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检测
TESTING
CNAS L1061



170908000850



Report No. ETC22F380064

Special Equipment

Type Test Report

(Lifts)

Category of equipment:	Lift safety protection component
Type of equipment:	Unintended car movement protection
Name of product:	Unintended car movement protection
Model of product:	MEKB
Manufacturer:	ZheJiang MATO Drive Equipment Co., Ltd.
Applicant:	ZheJiang MATO Drive Equipment Co., Ltd.
Category of type test:	Overall test at first
Test date:	2022-11-22

Shanghai Jiao Tong University Elevator Test Center



NOTICES

- 1、 The report is the result of the type test according to the TSG T7007-2022 *Regulation for Type Test of Lifts*.
- 2、 The report shall be printed by computer and be invalid with any modification.
- 3、 The report will be invalid without the signature of approver, verifier and tester .It will also be invalid without the approval certificate、 the cross-page official stamp of the type test entity.
- 4、 Type test report is only valid for the sample.
- 5、 It is forbidden to copy the report partly without the permission of the type test organ. The partly copied report will be invalid.
- 6、 Any dissents to the report must be put forward to the type test organ within 15 working days from receiving it. Otherwise, it is considered that the report is accepted.
- 7、 The test samples shall be handled according to relevant regulations except that they are not returned due to legitimate losses.

- 8、 The addresses of Elevator Test Center, Shanghai Jiaotong University are as follows:

(1) Dongchuan Road Laboratory

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Zip code: 201108



Category of equipment	Lift safety protection component	Type of equipment	Unintended car movement protection
Name of product	Unintended car movement protection	Model of product	MEKB
Serial number of product	M5E220004612	Date of manufacture	2022-09-29
Applicable product model(s)	/		
Applicant	ZheJiang MATO Drive Equipment Co., Ltd.		
Registered address of applicant	Workshop 4, No. 188, Yanghua Village, Nanxun Town, Nanxun District, Huzhou City, Zhejiang Province		
Unified social credit code	91330503684520102Y		
Manufacturer	ZheJiang MATO Drive Equipment Co., Ltd.		
Registered address of manufacturer	Workshop 4, No. 188, Yanghua Village, Nanxun Town, Nanxun District, Huzhou City, Zhejiang Province		
Unified social credit code	91330503684520102Y		
Manufacturing address	Workshop 4, No. 188, Yanghua Village, Nanxun Town, Nanxun District, Huzhou City, Zhejiang Province		
Location of test	Dongchuan Road Laboratory of Shanghai Jiao Tong University Elevator Test Center		
State of sample	No abnormal	Test date	2022-11-22
Test conditions	No abnormal	Category of type test	Overall test at first
Test basis	TSG T7007-2022 <i>Regulation for Type Test of Lifts</i> , GB/T 7588.1- 2020, GB/T 7588.2-2020, ISO 8100-1:2019, ISO 8100-2:2019, EN 81-20:2014(EN 81-20:2020), EN 81-50:2014 (EN 81-50: 2020)		
Test Conclusion	Certificated.		
Tested by: 洪荣凯 Date: 2022-11-29		Approval certificate of type test organ: TS7610022-2025 Shanghai Jiao Tong University Elevator Test Center 2022-11-29	
Verified by: 李吉 Date: 2022-11-29			
Approved by: 张晓峰 Date: 2022-11-29			



1、 Technical parameters and configuration of sample

The main technical parameters and configuration (I)

Applicable working environment		Indoors		
Scope of application	Range of system mass	3370~10030(kg)	Range of rated load	1600~3000(kg)
	Range of balance factor / balancing weight mass	0.4~0.5	Range of car weight	1280~4200(kg)
	Speed setted of car before deceleration to tripper the brake in action	1.35m/s	Highest speed anticipated before car deceleration occurs	1.37m/s
	Suspension ratio ^[Note 1]	2:1		
	Test speed	0.25m/s		
	Type of stopping component	Brakes of PM motor	Driving mode of applicable lift	Traction
	Acting position	Traction sheave	Action tripping mode	Acting when power supply loss
	Response time	≤200ms	Response time at detection subsystem using(Include door zone switch, PCB, contactors)	≤100ms
	Permissible distance traveled at the corresponding test speed	Distance of car traveled less than 0.8m		≤0.11m
		Distance of car traveled less than 1.0m		≤0.12m
Distance of car traveled less than 1.2m		≤0.13m		
Range of inclined angle of electric lifts with inclined path				/
Actuator ^[Note 2]	Name	/	Model	/
	Hardware version	/	Software version	/
	Hardware composition	/	Tripping mode	/
	Rated power	/W	Working voltage	/V

Note1: Acting on element of stopping sets used for suspension rope or compensation rope; acting on the traction sheave only supported in two points of subsystem of stopping.

Note2: The actuators are part of subsystem of stopping.



The main technical parameters and configuration (II)

Subsystem of stopping	Stopping element acting on car or counterweight	Name	/	Model	/
		Structural type	/	Acting position	/
		Tripping mode	/	Material type of guide rail	/
		Pulling mode	/	Type of elastic element	/
		Type of gripping (braking) element	/	Material of gripping (braking) element	/
		Quantity of gripping (braking) elements	/	Dimension of rubbing surface of gripping (braking) element	/mm
		Blade hardness of guide rail	/HBW	Blade width of applicable guide rail	/mm
		Blade machining method of guide rail(only suited to progressive safety gear)	/	Blade lubrication condition of guide rail	/
	Stopping element acting on the suspension rope or compensation rope system	Name	/	Model	/
		Structural type	/		
		Model and specification of rope	/	Quantity of ropes	/
		Reset mode	/	Type of elastic element	/
		Type of friction element	/	Material of friction element	/
	Stopping element acting on the traction sheave or the traction sheave shaft only supported in two points	Name	Brakes of PM motor	Model	MEKB
		Structural type	Block	Quantity	2
		Material of friction element	Non-asbestos	Type of elastic element	Compressed cylindrical helical spring
		Length of the brake arm lever	/m	Lever ratio	/
		Diameter of brake drum/disc	Φ600mm	specification and quantity of brake spring (ID×OD×FL /Qty.)	Φ4.5×14×56 (mm), 14PCS

**2、 Check for technical documents of the sample**

No.	Item number	Review item	Result	Conclusion
1	T5.1	Copies of certificates or test reports	Pass	Ok
2	T5.2	Main structural parameters	Pass	Ok
3	T5.3	Scope of application and design documents	Pass	Ok
4	--	Any other necessary	Pass	Ok
5	--	Applicable products and the relative technical documents	Inapplicability	/

3、 Check and test of the sample

No.	Item Number	Test Items	Results	Conclusions
1	T6.1.1	Stopping subsystem applicable to a single mass	N/A	N/A
2	T6.1.2	Stopping subsystem applicable to different mass	Comply with requirements	Pass
3	T6.1.3	Brake operation test	Report No.: 2022-W573	Pass
4	T6.1.4	Distance traveled at the corresponding test speed	Comply with requirements	Pass
5	T6.2	Nameplate	Comply with requirements	Pass



