

VALIADIS S.A.

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

Type	K355L-4	Poles	4	Power	315,0	kW	IE:2	
Voltage	400	V	Current	531,2	A	Frequen	50	Hz
Speed	1490	r/min	Duty	S1	Connect	Δ		
Ins.class	F					IP55		
MAJOR CONTENTS				TEST VALUE				
STATOR RESISTANCE OF PHASE		Ω					0,01096	
NO LOAD CURRENT		A					122,060	
NO LOAD INPUT		W					4591,90	
CORE LOSS(Pfe)		W					3023,50	
WINDAGE FRICTION LOSS(Pfw)		W					1411,20	
STATOR WINDING LOSS(Pcu1)		W					3273,30	
ROTOR WINDING LOSS(Pcu2)		W					2652,50	
STRAY LOAD LOSS(Ps)		W					5319,00	
FULL LOAD CURRENT		A					537,6	
LOCKED ROTOR CURRENT		A					3796,670	
LOCKED ROTOR CURRENT/FULL LOAD CURRENT		P.U.					7,15	
FULL LOAD TORQUE		N.m.					2021,82	
LOCKED ROTOR TORQUE		N.m.					4504,93	
LOCKED ROTOR TORQUE / FULL LOAD TORQUE		P.U.					2,23	
PULL OUT TORQUE		N.m.					5946,14	
PULL OUT TORQUE/FULL LOAD TORQUE		P.U.					2,94	
INPUT @ FULL LOAD		kW					330,56	
EFFICIENCY @ FULL LOAD		%					95,30	
POWER FACTOR @ FULL LOAD							0,888	
FULL LOAD SLIP		%					0,818	
FULL LOAD SPEED		r/min					1487,7	
STATOR WINDING TEMPERATURE RISE		K					66	
D.E.BEARINGS TEMPERATURE BY PT100		Deg.C					59,2	
AMBIENT TEMPERATURE OF TESTING		Deg.C					15,3	
HIGH VOLTAGE TEST		V					1800	
INSULATION RESISTANCE		MΩ					500	
NOISE		dB(A)					92	
VIBRATION		mm/s					1,0	

