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Manitowoc 040000689

Manitowoc Ice 040000689 120V Hot Gas Valve Instruction Manual

Model: 040000689

1. PRODUCT OVERVIEW

The Manitowoc Ice 040000689 is a 120V hot gas valve designed as an Original Equipment Manufacturer (OEM) replacement part for Manitowoc ice machines. This component is integral to the refrigeration cycle, specifically assisting in the defrost process of the evaporator coil to ensure efficient ice production.

This valve facilitates the flow of hot refrigerant gas into the evaporator, melting ice from the evaporator plates and allowing it to drop into the ice bin. Proper functioning of this valve is critical for the ice machine's performance and longevity.

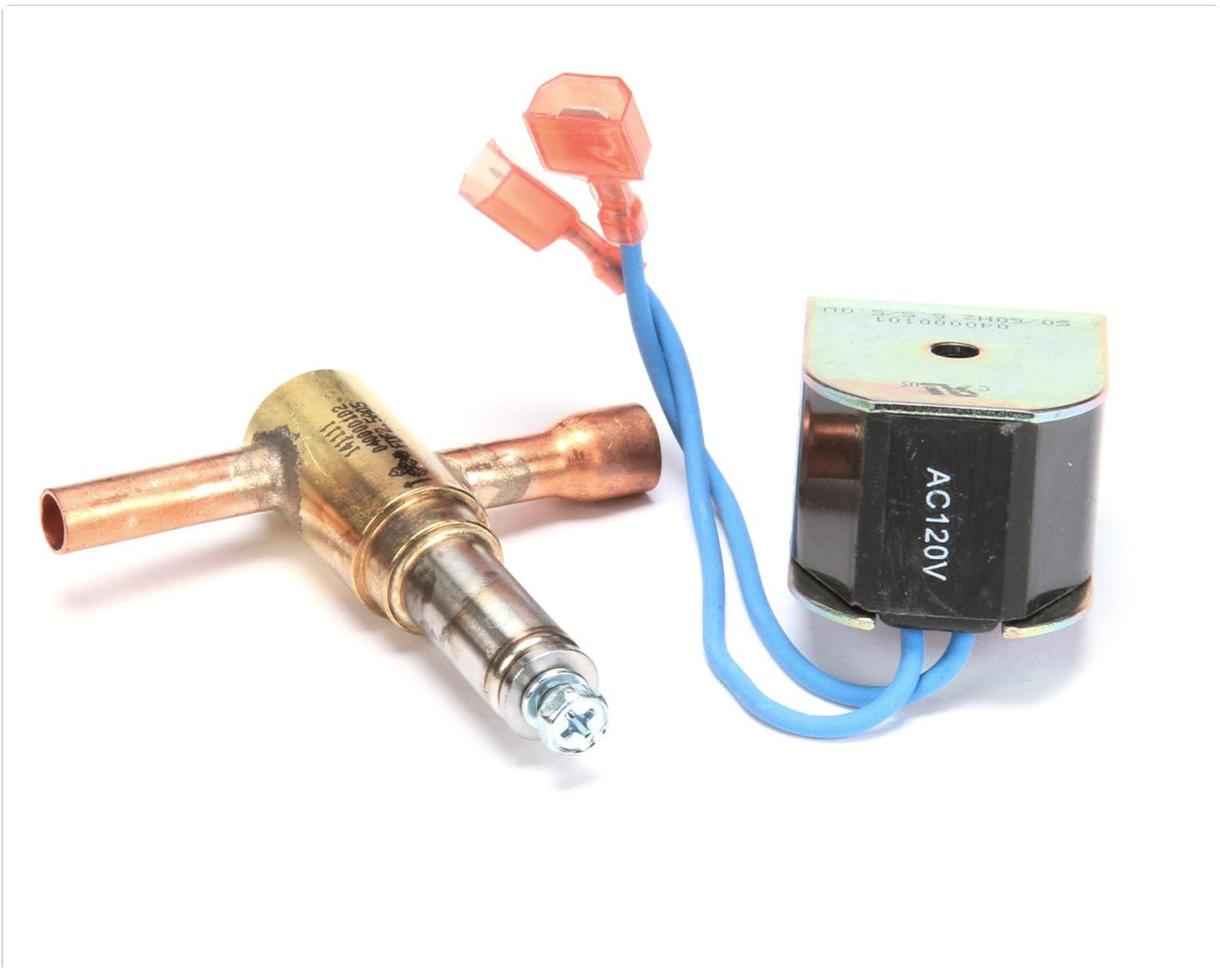


Figure 1: Maniowoc Ice 040000689 120V Hot Gas Valve. The image displays the valve assembly, featuring a brass body with copper tubing connections, and an attached 120V electrical coil with blue wires and orange spade connectors. This component is essential for controlling refrigerant flow in ice machine defrost cycles.

