

# TYPE TEST REPORT

Report No. : IE3-100L-6 1.5KW 15051502

Product Type Name	IE3-100L-6 Three Phase Asynchronous Motor			Ser.No.	铝
Rated Output	1.5 kW	Rated Voltage	400 V	Rated Current	3.6 A
Rated Speed	955 r/min	Rated Frequency	50Hz	Insulation Class	F
Duty	S1	Protection Class		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	5.9523			
2. No load current	A	2.38			
3. No load current deviation	%	1.6			
4. No load input power	W	131.3			
5. Locked rotor current	A	23.40			
6. Locked current/Rated current		6.41			
7. Locked torque	N.m	39.74			
8. Locked torque/Rated torque		2.68			
9. Full load current	A	3.65			
10. Rated torque	N.m	14.86			
11. Max. torque	N.m	45.66			
12. Max. torque/Rated torque		3.07			
13. Full load speed ratio	r/min	964.2			
14. Iron loss(at Rated voltage)	W	62.6			
15. Mechanical loss(at Rated speed)	W	15.0			
16. Stator winding loss	W	143.8			
17. Rotor winding loss	W	60.4			
18. Other loss	W	34.6			
19. Total loss	W	316.4			
20. Output power	W	1500			

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Test Item	Test Value	Test Result
21. Input power	W	1816.37
22. Full load efficiency	%	82.58
23. Full Load power factor		0.718
24. Stator winding temp.rise	K	42.9
25. Bearing temperature	℃	
26. Coolant temperature	℃	22.3
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: 23.02°C      report NO.: IE3-100L-6 1.5KW 15051502      test time:

Modle: IE3-100L-6	Rated U: 400V	Rated $\eta$ : 82.50%	InsClass: F
NO.: 铝	Rated I: 3.6A	Cos $\phi$ : 0.73	Connect: Y
Rated f: 50Hz	Rated P: 1.5kW	Rated speed: 955r/min	Poles: 6

## Resistance test

Rac ( $\Omega$ ): 6.0240      Rbc ( $\Omega$ ): 6.0270      Rab ( $\Omega$ ): 6.0230

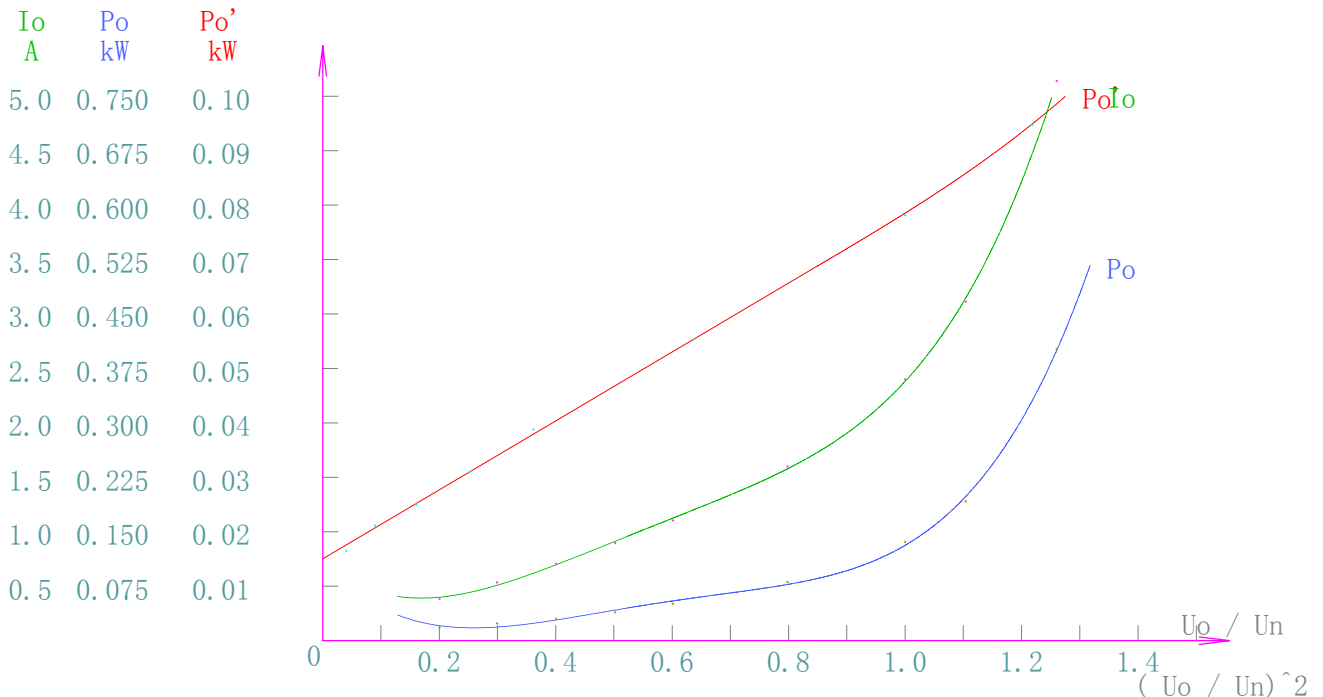
Ravg ( $\Omega$ ): 6.0247	Shell Temp ( $^{\circ}$ C): 23.1
115 $^{\circ}$ C R ( $\Omega$ ): 8.1946	Amb Temp ( $^{\circ}$ C): 22.32
25 $^{\circ}$ C R ( $\Omega$ ): 6.0874	