Appendix

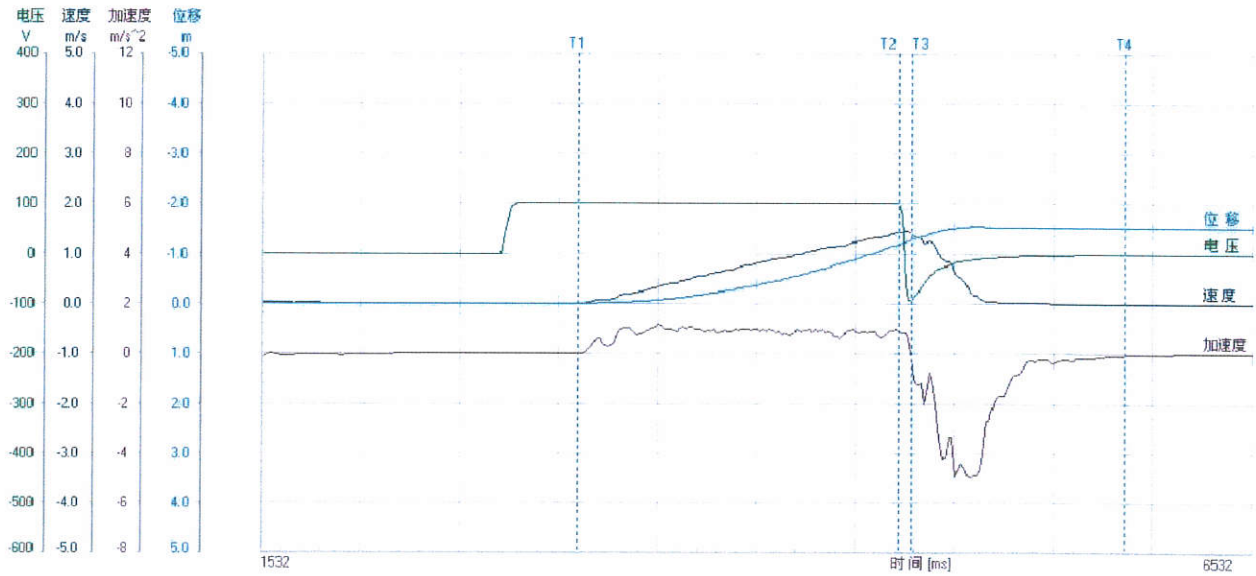
1. Test results

Condition	Deceleration		Max. speed (m/s)	Response time	Stopping distance			Total traveling distance		
	Average (m/s ²)	Max. (m/s ²)			Measured (mm)	Average (mm)	Deviation (%)	Measured (mm)	Average (mm)	Deviation (%)
Min system mass, Zero load	1.32	4.97	1.46	61	250	239	4.52	412	401	2.69
	1.61	4.96	1.44	58	249		4.10	411		2.44
	1.46	4.86	1.47	64	252		5.35	414		3.19
	1.43	5.13	1.46	61	220		-8.03	382		-4.78
	1.46	5.17	1.45	67	225		-5.94	387		-3.54
Min system mass, Full load	1.28	4.33	1.47	63	283	283	0.14	445	445	0.09
	1.27	4.39	1.45	57	285		0.85	447		0.54
	1.29	4.26	1.46	58	285		0.85	447		0.54
	1.25	4.34	1.45	62	277		-1.98	439		-1.26
	1.26	4.24	1.45	55	283		0.14	445		0.09
Max system mass, Zero load	0.90	3.24	1.48	55	440	437	0.69	602	599	0.50
	0.92	3.13	1.47	54	439		0.46	601		0.33
	0.90	3.13	1.46	48	430		-1.60	592		-1.17
	0.93	3.17	1.46	51	451		3.20	613		2.34
	0.95	3.15	1.44	55	425		-2.75	587		-2.00
Max system mass, Full load	0.83	2.65	1.47	62	509	509	0.04	671	671	0.03
	0.78	2.56	1.42	49	515		1.22	677		0.92
	0.85	2.63	1.46	61	505		-0.75	667		-0.57
	0.89	2.71	1.44	55	512		0.63	674		0.48
	0.90	2.54	1.46	59	503		-1.14	665		-0.86
Test speed	/	/	0.35	/	57	53	6.87	/	/	/
	/	/	0.31	/	50		-6.25	/	/	/
	/	/	0.30	/	53		-0.63	/	/	/

