

# VALIADIS S.A.

## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

Type	K112M-2	Poles	2	Power	4,0	KW
Voltage	400 V	Current	7,1 A	Frequency	50	HZ
Speed	2885 r/min	Duty	S1	Connection	△	
Ins.class	F	Weight	47 Kg		IP55	

### NO LOAD TEST

VOL	mul.	HZ	I01	I02	I03	mul.	W1	W2	mul.	°C	Ω
465,5	1	50	1,572	1,579	1,551	2	439,0	-303,7	2	68,3	2,76177
424,3	1	50	1,218	1,218	1,218	2	311,6	-204,6	2	68,1	2,75994
400,9	1	50	1,095	1,095	1,075	2	270,4	-173,2	2	67,7	2,75630
344,9	1	50	1,732	1,770	1,709	1	385,6	-226,4	1	65,9	2,73991
308,2	1	50	1,499	1,535	1,476	1	309,4	-164,4	1	65,5	2,73627
264,4	1	50	1,256	1,292	1,239	1	233,3	-105,6	1	65,3	2,73445
199,6	1	50	0,939	0,975	0,954	1	145,6	-38,2	1	64,7	2,72899
162,1	1	50	0,782	0,788	0,797	1	104,7	-10,3	1	64,4	2,72625
120,7	1	50	0,673	0,657	0,644	1	73,8	8,3	1	64,2	2,72443
79,8	1	50	0,623	0,659	0,639	1	52,8	20,2	1,0	63,9	2,72170

### data calculation of no load

V%	U0/UN	I0	P0	(U0/UN)^2	P0cu1	P0'	COSφ
116,4%	1,16	3,135	270,6	1,354	40,71	229,89	0,107
106,1%	1,06	2,436	214,0	1,125	24,57	189,43	0,120
100,2%	1,00	2,177	194,4	1,005	19,59	174,81	0,129
86,2%	0,86	1,737	159,2	0,743	12,40	146,80	0,153
77,1%	0,77	1,503	145,0	0,594	9,28	135,72	0,181
66,1%	0,66	1,262	127,7	0,437	6,54	121,16	0,221
49,9%	0,50	0,956	107,4	0,249	3,74	103,66	0,325
40,5%	0,41	0,789	94,4	0,164	2,55	91,85	0,426
30,2%	0,30	0,658	82,1	0,091	1,77	80,33	0,597
20,0%	0,20	0,640	73,0	0,040	1,67	71,33	0,825

