深圳市特种设备安全检验研究院
SHENZHEN INSTITUTE OF SPECIAL EQUIPMENT INSPECTION AND TEST

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Report No. 2019AF0238

Type -Examination Report of Special Equipment （LIFT）

Product Category	Lift Safety Protection Device
Equipment Type	Lift Ascending Car Overspeed Protection Means (speed reducing element)
Product Name	Traction Machine Brake
Model/Type	EMK9K
Manufacturer	Suzhou Mona Drive Equipment Co.,Ltd.
Applicant	Suzhou Mona Drive Equipment Co.,Ltd.

SHENZHEN INSTITUTE OF SPECIAL EQUIPMENT INSPECTION AND TEST

GUANGDONG STATION OF ELEVATOR QUALITY SUPERUISION AND TEST

Notes

1.This report is obtained based in the type-examination compliance with Regulation for Type Tests of Elevators (2016)(TSG T7007-2016)

2.This report must be printed or filled out in fountain pens/sign pens with neat and clear handwriting, no alternation.

3.The report is invalid if not signed by signature, and it is also invalid without approval number of the type testing organization, special seal for report and paging seal.

4. There will be two versions of the report: electronic and printed formats. They are equal in authorities.

5.Any discrepancy about the report from applicant should be raised within 15 working days after receiving the report.

6. The report is responsible for the tested sample only.

Name of Type Test Organization: Shenzhen Institute of Special Equipment Inspection and Test

Address of Type Test Organization：1032 Honggang Road, Luohu District, Shenzhen

Approval No. TS7610038-2021

Postcode：518029

Branch Name：QingHu Branch of Shenzhen Institute of Special Equipment Inspection and Test

Branch Address：6 Chuangye Lane, Shunchenji Industrial Park Nearby, Dahe Road, LongHua District, Shenzhen

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TYPE-EXAMINATION REPORT of SPECIAL EQUIPMENT (LIFT)

Equipment Name	Lift Ascending Car Overspeed Protection Means (speed reducing element)		
Product Name	Traction machine brake	Product Model	EMK9K
Product No.	0249921/1249921	Manufacture Date	Mar-2019
Name of Applicant	Suzhou Mona Drive Equipment Co.,Ltd.	unified social credit identifier	913205090551626724
Registered Address of Applicant	No.66 changfengdang Road,Lili Town,Wujiang District,Suzhou City		
Manufacturer	Suzhou Mona Drive Equipment Co.,Ltd.		
Manufacturing Address	No.66 changfengdang Road,Lili Town,Wujiang District,Suzhou City		
Type of Examination	The First Verification	Inspection Date	26-Apr-2019
Sample No.	20190204	Sample Status	Normal
Inspection Place	Qinghu branch, Shenzhen Institute of Special Equipment Inspection and Test		
Inspection Condition	Temperature:25℃；Humidity: 50%RH		
Standard for Inspection	《Regulation for Type Test of Lifts》（TSG T7007-2016） GB 7588－2003 Safety Rules for the Construction and Installation of Electric Lifts（Including No.1 amending list） EN81-1:1998+A3:2009 Safety rules for the construction and installation of lifts-part 1:Electric lifts		
Conclusion	With the type-test, it is confirmed that the product is compliance with the Regulation for Type Test of Lifts (TSG T7007-2016). The sample is in compliance with related regulations of GB 7588-2003 Safety Rules for the Construction and Installation of Electric Lifts (Including No.1 amending list)and EN81-1:1998+A3:2009 Safety rules for the construction and installation of lifts-part 1:Electric lifts.		
Note	Document ID No. XPSQ2019020009AENBG		

Inspected by:	Date: 6- May -2019	Agency Approval Number: TS7610038-2021
Reviewed by:	Date: 6- May -2019	(Stamp)
Approved by:	Date: 6- May -2019	Issued Date: 6- May -2019

