

ColdZone

OWNERS

INSTRUCTION MANUAL

MPL UNIT

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COLDZONE OWNERS / INSTRUCTION MANUAL

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GENERAL DESCRIPTION

The COLDZONE unit is a custom designed, weatherproofed, pre-assembled, pre-piped and pre-wired refrigeration package. The refrigeration unit employs air cooled compressors and multicircuited condenser. The unit is unique in design in that the condensing unit's ambient is completely controlled, with a heater to supplement the heating in cold weather and a temperature control system to regulate pressure within pre-set limits. In addition, the unit is so designed that it requires minimum effort in installation and provides ready access for service and maintenance of all major components.

CONDENSING UNIT

A refrigeration condensing unit is a highly-sophisticated apparatus. It is installed with the anticipation that it will give many years of trouble-free operation with a minimum of maintenance. To a great extent, the length of service life realized from a particular condensing unit is directly proportional to the care with which the original installation was performed.

Cleanliness is absolutely mandatory when installing a condensing unit. Utmost care has been taken at the factory to insure that the unit is free of all contamination. The factory applied seals must not be removed until the unit is ready to be installed. All tubing, valves and fittings must be carefully inspected to insure cleanliness. Only refrigeration grade tubing and fittings should be used and the entire system must be evacuated as described under the installation instructions.

The correct electrical supply must be provided to the condensing unit control panel. The voltage at the motor-compressor terminals should be checked with the unit operating under full load and also during start-up to insure that it is within plus or minus ten (10%) percent of the nameplate rating.

The lubrication recommendations for the motor-compressor and fan motors (where applicable) must be carefully adhered to.

REFRIGERANT

R-22 is used for medium temperature applications. R-404A may be used for medium and low temperature systems.

CONTROL PANELS

This unit is supplied with a control panel end or interior mounted. The control panel is pre-wired and requires only wires for power supply and necessary controls to the fixtures.

MARKING

All parts are assembled in a logical order and are completely marked for each system.

ELECTRICAL DEFROST

Electric defrost heaters in the freezers are field-connected to the time clock in the control panel. Defrost is initiated by a time clock and termination may be achieved by a termination solenoid in the time clock connected to defrost limit thermostats in the freezer coils. The time clock is set to fail safety termination period. An evaporator fan delay is provided.

DESCRIPTION

- 1) Ambient Thermostat for Fan Bypass and Heater.
This thermostat will turn on the low ambient control device.
- 2) Fan Cycling Thermostat.
One fan motor is turned off when the ambient temperature is below a set point. No other ventilation is required for the compressors.
- 3) Heater Thermostat.
In very cold climates, the supplementary heater is turned on to maintain an adequate temperature in the enclosure.

SEQUENCE OF OPERATION

- 1) **Ambient Conditions**
 - A. Above 55 degrees Fahrenheit:
Both fan motors operate
 - B. Below 50 degrees Fahrenheit:
One fan motor off
 - C. Below 30 degrees Fahrenheit:
One fan motor off,
Fan bypass damper open
Electric heater on
- 2) **Temperature Inside the Enclosure**
 - A. A constant flow of air over the compressors at all ambients
 - B. do not operate without doors installed (**CAUTION: Do not operate these units with doors off**) The enclosure is a plenum chamber providing air circulation over the compressors.

RECEIPT AND INSPECTION OF EQUIPMENT

Inspect the COLDZONE unit and all accessories shipped with it for any damages or shortages. Any damage or shortage should be reported immediately to the delivering carrier. Damaged material becomes the delivering carrier's responsibility and it should not be reported to the manufacturer unless prior approval is given to do so. do remove any shipping material until the unit is installed in its permanent location.

LIFTING INSTRUCTIONS

The COLDZONE unit is a heavy piece of machinery and careful consideration of lifting procedures should be made before the unit is lifted by any means. Particularly, any cables or other load-bearing devices must not be allowed to press against piping, electrical conduit or the motor control panel. The only part of the unit designed to carry any of the lifting load is the base. Also, lifting loads should be distributed evenly around the base to avoid any twisting.

It is recommended that whenever the unit is lifted by a crane, the lifting holes provided in the lower portion of the base frame be used as attachment points for the lifting cables. The lifting cables should be prevented from contacting the by means of a spreader or similar device.

LOCATION AND VENTILATION

The COLDZONE unit must be located in an area which provides for ease of installation and service for all electrical lines, refrigeration and water piping any any accessory equipment. The unit must be level to insure proper lubrication. Areas must be cleared for free air circulation. A three (3) foot clearance on all sides is recommended by code.

INSTALLATION AREA

The R-1 plan illustrates the overall dimension and installation requirements.

