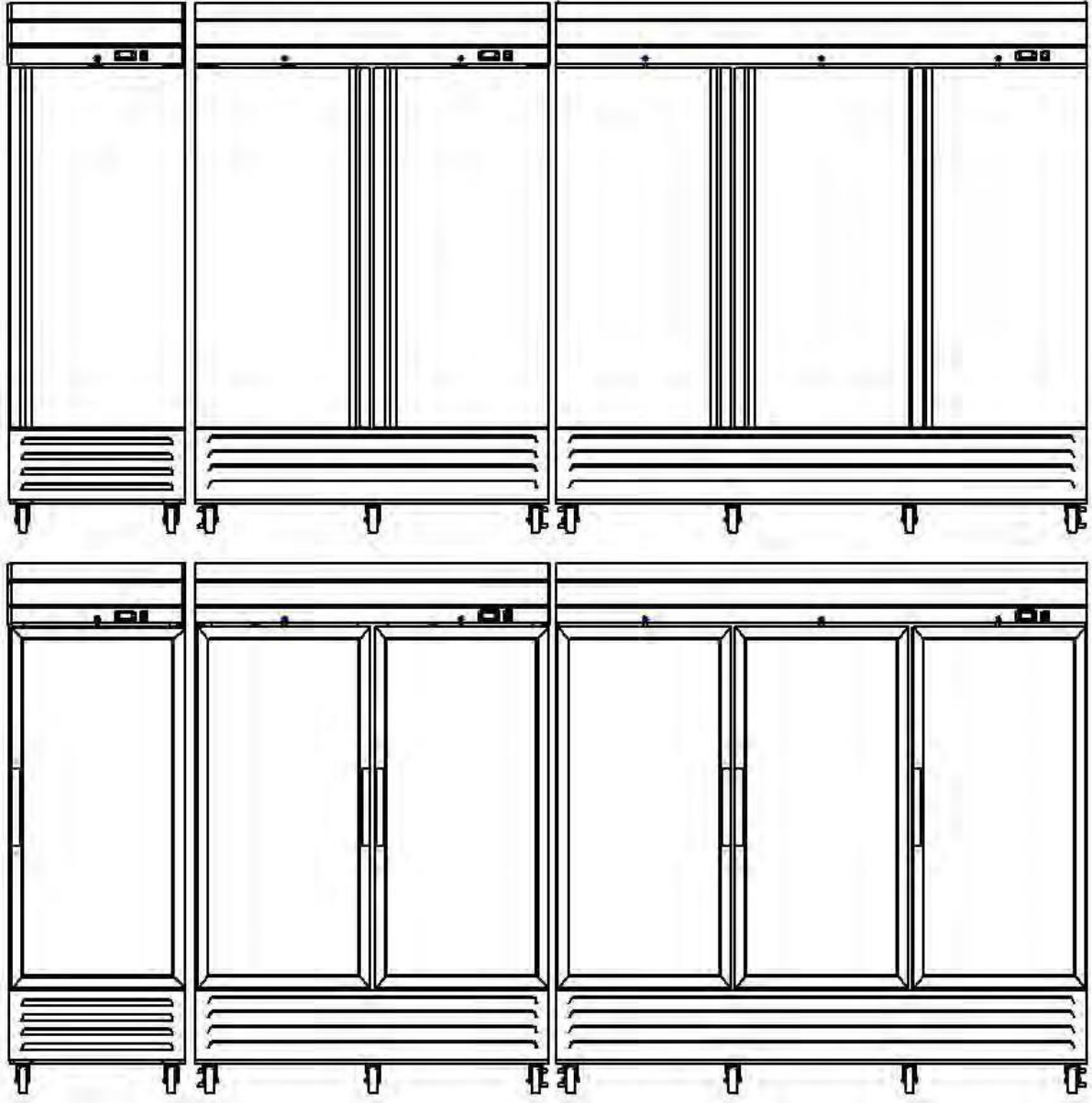


NORIOTA

INSTALLATION AND INSTRUCTION MANUAL



**NR SERIES
REACH-IN REFRIGERATOR**

**NF SERIES
REACH-IN FREEZER**

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INTRODUCTION

Thank you for choosing NORIOTA commercial reach-in refrigeration equipment. This user manual provides important information for the **safe installation, operation, and maintenance** of NORIOTA commercial reach-in refrigerators and freezers. These units are designed and manufactured for **commercial foodservice and light commercial applications** and are intended to maintain food and beverage products at safe holding temperatures when installed and operated in accordance with this manual.

This manual applies to NORIOTA upright reach-in refrigeration models, including both **refrigerator (NR series)** and **freezer (NF series)** configurations. Model-specific specifications such as dimensions, capacity, electrical requirements, and temperature ranges are provided in the technical data section of this manual.

Important Information for Owners and Operators

- Read this manual **completely** before installing or operating the equipment.
- Keep this manual in a **readily accessible location** for reference by operators and service personnel.
- Installation, electrical connection, and servicing should be performed by **qualified personnel** in accordance with applicable local codes and regulations.
- Improper installation, use, or maintenance may result in equipment damage, reduced performance, or personal injury.

Intended Use

NORIOTA reach-in refrigeration equipment is designed and manufactured for commercial foodservice and light commercial environments, including restaurants, cafes, bars, commissaries, and similar applications. This equipment is designed for indoor use only and is intended for the storage of properly packaged food and beverage products.

In some cases, this equipment may be installed in non-commercial settings. When installed outside of a commercial foodservice environment, the owner is responsible for ensuring that the installation location, electrical supply, ventilation, and operating conditions are suitable for the equipment and comply with all applicable local codes and regulations.

Residential Installation Considerations

This equipment is designed and manufactured for commercial foodservice environments and is not intended as a residential household appliance. In some cases, the unit may be installed in residential or non-commercial settings. When installed outside of a commercial environment, differences in ventilation, ambient conditions, electrical supply, and installation constraints may affect performance, operation, and service life.

Residential installations must meet all requirements outlined in this manual, including airflow clearances, electrical specifications, and environmental conditions. Installation must comply with all applicable local building, electrical, and safety codes. The owner and installer are responsible for verifying that the installation location and utilities are suitable.

This equipment may operate at higher noise levels and reject more heat than typical residential appliances. These characteristics are normal for commercial refrigeration equipment and do not indicate a defect. Improper installation, inadequate ventilation, or operation outside recommended conditions may result in reduced performance, equipment damage, or unsafe conditions, and may affect warranty coverage.

Manual Scope and Updates

This manual reflects the configuration and specifications of the equipment at the time of publication. NORIOTA reserves the right to make changes to product design, specifications, or documentation without notice. While reasonable efforts are made to ensure the accuracy of the information provided, users should always follow applicable local codes and regulations and consult qualified professionals when installing or servicing the equipment.

