

VIVOHOME

# THANK YOU!

## NOTE:

To continuously improve its products, VIVOHOME reserves the right to modify this information without prior notification.

For any questions regarding assembly, please watch the video on the product page or contact our customer service. Our customer service will gladly assist you with any additional questions, comments, or concerns.

Thank you for using VIVOHOME products in your home!

Thank You for Purchasing from

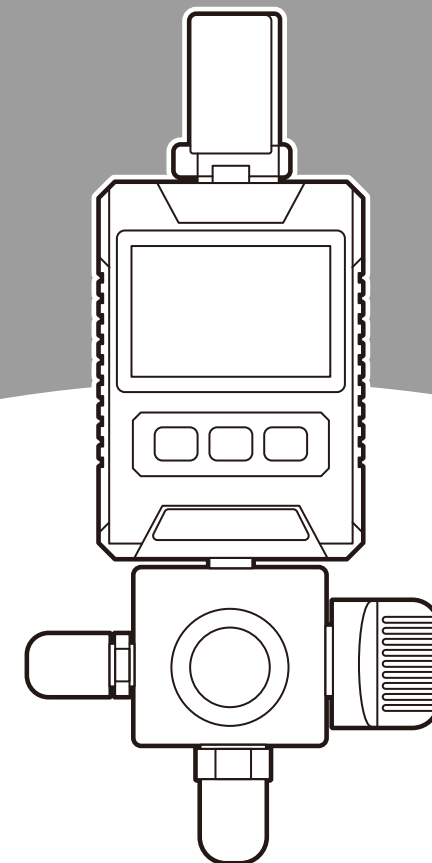
VIVOHOME

Made in China

VIVOHOME

# HOW-TO

## USER MANUAL



## Digital Vacuum Pressure Manifold Gauge

Assembly is EASY!

**WE WANT  
YOU TO  
ENJOY LIFE  
AT HOME**

GO TO THE PRODUCT LISTING PAGE  
FOR AN INSTRUCTIONAL VIDEO!

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The instruction manual is an integral part of the instrument. Please read this documentation carefully and familiarize yourself with the product before putting it to use.

Pay particular attention to the safety instructions and warning advice in order to prevent injury and damage to the product.

### Symbols and writing standards

 Indicates a reminder or further description of a feature

 Warning: Serious physical injury may occur.



1. Do not operate the instrument if there are signs of damage to the housing or hoses.
2. Do not perform contact measurements on non-insulated, live parts.
3. Do not store the product with solvents. Do not use desiccants on the instrument itself.
4. Dangers may also arise from the refrigeration systems being measured or the measuring environment. Always note and comply with the local safety regulations applicable to your work area.
5. Dropping the instrument or subjecting it to comparable mechanical shock can break the filling tube and damage the control valve. To ensure safety, replace the filling tube with a new one and check the condition of the instrument.



1. The instruments are digital refrigerant meters for the maintenance and servicing of refrigeration systems and heat pumps.
2. They should only be operated by qualified or trained personnel.
3. The instruments are compatible with most non-corrosive refrigerants, as well as water and glycol.
4. The instruments are not compatible with refrigerants containing ammonia.
5. The products must not be used in potentially explosive atmospheres!



### 1. Parameter

|                                  |                                              |
|----------------------------------|----------------------------------------------|
| Pressure measurement range       | -14.5~800psi                                 |
| Pressure display resolution      | 0.5psi                                       |
| Pressure measurement accuracy    | ±0.5%FS                                      |
| Pressure unit                    | kPa, MPa, psi, inHg, bar, kg/cm <sup>2</sup> |
| Temperature measurement range    | -58°F~302°F (-50°C~150°C)                    |
| Temperature display resolution   | 0.18°F (0.1°C)                               |
| Temperature measurement accuracy | ±0.9°F (±0.5°C)                              |
| Temperature unit                 | °F, °C                                       |
| Operating temperature            | 14°F~122°F (-10°C~50°C)                      |

-  1. Measurement target exceeding the range is displayed as "----"
2. The customer must provide two AAA batteries (not included).

## 2. Functional overview and configuration differences

This pressure manifold gauge series is available in three different configurations.

The functions and included components of each model are described below.

