ICS 65.060.35
CCS B 91

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 25409-2025

Replacing GB/T 25409-2010

Small-size submersible motor-pumps

小型潜水电泵

Issued on: October 31, 2025 **Implemented on: May 1, 2026**

Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC

Table of Contents

1 Scope

This Standard specifies the type, model, basic parameters, technical requirements, test methods, inspection rules, marking, packaging, transportation, and storage, etc. of small-size submersible motor-pumps.

This Standard applies to single-phase or three-phase, single-stage or multi- stage small-size submersible motor-pumps (hereinafter referred to as motor- pumps) with a power of 22 kW or less.

2 Normative references

GB/T 191

GB/T 191

ISO 780

GB 755

GB 755

IEC 60034

GB 1971

GB 1971-2006

IEC 60034

GB/T 2828.1-2003

ISO 2859

GB/T 4942.1-2006

IEC 60034

GB/T 5013.4

GB/T 5013.4-2008

IEC 60245

3.2.3 Supplementary identification refers to the necessary description or

identification of the product by the enterprise according to the contract or regulations. It is labeled or not as required.

3.3 Basic parameters

3.3.1 When the power frequency is 50 Hz and the voltage is single-phase (220 V) or three-phase (380 V), and under the specified conditions of use, the basic parameters of single-stage motor-pumps shall conform to Table 1; the basic parameters of multi-stage motor-pumps shall conform to Table 2; the basic parameters of QXL and QXR motor-pumps shall conform to Table 3.

3.3.2 When the basic parameters such as the flow rate, lift, synchronous speed,

and number of stages of the motor-pump do not meet the requirements of Table 1~Table 3, the efficiency of the motor-pump is determined in accordance with

3.3.3 When the motor-pump uses an open impeller, the motor-pump efficiency

insulation. The test voltage (peak) is 2000 V for single-phase motors; for three- phase motors, is 2300 V for power of 3 kW and below and 2600 V for power above 3 kW.

4.4.5 The motor-pump shall have safe and reliable overheating or overcurrent

protection device. It shall meet the following requirements:

a) The built-in protection device is provided with the product. The protection device is clearly stated in the product instruction manual;

b) The specific requirements and configuration methods for the external protection device shall be given in the product instruction manual;

c) When required by the user, an earth leakage protection device may be equipped with.

4.4.6 Motor-pumps shall have reliable grounding devices or bolts and have

obvious grounding signs.

4.4.7 The terminal marking and direction of rotation of the cable shall comply

with the provisions of GB 1971. The direction of rotation shall be consistent with the working direction of the pump. It shall be ensured that the marking is not easy to be worn during the life of the motor-pump.

4.4.8 The no-load current, no-load loss, locked-rotor current, and locked-rotor

loss of the motor of the motor-pump shall be controlled within the specified range, to ensure that the performance of the motor meets the requirements of this Standard. The motor-pump shall be able to start and run for 30 min at 85% of the rated voltage, without the pump being unable to run and causing fault.

4.4.9 The safety of motor-pumps shall meet the requirements of GB 10395.8.

4.4.10 The safety signs of motor-pumps shall comply with the provisions of GB

10396.

4.5.1 The centrifugal switch for the starting of single-phase motors, after

installation, has a disconnecting speed of 60%~75% of the synchronous speed.

Other performance shall meet the requirements of JB/T 7591.

4.5.2 The lead-out cable of the motor-pump shall be the cable specified in GB/T 5013.4 or a cable with the same performance. The cable length shall be no less than 5 m and may also be provided according to user requirements.

4.5.3 The parts which are subjected to water pressure in the motor-pump shall

be able to withstand the water (air) pressure test for 3 min without leakage. The

4.6.1 All parts of the motor-pump shall pass the inspection before assembly can

be carried out.

4.6.2 The assembly of the motor-pump shall be complete and correct. The

plates and signs shall be complete.

4.6.3 The motor-pump shall be able to rotate freely and stably, without jamming

and rubbing.

4.6.4 The paint coating on the surface of the motor-pump shall be uniform in color, flat and

smooth, free from stains, bumps, rubs, scratches, and cracks, etc.

and shall conform to the provisions of JB/T 5673.

4.6.5 Effective anti-corrosion measures shall be taken for motor-pumps.

4.7 Reliability requirements

Under the specified use conditions, the average working time before the first fault of the motor-pump is 2000 h for water-filled motor-pumps and 2500 h for oil-filled and dry motor-pumps.

5.1 The performance test of the motor-pump is carried out in accordance with

the requirements of level 2 in GB/T 12785-2002. During the test, the motor- pump shall be submerged in the water. The cable length is 5 m.

5.2 The hydrostatic test of the parts which are subjected to water pressure in the motor-pump shall be carried out on a hydrostatic test device. Its requirements shall conform to 4.5.3 (Without disassembly, it may be replaced by parts with the same specifications).

5.3 The terminal marking and direction of rotation of the motor-pump are tested

in accordance with GB 1971.

5.4 The static (dynamic) balance test of the motor-pump impeller is carried out

in accordance with the provisions of GB/T 9239.1 (Without disassembly, it may be replaced by parts with the same specifications).

5.5 Painting check shall be conducted in accordance with the provisions of JB/T

5673.

5.6 Check of safety and safety signs shall be conducted in accordance with the provisions of GB 10395.8 and GB 10396.

5.7 The reliability test method is carried out according to the provisions of JB/T

6.2 Type inspection

6.2.1 In any of the following cases, it shall carry out the type inspection:

a) Pattern evaluation for plant transfer production of new products or old products;

b) After the official production, if there are major changes in the structure, materials, and processes and the product performance may be affected;

c) When the production resumes after the product is discontinued for a long time;