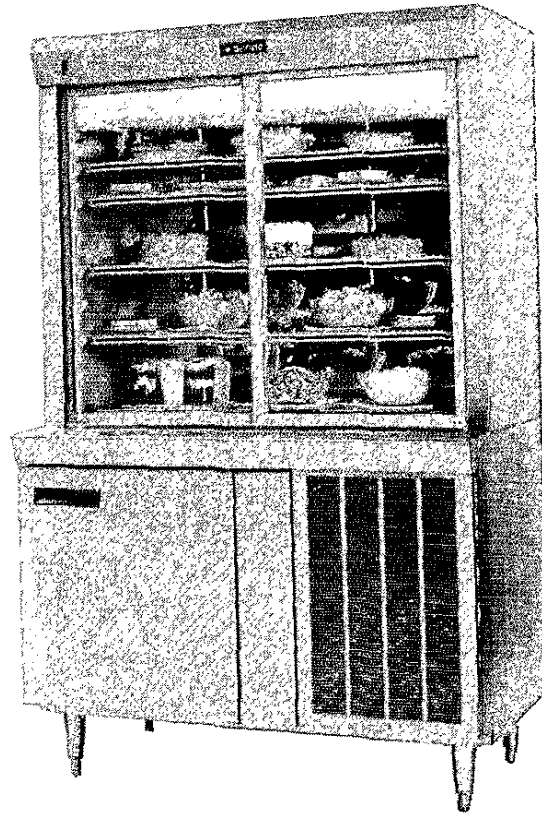
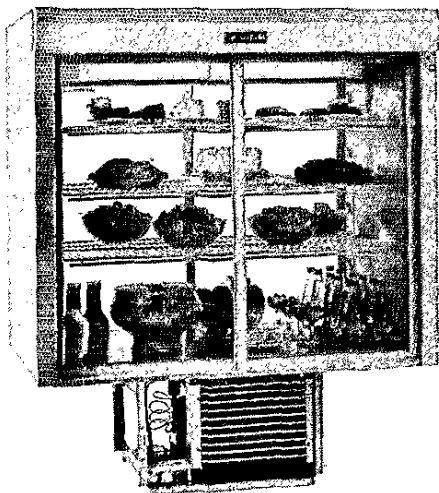


# **Delfield®**

**The First Choice in Value.**

## **SERVICE & 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 3.*



- **5000 SERIES**

*Drop-In Display Cases*

- **15000 SERIES**

*Servview Display Cases*

**Effective August 1997**

**5000 & 15000**

# CONTENTS

RECEIVING & INSPECTING EQUIPMENT .....	2
INSTALLATION	
15000 Series .....	3
5000 and 5200 Series .....	3
5100 and 5900 Series .....	6
CONDENSER AIR FLOW	
Models 5048 and 5248 .....	4
Models 5072 and 5272 .....	5
OPERATION .....	6
PRESSURE CONTROL SETTINGS .....	6
INSTALLATION	
5100 and 5900 Remote .....	6-7
15100 and 15900 Remote .....	7
ROUTINE MAINTENANCE .....	8
SLIDING DOOR ASSEMBLY MAINTENANCE .....	8
PIKE DOOR COMPONENTS LIST .....	9
WIRING DIAGRAM .....	10
REPLACEMENT PARTS LISTS .....	11-12
TROUBLESHOOTING REFERENCE CHART .....	13
STANDARD WARRANTIES .....	14-15
AUTHORIZED PARTS DEPOTS .....	back cover

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# SPECIFICATIONS

MODEL NUMBER	H.P. (HCFC-22 UNITS)	VOLTAGE/ HERTZ/ PHASE	AMPS (HCFC-22 UNITS)	NEMA PLUG	DELFIELD PART # M/S/P
<b>Drop-in display cases—self-contained</b>					
5048	1/2	115/60/1	12.0	5-20P	0712004/5/6
5248	1/2	115/60/1	12.0	5-20P	0712001/2/3
5072	3/4	115/60/1	16.0	5-20P	0712010/1/2
5272	3/4	115/60/1	16.0	5-20P	0712007/8/9
<b>Drop-in display cases—remote</b>					
5148	1/2*	115/60/1	4.0		0711001/2/3
5948	1/2*	115/60/1	4.0		0711004/5/6
5172	3/4*	115/60/1	4.0		0711007/8/9
5972	3/4*	115/60/1	4.0		0711010/1/2
<b>Service display cases—self-contained</b>					
15048	3/4	115/60/1	14.0	5-20P	0850481/2/3
15248	3/4	115/60/1	14.0	5-20P	0852481/2/3
15072	3/4	115/60/1	16.0	5-20P	0850721/2/3
15272	3/4	115/60/1	16.0	5-20P	0852724/5/6
<b>Service display cases—remote</b>					
15148	3/4*	115/60/1	4.0		0851481/2/3
15948	3/4*	115/60/1	4.0		0859481/2/3
15172	3/4*	115/60/1	4.0		0851721/2/3
15972	3/4*	115/60/1	4.0		0859721/2/3

\* recommended horsepower

## 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.

## SERIAL NUMBER LOCATION

The serial number on all self-contained 5000 Series units is located near the condensing unit. On all remote 5000 Series units the serial number is located on the drop-in frame.

The serial number on all self-contained 15000 Series units is located behind the louver covering the compressor section of the base, near the con-

densing unit. On all remote 15000 Series units the serial number is located behind the six inch panel in the base.

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 cover of this manual.

## INSTALLATION—SELF-CONTAINED 15000 & 15200 SERIES

### Location

Be sure the location chosen has a floor strong enough to support the total weight of the cabinet and contents. A fully loaded 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. Don't pack the refrigerator so full that air cannot circulate. Be sure that the exterior of the unit has access to ample air. Avoid hot corners and locations near stoves and ovens.



Do not install the unit near any combustible material or object affected by heat or moisture.

Unit is designed to maintain 36°F (2°C) to 40°F (4°C) interior cabinet temperature at 65% or lower ambient relative humidity

### Leveling

A level cabinet looks better and will perform better because the drain pan will drain properly, the doors will line up with the frames properly, and the cabinet will not be subject to undue strain.

### Plumbing

Self-contained models are standard with a condensate evaporator. If your unit does not have a condensate evaporator, or the evaporator fails, the unit's drain must have an outlet to an appropriate drainage area or container.