RESULTS AT: 400 V

N.L.AMP	2,167	N.L.LOSS(W)	193,68	Pw(W)	65,8	Pe(W)	108,4	P.F	0,13
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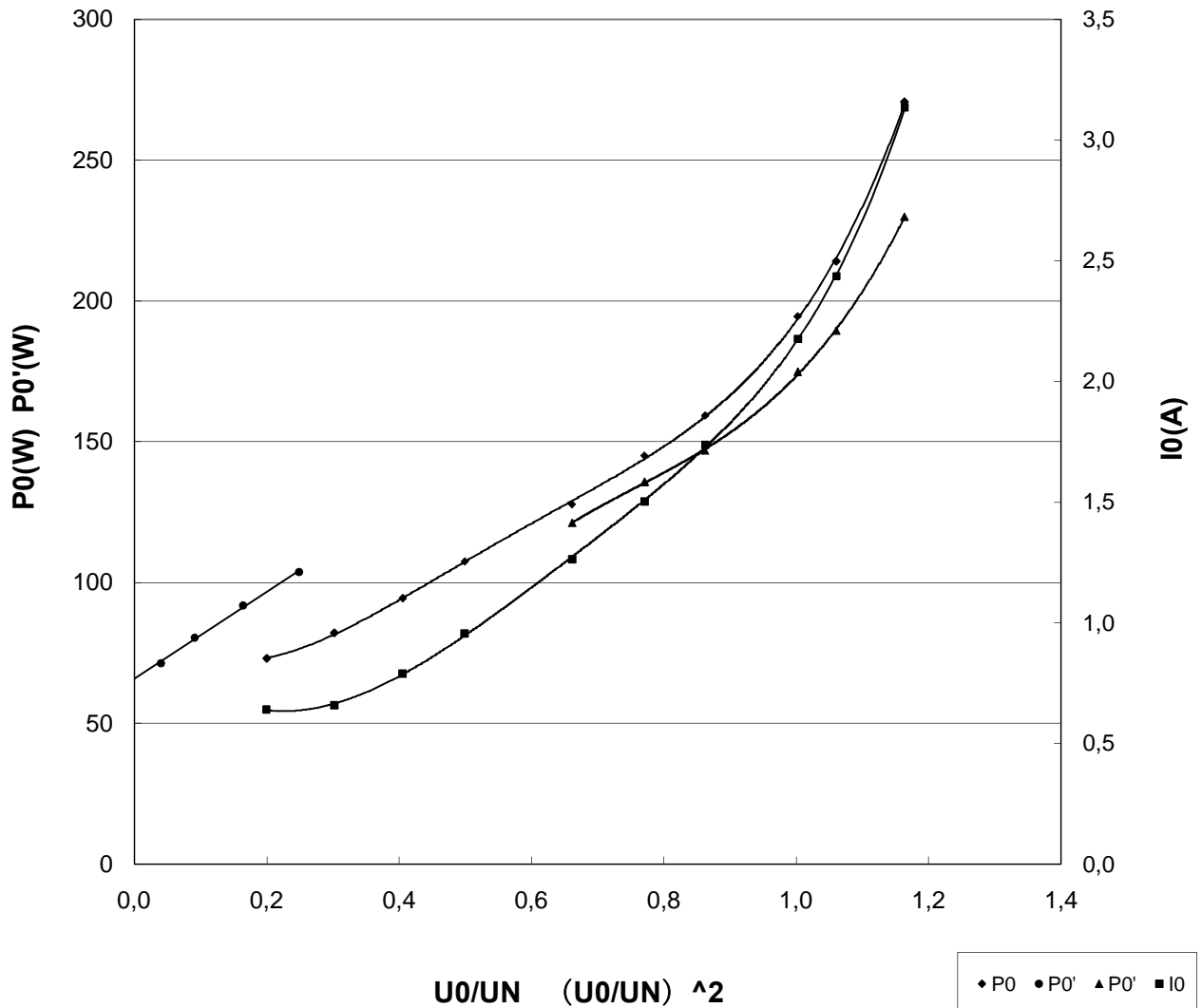
<b>VALIADIS S.A.</b>	Manufacturing Date		Serial No	
	Test Date		Report Number	
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### No Load Curve



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Ins.class	F	Weight	47 Kg		IP55	

**LOCKED ROTOR TEST**

VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torqur ( Kg.m)
400,8	1	3,033	3,008	3,027	20	185,8	1131,2	20	3,60
356,7	1	2,569	2,543	2,559	20	156,6	857,3	20	2,80
307,4	1	2,138	2,109	2,119	20	109,9	612,4	20	2,00
257,3	1	1,727	1,696	1,702	20	68,8	411,0	20	1,30
197,5	1	2,546	2,497	2,196	10	60,2	458,8	10	0,70
160,0	1	1,992	1,959	1,956	10	30,8	288,9	10	0,50
122,5	1	2,952	2,910	2,898	5	25,5	323,6	5	0,30

**data calculation of locked rotor**

UK V	IK A	PK KW	TK N.m	cosφ	LOGUK	LOGIK	LOGPK	LOGTK
400,80	60,45	26,340	35,28	0,628	2,6029	1,7814	1,4206	1,5475
356,70	51,14	20,278	27,44	0,642	2,5523	1,7088	1,3070	1,4384
307,40	42,44	14,446	19,60	0,639	2,4877	1,6278	1,1597	1,2923
257,30	34,17	9,596	12,74	0,630	2,4104	1,5336	0,9821	1,1052
197,50	24,13	5,190	6,86	0,629	2,2956	1,3826	0,7152	0,8363
160,00	19,69	3,197	4,90	0,586	2,2041	1,2942	0,5047	0,6902
122,50	14,60	1,746	2,94	0,563	2,0881	1,1644	0,2419	0,4683

