

VALIADIS S.A.

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

Type	K280S-4		Poles	4		Power	75,0	kW	IE:3
Voltage	400	V	Current	129,7	A	Frequency	50	Hz	
Speed	1488	r/min	Duty	S1		Connection	△		
Ins.class	F		Weight	688	kg	IP55			
MAJOR CONTENTS					TEST VALUE				
95,0 °C PHASE RESISTANCE OF WINDING					Ω	0,0569			
NO LOAD CURRENT					A	52,584			
NO LOAD INPUT					W	1370,75			
CORE LOSS(Pfe)					W	960,72			
WINDAGE FRICTION LOSS(Pfw)					W	264,04			
STATOR WINDING LOSS(Pcu1)					W	928,95			
ROTOR WINDING LOSS(Pcu2)					W	596,20			
STRAY LOAD LOSS(Ps)					W	483,90			
LOCKED ROTOR CURRENT					A	995,191			
LOCKED ROTOR INPUT @ FULL LOAD					W	302210			
LOCKED ROTOR TORQUE					N.m	1111,7			
PULL OUT TORQUE					N.m	1607,1			
LOCKED ROTOR CURRENT/RATED CURRENT					P.U	7,67			
LOCKED ROTOR TORQUE/RATED TORQUE					P.U	2,30			
PULL OUT TORQUE/RATED TORQUE					P.U	3,32			
FULL LOAD TORQUE					N.m	481,5			
FULL LOAD CURRENT					A	129,7			
FULL LOAD SLIP					%	0,781			
INPUT @ FULL LOAD					kW	78,234			
FULL LOAD SPEED					r/min	1488,3			
EFFICIENCY @ FULL LOAD					%	95,87			
EFFICIENCY @ 75% LOAD					%	95,88			
POWER FACTOR @ FULL LOAD						0,871			
STATOR WINDING TEMPERATURE RISE					K	51			
D.E. BEARINGS TEMPERATURE BY PT100					°C	27,0			
STATOR WINDING TEMPERATURE					°C	82,6			
High voltage test					V	1800	Imin		
Insulation resistance					MΩ	500			
NOISE(LW)					dB(A)	80			
VIBRATION					mm/s	0,8			