Moisture collecting from improper drainage can create a slippery surface on the floor and a hazard to employees. It is the owner's and operator's responsibility to provide a container or outlet for drainage.

### 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.

Self-contained units have an **ON/OFF** switch located directly behind the louvered panel covering the compressor section. Simply turn the switch to **ON** to begin operation.



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

## INSTALLATION—SELF-CONTAINED 5000 & 5200 SERIES

All self-contained units were tested at the factory to assure proper operation. The unit should not be installed directly next to high heat generating equipment (ranges, griddles, etc.).

These units are installed by "dropping" them into the counter from above. The counter cutout sizes are as follows:

**Models 5048 & 5248** 18.62" x 23.62" (47.3 cm x 60.0 cm)

**Models 5072 & 5272** 18.62" x 32.62" (47.3 cm x 82.9 cm)

Self-contained 5000 Series units require airflow to the compressor. Two louvers are provided with each unit and should be installed in the front and the rear of the counter.

Installations are illustrated on pages 4 and 5.

Unit is designed to maintain 36°F (2°C) to 40°F (4°C) interior cabinet temperature at 65% or lower ambient relative humidity

### Plumbing

Self-contained models are standard with a condensate evaporator. If, for some reason, a unit does not have a condensate evaporator, or the evaporator fails, the unit's drain must have an outlet to an appropriate drainage area or container.



Moisture collecting from improper drainage can create a slippery surface on the floor and a hazard to employees. It is the owner's and operator's responsibility to provide a container or outlet for drainage.

### 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.

Self-contained units have an **ON/OFF** switch in the junction box. Simply turn the switch to **ON** to begin operation.



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



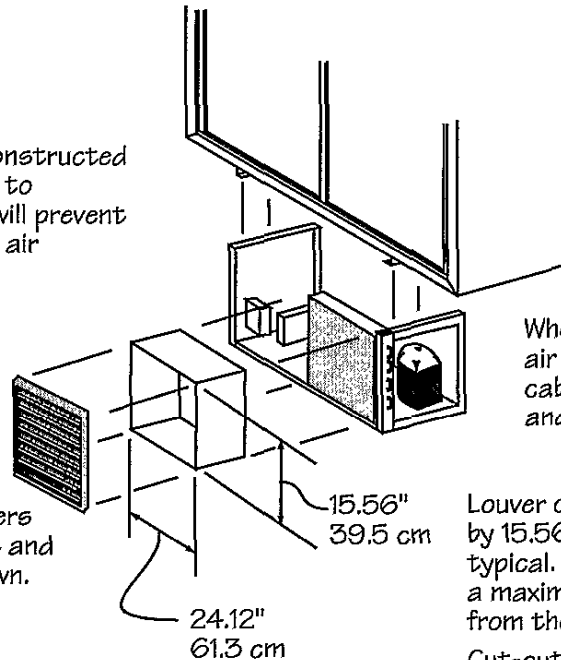
Customer service FAX (517) 773-3210

## CONDENSER AIR FLOW—MODELS 5048 & 5248

Unit is designed to be operated with supplied louvered panels for proper air flow. Failure to provide the proper air flow will void the warranty.

An "air duct" should be constructed from the air-intake louver to the condenser face. This will prevent recirculation of discharge air from within the cabinet.

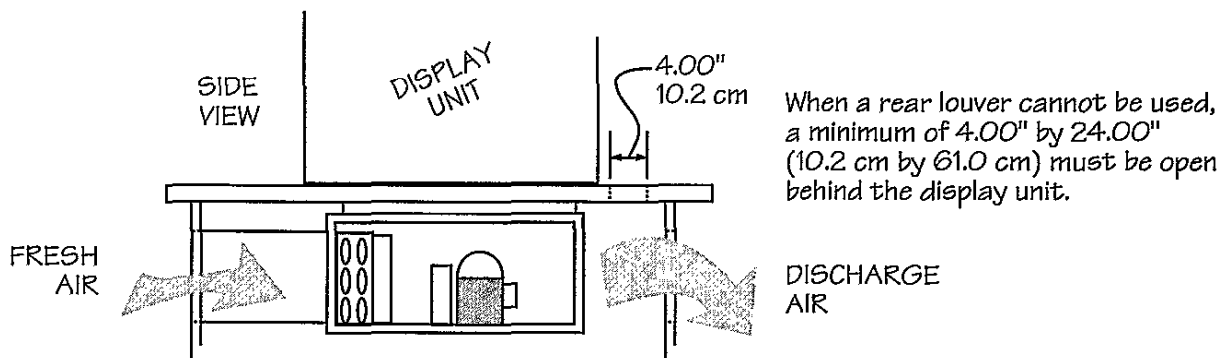
Proper installation must provide for air flow to and from the condensing unit. Two louvers are provided with the unit and should be located as shown.



When applicable, the discharge air louver may be installed on cabinet side opposite condenser and the fresh air duct.

Louver cut-outs are 24.12" by 15.56" (61.3 cm by 39.5 cm) typical. Cut-outs are to begin a maximum of 4.00" (10.2 cm) from the counter-top.

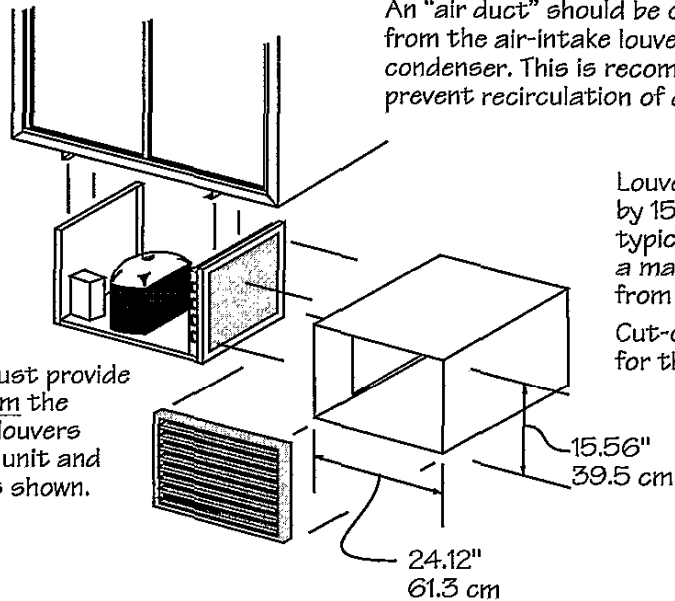
Cut-out dimensions are the same for the discharge louver.



