

beurer instructions for use
medical

GL30

GB

mmol/L

BLOOD GLUCOSE
MONITORING SYSTEM
Step by step

german engineering



CE 0344

IVD

Contents of GL30 mmol/L Blood Glucose Monitor

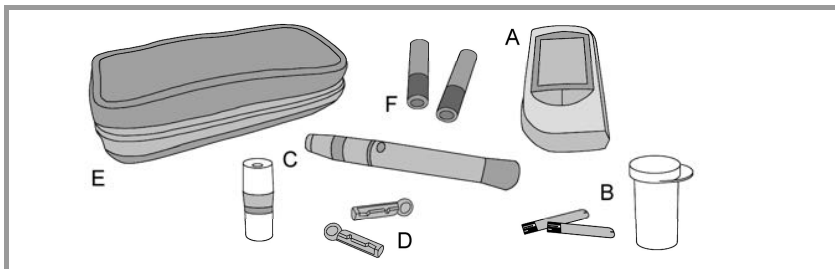
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1 GETTING TO KNOW YOUR INSTRUMENT

Before your first blood glucose test read the Instructions for Use and all accompanying information carefully and completely. Keep these instructions in a safe place where they can also be read by other persons using the device.

1.1 Contents and purchasing supplies

Check that the external packaging of the **Beurer GL30 mmol/L blood glucose monitoring system** is undamaged and that all components are included:



A	1 blood glucose monitor GL30 mmol/L	REF 162.545
B	10 test strips	REF 162.511
C	1 lancing device with AST cap for taking blood samples at different parts of the body	REF 162.501
D	10 sterile lancets	REF 162.513
E	1 handy bag	REF 162.502
F	2 alkaline batteries 1.5 V AAA (in bag)	
	Instructions for Use, additional information	

If the packaging is seriously damaged or the contents are incomplete, please return the monitor to your dealer.

The blood glucose monitor, the test strips and the separately purchased control solutions are specially designed to work together. Use only test strips and control solutions that are designed for this monitor.



Note

Use only original accessories supplied by the manufacturer.

Purchasing supplies

You can obtain test strips, control solution and lancets without a prescription.

Article	REF
50 test strips	REF 457.00
control solution MEDIUM	REF 457.02
control solution HIGH	REF 457.03
control solution LOW	REF 457.04
100 lancets	REF 457.01

1.2 Monitor functions

This device is intended for measurement of the blood glucose content in human blood. It is suitable for self-testing. The monitor can perform the following functions quickly and easily:

- display and store your readings (mmol/L)
- display the average values of your blood glucose readings for 7, 14, 21, 28, 60 and 90 days
- setting date and time
- setting the temperature unit (°C or °F)
- coding the monitor

The monitor also permits the following control functions:

- display of the ambient temperature and warning of unsuitable temperatures
- change battery display when batteries are low



Note

- Do not use the monitor to diagnose diabetes but for regular blood glucose monitoring only.
- Consult your doctor to set insulin dosages.

1.3 Health information


















The table below shows blood glucose values for persons without diabetes for comparison with your own readings.

Time of day	Blood glucose range without diabetes
Before breakfast	3.9 – 5.8 mmol/L
Before lunch	3.9 – 6.1 mmol/L
1 hour after meals	Below 8.9 mmol/L
2 hours after meals	Below 6.7 mmol/L
Between 2 and 4 a.m.	Over 3.9 mmol/L




Source: Krall, L.P., and Beaser, R.S.: *Joslin Diabetes Manual*. Philadelphia: Lea and Febiger (1989), 1 8

1.4 Explanation of symbols

The following symbols can be found on the packaging, the nameplate of the monitor and the accessories:

	In-vitro diagnostics		Manufacturer
	Serial number		Observe the Instructions for Use.
	Temperature range +4°C to +40°C		PCT: Certification symbol for products that are exported to the Russian Federation and CIS countries
	Not for reuse / single use only		Green Dot: German dual waste disposal system
	Use by		Contents sufficient for <n> tests
	Maximum storage period in months after opening		Order number
	Batch		Blood glucose measurement unit
	Sterilised by irradiation (lancets)		Biohazard, danger of infection
	Attention, read accompanying documentation		

The symbols in the Instructions for Use denote the following:

	WARNING Warning of risk of injury or health hazards
	CAUTION Safety information about possible damage to monitor and accessories
	Note Important information

2 WARNING AND SAFETY INFORMATION

Infection hazard

All components of the monitor and accessories may come into contact with human blood and may therefore be sources of infection.



