

DelfieldTM
A **WELBILT**® COMPANY

Service and Installation Manual

*Please read this manual completely before attempting to install or operate this equipment! **Notify carrier of damage!** Inspect all components immediately. See page 2.*



Reach-In Refrigerators & Freezers

6000 SERIES

Effective June 2000

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Serial Number Information

The serial number of all self-contained 6000 Series refrigerators and freezers is located above the door under the shroud. Always have the serial number of your unit available when calling for parts or service. A complete list of authorized delfield parts depots is shown on the back.

Specifications

MODEL	H.P.	PART NUMBER	VOLTAGE/ HERTZ/PHASE	AMPS	NEMA PLUG
Refrigerators					
6025-S	1/4	0410091	115/60/1	12.0	5-15P
6051-S	1/3	0410092	115/60/1	9.0	5-15P
6076-S	1/2	0410093	115/60/1	11.0	5-20P
6051-SL	1/2	0410094	115/60/1	11.0	5-20P
6025-HG	1/4	0410097	115/60/1	12.0	5-15P
6051-HG	1/2	0410098	115/60/1	11.0	5-20P
6076-HG	3/4	0410099	115/208-230/60/1*	12.0	N/A
Freezers					
6125-S	1/2	0410094	115/60/1	12.0	5-15P
6151-S	3/4	0410095	115/60/1	15.0	5-20P
6176-S	3/4	0410096	115/60/1	13.0	5-20P
MODEL	H.P. FRZL/REFR	PART NUMBER	VOLTAGE/ HERTZ/PHASE	AMPS	NEMA PLUG
Combination refrigerator/freezers					
6051-SDT	1/2 1/4	0410110	115/230/60/1*†	10.0	14-30P
6076-SDT	1/3 1/3	0410101	115/230/60/1*†	10.0	14-30P
6176-SDT	1/2 1/4	0410102	115/230/60/1*†	16.0	14-30P

* Three-wire † All components are 115 volt

Receiving and Inspecting the Equipment

Even though most equipment is shipped crated, care should be taken during unloading so the equipment is not damaged while being moved into the building.

Carefully check for any visible signs of damage to the cartons or containers. If evidence of damage exists, the package should be opened immediately and a joint inventory and examination of the contents should be made by you and the driver. Sign delivery receipt as damaged. Example—if (2) pieces of (5) are damaged, you must indicate the number of units damaged.

Concealed damage

If a concealed loss or damage is discovered after you have given the carrier a clear delivery receipt, **notify the carrier in writing immediately or within 10 days from the delivery date.**

If you phone the carrier, you must follow up the call in writing to protect your rights. You can only improve your position as a claimant by promptly reporting such loss or damage. You should also retain all cartons or containers, including packing material, until an inspection has been made or waived.

Filing a claim

Notation of loss or damage does not constitute the filing of a claim. You should file your claim **in writing** with the carrier immediately.

Carriers will furnish the necessary form upon request. You should also request an inspection. If a claim is filed by phone, always follow up immediately in writing.

Installation

Location

Be sure the location chosen has a floor strong enough to support the total weight of the cabinet and contents. A fully loaded 72" long model may weigh as much as 3000 pounds! Reinforce the floor as necessary to provide for maximum loading.

For the most efficient refrigeration, be sure to provide good air circulation inside and out.

Inside cabinet: Do not pack refrigerator so full that air cannot circulate.

Outside cabinet: Be sure that the unit has access to ample air. Avoid hot corners and locations near stoves and ovens.

It is recommended that the unit be installed no closer than 2" from any wall with at least 12" of clear space above the unit. Avoid exposing glass door units to direct sunlight. Direct sunlight through the glass doors will make the ABS liner fade and become brittle and will greatly reduce refrigeration efficiency.

Leveling

A level cabinet looks better and will perform better because the doors will line up with the frames properly, the cabinet will not be subject to undue strain and the contents of the cabinet will not move around on the shelves. Use a level to make sure the unit is level from front to back and side to side.

Stabilizing

Some models are supplied on casters for your convenience, ease of cleaning underneath and for mobility. It is very important, however, that the cabinet be installed in a stable condition with the front wheels locked while in use.