FLOOR AND FOUNDATION REQUIREMENTS

The total weight of the complete unit is shown on the R-1 plan. The location and installation of all equipment should be in accordance with all local and other code requirements. When installed on a roof, the responsible architect should design the structure for proper support. The unit can usually be placed onto the platform directly since each compressor is mounted on vibration isolators. For light roof construction, vibration isolation pads can be used underneath the supporting frame. When installed on the ground level, a concrete slab weighing 1 to 1-1/2 times the weight of the unit is satisfactory.

ELECTRICAL

To insure proper operation of the equipment and reduce the possibility of interruption of refrigeration due to an electrical power failure, the following precautions must be observed.

- 1) All electrical work must be done in accordance with the National Electrical Code and existing local codes.
- 2) The power supply must be the same as that which appears on the unit data plate.
- 3) An adequate power supply must be provided as described on the data plate.
- 4) Voltage fluctuations in excess of ten (10%) percent should be corrected.

Before starting a COLDZONE unit, check that all breakers and motor protective devices are in place and that all wiring is secured. A complete wiring diagram for trouble shooting the unit will be found inside the electrical control panel.

REFRIGERATION

Piping

The basic refrigerant piping principles should be carefully adhered to as follows:

- 1) Line sizes should be the smallest that wil not have excessive pressure drop, but will still provide sufficient velocity to return the lubricating oil.
- 2) Line sizes must provide proper refrigerant feed to the evaporators.
- 3) Piping must be so designed as to prevent liquid refrigerant from entering the compressor, either during operating time or "off" time.

Line size and suction riser size selections should be determined according to acceptable practice in the industry. A "P" trap must be installed at the bottom of any riser in excess of 8' high. Risers in excess of 20' will require additional traps. "P" traps must be as small as possible.

Suction and liquid lines are subject to expansion and contraction and proper piping techniques must be employed to prevent line breakage. This is most critical on long straight runs. All piping must be adequately supported with hangers that can withstand the combined weight of tubing, insulation, valves and fluid in the tubing.

System Cleanliness and Pressure Testing

Care taken in insuring a clean, leak-free installation will pay off in a more trouble-free installation. Only refrigerant grade copper tubing, properly sealed against contamination should be used for refrigerant piping. Water tubing often contains wax and other troublesome contaminants.

- 1) An inert gas, such as dry nitrogen, should be allowed to flow through the lines under low pressure to reduce scaling and oxidation during brazing operations.
- 2) Only suitable silver alloy solder or 95/5 solder should be used on suction and liquid lines to fixtures.
- 3) Limit the amount of soldering paste or flux used to the minimum to prevent contamination of the brazed joint internally. Apply flux only to the male portion of each connection, never the female.

After all refrigerant lines are connected, the entire system must be leak tested (particular attention should be given to those parts which will be inaccessible at a later date). The complete system should be pressurized to 175 psig with refrigerant and dry nitrogen (or carbon dioxide). The use of an electronic leak detector is highly recommended because of its greater sensitivity to small leaks. As a further check, it is recommended that prior to charging, the system be evacuated to a pressure of 500 microns (28.0" mercury vacuum) and sealed for twelve (12) hours. Any leakage of air into the system will cause the vacuum reading to decrease. If an air leak is indicated, the system should again be charged with the nitrogen-refrigerant mixture, leak tested and leaks repaired. For a satisfactory installation, the system must be leak tight.

After the final leak test, liquid lines exposed to high ambient temperatures should be insulated to reduce heat pick-up and prevent the formation of flash gas in the lines. Suction lines not run in fixtures must be insulated back to compressor.

Evacuation

Design performance and trouble-free operation can best be insured by a system that is both clean and dry. A triple evacuation procedure is recommended as follows:

- 1) Connect the high vacuum pump to both the low and high side evacuation valves. Connections between the pump and evacuation valves should be made with copper tubing or high vacuum hose having an inside diameter of at least 1/4". The motor compressor must not be operated during evacuation.
- 2) Operate the pump until a vacuum of 500 microns (0.06 inches of mercury) absolute pressure is obtained. At this point, the vacuum should be broken by the introduction of refrigerant into the system. The refrigerant should be released through a drier until the pressure is brought up to 0 psig.
- 3) Repeat the procedure two more times. During the third and final evacuation, a vacuum of 500 microns (0.02 inches of mercury) absolute pressure should be obtained. After this vacuum is reached, the system can be fully charged with refrigerant and put into operation.

IMPORTANT: USE ONLY A VACUUM CAPABLE OF REGISTERING PRESSURE IN MICRONS. A THERMOCOUPLE VACUUM GAUGE IS RECOMMENDED.

After the installation has been completed, the following points should be covered before the system is placed in operation.

