

VALIADIS S.A.

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

						IE:3
Type	K132S-2		Poles	2	Power	7,5 kW
Voltage	400	V	Current	13,7 A	Frequency	50 Hz
Speed	2931	r/min	Duty	S1	Connection	△
Ins.class	F		Weight	84 kg	IP55	
MAJOR CONTENTS				TEST VALUE		
95,0 °C PHASE RESISTANCE OF WINDING	Ω			1,3165		
NO LOAD CURRENT	A			4,574		
NO LOAD INPUT	W			338,44		
CORE LOSS(Pfe)	W			100,11		
WINDAGE FRICTION LOSS(Pfw)	W			212,55		
STATOR WINDING LOSS(Pcu1)	W			238,06		
ROTOR WINDING LOSS(Pcu2)	W			184,43		
STRAY LOAD LOSS(Ps)	W			95,47		
LOCKED ROTOR CURRENT	A			101,112		
LOCKED ROTOR INPUT @ FULL LOAD	W			43020		
LOCKED ROTOR TORQUE	N.m			56,2		
PULL OUT TORQUE	N.m			89,5		
LOCKED ROTOR CURRENT/RATED CURRENT	P.U			7,39		
LOCKED ROTOR TORQUE/RATED TORQUE	P.U			2,29		
PULL OUT TORQUE/RATED TORQUE	P.U			3,65		
FULL LOAD TORQUE	N.m			24,5		
FULL LOAD CURRENT	A			13,7		
FULL LOAD SLIP	%			2,307		
INPUT @ FULL LOAD	kW			8,334		
FULL LOAD SPEED	r/min			2930,8		
EFFICIENCY @ FULL LOAD	%			89,99		
EFFICIENCY @ 75% LOAD	%			90,16		
POWER FACTOR @ FULL LOAD				0,879		
STATOR WINDING TEMPERATURE RISE	K			56		
D.E. BEARINGS TEMPERATURE BY PT100	°C			50,8		
STATOR WINDING TEMPERATURE	°C			87,1		
High voltage test	V	1800			Imin	
Insulation resistance	MΩ			500		
NOISE (LW)	dB(A)			81		
VIBRATION	mm/s			0,5		

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NO LOAD TEST											
VOL	mul.	HZ	I01	I02	I03	mul.	W1	W2	mul.	°C	Ω
486,5	1	50	1,619	1,609	1,629	5	396,2	-297,3	5	73,3	0,8200
442,6	1	50	2,901	2,867	2,966	2	647,6	-456,9	2	73,3	0,8200
402,7	1	50	2,307	2,306	2,329	2	494,0	-323,8	2	73,1	0,8194
353,7	1	50	1,842	1,857	1,923	2	353,8	-200,7	2	73,0	0,8192
307,6	1	50	1,552	1,556	1,627	2	268,9	-127,8	2	72,7	0,8184
255,9	1	50	1,285	1,280	1,299	2	206,6	-72,2	2	72,5	0,8178
199,4	1	50	1,031	1,002	1,030	2	141,2	-19,7	2	72,2	0,8170
165,2	1	50	0,910	0,871	0,923	2	109,9	8,1	2	71,8	0,8160
132,1	1	50	0,835	0,799	0,850	2	87,7	25,5	2	71,4	0,8149
data calculation of no load											
V%	U0/UN	I0	P0	(U0/UN)^2	P0cu1	P0'					
121,6%	1,22	8,095	494,3	1,479	80,60	413,69					
110,7%	1,11	5,823	381,4	1,225	41,70	339,69					
100,7%	1,01	4,628	340,4	1,014	26,33	314,11					
88,4%	0,88	3,748	306,2	0,782	17,26	288,98					
76,9%	0,77	3,157	282,1	0,591	12,23	269,91					
64,0%	0,64	2,576	268,8	0,409	8,14	260,68					
49,8%	0,50	2,042	243,0	0,248	5,11	237,92					
41,3%	0,41	1,803	236,1	0,170	3,98	232,12					
33,0%	0,33	1,656	226,4	0,109	3,35	223,08					
RESULTS AT: 400 V											
N.L.AMP	4,57	N.L.LOSS(W)	338,44	Pw(W)	212,5	Pe(W)	100,1				

