

USER'S INFORMATION MANUAL

For service and owner's use

Model:

DCY024F1 DCY048F1,3,4
DCY030F1 DCY060F1,3,4
DCY036F1,3,4

Single Package Dual Fuel Heat Pump Convertible 2 - 5 Ton 12 SEER

IMPORTANT — This Document is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

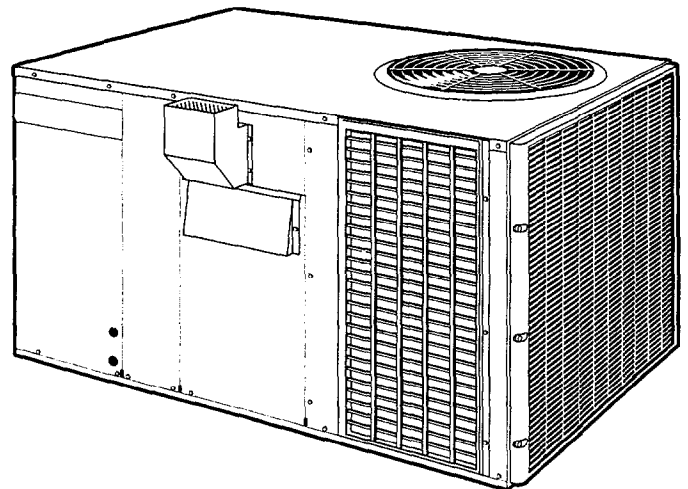
WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

— Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance

— WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

— Installation and service must be performed by a qualified installer, service agency or the gas supplier.



▲WARNING: DO NOT USE THIS UNIT IF ANY PART HAS BEEN UNDER WATER. IMMEDIATELY CALL A QUALIFIED SERVICE TECHNICIAN TO INSPECT THE FURNACE AND TO REPLACE ANY PART OF THE CONTROL SYSTEM AND ANY GAS CONTROL WHICH HAS BEEN UNDER WATER.

▲WARNING: SHOULD OVERHEATING OCCUR, OR THE GAS SUPPLY FAIL TO SHUT OFF, SHUT OFF THE GAS VALVE TO THE UNIT BEFORE SHUTTING OFF THE ELECTRICAL SUPPLY.

GENERAL INFORMATION

OVERVIEW

Your combination dual fuel heat pump unit is designed to comfort condition all year long with safe, efficient, trouble-free operation. It is important that you understand how to operate and maintain your unit to keep it operating safely and efficiently. This manual will acquaint you with these important procedures. Familiarize yourself with this manual and store it in a convenient location for future reference.

Any additions, changes, or conversions required in order for the unit to satisfactorily meet the application needs, should be made by a qualified product distributor or local service dealer, using factory specified and approved parts. See figure 1 for component layout.

Remember these instructions at all times:

- Never perform any maintenance procedures until the electrical power to the unit is turned off.
- Never perform any maintenance procedures until the gas valve in gas supply line is turned off.
- Never remove any panel from the unit while it is operating.
- Never remove panels or parts from the unit that are not discussed in this manual.

- Never cover the unit since it is designed to operate year round.

