

VALIADIS S.A.

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

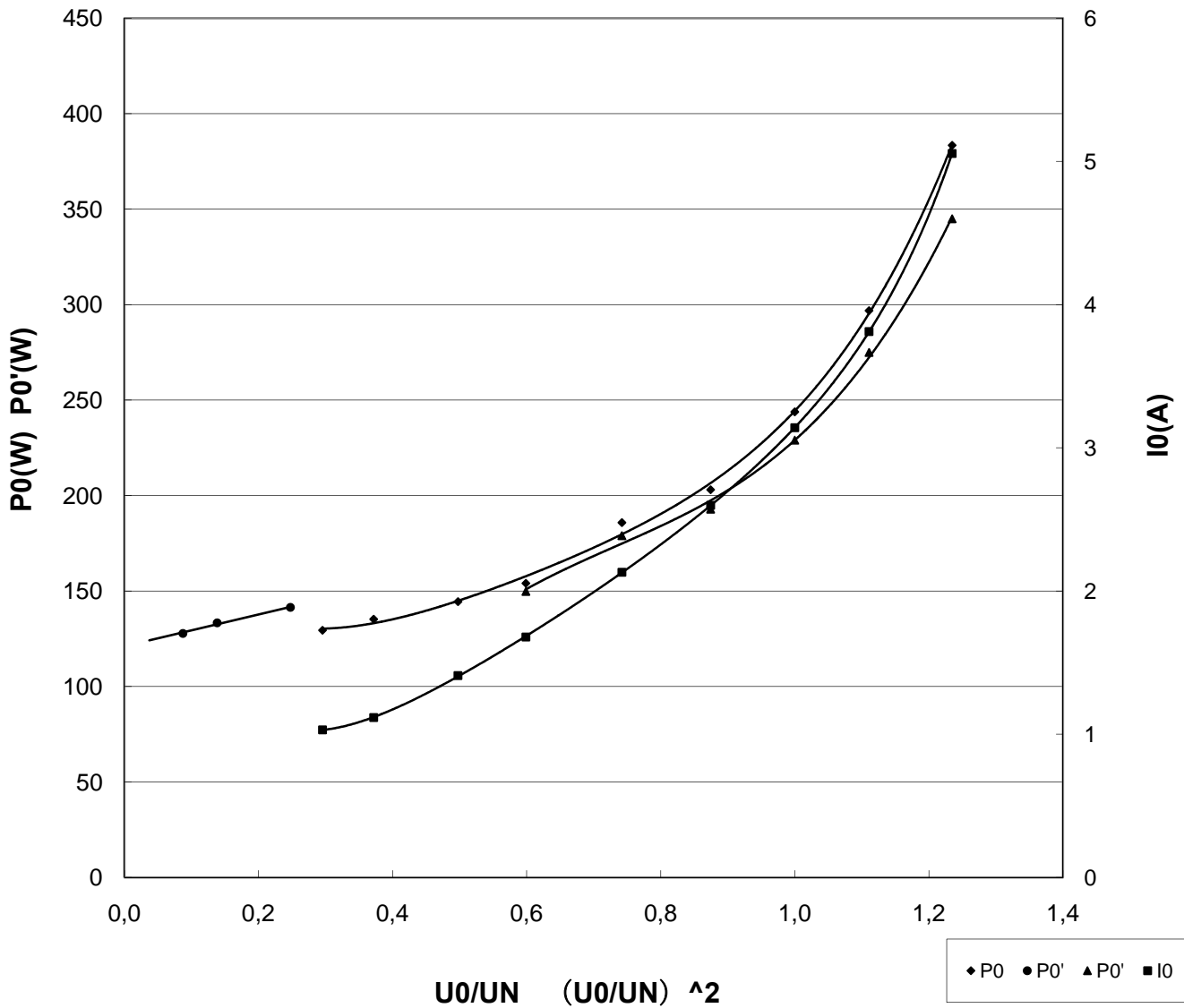
Type	K132S-2		Poles	2		Power	5,5 kW		IE:3		
Voltage	400	V	Current	10,1	A	Frequency	50 Hz				
Speed	2926	r/min	Duty	S1		Connection	Δ				
Ins.class	F		Weight	68	kg			IP55			
NO LOAD TEST											
VOL	mul.	HZ	I01	I02	I03	mul.	W1	W2	mul.	°C	Ω
493,9	1	50	2,534	2,510	2,539	2	-491,3	683,0	2	38,4	1,0037
444,3	1	50	1,912	1,895	1,910	2	-324,8	473,2	2	38,3	1,0034
400,0	1	50	1,574	1,562	1,574	2	-234,7	356,6	2	38,1	1,0026
349,8	1	50	1,303	1,294	1,300	2	-163,1	264,6	2	38,0	1,0023
296,8	1	50	1,071	1,060	1,065	2	-101,4	194,3	2	37,8	1,0015
239,6	1	50	0,846	0,834	0,838	2	-54,3	131,3	2	37,6	1,0008
199,1	1	50	0,712	0,700	0,702	2	-27,0	99,2	2	37,4	1,0001
148,7	1	50	0,565	0,555	0,555	2	0	67,6	2	37,3	0,9997
118,2	1	50	0,523	0,512	0,511	2	10,7	54,0	2	37,0	0,9986
data calculation of no load											
V%	U0/UN	I0	P0	(U0/UN)^2	P0cu1	P0'					
123,5%	1,23	5,055	383,4	1,525	38,48	344,92					
111,1%	1,11	3,811	296,8	1,234	21,86	274,94					
100,0%	1,00	3,140	243,8	1,000	14,83	228,97					
87,4%	0,87	2,598	203,0	0,765	10,15	192,85					
74,2%	0,74	2,131	185,8	0,551	6,82	178,98					
59,9%	0,60	1,679	154,0	0,359	4,23	149,77					
49,8%	0,50	1,409	144,4	0,248	2,98	141,42					
37,2%	0,37	1,117	135,2	0,138	1,87	133,33					
29,6%	0,30	1,031	129,4	0,087	1,59	127,81					
RESULTS AT: 400 V											
N.L.AMP	3,14	N.L.LOSS(W)	243,80	Pw(W)	121,1	Pe(W)	107,9	P.F	0,11		