Please read this manual in its entirety before installing, operating, or servicing this equipment.

This manual contains important safety information and operating instructions. Reviewing these instructions will help you understand proper use of the equipment, recognize potential hazards, and reduce the risk of injury or damage.

Always follow the safety instructions and procedures outlined in this manual. Failure to do so may result in personal injury, equipment damage, or unsafe operating conditions.

RECEIVING AND INSPECTING THE EQUIPMENT

Carefully inspect the equipment immediately upon delivery and before signing the carrier's delivery receipt.

Inspect the exterior packaging for visible signs of damage, including dents, punctures, crushed corners, or evidence of mishandling. If any damage is observed, note the damage clearly on the delivery receipt and request that the carrier acknowledge it. Retain a copy of the signed receipt for your records.

After the unit has been delivered and unpacked, inspect the equipment itself for concealed damage. If concealed damage is discovered, notify the delivering carrier promptly and request an inspection. All freight damage claims must be filed with the carrier, as shipping damage is the responsibility of the carrier and is not covered under warranty.

Important Handling Notes

- Do not remove the unit from the delivery location or install the equipment before completing the inspection.
- If the carrier is unable or unwilling to allow adequate time for inspection, note this on the delivery receipt before signing.
- Retain all packaging materials until the inspection process is complete.

Reporting Damage

- **Visible damage:** Must be noted on the delivery receipt at the time of delivery.
- **Concealed damage:** Must be reported to the carrier immediately upon discovery.

Failure to follow these procedures may affect the ability to file a freight damage claim.

Before Installation

Confirm that:

- The model number matches your purchase order.
- The unit has not been damaged during transit.
- All accessories and components are present.

Do not proceed with installation until the equipment has been fully inspected and any issues have been resolved.

Serial Number Information

The serial number for NORIOTA reach-in refrigerators and freezers is located inside the cabinet, on the right or left interior side wall. Always have the model number and serial number available when contacting NORIOTA or an authorized service provider for parts, service, or technical support.

SAFETY INFORMATION

This section contains important safety information intended to reduce the risk of personal injury, property damage, or equipment damage. Read and follow all safety instructions before installing, operating, or servicing this equipment.



This is the Safety Alert Symbol. This symbol alerts you to potential hazards that can injure or kill you and others. All safety messages will follow the Safety Alert Symbol and either the words "**DANGER**", "**WARNING**" or "**CAUTION**".

DANGER means that failure to heed this safety statement may result in Death or Severe Personnel Injury.

WARNING means that failure to heed this safety statement may result in extensive product damage, serious personal injury, or death.

CAUTION means that failure to heed this safety statement may result in minor or moderate personal injury, or property or equipment damage.

All safety messages identify the hazard, explain how to reduce the risk, and describe the possible consequences if instructions are not followed.

SAFETY INFORMATION (continued)

General Safety Instructions

- This equipment must be installed, operated, and maintained in accordance with this manual.
- Installation and servicing must be performed by **qualified personnel** familiar with commercial refrigeration equipment and in accordance with applicable codes.
- Use this equipment **indoors only**.
- Do not use this equipment for purposes other than its intended use.
- Do not operate the unit if it has been damaged, is malfunctioning, or is not operating properly.
- Do not modify or bypass any safety devices or factory-installed components.

Flammable Refrigerant Safety



DANGER

Fire or Explosion

- This unit contains **R290 (propane) refrigerant**, which is flammable.
- Do not puncture, cut, or damage refrigeration tubing.
- Do not use mechanical devices or sharp tools to remove ice or frost.
- Keep open flames, sparks, and ignition sources away from the unit.
- Servicing of the refrigeration system must be performed by **qualified service personnel** only.
- Failure to follow these instructions may result in fire, explosion, or serious injury.

Electrical Safety



WARNING

Electric Shock Hazard

- This equipment must be **properly grounded** in accordance with applicable electrical codes.
- Do not remove, cut, or bypass the grounding prong on the power cord.
- Do not use extension cords, adapters, or power strips with this equipment.
- Ensure the electrical supply matches the voltage, frequency, and phase specified on the unit rating label.
- Do not operate the unit with a damaged power cord or plug.
- Disconnect power before cleaning, servicing, or performing maintenance.
- Adjusting temperature controls does not disconnect electrical power. Disconnect power at the circuit breaker or by unplugging the unit before servicing.

Failure to follow electrical safety instructions may result in electric shock, fire, or serious injury.



CAUTION

Equipment
Protection

- Allow at least 10 minutes after unplugging the unit or after a power outage before reconnecting power. Failure to do so may result in compressor damage.
- Ensure the unit is not resting on, pinching, or straining the power cord.

Handling and Installation Safety



WARNING

Tip-Over and
Injury Hazard

- The unit is heavy and may tip if not handled correctly.
- Do not lift or move the unit by doors, panels, or internal components.
- Use appropriate equipment and sufficient personnel (2 or more people) when moving or positioning the unit.
- Do not attempt to lift or move the unit without assistance.
- Ensure the unit is placed on a **level, stable surface**.
- Level the unit using the adjustable feet or casters as instructed.
- Do not install the unit in an area subject to excessive moisture, standing water, or outdoor conditions.

Improper handling or installation may result in personal injury or equipment damage.

SAFETY INFORMATION (continued)

Operating Safety



WARNING

Injury Hazard

- Do not climb on, stand on, or use shelving as a ladder.
- Keep ventilation openings clear of obstruction at all times.
- Do not block air circulation around or inside the unit.
- Do not store explosive, flammable, or hazardous materials inside the equipment.
- Do not climb, stand, or place heavy objects on the unit.
- Do not allow children or unauthorized persons to operate or access the equipment.



CAUTION

Cold Surface

- Avoid touching interior surfaces when hands are wet or damp. Extremely cold surfaces may cause skin to stick.

Service and Maintenance Safety



WARNING

Servicing Hazard

- Disconnect power before servicing or performing maintenance.
- Servicing must be performed by **qualified service personnel only**.
- Do not attempt to repair or modify the unit unless properly trained and authorized.
- Use only manufacturer-approved replacement parts.

Improper servicing may result in injury, equipment damage, or voiding of warranty coverage.

Modification and Misuse

- Do not modify the unit or its components.
- Do not remove panels, guards, or safety devices.
- Do not use the equipment in a manner inconsistent with this manual.

Unauthorized modification or misuse may create hazardous conditions and is not covered under warranty.

Save These Instructions

Retain this manual for future reference and provide it to any subsequent owner or service personnel.

