

TYPE TEST REPORT

Report No. IE3-90S-6 0.75KW 15051002

Product Type Name	IE3-90S-6 Three Phase Asynchronous Motor			Ser.No.	
Rated Output	0.75 kW	Rated Voltage	400 V	Rated Current	1.9 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	15.3329			
2. No load current	A	1.26			
3. No load current deviation	%	0.7			
4. No load input power	W	73.9			
5. Locked rotor current	A	8.41			
6. Locked current/Rated current		4.31			
7. Locked torque	N.m	14.81			
8. Locked torque/Rated torque		1.96			
9. Full load current	A	1.95			
10. Rated torque	N.m	7.57			
11. Max. torque	N.m	16.42			
12. Max. torque/Rated torque		2.17			
13. Full load speed ratio	r/min	945.8			
14. Iron loss(at Rated voltage)	W	27.1			
15. Mechanical loss(at Rated speed)	W	6.6			
16. Stator winding loss	W	101.2			
17. Rotor winding loss	W	48.8			
18. Other loss	W	14.0			
19. Total loss	W	199.2			
20. Output power	W	750			

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Test Item	Test Value	Test Result
21. Input power	W	949.23
22. Full load efficiency	%	79.01
23. Full Load power factor		0.701
24. Stator winding temp.rise	K	34.8
25. Bearing temperature	°C	
26. Coolant temperature	°C	20.1
27. Insulation resistance warmly to frame	MΩ	
28. High voltage test	V min	Pass
29. Vibration	mm/s	
30. Noise	dB(A)	
31. Rotation Direction		Right
32. H.V. impulse test between winding	V	Pass
33. Over speed test 2min 1.2n		No abnormal
34. Over Torque test 15s 2.2Tn		No abnormal
35. Over current test 2min 1.5In		No abnormal
Testing Conclusion		
Remark		
Tested by	Checked by	Formed

three-phase induction motor type test report

Amb Temp: 23.35°C

report NO.: IE3-90S-6 0.75KW 15051002

test time:

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

Rated U: 400V
Rated I: 1.9A
Rated P: 0.75kW

Rated η : 78.9%
Cos ϕ : 0.71
Rated speed: 955r/min

InsClass: F
Connect: Y
Poles: 6

Resistance test

Rac (Ω): 15.3850

Rbc (Ω): 15.3710

Rab (Ω): 15.3510

Ravg (Ω): 15.3690
115°C R (Ω): 21.0881
25°C R (Ω): 15.6654

Shell Temp (°C): 20.6
Amb Temp (°C): 20.08

No-load test

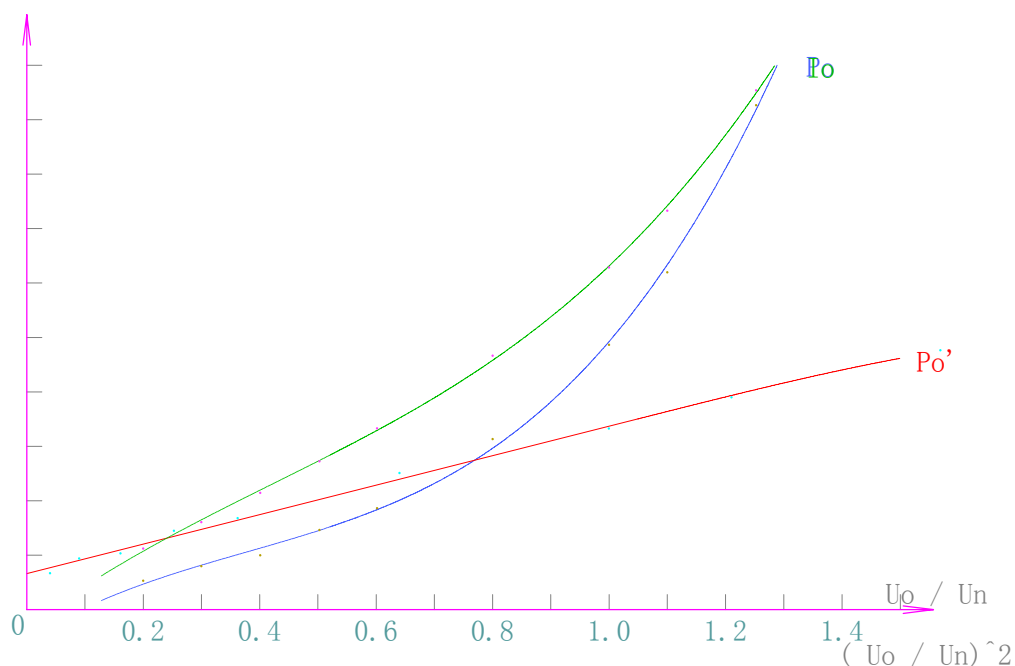
U*	U (V)	I (A)	Po (kW)	Po' (kW)	Pcu (kW)	WindingT (°C)
1.25	501.0	1.91	0.1390	0.0477	0.0913	42.61
1.10	440.0	1.47	0.0930	0.0390	0.0540	42.76
1.00	399.9	1.26	0.0730	0.0333	0.0397	42.76
0.80	320.0	0.93	0.0470	0.0251	0.0219	42.82
0.60	240.7	0.67	0.0280	0.0168	0.0112	42.82
0.50	201.1	0.55	0.0220	0.0145	0.0075	42.73
0.40	160.4	0.43	0.0150	0.0104	0.0046	42.73
0.30	119.9	0.32	0.0120	0.0094	0.0026	42.35
0.20	80.0	0.23	0.0080	0.0067	0.0013	42.26

Thermal R (Ω): 16.6680
Io (A): 1.26
Pm (kW): 0.0066

Shell Temp (°C): 36.3
Io (kW): 0.0739
Pfe (kW): 0.0271

No Load Characteristic Curve

Io	Po	Po'
A	kW	kW
2.0	0.150	0.10
1.8	0.135	0.09
1.6	0.120	0.08
1.4	0.105	0.07
1.2	0.090	0.06
1.0	0.075	0.05
0.8	0.060	0.04
0.6	0.045	0.03
0.4	0.030	0.02
0.2	0.015	0.01



three-phase induction motor type test report

Amb Temp: 20.1°C

report NO.: IE3-90S-6 0.75KW 15051002

test time:

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

Rated U: 400V
Rated I: 1.9A
Rated P: 0.75kW

Rated η : 78.9%
Cos ϕ : 0.71
Rated speed: 955r/min

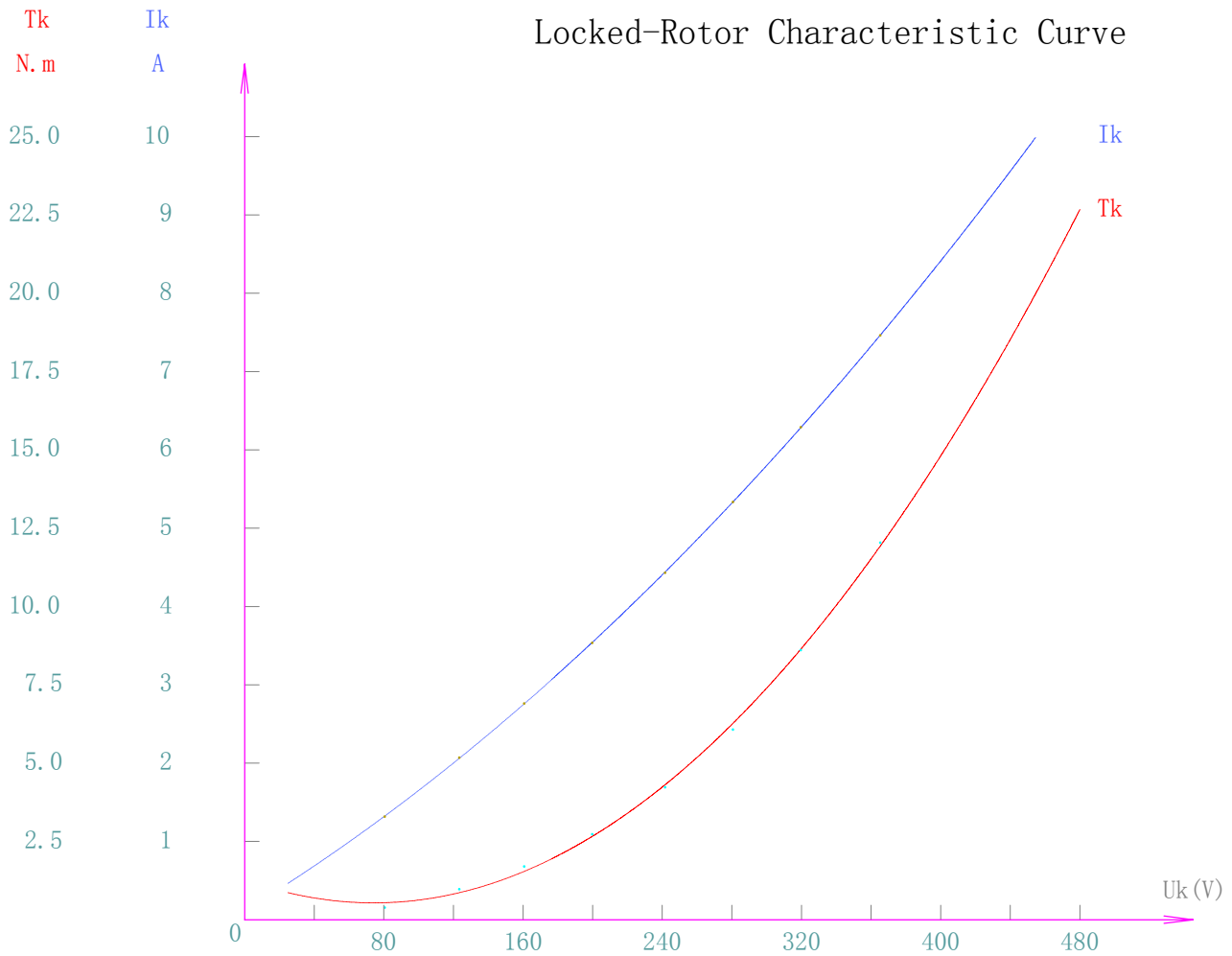
InsClass: F
Connect: Y
Poles: 6

Locked-rotor Test

U (V)	I (A)	P1 (KW)	Tor (N. m)
365.3	7.46	2.6340	12.04
319.6	6.29	1.8720	8.61
280.6	5.34	1.3540	6.07
241.6	4.43	0.9390	4.23
199.7	3.54	0.6020	2.73
160.7	2.76	0.3700	1.70
123.3	2.07	0.2090	0.98
80.5	1.32	0.0850	0.39

Ik (A): 8.41
Tk (N. m): 14.81
Pk (kW): 3.05

Ik/In: 4.31
Tk/Tn: 1.96



test:

check:

three-phase induction motor type test report

Amb Temp: 20.1°C

report NO.: IE3-90S-6 0.75KW 15051002

test time:

Modle: IE3-90S-6	Rated U: 400V	Rated η : 78.9%	InsClass: F
NO.:	Rated I: 1.9A	Cos ϕ : 0.71	Connect: Y
Rated f: 50Hz	Rated P: 0.75kW	Rated speed: 955r/min	Poles: 6

