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NX1G(V)
NX4G(V)
Nexus 2 Digital Manifold Gauge
User Manual

Failure to follow warnings could result in death or serious injury.

SAVE THIS MANUAL FOR FUTURE REFERENCE

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CONTENTS

FCC Regulatory Compliance:
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

⚠ Warning
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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RF Exposure Compliance:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
To maintain compliance with the RF exposure requirement, a separation distance of 20 cm between the device and the human should be maintained.

IC Regulatory Compliance:
This device complies with Industry Canada's licence-exempt RSSs.Operation is subject to the following two conditions:
(1) This device may not cause interference; and
(2) This device must accept any interference, including interference that may cause undesired operation of the device.
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(3) l'appareil ne doit pas produire de brouillage;
(4) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment.
To maintain compliance with the RF exposure requirement, a separation distance of 20 cm between the device and the human should be maintained.
Cet équipement est conforme aux limites d'exposition au rayonnement du CI établies pour un environnement non contrôlé.
Déclaration d'exposition Attention: Cet émetteur doit être installé pour fournir unedistance de separation d'au moins 20 cm de toute personne.

1. Preface

The NX1G/NX4G Digital Manifold Gauge integrates high-precision pressure, vacuum, and temperature measurement. It features a built-in refrigerant database, Bluetooth pairing with temperature clamps, automatic subcooling/superheat calculation, and wireless report generation via APP, enabling fully digitalized refrigerant charging and fault diagnosis.

Equipped with a 6.67-inch full-color touchscreen (vs. traditional monochrome segmented displays and mechanical buttons), it delivers intuitive visual feedback and seamless operation. The high-precision pressure conditioning chip ensures stability across full ranges with automatic temperature compensation. With 100 built-in refrigerants and expandable library via APP, it guarantees accurate, convenient measurements under varying conditions.

Please read this manual carefully before operating, servicing, or maintaining the product. Doing so will help ensure long term stable performance and provide a comprehensive understanding of the safety considerations and precautions associated with its use and operation.
Please carefully check if the product you received matches the one you ordered and ensure that the accessories and instruction manual are included. In addition, inspect for any damage that may have occurred during transportation. If you notice any of these issues, kindly contact our marketing department or local distributor promptly.
Reading the manual carefully and following the correct operating procedures will help ensure safe usage and extend the equipment's service life.

Only qualified personnel trained in the maintenance and installation of air conditioning and/or refrigeration equipment may use this product.

⚠ Warning
This product operates under high pressure. Follow all safety guidelines regarding refrigerant handling including wearing Personal Protective Equipment such as safety glasses, and gloves.

2. Product Overview

① Except NX1G(V)

3. Technical Specification

Model	NX1G	NX1GV	NX4G	NX4GV
Accessory	2 Temperature Clamps, Charging Cable, Carry Case	NMV1S Micron Gauge in additional to the NX1G Kit	2 Temperature Clamps, Charging Cable, Carry Case	NMV1S Micron Gauge in additional to the NX4G Kit
100 Refrigerant Types	R-11, R-113, R-114, R-115, R-116, R-12, R1224yd(Z), R-123, R1233zd, R1233zd(E), R1234yf, R1234ze, R1234ze(E), R1234ze(Z), R-124, R1243zf, R-125, R-13, R-134a, R-22, R-23, R-236fa, R-245fa, R-290, R-32, R-401A, R-401B, R-401C, R-402A, R-402B, R-403A, R-403B, R-404A, R-405A, R-406A, R-407A, R-407B, R-407C, R-407D, R-408A, R-409A, R-41, R-410A, R-410B, R-411A, R-411B, R-412A, R-413A, R-414A, R-414B, R-415A, R-415B, R-416A, R-417A, R-417C, R-420A, R-421A, R-421B, R-422A, R-422B, R-422C, R-422D, R-424A, R-427A, R-428A, R-434A, R-437A, R-438A, R-447A, R-447B, R-448A, R-449A, R-450A, R-451A, R-451B, R-452A, R-452B, R-452C, R-453A, R-454A, R-454B, R-454C, R-455A, R-456A, R-458A, R-459A, R-459B, R-460A, R-460B, R-500, R-501, R-502, R-503, R-507A, R-508B, R-513A, R-600, R-600a, R-601, R-601A			
Max. Over Pressure	-29inHg ~ 1087psi			
Pressure Unit	bar, Mpa, -Kpa, psi, kgf/cm^2			
Vacuum Unit	Pa, micron, mBar, mmHg			
Temperature Unit	°C ,°F			
Pressure Scale	±0.5% Full range			
Resolution	0.01 bar, 0.001Mpa, 1Kpa, 0.1psi, 0.01kgf/cm^2			
Temperature Resolution	14~140°F (Charging: 32~104°F)			
Battery	4000 mAh Li-polymer			
Connection	7/16" UNF			
Sensor	Digital Sensor			
Unit Dimension	7.9"x2.8"x7.3"		8.1"x2.8"x8.5"	
Unit Weight	4 lbs	4.4 lbs	4.5 lbs	4.8 lbs

