stored in the instrument. Two kinds of results are possible:



C) No alcohol detected. The test is passed. Additionally, the green LED is lit. After 2 sec. the instrument will be ready for use again.

D) Alcohol detected. The test is failed. Additionally, the red LED is lit. Press **OK** to proceed with the next measurement.

- During the sensor recovery time the display shows a rotating process symbol.
- Repeat the procedure (see page 12 section "Performing the measurement").

In the menu you can configure the confirmation of the test results **Alcohol** and **No alcohol** as follows:

- Confirm the test results by pressing **OK**
- or
- the test results are being confirmed automatically after 2 sec.

4.5 Passive and manual tests

4.5.1 Passive test

The passive test can be performed if a person is unable to provide an adequate breath sample (for description, see page 10 section "Adequate breath sample") or a substance must be tested.

1. Switch on the instrument.
2. Hold the instrument:
 - either 2-3 cm close to the test person's mouth
 - or 2-3 cm above the substance to be tested
 - or in the ambient air to be tested.
3. Press **OK** to take the sample.

The display shows the result. It is stored in the instrument with the additional mark **PASSIVE**.

4.5.2 Function test

The function test is performed in the same way as a passive test.

- Perform the test with a non alcoholic substance to proof that the instrument detects no alcohol. Conduct the test in clean air.
- Then perform the test with an alcoholic substance to proof that the instrument detects alcohol. Conduct the test by holding the instrument above a tissue with a few drops of isopropanol.

4.5.3 Manual test

The manual test can be performed if a test person is unable to perform the required breath test volume.

1. Switch on the instrument.
2. Hold the instrument 2-3 cm close to the test person's mouth.
3. Ask the test person to perform the breath sample.
4. Press **OK** during sampling.

The display shows the result. It will be stored in the instrument with the additional mark **MANUAL**.

5 Setting up the instrument

5.1 Switching the instrument on and off

Switch on the instrument by pressing **OK** for approx. 2 sec.

- The display shows Dräger.
- The instrument is instantly ready for measurement.

Switch off the instrument by pressing **OK** for approx. 4 sec.

The display shows a countdown from 3 to 0.

- The instrument switches off automatically after 4 minutes without use. This count down can be adjusted in the Menu.

5.2 Mounting the wrist strap

To have the right grip on the instrument, please use the wrist strap.


1. Guide the fastening lug of the wrist strap through the eyelet on the instrument.
2. Pull the upper part of the wrist strap through the fastening lug.

5.3 Mounting a telescope bar

To reach distant test persons (e.g. a high sitting driver of a truck or lorry) you can attach the instrument to a telescope bar with a 1/4" connector.

- A telescope bar is not included in the scope of delivery of Dräger Alcotest® 5000.
- Follow the instructions for use of the telescope bar manufacturer.

5.4 Inserting or replacing the batteries

Inserting the batteries upon initial operation or changing them if the **battery symbol**, shown in the display's right upper corner, indicates empty. 



CAUTION

Damage to the instrument. Do not try to charge any kinds of batteries via the USB port. The instrument comes without a recharging function.

► Recharge the rechargeable batteries outside the instrument.

Three 1.5 V AA batteries are required.

1. Slide off the battery lid.
2. Insert charged or new batteries and make sure that the polarity is correct.
3. Close the battery lid.

(**Disposal and caution for batteries** see page 21 section "Disposal".)

5.5 Funnel

The instrument is supplied with three funnels. It is mandatory to keep a distance of 2-3 cm to the thing or person to be tested. For hygienic reasons, a test person's skin, any secretions or surfaces must not come into contact with the funnel. Also avoid direct contact with the substances to be tested.

5.5.1 Mounting and removing the funnel

Attaching the funnel

1. Remove the funnel from its packaging.
 - Touch the funnel at its laterally applied grip areas.
2. Attach the funnel tightly on top of the instrument (only one direction is possible).

Removing the funnel

1. Simply pull off the funnel from the instrument by grabbing it at its laterally applied grip areas.

6 Menu

Open the menu by pressing **DOWN/MENU**.

Navigate through the menu list by using **UP** and **DOWN**.

Select a menu entry by pressing **OK**.

6.1 Menu items

The menu contains the following entries:

Results

Shows all stored results with date and time as well as test number and the indication whether the test was taken passively or manually. If no additional mark is displayed, the test was taken adequately. (Also see page 13 section "Results") The last 500 results will be stored.

Infoscreen

Shows the serial and part number of the instrument as well as the EC sensor serial number.

Next service

Shows the remaining time for adjustment and accuracy check in days.

Date/Time

The date and time can be adjusted by accessing the submenu. Change the digits by using **UP** and **DOWN** and confirm with **OK**.

Contrast

The contrast level can be set by accessing the submenu. Choose one of 5 presettings.

Speaker

The instrument sound can be muted or the sound level can be set to loud or quiet by accessing the submenu.

Language

To change the language, navigate with **UP** and **DOWN** and confirm by pressing **OK**.

Software version

Shows the software version number and it's part number.

Short term counter

The test counter can be reset by accessing the submenu. After confirming by pressing **OK**, the display shows an empty bar and the test number **#00001**.