### SKU: VH1882

Product Name: VIVOHOME Digital Vacuum Pressure Manifold Gauge

Functions (Gauge Only):

When used as a standalone digital vacuum pressure manifold gauge, this model can:

- 1) Measure pressure parameters
  - High-side pressure or low-side pressure
- 2) Measure refrigerant saturation temperature
  - Evaporating temperature (low side) or
  - Condensing temperature (high side)

### SKU: VH1883

Product Name: VIVOHOME Digital Vacuum Pressure Manifold Gauge with Temperature Clamp

Functions (Gauge + Temperature Clamp):

When used together with the temperature clamp, this model can:

- 1) Measure pressure parameters
  - High-side pressure or low-side pressure
- 2) Measure refrigerant saturation temperature
  - Evaporating temperature or condensing temperature
- 3) Measure superheat or subcooling
  - Calculated based on pressure readings and temperature clamp data

### SKU: VH1884

Product Name: VIVOHOME Digital Vacuum Pressure Manifold Gauge with Temperature Clamp and Tubes

Functions (Complete Configuration):

This model includes the gauge, temperature clamp, refrigerant hoses, and safety valves, and supports the following functions:

- 1) Measure pressure parameters
  - High-side pressure or low-side pressure
- 2) Measure refrigerant saturation temperature
  - Evaporating temperature or condensing temperature
- 3) Measure superheat or subcooling
- 4) Includes two refrigerant hoses:
  - Red hose: Used for measuring high-side or low-side pressure
  - Yellow hose: Used for refrigerant charging
- 5) Includes two anti-freeze safety valves:
  - One with 1/4" SAE External to 1/4" SAE Internal connections.
  - One with 1/4" SAE External to 5/16" SAE Internal connections.

Purpose: To ensure safe refrigerant flow and prevent accidental contact with frozen components during operation.

3. Button function

|                                                                                   | Press (1 second)                                                                                                         | Long Press (3 seconds) |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------|
|  | 1. Arrow Key<br>2. Change of refrigerant (SH/SC Measuring interface)<br>3. Other functions: follow the on-screen prompts | Pressure zeroing       |
|  | 1. Arrow Key<br>2. Change of refrigerant (SH/SC Measuring interface)<br>3. Other functions: follow the on-screen prompts | Turn on the backlight  |
|  | 1. Turn on the device<br>2. Open the Functions menu<br>3. Confirm your selection                                         | Turn off the device    |

 Pressure zeroing should be performed when the instrument is not connected to the target system and the instrument measurement interface is connected to the atmosphere. Incorrect zeroing will lead to inaccurate measurements. Following the correct method to re-zero will restore normal operation.

4. Icon description

|                                                                                     |                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Temperature probe connected                                                                                                                                                                  |
|  | Auto Power Off                                                                                                                                                                               |
|  | Battery level<br>Display  when the battery is nearly depleted and should be replaced as soon as possible. |

SECTION E  
Setting Before Use



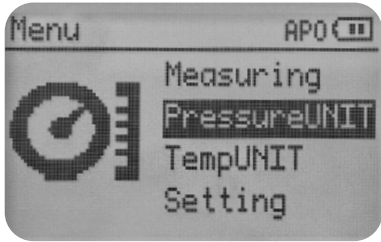
1. Unit of measure

The unit of measure has a memory function and does not need to be reset after switching on or off. For user convenience, the unit setting option is located on the first page of the menu.

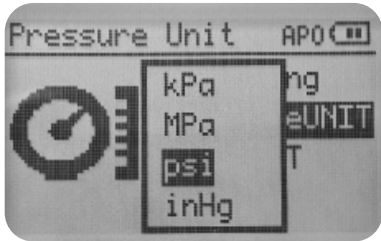
Set the pressure unit

Press the **[Enter]** key to open the menu.

Press the **[▲]/[▼]** key to select **Pressure Unit** and press the **[Enter]** key to confirm.

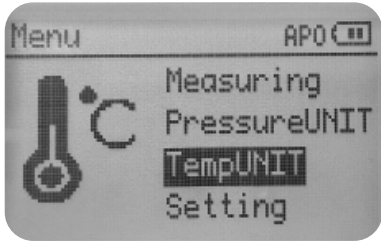


Press the **[▲]/[▼]** key to select in the **Pressure Unit** menu and press the **[Enter]** key to confirm.

