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

MT/T 715-1997

**General specification of explosion-proof electromagnet valves
in coal mine
(English Translation)**

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Foreword

This standard was proposed by the Department of Science and Education of the Ministry of Coal Industry.

This standard shall be under the jurisdiction of the Coal Mine Safety Standardization Technical Committee of the Ministry of Coal Industry.

Drafting organization of this standard. Chongqing Branch of the Coal Science Research Institute.

1 Scope

This standard specifies the requirements, test methods, inspection rules (exit-factory inspection and type test), marking, packaging and storage of explosion-proof electromagnet valves in coal mine.

This standard is applicable to the two-position-two-way explosion-proof electromagnet valves in coal mine (hereinafter referred to as electromagnet valves) which use water as the working medium.

2 Normative references

The provisions in following documents become the provisions of this standard through reference in this standard. At the time of publication, the versions

indicated are valid. All standards will be revised and parties using this standard shall explore the possibility of using the latest version of the following standards.

GB 191-90 Packaging - Pictorial marking for handling of goods

GB/T 998-82 Basic test method for low-voltage electrical appliances

GB/T 2423.1-89 Basic environmental testing procedures for electric and electronic products - Tests A. Cold

GB/T 2423.2-89 Basic environmental testing procedures for electric and electronic products - Tests B. Dry heat

GB/T 2423.4-93 Basic environmental testing procedures for electric and electronic products - Test Db. Damp heat, cyclic

GB/T 2423.5-1995 Environmental testing for electric and electronic products
- Part 2. Test methods - Test Ea and guidance. Shock

GB/T 2423.10-1995 Environmental testing for electric and electronic products - Part 2. Test methods - Test Fc and guidance. Vibration (Sinusoidal)

3 Definition

This standard uses the following definition.

3.1

Explosion-proof electromagnet valves in coal mine

An electromagnet valve that can be used in a mine environment with an explosion hazard.

4.2 Electromagnet valves shall comply with the requirements of this standard.

They shall be manufactured in accordance with the drawings and technical documents approved by the prescribed procedures.

4.3 Appearance.

The surface of the electromagnet valve shall be coated or plated for anti-corrosion. The coating and plating shall be uniform, and free from peeling off, deformation, cracking, corrosion or damage.

4.4 Electromagnet valves shall be able to adapt to the following environmental conditions.

4.5 The nominal diameter, water pressure's adaptation range and external pipe's size of electromagnet valve shall meet the requirements of Table 1.

4.6 Rated voltage.

The rated voltage of the electromagnet valve shall meet the requirements of Table 2.

4.7 Voltage variation's adaptation range.

The electromagnet valve shall work normally within the range of 80% ~ 120% of the rated voltage.

4.11 The explosion-proof performance of the electromagnet valve shall comply with the relevant provisions of GB 3836.1 and GB 3836.2.

4.13 Electromagnet valves shall, after alternated damp heat, working temperature, storage temperature, vibration, shock and transport tests, comply with the requirements of 4.7 and 4.10.

5.6 Test of tightness.

Connect the electromagnet valve to the system as shown in Figure 1. Adjust the power supply's voltage to be within the rated range. Let the electromagnet valve be in closed state. Then input the 1.1 times the maximum working water pressure from the inlet end, keep it for 1 min. Check whether the electromagnet valve leaks.

5.8 Test of insulation resistance.

Use a 500 V megameter to measure the insulation resistance between the electromagnet valve's terminal block and the metal casing.

5.9 Test of pressure resistance.

It is performed according to GB/T 998.

5.10 Test of explosion-proof performance.

It is performed according to the relevant methods of GB 3836.1 and GB 3836.2.

5.13.3 After the test, it is recovered in normal environment for 2 h, then tested
according to 5.3 and 5.8.

5.14.1 Low-temperature test.

It is performed according to the method Ab as specified in GB/T 2423.1;

Duration. 16 h;

Severity. -40 °C.

5.16 Shock test.

The shock test is carried out according to the method as specified in GB/T 2423.5;

5.17 Test of transport.

The packaged electromagnet valve is placed on a simulated automotive transport test rig for a duration of 2 h.

6.3 Type test.

Type test shall be carried out in one of the following cases.

6.4 For the samples for type test, it shall take two sets in accordance with the
provisions of GB/T 10111 from the products that have passed the exit-factory inspection.

6.5 Judgment rules.

At the time of exit-factory inspection, if one of the specified inspection items fails, the set is judged to be unqualified.