TEMPERATURE CONTROL SYSTEM

WARNING: BEFORE READJUSTING THE THERMOSTATE SETTING,
TRY TO UNDERSTAND THE SEQUENCE OF OPERATION.

COMPRESSORS

- 1) Check electrical connections. Be sure they are all tight.
- 2) Observe the motor-compressor oil level before start-up. The oil level should be at or slightly above the center of the sight glass. Use only Mobil EAL Artic 22 Polyol Ester compressor oil.
- 3) Insure that the rubber grommets are installed under the motor-compressor mounting nuts and that the motor-compressor rides freely on its mounting vibration isolators. Release all shipping bolts to the point where springs are not depressed.
- 4) Check the high and low pressure controls. Adjust with gauges connected until correct cut-in and cut-out points are achieved.
- 5) Check the fixture thermostat for correct operation.
- 6) Suitable tags or other means should be provided to indicate the refrigerant used in the system.
- 7) The instruction manual, bulletins, tags, etc. attached to the unit should be placed inside the electrical control panel for future reference.
- 8) Make the proper refrigerant connections and weigh the refrigerant drum before charging so an accurate record can be kept of the weight of refrigerant put into the system. Charge the system with the refrigerant to be used. If refrigerant must be added to the system through the suction side of the compressor, charge in vapor form only. Liquid charging must be done on the high pressure side only. Weigh in the recommended amount of refrigerant.
- 9) Observe system pressures during charging and initial operation. **Do not add oil while the system is short of refrigerant unless the oil level is dangerously low.**
- 10) Continue charging until the system has sufficient refrigerant for proper operation. **DO NOT OVERCHARGE.** Remember that bubbles in a sight glass may be caused by a restriction as well as a shortage of refrigerant.
- 11) Do not leave the unit unattended until the system has reached normal operating conditions and the oil charge has been properly adjusted to maintain the oil level at the center of the sight

When the system has been charged and has operated for at least two hours under normal operating conditions, without any indication of malfunction, it should be allowed to operate overnight on automatic controls. Then a thorough recheck of the entire system operation should be made as follows.

- 1) Check the motor-compressor head and suction pressures. If the pressures are not within the system design limits, determine why and take corrective action.
- 2) Check the liquid line sight glass and expansion valve operation. If there are any indications that more refrigerant is required, leak test all connections and repair any leak before adding refrigerant.
- 3) Observe the oil level in the motor-compressor crankcase sight glass and add oil as necessary to bring the level to the center of the sight glass.
- 4) Thermostatic expansion valves must be checked for proper superheat settings. Sensing bulbs must be in positive thermal contact with the suction line. Valves with high superheat setting produce little refrigeration and poor oil return. Too little superheat causes low refrigeration capacity and promotes liquid slugging and compressor bearing washout. Liquid refrigerant must be prevented from reaching the crankcase. If proper control cannot be achieved with the system in normal operation, a suction accumulator must be installed in the suction line just ahead of the motor-compressor to prevent liquid refrigerant from reaching the motor-compressor.
- 5) Using suitable instruments, carefully check line voltage and amperage at the compressor terminals. Voltage must be within ten (10%) percent of that indicated on the compressor nameplate. If high or low voltage is indicated, notify the power company. The current normally should not exceed 120% of the nameplate rating. If amperage draw is excessive, immediately determine the cause and take corrective action. On three phas motor-compressors, check to see that a balanced load is drawn by each phase.
- 6) Check all fan motors on air-cooled condensers and in fixture evaporator coils for correct rotation. Fan motor mounts should be carefully checked for tightness and proper alignment. All motors requiring lubrication should be oiled as necessary.
- 7) High pressure controls on condensing units should be set to cut out as follows:
R-22 350 psig
R-404A 350 psig

A check of the cut-out point of these controls should be made by stopping the condenser fan and, at the same time, carefully monitoring the head pressure with an accurate gauge.

- 8) Recheck all safety controls and operating controls for proper operation and adjust, if necessary.
- 9) Check the defrost timeclock (if applicable) for initiation, termination and length of defrost period as described in the fixture instruction book.
- 10) Check fan cycling or head pressure controls (if applicable) for correct temperature settings. See Sequence of Operation, Page 3.
- 11) Check crankcase pressure regulating valves (if applicable) for proper settings.

TEMPERATURE CONTROL SYSTEM

Repairs are not recommended in the field. Controls requiring attention should be returned to the Control Manufacturer. For a replacement or control, contact your nearest wholesaler or Customer Service for the Control Manufacturer. Certain controls must be obtained from COLDZONE.

AIR COOLED CONDENSER

All air-cooled condensers should be cleaned with a brush and vacuum cleaner every four to six months to remove all accumulations of dust, leaves or other debris.

