Goodman HKA-15C

Goodman HKA-15C 15Kw Electric Heat Kit for Air Handler

Instruction Manual

1. Product Overview

The Goodman HKA-15C is a 15Kw electric heat kit designed for use with Goodman air handlers. This kit provides supplemental electric heating to your HVAC system, ensuring comfortable indoor temperatures when primary heating sources are insufficient or unavailable. It features sequencers for precise temperature control, multiple branch circuit capability, and a completely assembled and tested control circuitry for reliable operation. Factory-installed circuit breakers may be available on specific models, and a fuse link secondary high-temperature limit control is included for safety. The plug-in wiring harness simplifies installation into compatible air handlers, and rust-resistant nickel chromium heat elements ensure durability.

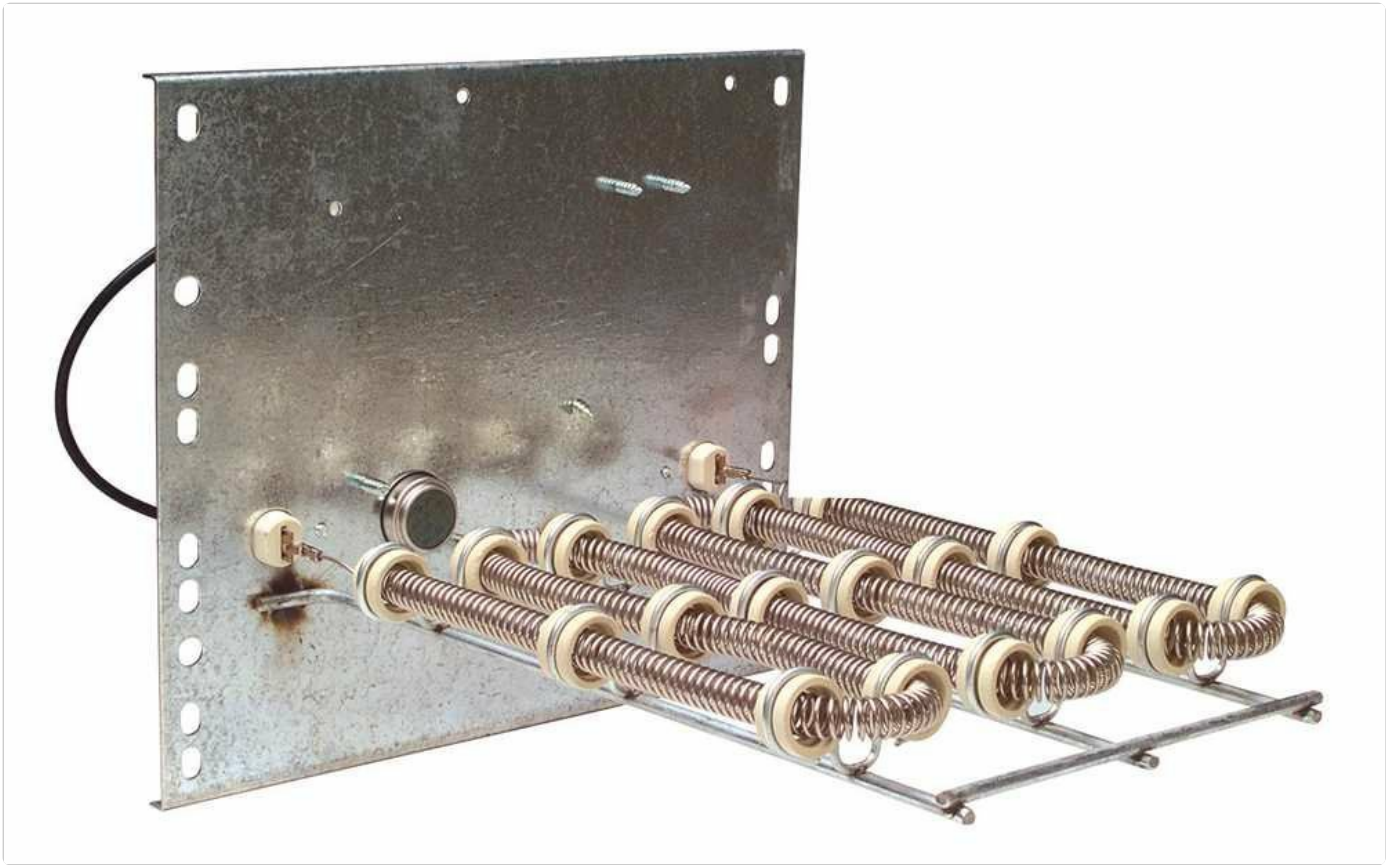

Image 1: Goodman HKA-15C 15Kw Electric Heat Kit.

2. Understanding Air Handlers and Heat Kits