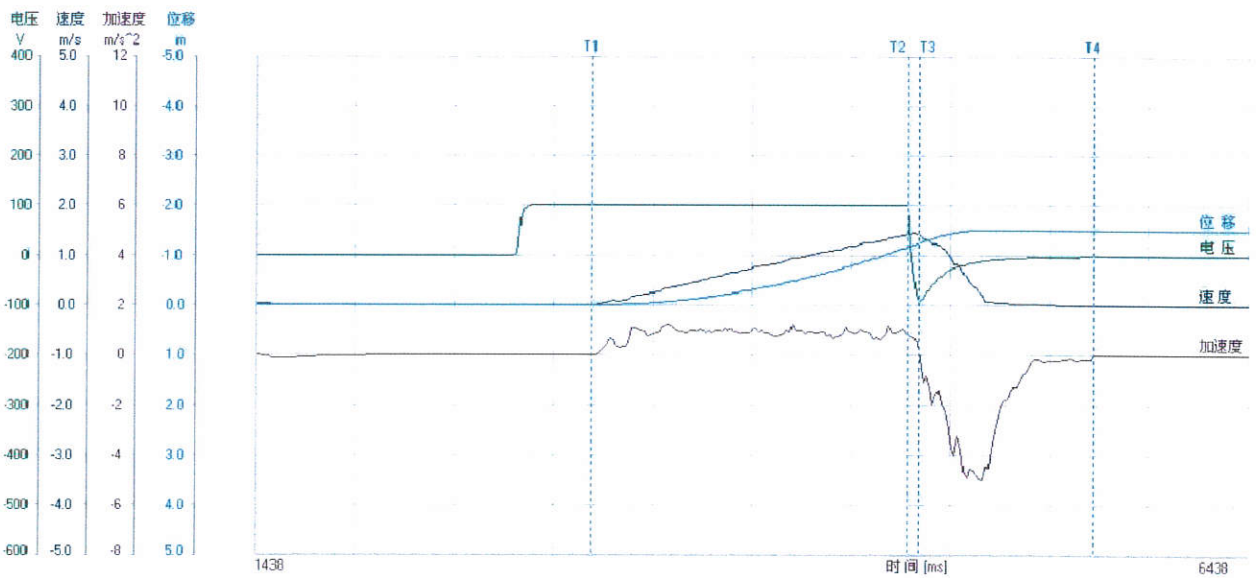


2. Curves of test

2.1 Traction ratio 1:1, System mass 1685kg, corresponding rated load 800kg, Zero load 1st:

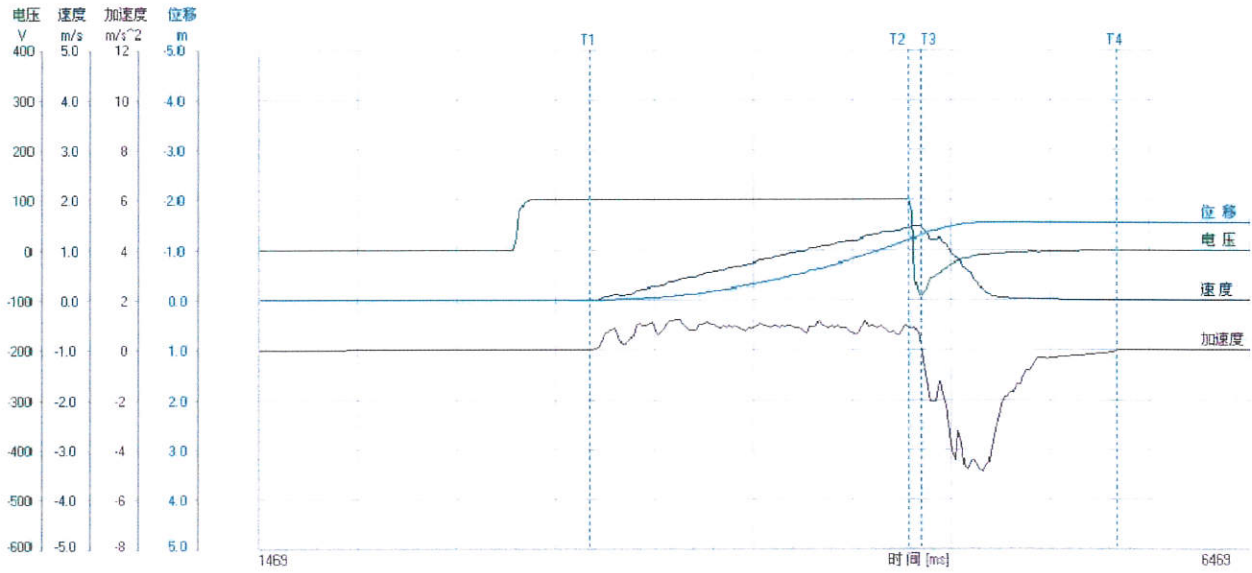


2.2 Traction ratio 1:1, System mass 1685kg, corresponding rated load 800kg, Zero load 2nd :

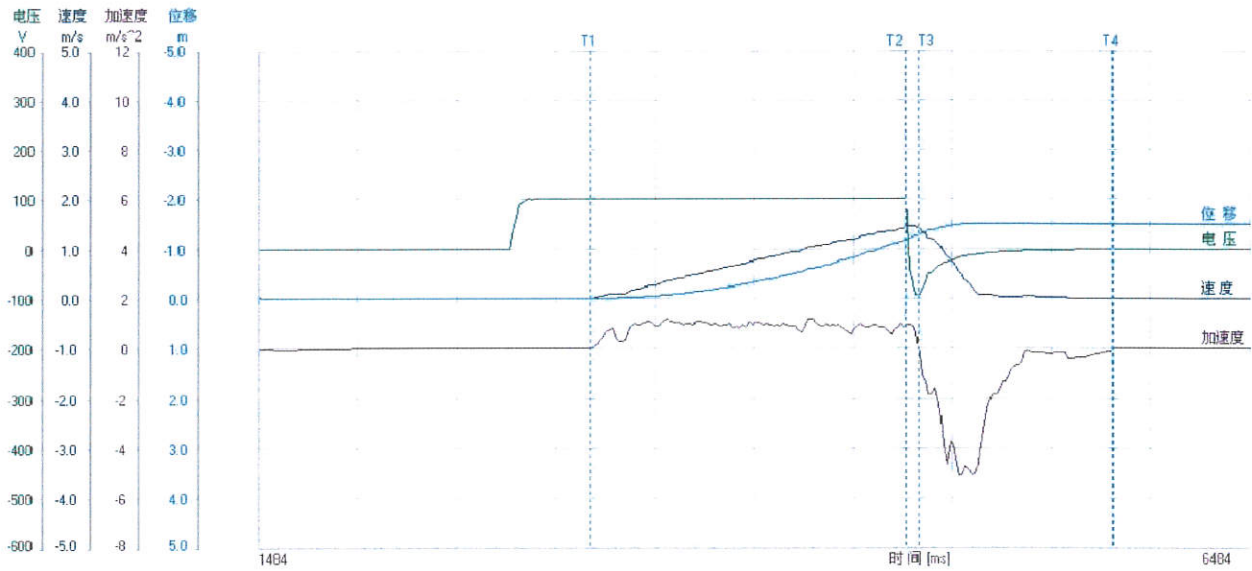




2.3 Traction ratio 1:1, System mass 1685kg, corresponding rated load 800kg, Zero load 3rd :

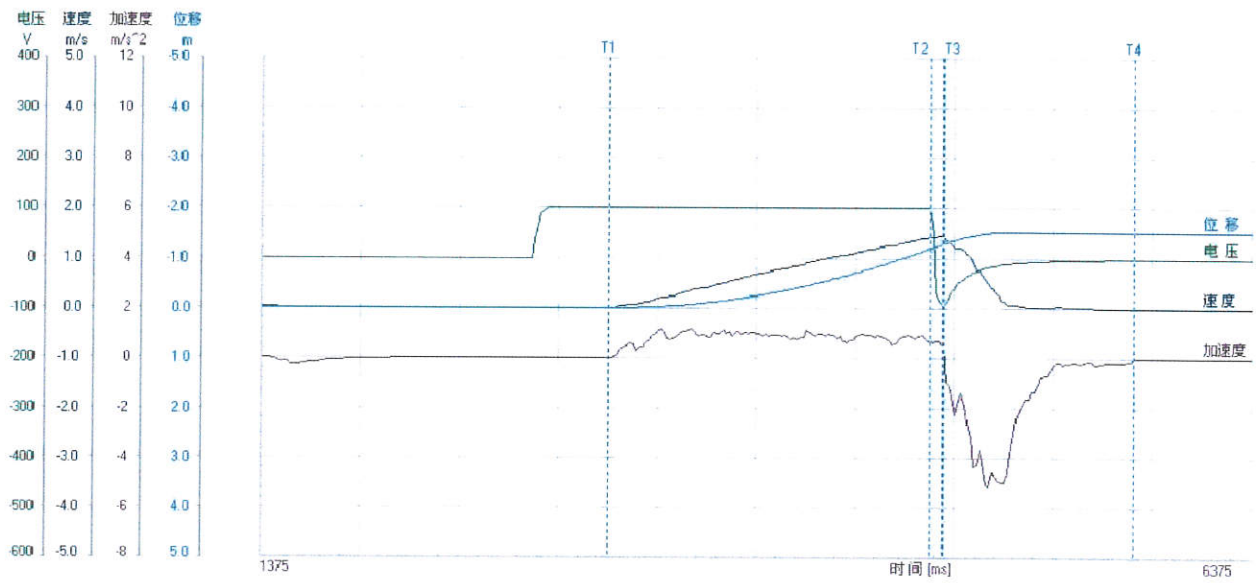


2.4 Traction ratio 1:1, System mass 1685kg, corresponding rated load 800kg, Zero load 4th :

