

TYPE TEST REPORT

Report No. : IE3-132M-4 7.5KW 15032002

Product Type Name	IE3-132M-4 Three Phase Asynchronous Motor			Ser.No.	铝
Rated Output	7.5 kW	Rated Voltage	400 V	Rated Current	14.3 A
Rated Speed	1470 r/min	Rated Frequency	50Hz	Insulation Class	F
Duty	S1	Protection Class	IP55	Connection	△
Product Standard	IEC60034-1	Testing Standard	IEC60034-2-1	Production Date	
Test Item	Eligibility Value		Test Value	Test Result	
	Standard	Tolerance			
1. Stator resistance at 20°C	Ω		0.8565		
2. No load current	A		5.16		
3. No load current deviation	%		0.7		
4. No load input power	W		322.4		
5. Locked rotor current	A		110.00		
6. Locked current/Rated current			7.74		
7. Locked torque	N.m		92.27		
8. Locked torque/Rated torque			1.89		
9. Full load current	A		14.21		
10. Rated torque	N.m		48.86		
11. Max. torque	N.m		171.18		
12. Max. torque/Rated torque			3.50		
13. Full load speed ratio	r/min		1466.0		
14. Iron loss(at Rated voltage)	W		221.6		
15. Mechanical loss(at Rated speed)	W		65.8		
16. Stator winding loss	W		314.6		
17. Rotor winding loss	W		184.5		
18. Other loss	W		11.6		
19. Total loss	W		795.5		
20. Output power	W		7500		

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Test Item	Eligibility Value		Test Value	Test Result	
	Standard	Tolerance			
21. Input power	W		8295.47		
22. Full load efficiency	%		90.41		
23. Full Load power factor			0.842		
24. Stator winding temp.rise	K		48.8		
25. Bearing temperature	°C				
26. Coolant temperature	°C		16.6		
27. Insulation resistance warmly to frame	MΩ				
28. High voltage test	V min	1760	Pass	Passed	
29. Vibration	mm/s				
30. Noise	dB(A)				
31. Rotation Direction		Clockwise	Right	Passed	
32. H.V. impulse test between winding	V	2600	Pass	Passed	
33. Over speed test 2min 1.2n		No abnormal	No abnormal	Passed	
34. Over Torque test 15s 2.2Tn		No abnormal	No abnormal	Passed	
35. Over current test 2min 1.5In		No abnormal	No abnormal	Passed	
Testing Conclusion					
Remark					
Tested by		Checked by		Formed	

three-phase induction motor type test report

Amb Temp: 17.69°C

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test time:

Modle: IE3-132M-4
NO.: 铝
Rated f: 50Hz

Rated U: 400V
Rated I: 14.3A
Rated P: 7.5kW

Rated η : 90.40%
Cos ϕ : 0.84
Rated speed: 1470r/min

InsClass: F
Connect: Δ
Poles: 4

Resistance test

Rac (Ω): 0.8469

Rbc (Ω): 0.8466

Rab (Ω): 0.8467

Ravg (Ω): 0.8467
75°C R (Ω): 1.0434
25°C R (Ω): 0.8751

Shell Temp (°C): 17.1
Amb Temp (°C): 16.58

Noload test

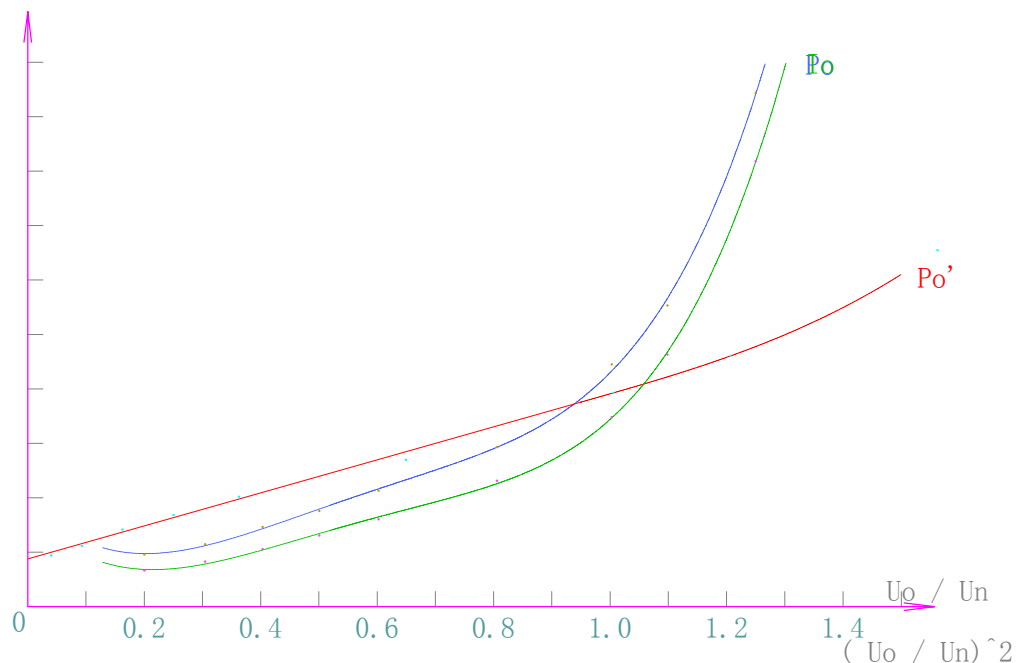
U*	U (V)	I (A)	Po (kW)	Po' (kW)	Pcu (kW)	WindingT (°C)
1.25	500.0	12.27	0.7080	0.4912	0.2168	50.11
1.10	439.4	6.95	0.4150	0.3455	0.0695	50.37
1.00	401.1	5.22	0.3340	0.2947	0.0393	50.37
0.81	322.3	3.47	0.2200	0.2026	0.0174	50.14
0.60	240.9	2.41	0.1600	0.1516	0.0084	50.14
0.50	200.2	1.96	0.1320	0.1265	0.0055	49.42
0.40	161.3	1.59	0.1100	0.1064	0.0036	49.42
0.30	121.8	1.24	0.0860	0.0838	0.0022	48.70
0.20	80.2	1.00	0.0720	0.0706	0.0014	48.70

Thermal R (Ω): 0.9508
Io (A): 5.16
Pm (kW): 0.0658

Shell Temp (°C): 36.5
Io (kW): 0.3224
Pfe (kW): 0.2216

No Load Characteristic Curve

Io	Po	Po'
A	kW	kW
15.0	0.750	0.750
13.5	0.675	0.675
12.0	0.600	0.600
10.5	0.525	0.525
9.0	0.450	0.450
7.5	0.375	0.375
6.0	0.300	0.300
4.5	0.225	0.225
3.0	0.150	0.150
1.5	0.075	0.075



test:

check:

three-phase induction motor type test report

Amb Temp: 16.6°C

report NO.: IE3-132M-4 7.5KW 15032002

test time:

Modle: IE3-132M-4	Rated U: 400V	Rated η : 90.40%	InsClass: F
NO.: 铝	Rated I: 14.3A	Cos ϕ : 0.84	Connect: Δ
Rated f: 50Hz	Rated P: 7.5kW	Rated speed: 1470r/min	Poles: 4

