



Blood Glucose Monitoring System

User's Manual





Blood Glucose Monitoring System

Dear VQPET™ H System User,

Thank you for choosing the VQPET™ H Blood Glucose Monitoring System! VQPET™ H Blood Glucose Monitoring System is designed for easy test of blood glucose and helps you monitor the blood sugar levels of your pet.

Read this User's Manual carefully before you use your meter system. Please keep your User's Manual in a safe place; you may want to refer it in the future.

Thank you again for choosing the VQPET™ H Blood Glucose Monitoring System.

Principle and Intended Use

The VQPET™ H Blood Glucose Monitoring System (Meter Model: VGM30) is designed to quantitatively measure the glucose concentration in venous blood and fresh capillary whole blood. The VQPET™ H Blood Glucose Monitoring System is based on measurement of electrical current caused by the reaction of the glucose with the reagents on the electrode of the test strip. The blood sample is pulled into the tip of the test strip through capillary action. Glucose in the sample reacts with glucose enzyme and the mediator. Electrons are generated, producing a current that is positive correlation to the glucose concentration in the sample. After the reaction time, the glucose concentration in the sample is displayed. The meter is calibrated to display plasma-like concentration results.

The VQPET™ H Blood Glucose Monitoring System is designed for use in home and clinical settings by pet owners and veterinarians. It is intended to use as an aid for persons with diabetic pets and by veterinarians to monitor glucose concentration in whole blood of cats, dogs, rabbits, rats and monitor the effectiveness of diabetes control. The system should not be used for diagnosis of diabetes.

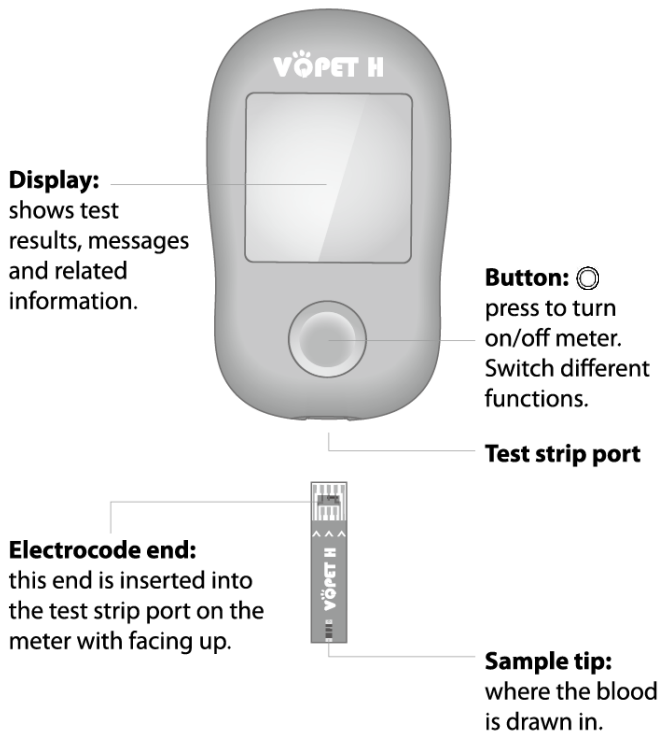
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CHAPTER 1: UNDERSTANDING YOUR TESTING TOOLS

Your Meter System Overview

The VQPET™ H Blood Glucose Meter and Test Strip.



Your Meter Display

The picture below shows all the symbols that appear on your meter display.



Icon	What it Means
88-18	Top left area on the screen indicates date.
88:88	Top right area on the screen indicates year or time.
d m	Date, month.
A	Indicates average value.
	Indicates low battery and that replacement is necessary.
88.8	Center area on the display that shows test results or error codes.
	Indicates the system is ready to test.
	Control test result.
$\frac{\text{mg}}{\text{dL}}$ $\frac{\text{mmol}}{\text{L}}$	Test results are displayed as mg/dL or mmol/L according to local government regulation.
	Indicates the test type.