WARNING

- **This monitor must display the blood sugar content in mmol/L. The unit of measure mmol/L follows the blood sugar value. If your monitor does not display mmol/L, contact customer services immediately. You risk damaging your health if you perform a blood sugar measurement using an unfamiliar unit of measure, since values may be interpreted incorrectly and cause the wrong corrective measures to be taken.**
- This monitor must be used by one person only. Use of the same monitor by more than one person may cause infection.
- The lancing device is suitable for self-testing. Never use the lancing device and lancet with other persons (danger of infection).
- Use a new sterile lancet for every blood sample (single-use only).

Readings



WARNING

- The readings that you take may only be used for information purposes – they are not a substitute for a medical examination! Discuss your readings with a doctor regularly. Never change your doctor's instructions without discussing your changes with the doctor.
- Accurate readings are only possible if the code number on the display is identical to the code number on the test strip container. Check the number before every test.
- Dehydration or excessive fluid loss, such as by sweating, may result in incorrect readings.
- A very high or very low haematocrit value (proportion of red blood cells) may cause inaccurate readings. If the haematocrit value is very high (over 60%), the blood glucose reading may be too low; if the haematocrit value is very low (under 20%), it may be too high. If you do not know your haematocrit value, ask your doctor.
- Do not use test strips to monitor the blood glucose of newborns.
- Metabolites such as uric acid, ascorbic acid, acetaminophen, dopa, methyl dopa, L dopa, and tolbutamide do not influence the results if they are in the physiological value range.
- Lipaemia effects: Elevated blood triglycerides up to 22.6 mmol/L have virtually no influence on the results. However, triglycerides above this level may influence the blood glucose test results.

- Use only fresh whole capillary blood. Do not use serum or plasma.
- Take capillary blood without squeezing the puncture site. If the site is squeezed the blood will be diluted with tissue fluid and the test result will be inaccurate.
- Do not use the test strips at altitudes above 3275 m.

**Note**

The **Beurer GL30 mmol/L blood glucose monitor** is suitable for measuring whole capillary blood.

Storage and care**WARNING**

- Keep monitor and accessories out of reach of small children. Small parts, such as lancets, batteries or test strips, may cause fatal injuries if swallowed. If a part has been swallowed, seek medical help immediately.
- The container with the test strips includes a desiccating agent that could cause skin and eye irritation if inhaled or swallowed. Keep the container away from small children.

Batteries/saving readings**WARNING**

- Batteries can be fatal if swallowed. You should store the batteries out of reach of small children. If a battery has been swallowed, seek medical help immediately.
- Never throw batteries into the fire. Danger of explosion!

**CAUTION**

- Remove the batteries if they are flat or if the monitor is not going to be used for a longer period. This prevents any damage as a result of leakage.
- Batteries should not be recharged or reactivated in any other way. Batteries must not be dismantled or short-circuited.
- Do not use rechargeable batteries.

**Note**

- When the batteries are changed, the stored readings are retained. The date and time are retained when batteries are replaced and when the batteries are flat.
- When changing the batteries, always use two batteries of the same type, brand and capacity. You should preferably use alkaline batteries.

Repairs



Note

- Never open the monitor. If these instructions are not heeded, the warranty becomes null and void.
- Never attempt to repair the monitor yourself. We can no longer guarantee perfect functioning if you do.
- If the monitor requires repair, please send it to our Customer Service.

Disposal



WARNING

- When disposing of monitor components, strictly observe the generally applicable precautions for working with blood. Dispose of all blood samples and materials that you come into contact with correctly to prevent injury and infection of other persons.
- Dispose of test strips and lancets in a sharps container after use.



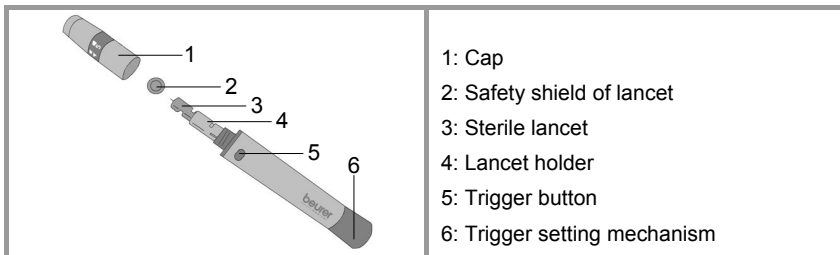
Note

- Used, completely discharged batteries must be disposed of in specially marked collection containers, at toxic waste collection points or electrical product retailers. You are legally obliged to dispose of the batteries. Batteries containing pollutants are marked with the following symbols:
 - Pb = battery contains lead,
 - Cd = battery contains cadmium,
 - Hg = battery contains mercury.
- The appliance should be disposed of according to Regulation 2002/96/EC – WEEE (Waste Electrical and Electronic Equipment). In case of queries, please contact the municipal authorities responsible for waste disposal in your area.