**performance collection of locked rotor**

	at rated volts	at rated current	at 2.5 times rated current	at 100V
VOLTS ( V )	400	67,245	143,6	100,0
AMPS ( A )	60,3	7,1	17,75	11,546
INPUT ( KW )	26,230		2,3	0,875
TORQUE ( N.m)	35,138			

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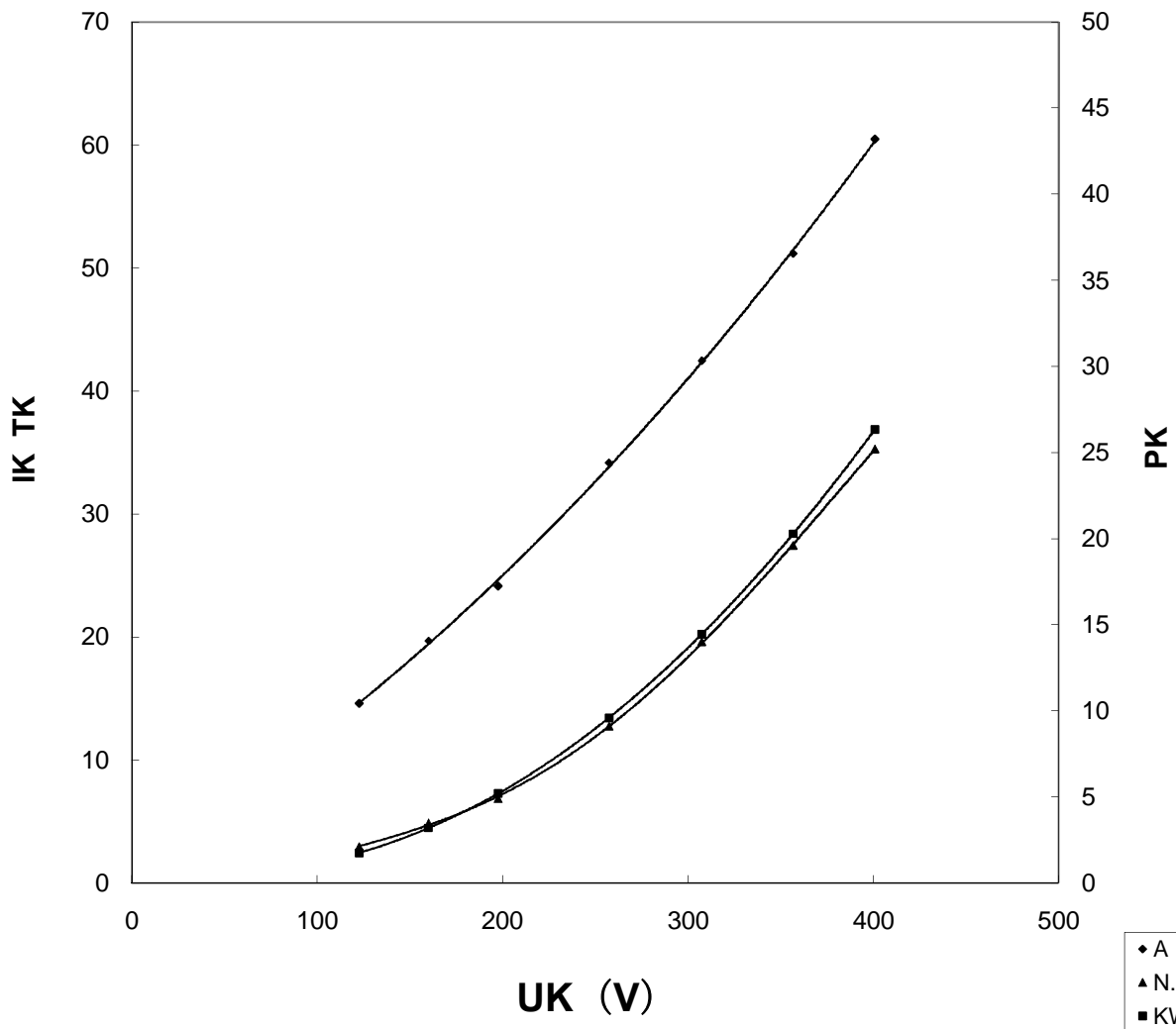
Test Kind