1. Sample configuration and technical data

Equipment Name		Lift ascending car overspeed protection means (speed reducing element)		
Product Name		Traction Machine Brake	Model/Type	EMK9K
Working condition		Indoor	Explosive-proof type	Not applicable
No-load system mass range		928kg-3775kg	Rated load range	320kg-1150kg
Type of action Part		Lift Traction Sheave	Car-side Mass Range	400kg-1600kg
Range of Balance Factor		0.4-0.5	Suspension Ratio	2:1
Tripping Speed Range of braked part		0.58m/s-6.46m/s	Using of Balance Chain or Rope	Yes
Overspeed Monitoring device	Name	Overspeed governor	Model	/
	Rated speed range	0.25m/s-2.50m/s	Triggering speed range	0.29m/s-3.23m/s
Traction machine brake	Type	EMK9K	Structure Type	Straightly driving electromagnetic drum
	Action part	Traction Sheave	Quantity	2
	Friction element material	Non - asbestos friction pad	Triggering Mode	Electric Trigger
	Elastic element type	Cylindrical helical compression spring		
Note 1: “Car-side Mass Range” means the sum of no-load car mass and the extra mass of in the car side; Extra mass refers to the total of the mass of trailing cable, suspension cable and possibly that of the compensation cable or chain.				

2. Technical documents check and results

No.	Item No.	Items	Results	Conclusions
1	Q5.1	Certificate and related technical documents	Completed	Passed
2	Q5.2	Technical data	Completed	Passed
3	Q5.3	Main design drawing	Completed	Passed

3. Sample check and test

1. Test item and results

No.	item code and name	item contents and requirements	Results	Conclusion
1	Q6.1 Action Part	Speed reducing element shall act: (1) to the car; or (2) to the counterweight; or (3) on the rope system(suspension or compensating); or (4) traction sheave (e.g.on the traction sheave directly or on the same shaft in the immediate vicinity of the sheave) Note: Instantaneous safety gear cannot be used as speed reducing element of Ascending Car Overspeed Protection Means.	Action part: (4)	Passed
2	Q6.2 Stopping test	Stopping test should be performed to Q6.2.4 on the entire elevator or simulation such as test bed. The stopping test must meet the following requirements: 2.1 When speed monitoring element acts, speed reducing element shall cause the car to stop, or at least reduce its speed to that for which the counterweight buffer is designed.	Meet the requirements	Passed
		2.2 The means shall not allow the retardation of the empty car in excess of 1 g_n during the stop phase.	Max. deceleration: 0.649 g_n	Passed
		2.3 After its release, the means shall be in condition to operate.	Meet the requirements	Passed
		2.4 After tests, there shall be no fracture, deformation and other changes(for example, cracks , deformation or wear of the gripping elements, appearance of the rubbing surface)	Meet the requirements	Passed

