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ClimaTek 20408001

ClimaTek Lennox OEM Upgraded Replacement R-22 A-Coil TXV Valve (Model 20408001) User Manual

PRODUCT OVERVIEW

This document provides essential information for the ClimaTek Lennox OEM Upgraded Replacement R-22 A-Coil TXV Valve, Model 20408001. This valve is designed as a direct replacement for Lennox systems utilizing R-22 refrigerant in 1.5 to 3-ton A-coil applications. It is a critical component in the refrigeration cycle, regulating the flow of refrigerant into the evaporator coil to ensure efficient heat exchange and system performance.



Image: The ClimaTek Lennox OEM R-22 A-Coil TXV Valve, Model 20408001, shown with its brass body, copper capillary tube, sensing bulb, and accompanying copper mounting bracket with screws and nuts.

SPECIFICATIONS

Feature	Detail
Brand	ClimaTek
Manufacturer	Lennox (OEM Replacement)
Part Number	OEM Rplm Lennox # 20408001
Model Number	20408001
Refrigerant Compatibility	R-22
System Tonnage	1.5 - 3 Ton A-Coil
Item Weight	1.44 pounds (approx. 0.65 kg)
Product Dimensions (L x W x H)	8 x 10 x 8 inches (approx. 20.3 x 25.4 x 20.3 cm)

INSTALLATION GUIDE

WARNING: Installation of this component requires specialized knowledge, tools, and handling of refrigerants. Improper installation can lead to system damage, refrigerant leaks, personal injury, or death. It is strongly recommended that installation be performed by a certified HVAC technician.

General Installation Considerations:

- **Safety First:** Ensure the HVAC system is completely powered off and depressurized before beginning any work. Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- **Refrigerant Handling:** This valve is for R-22 systems. R-22 is a regulated refrigerant. Proper recovery and charging procedures must be followed by a certified technician to prevent environmental release.
- **System Compatibility:** Verify that this TXV valve (Model 20408001) is the correct replacement for your specific Lennox A-coil and system tonnage (1.5-3 tons) and R-22 refrigerant type.
- **Brazing:** The TXV valve connections typically require brazing. This process demands specific tools, techniques, and safety precautions to ensure leak-free joints and prevent damage to the valve.
- **Sensing Bulb Placement:** The TXV sensing bulb must be securely attached to the suction line in the correct orientation and location, typically insulated, to accurately measure superheat. Incorrect placement will lead to improper refrigerant flow.
- **Leak Testing:** After installation, the system must be thoroughly leak-tested using appropriate methods (e.g., nitrogen pressure test, electronic leak detector) before evacuation and charging.
- **Evacuation and Charging:** The system must be evacuated to a deep vacuum to remove non-condensable gases and moisture, then charged with the correct amount of R-22 refrigerant according to manufacturer specifications.
- **Superheat Adjustment:** After charging, the system's superheat must be measured and adjusted (if the TXV is adjustable) to optimize performance and prevent compressor damage.

Refer to the specific Lennox HVAC unit's service manual for detailed installation instructions and safety guidelines.

OPERATION

The ClimaTek Lennox OEM R-22 A-Coil TXV Valve is an automatic component within the refrigeration circuit. It operates continuously to regulate the flow of liquid refrigerant into the evaporator coil based on the superheat of the refrigerant vapor leaving the evaporator. This ensures that the evaporator coil is fully utilized for heat absorption while preventing liquid refrigerant from returning to the compressor.

Users do not directly operate or control the TXV valve. Its function is entirely automatic and integral to the HVAC system's design and performance.

MAINTENANCE

The TXV valve itself is a sealed component and does not require routine user maintenance. Its proper functioning is dependent on the overall health and cleanliness of the HVAC system.

Recommended System Maintenance:

- **Regular Filter Replacement:** Ensure air filters are replaced or cleaned regularly to maintain proper airflow and prevent evaporator coil fouling.
- **Coil Cleaning:** Periodically inspect and clean the evaporator and condenser coils to ensure efficient heat transfer.
- **Refrigerant Charge Verification:** A certified technician should periodically check the system's refrigerant charge and superheat/subcooling to ensure optimal performance.
- **System Inspection:** Annual professional inspection of the entire HVAC system can identify potential issues before they lead to component failure.

Any issues suspected with the TXV valve should be diagnosed and addressed by a qualified HVAC professional.

TROUBLESHOOTING

Troubleshooting a TXV valve typically requires diagnostic tools and expertise. Symptoms of a malfunctioning TXV often manifest as overall system performance issues. If you suspect a problem with your HVAC system, contact a certified HVAC technician.

Common Symptoms of TXV Issues:

- **Low Suction Pressure / High Superheat:** May indicate a restricted or underfeeding TXV.
- **High Suction Pressure / Low Superheat (or Flooding):** May indicate an overfeeding or stuck-open TXV.
- **Fluctuating Pressures:** Can sometimes be attributed to an unstable TXV operation.
- **Reduced Cooling Capacity:** A common symptom of an improperly functioning TXV, leading to inefficient heat exchange.
- **Frosting on Suction Line or Compressor:** Can occur with an overfeeding TXV or other system issues.

A technician will use pressure gauges, temperature probes, and potentially a sight glass to diagnose TXV operation and overall system health.

WARRANTY AND SUPPORT

For warranty information regarding the ClimaTek Lennox OEM Upgraded Replacement R-22 A-Coil TXV Valve (Model 20408001), please refer to the purchase documentation or contact your seller directly. Warranty terms typically cover manufacturing defects and may vary depending on the retailer and installation conditions.

For technical support or assistance with installation and troubleshooting, it is recommended to consult a qualified HVAC professional. For general inquiries about ClimaTek products, please visit the official ClimaTek website or contact their customer service.