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MT

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

MT/T 478-2011

**YBS series flameproof three phases asynchronous motor for
conveyer**

YBS系列输送机用隔爆型三相异步电动机

(English Translation)

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Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard replaces MT 478-1996, YBS series flameproof three phases asynchronous motor for conveyer; and compared with MT 478-1996, the main technical changes of this Standard are as follows.

- it changes the compulsory standard into a voluntary standard;
- it extends the application scope of the standard, i.e. from flameproof three phases asynchronous motor for scraper conveyor to special flameproof three phases asynchronous motor for scraper and belt conveyers (see the standard name and Chapter 1; the standard name of Edition 1996 and Chapter 1);
- it improves the enclosure protection class from IP54 to IP55 (see 3.1.2; 3.3 of Edition 1996);
- it increases the application scope of maximum power from 500 kW to 1 000 kW (see 3.2.4; 3.9 of Edition 1996);
- it improves the voltage to 3 300 V (see 3.2.3; 3.10 of Edition 1996);
- it cancels the no-load hour breaking frequency test (see 4.8 of Edition 1996);
- it cancels the continuous inching test (see 4.15 of Edition 1996); and
- it adds the 1.5 times accidental over current test (see 4.12).

This Standard was proposed by China National Coal Association.

This Standard shall be under the jurisdiction of the Standardization Technical Committee on Special Equipment for Coal Mines and Coal Industry.

The responsible drafting organizations of this Standard. China Coal Research Institute Shanghai Branch and Shanxi Explosion-proof Motor (Group) Co., Ltd.

The participating drafting organizations of this Standard. Fushun Coal Mine Motor Manufacturing Co., Ltd., Henan Anyang Hua'an Coal Mine Motor Co., Ltd., Ningxia Northwest Junma Electric Manufacturing Co., Ltd. and Fenyi Coal Mine Motor Co., Ltd.

1 Scope

This Standard specifies the type, basic parameters, dimensions and tolerances, technical requirements, test methods, inspection rules and marking, packaging, transportation and storage of YBS series flameproof three phases asynchronous motor for conveyer.

This Standard applies to flameproof three phases asynchronous motor for scraper conveyer, scraper loader and belt conveyer for coal mines (hereinafter referred to as motor); this Standard can also be referred to for other derived all types of motors.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition dated applies to this document. For undated references, the latest edition of the referenced document (including all amendments) applies to this Standard.

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

GB/T 4942.1-2006, Degrees of protection provided by the integral design of rotating electrical machines (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 AC machines with form-wound stator coils

3.1.1 The motors are of flameproof type for mining; their explosion-proof sign is "Exd

I".

3.1.2 The enclosure protection class of the motors shall be in accordance with IP55

specified in GB/T 4942.1-2006.

3.1.3 The cooling method of the motors shall be one of the enclosure water cooling

type (IC3W7) and air cooling type (ICO141) as specified in GB/T 1993-1993; and water cooling type for power 110 kW and above.

3.1.4 The structural and installing types of the motors shall be of IMB3, IMB5 and IMB10 as specified in GB/T 997-2008, or other installing types.

3.2.1 Product type.

The designation method for the motors is as follows.

- d) in the coal mines with the possibility of explosion of methane and coal dust;
- e) the cooling water temperature for the motors of water cooling does not exceed 25°C, the working pressure of cooling water is not greater than 3 MPa, and the flow rate of cooling water is not smaller than the values specified in Table 9.

Table 9

Rated power

kW 110 to 132

160 to

250 to

400 to

630 to

800 to 1

000

Cooling water flow rate

m³/h 1.2 1.5 1.8 2.1 2.3 2.5 2.7