

VALIADIS S.A.

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

							IE:3
Type	K80-2		Poles	2	Power	1,1	kW
Voltage	400	V	Current	2,3	A	Frequency	50 Hz
Speed	2887	r/min	Duty	S1	Connecti	Y	
Ins.class	F		Weight	22	kg	IP55	
MAJOR CONTENTS				TEST VALUE			
95,0 °C PHASE RESISTANCE OF WINDING				Ω	5,3028		
NO LOAD CURRENT				A	1,363		
NO LOAD INPUT				W	103,86		
CORE LOSS(Pfe)				W	58,97		
WINDAGE FRICTION LOSS(Pfw)				W	18,40		
STATOR WINDING LOSS(Pcu1)				W	75,89		
ROTOR WINDING LOSS(Pcu2)				W	44,86		
STRAY LOAD LOSS(Ps)				W	25,54		
LOCKED ROTOR CURRENT				A	15,714		
LOCKED ROTOR INPUT @ FULL LOAD				W	8753		
LOCKED ROTOR TORQUE				N.m	10,0		
PULL OUT TORQUE				N.m	12,4		
LOCKED ROTOR CURRENT/RATED CURRENT				P.U	6,91		
LOCKED ROTOR TORQUE/RATED TORQUE				P.U	2,75		
PULL OUT TORQUE/RATED TORQUE				P.U	3,39		
FULL LOAD TORQUE				N.m	3,64		
FULL LOAD CURRENT				A	2,3		
FULL LOAD SLIP				%	3,772		
INPUT @ FULL LOAD				kW	1,324		
FULL LOAD SPEED				r/min	2886,8		
EFFICIENCY @ FULL LOAD				%	83,08		
EFFICIENCY @ 75% LOAD				%	82,89		
POWER FACTOR @ FULL LOAD					0,841		
STATOR WINDING TEMPERATURE RISE				K	42		
D.E. BEARINGS TEMPERATURE BY PT100				°C	47,4		
STATOR WINDING TEMPERATURE				°C	71,8		
High voltage test				V	1800	Imin	
Insulation resistance				MΩ	500		
NOISE(LW)				dB(A)	56		
VIBRATION				mm/s	0,3		

