

ICS 29.160.30; 29.260.20
CCS K 25

MT

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

MT/T 575-2011

**YBRB Series Flameproof Three Phases Asynchronous Motor
for Pump
(English Translation)**

Issued on: April 12, 2011

Implemented on: September 1, 2011

Issued by: State Administration of Work Safety

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1 Scope

This Standard specifies the type and basic parameters, technical requirements, test methods, inspection rules, marking, package and storage of YBRB series flameproof three phases asynchronous motor for pump (hereinafter referred to as motor).

This Standard is applicable to the emulsion pumping station and spray pump; while the motor used for coal mining machine, heading machine and other similar mining machinery oil pump can use for reference.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this document.

GB/T 191-2008 Packaging - Pictorial Marking for Handling of Goods

GB 755-2008 Rotating Electrical Machines - Rating and Performance

GB/T 997-2008 Rotating Electrical Machines - Classification of Types of Construction, Mounting Arrangements and Terminal Box Position (IM Code)

GB/T 1032-2005 Test Procedures for Three-Phase Induction Motors

GB/T 1993-1993 Cooling Methods for Rotating Electrical Machines

GB/T 2423.4-2008 Environmental Testing for Electric and Electronic Products - Part 2: Test Method - Test Db: Damp Heat, Cyclic (12h+12h Cycle)

GB 3836.1-2000 Electrical Apparatus for Explosive Gas Atmospheres - Part 1:

General Requirements

GB 3836.2-2000 Electrical Apparatus for Explosive Gas Atmospheres - Part 2:

Flameproof Enclosure d

GB 3836.3-2000 Electrical Apparatus for Explosive Gas Atmospheres - Part 3:

Increased Safety e

GB/T 4772.1-1999 Dimensions and Output Series for Rotating Electrical Machines

-Part 1: Frame Numbers 56 to 400 and Flange Numbers 55 to 1 080

GB/T 4942.1-2006 Degrees of Protection Provided by the Integral Design of

Rotating Electrical Machined (IP Code)-Classification

GB 10068-2008 Mechanical Vibration of Certain Machines with Shaft Heights 56

Mm and Higher-Measurement Evaluation and Limits of Vibration Severity

GB/T 10069.1-2006 Measurement of Airborne Noise Emitted by Rotating Electrical

Machines and the Noise Limits Part 1: Method for the Measurement of Airborne

Noise Emitted by Rotating Electrical Machines

GB/T 10111-2008 Generation of Random Numbers and Procedures Applied to

Sampling Inspection for Product Quality

AQ 1043-2007 Mining Products Safety Label

JB/T 9615.1-2000 Test Methods of the Interturn Insulation on Random Wound

Winding for AC Low-Voltage Machines

JB/T 9615.2-2000 Test Limits of the Interturn Insulation on Random Wound

Winding for AC Low-Voltage Machines

JB/T 10098-2000 Impulse Voltage Withstand Levels of Rotating A.C. Machines with
Form-Wound Stator Coils

3.1 Type

3.1.1

The motor shall be manufactured into flameproof type according to the provisions of GB 3836.2-2000, its anti-explosion mark is Exd I.

3.1.2

The overall structural protection rating of the motor shall conform to the IP55 specified in GB/T 4942.1-2006.

3.1.3

The cooling method of the motor shell water-cooled or air-cooled, which shall conform to the provisions of GB/T 1993-1993; while the cooling method shall be marked as IC3W7 or IC0141.

3.1.4

The structure and installation type of the motor are IMB3, IMB5 as specified in

GB/T 997-2008; other suitable installation type can also be available. The base b) The ambient air temperature shall not exceed 40°C; the ambient temperature for water-cooling shall be no less than 0°C; while the ambient temperature for air-cooling shall be no less than -20°C.

- c) The relative humidity of the air shall be no greater than 95% (at 25°C);
- d) Coal mining underground working face containing methane and with coal dust explosion hazard;
- e) The inlet water temperature for cool water shall not exceed 25°C;
- f) The working pressure of the cooling water channel shall not exceed 3.0MPa;
- g) The flowrate of the cooling water shall be no less than the provisions of Table 1.

NOTE: If the altitude or ambient temperature of the operation site or test site is different from the provisions of 4.2, the temperature-rise limit can be corrected according to the provisions of GB 755-2008.

4.3 Water-cooled motor shall be able to start and operate directly under the conditions of guaranteed cooling water flowrate.

4.4 The motor shall be allowed to start directly within the rated voltage range.

4.5 The deviation between power supply, voltage and the rated values during the

operating period of the motor shall conform to the provisions of GB 755-2008.

4.6 The anti-explosion structure of the motor shall meet the requirements of GB 3836.1-2000 and GB 3836.2-2000.

4.7 The motor shall be cable of withstanding the shell pressure test (static pressure test or dynamic pressure test) and internal ignition non-explosion test specified in GB 3836.2-2000.

4.8 The cable entry device of the motor shall be conducted clamping test according to the provisions of GB 3836.1-2000; and shall also be conducted sealing and mechanical strength tests according to the provisions of GB 3836.2-2000.

4.9 The sealing ring of the motor shall be conducted aging test of the elastic sealing ring material according to the provisions of GB 3836.1-2000.

4.10 The electrical clearance and creepage distance in the junction box of the motor shall meet the requirements of 4.3, 4.4 in GB 3836.3-2000; the grounding bolts shall be set as required. The grounding mark shall be placed near the grounding bolts; such mark shall not be worn out during the entire life of the motor.

4.11 The wiring terminal of junction box shall be conducted insulating casing torsion

5 Test Methods

5.1

The power supply during the test of the motor shall be subjected to the provisions of 4.2 in GB/T 1032-2005; while the measuring instrument shall be subjected to the provisions of 4.3 in GB/T 1032-2005.

5.2

The measurement of motor winding insulation resistance shall be as specified in

5.1

of GB/T 1032-2005.

5.3

The measurement of DC resistance with motor winding in the actual cold state shall be as specified in 5.2 of GB/T 1032-2005.

5.4 Check the motor appearance dimension and installation dimension as per the

method specified by the measuring instrument manufacturer.

5.5 When verifying whether the cooling channel of the water-cooled motor is unobstructed, provide cooling water to the water-cooled motor, so that its flowrate reaches the specified value in Table 1.

5.6 When the motor cooling water channel is conducted the pressure test, block the water outlet of the water channel; raise the water pressure on the water inlet to the test required value for 5min; the water pressure shall not reduce; meanwhile check whether there is leakage. Check the motor appearance dimension after the test as per the method specified by the measuring instrument manufacturer.

5.7 The no-load test of the motor shall be carried out as per the provisions of Clause