



CNAS L0454

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Special Equipment Type Test Report

Report No. TQC06072002

Category of Equipment: Safety Protection Component

Type of Equipment: Traction Machine

Name of Product: Permanent Magnet Synchronous Gearless Traction Machine

Model of Product: WYT-S

Applicant: Shenyang Bluelight Drive Technology Co., Ltd.

Manufacturer: Shenyang Bluelight Drive Technology Co., Ltd.



National Elevator Inspection and Testing Center

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4. Type test report is invalid without signatures of test engineer, verification and approval.

5. Type test report is invalid without written approval of NETEC, full, without written approval of NETEC.

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Type Test Report

No.: J3-F39-J2-002
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Name of product		Permanent magnet synchronous gearless traction machine	
Model of product		WYT-S	
Serial No. of sample		20118903	Production date
Main technical parameter	Rated speed	2.50m/s	Rated output torque
	Motor rated power	100kW	Allowed radial load
	Suspension ratio	2:1	Mode of wrapping
Applicant		Shenyang Blue Light Drive Technology Co., Ltd.	
Address		No. 37 Shiji Road, Huanan New District, Shenyang, Liaoning	
Manufacturer	Name	Shenyang Blue Light Drive Technology Co., Ltd.	
	Address	No. 37 Shiji Road, Huanan New District, Shenyang, Liaoning	
Receiving date		/	Sample No.
Test date		20230110	Sample state
Test category		Type test	Test item
Test place		Shenyang Blue Light Drive Technology Co., Ltd.	
Test condition		Ambient temperature: 16.0°C, 20.0°C, relative humidity: 72.0%, voltage: 380V	
Test basis		Rules for Type Test of Elevators (tryout), Rule for Type Test of Lift Traction Machine (tryout) EN 81-1:1998 Safety Rules for the construction and installation of Electric Lifts	
Test conclusion		The type test is successful.	
Issue date		20230110	
Name		Inspected date of the elevator service unit: 20230110	

Reported by: 姜天玉 (Jiang Tianyu) Issued by: 姜天玉 (Jiang Tianyu)

SAMPLE'S MAIN TECHNICAL PARAMETERS AND CONFIGURATION

Model and name		WYT-S Permanent magnet synchronous gearless traction machine	
Applicable environment		Indoor	Structure type, traction machine
Rated speed		2.5m/s	Rated diameter, 750mm
Rated load		1150kg	Allowed radial load of traction sheave
Mode of wrapping		Single	Suspension ratio
Manual emergency operating device		Releasing brake handle, handwinding wheel	
Motor		Model WYT-S2.5F Rated power 19.2kW Rated current 40A Rated voltage 380V Insulation grade F Rated frequency 40Hz Protection degree IP41 Duty S ₂ Allowed start times 240F/h Structure type Permanent magnet synchronous outer rotor Motor overload protection Over-heat protection Manufacturer Shenyang Blueight Drive Technology Co., Ltd.	
Gear reducer		Structure type Reduction ratio Lubricating oil / Working distance	
Traction sheave		Number of grooves 5 Type of grooves Saw und Diameter of ropes 10mm Heat treatment Annealing Pitch diameter of traction sheave 400mm Mode of wrapping S	
Brake		Model JZC Action position Structure type Two sets, block type Diameter of brake sheave Rated voltage 400V Insulation grade	
Applicable control system		Speed control mode AC variable frequency control Frequency inverter Feedback device of speed Rotary encoder	

Test items and test results

No.	Items No.	Test items	Test results	Conclusions
1	1.1	Fastening and welding	Comply with requirements	Pass
2	1.2	Assembly of all parts	Comply with requirements	Pass
3	1.3	Paint marking	Comply with requirements	Pass
4	2.1	Ratio of pitch diameter of traction sheave (D) to diameter of traction ropes (d)	D = 400mm D/d = 40 Material: QT600-3	Pass
5	2.2	Material of traction sheave and hardness deviation of groove	HT230 ~ HT250 δ: HB10	Pass
6		Working surface roughness	Ra6.3μm	
7		Precision run-out in normal direction of the	0.06mm	
2.3		Groove		Pass

No.	Items No.	Test items	Test results	Conclusions
20	3.7	Withstand voltage test of brake coil	Comply with requirements	Pass
21	3.8.0	All the mechanical components shall be installed in two sets	Comply with requirements	Pass
22	4	Manual means of emergency operation	Comply with requirements	Pass
23	5	Protection for traction shaft	Comply with requirements	Pass
24	6	Torque vibration		
25	7	Speed	Rated speed: 2.50m/s Test speed: 239.0r/min Speed: 2.503m/s 100.1%V _{rated}	
26	8	Noise	Noise dB(A): Front: 56.8 Back: 57.0 Left: 57.0 Right: 57.0 Upside: 57.5 Background: 41.0	
27		Oil temperature		
28		Stator winding temperature rise	Before test-running Air temperature: 12.5℃ After test-running Air temperature: 10℃ Stator winding coil 0.835Ω	
29		Brake coil temperature rise and highest temperature	Before test-running Air temperature: 12.5℃ After test-running Air temperature: 10℃ Brake coil temperature: 74.6℃ Brake coil resistance: 74.6Ω	
30	10	Machine efficiency		
31	11.1	Special precaution for the lift in the outdoor environment		
32	11.2	Special precaution for the explosion protection lift		

Appendix Sample photo



Annex

Construction of Permanent Magnet Machine

Figure 1-1-1 Construction of Permanent Magnet Machine

Structure type of machine	Permanent magnet synchronous gearless	Structure type of motor	Permanent magnet synchronous outer rotor
Center distance of gear reducer	/	Structure type of gear reducer	/
Structure type of brake	Two sets, block type	Applicable environment	Indoor

Issue date: 2015-01-16

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