White-Rodgers 36J54-214

White-Rodgers 36J54-214 Hot Surface Gas Valve Instruction Manual

Model: 36J54-214

1. Introduction

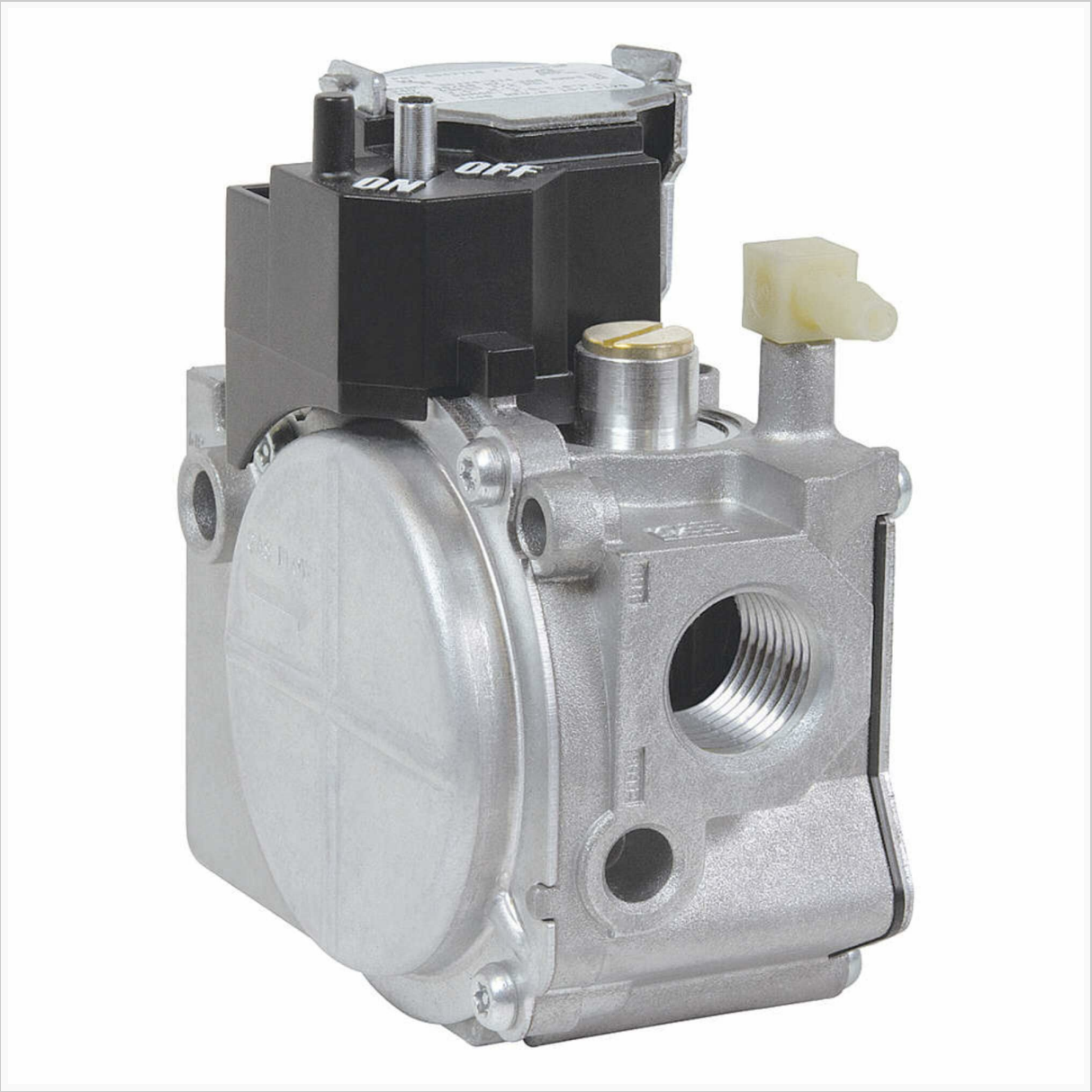
This manual provides essential information for the safe and proper installation, operation, and maintenance of the White-Rodgers 36J54-214 Hot Surface Gas Valve. This valve is designed for use in various heating applications, controlling the flow of natural gas (NG) or liquid propane (LP) to a burner. It features a hot surface ignition type and a fast-opening valve mechanism.

2. Safety Information

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read these instructions thoroughly before installing or servicing this equipment. This product must be installed and serviced by a qualified service technician.

- Always disconnect the electrical power supply before servicing to prevent electrical shock.
- Turn off the gas supply to the appliance before installation or maintenance.
- Verify that the gas type (Natural Gas or LP) matches the valve's configuration. An LP conversion kit is included for flexibility.
- Check all gas connections for leaks using a non-corrosive leak detection solution after installation. Never use an open flame.
- Ensure proper ventilation during and after installation.
- Do not attempt to repair a damaged valve. Replace it with a new, approved valve.

3. Product Overview



An image showing the White-Rodgers 36J54-214 combination gas valve, typically used in heating systems. It features various ports for gas inlet and outlet, electrical connections, and a control knob.

The White-Rodgers 36J54-214 is a combination gas valve designed for reliable control of gas flow in heating appliances. It integrates a manual valve, automatic main valve, and a pressure regulator into a single compact unit. This model is compatible with both Natural Gas and LP gas systems, offering a BtuH capacity of 140,000.

Key Features:

- **Ignition Type:** Hot Surface
- **BtuH Capacity:** 140,000
- **Valve Type:** Fast Opening
- **Coil Volts:** 24V AC
- **Gas Type:** NG/LP (LP Conversion Kit included)
- **Inlet/Outlet Size:** 1/2 inch NPT
- **Reducer Bushing Kit:** (2) 1/2 x 3/8 included
- **Inlet Pressure Tap:** Yes

4. Setup and Installation

IMPORTANT: Installation must be performed by a qualified service technician in accordance with all local codes

and ordinances, and the manufacturer's instructions.