## Noload test

U*	U (V)	I (A)	Po (kW)	Po' (kW)	Pcu (kW)	WindingT ( $^{\circ}$ C)
1.26	504.2	5.14	0.4020	0.1378	0.2642	49.60
1.10	441.6	3.11	0.1920	0.0947	0.0973	50.57
1.00	400.0	2.40	0.1360	0.0782	0.0578	50.57
0.80	319.3	1.60	0.0810	0.0554	0.0256	50.20
0.60	240.6	1.10	0.0510	0.0388	0.0122	50.20
0.50	200.8	0.90	0.0390	0.0310	0.0080	49.51
0.40	160.2	0.71	0.0300	0.0250	0.0050	49.51
0.30	119.8	0.54	0.0240	0.0211	0.0029	48.35
0.20	80.2	0.39	0.0180	0.0165	0.0015	48.35

Thermal R ( $\Omega$ ): 6.6470	Shell Temp ( $^{\circ}$ C): 41.4
Io (A): 2.38	Io (kW): 0.1313
Pm (kW): 0.0150	Pfe (kW): 0.0626

No Load Characteristic Curve



test:

check:

# three-phase induction motor type test report

Amb Temp: 22.3°C

report NO.: IE3-100L-6 1.5KW 15051502

test time:

Modle: IE3-100L-6  
 NO.: 铝  
 Rated f: 50Hz

Rated U: 400V  
 Rated I: 3.6A  
 Rated P: 1.5kW

Rated  $\eta$ : 82.50%  
 Cos  $\phi$ : 0.73  
 Rated speed: 955r/min

InsClass: F  
 Connect: Y  
 Poles: 6

## Locked-rotor Test

U (V)	I (A)	P1 (KW)	Tor (N. m)
373.6	21.12	8.4000	34.36
325.4	17.56	5.8250	24.15
278.2	14.12	3.7800	16.77
241.7	11.64	2.6050	12.01
201.8	9.15	1.6480	8.08
162.6	6.94	0.9690	4.85
120.7	4.87	0.4840	2.50
81.4	3.16	0.2050	0.93

