

Introduction

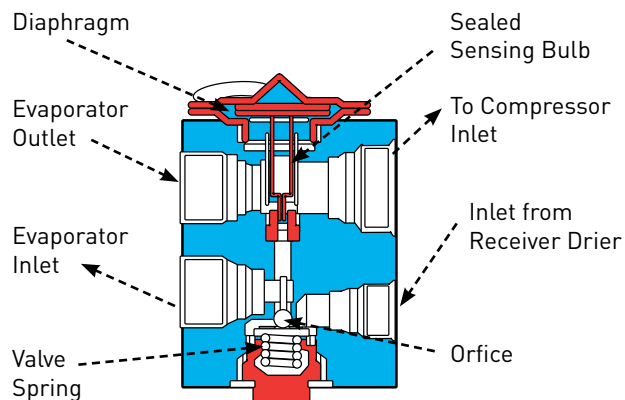
A thermal expansion valve or TXV is a component in an air conditioning system that controls the rate at which the liquid refrigerant can flow into an evaporator. It uses a temperature sensing device that causes the valve to open or close as the temperature changes in the evaporator. It also causes a drop in pressure without causing a change of state.

TXV is one of the moving mechanisms in the air conditioning system and affects the performance of the entire system, even though it is a minimal cost product. Repair cost could be high and it would be wise if a right TXV was used right from the start.

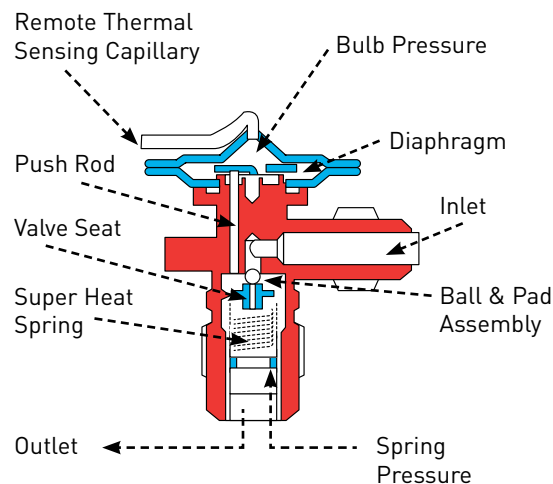
Types

These three types are the commonly used:

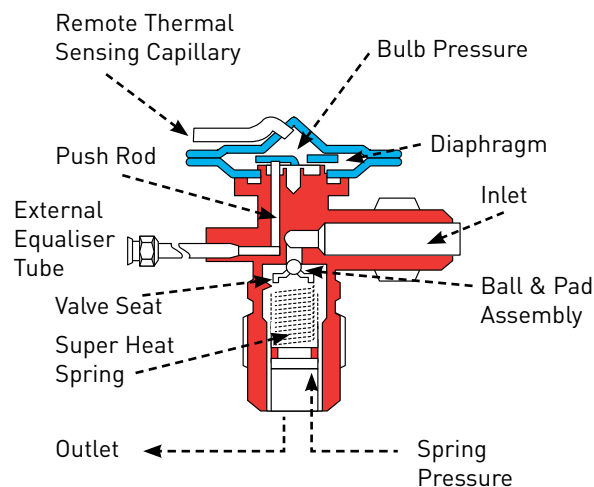
• Block



• Internally equalised



• Externally equalised



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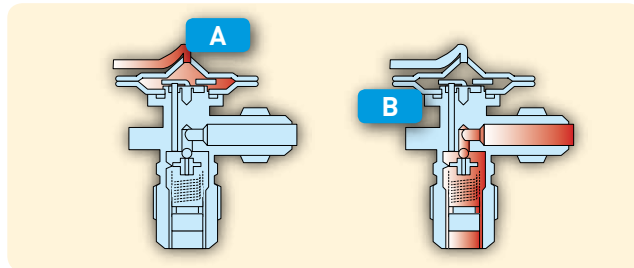
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Principle



At the TXV, the amount of liquid refrigerant flow is determined by the action of a spring-loaded valve which is controlled by different pressures on each side of a connecting diaphragm.

The pressure in chamber "A" is determined by a temperature sensing bulb which is taped to the evaporator outlet and insulated from air temperatures.

The sensing bulb is filled with refrigerant and is connected to chamber "A" by a capillary tube. The temperature at the evaporator outlet determines the pressure in the bulb.

The pressure in chamber "B" is determined by the refrigerant pressure in the evaporator and by the force supplied from the valve spring - often called a superheat spring.

The temperature of the refrigerant leaving the evaporator is interpreted by the sensing bulb attached to the outlet. If the temperature is low, the refrigerant in the sensing bulb will contract and pressure in chamber "A" of the TX valve will reduce.

If the temperature is high, the refrigerant in the sensing bulb expands and exerts more pressure in chamber "A" causing the valve to move away from its seat and allowing more refrigerant to enter the evaporator.

The amount of refrigerant flowing depends on the quantity of heat to be removed from the air passing over the evaporator fins. More heat means that more refrigerant is required to remove it. Less heat means that less refrigerant is required.

Why Choose AC EDGE?

Why buy from any unknown sources when you can buy a quality product at a competitive price from a reputable brand?

- **Wide Acceptability**

Our wide range of TXV is suitable for Japanese, European, US and Korean car makes.

- **Comprehensive Range Of Products**

Our AC EDGE products include brand new Compressor, Condenser, Evaporator, Accumulator / Receiver Drier, TXV, Condenser Fan, Cabin Filter, Radiator, Clutch and AC Tools & Accessories.

- **Superior Parts & Quality Control**

All AC EDGE products are manufactured with superior quality components. A new quality control system has been established to ensure all our parts meet or excel requirement by the aftermarket needs.

- **Cater For The Aftermarket Requirements**

Our direct "drop in and fit" approach also ensures that our customers will not have to go through any hassle to get things done.

- **Product Availability**

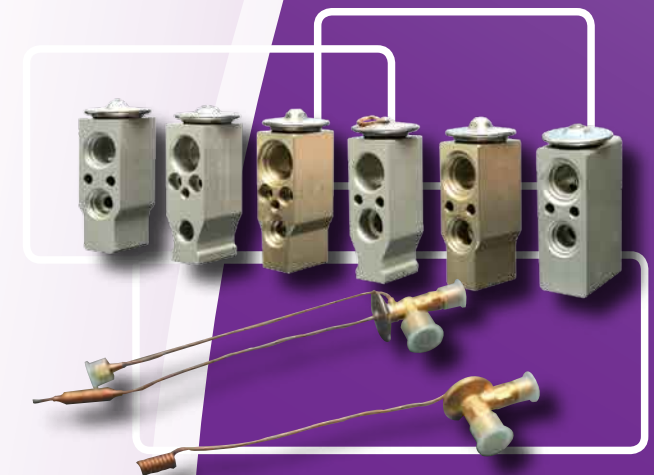
Our products are readily available. Produced at several manufacturing facilities globally, we are able to respond efficiently and effectively to our customers' needs.

- **Strong Technical Support**

With authorized workshops and a trained technicians' international network program, our customers can easily reach us when there is a need.

- **Competitive Pricing**

Without compromising on quality, our products are priced competitively to ensure customer accessibility.



**Thermal
Expansion
Valve (TXV)**