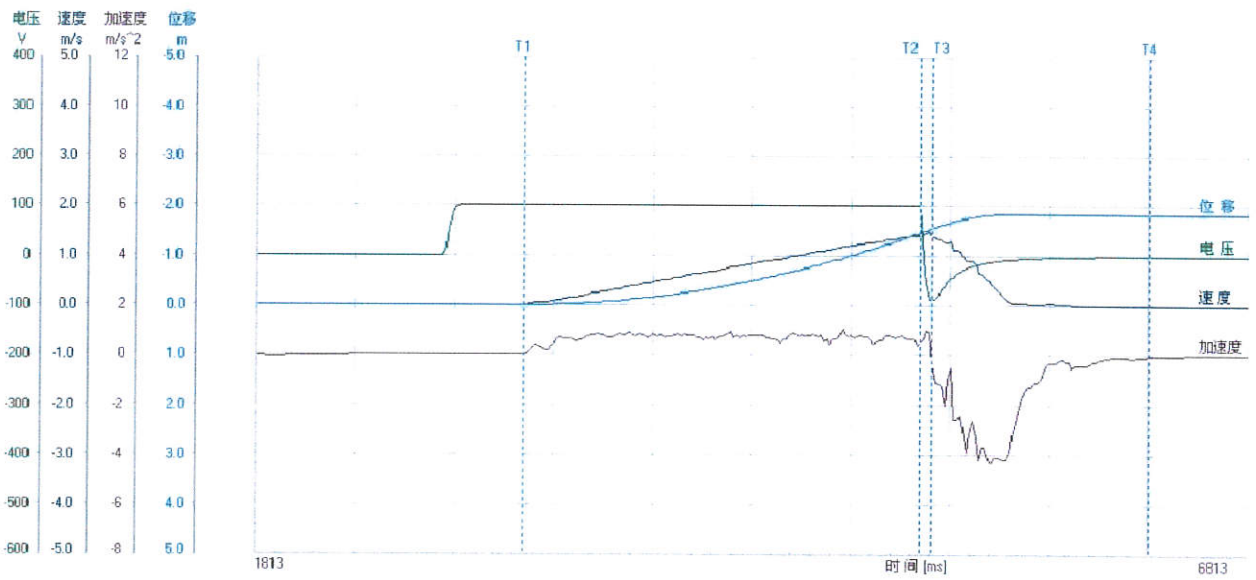




2.5 Traction ratio 1:1, System mass 1685kg, corresponding rated load 800kg, Zero load 5th :

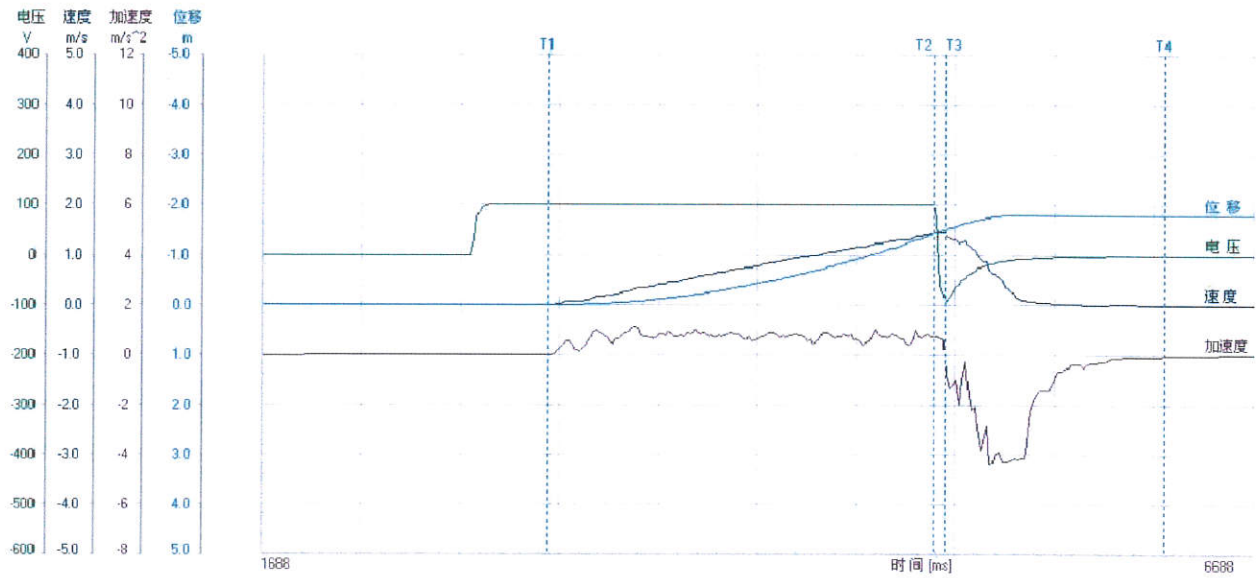


2.6 Traction ratio 1:1, System mass 1685kg, corresponding rated load 800kg, Full load 1st:

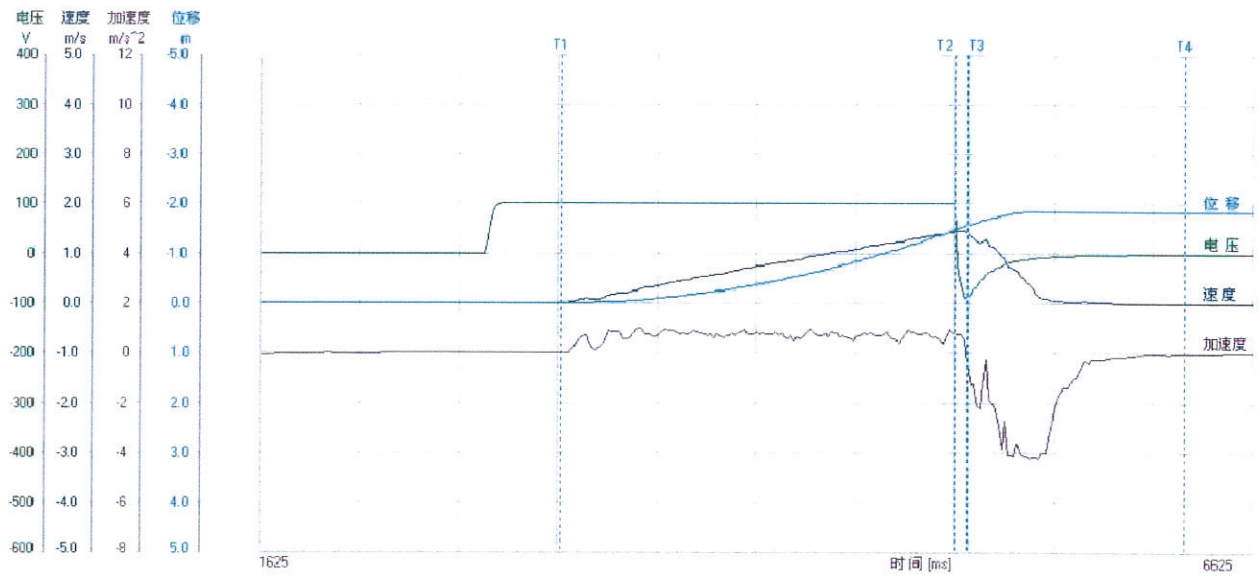




2.7 Traction ratio 1:1, System mass 1685kg, corresponding rated load 800kg, Full load 2nd :

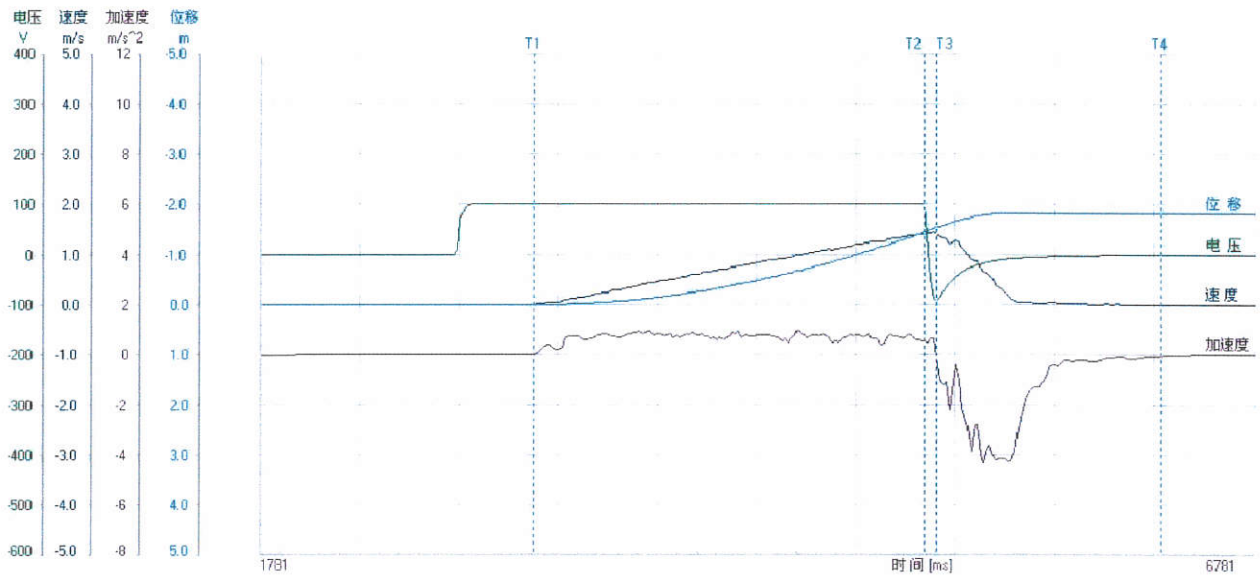


2.8 Traction ratio 1:1, System mass 1685kg, corresponding rated load 800kg, Full load 3rd :