		2.5 For Lift Ascending Car Overspeed Protection Means (speed reducing element) which apply to different weights, the type-test agency shall experiment 4 times respectively with both maximum weight and minimum weight. If it requires adjustment, the agency shall verify the availability of the formula or table provided by the applicant through appropriate approaches (if there is no better way, the median of the two weights can be used for testing), one-time verification is allowed; if adjustment is no required, verification is not necessary. 2.6 For Lift Ascending Car Overspeed Protection Means (speed reducing element) which apply to different speeds, the type-test agency shall experiment 4 times respectively with both maximum speed and minimum speed. If it requires adjustment, the agency shall verify the availability of the formula or table provided by the applicant through appropriate approaches (if there is no better way, the median of the two speeds can be used for testing), one-time verification is allowed; if adjustment is no required, verification is not necessary. 2.7 For Lift Ascending Car Overspeed Protection Means (speed reducing element) which apply to both different weights and different speeds, the type-test agency shall experiment 4 times respectively with maximum weight, maximum speed and minimum weight, minimum speed. If it requires adjustment, the agency shall verify the availability of the formula or table provided by the applicant through appropriate approaches (if there is no better way, the median of the two weights can be used for testing). The verification must perform once at minimum speed and once at maximum speed respectively. if adjustment is no required, verification is not necessary.	Meet the requirements	Passed
3	Q6.3 External Energy	If the means requires external energy to operate, the absence of energy shall cause the lift to stop and keep it stopped. This does not apply for guided compressed springs.	Energy of the brake part：guided compressed spring	Passed
4	Q6.4 Electric Safety Device	The means shall operate an electric safety device if it is engaged. Note Q-4: When counterweight overspeed governor-safety gear system is adopted, the electrical safety device can be installed on the counterweight overspeed governor. When traction machine brake is taken as speed reducing element of ascending car overspeed protection means, the electrical safety device can be installed on the speed monitoring element.	Meet the requirements	Passed
5	Q6.5 Release	The release of the means shall not require the access to the car or the counterweight.	Meet the requirements	Passed
6	Q6.6 Triggering Mode	If speed reducing element is applied to different trigger modes, it shall take 4 times of trigger action tests of trigger mechanism respectively for other trigger modes. Each test shall have normal and reliable action.	Not applicable	/
7	Q6.7 Reset Mode	If speed reducing element is applied to different reset modes, it shall take 4 times of reset action tests of reset mechanism complementally for other reset modes. Each test shall have normal and reliable action.	Not applicable	/
8	Q6.8 Triggering Force	When mechanical-trigger speed reducing element is acted by triggering, the required trigger force shall be no more than the value given by the test applicant. The test shall be carried out three times, each test shall meet the requirement.	Not applicable	/
9	Q6.9 Triggering Distance	When mechanical-trigger speed reducing element is acted by triggering, the required trigger distance shall be no more than the value given by the test applicant. The test shall be carried out three times, each test shall meet the requirement.	Not applicable	/

10	Q6.10 Nameplate	There should be nameplate on the lift ascending car overspeed protection device, with the information below: (1)Product name, model; (2)Name of manufacturer and manufacturing address; (3)Name or logo of the type-test agency; (4)Allowed system mass range; (5)Allowed rated load system mass range; (6)Triggering speed range; (7)Product No. (8)Manufacture data.	Meet the requirements	Passed

2. Test Data and Chart

2.1 Test 4 times with the rated speed 0.25m/s, rated load 320kg, system mass 928kg.

Test No.	The maximum tripping speed (m/s)	The average deceleration (g_n)	The maximum deceleration (g_n)	The braking distance(mm)
1	0.382	0.201	0.333	37
2	0.369	0.191	0.295	36
3	0.327	0.182	0.298	30
4	0.353	0.188	0.299	34

2.2 Test once with the rated speed 0.25m/s, rated load 750kg, system mass 2350kg.

Test No.	The maximum tripping speed (m/s)	The average deceleration (g_n)	The maximum deceleration (g_n)	The braking distance(mm)
1	0.294	0.143	0.238	31

2.3 Test once with the rated speed 2.50m/s, rated load 750kg, system mass 2350kg.

Test No.	The maximum tripping speed (m/s)	The average deceleration (g_n)	The maximum deceleration (g_n)	The braking distance(mm)
1	3.246	0.344	0.649	1561

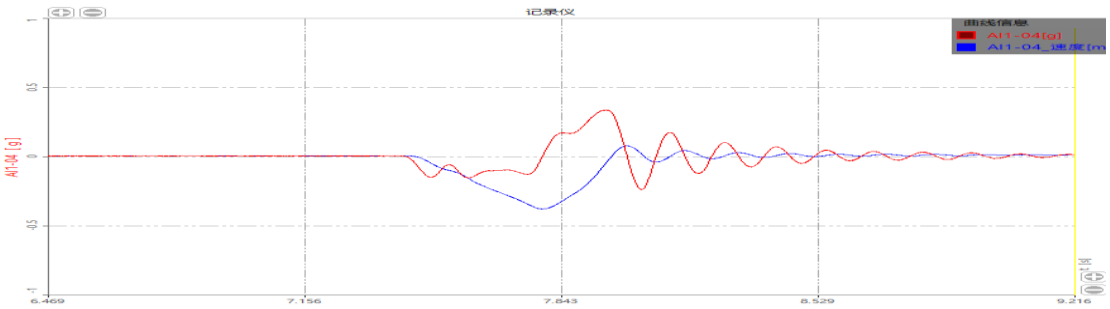
2.4 Test 4 times with the rated speed 2.50m/s, rated load 1150kg, system mass 3775kg.

