NORLAKE®

SCHWAN'S FREEZERS Installation, Operation and Maintenance Instructions

INSPECTION

When the equipment is received, all items should be carefully checked against the bill of lading to insure all crates and cartons have been received. All units should be inspected for concealed damage by uncrating the units immediately. If any damage is found, it should be reported to the carrier at once, and a claim should be filed with the carrier. This equipment has been inspected and tested in the Nor-Lake Manufacturing Facility and has been crated in accordance with transportation rules and guidelines. Manufacturer is not responsible for freight loss or damage.

INSTALLATION

GENERAL

If for some reason the doors are not squared up on the cabinet, the doors can be adjusted. Opening the door(s) and loosening the screws that hold both the top and bottom hinges to the cabinet can accomplish this. After adjusting the door so that it is aligned correctly, tighten the screws to securely hold the hinges in place.

LOCATION

The refrigeration systems of these cabinets require free air access for proper operation. A minimum four-inch clearance should be allowed on the rear and sides of the NF241 upright model. The refrigeration system of the undercounter models is located at the bottom of the unit. These cabinets may be enclosed on three sides; however, there must be minimum four-inch clearance from the bottom of the cabinet to the floor. The undercounter models **cannot** be operated without legs or casters in place, and the bottom of the cabinet **cannot** be enclosed. All cabinet models should also be leveled when placed in their permanent location.

Physical Specifications

Unit Model	Exterior Dimensions Width x Depth x Height*	Refrigerant Type/Amount
UF081	27" x 35" x 34-3/4"	See Serial Tag
UF111	40" x 35" x 34-3/4"	See Serial Tag
UF162	47-3/4" x 35" x 34-3/4"	See Serial Tag
NF241	27-1/2" x 34-7/8" x 81-1/2"	See Serial Tag

- Note: Height dimension includes 4-3/4" for standard casters.

ELECTRICAL

Check the proposed outlet to be used to insure that the voltage, phase, and current carrying capacity of the circuit from the electrical panel correspond to the requirements of the cabinet. **NEVER** use an extension cord to wire any unit. All inter-wiring between the electrical panel and the unit must be done in accordance with the National Electric Code and all state and local codes. Refer to the serial tag for all pertinent electrical information.

Observe all Warning Labels. Disconnect power supply to eliminate injury from electrical shock or moving parts when servicing equipment.

Unit Model	Type of Connection	Voltage/Hz/Ph
All Models	Cord	115/60/1

GENERAL OPERATION

All undercounter freezers employ a unit cooler evaporator located inside the cabinet as the heat-removing source. The NF241 upright cabinet utilizes a forced air evaporator located on the top of the cabinet. Through the refrigeration process, heat is captured in the evaporator, transferred to the condensing unit, and expelled to the surrounding outside air. It is extremely important to maintain the minimum required clearance, stated in the Location section of this manual, for the refrigeration process to function properly. **The undercounter cabinets cannot be operated without legs or casters installed.**

After closing the door on freezer models, a short amount of time must be allowed before the door can be reopened. This is due to the tight seal maintained between the door and the cabinet. Waiting a few moments for the pressure to equalize permits the door to be opened easily.

A positive defrost is required to remove frost from the coil in these freezer models. This is accomplished by energizing heaters during the defrost cycle that are positioned on the coil surface. The programmable controller, located on the front of the cabinet, is factory set to allow four defrosts per day.

When the preset defrost time is reached, the controller automatically terminates the refrigeration process by turning off the condensing unit and unit cooler fan motors, and energizes the defrost heaters. As the coil temperature increases, the frost begins to melt producing water that runs down the coil to the unit cooler drain pan and exits through the drain tube to the vaporizer. After all the frost has been removed and the coil temperature reaches approximately 50°F, the defrost is terminated through the action of the defrost termination control located on the unit cooler, and the refrigeration process resumes. In order to insure that any excess water remaining on the coil is not sprayed into the cabinet interior, and all heat generated by the defrost is removed, **the unit cooler fans will not operate until the coil temperature reaches approximately 25°.**

ADJUSTMENTS

The programmable controller used to actuate the defrost of the evaporator is located behind the louvered panel on the front of the undercounter cabinets, and on the façade of the upright model. Because of its location on the undercounter units, the louvered panel must be removed to access the controller. This can be accomplished by simply removing the screws that attach the panel to the cabinet. Once accessed, please see the separate instructions that are included for the operation of this controller.

