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

GB 5093-2009

Replacing GB 5093-1985

**Technical requirements for hand-held electromagnetic disk
used for the presses**

压力机用手持电磁吸盘 技术条件
(English Translation)

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Foreword

The standard Chapter 1, Chapter 2, Section 3, 7.1 are recommended, the rest are mandatory.

This standard is GB 5093-1985 "press held electromagnetic sucker technical conditions" amendments, compared with GB 5093-1985 master to change the following.

- Increasing the normative references;
- Increasing the terms and definitions;
- Modify the insulation resistance requirements (1985 version 2.5, this version 5.5);
- Modify the requirements of the pressure test (1985 version 2.6, this version 5.6);
- Modify the requirements of the inspection rules (1985 edition Chapter 3, Chapter 6 of this edition);
- Modify the requirements of packaging, storage and random file (1985 edition, Chapter 4, Chapter 7 of this edition).

The date of implementation of this standard, instead of GB 5093-1985.

The standard proposed by China Machinery Industry Federation.

This standard by the National Forging Machinery Standardization Technical Committee.

This standard was drafted. Jinan Foundry and Metalforming Machinery Research Institute, Zhejiang Xiaoshan beetles Machinery Co., Ltd. Changzhi City Kewei Forming Machinery Technology Limited surgery.

1 Scope

This standard specifies the press with hand-held electromagnetic chuck (hereinafter referred to as handheld electromagnetic chuck) the design, manufacture, inspection, packing and shipping Claim.

This standard is applicable for use in the press of various handheld electromagnetic sucker.

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.

GB/T 191-2008 Packaging - Pictorial signs (ISO 780:1997, MOD) GB/T 2828.1-2003 Sampling procedures for inspection - Part 1. by acceptance quality limit (AQL) retrieval batch test sample Programme (ISO 2859-1:1999, IDT) GB 5226.1-2002 Safety of machinery electrical equipment Part 1. General requirements (IEC 60204-1:2000, IDT) GB/T 9969 General Instructions industrial products GB/T 13384 mechanical and electrical products packaging General technical conditions GB/T 16935.1-2008 within low-voltage systems Insulation coordination for equipment - Part 1. Principles, requirements and tests (IEC 60664-1.

2007, IDT)

3 Terms and Definitions

Handheld electromagnetic sucker by electromagnetic suction to press working in hazardous areas to place or remove a workpiece with a hand-held tools.

Its role is to make the operator's hands or fingers do not need to work directly into the danger zone. Handheld electromagnetic sucker includes a power supply and two section.

4.1 Basic requirements

4.1.1

Handheld magnechuck shall conform to the standards, and procedures should be required to approve the drawings and technical documents manufacture.

4.1.2

hand-held electromagnetic chuck be easy to operate, reliable, hand-held electromagnetic sucker when using easy to loose parts, should be a reliable locking Measures.

4.1.3

should be used hand-held electromagnetic chuck according to the nominal size of the suction.

4.2 handheld electromagnetic sucker should ensure reliable operation under the following conditions.

- a) an altitude not exceeding 1000m;
- b) intended use in the ambient air temperature range of -10 °C ~ 40 °C;
- c) Relative humidity less than 95%;
- d) displacement amplitude and vibration frequency corresponding within predetermined ranges in Table 1;

Table 1 and the corresponding displacement amplitude of the vibration frequency table

Unidirectional displacement amplitude value/mm	vibration frequency/Hz
20	1.25
30	0.55
40	0.15
50	0.15

- e) In the absence of explosive medium, the medium does not enough to corrode metal and damage the insulation of gas and conductive dust.

4.3 handheld electromagnetic sucker should ensure that no damage under the following storage conditions.

- a) in the ambient air temperature range of -40 °C ~ 55 °C;
- b) and can withstand a temperature of 70 °C, relative humidity less than 95%, no more than a continuous condition of 24h;

4.4 handheld electromagnetic chuck components used, shall comply with this standard, it should also comply with the relevant components of the technical requirements.

4.5 handheld electromagnetic chuck parts should be used in high magnetic permeability industrial pure iron or carbon content less than 0.22% of high-quality carbon steel and other materials Materials and manufacturing. Magnetic parts should not affect the magnetic properties of defects.

4.6 Electromagnetic chuck separated from the magnetic material should be made of copper, aluminum or pewter and other non-magnetic materials. Without decreasing the magnetic separator under conditions, can adopt Other non-magnetic material.

4.7 handheld electromagnetic chuck with a magnetic coil should use good insulating properties of high-strength copper wire wound. Coil windings should be arranged in neat rows, Even close, reliable insulation.

4.8 handheld electromagnetic chuck attracting face should be smooth,.

4.9 In the power supply voltage of 0.90 to 1.1 times the rated voltage condition, handheld electromagnetic sucker suction should be nominal suction 100% to 140%.

4.10 hand-held suction generated by the electromagnetic chuck residual magnetism should not exceed 10% of the nominal suction.

4.11 hand-held power transformer electromagnetic chuck surface temperature should not exceed 65 °C, hand sucker electromagnetic chuck surface temperature increase should not exceed Over 25 °C.

Insulation resistance value 4.12 applying a DC voltage of 500V in the power cord and the housing should be measured not less than 100Mohm.

4.13 Handheld magnechuck between the power line and the ground terminal housing protection should be able to withstand voltage 1000V AC voltage and 1s time test.

4.14 hand-held electromagnetic coil winding chuck DC voltage should not exceed 24V.

4.15 hand-held electromagnetic chuck power control box should be PELV power, and should have a good grounding protection, should take place on the power supply housing.

Clearly it shows that the ground can not be identified clearly marked ground in its vicinity. Ground should identify durable and easy to fall off.

4.16 hand-held electromagnetic chuck switch should have good insulating properties, and ease of operation.

4.17 hand-held electromagnetic chuck hand shank should have good insulating properties and is suitable for the operator to grip, but also prevent finger grip or forward Forward measures to slip.

4.18 hand-held electromagnetic sucker rod section shall be copper and other soft materials, and to ensure sufficient strength and rigidity.

4.19 Handheld magnechuck creepage distances and clearances shall comply with the provisions of 16935.1-2008 GB/T 5.1,5.2 of.

4.20 hand-held electromagnetic chuck should be reliable shockproof, anti-loosening measures.