An air handler is an essential component of your HVAC system, assisting in regulating the circulation of indoor air and the temperature of the air in your home as set on your thermostat or control system.

Do I Need an Air Handler?

If you have a furnace, you typically do not require a separate air handler, as the furnace performs the air handling functions. An air handler is necessary if you have a heat pump or a central air conditioner that is not paired with a furnace.

How an Air Handler Works

Indoor air enters the air handler from the central return duct. The air then passes through a filter to remove contaminants before moving through the air handler's components. Next, the air passes through an evaporator coil to be cooled or a heating coil (like the HKA-15C) to be warmed. After the air is conditioned, the blower motor and fan push the air into the central supply duct to be distributed throughout the house.

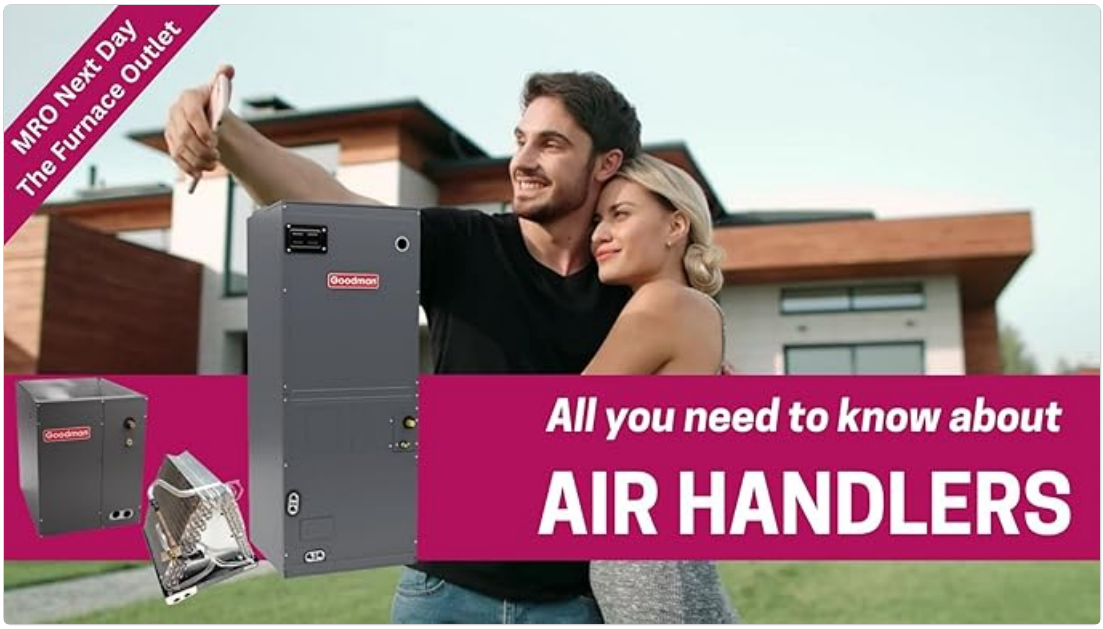

Image 2: Diagram illustrating the air handler's operational flow, showing return air, outdoor air, mixing section, filter, preheat coil, cooling coil, reheat coil, fan, bag filter, and supply air.