2. SAFETY INFORMATION

WARNING: Installation and servicing of this component should only be performed by qualified and certified refrigeration technicians. Improper installation or handling of refrigerants and electrical components can result in serious injury, property damage, or death.

- Always disconnect power to the ice machine before attempting any installation, maintenance, or repair.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure proper ventilation when working with refrigerants.
- Follow all local and national electrical and refrigeration codes.
- Do not bypass any safety devices.

3. SETUP AND INSTALLATION

This hot gas valve is an OEM replacement part. Installation procedures will vary depending on the specific Maniowoc ice machine model. Refer to the service manual for your particular ice machine for detailed, model-specific instructions.

General Installation Steps (Consult Service Manual for Details):

1. **Power Disconnection:** Ensure the ice machine is completely disconnected from its power source.

2. **Refrigerant Recovery:** Safely recover all refrigerant from the system using appropriate equipment.
3. **Valve Removal:** Carefully desolder or unbolt the old hot gas valve from the refrigeration lines.
4. **New Valve Installation:** Install the new Manitowoc 040000689 hot gas valve, ensuring proper orientation and secure connections. Brazing may be required for copper line connections.
5. **Electrical Connection:** Connect the 120V electrical wires to the valve's coil. Ensure connections are secure and insulated.
6. **Leak Testing:** Perform a thorough leak test on all newly brazed or connected joints.
7. **Evacuation and Charging:** Evacuate the system to a deep vacuum and recharge with the correct type and amount of refrigerant as specified by the ice machine manufacturer.
8. **System Start-up:** Restore power and carefully monitor the ice machine's operation to confirm proper function of the new valve.

Note: The valve's electrical coil operates at 120V. Verify the power supply matches this requirement.

4. OPERATING PRINCIPLES

The hot gas valve is an electrically actuated solenoid valve. When energized (receiving 120V power), it opens, allowing hot refrigerant gas from the compressor discharge to bypass the condenser and flow directly into the evaporator coil. This process heats the evaporator, causing the ice to release from the plates during the harvest cycle.

When de-energized, the valve closes, directing refrigerant through the normal cooling cycle for ice production. The ice machine's control board manages the timing and duration of the valve's activation.

5. MAINTENANCE

The Manitowoc 040000689 hot gas valve is a sealed component and generally does not require routine user maintenance. However, periodic inspection by a qualified technician is recommended as part of the ice machine's overall preventative maintenance schedule.

- Inspect electrical connections for corrosion or looseness.
- Check for any signs of refrigerant leaks around the valve body or connections.
- Ensure the valve cycles correctly during the defrost phase of the ice machine.

Any issues identified should be addressed by a qualified service professional.

6. TROUBLESHOOTING

If the ice machine is experiencing issues related to the defrost cycle (e.g., ice not dropping, long harvest times, or continuous defrost), the hot gas valve may be a contributing factor. Due to the complexity of refrigeration systems and the electrical nature of this component, troubleshooting should be performed by a qualified technician.

Common Symptoms of a Malfunctioning Hot Gas Valve:

- **Ice Not Harvesting:** The valve may not be opening, preventing hot gas from entering the evaporator.
- **Excessive Harvest Time:** The valve may be partially opening or not allowing sufficient hot gas flow.
- **Continuous Defrost/No Ice Production:** The valve may be stuck open, continuously sending hot gas to the evaporator.
- **Electrical Coil Failure:** The coil may not be receiving power or may be internally damaged,

preventing the valve from actuating.

A technician can test the electrical coil for continuity and proper voltage, and assess refrigerant pressures to diagnose valve operation.

7. SPECIFICATIONS

| Attribute | Value |
|--------------------|--|
| Brand | Manitowoc |
| Model Name | 040000689 |
| Item Model Number | MAN040000689 |
| Voltage | 120 Volts |
| Product Dimensions | Approximately 1 x 1 x 1 inches (2.54 x 2.54 x 2.54 cm) |
| Package Dimensions | 11.7 H x 9.9 L x 10.1 W (centimetres) |
| Package Weight | 0.271 kilograms (approximately 9.56 ounces) |
| Country of Origin | United States |
| ASIN | B01DV2RNX0 |

8. WARRANTY AND SUPPORT

As an OEM replacement part, the Manitowoc Ice 040000689 hot gas valve is typically covered by the manufacturer's standard warranty for parts. Specific warranty terms and conditions may vary and are usually provided with the purchase or can be found on the official Manitowoc website.

For technical support, warranty claims, or to locate authorized service providers, please contact Manitowoc Ice directly through their official customer service channels or website. Always provide your ice machine's model and serial number when seeking support.

Important: Unauthorized repairs or modifications may void the product warranty and could lead to unsafe operating conditions.