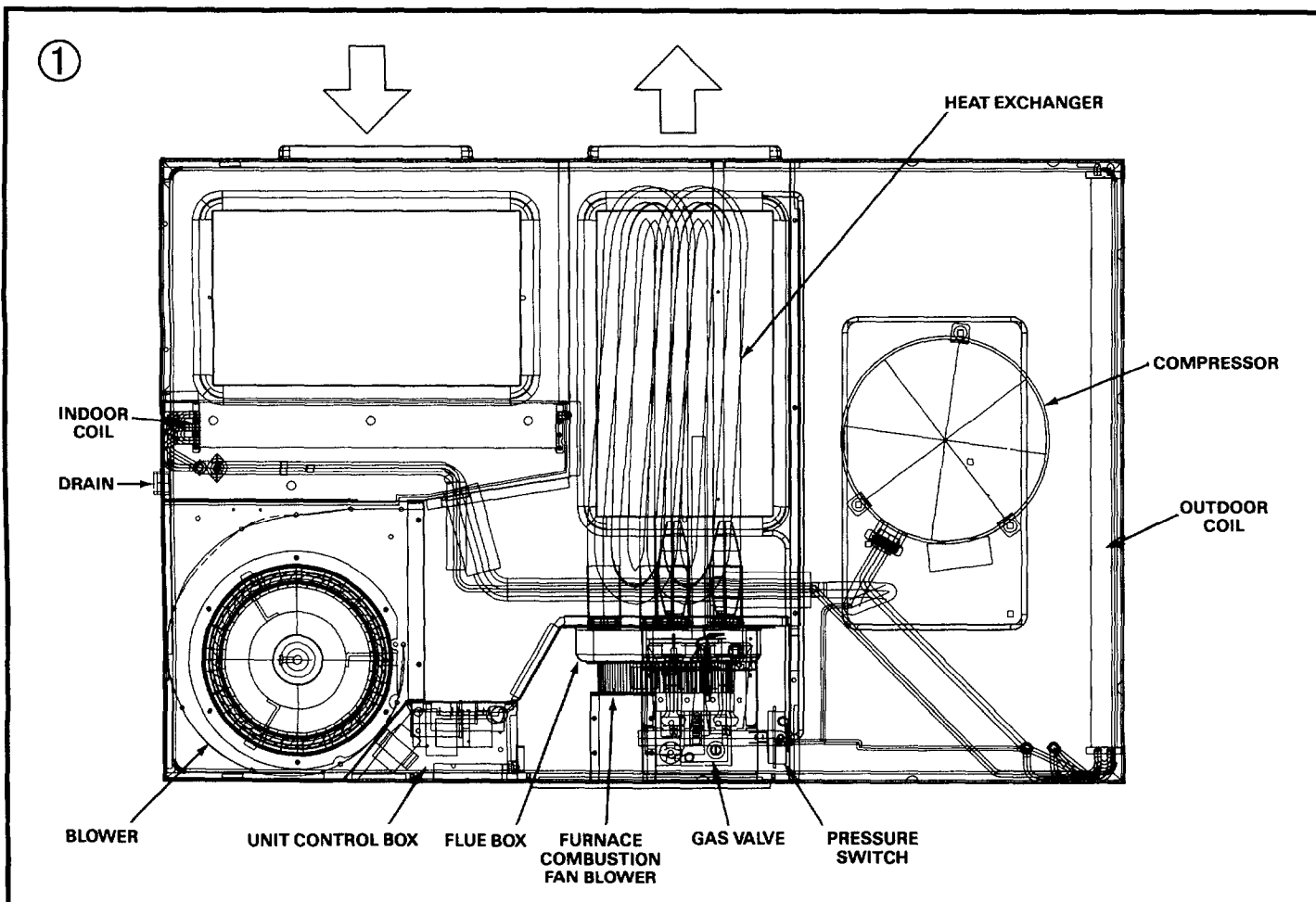
Your unit is of complex design. To ensure that it performs safely and give long-lasting service, some of the maintenance work must be performed by a qualified serviceman.

When a serviceman is referred to in this manual, it is describing a **service technician that has had special training or a number of years experience in servicing this type of equipment.** It is your responsibility to select a qualified service company that can provide a serviceman of this caliber.

THERMOSTAT

Room thermostats are delicate temperature-sensing controls. Their main function is to energize and de-energize the heating or cooling circuit to maintain the temperature setting you select.

Many thermostats contain a room thermometer to indicate the approximate room temperature, and a temperature scale at the adjustment indicator to select the desired indoor air temperature. In addition, most thermostats have a selector mode switch with **Heat, Off and Cool** positions, and a fan switch with **On and Auto** positions.



GENERAL INFORMATION

When the selector switch is positioned at **Off** your unit will not operate in either heat or cool modes. If the selector switch is set at heat, the unit will automatically cycle on and off to maintain the desired temperature settings. The unit will also operate automatically when the selector switch is positioned at **Cool**.

The fan selector switch can be used to operate the indoor fan continuously by positioning it at **On**. When set at **Auto**, the

fan will only operate when required during the heating or cooling cycles.

To ensure that the thermostat operates properly, it must be level and positioned to avoid the influence of such external heat sources as lamps, televisions or other heat-producing appliances.

HEATING SYSTEM

HEATING CYCLE OPERATION

Your unit's heating system has a solid-state electronic ignition control that lights the furnace burners each time the thermostat calls for heat. At the end of each heating cycle, the furnace burners are extinguished. This type of system is called Direct Spark Ignition (DSI).