Should it become necessary to lay the unit on its side or back for any reason, allow at least 24 hours before start-up so as to allow compressor oil to flow back to the sump.

Electrical connection

Refer to the amperage data on page 2, the serial tag, your local code or the National Electrical Code to be sure the unit is connected to the proper power source. A protected circuit of the correct voltage and amperage must be run for connection of the line cord, or permanent connection to the unit.



The power switch should be turned to OFF and the unit disconnected from the power source whenever performing service, maintenance functions or cleaning the refrigerated area.

Field reversing doors

Tools Needed:

3/8 socket head power driver

5/16 socket

Power drill with 5/32" & 1/8" bits

- 1) Disconnect power to cabinet and read instructions completely before service.
- 2) With door open and supported in one hand, remove top cartridge bracket. The door can now be lifted from the bottom pivot bracket and removed from cabinet.
- 3) Remove bottom pivot bracket and discard.
- 4) CAUTION: These doors are self-closing therefore do not allow brackets to move from door open position when removing from cabinet.
- 5) Use .25" x .5" screws provided to fill the 4 unused holes.
- 6) Before starting step 7, evaluate the function of the loaded cartridge and the cartridge bracket. This will help when installing the left hand cartridge bracket.
- 7) Prepare the door by swapping ends with the nylon pivot plug and loaded cartridge. Using 1/8" drill bit, drill holes for reattaching the cartridge.
- 8) Replace existing cartridge bracket with supplied left hand bracket. Insure the cartridge is loaded properly.
- 9) Using 5/32" drill bit, drill pilot holes for attaching left top and bottom hinge brackets at factory marked center-point locations.
- 10) Before drilling compare hole locations to that of holes for previous hinging.
- 11) Install bottom pivot bracket to the cabinet.
- 12) With the top cartridge bracket in the door open position, place door on the pivot bracket and fasten top bracket.
- 13) Verify lock function and proper alignment with strike.

Operation



Do not place hot pans on the blue ABS liner. Do not throw items into the storage area. Failure to heed these recommendations could result in damage to the interior of the cabinet or the blower coil.

After plugging the unit in and turning the power switch to on, the unit will operate immediately upon start up.

Temperature control instruction

Refrigerators: A thermostat located at the top of the refrigerator, in the inset portion of the shroud assembly, controls the temperature in the box. A remote bulb is attached inside the cabinet. The factory setting for the control is "4" and maintains about 38°F (3°C) in the box. Set toward "1" for higher temperatures and toward "7" for lower temperatures.

Freezers: A thermostat located at the top of the freezer, in the inset portion of the shroud assembly, controls the temperature in the box. A remote bulb is attached inside the cabinet. The factory setting for the control is "4" and maintains about 3°F (-18°C) in the box. Set toward "1" for higher temperatures and toward "7" for lower temperatures.

Refrigeration cycle

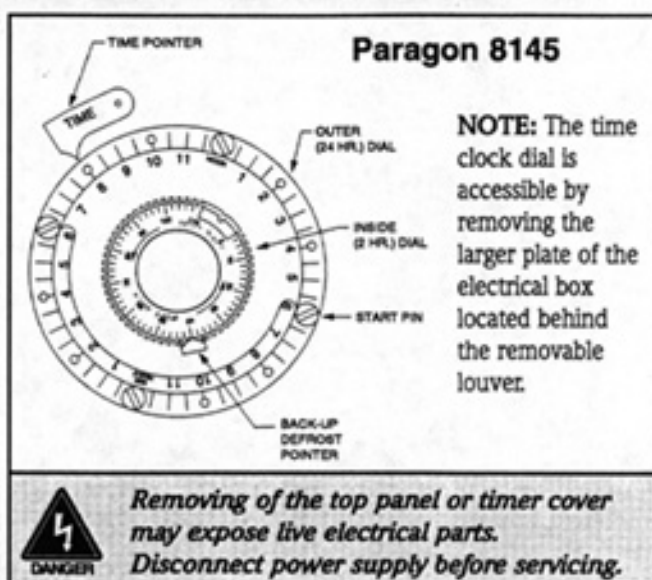
During the refrigeration cycle, the timer supplies power to the temperature control, evaporator fan motors and activates the condensing unit as needed. The fan operates only during the refrigeration cycle. Any door being opened turns off the fan motors and turns on the interior light.

