

AC600 for HFO 1234yf
AC Recycle & Recharge Machine
USER MANUAL

Service and support

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Table of Contents

Introduction.....	3
General Safety.....	3
Emergency Shutdown Procedure	4
Bilingual Warnings (English/Spanish)	4
Refrigerant and Oil Disposal	5
U.S. Regulatory Compliance	5
HFO-1234yf Specific Handling Precautions	6
Specifications.....	7
Component Identification	9
Function Description.....	12
Initial Setup Checklist:	12
Initial Machine Setup.....	13
Tank Digital Scale Calibration	14
Oil Bottle Scale Calibration	16
Pre-Service Checkup.....	18
Operating Procedure	20
Recovery	20
vacuum.....	21
Charge	22
Tank Fill.....	24
Automatic Function Mode	27
System Settings	28
Equipment Maintenance	28
Software Update	29
Regular Maintenance and Reset	31
Packing List	33
Troubleshooting.....	34
Warranty and Registration	35
Accessories and Parts.....	35
Glossary	36
Refrigerant Purity Check.....	36

INTRODUCTION

Congratulations on your purchase of the **Bludee AC600 HFO-1234yf Recycle and Recharge Machine**, or the AC600i model with integrated refrigerant identifier.

This equipment is a valuable addition to any professional workshop. Engineered for efficient handling of HFO-1234yf refrigerant, the AC600/AC600i combines advanced microprocessor control with a technician-friendly interface to streamline A/C service operations. Developed through extensive research, collaboration with leading air-conditioning manufacturers, and global technician feedback, the AC600 series enhances diagnostic precision, reduces service time, and boosts overall shop productivity.

Bludee is committed to helping you maximize your return on investment. For assistance with equipment operation, maintenance, or refrigerant-related inquiries, contact our support team at 443-380-0088 or visit www.bludee.com. We're here to support your success.

Key Features:

-  Single-Refrigerant Optimization – Purpose-built for HFO-1234yf systems
 -  High Recovery Efficiency – Maximizes refrigerant capture with minimal loss
 -  Precision Load Cell Measurement – Ensures accurate charging and diagnostics
 -  Self-Diagnostic Capabilities – Built-in system checks for enhanced reliability
 -  USB Upgrade Support – Enables firmware updates and long-term serviceability
 -  Technician-Friendly Maintenance – DIY access supported; professional servicing recommended
-  While DIY maintenance is possible, we strongly recommend that all service tasks be performed by EPA Section 609-certified technicians to ensure safety, compliance, and optimal performance.

GENERAL SAFETY

The storage cylinder contains liquid HFO-1234yf refrigerant under high pressure. Overfilling can lead to an explosion. Do not disable the overfill safety feature and always keep the cylinder on the load cell platform during operation.

Only EPA Section 609-certified technicians should operate this equipment.

Read this manual thoroughly before operating the machine. Incorrect operation may result in improper A/C service, equipment damage, or vehicle A/C system failure.

Use only cylinders supplied or recommended by Bludee for this equipment.

Avoid inhaling refrigerant or oil vapor/mist. Refer to the Material Safety Data Sheets (SDS) on refrigerant and oil packaging.

Switch off and disconnect the power cable before removing covers or servicing to prevent electric shock, which can be fatal.

Never use compressed air to test for leaks in the machine or vehicle A/C system.

Wear safety goggles and gloves to protect eyes and skin from refrigerant contact, which can cause frostbite or blindness. In case of accidental contact, rinse the affected area with plenty of fresh water and seek medical attention immediately.

Avoid using extension cords with a copper core thinner than 14 AWG (10A capacity).

Keep gasoline and other flammable substances away from the equipment. HFO-1234yf is mildly flammable; operate in well-ventilated areas and avoid open flames or sparks.

Operate the machine in a well-ventilated area, away from heat sources or direct sunlight.

Store the machine in a cool, well-ventilated area when not in use.

EMERGENCY SHUTDOWN PROCEDURE

If an HFO-1234yf leak is detected:

1. Immediately turn off the machine using the power switch.
2. Disconnect the power cable from the outlet.
3. Close all cylinder valves and disconnect service hoses from the vehicle or external cylinder.
4. Ventilate the area to disperse refrigerant vapors.
5. Use a SAE J2788-compliant leak detector to identify the leak source.
6. Contact Bludee at 443-380-0088 or www.bludee.com for assistance before resuming operation.

Safety Symbols Key

Symbol Description

-  **Warning:** Indicates a risk of injury or equipment damage.
-  **Electrical Hazard:** Risk of electric shock; disconnect power before servicing.
-  **Protective Equipment:** Wear safety goggles and gloves during operation.
-  **Fire Hazard:** Keep flammable substances away from the machine.
-  **SDS Reference:** Consult Material Safety Data Sheets for refrigerant/oil handling.

BILINGUAL WARNINGS (ENGLISH/SPANISH)

- **English:** Overfilling the storage cylinder can cause a violent explosion.
Spanish: Llenar en exceso el cilindro de almacenamiento puede causar una explosión violenta.
- **English:** Wear safety goggles and gloves to prevent refrigerant-related injuries.
Spanish: Use gafas de seguridad y guantes para prevenir lesiones relacionadas con el refrigerante.

REFRIGERANT AND OIL DISPOSAL

To comply with EPA regulations (40 CFR Part 279) and local laws:

1. Store recovered HFO-1234yf in approved containers for on-site recycling or transfer to an EPA-approved reclamation facility.
2. Dispose of used oil and filter-driers at certified hazardous waste facilities. Contact your local waste management authority for locations.
3. Maintain a log for all disposal and purity check activities at least 3 years per EPA Section 609, including:
 - Date of disposal/check
 - Type and amount of refrigerant/oil
 - Oil type and viscosity (POE or PAG)
 - Purity check results (if applicable)
 - UV dye usage (if applicable)
 - Disposal facility name and address

Expanded EPA Maintenance Log Template:

Date	Refrigerant Type	Amount Recovered (lb)	Oil Disposed (fl oz)	Oil Type (POE/PAG)	Oil Viscosity	UV Dye Used (oz)	Purity Check (% HFO-1234yf)	Filter-Drier Replaced	Disposal Facility
MM/DD/YYYY	HFO-1234yf							Yes/No	

Note: For disposal guidance, contact Bludee at 443-380-0088 or visit www.bludee.com.

U.S. REGULATORY COMPLIANCE

This equipment must comply with U.S. Environmental Protection Agency (EPA) regulations under Section 609 of the Clean Air Act for refrigerant recovery and recycling equipment used in motor vehicle air conditioning systems. Key requirements include:

- **Certification:** The AC600/AC600i meets SAE J2788 standards for HFO-1234yf, ensuring at least 95% recovery efficiency.
- **Technician Training:** Operators must be certified under an EPA-approved Section 609 program, renewed annually. Uncertified personnel must not operate this equipment.
- **Refrigerant Handling:** Recovered HFO-1234yf must be stored in approved containers and either recycled on-site using EPA-certified equipment or sent to an EPA-approved reclamation facility. Venting is prohibited.
- **Recordkeeping:** Maintain records of refrigerant recovery, recycling, disposal, oil injection, and purity checks, including the amount recovered, oil type, and filter-drier condition.

- **Equipment Maintenance:** Perform regular maintenance, including filter-drier replacement and leak checks, to comply with EPA standards and prevent emissions.

Failure to comply may result in fines or penalties. Refer to www.epa.gov/section609 for guidance.

HFO-1234YF SPECIFIC HANDLING PRECAUTIONS

- **Purity Verification:** For AC600, use an external SAE J2788-compliant refrigerant identifier to confirm HFO-1234yf purity (>98%) before recovery or tank fill. For AC600i, use the integrated identifier. Contamination with refrigerants like R-134a or R-12 can damage the machine or vehicle A/C system.
- **Oil Compatibility:** Use POE oil for HFO-1234yf systems in hybrid/electric (high-voltage) vehicles to prevent electrical issues. For gasoline/diesel (normal-voltage) vehicles, use PAG oil (46, 100, or 150 viscosity) per vehicle specifications. Always use a separate POE oil injector for high-voltage vehicles to avoid cross-contamination.
- **Pressure Monitoring:** HFO-1234yf systems operate at specific pressures (30–50 psi low side, 160–260 psi high side at 77°F). Monitor gauges during charging to avoid overpressurization.
- **Storage:** Store HFO-1234yf cylinders upright in a cool, ventilated area (<104°F) to prevent pressure buildup. Never expose to direct sunlight or heat sources.
- **Leak Detection:** Use a SAE J2788-compliant electronic leak detector for HFO-1234yf to identify leaks, as HFO-1234yf is a potent greenhouse gas and mildly flammable.
- **Flammability:** HFO-1234yf is mildly flammable (A2L classification). Ensure spark-free tools, proper grounding, and no open flames or ignition sources during operation.

California Regulations and Proposition 65 Warning

Proposition 65 Warning: This product may expose you to chemicals, including HFO-1234yf and compressor oils (PAG/POE), which are known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information, go to www.P65Warnings.ca.gov. Always wear protective gear, operate in a well-ventilated area, and use spark-free tools to minimize exposure and fire risk due to HFO-1234yf's mild flammability.