Test No.	The maximum tripping speed (m/s)	The average deceleration (g_n)	The maximum deceleration (g_n)	The braking distance(mm)
1	3.498	0.269	0.384	2318
2	3.513	0.269	0.601	2338
3	3.435	0.281	0.499	2140
4	3.551	0.271	0.467	2372

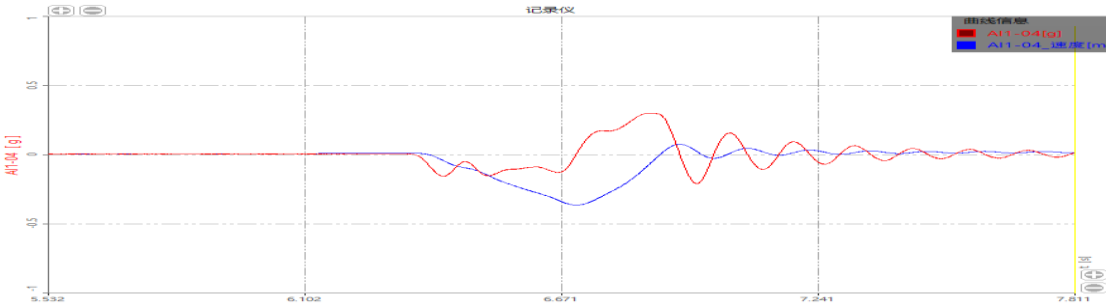
2.5 Stopping Test Curves

（1） Test 4 times with the rated speed 0.25m/s, rated load 320kg, system mass 928kg.