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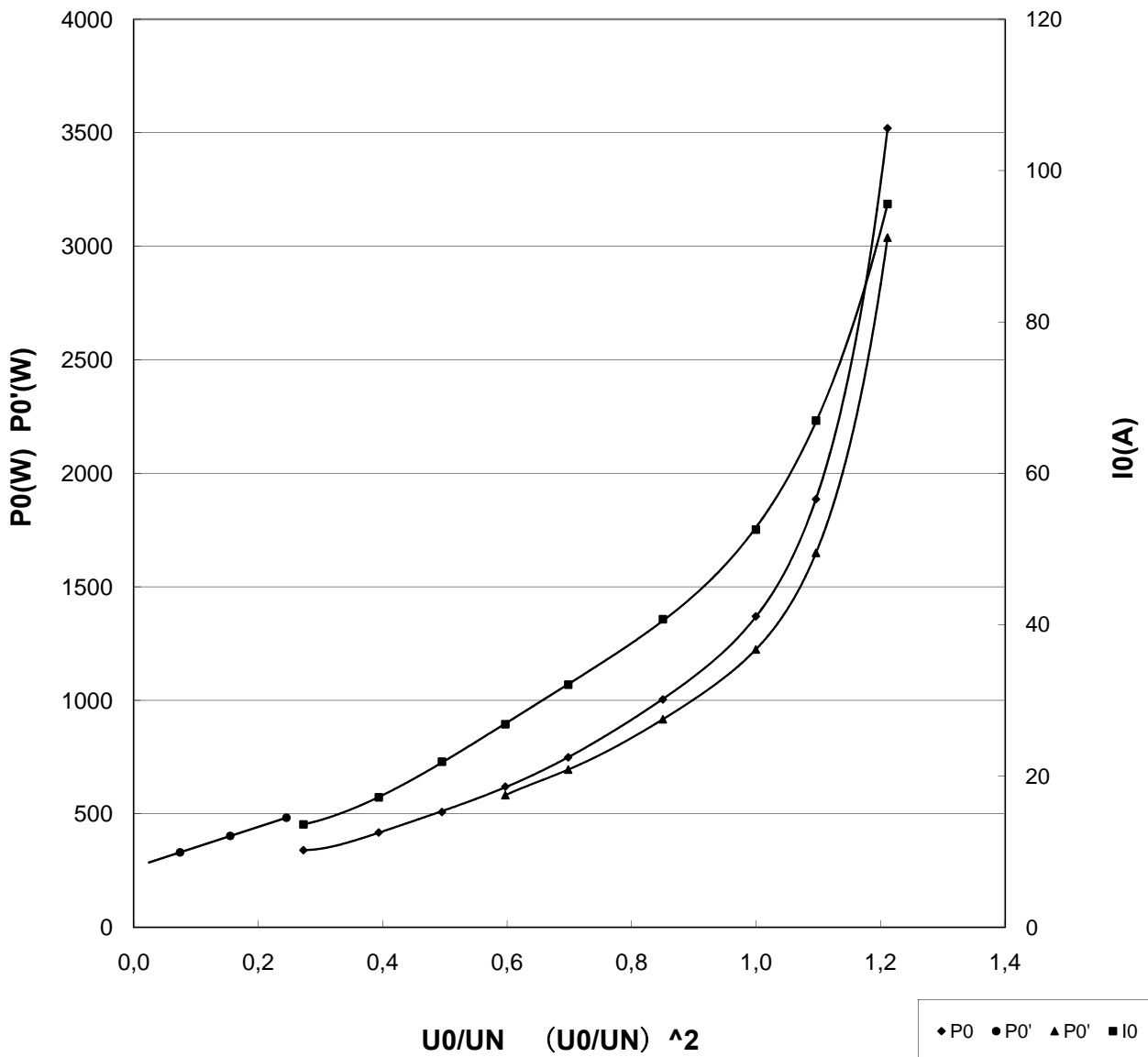
Type	K280S-4		Poles	4		Power	75,0 kW		IE:3		
Voltage	400	V	Current	129,7	A	Frequency	50 Hz				
Speed	1488	r/min	Duty	S1		Connection	△				
Ins.class	F		Weight	688	kg	IP55					
NO LOAD TEST											
VOL	mul.	HZ	I01	I02	I03	mul.	W1	W2	mul.	°C	Ω
484,5	1	50	1,920	1,916	1,899	50	472,5	-402,1	50	70,8	0,03518
438,5	1	50	3,420	3,332	3,293	20	755,2	-660,9	20	71,0	0,03520
399,9	1	50	2,686	2,614	2,584	20	541,7	-473,2	20	71,0	0,03520
340,1	1	50	2,118	2,015	1,974	20	364,3	-314,1	20	71,1	0,03521
279,3	1	50	3,362	3,151	3,107	10	480,5	-405,6	10	70,7	0,03517
238,8	1	50	2,824	2,632	2,593	10	349,8	-287,8	10	70,7	0,03517
198,1	1	50	2,321	2,145	2,100	10	242,6	-191,8	10	70,2	0,03511
157,5	1	50	1,845	1,678	1,631	10	158,1	-116,3	10	70,3	0,03512
109,1	1	50	1,493	1,301	1,286	10	53,6	-19,6	10	70,1	0,03510
data calculation of no load											
V%	U0/UN	I0	P0	(U0/UN)^2	P0cu1	P0'					
121,1%	1,21	95,583	3520,0	1,467	482,08	3037,92					
109,6%	1,10	66,967	1886,0	1,202	236,79	1649,21					
100,0%	1,00	52,560	1370,0	0,999	145,87	1224,13					
85,0%	0,85	40,713	1004,0	0,723	87,55	916,45					
69,8%	0,70	32,067	749,0	0,487	54,24	694,76					
59,7%	0,60	26,830	620,0	0,357	37,97	582,03					
49,5%	0,50	21,887	508,0	0,245	25,23	482,77					
39,4%	0,39	17,180	418,0	0,155	15,55	402,45					
27,3%	0,27	13,600	340,0	0,074	9,74	330,26					
RESULTS AT: 400 V											
N.L.AMP	52,58	N.L.LOSS(W)	1370,75	Pw(W)	264,0	Pe(W)	960,7				