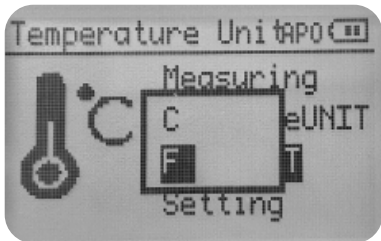


Set the temperature unit

Press the **[▲]/[▼]** key to select **Temp Unit** and press the **[Enter]** key to confirm.



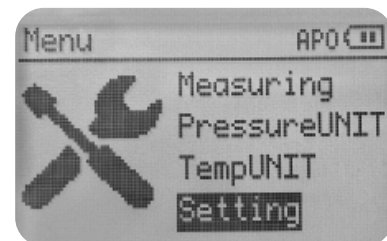
Press the **[▲]/[▼]** key to select in the **Temperature Unit** menu and press the **[Enter]** key to confirm.



## 2. System parameter

Press the **[Enter]** key to open the menu.

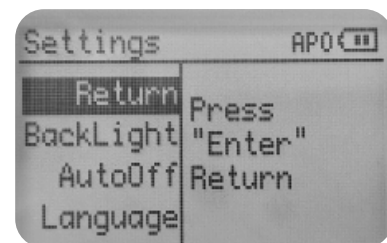
Press the **[▲]/[▼]** key to select **Setting** and press the **[Enter]** key to confirm.



The instrument enters the second page of the **Setting** menu.

Available settings include:

BackLight Time  
AutoOff Time  
Language



### Set the backlight time

Press the **[▲]/[▼]** key to select the backlight and press the **[Enter]** key to activate the **Setting** options.

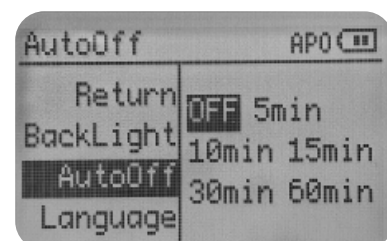
Press the **[▲]/[▼]** key to select the **Setting** option and press the **[Enter]** key to confirm.



### Set the Auto-off time

Press the **[▲]/[▼]** key to select the **Auto Off** and press the **[Enter]** key to activate the **Setting** options.

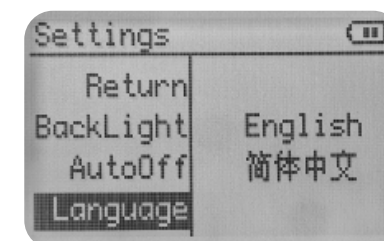
Press the **[▲]/[▼]** key to select the **Setting** option and press the **[Enter]** key to confirm.



### Set the language

Press the **[▲]/[▼]** key to select the **Language** and press the **[Enter]** key to activate the setting options.

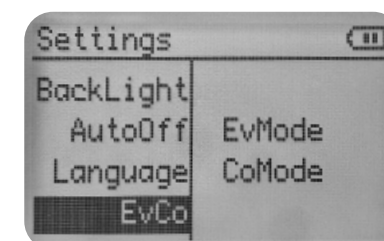
Press the **[▲]/[▼]** key to select the **Setting** option and press the **[Enter]** key to confirm.



### Set the service point

Press the **[▲]/[▼]** key to select the **EvCo** and press the **[Enter]** key to activate the setting options.

Press the **[▲]/[▼]** key to select the **Setting** option and press the **[Enter]** key to confirm.



### Highlights of EvCo setup options

This setting option is the EvMode by default, and the differences between the two setting options are as follows:

**EvMode:** The instrument displays the evaporation saturation temperature of the refrigerant and automatically calculates the superheat after connecting the temperature probe.

**CoMode:** The instrument displays the condensation saturation temperature of the refrigerant and automatically calculates the subcooling after connecting the temperature probe.





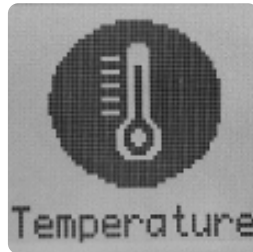
The instrument has 5 measurement modes:



SH/SC



Leak Test



Temperature



AC ECG



SH/SC

This mode measures the following system parameters::

1. High pressure or Low pressure
2. Refrigerant evaporating or condensing temperatures
3. Temperature of suction line or Temperature of liquid line
4. Superheat or Subcooling

⚠ An NTC temperature probe can be connected to measure the pipe temperature and automatically calculate the degree of superheat or subcooling.

Whether the instrument displays evaporating/condensing temperature and calculates superheat or subcooling is determined by the EvCo setting, as detailed in section E.

