

Goodman AHVE36CP0300

Goodman AHVE 3.0 Ton Air Handler Instruction Manual

Model: AHVE36CP0300

1. PRODUCT OVERVIEW

The Goodman AHVE air handler is designed to provide efficient and consistent air distribution for residential heating and cooling systems. This unit features an all-aluminum evaporator coil, a thermoplastic drain pan, a variable speed ECM fan motor, and an Electronic Expansion Valve (EEV) for optimized performance and energy efficiency. The AHVE series supports both horizontal and vertical installation configurations, offering flexibility for various home layouts.

Key features include:

- **Internal Electronic Expansion Valve (EEV):** Factory-installed for simplified setup and precise refrigerant flow control, enhancing system efficiency.
- **Energy Efficient Circulation:** Variable speed ECM blower motor adjusts airflow to match specific home requirements, ensuring consistent comfort and energy savings.
- **All-Aluminum Evaporator Coil:** Durable design with fins and grooved tubes to maximize heat transfer surface area for efficient operation.
- **SmartFrame Sub-Structure:** Facilitates easy installation with tool-less access to the filter rack and a coil mounting track compatible with all four orientations.
- **Secure Cabinet & Condensate Management:** Insulated, embossed cabinet reduces noise and air leakage, while integrated features manage condensate to prevent buildup.



Figure 1: Goodman AHVE 3.0 Ton Air Handler. This image displays the exterior of the air handler unit, highlighting its compact design and robust construction.

2. SAFETY INFORMATION

Read all instructions thoroughly before installing or operating this unit. Failure to follow safety guidelines can result in property damage, personal injury, or death. Only qualified personnel should install, service, or repair this equipment. Always disconnect power before performing any maintenance or service. Wear appropriate personal protective equipment (PPE) during installation and servicing.

- Ensure proper grounding of the unit.
- Verify electrical supply matches unit specifications.
- Handle refrigerant with care; R-32 is a mildly flammable refrigerant.
- Do not block airflow to or from the unit.

3. SETUP AND INSTALLATION

The Goodman AHVE air handler is designed for flexible installation in either horizontal or vertical configurations. Proper installation is crucial for optimal performance and longevity of the unit. Refer to the detailed installation manual provided with the product for specific instructions and local code requirements.

3.1 Site Selection

Choose a location that allows for adequate clearance for maintenance and airflow. Ensure the mounting surface is level and capable of supporting the unit's weight (approximately 125 lbs). Consider noise levels and proximity to living spaces.

3.2 Mounting

The SmartFrame Sub-Structure and coil mounting track are designed to simplify installation. The unit can be mounted in all four orientations. Secure the unit firmly to prevent vibration and movement.

3.3 Electrical Connections

Connect the unit to a 115V, 1 Phase, 60Hz power supply. Ensure the maximum overcurrent protection of 15/15 A is observed. All wiring must comply with national and local electrical codes. The internal Electronic Expansion Valve (EEV) simplifies refrigerant line connections.

3.4 Condensate Drainage

Connect the thermoplastic drain pan to an appropriate condensate drainage system. Ensure proper slope for gravity drainage to prevent water accumulation and potential damage.

4. OPERATING INSTRUCTIONS

Once installed and all connections are verified, the Goodman AHVE air handler is ready for operation. This unit is designed to work seamlessly with a compatible outdoor unit and thermostat.

4.1 Initial Startup

After power is supplied, the unit will perform a self-check. Set your thermostat to the desired mode (Cool, Heat, or Fan) and temperature. The variable speed ECM blower motor will adjust its speed to maintain consistent indoor comfort and optimize energy usage.

4.2 ComfortNet Compatibility

The AHVE air handler is ComfortNet Compatible, allowing for advanced system control and diagnostics when paired with a ComfortNet communicating thermostat and outdoor unit. Refer to your ComfortNet thermostat manual for specific operating features.

4.3 Refrigerant Type

This unit uses R-32 refrigerant. For more information on R-32 and its properties, please refer to the following video:

Your browser does not support the video tag.

Video 1: R-32 Fact vs Fiction. This video provides informational content regarding R-32 refrigerant, which is used in the Goodman AHVE air handler.

5. MAINTENANCE

Regular maintenance is essential to ensure the efficient and reliable operation of your Goodman AHVE air handler. Perform the following checks periodically:

- **Filter Replacement:** Check and replace the air filter monthly, or more frequently if the unit is in constant use or in dusty environments. A clean filter ensures optimal airflow and indoor air quality.
- **Coil Cleaning:** Annually, have a qualified technician inspect and clean the evaporator coil to maintain heat transfer efficiency.
- **Condensate Drain:** Periodically check the condensate drain line for blockages and ensure it is flowing freely. Clean as necessary to prevent water overflow.
- **General Inspection:** Annually, have a qualified HVAC technician perform a comprehensive inspection of the unit, including electrical connections, fan motor, and refrigerant levels.

6. TROUBLESHOOTING

If your Goodman AHVE 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 and ensure the unit is properly plugged in.
- **Insufficient Airflow:** Verify that the air filter is clean and not obstructed. Check for blocked return air grilles.

- **Unit Not Cooling/Heating:** Ensure the thermostat is set to the correct mode and temperature. Check if the outdoor unit is operating.
- **Unusual Noises:** Investigate the source of the noise. Loose panels or debris in the blower can cause unusual sounds. If the noise persists or is severe, power down the unit and call for service.
- **Water Leakage:** Check the condensate drain line for blockages. Ensure the unit is level.

Note: Do not attempt to repair electrical or refrigerant components yourself. Contact a certified HVAC professional.

7. SPECIFICATIONS

Feature	Detail
Brand	Goodman
Model Number	AHVE36CP0300
Capacity	3.0 Tons
Cooling Power	36000 British Thermal Units (BTU)
Refrigerant Type	R-32
Special Feature	Internal Electronic Expansion Valve (EEV)
Motor Speed Type	Variable Speed ECM Blower
Installation Type	Horizontal-Discharge / Vertical (Packaged)
Voltage	115 Volts
Power Phase	1 Phase
Frequency	60 Hz
Max Overcurrent Protection	15/15 A
Product Dimensions (D x W x H)	21"D x 21"W x 54"H
Item Weight	125 Pounds
Noise Level	60 Decibels
Annual Energy Consumption	500 Watts
Air Flow Efficiency	1400 Cubic Feet Per Minute Per Watt
BEE Star Rating	5 Star
Controller Type	Button Control (typically refers to thermostat)
Communication Feature	ComfortNet Compatible
UPC	663051735248

Feature	Detail
ASIN	B0F2TNVW7C

8. WARRANTY INFORMATION

The Goodman AHVE air handler comes with a **10 Limited Years** warranty. For full details regarding warranty coverage, terms, and conditions, please refer to the warranty certificate included with your product or visit the official Goodman website. Keep your proof of purchase for warranty claims.

9. CUSTOMER SUPPORT

For technical assistance, service inquiries, or to locate a certified Goodman dealer, please contact Goodman customer support. You can find contact information on the official Goodman website or through your installing contractor.

Goodman Official Website: www.goodmanmfg.com

Please have your model number (AHVE36CP0300) and serial number ready when contacting support.