A normal heating cycle begins when the air temperature in your home drops below the thermostat setting. The thermostat then energizes the heating electrical circuit that starts and controls the furnace burners. Shortly after the burners ignite, the indoor fan starts and circulates warm air through your home.

When the air temperature rises to the thermostat setting, the thermostat de-energizes the heating electrical circuit, which in turn, extinguishes the furnace burners. The indoor fan continues to circulate warm air until most of the heat is removed from the unit's combustion chamber.

SAFETY CONTROLS

Your unit is equipped with an automatic reset safety limit control to prevent overheating. When this control opens, it shuts down the heating electrical circuit until the unit cools down sufficiently. Inadequate airflow (i.e. caused by dirty air filters or defective fan motor), may cause the unit to cycle on and off as the limit control trips and automatically resets. If you suspect that the unit is cycling on its limit control, immediately contact a serviceman for instructions.

If flames from the burner are not properly drawn into the heat exchanger, a Flame Rollout Protection Control will open causing the furnace to shut off. The cause must be investigated by a qualified serviceman.

HEATING SYSTEM START-UP

Since your unit has an automatic ignition system, it is easy to start the heating cycle at the beginning of the heating season.


In order for this unit to operate properly and safely, the furnace needs air for both combustion and ventilation. Accordingly, observe the area in which the furnace is installed. Check to make sure that all the air openings are unobstructed. Likewise, insure that the spacing around the furnace itself is not blocked or obstructed.

1. Set the thermostat's heating adjustment lever at its lowest setting; then move the selector switch to the Off position.
2. Turn off all electric power to the unit.
3. This unit is equipped with an ignition device which automatically lights the burners.

CAUTION: Never attempt to manually light the burner.


4. Remove the access panel that contains the following label:

**REMOVE THIS PANEL TO GAIN
ACCESS TO THE GAS VALVE**

5. Turn gas control knob clockwise  to the "OFF" position. See Figure 2.

NOTE: Some valves require the knob to be pushed in slightly before turning.

DO NOT FORCE!

6. Wait (5) five minutes to clear any gas. If you then smell gas, STOP! Follow "For Your Safety," "What To Do If You Smell Gas" instructions on the front page. If you do not smell gas, go to next step.
7. Turn gas knob counterclockwise  to "ON" position.
8. Replace panel remove in Step 4.
9. Turn on all electrical power to the unit.
10. Set thermostat to desired temperature and move the selector switch to the "ON" position. The unit will now operate automatically.
11. If the unit will not operate, follow the instructions "TO TURN OFF GAS TO UNIT" (under HEATING SYSTEM SHUTDOWN) and call your service technician or gas supplier.

Important Note: The unit is to be adjusted to obtain an air rise that is specified on the nameplate.

HEATING SYSTEM

HEATING SYSTEM SHUTDOWN

To shut down the heating system for brief periods of time, simply adjust the thermostat selector switch to the "OFF" position.

If you need to turn the gas off to the unit, follow the steps below:


TO TURN OFF GAS TO UNIT

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the unit. If service is to be performed.
3. Remove the access panel that contains the following label:

**REMOVE THIS PANEL TO GAIN
ACCESS TO THE GAS VALVE**

The following warning complies with State of California law, Proposition 65.

▲WARNING: This product contains fiberglass wool insulation! Fiberglass dust and ceramic fibers are believed by the State of California to cause cancer through inhalation. Glasswool fibers may also cause respiratory, skin, or eye irritation.

4. Turn gas control knob clockwise  to the "OFF" position. See Figure 2.

NOTE: Some valves require the knob to be pushed in slightly before turning.

DO NOT FORCE!

5. Replace panel removed in Step 3 above.

CAUTION: If this is done during the cold weather months, provisions must be taken to prevent freeze-up of all water pipes and water receptacles. Whenever your home or building is to be vacant, arrange to have someone inspect your structure for proper temperature. This is very important in below freezing weather. If for any reason your furnace should fail to operate, damage such as frozen water pipes could result.

The following warning complies with State of California law, Proposition 65.

▲WARNING: Hazardous Gasses! Exposure to fuel substances or by-products of incomplete fuel combustion is believed by the state of California to cause cancer, birth defects, or other reproductive harm.