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Speed	2926	r/min	Duty	S1		Connection	Δ		
Ins.class	F		Weight	68	kg		IP55		

No Load Curve



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Ins.class	F		Weight	68	kg	IP55				
LOCKED ROTOR TEST										
VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torquor (kg.m)	
401,2	1,0	1,791	1,779	1,767	50,0	-32,8	611,0	50,0	4,70	
347,6	1,0	1,491	1,476	1,467	50,0	-24,4	439,2	50,0	3,40	
297,4	1,0	3,074	3,041	3,027	20,0	-53,3	767,2	20,0	2,45	
246,7	1,0	2,445	2,411	2,391	20,0	-46,0	501,1	20,0	1,50	
194,0	1,0	1,821	1,796	1,774	20,0	-35,0	289,5	20,0	0,85	
157,6	1,0	1,416	1,401	1,382	20,0	-25,2	181,3	20,0	0,50	
132,9	1,0	2,337	2,302	2,292	10,0	-37,8	249,4	10,0	0,35	
data calculation of locked rotor										
Uk	IK	PK	TK	LOGUk		LOGIk	LOGPk	LOGTk		
V	A	kW	N.m							
401,16	88,95	28,910	46,06	2,6033		1,9492	1,4610	1,6633		
347,58	73,89	20,740	33,32	2,5411		1,8686	1,3168	1,5227		
297,37	60,95	14,278	24,01	2,4733		1,7849	1,1547	1,3804		
246,74	48,32	9,102	14,70	2,3922		1,6841	0,9591	1,1673		
194,00	35,94	5,090	8,33	2,2878		1,5555	0,7067	0,9206		
157,58	28,00	3,122	4,90	2,1975		1,4472	0,4944	0,6902		
132,95	23,10	2,116	3,43	2,1237		1,3637	0,3255	0,5353		
performance collection of locked rotor										
at rated volts		at rated current		at 2.5 times rated current		at 100V				
VOLTS (V)		400		64,675		143,7		100,0		
AMPS (A)		88,6		10,1		25,3		16,62		
INPUT (kW)		28,73				2,6		0,855		
TORQUE (N.m)		45,78								