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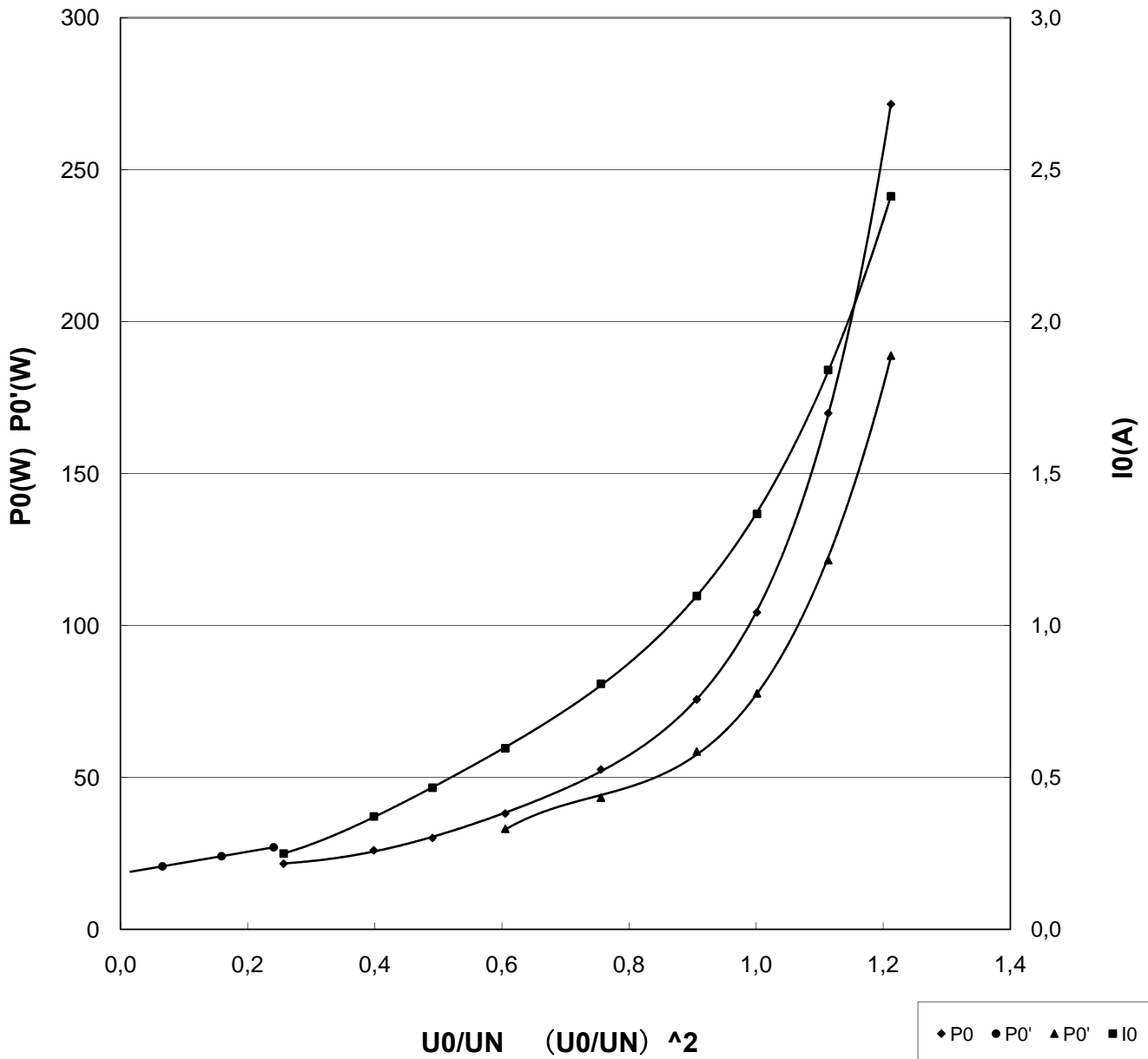
Type	K80-2		Poles	2		Power	1,1 kW		IE:3		
Voltage	400	V	Current	2,3	A	Frequency	50 Hz				
Speed	2887	r/min	Duty	S1		Connection	Y				
Ins.class	F		Weight	22	kg			IP55			
NO LOAD TEST											
VOL	mul.	HZ	I01	I02	I03	mul.	W1	W2	mul.	°C	Ω
484,8	1	50	2,391	2,411	2,436	1	-448,0	719,6	1	60,0	4,7404
445,4	1	50	1,825	1,838	1,860	1	-323,4	493,2	1	60,9	4,7549
400,5	1	50	1,356	1,364	1,382	1	-220,5	324,8	1	60,8	4,7532
362,6	1	50	1,090	1,094	1,107	1	-160,5	236,2	1	60,4	4,7468
302,3	1	50	0,808	0,805	0,812	1	-96,2	148,8	1	59,8	4,7372
242,1	1	50	0,598	0,593	0,597	1	-53,0	91,1	1	59,0	4,7243
196,3	1	50	0,468	0,465	0,466	1	-30,4	60,5	1	58,1	4,7099
159,4	1	50	0,373	0,370	0,371	1	-15,6	41,6	1	57,6	4,7018
102,6	1	50	0,252	0,248	0,248	1	0	21,6	1	57,0	4,6922
data calculation of no load											
V%	U0/UN	I0	P0	(U0/UN)^2	P0cu1	P0'					
121,2%	1,21	2,412	271,6	1,469	82,76	188,79					
111,3%	1,11	1,841	169,8	1,240	48,34	121,49					
100,1%	1,00	1,367	104,3	1,003	26,65	77,67					
90,7%	0,91	1,097	75,7	0,822	17,14	58,52					
75,6%	0,76	0,808	52,6	0,571	9,28	43,35					
60,5%	0,61	0,596	38,1	0,366	5,03	33,09					
49,1%	0,49	0,466	30,1	0,241	3,07	27,00					
39,8%	0,40	0,371	26,0	0,159	1,95	24,07					
25,7%	0,26	0,250	21,6	0,066	0,88	20,75					
RESULTS AT: 400 V											
N.L.AMP	1,36	N.L.LOSS(W)	103,86	Pw(W)	18,4	Pe(W)	59,0				

