

# TYPE TEST REPORT

Report No. : IE3-132S2-2 7.5KW 14052802

Product Type Name	IE3-132S2-2 Three Phase Asynchronous Motor			Ser.No.	
Rated Output	7.5 kW	Rated Voltage	400 V	Rated Current	13.5 A
Rated Speed	2940 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		0.8242		
2. No load current	A		5.00		
3. No load current deviation	%		2.7		
4. No load input power	W		286.3		
5. Locked rotor current	A		118.73		
6. Locked current/Rated current			8.80		
7. Locked torque	N.m		61.77		
8. Locked torque/Rated torque			2.55		
9. Full load current	A		13.50		
10. Rated torque	N.m		24.27		
11. Max. torque	N.m		90.45		
12. Max. torque/Rated torque			3.73		
13. Full load speed ratio	r/min		2950.9		
14. Iron loss(at Rated voltage)	W		132.5		
15. Mechanical loss(at Rated speed)	W		120.3		
16. Stator winding loss	W		270.1		
17. Rotor winding loss	W		135.1		
18. Other loss	W		76.0		
19. Total loss	W		737.7		
20. Output power	W		7500		

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Test Item	Eligibility Value		Test Value	Test Result	
	Standard	Tolerance			
21. Input power	W		8237.67		
22. Full load efficiency	%		91.05		
23. Full Load power factor			0.881		
24. Stator winding temp.rise	K		43.3		
25. Bearing temperature	°C				
26. Coolant temperature	°C		23.0		
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: 28.54°C

report NO.: IE3-132S2-2 7.5KW 14052802

test time:

Modle: IE3-132S2-2  
NO.:  
Rated f: 50Hz

Rated U: 400V  
Rated I: 13.5A  
Rated P: 7.5kW

Rated  $\eta$ : 90.10%  
Cos  $\phi$ : 0.88  
Rated speed: 2940r/min

InsClass: F  
Connect:  $\Delta$   
Poles: 2

## Resistance test

Rac( $\Omega$ ): 0.8353

Rbc( $\Omega$ ): 0.8348

Rab( $\Omega$ ): 0.8345

Ravg( $\Omega$ ): 0.8349  
115°C R ( $\Omega$ ): 1.1326  
25°C R ( $\Omega$ ): 0.8413

Shell Temp(°C): 23.3  
Amb Temp(°C): 23.00

## No load test

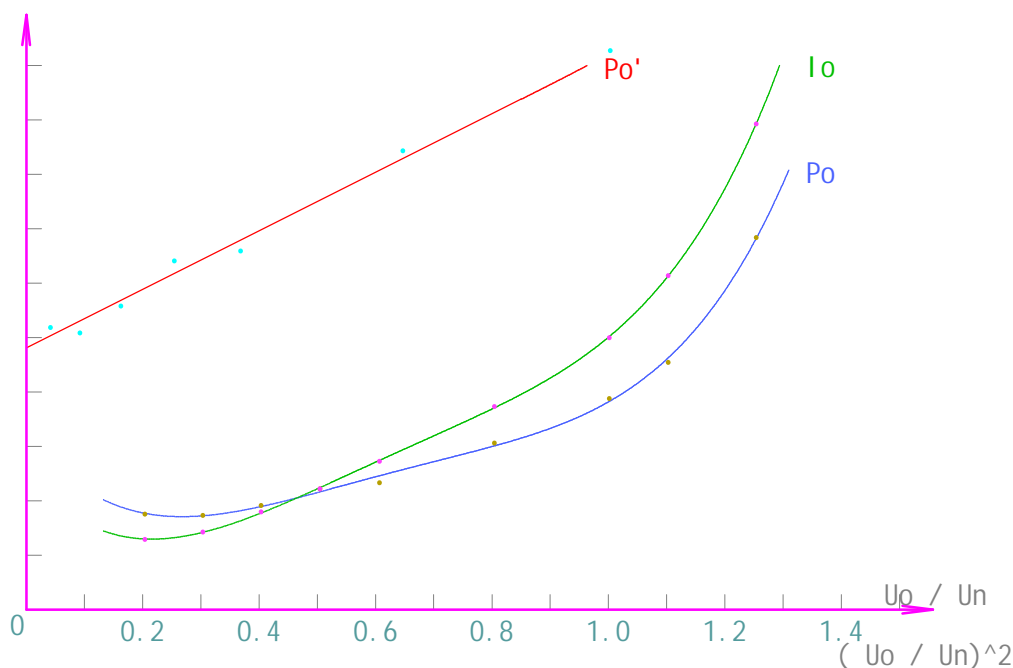
U*	U (V)	I (A)	Po(kW)	Po' (kW)	Pcu(kW)	WindingT(°C)
1.25	501.6	8.93	0.5130	0.4036	0.1094	47.67
1.10	440.9	6.14	0.3410	0.2893	0.0517	47.67
1.00	400.7	5.00	0.2910	0.2567	0.0343	47.76
0.80	321.7	3.73	0.2300	0.2109	0.0191	47.76
0.61	242.7	2.73	0.1750	0.1648	0.0102	47.52
0.50	201.8	2.22	0.1670	0.1602	0.0068	47.52
0.40	161.3	1.80	0.1440	0.1395	0.0045	47.41
0.30	121.3	1.43	0.1300	0.1272	0.0028	47.41
0.20	81.6	1.30	0.1320	0.1297	0.0023	47.05