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Ins.class	F				IP55	

NO LOAD TEST

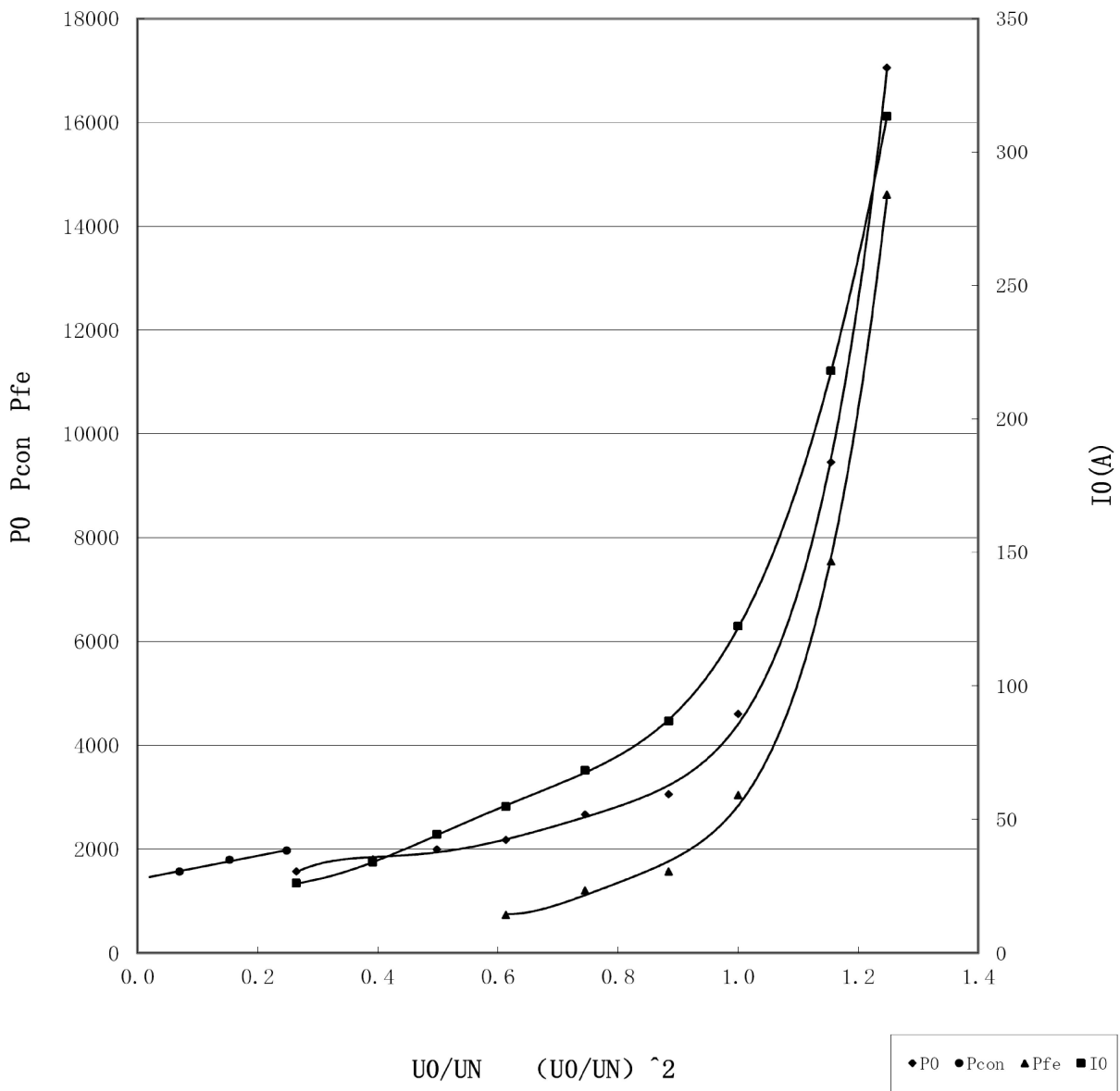
VOL	mul.	HZ	I01	I02	I03	mul.	W1	W2	W3	°C
499,2	1	50	0,0623	0,0644	0,0614	5000	0,66	1,24	1,51	81,1
462,1	1	50	0,0437	0,0440	0,0431	5000	0,51	0,68	0,70	81,1
400,2	1	50	0,0247	0,0245	0,0242	5000	0,26	0,36	0,30	80,5
353,8	1	50	0,0172	0,0176	0,0172	5000	0,18	0,22	0,21	79,0
298,2	1	50	0,0136	0,0131	0,0142	5000	0,19	0,16	0,19	78,5
245,3	1	50	0,0112	0,0106	0,0109	5000	0,13	0,14	0,17	78,5
199,5	1	50	0,0093	0,0087	0,0086	5000	0,11	0,15	0,14	77,8
156,8	1	50	0,0067	0,0067	0,0068	5000	0,11	0,12	0,13	77,4
105,9	1	50	0,0050	0,0053	0,0053	5000	0,10	0,10	0,11	77,1

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Speed	1490 r/min	Duty	S1	Connection	Δ	Hz
Ins.class	F				IP55	

