

AHRI Standard 750 (I-P)

2016 Standard for Performance Rating of Thermostatic Refrigerant Expansion Valves



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IMPORTANT

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AHRI uses its best efforts to develop standards/guidelines employing state-of-the-art and accepted industry practices. AHRI does not certify or guarantee that any test conducted under its standards/guidelines will be non-hazardous or free from risk.

Note:

This standard supersedes AHRI Standard 750-2007.

For SI ratings, see AHRI Standard 751 (SI)-2016.

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PERFORMANCE RATING OF THERMOSTATIC REFRIGERANT EXPANSION VALVES

Section 1. Purpose

1.1 *Purpose.* The purpose of this standard is to establish for Thermostatic Refrigerant Expansion Valves: definitions; test requirements; rating requirements; minimum data requirements for Published Ratings; marking and nameplate data; conformance conditions.

1.1.1 *Intent.* This standard is intended for the guidance of the industry, including manufacturers, engineers, installers, contractors and users.

1.1.2 *Review and Amendment.* This standard is subject to review and amendment as technology advances.

Section 2. Scope

2.1 *Scope.* This standard applies to Thermostatic Refrigerant Expansion Valves for use with refrigerants listed in Section 2.1.1 at evaporator temperatures between 50°F and -40°F.

2.1.1 *Refrigerants.* The type of refrigerants applicable to this standard are: hydrofluoroolefins (HFOs), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs), and hydrocarbons (HCs).

Section 3. Definitions

All terms in this document shall follow the standard industry definitions in the ASHRAE Terminology website (<https://www.ashrae.org/resources--publications/free-resources/ashrae-terminology>), unless otherwise defined in this section.

3.1 *Capacity of Thermostatic Refrigerant Expansion Valves.* The refrigerating effect produced by the evaporation of refrigerant which will pass through the valve under the following specified conditions:

3.1.1 Liquid refrigerant temperature at the valve inlet, °F

3.1.2 Saturated evaporator temperature, °F

3.1.3 Pressure difference across the valve, psid

3.1.4 Static superheat set point, °F

3.1.5 Superheat change from the set point, °F

3.2 *Maximum Operating Pressure (MOP).* The value at which the valve limits evaporator pressure in psig. Table C1 defines the recommended nominal values for MOP.

3.5 *Published Rating.* A statement of the assigned values of those performance characteristics, under stated Rating Conditions, by which a unit may be chosen to fit its application. These values apply to all units of like nominal size and type (identification) produced by the same manufacturer. The term Published Rating includes the rating of all performance characteristics shown on the unit or published in specifications, advertising or other literature controlled by the manufacturer, at stated Rating Conditions.

3.5.1 *Application Rating.* A rating based on tests performed at application Rating Conditions (other than Standard Rating Conditions).

3.5.2 *Standard Rating.* A rating based on tests performed at Standard Rating Conditions.

3.6 *Rating Conditions.* Any set of operating conditions under which a single level of performance results and which causes only that level of performance to occur.

3.6.1 *Standard Rating Conditions.* Rating conditions used as the basis of comparison for performance characteristics.