

Ice Bath

User Manual



For use with 220-240 V products only

Important Safety Instructions

Please read and follow all safety instructions before using this product.

1. Refrigerant Safety (R290)

- This unit contains R290 refrigerant, which is environmentally friendly but flammable.
 - Do not puncture, damage, or burn the unit under any circumstances.
 - Store and operate the unit in a well-ventilated area, away from open flames, gas appliances, or electric heaters.
 - Keep the unit at least 2 m (6.5 ft) away from heat sources or open flames.
 - Ensure the ventilation openings of the unit are not blocked or obstructed.
 - Use only the defrosting and cleaning methods specified by the manufacturer.
 - Avoid strong vibration or sudden pressure changes in the refrigeration piping.
 - Refrigeration piping should be properly designed and installed to minimize the risk of pressure shock (water hammer).
 - Install the solenoid valve correctly in the pipeline to prevent pressure shock.
- Do not block liquid refrigerant unless adequate pressure relief protection is provided.
- Protect piping, fittings, and safety devices from adverse environmental conditions, such as water accumulation that may freeze or contamination from debris.
 - Apply anti-corrosion protection to steel piping and components before they come into contact with insulation materials.
 - Repairs must only be carried out according to the manufacturer's instructions.

2. Electrical Safety Waterproof Requirements

Adequate waterproof protection must be provided on all sides of the product to prevent water accumulation at the bottom and reduce the risk of electrical leakage.

Risk of Electric Shock

This product contains electrical components.

- Keep the interior of the unit dry at all times.
- If water enters the unit, disconnect the power supply immediately.
- Allow all internal components to dry completely before operating the unit again.

3. Water Temperature and Exposure Time

Cold water exposure should always be controlled to avoid potential health risks.

Recommended maximum immersion times:

Water Temperature	Maximum Time
0–5 °C	1 minute
6–10 °C	3 minutes
11–15 °C	5 minutes

Do not remain in cold water longer than the recommended duration.

Monitor your physical condition during use.

If you feel unwell, exit the water immediately and seek medical advice if necessary.

4. Health Precautions

This product should not be used by individuals with limited physical, sensory, or mental capabilities, or those lacking experience and knowledge, unless supervised by a responsible person.

Children should always be supervised when near the product.

If you have any of the following conditions, consult a doctor before using the ice bath:

- Diabetes, high blood pressure, heart disease, or other cardiovascular conditions
- Skin ulcers, open wounds, or infections
- Pregnancy

Additional precautions:

- Do not use the ice bath immediately after strenuous exercise.
- Do not use the ice bath after excessive alcohol consumption.

5. Child Safety

Children must not use this product without adult supervision.

Keep children away from the unit during operation.

6. Slip Hazard

Take care when entering or exiting the unit, as wet surfaces may be slippery.

For safer access, place a non-slip mat at the entrance of the unit.

7. Outdoor and Weather Conditions

For outdoor use:

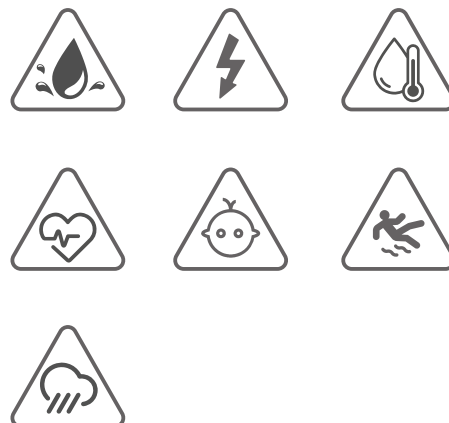
- Provide protective measures such as a sunshade or rain canopy.
- Do not operate the unit during rain, thunderstorms, or strong winds.

For indoor use:

- Ensure the unit is installed in a well-ventilated area.

If the ambient temperature is expected to fall below 0 °C (32 °F):

- Do not operate the unit.
- Turn off the power.
- Completely drain the water from the system.