Notes:

Your VQPET™ H Blood Glucose meter is pre-set with beep sound function, the meter will beep when:

- *set the date and time.*
- *set the test type.*
- *turn on the meter.*
- *the test strip is inserted and ready to apply blood or control solution.*
- *sufficient blood or control solution is pulled into the test strip.*
- *the test is complete.*
- *if any error occurs during operation.*

Meter Use and Precautions

- The meter is pre-set to display blood glucose concentration in either millimoles per liter (mmol/L) or milligrams per deciliter (mg/dL) depending on which unit of measure is standard in your country. This unit of measure cannot be adjusted.
- Do not get water or other liquids inside the meter.
- Keep the strip port area clean.
- Keep your meter dry and avoid exposing it to extremes in temperature or humidity. Do not leave it in your car.
- Do not drop the meter or get it wet. If you do drop the meter or get it wet, check the meter by running a quality control test. Refer to **Quality Control Test** for instructions.
- Do not take the meter apart. Taking the meter apart will void the warranty.
- Refer to the **Caring for Your Meter** section for details on cleaning the meter.
- Keep the meter and all associated parts out of reach of children.

Note: Follow proper precautions and all local regulations when disposing of the meter and used batteries.

All Glucose systems preventive warnings with regard to EMC

1. This instrument is tested for immunity to electrostatic discharge as specified in IEC 61000-4-2. However, use of this instrument in a dry environment, especially if synthetic materials are present (synthetic clothing, carpets, etc.) may cause damaging static discharges that may cause erroneous results.
2. This instrument complies with the emission and immunity requirements described in EN61326-1 and EN61326-2-6. Do not use this instrument in close proximity to sources of strong electromagnetic radiation. It may interfere with proper operation of the meter.
3. For professional use, the electromagnetic environment should be evaluated prior to operation of this device.

Important Safety Information

- Always keep the test strips in the original vial. Tightly close the vial immediately after you have removed the test strip.
- Do not use the meter if it is dropping into water or splashing water on to it.
- Test strips and lancets are for single use only.
- Do not drop blood directly on the flat surface of the test strip.
- Check the expiration dates and discard dates on your test strips vial label / foil pouch and control solution bottle label.
- Use only VQPET™ H Blood Glucose Test Strip with your VQPET™ H Blood Glucose Meter.
- Use only VQPET™ H Control Solution with your VQPET™ H Blood Glucose Monitoring System.



Potential Biohazard

All products or objects, which come in contact with pet's blood, even after cleaning, should be handled as if capable of transmitting viral disease.

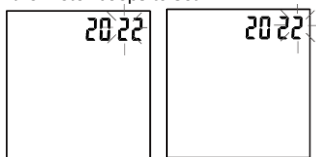
CHAPTER 2: SETTING UP YOUR SYSTEM

Before you first time using your meter or if you change your meter battery, you should check and update your meter settings.

Set the Date and Time

1. Enter the Setting Mode and Set the Date

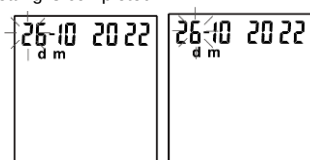
When the meter is off, press and hold  until the meter beeps to enter the set up mode with the number in the year position will now flash on the display. Press  to adjust it then press and hold  until the meter beeps to set. Then it will shift to next digit for setting. Repeat the above action until the year setting is completed. Press and hold  until the meter beeps to set.



The month will now flash. Press  to adjust the month, press and hold  until the meter beeps to set.

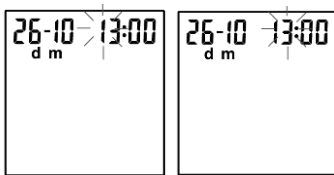


The date will now flash. Press  to adjust the date, press and hold  until the meter beeps to set. Then it will shift to next digit for setting. Repeat the above action until the date setting is completed.

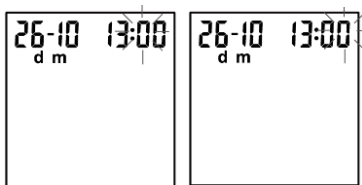


2. Set the Time

Press and hold  until the meter beeps to set, the hour will now flashing. Press  to adjust the current hour, press and hold  until the meter beeps to set. Then it will shift to next digit for setting. Repeat the above action until the hour setting is completed. press and hold  until the meter beeps to set.