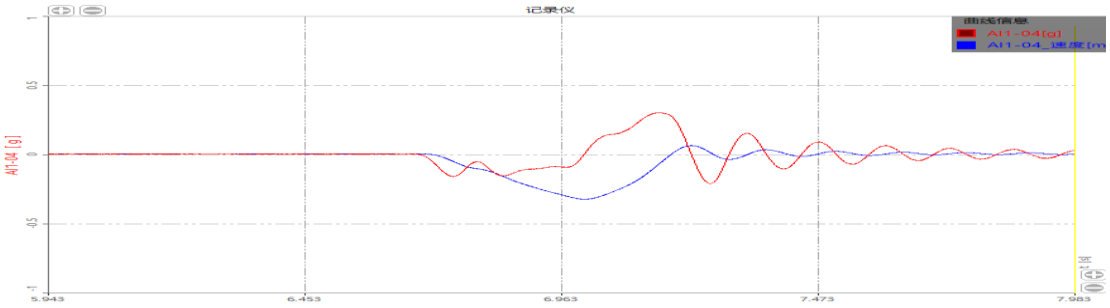
The 1st test



The 2nd test



The 3rd test



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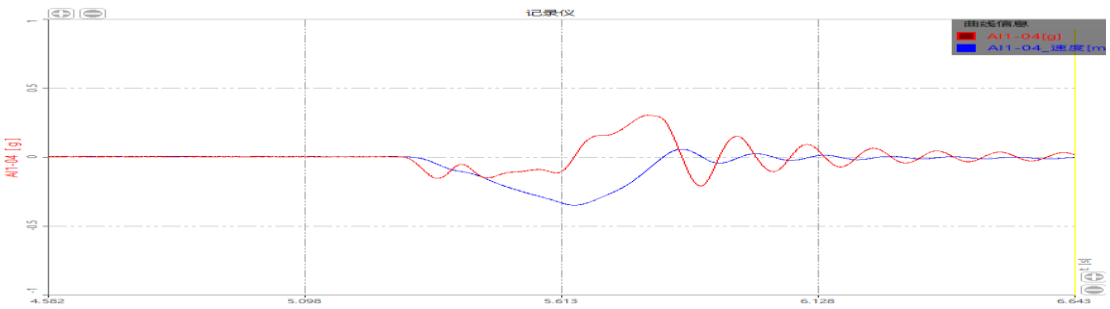
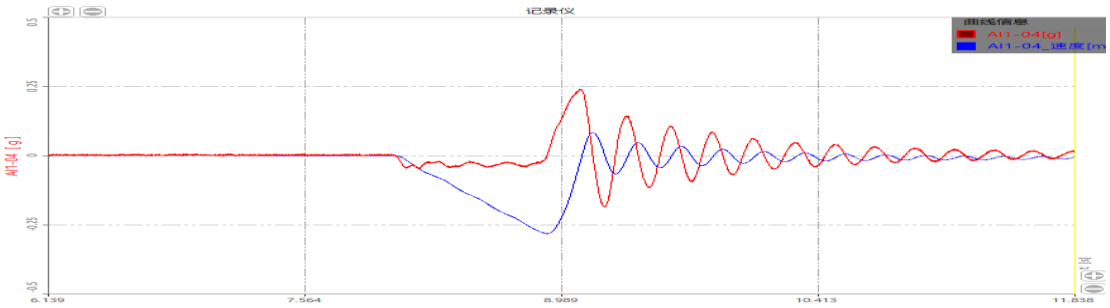
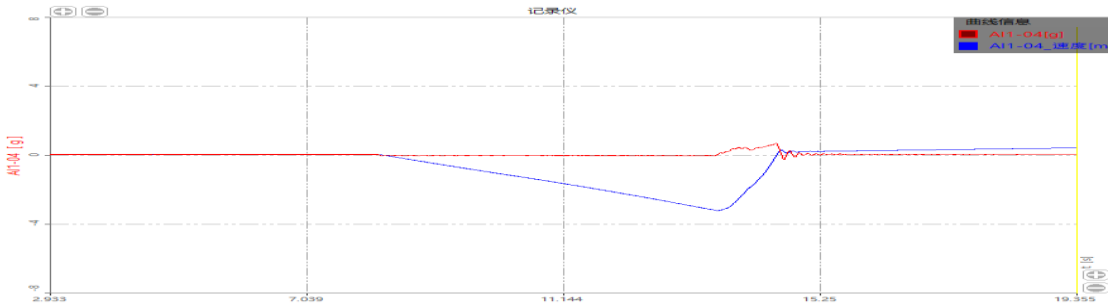


（2）Test once with the rated speed 0.25m/s, rated load 750kg, system mass 2350kg.

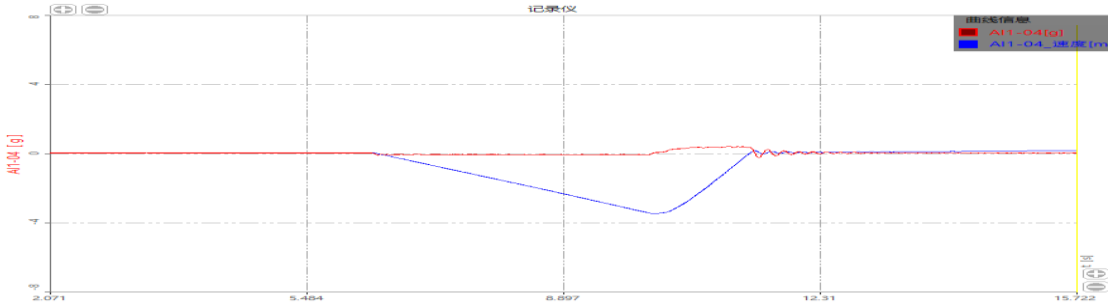


（3）Test once with the rated speed 2.50 m/s, rated load 750kg, system mass 2350kg.