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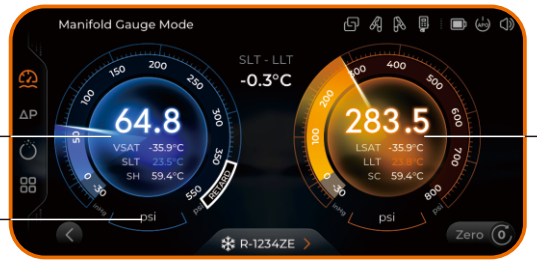
4. Indicator Light

Always on/ Flashing	Power on
	Fully charged
	Charging
	Battery Below 10%
	Bluetooth Connected
	Bluetooth Disconnected

5. Icons

Four modes available: **Manifold Gauge Mode**, **Leak Test Mode**, **Evacuation Mode**, and **Settings Mode**. Tap icons to switch.

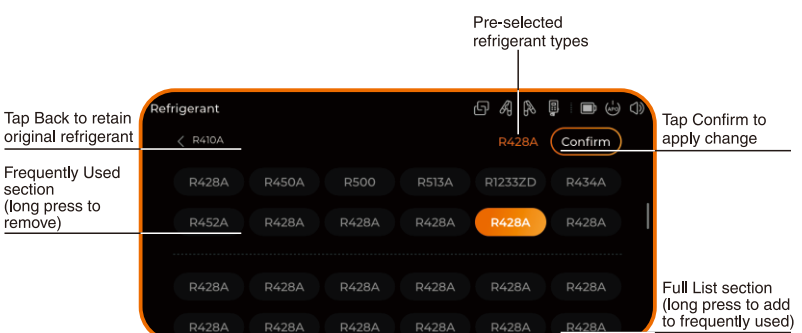
6. Manifold Gauge Mode



VSAT: Vapor saturation temperature.
LSAT: Liquid saturation temperature.
SLT: Suction line temperature.
LLT: Liquid line temperature.
SH: Superheat value SH = SLT - VSAT.
SC: Subcooling value SC = LSAT - LLT.
SLT -LLT: temperature difference.

Tap icon Zero to change to Reset, tap again to reset pressure values.
(Do not use during pressure measurement).

Tap R-1234ZE to enter refrigerant type selection interface:

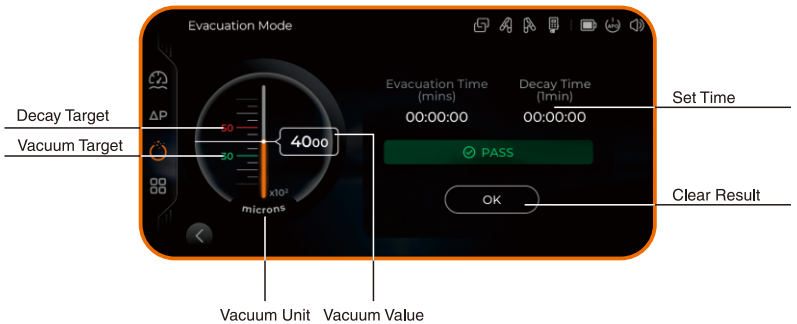


7. Leak Test Mode

Function introduction: Used to record the pressure difference over a period of time.
1. Click "Start" will record the current pressure value, start timing, ▲P begins calculation;
2. Click "Stop" will pause timing, pause retains all calculation content;
3. Click "Wait" clears all content

Function introduction: Eliminates errors caused by gas expansion and contraction due to temperature changes.
1. Can only be used for pressure testing of sealed containers. After activation, real-time pressure values will be directly replaced with temperature-compensated pressure values.
2. The temperature compensation function can only be clicked in the "Wait" state, and cannot be clicked in the “Start" and "Stop" states.