The minute will now flash. Press  to adjust the minute, press and hold  until the meter beeps to set. Then it will shift to next digit for setting. Repeat the above action until the minute setting is completed.



Note:

Before you first time use your meter system for testing, please adjust the meter settings to set the correct date and time, ensuring that results stored in the memory are shown with the correct date and time.

Set the Test Type

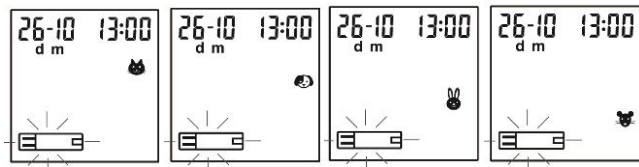
1. The Initial Test Type

After you complete the date and time setting, press and hold  until the meter beeps to enter the initial test type. Now a symbol of a test strip appears with flash letting you know the meter is ready to test.



2. Set the Test Type

The initial test type is cat, you can change the test type by press and hold  until the meter beeps. Then the test type will change to dog, rabbit, rat. A symbol of a test strip appears with flash letting you know the meter is ready to test.



In addition to this method, you can also change the test type under the testing mode by press and hold  until the meter beeps.

Note:

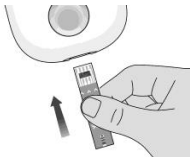
Once the test type is set, the meter system acquiesce to the change automatically until the next modification. And during the test, the screen will always display the head icon of the setting test type.

CHAPTER 3: TAKING A TEST

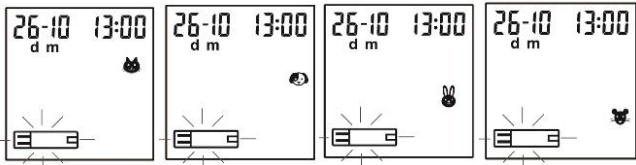
Set up your meter correctly and have all the materials you will need ready before you begin testing, including your VQPET™ H Blood Glucose Meter, VQPET™ H Blood Glucose Test Strips and VivaChek™ Lancing Device with VivaChek™ Lancets.

Preparing the Test Strip

1. Wash and dry your pet puncture site well before testing blood glucose for your pet.
2. Remove a test strip from the test strip vial or foil pouch. Tightly close the vial cap immediately after you have removed the test strip.
3. Insert the test strip into the meter in the direction of the arrows. Meter turns on after a beep.



4. A symbol with a test strip with flashing will appear letting you know the meter is ready to test.



Note:

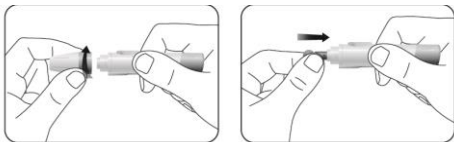
Check the expiration and discard dates on the test strip vial. All expiration dates are printed in Year-Month format. 2023-01 indicates January, 2023. Your VQPET™ H Blood Glucose Test Strips have 6 months shelf life after you first open the test strip vial. Write the discard date on the vial label when you first open it. Make sure the test strip does not appear damaged. Prior to testing, wipe and dry

the test site with an alcohol swab or soapy water. Make sure there is no cream or lotion on the test site.

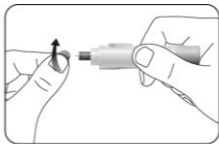
Preparing the Lancing Device

For sampling, adjust the depth penetration to reduce the discomfort.

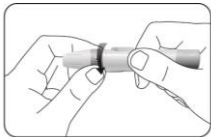
1. Unscrew the lancing device cover from the body of the lancing device. Insert a sterile lancet into the Lancing Device and push it until the lancet comes to a complete stop in the lancing device.