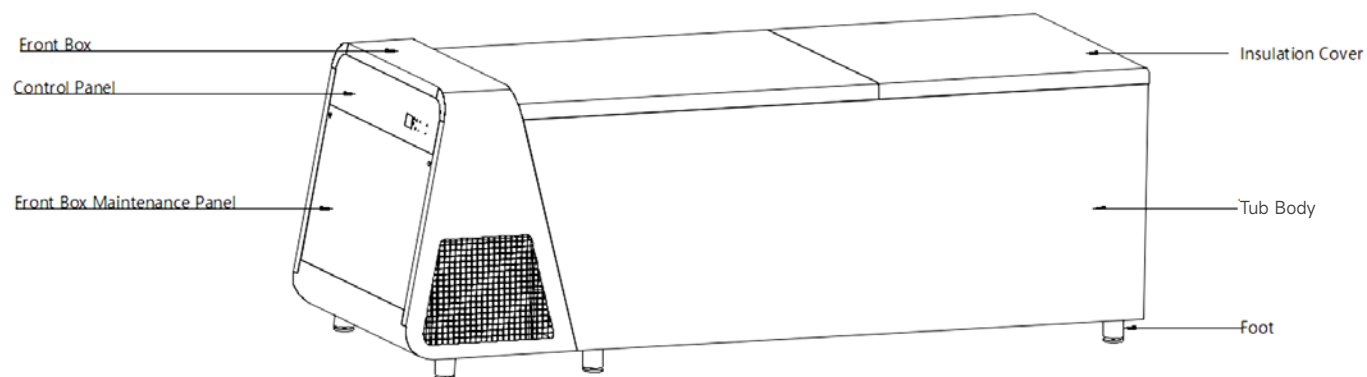
8. Operating Conditions

Ambient temperature for operation:

0 °C – 43 °C (32 °F – 109 °F)

Product Overview

1. Appearance and Parts



1.1 Front Box

The front box contains the main components of the system, including the cooling unit, water circulation system, control panel, and other essential parts required for operation.

1.2 Control Panel

The control panel is the main interface for operating the product.

Users can control functions and monitor system status through the display and buttons.

1.3 Front Box Maintenance Panel

The maintenance panel provides access to internal components for inspection or repair.

When servicing is required, the panel can be opened using a screwdriver.

1.4 Insulation Cover

The insulation cover helps reduce heat loss and maintain the water temperature during operation.

1.5 Tank

The tank holds the water used for ice bath therapy and provides sufficient space for comfortable use.

1.6 Feet

The mounting feet support the unit and keep the base elevated, preventing direct contact with standing water on the floor.

2. Main Functions

2.1 Cooling Function

The built-in temperature control system regulates the cooling process.

After the desired water temperature is set, the system automatically activates the cooling unit and maintains the water within the selected temperature range, allowing the product to be used throughout the year.

2.2 Defrost Function

The defrost function helps produce a higher concentration of ice-water mixture when needed.

The defrost parameters can be adjusted according to the ambient temperature and operating conditions.

2.3 Sterilization Function

Scheduled Disinfection

The system automatically performs water disinfection at preset intervals to maintain water hygiene.

Instant Disinfection

Users can activate the disinfection function at any time by pressing the Disinfection button on the touchscreen display.

2.4 Timer Reservation Function

In sleep mode, press the "Timer" button to enter scheduling mode (the indicator light will turn on).

Users can set the desired soaking time in advance.

The unit will automatically start cooling before the scheduled time.