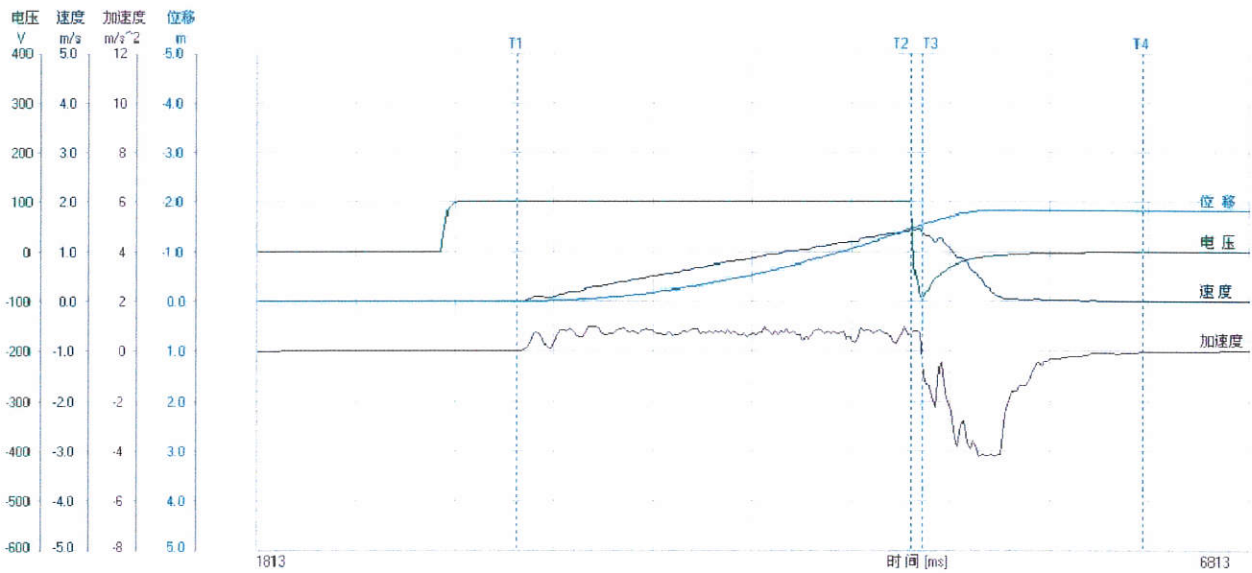




2.9 Traction ratio 1:1, System mass 1685kg, corresponding rated load 800kg, Full load 4th :

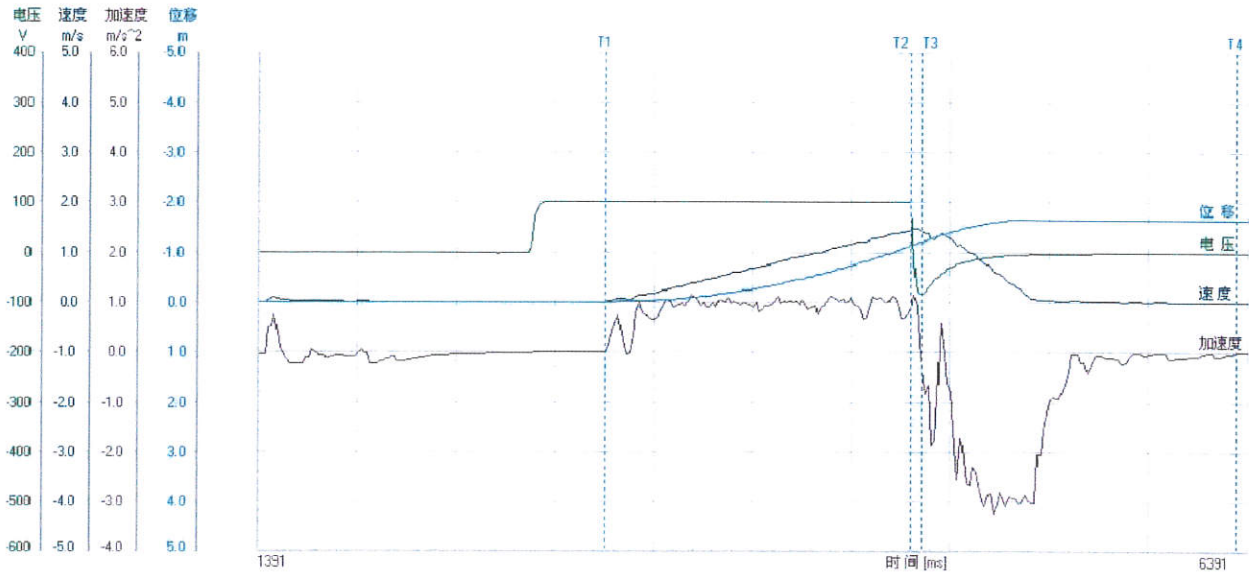


2.10 Traction ratio 1:1, System mass 1685kg, corresponding rated load 800kg, Full load 5th :

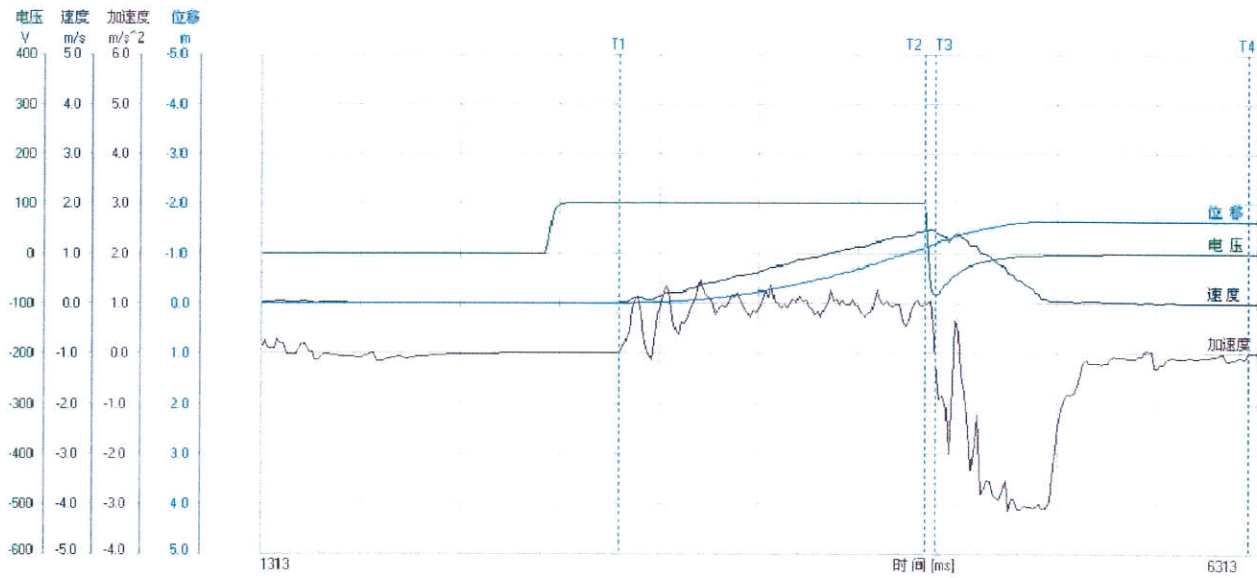




2.11 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Zero load 1st:

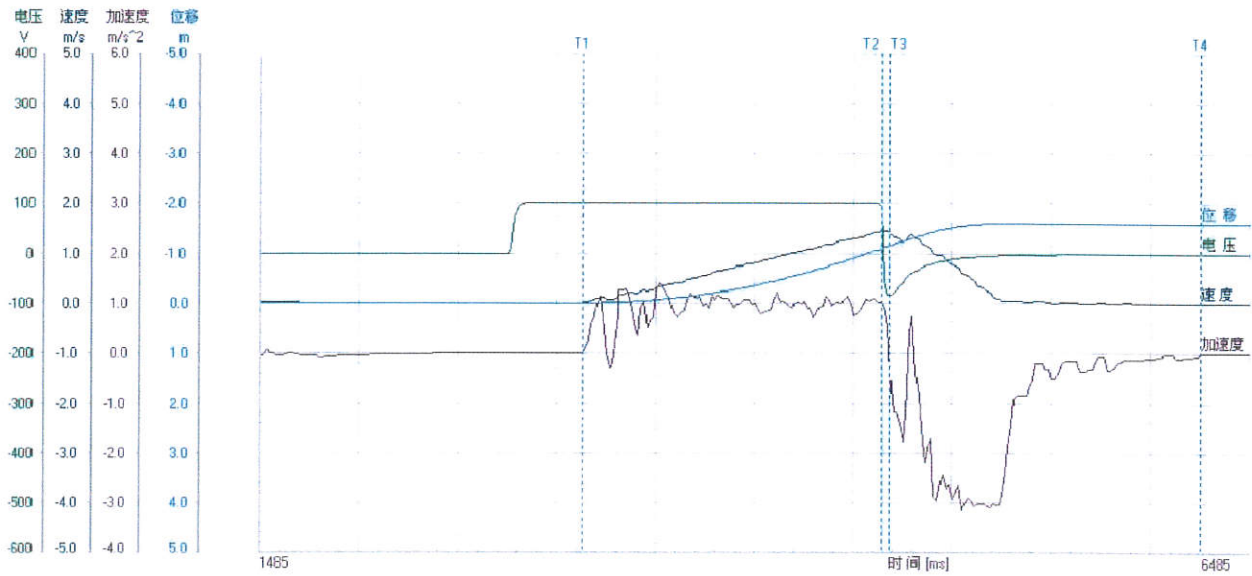


2.12 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Zero load 2nd :

