



COLD WALL EVAPORATOR MILK COOLERS

Service, Installation and Care Manual

Models: MMC34-A, MMC49-A, MMC58-A

***Not suitable for installation in a non-commercial or residential application.**



Important information - read before use. Please save these instructions!

WARNING!

A. Please read this manual carefully and thoroughly prior to installation, operation and maintenance.

B. Notify carrier of damage! Inspect all components immediately.

INSPECTION

When the equipment is received, all items should be carefully checked against the bill of lading to ensure 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 at the factory and has been packaged in accordance with transportation rules and guidelines. Manufacturer is not responsible for freight loss or damage.

INSTALLATION

General

Care should be taken to remove the skid, so that it will not damage the cooler finish. Do not tip the cabinet to install casters or legs. Ensure that the casters or legs are screwed all the way into the base.

LOCATION

The self-contained refrigeration system located at the bottom of the cabinet requires free air access for proper operation. The back of the cabinet may be positioned against a wall, however, there must be a minimum four inch clearance between the sides and walls. It is necessary to properly level the cooler to provide adequate drainage and efficient functioning of the unit.

ELECTRICAL

Check the proposed outlet to be used to ensure that the voltage, phase, and current carrying capacity of the circuit from the electrical panel corresponds to the requirements of the cabinet. Plug all standard models into a 110 volt A.C.60 cycle outlet. NEVER use an extension cord to power 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 rating label for all pertinent electrical information.

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

GENERAL OPERATION

The milk coolers are cooled entirely by convection created by copper coils completely encircling the perimeter of the storage compartment. During the refrigeration process, heat is removed through the evaporator tubing and expelled through the condensing unit. It is important that the flow of air through the side louvers is not restricted to ensure the condensing unit operates properly. Under normal operating conditions, any frost that might accumulate on the walls during the "on" cycle of the condensing unit may melt during the "off" cycle. Drains are installed in all milk coolers to accommodate melting frost.

The refrigeration system on this cabinet uses a temperature thermostat that senses the cut-in and cut-out temperatures of the cold wall evaporator coil. The temperature can be adjusted by turning the thermostat control knob which is located behind the louvered side panel.

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 glass cleaner or with mild soap and water. Never, under any circumstances, use an abrasive cleaner or alkaline solution.

Monthly cleaning of the condenser will aid the heat transfer characteristics of the refrigeration system and increase its efficiency. To accomplish this, remove the louvered panel from the cabinet and use a wire brush to loosen any dirt particles that are attached to the fins. After this is accomplished, use a vacuum cleaner to remove the loosened particles.

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SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Compressor will not start (No humming observed)	Power cord is unplugged	Plug in the power cord
	Fuse is blown/removed/circuit breaker is tripped	Replace the fuse/reset circuit breaker
	Overload tripped	Determine reasons and correct
	Control is stuck open	Repair or replace
	Wiring is incorrect	Check wiring against the diagram
Compressor will not start (hums but trips on overload protector)	Unit is improperly wired	Check wiring against the diagram
	Low voltage to the unit	Determine reason and correct
	Starting capacitor is defective	Determine reason and replace
	Relay is failing to close	Determine reason, correct or replace
Compressor starts and runs but short cycles on overload protector	Low voltage to unit	Determine reason and correct
	Overload defective	Check current, replace overload protector
	Excessive head pressure	Check ventilation or restriction in refrigeration system
	Compressor hot-return gas hot	Check refrigerant charge, fix leak if necessary
Compressor operates for extended periods or continuously	Refrigerant charge is low	Fix leak, add charge
	Control contact stuck	Repair or replace
	Evaporator coil is iced over	Determine cause, defrost manually
	Restriction in refrigeration system	Determine location and remove restriction
	Dirty condenser	Clean condenser
Starting capacitor is open, shorted, or blown	Relay contacts stuck	Clean contacts or replace relay
	Low voltage to unit	Determine reason and correct
	Incorrect relay is installed	Replace
Relay defective or burned out	Incorrect relay	Check and replace
	Voltage is too high or too low	Determine reason and correct
Refrigerated space is too warm	Control is set too high	Lower control setting
	Refrigerant is overcharged	Purge refrigerant
	Condenser is dirty	Clean condenser
	Evaporator coil is iced over	Determine reason and defrost

	Not operating	See above, replace if necessary
Standard temperature system freezes the product	Temperature setting is too low	Raise the temperature control
	Control points stuck	Replace the control
Objectionable noise	Fan blade is hitting the fan shroud	Modify or cut away a small section of the shroud
	Tubing is rattling	Locate and adjust the tubing
	Fan blade is vibrating	Replace the fan blade
	Condenser fan motor is rattling	Check the motor bracket mounting and tighten
	General vibration	Compressor suspension bolts are not loosened on applicable models - loosen them
	Worn fan motor bearings	Replace the fan motor
Pan Area	Not cooling	Make sure switch is in the "on" position
	Too cold	Adjust temperature control - see instructions under pan area
	Too warm	Adjust temperature control - see instructions under pan area

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	3. Check ventilation or restriction in refrigeration system
	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 charge
	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

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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