When a rear louver cannot be used, a minimum of 4.00" by 24.00" (10.2 cm by 61.0 cm) must be open behind the display unit.

## CONDENSER AIR FLOW—MODELS 5072 & 5272

Unit is designed to be operated with supplied louvered panels for proper air flow. Failure to provide the proper air flow will void the warranty.

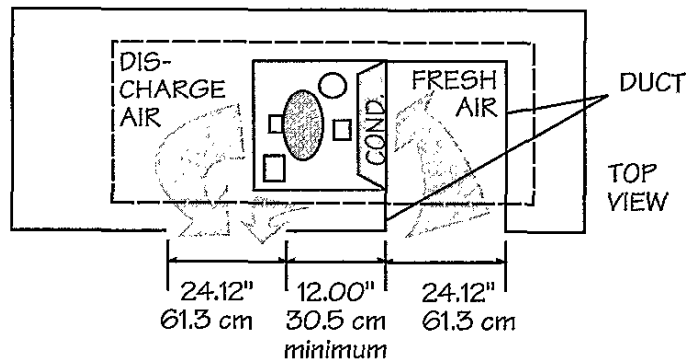


Proper installation must provide for air flow to and from the condensing unit. Two louvers are provided with the unit and should be installed as shown.

Louver cut-outs are 24.12" by 15.56" (61.3 cm by 39.5 cm) typical. Cut-outs are to begin a maximum of 4.00" (10.2 cm) from the counter-top.

Cut-out dimensions are the same for the discharge louver.

Discharge air louver may be located further from fresh air louver, or on the opposite side of counter.



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## OPERATION

After turning the ON/OFF switch to ON the unit's compressor will begin operating. Delfield display cases are designed to maintain an operational temperature of 36°F to 40°F (2°C to 4°C) in both the display (5000 and 15000 Series) and storage areas (15000 Series only).

*Continuous opening and closing of the doors and drawers will hamper the unit's ability to maintain operational temperatures.*

Some models using HCFC-22 (R-22) refrigerant have a lock-out high pressure limiting device. Under severe overloading conditions, or in the event of a condenser fan failure or a plugged or blocked condenser, this device will shut down the refrigeration system. This device must be manually reset, after determining the cause of the high pressure condition.

If an excessively dirty condenser is the cause of the refrigeration system high pressure shut down, see "Cleaning the condenser" below. Make sure the condenser is thoroughly clean before resetting the lock-out device.

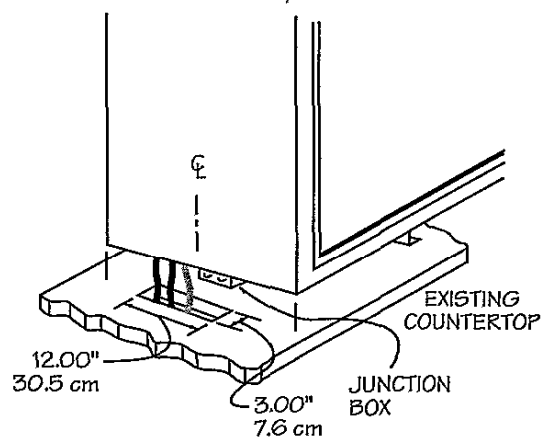
## PRESSURE CONTROL SETTING

### HCFC-22 Refrigerators

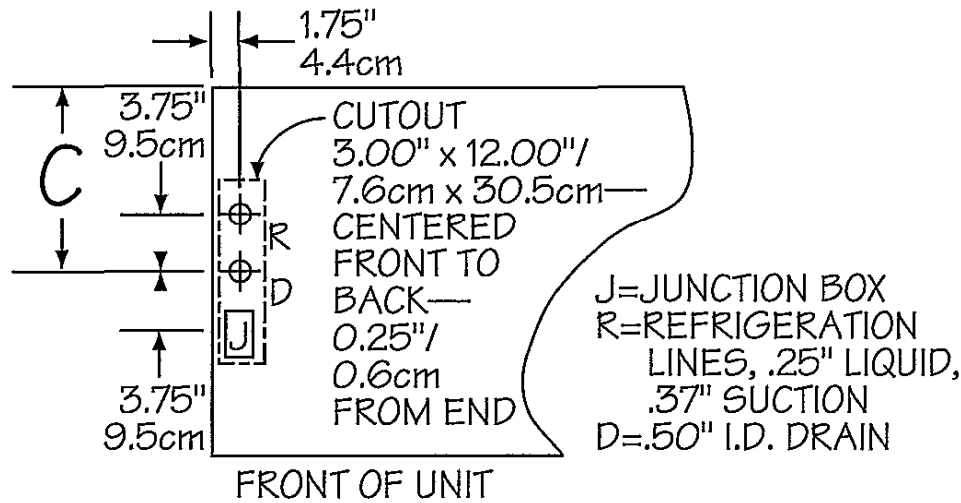
The factory recommended pressure control setting is 60# cut-in and 25# cut-out to maintain approximate interior temperature of 40° F (4°C)

## INSTALLATION—REMOTE 5100 & 5900 SERIES

Provide a 3" x 12" (7.6 cm x 30.5 cm) slotted cutout to allow tubing, drain and electrical lines to pass through countertop under the side of the display cabinet for hook-up to remote condensing units. See diagrams for details.