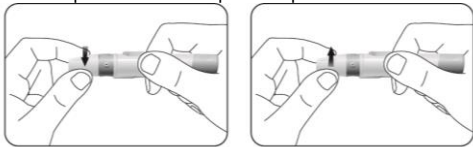
2. Hold the lancet firmly in the lancing device and twist the safety tab of the lancet until it loosens, then pull the safety tab off the lancet. Save the safety tab for disposing used lancet.



3. Carefully screw the cover back onto the lancing device. Avoid contact with the exposed needle. Make sure the cover is fully sealed on the lancing device.



4. Adjust the puncture depth by rotating the lancing device cover. There are a total of 5 puncture depth settings. To reduce the discomfort, use the lowest setting that still produces an adequate drop of blood.



Note:

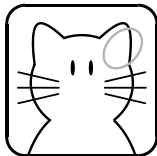
Greater pressure of the lancing device against the puncture site will also increase the puncture depth.

Getting a Blood Drop and Testing

1. Consult your veterinary doctor to get recommendations for the best sampling method and information on prefer puncture site.

To obtain a capillary blood sample you can choose the following sites:

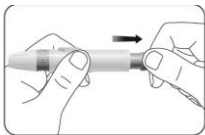
- The ear – (cats, dogs and rabbits)
- Paw (cats and dogs)
- Leg callus (dogs)
- Inner lip (dogs)
- Eye socket (rats)
- Tail (rats)





Or you can choose the venous blood to test.

2. Pull the cocking barrel back to set the lancing device. You may hear a click; to indicate the lancing device is now loaded and ready for obtaining a drop of blood.



3. Press the lancing device against the puncture site to be lanced with the cover resting on the site. Push the release button to prick puncture site. You should hear a click as the lancing device activates.
4. Gently massage from the base of the puncture site to obtain the required blood volume. Avoid smearing the drop of blood. Test immediately after a good blood drop has formed.
5. Immediately touch the tip of the test strip to the drop of blood. The blood pulled into the test strip through the tip. Make sure that the blood sample has been fully filled the check window on the strip tip. Hold the tip of the test strip in the blood drop until the meter beeps.

Note:

Sometimes it can be difficult to get a blood sample. Here are some recommendations how to improve the procedure:

- *Warming the puncture site by means of a warm cloth*
- *Gently rubbing of the puncture site*

Sometimes it is useful to puncture twice very nearby to form one blood drop out of

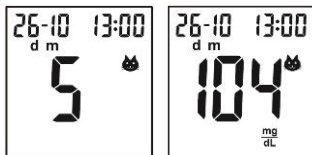
the punctures. It is important to motivate the animals by means of positive reinforcement like:

- Perform the blood glucose testing under calm and relaxed conditions
- Feed a "Goodie" as a reward

Note:

If the blood sample does not fill the check window, do not add a second drop. Discard the test strip and start over with a new test strip.

6. The meter counts down from 5 to 1, then the result appears on the display after a beep. The test result will automatically be stored in the meter memory. Please do not touch the test strip during the countdown as this may result in an error.



Note:

Remove the used strip meter will turn off automatically. See "Discard used test strip" instruction below. Meter shuts off automatically 2 minutes after inactivity.

Discard the Used Test Strip

You can discard the used test strip to the direction of arrow. Meter turns off automatically after a beep.





Potential Biohazard

Dispose of the used test strips as medical waste.

Expected Diabetes Control Goal:

	Cat	Dog	Rabbit	Rat
Non-diabetic pet glucose	47-151 mg/dL (2.6-8.4 mmol/L)	63-110 mg/dL (3.5-6.1 mmol/L)	75-145 mg/dL (4.2-8.1 mmol/L)	50-135 mg/dL (2.8-7.5 mmol/L)
Renal threshold	250 mg/dL (14 mmol/L)	180 mg/dL (10 mmol/L)	/	/

Questionable or Inconsistent Results:

If your pet's blood glucose result does not match how you feel, please:

- Check the expiration date and the discard date of the test strip. Make sure that the test strip vial has not been opened for more than 6 months.
- Confirm the temperature in which you are testing is between 5 and 45°C (41-113°F).
- Make sure that the test strip vial has been tightly capped.
- Make sure the test strip has been stored in cool, dry place.
- Make sure the test strip was used immediately after removing from the test strip vial or foil pouch.
- Make sure that you followed the test procedure correctly.
- Perform a control solution test (See **Performing a Control Test** for instructions).