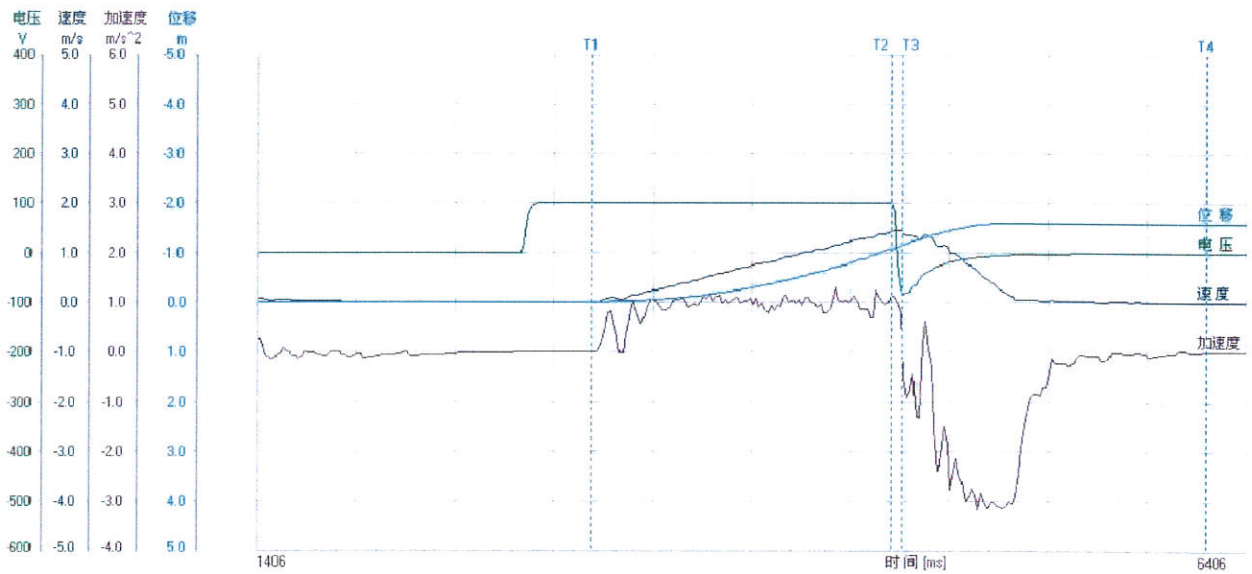




2.13 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Zero load 3rd :

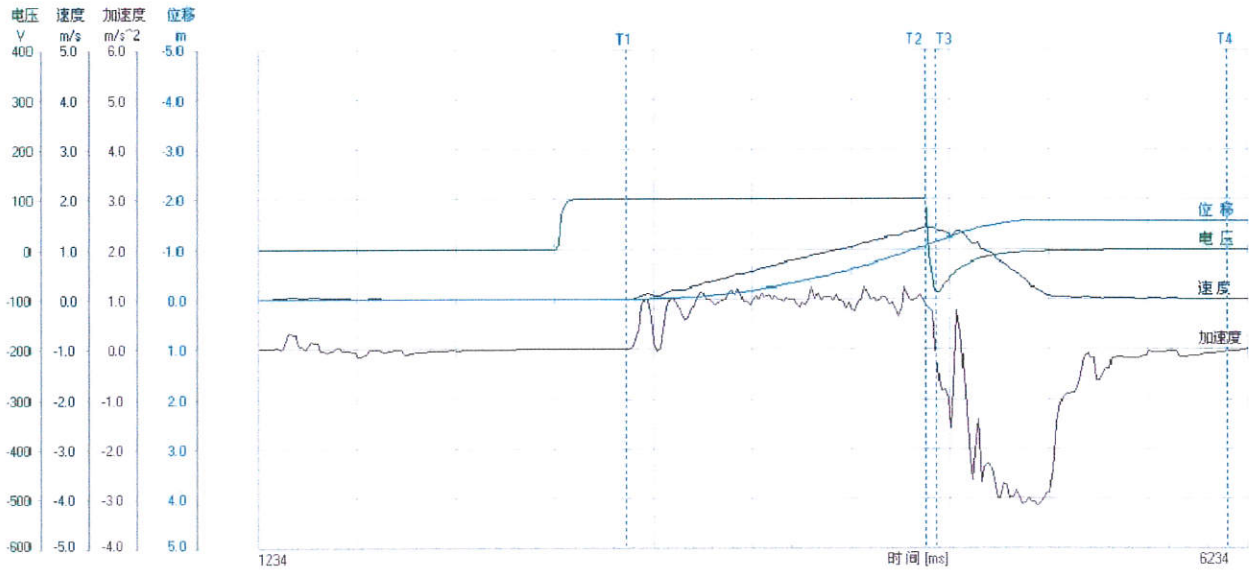


2.14 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Zero load 4th :

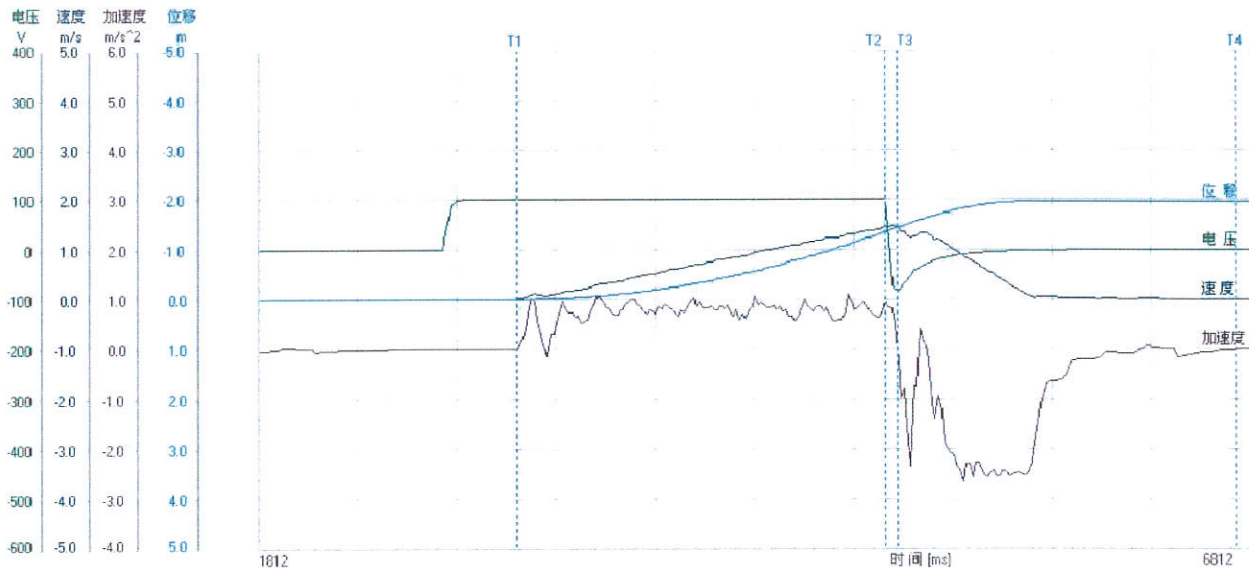




2.15 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Zero load 5th :

