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› Goodman 15.2 SEER2 Central Split Unit Heat Pump AC/Heating System User Manual

Goodman GLZS4BA2410 / AMST24BU1300

Goodman 15.2 SEER2 Central Split Unit Heat Pump AC/Heating System User Manual

Models: GLZS4BA2410 / AMST24BU1300

1. INTRODUCTION

This manual provides essential information for the installation, operation, maintenance, and troubleshooting of your Goodman 15.2 SEER2 Central Split Unit Heat Pump AC/Heating System. This system is designed to provide efficient heating and cooling for your home, featuring a 2-Ton, 24000 BTU capacity, a single-stage HVAC system, and R32 refrigerant. It includes a 5kW backup heat kit and a non-programmable thermostat.

Please read this manual thoroughly before attempting any installation or operation. Proper installation and maintenance are crucial for optimal performance, energy efficiency, and safety.



Image 1.1: Overview of the Goodman Heat Pump System, including the outdoor condenser unit, indoor air handler, and thermostat.

2. SAFETY INFORMATION

WARNING: Installation and servicing of this HVAC system must be performed by a qualified, licensed HVAC technician. Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or death.

- Always disconnect power to the unit before performing any maintenance or service.
- Refrigerant handling requires specialized training and equipment. Do not attempt to handle refrigerant yourself.
- Ensure proper grounding of all electrical components.
- Wear appropriate personal protective equipment (PPE) during installation and servicing.

- Keep children and pets away from the unit during operation and maintenance.

3. PACKAGE CONTENTS

Your Goodman HVAC system package typically includes the following components:

- Goodman Heat Pump Condenser (Outdoor Unit)
- Goodman Air Handler (Indoor Unit)
- Non-Programmable Thermostat (2 Heat / 1 Cool)
- 5kW Backup Heat Kit
- Installation and User Manuals

4. SETUP AND INSTALLATION

Installation of this central split unit heat pump system requires specialized knowledge and tools. It is mandatory that installation be performed by a certified HVAC professional to ensure safety, compliance with local codes, and proper system operation. Incorrect installation will void the warranty and can lead to serious hazards.

4.1 Key Installation Considerations:

- **Site Selection:** The outdoor condenser unit and indoor air handler must be placed in locations that allow for proper airflow, drainage, and accessibility for maintenance.
- **Refrigerant Lines:** The system uses R32 refrigerant. Proper sizing and connection of liquid and suction lines are critical. The condenser comes pre-charged with enough R32 to fill itself, a coil, and 15ft of line set.
- **Electrical Connections:** Ensure all electrical wiring complies with local and national electrical codes. The system requires 208/230 V, 1 Ph, 60 Hz power.
- **Ductwork:** Existing or new ductwork must be properly sealed and sized for efficient air distribution.
- **Thermostat Wiring:** Connect the thermostat according to the wiring diagram provided with the thermostat and air handler.
- **Backup Heat Kit:** The 5kW backup heat kit integrates with the air handler for supplemental heating.



Image 4.1: Dimensional measurements for the outdoor condenser unit (29.00"D x 29.00"W x 32.50"H) and indoor air handler (17.56"D x 21.00"W x 45.00"H).

5. OPERATING INSTRUCTIONS

Your system includes a 2 Heat / 1 Cool non-programmable thermostat. This thermostat provides basic control over your heating and cooling system.

THERMOSTAT INCLUDED



Unit includes a 2-heat / 1-cool non-programmable thermostat featuring memory retention, compressor protection, and adjustable limits. It operates on hardwire or two AAA batteries (not included).

Image 5.1: The non-programmable thermostat included with the system, featuring memory retention, compressor protection, and adjustable limits. It can be hardwired or powered by two AAA batteries (not included).

5.1 Thermostat Functions:

- **System Mode Switch:** Selects operation mode:
 - **COOL:** Activates the air conditioning function.
 - **OFF:** Turns the system off.
 - **HEAT:** Activates the heat pump or backup heat for heating.
- **Fan Mode Switch:** Controls the indoor fan operation:
 - **AUTO:** Fan runs only when heating or cooling is active.
 - **ON:** Fan runs continuously.
- **Temperature Adjustment:** Use the up/down buttons to set your desired temperature.

5.2 Heat Pump Operation:

Heat pumps efficiently transfer heat, providing both cooling in summer and heating in winter. In colder outdoor temperatures (typically below 32°F), the system may automatically engage the 5kW backup heat kit to supplement the heat pump and maintain desired indoor temperatures.

HEAT PUMP VS AC ONLY



Heat pumps are widely used in electric systems, efficiently generating heat even in **outdoor temperatures as low as 32°F**.