Pre-Installation Checks:

1. Verify the gas valve model (36J54-214) is correct for the appliance.
2. Confirm the gas type (NG or LP) and ensure the valve is configured appropriately. Use the LP conversion kit if necessary.
3. Inspect the valve for any signs of damage from shipping. Do not install a damaged valve.

Installation Steps:

1. **Disconnect Power and Gas:** Turn off the main electrical power to the appliance and shut off the main gas supply.
2. **Remove Old Valve:** Carefully disconnect the gas piping and electrical wiring from the existing valve. Remove the old valve.
3. **Prepare New Valve:** Apply pipe joint compound suitable for gas to the male threads of the gas piping connections. Do not apply compound to the first two threads to prevent contamination of the valve.
4. **Install New Valve:** Mount the new 36J54-214 valve in the same orientation as the original. Ensure proper alignment and tighten all gas connections securely. Use the provided reducer bushing kit (2) 1/2 x 3/8 if needed for inlet/outlet connections.
5. **Connect Wiring:** Connect the 24V AC electrical wiring to the valve terminals as per the appliance manufacturer's instructions. Ensure all connections are secure and correct.
6. **Check for Leaks:** Restore the gas supply and use a non-corrosive leak detection solution to check all gas connections for leaks. Bubbles indicate a leak. Tighten connections as needed and re-check.
7. **Restore Power:** Once all connections are secure and leak-free, restore electrical power to the appliance.

5. Operating Instructions

The White-Rodgers 36J54-214 gas valve operates as an automatic component within a larger heating system. Its operation is typically controlled by a thermostat and the appliance's control board.

Normal Operation Sequence:

1. The thermostat calls for heat.
2. The appliance control board initiates the ignition sequence.
3. The hot surface igniter heats up.
4. Once the igniter reaches the appropriate temperature, the 36J54-214 gas valve receives a 24V signal to open, allowing gas to flow to the main burner.
5. The gas ignites from the hot surface igniter.
6. The flame sensor confirms ignition, and the valve remains open, supplying gas to maintain the flame.
7. When the thermostat is satisfied, the control board closes the gas valve, shutting off the gas supply to the burner.

The manual ON/OFF knob on the valve is for service purposes only. In the 'ON' position, the valve is ready to receive signals from the appliance control. In the 'OFF' position, the gas supply through the valve is completely shut off.

6. Maintenance

The White-Rodgers 36J54-214 gas valve is designed for reliable, long-term operation with minimal maintenance. However, periodic inspection by a qualified technician is recommended as part of overall appliance maintenance.

- **Annual Inspection:** Have a qualified technician inspect the gas valve and all gas connections annually for

signs of wear, corrosion, or leaks.

- **Cleanliness:** Ensure the area around the gas valve is kept clean and free of dust, debris, or obstructions that could interfere with its operation or ventilation.
- **Gas Pressure Check:** During annual service, the technician should verify the inlet and outlet gas pressures are within the appliance manufacturer's specifications using the inlet pressure tap.
- **No User Serviceable Parts:** The gas valve itself contains no user-serviceable parts. Do not attempt to disassemble or repair the valve. If a malfunction is suspected, the entire valve should be replaced by a qualified professional.

7. Troubleshooting

Troubleshooting a gas valve often requires specialized tools and knowledge. If you suspect a problem with your gas valve or heating system, it is strongly recommended to contact a qualified HVAC technician.

Common Issues and Potential Causes (Consult a Professional):

- **No Heat:** Could be due to no power to the valve, a faulty thermostat, a problem with the igniter, or the valve not opening.
- **Burner Not Igniting:** Check for gas supply, proper igniter operation, and electrical signal to the valve.
- **Valve Buzzing/Humming:** A slight hum is normal for some solenoid valves. A loud or unusual buzz might indicate an electrical issue or a failing component within the valve.
- **Gas Odor:** Immediately shut off the gas supply, evacuate the area, and contact your gas provider and a qualified technician. Do not operate any electrical switches or phones.
- **Intermittent Operation:** May be caused by fluctuating voltage, loose wiring connections, or an issue with the appliance's control board.

Always ensure the gas valve's manual knob is in the 'ON' position for automatic operation.

8. Specifications

Attribute	Specification
Model Number	36J54-214
Ignition Type	Hot Surface
BtuH Capacity	140,000
Valve Type	Fast Opening
Coil Volts	24V AC
Gas Type	Natural Gas (NG) / Liquid Propane (LP)
Inlet Size	1/2 inch NPT
Outlet Size	1/2 inch NPT
LP Conversion Kit	Yes
Side Taps	No
Inlet Pressure Tap	Yes
Reducer Bushing Kit	(2) 1/2 x 3/8

Ambient Temp. Range	-40°F to 175°F (-40°C to 79°C)
Product Dimensions	6.2 x 4.6 x 3.3 inches
Item Weight	2 pounds
Manufacturer	Emerson (White-Rodgers)

9. What's in the Box

- White-Rodgers 36J54-214 Gas Valve
- Instructions Guide
- LP Conversion Kit
- Reducer Bushing Kit (2) 1/2 x 3/8

10. Warranty and Support

White-Rodgers products are manufactured to high-quality standards. For specific warranty information, please refer to the documentation provided with your purchase or contact White-Rodgers customer support. Keep your proof of purchase for warranty claims.
For technical support or service, please contact a qualified HVAC professional or visit the official White-Rodgers website for authorized service providers.