Final Safety Reminder

Failure to follow the safety instructions and warnings in this manual may result in serious injury, death, or property damage. Always operate and service this equipment in accordance with applicable codes, regulations, and accepted safety practices.

IMPORTANT SAFEGUARDS

The following safeguards are provided to reduce the risk of electric shock, fire, injury, or improper disposal. Read and follow all instructions carefully.

Electrical Connection



WARNING

Electric Shock Hazard

Do not, under any circumstances, cut or remove the third (grounding) prong from the power cord. For personal safety, this unit must be properly grounded.

This unit is equipped with a three-prong grounding plug, which must be connected to a properly grounded three-prong wall outlet. To reduce the risk of electric shock, have the wall outlet and electrical circuit inspected by a qualified electrician to ensure proper grounding and compliance with applicable electrical codes.

The unit must be connected to its **own dedicated electrical outlet** with a voltage rating that matches the information on the unit rating label. Dedicated electrical supply helps ensure proper performance and reduces the risk of overloaded wiring, which can cause overheating or fire.

Do not operate the unit with a damaged power cord. Power cords that are frayed, cracked, crimped, or show signs of abrasion or insulation damage must be repaired or replaced immediately. When moving or positioning the unit, take care to avoid pinching, bending, or damaging the power cord.

Power Supply and Circuit Protection

Connecting the unit to an incorrect voltage supply or improper circuit protection may result in damage to the equipment. Damage caused by improper electrical supply, improper circuit protection, unauthorized electrical components, or modification of the unit's wiring is not covered under warranty.

Use of ground fault interrupter (GFI) outlets or circuit breakers is **not recommended** for this unit. GFI devices are prone to nuisance tripping in commercial refrigeration applications. Electrical issues or operational interruptions resulting from the use of GFI outlets or breakers are not covered under warranty.

Refrigerant Disposal



CAUTION

Environmental
Hazard

If disposing of an old appliance, be aware that it may contain a refrigeration system that uses chemicals regulated for environmental protection. Refrigerant must be recovered and disposed of properly by a **qualified service technician** in accordance with applicable environmental regulations.

Appliance Disposal

When disposing of this unit, follow all applicable local codes and ordinances. To prevent misuse after disposal:

- Disconnect the unit from the electrical supply and cut off the power cord plug.
- Remove the door or doors.
- Remove and discard shelving and internal components.

These steps help prevent accidental entrapment, misuse, or injury after the unit has been removed from service.

INSTALLATION

Proper installation is critical to safe operation, reliable performance, and long equipment life. Follow all instructions in this section carefully before operating the unit.



WARNING
Excessive Weight
Hazard

Use two or more persons and appropriate material handling equipment to move and install the unit. Failure to do so may result in back injury or other serious injury.

Pre-Installation Checklist

Before moving the unit into place, confirm the following:

- Installation location is indoors and protected from rain, water spray, dripping water, and wind
- Ambient room temperature is within allowable limits for the model type
- Electrical supply matches the unit rating label
- Floor is level and capable of supporting the fully loaded weight
- Required clearances for airflow, service access, and door swing are available
- Delivery path accommodates cabinet dimensions and weight
- A grounded electrical outlet is located within reach of the factory-supplied power cord
- The electrical plug will remain accessible after installation for service disconnection

Unpacking and Preparation

Unpack the unit carefully to avoid damage to the cabinet, doors, refrigeration system, and electrical components.

IMPORTANT: Do not remove or deface any permanent instruction labels or the unit rating label.

- Remove external packaging materials slowly and methodically.
- Inspect cabinet exterior for dents, distortion, or cosmetic damage.
- Open doors and inspect interior for loose components or shipping damage.
- Verify shelves and shelf supports are present and undamaged.
- Remove all packaging materials, protective film, foam blocks, tape, and adhesives before operating.
- To remove adhesive residue, rub the area gently with your thumb or apply a small amount of mild liquid dish soap using a soft cloth. Rinse with warm water and dry thoroughly.
- Do not use sharp tools, abrasive cleaners, rubbing alcohol, or flammable fluids, as these may damage the unit surface.
- Avoid excessive tilting. Do not lay the unit on its side or back unless unavoidable.

Compressor Settling Time

NOTICE: If the unit was tilted excessively, laid on its side, or transported in a non-upright position, allow the unit to remain upright and disconnected from power for **at least 24 hours** before operating. If the unit remained upright during transport and positioning, allow a minimum of **10 minutes** before powering on.

Do not load product into the cabinet until the unit has been powered on and has reached the set temperature. Product loss or spoilage resulting from improper installation or start-up procedures is not covered under warranty.

INSTALLATION (continued)

Location Requirements

- This unit is intended for indoor use only.
- Select a location with a floor capable of supporting the combined weight of the unit and its contents. A fully loaded unit may weigh up to 680 kg (1,500 lb). Reinforce flooring as required to safely support the load. If there is any concern regarding floor strength, consult a **qualified structural professional**.
- Install the unit in a well-ventilated area.
- Do not install:
 - Near ovens, grills, dishwashers, or other heat-producing equipment
 - In direct sunlight
 - In confined spaces without adequate airflow
 - In areas where ambient temperatures fall below 10 °C (50 °F)
- Avoid hot corners, stagnant air locations, and areas exposed to direct HVAC discharge or frequent drafts. Allow sufficient clearance for door swing, service access, and ventilation. Maximum door swing clearance may be up to 1537 mm (60.5 in), depending on model.

Ambient Temperature and Humidity

- Recommended ambient operating temperature: 10 °C to 30 °C (50 °F to 86 °F)
- If ambient temperature is between 30 °C and 40 °C (86 °F to 104 °F), additional ventilation or auxiliary cooling is required.
- Freezer models are more sensitive to elevated ambient temperatures and may experience reduced performance or longer pull-down times under high ambient conditions.
- For best performance:
 - Ambient temperature below 30 °C (86 °F)
 - Relative humidity below 65 percent

NOTE: High ambient temperature and humidity can increase run time and energy consumption. Additional ventilation may be required to maintain performance.

Leveling, Stability, and Caster Use

Proper leveling is required for door sealing, airflow, condensate management, and stable operation.

- Place the unit on a level surface.
- The floor may slope down from front to rear by up to 6 mm (1/4 in). The floor must not slope from rear to front.
- Adjust casters as needed to ensure stability and proper door sealing.
- Engage front caster brakes after positioning.
- The unit must remain stationary during operation.

Condensate Management

- Units use an internal condensate evaporation system.
- No external drain connection is required.
- Do not modify or add external drain connections.
- The unit must remain level for proper condensate handling.

Airflow and Ventilation

Proper airflow is essential for correct operation and temperature stability.