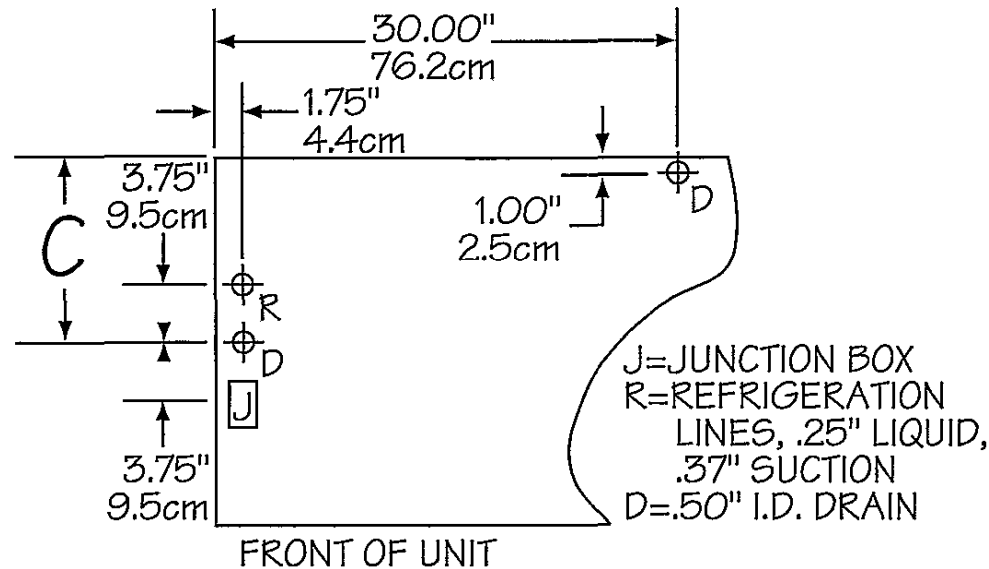


## INSTALLATION — REMOTE 5100 & 5900 SERIES



**TYPICAL MECHANICAL ACCESS (PLANVIEW)  
ALL 5100 & 5900 MODELS**

## INSTALLATION — REMOTE 15100 & 15900 SERIES



**TYPICAL MECHANICAL ACCESS (PLANVIEW)  
ALL 15100 & 15900 MODELS**

## **ROUTINE MAINTENANCE**

### ***Cleaning the cabinet***

The interior and exterior can be cleaned using soap and warm water. If this is not sufficient try ammonia and water or a non-abrasive 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.

### ***Cleaning the condenser***

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.

### ***Cleaning gaskets***

Door gaskets should be cleaned as required to maintain their ability to seal properly. The gaskets are a "snap-in" style which are easily removed for cleaning. Do not use sharp tools or knives to scrape the gasket 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 become brittle and crack.

### ***Cleaning drawer slides***

Drawer slides should be kept clean and free of food. The bearings in the slides should be greased as needed with a "food-zone" approved lubricant.

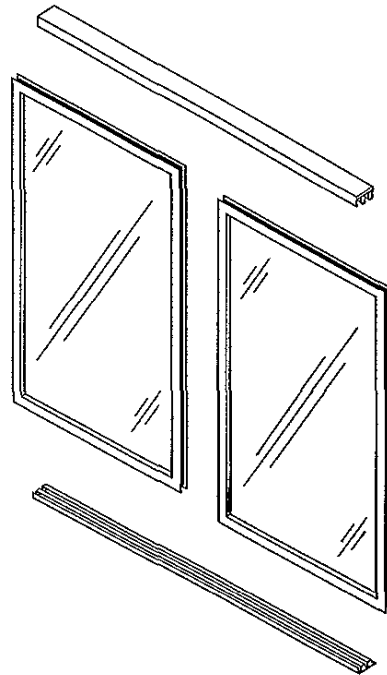
## **SLIDING DOOR ASSEMBLY MAINTENANCE**

All Delfield 5000 Series and 15000 Series display cases feature a Pike® sliding door assembly. A typical Pike sliding door assembly is shown in the illustration at right. See page 9 for parts list.

Frequent, regular cleaning with a mild soap and water solution will keep the tracks free of foreign matter and will insure many years of service.

The glass may be cleaned with one of the many glass cleaners currently available.

If it becomes necessary to replace a Pike sliding door assembly or a glass panel, have your unit's model and serial numbers available when you call Delfield's Service and Parts Department. Indicate that your unit has the Pike sliding door assembly when you call.