**Superheat Measurement:** Hand-tighten the low-side hose to the suction line service port. Attach the pipe clamp to the suction line between the evaporator and the compressor, ensuring it is positioned at least 6 inches away from the compressor.

**Subcooling Measurement:** Hand-tighten the high-side hose to the liquid line service port. Attach the pipe clamp to the liquid line between the condenser and the expansion valve (TXV), positioning it as close to the service port as possible.

**Stabilization Time:** After starting the system or making any system adjustments, allow the system to operate for at least 15 minutes before charging by superheat or subcooling to ensure stable operating conditions.



Leak Test

This mode measures the following values of the system:

1. Initial pressure
2. Current pressure
3. Test time
4. Differential pressure



Temperature

This mode provides dual-temperature and temperature-difference measurement. One channel (via the external probe) measures the outdoor temperature, while the other (via the built-in sensor) measures the indoor temperature. The instrument calculates the indoor-outdoor temperature difference, which helps quantify the heating or cooling efficiency of the air conditioning system.



AC ECG:

This mode uses a curve-generation algorithm to visualize compressor pressure pulsation as an ECG-like waveform. It can adjust the display scale for different amplitude levels to accommodate various operating conditions of the air conditioning system.



## ⚠ WARNING

Risk of injury caused by refrigerant that is under high pressure, hot, cold or toxic!

### Please take precautions for your safety!

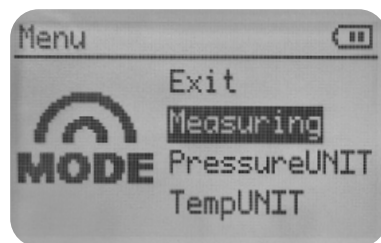
1. Wear protective goggles and safety gloves.
2. Comply with the permissible measuring range (-14.5 to 800 psi)
3. Before each measurement, check the refrigerant hoses are intact and connected properly.
4. Before applying pressure to the instrument: Be sure to secure the instrument to prevent it from falling.

The above precautions cannot anticipate the complexities of the actual premises and therefore cannot completely prevent accidental injuries from occurring, so please be proactive in identifying potential hazards and comply with local regulations and standards.

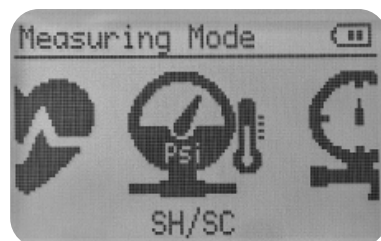
## 1. Pressure temperature inspection and Refrigerant filling

Press the **[Enter]** key to open the menu.

Press the **[▲]/[▼]** key to select **Measuring** press the **[Enter]** key to confirm.



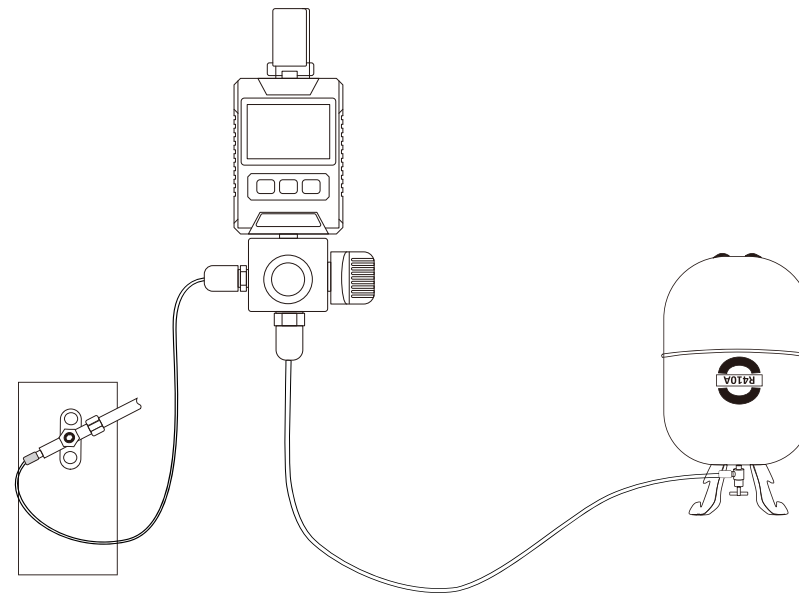
Enter the **Measuring** menu, press the **[▲]/[▼]** button to select **SH/SC**, and press the **[Enter]** button to confirm.