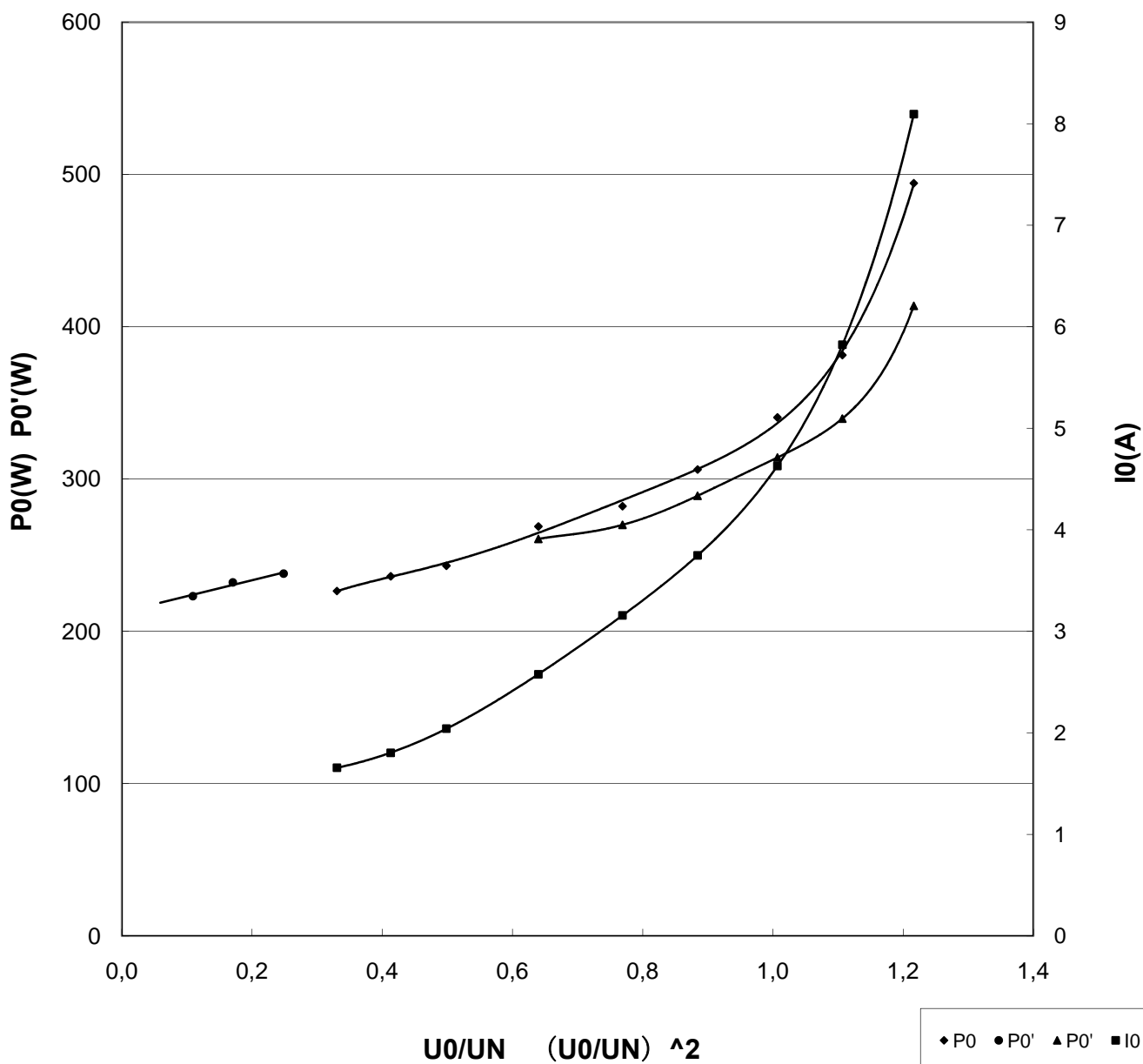
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Voltage	400	V	Current	13,7	A	Frequency	50,0 Hz	
Speed	2931	r/min	Duty	S1		Connection	Δ	
Ins.class	F		Weight	84	kg	IP55		