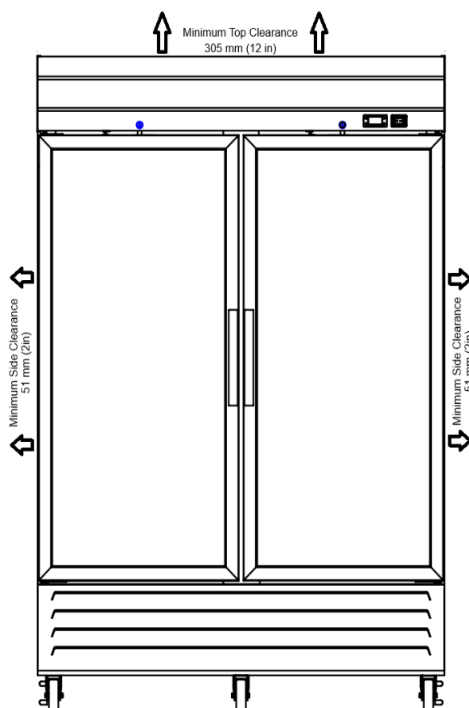
Inside the Cabinet

- Do not overfill the cabinet or block airflow.
- Refrigerated air is discharged at the top rear of the cabinet and must circulate freely to the bottom.
- Blocking airflow may cause evaporator icing, temperature loss, or water overflow from the drain pan.
- Shelves are designed with rear stops to assist airflow; ensure product does not obstruct air return paths.
- Do not place product directly against rear interior wall

Outside the Cabinet

- Maintain adequate clearance around the unit to allow heat dissipation.
- Minimum recommended clearances for all models:
 - Rear: 51 mm (2 in)
 - Sides: 51 mm (2 in)
 - Top: 305 mm (12 in)
- Do not block or restrict airflow openings.

INSTALLATION (continued)



Clearance Requirements for Airflow (Applies to All Models)

Electrical Connection

Refer to the technical data table, unit rating label, and applicable electrical codes to verify proper electrical supply before connecting the unit.

- This unit must be connected to a **dedicated electrical circuit**.



WARNING

Electric Shock Hazard

The unit must be turned **OFF** and disconnected from the power source before performing any service, maintenance, or cleaning. Failure to do so may result in death or serious injury.

Final Installation Checks

Before powering on:

- All packaging removed
- Unit level and stable
- Doors operate freely
- Electrical supply verified
- Required clearances maintained
- Plug accessible

First Power-On Procedure

- Allow the unit to operate empty until operating temperature is reached. This process typically takes 2 to 4 hours, depending on ambient conditions and model.
- Do not load product until the displayed temperature has remained stable for at least 30 minutes.

Installation Responsibility

Installation must be performed in accordance with this manual and all applicable local codes and regulations. Improper installation may result in reduced performance, equipment damage, or affected warranty coverage.

The following installation conditions are not covered under warranty:

- Damage from improper unpacking or handling
- Electrical issues due to incorrect supply, grounding, or GFCI use
- Compressor damage from improper startup
- Performance issues caused by inadequate ventilation or excessive ambient temperature
- Damage caused by improper leveling or unstable installation

OPERATION

This section explains normal operating behavior for NORIOTA reach-in refrigerators and freezers, including refrigeration cycles, defrost operation, temperature control, and best practices for daily use. Understanding these behaviors will help ensure proper performance, food safety, and long service life.

Normal Operating Behavior

During normal operation, the refrigeration system cycles on and off automatically to maintain the set temperature. The following behaviors are expected and indicate proper operation:

- The compressor will cycle as needed based on cabinet temperature and load conditions
- Evaporator fans may stop when doors are opened
- Automatic defrost cycles occur at regular intervals
- Cabinet temperatures may fluctuate slightly during door openings or defrost cycles

These behaviors are normal and required for effective temperature control, humidity management, and frost prevention.

Operator Best Practices

To ensure optimal performance and temperature stability:

- Allow the unit to fully stabilize at operating temperature before loading product.
- Load product evenly and avoid blocking air supply and return openings.
- Avoid frequent or prolonged door openings, which introduce warm, humid air into the cabinet and may increase run time, defrost frequency, and temperature recovery time.
- Do not overload shelving beyond rated capacity.
- Allow warm product to cool before loading when possible.

Refrigeration Cycle – Refrigerators (NR Series)

During normal operation:

- Evaporator fans operate continuously when all doors are closed.
- When one or more doors are opened, evaporator fans stop to reduce moisture infiltration.
- On solid-door models, interior lights activate automatically when the door is opened.
- On glass-door models, interior lights are controlled manually using the light switch located near the main power switch.

The compressor cycles automatically to maintain the programmed cabinet temperature.

Automatic Defrost - Refrigerators

- The unit initiates defrost approximately every 4 hours.
- During defrost, the compressor stops and the controller displays the defrost indicator.
- Typical defrost duration varies with internal and external conditions, lasting a maximum of 90 minutes.
- Cabinet temperatures may rise slightly during defrost. This is normal and temporary.
- Normal refrigeration resumes automatically after defrost completion.

Temperature Control - Refrigerators

- Recommended holding temperature: 1 °C to 5 °C (33 °F to 41 °F)
- Factory default setpoint: 2 °C (36 °F)
- Anti-condensation heaters in the door frames operate automatically with the refrigeration system.

Refrigeration Cycle – Freezers (NF Series)

During normal operation:

- Evaporator fans operate continuously when all doors are closed.
- When one or more doors are opened, evaporator fans stop to reduce moisture infiltration.
- Fans also stop during defrost cycles.
- Interior lights activate automatically when the door is opened.

Automatic Defrost - Freezers

- The unit enters defrost approximately every 4 hours.
- During defrost, the compressor stops and the electric defrost heater energizes.
- The controller displays the defrost indicator.
- Cabinet temperatures may rise slightly during defrost. This is normal and temporary.
- Typical defrost duration varies with internal and external conditions, lasting a maximum of 90 minutes.
- A drip time delay of approximately 5 minutes follows before refrigeration resumes.

OPERATION (continued)

Temperature Control - Freezers

- Recommended holding temperature: -23 °C to -12 °C (-10 °F to 10 °F)
- Factory default setpoint: -21 °C (-6 °F)
- Anti-condensation heaters in the door frames operate automatically with the refrigeration system.

Power Switch

The main power switch is located on the front of unit.

- When the unit is powered ON, the switch illuminates green.
- Turning the power switch OFF stops unit operation but does not disconnect electrical power.

Always disconnect power at the outlet or circuit breaker before servicing.

Digital Controller

The digital controller automatically monitors and manages cabinet temperature, compressor operation, and defrost cycles.

Digital controllers use a temperature differential to prevent short cycling. A differential of 2 °C to 3 °C (4 °F to 5 °F) is recommended for most applications.