After checking all of the conditions listed above, repeat the test with a new test strip. If you are still unsure of the problem, please contact your local dealer.

Removing the Used Lancet

Unscrew the lancing device cover. Place the safety tab of the lancet on a hard surface and carefully insert the lancet needle into the safety tab.



Press the release button to make sure that the lancet is in the extended position. Slide the ejection button forward to discard the used lancet. Place the lancing device cover back on the lancing device.



Potential Biohazard

Always dispose of the used lancet properly to prevent injury or contamination to others.



Caution:

- *Do not use the lancet if the safety tab is missing or loose when you take the lancet out of the bag.*
- *Do not use the lancet if the needle is bent.*
- *Be cautious whenever the lancet needle is exposed.*
- *In order to reduce the risk of infection from prior use of the instrument, always use a new, sterile lancet. Do not reuse lancets.*
- *Avoid getting the lancing device or lancets dirty with hand lotion, oils, dirt or debris.*

Testing with Control Solution

Why Perform Control Tests

Performing a control test lets you know that your meter and test strips are working properly to give reliable test results. You should perform a control test when:

- You open a new box of test strip

- You want to check the meter and test strips
- Your test strips were stored in extreme temperature or humidity
- After cleaning your meter
- You dropped the meter
- Your pet's test result does not match with how you feel

About the Control Solutions

- Only use VQPET™ H Control Solutions (Low, Normal or High) to practice on the system.
- The control solution results are not included in the average value calculation.
- All expiration dates are printed in Year-Month format. 2023-01 indicates January, 2023.
- Do not use control solution that is past the expiry date or discard date (the control solution will expire 6 months after the bottle is opened for the first time).
- Shake the bottle well before use.
- Close the bottle tightly after use.

Performing a Control Test

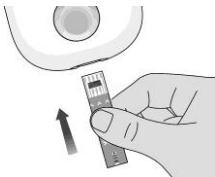
1. Press  to turn on the meter. A symbol of a test strip appears letting you know the meter is ready to test.



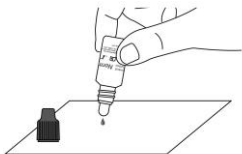
2. Remove a test strip from the test strip vial or foil pouch. Tightly close the vial cap immediately after you have removed the test strip.

Note: Check the expiration and discard dates of the test strips. Do not use the expired test strip.

3. Insert a test strip into the meter in the direction of the arrows.



4. Shake the control solution bottle thoroughly. Squeeze the control solution bottle gently and discard the first drop. Squeeze out a second small drop on a clean nonabsorbent surface.



Note:

Do not apply control solution to the test strip directly from the bottle.

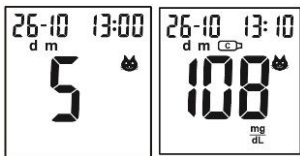
5. Immediately touch the tip of the test strip to the drop of control solution. The control solution is pulled into the test strip through the strip tip.



Note:

If the control solution sample does not fill the check window, do not add a second drop. Discard the test strip and start over with a new test strip.

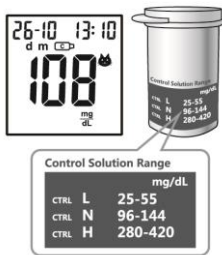
6. Hold it in the drop until the meter beeps, and then you see the meter count down on the screen and followed with your control test result after a beep.



Note: Control results are not included in the 7, 14 and 30 day average calculation.

Understand Your Control Test Result

Compare your control test result with the ranges printed on the test strip vial label or on the foil pouch.



