Gibson P6SD-X Single Package Cooling Unit User Manual

Gibson®

USER'S MANUAL

Contents

Single Package Cooling Unit or Heat Pump Unit

IMPORTANT! Please read all information in this manual thoroughly and become familiar with the capabilities and use of your appliance before attempting to operate or maintain this unit. Pay attention to all safety warnings and any other special notes highlighted in the manual. Safety markings are used frequently throughout this manual to designate a degree or level of seriousness and should not be ignored. WARNING indicates a potentially hazardous situation that if not avoided, could result in personal injury or death. CAUTION indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage. Keep this literature where you have easy access to it in the future. If a problem occurs, check the instructions and follow recommendations given. If these suggestions don't eliminate your problem, call your servicing contractor. Do not attempt to service this unit yourself!

SAFETY INFORMATION

⚠WARNING:
This single package electric cooling / heat pump contains liquid and gaseous refrigerant under pressure. Installation and servicing should only be attempted by qualified, trained personnel thoroughly familiar with the equipment and safe responsible refrigerant handling procedures. Failure to comply with this warning could result in equipment damage, personal injury, or death.

⚠WARNING:
To avoid possible equipment damage, fire, or personal injury, the following instructions must be observed regarding unit maintenance and operational procedures.

- To achieve optimum performance and minimize equipment failure, it is recommended that periodic maintenance be performed on this unit. The ability to properly perform maintenance on this equipment requires certain mechanical skills and tools.
- The area around the unit and the vicinity of any other appliances must be kept clear and free of combustible materials and other flammable vapors and liquids. Some examples of these chemicals are:

– Gasoline / Kerosene
– Permanent wave solutions
– Chlorinated waxes and cleaners
– Chlorine based swimming pool chemicals
– Water softening chemicals
– De-icing salts or chemicals
– Carbon tetrachloride
– Halogen type refrigerants
– Cleaning solvents
– Cements, glues, paint removers, varnishes, etc.
– Hydrochloric acid
– Masonry acid washing materials

- The top and sides of the unit must be open and clear of obstructions for proper airflow. Do not place anything on top of the fan grille or within 12 inches of all 4 sides of the unit. These clearances must be maintained to achieve rated performance.
  Do not use the area around the unit as a storage area.
- Do not use this appliance if any part has been under water.
  Immediately call a qualified service technician to inspect the unit and to replace any part of the electrical control system that has been under water.
- Familiarize yourself with the controls that shut off the electrical power to the unit. If the unit is to be shut down for an extended period of time, turn off the electrical power. For your safety always turn off the electrical power before performing service or maintenance.
- Do not block or obstruct air openings on the unit or air openings supplying the area where it is installed.
- The duct connections must be physically sound and sealed to the unit's casing. The return air and circulating air ductwork must not be connected to any other heat producing device such as a fireplace insert, stove, etc. Improperly installed ductwork may result in fire, explosion, personal injury, carbon monoxide poisoning, or property damage.

TROUBLESHOOTING

Before you call a Technician, check the following:

- Check the thermostat setting. Make sure the system mode and temperature settings are correct.
- Check the electrical panel for tripped circuit breakers.
- Check the filters for dust accumulation.
- Check the unit and make sure it is clean and not covered with grass or leaves.
- If the items above don't resolve your problems, then call your installing dealer.

WARRANTY INFORMATION

A warranty certificate with full details is included with the equipment. Carefully review these responsibilities with your dealer or service company. The manufacturer will not be responsible for any costs found necessary to correct problems due to improper
setup, improper installation, adjustments, improper operating procedure on the part of the user. Some specific examples of service calls which are not included in the limited warranty are:

- Correcting wiring problems in the electrical circuit supplying the equipment.
- Resetting circuit breakers or other switches.
- Adjusting or calibrating of thermostat.

COOLING UNITS

ABOUT THE COOLING UNIT

The single packaged electric cooling unit is a high efficient self contained appliance that will cool your home and provide energy saving comfort. Additional features and benefits of the cooling include:

- Indoor and outdoor coils are designed to optimize heat transfer, minimize size and cost, and increase durability and reliability.
- Environmentally friendly R-410A Refrigerant.

OPERATING INSTRUCTIONS

Thermostat styles vary. Some models may not include the AUTO mode and others will have the AUTO in place of the HEAT and COOL. Others may include all three. Please refer to the thermostat manufacturer's User manual for detailed programming instructions.

