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› Detachable Thermal Expansion Valve Power Head XC-726 HC-2B

Aoleaby XC-726 HC-2B

Detachable Thermal Expansion Valve Power Head

Model: **XC-726 HC-2B**

Brand: Aoleaby

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the Aoleaby Detachable Thermal Expansion Valve (TXV) Power Head, models XC-726 and HC-2B. This component is designed for use in various refrigeration systems to control refrigerant flow and maintain optimal superheat.

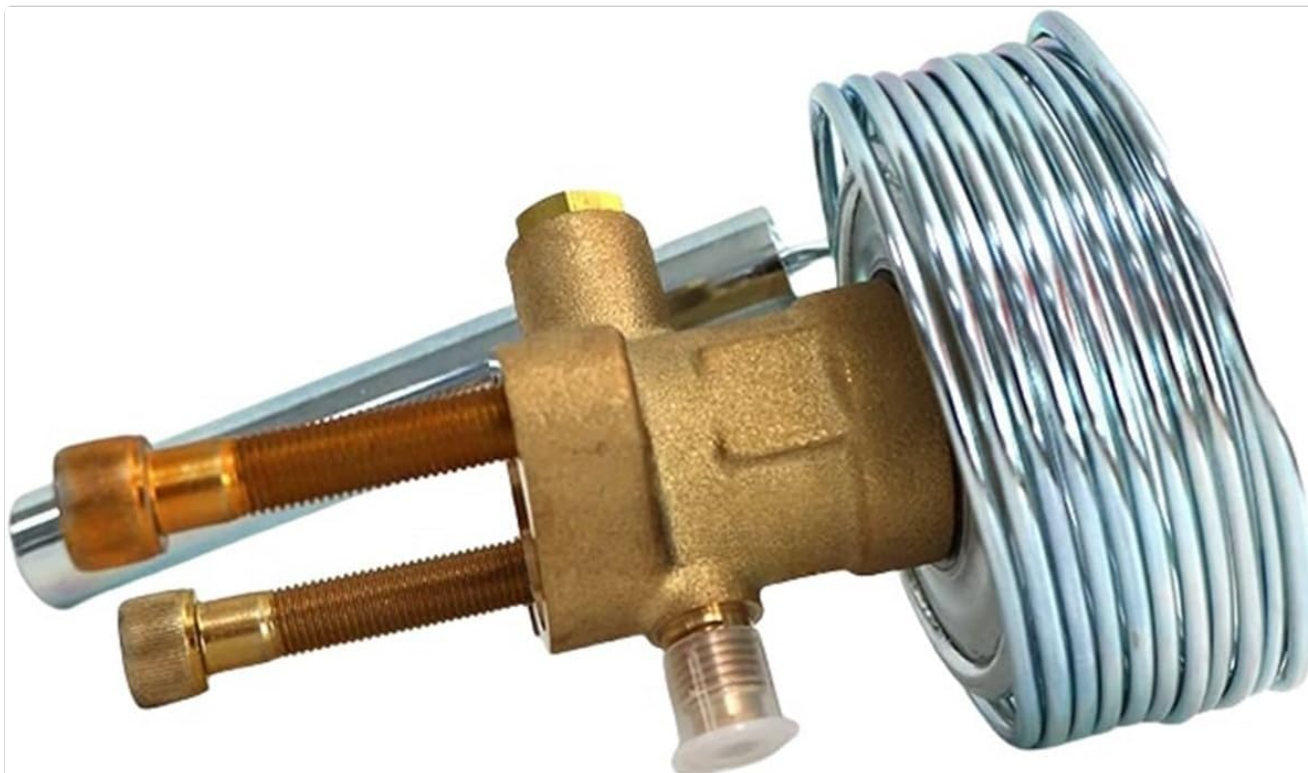


Figure 1.1: Overview of the Detachable Thermal Expansion Valve Power Head.

2. KEY FEATURES

- **Versatile Applications:** Suitable for traditional refrigeration, self-contained refrigerators, transport refrigeration, and supermarket refrigeration systems.
- **Durable Construction:** Features a hermetic, non-replaceable stainless steel power head for long-lasting performance.

- **Precise Superheat Control:** The functional valve, consisting of a valve body and orifice, allows for precise superheat adjustments. Turning clockwise increases superheat, while turning counter-clockwise decreases it.
- **Standard Connections:** Equipped with flare inlet and outlet connections for easy integration into existing systems.
- **Fine Adjustment Capability:** Superheat adjustments can be made in 1/4 turn increments, with each 1/4 turn equating to approximately 1.75°F (0.97°C) change.

3. SETUP AND INSTALLATION

Installation of the thermal expansion valve power head should only be performed by a qualified HVAC technician. Incorrect installation can lead to system malfunction, refrigerant leaks, or personal injury.

