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Goodman ACST18MU1305

Goodman ACST18MU1305 1.5 Ton Ceiling-Mount Air Handler User Manual

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your Goodman ACST18MU1305 1.5 Ton Ceiling-Mount Air Handler. Please read this manual thoroughly before attempting to install or operate the unit. Retain this manual for future reference.

The Goodman ACST series air handlers are designed to be an integral part of a complete home environment control system, contributing to reduced indoor humidity and a more comfortable living space. This model features an all-aluminum evaporator coil, an internal thermal expansion valve, and a multi-speed ECM motor for efficient air circulation.

2. SAFETY INFORMATION

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or loss of life. Refer to this manual. For assistance or additional information, consult a qualified installer or service agency.

- Always disconnect power to the unit before performing any service or maintenance.
- Installation and servicing should only be performed by qualified, experienced technicians.
- Ensure all electrical connections comply with local codes and ordinances.
- Wear appropriate personal protective equipment (PPE) during installation and servicing.
- Do not store or use flammable materials near the air handler.

3. PRODUCT OVERVIEW

The Goodman ACST18MU1305 is a 1.5-ton ceiling-mount air handler designed for efficient heating and cooling applications. Key features include:

- **Galvanized-Steel Construction:** Provides corrosion resistance and durability, reducing maintenance needs.
- **All-Aluminum Coil:** Features fins and tubes for optimized heat transfer and efficient performance.

- **Internal Thermostatic Expansion Valve:** Factory-installed for smooth installation and optimal refrigerant flow.
- **Multi-Speed ECM Blower Motor:** Direct-drive motor allows for varying air volume, providing flexible airflow.
- **Electric Heat and Condensate Management:** Includes a rust-resistant nickel-chromium heating element and a high-temperature plastic drain pan with primary and secondary drain connections.



Figure 1: Goodman ACST18MU1305 1.5 Ton Ceiling-Mount Air Handler. This image shows the rectangular silver-grey unit with a visible coil section, illustrating its compact design for ceiling installation.

4. INSTALLATION

Installation of this air handler requires specialized knowledge and tools. It is strongly recommended that installation be performed by a qualified HVAC professional.

4.1 Pre-Installation Checks

- Verify that the unit model matches the system design specifications.
- Inspect the unit for any shipping damage. Report any damage immediately.
- Ensure adequate space for installation, maintenance, and airflow clearances.
- Confirm electrical supply voltage (208/230V, 1 Phase) and circuit protection (30/30 A) meet unit requirements.

4.2 Mounting

The ACST18MU1305 is designed for ceiling-mount applications. Secure the unit using appropriate hangers and fasteners capable of supporting the unit's weight (approximately 85 lbs) and any additional components. Ensure the unit is level to facilitate proper condensate drainage.

4.3 Ductwork Connection

Connect supply and return air ductwork to the unit. Ensure connections are sealed to prevent air leakage and minimize noise. Ductwork should be sized according to HVAC design standards to ensure proper airflow.

4.4 Refrigerant Piping

Connect the refrigerant lines to the evaporator coil. This process requires specialized tools and knowledge of refrigerant handling. Ensure proper evacuation and charging procedures are followed. The unit is designed for R-32 refrigerant.

Your browser does not support the video tag.

Video 1: R-32 Fact vs Fiction. This video discusses facts and common misconceptions about R-32 refrigerant, highlighting its widespread use and environmental benefits in HVAC systems. It clarifies that R-32 is used by over 50 manufacturers in more than 130 countries.

4.5 Electrical Wiring

Wire the unit according to the wiring diagram provided with the unit and all applicable electrical codes. Ensure proper grounding and overcurrent protection.

4.6 Condensate Drain

Connect the primary and secondary condensate drain lines. Ensure proper slope for gravity drainage and install a trap as required. Test the drain system for leaks and proper flow.

5. SETUP

After installation, the system requires initial setup and testing by a qualified technician.

5.1 Initial Power-Up

Carefully restore power to the unit. Observe for any unusual noises or operations.

5.2 System Test

Perform a complete system test, checking all modes of operation (heating, cooling, fan only). Verify proper airflow, temperature control, and condensate drainage. Adjust fan speeds as necessary for optimal comfort and efficiency.

6. OPERATING INSTRUCTIONS

The Goodman ACST18MU1305 air handler operates in conjunction with an outdoor condensing unit and a thermostat. Refer to your thermostat's user manual for specific operating instructions.

- **Cooling Mode:** Set your thermostat to "Cool" and select your desired temperature. The air handler will circulate cooled air.
- **Heating Mode:** Set your thermostat to "Heat" and select your desired temperature. The air handler will circulate warmed air, utilizing its electric heat element if required.
- **Fan Only Mode:** Set your thermostat to "Fan On" to circulate air without heating or cooling.
- **Auto Mode:** Allows the system to automatically switch between heating and cooling to maintain the set temperature.

7. MAINTENANCE

Regular maintenance is crucial for the efficient and reliable operation of your air handler. It is recommended to have a qualified HVAC technician perform annual professional maintenance.