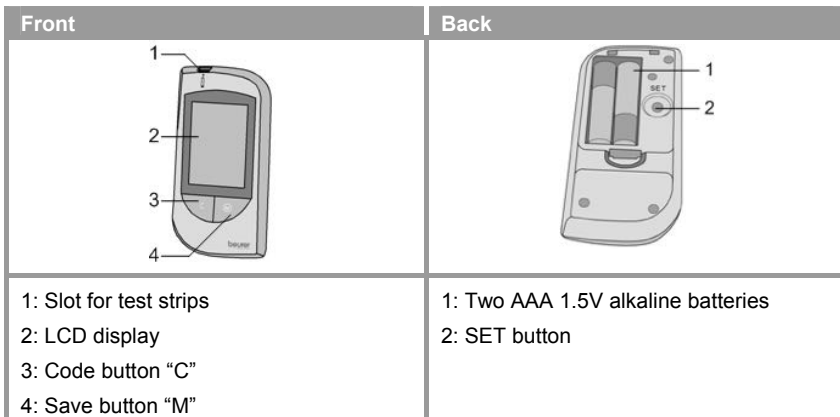


3 DESCRIPTION OF MONITOR AND ACCESSORIES

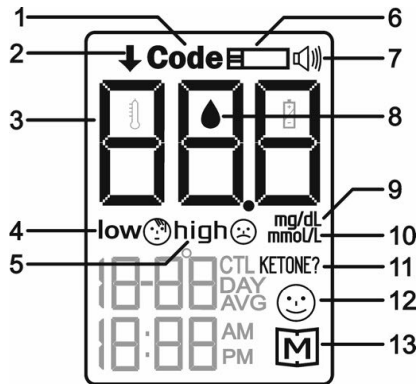
3.1 Lancing device and lancets



3.2 Blood glucose monitor



Display symbols for blood glucose readings:



1: Code

2: Arrow symbol for test strips

3: Results display

4: Low blood glucose (low)

5: High blood glucose (high)

6: Test strip symbol


7: Speaker (non-functional)

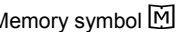
8: Blood drop symbol 

9: Blood glucose unit mg/dL
(non-functional)

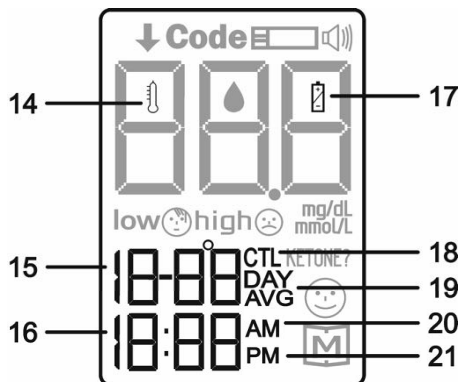
10: Blood glucose unit mmol/L

11: Ketone test recommended

12: Normal blood glucose value 

13: Memory symbol 

Other display symbols:



14: Temperature symbol

15: Date: month-day

16: Time: hour-minute

17: Replace battery symbol 

18: CTL for control solution

19: DAY AVG for average reading
7, 14, 21, 28, 60, 90 days

20: AM (morning)

21: PM (afternoon)

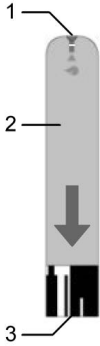




Note

The blood glucose monitor is supplied with the following basic settings:

- Blood glucose unit: mmol/L
- Temperature unit: °C

3.3 Test strips

Front	Back
	
<p>1: Slot for taking blood 2: Handling area 3: Contacts</p>	<p>The back is indicated by the X symbol.</p>
<p>Insert the test strip into the unit with the contacts first. Make sure that the front of the test strip is facing you.</p> 	

Read carefully the following information on the handling and storage of your test strips. All instructions must be followed to ensure that the test strips will give accurate test results.








WARNING

A test strip must be used only **once** and on only **one** patient.

Handling test strips



Note

- Before using the strips for the first time check that the seal on the container is intact. If a container seal is damaged, do not use the test strips.
- Close container tightly immediately after removing a test strip.
- Do not use test strips after the use-by date. If expired test strips are used, test results may be inaccurate. The use-by date can be found on the container beside the hourglass icon .
- The test strips can be stored for up to three months after opening the container. Write this use-by date (date of opening + 3 months ) on the label. The storage time is reduced if it extends beyond the use-by date (see date beside the hourglass icon .
- Do not use the test strips if one of the use-by dates ( / ) has expired.
- The test strips can be touched anywhere with clean, dry hands.
- Use the test strip for measurement immediately on removal from the container.
- Do not bend, cut or alter test strips in any way.
- Do not use test strips for measurements if they have come into contact with liquids.

Storing test strips



Note

- Store test strips in a cool, dry place above +4°C and below +40°C. Keep test strips away from direct sunlight or heat. Do not store in a refrigerator.
- The relative humidity must be between 10% and 85%.
- Store test strips in their original container – never place them in a different container.