This user manual covers normal operation and basic temperature setpoint adjustment only. Detailed controller programming, alarm definitions, and parameter changes are intended for qualified service technicians or authorized support personnel.

If advanced controller adjustment or alarm troubleshooting is required, contact NORIOTA technical support or a qualified service provider.

Energy and Performance Optimization

To maintain efficiency and reliability:

- Keep doors closed when not in use.
- Maintain recommended clearances.
- Clean condenser coils regularly.
- Do not operate the unit in ambient conditions exceeding specified limits
- Loading pre-cooled product in to the unit improves performance and reduces energy use

Abnormal Operation Indicators

Contact service if any of the following conditions occur:

- Cabinet fails to reach operating temperature after initial startup
- Excessive frost or ice buildup
- Continuous compressor operation without cycling
- Unusual noise or vibration
- Temperature alarms that do not clear

CLEANING AND MAINTENANCE

Regular cleaning and preventive maintenance are essential to maintaining proper performance, food safety, energy efficiency, and service life. Failure to follow recommended cleaning and maintenance procedures may result in reduced performance, premature component failure, or unsafe operating conditions.



WARNING

Electric Shock Hazard

Safety Notice

Always turn the unit OFF and disconnect power at the outlet or circuit breaker before performing cleaning, maintenance, or service.

Failure to disconnect power may result in serious injury or death.

General Maintenance Guidance

Routine cleaning and preventive maintenance help to:

- Maintain consistent holding temperatures
- Preserve food quality and safety
- Reduce energy consumption
- Extend the operating life of the unit

Do Not:

- Use bleach or chlorine-based cleaners inside the cabinet
- Spray water directly onto electrical components
- Block interior air vents with product or liners
- Use pressure washers or steam cleaners

Units operating in high-use, high-humidity, or greasy environments may require more frequent cleaning than the minimum intervals listed.

Interior and Exterior Cleaning

Cleaning Procedure

- Clean interior and exterior surfaces using a soft cloth or microfiber towel.
- Use warm water with a mild dish detergent.
- For heavier soil or grease, use a non-abrasive degreasing detergent or a non-chlorinated multi-surface cleaner
- Rinse with clean water and dry thoroughly

Do not use:

- Abrasive cleaners or powders
- Steel wool, wire brushes, or scrapers
- Chloride-based, acid-based, or flammable cleaners or solvents

These materials may damage stainless steel, plastics, breaker strips, door gaskets, and insulation.

Condenser Coil Cleaning

Keeping the condenser coil clean is critical to refrigeration performance and compressor life.

Cleaning Frequency

- Under normal operating conditions: **every 90 days**
- In dusty, greasy, or high-lint environments: **every 30 days**

Cleaning Procedure

- Disconnect power before servicing
- Remove the lower front access panel to access the condenser
- For light dust buildup, use a soft brush or vacuum
- For heavier buildup, use a vacuum or compressed air (dry air or CO₂ only)
- If grease is present, use a condenser coil cleaner approved for refrigeration equipment, then remove residue with compressed air

Do not use:

- Water or liquid spray on the condenser
- Wire brushes or stiff bristles that may damage coil fins

Failure to maintain a clean condenser can result in elevated operating temperatures, excessive run times, reduced cooling capacity, and compressor failure. Damage caused by neglected condenser maintenance is not covered under warranty.

CLEANING AND MAINTENANCE (continued)

Condensate Pan and Drain Cleaning

During normal operation, moisture removed from the cabinet air collects as condensate and is directed through an internal drain system to the condensate evaporator pan. Heat from the refrigeration system allows this condensate to evaporate without the need for an external drain connection.

Proper maintenance of the condensate pan and internal drain system is essential to prevent odors, water overflow, and improper drainage.

Cleaning Frequency

- Inspect and clean at least **twice per year**
- Inspect more frequently in high-humidity or heavy-use applications

Cleaning Procedure

The condensate evaporation system uses a hot gas copper tube to evaporate collected water. This tube may be hot during or shortly after normal operation.



CAUTION

Hot Surface

The copper condensate evaporation tube may be hot and can cause burns. Allow the unit to cool before handling components in this area. Avoid direct contact with the copper tubing.

1. Disconnect power to the unit at the outlet or circuit breaker
2. Allow the unit to remain powered OFF for several minutes and ensure internal components have cooled before servicing
3. Access the condensate pan from the rear of the unit. Remove screws to remove the lower rear grate to access the condensate pan.

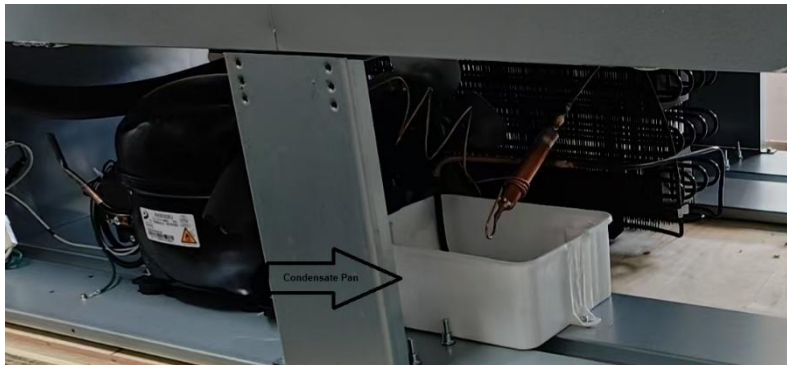


Image: Location of condensate pan

4. Locate the internal drain line. Access to the drain line is provided through the top access panel.



Image: Access to internal drain line

5. Inspect the drain line for debris, residue, or restriction.
6. If needed, flush the drain line with warm water to ensure it is clear.
 - Flush slowly and in small amounts
 - **Do not allow water to overflow the condensate pan during flushing.**
7. After confirming proper drainage, remove excess water from the condensate pan.

CLEANING AND MAINTENANCE (continued)

8. Wash the condensate pan using warm water and a mild detergent.
 - **Avoid contact with the copper evaporation tube.**
 - Do not bend, reposition, or apply force to the tubing.
9. Rinse the pan thoroughly and allow it to dry completely.
10. Reinstall the grate securely and restore power to the unit.

Important Notes

- Do not use abrasive cleaners, bleach, or caustic chemicals
- Do not modify, disconnect, or bypass the condensate evaporation system.
- Damage to the condensate evaporation tubing may result in improper drainage or refrigerant system damage.

Signs of Improper Drainage

Contact service if any of the following are observed:

- Water pooling inside the cabinet or on the floor
- Persistent odors near the unit
- Visible debris or sludge in the condensate pan
- Water not evaporating normally from the pan

Stainless Steel Care

Stainless steel resists corrosion through a protective chromium oxide layer. Improper cleaning methods may damage this layer and lead to discoloration or surface corrosion.