Where air-cooled condensers must operate in unusually dusty locations, cleaning should be scheduled as often as conditions dictate. Side screens are provided to minimize this problem—clean these screens as necessary. Do not operate without the screens.

WARNING: BE SURE THAT THE MAIN DISCONNECT SWITCH IS IN THE OFF POSITION BEFORE ANY CLEANING OF THE CONDENSER IS ATTEMPTED.

ELECTRICAL AND PIPING CONNECTION

All electrical connections should be periodically checked to be sure they are tight. Loose connections contribute to low voltage conditions which can cause motor failure.

Refrigerant connections should be inspected to insure that they have not loosened. Whenever it is necessary to add refrigerant, a careful leak check of all refrigerant connections should be made.

CRANKCASE LUBRICATION

As indicated under the Operational Check-Out Procedures, the oil level in the motor-compressor crankcase should be at the center of the sight glass at all times. If the oil level is low, more oil should be added to bring the level up to the center of the sight glass and the cause of the oil migration corrected. (Check expansion valve adjustment and the size of risers and traps.)

The quality of the compressor oil can, however, be checked rather easily by using an oil sampler. Visual examination of the compressor oil can disclose the condition of the system. An acid test is highly recommended to measure the extent of contamination in a system. Dirty, discolored oil probably indicates one of the following:

- 1) Contaminants such as moisture, air, etc. are trapped in the system.
- 2) Excessive system pressure drop or improper control settings allowing motor-compressors, not so designed, to operate in excessively low suction pressure with the result that the motor-compressor overheats due to lack of suction cooling and the oil discolors.

If the first situation is encountered, and the discoloration is not severe, usually installation of a new liquid line filter drier is enough to remove contamination and clear the oil. If the discoloration is severe, and is caused by contamination alone, the oils should be replaced and a new liquid line filter-drier installed as many times as necessary to eliminate the contamination.

If the second situation exists, the oil should be replaced, and the system controls readjusted to prevent the motor-compressor from operating in an excessively low suction pressure.

This refrigeration system is an automatic machine. If it is desired to shut any or all systems down for over twelve (12) hours, the following is necessary:

SHORT DURATION

Turn off each cold control thermostat and leave all other power on. The compressors will then keep the system pumped down.

To restart, turn thermostats back on.

LONG DURATION

A serviceman must close each receiver service valve and completely pump the refrigerant into the receiver and condenser.

He then must close both of the compressor service valves.

REMOVE ALL POWER

To restart, a serviceman must open all valves and monitor the operation of the systems.

SERVICE DIAGNOSIS

SECTION VII

TEMPERATURE CONTROL SYSTEM

<u>SYMPTOM</u>	<u>REMEDY</u>
Excessive temperature in hot weather	<ol style="list-style-type: none">1. Check sequence of operation2. Clean screens or condenser3. Check fans for correct speed
Excessive temperature in mild weather	<ol style="list-style-type: none">1. Check sequence of operation and correct
Low temperature in cold weather	<ol style="list-style-type: none">1. Readjust improper thermostat settings2. Repair or replace modulating damper which will not open3. Check heater fan and heating element for proper operation

COMPRESSORS**A - COMPRESSOR DOES NOT RUN****CAUSES:****REMEDIES:**

Motor line open	Close start or disconnect switch
Fuse blown	Replace fuse
Tripped overload	See Part "C" below
Control contacts dirty or jammed in open position	Repair or replace
Piston seized	Remove motor-compressor head. Look for broken valve and jammed parts.
Frozen compressor or motor bearings	Repair or replace
Control in off position because of cold location	Use thermostatic control or move control to warmer location
Defective starting component (single-phase compressor only)	Locate and replace

B - COMPRESSOR SHORT CYCLES**CAUSES:****REMEDIES:**

Control differential set too closely	Widen differential
Discharge valve leaking	Correct condition
Motor-compressor overload	Check for head pressure, tight bearings, seized pistons, clogged air-cooled condenser
Refrigerant shortage	Repair leak and recharge
Refrigerant overcharge	Purge
Cycling on high pressure cut-out	Check water supply, dirty condenser or defective fan

C - COMPRESSOR WILL NOT START - HUMS INTERMITTENTLY

(Cycling on Overload)

CAUSES:

REMEDIES:

Improperly wired	Check wiring against diagram
Low-line voltage	Check main line voltage and determine location of voltage drop
Relay contacts not closing	Check by operating manually. Replace relay if defective
Open circuit in starting winding	Check stator leads. If leads are all right, replace stator
Stator winding grounded	Check stator leads. If leads are all right, replace stator
High discharge pressure	Eliminate cause of excessive pressure. Make sure discharge shut-off valve is open
Tight compressor	Check oil level; correct binding

D - UNIT OPERATES LONG OR CONTINUOUSLY

CAUSES:

REMEDIES:

Refrigerant shortage	Repair leak and recharge
Control contacts sticking in closed position	Clean points or replace control
Dirty condenser	Clean condenser
Air in system	Purge
Compressor inefficient	Check valves and pistons
Improper wiring	Check wiring and correct if necessary

E - FIXTURE TEMPERATURE TOO HIGH

<u>CAUSES:</u>	<u>REMEDIES:</u>
Refrigerant shortage	Repair leak and recharge
Control set too high	Reset control
Control wiring loose	Check wiring to control
Expansion valve or strainer plugged	Clean and replace
Compressor inefficient	Check valves and pistons
Expansion valve set too high	Lower setting
Iced or dirty coil	Defrost or clean
Unit too small	Add unit or replace
Clogged or small gas lines	Clear clogging or increase line size
Oil logged system	Remove excess oil, check refrigerant charge

F - HEAD PRESSURE TOO HIGH

<u>CAUSES:</u>	<u>REMEDIES:</u>
Refrigerant overcharge	Purge
Air in system	Purge
Dirty air-cooled condenser	Clean (clean area around air-cooled condenser and inspect for air-borne dirt source)
Insufficient water	Check water valves and inspect cooler
Recirculating cooling air	Seal off unit from other machines and provide intake isolated from air outlet
High side restriction	Remove blockage
Head pressure control switch set wrong	Readjust

G - HEAD PRESSURE TOO LOW

CAUSES:

REMEDIES:

Refrigerant shortage	Repair leak and recharge
Compressor suction or discharge valves inefficient	Clean or replace leaky valve
Cold ambient or cold water	Head pressure control is required so condensing temperature will not fall below 80 degrees. This will insure proper operation of expansion valves.
Head pressure control valve set wrong or no head pressure valve installed	Readjust or install a head pressure control valve

H - NOISY UNIT

CAUSES:

REMEDIES:

Insufficient compressor oil	Add oil to proper level
Tubing rattle	Bend tubes away from contact
Mountings loose	Tighten
Oil slugging or refrigerant flooding back	Adjust oil level or refrigerant charge. Check expansion valve for leak or oversize orifice
Unbalanced fan or defective fan motor	Replace bent or broken fan blades Check motor bearings

I - COMPRESSOR LOSES OIL

CAUSES:

REMEDIES:

Shortage of refrigerant	Repair leak and recharge
Gas/oil ratio low	Add one pint oil for each ten pounds of refrigerant added to factory charge
Plugged expansion valve or strainer	Clean or replace
Oil trapping in lines	Reinstall tubing so it will drain toward compressor
Short cycling	Refer to Part "B" above
Superheat too high at compressor suction	Change location of expansion valve bulb or adjust valve to return wet gas to compressor

J - FROSTED OR SWEATING SUCTION LINE

CAUSES:

REMEDIES:

Expansion valve admitting excess refrigerant

Adjust expansion valve

K - HOT LIQUID LINE

CAUSES:

REMEDIES:

Shortage of refrigerant

Repair leak and recharge

Expansion valve open too wide

Adjust expansion valve

L - FROSTED LIQUID LINE

CAUSES:

REMEDIES:

Receiver shut-off valve partially closed or restricted

Open valve or remove

Clogged dehydrator or strainer

Replace clogged part

M - UNIT ON VACUUM

CAUSES:

REMEDIES:

Ice plugging expansion valve orifice

Apply hot, wet cloth to expansion valve. If suction pressure now increases, there is moisture in the system. Install new drier. Purge and evacuate system. Recharge system.

Plugged expansion valve

Clean strainer or replace expansion valve

RECEIVERS

A C & R	S8064-V6	6#	5" x 10" vertical
A C & R	S8065-V10	10#	6" x 12" vertical
A C & R	S8066-V16	16#	6" x 18" vertical
A C & R	S8033-H18	18#	5" x 27" vertical
A C & R	S8034-H28	28#	6" x 27" vertical