8. Evacuation Mode



This mode can only be used when connected to a vacuum gauge. After connecting to the vacuum gauge, the digital manifold gauge will receive the "TARGET", "DECAY", and "TIMER" set values from the vacuum gauge and display them in the corresponding positions on the screen.

Function introduction 1:

Simulate the time required for vacuuming based on numerical changes, recorded in "Evacuation Time".

(1) Timing starts when the vacuum value decreases.

(2) Timing pauses when the vacuum value increases.

Function introduction 2:

Test the leakage rate of the vacuum system based on the set target values and time.

"Vacuum Target": The target value that the system's vacuum level needs to reach during vacuuming.

"Decay Target": The maximum allowable leakage value that the system must not exceed after vacuuming is completed.

"Decay Time": The required testing time.

Normal operation procedure:

(1) Set the three parameters "Vacuum Target", "Decay Target", and "Decay Time" to the values required for testing.

(2) Start vacuuming until the measured equipment's vacuum level is less than "Vacuum Target".

(3) Stop vacuuming. The system now begins to leak. When the vacuum level exceeds "Vacuum Target", the equipment starts timing;

(4) When the timing reaches the time set by "Decay Time", if the vacuum level has not exceeded "Decay Target", the equipment will display "PASS", otherwise it will display "FAIL".

(5) After the result appears, controls will simultaneously appear on the screen. Clicking will clear all timing.

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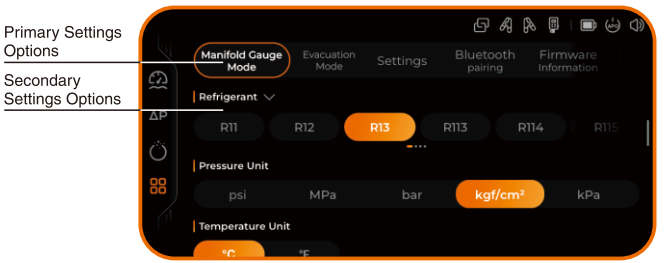
9. Setting Mode



Primary Settings Options	Secondary Settings Options
Manifold Gauge Mode	Refrigerant types: 100 types (OTA update supported)
	Temperature unit: °F, °C
	Pressure unit: psi, MPa, bar, kgf/cm², kPa
Evacuation Mode	Vacuum unit: microns, Pa, mbar, mmHg
	Vacuum target value: Corresponds to vacuum unit, fixed gear corresponds to fixed value
	Decay target value: Corresponds to vacuum unit, fixed gear corresponds to fixed value
	Decay time: 0-99min
Settings	Auto screen-off time: OFF, 2min, 10min, 1h
	Auto shutdown time: OFF, 10min, 1h
	Sound: ON, OFF
	Brightness: 50%-100% (half brightness to maximum brightness)
Bluetooth Pairing	Manage Bluetooth device connection and disconnection
Firmware Information	Display device-related information
Language Selection	Switch the device's current language
Modes	Switch device display style (no functional impact)
E-Manual	Scan QR code to view device function manual

10. Bluetooth Connection

1 Click "Connection" to scan for nearby Bluetooth devices.
2 Click "+" to connect Bluetooth. After successful connection, record the slave device name and MAC address.
3 Click "" to disconnect Bluetooth.
4 Click "−" to clear the slave device name and MAC address.

11. Common Troubleshooting

Atmospheric pressure reading not zero when open to atmosphere	Perform a pressure zero calibration operation
Abnormal device operation, unable to power on/off normally	Press and hold the power button for 10 seconds to force restart