California Refrigerant Regulations: In California, the AC600 must comply with the California Air Resources Board (CARB) regulations for refrigerant management. Operators must:

- Use CARB-certified equipment for HFO-1234yf recovery and recycling, meeting SAE J2843 standards.
- Maintain detailed records of refrigerant recovery, recycling, and disposal, as per CARB requirements.
- Ensure technicians are EPA Section 609-certified and trained in California-specific refrigerant handling protocols, with additional precautions for HFO-1234yf's mild flammability (A2L classification).
- Use only approved containers for HFO-1234yf storage and disposal.
- For large systems (e.g., buses, 10–30 lb [4.5–13.6 kg]), ensure adequate refrigerant supply and extended hoses, complying with CARB's leak prevention standards. For further details, visit www.arb.ca.gov or contact Bludee at 443-380-0088.

SPECIFICATIONS

Dimensions:

- Packaged: 28.3 × 26.4 × 46.9 inches (720 × 670 × 1190 mm)
- Unpacked: 24.8 × 22 × 42.3 inches (630 × 560 × 1075 mm)

Input Power:

- AC110V ±10%, 60 Hz

Operating Conditions:

- **Operating Temperature:** 32–104°F (0–40°C)
- **Humidity:** <80% non-condensing
- **Storage Temperature:** -4–140°F (-20–60°C)

Compressor Power: 3/8 HP

Average Gas-State Refrigerant Recovery Speed: 0.55 lb/min (0.25 kg/min)

Recovery Rate: 95%

Pressurization: Speeds up old oil discharge

Vacuum Pump Capacity: 2.12 cfm (60 L/min), non-sparking; optional 4.24 cfm (120 L/min)

Filter-Drier Capacity: 20.3 fl oz (600 ml) for 220 lb (100 kg) of refrigerant

Accuracy of Gas Cylinder Load Cell: ±0.35 oz (±10 g)

Accuracy of Oil Bottle Load Cell: ±0.18 oz (±5 g)

Gas Cylinder Capacity: 22 lb (10 kg) for HFO-1234yf

New Oil Bottle Capacity: 8.45 fl oz (250 ml)

Used Oil Bottle Capacity: 13.5 fl oz (400 ml)

Cooling System: Condenser and cooling fan included

Max. Pressure: 290 psi (20 bar)

Charge Speed: 4.4 lb/min (2 kg/min, max.)

Display: 7-inch full-color touch screen

Pressure Gauges:

- High Pressure: -14.5 to 580 psi (-1 to 40 bar)
- Low Pressure: -14.5 to 319 psi (-1 to 22 bar)

Automatic Service Reminder: The filter-drier is designed to process 220 lb (100 kg) of HFO-1234yf. When the filter-drier life expires, the machine locks, requiring maintenance (filter-drier replacement, pump oil replacement, solenoid spool washer replacement, leak testing).

Thermal Printer: Included

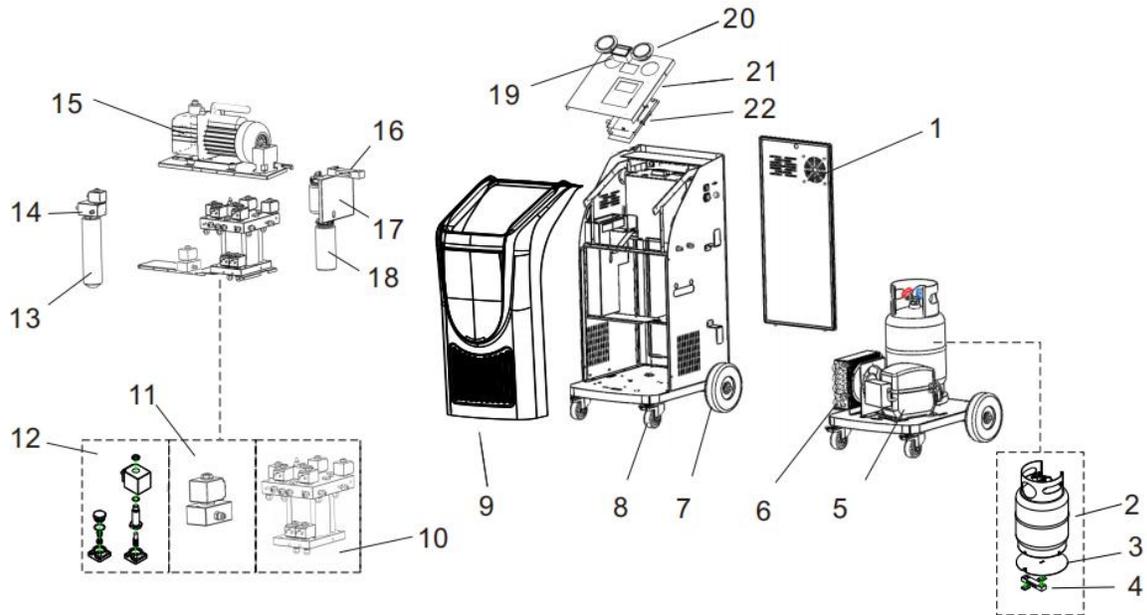
Heater Band: Included

Pre-Ventilation: 30 seconds before powering on

Optional Features:

- Vacuum leak test
- Flushing function
- Automatic air purge
- UV dye injection
- Refrigerant identifier for HFO-1234yf (AC600i model only, accuracy: 0.1%, identification time: 120 seconds)

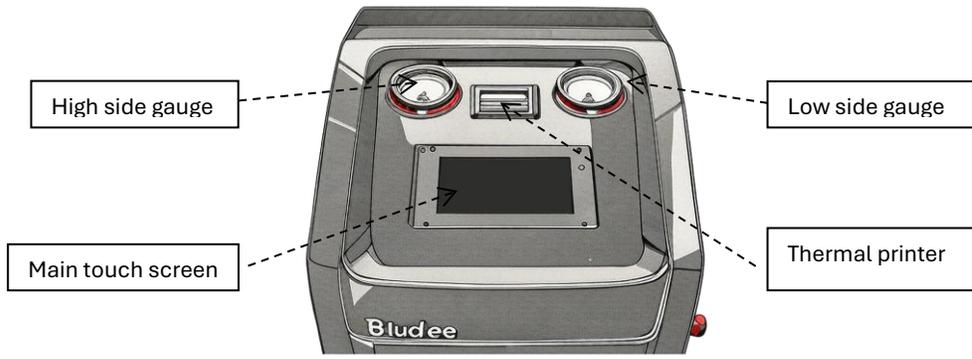
COMPONENT IDENTIFICATION



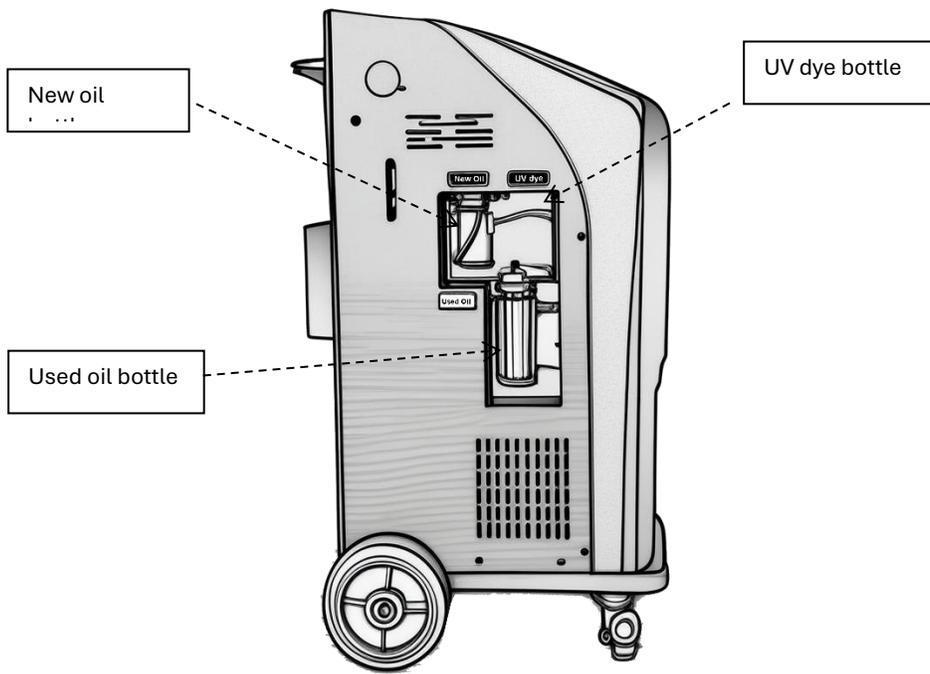
1) Back cover	2) Refrigerant gas cylinder	3) Gas cylinder support plate
4) Gas cylinder load cell	5) Compressor	6) Condenser and cooling fan(optional)
7) Rear wheel	8) Front wheel	9) Front cover(plastic)
10) Manifold assembly 1	11) UV manifold	12) Assembly of solenoid valve and check valve
13) Drier-filter	14) Manifold 2	15) Vacuum pump
16) Oil bottle load cell	17) Oil bottle support	18) Oil bottles
19) Printer	20) Pressure gauges	21) Upper cover
22) PCA		

