

CCS D 98

MT

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

MT 92-1984

**Emulsion pump with liquid level indicator test specification
(English Translation)**

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Liquid level indicator for coal mine emulsion pump station Test specification this standard is applicable to the test of the liquid level indicator (hereinafter referred to as the indicator) that is matched with the liquid tank of the emulsion pump station of the coal mine.

1 General

1.1 Indicator test is divided into type test and factory test.

1.2 Type test should be performed in the following cases.

- a. Trial production of new products (including transfer of old products to the factory);
- b. When changing the design, process or materials of the product to affect the performance of the product;
- c. When a higher-level quality management department requests a product that has been discontinued for more than three years and re-produced or mass-produced product;
- d. When users have major objections to product quality.

1.3 Before the product leaves the factory, it should be tested one by one.

1.4 The number of type tests is 3, of which 1 is a continuous action test. For mass-produced products, the test results do not meet the type test when required, six more samples are taken for retesting, of which two are for continuous action test. If it still does not meet the requirements, it is disqualified.

1.5 The test unit shall provide complete test pieces and supporting pumps, accumulators, pipe accessories and connection dimensions related to the test.

It also provides information such as instruction manuals, factory inspection records, general design drawings, consumables drawings, pumping station hydraulic system drawings, etc.

2 Test equipment and measurement accuracy

2.1 Test device

Use the matching liquid tank of the test indicator. The liquid tank should be provided with a liquid scale with a scale, and the minimum scale should not be greater than 5 mm, lower limit of liquid scale should be higher than the lowest indicated value of the indicator, the upper limit should not be lower than the highest indicated value of the indicator.

2.2 Instrument accuracy Instrument accuracy should meet the requirements of the test project.

2.3 Test working fluid

2.3.1 Indicator using emulsion as working fluid, using MT Emulsified oil and neutral soft water specified in 76-83 "Emulsified Oil for Hydraulic Supports" an emulsion prepared at a weight ratio of 5.95.

2.3.2 Use water as indicator for working fluid.

3 Test method

3.1 Test items

The various tests of the indicator shall be carried out in accordance with the headings specified in the table.

3.2 General requirements

3.2.1 Each test of the indicator shall be carried out in the order shown in the table. The test results of all items met the requirements, and the liquid level indicator was qualified.

3.2.2 No replacement of parts is allowed during the entire test.

3.2.3 The number of measurements of each measurement parameter is not less than 3 times, and the arithmetic average value is taken as the measurement value.

3.3 Accuracy test

3.3.1 Raise the liquid level to the highest value set by the indicator, then lower the liquid level to the lowest value of the indicator, repeat it 5 times, and record its reading.

3.3.2 The highest and lowest readings should be within $\pm 20\text{mm}$ of the specified range of the highest and lowest level values.

3.3.3 The error when the indicator sends out a signal (or indication) should be within 20mm.

3.4 Continuous action test Repeat the test 20 times according to the method of paragraph

3.3.1, and each time should meet the requirements of paragraphs 3.3.2 and 3.3.3.

3.5 Switch circuit test

3.5.1 When it is energized for more than 8 hours, the ambient temperature of the switch circuit is still normal when it is 50 ° C.

3.5.2 The amplitude is 5mm and the vibration frequency is 25 times/min. Normal operation after vibration test.

3.5.3 It can still work normally after 48h aging test.

3.6 Insulation resistance test the test was conducted in accordance with GB 998-82 "Basic Test Methods for Low-Voltage Electrical Apparatus", and it complied with relevant regulations.

3.7 Withstand voltage test According to GB 998-82 Tests shall be carried out in accordance with 6.3 and shall comply with the relevant regulations.

3.8 Insulation resistance test According to GB 998-82 Tests shall be carried out in accordance with Article 6.4 and shall comply with the relevant regulations.

3.9 Immunity test

The test was conducted in accordance with Chapter 12 of GB 998-82 and it complied with the relevant regulations.

3.10 Voltage fluctuation test Test the general requirements for electrical equipment according to coal mining work. When the test voltage is 75 ~ 110% of the rated voltage, the indicator should be able to work normally.

3.11 Explosion test

4 Signal requirements

4.1

When the liquid level reaches the highest or lowest position specified by the design, the indicator light should be on and ring.

4.2

The pump should be stopped when the liquid level reaches the dangerous position specified by the design.

4.3

The indicator light should be on, and the ring time and interval should be adjustable.

Additional information.

This standard is proposed by the Technology Development Department of the Ministry of Coal Industry.