The thermostat should be mounted about 5 feet above the floor on an inside wall and not on an outside wall or other location where its operation may be adversely affected by radiant heat from fireplaces, sunlight, or lighting fixtures, and convective heat from warm air registers or electrical appliances.

Cooling Operation – 1 or 2-Stage Operation

1. Set the thermostat system mode to COOL and the thermostat fan mode to AUTO. See Figure 1.
2. Set the thermostat temperature selector to the desired temperature level. The outdoor fan, compressor, and indoor blower will all cycle on and off to maintain the indoor temperature at the desired cooling level.

   NOTES:

   • On some select models, if the cooling level is not satisifed by the thermostat in stage 1, the thermostat will initiate to stage 2 and the indoor blower will ramp to a higher speed.

   • If the temperature level is re-adjusted, or the system mode is reset, the fan and compressor in the outdoor unit may not start immediately. There may be a protective timer circuit in the thermostat which holds the compressor and the outdoor fan off for approximately 5 minutes following a previous operation or the interruption of the main electrical power.

Heating Operation – Optional Electric Heat

1. Set the thermostat system mode to Heat and the thermostat fan mode to AUTO. See Figure 1.
2. Set the thermostat temperature selector to the desired temperature level. The indoor blower or electric heat module will cycle on and off to maintain the indoor temperature at the desired heating level.

System Shutdown

Set the thermostat system mode to OFF and the thermostat fan mode to AUTO. See Figure 1. NOTE: The system will not operate, regardless of the thermostat temperature selector's setting.

y not include the O in place of the detailed Operating the Indoor Blower Continuously Set the thermostat fan mode to ON (or CONT on some thermostat models). See Figure 1.

The indoor blower will start immediately, and will run continually until the fan mode is reset to AUTO.

The continuous indoor blower operation can be obtained with the thermostat system mode set in any position, including OFF. The continuous indoor blower operation is typically used to circulate the indoor air to equalize a temperature imbalance due to a solar load, cooking, or fireplace operation.

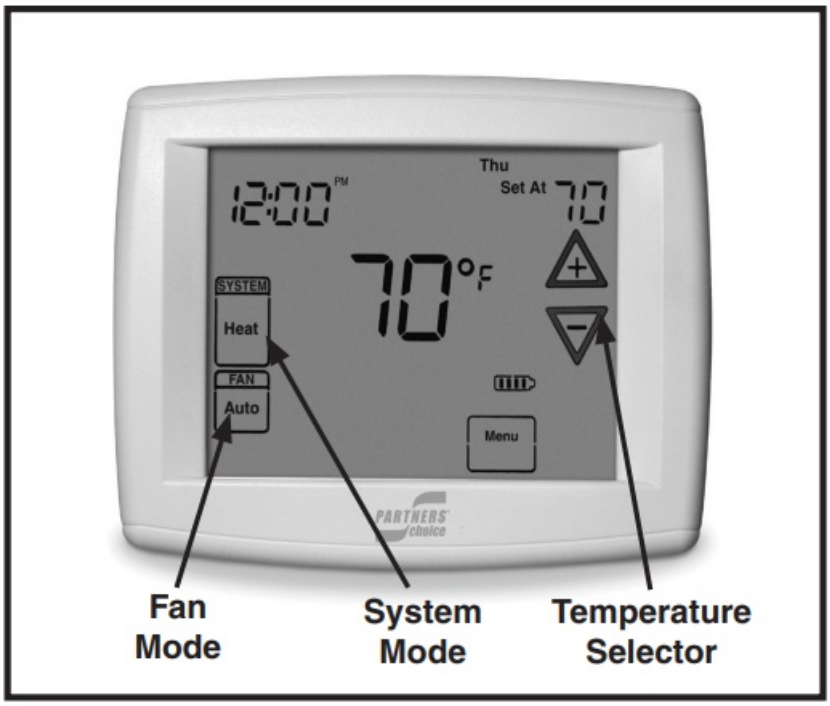

Figure 1. Digital Thermostat

HEAT PUMP UNITS

ABOUT THE HEAT PUMP

Your heat pump is a unique, all weather comfort-control appliance that will heat and cool your building year round and provideenergy saving comfort. It's an unknown fact that heat is always in the air, even when the outside temperature is below freezing.

The heat pump uses basic laws of physics to provide energy saving heat during the winter months.