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Video 1: An informational video explaining the function and operation of air handlers. This video provides a general overview of how air handlers work within an HVAC system.

3. Key Components of an Air Handler

An air handler consists of several key components that work together to condition and circulate air:

- **Blower Motor:** Powers a fan to move conditioned air out of the air handler and into the ductwork. Blower motors come in different speeds: single speed, dual speed, and variable speed.

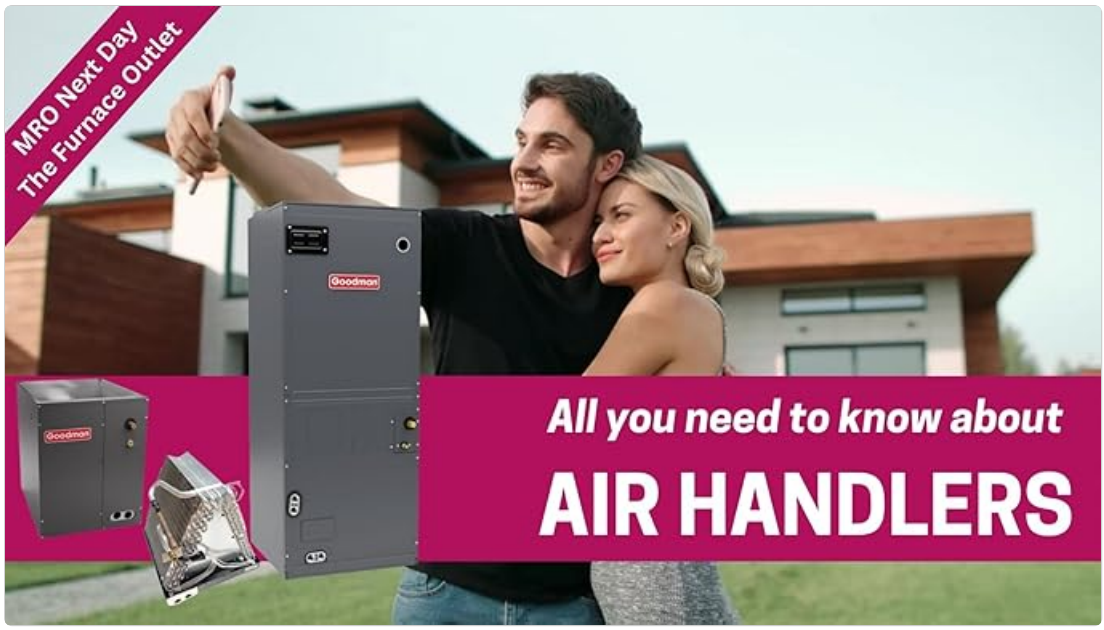

Image 3: A technician inspecting or installing a blower motor within an air handler unit.

- **Evaporator Coil:** An air conditioner component connected to the outdoor condenser by refrigerant lines. When the air conditioner is switched on, refrigerant runs through the evaporator coil, absorbing heat and humidity from the air passing over it.