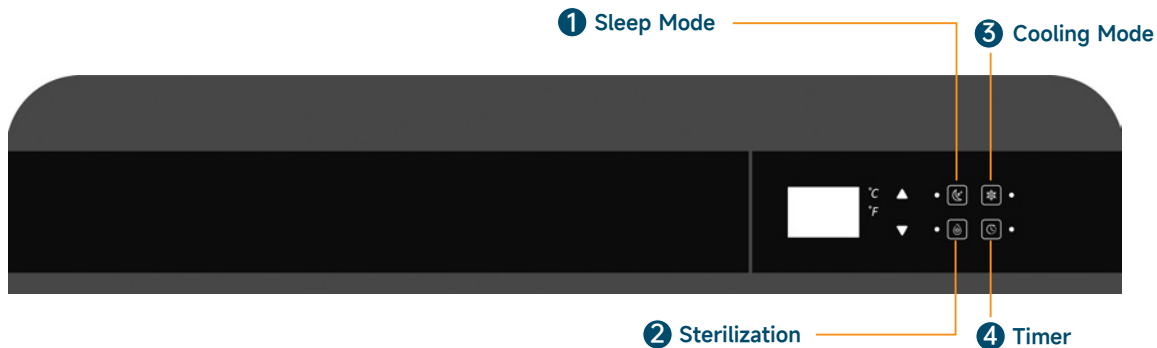
Please note that the actual water temperature at the scheduled time may vary depending on ambient temperature and water volume. Adjust the reservation time if necessary.

Note: The timer reservation function is not available while the unit is in cooling mode.

2.5 Sleep Mode

When sleep mode is activated, the cooling function is temporarily disabled to reduce energy consumption.

Control Panel Overview



1. Digital Display

The digital display shows the current system status, including water temperature and system alerts.

Temperature Range

The water temperature can be set between:

0 °C / 32 °F (minimum)

15 °C / 59 °F (maximum)

Note:

Due to normal measurement tolerances, the displayed temperature may differ slightly from the actual water temperature.

Error Codes

System fault codes range from E1 to E8.

For detailed descriptions, refer to the Error Codes section.

2. Control Buttons

Temperature Adjustment

- Press ▲ once to increase the temperature by 1 °C.
- Press ▼ once to decrease the temperature by 1 °C.

To switch between °C and °F:

- Press and hold ▲ and ▼ simultaneously for 3 seconds.

Sterilization Mode

Press the “Sterilization” button once to start the disinfection cycle.

- The indicator light will turn on during sterilization.
- The light will turn off automatically when the cycle is complete.

Timer Function

(Available only in Sleep Mode)

1. Press the “Timer” button once.

The indicator light will turn on and the scheduled time will appear on the display.

2. Adjust the time using the ▲ or ▼ buttons.

- Each press changes the time in 8-hour increments.
- Minimum setting: 16 hours
- Maximum setting: 96 hours

3. If no operation is performed for 3 seconds, the system automatically saves the setting.

4. When the scheduled time is reached, the timer indicator light will turn off, and the unit will return to Sleep Mode.

5. To cancel the timer, set the scheduled time to 0.

Sleep Mode

Press the “Sleep Mode” button to activate sleep mode.

- The sleep indicator light will turn on.
- The cooling function will stop.
- The self-circulating sterilization function will continue to operate.

To exit sleep mode, press the “Cooling Mode” button.

Cooling Mode

Press the “Cooling Mode” button to activate cooling mode.

The system will begin cooling the water to the set temperature.

3. Defrost Function Settings

3.1 Entering Parameter Settings Mode

Press and hold the “Timer” button for 3 seconds.

The display will flash P0, indicating that Parameter Settings Mode has been activated.

Press the “Cooling Mode” button to access the parameter adjustment interface.

3.2 Switching Between Parameters

Press ▲ or ▼ to scroll through the available parameters.
The display will show the current parameter value while switching.

3.3 Adjusting Parameter Values

Press ▲ or ▼ to change the parameter value.
Press the “Cooling Mode” button to confirm and save

the setting.

The system will automatically proceed to the next parameter.

Note:

If no operation is performed for 3 seconds, the system will automatically exit the parameter settings interface. Any unsaved changes will be discarded.

4. Parameter Settings

Parameter Value	Description	Setting Range	Default Value
P0	Freezing point temperature	3~8° C	5° C
P1	Ice-making run time	0.5~4h	0.5h
P2	Defrost run time	0.5~4h	0.5h

Note: The freezing point temperature refers to the temperature at which the internal surfaces of the tank begin to freeze.

Installation Instructions

Before using the unit for the first time, ensure that installation has been completed by a qualified professional. Follow the guidelines below.