# PIKE DOOR COMPONENTS

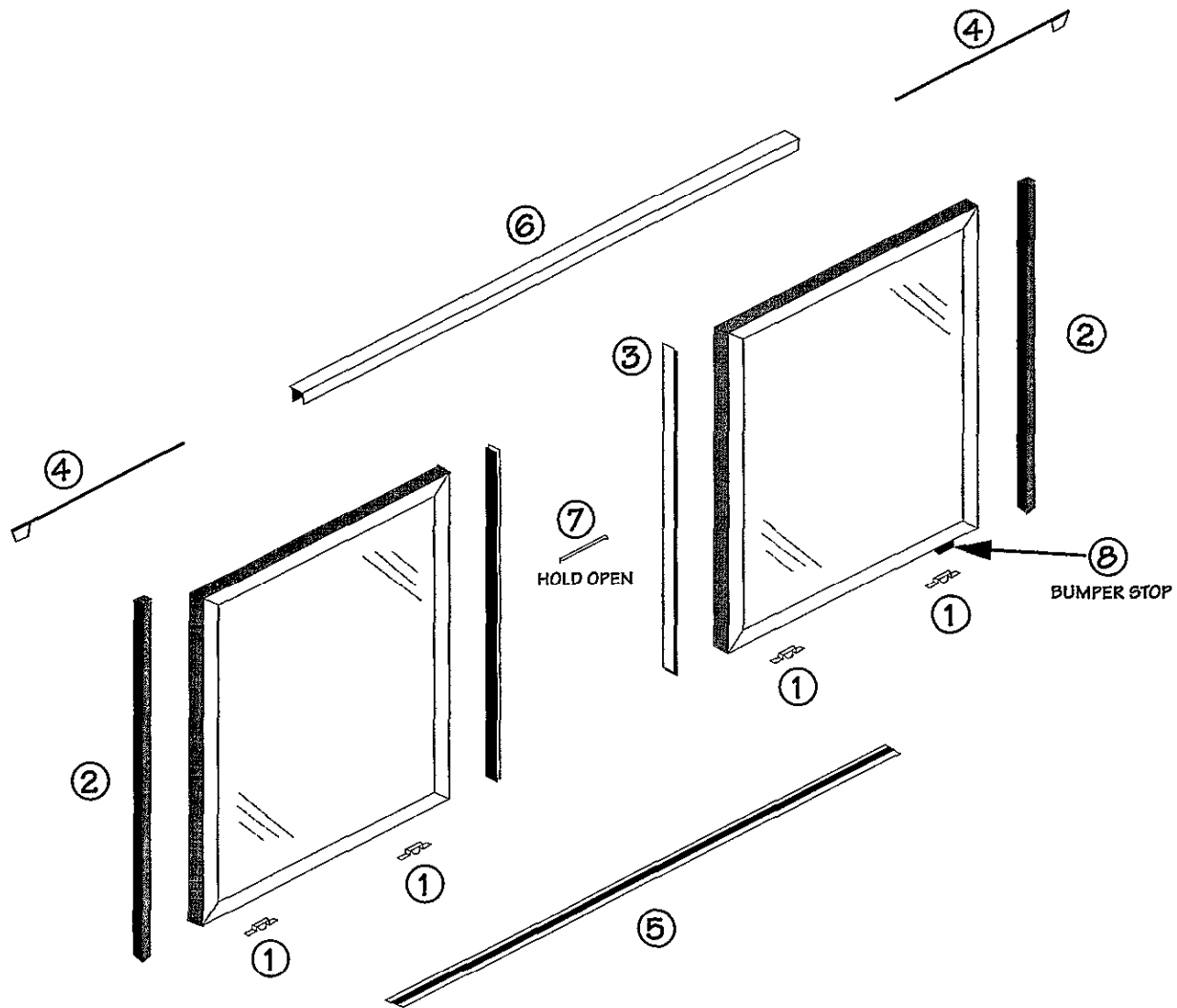
## 48" UNITS

- 1. Bearing, roller, single .....323-4636
- 2. Gasket, bumper, 36 3/4 " w/o lock .....323-3930
- Gasket, bumper, 38 3/4 " w/lock .....323-3931
- 3. Gasket, wiper strip, 35 5/16" w/o lock.....323-3938
- Gasket, wiper strip, 37 5/16" w/lock.....323-3939
- 4. Spring, 19" gold.....323-3943
- 5. Track, bottom, 43 1/2" .....323-3902
- 6. Track top, 43 1/2" .....323-3915
- Sliding door set — 48" w/o lock.....323-4607
- Sliding door set — 48" w/lock.....323-4665

## 72" UNITS

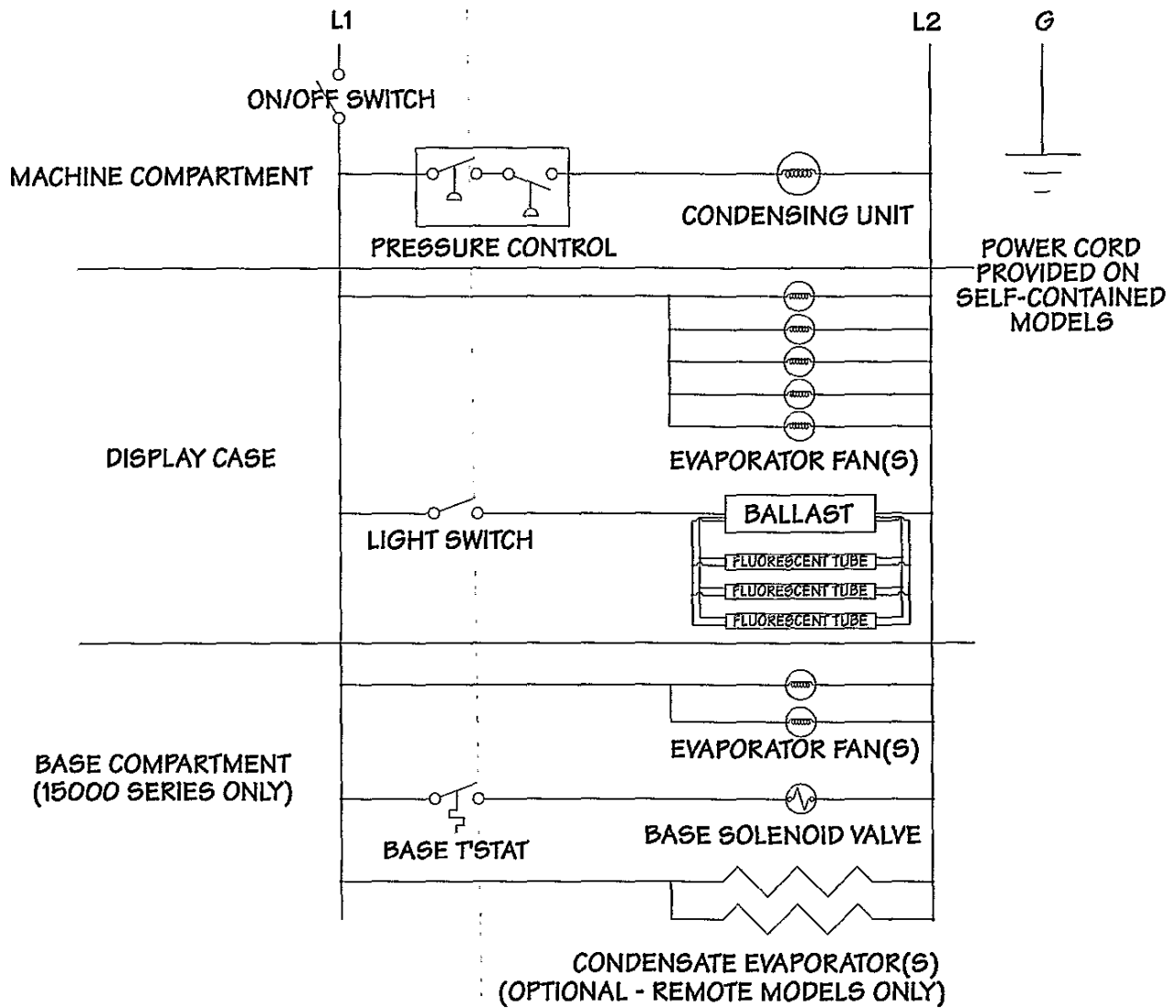
- 1. Bearing, roller, double .....323-4637
- 2. Gasket, bumper, 36 3/4 " w/o lock .....323-3930
- Gasket, bumper, 38 3/4 " w/lock .....323-3931
- 3. Gasket, wiper strip, 35 5/16" w/o lock.....323-3938
- Gasket, wiper strip, 37 5/16" w/lock.....323-3939
- 4. Spring, 30" gold.....323-3946
- 5. Track, bottom, 67 1/2" .....323-3910
- 6. Track top, 67 1/2" .....323-3923
- Sliding door set — 72" w/o lock.....323-4608
- Sliding door set — 72" w/lock.....323-4666

Note: Pass-through units have two sets of sliding display doors, see-through and mirror-back units have one set.



