Danfoss 067B2792

Danfoss TE5 N 4 Orifice Expansion Valve Instruction Manual

Model: 067B2792

1. Introduction

This manual provides essential information for the proper installation, operation, and maintenance of the Danfoss TE5 N 4 Orifice Expansion Valve, model 067B2792. This component is designed for use in refrigeration and air conditioning systems to regulate the flow of refrigerant.

2. Safety Information

WARNING: Improper installation, operation, or maintenance can result in property damage, personal injury, or death. Only qualified personnel should perform work on refrigeration and air conditioning systems.

- Always wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure the system is depressurized and isolated before attempting any installation or service.
- Handle refrigerants with care and in accordance with local regulations.
- Refer to the overall system manufacturer's instructions for specific safety procedures.

3. Product Overview

The Danfoss TE5 N 4 Orifice is a critical component of a thermostatic expansion valve (TXV) assembly. It is responsible for metering the flow of liquid refrigerant into the evaporator, thereby controlling the superheat at the evaporator outlet. The 'N 4' designation refers to the specific orifice size, which determines the capacity of the valve.

Figure 1: Close-up view of the Danfoss TE5 N 4 Orifice Expansion Valve assembly, showing the spring, internal components, and brass housing.

Figure 2: Side view of the Danfoss TE5 N 4 Orifice, highlighting its cylindrical shape and internal mechanism.

4. Setup and Installation

The orifice is an interchangeable part within a compatible Danfoss TE5 thermostatic expansion valve body. Installation requires careful handling and adherence to manufacturer specifications.

4.1 Tools Required

- Appropriate wrench or specialized Danfoss tool for TXV orifice replacement.
- Clean lint-free cloths.
- Refrigerant-compatible lubricant (if specified by TXV body manufacturer).

Figure 3: Example of an installation tool and sealing washers, which may be required for orifice replacement.

4.2 Installation Steps

1. **Depressurize System:** Ensure the refrigeration system is completely depressurized and isolated from refrigerant supply.
2. **Access TXV Body:** Locate the thermostatic expansion valve body where the orifice is to be installed or replaced.
3. **Remove Old Orifice (if applicable):** Carefully unscrew or unclip the existing orifice from the valve body using the appropriate tool. Note the orientation for correct installation of the new orifice.
4. **Inspect and Clean:** Inspect the valve body for any debris or damage. Clean the seating area thoroughly with a lint-free cloth.
5. **Install New Orifice:** Insert the new Danfoss TE5 N 4 Orifice into the valve body, ensuring correct orientation. Use the specialized tool to secure it firmly but do not overtighten. Ensure any necessary sealing washers are correctly seated.
6. **Leak Test:** After reassembling the TXV and system, perform a thorough leak test using an appropriate leak detection method.
7. **Evacuate and Charge:** Evacuate the system to the required vacuum level and recharge with the correct type and amount of refrigerant according to system manufacturer specifications.

Figure 4: The Danfoss TE5 N 4 Orifice shown alongside an installation tool and sealing washers, illustrating components involved in the replacement process.

5. Operating Instructions

The Danfoss TE5 N 4 Orifice operates passively within the thermostatic expansion valve. Its function is to provide a fixed restriction for refrigerant flow. The overall TXV, which houses this orifice, dynamically adjusts the refrigerant flow based on the superheat detected at the evaporator outlet. There are no user-adjustable settings on the orifice itself.

- Ensure the system is charged with the correct refrigerant type and quantity.
- Monitor system pressures and temperatures to confirm proper operation of the TXV and overall refrigeration cycle.

6. Maintenance

The Danfoss TE5 N 4 Orifice itself is a static component and typically does not require routine maintenance. However, the overall thermostatic expansion valve and the refrigeration system should be regularly inspected by a qualified technician.

- **Annual Inspection:** Have the refrigeration system, including the TXV, inspected annually for proper operation, leaks, and efficiency.
- **Cleanliness:** Ensure the system remains free of contaminants, which can clog the orifice or other valve components.
- **Replacement:** If the system exhibits symptoms of an incorrect orifice size or a clogged orifice, replacement by a qualified technician may be necessary.

