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GB/T 4830-2015

Replacing GB/T 4830-1984

Industrial Process

Measurement and Control Instruments –

Pressure Range and Quality of Air Supply

工业自动化仪表 气源压力范围和质量

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Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009.

This Standard replaced GB/T 4830-1984 *Pressure Range and Quality of Air Supply for the Industrial Process Measurement and Control Instruments*. Compared with GB/T 4830-1984, this Standard has the following major technical changes besides the editorial modification:

- Add “1 Scope”, the clause numbers thereafter shall be postponed (see Chapter 1);
- Delete non-international units (see 3.1, 3.2.1, 4.4, Figure B.1 of this Edition; 2.1, 2.2.1, 3.3 Figure B.1 of 1984 Edition);
- Add “4.1 Overview”, the clause numbers thereafter shall be postponed (see 4.1 of this Edition; Chapter 3 of 1984 Edition);
- Add A.2 title “Requirements for test equipment” (see A.2 of this Edition; A.2 of 1984 Edition);
- Replace “mmHg” by “kPa”, corresponding values are also converted (see B.1.1, B.2 of this Edition; B.1.1, B.2 of 1984 Edition);
- Replace “mmHg” and “kg/cm²” by “MPa”, the corresponding values are also converted (see Figure B.1 of this Edition; Figure B.1 of 1984 Edition).

This Standard was proposed by China Machinery Industry Federation.

This Standard shall be under the jurisdiction of National Technical Committee for Standardization of Industrial Process Measurement and Control (SAC/TC 124).

Drafting organizations of this Standard: Southwest University, Shenzhen Libiao Technology Development Co., Ltd., Zhenzhou City Municipal Engineering Design & Research Institute, and China Silian Instrument Group Co., Ltd.

Chief drafting staffs of this Standard: Zhou Xuelian, Chen Ru, Duan Jingkui, Liu Jin, He Qiang, Li Tao, Huang Renjie, and Yang Songhua.

The historical edition replaced by this Standard is as follows:

- GB/T 4830-1984.

Industrial Process

Measurement and Control Instruments –

Pressure Range and Quality of Air Supply

1 Scope

This Standard specifies the requirements for pressure range and quality of air supply for industrial process measurement and control instruments.

This Standard is applicable to the air supply used by the industrial process measurement and control instruments.

2 Terms and Definitions

The following terms and definitions are applicable to this document.

2.1 On line pressure

The gas pressure delivered from the purifying device outlet to the instrument input end pipe network.

2.2 Ambient temperature limit

The minimum temperature on the site where there is a whole system including the purifying device outlet, pipe network and instrument.

3 Pressure Range

3.1 Pressure range of air supply on the purifying device outlet

The pressure range of air supply on the purifying device outlet is 300kPa~500kPa; and 500kPa~800kPa.

3.2 Pressure range of air supply on the instrument input end

3.2.1 The nominal pressure value of air supply on the instrument input end is 140kPa, 260kPa, 350kPa, 550kPa and 700kPa.

3.2.2 The allowable pressure fluctuation range of air supply on the instrument input

Appendix A

(Informative)

Test on Quality of Air Supply

A.1 Test objective

Check and supervise whether the quality of air supply meets the requirements of this Standard; so provide basis timely for detecting and eliminating the failure of air supply system.

A.2 Requirements for test equipment

All instruments and equipment used in the test shall be verified and calibrated according to the provisions or requirements of relevant departments.

A.3 Test Items

A.3.1 Dew point.

A.3.2 Dust-contained particle size.

A.3.3 Oil content

A.4 Test methods

A.4.1 Test method on dew point

Measure by trace water analyzer with accuracy no less than $\pm 10\%$ (volume ratio ppm); the obtained data shall be converted as per relevant formula (curve or table).

A.4.2 Test method on dust-contained particle size

Adopt the light scattering principle counting method.

A.4.3 Test method on oil content

Sampling mode: CCl_4 (carbon tetrachloride) absorption method.

Analyzing method: spectrophotometry.

The simple chart of test system can refer to Figure A.1.

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