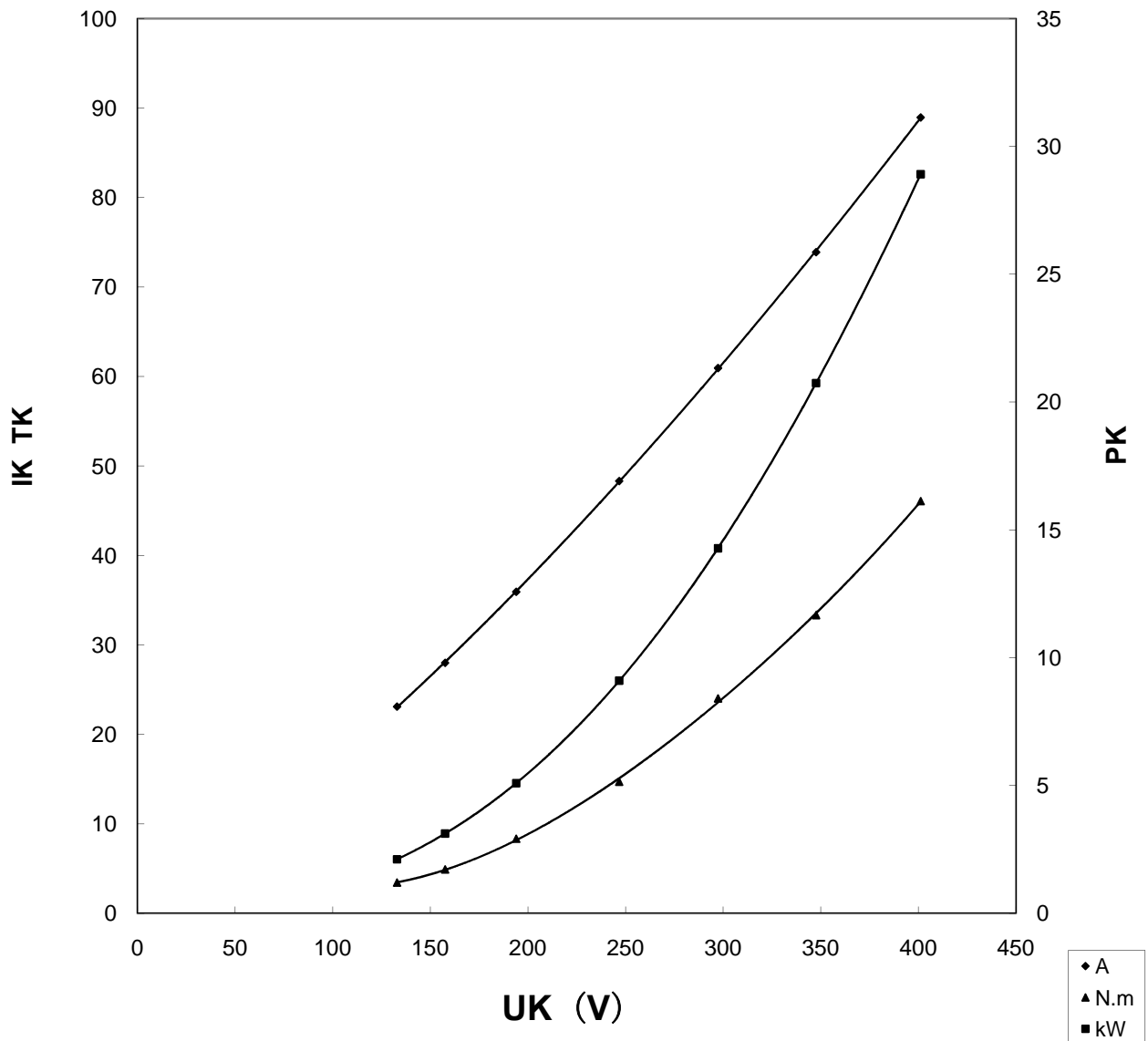
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IE:3

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Speed	2926	r/min	Duty	S1	Connection	Δ		
Ins.class	F	Weight	68	kg	IP55			

Locked Rotor Curve



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Speed	2926	r/min	Duty	S1		Connection	Δ				
Ins.class	F		Weight	68	kg	IP55					