Auto shutdown time

Access by pressing **OK** and change the time in Sec. by using **UP** and **DOWN**.

Log in

For service only.

Insert the 4-digit code to access the service menu.

Auto to next test

Access by pressing **OK** and choose either **No alcohol** or **Alcohol** by using **UP** and **DOWN**. Access with **OK** and set either **deactivated** or **activated** by pressing **OK**.

Switch off

Briefly press **OK** and the instrument shuts down.

6.2 Quitting the submenu or menu

1. Navigate to the upper entry by pressing **UP** several times.
 - The upper entry can be **Measuring** or **Back**
2. Choose the entry by pressing **OK**.

7 Troubleshooting

An error message is displayed in the event of instrument faults. The number that appears below the message is used for service functions. If the fault remains after switching on and off several times, contact DrägerService.

Fault / message	Cause	Remedy
Instrument cannot be switched on.	Batteries are empty	Check batteries
Volume too low / sample invalid.	Test subject is blowing intermittently or not hard enough.	Blow more strongly and without interruptions into the funnel.
Instrument outside temperature range	Instrument too hot or too cold.	Allow the instrument to cool down or get warmer.
↑ ↑ ↑ (Measuring range exceeded)	Measuring range exceeded. Alcohol residues that are still in the mouth may cause incorrect measuring values.	There must be an interval of at least 10 minutes after alcohol has been taken into the mouth. To repeat, press OK
Sample interruption	Irregular outward breath, abrupt end or intake	Repeat breath sample, by pressing OK .
Error number	Instrument error	Switch the instrument off and on. If the error remains, contact DrägerService or your dealer.

8 Maintenance

- If necessary: Change batteries.
- Every 24 months a calibration check is recommended.
- Maintenance must only be performed by experts.
- Only original spare parts may be used for maintenance.

8.1 Cleaning



CAUTION

Damage to the instrument.

- ▶ Do not submerge the instrument in liquid.
 - ▶ Do not use cleaning agents containing alcohol, lemon, or solvents.
-

- Clean the instrument with a disposable tissue.

8.2 Calibration

The Alcotest[®] 5000 is supplied with a standard calibration by the manufacturer.

The date of the last calibration can be found in the menu (Also see page 17 section "Menu").

8.3 Storage

The Alcotest[®] 5000 consumes a small amount of current even when switched off.



CAUTION

Damage to the instrument.

Leakage of battery acid can cause damage to the instrument.

- ▶ Remove batteries if the storage takes longer than 6 months.
-

See section "Technical data".

8.4 Disposal

Only dispose of as special waste in accordance with local waste disposal regulations.

Disposing the instrument



This product must not be disposed of as household waste. This is indicated by the adjacent symbol. You can return this product to Dräger free of charge. For information, please contact the national marketing organisations or Dräger.

Disposing the batteries



CAUTION

Danger of explosion. ► Do not expose to fire or force open.



Batteries must not be disposed of as household waste. This is indicated by the adjacent symbol. Dispose of batteries at battery collection centres as specified by the applicable regulations.

9 Technical data

Measuring principle

Electrochemical sensor

Ambient conditions

During operation	-15 °C to +50 °C / +5 °F to +122 °F 10 to 100 % rel. hum. (non-condensing) 600 to 1300 hPa
During storage	-20 °C to +70 °C / -4 °F to +158 °F

Measurement results

0 mg/L to 0.029 mg/L	no alcohol (✓) indicated
0.030 mg/L to 2.5 mg/L	alcohol (✗) indicated
more than 2.51 mg/L	measuring range exceed (↑↑↑) indicated

Sensitivity drift

Typically 0.4 % of the measured value per month

Waiting time for measurement readiness following a previous measurement with:

0.25 mg	20 s	0.05 %, BAC	20 s
0.5 mg	40 s	0.10 %, BAC	40 s
1 mg	80 s	0.20 %, BAC	80 s
>1.5 mg	120 s	>0.30 %, BAC	120 s

Weight

approx. 245 g

Power supply

3 x 1.5 V AA alkaline batteries

Batteries for approx. 5000 measurements

Data storage

The last 500 results will be stored.

Interface

USB socket for service only

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

10 Order list

Name and Description	Part no.
Alcotest [®] 5000 V1 Languages: de, en, fr, es, nl, it, ca, pt	83 27 701
Alcotest [®] 5000 V2 Languages: en, pl, fi, sv, da, no, et, lt, lv	83 27 702
Alcotest [®] 5000 V3 Languages: en, ru, uk, sk, sl, cs, hu, bs, hr	83 27 703
Alcotest [®] 5000 V4 Languages: en, el, tr, bg, ro, sr, hi, he, ar	83 27 704
Alcotest [®] 5000 V5 Languages: en, ja, ko, zh, zhHK	83 27 705
Alcotest [®] 5000 V6 Languages: en, zhTW, ms, th, vi	83 27 706
Accessories	
Package of funnels 10 pcs.	82 27 718
Alkaline battery, Mignon, LR6, AA, 1.5 V	13 35 804
Reflex foil set yellow, Alcotest [®] 5000	83 27 742
Reflex foil set orange, Alcotest [®] 5000	83 27 743
Calibration adapter, Alcotest [®] 5000	83 27 741



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