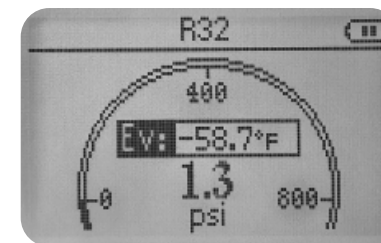
Short press **▲▼** to select the correct refrigerant.

Keep the instrument connector connected to the atmosphere, long press **▲** to zero the pressure.

Connect the refrigerant hose to the target system to begin testing or filling.

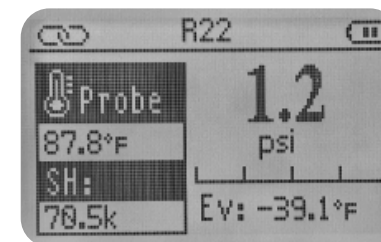


Without a temperature probe connected, the instrument only displays the measured pressure and saturation temperature parameters.



Connecting the temperature probe to display more measurement parameters.

1. High pressure or Low pressure
2. Refrigerant evaporating or condensation temperatures
3. Temperature of suction line or Temperature of liquid line
4. Superheat or Subcooling





## 2. Pressure leak test

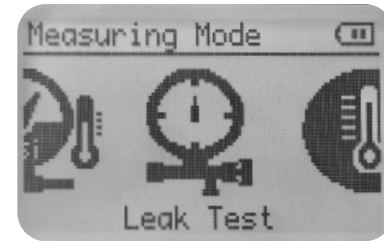
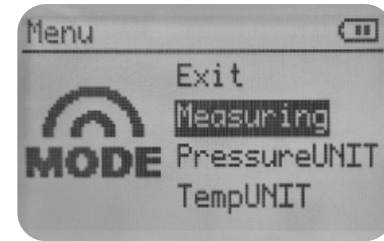
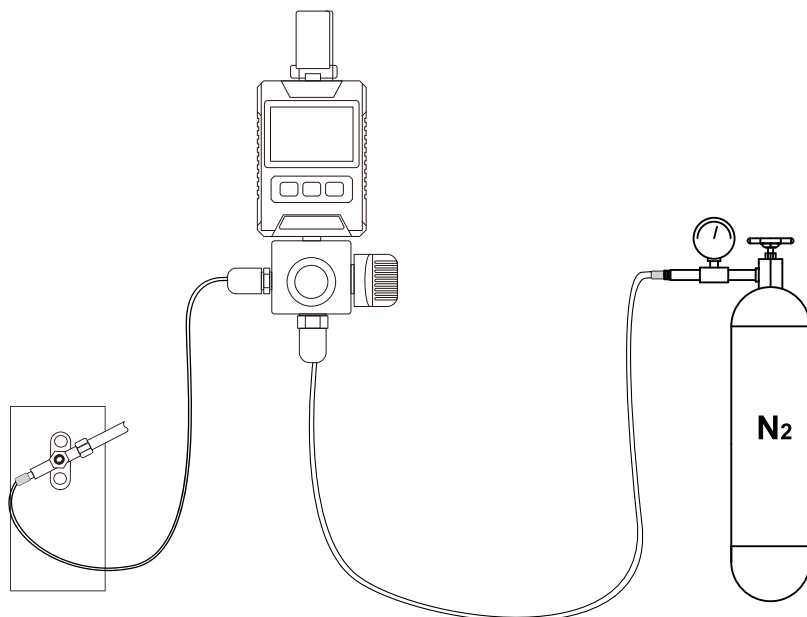
Press the **[Enter]** key to open the menu

Press the **[▲]/[▼]** key to select **Measuring** press the **[Enter]** key to confirm.

Enter the **Measuring** menu, press the **[▲]/[▼]** button to select **Leak Test**, and press the **[Enter]** button to confirm.

Keep the instrument connector connected to the atmosphere, long press **[ZERO]** to zero the pressure. During the pressure holding test, the pressure value cannot be automatically reset to zero.