SCREENS Measure and buy locally or order from ColdZone

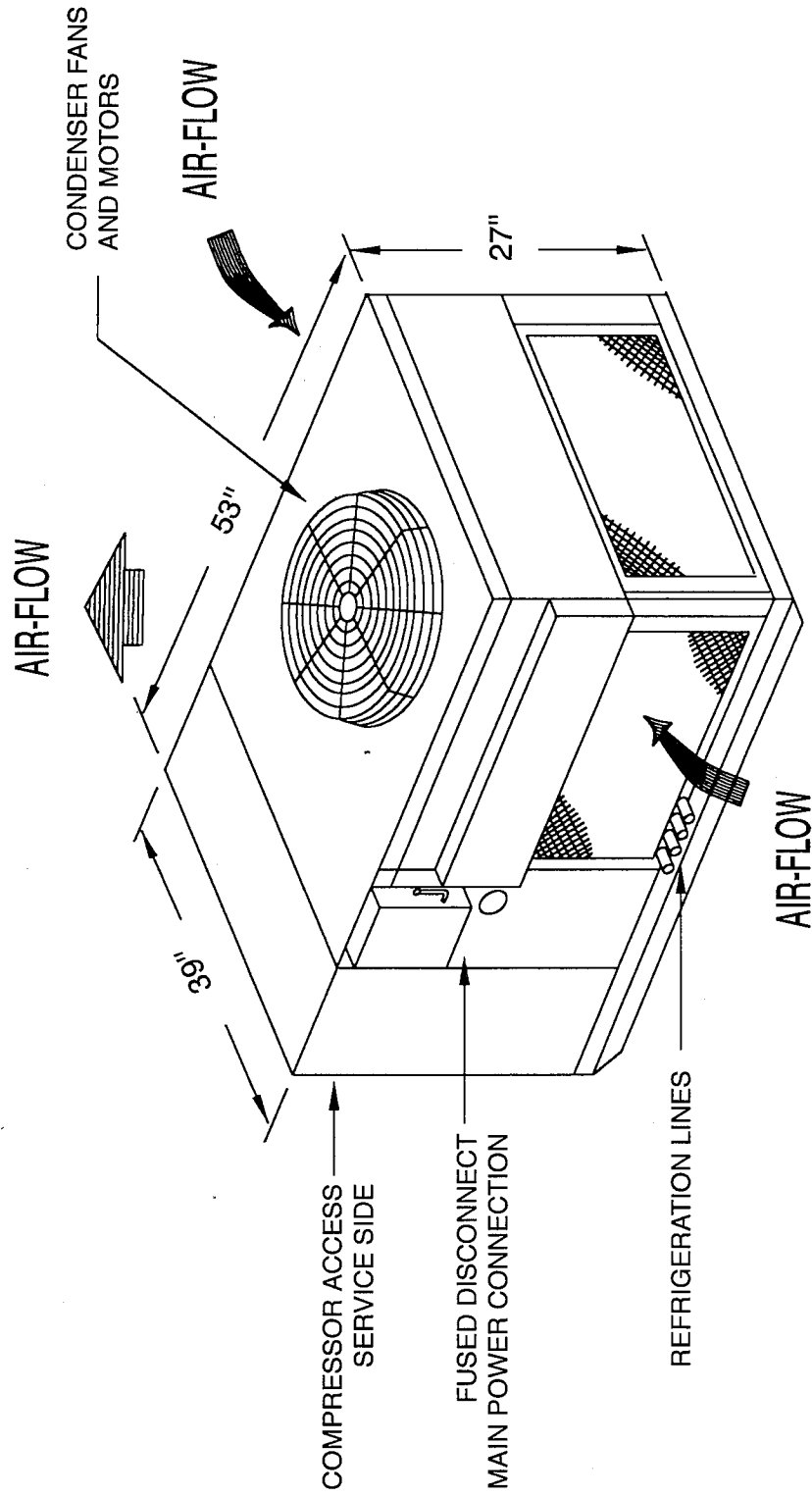
SHEETMETAL PARTS Order from ColdZone

