

VALIADIS S.A.

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

Type	K200L-4	Poles	4	Power	30,0	kW	IE:3
Voltage	400 V	Current	53,7 A	Frequency	50	Hz	
Speed	1476 r/min	Duty	S1	Connection	△		
Ins.class	F	Weight	325 kg		IP55		
MAJOR CONTENTS				TEST VALUE			
95,0 °C PHASE RESISTANCE OF WINDING	Ω			0,2213			
NO LOAD CURRENT	A			17,879			
NO LOAD INPUT	W			686,12			
CORE LOSS(Pfe)	W			502,40			
WINDAGE FRICTION LOSS(Pfw)	W			119,17			
STATOR WINDING LOSS(Pcu1)	W			618,79			
ROTOR WINDING LOSS(Pcu2)	W			497,76			
STRAY LOAD LOSS(Ps)	W			435,35			
LOCKED ROTOR CURRENT	A			305,917			
LOCKED ROTOR INPUT @ FULL LOAD	W			82065			
LOCKED ROTOR TORQUE	N.m			370,4			
PULL OUT TORQUE	N.m			476,7			
LOCKED ROTOR CURRENT/RATED CURRENT	P.U			5,70			
LOCKED ROTOR TORQUE/RATED TORQUE	P.U			1,91			
PULL OUT TORQUE/RATED TORQUE	P.U			2,45			
FULL LOAD TORQUE	N.m			194,2			
FULL LOAD CURRENT	A			53,7			
FULL LOAD SLIP	%			1,603			
INPUT @ FULL LOAD	kW			32,181			
FULL LOAD SPEED	r/min			1476,0			
EFFICIENCY @ FULL LOAD	%			93,22			
EFFICIENCY @ 75% LOAD	%			93,79			
POWER FACTOR @ FULL LOAD				0,865			
STATOR WINDING TEMPERATURE RISE	K			59			
D.E. BEARINGS TEMPERATURE BY PT100	°C			43,2			
STATOR WINDING TEMPERATURE	°C			73,8			
High voltage test	V	1800		Imin			
Insulation resistance	MΩ			500			
NOISE (LW)	dB(A)			73			
VIBRATION	mm/s			0,9			