No Load Curve



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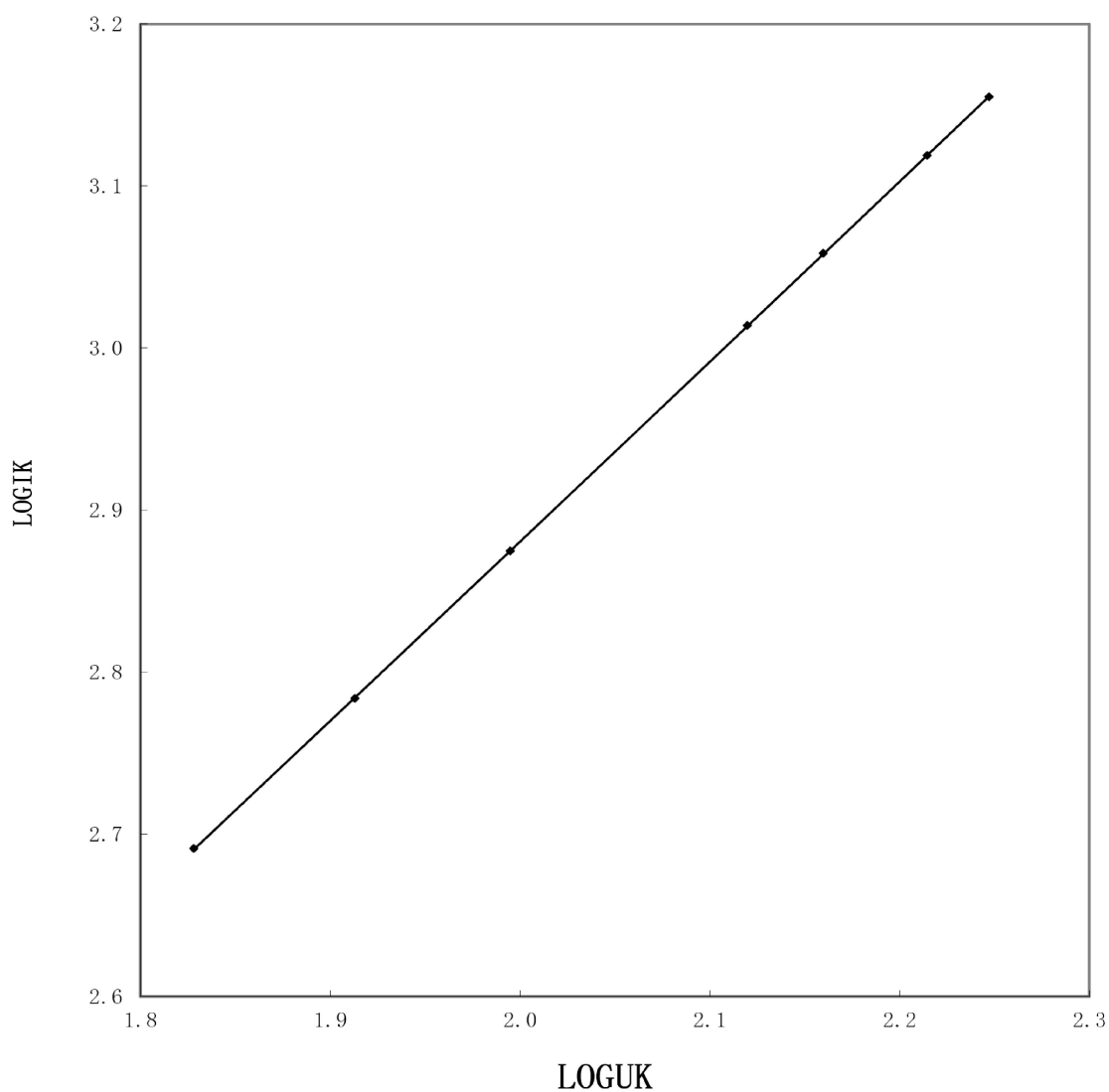
Type	K355L-4		Poles	4		Power	315,0		IE:2
Voltage	400	V	Current	531,2	A	Frequency	50,0		kW
Speed	1490	r/min	Duty	S1		Connection	Δ		Hz
Ins.class	F						IP55		
LOCKED ROTOR TEST									
VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torque (N.m)
176,7	1,0	3,541	3,578	3,596	400	-134,5	442,4	400	637,89
163,9	1,0	3,259	3,292	3,310	400	-116,0	376,6	400	539,91
144,5	1,0	2,836	2,865	2,878	400	-91,6	287,7	400	405,93
131,8	1,0	2,559	2,587	2,597	400	-76,6	236,0	400	329,89
98,8	1,0	1,858	1,879	1,882	400	-43,6	127,7	400	174,13
81,9	1,0	1,508	1,526	1,524	400	-30,0	85,8	400	115,70
67,3	1,0	1,218	1,235	1,229	400,0	-20,4	57,1	400	76,20

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Speed	1490 r/min	Duty	S1	Connection	Δ	Hz
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LOCKED



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Type	K355L-4		Poles	4		Power	315 kW		IE:2	
Voltage	400	V	Current	531,2	A	Frequency	50 Hz			
Speed	1490	r/min	Duty	S1		Connection	Δ			
Ins.class	F						IP55			

