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> Goodman AMST24BU1300 2 TON Multi-Position R-32 Air Handler User Manual

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Model: AMST24BU1300

1. INTRODUCTION AND OVERVIEW

This manual provides essential information for the installation, operation, and maintenance of your Goodman AMST24BU1300 2 TON Multi-Position Multi-Speed ECM Based R-32 Air Handler. This unit is designed to work as part of a complete HVAC system to provide efficient heating and cooling for your indoor environment.

Important Note: This unit is compatible exclusively with R-32 refrigerant. Use of any other refrigerant will void the product warranty. Professional installation by a qualified HVAC technician is required to ensure proper function and warranty validity.



Figure 1: Front view of the Goodman AMST24BU1300 Air Handler.

2. SAFETY INFORMATION

Read and understand all safety precautions before installing, operating, or servicing this air handler. Failure to follow these instructions can result in property damage, personal injury, or death.

- **Electrical Hazard:** Disconnect all electrical power to the unit before performing any maintenance or service. Ensure proper grounding.
- **Refrigerant Handling:** This unit uses R-32 refrigerant. R-32 is a mildly flammable refrigerant. Only qualified and certified HVAC technicians should handle refrigerant.
- **Sharp Edges:** Exercise caution when working with sheet metal parts, as they may have sharp edges.

- **Heavy Equipment:** The air handler is heavy. Use proper lifting techniques and assistance to prevent injury during installation.
- **Professional Installation:** Installation and servicing must be performed by a qualified, licensed HVAC technician.

3. PRODUCT FEATURES

The Goodman AMST24BU1300 Air Handler incorporates several features designed for efficient and reliable performance:

- **Multi-Position Design:** Allows for flexible installation in various orientations (upflow, downflow, horizontal left, horizontal right).
- **Multi-Speed ECM Motor:** Electronically Commutated Motor provides efficient airflow and quiet operation, adapting to system demands.
- **Internal TXV (Thermostatic Expansion Valve):** Optimizes refrigerant flow for enhanced efficiency and performance.
- **R-32 Refrigerant Compatibility:** Designed specifically for use with R-32 refrigerant, an environmentally conscious option.
- **Heat Kit Ready:** Compatible with a variety of optional field-installed HKT heat kits (sold separately) for electric heating capabilities.
- **System Compatibility:** Works with both AC-only condensers and heat pump outdoor units.
- **Air Purification Filter:** Includes features for improved indoor air quality.

4. INSTALLATION AND SETUP

Installation of the Goodman AMST24BU1300 Air Handler must be performed by a qualified HVAC professional. This section outlines general considerations for installation.

4.1 Site Selection and Positioning

The multi-position design allows for installation in various configurations. Ensure the chosen location provides adequate clearance for maintenance, airflow, and condensate drainage. The unit dimensions are approximately 23 x 18.5 x 49 inches (L x W x H).



Figure 2: Goodman AMST24BU1300 Air Handler with approximate dimensions (17.5"D x 21"W x 45"H).

4.2 Ductwork Connection

Connect the supply and return air ducts to the appropriate openings on the air handler. Ensure all connections are sealed to prevent air leakage and optimize system efficiency.

4.3 Refrigerant Line Connection

The air handler must be connected to an R-32 compatible outdoor condenser or heat pump unit using appropriate refrigerant lines. This process involves brazing, evacuation, and charging, which must be

performed by a certified technician.



Figure 3: Internal view of the Goodman AMST24BU1300 Air Handler, showing coils, blower, and control board.

4.4 Electrical Wiring

Connect the air handler to the main electrical supply and the thermostat wiring according to the wiring diagrams provided with the unit. All electrical work must comply with local and national electrical codes.

4.5 Condensate Drainage

Install a condensate drain line with a proper trap to ensure efficient removal of condensed moisture from the evaporator coil. The drain line must have a continuous downward slope to prevent water accumulation.

5. OPERATING INSTRUCTIONS

Once properly installed and commissioned by a qualified technician, your Goodman AMST24BU1300 Air Handler operates in conjunction with your thermostat and outdoor unit.

- **Thermostat Control:** Set your thermostat to the desired temperature and operating mode (Cool, Heat, Auto, Fan On/Auto). The air handler will respond to these settings.
- **Fan Operation:** The multi-speed ECM motor will adjust its speed to deliver the required airflow for optimal comfort and efficiency.
- **Initial Startup:** During the first few hours of operation, it is normal to detect a slight odor as new components "burn in." This should dissipate quickly.

6. MAINTENANCE

Regular maintenance is crucial for the longevity and efficient operation of your air handler. Always disconnect power to the unit before performing any maintenance.

6.1 Air Filter Replacement/Cleaning

Inspect the air filter monthly and replace or clean it as needed, typically every 1-3 months depending on usage and environmental conditions. A dirty filter restricts airflow and reduces efficiency.

6.2 Condensate Drain Line

Periodically check the condensate drain line for blockages. Clear any obstructions to prevent water overflow and potential damage.

6.3 Professional Servicing

It is recommended to have a qualified HVAC technician perform annual maintenance on your entire HVAC system, including the air handler. This includes checking refrigerant levels, electrical connections, and coil cleanliness.

7. TROUBLESHOOTING

If your air handler is not operating correctly, consider the following basic troubleshooting steps. For complex issues, contact a qualified HVAC technician.

- **No Power:** Check the circuit breaker for the unit. Ensure the thermostat is set correctly and has power.
- **Insufficient Airflow:** Check if the air filter is clean. Ensure supply and return vents are not blocked.
- **Unit Not Cooling/Heating:** Verify the thermostat setting. Check the outdoor unit for proper operation. This could indicate a refrigerant issue or a problem with the outdoor unit.
- **Unusual Noises:** Minor noises are normal. Loud or persistent unusual noises may indicate a mechanical issue. Disconnect power and contact a technician.
- **Water Leakage:** Check the condensate drain line for blockages.

Always contact a qualified HVAC technician for diagnosis and repair of any significant issues.

8. SPECIFICATIONS

Feature	Specification
Brand	Goodman
Model Number	AMST24BU1300
Capacity	2 Tons (24,000 BTU)
Refrigerant Type	R-32 ONLY
Motor Type	Multi-Speed ECM
Expansion Valve	Internal TXV

Feature	Specification
Voltage	230 Volts
Product Dimensions (L x W x H)	23 x 18.5 x 49 inches (approximate)
Item Weight	103 pounds
Efficiency (SEER)	14.0 SEER (system dependent)
Special Features	Air Purification Filter

9. WARRANTY INFORMATION

The Goodman AMST24BU1300 Air Handler comes with a **10-year parts only limited warranty**. To validate this warranty, the unit must be:

- Installed by a qualified, licensed HVAC installer.
- Registered online within 60 days of installation. (Online registration is not required in California).

Failure to meet these conditions may result in a voided warranty. For complete warranty details and terms, please refer to the official warranty document provided with your unit or contact Goodman customer support.



Figure 4: Goodman 10 Year Limited Warranty emblem.

10. SUPPORT

For technical assistance, warranty claims, or to locate a qualified service provider, please contact Goodman customer support or visit their official website. Always provide your model number (AMST24BU1300) and serial number when seeking support.

Goodman Official Website: www.goodmanmfg.com