4 OPERATION AND BASIC SETTINGS

4.1 Inserting and replacing batteries




Note


Two batteries are included with your blood glucose monitor. The batteries are in the bag.





1	Remove the battery cover on the back of the monitor (see "3.2 Blood glucose monitor" page 8).
2	When you replace batteries, always replace both batteries. The monitor retains the date and time while the batteries are replaced. Reset the date and time if the battery replacement takes longer than usual (see "4.2 Making basic settings" page 13).
3	Insert two new AAA 1.5 V alkaline batteries. Make absolutely sure that you insert them with the correct polarity as marked. Do not use rechargeable batteries.
4	Replace the battery cover carefully



If the 'change battery' symbol  appears, the battery is almost flat. Replace all batteries as soon as possible. The display shows **E-b** if the batteries are so flat that readings cannot be taken.

4.2 Making basic settings

1	The monitor must be switched off. Remove the battery cover on the back of the monitor (see "3.2 Blood glucose monitor" page 8).	
2	Press the "SET" button. The year display starts blinking.	

<p>3</p>	<p>Setting date and time</p> <div style="border: 1px solid black; padding: 5px;"> <p>Note</p> <ul style="list-style-type: none"> • It is vital to set the date and time. Only in this way is it possible to save and subsequently retrieve your measured values with the right date and time. • Time is shown in 12 hour format. Times before 12 midday are AM. Times after 12 midday are PM. Example: 'PM 1:00' for 13:00 hours. </div> <p>Set the year (calendar up to 2049) by pressing the M button. Confirm with "SET". The month display starts blinking. Proceed in the same way for month, day, hour and minute.</p>	
<p>4</p>	<p>Setting temperature unit</p> <p>Press the M button to switch between °C and °F. Confirm with "SET".</p>	
<p>5</p>	<p>"dEL" is displayed and the Memory symbol  starts blinking. (Caution: all previously stored results will be deleted if you press M now.) Press the "SET" button. "OFF" is displayed briefly and the monitor automatically switches off. Replace the battery cover carefully</p>	

4.3 Checking code number (coding)

Test strips are classified into different code ranges because of variations in production conditions. This is why coding is required when you

- open a new container of test strips
- find that the code numbers of the monitor and the test strip container do not match when conducting a test.

Coding the monitor

<p>1</p>	<p>There are no test strips in the monitor and it is switched off.</p>
<p>2</p>	<p>Hold the monitor with the display facing you.</p>
<p>3</p>	<p>Press the C button. The initial display is shown briefly and then SEL. The current code number flashes.</p>

4	The new, valid code number is printed on the test strip container. Press the C button repeatedly to set the new code number. The number is increased by one every time the button is pressed. Press and hold the button to make the process faster. After code 75 the monitor continues to count from code 51.
5	Save the new code number with the M button. The monitor switches off automatically.

5 THE MEASUREMENT



WARNING

If you drop the lancing device with a lancet inserted, pick it up carefully and dispose of the lancet.




CAUTION

- Use the lancing device with lancets from the manufacturer only. Using different lancets may affect the function of the lancing device.
- If the lancing device is from a different manufacturer, read its Instructions for Use.

5.1 Taking a blood sample

Preparing to take the blood sample

1	<p>Select part of body for blood sample. You can take blood samples with the lancing device from the fingerprints or other parts of the body such as palm of the hand, lower arm, upper arm, thigh or shin. We recommend taking blood samples from the fingerprints. Apply the lancing device slightly off-centre on the fingerprint, not the centre, for a less painful puncture.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  <p>WARNING</p> <ul style="list-style-type: none"> • If hypoglycaemia is suspected: always take blood from the fingerprint. Reason: changes in the blood glucose level can be measured quickly in blood samples taken from the fingerprints. • Blood samples from the fingerprints and samples from other parts of the body (AST) may have significantly different results. Always consult your doctor before starting testing at other parts of the body. </div>
2	Have the following at hand: monitor, container with test strips, lancing device, sterile lancet. You will also need the AST cap if you are taking samples from other parts of the body.

- 3** Wash your hands with soap and warm water before taking the sample. In addition to optimum hygiene this will also give you good circulation in the finger tips. Dry your hands carefully. Make sure that the puncture site is clean if you take the blood sample at a different part of the body (AST).



WARNING

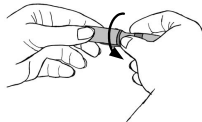


If you have cleaned the puncture site with alcohol, make sure that the site is completely dry before taking the reading.