Component	Description	Location
1. Back Cover	Protects internal components	Rear
2. Refrigerant Gas Cylinder	Stores HFO-1234yf, 22 lb capacity	Internal, center
3. Gas Cylinder Support Plate	Secures cylinder	Below cylinder
4. Gas Cylinder Load Cell	Measures cylinder weight, ± 0.35 oz accuracy	Below support plate
5. Compressor	3/8 HP, recovers refrigerant	Internal, lower

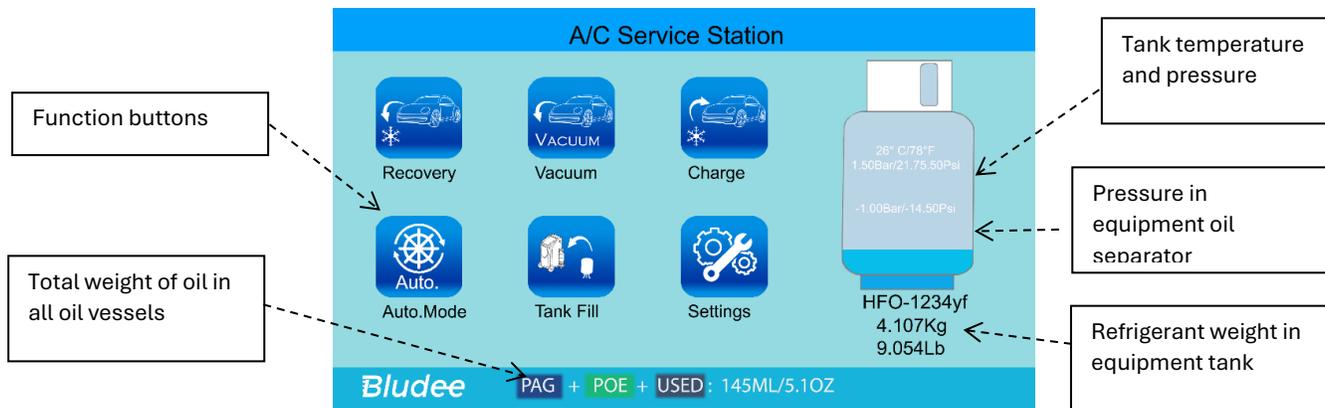
6. Condenser and Cooling Fan	Cools refrigerant during recovery	Internal, rear
7. Rear Wheel	Facilitates mobility	Rear base
8. Front Wheel	Facilitates mobility	Front base
9. Front Cover	Plastic cover for aesthetics	Front
10. Manifold Assembly 1	Manages refrigerant flow	Internal, center
11. UV Manifold	Manages UV dye (optional)	Internal, left
12. Solenoid and Check Valve Assembly	Controls refrigerant/oil flow	Internal, center
13. Drier-Filter	Removes moisture/contaminants, 20.3 fl oz	Left side
14. Manifold 2	Secondary flow management	Internal, right
15. Vacuum Pump	2.12 cfm, non-sparking, evacuates system	Internal, lower
16. Oil Bottle Load Cell	Measures oil weight, ±0.18 oz accuracy	Below oil bottles
17. Oil Bottle Support	Secures oil bottles	Front, lower
18. Oil Bottles	New oil (8.45 fl oz), used oil (13.5 fl oz)	Front, lower
19. Printer	Thermal printer for reports	Front, upper
20. Pressure Gauges	HP (-14.5 to 580 psi), LP (-14.5 to 319 psi)	Front panel
21. Upper Cover	Protects control panel	Top
22. PCA	Printed circuit assembly for control	Internal, upper
23. Touch Screen	7-inch full-color interface	Front panel
24. Sight Glass	Monitors flushing (optional)	Front, center
25. Refrigerant Identifier (AC600i only)	Verifies HFO-1234yf purity	Internal, upper



Control panel



Left view



Main menu

FUNCTION DESCRIPTION

Function	Description
Recovery	Recovers and purifies HFO-1234yf from the vehicle A/C system into the internal storage cylinder.
Evacuation	Removes air, moisture, and debris from the A/C system; optional vacuum leak test.
Charge	Injects POE or PAG oil (UV dye optional) and HFO-1234yf into the A/C system.
Tank Fill	Transfers HFO-1234yf from an external cylinder to the internal cylinder.
Flushing (Optional)	Extracts compressor oil and contaminants from the A/C system using forward/reverse refrigerant flow.
Automatic Mode	Performs selected functions (recovery, evacuation, oil injection, charge) in sequence, stopping automatically.
System Settings	Configures language, calibration, database, units, empty container weight, component testing, and owner information.

INITIAL SETUP CHECKLIST:

Step	Action	Completed (✓)
1	Unpack and inspect components	
2	Place on level surface, 32–104°F	

- 3 Connect to AC110V \pm 10%, 60 Hz
- 4 Verify gauges and oil vessels
- 5 Connect and secure HP/LP hoses
- 6 Initialize system and set language/units
- 7 Unlock load cell
- 8 Fill with HFO-1234yf and POE/PAG oil
- 9 Perform component test and leak check

Warning: Only EPA Section 609-certified technicians should perform setup. Improper setup may lead to inaccurate operation, EPA non-compliance, or fire risk due to HFO-1234yf's mild flammability.

INITIAL MACHINE SETUP

1. Unpacking and Inspection

- Unpack the machine and verify all components (hoses, couplers, oil vessels, power cable) are included and undamaged.
- Report damage to Bludee at 443-380-0088 or www.bludee.com.

2. Placement

- Place on a flat, stable surface in a well-ventilated area, away from heat sources, direct sunlight, or ignition sources (HFO-1234yf is mildly flammable).
- Operate in 32–104°F (0–40°C); avoid direct sunlight to prevent overheating.
- Ensure 12 inches clearance for ventilation and port access.

3. Power Connection

- Connect to a grounded AC110V \pm 10%, 60 Hz outlet using a 14 AWG power cord. Avoid extension cords unless necessary.
- Ensure the power switch is OFF before plugging in

4. Initial Component Check

- Verify HP/LP gauges read zero when no pressure is applied.
- Ensure new/used oil vessels are empty and secure.
- Confirm the HFO-1234yf cylinder is on the load cell platform.

5. Hose and Coupler Setup

- Connect HP/LP hoses to machine ports and secure HFO-1234yf couplers.

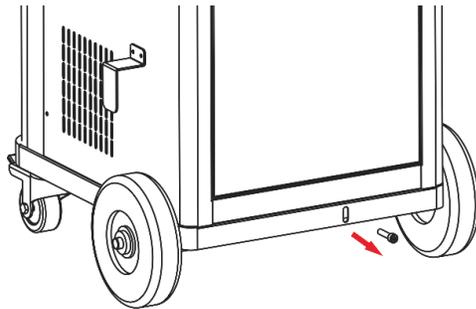
- Store hoses on adapters when not in use to prevent contamination.

6. System Initialization

- Turn on the power switch and complete the 30-second pre-ventilation cycle.
- Set language and imperial units via “System Settings.”
- Set altitude if equipped with a refrigerant identifier (AC600i).

7. Load Cell Unlocking

- Remove the safety locking bolt securing the gas cylinder load cell (see “Component Identification”).



- Store the bolt for use during transportation.

Warning: Failure to remove the bolt may result in inaccurate weight measurements. Reinstall the bolt when transporting the machine to avoid load cell damage.

8. Refrigerant and Oil Preparation

- Fill with HFO-1234yf and POE or PAG oil as per “Tank Fill.”
- Consult the database for vehicle-specific oil requirements (POE for high-voltage, PAG for normal-voltage).

9. Verification

- Perform a component test (see “Component Test”) to verify solenoids, vacuum pump, and compressor.
- Check for leaks using a SAE J2788-compliant leak detector.
- Confirm filter-drier life on startup (see “Regular Maintenance and Reset”).

TANK DIGITAL SCALE CALIBRATION

This procedure outlines the steps to calibrate the digital scale inside the machine tank using a 1 kg calibration weight for HFO-1234yf cylinder.

Prerequisites

- **Calibration Weight:** Prepare a certified 1 kg calibration weight. Do not use any other weight, as this will cause calibration failure or inaccurate.
- Ensure the machine is on a flat, stable, and level surface, free from vibrations or air drafts.
- Power on the machine and allow the scale to warm up as per the manufacturer's recommendation (typically 15–30 minutes).
- Do not place any weight on the scale until prompted by the system.
- No additional wire, cable, or anything else attached to the tank.