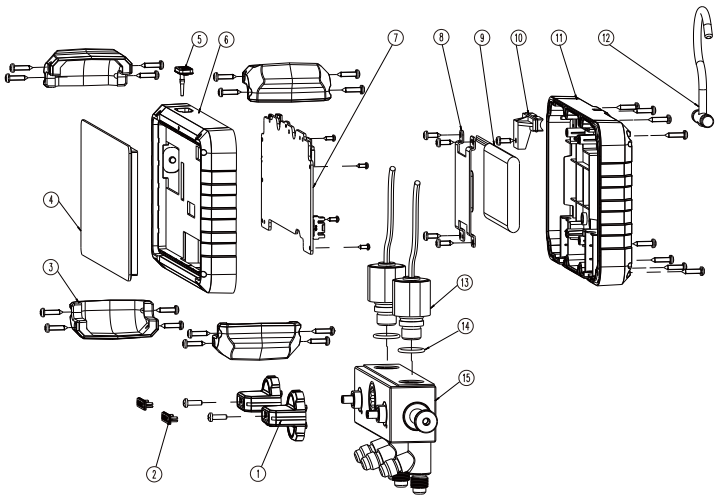
12. Maintenance and Care

(1) Avoid charging at high temperatures (>104°F) or low temperatures (<32°F). High temperatures may cause thermal runaway, while low temperatures may lead to lithium-ion deposition, damaging the battery;
(2) If you cannot troubleshoot the device yourself, promptly contact the after-sales service center and provide detailed descriptions of the malfunction to professional technicians so they can provide accurate technical support and repair services quickly.

Proper Disposal Methods for This Product

This mark indicates that this product should not be disposed of with other household waste. It is important to prevent uncontrolled waste disposal that may be harmful to the environment or human health, please use a return and collection system or contact the retailer from whom you purchased the product. They can recycle this product in an environmentally safe manner.

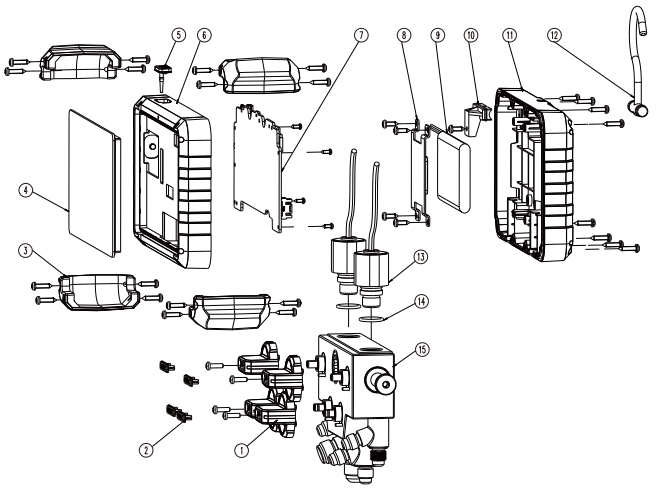
13. NX1G Exploded View



Spare Parts List

No.	Item	Qty
1	Knob	2
2	Knob Cover	2
3	Protective Corner	1
4	Touch Screen	1
5	Rubber Plug	2
6	Upper shell component	1
7	PCBA	1
8	Battery Cover	1
9	Li-ion Battery	1
10	Fixing Block Assembly	1
11	Bottom Cover	1
12	Hook Assembly	1
13	Pressure Sensor Assembly	2
14	O-ring	2
15	NX1G valve body Assembly	2

14. NX4G Exploded View

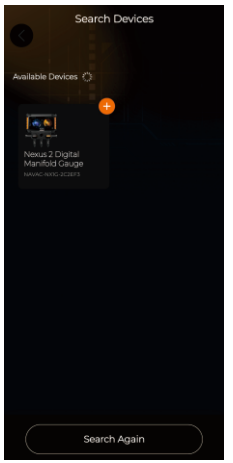


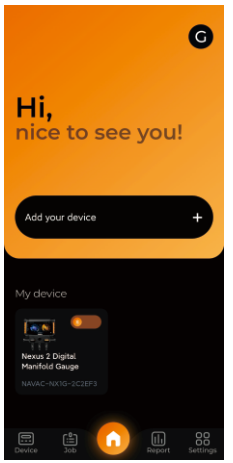
Spare Parts List

No.	Item	Qty
1	Knob	2
2	Knob Cover	2
3	Protective Corner	1
4	Touch Screen	1
5	Rubber Plug	2
6	Upper shell component	1
7	PCBA	1
8	Battery Cover	1
9	Li-ion Battery	1
10	Fixing Block Assembly	1
11	Bottom Cover	1
12	Hook Assembly	1
13	Pressure Sensor Assembly	2
14	O-ring	2
15	NX4G valve body Assembly	2