Thermal R( $\Omega$ ): 0.9250  
Io(A): 5.00  
Pm(kW): 0.1203

Shell Temp(°C): 38.6  
Io(kW): 0.2863  
Pfe(kW): 0.1325

## No Load Characteristic Curve

Io	Po	Po'
A	kW	kW
10	0.750	0.250
9	0.675	0.225
8	0.600	0.200
7	0.525	0.175
6	0.450	0.150
5	0.375	0.125
4	0.300	0.100
3	0.225	0.075
2	0.150	0.050
1	0.075	0.025



test:

check:

# three-phase induction motor type test report

Amb Temp: 23.0°C

report NO.: IE3-132S2-2 7.5KW 14052802

test time:

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Modle: IE3-132S2-2	Rated U: 400V	Rated $\eta$ : 90.10%	InsClass: F
NO.:	Rated I: 13.5A	Cos $\phi$ : 0.88	Connect: $\Delta$
Rated f: 50Hz	Rated P: 7.5kW	Rated speed: 2940r/min	Poles: 2

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## Locked-rotor Test

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U(V)	I(A)	P1(KW)	Tor(N.m)
293.7	85.33	20.9380	31.90
235.5	65.99	12.3860	19.30
184.6	49.30	6.8930	11.20
140.9	36.23	3.7190	6.30
108.9	27.30	2.1100	3.60
73.5	18.19	0.9380	1.60

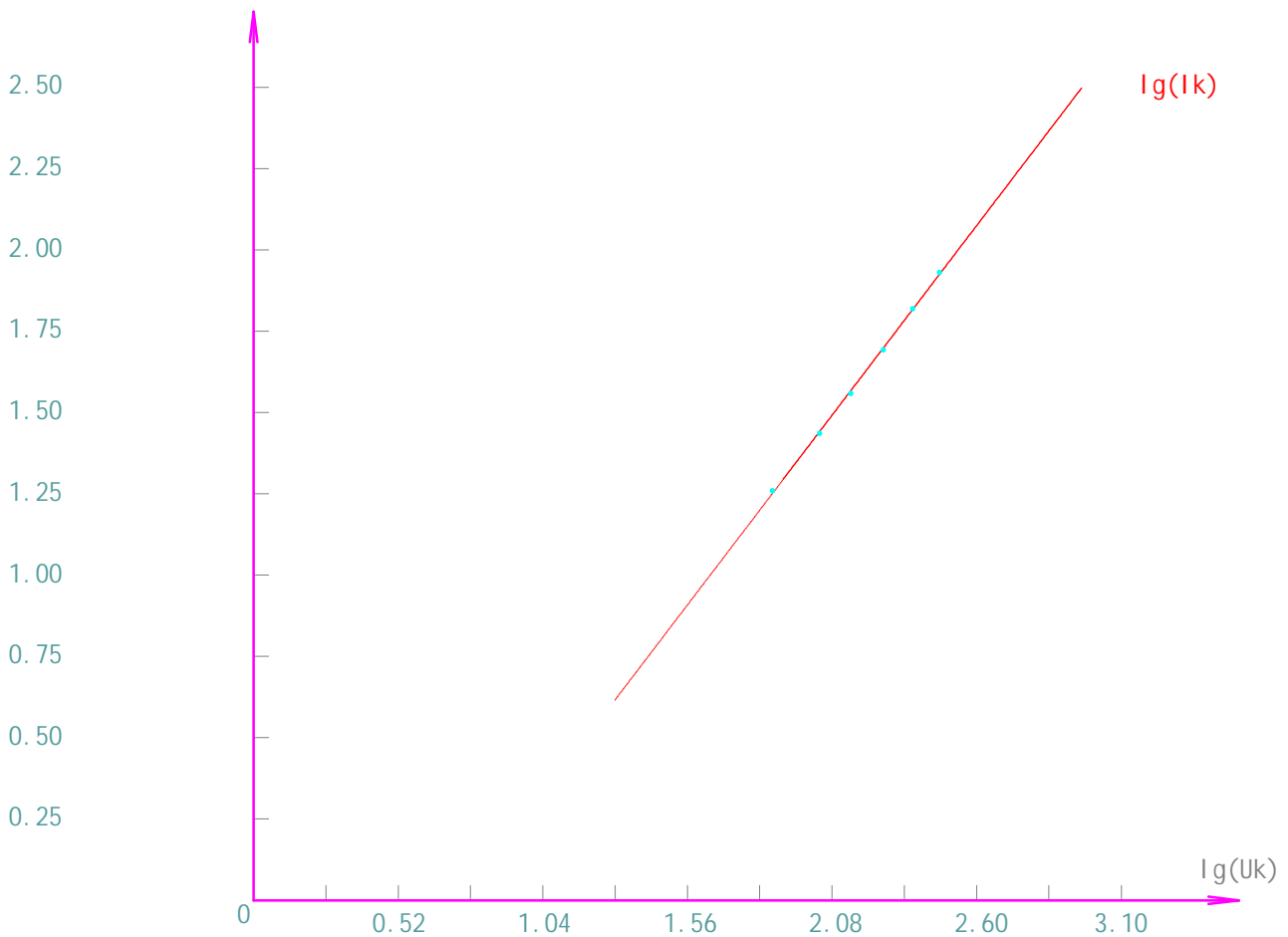
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I <sub>k</sub> (A): 118.73	I <sub>k</sub> /I <sub>n</sub> : 8.80
T <sub>k</sub> (N.m): 61.77	T <sub>k</sub> /T <sub>n</sub> : 2.55
P <sub>k</sub> (kW): 38.78	