- 1) The temperature control allows for the coil clearing after each off cycle and before the compressor runs again.
- 2) Evaporator fan motors run continually.
- 3) Interior lights are activated by the jambswitch when any door is opened.
- 4) Anti-sweat heater around each door opening operates continually.

Defrost cycle

When defrost control goes into defrost, power to the condensing unit and evaporator fans is interrupted and the defrost heater is energized. The defrost heater warms the evaporator coil thereby melting all frost accumulated during the previous refrigeration cycle. Once all frost is eliminated, the temperature of the coil continues to rise until it reaches 70°F (27°C). When this temperature is sensed by the defrost limit control, the defrost control switches to refrigeration mode.

If for any reason the timer remains in defrost for a period of time greater than 40 minutes, a back-up defrost termination is also provided. It can be changed in the field as follows: On 2 and 3 door models push down and rotate pointer on inside (2 hour) dial until it is opposite desired time period (in minutes). On 1 door models, it can be changed by adjusting the electric control switches 1, 2, 3, 4, 5 and 6 as shown on page 5.



(Figure 1)

Freezer defrost control: All 6151-S & 6176-S freezers are equipped with a defrost control for automatic defrosting of the evaporator coil. All 6125-S freezers are equipped with a paragon ERC248 time clock for automatic defrosting of the evaporator coil. See page 5. The ERC248 can not be adjusted to the time of day.

To set time of day (2 & 3 door models only): Grasp the knob of the 8145 time clock dial in the center of the inner (2 hour) dial and rotate it in a counter-clockwise direction (see figure 1). This will revolve the outer dial. Continue turning until the correct time of day on the outer dial lines up with the time pointer. This operation requires an initial start-up and any time thereafter when there is an interruption of power to the freezer.

NOTE: There is no time adjustment for one door models.

Operation (2 & 3 door models): The 8145 timer is preset at the factory to provide four defrosts per day at six hour intervals starting at 6:00 am. If it is necessary to change the number of defrosts due to unusual operating conditions it can be accomplished by placing the pins in the outer dial at the appropriate time of the day that defrost initiation is desired.

Operation (1 door models): The electric defrost controller is preset at the factory to provide a defrost cycle every 6 hours (4 defrosts per day). If it is necessary to change the number of defrosts due to unusual operating conditions, it can be accomplished by adjusting switches 7, 8 and 9 as shown on page 5.



Even under the most severe operating conditions it should not be necessary to set the back-up time greater than 60 minutes. Consult the factory if complete de-icing of the coil is not accomplished within this time period.

ERC248 Programming Guide (1 door models)

A 10 position dip switch provides user control of defrost duration, cycle time and selects between 50 and 60Hz line frequency. The selection is as follows.

Status

Defrost Time in Minutes						Switch
1	2	3	4	5	6	
off	off	off	off	off	off	0
on	off	off	off	off	off	1
off	on	off	off	off	off	2
on	on	off	off	off	off	3
off	off	on	off	off	off	4
on	off	on	off	off	off	5
off	on	on	off	off	off	6
on	on	on	off	off	off	7
off	off	off	on	off	off	8
on	off	off	on	off	off	9
off	on	off	on	off	off	10
on	on	off	on	off	off	11
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off	on	off	on	on	on	58
on	on	off	on	on	on	59
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off	on	on	on	on	on	62
on	on	on	on	on	on	63

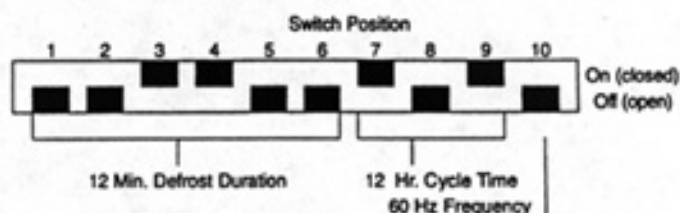
Cycle Time Selection

Switch 7	off	on	off	on	off	on	off	on
Switch 8	off	off	on	on	off	off	on	on
Switch 9	off	off	off	off	on	on	on	on
Cycle Time (Hrs.)	2	3	4	6	8	12	24	48