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Type	K280S-4		Poles	4		Power	75,0 kW		IE:3
Voltage	400	V	Current	129,7	A	Frequency	50,0 Hz		
Speed	1488	r/min	Duty	S1		Connection	Δ		
Ins.class	F		Weight	688	kg	IP55			

No Load Curve



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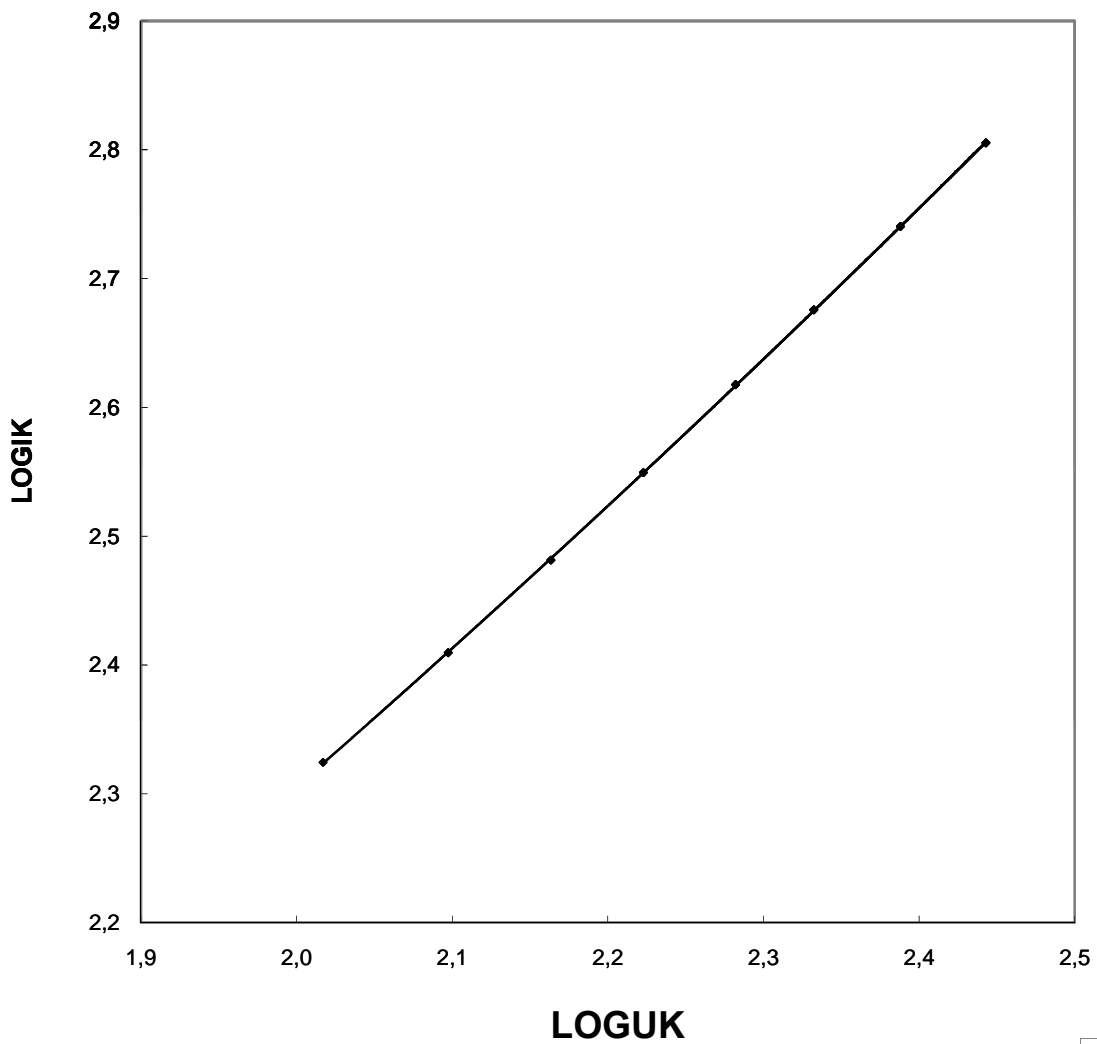
Type	K280S-4		Poles	4		Power	75,0		IE:3	kW
Voltage	400	V	Current	129,7	A	Frequency	50,0		Hz	
Speed	1488	r/min	Duty	S1		Connection	Δ			
Ins.class	F		Weight	688	kg		IP55			
LOCKED ROTOR TEST										
VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqu (kg.m)	
277,3	1,0	3,177	3,186	3,219	200,0	-136,7	780,8	200,0	46,7	
244,3	1,0	2,734	2,745	2,772	200,0	-109,2	588,3	200,0	35,5	
214,9	1,0	2,354	2,366	2,389	200,0	-86,7	442,8	200,0	26,9	
191,5	1,0	2,059	2,070	2,090	200,0	-69,2	343,7	200,0	20,3	
167,1	1,0	3,522	3,536	3,571	100,0	-109,5	508,4	100,0	15,1	
145,7	1,0	3,015	3,021	3,053	100,0	-84,3	377,7	100,0	11,1	
125,2	1,0	2,555	2,562	2,586	100,0	-63,1	273,6	100,0	7,9	
104,0	1,0	2,101	2,105	2,125	100,0	-44,1	186,1	100,0	5,4	
data calculation of locked rotor										
Uk	IK	PK	TK		LOGUk	LOGIk	LOGPk	LOGTk		
V	A	kW	N.m							
277,26	638,80	128,820	458,03		2,4429	2,8054	2,1100	2,6609		
244,32	550,09	95,820	347,73		2,3880	2,7404	1,9815	2,5412		
214,95	473,96	71,220	263,23		2,3323	2,6757	1,8526	2,4203		
191,47	414,63	54,900	198,54		2,2821	2,6177	1,7396	2,2979		
167,05	354,30	39,890	148,06		2,2229	2,5494	1,6009	2,1705		
145,68	302,97	29,340	108,43		2,1634	2,4814	1,4675	2,0352		
125,16	256,76	21,050	77,77		2,0975	2,4095	1,3233	1,8908		
104,00	211,03	14,200	52,72		2,0170	2,3243	1,1523	1,7220		
performance collection of locked rotor										
at rated volts		at rated current		at 2.5 times rated current		at 100V				
VOLTS (V)		400		68,341		153,4		100,0		
AMPS (A)		995,2		129,5		323,8		199,43		
INPUT (kW)		302,21				33,4		12,727		
TORQUE (N.m)		1111,66								