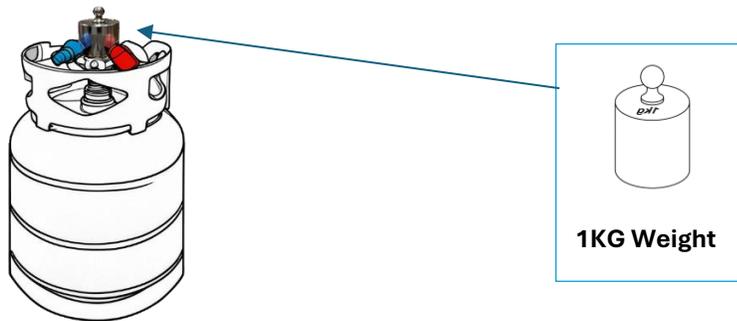
Calibration Steps

1. Access Calibration Mode:

- Navigate the machine's **System Settings** menu.
- Select **Calibration**.
- Choose **HFO-1234yf Cylinder** based on the cylinder type in use.

2. Place Calibration Weight:

- Wait for the system to display the message: "**Please place 1KG weight on top of the tank**", then click OK."
- **Important:** Do not place 1 kg weight on the tank before this message appears, as it will cause the calibration to fail.



- Once the message is displayed, carefully place the certified 1 kg weight on top of the tank.
- Press **OK** on the system interface to proceed.

3. Complete Calibration:

- Allow the scale to stabilize and process the calibration.
- Once the system confirms calibration is complete, carefully remove the 1 kg weight from the tank.
- **Note:** Do not remove the tank itself during this procedure.

4. Verification:

- Go back to front page to check the weight
- To verify scale accuracy, place a 1 kg test weight on the platform, then remove it.
- Observe the displayed value to ensure the system registers the correct weight change.

5. **Documentation:**

- Record the calibration details (date, time, cylinder type, and confirmation of 1 kg weight used) in the machine's maintenance log.
- If required, attach a calibration label to the machine indicating the calibration date and next due date.

Important Notes

- Use only a certified 1 kg calibration weight. Using any other weight will result in calibration weight inaccurate.
- Ensure the weight is placed only after the system prompts with the message to avoid errors.
- The tank remains in place throughout the procedure; do not remove it.
- If calibration fails, check for environmental factors (e.g., vibrations, uneven surface) or consult the machine's manual for troubleshooting.
- Perform calibration as part of initial setup and at regular intervals as specified by the manufacturer.

OIL BOTTLE SCALE CALIBRATION

This procedure outlines the steps to calibrate the digital scale module located on top of the used or new oil bottle. The scale supports a frame that attaches all oil bottles together, with the frame hanging from the scale at the top. The calibration weight must be placed at the bottom of the metal frame connected to the used or new oil bottle.

Prerequisites

- **Calibration Weight:** Prepare a certified 1 kg calibration weight. Do not use any other weight, as this will cause calibration failure.
- Ensure the machine is on a flat, stable, and level surface, free from vibrations or air drafts.
- Do not place any weight on the frame or scale until prompted by the system.

Calibration Steps

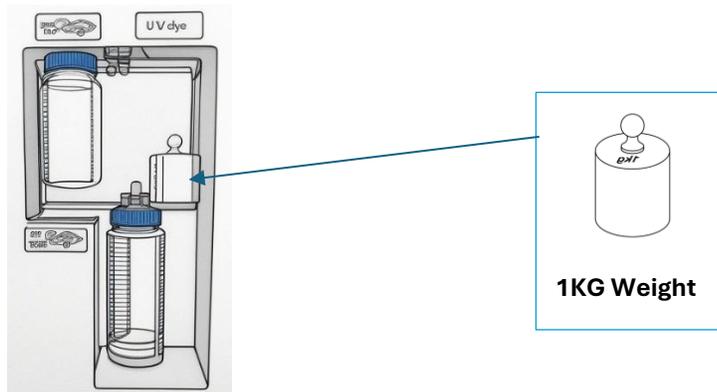
1. **Access Calibration Mode:**

- Navigate the machine's **System Settings** menu.
- Select **Calibration**.

- Choose either **Oil Load Cell** based on the bottle type being calibrated.

2. Place Calibration Weight:

- Wait for the system to display the message: "**Please place 1KG weight on oil bottle frame,** then click OK."
- **Important:** Do not place the 1 kg weight before this message appears, as it will cause the calibration to fail.
- Once the message is displayed, carefully place the certified 1 kg weight at the bottom of the metal frame connected to the used or new oil bottle.



- Press **OK** on the system interface to proceed.

3. Complete Calibration:

- Allow the scale to stabilize and process the calibration.
- Once the system confirms calibration is complete, carefully remove the 1 kg weight from the bottom of the metal frame.
- **Note:** Do not remove the frame, bottles, or any other components during this procedure.

4. Verification:

- Go back to front page to check the weight
- To verify scale accuracy, place a 1 kg test weight on the platform, then remove it.
- Observe the displayed value to ensure the system registers the correct weight change.

5. Documentation:

- Record the calibration details (date, time, bottle type, and confirmation of 1 kg weight used) in the machine's maintenance log.
- If required, attach a calibration label to the machine indicating the calibration date and next due date.

Important Notes

- Use only a certified 1 kg calibration weight. Using any other weight will result in calibration inaccurate.
- Ensure the weight is placed only after the system prompts with the message to avoid errors.
- The frame and bottles remain in place throughout the procedure; do not remove them.
- If calibration fails, check for environmental factors (e.g., vibrations, uneven surface) or consult the machine's manual for troubleshooting.
- Perform calibration as part of initial setup and at regular intervals as specified by the manufacturer.

PRE-SERVICE CHECKUP

Before each operational session, perform the following tasks to ensure the AC600/AC600i is ready for HFO-1234yf handling:

1. **Visual Inspection:**

- Inspect the machine for physical damage, loose connections, or signs of refrigerant leaks. Use a SAE J2788-compliant leak detector to check hose connections and tank fittings
- Report any issues to Bludee at 443-380-0088 or www.bludee.com.

2. **Oil Vessel Verification:**

- Confirm the new oil vessel contains the correct oil for the vehicle's HFO-1234yf system: POE for hybrid/electric (high-voltage) vehicles, PAG (46, 100, or 150 viscosity) for gasoline/diesel (normal-voltage) vehicles. Refer to the database for specifications.
- Ensure the used oil vessel is empty to collect recovered oil.
- For high-voltage vehicles, verify a separate POE oil injector is available to prevent cross-contamination with PAG oil.

3. **Ambient Temperature Check:**

- Verify the ambient temperature is within 32–104°F (0–40°C) using a thermometer. HFO-1234yf's pressure-temperature relationship affects recovery and charging accuracy.

4. **Hose Condition Check:**

- Inspect HP/LP service hoses for cracks, wear, or degradation. Replace damaged hoses to prevent HFO-1234yf leaks, which impact EPA compliance and pose a flammability risk.

5. **Power Supply Stability:**

- Confirm the power supply is stable at AC110V ±10%, 60 Hz, using a voltage meter. Unstable power can damage electronics during HFO-1234yf operations.

6. **Unlock Tank Load Cell:**

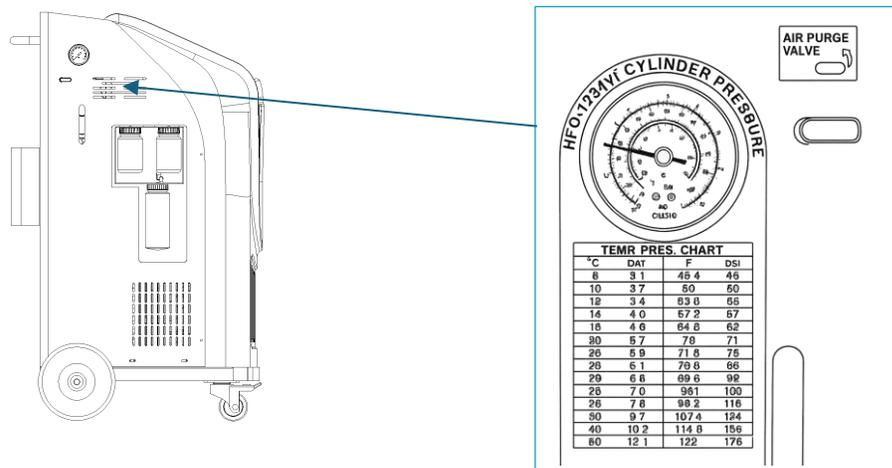
- Remove the safety locking bolt securing the gas cylinder load cell (see “Unlock Tank Load Cell”).
- Store the bolt for transportation.

7. Tank Fill:

- Ensure 4.4–17.6 lb (2–8 kg) of HFO-1234yf is in the internal cylinder, with a minimum of 4.4 lb (2 kg) required for charging. Follow “Tank Fill” instructions if needed.
- Verify purity with an external (AC600) or integrated (AC600i) SAE J2788-compliant refrigerant identifier before proceeding.

8. Non-Condensable Air Purge:

Purging non-condensable gases removes air and other non-refrigerant gases from the internal refrigerant tanks to maintain refrigerant purity and ensure optimal A/C system performance. This procedure, required monthly or after tank filling, prevents excessive pressure buildup and ensures compliance with EPA regulations. The AC600 may perform an automatic purge (if equipped) or a manual purge using the purge valves located on the left and right sides of the machine, guided by the pressure-temperature chart.