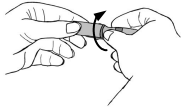
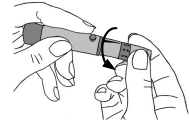
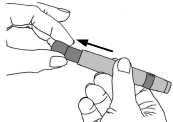

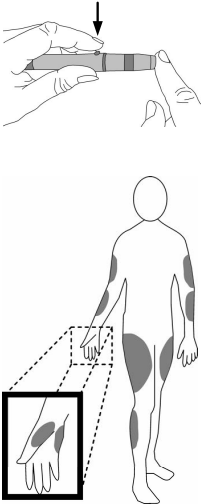
Taking a blood sample

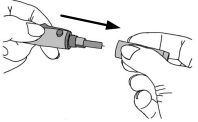
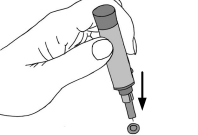
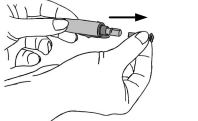



WARNING


- Take the sample at a different puncture site for every test, for example use a different finger or the other hand. Repeated puncture wounds at one puncture site may cause inflammation, loss of feeling or scarring.
- Do not use the AST cap for taking a blood sample from the finger.
- Never compress the finger to increase the size of the drop of blood. Under compression the blood will be diluted with tissue fluid and the test result may be inaccurate.
- Note that poor circulation at the puncture site, which may be the result of cold or disease, may lead to inaccurate results.

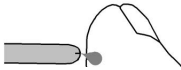

1	Unscrew the cap from the lancing device.	
2	Insert a sterile lancet into the lancing device and press the lancet into position.	
3	Unscrew the safety shield from the lancet while holding the lancet shaft firmly. Keep the safety shield so the used lancet can be safely discarded after taking the blood sample.	


4	<p>Different caps are required depending where you take the blood sample: Fingerprints: cap (grey). Other parts of the body: AST cap (transparent). Place the selected cap on the lancing device and screw it on tightly.</p>	
5	<p>Five different puncture depths can be set on the lancing device.</p> <ul style="list-style-type: none"> • 1 to 2: soft or thin skin • 3: normal skin • 4 to 5: thick or calloused skin <p>Rotate the cap in the appropriate direction until the arrow indicates the desired puncture depth.</p>	
6	<p>Pull the trigger setting mechanism back until it clicks audibly. If it does not click, it is possible that the lancing device was already accidentally set when the lancet was inserted.</p>	
7	<p>The lancing device is now ready to take a blood sample. Make sure that the blood remains in drop form and is not smeared.</p> <p>Blood sample from the fingerprint Position the lancing device firmly and slightly off-centre on the fingerprint. Press the trigger button. Remove the lancing device from the finger. A rounded drop of blood at least 0.5 microlitre in volume (approx. 1.2 mm, original size: ●) must be formed.</p>  <p>Blood sample from other parts of the body (AST) Find a soft position away from a bone with no visible veins and little hair. Warm the puncture site for good circulation by massaging the area gently. Press and hold the lancing device against the puncture site for a few seconds and then press the trigger button. Continue to hold the lancing device against the skin until a rounded drop of blood has formed under the cap. Maintain the pressure until the drop has a volume of at least 0.5 microlitre in volume (approx. 1.2 mm, original size: ●). Carefully remove the lancing device from the skin.</p>	

8	If there is insufficient blood, repeat steps 5 to 7 with the device set to a greater puncture depth.	
9	Unscrew the cap carefully from the lancing device and pull it off.	
10	Place the safety shield flat on a hard surface. Press the tip of the lancet into the safety shield so the lancet no longer projects.	
11	Pull the lancet carefully out of the lancing device and dispose of the lancet in a sharps container. Carefully dispose of all blood samples and materials that have come into contact with them. This will prevent injury and infection of other people.	
12	Screw the cap (grey) on again.	

5.2 Measuring blood glucose

1	Hold the monitor with the display facing you.
2	Insert a test strip into the monitor with the contacts first. Make sure that the front of the test strip is facing you. The test strips can be touched anywhere with clean, dry hands.
3	The monitor switches on automatically and shows consecutively the initial display, the ambient temperature, and the code number. The monitor is ready for a test as soon as the flashing blood drop symbol  is displayed.
4	If the numbers are not identical remove the test strip and code the monitor see "4.3 Checking code number (coding)" page 14.