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I<sub>g</sub>(I<sub>k</sub>)

Locked-Rotor Characteristic Curve



test:

check:

# three-phase induction motor type test report

Amb Temp: 23.0°C

report NO.: IE3-132S2-2 7.5KW 14052802

test time:

Modle: IE3-132S2-2	Rated U: 400V	Rated $\eta$ : 90.10%	InsClass: F
NO.:	Rated I: 13.5A	Cos $\phi$ : 0.88	Connect: $\Delta$
Rated f: 50Hz	Rated P: 7.5kW	Rated speed: 2940r/min	Pol es: 2

## Load Test

P1(kW)	U(V)	I (A)	s(r/min)	Tor (N.m)	wi ndi ngT(°C)
12.4900	399.8	19.96	2921.0	36.900	51.60
10.3000	399.8	16.63	2937.0	30.500	52.38
8.4950	402.5	13.90	2949.0	25.400	53.00
6.2100	401.2	10.70	2964.0	18.600	53.05
4.0600	400.4	7.97	2977.0	12.000	52.91
2.1150	402.4	5.98	2989.0	6.000	52.67
0.4410	401.3	5.05	2998.0	0.700	51.77
0.3140	400.7	5.05	0.0	0.000	49.48

P2(kW)	Pcu(kW)	Pal (kW)	Ps(kW)	Ss(%)	$\eta$ (%)	Cos $\phi$
11.1488	0.5866	0.3287	0.1731	2.79	89.26	0.903
9.3055	0.4071	0.2167	0.1179	2.22	90.34	0.894
7.7314	0.2845	0.1449	0.0814	1.79	91.01	0.876
5.6705	0.1686	0.0748	0.0433	1.27	91.31	0.835
3.6651	0.0934	0.0310	0.0177	0.81	90.27	0.735
1.7979	0.0526	0.0075	0.0042	0.39	85.01	0.508
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: 0.961

A: 0.129

B: 14.955

$\theta$  s(°C): 68.3

150% rated power:

I (A): 20.21  
Pcu(kW): 0.6942  
 $\eta$  (%): 89.24

P1(kW): 12.6064  
Pal (kW): 0.3138  
Cos  $\phi$ : 0.900

Ss (%): 2.66  
Ps(kW): 0.1763  
P2(kW): 11.25

125% rated power:

I (A): 16.68  
Pcu(kW): 0.4729  
 $\eta$  (%): 90.25

P1(kW): 10.3878  
Pal (kW): 0.2076  
Cos  $\phi$ : 0.899

Ss (%): 2.12  
Ps(kW): 0.1204  
P2(kW): 9.38

100% rated power:

I (A): 13.50  
Pcu(kW): 0.3095  
 $\eta$  (%): 91.05

P1(kW): 8.2377  
Pal (kW): 0.1276  
Cos  $\phi$ : 0.881

Ss (%): 1.64  
Ps(kW): 0.0760  
P2(kW): 7.50

75% rated power:

I (A): 10.66  
Pcu(kW): 0.1929  
 $\eta$  (%): 91.37

P1(kW): 6.1561  
Pal (kW): 0.0697  
Cos  $\phi$ : 0.834

Ss (%): 1.20  
Ps(kW): 0.0425  
P2(kW): 5.63

50% rated power:

I (A): 8.16  
Pcu(kW): 0.1131  
 $\eta$  (%): 90.52

P1(kW): 4.1430  
Pal (kW): 0.0305  
Cos  $\phi$ : 0.733

Ss (%): 0.78  
Ps(kW): 0.0189  
P2(kW): 3.75

25% rated power:

I (A): 6.00  
Pcu(kW): 0.0612  
 $\eta$  (%): 85.29

P1(kW): 2.1983  
Pal (kW): 0.0077  
Cos  $\phi$ : 0.529

Ss (%): 0.38  
Ps(kW): 0.0045  
P2(kW): 1.88