Notes:

If your control test result is out of range:

- Check the expiration dates and discard dates of the test strip and control solution. Make sure that the test strip vial has not been opened for more than 6 months and the control solution bottle has not been opened for more than 6 months. Discard any expired test strips or control solution.
- Confirm the temperature in which you are testing is between 10 and 40°C (50-104°F).
- Make sure that the test strip vial and the control solution bottle have been tightly capped.
- Make sure the test strip was used immediately after removing from the test strip vial or foil pouch.
- Make sure the control solution was mixed well.
- Confirm that you are using VQPET™ H brand control solution.
- Make sure that you followed the test procedure correctly.

After checking all of the conditions listed above, repeat the control solution test with a new test strip. If your results still fall out of the range indicated on the test strip vial label or on the foil pouch, your meter or test strips may not be working properly. **DO NOT** use the system to test blood. Contact your dealer for help. To turn your meter off, just remove the test strip. Dispose of the used test strips as medical waste. Control results will be not included in your blood glucose averages.

Using the Meter Memory

Your meter automatically stores up to 300 results with the time and date. Test results are stored from the newest to the oldest. The meter will also calculate the average values of records from the last 7, 14 and 30 days.

Notes:

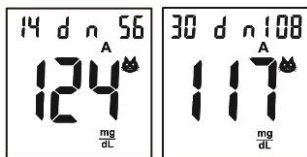
- *If there are already 300 records in memory, the oldest record will be erased to make room for a new one.*
- *It is very important to set the correct time and date in the meter, please make sure the time and date are correct after you change your battery.*
- *Control results are not included in the 7, 14 and 30 day average calculation.*

Viewing Your Test Results

When your meter is off, press  to turn meter on after a beep, a symbol of strip flashes on the display, press  again, the 7 day average will appear in the center of the display with the number of results shown at the top of the display. If you want to review the memory after you immediately performed a test, with the test result on the display, press  to see the 7 day average.



Press  to view the 14 day average. Press  again to review the 30 day average.



Continue to press  to review previous results in order. Results will be shown starting with the most recent. Each result will show the date and time the test was taken.



When END appears on the display, you have viewed all of the results in the memory.



CHARTER 4: MAINTENANCE AND TROUBLESHOOTING

Proper maintenance is recommended for best results.

Changing the Battery

Then the meter needs to be replaced, the battery symbol



will appear.

1. Turn off your meter before changing battery.
2. Press firmly on the battery cover and slide in the direction of the arrow.

Note:

After you change battery, your meter prompts you to confirm the meter's time and date settings. All test results are saved in memory. If you take out the battery when your meter is turned off, date and time setting will be saved for one minute, insert the new battery immediately, you do not need to reset the meter.

3. Remove the old battery by lifting old battery.
4. Place new battery under the prongs and into the battery compartment with the "+" side up (Use one 3-volt CR 2032 lithium battery).
5. Slide the battery cover back into place, lining up with the open slots, and close firmly.



Warning:

Keep battery away from children. Lithium battery is poisonous. If swallowed, immediately contact your doctor or poison control center. Discard battery according to your local environmental regulations.



Caring for Your Glucose Monitoring System

Blood Glucose Meter

Your VQPET™ H Blood Glucose Meter does not require special maintenance or cleaning. A cloth dampened with water and a mild detergent solution can be used to wipe the outside of the meter. Take care to avoid getting liquids, dirt, blood or control solution into the meter through the strip or data port. It is recommended that you store the meter in the carrying case after each use.

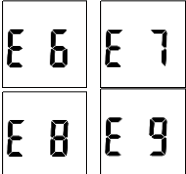
The VQPET™ H Blood Glucose Meter is a precision electronic instrument. Please handle it with care.

Lancing Device

Clean the lancing device using a soft cloth with mild soap and warm water as required. Use 70% Isopropyl Alcohol to disinfect the lancing device. Carefully dry the lancing device. Do not immerse the lancing device in liquid.

Troubleshooting Guide

What You See	What It Means	What You Should Do
	Add sample before the flashing blood drop appears.	Discard the test strip and repeat the test with a new test strip. Add sample after you see the flashing blood drop on the display.
	The meter is sensing a used or contaminated test strip.	Discard the test strip and repeat the test with a new test strip. Wait until you see the flashing blood drop on the display before testing.
	Incorrect test strip.	Discard the test strip and repeat the test with a new test strip. Make sure that you are using a VQPET™ H Blood Glucose Test Strip from VivaChek Biotech (Hangzhou) Co., Ltd.