TEMPERATURE RISE TEST

TIME (h:min)	V	I1	I2	I3	mul.	W1	W2	W3	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	
11:30	400,2	0,108	0,111	0,108	5000	22,0	22,7	22	53,0	—	87,9	80,6	—	—	—	—	—	—	—	—	—	13,6
12:00	400,3	0,109	0,111	0,107	5000	22,2	22,9	22	56,3	—	90,5	83,1	—	—	—	—	—	—	—	—	—	13,9
12:30	402,0	0,109	0,109	0,108	5000	22,4	22,5	22	58,9	—	92,1	84,6	—	—	—	—	—	—	—	—	—	14,1
13:00	400,5	0,109	0,112	0,108	5000	22,3	23,1	22	59,6	—	93,7	86,1	—	—	—	—	—	—	—	—	—	14,5
13:30	400,0	0,109	0,111	0,108	5000	22,1	22,9	22	59,3	—	95,0	87,3	—	—	—	—	—	—	—	—	—	14,8
14:00	400,4	0,109	0,111	0,108	5000	22,2	22,7	22	59,5	—	95,9	88,2	—	—	—	—	—	—	—	—	—	15,1
14:30	400,3	0,109	0,109	0,108	5000	22,3	22,5	22	59,2	—	96,4	88,7	—	—	—	—	—	—	—	—	—	15,3
15:00	400,2	0,109	0,110	0,107	5000	22,4	22,6	22	59,2	—	96,8	89,2	—	—	—	—	—	—	—	—	—	15,4

The average of the last three	545,722		A		335500,0	W	59,2	—	96,4	88,7	—	—	—	—	—	—	—	—	—	—	—	15,3
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T1 T2 : DE BEARING TEMPERATURE T9: AIR INLET TEMPERATURE T11 : CORE TEMPERATRE T12: FRAME TEMPERATRE
T3~T10 : DE WINDING TEMPERATURE T10: AIR OUTLET TEMPERATURE T13 : AMBIENT TEMPERATURE

WINDING RESISTANCE (HOT) AT END OF TEMPERATURE RISE TEST

TIME (S)	65	95	125	155	185	215	245	275		
RESISTANCE	0,00709	0,00707	0,00704	0,00702	0,00700	0,00698	0,00695	0,00693		

WINDING RESISTANCE(COLD)