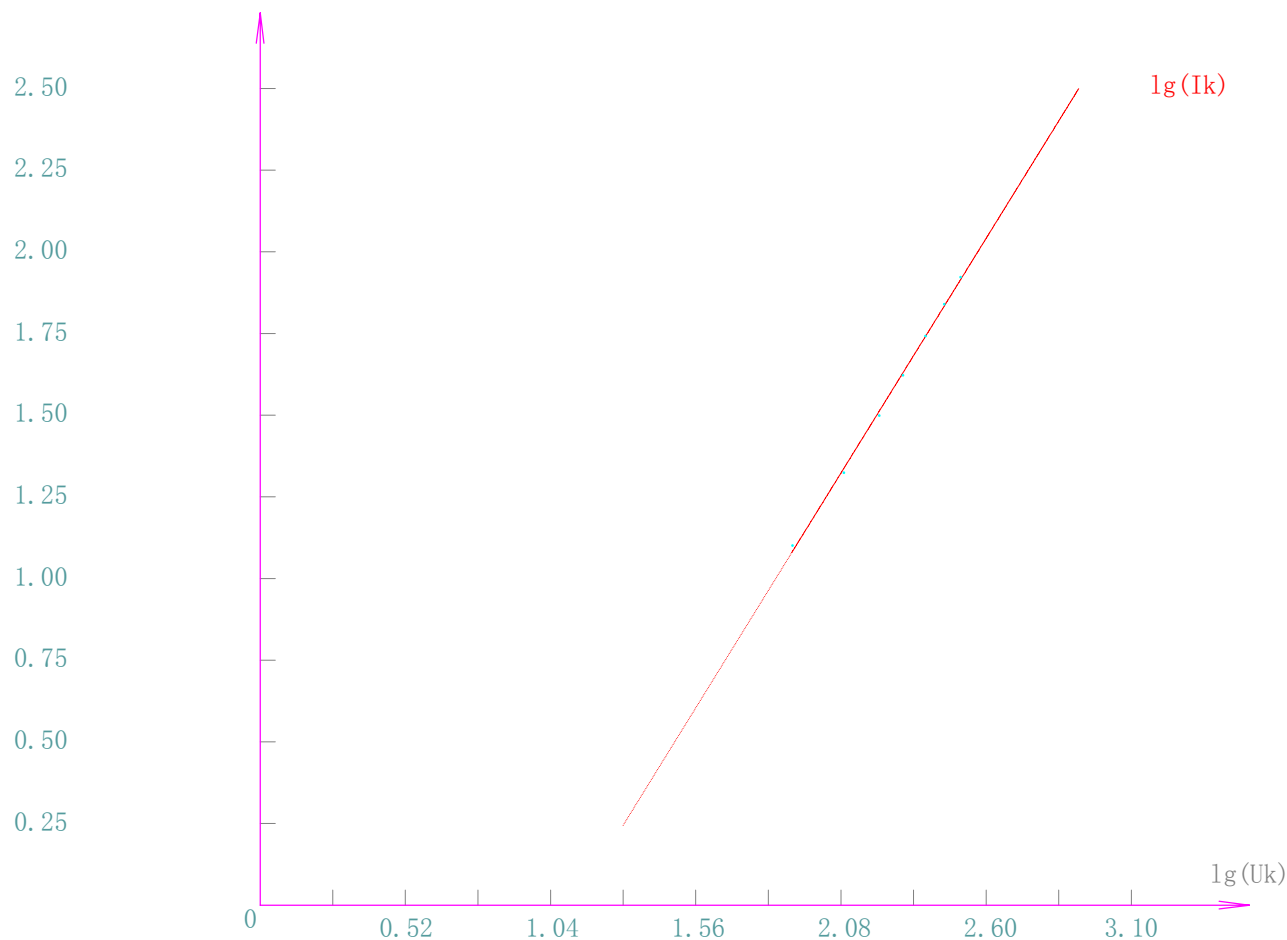
Locked-rotor Test

U (V)	I (A)	P1 (KW)	Tor (N. m)
323.6	83.76	20.3180	53.50
282.9	69.22	13.9360	35.30
242.6	55.29	9.0240	24.00
201.2	41.91	5.2860	14.70
165.5	31.53	3.0400	8.70
123.7	21.09	1.3840	4.30
81.0	12.62	0.5030	1.60

Ik (A): 110.00	Ik/In: 7.74
Tk (N. m): 92.27	Tk/Tn: 1.89
Pk (kW): 30.46	

lg(Ik)

Locked-Rotor Characteristic Curve



test:

check:

three-phase induction motor type test report

Amb Temp: 16.6°C

report NO.: IE3-132M-4 7.5KW 15032002

test time:

Modle: IE3-132M-4	Rated U: 400V	Rated η : 90.40%	InsClass: F
NO.: 铝	Rated I: 14.3A	Cos ϕ : 0.84	Connect: Δ
Rated f: 50Hz	Rated P: 7.5kW	Rated speed: 1470r/min	Poles: 4