TEMPERATURE RISE TEST

TIME (h:min)	V	I1	I2	I3	mul.	W1	W2	mul.	T1 °C	T2 °C	T3 °C	T4 °C	T5 °C	T6 °C	T7 °C	T8 °C	T9 °C	T10 °C	T11 °C	T12 °C	T13 °C	
10,29	400,4	2,043	2,046	2,033	5	466,9	816,1	5	36,2	—	45,6	46,0	—	—	—	—	—	—	—	—	—	7,8
11,04	400,3	2,013	2,016	2,004	5	455,4	803,4	5	40,4	—	45,3	45,9	—	—	—	—	—	—	—	—	—	8,2
11,28	400,2	2,022	2,025	2,011	5	457,5	806,7	5	42,6	—	44,9	45,4	—	—	—	—	—	—	—	—	—	8,5
11,59	400,4	2,041	2,045	2,031	5	464,2	815,5	5	41,8	—	44,7	45,1	—	—	—	—	—	—	—	—	—	8,5
12,33	400,4	2,019	2,024	2,009	5	461,0	807,7	5	41,5	—	45,2	45,7	—	—	—	—	—	—	—	—	—	9,1
The average of the last three		10,126			A	6354,33		W	41,5	—	44,9	45,7	—	—	—	—	—	—	—	—	—	8,7

T1 T2 : DE BEARING TEMPERATURE

T11 : CORE TEMPERATRE

T12: FRAME TEMPERATRE

T3~T10 : DE WINDING TEMPERATURE

T13 : AMBIENT TEMPERATURE

WINDING RESISTANCE (HOT) AT END OF TEMPERATURE RISE TEST

TIME (S)	43	57	72	84	97	108	118	133		
RESISTANC	1,0301	1,0267	1,0248	1,0234	1,0216	1,0202	1,0192	1,0174		

WINDING RESISTANCE(COLD)

Δ	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	0,9000	0,8986	0,9009	0,8998	0,8986	10,1 °C
Y	U1-U2	V1-V2	W1-W2	AVERAGE	MIN	AMBIENT TEM.
						°C

resistance value at 0 sec (Ω)