5	<p>Hold the blood slot (at the tip of the test strip) to the drop of blood. Do not press the puncture site (fingerprint of other part of the body) to the test strip. The blood must not be smeared. The blood is sucked into the slot.</p>  <div data-bbox="203 205 934 344" style="border: 1px solid black; padding: 5px;"> <p> WARNING</p> <p>Hold the slot of the test strip to the drop of blood until the slot is completely filled with blood and you hear a beep. If you remove the test strip from the drop of blood before the beep, the measurement may be incorrect.</p> </div>
6	<p>When the slot is filled with blood, the monitor carries out the test. The monitor counts down for about six seconds. The result is shown in the display. Read the value. For explanations and actions required for the results see the next section "5.3 Evaluating results" page 19. If an error message appears, read section "8 In the event of problems" page 25.</p>
7	<p>Remove the test strip from the monitor. Dispose of the test strip as directed to prevent infection of other persons.</p>

 **Note**




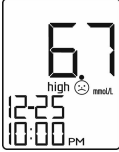


- Do **not** apply more blood if the monitor does not start the measurement. Remove the test strip and stop the test. Use a new test strip.
- If the test strip is already in the monitor and you do not apply blood to the strip within three minutes, the monitor will switch itself off. Remove the test strip briefly and reinsert it so the monitor switches on automatically.
- If you are unable to fill the test strip correctly with blood, please contact our Customer Service.

5.3 Evaluating results

Your monitor can measure glucose values from 1.1 to 33.3 mmol/L. The "Lo" warning message is shown if the glucose value is less than 1.1 mmol/L. The "Hi" warning message is shown if the glucose value is greater than 33.3 mmol/L.

 **Note**

If you suspect that the results are incorrect, first repeat the test and if necessary carry out a function test with control solution. If the questionable results continue, ask your doctor.

Display	Blood glucose	Measures
	Lo = severe hypoglycaemia (low blood sugar) Below 1.1 mmol/L	Seek medical treatment immediately.
	low ☹️ Between 1.1 and 3.8 mmol/L	Have a suitable snack. Follow your doctor's instructions.
	😊 = normal Between 3.9 and 6.7 mmol/L	Regular self-monitoring
	high ☹️ 6.7 mmol/L and above	If this value still remains high two hours after your last meal, it may indicate hyperglycaemia (high blood sugar). Talk to your doctor about any required action.
	high ☹️ KETONE? = high, possible ketones 13.3 mmol/L and above	Test ketones. Ask your doctor.
	Hi = severe hyperglycaemia (very high blood sugar). Over 33.3 mmol/L	Repeat test with a new test strip. If it is the same as before, seek medical treatment immediately.

5.4 Function check with control solution


The control solution is used to test the complete blood glucose monitoring system. It is used to check that the monitor and test strips operate together correctly and whether the test is conducted correctly. You should perform a control solution test if you suspect that the measuring device or test strips may be faulty, or if you repeatedly receive unexpected blood sugar results. Also test the measuring device if it has been dropped or damaged. The control solution is available separately. When performing the control solution test, please follow the additional instructions in the control solution user guide.



CAUTION

Never use control solution from other manufacturers. It will be impossible to check that your Beurer blood glucose monitor operates correctly with other control solutions.

Testing with control solution

1	Hold the monitor with the display facing you.
2	Insert a test strip into the monitor with the contacts first. Make sure that the front of the test strip is facing you (see "3.3 Test strips" page 11).
3	The monitor switches on automatically and shows consecutively the initial display, the ambient temperature, and the code number. The monitor is ready for a test as soon as the flashing blood drop symbol  is displayed.
4	Check the code number. If the numbers are not identical, remove the test strip and code the monitor (see "4.3 Checking code number (coding)" page 14).
5	Press the M button to switch to control mode. In control mode test results are not saved and your statistics are not skewed.
6	"CTL" is shown on the display.
7	Shake the control solution well before use. Unscrew the cap and squeeze out one drop. Wipe the first drop away and squeeze out another drop.
8	Do not apply the drop directly to the test strip, otherwise the control solution remaining in the vial tip may be contaminated by contact with the test strip. First place the drop on your fingertip or on a clean surface. Then hold the drop to the slot for taking blood on the test strip. The solution is sucked into the slot. Wipe the tip of the vial with a clean, dry paper towel.
9	When the slot is filled with solution, the monitor carries out the test. The monitor counts back for approximately six seconds. The result is shown in the display.
10	Check that the test result is within the specified range of the control solution. The result range is printed on the test strip container.

Expected results

At room temperature the test results with the control solution should be within the range printed on the test strip container for approximately 95% of all tests.



WARNING

The results range printed on the test strip container is only applicable to the control solution. **It is not a recommended value for your blood glucose level.**

If the results are outside the specified range, check the following possible causes:

Cause	Measure
The code number on the display is not the same as that of the test strip container.	Code the monitor (see "4.3 Checking code number (coding)" page 14).
<ul style="list-style-type: none">You did not dispose of the first drop of control solutionThe top of the vial was not wiped clean.The vial was not shaken sufficiently.	Correct the cause and repeat the test.
Control solution has expired or is contaminated.	Repeat the test with a new vial of control solution.
Control solution or monitor is too warm or too cold.	Bring control solution and monitor to room temperature (+20°C to +25°C) and repeat test.
Damaged test strips	Repeat the test with a new test strip.
Old test strips	Open a new test strip container. Repeat the test.
A problem with the monitor	Contact our Customer Service department.