1. Installation Environment

Before placing the unit, a qualified installer must verify that the floor meets the required **load-bearing capacity**.

The installation surface must be:

- Level
- Stable
- Structurally sound

An uneven or unstable surface may cause deformation or damage to the unit.

Water must not accumulate beneath the unit, as standing water may increase the risk of **electric shock**. Ensure adequate drainage around the installation area.

2. Electrical Requirements

Components containing live electrical parts (except those supplied with **safe extra-low voltage not exceeding 12V**) must not be accessible to individuals in the bathroom.

The unit must be connected to a **properly grounded electrical system**. The grounding terminal must be permanently connected to the fixed wiring system, or the unit must be plugged directly into a grounded socket connected to the building's fixed wiring.

Electrical components located near the unit (excluding remote control devices) must be positioned or secured to prevent them from falling into the tub.

The power supply must be protected by a **Residual Current Device (RCD)** with a rated operating current not exceeding **30 mA**.

3. Water Filling

Fill the tub with water until it reaches at least the **minimum water level mark inside the tub**.

Operating the unit with insufficient water may allow air to enter the pump and cause damage.

Note:

Do not pour water hotter than **40° C** directly into the tub, as excessive heat may damage internal components.

Do not introduce foreign objects into the tub, including **ice cubes**, as they may block the internal pipes.

4. Drainage

The drain outlet is located at the **bottom of the unit, at the center of the rear side.**

Users may connect the drain outlet according to their installation setup.

Important:

Ensure the unit is **powered off before draining.**

Damage caused by operating the unit **without water** is not covered by the warranty.

Operating Instructions

1. Before Entering the Tub

To maintain water cleanliness and reduce potential health risks, users are advised to shower or rinse before entering the tub.

Caution:

Check the inner walls of the tub before entering. If ice or small ice crystals are present, take care when entering or exiting to avoid slipping or scratching.

2. Cooling Performance

Under normal operating conditions, it may take several hours for the water to reach the set temperature.

Cooling performance may vary depending on:

- Water level
- Ambient temperature

For best results, turn on the unit in advance or use the scheduling function to pre-set the desired temperature before use.

3. Control Panel Usage

Do not touch the display screen with sharp objects.

Avoid pressing the screen or buttons with excessive force, as this may scratch or damage the control panel.

Protect the control panel from direct sunlight and prolonged exposure to harsh environmental conditions.

Maintenance and Cleaning

1. Water Replacement

Replace the water regularly according to:

- Frequency of use
- Water quality conditions

2. Filter Maintenance

A clogged filter may reduce water flow and filtration efficiency.

Inspect the filter regularly and replace it if dirt or debris is present.

Filter Removal and Installation:

- Turn off the power and unplug the unit.
- Use a screwdriver to loosen the screws on the front access panel.
- Turn the water pump cover counterclockwise to remove it.
- Remove the filter paper core from the pump.
- Install the new filter paper core and secure the pump cover.
- Reinstall the front access panel and tighten the screws.
- Restore power by plugging in and turning on the unit.

Warning:

Always turn off the power before removing the filter paper core. Failure to do so may allow foreign objects to enter the water pump. Any resulting damage is not covered by the warranty.

3. Water Care

Clean the inner tub regularly according to the frequency of use.

The tub is made of stainless steel, and the unit is equipped with water filtration and sterilization functions. For this reason, the use of chemical disinfectants is not recommended.

Replace the water periodically depending on water quality.

Warning:

Do not use chlorine tablets, disinfectants, or other corrosive chemicals in the tub.

These chemicals may cause corrosion or rusting of the inner tank, and any resulting damage will not be covered under warranty.

4. Cover Usage

When the unit is not in use, keep it covered to:

- Maintain water cleanliness
- Improve thermal insulation
- Reduce potential safety risks
- Protect the cover from prolonged exposure to direct sunlight, which may cause aging or damage.

5. Long-Term Storage

If the unit will not be used for an extended period:

- Disconnect all power sources.
- Open the drain valve and completely drain the water.
- Remove the filter paper core and store it in a dry place.
- Remove any remaining water inside the unit.
- Close the top cover.