In very cold weather, the heat pump may have difficulty keeping your home warm. In such situations, the system turns on the furnace or heat kit, which may be more expensive to operate. However, if you have a heat pump that works well even in milder temperatures, you can **save a lot of money on your utility and heating bills!**

Heat pumps cost more initially compared to AC units, but they save more money in the long run. That's why they are the **preferred choice for all-electric HVAC system units**.

Image 5.2: Explanation of heat pump functionality, highlighting its ability to provide efficient heating even in outdoor temperatures as low as 32°F, and the role of backup heat in very cold conditions.

6. MAINTENANCE

Regular maintenance is essential for the longevity, efficiency, and reliable operation of your Goodman HVAC system. Always ensure power is disconnected before performing any maintenance.

6.1 Air Filter Replacement:

- The air handler uses a filter size of 16" W x 20" L (406.4 x 508 mm).
- Check the air filter monthly and replace it every 1-3 months, or more frequently if you have pets or allergies. A dirty filter restricts airflow and reduces system efficiency.

6.2 Outdoor Unit Cleaning:

- Periodically clear away any debris (leaves, grass clippings, dirt) from around the outdoor condenser unit to ensure proper airflow.
- Gently rinse the outdoor coil with a garden hose to remove accumulated dirt. Avoid using high-pressure washers.

6.3 Professional Servicing:

- Schedule annual maintenance with a qualified HVAC technician. This includes checking refrigerant levels, electrical connections, coil cleanliness, and overall system performance.

7. TROUBLESHOOTING

Before contacting a service technician, review the following common issues and potential solutions:

Problem	Possible Cause	Solution
System not turning on	No power, thermostat settings, tripped breaker	Check circuit breaker, ensure thermostat is set to HEAT/COOL, check thermostat batteries (if applicable).
No heating or cooling	Dirty air filter, blocked outdoor unit, low refrigerant, thermostat issue	Replace air filter, clear debris from outdoor unit. For refrigerant or thermostat issues, contact a technician.
Weak airflow	Dirty air filter, blocked vents, ductwork issues	Replace air filter, ensure all vents are open and unobstructed. Inspect ductwork for leaks or blockages.
Unusual noises	Loose parts, motor issues, refrigerant problems	Turn off the system immediately and contact a qualified technician for diagnosis and repair.

If these steps do not resolve the issue, contact a qualified HVAC technician for further assistance.

8. SPECIFICATIONS

8.1 Heat Pump Condenser (Outdoor Unit) - Model GLZS4BA2410:

- **Cool/Heat Tonnage:** 2 Ton
- **Cool/Heat Output:** 24,000 BTU/h
- **AC Efficiency (SEER2):** 14.3 - 15.2
- **Heat Efficiency (HSPF2):** 7.5 - 7.8
- **Electrical Information:** 15 Amps - 208/230 V, 1 Ph, 60 Hz
- **Sound Operation:** 74.0 (dBA) lvl
- **Equipment Weight:** 150 (lbs)
- **Condenser Stage:** Single Stage
- **Compressor Type:** Rotary Type
- **Refrigerant:** R32 (Pre-charged for unit + 15ft line set)
- **Refrigerant Line Size:** Liquid Line 3/8" (9.52 mm) OD, Suction Line 3/4" (19.05 mm) OD
- **Product Dimensions:** 29"D x 29"W x 32.5"H

FEATURE DETAILS

COOL/HEAT TONNAGE: 2 Ton

COOL/HEAT OUTPUT: 24,000 BTu/h

AC EFFICIENCY: 14.3 - 15.2 SEER2

HEAT EFFICIENCY: 7.5 - 7.8 HSPF2

ELECTRICAL INFORMATION:

15 Amps - 208/230 V, 1 Ph, 60 Hz

SOUND OPERATION: 74.0 (dBA) lvl

EQUIPMENT WEIGHT: 150 (lbs)

CONDENSER STAGE: Single Stage

COMPRESSOR TYPE: Rotary Type

REFRIGERATION DATA:

Sweat Valve, Comes pre-charged with enough R32 to fill itself, a coil, and 15ft of line set.

REFRIGERANT LINE SIZE:

Liquid Line 3/8" (9.52 mm) OD

Suction Line 3/4" (19.05 mm) OD

REFRIGERANT CONNECTION SIZE:

Liquid Valve 3/8" (9.52 mm) OD

Suction Valve 3/4" (19.05 mm) OD



Image 8.1: Detailed specifications for the outdoor condenser unit, including cooling/heating capacity, efficiency ratings, electrical requirements, and refrigerant data.