• Manual Purge Valve:

- Locate the purge valve (see “Component Identification”)
- Refer to the HFO-1234yf pressure-temperature chart below and purge until the tank pressure matches the expected value for the ambient temperature.

HFO 1234yf Pressure-Temperature Chart:

Temperature (°F)	Pressure (psi)
32	28.8
77	78.7
104	124.2

- **Automatic Air Purge (Optional):** The machine purges non-condensable gases within 10 minutes based on ambient temperature and tank pressure.

For machines equipped with Auto Air Purge, the system will automatically purge air as needed during operation.

If you prefer to perform air purge manually, navigate to System Settings and select Air Purge to initiate the process.

 Regular air purging helps maintain refrigerant purity and system performance.

Warning: Over-purging can result in HFO-1234yf loss, impacting EPA compliance. Monitor the tank gauge carefully.

9. Drain Oil Separator and Replace Oil Filter (For Machines with Refrigerant Identifier)

Drain the oil separator if oil is visible. Replace the oil filter annually or when oil stains are visible.

Warning: Failure to perform these checks, especially oil and purity verification, may result in contamination, equipment damage, EPA non-compliance, or fire risk. Only EPA Section 609-certified technicians should proceed. Ensure no ignition sources are present due to HFO-1234yf's mild flammability.

OPERATING PROCEDURE

Cold Weather Operation Tips

For operations in cold climates (<50°F):

- Extend recovery pause time to 5–7 minutes to ensure complete refrigerant extraction, as HFO-1234yf vaporizes slowly at low temperatures.
- Increase evacuation time by 5–10 minutes to remove moisture effectively.
- Use the heater band to maintain HFO-1234yf flow during recovery and charging.
- Store the machine in a heated area when not in use to prevent component freezing.

RECOVERY

1. Empty the used oil vessel.
2. Verify HFO-1234yf purity (>98%) using an external (AC600) or integrated (AC600i) SAE J2788-compliant refrigerant identifier. Do not proceed if purity is <98%.
3. Connect Service Hoses
 - Attach high and low side hoses to the vehicle's A/C ports.
 - Ensure valves are opened.
4. Select "Recovery" and press "OK."



5. The machine recovers refrigerant until a vacuum is reached, purifying it from moisture, oil, and debris.
6. Pause for 3–5 minutes (extend to 5–7 minutes in cold climates) to check for pressure rise. If pressure rises, recovery resumes.
7. The printer displays/prints the recovered refrigerant and oil amounts.

VACUUM

The vacuum process removes air, moisture, and residual gases from the vehicle's A/C system to prepare it for oil injection and refrigerant charging. Follow these detailed steps to ensure proper evacuation:

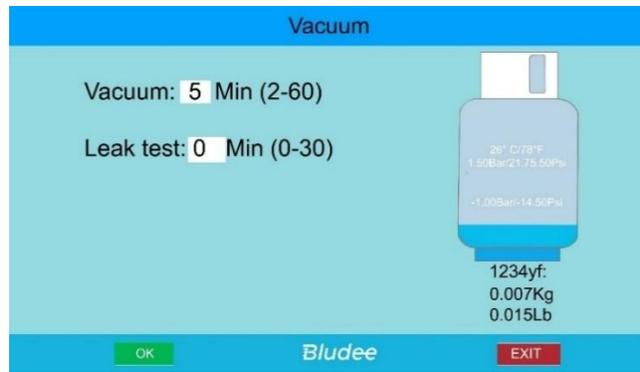
1. Preparation

- Ensure the vehicle's engine and A/C system are off.
- Connect the high-pressure (HP) and low-pressure (LP) service hoses to the vehicle's A/C system using the appropriate HFO-1234yf.
- Verify that the service hose connections are secure and leak-free using a SAE J2791-compliant leak detector.
- Check that the used oil vessel is empty to collect any oil extracted during the process.
- Monitor the front gauge pressure. If there is pressure, the vacuum will stop and you must run the recovery.

2. Access Vacuum Function

- From the main menu, select the "Vacuum" icon.
- Set the vacuum time (recommended: 10–30 minutes, depending on system size and ambient conditions; longer times ensure thorough evacuation).
- Confirm the settings by pressing "OK."

3. Vacuum Process



- The machine activates the vacuum pump to evacuate the A/C system.
- Monitor the LP and HP gauges to ensure pressure drops to a vacuum state (below -14.5 psi). Target vacuum: 500 microns or lower for optimal moisture removal.
- The system automatically stops when the set vacuum time is reached, or a stable vacuum is achieved.
- Note: In cold climates (<50°F), extend vacuum time by 5–10 minutes to account for slower moisture evaporation.
- If the vacuum level does not stabilize (e.g., pressure rises after stopping), check for leaks in the vehicle's A/C system or service hoses using a leak detector and repair as needed before repeating the process.

4. Oil injection [Manual oil injection, not for Auto Oil Injection]

Manual Oil Injection Procedure

After the vacuum cycle is complete, you may proceed with manual oil injection:

- Activate the Manual Oil Injection switch.
- Monitor the oil flow through the sight glass or scale.
- When the desired amount is reached, turn off the switch to stop injection.

⚠ Ensure the correct oil type and quantity are selected based on the vehicle manufacturer's specifications. This is only working for Manual Injection. Auto oil injection will be under Charge.

CHARGE

Hybrid/Electric Vehicle Warning: PAG oil is electrically conductive and must not be used in hybrid/electric vehicles. Use a separate POE oil injector to prevent electrical damage.

The charge process transfers refrigerant from the machine's internal cylinder to the vehicle's A/C system. Follow these detailed steps to ensure accurate and safe charging:

1. Preparation

- Complete the vacuum process (see “Vacuum”) to ensure the A/C system is free of air and moisture.
 - Verify that the internal refrigerant tank (HFO-1234yf) has sufficient refrigerant (4.4–13.2 lb) for charging. If low, perform a tank fill (see “Tank Fill”). If refrigerant is less than 4.4lb, it can’t charge.
 - Ensure the vehicle’s engine and A/C system are off unless specified.
 - Confirm that the HP and LP service hoses are securely connected to the vehicle’s A/C system with the correct couplers.
2. Select “Charge” and choose:
- **Normal Charging:** For gasoline/diesel (normal-voltage) vehicles; hose flush optional.
 - **High Voltage Charging:** For hybrid/electric (high-voltage) vehicles; hose flush mandatory.
3. **Oil Injection:**
- **Select Oil Type:** Use the touch screen to select POE oil for high-voltage vehicles or PAG oil (46/100/150 viscosity) for normal-voltage vehicles. Refer to the database for vehicle-specific oil requirements
 - **Verify Oil Vessel:** Ensure the new oil vessel contains the correct oil type and viscosity. For high-voltage vehicles, use a separate POE oil injector to avoid cross-contamination with PAG oil in the machine’s vessel
 - **Set Oil Amount:** Input the oil volume (1–4 fl oz, per vehicle specifications) using the touch screen. Over-injection can clog A/C components.
 - **UV Dye Injection (Optional):** If using UV dye, inject 0.25–0.5 oz per vehicle specifications via a graduated injector. Ensure compatibility with HFO-1234yf and avoid over-injection.
 - **Execute Injection:** Press “OK” to inject oil (and UV dye, if selected) into the A/C system after evacuation. Monitor the oil load cell for accuracy (± 0.18 oz).
4. Set refrigerant amount (database or manual) and select high, low, or both ports.



5. If charging via low side, turn on the vehicle A/C. If using both sides, manually turn the compressor hub post-charge to expel liquid refrigerant.
6. Monitor gauges for:

Refrigerant	Low-Side Target (psi)	High-Side Target (psi)
HFO-1234yf	30–50	160–260

(At 77°F; adjust per ambient temperature using the HFO-1234yf pressure-temperature chart.)

7. Perform a hose purge to recover residual refrigerant.
8. Test A/C performance and check for leaks with a SAE J2788-compliant detector.

Warning: Only EPA Section 609-certified technicians should charge. Insufficient refrigerant (<4.4 lb) will prevent charging. Incorrect oil type or amount can damage the system or cause electrical failure in high-voltage vehicles. Ensure no ignition sources are present due to HFO-1234yf's mild flammability.

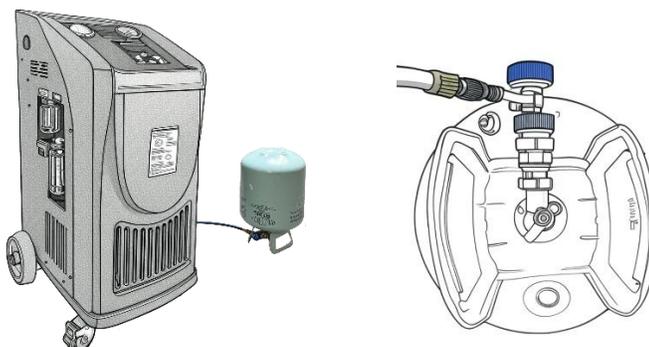
TANK FILL

The tank fill process transfers liquid refrigerant from an external storage cylinder to the machine's internal cylinder. Follow these detailed steps to maintain adequate refrigerant levels:

1. Preparation

Warning: Do not proceed with tank fill if purity is <98%. Contamination can damage the machine or vehicle A/C system.