In colder temperatures, the heat pump performs like an air conditioner run in reverse. Available heat energy outside the building is absorbed by the refrigerant and exhausted inside.

This efficient process means you only pay for "moving" the heat from the outdoors to the indoor area. You do not pay to generate the heat, as is the case with more traditional furnace designs.

During summer, the heat pump reverses the flow of the heatabsorbing refrigerant to become an energy-efficient, central air conditioner. Excess heat energy inside the home is absorbed by the refrigerant and exhausted outside the building.

OPERATING INSTRUCTIONS

Thermostat styles vary. Some models will not include the AUTO mode and others will have the AUTO in place of the HEAT and COOL. Others may include all three. Please refer to the thermostat manufacturer's User Manual for detailed programming instructions.

The thermostat should be mounted about 5 feet above the floor on an inside wall and not on an outside wall or other location where its operation may be adversely affected by radiant heat from fireplaces, sunlight, or lighting fixtures, and convective heat

from warm air registers or electrical appliances.

NOTE: If the temperature level is re-adjusted, or the system mode is reset, the fan and compressor in the outdoor unit may not start immediately. A protective timer circuit holds the compressor and the outdoor fan off for approximately 5 minutes following a

previous operation or the interruption of the main electrical power.

Cooling Operation (1 or 2 Stage Operation)

1. Set the thermostat system mode to COOL and the thermostat fan mode to AUTO. See Figure 1.
2. Set the thermostat temperature selector to the desired temperature level. The outdoor fan, compressor, and indoor blower will all cycle on and off to maintain the indoor temperature at the desired cooling level.

NOTE: On some select models, if the cooling level is not satisifed by the thermostat in stage 1, the thermostat will initiate to stage 2 and the indoor blower will ramp to a higher speed.

Heating Operation – Heat Pump Mode

1. Set the thermostat's system mode to HEAT or AUTO and change the fan mode to AUTO. See Figure 1 (pg 3).
2. Set the temperature selector to the desired temperature level. The compressor, outdoor fan, and blower motor will cycle on and off to maintain the indoor temperature at the desired heating level.

   NOTES:

   • If the heating level is not satisifed by the thermostat in stage 1, the thermostat will initiate to stage 2 and the indoor blower will ramp to a higher speed.

   • On some thermostats, if the heating load on the conditioned space is not met in a normal period of time or the difference between the thermostat set point and room temperature is large, the heat pump will automatically shut off and the electric heat will operate until the thermostat demand for heat is met.

Emergency Heat – Electric Heat mode

Heat pump thermostats include a system mode called EM HT or AUX HT, etc. This is a back-up heating mode that should only be used if a problem is suspected. With the mode set to EM HT, etc., the compressor and outdoor fan will be locked off and electric heat will be used as a source of heat. Sustained use of electric heat in place of the heat pump will result in an increase in this utility cost. Refer to the thermostat manual for more info.

Defrost Operation

During cold weather heating operation, the outdoor unit will develop a coating of snow and ice on the heat transfer coil. This is normal and the unit will defrost itself. This unit will monitor ambient and coil temperatures to regulate the defrost function accordingly.

At the beginning of the defrost cycle, both the outdoor condenser fan and compressor will turn off. After approximately 30 seconds, the compressor will turn on and begin to heat the outdoor coil
causing the ice and snow to melt.

During the defrost period, the electric heat will energize and produce warm air to offset the heat pump operation while in its reverse cycle. Initially the air out of the supply registers may be slightly cooler since the heat pump has reversed its cycle and is now in the cooling mode to aide in the defrosting of the outdoor coil. The air will rise in temperature as the electric heatcontinues to operate.

NOTE: While the ice and snow is melting, some steam may rise from the outdoor unit as the warm coil causes the melting frost to evaporate. When defrost is completed, the outdoor fan motor will start, and the compressor will turn off again. In approximately 30 seconds the compressor will start up again and continue normal operation. The electric heat will shut down at the end of the defrost cycle.

Automatic Cooling & Heating Operation

1. Set the thermostat system mode to AUTO and the thermostat fan mode to AUTO. See Figure 1 (page 3).
2. Set the thermostat's temperature selector to the desired heating and cooling temperature level(s). The outdoor unit and the indoor blower will then cycle on and off in either the heating or cooling mode of operation as required to automatically maintain the indoor temperature within the desired limits.