Load Test

P1 (kW)	U (V)	I (A)	s (r/min)	Tor (N.m)	windingT(°C)
1.5420	398.6	2.86	899.0	12.320	30.32
1.1830	399.8	2.28	929.0	9.660	31.00
0.9150	401.3	1.92	948.0	7.610	31.55
0.6700	400.7	1.63	963.0	5.560	31.97
0.4670	402.1	1.44	976.0	3.720	32.26
0.2550	402.5	1.30	989.0	1.890	32.44
0.1730	402.4	1.29	993.0	1.009	32.29
0.0730	400.6	1.26	0.0	0.000	43.11

P2 (kW)	Pcu (kW)	Pal (kW)	Ps (kW)	Ss (%)	η (%)	Cos ϕ
1.1094	0.2180	0.1461	0.0347	11.27	71.95	0.781
0.9088	0.1388	0.0803	0.0213	7.90	76.83	0.749
0.7247	0.0978	0.0456	0.0132	5.77	79.20	0.687
0.5353	0.0706	0.0235	0.0070	4.10	79.89	0.593
0.3649	0.0551	0.0102	0.0031	2.66	78.14	0.466
0.1732	0.0452	0.0022	0.0008	1.22	67.90	0.281
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; 0.958

A: 0.232

B: -7.277

θ_s (°C): 59.8

150% rated power:

I (A): 2.91	P1 (kW): 1.5741	Ss (%): 10.36
Pcu (kW): 0.2677	Pal (kW): 0.1325	Ps (kW): 0.0359
η (%): 71.47	Cos ϕ : 0.781	P2 (kW): 1.13

125% rated power:

I (A): 2.36	P1 (kW): 1.2293	Ss (%): 7.50
Pcu (kW): 0.1764	Pal (kW): 0.0769	Ps (kW): 0.0232
η (%): 76.27	Cos ϕ : 0.751	P2 (kW): 0.94

100% rated power:

I (A): 1.95	P1 (kW): 0.9492	Ss (%): 5.42
Pcu (kW): 0.1208	Pal (kW): 0.0434	Ps (kW): 0.0140
η (%): 79.01	Cos ϕ : 0.701	P2 (kW): 0.75

75% rated power:

I (A): 1.66	P1 (kW): 0.7042	Ss (%): 3.85
Pcu (kW): 0.0871	Pal (kW): 0.0227	Ps (kW): 0.0076
η (%): 79.87	Cos ϕ : 0.612	P2 (kW): 0.56

50% rated power:

I (A): 1.45	P1 (kW): 0.4784	Ss (%): 2.53
Pcu (kW): 0.0668	Pal (kW): 0.0097	Ps (kW): 0.0035
η (%): 78.38	Cos ϕ : 0.475	P2 (kW): 0.38

25% rated power:

I (A): 1.31	P1 (kW): 0.2700	Ss (%): 1.19
Pcu (kW): 0.0542	Pal (kW): 0.0023	Ps (kW): 0.0009
η (%): 69.44	Cos ϕ : 0.298	P2 (kW): 0.19

Load Characteristic Curve

Report No. : GE3-90S-6 0.75KW 15051002
 Model : IE3-90S-6
 Rated Output: 0.75 kW
 Ser. No. :

When $P_2 = 0.75 \text{ kW}$,
 $I_1 = 1.95 \text{ A}$
 $P_1 = 0.9492 \text{ kW}$
 $S_{ref} = 5.42 \%$
 $\eta = 79.01 \%$
 $\text{Cos } \phi = 0.701$

$\text{cos } \phi$	η	S_{ref}	P_1	I_1
	%	%	kW	A
1.0	100	10	1.50	2.50
0.9	90	9	1.35	2.25
0.8	80	8	1.20	2.00
0.7	70	7	1.05	1.75
0.6	60	6	0.90	1.50
0.5	50	5	0.75	1.25
0.4	40	4	0.60	1.00
0.3	30	3	0.45	0.75
0.2	20	2	0.30	0.50
0.1	10	1	0.15	0.25