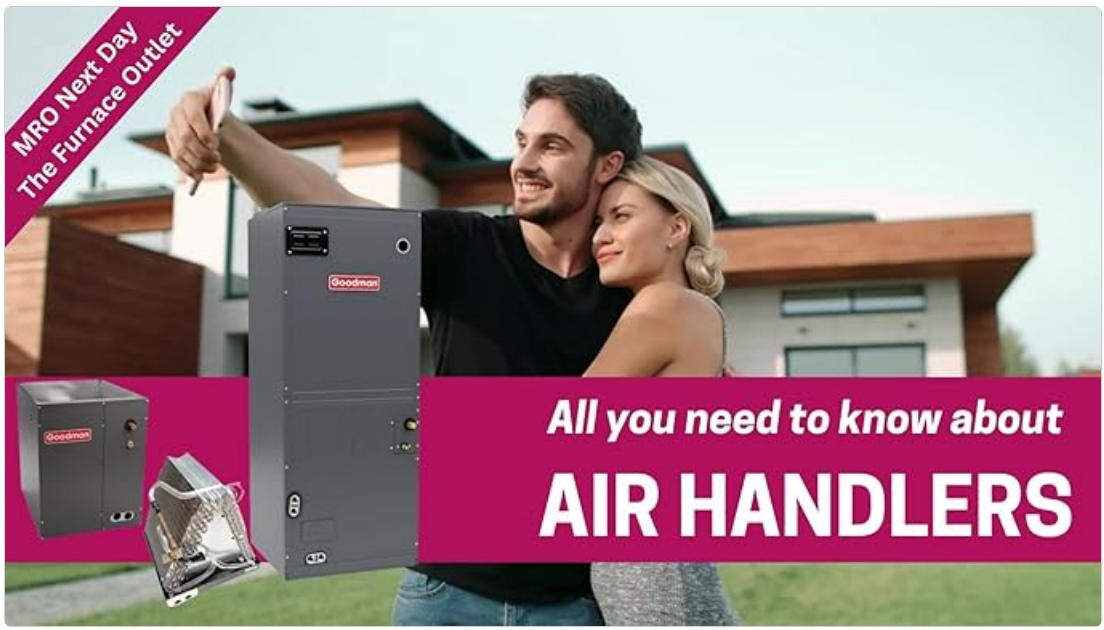

Image 4: A close-up view of an evaporator coil, showing its fins and copper tubing.

- **Filter:** Cleans the air entering the handler before it contacts the coils or blower. It traps contaminants like dust, hair, and other debris to preserve components and improve air quality. The filter's MERV rating indicates its effectiveness at trapping microscopic contaminants.

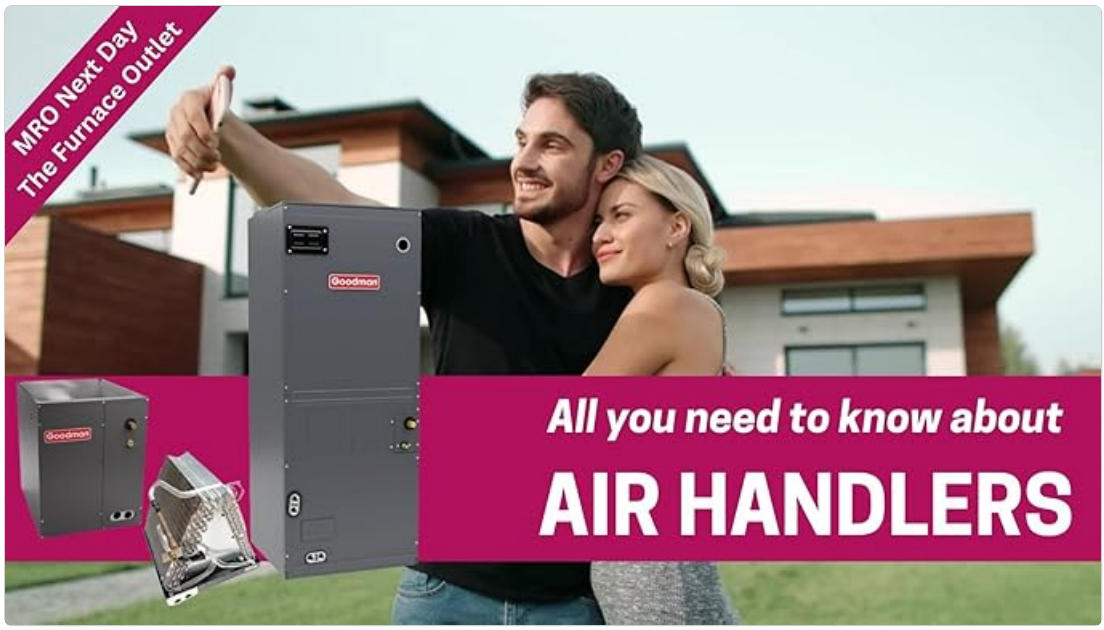

Image 5: An air filter being slid into its slot within an air handler unit.