COOLING SYSTEM

COOLING SYSTEM START-UP AND OPERATION

Once electrical power is supplied to the unit, cooling operation is controlled by the thermostat. With the thermostat selector switch set at COOL, move the cooling adjustment lever to its lowest setting to energize the unit cooling system. Now that the unit is operating, cool air will begin to circulate through your building. Finally, reposition the cooling adjustment lever to the desired room temperature; your unit will continue to operate in the cooling mode automatically.

COOLING SYSTEM SHUTDOWN

If you wish to shut down the cooling system, the best method is to move the thermostat selector switch to the OFF position.

To shut down the unit completely, turn off the main electrical power supply to the unit.

Anytime you think the cooling system is not operating properly, shut down unit operation at the thermostat and contact a serviceman for instructions.

AIR FILTERS

AIR FILTERS

Filters are to be used with the DCY024-060F heating/cooling units. The basic unit does not have filters in it. However, a filter accessory is offered that will allow filters to be installed in the unit. Otherwise a filter rack must be installed by the installer in the duct work. Affix filter label supplied with the unit adjacent to the filter area.

Filters must be installed in the return air system.

* Based on 300 FPM face velocity.

** If permanent filters are used, be sure to size following the manufacturer's recommendations with a clean filter resistance of 0.05 inches of water column.

TABLE 1 -- FILTER DATA

UNIT	NOMINAL CFM	FILTER* (Sq Ft) SIZE	FILTER RESISTANCE
DCY024F	800	2.67	0.05
DCY030F	1000	3.33	0.05
DCY036F	1200	4.00	0.05
DCY048F	1600	5.33	0.05
DCY060F	2000	6.67	0.05

ROUTINE MAINTENANCE

You can do some of the periodic maintenance functions for the unit yourself; this includes replacing (disposable) or cleaning (permanent) the air filters, cleaning the cabinet, cleaning the condenser coil, and conducting a general unit inspection on a regular basis.

⚠ WARNING: BEFORE REMOVING UNIT ACCESS PANELS TO SERVICE UNIT, OPEN UNIT DISCONNECT SWITCH TO PREVENT INJURY OR DEATH DUE TO ELECTRICAL SHOCK OR CONTACT WITH MOVING PARTS.

AIR FILTERS

It is very important to keep the central duct system air filters clean. Be sure to inspect them at least once each month when the system is in constant operation. (In new homes, check the filters at least every week for the first 4 weeks.)

If you have disposable-type filters replace them with new filter of the same type and size. **DO NOT ATTEMPT TO CLEAN DISPOSABLE FILTERS.**

Permanent-type filters can be cleaned by washing them with a mild detergent and water. Make sure that the filters are thoroughly dry before reinstalling them in the unit. (or duct system).

NOTE: It may be necessary to replace permanent filter annually if washing fails to clean the filter, or if the filter shows signs of deterioration. Be sure to use the same type and size as was originally installed.

UNIT CABINET

Even though the unit cabinet is designed to withstand exposure to outdoor weather, you can extend the life of the cabinet panel by cleaning and waxing then twice each year. Application of a light coat of automobile wax is recommended.

CONDENSER COIL

Unfiltered air circulates through the unit's condenser coil and can cause the coil's surface to become clogged with dust, dirt, etc. To clean the coil, vertically (i.e., with the fins) stroke the coil surface with a soft-bristled brush.

Be sure to keep all vegetation away from the condenser coil area.

GENERAL UNIT INSPECTION

Occasionally check over the unit; look and listen for unusual or abnormal operating characteristics. Do not remove any access panels. If you suspect your unit is not operating properly, contact a serviceman for instructions.

MAINTENANCE PERFORMED BY SERVICEMAN

COOLING SEASON

To keep your unit operating safely and efficiently, The Company recommends that a qualified serviceman check over the entire system at least once a year, and any other time that you feel one is needed. Your serviceman may examine these areas of the unit:

1. **filters** (for possible cleaning)
2. **motors** (condenser and evaporator motors are permanently lubricated)
3. **gaskets** (for possible replacement)
4. **refrigerant coils** (for possible cleaning)
5. **safety controls** (for mechanical cleaning)
6. **electrical components and wiring** (for possible replacement and connection tightness)
7. **condensate drain** (for possible cleaning)
8. inspect the unit duct connections to see that they are physically sound and sealed to the unit casing.
9. inspect the unit mounting support to see that it is sound.
10. inspect the unit to see that there is no obvious unit deterioration.