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## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

Type	K112M-2	Poles	2	Power	4,0	KW		
Voltage	400	V	Current	7,1	A	Frequency	50	HZ
Speed	2885	r/min	Duty	S1	Connection	△		
Ins.class	F	Weight	47	Kg	IP55			

### Locked Rotor Curve



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**ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR**

Type	K112M-2	Poles	2	Power	4	KW
Voltage	400 V	Current	7,1 A	Frequency	50	HZ
Speed	2885 r/min	Duty	S1	Connection	Δ	
Ins.class	F	Weight	47 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
9,06	400,2	1,495	1,508	1,506	5,0	356,5	601,2	5,0	39,5	87,6	87,2	45,5	33,4	18,1
9,32	400,2	1,499	1,505	1,503	5,0	358,9	600,4	5,0	38,7	84,5	84,9	43,7	38,7	18,0
10,01	400,2	1,510	1,523	1,520	5,0	360,5	607,1	5,0	38,0	83,9	84,2	42,8	38,0	17,6
10,29	400,4	1,514	1,521	1,517	5,0	361,3	606,4	5,0	37,5	83,6	83,9	43,0	37,5	17,8
11,02	400,4	1,518	1,518	1,525	5,0	364,1	605,2	5,0	37,9	83,7	84,0	43,7	37,9	18,3
			7,592		A	4866		W	37,9	83,7	87,2	43,2	37,9	17,9

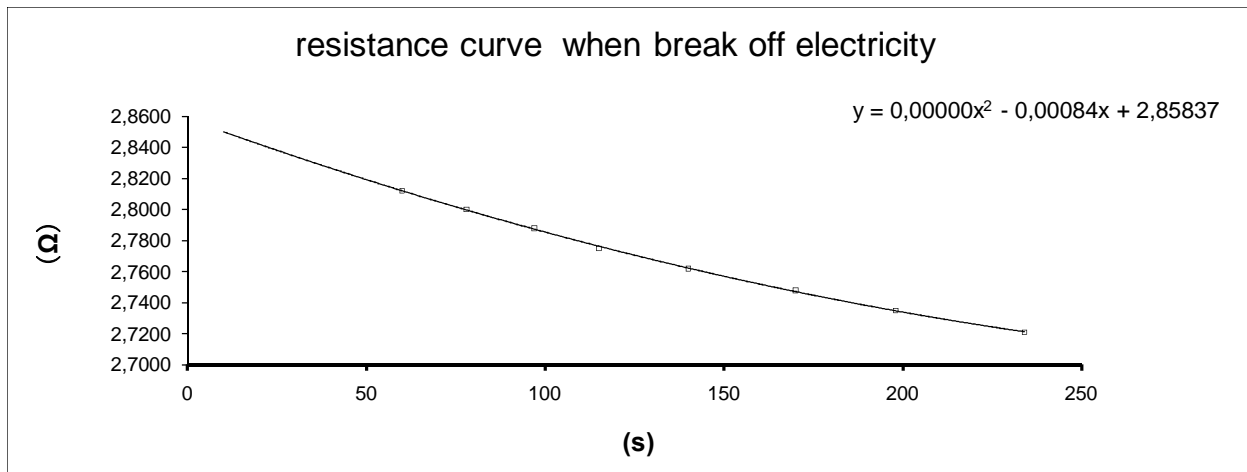
T1 : DE BEARING TEMPERATURE      T4 : CORE TEMPERATRE      T5: FRAME TEMPERATRE  
 T2-T3 : DE WINDING TEMPERATURE      T6 : AMBIENT TEMPERATURE