1,038303

calculation value of temp.rising

39,51 K

30 S (Ω)

1,032171

calculation value of temp.rising

37,83 K

full load curent

10,08 A

modify value of temp. rising

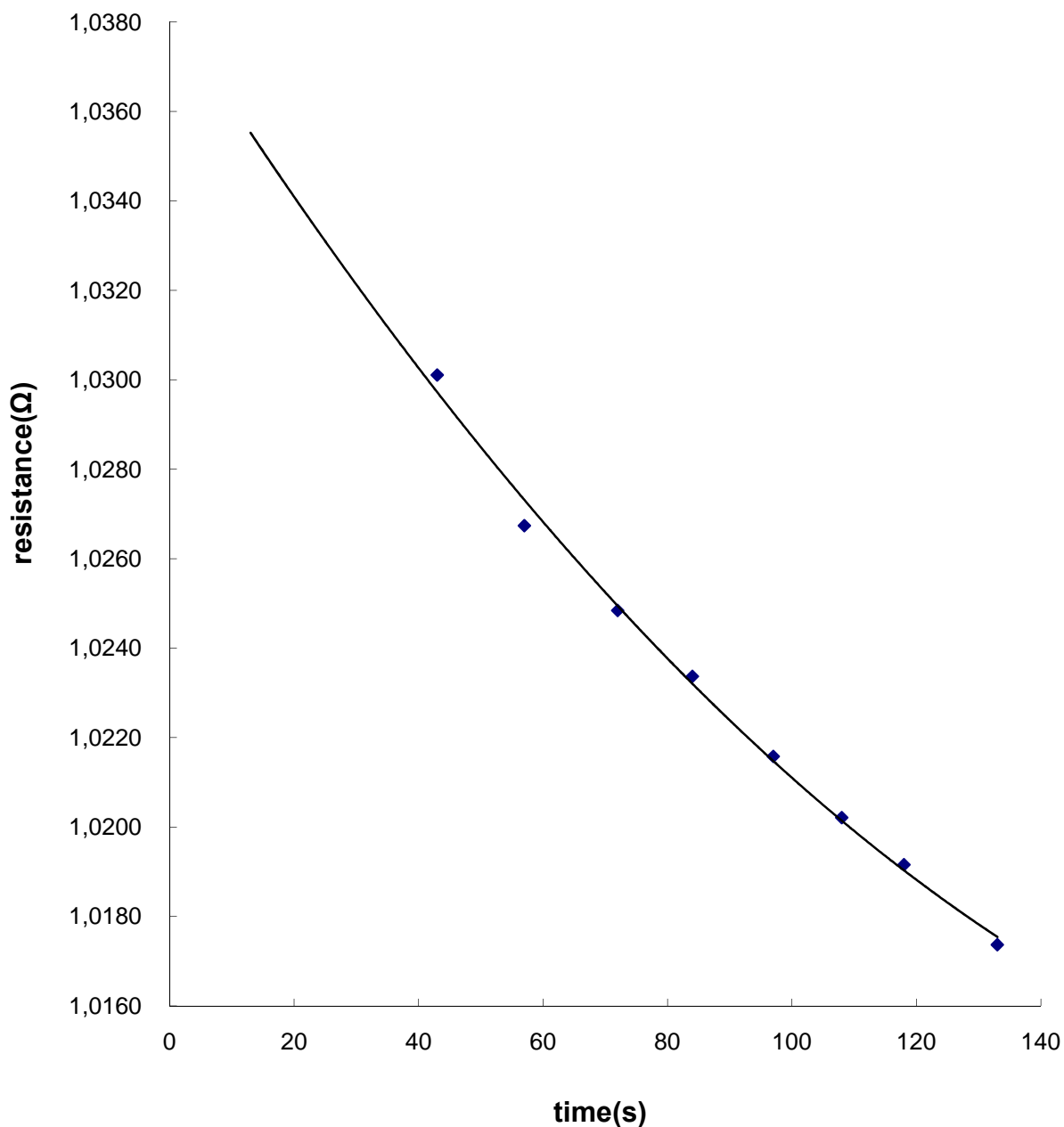
37,51 K

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Type	K132S-2	Poles	2	output Power	5,5	kW	IE:3
Voltage	400 V	Current	10,1 A	Frequency	50,0	Hz	
Speed	2926 r/min	Duty	S1	Connection	Δ		
Ins.class	F	Weight	68 kg		IP55		

RESISTANCE CURVE



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Speed	2926	r/min	Duty	S1		Connection	Δ					
Ins.class	F		Weight	68	kg					IP55		
LOAD TEST												
V	HZ	I1	I2	I3	mul.	W1	W2	mul.	r/min	Resistance Ω	Temperature °C	Torque N.m
400,1	50,02	3,110	3,121	3,100	5	710,7	1196,7	5	2885,5	1,0280	45,0	27,12
400,2	50,02	2,578	2,585	2,569	5	586,0	992,7	5	2907,5	1,0313	45,9	22,42
400,2	50,02	2,110	2,116	2,103	5	463,7	814,3	5	2927,5	1,0324	46,2	18,01
399,9	50,02	1,653	1,655	1,644	5	335,4	638,7	5	2946,3	1,0327	46,3	13,46
399,9	50,02	3,031	3,021	3,018	2	499,9	1163,6	2	2965,2	1,0302	45,6	8,80
399,8	50,02	2,606	2,599	2,594	2	346,5	989,9	2	2972,9	1,0276	44,9	6,76
400,2	50,01	2,140	2,126	2,127	2	170,9	782,9	2	2981,2	1,0254	44,3	4,4
400,0	50,0	1,901	1,886	1,885	2,0	40,1	643,3	2	2987,9	1,0210	43,1	2,69
400,0	50,0	1,564	1,565	1,570	2,0	-233,0	357,8	2	3000,0	1,0085	39,7	0,00
slope A= 0,17452		intercept B= -2,43			relative coefficient r= 0,998							
LOAD %	P2 W	I A	P1 W	Pcu1s W	Ss %	Pcu2s W	Ps W	Pz W	N.m	EFF %	P.F	
150,0	8250	15,25	9351,5	383,3	4,009	355,2	131,3	1098,8	27,4	88,22	0,885	
125,0	6875	12,55	7683,7	259,4	3,207	234,6	89,6	812,7	22,7	89,47	0,884	
100,0	5500	10,08	6090,5	167,5	2,458	142,9	56,4	595,8	18,0	90,30	0,872	
75,0	4125	7,82	4568,2	100,8	1,805	78,7	31,3	439,8	13,4	90,30	0,843	
50,0	2750	5,69	3075,9	53,3	1,164	33,9	13,8	330,0	8,9	89,40	0,781	
25,0	1375	3,93	1639,3	25,5	0,579	8,7	3,4	266,6	4,4	83,88	0,602	

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Speed	2926	r/min	Duty	S1		Connection	Δ	
Ins.class	F		Weight	68	kg	IP55		

LOAD CURVE