Troubleshooting

If the problem cannot be resolved using the steps below, disconnect the unit from the power supply and contact your dealer or authorised service provider.

Issue	Possible Cause	Recommended Action
Display shows an error code and the unit stops running	The system includes a self-diagnostic function. When a fault is detected, the unit will automatically stop operating to protect internal components.	Refer to the Error Codes table to identify the meaning of the fault code. After identifying the issue, contact your dealer or authorized service technician for repair.
The unit cannot start	• Power supply is not connected. • Control system or display panel malfunction.	Check whether the power switch or RCD (leakage protector) is turned on. If the problem persists, refer to the error code table and contact your dealer for service.
The unit starts automatically	• Automatic sterilization function is running. • Cooling function is operating.	This is part of the unit's automatic operating program. No repair is required. The unit will stop automatically once the function is completed.
Slow or no cooling in the tub	• Temperature setting is too high. • Insulation cover not used, causing significant heat loss. • Possible refrigerant leakage. • Fault in refrigeration components.	Adjust the temperature setting. Always use the insulation cover when possible. If cooling performance does not improve, contact your dealer for inspection or repair.
Ice layer on the inner wall exceeds 25 mm	• Incorrect defrost parameter settings. • Air trapped in the circulation pump. • Circulation pump malfunction.	Optimize the defrost parameters (increase P0 temperature , shorten P1 ice-making time , and extend P2 defrost time). Loosen the vent screw on top of the circulation pump until water flows out, then retighten it. If the issue persists, contact your dealer for repair.
No water flow or bubbles during sanitization	• Air trapped in the circulation pump. • Circulation pump not operating. • Control board malfunction.	Loosen the vent screw on top of the circulation pump until water flows out, then retighten it. If the issue continues, contact your dealer or authorized service technician.

Error Codes

If the control panel displays an error code, refer to the table below for the description and possible cause.

Error Code	Description	Possible Cause
E1	Ambient Temperature Protection	Operating temperature is outside the allowable range.
E4	Water Temperature Sensor Fault	Water temperature sensor is open or short-circuited.
E7	Outdoor Ambient Temperature Sensor Fault	Outdoor ambient temperature sensor is open or short-circuited.
LL	Low Water Temperature Protection	Water temperature inside the unit is too low.
HH	High Water Temperature Protection	Water temperature inside the unit is too high.

Technical Specifications

(See the product packaging for details)

Appendix A Service Information (Service Manual)

For Qualified Service Personnel Only

The information in this appendix is intended only for qualified service technicians trained in refrigeration system maintenance and repair.

A1 Personnel Qualifications

Service and maintenance work must only be performed by personnel with appropriate professional qualifications.

Service technicians must:

Possess the necessary skills and knowledge to safely perform maintenance, servicing, and repair operations.

Be capable of dismantling refrigeration circuits and opening sealed components.

Be able to safely remove ventilation covers and access internal components.

Fully understand the relevant safety procedures required to prevent injury to personnel and damage to equipment.

A2 Service Safety Information

A2.1 Pre-Service Safety Inspection

Before servicing the unit, a safety inspection must be performed to minimize the risk of ignition.

When working on the refrigeration system, all inspections described in Sections A2.2 to A2.9 must be completed before starting maintenance work.

A2.2 Work Procedures

All service operations must be carried out using controlled procedures to reduce risks associated with flammable gases or vapors.

A2.3 Work Area

Maintenance work should not be performed in confined spaces.

Ensure the work area provides sufficient space and safe working conditions.

A2.4 Refrigerant Check

Suitable refrigerant detection equipment must be used before and during maintenance to monitor potential refrigerant leaks.

A2.5 Fire Extinguishers

When performing hot work on refrigeration equipment or related components, suitable fire extinguishers must be available nearby.

Recommended types include:

- Dry powder fire extinguishers
- CO₂ fire extinguishers

A fire extinguisher must also be available during refrigerant charging operations.