GENERAL MAINTENANCE

PERIODIC CLEANING

Beginning with the initial installation, the interior surfaces of the cabinet should be periodically wiped down with a solution of warm water and baking soda. This solution will remove any odors from spillage that has occurred. The exterior of the cabinet should also be cleaned frequently with a commercial grade of glass cleaner.

Monthly cleaning of the condenser will aid the heat transfer characteristics of the refrigeration system and increase its efficiency. To accomplish this, remove the cover panel from the cabinet and use a wire brush to loosen any dirt particles that are attached to the fins. Use a vacuum cleaner to remove the loosened particles. **Failure to keep the condenser coil clean and clear of obstructions could result in temperature loss and damage to the compressor.**

All moving parts have been permanently lubricated and will generally require no maintenance.

SERVICE

Please contact **Schwan's Technology Group at 1-800-248-2724** (24 hours) for all questions and service requirements pertaining to this freezer. Please have available the **cabinet model number** and **serial number** from the inside of the cabinet.

MAINTENANCE SERVICE AND ANALYSIS GUIDE

REFRIGERATION SYSTEMS - ALL MODELS

MALFUNCTION	POSSIBLE CAUSE	SOLUTION
Compressor will not start - no hum	1. Service cord unplugged	1. Plug in service cord
	2. Fuse blown or removed	2. Replace fuse
	3. Overload tripped	3. Determine reasons and correct
	4. Control stuck open	4. Repair or replace
	5. Wiring incorrect	5. Check wiring against the diagram
Compressor will not start - hums but trips on overload protector	1. Improperly wired	1. Check wiring against the diagram
	2. Low voltage to unit	2. Determine reason and correct
	3. Starting capacitor defective	3. Determine reason and replace
	4. Relay failing to close	4. Determine reason, correct or replace
Compressor starts and runs, but short cycles on overload protector	1. Low voltage to unit	1. Determine reason and correct
	2. Overload defective	2. Check current, replace overload protector
	3. Excessive head pressure refrigeration system	3. Check ventilation or restriction in
	4. Compressor hot-return gas hot	4. Check refrigerant charge, fix leak if necessary
Compressor operates long or continuously	1. Short of refrigerant	1. Fix leak, add refrigerant
	2. Control contact stuck	2. Repair or replace
	3. Evaporator coil iced	3. Determine cause, defrost manually
	4. Restriction in refrigeration system	4. Determine location and remove restriction
	5. Dirty condenser	5. Clean condenser
Compressor runs fine, but short cycles	1. Overload protector	1. Check wiring diagram
	2. Cold control	2. Differential too close - widen
	3. Overcharge	3. Reduce charge
	4. Air in system	4. Purge and recharge
	5. Undercharge	5. Fix leak, add refrigerant
Starting capacitor open, shorted or blown	1. Relay contacts stuck	1. Clean contacts or replace relay
	2. Low voltage to unit	2. Determine reason and correct
	3. Improper relay	3. Replace
Relay defective or burned out	1. Incorrect relay	1. Check and replace
	2. Voltage too high or too low	2. Determine reason and correct
Refrigerated space too warm	1. Control setting too high	1. Reset control
	2. Refrigerant overcharge	2. Purge refrigerant
	3. Dirty condenser	3. Clean condenser
	4. Evaporator coil iced	4. Determine reason and defrost
	5. Not operating	5. Determine reason, replace if necessary
Standard temperature system freezes the product	1. Control setting is too low	1. Reset the control
	2. Control points stuck	2. Replace the control
Objectionable noise	1. Fan blade hitting fan shroud	1. Reform or cut away small section of shroud
	2. Tubing rattle	2. Locate and reform
	3. Vibrating fan blade	3. Replace fan blade
	4. Condenser fan motor rattles	4. Check motor bracket mounting, tighten
	5. General vibration	5. Compressor suspension bolts not loosened on applicable models - loosen them
	6. Worn fan motor bearings	6. Replace fan motor
Pan Area	1. No cooling	1. Make sure switch is in the "on" position
	2. Too cold	2. Adjust temperature control - see instructions under pan area
	3. Too warm	3. Adjust temperature control - see instructions under pan area