- Verify HFO-1234yf purity (>98%) using an external SAE J2791-compliant refrigerant identifier. Do not proceed if purity is <98%
- Verify the internal tank (HFO-1234yf) has sufficient capacity for filling (maximum 17.6 lb, or 80% of the 22 lb tank capacity, minus the current amount). For example, if 4.4 lb is present, the maximum fill is 13.2 lb.
- Obtain an external HFO-1234yf cylinder approved by Bludee. Ensure it matches the selected refrigerant type to avoid contamination.



- Set the external cylinder valve to liquid output to enable faster filling.

- For single-valve tanks, position the cylinder upside down during filling to ensure liquid delivery.

- Monitor for vapor lock throughout the process to prevent flow interruption and ensure proper charging.

- Connect the LP service hose to the external cylinder using the appropriate tank fitting (HFO-1234yf P/N: BDE-LP1-234). Secure all connections to prevent leaks.
- Ensure the external cylinder valve is set to liquid output for faster fill; monitor for vapor lock.

2. Access Tank Fill Function

- From the main menu, select the “Tank Fill” icon.
- Choose the refrigerant type (HFO-1234yf) to match the external cylinder.
- Enter the desired fill amount (minimum 1.1 lb, maximum based on remaining tank capacity).
- Confirm settings by pressing “OK.”



3. Filling Process

- Open the external cylinder’s hand valve to begin transferring liquid refrigerant to the internal tank.
- Monitor the touch screen for the fill progress and ensure the internal tank does not exceed 17.6 lb (80% capacity).
- The machine automatically stops when the specified amount is reached, or the tank reaches maximum capacity.
- If the fill stops prematurely, check for low refrigerant in the external cylinder, blockages in the hose, or machine errors (see “Main Troubleshooting”).

4. Post-Fill Recovery

- The machine prompts the technician to close the external cylinder’s hand valve.
- The system recovers residual refrigerant from the transfer hose and internal pipelines to minimize loss, storing it in the internal tank.
- Disconnect the service hose from the external cylinder and store it securely.

5. Verification

- Check the internal tank's weight on the main menu to confirm the fill amount (maintain 8.8–13.2 lb for optimal performance).
- Inspect connections for leaks using a SAE J2791-compliant leak detector.
- Record the fill amount and external cylinder details in your EPA-required maintenance log.
- If issues arise, refer to “Main Troubleshooting” or contact Bludee support at 443-380-0088 or www.bludee.com.

Warning: Never overfill the internal tank beyond 17.6 lb, as this can cause overpressure and potential explosion. Ensure the correct refrigerant type is used to prevent contamination. Only EPA Section 609-certified technicians should perform tank filling.

6. Tank Fill vs Recovery

While Tank Fill and Recovery perform similar extraction functions, their purposes differ:

- Tank Fill allows the operator to specify the target amount of refrigerant to transfer into the internal cylinder. It is ideal for controlled filling based on system requirements.

- Recovery, by contrast, extracts all available refrigerant from the external tank or any source connected to the service hoses. It does not stop at the present quantity.

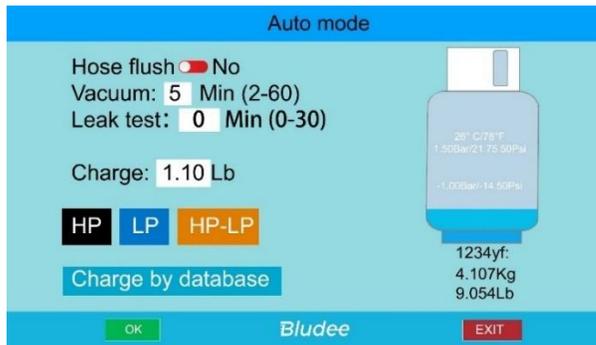
 Tip: If your goal is to fully evacuate an external tank, select Recovery instead of Tank Fill.

Flushing Function (Optional)

1. Empty the used oil vessel. Verify 4.4–17.6 lb (2–8 kg) HFO-1234yf in the tank.
2. Verify HFO-1234yf purity (>98%) using an external (AC600) or integrated (AC600i) SAE J2788-compliant refrigerant identifier.
3. Select “Flushing,” set time (30–60 minutes based on system size, e.g., 30 min for 500 g, 60 min for ≥1 kg).
4. The machine flushes in forward/reverse directions to remove oil and contaminants.
5. For systems with evaporator solenoids/electronic expansion valves, activate or bridge them with a diagnostic scanner or fittings.
6. Recovered refrigerant is purified and stored.
7. After flushing, perform a recovery cycle to ensure all flushing refrigerant is removed.

Note: Flushing may not fully clean multi-flow condensers. Ensure adequate HFO-1234yf for effective flushing.

AUTOMATIC FUNCTION MODE



Auto Mode enables a complete, hands-free A/C service cycle, combining multiple functions into a single automated sequence. This mode is ideal for streamlining workflow and ensuring consistent service quality.

Pre-Operation Checklist

- Empty the used oil vessel to ensure accurate oil separation.
- Verify refrigerant type, tank capacity, and filter status.
- Confirm vehicle type (fuel or high-voltage) to select the correct charging mode.

Automated Service Sequence

Once “Auto Mode” is selected, the machine performs the following operations in sequence:

- Recovery – Extracts refrigerant from the vehicle system
- Vacuum – Evacuates air and moisture from A/C lines
- Oil Injection – Injects oil (for fuel vehicles only)
- Charging – Dispenses refrigerant to target weight

Charging Options:

- Normal Charging – For conventional fuel vehicles
- High Voltage Charging – For hybrid or electric vehicles

 Hose flushing is optional for Normal Charging but mandatory for High Voltage Charging to prevent cross-contamination.

HFO-1234yf Identification (if equipped)

If refrigerant is present, the machine performs a 120-second gas analysis to verify purity.

- The process continues only if HFO-1234yf concentration exceeds 98%.
- If no refrigerant is detected, the system skips recovery and proceeds with vacuum, oil injection, and charging.

Bludee Best Practices Integrated

- Automated leak detection and pressure monitoring are built into the cycle.

- EPA-compliant recovery and disposal protocols are followed.
- System prompts and alerts guide technicians through any required manual steps.

Warning: Ensure correct oil type (POE for high-voltage, PAG for normal-voltage) and sufficient refrigerant (≥ 4.4 lb) to prevent system damage or operation failure. Only EPA Section 609-certified technicians should use Auto Mode.

SYSTEM SETTINGS

Enter password “111111” to access “System Settings.” Change the default password via owner information for security. Configure:



- **Language:** Select operating language.
- **Calibration:** For load cells, pressure transducers, and temperature sensors (qualified technicians only).
- **Database:** Access HFO-1234yf and POE/PAG oil volumes for vehicle makes/models.
- **Unit Settings:** Select imperial units; view sensor values for diagnostics.
- **Empty Container Weight Set:** Adjusts load cell readings for refrigerant/oil.
- **Component Test:** Activates/deactivates components for troubleshooting (qualified technicians only).

Warning: Improper calibration or testing can damage the machine or A/C system.

EQUIPMENT MAINTENANCE

To ensure optimal performance and longevity of the AC600/AC600i 1234yf Recycle and Recharge Machine, adhere to the following maintenance guidelines:

- **Cleanliness:** Regularly clean the exterior and touch screen with a soft, dry cloth to prevent dust buildup. Ensure service hoses are stored on their adapters when not in use to avoid contamination of couplers, which could introduce debris into the vehicle’s A/C system. Clean vehicle A/C service ports before connecting couplers to prevent system malfunctions.
- **Storage:** Store the machine in a cool, well-ventilated area (below 104°F/40°C) away from direct sunlight, artificial heat sources, or flammable materials. This prevents overheating and ensures

component integrity. Store POE and PAG oils in sealed, labeled containers to prevent moisture absorption.

- **Regular Inspections:** Routinely inspect hoses, couplers, and fittings for wear or damage. Use a SAE J2788-compliant leak detector to check for refrigerant leaks in the machine’s internal system and connections.
- **Maintenance Schedule:** Follow the recommended maintenance schedule (see “Regular Maintenance and Reset”) for filter-drier replacement, vacuum pump oil changes, and solenoid washer replacements. Frequent servicing of contaminated A/C systems requires more frequent oil and filter changes to prevent corrosion or reduced refrigerant purity.
- **Handling Precautions:** Avoid moving the machine during charging to maintain load cell accuracy. If the machine is accidentally bumped or tipped, verify calibration and perform a leak check before resuming operation.
- **Professional Assistance:** For any operational uncertainties or complex maintenance tasks, contact Bludee support at 443-380-0088 or www.bludee.com. Only EPA Section 609-certified technicians should perform maintenance or calibration to ensure compliance and safety.