	Incorrect sample.	Discard the test strip and repeat the test with a new test strip. Make sure that you are using blood sample or VQPET™ H control solution.
	Temperature out of range.	Move to an area that is within the operating temperature for the meter. Let the meter adjust to this temperature for 20 minutes before performing a test.
	Potential hardware issue.	Take out battery and restart the meter. If the problem continues, contact your local dealer.
	The blood sample does not fill the check window.	Do not add a second drop. Discard the test strip and start over with a new test strip.
	Test result is below 10 mg/dL (0.6 mmol/L).	Repeat the test using a new test strip. If your result still flashes LO, contact your veterinarians as soon as possible.
	Test result is above 600 mg/dL (33.3 mmol/L).	Wash and dry your hands well and the test site. Repeat the test using a new test strip. If your result still flashes HI, contact your veterinarians as soon as possible.

CHAPTER 5: TECHNICAL INFORMATION

System Specifications:

Feature	Specification
Measurement range	10 to 600 mg/dL (0.6 - 33.3 mmol/L)
Result calibration	Plasma-equivalent
Sample	Cat, Dog, Rabbit, Rat's fresh venous or capillary whole blood
Sample volume:	About 0.5 μ L
Test time	About 5 seconds
Power source	One (1) CR 2032 3.0 V coin cell battery
Battery life	12 months or approximately 1,000 tests
Glucose units of measure	The meter is pre-set to either millimoles per liter (mmol/L) or milligrams per deciliter (mg/dL) depending on the standard of your country
Memory	Up to 300 records with date and time
Automatic shutoff	2 minutes after last action
Dimensions	79 mm $\times$ 48 mm $\times$ 18 mm
Display size	30 mm $\times$ 31 mm
Weight	Approximately 39g (with battery installed)
Operating temperature	5 - 45°C
Operating relative humidity	10 - 90% (non-condensing)
Hematocrit range	0 - 70%

Limitations

The VQPET™ H Blood Glucose Meter, Test Strips and Control Solution are been designed, tested and proven to work together effectively to provide accurate blood glucose measurements. Do not use components from other brands.

- Cat, Dog, Rabbit and Rat's fresh venous or capillary blood may be collected into test tubes containing sodium heparin, lithium heparin if the blood is used within 10 minutes. Do not use sodium fluoride/oxalate or other anticoagulants or preservatives.
- Use only with whole blood. Do not use with serum or plasma samples.
- Very high (above 70%) hematocrit levels can cause false results. Consult your veterinary doctor to find your pet's hematocrit level.
- Abnormally high levels of vitamin C and other reducing substances will produce false high blood glucose measurements.
- The system is tested to accurately read the measurement of glucose in whole blood within the range of 10 to 600 mg/dL (0.6 - 33.3 mmol/L).
- Fatty substances (triglycerides up to 3,000 mg/dL or cholesterol up to 500 mg/dL) have no major effect on blood glucose test results.
- The VQPET™ H Blood Glucose Monitoring System has been tested and shown to work properly up to 10,000ft (3,048 meters).
- Dispose of blood samples and materials carefully. Treat all blood samples as if they are infectious materials. Follow proper precautions and obey all local regulations when disposing of materials.

Index of Symbols

These symbols may appear on the packaging and in the instructions for the VQPET™ H Blood Glucose Monitoring System.

Symbols	Explanation
	Consult instructions for use
	Manufacturer
	Authorized representative in the European Community
	Temperature limitations
	Contains sufficient for <n> tests
	Use by
	Lot Number
	Sterilized using irradiation
	Control range
	Catalog number
	Model number
	Serial Number
	Do not re-use
	Caution, consult accompanying documents
	Dispose items according to local relevant laws regarding disposal and recycle
	Keep away from sunlight and heat
	Use by 6 months from the opening