

TYPE TEST REPORT

Report No. : IE3-90L-6 1.1KW 15050902

Product Type Name	IE3-90L-6 Three Phase Asynchronous Motor			Ser.No.	
Rated Output	1.1 kW	Rated Voltage	400 V	Rated Current	2.7 A
Rated Speed	955 r/min	Rated Frequency	50Hz	Insulation Class	F
Duty	S1	Protection Class	IP55	Connection	Y
Product Standard	IEC60034-1	Testing Standard	IEC60034-2-1	Production Date	
Test Item		Test Value		Test Result	
1. Stator resistance at 20°C	Ω	9.5023			
2. No load current	A	1.88			
3. No load current deviation	%	0.6			
4. No load input power	W	100.2			
5. Locked rotor current	A	12.96			
6. Locked current/Rated current		4.65			
7. Locked torque	N.m	23.56			
8. Locked torque/Rated torque		2.11			
9. Full load current	A	2.79			
10. Rated torque	N.m	11.18			
11. Max. torque	N.m	26.32			
12. Max. torque/Rated torque		2.35			
13. Full load speed ratio	r/min	939.5			
14. Iron loss(at Rated voltage)	W	36.1			
15. Mechanical loss(at Rated speed)	W	7.7			
16. Stator winding loss	W	131.6			
17. Rotor winding loss	W	74.3			
18. Other loss	W	7.4			
19. Total loss	W	257.1			
20. Output power	W	1100			

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Test Item	Test Value	Test Result
21. Input power	W	1357.14
22. Full load efficiency	%	81.05
23. Full Load power factor		0.702
24. Stator winding temp.rise	K	44.0
25. Bearing temperature	℃	
26. Coolant temperature	℃	20.5
27. Insulation resistance warmly to frame	MΩ	
28. High voltage test	V min	Pass Passed
29. Vibration	mm/s	
30. Noise	dB(A)	
31. Rotation Direction		Right Passed
32. H.V. impulse test between winding	V	Pass Passed
33. Over speed test 2min 1.2n		No abnormal Passed
34. Over Torque test 15s 2.2Tn		No abnormal Passed
35. Over current test 2min 1.5In		No abnormal Passed
Testing Conclusion		
Remark		
Tested by	Checked by	Formed

three-phase induction motor type test report

Amb Temp: 20.85°C

report NO.: IE3-90L-6 1.1KW 15050902

test time:

Modle: IE3-90L-6
NO.:
Rated f: 50Hz

Rated U: 400V
Rated I: 2.7A
Rated P: 1.1kW

Rated η : 81.00%
Cos ϕ : 0.73
Rated speed: 955r/min

InsClass: F
Connect: Y
Poles: 6

Resistance test

Rac(Ω): 9.5470

Rbc(Ω): 9.5460

Rab(Ω): 9.5480

Ravg(Ω): 9.5470
115°C R (Ω): 13.0796
25°C R (Ω): 9.7163

Shell Temp(°C): 21.2
Amb Temp(°C): 20.47

No-load test

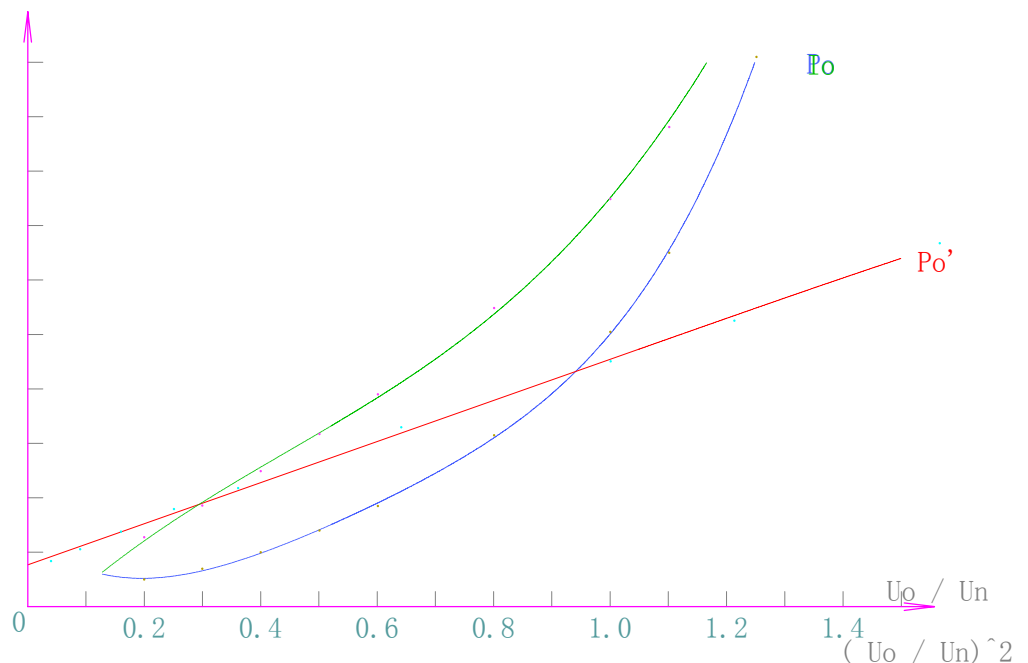
U*	U (V)	I (A)	Po(kW)	Po' (kW)	Pcu(kW)	WindingT(°C)
1.25	500.6	2.92	0.2020	0.0668	0.1352	48.79
1.10	440.6	2.20	0.1300	0.0525	0.0775	49.62
1.00	400.2	1.87	0.1010	0.0451	0.0559	49.62
0.80	320.4	1.37	0.0630	0.0330	0.0300	49.88
0.60	240.4	0.98	0.0370	0.0218	0.0152	49.88
0.50	200.4	0.79	0.0280	0.0180	0.0100	49.74
0.40	160.0	0.62	0.0200	0.0138	0.0062	49.74
0.30	119.9	0.46	0.0140	0.0106	0.0034	49.28
0.20	79.9	0.32	0.0100	0.0084	0.0016	48.82

Thermal R(Ω): 10.6580
Io(A): 1.88
Pm(kW): 0.0077

Shell Temp(°C): 42.3
Io(kW): 0.1002
Pfe(kW): 0.0361

No Load Characteristic Curve

Io	Po	Po'
A	kW	kW
2.50	0.20	0.10
2.25	0.18	0.09
2.00	0.16	0.08
1.75	0.14	0.07
1.50	0.12	0.06
1.25	0.10	0.05
1.00	0.08	0.04
0.75	0.06	0.03
0.50	0.04	0.02
0.25	0.02	0.01



test:

check:

three-phase induction motor type test report

Amb Temp: 20.5°C

report NO.: IE3-90L-6 1.1KW 15050902

test time:

Modle: IE3-90L-6
 NO.:
 Rated f: 50Hz

Rated U: 400V
 Rated I: 2.7A
 Rated P: 1.1kW

Rated η : 81.00%
 Cos ϕ : 0.73
 Rated speed: 955r/min

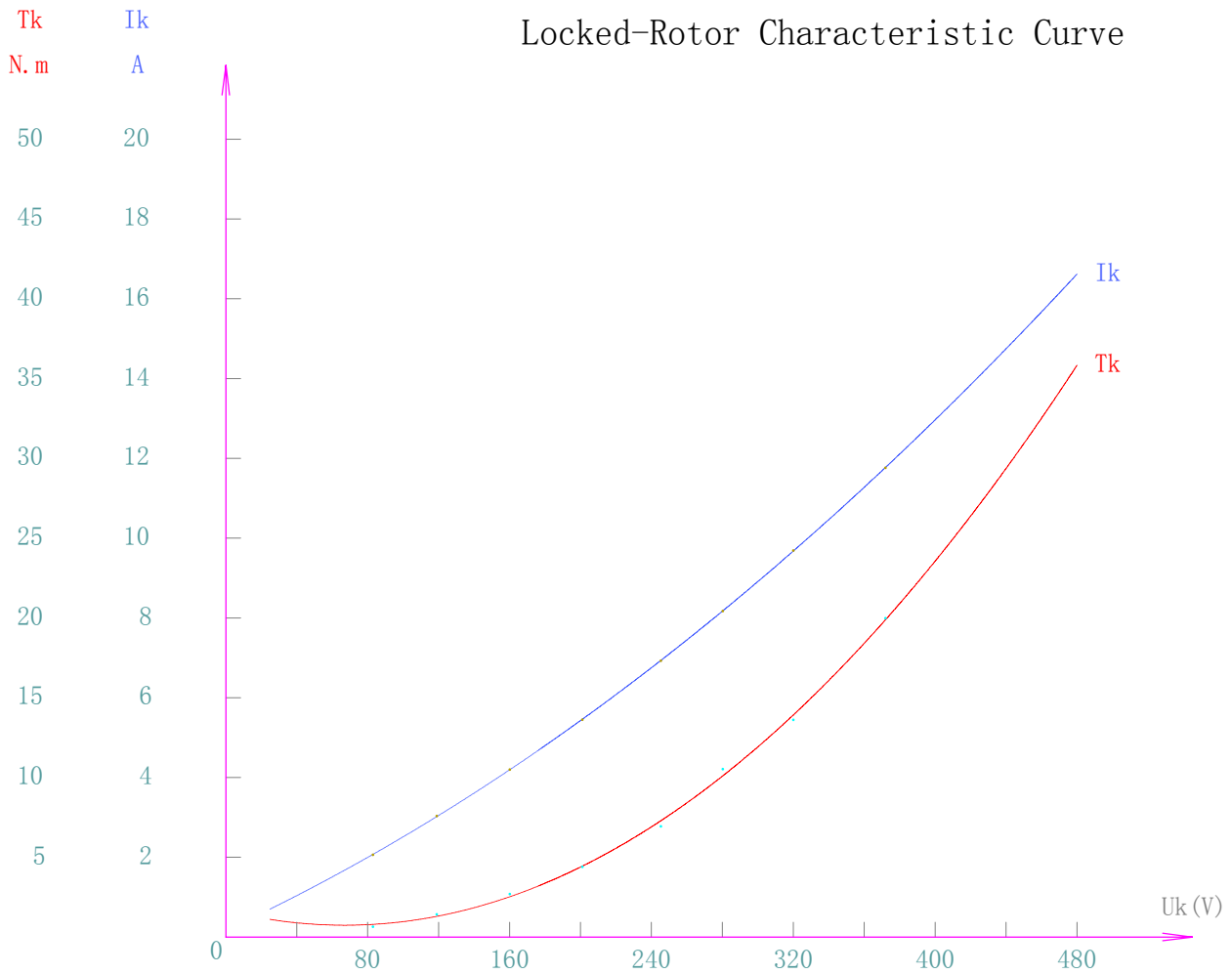
InsClass: F
 Connect: Y
 Poles: 6

Locked-rotor Test

U (V)	I (A)	P1 (KW)	Tor (N. m)
372.0	11.77	4.3300	19.99
320.0	9.69	2.9380	13.61
280.3	8.18	2.0940	10.52
245.4	6.93	1.5060	6.94
201.0	5.45	0.9400	4.41
160.1	4.20	0.5620	2.70
118.9	3.04	0.2940	1.43
83.0	2.06	0.1370	0.65

Ik (A): 12.96
 Tk (N. m): 23.56
 Pk (kW): 4.81

Ik/In: 4.65
 Tk/Tn: 2.11



test:

check:

three-phase induction motor type test report

Amb Temp: 20.5°C

report NO.: IE3-90L-6 1.1KW 15050902

test time:

Modle: IE3-90L-6	Rated U: 400V	Rated η : 81.00%	InsClass: F
NO.:	Rated I: 2.7A	Cos ϕ : 0.73	Connect: Y
Rated f: 50Hz	Rated P: 1.1kW	Rated speed: 955r/min	Poles: 6