Best Practices:

- Clean stainless steel surfaces at least every 6 weeks
- Use warm water with mild detergent or a stainless-steel-approved cleaner and polish
- Dry surfaces thoroughly after cleaning, especially in hard-water areas
- Always wipe with the grain of the steel

Avoid:

- Chloride-based or acid-based cleaners
- Steel pads, wire brushes, or scrapers
- Leaving acidic food residues on surfaces

If early signs of corrosion appear, clean immediately and apply a stainless-steel cleaner or polish to restore surface protection.

Door Gasket Maintenance

Door gaskets must remain clean and flexible to ensure proper sealing.

Cleaning Procedure

- Clean gaskets regularly using warm, soapy water.
- Avoid harsh or full-strength chemical cleaners.
- Do not use sharp tools or knives on gaskets.

Damaged or torn gaskets allow warm air infiltration, increasing energy use and reducing temperature stability.

Gaskets are wear components and may be replaced without tools by removing the old gasket from the door groove and pressing the new gasket into place. Apply gasket adhesive every 25 - 30 cm (10 - 12 in) as needed to ensure proper seating. Door gaskets are not covered under warranty.

Note: Do not force doors open immediately after closing. Allow internal and external air pressure to equalize before reopening.

Doors and Hinges Maintenance

- Periodically inspect door alignment and hinge mounting screws.
- Tighten loose hardware promptly
- Misaligned or loose doors may compromise sealing and cause hinge damage

If hinge mounting points become stripped or damaged, reinforcement may be required to restore proper operation.

Cabinet Temperature Verification

- Periodically verify cabinet temperature by measuring product temperature, not air temperature
- Compare product temperature to the controller display; readings may vary slightly but product temperature should remain within the intended holding range
- Use a calibrated digital probe thermometer suitable for foodservice applications

TROUBLESHOOTING GUIDE

If the unit does not appear to be operating correctly, review the OPERATION section first. Many concerns are caused by startup conditions, loading practices, door usage, maintenance, or ambient conditions and can often be corrected without service.

Use the guide below to identify common symptoms, likely causes, and corrective actions. If the issue persists after completing the recommended steps, contact qualified service personnel.

Safety Notice

If the issue involves a damaged power cord, electrical odor, smoke, sparking, or a tripped breaker that will not reset, **disconnect power immediately** at the outlet or circuit breaker and contact qualified service personnel.

Before Calling for Service

Confirm the following basic items first:

- Power switch is ON and the unit is connected to the correct electrical supply
- Unit has had sufficient time to reach operating temperature after startup
- Condenser coil is clean and airflow to the condenser is not blocked
- Doors are closing fully and gaskets are clean and sealing properly
- Product is not blocking interior air supply or return openings

Symptom	Possible Cause	Corrective Action
Power and Controls		
Unit does not power ON	Power switch OFF	Verify the power switch is in the ON position
	Unit unplugged	Confirm the power cord is fully seated in the outlet
	Circuit breaker tripped or fuse blown	Reset breaker or replace fuse if required
	Incorrect electrical supply	Verify supply voltage matches the rating label
	Power cord damaged	Disconnect power and contact qualified service personnel
Controller display blank or unresponsive	Power interruption or loose connection	Verify power supply, confirm plug connection, restart unit
	Electrical or control fault	Contact qualified service personnel
Lighting		
Unit runs but interior lights do not turn ON	Light switch OFF (glass door models)	Turn light switch ON
	Door switch not actuated	Ensure door closes fully and opens freely
	Light component failure	Contact qualified service personnel
Temperature and Performance		
Cabinet temperature too warm	Unit recently powered ON	Allow sufficient time for pull-down to set temperature
	Doors opened frequently or left open	Minimize door openings and ensure doors close fully
	Product blocking airflow	Rearrange product to keep air openings clear
	Warm product loaded	Load pre-chilled product when possible
	Ambient temperature too high or poor ventilation	Improve ventilation and confirm ambient limits
	Condenser coil dirty	Clean condenser coil
	Temperature setpoint too high	Adjust setpoint to recommended range
	Door gaskets leaking	Clean or replace gaskets as needed
Cabinet temperature too cold	Temperature setpoint too low	Increase setpoint
	Control settings incorrect	Refer to controller instructions or contact service
Unit runs continuously or does not cycle continuously	Condenser coil dirty	Clean condenser coil
	High ambient temperature or nearby heat source	Improve ventilation and reduce heat load
	Doors opened frequently or gaskets leaking	Reduce door openings and inspect gasket seal
	Heavy loading or warm product	Reduce warm loading and allow recovery

Symptom	Possible Cause	Corrective Action
	introduction	time
Frost, Ice, and Moisture		
Excessive frost or ice buildup	Doors opened frequently or not closing fully	Reduce door openings and ensure doors close fully
	Product blocking airflow	Rearrange product to maintain airflow
	High humidity environment	Minimize door opening duration
	Unit not level	Level the unit
Water collecting inside cabinet	Unit not level	Level the unit
	Internal drain system obstructed	Inspect and clean internal drain system
	Excessive moisture infiltration	Reduce door opening frequency
Water leaking onto floor	Condensate pan or evaporator area dirty	Clean condensate pan and evaporator area
	Unit not level	Level the unit
	Condensate pan displaced	Contact qualified service personnel
Noise and Doors		
Excessive noise or vibration	Unit not level	Level the unit
	Loose shelves or panels	Secure shelves and panels
	Unit contacting wall or equipment	Reposition to maintain clearance
Compressor does not start	Unit in defrost cycle	Allow defrost cycle to complete
	Power interruption	Verify power supply and restart unit
	Electrical or control fault	Contact qualified service personnel
Door difficult to open after closing	Pressure equalization delay	Wait several seconds before reopening door
Door does not seal properly	Dirty or damaged gasket	Clean or replace gasket
	Unit not level or door misaligned	Level unit and inspect hinges
Alarms and Error Codes		
Controller displays alarm or error code	Operating condition outside limits	Confirm doors closed, condenser clean, airflow clear
	Component fault	Refer to controller instructions; contact service if alarm persists

Service Guidance

If the issue cannot be resolved using the steps above, disconnect power and contact qualified service personnel. Have the **model number** and **serial number** available when requesting service.