Load Test

P1 (kW)	U (V)	I (A)	s (r/min)	Tor (N.m)	windingT(°C)
13.0100	400.1	22.71	1439.0	74.800	56.25
10.6850	400.8	18.38	1453.0	61.700	58.62
8.4980	401.6	14.55	1465.0	49.000	59.17
6.4250	401.4	11.23	1475.0	36.700	57.85
4.3850	401.4	8.57	1484.0	24.200	57.37
2.3700	400.2	6.20	1492.0	11.800	56.20
0.3550	400.2	5.18	1499.0	0.100	54.14
0.3330	400.0	5.19	0.0	0.000	51.34

P2 (kW)	Pcu (kW)	Pal (kW)	Ps (kW)	Ss (%)	η (%)	Cos ϕ
11.3724	0.8042	0.5178	0.0282	4.32	87.41	0.827
9.5238	0.5265	0.3280	0.0192	3.30	89.13	0.838
7.6736	0.3299	0.1950	0.0121	2.45	90.30	0.840
5.8286	0.1965	0.1058	0.0068	1.76	90.72	0.823
3.9346	0.1144	0.0457	0.0030	1.13	89.73	0.736
2.0101	0.0600	0.0118	0.0007	0.57	84.81	0.551
0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.000
0.0000	0.0000	0.0000	0.0000	0.00	0.00	0.000

r; 0.924

A: 0.005

B: 170.452

θ_s (°C): 73.8

150% rated power:

I (A): 22.42	P1 (kW): 12.8531	Ss (%): 4.00
Pcu (kW): 0.7865	Pal (kW): 0.4738	Ps (kW): 0.0276
η (%): 87.53	Cos ϕ : 0.828	P2 (kW): 11.25

125% rated power:

I (A): 18.02	P1 (kW): 10.5050	Ss (%): 3.06
Pcu (kW): 0.5084	Pal (kW): 0.2993	Ps (kW): 0.0186
η (%): 89.24	Cos ϕ : 0.841	P2 (kW): 9.38

100% rated power:

I (A): 14.21	P1 (kW): 8.2955	Ss (%): 2.27
Pcu (kW): 0.3161	Pal (kW): 0.1760	Ps (kW): 0.0116
η (%): 90.41	Cos ϕ : 0.842	P2 (kW): 7.50

75% rated power:

I (A): 10.97	P1 (kW): 6.2064	Ss (%): 1.60
Pcu (kW): 0.1882	Pal (kW): 0.0925	Ps (kW): 0.0063
η (%): 90.63	Cos ϕ : 0.817	P2 (kW): 5.63

50% rated power:

I (A): 8.26	P1 (kW): 4.1862	Ss (%): 1.01
Pcu (kW): 0.1068	Pal (kW): 0.0391	Ps (kW): 0.0027
η (%): 89.58	Cos ϕ : 0.731	P2 (kW): 3.75

25% rated power:

I (A): 6.08	P1 (kW): 2.2339	Ss (%): 0.50
Pcu (kW): 0.0578	Pal (kW): 0.0097	Ps (kW): 0.0006
η (%): 83.93	Cos ϕ : 0.530	P2 (kW): 1.88

Load Characteristic Curve

Report No. : IE3-132M-4 7.5KW 15032002
Model : IE3-132M-4
Rated Output: 7.5 kW
Ser.No. : 铝

When P2 = 7.5 kW ,
I1 = 14.21 A
P1 = 8.2955 kW
Sref = 2.27 %
 η = 90.41 %
Cos ϕ = 0.842

$\cos \phi$	η	Sref	P1	I1
	%	%	kW	A
1.0	100	5.0	15.0	25.0
0.9	90	4.5	13.5	22.5
0.8	80	4.0	12.0	20.0
0.7	70	3.5	10.5	17.5
0.6	60	3.0	9.0	15.0
0.5	50	2.5	7.5	12.5
0.4	40	2.0	6.0	10.0
0.3	30	1.5	4.5	7.5
0.2	20	1.0	3.0	5.0
0.1	10	0.5	1.5	2.5