Warning: Never use compressed air to test for leaks, as this can damage the machine or vehicle A/C system. Failure to maintain the equipment properly may lead to reduced performance, EPA non-compliance, or fire risk due to HFO-1234yf’s mild flammability.

SOFTWARE UPDATE

Database Update

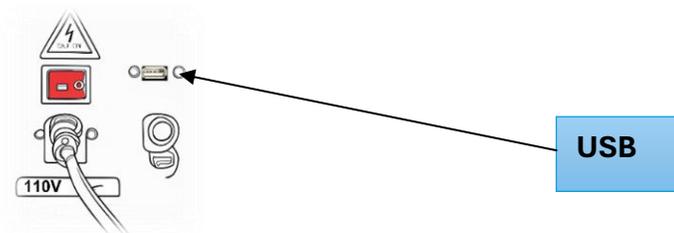
1. Unzip the received compressed file.

dwin_set.zip

2. Copy the extracted folder to a USB disk (ensure it is the only file on the disk).

 **DWIN_SET**

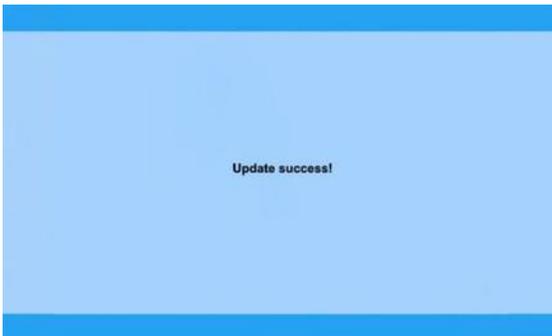
3. Insert the USB disk into the machine’s USB Type-A port.



4. Turn on the machine to display the upgrade interface.

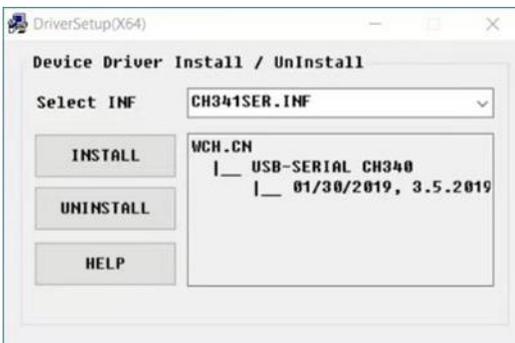


5. Upon successful upgrade, shut down, remove the USB disk, and restart the machine.

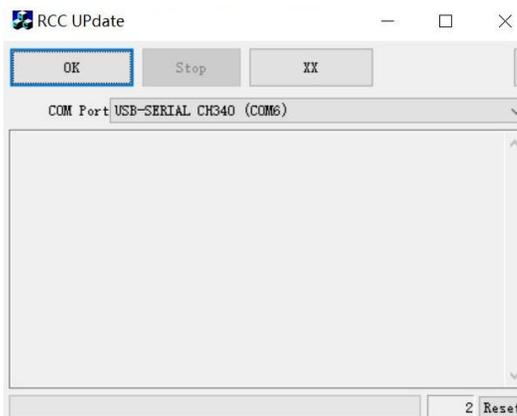


Main Program Update

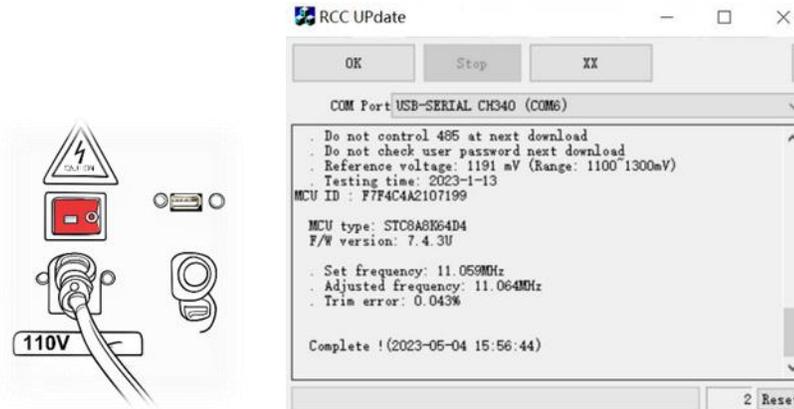
1. Install the “ch341ser” program on a computer.



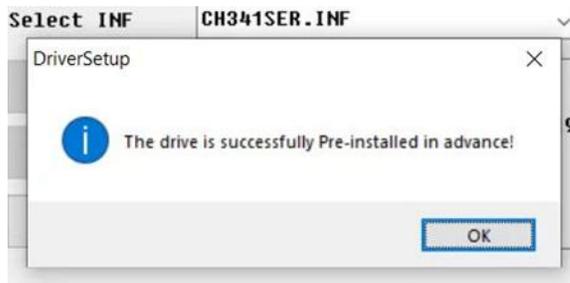
2. Run “AC600 23.5.4.exe” on the computer.



- Turn off the machine, insert the black update cable into the USB Type-B port, and select “OK” within 6 seconds.



- A successful update is indicated on the interface.



REGULAR MAINTENANCE AND RESET

The filter-drier processes 220 lb (100 kg) of HFO-1234yf before locking the machine. Perform maintenance:

- Preparation:**
 - Check filter-drier life on startup.
 - Obtain a replacement filter-drier, vacuum pump oil, solenoid spool washers, and o-rings from Bludee (443-380-0088 or www.bludee.com).
 - Disconnect power and wear safety goggles/gloves.
- Filter-Drier Replacement:**
 - Locate the filter-drier (left side after open rear door).
 - Close the tank valve, remove the old filter-drier, and install the new one.
 - Collect residual oil in an approved container.
- Vacuum Pump Oil Replacement:**
 - Drain old oil from the pump reservoir and refill to the centerline with Bludee-specified oil.
- Solenoid Spool Washer Replacement:**

- Replace washers for solenoid valves (see “Main Troubleshooting” for locations).

5. Leak Testing:

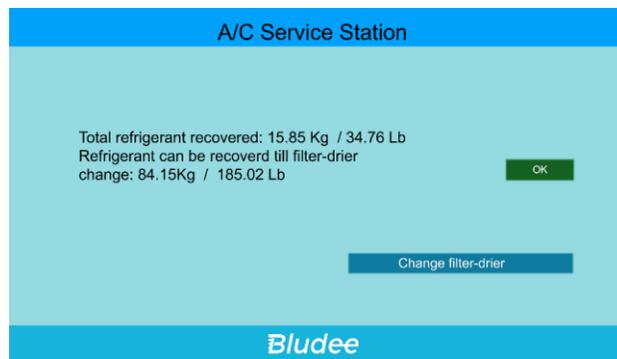
- Reconnect power and test connections with a SAE J2788-compliant leak detector.

6. Periodic Calibration Check:

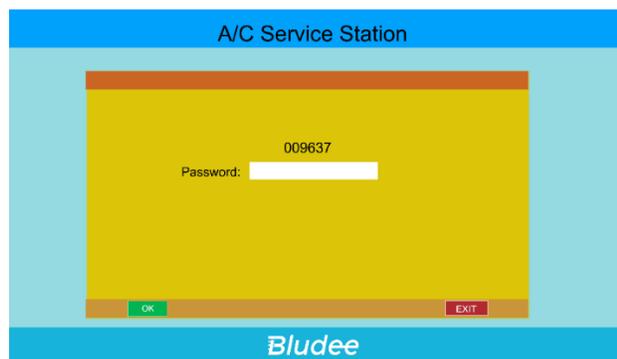
- Every 3 months, verify load cell and pressure sensor calibration using a 2.2 lb weight and a reference pressure gauge.
- If discrepancies are found, recalibrate per the “Calibration” section or contact Bludee support.

7. System Reset Procedure

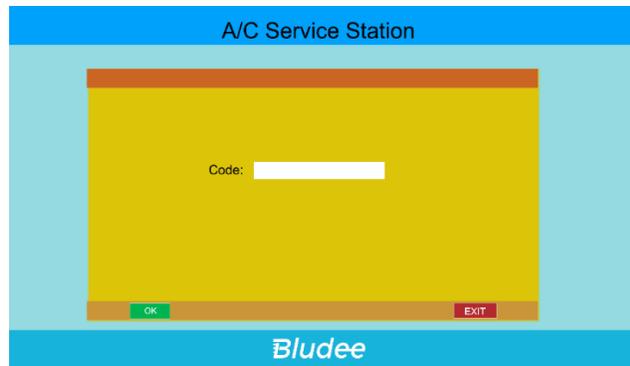
- When the filter-drier life expires, the machine displays a maintenance prompt with a unique number.
- Contact your Bludee distributor at 443-380-0088 or visit www.bludee.com and provide the displayed number to obtain a dynamic password (passwords are unique for each reset).
- Click “Change filter-drier” when the machine is powered on.



- Input the service code provided by the distributor or Bludee direct.



- Enter the 2nd code printed on the new filter-drier [all upper case].