WARRANTY

For full warranty terms and conditions, including coverage and exclusions, please visit

<https://noriota.ca/pages/warranty-policy>

To activate warranty coverage, register your product online at

<https://noriota.ca/pages/warranty-registration>

Scan to register your product online:



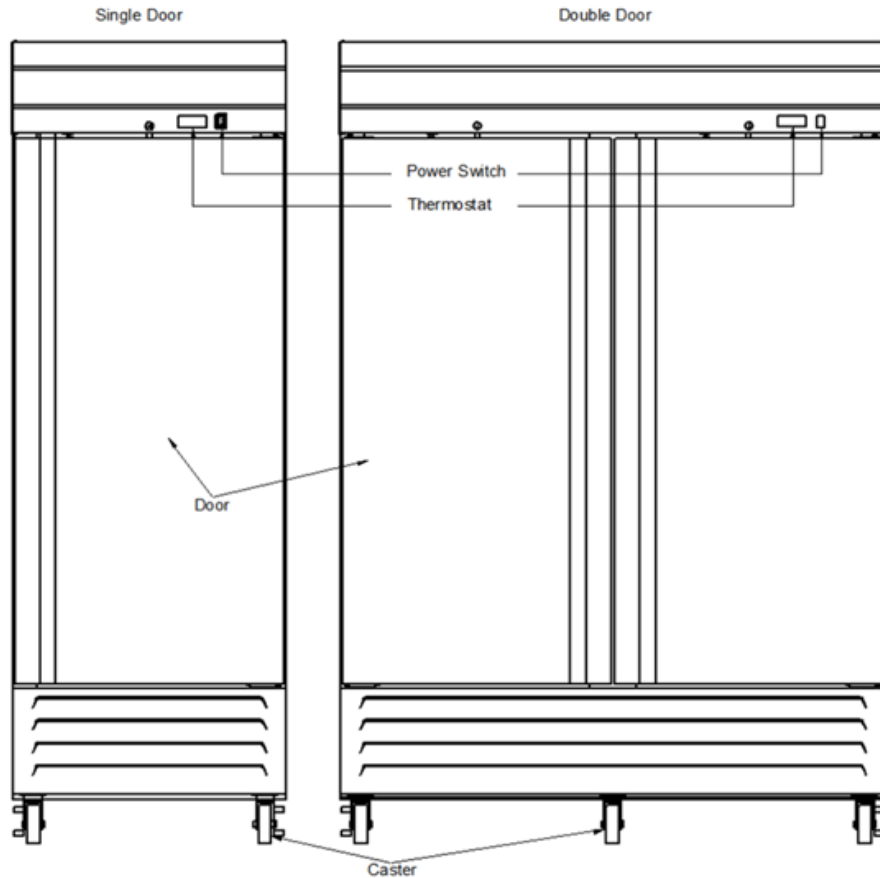
DIMENSIONS AND TECHNICAL INFORMATION

All dimensions are shown as Width × Depth × Height.

Model	Product Dimension	Volume	Temperature Range
NR1	690 × 864 × 2056 mm 27.2 × 34.0 × 80.9 in	542 L 19.3 CuFt	1–5 °C 34–41 °F
NF1	690 × 864 × 2056 mm 27.2 × 34.0 × 80.9 in	542 L 19.3 CuFt	-23 to -12 °C -10 to 10 °F
NR1G	690 × 891 × 2056 mm 27.2 × 35.1 × 80.9 in	542 L 19.3 CuFt	1–5 °C 34–41 °F
NR2	1376 × 864 × 2056 mm 54.2 × 34.0 × 80.9 in	1191 L 42.4 CuFt	1–5 °C 34–41 °F
NF2	1376 × 864 × 2056 mm 54.2 × 34.0 × 80.9 in	1191 L 42.4 CuFt	-23 to -12 °C -10 to 10 °F
NR2G	1376 × 891 × 2056 mm 54.2 × 35.1 × 80.9 in	1191 L 42.4 CuFt	1–5 °C 34–41 °F
NR3	2062 × 864 × 2056 mm 81.2 × 34.0 × 80.9 in	1841 L 65 CuFt	1–5 °C 34–41 °F
NF3	2062 × 864 × 2056 mm 81.2 × 34.0 × 80.9 in	1841 L 65 CuFt	-23 to -12 °C -10 to 10 °F
NR3G	2062 × 891 × 2056 mm 81.2 × 35.1 × 80.9 in	1841 L 65 CuFt	1–5 °C 34–41 °F

- Glass-door models include increased cabinet depth to accommodate handles
- Dimensions are nominal and may vary slightly due to manufacturing tolerances
- Product volume is stated as usable internal storage capacity
- Operating temperature ranges are recommended setpoint ranges for normal foodservice use

COMPONENT IDENTIFICATION AND FUNCTION



COMPONENT IDENTIFICATION AND FUNCTION (continued)

Component	Location	Function	Operator Interaction
Power Switch	Front upper panel	Turns unit ON or OFF	Daily
Digital Controller	Front upper panel	Displays cabinet temperature and manages cooling cycles	Occasional
Door Assembly	Front	Provides sealed access to cabinet	Frequent
Casters	Base of cabinet	Allows unit to be moved for cleaning and service. Engage locks when in place	As needed

Operator Tip

Keep the front air intake grille clear at all times. Blocking airflow can reduce cooling performance and lead to temperature alarms or compressor damage.

Spare Parts Identification

Replacement parts diagrams and component lists for NORIOTA equipment are available online to support service, maintenance, and parts ordering.

Spare parts diagrams are provided for reference and identification purposes only. These diagrams are intended to assist qualified service personnel and authorized dealers in identifying correct replacement components.

Accessing Spare Parts Diagrams

Current spare parts diagrams and part identification resources can be found at:

www.noriota.ca

Search by model number to locate the appropriate parts documentation.

Important Notes Regarding Spare Parts

Spare parts diagrams illustrate component locations and assemblies but do not replace professional service training.

Parts availability may vary by model, production run, or revision.

Always verify the model number and serial number before ordering replacement parts.

Use of non-genuine replacement parts may affect performance, safety, and warranty coverage.