IE:3

No Load Curve



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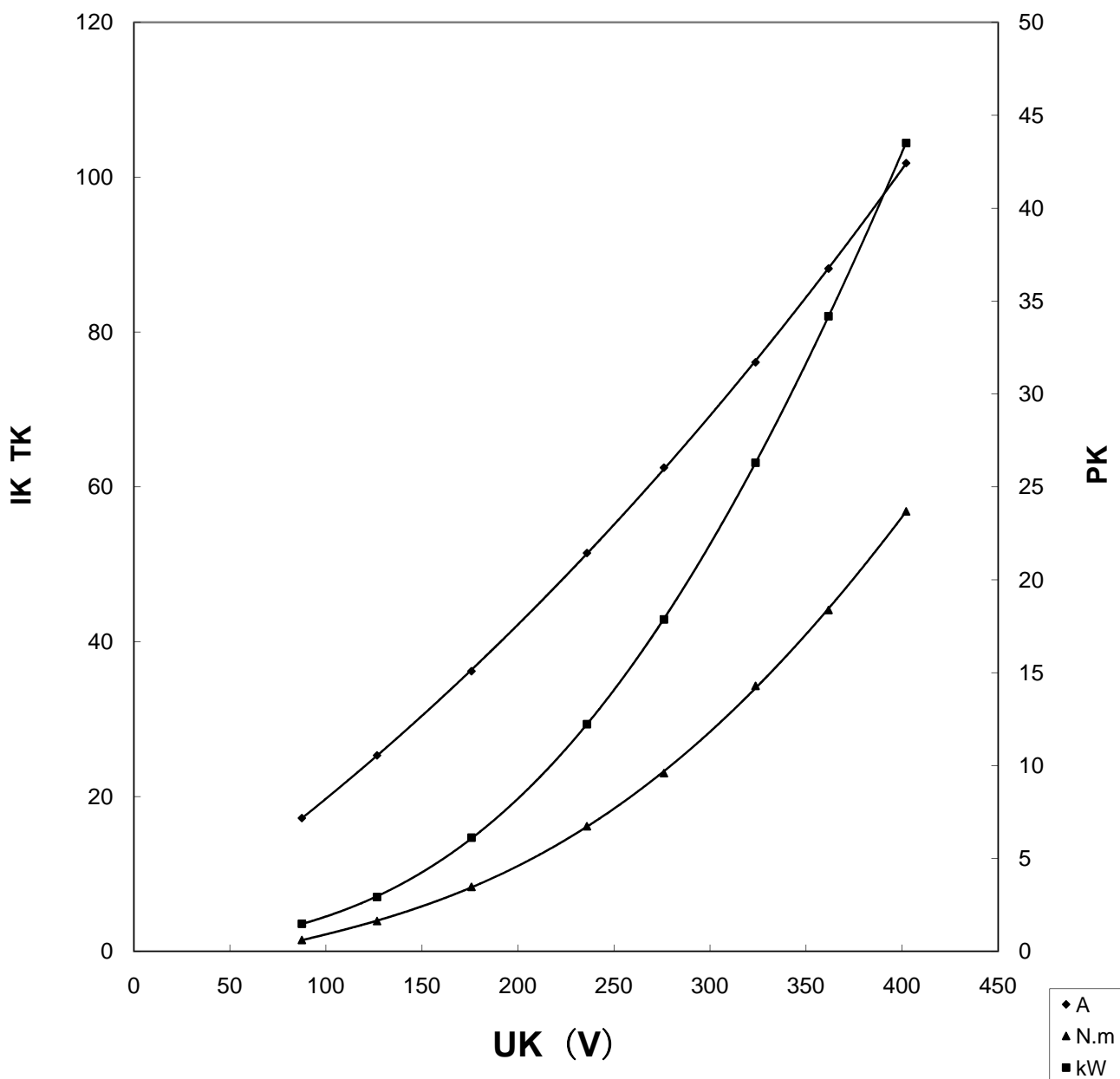
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Ins.class	F		Weight	84	kg	IP55			
LOCKED ROTOR TEST									
VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqu (kg.m)
402,1	1,0	2,032	2,039	2,038	50	854,4	15,7	50	5,80
361,7	1,0	1,762	1,766	1,765	50	667,4	16,3	50	4,50
323,7	1,0	1,520	1,524	1,523	50	514,9	11,1	50	3,50
276,0	1,0	3,113	3,130	3,130	20	893,2	0,0	20	2,35
235,9	1,0	2,564	2,578	2,577	20	623,6	-12,2	20	1,65
175,8	1,0	1,802	1,816	1,812	20	322,0	-15,9	20	0,85
126,6	1,0	1,261	1,269	1,268	20	159,3	-13,0	20	0,40
87,5	1,0	0,854	0,863	0,866	20	74,5	0,0	20	0,15
data calculation of locked rotor									
Uk	IK	PK	TK			LOGUk	LOGIk	LOGPk	LOGTk
V	A	kW	N.m						
402,11	101,82	43,505	56,84			2,6043	2,0078	1,6385	1,7547
361,68	88,20	34,185	44,10			2,5583	1,9455	1,5338	1,6444
323,68	76,10	26,300	34,30			2,5101	1,8814	1,4200	1,5353
276,00	62,48	17,864	23,03			2,4409	1,7958	1,2520	1,3623
235,89	51,46	12,228	16,17			2,3727	1,7115	1,0874	1,2087
175,79	36,20	6,122	8,33			2,2450	1,5587	0,7869	0,9206
126,63	25,32	2,926	3,92			2,1025	1,4035	0,4663	0,5933
87,47	17,22	1,490	1,47			1,9419	1,2360	0,1732	0,1673
performance collection of locked rotor									
		at rated volts		at rated current		at 2.5 times rated current		at 100V	
VOLTS (V)		400		70,456		165,2		100,0	
AMPS (A)		101,1		13,7		34,3		19,52	
INPUT (kW)		43,02				5,9		1,573	
TORQUE (N.m)		56,18							

