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

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Method of testing flow capacity of refrigerant capillary tubes

制冷剂毛细管流量的试验方法

(English Translation)

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Foreword

This revised standard adopts the American National Standards Institute/American Society of Heating Refrigeration and Air Conditioning Engineers Standard ANSI/ASHRAE Standard 28-1996 (RA2006) "Standard Test Method for capillary flow of the refrigerant." the Standard made the following technical corrections.

--- To comply with China's national conditions, the paper tests the standard conditions of 21 °C to 20 °C, the modified reg place as follows. Chapter 4 d), 5.2, 6.3 and 7.1 Note, Qs, Chapter 10 of the f 7.2), Qs 11.6, Chapter 12;

--- To comply with the provisions of the barometer test, "the American Society of Mechanical Engineers standard ASME Performance referenced in Chapter 4 Test Codes, PTC 19.2-1987 (R2004), Pressure Measurement "to Chinese National Standard" JJG 272-2007 "aneroid barometer and Aneroid test procedures" and JJG 614-2004 "second-class standard mercury barometer test Order "." the editorial changes made the following standard.

--- This standard ASHRAE deleted preface;

--- The standard Chapter 1 contains the ANSI/ASHRAE Standard 28-1996 (RA2006) of Chapters 1 and 2, the present Standard Chapter 2 of the new "normative references" other sections the same number as the original standard;

--- With a decimal point instead of a comma as the decimal point, "";

--- The standard delete the original standard in English units, the uniform application of the International System of Units.

The standard proposed by the People's Republic of China Ministry of Commerce.

This standard by the National Standardization Technical Committee refrigeration (SAC/TC119) and focal point responsible for the interpretation.

This standard was drafted. China Refrigeration Institute, Xi'an Jiaotong University, the National Commercial Refrigeration Equipment Quality Supervision and Inspection Center.

1 Scope

This standard specifies two laboratory refrigerant capillary flow test method, namely the traditional methods and alternative methods for determining the refrigeration Systems regulate the refrigerant by capillary flow. Both methods use dry nitrogen to provide comparable results. Such as the use of electricity Child device, the choice of an alternative method is more convenient. By standard test methods can be drawn from the capillary flow characteristics of refrigerant. But come the result does not represent the actual flow characteristics of refrigerant in the refrigeration cycle.

The standard deviation is not specified capillary diameter tolerances and nitrogen flow requirements, it is recommended that the test results are given acceptable deviation range.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

JJG272-2007 aneroid barometer Aneroid and verification procedures JJG614-2004 second-class standard mercury barometer test procedures

3 Terms and Definitions

The following terms and definitions apply to this standard.

In the refrigeration system for adjusting the refrigerant flow and completion of a small-diameter tube throttling process between the condenser and the evaporator, and through Often the inner diameter as small as 0.50mmID.

Volume flow, the unit in liters per second (L/s) represented, equivalent to a predetermined pressure at the inlet and outlet pressure is standard atmospheric pressure Mass flow of dry nitrogen (101.325 KPa .. absolute pressure) is used.

Means a conventional method 4 Test apparatus according to the conventional method of FIG. 1 is arranged. Means are described with the basic measuring instrument (e.g., a thermometer, a pressure gauge), e.g.

There are more sophisticated instruments to meet this standard requires the measurement accuracy, can be used.

The basic components of the device comprises.

a) Dry nitrogen gas supply means (1), providing a minimum pressure of 850 kPa gauge

pressure, the maximum temperature of the dew point of -32 °C dry nitrogen;

b) a filter (2), for removing solid and liquid impurities may be ignored in the nitrogen gas supply line;

c) pressure regulator (3) for causing any test pressure within 15kPa ~ 700kPa gauge pressure ranges remain stable during the test Set ($\pm 5\%$ or $\pm 7\text{kPa}$ even smaller);

d) thermostat coil (4) (if necessary), to maintain the same test sample into the ambient temperature and nitrogen means, it should be $20\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$;

e) temperature measuring means (5) with an accuracy of $\pm 0.3\text{ }^{\circ}\text{C}$, should be installed to ensure the temperature sensing device is immersed in a nitrogen stream, to accurately measure the flow Temperature nitrogen;

f) pressure measuring instruments (6), the maximum range for the gauge pressure 175kPa, accuracy is $\pm 0.7\text{kPa}$ or less;

g) pressure measuring instruments (7), the measurement of the degree of 2kPa or less, the measurement range of the gauge pressure 175kPa ~ 700kPa;

h) sealing means (8) for the test sample (9) is connected to a nitrogen gas stream, the connection should not be increased fluid resistance;