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PEOPLE'S REPUBLIC OF CHINA**

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The general safety regulations of elasticity pressure gauge

弹性式压力仪表通用安全规范

(English Translation)

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60 Beats/min $\pm$ 5 beats/min

Foreword

2.4 This standard is recommended, the rest are mandatory.

Appendix A of this standard is an informative annex.

The standard proposed by China Machinery Industry Federation.

The standard measurement and control by the National Standardization Technical Committee of industrial processes.

This standard by the Xi'an Institute of Industrial Automation Instrumentation drafted.

Participated in the drafting of this standard. Hongqi Instrument (Changxing) Co., Leier Da Instrument Co., Ltd., Ningbo Long welding technology shares have Limited, Anhui Rand Group Co., Ltd., Zhejiang Phouesay Xun Instrument Co., Ltd., Ningbo Jiangbei Xingda Welding pressure reducer plant.

1 Scope

This standard specifies the elastic pressure gauge in ensuring safe use with regard to performance requirements, test methods and decision rules.

This standard applies to the spring tube (including the helical spring tube, coil spring tube and C-shaped tube), diaphragm, bellows and bellows mechanical pointer pressure Force Table (hereinafter referred to as the instrument).

2.1 Fatigue

After the instrument under alternating load test specified in Table 1, there should be no leakage.

Table 1

Measurement limit

MPa

Alternating load frequency alternating frequency alternating amplitude ≤ 2.5 100000 > 2.5
 $\sim \leq 60$ 50000 $> 60 \sim \leq 160$ 25000

60 Beats/min $\pm$ 5 beats/min

Or 30 times/min $\pm$ 5 beats/min Measuring limit $(30 \pm 5)\%$ $\sim$ $(60 \pm 5)\%$ (Total amplitude alternating shall not be less than 30% of full scale value)

2.2 Overvoltage

Instrumentation withstand load values specified in Table 2, to maintain 15min, there should be no leakage.

Table 2 MPa

Static load limit of the measuring value ≤ 10 1.5 times the measurement limit $> 10 \sim \leq 60$
 1.3 times the upper limit of measurement $> 60 \sim \leq 160$ 1.2 times the upper limit of measurement Note. There are no corresponding standard overpressure performance requirements of the product may not be required.

2.3 pressure relief function to have a pressure relief function of the instrument, when the elastic element rupture, should be able to timely release of pressure accumulated inside the case, does not cause the watch glass flying.

Table 2.4 Security Advice

Safe use of the instrument required notes in Appendix A.

3 test

3.1 Test conditions

Test Ambient temperature. $(20 \pm 5) ^\circ\text{C}$.

3.2 Test apparatus

- a) produce sinusoidal alternating load equipment.
- b) meet the requirements of the parameters in Table 2 overpressure test bench. The test stand should be protective devices to protect the safety of test personnel.
- c) means to produce an instantaneous release of pressure, the device should have a splash-proof protection.

3.3 Sampling

Randomly selected four gauges used as test instrumentation, this mother of not less than 20.

3.4 Test Method

3.4.1 Test sequence and time interval no listed in sequence between the two test fatigue test and overvoltage, but the time between two test intervals of not less than 4h. Relief work Finally, the test should be able to.

3.4.2 Fatigue Test

The instrument is mounted on alternating load test equipment, according to the parameters specified in 2.1 fatigue tests.

3.4.3 overpressure test Installing the instrument in the overpressure test bench, give the instrument plus the measurement limit load, static pressure 12h, then press into a predetermined parameter 2.2 Line overpressure test.

3.4.4 Test pressure relief function the instrument is mounted on the instantaneous pressure release device, so that the gas gathering energy $E = pV$, then suddenly the exhaust gas inside the case.

On p --- gauge measurement limits, if the measurement is less than the upper limit 6MPa, then take 4MPa; greater than 10MPa, then take 10MPa.

V --- spring gas pipes and fittings for internal capacity approximation.

3.5 determine the rules 4 meter, if one does not comply with a provision of 2.1,2.2,2.3, then this batch of product failure; only each instrument each pilot project are qualified, this batch of products before judgment for qualified products.

Appendix A

(Informative)

Safety Recommendations Table A.1 For security, we recommend users to choose the gauge with a pressure relief function.

A.2 gauge the impact strength of the weld welding, solder subject; connection effect of temperature, strength and corrosion by the media, should be used Consider these factors.

A.3 for vibration-resistant oil-filled pressure gauges, glycerin or silicone oil if filling, should avoid the use of strong oxidants environment from potential hazards of Chemical reaction caused by the explosion.

A.4 connection between the pressure and the elastic member, it is recommended to place the limiter, which can help control the escape of gas, to reduce the risk.

A.5 do not advocate a gauge used for other purposes in some occasions later. If you must use this, it should consider its chemical compatible , Part fatigue and corrosion.

When A.6 When the working pressure medium is corrosive, in consultation with the manufacturer, and select the appropriate elastic member joint device material.