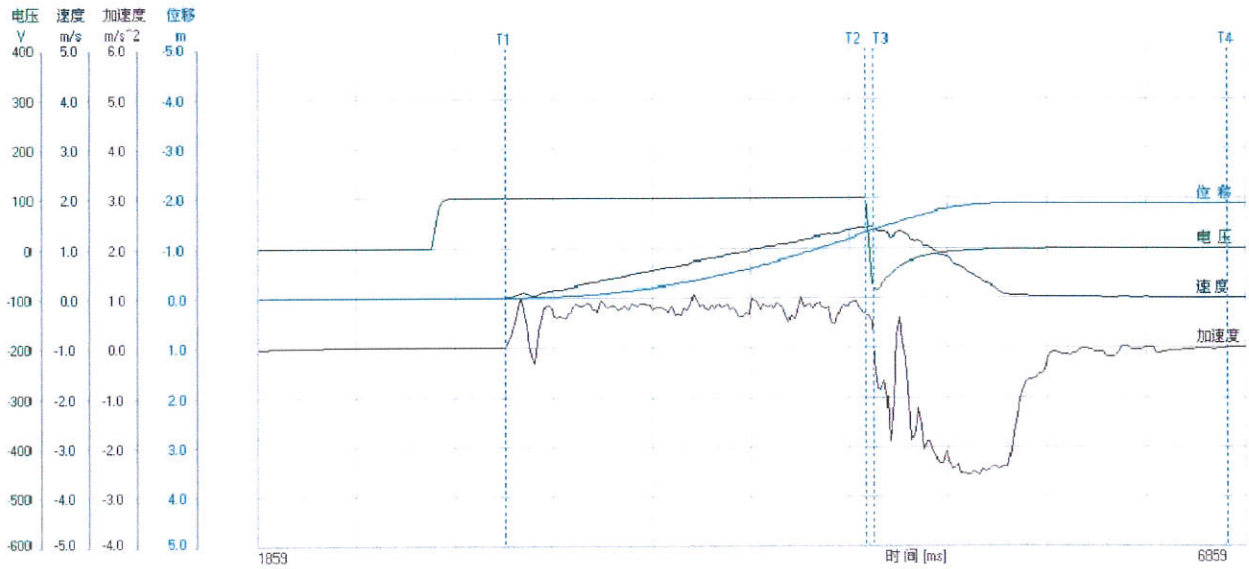


2.16 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Full load 1st:

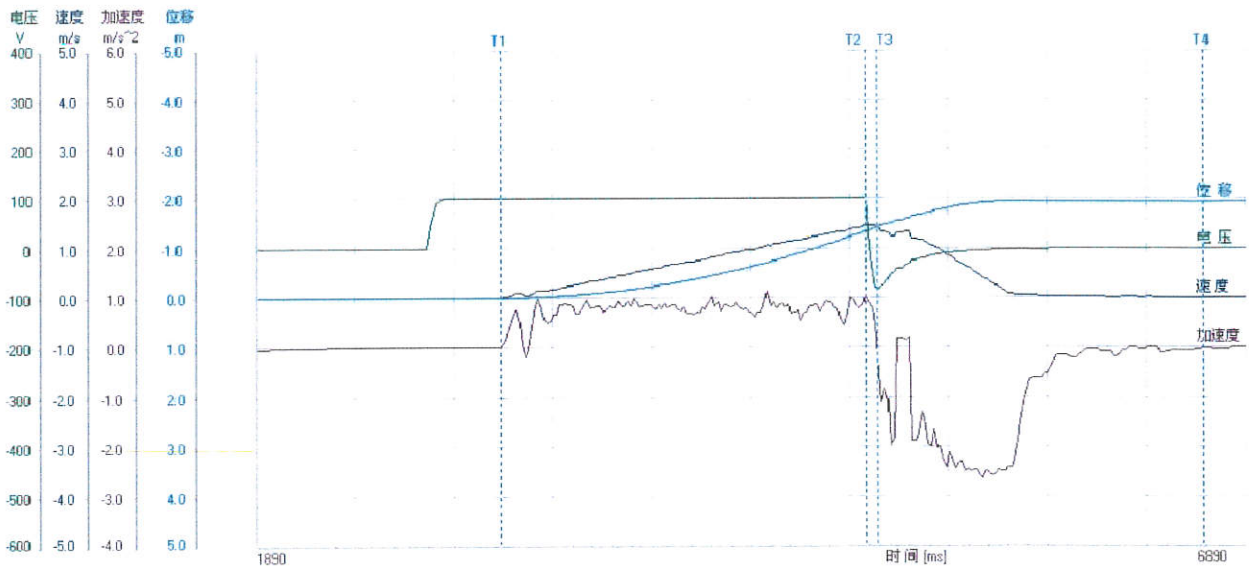




2.17 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Full load 2nd :

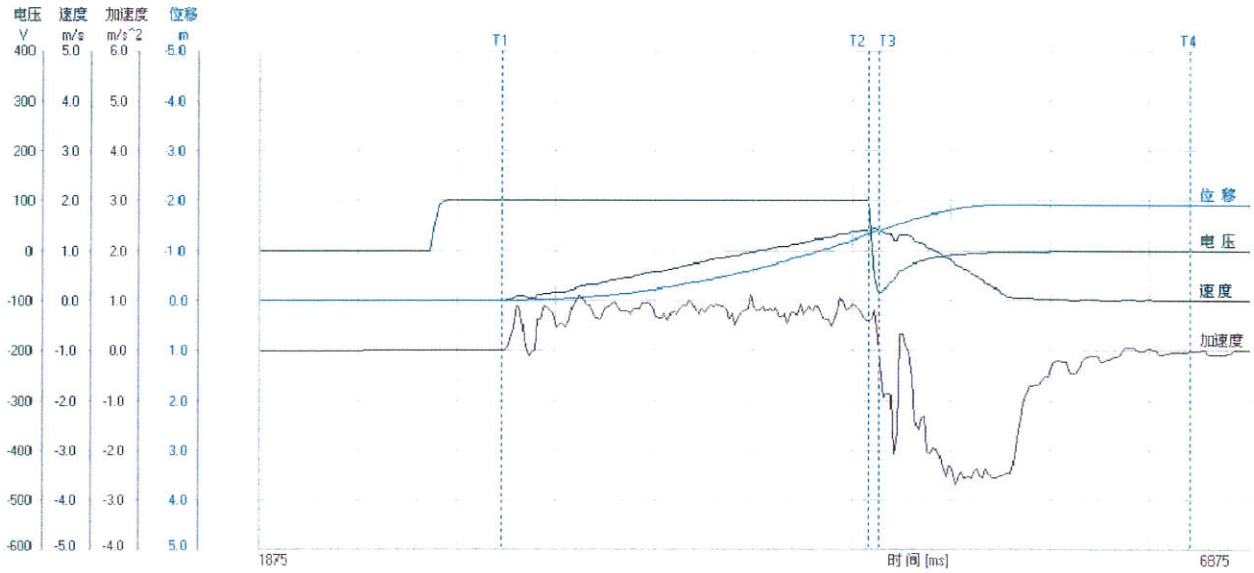


2.18 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Full load 3rd :

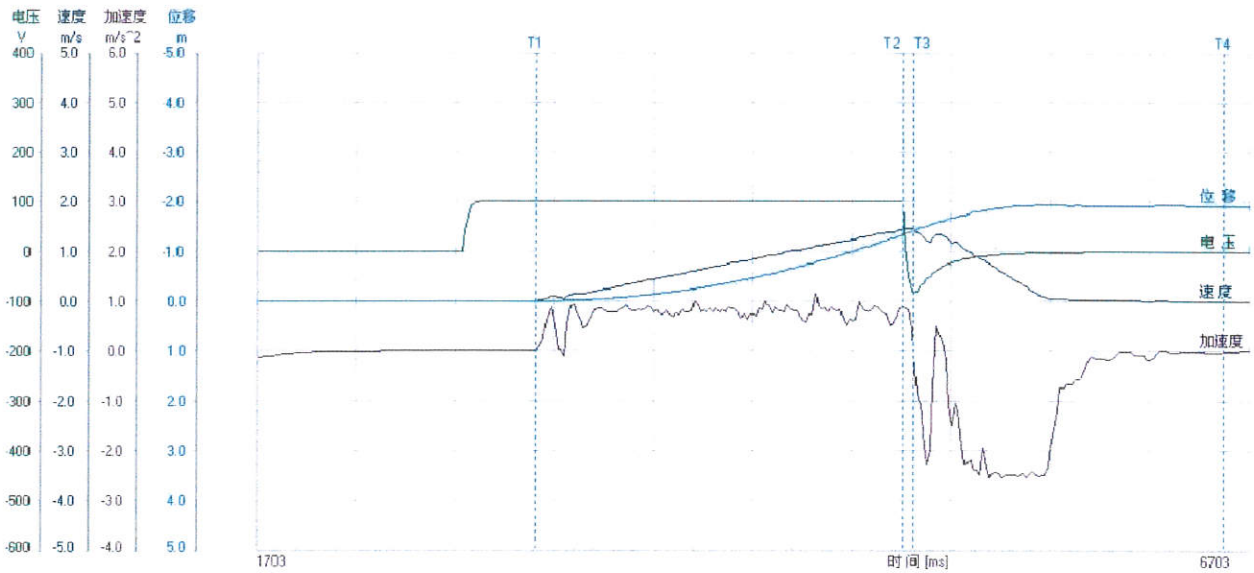




2.19 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Full load 4th :