- **Heat Exchanger Coil (Electric Heat Kit):** The Goodman HKA-15C is an electric heat kit, which functions as a heat exchanger coil. This optional component allows an air handler to heat the air. It contains an electric heating element that provides supplemental heat to the air blowing over it.

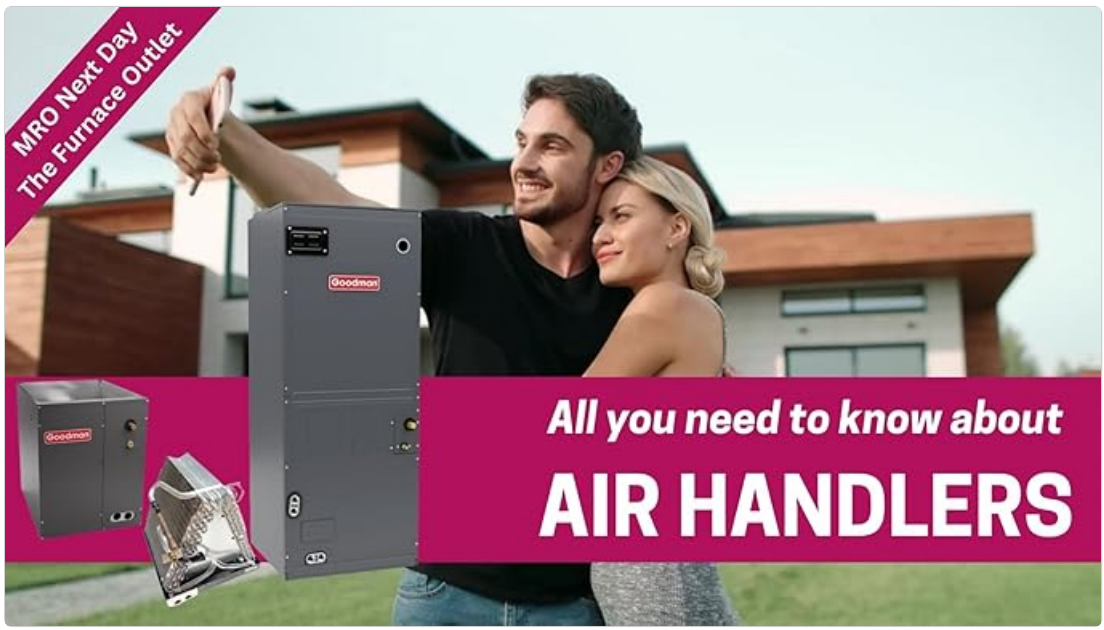

Image 6: The internal components of an electric heat kit, similar to the HKA-15C, showing heating elements and wiring.

4. Types of Air Handlers

Air handlers come in various configurations to suit different installation needs:

- **Multi-positional Air Handlers:** These are conventional units that can be installed in various configurations. They can be installed vertically for upflow or downflow, and horizontally for right-flow or left-flow.

