

JB

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JB/T 7230-1994

Electromagnetic four-way reversing valves for heat pumps

热泵用四通电磁换向阀

(English Translation)

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1 Scope

This Standard specifies the terms and definitions, model, basic parameters, requirements, test methods, inspection rules, marking, package and storage of heat pump four-way electromagnetic reversing valve for refrigeration equipment (hereinafter referred to as "reversing valve").

This Standard is applicable the four-way electromagnetic reversing valve for the purposes of cooling and heating by changing the flow direction of the refrigerant in the refrigeration device with refrigerants of R22, R134a, R404A, R407C, R410A, and the valve's nominal capacity of no more than 210kW.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are

applicable to this document.

GB/T 191 Packaging - Pictorial Marking for Handling of Goods

GB/T 2423.1 Environmental Testing - Part 2: Test Methods - Tests A: Cold

GB/T 2423.2 Environmental Testing - Part 2: Test Methods - Tests B: Dry Heat

GB/T 2423.3 Environmental Testing-Part 2: Testing Method - Test Cab: Damp
Heat, Steady State

GB/T 2423.17 Environmental Testing for Electric and Electronic Products - Part 2:
Test Method - Test Ka: Salt Mist

GB/T 2624 (all parts) Measurement of Fluid Flow by Means of Pressure Differential
Devices Inserted in Circular Cross-Section Conduits Running Full

GB/T 6283 Chemical Products - Determination of Water Karl · Fischer Method (General
Method)

--- Under normal temperature condition, the insulation resistance between the live parts
and the non-live parts shall be greater than 100Mohm;

--- After the damp heat resistance test, the insulation resistance of the solenoid coil of
reversing valve shall be no less than 1.5Mohm.

5.2.6.3

Under the specified test method of the solenoid coil of the reversing valve, the heating
temperature requirements shall conform to the provisions of Table 6.

Table 6 - Heating Temperature 5.2.6.4 The solenoid coil of reversing valve shall meet the
requirements of self- extinguishing within 60s.

5.2.6.5

The solenoid coil of the reversing valve, after the damp heat resistance test, shall meet the
requirements of 5.2.6.1 and 5.2.6.2.

5.2.7 Low temperature resistance

After the low-temperature resistance test, the reversing valve shall meet the requirements
of 5.2.2, 5.2.4, 5.2.5, 5.2.6.1, 5.2.6.2.

5.2.8 High temperature resistance

After the high-temperature resistance test, the reversing valve shall meet the requirements of 5.2.2, 5.2.4, 5.2.5, 5.2.6.1, 5.2.6.2.

5.2.9 Cold-thermal cycle resistance

After the cold-thermal cycle resistance test, the reversing valve shall meet the requirements of 5.2.2, 5.2.4, 5.2.5, 5.2.6.1, 5.2.6.2.

5.2.10 Vibration resistance

During the vibration test, there shall be no loosening of the solenoid coil of reversing valve and the falling-off and breaking of the weld-seam. After the test, the reversing valve shall meet the requirements of 5.2.2, 5.2.4, 5.2.5, 5.2.6.1, 5.2.6.2.

5.2.11 Durability

After the durability test, the reversing valve shall meet the requirements of 5.2.2, 5.2.4, 5.2.5, 5.2.6.1, 5.2.6.2.

5.2.12 Corrosion resistance

Heat resistance level

Temperature °C

lambda The accuracy of the flowrate measuring instrument shall be $\pm 2\%$ reading value within the entire flowrate measuring range; the division value shall not exceed 2.5 times of the specified accuracy;

lambda The design, manufacture, installation and use of the flowrate measuring and throttling device shall be in accordance with provisions of GB/T 2624.

--- The electrical measuring instruments shall meet the following requirements:

lambda Voltmeter: depends on the voltage under test. When the voltage under test is greater than 150V~300V, the accuracy tolerance shall be $\pm 1.50V$; when it is greater than 300V~750V, the accuracy tolerance shall be $\pm 3.75V$;

lambda Ammeter: accuracy shall be $\pm 1\%$ of the indicated value of the ammeter;

lambda Resistance meter: accuracy shall be $\pm 1\%$ indicated value of the bridge type resistance meter;

lambda The division value of the electrical measuring instrument shall not exceed 2 times of the specified accuracy.