7. Troubleshooting

Issues related to the orifice are typically manifested as problems with the overall thermostatic expansion valve or system performance. Consult a qualified HVAC/R technician for diagnosis and repair.

Common Symptoms of Orifice-Related Issues:

- **High Superheat / Low Suction Pressure:** May indicate a clogged or undersized orifice, restricting refrigerant flow.
- **Low Superheat / High Suction Pressure (with liquid floodback):** May indicate an oversized orifice or a TXV stuck open, allowing too much refrigerant flow.
- **Fluctuating Suction Pressure:** Could be due to intermittent clogging or improper TXV operation.

Note: These symptoms can also be caused by other system issues (e.g., refrigerant charge, compressor problems, evaporator coil issues). A comprehensive system diagnosis is essential.

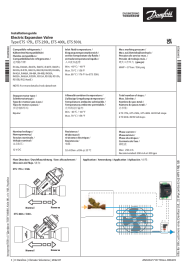
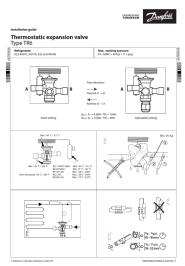
8. Specifications

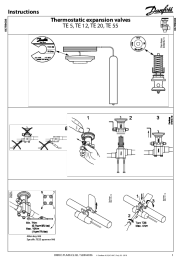
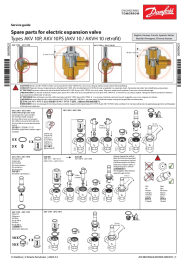
Specification	Detail
Model Number	067B2792
Orifice Size	N 4 (Specific capacity for TE5 valves)
Material	Stainless Steel (as per product specifications)
Item Weight	3.68 ounces (approx.)
Product Dimensions	5 x 1.87 x 1.87 inches (approx.)
UPC-EAN	5702428320993

9. Warranty and Support

For warranty information regarding the Danfoss TE5 N 4 Orifice, please refer to the official Danfoss warranty policy or contact your authorized Danfoss distributor or seller. Warranty terms typically cover manufacturing defects under normal use conditions.
For technical support or further inquiries, please visit the official Danfoss website or contact their customer service department. You can also visit the Danfoss Store on Amazon for additional product information.

Related Documents - 067B2792

	Danfoss Electric Expansion Valve ETS Series Installation Guide Installation guide for Danfoss Electric Expansion Valves (ETS 175L, ETS 250L, ETS 400L, ETS 500L), covering technical specifications, mounting, brazing, electrical connections, disassembly, assembly, and safety warnings.
	Danfoss TR6 Thermostatic Expansion Valve Installation Guide Installation guide for the Danfoss TR6 Thermostatic Expansion Valve, covering refrigerant compatibility, working pressure, flow direction, settings, and technical specifications.

	[Danfoss Thermostatic Expansion Valves TE 5, TE 12, TE 20, TE 55: Instructions and Specifications] This document provides installation instructions and technical specifications for Danfoss TE 5, TE 12, TE 20, and TE 55 thermostatic expansion valves. It includes details on valve components, installation procedures, torque settings, superheat calculations, and capacity tables for various refrigerants.
	[Danfoss TR6 Thermostatic Expansion Valve Technical Data and Application Guide] Comprehensive guide to the Danfoss TR6 thermostatic expansion valve, covering its features, applications in HVAC/R systems, technical specifications, sizing, ordering information, and design principles. Includes diagrams and tables for easy reference.
	[Danfoss AKV 10P/10PS Electric Expansion Valve Spare Parts Service Guide] Comprehensive service guide for Danfoss AKV 10P and AKV 10PS electric expansion valves, detailing spare parts like orifice kits, filter kits, and armature kits, along with mounting and dismounting instructions.
	[Danfoss Colibri® Electric Expansion Valves ETS Series - Technical Data Sheet] Comprehensive technical data sheet for Danfoss Colibri® Electric Expansion Valves, including features, design, specifications, applications, ordering information, and troubleshooting for ETS 12C, ETS 24C, ETS 25C, ETS 50C, and ETS 100C models.