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Speed	2887	r/min	Duty	S1	Connection	Y		
Ins.class	F		Weight	22	kg		IP55	

No Load Curve



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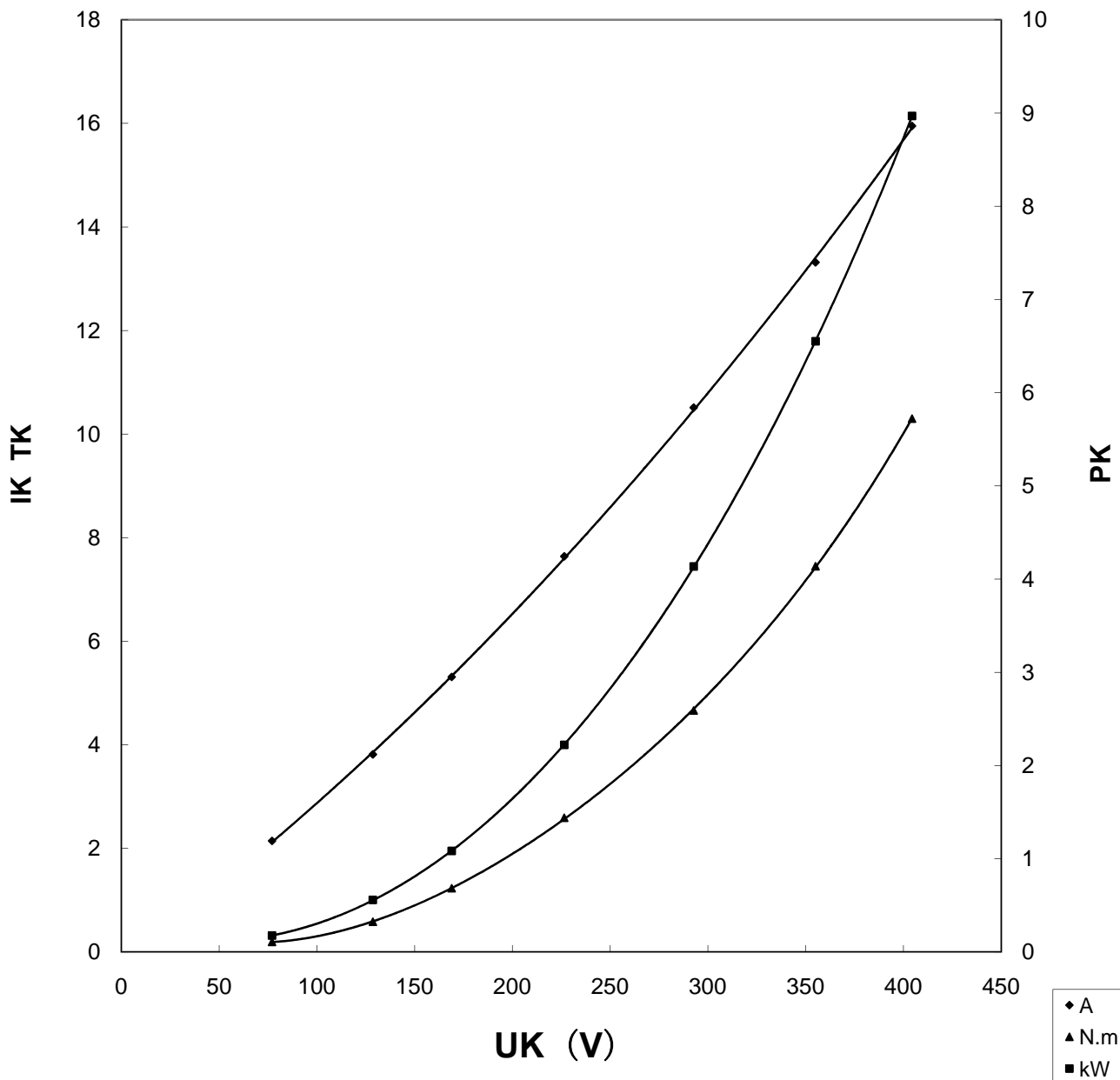
Type	K80-2		Poles	2		Power	1,1		IE:3	kW
Voltage	400	V	Current	2,3	A	Frequency	50,0		Hz	
Speed	2887	r/min	Duty	S1		Connection	Y			
Ins.class		F	Weight	22	kg		IP55			
LOCKED ROTOR TEST										
VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torque (N.m)	
404,4	1,0	1,621	1,599	1,566	10,0	192,7	704,2	10,0	10,30	
355,1	1,0	1,356	1,334	1,305	10,0	139,4	515,7	10,0	7,45	
292,7	1,0	2,145	2,105	2,058	5,0	160,1	667,0	5,0	4,66	
226,5	1,0	1,560	1,525	1,498	5,0	75,3	369,1	5,0	2,59	
168,9	1,0	1,084	1,056	1,046	5,0	29,6	187,2	5,0	1,23	
128,6	1,0	1,948	1,890	1,886	2,0	28,4	250,9	2,0	0,58	
77,1	1,0	1,094	1,061	1,062	2,0	6,2	82,1	2,0	0,19	
data calculation of locked rotor										
Uk	IK	PK	TK	LOGUk	LOGIk	LOGPk	LOGTk			
V	A	kW	N.m							
404,42	15,95	8,969	10,30	2,6068	1,2028	0,9528	1,0128			
355,05	13,32	6,551	7,45	2,5503	1,1244	0,8163	0,8721			
292,74	10,51	4,135	4,66	2,4665	1,0217	0,6165	0,6687			
226,53	7,64	2,222	2,59	2,3551	0,8831	0,3468	0,4135			
168,95	5,31	1,084	1,23	2,2278	0,7251	0,0351	0,0902			
128,63	3,82	0,558	0,58	2,1093	0,5816	-0,2530	-0,2343			
77,05	2,14	0,177	0,19	1,8868	0,3314	-0,7531	-0,7115			
performance collection of locked rotor										
at rated volts		at rated current		at 2.5 times rated current		at 100V				
VOLTS (V)		400		78,751		175,5		100,0		
AMPS (A)		15,7		2,2		5,5		2,90		
INPUT (kW)		8,75				1,1		0,363		
TORQUE (N.m)		10,04								