Frequency Selection

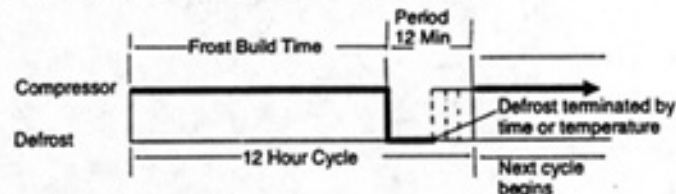
Switch 10	off	on
Frequency	60 Hz	50 Hz

Programming Example

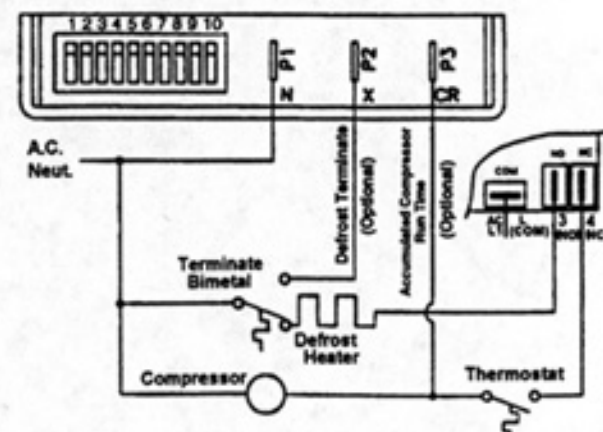


NOTE: With a small pointed object depress the rocker switch to the desired position. Closed = On and Open = Off.

Typical Sequence of Operation.

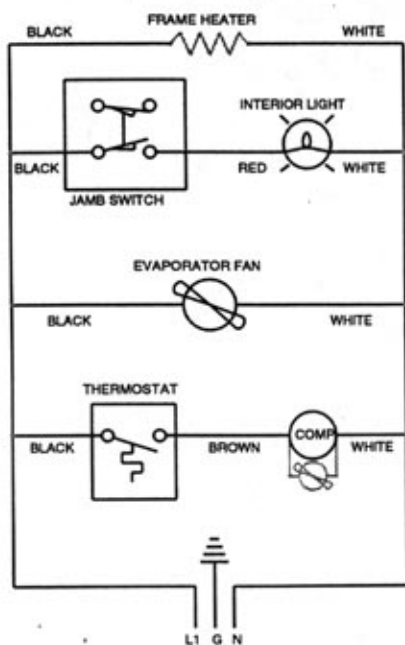


Typical Wiring Diagram



Wiring Diagrams: Refrigerators

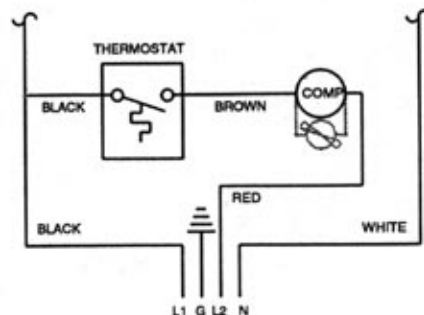
**MODELS: 6025-S, 6051-S, 6076-S,
6051-SL, 6025-HG, 6051-HG**



115V-1PH-60HZ

(1, 2, & 3 DOOR REF., EXCEPT 3 DOOR HINGED GLASS)
CORD & PLUG SUPPLIED AS STANDARD

MODEL: 6076-HG

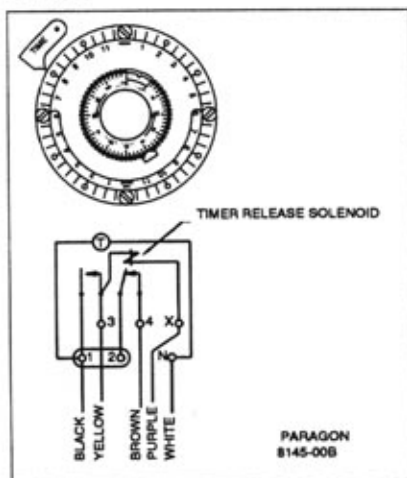


115 / 208-230V / 1PH / 60HZ
(3 DOOR HINGED GLASS ONLY)