HEATING SEASON

Complete the unit inspections and service routines described below at the beginning of each heating season.

⚠ WARNING: TO PREVENT INJURY OR DEATH DUE TO ELECTRICAL SHOCK OR CONTACT WITH MOVING PARTS, LOCK UNIT DISCONNECT SWITCH IN OPEN POSITION BEFORE SERVICING UNIT.

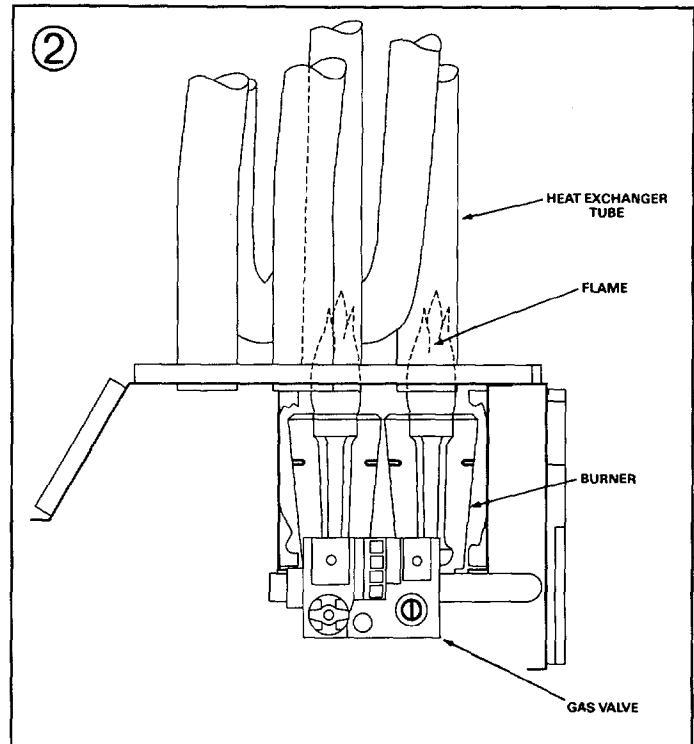
⚠ WARNING: TO PREVENT AN EXPLOSION OR POSSIBLE INJURY, DEATH AND EQUIPMENT DAMAGE, DO NOT STORE COMBUSTIBLE MATERIALS, GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS NEAR THE UNIT.

These steps should **ONLY** be performed by qualified service technicians.

1. Inspect the control panel wiring and heating controls to make sure connections are tight and wiring insulation is intact.
 - a. Turn the unit on and off at the thermostat to be sure the ignition control and spark electrode are operating.

MAINTENANCE PERFORMED BY SERVICEMAN

- b. Turn off the gas supply with the unit operating to verify that the gas valve closes, and that a re-ignition cycle is initiated by the ignition control.
2. Check the operation of the gas ignition system.
3. Check the burner manifold pressure. An 1/8-inch pipe plug is provided in the gas valve for this purpose.
4. Inspect the control panel wiring to verify that all electrical connections are tight, and that wire insulation is intact.
5. Visually inspect all of the unit's flue product passage-ways for excessive deposit buildup and corrosion. If buildup or corrosion is apparent, perform the necessary repairs.
6. Arrange for a qualified serviceman to inspect the unit ever other heating season to maintain safe and efficient operation.
7. Visually check the main burner flames. They should be bright blue flames extending up to the heat exchanger sections. (See Figure 2.)
8. Never store anything flammable or combustible around or near the unit.



The following warning complies with State of California law, Proposition 65.

⚠ WARNING: This product contains fiberglass wool insulation! Fiberglass dust and ceramic fibers are believed by the State of California to cause cancer through inhalation. Glasswool fibers may also cause respiratory, skin, or eye irritation.

PRECAUTIONARY MEASURES

- Avoid breathing fiberglass dust.
- Use a NIOSH approved dust/mist respirator.
- Avoid contact with the skin or eyes. Wear long-sleeved, loose-fitting clothing, gloves, and eye protection.
- Wash clothes separately from other clothing: rinse washer thoroughly.
- Operations such as sawing, blowing, tear-out, and spraying may generate fiber concentrations requiring additional respiratory protection. Use the appropriate NIOSH approved respirator in these situations.