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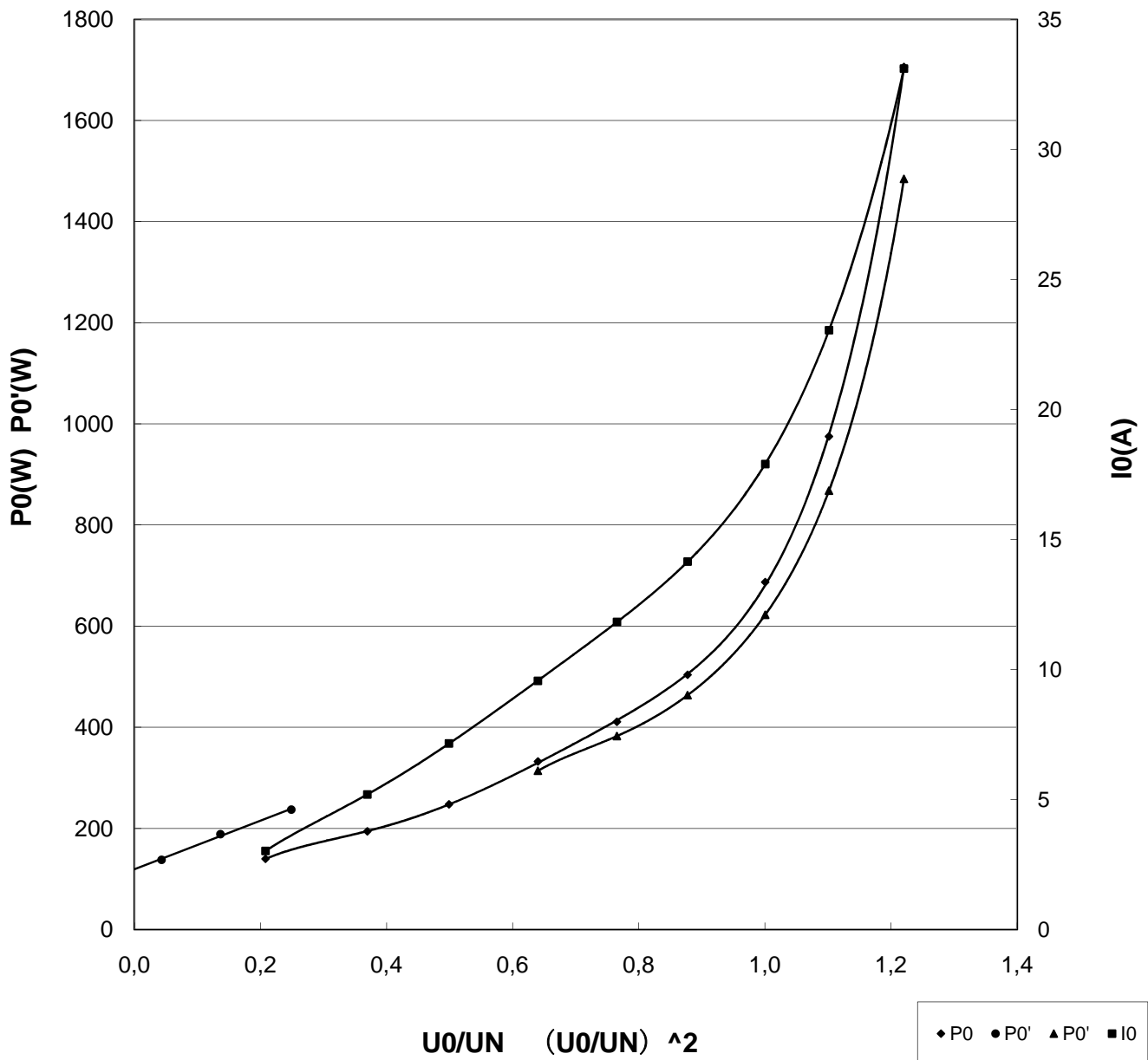
Type	K200L-4		Poles	4		Power	30,0 kW		IE:3		
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Speed	1476	r/min	Duty	S1		Connection	△				
Ins.class	F		Weight	325	kg			IP55			
NO LOAD TEST											
VOL	mul.	HZ	I01	I02	I03	mul.	W1	W2	mul.	°C	Ω
488,2	1	50	3,303	3,329	3,300	10	-687,8	858,4	10	66,2	0,13466
440,6	1	50	2,300	2,320	2,293	10	-438,5	536,01	10	66,2	0,13466
400,2	1	50	1,787	1,802	1,780	10	-309,5	378,2	10	66,1	0,13462
350,9	1	50	1,412	1,424	1,409	10	-212,4	262,78	10	66,0	0,13458
306,1	1	50	2,348	2,387	2,361	5	-304,3	386,46	5	65,8	0,13449
256,0	1	50	1,896	1,931	1,910	5	-199,6	266,1	5	65,7	0,13444
199,6	1	50	1,421	1,444	1,430	5	-110,7	160,2	5	65,5	0,13435
147,8	1	50	2,576	2,611	2,603	2	-131,3	228,4	2	65,4	0,13431
83,2	1	50	1,495	1,520	1,520	2	-20,6	90,4	2	65,0	0,13413
data calculation of no load											
V%	U0/UN	I0	P0	(U0/UN)^2	P0cu1	P0'					
122,1%	1,22	33,107	1706,0	1,490	221,40	1484,55					
110,2%	1,10	23,043	975,1	1,213	107,26	867,86					
100,1%	1,00	17,897	687,0	1,001	64,68	622,36					
87,7%	0,88	14,150	503,8	0,770	40,42	463,40					
76,5%	0,77	11,827	410,8	0,586	28,22	382,59					
64,0%	0,64	9,562	332,3	0,410	18,44	313,89					
49,9%	0,50	7,158	247,5	0,249	10,33	237,16					
36,9%	0,37	5,193	194,1	0,137	5,43	188,68					
20,8%	0,21	3,023	139,7	0,043	1,84	137,85					
RESULTS AT: 400 V											
N.L.AMP	17,88	N.L.LOSS(W)	686,12	Pw(W)	119,2	Pe(W)	502,4				