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Speed	2931	r/min	Duty	S1	Connection	Δ		
Ins.class	F	Weight	84	kg		IP55		

Locked Rotor Curve



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Ins.class	F		Weight	84	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	
9,59	400,5	1,360	1,356	1,381	10	310,3	542,9	10	54,0	—	88,2	80,3	—	—	—	—	—	—	—	—	—	26,9
10,30	400,7	1,361	1,360	1,376	10	309,0	544,7	10	50,6	—	87,2	78,2	—	—	—	—	—	—	—	—	—	27,0
10,58	400,6	1,362	1,362	1,382	10	309,9	545,9	10	50,6	—	86,8	79,0	—	—	—	—	—	—	—	—	—	27,4
11,30	400,6	1,371	1,372	1,393	10	313,0	549,7	10	50,3	—	87,0	79,2	—	—	—	—	—	—	—	—	—	27,3
12,03	400,6	1,372	1,362	1,384	10	313,4	546,1	10	50,6	—	87,8	79,8	—	—	—	—	—	—	—	—	—	27,4
12,32	400,5	1,372	1,361	1,380	10	313,2	544,7	10	50,7	—	88,4	80,4	—	—	—	—	—	—	—	—	—	27,8
13,00	400,5	1,382	1,376	1,384	10	313,6	550,8	10	50,1	—	87,1	79,3	—	—	—	—	—	—	—	—	—	28,0
13,30	400,6	1,367	1,356	1,373	10	311,3	543,2	10	50,8	—	87,1	79,3	—	—	—	—	—	—	—	—	—	28,2
The average of the last three		13,722		A		8589,33		W	50,8	—	87,5	79,3	—	—	—	—	—	—	—	—	—	28,0

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)	52	67	82	96	112	124	144			
RESISTANCE (Ω)	0,8445	0,8419	0,8393	0,8366	0,8345	0,8326	0,8300			

WINDING RESISTANCE(COLD)

Δ	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	0,6934	0,6932	0,6951	0,69390	0,69320	25,9 °C
Y	U1-U2	V1-V2	W1-W2	AVERAGE	MIN	AMBIENT TEM.
						°C