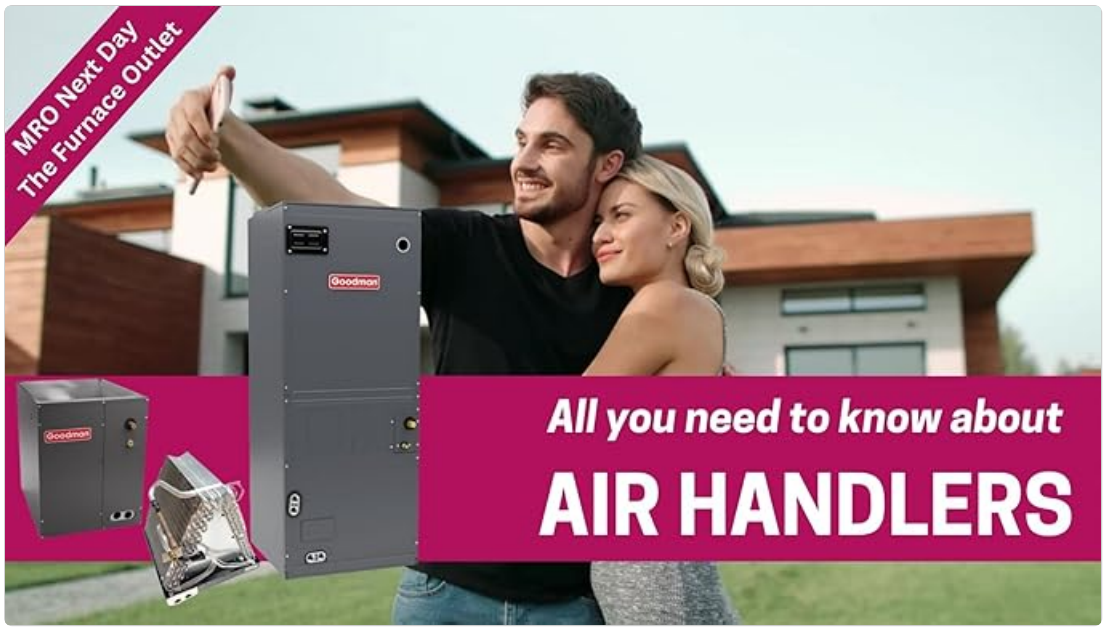

Image 7: A multi-positional air handler unit, typically installed in a utility closet or basement.

- **Wall-Mounted Air Handlers:** These units are designed to be mounted on a wall or wall studs. They are typically shorter and wider than multi-positional handlers, making them suitable for tight spaces like utility closets.

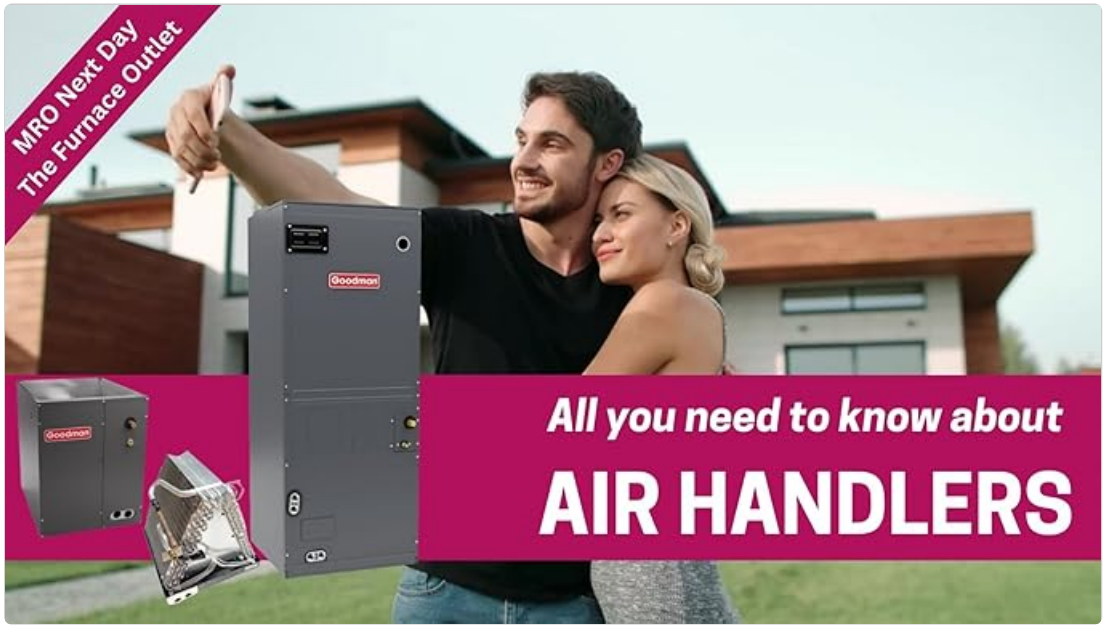

Image 8: A wall-mounted air handler unit, often used where floor space is limited.