Service and Parts Ordering Guidance

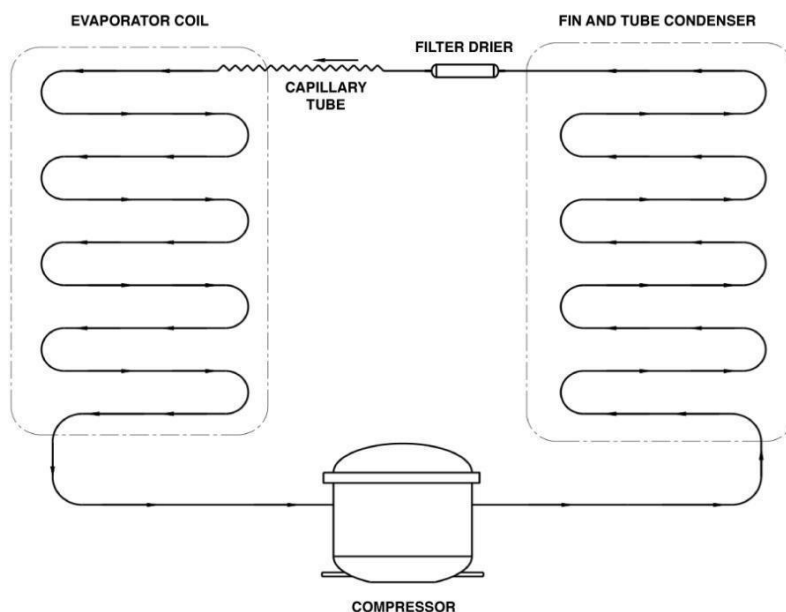
For parts ordering, warranty inquiries, or service assistance:

Contact your authorized NORIOTA dealer, e-mail support@noriota.ca, or visit www.noriota.ca for current contact information

Only qualified service personnel should install replacement components. Improper installation may result in equipment damage, unsafe operation, or voided warranty.

REFRIGERATION DIAGRAM

The diagram below illustrates the basic refrigeration cycle used in NORIOTA reach-in refrigerators and freezers. This sealed system continuously removes heat from the cabinet interior and rejects it to the surrounding air to maintain stable holding temperatures.



How the Refrigeration System Works

- **Evaporator Coil**
Located inside the cabinet, the evaporator coil absorbs heat from the refrigerated space. As air passes over the coil, heat is removed and cabinet temperatures are reduced
- **Capillary Tube**
The capillary tube meters refrigerant flow and reduces pressure, allowing the refrigerant to expand and cool before entering the evaporator coil
- **Compressor**
The compressor circulates refrigerant through the system. It compresses low-pressure refrigerant vapor into a high-pressure, high-temperature gas
- **Condenser Coil (Fan and Tube Condenser)**
The condenser coil releases absorbed heat to the surrounding air. As heat is removed, the refrigerant condenses back into a liquid state
- **Filter Drier**
The filter drier removes moisture and contaminants from the refrigerant to protect system components and ensure long-term reliability

This process repeats automatically as required to maintain the set temperature

Important Operating Notes

- The refrigeration system is factory sealed and requires no routine service by the end user
- All refrigeration components shown are designed to operate automatically under control of the digital controller
- Normal system operation includes compressor cycling and periodic defrost events
- The condenser coil must be kept clean to ensure proper heat rejection and system efficiency

Service Notice

The refrigeration system contains pressurized refrigerant and must only be serviced by **qualified refrigeration technicians**

Do not attempt to access, modify, or repair sealed system components.

CLIMATE CLASS

Climate class defines the environmental conditions under which the refrigeration equipment is designed and tested to operate reliably. These conditions account for ambient temperature and humidity, both of which directly affect refrigeration performance, energy consumption, and condensate generation.

NORIOTA reach-in refrigerators and freezers are engineered to perform within the climate conditions commonly found in commercial foodservice environments.

Understanding Climate Class Ratings

Climate class testing is conducted in a controlled test room that simulates real-world operating environments. Each class represents a specific combination of:

- Dry bulb temperature (ambient air temperature)
- Relative humidity
- Dew point
- Water vapor mass in dry air

Higher humidity and higher water vapor content place greater demand on the refrigeration system and increase condensate load.

Test Room Climate Class	Dry Bulb Temperature (°C)	Relative Humidity (%)	Dew Point (°C)	Water Vapor Mass in Dry Air (g/kg)
0	20	50	9.3	73
1	16	80	12.6	91
8	23.9	55	14.3	102
2	22	65	15.2	108
3	25	60	16.7	120
4	30	55	20.0	148
6	27	70	21.1	158
5	40	40	23.9	188
7	35	75	30.0	273

NOTE: The amount of water vapor present in dry air is a key factor affecting cabinet performance and energy consumption. For this reason, the climate classes in the table are ordered according to the water vapor mass values.

Why Climate Class Matters

- Higher humidity environments increase moisture infiltration, defrost demand, and condensate production
- Higher ambient temperatures increase compressor run time and energy consumption
- Operating outside the specified climate class may result in reduced performance, temperature instability, or excessive condensate

For best results:

- Install the unit in a temperature-controlled indoor environment
- Avoid locations with excessive heat, humidity, or poor ventilation
- Follow clearance and airflow requirements specified in the installation section

Important Note

Climate classes in the table are ordered by water vapor mass, which is a key factor influencing refrigeration performance and energy efficiency. As water vapor content increases, system load and moisture management requirements also increase.

Operator Guidance

Kitchens with frequent door openings, steam-producing equipment, or poor ventilation may experience higher effective humidity than ambient room readings suggest.

COMMISSIONING RECORD

Record the information below at the time of installation. This record helps confirm proper installation conditions, supports future service, and may assist in warranty evaluation. Retain this page for your records.

UNIT AND PURCHASE INFORMATION

Model Number: _____

Serial Number: _____

Date of Purchase: _____

Purchased From (Dealer / Supplier): _____

Dealer Contact (if available): _____

INSTALLATION DETAILS

Installation Date: _____

Installation Location (Site / Address): _____

Installed By (Company / Technician Name): _____

Installer Contact (if available): _____

ELECTRICAL VERIFICATION Supply Voltage (measured): _____ Frequency / Phase: _____ Plug Type / Connection: _____ Dedicated Circuit Confirmed: <input type="checkbox"/> Yes <input type="checkbox"/> No	UNIT SETUP AND CONDITIONS Unit Level Confirmed: <input type="checkbox"/> Yes <input type="checkbox"/> No Airflow Clearance Verified: <input type="checkbox"/> Yes <input type="checkbox"/> No Ambient Temp. at Installation: _____ Cabinet Temp. Setpoint: _____ Doors Opening and Sealing Properly: <input type="checkbox"/> Yes <input type="checkbox"/> No
DRAIN AND INTERNAL SYSTEM CHECK Internal Drain System Checked: <input type="checkbox"/> Yes <input type="checkbox"/> No Drain Pan Condition Verified: <input type="checkbox"/> Yes <input type="checkbox"/> No No External Drain Connection Required (Refrigeration Units)	INITIAL OPERATION CHECK Abnormal Noise or Vibration: <input type="checkbox"/> Yes <input type="checkbox"/> No Temperature Pull-Down Verified: <input type="checkbox"/> Yes <input type="checkbox"/> No

NOTES / OBSERVATIONS

INSTALLER CONFIRMATION

Installer Name: _____

Signature: _____

Date: _____

6 Loring Drive, Bolton, Ontario L7E 1H5 | 1-877-667-4678 (1-877-NORIOTA)
support@noriota.ca
www.noriota.ca

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