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Voltage	400 V	Current	2,3 A	Frequency	50,0	kW
Speed	2887 r/min	Duty	S1	Connection	Y	Hz
Ins.class	F	Weight	22 kg			IP55

Locked Rotor Curve



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Speed	2887	r/min	Duty	S1		Connection	Y			
Ins.class	F		Weight	22	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
9,31	400,2	2,271	2,257	2,275	1	356,1	931,9	1	43,9	—	67,0	66,4	—	—	—	—	—	—	43,8	—	28,9
10,01	400,3	2,296	2,283	2,300	1	365,5	943,2	1	46,2	—	70,9	70,2	—	—	—	—	—	—	47,0	—	29,1
10,30	400,4	2,273	2,258	2,276	1	357,6	932,4	1	47,3	—	71,6	71,0	—	—	—	—	—	—	47,8	—	29,1
10,59	400,5	2,285	2,272	2,291	1	360,2	937,4	1	47,1	—	71,8	71,2	—	—	—	—	—	—	48,4	—	29,4
11,29	400,4	2,291	2,275	2,297	1	363,0	939,9	1	47,4	—	71,8	71,2	—	—	—	—	—	—	48,2	—	29,4
The average of the last three		2,280		A		1296,83		W	47,4		71,7	71,2	—	—	—	—	—	—	48,2	—	29,3

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)	47	70	82	96	110	133	145	158		
RESISTANC	4,920	4,902	4,891	4,882	4,872	4,858	4,852	4,845		

WINDING RESISTANCE(COLD)

Δ	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
Y	U1-U2	V1-V2	W1-W2	AVERAGE	MIN	AMBIENT TEM.
	4,228	4,23	4,235	4,231	4,228	28,3 °C

resistance value at 0 sec (Ω)