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ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

Type	K280S-4	Poles	4	Power	75,0	IE:3
Voltage	400 V	Current	129,7 A	Frequency	50,0	kW
Speed	1488 r/min	Duty	S1	Connection	Δ	Hz
Ins.class	F	Weight	688 kg			

LOCKED



VALIADIS S.A.

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

Type	K280S-4			Poles	4		Power	75	kW	IE:3		
Voltage	400	V		Current	129,7	A		Frequency	50	Hz		
Speed	1488	r/min		Duty	S1		Connection	Δ				
Ins.class	F			Weight	688	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
10,56	400,5	2,591	2,603	2,562	50	1102,3	531,1	50	25,0	—	69,5	68,8	—	—	—	—	—	—	25,7	25,2	25,1
11,26	400,2	2,557	2,573	2,537	50	1087,1	524,4	50	26,1	—	73,8	72,7	—	—	—	—	—	—	26,5	25,9	26,1
11,56	400,4	2,572	2,596	2,549	50	1094,5	531,9	50	26,0	—	75,6	75,3	—	—	—	—	—	—	26,4	26,1	26,1
12,26	399,4	2,580	2,597	2,559	50	1094,8	530,4	50	26,3	—	78,2	77,3	—	—	—	—	—	—	26,9	26,5	26,4
12,56	400,0	2,632	2,647	2,606	50	1118,8	544,3	50	26,4	—	80,3	79,3	—	—	—	—	—	—	27,0	26,8	26,7
13,27	400,0	2,612	2,626	2,586	50	1110,0	541,5	50	26,1	—	80,2	80,2	—	—	—	—	—	—	27,2	26,5	26,3
13,57	400,3	2,606	2,624	2,581	50	1108,8	542,1	50	26,8	—	82,5	81,3	—	—	—	—	—	—	28,4	27,8	27,2
14,27	400,5	2,604	2,615	2,576	50	1108,1	535,7	50	27,0	—	82,6	81,9	—	—	—	—	—	—	26,5	28,0	27,4
The average of the last three		130,166			A	82436,7		W	27,0	—	81,8	81,9	—	—	—	—	—	—	26,5	28,0	27,0