Customer service FAX (517) 773-3210

# WIRING DIAGRAM: SELF-CONTAINED 5000 & 15000 SERIES



# REPLACEMENT PARTS LIST FOR HCFC-22 (R-22) UNITS

Description	Part number	S/C	S/C	REMOTE	REMOTE	S/C	S/C	REMOTE	REMOTE
		5048	5072	5148	5172	15048	15072	15148	15172
		5248	5272	5948	5972	15248	15272	15948	15972
Back, evap coil, R-22	000-0094						1		1
Ballast, rapid start, 36" lamp	219-3903	2		2		2		2	
Ballast, rapid start, 48"	219-3904	2	2	2	2	2	2	2	2
Blade, fan, bottom section	351-6172						2		2
Blade, fan, top section	351-6172	3	4	3	4	3	4	3	4
Bracket, fan motor, top coil	000-0084	3	4	3	4	3	4	3	4
Bracket, mtg, fan, evap, coil	000-0096						2	2	2
Bulb, fluorescent, 36"	219-3907	2		2		2		2	
Bulb, fluorescent, 48"	219-3908		2		2		2		2
Bulb holder, left	219-3939	2	2	2	2	2	2	2	2
Bulb holder, right	219-3940	2	2	2	2	2	2	2	2
Bushing, nylon hinge pin	932-1107					2	6	4	6
Caster, locking	323-4196					●	●	●	●
Caster, without lock	323-4197					●	●	●	●
Coil, assy, mullion, solenoid, t-stat ▼	MV600220						1	1	1
Coil, assy, mullion, solenoid, t-stat ▲	MV600353						1	1	1
Coil, assy, mullion, w/solenoid ▼	MV600354								1
Coil, assy, mullion, w/solenoid ▲	MV600355								1
Coil, evaporator, bottom section	351-6093						1	1	2
Coil, evaporator, top section	351-6090	1		1		1		1	
Coil, evaporator, top section	351-6091		1		1		1		1
Condensing unit, 1/2 H.P. R-22 Hi	352-6755	1							
Condensing unit, 3/4 H.P. R-22 Hi	352-6671		1			1	1		
Control, pressure	219-3942	1	1			1	1		
Cooler, unit refrig	MC00111B					1			
Cord, lead, 14-3, 5-20P	218-3347		1			1	1		
Cord, lead, 16-3, 5-15P	218-3348	1							
Diffuser, fluorescent light, 36"	170-1046	2		2		2		2	
Diffuser, fluorescent light, 48"	170-1047		2		2		2		2
Door, 18", bottom section	010-0214						3	1	1
Door, 24", bottom section	010-0216					1		1	2
Door, set, 48 x 36.75 w/o lock	323-4607	1		1		1		2*	
Door, set, 72 x 36.75 w/o lock	323-4608		2*		1		1	1	1
Door, set, 48 x 36.75 w/lock	323-4707	1		1		1		2*	
Door, set, 72 x 36.75 w/lock	323-4708		2*		1		1	1	1
Drawer, roller bearing style	323-4232						●	●	●
Dryer, filter, outlet, top	351-6192	1	1			1	1		
Fixture, fluorescent light, 36"	010-1849	2		2		2		2	
Fixture, fluorescent light, 48"	010-1850		2		2		2		2
Front, evap, coil	000-0093						1	1	2
Gasket, 18" door, bottom section	170-1069						3	1	1
Gasket, 18" drawer, bottom section	170-1057								
Gasket, 24" door, bottom section	170-1070					1		1	2
Gasket, 24" drawer, bottom section	170-1058								
Guard, evaporator coil, top section	397-8130	1		1		1		1	
Guard, evaporator coil, top section	397-8131		1		1		1		1
Guard, fan, 6.38" dia	351-6173						2	2	4
Harness, blower coil, 78"	218-3414	2	2	2	2	2	2	2	2
Harness, coil R-22	218-3409					1			
Harness, coil w/solenoid	218-3313								1
Harness, coil w/t-stat, solenoid	218-3312						1	1	1
Harness, elec power to ballasts	218-4063	1	1	1	1	1	1	1	1
Harness, electric, 3 fans	218-4064	1	1	1	1	1	1	1	1

● Optional equipment; call Delfield for requirements \*Quantity depends on model — consult factory  
 ▲ 28" deep bases only ▼ 32" deep bases only □ Mirror-back units only ■ See-through and pass-through units only

(continued on the next page)