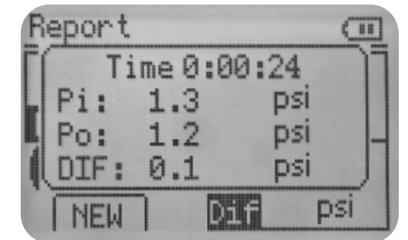
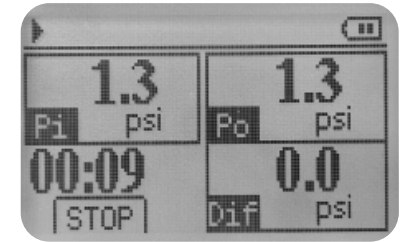
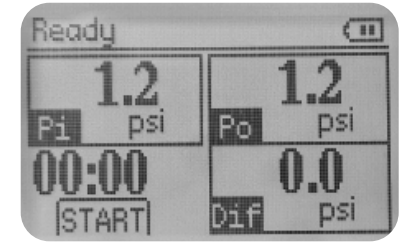
Connect the refrigerant hose to the target system and the yellow-fluoride hose to the N2 source.



Press **[ZERO]** key to start the leak test.

During the test, press **[ZERO]** key to stop the leak test.

After stopping, the test result is displayed and press **[ZERO]** key to start a new test.

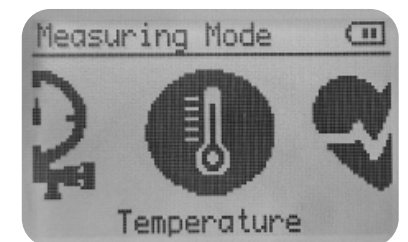
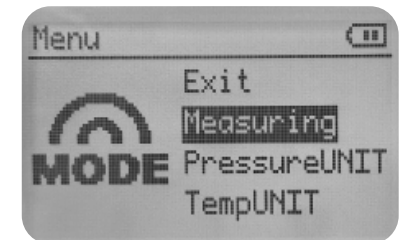


## 3. Temperature

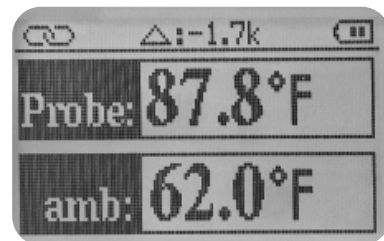
Press the **[Enter]** key to open the menu.

Press the **[▲]/[▼]** key to select **Measuring** press the **[Enter]** key to confirm.

Enter the Measuring menu, press the **[▲]/[▼]** button to select **Temperature**, and press the **[Enter]** button to confirm.



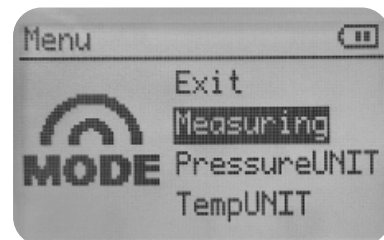
The instrument displays two-way temperature and temperature difference.



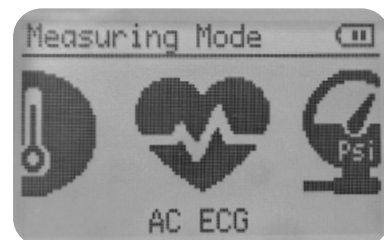
#### 4. AC ECG

Press the **[Enter]** key to open the menu.

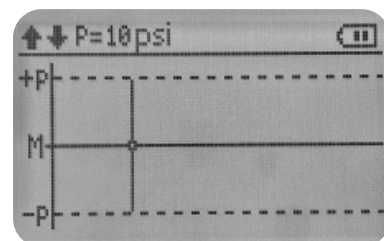
Press the **[▲]/[▼]** key to select **Measuring**, press the **[Enter]** key to confirm.



Enter the **Measuring** menu, press the **[▲]/[▼]** button to select **AC ECG**, and press the **[Enter]** button to confirm.



Press the **[▲]/[▼]** keys to select the appropriate display amplitude to allow the screen to maximize the display of the complete pressure fluctuation curve.