FIRST AID MEASURES

- Eye Contact** - Flush eyes with water to remove dust. If symptoms persist, seek medical attention.
- Skin Contact** - Wash affected areas gently with soap and warm water after handling.

LIMITED WARRANTY

COMBINATION HEAT PUMP/GAS-ELECTRIC DCY AND DCX MODELS

Models less than 20 tons for Residential use*
Single-phase electric power,
(Parts Only)

This warranty is extended by American Standard Inc., to the original purchaser and to any succeeding owner of the real property to which the **Combination Heat Pump/Gas-Electric** is originally affixed, and applies to products purchased and retained for use within the U.S.A.

If any part of your **Combination Heat Pump/Gas-Electric** fails because of a manufacturing defect within two years from the date of original purchase, Warrantor will furnish without charge the required replacement part. **Any local transportation, related service labor, diagnosis calls, air filters, refrigerant and related items are not included.**

In addition, if the sealed motor-compressor or the outdoor coil becomes defective because of a manufacturing defect within the third through tenth year from the date of original purchase, Warrantor will furnish without charge a replacement compressor or outdoor coil. **Any local transportation, related service labor, diagnosis calls, refrigerant and related items are not included.**

In addition, if the steel heat exchanger fails because of a manufacturing defect within the third through twentieth year from the date of original purchase, Warrantor will furnish without charge a replacement heat exchanger. **Any local transportation, related service labor and diagnosis calls are not included.**

This warranty does not cover failure of your **Combination Heat Pump/Gas-Electric** if it is damaged while in your possession or if the failure is caused by improper maintenance or unreasonable use. In no event shall Warrantor be liable for incidental or consequential damages. **In no event shall any implied warranty of merchantability or fitness for use exceed the term of the limited warranty stated above.**

Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Parts will be provided by our factory or an authorized service organization in your area. All you need do is look us up in the yellow pages or write to the address given below. If you wish further help or information concerning this warranty, contact:

American Standard Inc.
Troup Highway
Tyler, Texas 75711-9010
Attention: Manager, Product Service

GW-535-1094

* This is a use other than commercial. A commercial use is any application where the end purchaser uses the product for other than personal, family or household purposes.

LIMITED WARRANTY

COMBINATION HEAT PUMP/GAS ELECTRIC DCY and DCX Models for Commercial Use* Models less than 20 tons

Single or Three-phase electric power
(Parts Only)

This warranty is extended by American Standard Inc., to the original purchaser and to any succeeding owner of the real property of which the **Combination Heat Pump/Gas-Electric** is an original fixture, and applies to products purchased and retained for use within the U.S.A. **There is no warranty against corrosion, erosion or deterioration.**

If any part of your **Combination Heat Pump/Gas-Electric** fails because of a manufacturing defect within one year from the date of original purchase, Warrantor will furnish without charge the required replacement part.

In addition, if the sealed motor-compressor fails because of a manufacturing defect within the second through fifth year from the date of original purchase, Warrantor will furnish without charge a replacement compressor.

In addition, if the steel heat exchanger fails because of a manufacturing defect within the second through fifth year from the date of original purchase, Warrantor will furnish without charge a replacement heat exchanger.

Warrantor's obligations and liabilities under this warranty are limited to furnishing, F.O.B. factory or warehouse at Warrantor designated shipping point, freight allowed to Buyer's city, replacement parts for Warrantor's products covered under this warranty. Warrantor shall not be obligated to pay for the cost of lost refrigerant. No liability shall attach to Warrantor until products have been paid for and then liability shall be limited solely to the purchase price of the equipment shown to be defective.

THE WARRANTY AND LIABILITY SET FORTH HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES AND LIABILITIES, WHETHER IN CONTRACT OR IN NEGLIGENCE, EXPRESS OR IMPLIED, IN LAW OR IN FACT, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR USE, IN NO EVENT SHALL WARRANTOR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

American Standard Inc.
Troup Highway
Tyler, Texas 75711-9010
Attention: Manager, Product Service

GW-536-1094

* Commercial Use is any application where the end purchaser uses the product for other than personal, family or household purposes.

American Standard Inc.
6200 Troup Highway
Tyler, TX 75711-9010