7.1 Air Filter Replacement

Check and replace the air filter regularly, typically every 1-3 months, depending on usage and environmental conditions. A dirty filter restricts airflow and reduces efficiency.

7.2 Coil Cleaning

The all-aluminum evaporator coil should be inspected and cleaned annually by a professional to ensure optimal heat transfer.

7.3 Condensate Drain Maintenance

Periodically check the condensate drain pan and lines for blockages or algae growth. Clear any obstructions to prevent water overflow and potential damage.

7.4 Electrical Connections

During annual service, a technician should inspect all electrical connections for tightness and signs of wear.

8. TROUBLESHOOTING

Before calling for service, review the following common issues and solutions:

Problem	Possible Cause	Solution
No heating or cooling	Thermostat setting incorrect, power off, circuit breaker tripped, dirty air filter, outdoor unit malfunction.	Check thermostat settings, ensure power is on, reset circuit breaker, replace air filter, check outdoor unit. If problem persists, contact a technician.
Weak airflow	Dirty air filter, blocked return air vents, obstructed ductwork.	Replace air filter, clear any obstructions from vents or ductwork.
Water leaking from unit	Clogged condensate drain line, unit not level.	Clear condensate drain line, ensure unit is level.
Unusual noises	Loose components, motor issues, fan imbalance.	Turn off unit and inspect for loose parts. If noise continues, contact a qualified technician.

For issues not listed or if troubleshooting steps do not resolve the problem, contact a qualified HVAC service technician.

9. SPECIFICATIONS

Specification	Detail
Brand	Goodman
Model Number	ACST18MU1305
Capacity	1.5 Tons (18000 BTU/H Cooling Power)
Voltage	208/230 Volts, 1 Phase
Max Overcurrent Protection	30/30 A
Motor Type	Multi-Speed ECM (Electronically Commutated Motor)
Refrigerant Type	R-32
Unit Dimensions (D x W x H)	22.2 in x 48.2 in x 11 in (approx. 22"D x 48"W x 11"H)
Item Weight	85 lb (approx. 70 pounds listed in specs)
Installation Type	Packaged, Ceiling-Mount

Specification	Detail
Efficiency	High Efficiency (SEER 14.5)
Noise Level	60 Decibels
Special Features	Internal Thermostatic Expansion Valve
Included Components	ECM (Electronically Commutated Motor)

10. WARRANTY AND SUPPORT

For detailed warranty information, please refer to the warranty card included with your product or visit the official Goodman website. Keep your proof of purchase for warranty claims.

For technical support, service, or to locate a qualified Goodman HVAC professional, please contact Goodman customer service or visit their official website. Do not attempt to service the unit yourself beyond basic maintenance as this may void your warranty.

Goodman Official Website: www.goodmanmfg.com

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Related Documents - ACST18MU1305

	<p><u>Goodman GPCH3 Packaged Air Conditioner Specifications and Features</u></p> <p>Comprehensive guide to the Goodman GPCH3 series packaged air conditioners, covering standard and cabinet features, nomenclature, detailed product specifications, expanded cooling and airflow data, electrical information for heat kits, dimensions, wiring diagrams, and available accessories. Designed for efficiency and durability, these units are available in 2 to 5 tons with 13.4 SEER2 ratings.</p>
	<p><u>Goodman AMVT Series R-32 Multi-Position Variable-Speed ECM Air Handler</u></p> <p>Detailed specifications and features of the Goodman AMVT Series R-32 Multi-Position, Variable-Speed, ECM-Based Air Handler with Internal TXV, compatible with ComfortBridge™ technology. Covers product features, nomenclature, specifications, dimensions, airflow data, heat kit data, and accessories.</p>
	<p><u>Goodman GLXS3B R-32 Split System Air Conditioners & AMST Series Air Handlers: Specifications, Data, and Diagrams</u></p> <p>Comprehensive technical specifications, performance data, nomenclature, dimensions, wiring diagrams, and accessories for Goodman GLXS3B R-32 split system air conditioners and AMST series air handlers. Includes details on SEER2 ratings, cooling capacities, and installation information.</p>

	<p><u>Goodman ARUF, ARPF, ARPT, AEPT Series Air Handler Installation and Operating Instructions</u></p> <p>Comprehensive installation and operating instructions for Goodman ARUF, ARPF, ARPT, and AEPT Series Air Handlers. Covers safety, model identification, installation procedures, electrical connections, refrigerant lines, conversions, condensate removal, motor operation, thermostat wiring, and maintenance.</p>
	<p><u>Goodman GPHH5 Packaged Heat Pumps: Specifications and Features</u></p> <p>Comprehensive overview of the Goodman GPHH5 Series Packaged Heat Pumps, detailing standard and cabinet features, model nomenclature, key specifications including SEER2 ratings, cooling/heating capacities, airflow data, electrical requirements, dimensions, available accessories, and warranty information.</p>
	<p><u>Goodman GPCH3 Series Packaged Air Conditioner - Specifications and Data</u></p> <p>Comprehensive guide to the Goodman GPCH3 series packaged air conditioners, detailing specifications, nomenclature, airflow, electrical data, dimensions, and accessories for units ranging from 2 to 5 tons with 13.4 SEER2 efficiency.</p>