TIME CLOCK - FREEZER

PARAGON 8145-20

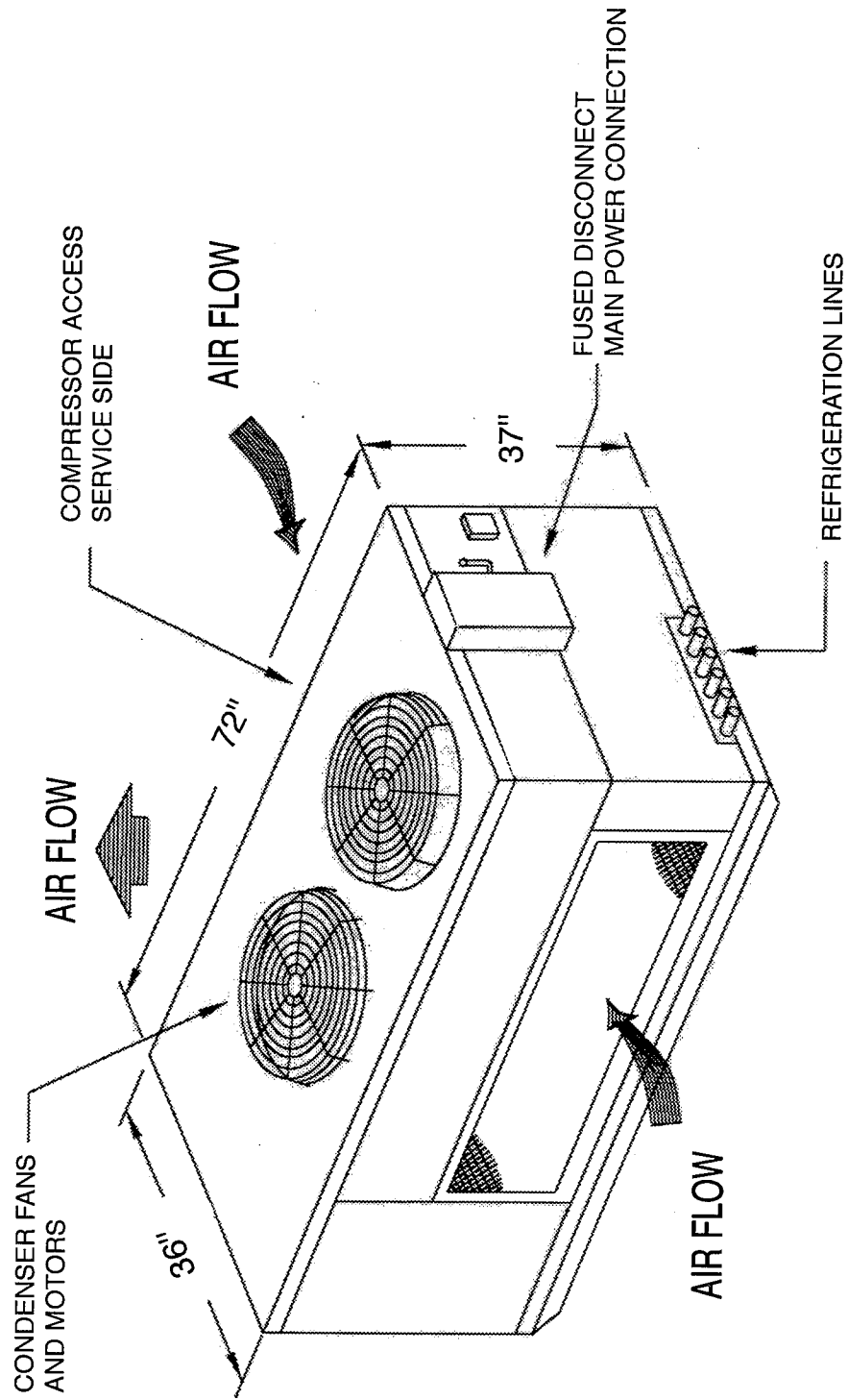
TIME CLOCK - AIR DEFROST O.E.M. Part Order from ColdZone