- If the code is recognized, the machine will initiate a 60-second evacuation cycle to clear internal lines.
- Upon completion, the system resets, allowing another 220 lb of refrigerant to be recovered and charged.
- Verify the reset by checking the filter-drier life display on startup (it should show 220 lb remaining).

Expanded Maintenance Schedule:

Interval	Task
Daily	Empty used oil vessel; inspect hoses for wear
Weekly	Check gauge calibration; verify tank pressure
Monthly	Purge non-condensable gases; inspect oil vessels
Quarterly	Check vacuum pump oil clarity; replace if cloudy; verify load cell/pressure sensor calibration
Annually	Perform full leak test
Every 220 lb	Full service: replace filter-drier, pump oil, solenoid washers

Warning: Only EPA Section 609-certified technicians should perform maintenance. Dispose of waste per local and federal regulations.

PACKING LIST

Part Number	Article	Quantity
BDE-019-600	AC600/AC600i Main Unit	1
BDE-HOS-3MR	Red Service Hose	1
BDE-HOS-3MB	Blue Service Hose	1

BDE-CPR-12H	HP Quick Coupler (HFO-1234yf)	1
BDE-CPR-12L	LP Quick Coupler (HFO-1234yf)	1
BDE-FUS-30A	30A Fuse	1
BDE-USB-01B	Update Cable with USB	1
BDE-LP1-234	Tank Fill Fitting (HFO-1234yf)	1

TROUBLESHOOTING

Error Code	Malfunction	Reasons	Solution
005	Low Vacuum Degree	<ol style="list-style-type: none"> 1. Low vacuum pump oil. 2. Dirty/emulsified oil. 3. Plugged oil inlet. 4. Pump connection leaks. 5. Worn components. 	<ol style="list-style-type: none"> 1. Add oil to centerline. 2. Replace oil. 3. Clean inlet. 4. Check connections. 5. Replace o-rings/washers.
-	Vacuum Pump Injects Oil	<ol style="list-style-type: none"> 1. Excessive oil. 2. High entrance pressure. 	<ol style="list-style-type: none"> 1. Drain excess oil. 2. Run recovery first.
-	No Display	<ol style="list-style-type: none"> 1. Blown fuse (PCA/power cable). 2. Burnt PCA. 3. Loose power cable. 4. Faulty LCD. 	<ol style="list-style-type: none"> 1. Replace fuses. 2. Replace PCA. 3. Secure cable. 4. Replace LCD.
-	Recovery Does Not Stop	<ol style="list-style-type: none"> 1. A/C or machine pipeline leak. 2. Compressor failure. 3. Faulty pressure sensor. 	<ol style="list-style-type: none"> 1. Test for leaks. 2. Replace compressor. 3. Secure/replace sensor.
-	No Change in Recovery Volume	<ol style="list-style-type: none"> 1. No refrigerant in A/C. 2. Load cell bolt not removed. 3. Faulty load cell/PCA. 	<ol style="list-style-type: none"> 1. Stop recovery. 2. Remove bolt. 3. Calibrate/replace load cell/PCA.
004	High Pressure Alarm	<ol style="list-style-type: none"> 1. High pressure switch disconnected. 2. Blocked compressor exit pipeline. 	<ol style="list-style-type: none"> 1. Secure switch plug. 2. Inspect hoses/valves.
-	Contaminated Refrigerant	<ol style="list-style-type: none"> 1. Identifier (external for AC600, integrated for AC600i) detects non-HFO-1234yf (e.g., R-134a, R-12). 	<ol style="list-style-type: none"> 1. Stop operation. 2. Do not proceed with recovery or tank fill. 3. Isolate contaminated system and contact Bludee for guidance.

-	Oil Injection Failure	<ol style="list-style-type: none"> 1. Incorrect oil type or viscosity. 2. Clogged oil injector. 3. Faulty oil load cell. 4. Empty new oil vessel. 	<ol style="list-style-type: none"> 1. Verify POE (high-voltage) or PAG (normal-voltage) per database. 2. Clean injector with approved solvent. 3. Recalibrate or replace load cell. 4. Refill new oil vessel.
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Note: Contact Bludee at 443-380-0088 or www.bludee.com for unresolved issues.

WARRANTY AND REGISTRATION

The AC600/AC600i includes a 1-year limited warranty for defects in materials and workmanship. Register at www.bludee.com/register within 30 days of purchase. Contact Bludee at 443-380-0088 or www.bludee.com/support for claims. Retain proof of purchase and maintenance records.

ACCESSORIES AND PARTS

Part Number	Accessory	Description
BDE-HOS-3MB	Low-Pressure Service Hose, 10ft, Blue	
BDE-HOS-3MR	High-Pressure Service Hose, 10ft, Red	
BDE-CPR-12H	High-Pressure Quick Coupler, HFO-1234yf	
BDE-CPR-12L	Low-Pressure Quick Coupler, HFO-1234yf	
BDE-020-DF3	Dry Filter for AC600	
BDE-020-G22	High-Pressure Gauge, 1.6	
BDE-020-G21	Low-Pressure Gauge, 1.6	
BDE-LP1-234	HFO-1234yf Low-Side Tank Adapter	
BDE-020-1KG	1kg Calibration Weight	
BDE-025-B20	Oil Bottle, 200ml Capacity	
BDE-025-B40	Oil Bottle, 400ml Capacity	
BDE-022-80K	Digital Tank Scale, 80kg Capacity	
BDE-022-CVB	Plastic Blue Front Cover for AC600	

Order accessories at www.bludee.com or call 443-380-0088.

GLOSSARY

- **Charge:** Transfers HFO-1234yf from the internal tank to the vehicle A/C system to restore cooling.
- **Cross-Contamination:** Mixing HFO-1234yf with other refrigerants, potentially damaging the machine or A/C system.
- **Evacuation:** Removes air, moisture, and debris from the A/C system using a vacuum pump to prepare for charging.
- **Filter-Drier:** Removes moisture and contaminants from recovered HFO-1234yf for purity.
- **Flushing:** Uses refrigerant to extract compressor oil and contaminants from the A/C system in forward/reverse flow.
- **Hose Flush:** Cleans service hoses with liquid HFO-1234yf to remove oil residue, preventing contamination.
- **Load Cell:** Measures the weight of the refrigerant or oil containers with high accuracy.
- **Microns:** A pressure unit (1 micron = 1/1000 mmHg); 500 microns indicates a deep vacuum.
- **Non-Condensable Purge:** Removes air or other gases from the refrigerant tank to maintain purity.
- **PAG Oil:** Polyalkylene glycol oil for normal-voltage (gasoline/diesel) vehicles; conductive, unsuitable for high-voltage vehicles.
- **POE Oil:** Polyol ester oil for HFO-1234yf high-voltage (hybrid/electric) vehicles; non-conductive.
- **Recovery:** Extracts HFO-1234yf from the vehicle A/C system into the internal tank for recycling.
- **SAE J2788:** Standard for HFO-1234yf recovery/recycling equipment, ensuring 95% efficiency.
- **Solenoid Valve:** Controls refrigerant/oil flow within the machine.
- **Tank Fill:** Transfers HFO-1234yf from an external cylinder to the internal tank, maintaining 4.4–17.6 lb (2–8 kg) with a minimum of 4.4 lb (2 kg) for charging.
- **Vacuum Pump:** Evacuates the A/C system; capacity measured in cfm (e.g., 2.12 cfm).
- **Vapor Lock:** Vaporized refrigerant in the hose slowing liquid transfer during tank fill.

REFRIGERANT PURITY CHECK

For **AC600**, use an external SAE J2788-compliant refrigerant identifier. For **AC600i**, use the integrated refrigerant identifier to verify HFO-1234yf purity before recovery or tank fill to ensure compliance and prevent contamination:

1. **Preparation:**
 - For AC600: Ensure the external identifier is calibrated per manufacturer instructions. Connect to the vehicle A/C system or external HFO-1234yf cylinder's vapor port.
 - For AC600i: Ensure the machine is powered on and the HFO-1234yf tank is properly seated on the load cell.

2. Purity Check:

- For AC600: Follow the external identifier's instructions to analyze the refrigerant (typically 120 seconds).
- For AC600i: Select "Refrigerant Purity Check" from the main menu. The integrated identifier analyzes the refrigerant (120 seconds).
- Confirm HFO-1234yf purity is >98%.

3. Verification:

- If purity is <98%, the refrigerant is contaminated (e.g., with R-134a or R-12). Do not proceed with recovery or tank fill. For AC600i, the machine locks the operation and displays the contaminant type.
- Isolate the contaminated system or cylinder and contact Bludee at 443-380-0088 or www.bludee.com for guidance on handling contaminated refrigerant.

4. Recordkeeping:

- Log the purity check results, including date, purity percentage, and any contaminants detected, in your EPA-required maintenance log.

Warning: Contaminated refrigerant can damage the AC600/AC600i and vehicle A/C system. Always verify purity to comply with EPA regulations. Ensure ventilation due to HFO-1234yf's mild flammability.