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Speed	1476	r/min	Duty	S1		Connection	Δ		
Ins.class	F		Weight	325	kg		IP55		

No Load Curve



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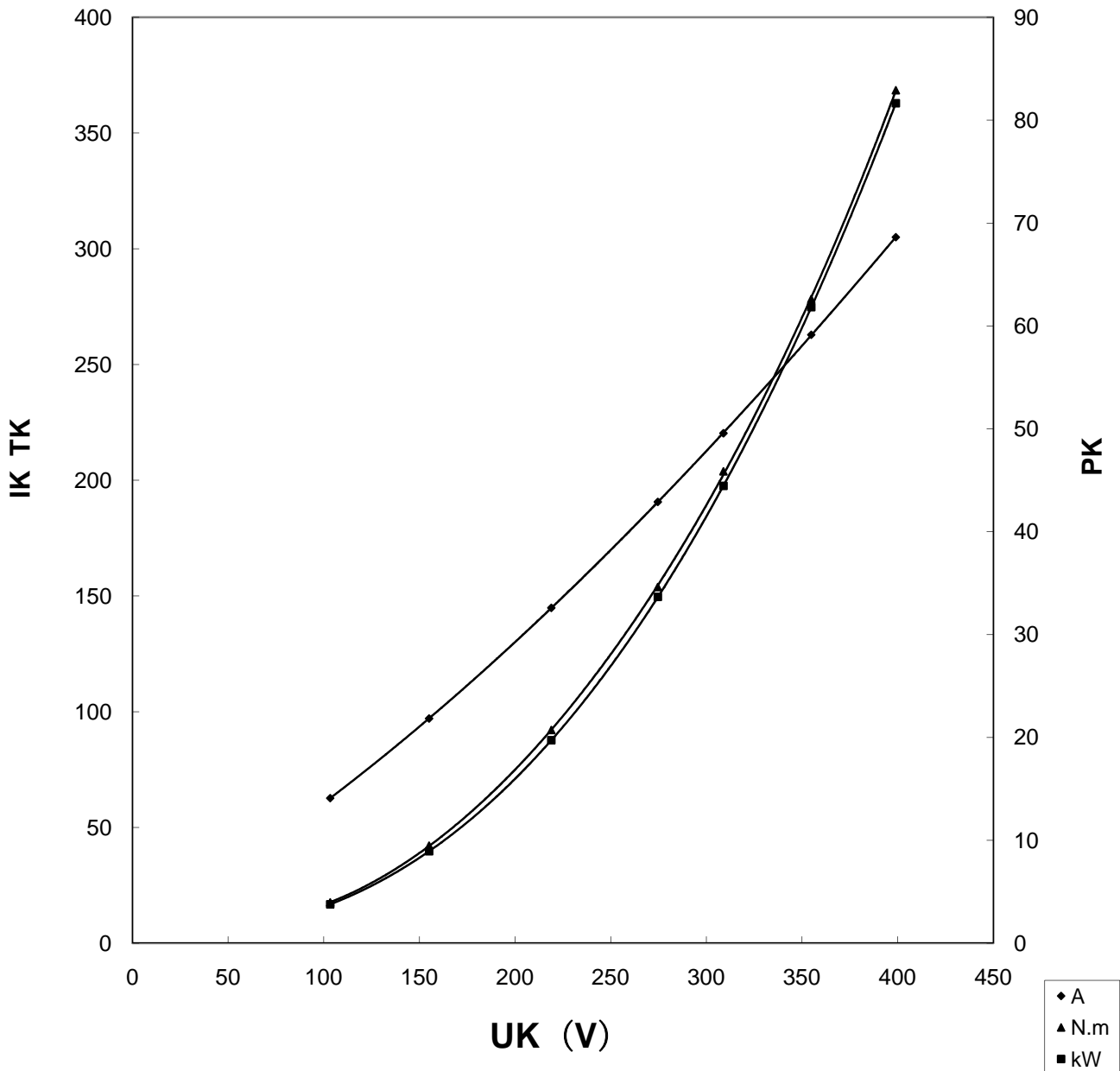
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Speed	1476	r/min	Duty	S1		Connection	Δ			
Ins.class	F		Weight	325	kg		IP55			
LOCKED ROTOR TEST										
VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqu (kg.m)	
399,1	1,0	1,521	1,529	1,526	200,0	-80,3	488,5	200,0	37,6	
354,8	1,0	2,621	2,633	2,632	100,0	-126,0	744,3	100,0	28,4	
308,9	1,0	2,198	2,207	2,204	100,0	-97,5	542,0	100,0	20,8	
274,6	1,0	1,901	1,910	1,908	100,0	-77,3	413,9	100,0	15,7	
218,9	1,0	1,445	1,452	1,450	100,0	-50,7	248,0	100,0	9,4	
155,1	1,0	1,936	1,946	1,943	50,0	-53,6	232,3	50,0	4,3	
103,4	1,0	1,250	1,257	1,253	50,0	-23,6	99,1	50,0	1,8	
data calculation of locked rotor										
Uk	IK	PK	TK	LOGUk	LOGIk	LOGPk	LOGTk			
V	A	kW	N.m							
399,05	305,01	81,640	368,48	2,6010	2,4843	1,9119	2,5664			
354,84	262,87	61,830	278,32	2,5500	2,4197	1,7912	2,4445			
308,95	220,31	44,450	203,84	2,4899	2,3430	1,6479	2,3093			
274,63	190,63	33,660	153,86	2,4388	2,2802	1,5271	2,1871			
218,95	144,88	19,730	92,12	2,3403	2,1610	1,2951	1,9644			
155,05	97,07	8,935	42,14	2,1905	1,9871	0,9511	1,6247			
103,37	62,67	3,775	17,64	2,0144	1,7970	0,5769	1,2465			
performance collection of locked rotor										
	at rated volts		at rated current		at 2.5 times rated current		at 100V			
VOLTS (V)	400		89,896		205,0		100,0			
AMPS (A)	305,9		53,7		134,3		59,40			
INPUT (kW)	82,06				17,2		2,581			
TORQUE (N.m)	370,41									