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)	48	65	75	89	102	116	129			
RESISTANC	0,03643	0,03626	0,03617	0,03608	0,03600	0,03593	0,03588			

WINDING RESISTANCE(COLD)

Δ	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	0,02968	0,02955	0,0296	0,02961	0,02955	22,4 °C
Y	U1-U2	V1-V2	W1-W2	AVERAGE	MIN	AMBIENT TEM.
						°C

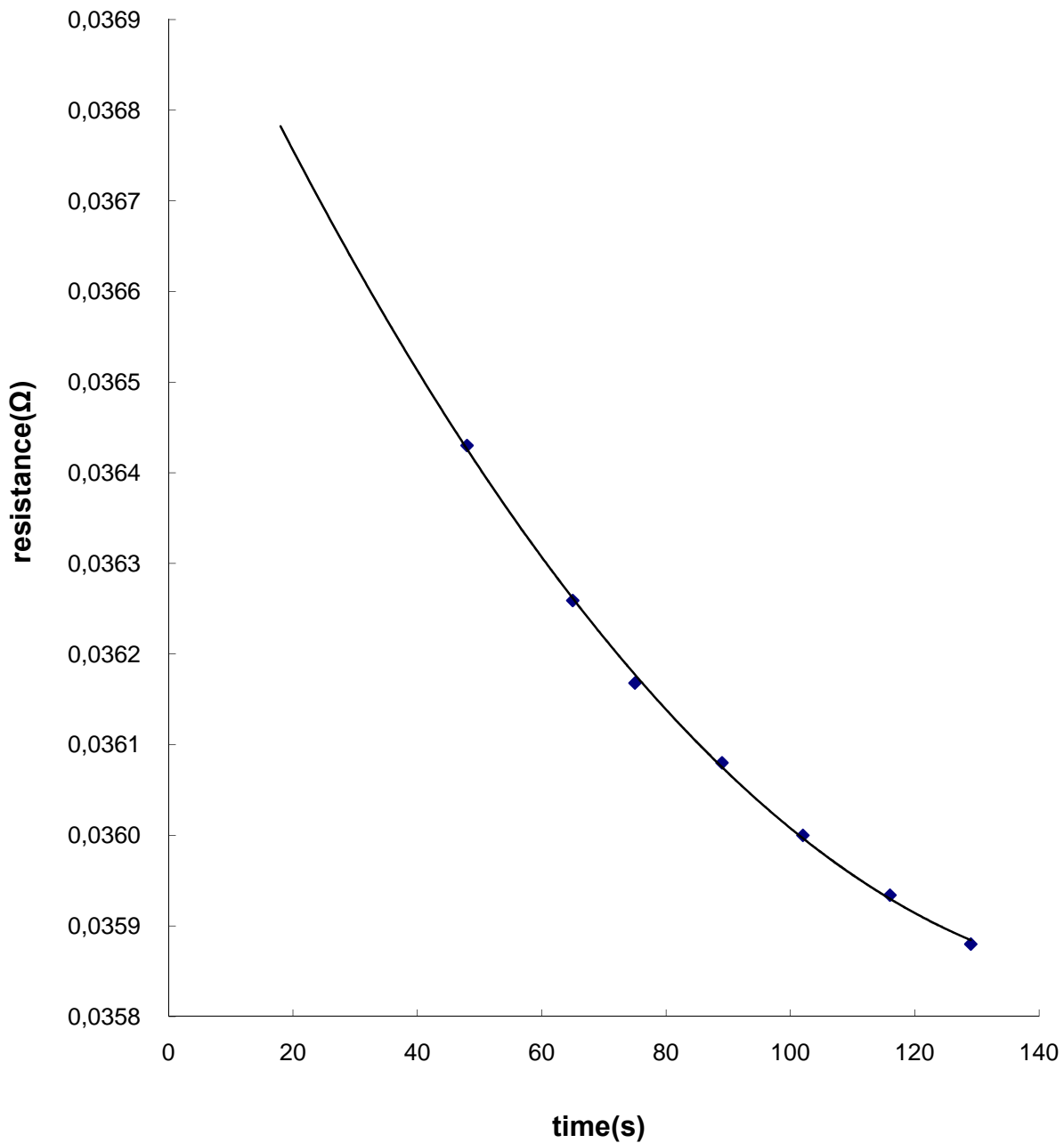
resistance value at 0 sec (Ω)	0,037036	calculation value of temp.rising	60,64	K
90 S (Ω)	0,036019	calculation value of temp.rising	51,79	K
full load curent	129,65 A	modify value of temp. rising	51,38	K