8.2 Air Handler (Indoor Unit) - Model AMST24BU1300:

- **Blower Motor:** Multi-Speed Direct Drive ECM
- **Evaporator Coil:** All-aluminum build with factory-installed TXV kit
- **Electrical:** 208/230 V, 1 Ph, 60 Hz
- **Filter Size:** 16" W x 20" L (ALFH16201E)
- **Multi-Positional:** Upflow, Downflow, or Horizontal installation
- **Sweat Connection:** Liquid Line 3/8" (9.5 mm) ID, Suction Line 3/4" (19.0 mm) ID
- **Backup Heat Kit Options:** 5 kW (16,200 BTU / 30 Amps) included. Other options (10 kW, 15 kW, 20 kW) may be available for different tonnages.
- **Product Dimensions:** 17.56"D x 21.00"W x 45.00"H



AIR HANDLER SPECS

BLOWER MOTOR:
Multi-Speed Direct Drive ECM
3/4 Horsepower and 1215 CFM

EVAPORATOR COIL: Aluminum build

ELECTRICAL: 208/230 V, 1 Ph, 60 Hz

REFRIGERANT: R32 (TXV Metering)

FILTER "ALFH16201E":
16" W x 20" L (406.4 x 508 mm)

MULTI-POSITIONAL:
Upflow, Downflow, or Horizontal

SWEAT CONNECTION:
Liquid Line is 3/8" (9.5 mm) ID
Suction Line is 3/4" (19.0 mm) ID

WARRANTY CONDITIONS:
10 years parts when installed by a tech and registered online with the manufacturer at no charge.

BACK-UP HEAT KIT OPTIONS:
5 KW: 16,200 BTU / 30 Amps
10 KW: 34,100 BTU / 60 Amps
15 KW: (not on this tonnage)
20 KW: (not on this tonnage)

Image 8.2: Specifications for the indoor air handler, detailing the blower motor, evaporator coil, electrical requirements, filter size, and backup heat kit options.

8.3 Certifications:

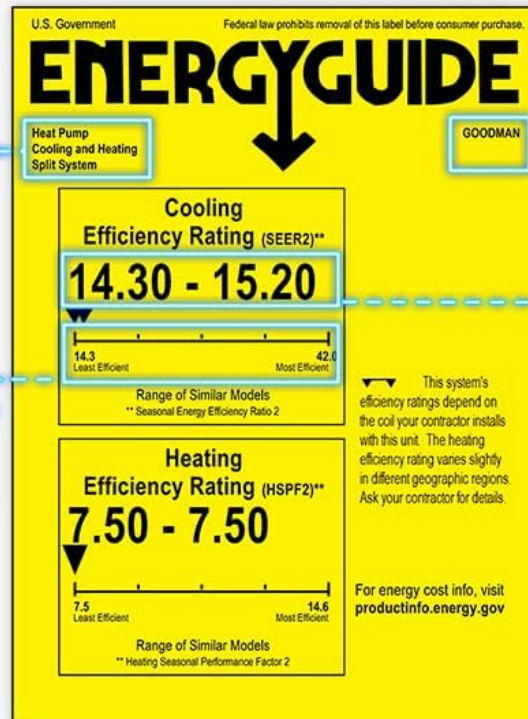
- AHRI Certified
- ETL Listed

ENERGY GUIDE FORMAT

The Energy Guide label provides valuable information on this *heat pump with air handlers' energy efficiency*, helping you compare energy consumption and estimated operating costs.

Displays the primary features of the HVAC equipment and any comparable models contributing to its Efficiency Rating.

Provides a range of Efficiency Ratings (SEER2), from Least Efficient to Most Efficient, to illustrate how the HVAC unit compares to similar models.



Highlighting the manufacturer and model number of the HVAC system unit.

Showing the average Efficiency Rating for a particular model and size of the HVAC unit, which can vary depending on the indoor equipment being used.

Image 8.3: An example of an Energy Guide label, which provides information on cooling and heating efficiency ratings (SEER2 and HSPF2) for HVAC equipment.

9. WARRANTY AND SUPPORT

9.1 Warranty Conditions:

This Goodman HVAC system comes with a **10-year parts warranty** when installed by a qualified technician and registered online with the manufacturer. Failure to register the product or improper installation by an unqualified individual may affect warranty coverage.

9.2 Technical Support:

For technical assistance, warranty claims, or to locate a certified service provider, please refer to the contact information provided on the Goodman manufacturer's website or the documentation included with your product. Always have your model and serial numbers ready when contacting support.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

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