- **Ceiling-Mounted Air Handlers:** These air handlers are installed above ceilings. They are significantly smaller than wall-mounted air handlers and are helpful when space is limited, particularly in homes without traditional ductwork.

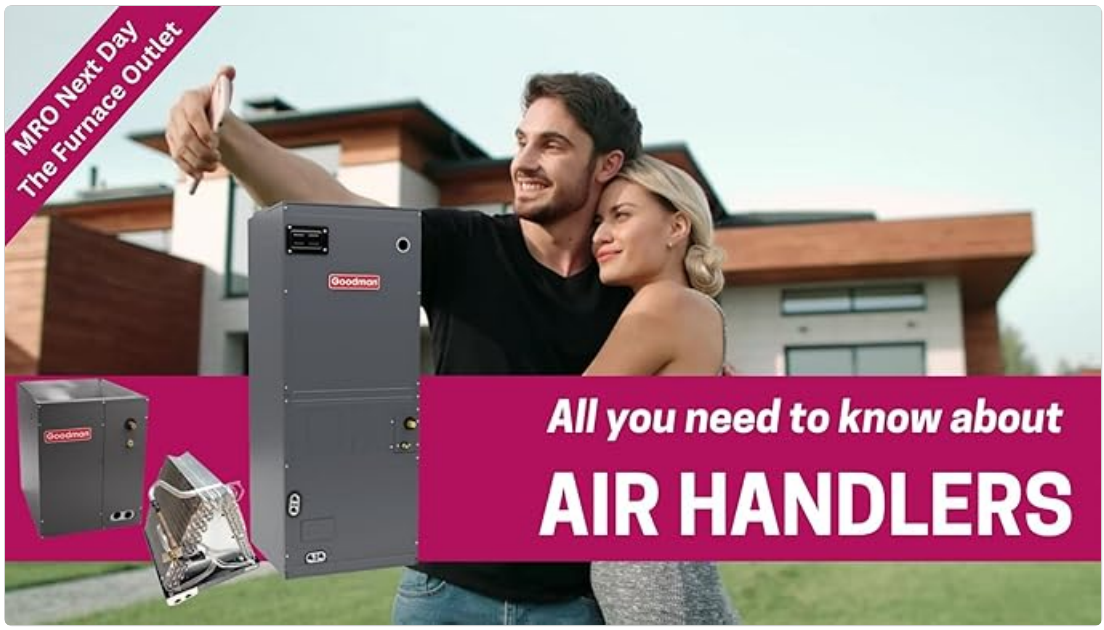

Image 9: A compact ceiling-mounted air handler unit, designed for discreet installation.

5. Safety Information

Always prioritize safety when installing, operating, or maintaining electrical heating equipment. Failure to follow safety guidelines can result in property damage, personal injury, or death.

- **WARNING:** Disconnect all power to the air handler and heat kit before performing any service or installation.
- **CAUTION:** Installation and service should only be performed by a qualified HVAC technician.
- Ensure proper grounding of the unit.
- Do not operate the unit with damaged wiring.
- Keep flammable materials away from the heat kit.
- Refer to local electrical codes and regulations for installation requirements.