WARNING

If you receive repeated results outside the specified range with the control solution, **do not continue using the system to measure your blood glucose level.** Contact our Customer Service department.

6 MEMORY

Your blood glucose result is automatically stored at every test. Exception: "CTL" was activated during a test with control solution. The memory has a maximum capacity of 448 results. After that number is reached, the oldest values are progressively replaced by the latest result. You can display the average values of your blood glucose readings for 7, 14, 21, 28, 60 and 90 days and also every single value.


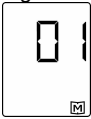



Note

- If values are already stored and you reset the date, the averages will be calculated by the new date.
- "----" shows that the memory is empty. "OFF" is displayed briefly and the monitor automatically switches off.





6.1 Displaying averages and single values

You can display the average values of your blood glucose readings for the last 7, 14, 21, 28, 60 and 90 days. At the same time the monitor shows how frequently you have conducted tests over this period. After the averages the single values of the last 448 tests are displayed. The most recent result is displayed first and the oldest last. The monitor shows the date and time of the test with the test result.

1	The monitor must be switched off. Press M.	
2	The initial display is shown briefly. The blood glucose unit, date and time are displayed. Press M again.	
3	<p>Displaying averages</p> <p>The average value for 7 days is displayed as well as the number of tests in this period (in Fig. 1: 14 results in the last 7 days). (Fig. 1)</p> <p>Press M again several times to display the averages for 14, 21, 28, 60 and 90 days and the number of tests in those periods. 01 flashes briefly. (Fig. 2)</p>	 <p>Fig. 1</p>  <p>Fig. 2</p>

4	<p>Displaying single values</p> <p>The most recent result is displayed. Every time the M button is pressed the previous result is displayed. A maximum of 448 earlier results can be viewed. 'END' is displayed after the last available result.</p> <p>You can cancel the procedure at any time. Press and hold M for three seconds. The display briefly reads 'OFF'.</p>	
5	The monitor switches off automatically.	

6.2 Deleting stored values

1	The monitor must be switched off. Remove the battery cover from the back of the monitor	
2	Press the 'SET' button seven times slowly.	
3	"dEL" is displayed and the Memory symbol  starts flashing. Press M.	
4	"dEL" flashes. Press M again to delete all stored values.	
5	"---" is displayed briefly and then the  symbol.	
6	Press M. "OFF" is displayed briefly and the monitor automatically switches off. Replace the battery cover carefully	

7 STORAGE AND MAINTENANCE OF THE MONITOR

Storage

Keep the monitor in the bag between readings.



Note

- Keep these Instructions for Use.
- If the monitor is not used for a long period, we recommend removing the batteries.

Care

The surface of the monitor can be cleaned with a moist cloth (use water or a mild detergent). Dry the monitor with a lint-free cloth.



Note

The monitor is made of precision components. Accuracy of readings and the monitor's service life depend on careful handling.

- Never let the monitor drop and protect it against any impact.
- You should protect the monitor from moisture, dirt, dust, blood, control solution or water, major temperature fluctuations and direct sunlight.
- Do not use the monitor in the vicinity of strong electromagnetic fields and keep it away from two-way radios and mobile telephones.

8 IN THE EVENT OF PROBLEMS


Problem: Unexpected messages on the display

No.	Cause	Remedy
E-b	Low batteries	Replace all batteries.
E-t	Temperature of environment, monitor or test strip outside approved range	Repeat test with new test strip once environment, monitor and test strip are at room temperature (+20 to +25 °C).
E-U	Used or contaminated test strip was inserted	Insert an unused and unexpired test strip Repeat blood glucose test

Problem: The monitor does not switch on.

Cause	Remedy
Low batteries	Replace batteries.
Battery missing or not installed correctly	Check that the batteries are correctly installed (see "4.1 Inserting and replacing batteries" page 13).
Test strip is incompletely inserted or wrong way around	Insert a test strip into the monitor with the contacts first. Make sure that the front of the test strip is facing you (see "3.3 Test strips" page 11).
Faulty monitor	Contact Customer Service.

Problem: The test does not start after inserting the test strip into the monitor and applying the blood.

Cause	Remedy
Blood volume too low	Repeat test with new test strip and greater volume of blood.
Faulty test strip	Repeat test with a new test strip.
Blood was applied with the monitor switched off	Repeat test, apply blood when  flashes.
Faulty coding	Repeat coding (see "4.3 Checking code number (coding)" page 14).
Basic settings of monitor have been changed and the change was not completed (see "4.2 Making basic settings" page 13).	Remove battery cover and press SET button until OFF is displayed. Replace battery cover and repeat test.
Faulty monitor	Contact Customer Service.