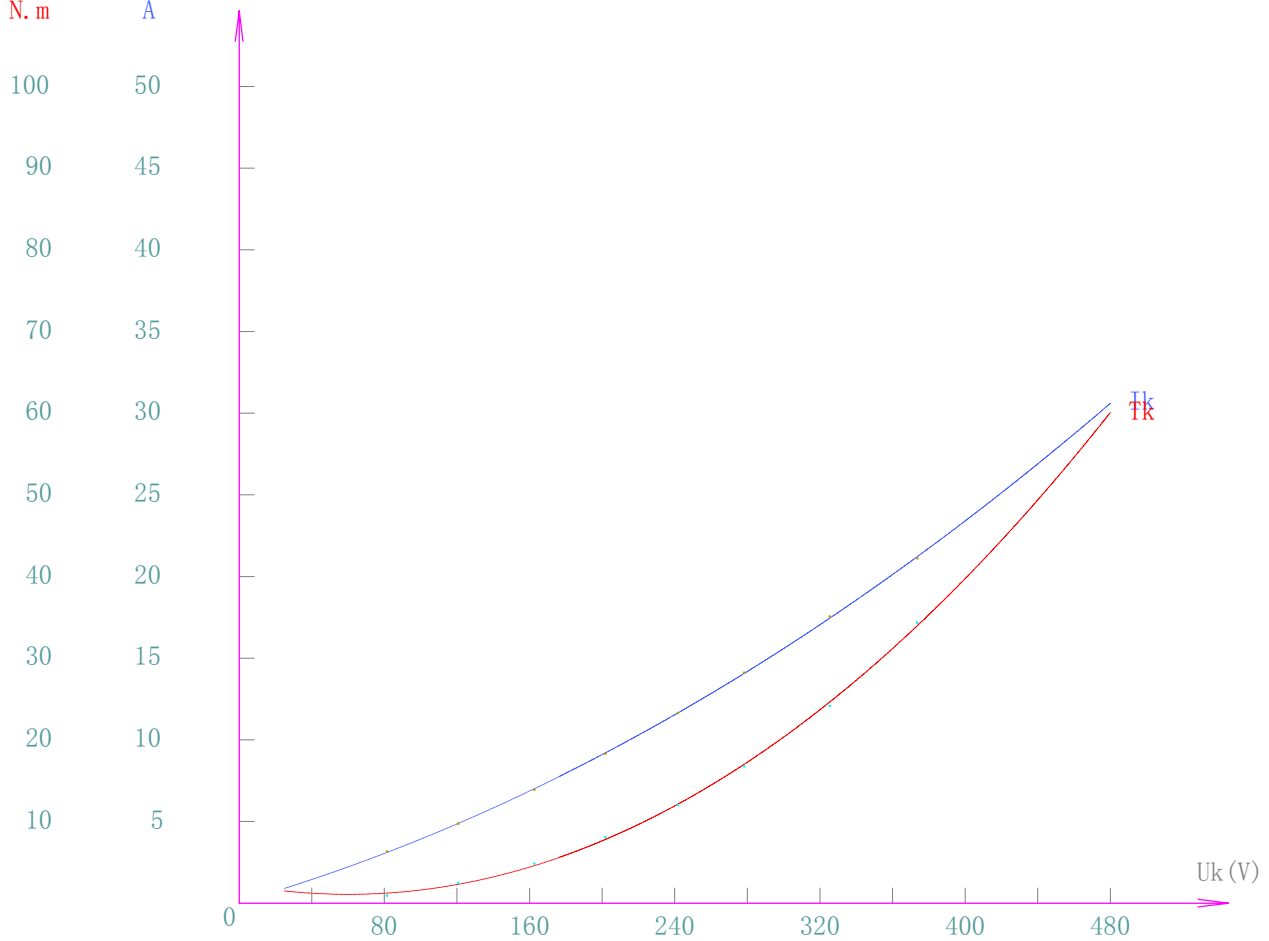
Ik (A): 23.40  
 Tk (N. m): 39.74  
 Pk (kW): 9.22

Ik/In: 6.41  
 Tk/Tn: 2.68

Tk  
 N. m

Ik  
 A

Locked-Rotor Characteristic Curve



test:

check:

# three-phase induction motor type test report

Amb Temp: 22.3°C

report NO.: IE3-100L-6 1.5KW 15051502

test time:

Modle: IE3-100L-6	Rated U: 400V	Rated $\eta$ : 82.50%	InsClass: F
NO.: 铝	Rated I: 3.6A	$\cos \phi$ : 0.73	Connect: Y
Rated f: 50Hz	Rated P: 1.5kW	Rated speed: 955r/min	Poles: 6

## Load Test

P1 (kW)	U (V)	I (A)	s (r/min)	Tor (N.m)	windingT(°C)
2.8620	400.4	5.24	938.0	22.990	53.54
2.8620	400.4	5.24	938.0	22.990	53.54
1.8290	401.5	3.71	964.0	15.060	54.74
1.4140	400.7	3.13	973.0	11.480	54.60
0.9460	400.7	2.72	983.0	7.420	53.77
0.5300	402.1	2.51	992.0	3.580	52.91
0.2050	400.1	2.40	998.0	0.660	51.08
0.1360	400.7	2.41	0.0	0.000	48.52

P2 (kW)	Pcu (kW)	Pal (kW)	Ps (kW)	Ss (%)	$\eta$ (%)	$\cos \phi$
2.2471	0.2919	0.1635	0.0819	6.52	78.51	0.788
2.2471	0.2919	0.1635	0.0819	6.52	78.51	0.788
1.5090	0.1462	0.0611	0.0352	3.77	82.51	0.710
1.1765	0.1042	0.0353	0.0204	2.83	83.20	0.651
0.7667	0.0788	0.0144	0.0085	1.79	81.04	0.501
0.3801	0.0669	0.0034	0.0020	0.84	71.72	0.303
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; 0.988

A: 0.155

B: 7.949

$\theta_s$ (°C): 67.9

### 150% rated power:

I (A): 5.25	P1 (kW): 2.8665	Ss (%): 6.21
Pcu (kW): 0.3387	Pal (kW): 0.1531	Ps (kW): 0.0822
$\eta$ (%): 78.49	$\cos \phi$ : 0.788	P2 (kW): 2.25

### 125% rated power:

I (A): 4.37	P1 (kW): 2.3182	Ss (%): 4.77
Pcu (kW): 0.2344	Pal (kW): 0.0963	Ps (kW): 0.0556
$\eta$ (%): 80.88	$\cos \phi$ : 0.766	P2 (kW): 1.88

### 100% rated power:

I (A): 3.65	P1 (kW): 1.8164	Ss (%): 3.58
Pcu (kW): 0.1637	Pal (kW): 0.0568	Ps (kW): 0.0346
$\eta$ (%): 82.58	$\cos \phi$ : 0.718	P2 (kW): 1.50

### 75% rated power:

I (A): 3.10	P1 (kW): 1.3546	Ss (%): 2.57
Pcu (kW): 0.1181	Pal (kW): 0.0301	Ps (kW): 0.0188
$\eta$ (%): 83.05	$\cos \phi$ : 0.631	P2 (kW): 1.13

### 50% rated power:

I (A): 2.71	P1 (kW): 0.9263	Ss (%): 1.66
Pcu (kW): 0.0906	Pal (kW): 0.0129	Ps (kW): 0.0080
$\eta$ (%): 80.96	$\cos \phi$ : 0.493	P2 (kW): 0.75

### 25% rated power:

I (A): 2.50	P1 (kW): 0.5250	Ss (%): 0.79
Pcu (kW): 0.0766	Pal (kW): 0.0030	Ps (kW): 0.0020
$\eta$ (%): 71.43	$\cos \phi$ : 0.304	P2 (kW): 0.38

# Load Characteristic Curve

Report No. : IE3-100L-6 1.5KW 15051502      When P2 = 1.5 kW ,  
 Model : IE3-100L-6      I1 = 3.65 A  
 Rated Output: 1.5 kW      P1 = 1.8164 kW  
 Ser. No. : 铝      Sref = 3.58 %  
    η = 82.58 %  
    Cos φ = 0.718

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