1. **System Preparation:** Ensure the refrigeration system is depressurized and evacuated according to industry standards before beginning installation.
2. **Connection:** Connect the power head to the valve body using the flare inlet and outlet connections. Ensure all connections are clean and free of debris.
3. **Tightening:** Use appropriate tools to tighten flare connections to the manufacturer's recommended torque specifications to prevent leaks. Do not overtighten.
4. **Sensor Bulb Placement:** Securely attach the temperature sensor bulb to the suction line in the correct location, typically after the evaporator coil, to accurately measure superheat. Ensure good thermal contact.
5. **Leak Check:** After installation, perform a thorough leak check using an appropriate leak detection method.
6. **Evacuation and Charging:** Evacuate the system to a deep vacuum and then charge with the correct type and amount of refrigerant as specified by the system manufacturer.



Figure 3.1: Detail of the flare connections on the TXV power head.

4. OPERATING INSTRUCTIONS AND SUPERHEAT ADJUSTMENT

The primary function of the TXV power head is to regulate the flow of refrigerant into the evaporator, maintaining a consistent superheat. Superheat is the difference between the actual temperature of the refrigerant vapor at the evaporator outlet and its saturation temperature at the same pressure.

4.1. Superheat Adjustment

The TXV power head allows for manual adjustment of the superheat setting. This adjustment is crucial for optimizing system performance and efficiency.

- To **increase superheat**, turn the adjustment screw **clockwise**.
- To **decrease superheat**, turn the adjustment screw **counter-clockwise**.

Each 1/4 turn of the adjustment screw typically results in a superheat change of approximately 1.75°F (0.97°C). Make small adjustments and allow the system to stabilize before making further changes. Consult system specifications for the ideal superheat setting.



Figure 4.1: Top view of the TXV power head, indicating the superheat adjustment point.

5. MAINTENANCE

The Aoleaby Detachable Thermal Expansion Valve Power Head is designed for minimal maintenance due to its hermetic, non-replaceable stainless steel construction. Regular system maintenance by a qualified technician is recommended to ensure optimal performance of the entire refrigeration system.

- **Periodic Inspection:** During routine system checks, inspect the TXV power head and its connections for any signs of leaks, corrosion, or physical damage.
- **Cleanliness:** Ensure the area around the TXV and sensor bulb is clean and free of debris that could impede proper operation or heat transfer.
- **Performance Monitoring:** Monitor system pressures and temperatures to ensure the TXV is maintaining the correct superheat. Deviations may indicate a need for adjustment or further diagnosis by a professional.

6. TROUBLESHOOTING

If your refrigeration system is not performing optimally, the TXV may be a contributing factor. Troubleshooting should be performed by a qualified HVAC technician.

Common Issues and Potential Causes:

- **High Superheat / Starved Evaporator:**
 - TXV set too high (adjust counter-clockwise).
 - Low refrigerant charge.
 - Restriction in liquid line or TXV.
 - Sensor bulb losing contact or charge.
- **Low Superheat / Flooded Evaporator:**
 - TXV set too low (adjust clockwise).
 - Overcharge of refrigerant.
 - Sensor bulb incorrectly placed or insulated.
 - TXV stuck open.
- **Fluctuating Superheat:**
 - Improper sensor bulb placement.
 - Refrigerant contamination or non-condensables.
 - Intermittent liquid line flash gas.

Always consult a professional HVAC technician for diagnosis and repair of refrigeration system issues.

7. SPECIFICATIONS

Attribute	Detail
Brand	Aoleaby
Model Numbers	XC-726, HC-2B
Material	Stainless Steel (Power Head)
Exterior Finish	Stainless Steel
Inlet Connection Type	Flare (1/4 SAE)

Attribute	Detail
Outlet Connection Type	Flare
Number of Ports	2
Compatible Refrigerant (XC-726)	R22
Compatible Refrigerant (HC-2B)	R22
Temperature Sensor Length	10 FT / 3 m
Applicable Temperature Range (XC-726)	-30°C to +10°C (-22°F to +50°F)
Applicable Temperature Range (HC-2B)	-45°C to +10°C (-49°F to +50°F)
Item Weight	2.65 pounds (approx.)
Package Dimensions	1.18 x 0.79 x 0.39 inches (approx.)
UPC/Barcode Reference	0681344564214



Figure 7.1: Product label with model and refrigerant information.

8. WARRANTY AND SUPPORT

For specific warranty information regarding your Aoleaby Detachable Thermal Expansion Valve Power Head, please refer to the documentation provided at the time of purchase or contact the seller directly. Warranty terms may vary based on region and retailer.

For technical support or inquiries, please contact Aoleaby customer service or your authorized distributor. Ensure you have your product model number (XC-726 or HC-2B) and purchase details available when seeking support.

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