

KoelAp NEV-603DXF

KoelAp NEV-603DXF Automatic Solenoid Valve

INSTRUCTION MANUAL

1. Introduction

This manual provides essential information for the safe and effective installation, operation, and maintenance of the KoelAp NEV-603DXF Automatic Solenoid Valve. This valve is designed for use in refrigeration, air conditioning, ice machine, and freezer defrost systems. Please read this manual thoroughly before installation and retain it for future reference.

2. Safety Information

- **Electrical Hazard:** Ensure power is disconnected before installation or maintenance. The valve operates on AC220V. Improper wiring can cause electric shock or damage to equipment.
- **Pressure Hazard:** Refrigeration systems operate under high pressure. Only qualified personnel should handle refrigerant lines. Ensure system pressure is relieved before working on the valve.
- **Professional Installation:** Installation should be performed by a certified refrigeration technician or a similarly qualified professional.
- **Compatibility:** Verify that the valve is compatible with your specific refrigeration system and refrigerant type.
- **Personal Protective Equipment (PPE):** Always wear appropriate PPE, including safety glasses and gloves, when working with refrigeration systems.

3. Product Overview

The KoelAp NEV-603DXF is an automatic solenoid valve designed to control the flow of refrigerant in various cooling and defrost applications. It features a robust construction suitable for demanding environments.



Figure 3.1: KoelAp NEV-603DXF Solenoid Valve with electrical coil and copper tubing connections. This image shows the main body of the solenoid valve, including the black electrical coil on top and the copper tubing connections extending from the brass valve body. A blue wire is visible, indicating the electrical connection point.



Figure 3.2: KoelAp NEV-603DXF Solenoid Valve body, side view, showing copper inlet and outlet pipes. This image provides a closer look at the brass valve body and the two horizontal copper pipes, which serve as the refrigerant inlet and outlet connections. The top part of the valve, where the coil would attach, is also visible.



Figure 3.3: KoelAp NEV-603DXF Solenoid Valve body, top-down view, showing multiple copper connections. This image displays the valve from a different angle, highlighting the various copper tubing connections, including a vertical pipe and a horizontal pipe, indicating its configuration for integration into a refrigeration circuit.

4. Setup and Installation

Important: Installation must be performed by a qualified technician.

1. **Power Disconnection:** Ensure all power to the refrigeration system is disconnected at the main

breaker before beginning installation.

2. **System Depressurization:** Safely recover refrigerant and depressurize the system according to industry standards.
3. **Valve Placement:** Install the solenoid valve in the correct position within the refrigerant line as specified by the system design. Ensure the flow direction arrow on the valve body (if present) matches the refrigerant flow.
4. **Brazing/Soldering:** Connect the valve to the copper refrigerant lines using appropriate brazing or soldering techniques. Protect the valve body and coil from excessive heat during this process to prevent damage.
5. **Leak Testing:** After connecting the valve, perform a thorough leak test on all new connections using nitrogen or another inert gas.
6. **Evacuation:** Evacuate the system to a deep vacuum to remove non-condensable gases and moisture.
7. **Electrical Connection:** Connect the valve's electrical leads to the AC220V power supply as per the system's wiring diagram. Ensure proper grounding and insulation.
8. **Recharge System:** Recharge the system with the correct type and amount of refrigerant.
9. **Test Operation:** Restore power and test the system's operation, verifying that the solenoid valve functions correctly during defrost cycles or as intended.

5. Operating Instructions

The KoelAp NEV-603DXF is an automatic solenoid valve. Its operation is controlled by the refrigeration system's main control board or defrost timer. When the control system sends an AC220V signal to the valve's coil, the valve will open or close, allowing or stopping the flow of refrigerant as required for cooling or defrost cycles. No manual intervention is typically required for its operation once installed correctly.

- **Normal Operation:** The valve will cycle automatically based on the system's demand for cooling or defrost.
- **Monitoring:** Observe the system's performance to ensure the valve is engaging and disengaging as expected during its operational cycles.

6. Maintenance

Regular maintenance helps ensure the longevity and efficient operation of the solenoid valve and the overall refrigeration system. Always disconnect power before performing any maintenance.

- **Visual Inspection:** Periodically inspect the valve for any signs of leaks, corrosion, or physical damage to the valve body, coil, or wiring.
- **Electrical Connections:** Check electrical connections for tightness and ensure insulation is intact.
- **Coil Condition:** Ensure the solenoid coil is securely seated and free from excessive dirt or debris.
- **Cleaning:** Keep the exterior of the valve clean. Do not use harsh chemicals that could damage the materials.
- **Functional Check:** During system servicing, verify that the valve opens and closes fully when energized and de-energized.

7. Troubleshooting

If the solenoid valve is not functioning correctly, consider the following common issues. Always ensure power is disconnected before inspecting electrical components.

Problem	Possible Cause	Solution
Valve does not open/close	No power to coil, faulty coil, clogged valve, incorrect wiring.	Check AC220V power supply. Test coil resistance. Inspect for debris. Verify wiring. Replace coil or valve if necessary.
Refrigerant leak at connections	Improper brazing/soldering, damaged tubing.	Locate leak with detector. Repair or re-braze connection. Evacuate and recharge system.
Valve hums but doesn't operate	Low voltage, mechanical obstruction, worn plunger.	Verify AC220V supply. Disassemble (if serviceable) and inspect for debris or worn parts. Replace valve if internal components are damaged.

If you are unable to resolve the issue, contact a qualified refrigeration technician.

8. Specifications

Model:	NEV-603DXF
Brand:	KoelAp
Voltage:	AC220V
Application:	Refrigeration, Air Conditioning, Ice Machine, Freezer Defrost Systems
Material:	Brass valve body, Copper connections
Package Dimensions:	1.18 x 0.79 x 0.39 inches (approximate)
Item Weight:	1.76 ounces (approximate)
Key Features:	Good design, compatible, strong, durable, wear-resistant, high strength materials, easy to install, easy to replace.

9. Warranty and Support

Warranty: This product is sold without an explicit warranty. Please refer to your point of purchase for their return or exchange policy, if any.

Support: For technical assistance or further inquiries, please contact your supplier or a qualified refrigeration service professional.