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Type	K280S-4		Poles	4		output Power	75,0	IE:3 kW
Voltage	400	V	Current	129,7	A	Frequency	50,0	Hz
Speed	1488	r/min	Duty	S1		Connection	Δ	
Ins.class		F	Weight	688	kg		IP55	

RESISTANCE CURVE



VALIADIS S.A.**ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR**

											IE:3	
Type	K280S-4		Poles	4		Power	75,0		kW			
Voltage	400	V	Current	129,7	A	Frequency	50,0		Hz			
Speed	1488	r/min	Duty	S1		Connection	Δ					
Ins.class	F		Weight	688	kg	IP55						
LOAD TEST												
V	HZ	I1	I2	I3	mul.	W1	W2	mul.	r/min	Resistance Ω	Temperature °C	Torqur N.m
399,5	49,98	3,852	3,873	3,830	50	1568,7	804,3	50	1480,4	0,0363	80,8	728,08
400,3	49,98	3,180	3,202	3,153	50	1298,1	653,5	50	1484,3	0,0365	82,5	600,19
400,0	49,98	2,835	2,840	2,800	50	1155,3	562,6	50	1486,3	0,0366	82,9	528,55
400,4	49,98	2,596	2,608	2,571	50	1058,3	504,5	50	1487,6	0,0365	82,7	481,07
400,5	49,98	2,365	2,390	2,344	50	963,1	443,9	50	1488,8	0,0365	82,4	433,35
400,5	49,98	1,922	1,953	1,915	50	776,2	312,3	50	1491,5	0,0364	81,2	334,59
400,6	49,98	1,566	1,570	1,552	50	617,2	178,2	50	1493,8	0,0364	81,3	242,31
400,5	49,98	2,986	3,220	2,883	20	1034,5	-34,9	20	1496,8	0,0364	81	118,45
399,8	50,0	2,751	2,540	2,748	20,0	640,1	-471,0	20	1499,2	0,0360	78,0	11,19
399,5	50,0	2,736	2,508	2,736	20,0	597,1	-518,4	20	1500,0	0,0357	75,3	0,00
slope A= 0,00208		intercept B= -85,05			relative coefficient r=		0,993					
LOAD %	P2 W	I A	P1 W	Pcu1s W	Ss %	Pcu2s W	Ps W	Pz W	N.m	EFF %	P.F	
150,0	112500	192,05	118314,9	2036,4	1,259	1452,3	1099,1	5812,5	726,3	95,09	0,889	
125,0	93750	159,77	98109,6	1409,4	1,005	962,5	759,3	4355,9	603,7	95,56	0,886	
100,0	75000	129,72	78234,0	929,0	0,781	596,2	483,9	3233,8	481,9	95,87	0,871	
75,0	56250	102,31	58665,5	577,9	0,572	326,6	271,8	2401,1	361,2	95,88	0,828	
50,0	37500	77,75	39319,9	333,8	0,367	139,7	119,8	1818,0	239,8	95,37	0,730	
25,0	18750	60,82	20243,7	204,2	0,175	33,5	30,2	1492,6	120,3	92,62	0,480	

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Voltage	400	V	Current	129,7	A	Frequency	50,0	Hz
Speed	1488	r/min	Duty	S1		Connection	Δ	
Ins.class	F		Weight	688	kg	IP55		

LOAD CURVE