MPL-1CZ OUTLINE DRAWING



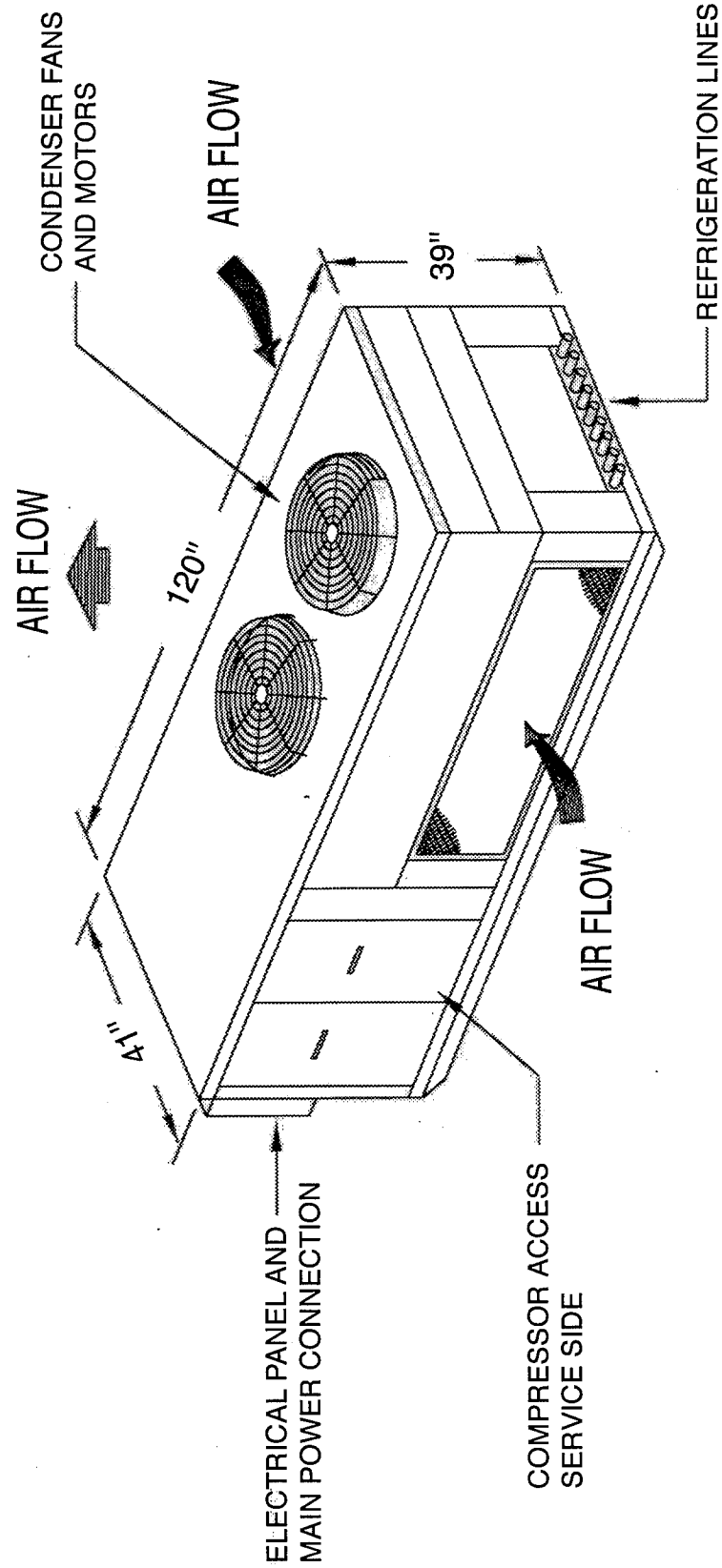
NOTES:
INSTALLATION CLEARANCE REQUIRES 3 FT. ON ALL SIDES

MPL-2CZ OUTLINE DRAWING



NOTES:
INSTALLATION CLEARANCE REQUIRES 3 FT. ON ALL SIDES

MPL-3CZ OUTLINE DRAWING



NOTES:
INSTALLATION CLEARANCE REQUIRES 3 FT. ON ALL SIDES

ColdZone

LIMITED WARRANTY

ColdZone warrants, to the original purchaser, each product to be free from defects in material and workmanship if installed and used in compliance with *ColdZone* preparatory start-up procedure. The limited warranty is effective for period of twelve (12) months from the date of start-up and is not to exceed fifteen (15) months from the date of seller's invoice. Under the terms of this warranty, *ColdZone* will, repair or replace, at seller's option, any part(s) which, when returned in sealed containers, tagged as to serial and model numbers, with transportation charges prepaid to the factory or service location designated by *ColdZone* proves to be defective.

ColdZone assumes **NO responsibility for incidental or consequential damages, including, but not limited to, refrigerant, labor, taxes, food loss, service charges, lost profits, injury to person(s) or property, travel expenses, acts of God. etc...**

This warranty does not apply to equipment that has been damaged in transit, altered, abused, or where *ColdZone* service and installation requirements are not met. Replaced parts warranty expires on original product warranty expiration.

As each compressor sold by *ColdZone* is warranted by the compressor manufacturer, replacement during the first year of operation must be made through an authorized wholesaler. *ColdZone* extends the manufacturer's warranties to its customers.

ColdZone includes a sequentially numbered preparation/start-up procedure in each unit shipped. This preparation/start-up procedure must be completed and returned to "Attn.: Service Manager," via certified mail to activate the limited warranty.

ColdZone neither assumes nor authorizes any person(s) to assume for seller any obligation or warranty other than that which is stated in this warranty.

This warranty is valid only after all financial obligations to *ColdZone* have been paid.

ColdZone is solely responsible for this warranty and makes no other warranty, either expressed or implied. All implied warranties or merchantability and fitness for a particular purpose which exceed *ColdZone* obligations are hereby disclaimed and excluded from this warranty.

ColdZone must be notified of any claim against this warranty within 120 days of the occurrence, with the stipulation that this notification is not made more than thirty (30) days after the expiration of this warranty. Claims made beyond these time frames will not be honored.

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ADDITIONAL 4-YEAR WARRANTY of MOTOR-COMPRESSOR ASSEMBLY

In addition to the standard warranty, for further consideration, the Company will extend the warranty on the motor compressors for an additional four years following the expiration of the standard warranty.

The motor compressor assembly is comprised of the stator, rotor, eccentric shaft, eccentric rod, wrist pin, suction valve, discharge valve, and the housing in which these parts are enclosed, and includes capacity reduction unloaders and overload protection modules as supplied with the original motor-compressor. The obligation of the Company under the extended warranty is to provide a replacement motor-compressor, or reimbursement for one obtained as directed, less any credit allowed for return of the original motor-compressor.

The extended 4-year warranty applies only to the motor-compressor as specified above, and does not cover any other portion of the equipment.

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