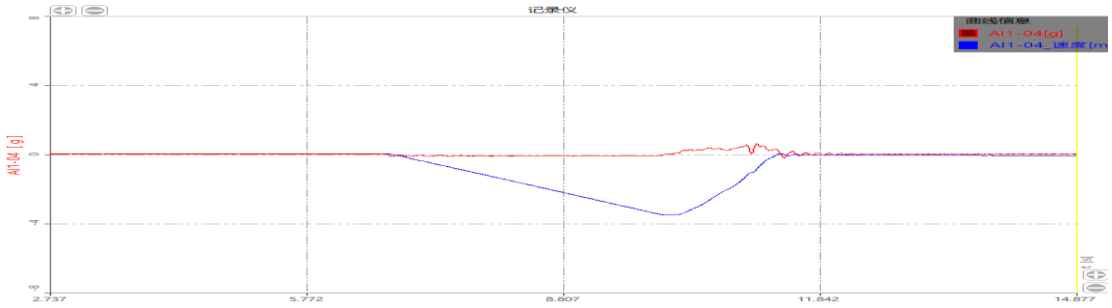


（4）Test 4 times with the rated speed 2.50m/s, rated load 1150kg, system mass 3775kg.

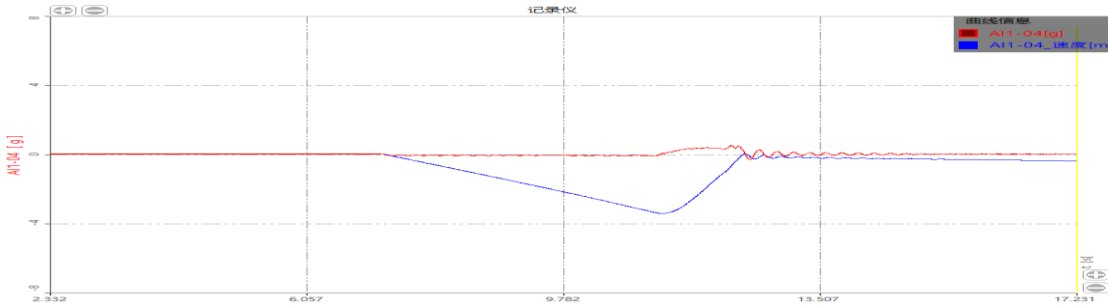
The 1st test



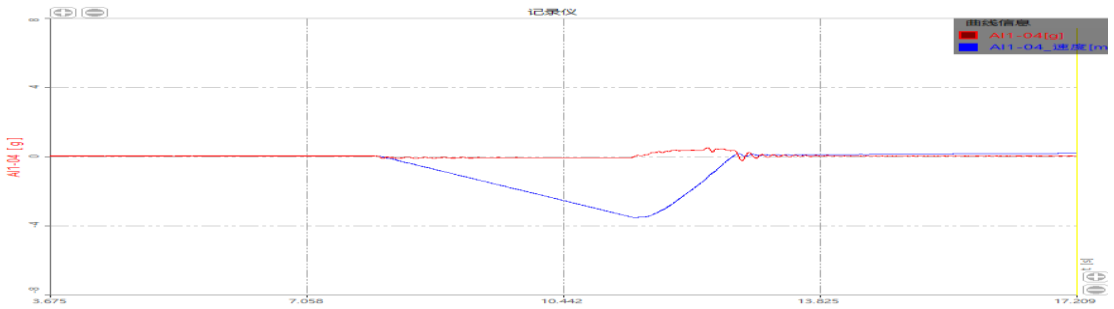
The 2nd test



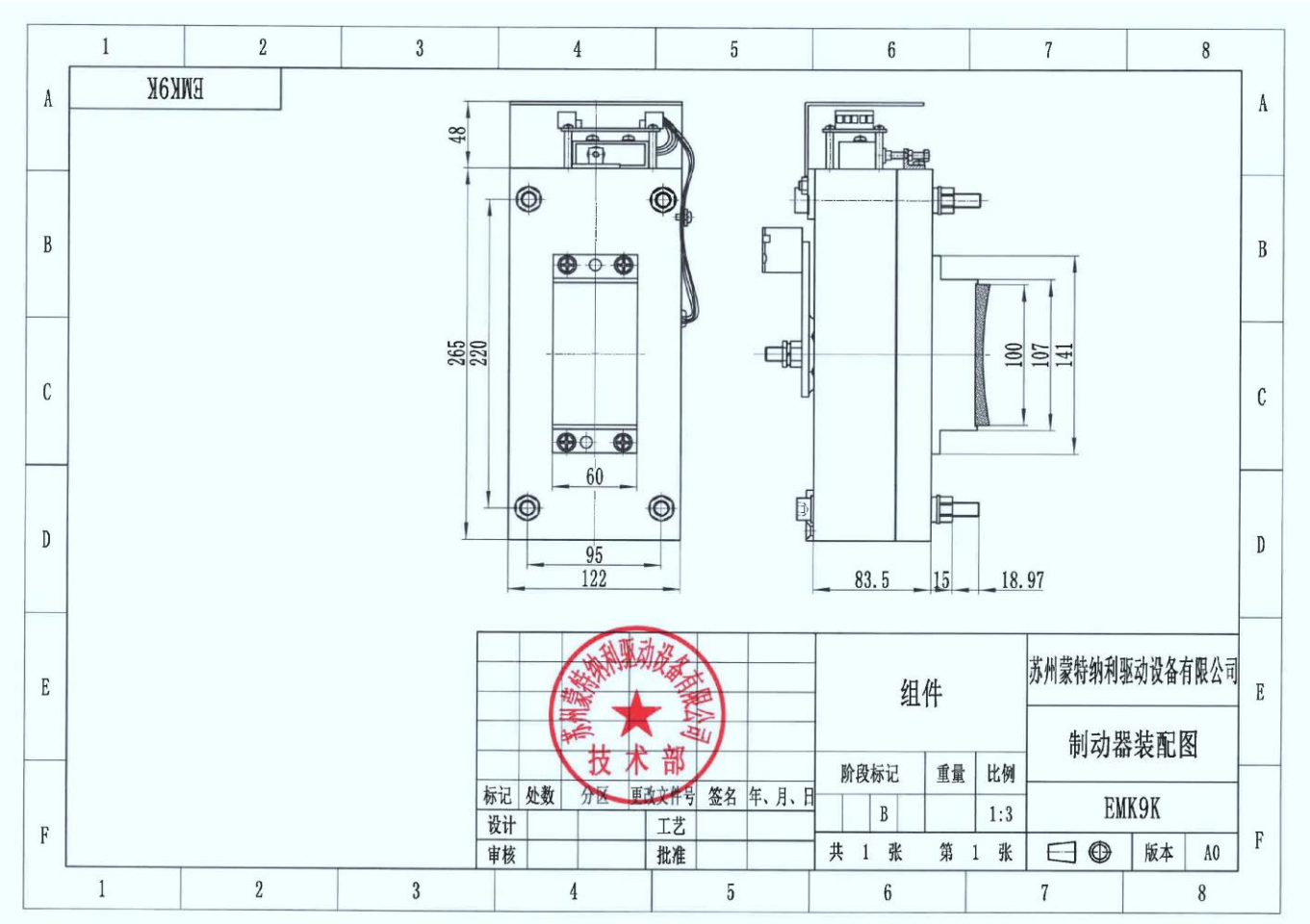
The 3rd test



The 4th test



3. Sample Photo and drawing



4 .Additional Information

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4. Changes of The Type-Examination Report

If the name or address of the applicant (or oversea manufacturer) has any change, please submit a change request with related supporting evidence to the previous type-test agency. After confirmation, the agency will indicate the change on the change record page.

The change record see the attached page (If any).

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