4,965266

calculation value of temp.rising

44,91 K

30 S (Ω)

4,934215

calculation value of temp.rising

42,98 K

full load curent

2,26 A

modify value of temp. rising

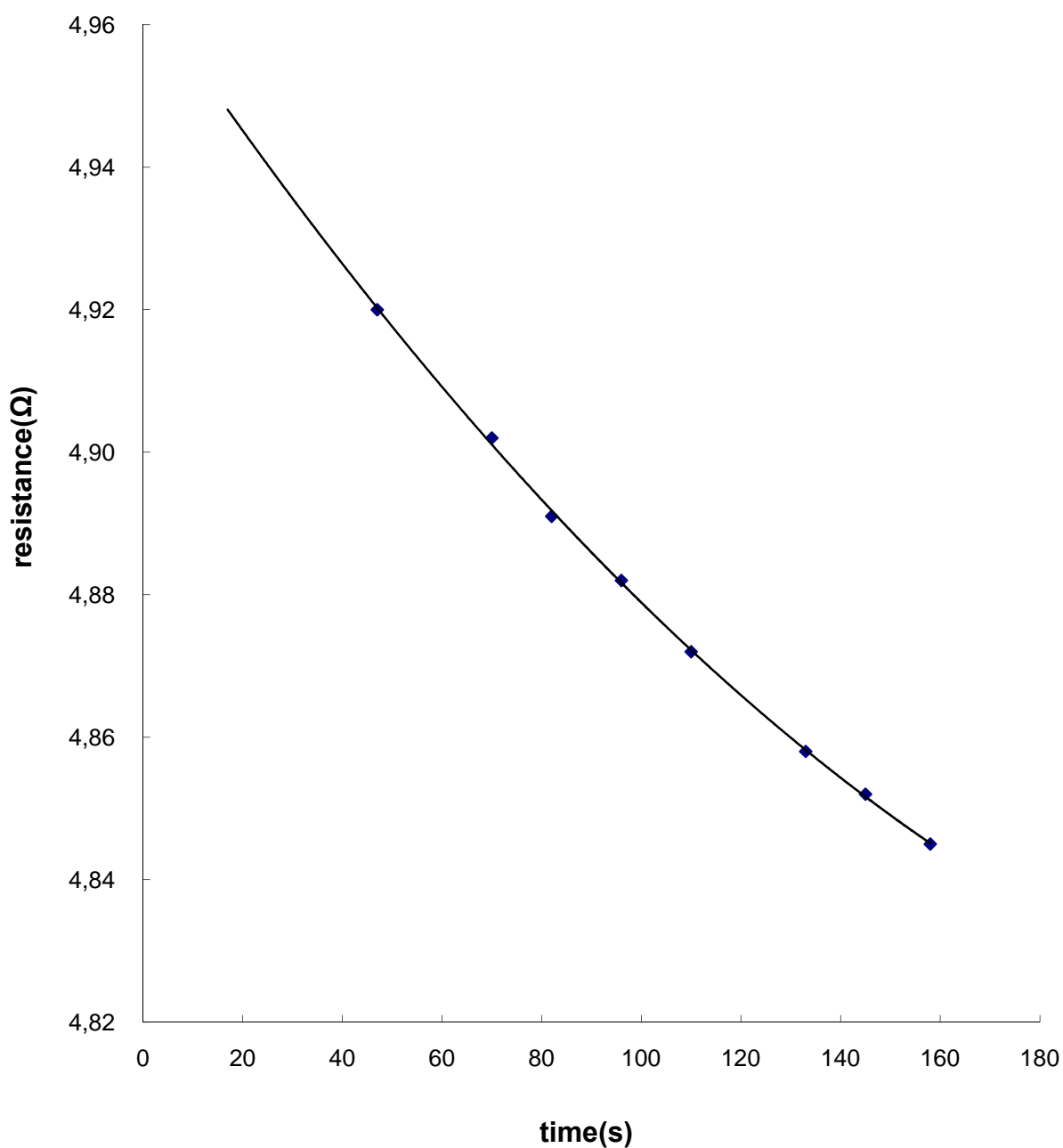
42,24 K

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Speed	2887	r/min	Duty	S1		Connection	Y	
Ins.class		F	Weight	22	kg		IP55	

RESISTANCE CURVE



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Voltage	400 V	Current	2,3 A	Frequency	50,0	kW
Speed	2887 r/min	Duty	S1	Connection	Y	Hz
Ins.class	F	Weight	22 kg		IP55	

LOAD CURVE