15. Page Introduction

15.1 Add Device and Connect



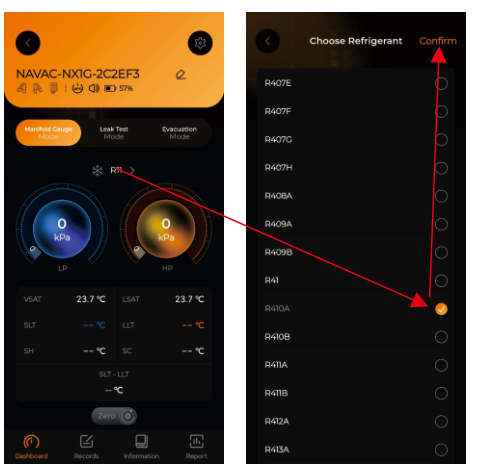


15.2 Device Functions

(1) Manifold Gauge Mode

Set Refrigerant Type

The page displays low-pressure and high-pressure side pressure values. Based on the current refrigerant type and pressure values, it calculates and displays refrigerant temperatures VSAT and LSAT. When the digital manifold gauge connects to large/small temperature clamps, the page simultaneously displays temperature values measured by the clamps. It also calculates subcooling and superheat values, eliminating the inconvenience of manual calculations.



Temperature clamp not connected

Temperature clamp connected

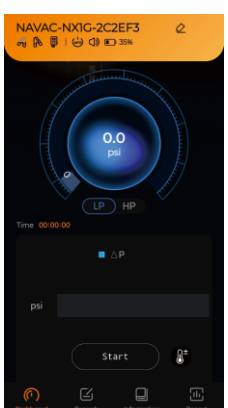
The digital manifold gauge supports pressure zero calibration. On the app, click the Zero key and confirm by clicking Zero again within 5 seconds to perform zero calibration (if not confirmed within 5 seconds, zero calibration will not occur).

Not clicked

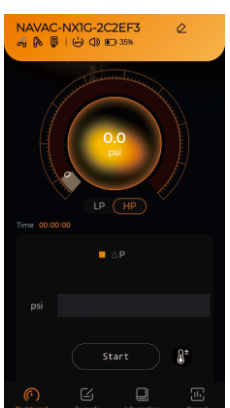
Button illuminated after clicking

(2) Leak Test Mode

Leak Test Mode: Click to select whether to use low-pressure side or high-pressure side pressure values for detection.



Low-pressure side



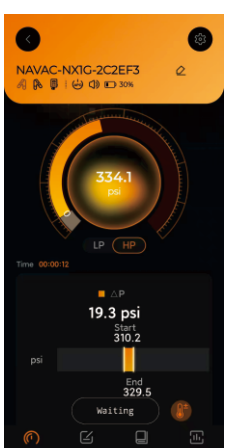
High-pressure side

Perform Leak Test:

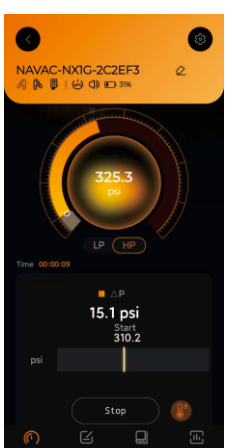
Click start button to begin leak test (button changes to stop). The app displays the initial pressure at test start and shows the real-time difference Δp between current pressure and initial pressure. When needing to end the leak test, click stop (button changes to waiting), displaying the end pressure value. Δp then shows the difference between end pressure and initial pressure. Click waiting, and the button reverts to start. If further leak testing is needed, repeat start, stop, waiting operations for subsequent test segments.

Low-pressure side - After clicking start

Low-pressure side - After clicking stop



High-pressure side - After clicking start



High-pressure side - After clicking stop

Leak test supports temperature compensation. Before starting the leak test, click the temperature compensation button to enable or disable this function. When the switch is illuminated, temperature compensation is enabled; when not illuminated, it is disabled. During leak test, clicking the temperature c ompensation button does not respond. (Temperature compensation button cannot be operated during leak test)

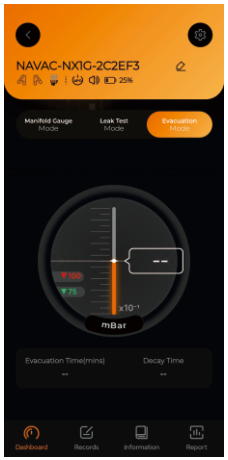
Temperature compensation off

Temperature compensation on

(3) Evacuation Mode

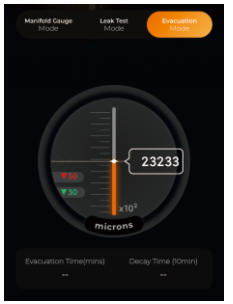
Vacuum Level Display:

After connecting the digital manifold gauge to the vacuum gauge, it displays the vacuum level measured by the vacuum gauge in real-time. When the vacuum gauge is not connected or the vacuum level exceeds the range, -- is displayed.