A2.6 Control of Ignition Sources

When servicing the refrigeration system, all potential ignition sources must be eliminated.

Maintenance operations may release flammable refrigerants into the surrounding area.

The following precautions must be observed:

- Smoking is strictly prohibited.
- Open flames must not be present.
- All potential ignition sources must be removed from the work area.

Before beginning work, inspect the surrounding area to ensure no flammable materials or fire hazards are present.

A “No Smoking” sign should be displayed in the service area.

A2.7 Ventilation

Before opening the refrigeration system or performing hot work, ensure the work area is well ventilated.

Proper ventilation allows leaked refrigerant to be safely diluted and dispersed.

A2.8 Refrigeration Equipment Inspection

When replacing electrical components, they must be installed according to their intended use and technical specifications.

Always follow the manufacturer's maintenance and repair instructions.

If any uncertainty exists, consult the manufacturer's technical support department.

For systems using flammable refrigerants, the following checks must be performed:

1. Determine the refrigerant charge based on the size of the room containing refrigerant components.
2. Ensure ventilation systems and air outlets are functioning correctly and are free from obstructions.
3. For indirect refrigeration systems, verify the presence of refrigerant in the secondary circuit.
4. Ensure all equipment markings and labels are clearly visible and legible. Replace or correct any unclear labels or symbols.
5. Refrigeration piping and electrical components must not be installed in environments where corrosion may occur unless corrosion-resistant protection is provided.

A2.9 Electrical Equipment Inspection

Maintenance and servicing of electrical components must include an initial safety inspection.

If defects are identified, the circuit must not be energized until the problem has been corrected.

If the issue cannot be immediately resolved but work must continue, the situation must be reported to the product owner so that all relevant parties are informed.

The initial safety inspection must include:

- Safe discharge of capacitors to prevent electrical sparks.
- Ensuring that no live electrical components or wiring are exposed during system charging, recovery, or cleaning.
- Verification of grounding continuity.

A3 Sealed Electrical Components

Sealed electrical components must not be repaired.

If a sealed component fails, it must be replaced with an approved replacement part.

A4 Cable Inspection

During maintenance, technicians must inspect all cables for signs of:

- Wear
- Corrosion
- Over-voltage damage
- Vibration damage
- Sharp edges
- Other adverse environmental conditions

The effects of aging and continuous vibration caused by compressors or fans must also be considered.

A5 Refrigerant Leak Detection

Leak detection must be performed in environments free of ignition sources.

The use of halogen probes or flame-based leak detection devices is strictly prohibited.

Because the unit uses flammable refrigerants, only the following leak detection methods are permitted.

A5.1 Electronic Leak Detectors

Electronic leak detectors may have reduced sensitivity when used with flammable refrigerants and may require recalibration.

Calibration must be performed in a refrigerant-free environment.

The detector must:

- Be suitable for the refrigerant used
- Not create an ignition hazard

A5.2 Lower Flammability Limit (LFL)

Leak detection equipment must be set according to the Lower Flammability Limit (LFL) of the refrigerant.

Calibration must correspond to the specific refrigerant used.

The detection range should be adjusted appropriately, with a maximum setting of 25% gas concentration.

A5.3 Fluid Leak Detection

When using liquid leak detection solutions, chlorine-based solvents must not be used.

This prevents chemical reactions with the refrigerant and protects copper piping from corrosion.

Acceptable leak detection methods include:

- Bubble method
- Fluorescent dye method

If a leak is suspected:

- All open flames must be removed or extinguished.
- If welding is required, the refrigerant must first be recovered or isolated using shut-off valves in accordance with the procedures described in Section A6.

A6 Refrigerant Removal and Circuit Evacuation

When performing maintenance on the refrigeration circuit, technicians must follow established refrigerant handling procedures.

Because the unit uses flammable refrigerants, the following safety measures must be strictly followed:

1. Safely remove refrigerant in accordance with local and national regulations.
2. Evacuate the refrigeration system.
3. Flush the piping with inert gas (optional).
4. Evacuate the system again (optional).
5. When cutting the circuit using a flame, continuously flush the piping with inert gas.
6. Cut the circuit.
7. Recover the refrigerant into an approved storage tank.