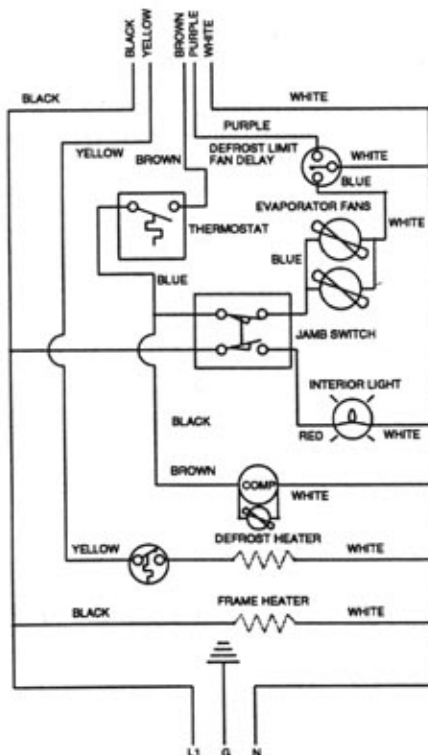
Wiring Diagrams: Freezers

MODELS: 6151-S, 6176-S

2 & 3 DOOR

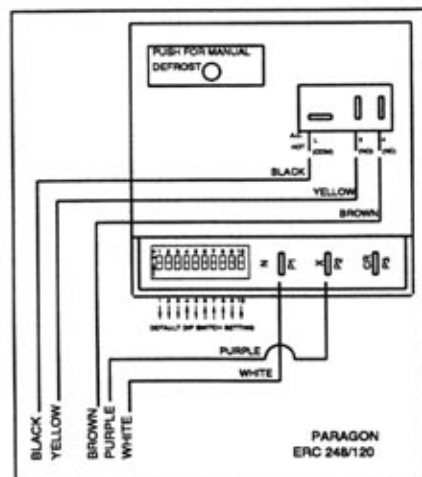


MODELS: 6151-S, 6176-S



MODEL: 6125-S

1 DOOR ONLY



Refrigerant Charges



404A Refrigerant Charges

6025-S	.....14 OZ.	6025-HG	.....14 OZ.
6125-S	.....18 OZ.	6051-SDT (ref./frzr.)	.....14/18 OZ.
6151-S	.....17.5 OZ.	6176-SDT (ref./frzr.)	.....14/17.5 OZ.
6176-S	.....19.5 OZ.		



R22 Refrigerant Charges

6051-S	.....30 OZ.	6051-SL	.....21 OZ.
6076-S	.....16.5 OZ.	6076 (ref./frzr.)	.....13/18 OZ.
6051-HG	.....21 OZ.		
6076-HG	.....30 OZ.		

Maintenance

The interior and exterior can be cleaned using soap and warm water. If this is not sufficient, try ammonia and water or a nonabrasive liquid cleaner. When cleaning the exterior, always rub with the "grain" of the stainless steel to avoid marring the finish. Do not use an abrasive cleaner because it will scratch the stainless steel and plastic.

In order to maintain proper refrigeration performance, the condenser fins must be cleaned of dust, dirt and grease regularly. It is recommended that this be done at least every three months. If conditions are such that the condenser is totally blocked in three months, the frequency of cleaning should be increased.

Clean the condenser with a vacuum cleaner or stiff brush. If extremely dirty, a commercially available condenser cleaner may be required.

Door gaskets could be cleaned as required to maintain their ability to seal properly. Do not use sharp tools or knives to scrape the bellows as this may tear the gasket and eliminate its ability to seal. A bristle brush and solution of soap and water should be all that is required to keep the gaskets clean. Do not use full strength degreasing agents on the gasket because they could cause the gasket to crack and become brittle.