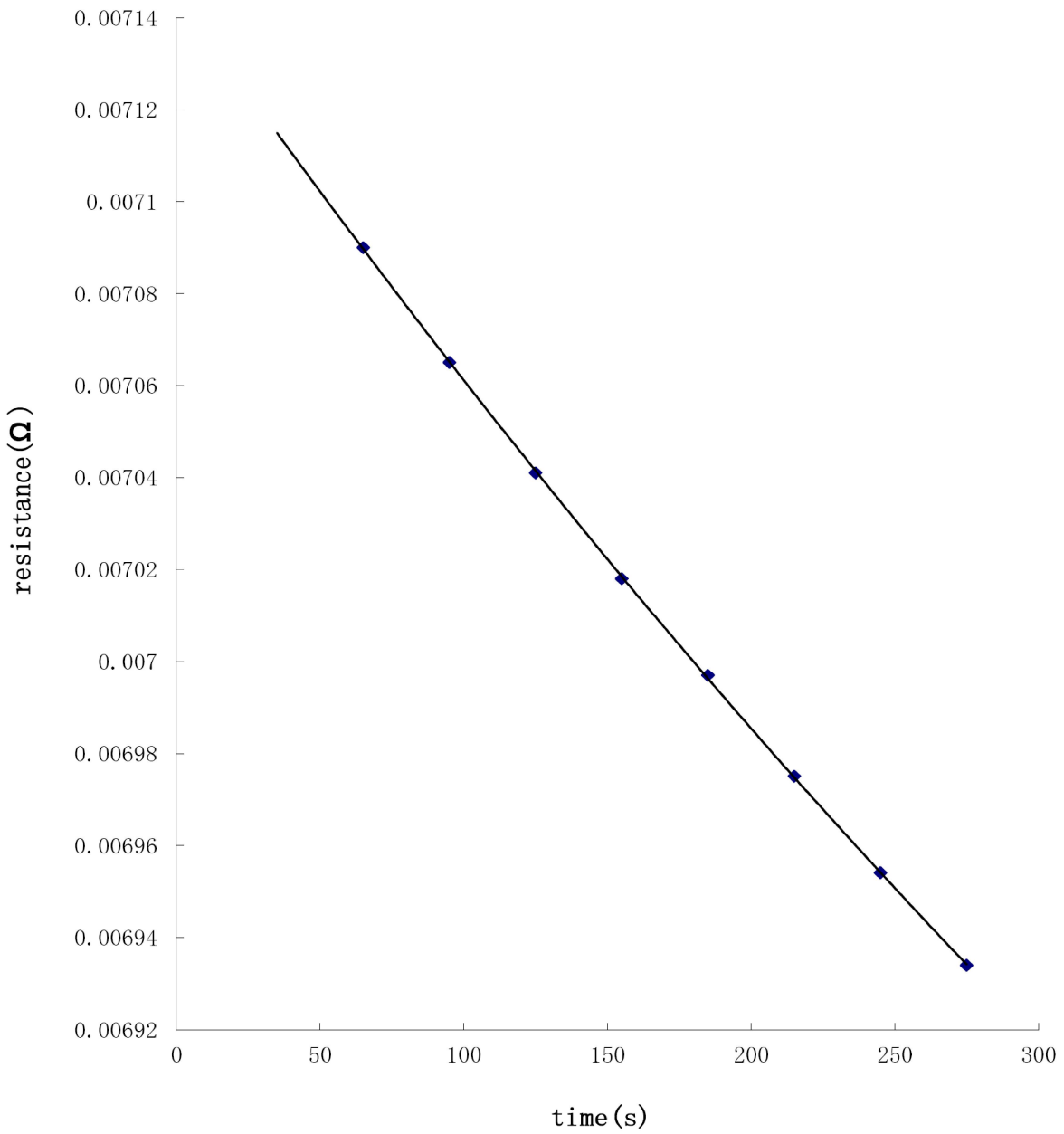
	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	0,005466	0,005467	0,005469	0,00547	0,00547	11,9 °C

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Speed	1490	r/min	Duty	S1		Connection	Δ	Hz
Ins.class		F					IP55	

RESISTANCE CURVE



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Speed	1490 r/min	Duty	S1	Connection	Δ		
Ins.class	F				IP55		

LOAD TEST

V	HZ	I1	I2	I3	mul.	W1	W2	W3	r/min	Temperature °C	Torque N.m
400,1	50,00	0,167	0,172	0,165	5000	33,3	34,8	33,5	1478,5	96,5	3060,0
399,7	49,99	0,134	0,135	0,131	5000	27,0	27,7	26,8	1483,7	97,9	2470,3
400,2	49,98	0,109	0,110	0,108	5000	22,3	22,6	22,1	1487,2	98,1	2030,2
400,5	500,00	0,083	0,084	0,082	5000	16,9	17,1	16,7	1491,6	96,8	1535,3
400,4	49,98	0,059	0,059	0,059	5000	11,3	11,5	11,3	1495	94,8	1029,7
400,01	50,00	0,038	0,038	0,038	5000	5,9	6,1	5,9	1498,6	92,9	523,9