During maintenance, inert gas must be used.

Compressed air or oxygen must never be used to clean the refrigeration system.

Cleaning the refrigeration circuit involves introducing inert gas under vacuum until the system reaches operating pressure, releasing the gas, and evacuating the system again. This procedure should be repeated until all refrigerant has been removed.

Before continuing work, the system must be returned to atmospheric pressure.

Note: Ensure no ignition sources are present near the vacuum pump outlet and that the work area is well ventilated.

A7 Refrigerant Charging Procedure

When charging refrigerant, technicians must observe the following precautions:

- Ensure no cross-contamination occurs between different refrigerants.
- Refrigerant charging hoses should be kept as short as possible to reduce residual refrigerant.
- Refrigerant storage cylinders must be positioned according to manufacturer instructions.
- Ensure proper grounding before charging refrigerant into the system.
- After charging, the system must be properly labeled

if labeling is not already present.

- Avoid overcharging the refrigeration system.

Before recharging the system:

- Perform a pressure test using a suitable inert gas.
- After charging, conduct a leak test before operating the system.

A final leak test must be performed before leaving the installation site.

A8 Equipment Disposal

Before beginning the disposal procedure, technicians must be fully familiar with the unit and its operating characteristics.

The recommended practice is to safely recover all refrigerants before disposal.

If recovered refrigerant is intended for reuse, samples of the refrigerant and compressor oil should be analyzed before further processing.

Note: Ensure the power supply is available before beginning the procedure.

Disposal Procedure

1. Become familiar with the equipment and its operation.
2. Isolate the electrical system.
Before continuing, ensure that:
 - Mechanical handling equipment is available if refrigerant storage cylinders must be moved.
 - All personal protective equipment (PPE) is available and in proper working condition.
 - The entire recovery process is supervised by qualified personnel.
 - Recovery equipment and storage cylinders comply with relevant standards.
3. If possible, evacuate the refrigeration system.
4. If vacuum cannot be achieved, extract refrigerant from multiple points within the system.
5. Ensure the storage cylinder has sufficient capacity before recovery begins.
6. Operate recovery equipment according to the manufacturer's instructions.
7. Do not overfill storage cylinders (liquid volume must not exceed 80% of cylinder capacity).

8. Do not exceed the maximum working pressure of the storage cylinder.

9. After recovery is complete, remove the cylinder and equipment and close all shut-off valves.

Recovered refrigerant must not be transferred to another refrigeration system unless that system has been properly cleaned and inspected.

A9 Equipment Labeling

After the unit has been decommissioned and refrigerant has been removed, the equipment must be clearly labeled with:

- The date of decommissioning
- Relevant service notes or annotations

A10 Refrigerant Recovery

When removing refrigerant for maintenance or disposal, standard recovery procedures must be followed.

Recovered refrigerant must be stored only in approved storage cylinders designed for the specific refrigerant.

Requirements include:

- Cylinders must be clearly labeled with the refrigerant type.
- Cylinders must include pressure-relief devices and shut-off valves.
- Cylinders must be in good condition.

Before use:

- Empty cylinders should be evacuated.
- Where possible, cylinders should be pre-cooled to improve recovery efficiency.

Recovery equipment must:

- Be maintained in proper working condition.
- Be suitable for handling the specific flammable refrigerant used.

When in doubt, consult the equipment manufacturer.

Additional requirements:

- Calibrated weighing instruments must be available.
- Hoses must include leak-tight detachable couplings and be in good condition.
- Recovered refrigerant must only be transferred into approved cylinders in accordance with local regulations.
- Different refrigerants must never be mixed in recovery equipment or storage cylinders.

When removing a compressor or draining compressor lubricating oil, ensure the compressor has been fully evacuated to remove residual flammable refrigerant.

Open flames or other ignition sources must never be used to heat the compressor housing.

Lubricating oil must be disposed of in accordance with applicable environmental and safety regulations.