## SECTION H Maintenance



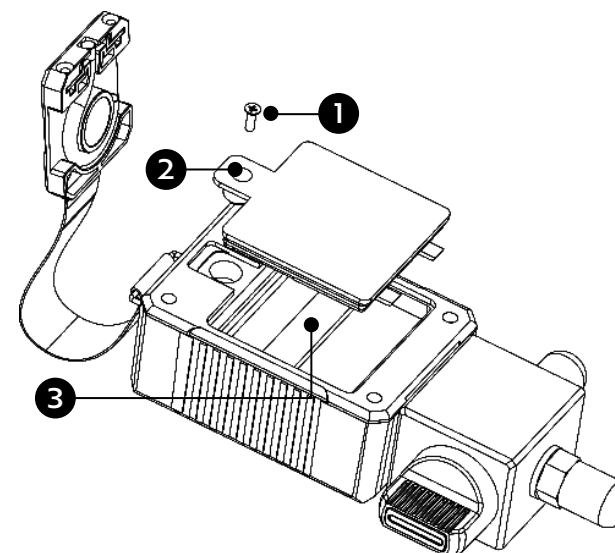
### 1. Cleaning the instrument

- Do not use any aggressive cleaning agents or solvents! Mild household cleaning agents and soap suds may be used.
- Carefully blow out oil residues in the valve block using compressed air
- Clean interface bolts with a damp cloth as needed.

### 2. Keeping connections clean

Promptly store the instrument in the carrying case after use to prevent dust from entering through the hoses.

### 3. Changing batteries



- 1 Loosen the fixing screws of the battery compartment cover.
- 2 Snap open the battery compartment cover along the groove at the top of the compartment.
- 3 Remove the spent batteries and insert new ones into the battery compartment. Observe the correct polarity (+/-).



## US NIST standard data for 88 refrigerants

|         |         |       |       |       |        |         |
|---------|---------|-------|-------|-------|--------|---------|
| R113    | R114    | R115  | R116  | R12   | R123   | R1233ZD |
| R1234ZE | R1234YF | R124  | R125  | R13   | R134A  | R14     |
| R141b   | R143A   | R152A | R170  | R22   | R227EA | R23     |
| R236FA  | R245FA  | R290  | R32   | R401A | R401b  | R401C   |
| R402A   | R402b   | R403b | R404A | R406A | R407A  | R407b   |
| R407C   | R407D   | R407F | R408A | R409A | R410A  | R410b   |
| R412A   | R413A   | R414A | R414B | R416A | R417A  | R417C   |
| R420A   | R421A   | R421b | R422A | R422b | R422C  | R422d   |
| R424A   | R426A   | R427A | R428A | R429A | R433B  | R434A   |
| R436A   | R437A   | R438A | R441A | R443A | R448A  | R449A   |
| R450A   | R452A   | R452b | R453A | R454A | R454b  | R455A   |
| R458A   | R500    | R502  | R503  | R507A | R508A  | R508b   |
| R514A   | R600    | R600A | R601A | /     | /      | /       |



The VIVOHOME warranty program is our commitment to you. We are committed to providing you with a high-quality product that meets your needs and expectations. To demonstrate our confidence in the durability and performance of our products, we offer the following warranty.

**WARRANTY COVERAGE**

This warranty applies to all orders, purchases, or use of products sold only by VIVOHOME and is valid for 1 year from the purchase date. Please note, this warranty only covers the original order. If a replacement is provided within the warranty period, it does not extend the warranty.

**WARRANTY EXCLUSIONS**

This warranty applies to all orders, purchases, or use of products sold only by VIVOHOME and is valid for 1 year from the purchase date. Please note, this warranty only covers the original order. If a replacement is provided within the warranty period, it does not extend the warranty.

- Loss of parts during use.
- Normal wear and tear of products or parts.
- Incorrect installation (e.g., using the wrong voltage) or improper assembly.
- Overloading the product's bearing capacity.
- Usage in extremely harsh conditions.
- Improper cleaning or lack of maintenance.
- Damage resulting from unintended use of the product.
- Damage resulting from unauthorized modifications or service.
- Indirect losses or damages related to the product.



## HOW TO MAKE A WARRANTY CLAIM

If you encounter any defects affecting the product's functionality or if the product fails and cannot be repaired during the warranty period, please reach out to our customer service team via email, Amazon, or our app's messaging service at your earliest convenience. To expedite your claim, kindly include:

- Order number
- Photos and/or videos illustrating the issue
- A detailed description of the problem

VIVOHOME will provide technical support, replacement, refund, or other solutions based on the issue's specifics. If you wish to return the original package for any reason, please contact us for confirmation before initiating the return. You can expect a response within 48 hours.

Thank you for choosing VIVOHOME. We are dedicated to ensuring your satisfaction and the quality of your purchase. If you have any questions or need further assistance, please don't hesitate to reach out to our customer service team.