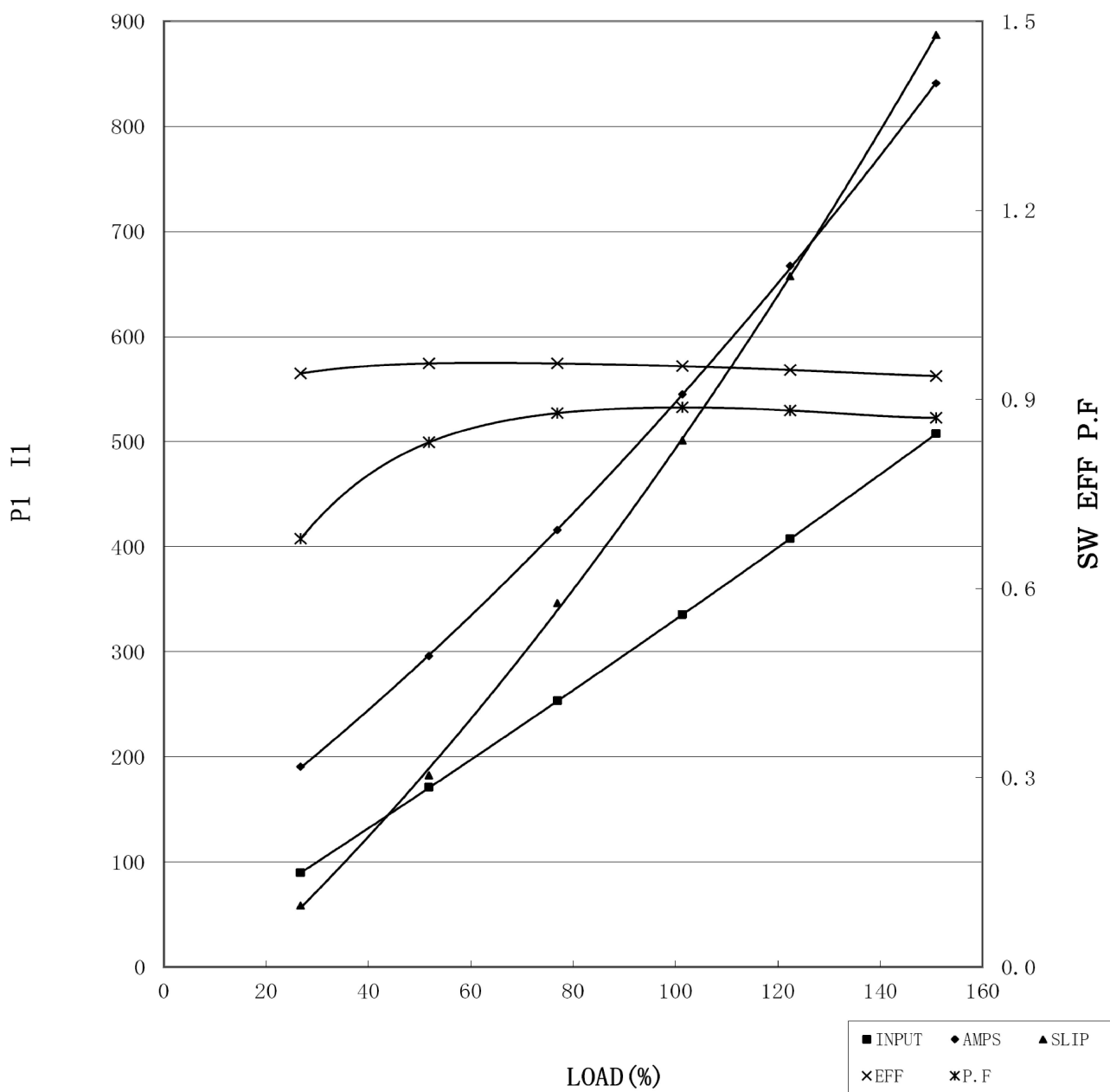
LOAD %	P2 W	I A	P1 W	Pcu1s W	Ss %	Pcu2s W	Ps W	Pfe W	EFF %	P.F
150,0	472500	834,80	504016,1	7892,7	1,463	7215,8	12124,9	2883,4	93,75	0,871
125,0	393750	682,50	416354,9	5275,1	1,125	4592,8	8362,7	2895,1	94,59	0,881
100,0	315000	537,60	330564,6	3273,3	0,818	2652,5	5319,0	2936,3	95,30	0,888
75,0	236250	406,40	246829,3	1870,4	0,549	1327,9	2975,8	2969,7	95,71	0,877
50,0	157500	287,90	164643,6	938,6	0,280	449,6	1315,4	2991,3	95,61	0,826
25,0	78750	184,70	83878,0	386,2	0,090	72,3	327,6	3001,1	94,00	0,656

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Speed	1490	r/min	Duty	S1	Connection	Δ	
Ins.class	F					IP55	

LOAD CURVE



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Ins.class	F				IP55	

TORQUE&CURRENT VS SPEED