Operating the Indoor Blower Continuously

The continuous indoor blower operation is typically used to circulate the indoor air to equalize a temperature imbalance due to a solar load, cooking, or fireplace operation. Set the thermostat fan mode (Figure 1) to ON (or CONT on some thermostat models). The indoor blower will start immediately, and will run continually until the fan mode is reset to AUTO.

The continuous indoor blower operation can be obtained with the thermostat system mode set in any position, including OFF.

System Shutdown

Set the thermostat system mode (Figure 1) to OFF and the thermostat fan mode to AUTO. NOTE: The system will not operate, regardless of the thermostat temperature selector's setting.

MAINTENANCE INFORMATION

SYSTEM MAINTENANCE

CAUTION:
Verify all electrical power to the unit is shut off before performing the following recommendedmaintenance.'

This single package cooling / heat pump appliance has been tested for capacity and efficiency in accordance with A.H.R.I. Standards and will provide many years of safe and dependable comfort, providing it is properly installed and maintained. With regular maintenance, this unit will operate satisfactorily year after year. Abuse, improper use, and/or improper maintenance can shorten the life of the appliance and create unsafe hazards. A regular service and maintenance schedule should be established to ensure efficient and safe operation of the unit.
Proper maintenance is most important to achieve the best performance from the appliance and should be performed by a qualified service technician at least once a year. Follow the maintenance schedule and the instructions below for years of safe, trouble free operation.

- Annually inspect the physical support of the unit to ensure that it is physically sound without sagging, cracks, gaps, etc., around the base so as to provide a seal between the support and the base.
- Annually inspect the return-air connection to ensure that it is physically sound and is still sealed to the casing of the unit. Also inspect the unit and ductwork for signs of physical deterioration.
- Always replace the doors on the unit after servicing. Do not operate the unit without all doors and covers in place. Avoid operating the unit when windows and doors are open.
- Refer to the Maintenance Schedule for recommended maintenance information.

Regular Cleaning

⚠**CAUTION:**
DO NOT make contact with any of the internal electrical components while cleaning the unit.

- Remove any leaves and grass clippings from the outdoor coil.
  IMPORTANT: Be careful not to damage the aluminum fins.
  Check for and remove any obstructions such as twigs, sticks, etc.

Air Filters

⚠**WARNING:**
Never operate the unit without a filter in the return air system. Dust and lint in the return air can build up on the internal components, resulting in loss of efficiency, equipment damage, and possible fire risk.

This unit is not supplied with air filter(s) and has no means for accommodating internal air filter(s). The installer is responsible for installing a filtration system into the return air duct of this system. The filter(s) of this system should be checked monthly.
It is very important to replace or clean the filter(s) installed in the return air duct of this system. A clogged filter will cause airflow related problems and reduce the overall efficiency of your unit.
Depending upon which type of filter was installed with your unit, clean (permanent) or replace (disposable) filter(s) of your system at the beginning of every heating season, the beginning of every cooling season, and when an accumulation of dust and dirt are visible on the filter. IMPORTANT: Replace disposable filter(s) installed in your system only with the same size dimensional filters that are being replaced. Clean permanent filter(s) as described

by the manufacturer.

MAINTENANCE ITEM	FREQUENCY OF MAINTENANCE	
	BEGINNING OF EACH SEASON	MONTHLY
Verify area around the unit is free of combustible materials	X	X
Verify ventilation air is not restricted	X	X
Verify no signs of physical deterioration of the equipment	X	X
Inspect unit support	X	
Inspect return air connections	X	
Clean or replace filter(s)		X

Maintenance Schedule

We Encourage Professionalism
Through Technician Certification by NATE

www.ahridirectory.org

IMPORTANT – This product has been designed and manufactured to meet ENERGY STAR criteria for energy efficiency. However, proper refrigerant charge and proper air flow are critical to achieve rated capacity and efficiency. Installation of this product should follow the manufacturer's refrigerant charging and air flow instructions. Failure to confirm proper charge and airflow may reduce energy efficiency and shorten equipment life. THIS APPLIES TO 15 SEER MODELS ONLY.

YOUR ENVIRONMENT OUR EXPERTISE MEMBER COMPANY

Specifications & illustrations subject to change without notice or incurring obligations (01/22).

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Documents / Resources

	Gibson P6SD-X Single Package Cooling Unit [pdf] User Manual P6SD-X Single Package Cooling Unit, P6SD-X, Single Package Cooling Unit, Package Cooling Unit, Cooling Unit, Unit

References

- TCPDF
- User Manual