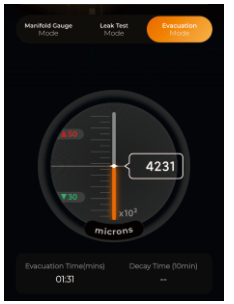


Vacuuming/Pressure Holding:

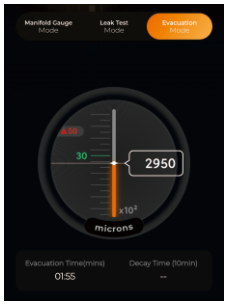
During vacuuming, the app displays the duration of vacuuming. When the vacuum level drops below the target value and rebounds above it, the pressure holding process begins. The pressure holding timer starts, and if the vacuum level does not exceed the pressure holding target value within the set time, a pass result is displayed upon completion. If the vacuum level exceeds the pressure holding target value within the set time, a fail result is immediately displayed. After confirming the pressure holding result by clicking OK on the device or app, the result is no longer shown.



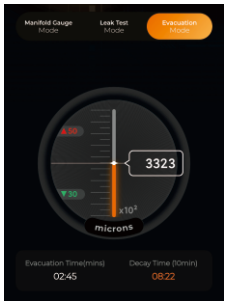
Vacuum level within range and above pressure holding value



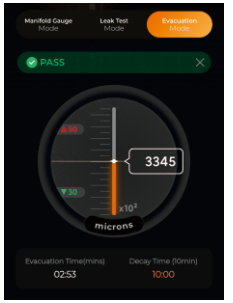
Vacuum level between target value and pressure holding value



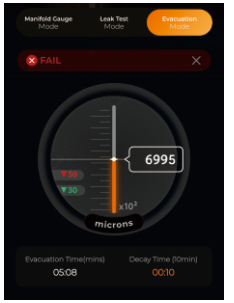
Vacuum level pumped below target value



During pressure holding



Pressure holding successful

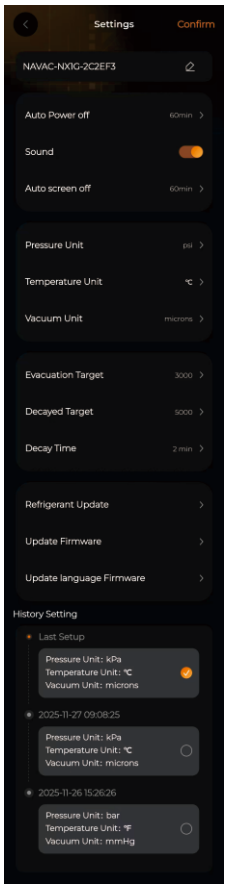


Pressure holding failed

15.3 Unit Settings

The app can set the digital manifold gauge's pressure unit, temperature unit, vacuum unit, vacuum target value, pressure holding target value, and pressure holding time. It can also configure auto-shutdown time, sound, and auto screen-off time according to your preferences.

The history parameters display the most recent three pressure, temperature, and vacuum unit setting records. You can select and reuse historical parameters.



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15.4 Chart Recording

Manifold Gauge Mode

Manifold Gauge Mode displays low-pressure side and high-pressure side pressures, refrigerant temperature, temperature clamp measured temperature, superheat or subcooling in real-time. Pull down below the chart to view high or low-pressure side data.

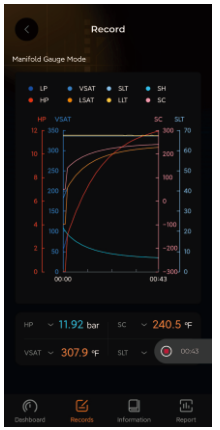
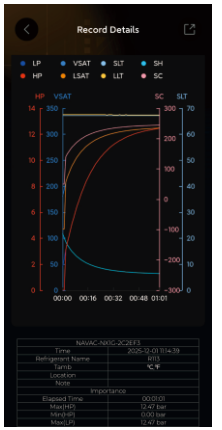


Chart recording in progress

Share record



Saved record data

Leak Test Mode

Leak Test Mode displays the pressure change chart in real-time, and this chart page also supports leak test operations.