Note

If the problem persists, please contact Customer Service.

9 GL30 mmol/L TECHNICAL SPECIFICATIONS

Dimensions	96 x 46 x 20 mm
Weight	68 g (with batteries)
Power supply	2 x 1.5V AAA alkaline batteries
Battery life	More than 1000 tests
Storage capacity	448 stored results with date/time Data retained when batteries are replaced
Averages	For 7, 14, 21, 28, 60, 90 days
Automatic shutoff	Three minutes after last activity
Storage and transport temperature	Temperature: +4°C – +40°C Relative humidity: 10 – 85%
Operating ranges	Temperature: +10°C – +40°C Relative humidity: 10 – 85% (non-condensing)
Optional units	Temperature: °C or °F
Glucose measurement range	1.1 – 33.3 mmol/L
Blood sample	Capillary whole blood
Blood volume	0.5 microlitre
Test time	approx. 6 seconds
Calibration	Plasma
Test method	Amperometric biosensor
Application	Suitable for self-testing
Monitor function test	Every time it is switched on

EMC

This monitor conforms to European Standard EN 61326 and is subject to particular precautions with regard to electromagnetic compatibility (EMC). Please note that portable and mobile HF communication systems may interfere with this instrument. For more details, please contact customer service at the address indicated.

Function of the test strips

The test strips provide a quantitative measurement of the glucose content of the capillary whole blood. When the slot for blood taking comes into contact with a drop of blood, it is automatically filled by simple capillary action. The blood is drawn into the absorption slot in the test strip and the monitor measures the glucose content of the blood.

The test is based on the measurement of an electric current that is generated by the chemical reaction of the glucose with the reagent on the strip. The monitor analyses the current. The current depends on the glucose content of the blood sample. The results are shown on the display of the blood glucose monitor. Only a very small volume of blood is required (0.5 microlitre) and the actual measurement takes about six seconds. The test strips can measure glucose values from 1.1 to 33.3 mmol/L.

Chemical constituents of the test strip sensor

- Glucose oxidase 10%
- Electron shuttle 50%
- Enzyme protection 8%
- Non-reactive constituents 32%

Function of the control solution

The control solution contains a specific proportion of glucose, which reacts with the test strip. A test with control solution is similar to a blood test. The difference is that a drop of control solution is used instead of a drop of blood. The test result with the control solution must be within the result range. The result range is printed on every test strip container.

Chemical composition of the control solution

The control solution is a red solution with a D-glucose content of less than 0.2%.

Ingredients	Percentage
D-glucose	0.05 – 0.19%
Salts	1.4%
Substance for regulating viscosity	15.0%

Controls

The **Beurer GL30 mmol/L blood glucose monitoring system** for self-testing conforms to the following European Directives and standards: IVD (98/79/EC), EN 61010-1, EN 61010-2-101, EN 13640, EN ISO 14971, EN ISO 15197, MDD (93/42/EC).

Comparing test results with laboratory results

Performance characteristics: Accuracy and precision

Whole blood glucose test results have been compared with the YSI 2300 laboratory analyzer. At a concentration <4.2 mmol/L $\geq 95\%$ were ± 0.83 mmol/L, while at a glucose concentration ≥ 4.2 mmol/L $>98\%$ were within 20% of the reference values. The CV (coefficient of variation) (%) is $<5\%$. The blood glucose monitor is therefore comparable with a laboratory system.

10 GUARANTEE AND CUSTOMER SERVICE

Guarantee

This product comes with a 3-year guarantee for material and manufacturing faults.

The guarantee does not apply:

- in the case of damage caused by improper use
- to wearing parts
- to deficiencies of which the customer was aware at the time of purchase
- to personal negligence on the part of the customer
- in the case of third-party intervention

This guarantee does not affect your statutory rights. In order to make a claim within the warranty period, the customer is required to provide proof of purchase. Claims must be made within a period of 3 years from the date of purchase to BEURER GmbH, Söflinger Str. 218, 89077 Ulm, Germany. In the case of claims against the guarantee, the customer has the right to have the product repaired by us or in a workshop authorised by us. Further rights (of the guarantee) remain unaffected.

Customer service address

If you have any questions, please contact customer service:

(GB) Lifestyle Marketing International Ltd.
P. O. Box 584
WN1 9EX WIGAN
Phone: +44 870 879 0812
E-mail: customerservice@lifestylemi.com

(IRL) Brandlinx Direct Limited
Hainault House
Baldonnell Business Park
Dublin 22
Phone: +353 1 412 3606
E-mail: sales@brandlinx.ie

OUR COMMITMENT TO YOU: We aim to satisfy our customers by providing high-quality healthcare products and the best customer service. If you are not completely satisfied with this product, please contact customer service.