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Speed	1476 r/min	Duty	S1	Connection	Δ	Hz
Ins.class	F	Weight	325 kg			IP55

Locked Rotor Curve



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Speed	1476	r/min	Duty	S1		Connection	Δ			
Ins.class	F		Weight	325	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	
19,45	400,4	2,677	2,732	2,700	20	520,4	1118	20	35,4	—	63,6	62,0	—	—	—	—	—	—	—	—	—	13,1
20,15	400,1	2,678	2,734	2,701	20	522,6	1118	20	37,9	—	66,9	65,2	—	—	—	—	—	—	—	—	—	13,1
20,47	400,1	2,665	2,719	2,686	20	518,2	1112	20	39,6	—	69,5	67,9	—	—	—	—	—	—	—	—	—	13,3
21,14	400,3	2,675	2,726	2,696	20	524,1	1116	20	41,1	—	71,1	69,5	—	—	—	—	—	—	—	—	—	13,7
21,46	400,1	2,678	2,739	2,701	20	523,1	1121	20	41,6	—	72,3	70,5	—	—	—	—	—	—	—	—	—	13,5
22,15	400,4	2,656	2,707	2,675	20	518,0	1108	20	42,6	—	73,0	71,4	—	—	—	—	—	—	—	—	—	13,3
22,45	400,4	2,663	2,714	2,684	20	522,9	1112	20	42,9	—	73,6	71,9	—	—	—	—	—	—	—	—	—	13,2
23,15	400,2	2,665	2,720	2,688	20	519,9	1113	20	43,2	—	73,8	72,3	—	—	—	—	—	—	—	—	—	13,2
The average of the last three		53,714		A		32624,7		W		43,2	—	73,5	72,3	—	—	—	—	—	—	—	—	13,2

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)	60	88	113	131	154	178	197	221		
RESISTANC	0,1366	0,1361	0,1357	0,1353	0,1350	0,1347	0,1344	0,1340		

WINDING RESISTANCE(COLD)

Δ	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	0,1088	0,1087	0,1087	0,10873	0,10870	8,2 °C
Y	U1-U2	V1-V2	W1-W2	AVERAGE	MIN	AMBIENT TEM.
						°C

resistance value at 0 sec (Ω)