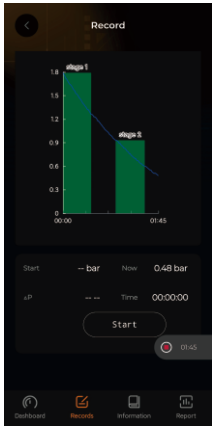
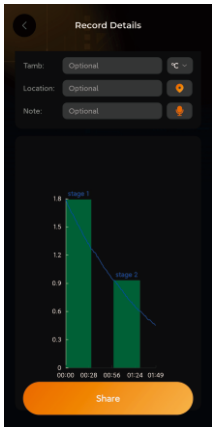
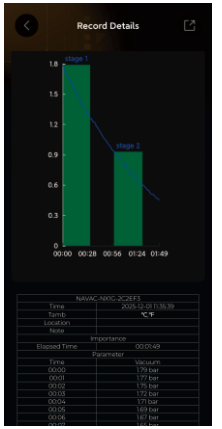


Chart recording in progress



Share record



Saved record data

Evacuation Mode

Vacuum mode displays the vacuum level change chart in real-time, showing current vacuum level and set pressure holding target value and vacuum target value.

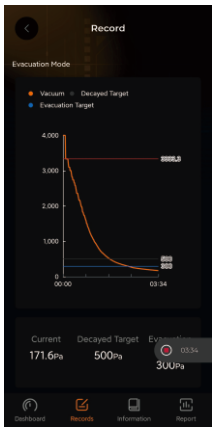
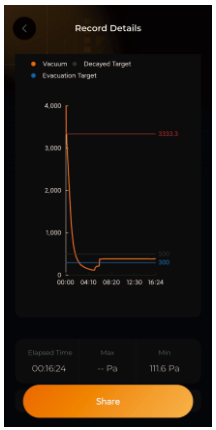
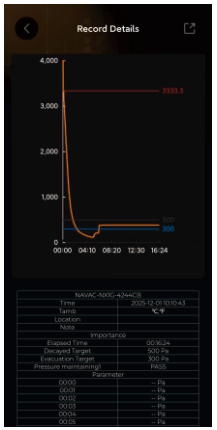


Chart recording in progress



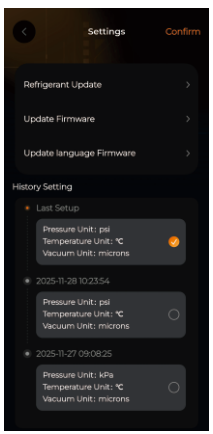
Share record

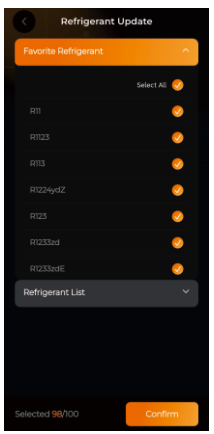


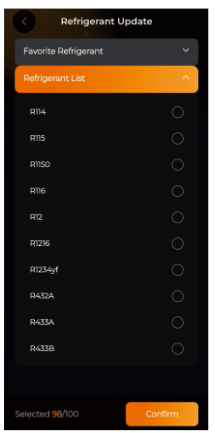
Saved record data

15.6 Refrigerant Update

Features refrigerant update function. Enter the refrigerant update page from the settings page. Frequently used refrigerants display refrigerant types currently in the device, and the refrigerant library shows refrigerants not currently selected in the device. To change the device's refrigerant type, check the desired refrigerants. Do not check refrigerants you do not want displayed in the device.

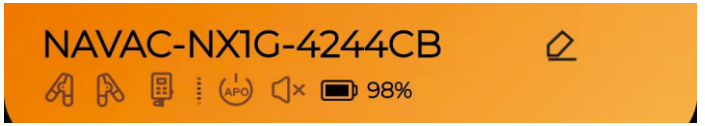






15.7 Status Bar Display

Below the device name, connection status of temperature clamps and vacuum gauge, as well as whether APO/sound is enabled and battery level of the digital manifold gauge can be displayed. Refer to UI for details; battery simulation is difficult on device side.



Temperature clamps and vacuum gauge not connected, NX1G's APO and sound off/battery 98%.

Temperature clamps and vacuum gauge connected, NX1G's APO and sound on.