6. Installation

The Goodman HKA-15C Electric Heat Kit is designed for ease of installation into compatible Goodman air handlers. However, due to the electrical nature of this component and the complexities of HVAC systems, **professional installation by a qualified HVAC technician is strongly recommended.**

General Installation Steps (for qualified technicians):

1. **Safety First:** Ensure all power to the air handler unit is disconnected at the main breaker.
2. **Access:** Open the access panel on the air handler where the heat kit is to be installed.
3. **Mounting:** Secure the HKA-15C heat kit into the designated slot within the air handler. Ensure it is properly aligned and fastened according to the air handler's specific instructions.
4. **Wiring:** Connect the plug-in wiring harness from the heat kit to the corresponding receptacle in the air handler's control circuitry. Ensure all electrical connections are secure and comply with wiring diagrams.
5. **Circuit Breakers:** If applicable, ensure factory-installed circuit breakers are correctly seated and connected.
6. **Close Up:** Replace the access panel and secure it.
7. **Power On & Test:** Restore power and test the unit's operation according to the air handler's and heat kit's operational guidelines. Verify proper heating and safety cut-offs.

Refer to the specific installation instructions provided with your Goodman air handler for detailed wiring diagrams and mounting procedures.

7. Operation

Once installed, the Goodman HKA-15C Electric Heat Kit operates in conjunction with your air handler and thermostat to provide supplemental heating.

- Set your thermostat to the desired temperature.
- If the ambient temperature falls below the thermostat setting and the primary heating source (e.g., heat pump) cannot meet the demand, the thermostat will signal the electric heat kit to activate.
- The HKA-15C's heating elements will warm the air as it passes through the air handler, providing supplemental heat to reach the set temperature.
- The sequencers ensure efficient staging of the heating elements for optimal temperature control.

For detailed operational modes and settings, consult your air handler and thermostat manuals.

8. Maintenance

Regular maintenance ensures the longevity and efficient operation of your Goodman HKA-15C Electric Heat Kit and the entire air handler system. **Always disconnect power before performing any maintenance.**

- **Air Filter Replacement:** Regularly inspect and replace the air filter in your air handler, typically every 1-3 months, or more frequently if you have pets or allergies. A clean filter ensures proper airflow and prevents strain on the heating elements and blower.
- **Visual Inspection:** Periodically inspect the heat kit for any visible signs of damage, loose connections, or excessive dust accumulation.
- **Professional Servicing:** It is recommended to have your entire HVAC system, including the electric heat kit, inspected and serviced by a qualified technician annually. They can check electrical connections, heating element integrity, and overall system performance.

9. Troubleshooting

If you experience issues with your Goodman HKA-15C Electric Heat Kit, consider the following common troubleshooting steps. **For complex issues or electrical problems, contact a qualified HVAC technician.**

Problem	Possible Cause	Solution
No Heat or Insufficient Heat	Thermostat setting too low Blown fuse or tripped circuit breaker Dirty air filter Faulty heating element or sequencer	Increase thermostat setting Check and reset circuit breaker; replace fuse if necessary Replace air filter Contact a qualified technician for inspection and repair
Unit Not Turning On	No power to the unit Thermostat malfunction Loose wiring connection	Check main power supply and circuit breaker Verify thermostat settings and battery (if applicable) Contact a qualified technician to check wiring
Unusual Noises	Loose components Blower motor issue	Inspect for loose panels or debris Contact a qualified technician for blower motor inspection

10. Specifications

Feature	Detail
Model Number	HKA-15C

Feature	Detail
Heating Capacity	15 Kw
Manufacturer	Goodman
Product Dimensions	16.2 x 10.6 x 8.5 inches
Item Weight	5.79 pounds
Features	Sequencers, Multiple Branch Circuit Capability, Assembled & Tested Control Circuitry, Fuse Link Secondary High-Temperature Limit Control, Plug-in Wiring Harness, Rust-Resistant Nickel Chromium Heat Elements

11. Warranty and Support

For warranty information, please refer to the documentation included with your Goodman HKA-15C Electric Heat Kit or visit the official Goodman website. For technical support, service, or to locate an authorized Goodman dealer, please contact Goodman customer service or consult your installing HVAC professional.
Goodman Website: www.goodmanmfg.com