Standard 1 Year Limited Warranty — 1 year parts, 90 days labor

The Delfield Company ("Delfield") warrants to the Original Purchaser of the Delfield product (herein called the "Unit") that such Unit, and all parts thereof, will be free from defects in material and workmanship under normal use and service for a period of one (1) year from the date of shipment of the Unit to the Original Purchaser or, if the Original Purchaser returns the warranty card completely filled out including the date of installation within thirty (30) days of receipt of the Unit, one (1) year from the date of installation. During this one year warranty period, Delfield will repair or replace any defective part or portion thereof returned to Delfield by the Original Purchaser which Delfield determines was defective due to faulty material or workmanship. The Original Purchaser will pay all labor, crating, freight and related costs incurred in the removal of the Unit or defective component and shipment to Delfield, except that during a period of either ninety (90) days from the date of shipment of the Unit to the Original Purchaser or, if the Original Purchaser returns the warranty card completely filled out including the date of installation within thirty (30) days of receipt of the Unit, ninety (90) days from the date of installation Delfield will pay all related labor costs. Delfield will pay the return costs if the Unit or part thereof was defective.

The term "Original Purchaser" as used herein means that person, firm, association, or corporation for whom the Unit was originally installed.

This Warranty does not apply to any Unit or part thereof that has been subjected to misuse, neglect, alteration, or accident, such as accidental damage to the exterior finish; operated contrary to the recommendations specified by Delfield; or repaired or altered by anyone other than Delfield in any way so as to, in Delfield's sole judgment, affect its quality or efficiency. This Warranty does not apply to any Unit that has been moved from the location where it was originally installed. This Warranty also does not cover the refrigerator drier or the light bulbs used in the Unit. The warranty is subject to the user's normal maintenance and care responsibility as set forth in the Service and Installation Manual, such as cleaning the condenser coil, and is in lieu of all other obligations of Delfield. Delfield neither assumes, nor authorizes any other person to assume for Delfield, any other liability in connection with Delfield's products.

Removal or defacement of the original Serial Number or Model Number from any Unit shall be deemed to release Delfield from all obligations hereunder or any other obligations, express or implied.

Parts furnished by suppliers to Delfield are guaranteed by Delfield only to the extent of the original manufacturer's express warranty to Delfield. Failure of the Original Purchaser to receive such manufacturer's warranty shall in no way create any warranty, express or implied, or any other obligation or liability on Delfield's part in respect thereof.

If shipment of a replacement part is requested prior to the arrival in the Delfield factory of the part claimed to be defective, the Original Purchaser must accept delivery of the replacement part on a C.O.D. basis, with credit being issued after the part has been received and inspected at Delfield's plant and determined by Delfield to be within this Warranty.

Under no condition does this Warranty give the Original Purchaser the right to replace the defective Unit with a complete Unit of the same manufacturer or of another make. Unless authorized by Delfield in writing, this Warranty does not permit the replacement of any part, including the motor-compressor, to be made with the part of another make or manufacturer.

No claims can be made under this Warranty for spoilage of products for any reason, including system failure.

The installation contractor shall be responsible for building access, entrance and field conditions to insure sufficient clearance to allow any hood(s), vent(s) or Unit(s), if necessary, to be brought into the building. Delfield will not be responsible for structural changes or damages incurred during installation of the Unit or any exhaust system.

Delfield shall not be liable in any manner for any default or delay in performance hereunder caused by or resulting from any contingency beyond Delfield's control, including, but not limited to, war, governmental restrictions or restraints, strikes, lockouts, injunctions, fire, floods, acts of nature, short or reduced supply of raw materials, or discontinuance of the parts by the original part manufacturer.

Except as provided in any Additional Four Year Protection Plan, if applicable, and the Service Labor Contract, if applicable, the foregoing is exclusive and in lieu of all other warranties, whether written or oral, express or implied. This Warranty supersedes and excludes any prior oral or written representations or warranties. Delfield expressly disclaims any implied warranties of merchantability, fitness for a particular purpose or compliance with any law, treaty, rule or regulation relating to the discharge of substances into the environment. The sole and exclusive remedies of any person relating to the Unit, and the full liability of Delfield for any breach of this Warranty, will be as provided in this Warranty.

Other than this Delfield Standard One Year Limited Warranty, any applicable Delfield Additional Four Year Protection Plan or applicable Delfield Service Labor Contract, the Original Purchaser agrees and acknowledges that no other warranties are offered or provided in connection with or for the Unit or any part thereof.