Customer service FAX (517) 773-3210

11

# REPLACEMENT PARTS LIST FOR HCFC-22 (R-22) UNITS (continued from page 11)

Description	Part number	S/C	S/C	REMOTE	REMOTE	S/C	S/C	REMOTE	REMOTE
		5048	5072	5148	5172	15048	15072	15148	15172
		5248	5272	5948	5972	15248	15272	15948	15972
Harness, wiring, female, 84"	218-3596	2	2	2	2	2	2	2	2
Hinge, door	323-4072					1	3	2	3
Hinge, door, L-shaped	323-4391					2	6	4	6
Hinge, door, top RH	323-4073					1	3	2	3
Louver, 18" x 22.84", s/s	000-7147					1	1		
Louver, 17" x 22.50", s/s	001-5068	2	2						
Leg, 8" adj.	323-4165					4	6	4	6
Motor, evaporator fan, bottom	216-2691					2	2	2	2
Motor, evaporator fan, top	216-2691	3	4	3	4	3	4	3	4
Pan, drip, evaporator coil, bottom	000-5798		1		1		1		1
Pan, drip, evaporator coil, top	000-5797	1		1		1		1	
Pan, drip, evaporator coil, top	170-2079		1		1		1		1
Pan, drip, evaporator coil R-22, bottom	000-5500						1	1	2
Pigtail, male 3.5"	218-3613	2	2	2	2	2	2	1	1
Pigtail, male 9" rem ballast	218-3595	(1 EACH MIRROR BACK)							
Side, evap coil, R-22	000-0092						1	1	3
Side, evap coil, R-22 w/thermostat	MV600331						1	1	1
Shelf, bottom, 18" x 28"	397-7995						3▲	1▲	1▲
Shelf, bottom, 18" x 32"	397-7996						3▼	1▼	1▼
Shelf, bottom, 24" x 28"	397-7997					1▲		1▲	2▲
Shelf, bottom, 24" x 32"	397-7998					1▼		1▼	2▼
Shelf, top, 24" x 48"	397-7993	4□		4□		4□		4□	
Shelf, top, 24" x 48"	397-8026	4■		4■		4■		4■	
Shelf, top, 24" x 72"	397-8061		4□		4□		4□		4□
Shelf, top, 24" x 72"	397-8063		4■		4■		4■		4■
Shelf, top, 30" x 48"	397-8025	4□		4□		4□		4□	
Shelf, top, 30" x 48"	397-8027	4■		4■		4■		4■	
Shelf, top, 30" x 72"	397-8062		4□		4□		4□		4□
Shelf, top, 30" x 72"	397-8064		4■		4■		4■		4■
Support, shelf, plastic plug	323-4290					2	8	8	12
Switch, rocker, 20A, 15A	219-0154	1	1	1	1	1	1	1	1
Switch, SPST, 20 amp	219-4241	1	1			1	1		
Thermometer, hanging 4"	351-6135	1	1	1	1	2	2	2	2
Thermostat	219-4224					1	1	1	1
Track, drawer, inner, 18" x 28"	010-0001						●▲	●▲	●▲
Track, drawer, inner, 18" x 32"	010-1070						●▼	●▼	●▼
Track, drawer, outer, 24" x 28"	010-0002						●▲	●▲	●▲
Track, drawer, outer, 24" x 32"	010-1071						●▼	●▼	●▼
Valve, expansion, bottom	351-6224					1	1	1	2
Valve, expansion, top	351-6233	1	1	1	1	1	1	1	1
Valve, solenoid 1/4" ODF	351-6074					1	1	1	2

- Optional equipment; call Delfield for requirements
- ▲ 28" deep bases only    ▼ 32" deep bases only    □ Mirror-back units only    ■ See-through and pass-through units only

# TROUBLESHOOTING REFERENCE CHART

This chart is provided for the assistance of refrigeration technicians only and is not intended for use by untrained or unauthorized service personnel.

If your Delfield unit is not operating properly, check the following before calling your Authorized Delfield Service Agent:



- ① check the power flow to the unit (plug in outlet? fuse and/or circuit breaker OK?)
- ② readjust the thermostat



**Do not attempt to repair or service this unit beyond these check points. Contact your equipment dealer for the nearest Authorized Delfield Service Agent. These are the only service agents the company will authorize to repair Delfield units. Repairs made by any other service agents without prior authorization by The Delfield Company will void the warranty on the unit.**

## Compressor does not run

Motor line open .....Close start or disconnect switch  
 Fuse blown .....Replace fuse  
 Control stuck open .....Repair or replace  
 Frozen compressor  
 or motor bearings.....Replace  
 Off on high pressure .....Determine cause of high pressure;  
 make corrections and reset high  
 limit lock-out

## Unit short cycles

Control differential  
 set too closely .....Widen differential  
 Discharge valve leaking.....Correct condition  
 Motor-compressor  
 overload cutting out .....Check for high head pressure or  
 clogged condensing unit  
 Shortage of refrigerant .....Evacuate, capture remaining  
 refrigerant, repair leak & recharge  
 Leaky expansion valve.....Replace  
 Refrigerant overcharge .....Capture excess refrigerant

## Unit operates long or continuously

Shortage of refrigerant .....Evacuate, capture remaining  
 refrigerant, repair leak & recharge  
 Control contacts frozen .....Replace control  
 Dirty condensing unit.....Clean condensing unit  
 Location too warm.....Change to cooler location  
 Plugged expansion valve  
 or retainer .....Clean or replace  
 Iced or plugged coil.....Defrost or clean  
 Service load .....Keep doors closed

## Head pressure too high

Refrigerant overcharge .....Capture excess refrigerant  
 Dirty condensing unit.....Clean  
 Unit location too warm .....Relocate unit

## Unit temperature too high

Shortage of refrigerant .....Evacuate, capture remaining  
 refrigerant, repair leak & recharge  
 Control set to high.....Reset control  
 Expansion valve or  
 strainer plugged .....Clean or replace  
 Expansion valve set too high .....Lower setting  
 Iced or dirty coil .....Defrost or clean  
 Restricted gas lines.....Clear restriction

## Head pressure too low

Shortage of refrigerant .....Evacuate, capture remaining  
 refrigerant, repair leak & recharge  
 Unit location too cold.....None needed, efficiency is increased

## Unit is very noisy

Improper unpacking .....Remove shipping blocks and/or angles  
 Tubing rattle .....Bend tubes away from point of contact  
 Mountings loose .....Tighten

## Compressor loses oil

Shortage of refrigerant .....Evacuate, capture remaining  
 refrigerant, repair leak & recharge  
 Plugged expansion valve  
 or strainer .....Clean or replace  
 Oil trapping in lines .....Drain tubing toward compressor  
 Short cycling .....Refer to "Unit short cycles"  
 Superheat too high at  
 compressor suction .....Change location of expansion valve  
 bulb or adjust valve to return wet  
 gas to compressor

## Frosted or sweating suction line

Expansion valve admitting  
 excess refrigerant.....Adjust expansion valve

## Hot liquid line

Shortage of refrigerant .....Evacuate, capture remaining  
 refrigerant, repair leak & recharge  
 Expansion valve .....Adjust expansion valve

## Frosted liquid line

Receiver shut-off valve  
 partially closed or restricted .....Open valve or remove restriction  
 Restricted dehydrator or strainer .....Replace restricted part

## Top condensing unit coils cool when unit is operating

Shortage of refrigerant .....Evacuate, capture remaining  
 refrigerant, repair leak & recharge  
 Compressor inefficient.....Check and correct compressor

## Unit on vacuum — frost on expansion valve only

Ice plugging expansion  
 valve orifice .....Apply hot wet cloth to expansion  
 valve; moisture indicated by  
 increase in suction pressure; install  
 dryer  
 Plugged expansion valve strainer .....Clean strainer or replace valve



Customer service FAX (517) 773-3210

# **STANDARD ONE YEAR LIMITED WARRANTY**

## **One year parts, 90 days labor**

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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 FOUR-YEAR PROTECTION PLAN for Motor-Compressor only**