Load Test

P1 (kW)	U (V)	I (A)	s (r/min)	Tor (N.m)	windingT(°C)
2.2100	400.5	4.13	887.0	17.790	54.51
1.7510	401.2	3.35	917.0	14.300	55.76
1.3820	402.5	2.82	938.0	11.330	56.34
1.0140	401.4	2.42	957.0	8.230	56.05
0.6930	400.9	2.11	972.0	5.420	55.50
0.3920	402.1	1.92	986.0	2.690	54.68
0.1990	400.2	1.86	995.0	0.900	52.85
0.1020	400.4	1.86	0.0	0.000	49.48

P2 (kW)	Pcu (kW)	Pal (kW)	Ps (kW)	Ss (%)	η (%)	Cos ϕ
1.6334	0.2901	0.2239	0.0188	11.89	73.91	0.772
1.3713	0.1913	0.1324	0.0122	8.69	78.32	0.752
1.1169	0.1352	0.0784	0.0077	6.48	80.82	0.704
0.8272	0.0994	0.0395	0.0040	4.50	81.58	0.604
0.5546	0.0758	0.0171	0.0018	2.93	80.03	0.473
0.2803	0.0631	0.0043	0.0004	1.47	71.51	0.292
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; 0.903

A: 0.059

B: 5.397

θ_s (°C): 69.0

150% rated power:

I (A): 4.18	P1 (kW): 2.2404	Ss (%): 11.51
Pcu (kW): 0.3427	Pal (kW): 0.2142	Ps (kW): 0.0193
η (%): 73.65	Cos ϕ : 0.774	P2 (kW): 1.65

125% rated power:

I (A): 3.37	P1 (kW): 1.7604	Ss (%): 8.37
Pcu (kW): 0.2223	Pal (kW): 0.1257	Ps (kW): 0.0123
η (%): 78.11	Cos ϕ : 0.755	P2 (kW): 1.38

100% rated power:

I (A): 2.79	P1 (kW): 1.3571	Ss (%): 6.05
Pcu (kW): 0.1527	Pal (kW): 0.0707	Ps (kW): 0.0074
η (%): 81.05	Cos ϕ : 0.702	P2 (kW): 1.10

75% rated power:

I (A): 2.39	P1 (kW): 1.0083	Ss (%): 4.28
Pcu (kW): 0.1125	Pal (kW): 0.0368	Ps (kW): 0.0040
η (%): 81.82	Cos ϕ : 0.608	P2 (kW): 0.83

50% rated power:

I (A): 2.12	P1 (kW): 0.6917	Ss (%): 2.80
Pcu (kW): 0.0883	Pal (kW): 0.0159	Ps (kW): 0.0018
η (%): 79.52	Cos ϕ : 0.471	P2 (kW): 0.55

25% rated power:

I (A): 1.92	P1 (kW): 0.3848	Ss (%): 1.36
Pcu (kW): 0.0720	Pal (kW): 0.0038	Ps (kW): 0.0004
η (%): 71.47	Cos ϕ : 0.290	P2 (kW): 0.28

Load Characteristic Curve

Report No. : GE3-90L-6 1.1KW 15050902
 Model : IE3-90L-6
 Rated Output: 1.1 kW
 Ser. No. :

When P2 = 1.1 kW ,
 I1 = 2.79 A
 P1 = 1.3571 kW
 Sref = 6.05 %
 η = 81.05 %
 Cos φ = 0.702

cos φ	η	Sref	P1	I1
	%	%	kW	A
1.0	100	10	2.50	5.0
0.9	90	9	2.25	4.5
0.8	80	8	2.00	4.0
0.7	70	7	1.75	3.5
0.6	60	6	1.50	3.0
0.5	50	5	1.25	2.5
0.4	40	4	1.00	2.0
0.3	30	3	0.75	1.5
0.2	20	2	0.50	1.0
0.1	10	1	0.25	0.5