In no event will Delfield be liable for special, incidental or consequential damages, or for damages in the nature of penalties.

Additional 4 Year Protection Plan — for motor-compressor only

Delfield Model#

Serial#

Installation Date

In addition to the Standard One Year Warranty on the Motor-Compressor contained in the above listed Delfield product (the "Unit"), The Delfield Company ("Delfield") also agrees to repair, or exchange with similar or interchangeable parts in design and capacity at Delfield's option, the defective Motor-Compressor contained in the Unit (the "Motor-Compressor"), or any part thereof, for the Original Purchaser only, at any time during the four (4) years following the initial one (1) year period commencing on the date of installation for the Original Purchaser. **Failure of the Original Purchaser to register the registration card containing the Original Purchaser's name, address, date of installation, model number and serial number of the Unit containing the Motor-Compressor within 30 days from the date of installation shall void this Warranty.** This additional Warranty is only available if the Motor-Compressor is inoperative due to defects in material or factory workmanship, as determined by Delfield in its sole judgment and discretion. The Original Purchaser shall be responsible for returning the defective Motor-Compressor to Delfield prepaid, F.O.B. at the address shown on the back cover of this manual.

The term "Original Purchaser" as used herein shall be deemed to mean that person, firm, association, or corporation for whom the equipment was originally installed.

The term "Motor-Compressor" as used herein does not include unit base, air or water cooled condenser, receiver, electrical accessories such as relay, capacitors, refrigerant controls, or condenser fan/motor assembly. This warranty does not cover labor charges incidental to the replacement of parts. This warranty further does not include any equipment to which said condensing unit is connected, such as cooling coils, temperature controls or refrigerant metering devices. This warranty shall be void if the Motor-Compressor, in Delfield's sole judgment, has been subjected to misuse, neglect, alteration or accident, operated contrary to the recommendations specified by the Unit manufacturer, repaired or altered by anyone other than Delfield in any way so as, in Delfield's sole judgment, to affect its quality or efficiency or if the serial number has been altered, defaced or removed. This Warranty does not apply to a Motor-Compressor in any Unit that has been moved from the location where it was originally installed. The addition of methyl chloride to the condensing unit or refrigeration system shall void this warranty.

General Conditions

Delfield shall not be liable in any manner for any default or delay in performance thereunder caused by or resulting from any contingency beyond Delfield's control including, but not limited to, war, governmental restrictions or restraints, strikes, lockouts, injunctions, fire, floods, acts of nature, short or reduced supply of raw material or discontinuance of any part or the Motor-Compressor by the unit manufacturer.

Replacement of a defective Motor-Compressor is limited to one (1) Motor-Compressor by us during the four (4) year period. Delfield shall replace the Motor-Compressor at no charge.

This Warranty does not give the Original Purchaser of the Motor-Compressor the right to purchase a complete replacement Motor-Compressor of the same make or of another make. It further does not permit the replacement to be made with a Motor-Compressor of another kind unless authorized by Delfield. In the event Delfield authorizes the Original Purchaser to purchase a replacement Motor-Compressor locally, only the wholesale cost of the Motor-Compressor is refundable.

Expressly excluded from this warranty are damages resulting from spoilage of goods.

Except as provided in any applicable Standard One Year Limited Warranty or applicable Service Labor Contract, the foregoing is exclusive and in lieu of all other warranties, whether written or oral, express or implied. This Warranty supersedes and excludes any prior oral or written representations or warranties. Delfield expressly disclaims any implied warranties of merchantability, fitness for a particular purpose or compliance with any law, treaty, rule or regulation relating to the discharge of substances into the environment. The sole and exclusive remedies of any person relating to the Motor-Compressor, and the full liability of Delfield for any breach of this Warranty, will be as provided in this Warranty.

Other than any applicable Delfield Standard One Year Limited Warranty, this Delfield Additional Four Year Protection Plan and any applicable Delfield Service Labor Contract, the Original Purchaser agrees and acknowledges that no other warranties are offered or provided in connection with or for the Motor-Compressor or any part thereof.

In no event will Delfield be liable for special, incidental or consequential damages, or for damages in the nature of penalties.