Delfield Model#	Serial#	Installation Date
<input type="text"/>	<input type="text"/>	<input type="text"/>

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.**

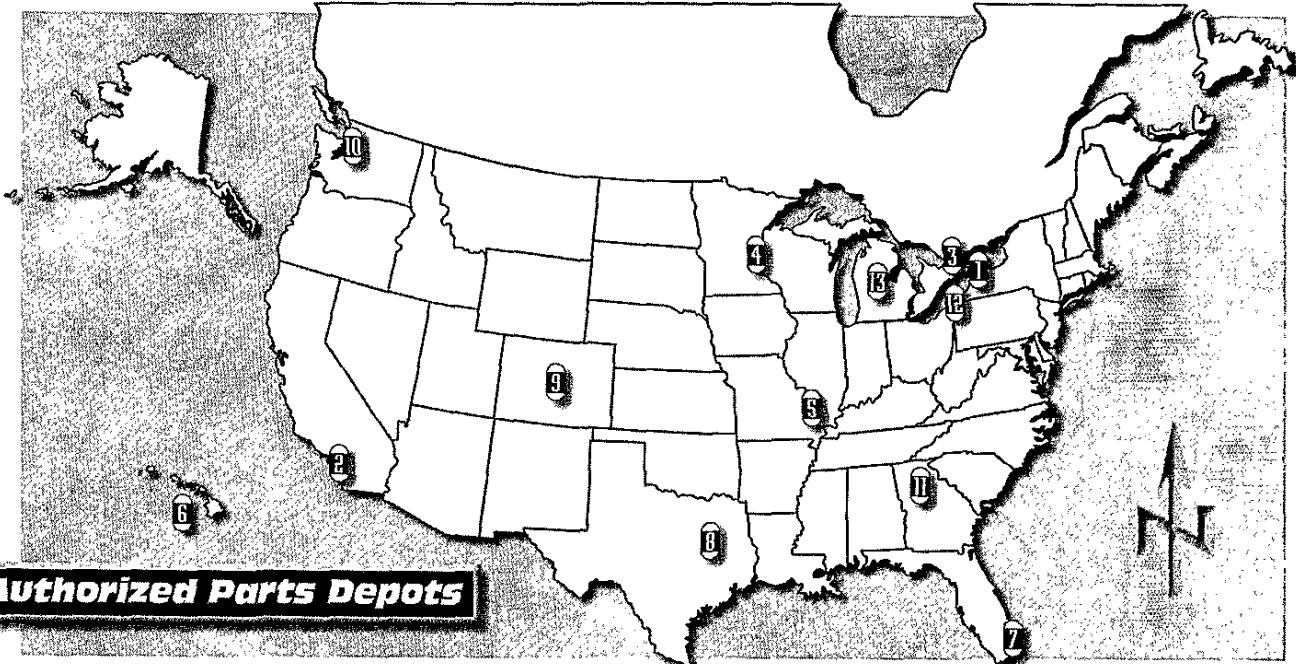
Other than any applicable Delfield Standard One Year Limited Warranty, this Delfield Additional Four Year Protection Plan and any applicable Delfield Service Labor Contract, the Original Purchaser agrees and acknowledges that no other warranties are offered or provided in connection with or for the Motor-Compressor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



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**15**



**Authorized Parts Depots**

**Appliance Installation & Service**



1336 Main Street  
Buffalo, NY 14209  
800.722.1252  
716.884.7425  
716.884.0410 FAX

serves: CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VA, VT, WV

**Barker's Food Machinery**



5367 2nd Street  
Irwindale, CA 91706  
800.258.6999 in CA  
818.960.9390  
818.337.4541 FAX

serves: CA, AZ, NV, OR

**W. D. Colledge Co., Ltd.**



6469 Northam Drive  
Mississauga, Ontario L4V 1J2  
905.677.4428  
905.677.5357 FAX

serves: Canada

**Contract Ice**



12263 Nicolette Ave. S.  
Burnsville, MN 55337  
800.422.2823  
612.894.4427  
612.894.2164

serves: IA, MN, MT, ND, SD, WI

**E.M.C.O. Sales & Distributors**



3909 St. Timothy Avenue  
St. Ann, MO 63074  
800.972.7670  
314.427.7477  
314.427.8190 FAX

serves: AR, IA, IL, KS, KY, MO, NE, OK, TN

**Food Equipment Parts & Service**



3000 Puuhale Road  
Honolulu, HI 96819  
808.847.4871  
808.842.1560 FAX

serves: HI

**Global Parts and Supplies**



2920 N.W. 109th Avenue  
Miami, FL 33172  
305.994.9994  
305.994.9992 FAX  
9948067 Lumarur TELEX

International parts depot

**J & S Refrigeration**



12503 Exchange Drive, Suite 536  
Stafford, TX 77477  
800.733.3143  
713.240.5505  
713.240.5519 FAX

serves: AR, LA, NM, OK, TX

**K. D. Service**



145 Yuma  
Denver, CO 80223  
800.444.2249  
303.698.2249  
303.698.2467 FAX

serves: AZ, CO, KS, NE, NM, OK, UT, WY

**Restaurant Appliances**



7219 Roosevelt Way, N.E.  
Seattle, WA 98115  
800.433.9390 in WA  
206.524.8200  
206.525.2890 FAX

serves: AK, ID, MT, OR, WA

**Southeastern Restaurant Services**



2200 Norcross Parkway, Suite 210  
Atlanta, GA 30071  
800.235.6516  
770.446.6177  
770.446.3157 FAX

serves: AL, FL, GA, MS, NC, SC, TN, VA

**A.I.S. Commercial Parts & Service**



1816 West 26th Street  
Erie, PA 16508-1149  
800.332.3732  
814.456.3732  
814.452.4843 FAX

serves: MD, NJ, OH, PA, VA, WV

**The Delfield Company**



980 South Isabella Road  
Mt. Pleasant, MI 48858  
800.733.8829  
517.773.7981  
517.773.3210 FAX

serves: IN and MI  
custom parts direct from Delfield



Post Office box 470  
Mount Pleasant, Michigan 48804-0470  
Customer service 800.733.8829  
800.733.8821 or 517.773.7981  
Customer service FAX 517.773-3210  
www.delfield.com

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