0,137737

calculation value of temp.rising

59,93 K

30 S (Ω)

0,137102

calculation value of temp.rising

58,51 K

full load curent

53,71 A

modify value of temp. rising

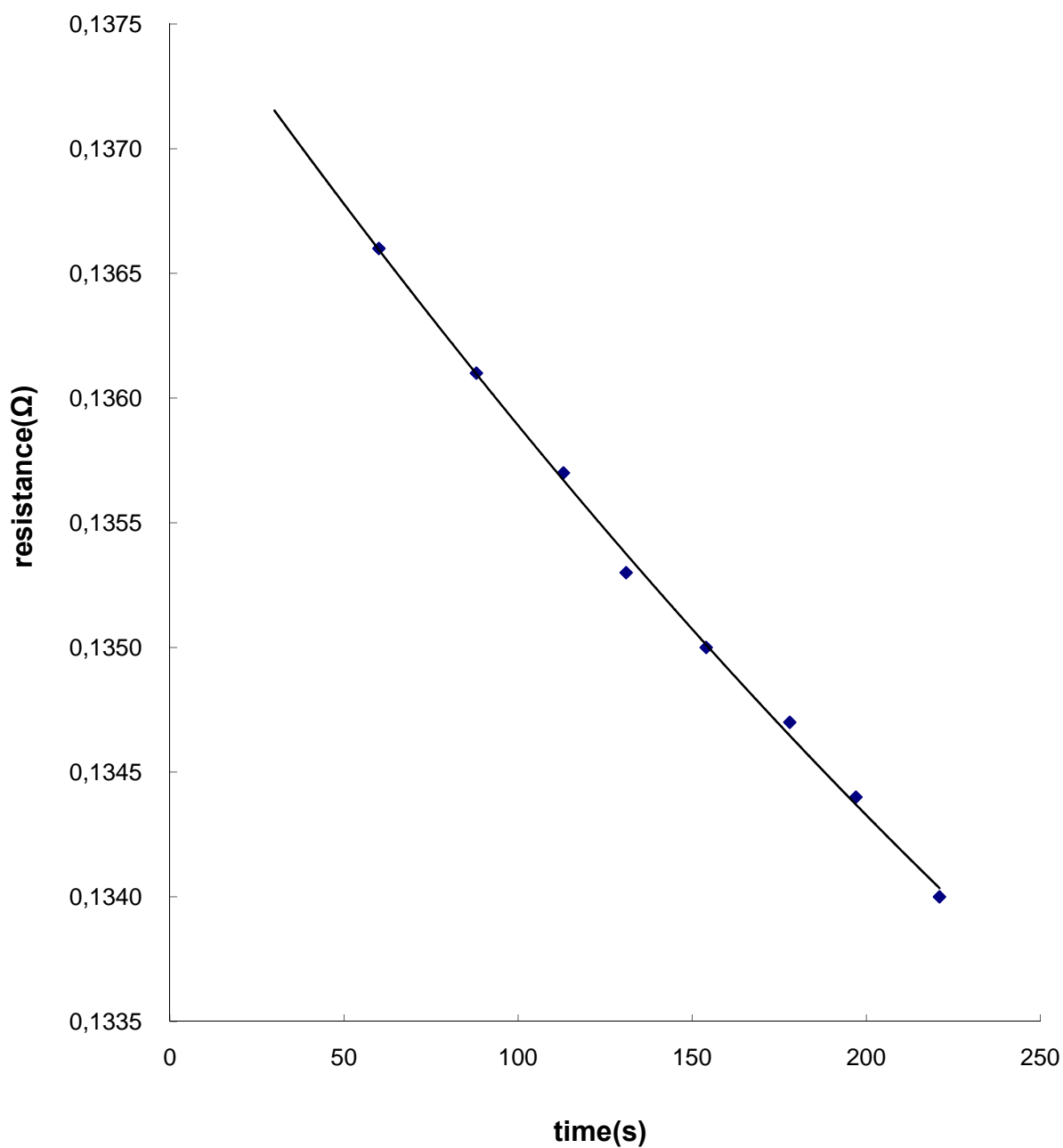
58,51 K

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RESISTANCE CURVE



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Speed	1476	r/min	Duty	S1		Connection	Δ		
Ins.class	F		Weight	325	kg		IP55		

LOAD CURVE

