

ICS 59.120.01
CCS W 92

FZ

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

FZ/T 99010-2016

Replacing FZ/T 99010-1993

**Specification for FTY series three-phase permanent magnet
synchronous motor for textile purpose (Frame size 80~355)**

FTY系列纺织用三相永磁同步电动机技术条件（机座号80~355） 清晰版
(English Translation)

Issued on: October 22, 2016

Implemented on: April 1, 2017

**Issued by: Ministry of Industry and Information Technology of the
People's Republic of China**

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Foreword

This standard is drafted in accordance with the rules given in GB/T 1.1-2009.

This standard is FZ/T 99010-1993 "FTY-type three-phase permanent magnet synchronous motor" revision, and FZ/T 99010-1993 phase in addition to editorial changes, the main technical content changes as follows.

--- standard name from the "FTY-type three-phase permanent magnet synchronous motor" to "FTY series of textile three-phase permanent magnet synchronous motor technology Technical conditions (frame number 80 ~ 355)";

--- Scope. Expanded for all types of textile equipment dedicated FTY series of textile three-phase permanent magnet synchronous motor;

--- specifications extended to 80 ~ 355 models;

- the basic parameters and dimensions are also increased and revised accordingly (see 3.5, 3.6, 3.8);

--- The protective rating of the motor housing is revised from IP47 and IP44 to IP54/IP55, and the protection rating table is removed (see 3.1);

--- The cooling method of the motor is changed from the original variety to IC411 (see 3.2);

--- the standard structure and installation of the motor from the original to a variety of IMB3, IMB5, IMB35, IMV1 (according to GB/T 997-

2008). At the same time, the structure and installation form code form (see 3.3);

- a table that increases the correspondence between the machine seat number and the speed and power (see 3.7);

--- revised and increased the efficiency of the motor and power factor guaranteed value, energy efficiency rating in line with GB 30253-2013 Class II requirements.

The motor efficiency measurement method is also specified (see 4.4);

--- revised at the rated voltage, the motor stall torque and rated torque ratio of the guarantee value (see 4.5), out of step torque and rated turn (See 4.6), the guaranteed

value of the ratio between the torque and the rated torque (see 4.7), the minimum torque during start-up Rated torque ratio (see 4.8), guaranteed ratio of stall current to rated current (see 4.9);

- increase the tolerance of the "minimum torque multiplier" in the tolerance of the electrical performance rating (see 4.10);

- increased the "power outage interval" requirement in the temperature rise test (see 4.11.2);

- Increases the peak value of the impulse voltage of the stator winding turn-to-turn withstand voltage test according to GB/T 22719.2-2008 (see 4.17);

- Revised motor stator windings The constant damp heat test is carried out in accordance with FZ/T 90059-2009 (see 4.18);

- increase the mechanical vibration of the motor Table 15, different axis center with high displacement, speed and acceleration of the vibration intensity limit (See 4.19);

- Motor noise limits are increased according to the provisions of GB/T 10069.3-2008 (see 4.20);

- increased the "anti-fiber jamming capacity of the motor" requirements (see 4.22);

- The direction of rotation of the motor shall comply with the provisions of GB 1971-2006 (see 4.26);

- increased the "motor safety performance" requirements (see 4.27);

- check the "rotation direction check" (see i in 5.2) in the inspection test project;

- the type of "no-load back electromotive force" is added to the type test item (see 5.4j);

- Revised inter-turn insulation test is carried out according to GB/T 22719.1-2008 (see 5.7).

This standard is proposed by China Textile Industry Federation.

This standard by the National Textile Machinery and Accessories Standardization Technical Committee (SAC/TC215) centralized, the national industrial machinery electrical system standard Qualification Technical Committee Technical Committee for Textile Machinery Electrical System Subcommittee (SAC/TC231/SC1) Professional.

The drafting of this standard. Jiangsu Ansett Electrical and Mechanical Technology Co., Ltd., Weinan Qingfeng Technology Co., Ltd., Qingdao and the Electric Co., Ltd., Beijing Zhongfang Jingye Electrical and Mechanical Equipment Co., Ltd., Beijing Zhong Ren Zhijie Technology Development Co., Ltd., Qingdao Hongda Textile Machinery Co., Ltd., Zhejiang An Electric Technology Co., Ltd. and so on.

1 Scope

This standard specifies the FTY series of textile three-phase permanent magnet synchronous motor (frame number 80 ~ 355) type, the basic parameters and size, Technical requirements, inspection rules and test methods, as well as marking, packaging and warranty requirements.

This standard applies to cotton, wool, linen, silk and chemical fiber and other textile equipment dedicated FTY series three-phase permanent magnet synchronous motor (frame number 80 to 355) (hereinafter referred to as "motor"). This series of motors for self-starting permanent magnet synchronous motor. The motor specified in this standard has more High overload capacity and fiber blocking ability, suitable for use in short fiber environments.

2 Normative reference documents

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

GB/T 191-2008 packaging and storage icon Rotating motor quota and performance GB 755-2008 GB/T 997-2008 Rotary motor structure type, type of installation and the location of the junction box classification (IM code) Rotating electrical machinery - Terminal marking and direction of rotation GB 1971-2006 Rotating motor cooling method GB/T.1993-1993 GB/T 4772.1-1999 Rotating motor dimensions and output power class - Part 1. Frame numbers 56 to 400 and flange numbers 55 ~ 1080 Protection class (IP code) classification of the overall structure of rotating electrical machines GB/T 4942.1-2006 GB 10068-2008 Measurement, evaluation and limits of mechanical vibration of a motor with a shaft center height of 56 mm or more GB/T 10069.1-2006 Methods and limits for the determination of noise of rotating electrical machines - Part 1. Determination of noise of rotating electrical machines General safety requirements for small and medium - sized rotating electrical machines GB 14711-2013 Test method for three - phase permanent magnet synchronous motor GB/T 22669-2008 GB/T 22719.1-2008 Interchange insulation of alternating current for low voltage motors - Part 1. Test methods GB/T 22719.2-2008 Interchange insulation of alternating current for low voltage motors - Part 2. Test limits Energy efficiency limit and energy efficiency rating of permanent magnet synchronous motor GB 30253-2013 Test method for constant damp heat of textiles for textile use FZ/T 90059-2009

3 Type, basic parameters and dimensions

3.1

Motor enclosure protection class IP54/IP55 (according to GB/T 4942.1-2006 provisions).

3.2

motor cooling method for the IC411 (according to GB/T.1993-1993 requirements).

3.3

The standard structure and installation of the motor are. IMB3, IMB5, IMB35, IMV1 (according to GB/T 997-2008).

3.4

The motor quota is a continuous quota based on the continuous working system (S1).

3.5

motor rated frequency of 50Hz, rated voltage 380V, Y connection, the number of poles 2,4,6.

3.6

The motor shall be manufactured at the following rated power (kW).

0.55,0.75,1.1,1.5,2.2,3.0,4.0,5.5,7.5,11,15,18.5,22,30,

37,45,55,75,90,110,132,160,200,250,315; can also be developed according to user needs.