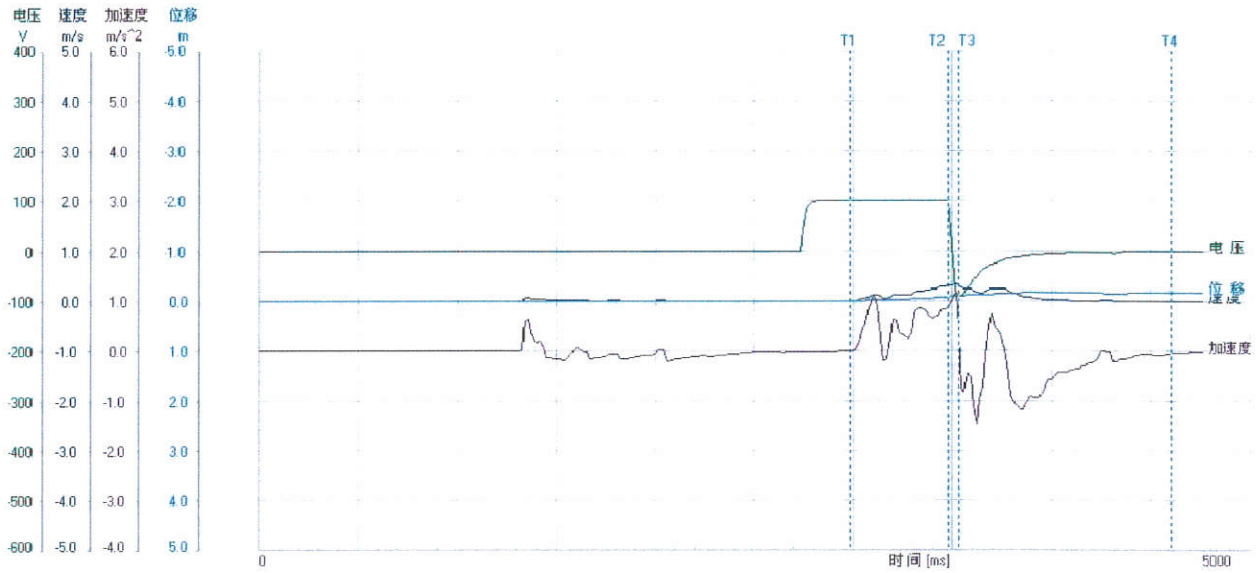


2.20 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Full load 5th :

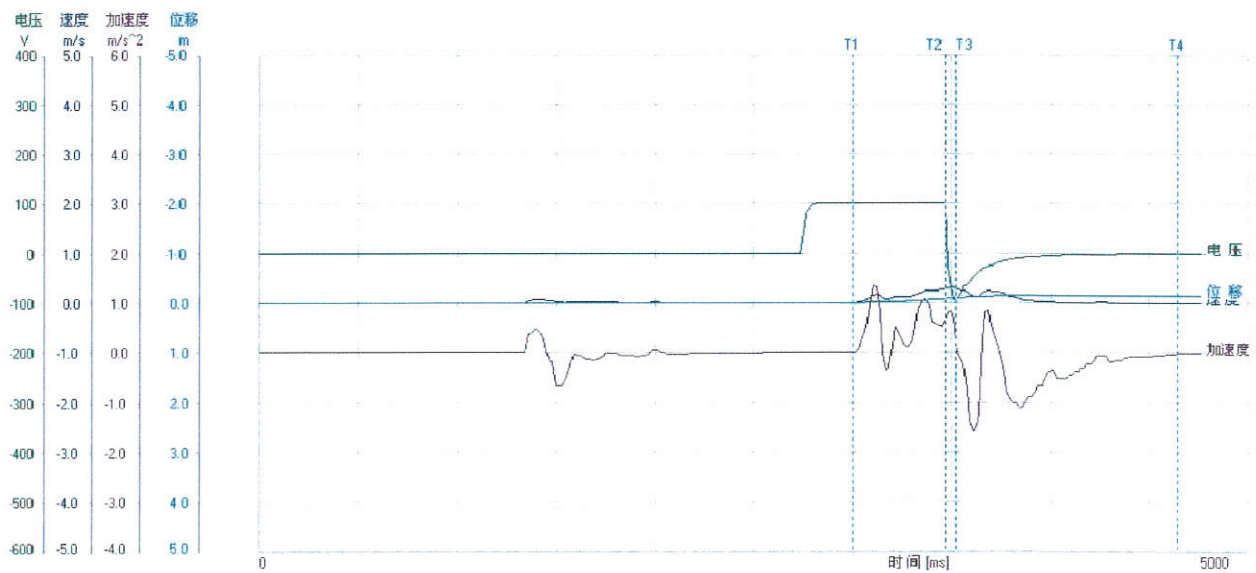




2.21 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Zero load, Test speed 1st :

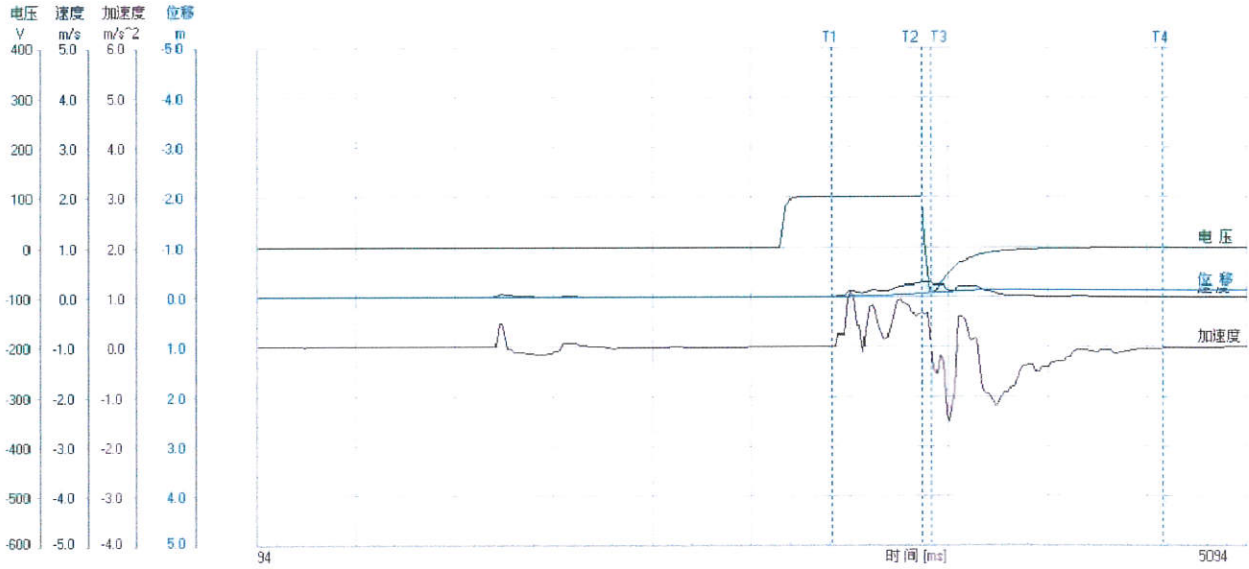


2.22 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Zero load, Test speed 2nd :





2.23 Traction ratio 1:1, System mass 5015kg, corresponding rated load 1500kg, Zero load, Test speed 3rd :



3. Photo of the sample





4. Other information

- (1) The system mass includes not only the mass of the car and the counterweight, but also the mass of traction rope, compensation chain /rope and traveling cable.
- (2) The figures of deceleration, not responses of direct tests, are the results of velocity's differential. The figures of displacement, not responses of direct tests, are the results of velocity's integral.
- (3) During the test, the sample had an after-flow device attached with the sample and directly connected to both ends of the brake coil.
- (4) This English report is a translated version of the Chinese report and is issued on the same date as the Chinese report.

5. Revise(s) of the type test report

None.