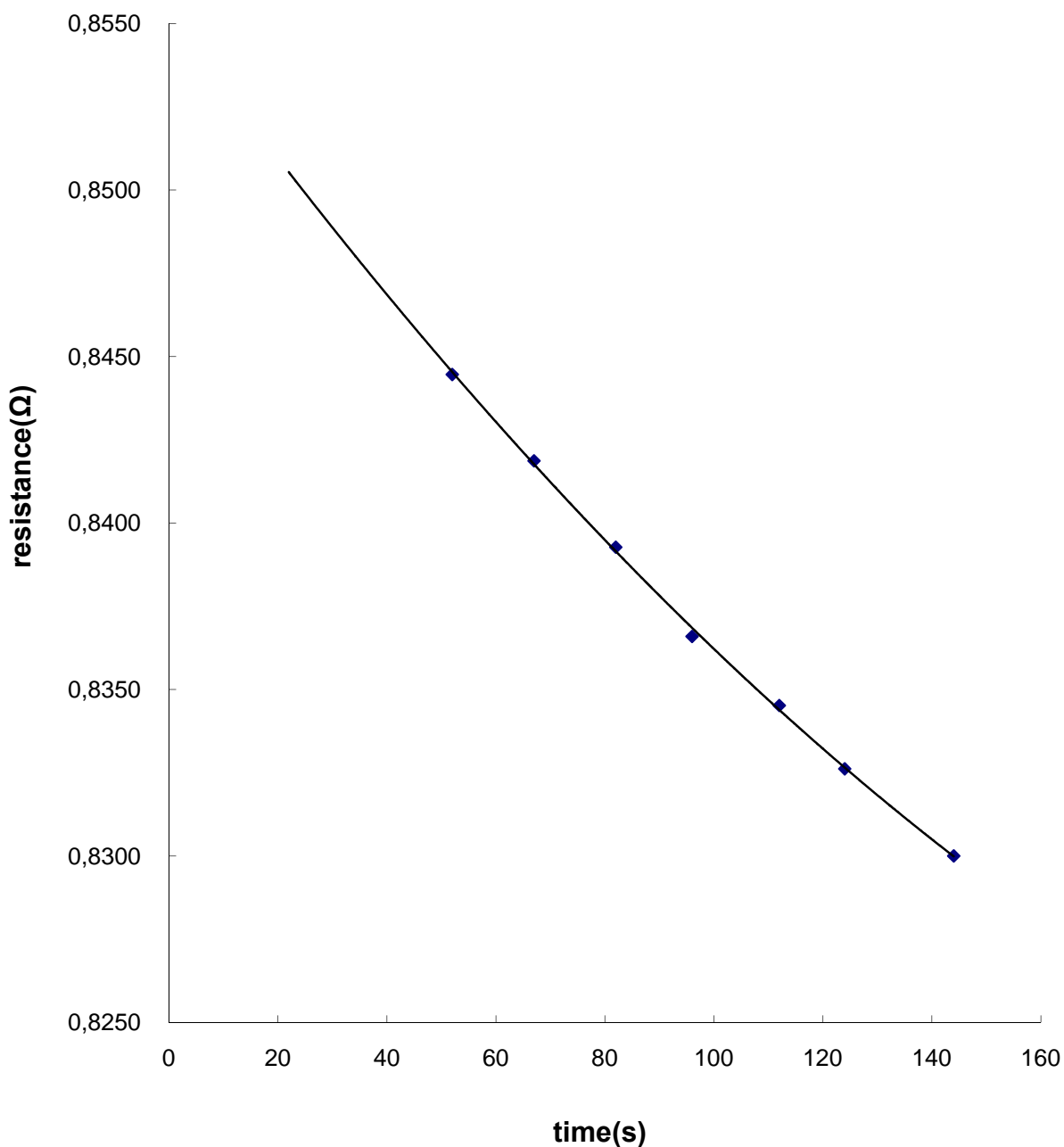
resistance value at 0 sec (Ω)	0,855281		calculation value of temp.rising	58,90	K
30 S (Ω)	0,848265		calculation value of temp.rising	56,26	K
full load curent	13,69 A		modify value of temp. rising	55,97	K

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Speed	2931	r/min	Duty	S1	Connection	Δ		
Ins.class	F	Weight	84	kg		IP55		

RESISTANCE CURVE



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IE:3

LOAD CURVE