**WINDING RESISTANCE (HOT) AT END OF TEMPERATURE RISE TEST**

TIME (S)	60	78	97	115	140	170	198	234					
RESISTANCE ( Ω )	2,812	2,800	2,788	2,775	2,762	2,748	2,735	2,721					

**WINDING RESISTANCE(COLD)**

Δ	U1-V1	U1-W1	V1-W1	AVERAGE RESISTANCE	MINIMUM RESISTANCE	MBIENT TEMPERATURE °C
	2,291	2,295	2,287	2,29100	2,28700	16,6
Y	U1-U2	V1-V2	W1-W2	AVERAGE RESISTANCE	MINIMUM RESISTANCE	MBIENT TEMPERATURE °C
					0	



resistance value at 0 sec ( Ω )	2,8584	calculation value of temp.rising	61,56	K
30 S ( Ω )	2,8313	calculation value of temp.rising	58,58	K
full load curent	7,37 A	modify value of temp. rising	55	K

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## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

Type	K112M-2	Poles	2	output Power	4,0	KW
Voltage	400 V	Current	7,1 A	Frequency	50	HZ
Speed	2885 r/min	Duty	S1	Connection	△	
Ins.class	F	Weight	47 Kg	Protection	IP55	

### LOAD TEST

Voltage V	Frequency HZ	current A	current A	current A	mul.	output W	output W	mul.	speed r/min
400,3	50,00	2,100	2,103	2,105	5	521,6	834,6	5	2831,3
400,4	50,00	1,759	1,771	1,773	5	431,1	705,0	5	2861,0
400,5	50,00	1,542	1,548	1,557	5	371,7	617,6	5	2881,1
400,3	50,00	1,238	1,238	1,241	5	280,7	495,2	5	2910,0
400,3	50,00	0,995	1,007	1,002	5	202,4	404,3	5	2932,0
400,6	50,00	0,762	0,770	0,761	5	120,2	307,2	5	2954,5

95 ( °C ) PHASE 4,5073 Ω P<sub>fe</sub>= 108,4 W P<sub>fw</sub>= 65,8 W  
 θ= 61,56 K t<sub>2</sub>= 17,9 °C

### Calculate

Results %	OUTPUT W	INPUT W	AMPS A	P <sub>cu1</sub> W	SLIP %	P <sub>cu2</sub> W	P <sub>s</sub> W	EFF %	P.F.
142,3	5692,5	6781,0	10,51	498,2	5,910	364,9	51,1	83,95	0,930
121,6	4863,8	5680,5	8,84	352,1	4,870	254,2	36,1	85,62	0,927
107,1	4283,8	4946,5	7,75	270,4	4,166	190,3	27,7	86,60	0,921
85,0	3401,0	3879,5	6,20	173,0	3,153	113,5	17,7	87,67	0,903
66,7	2667,7	3033,5	5,01	113,0	2,382	67,0	11,6	87,94	0,874
46,5	1858,9	2137,0	3,82	65,8	1,594	31,3	6,8	86,98	0,806

LOAD %	OUTPUT W	INPUT W	AMPS A	P <sub>cu1</sub> W	SLIP %	P <sub>cu2</sub> W	P <sub>s</sub> W	EEF %	P.F.
125	5000	5852,9	9,10	372,8	5,04	270,5	38,3	85,43	0,929
110	4400	5093,5	7,96	285,9	4,31	202,4	29,3	86,38	0,923
100	4000	4603,4	7,25	236,7	3,840	163,5	24,3	86,89	0,917
75	3000	3394,8	5,5	135,9	2,693	84,8	13,9	88,37	0,892
50	2000	2293,4	4,03	73,1	1,732	36,6	7,5	87,20	0,822
25	1000	1185,0	2,56	29,6	0,757	7,9	3,0	84,39	0,667

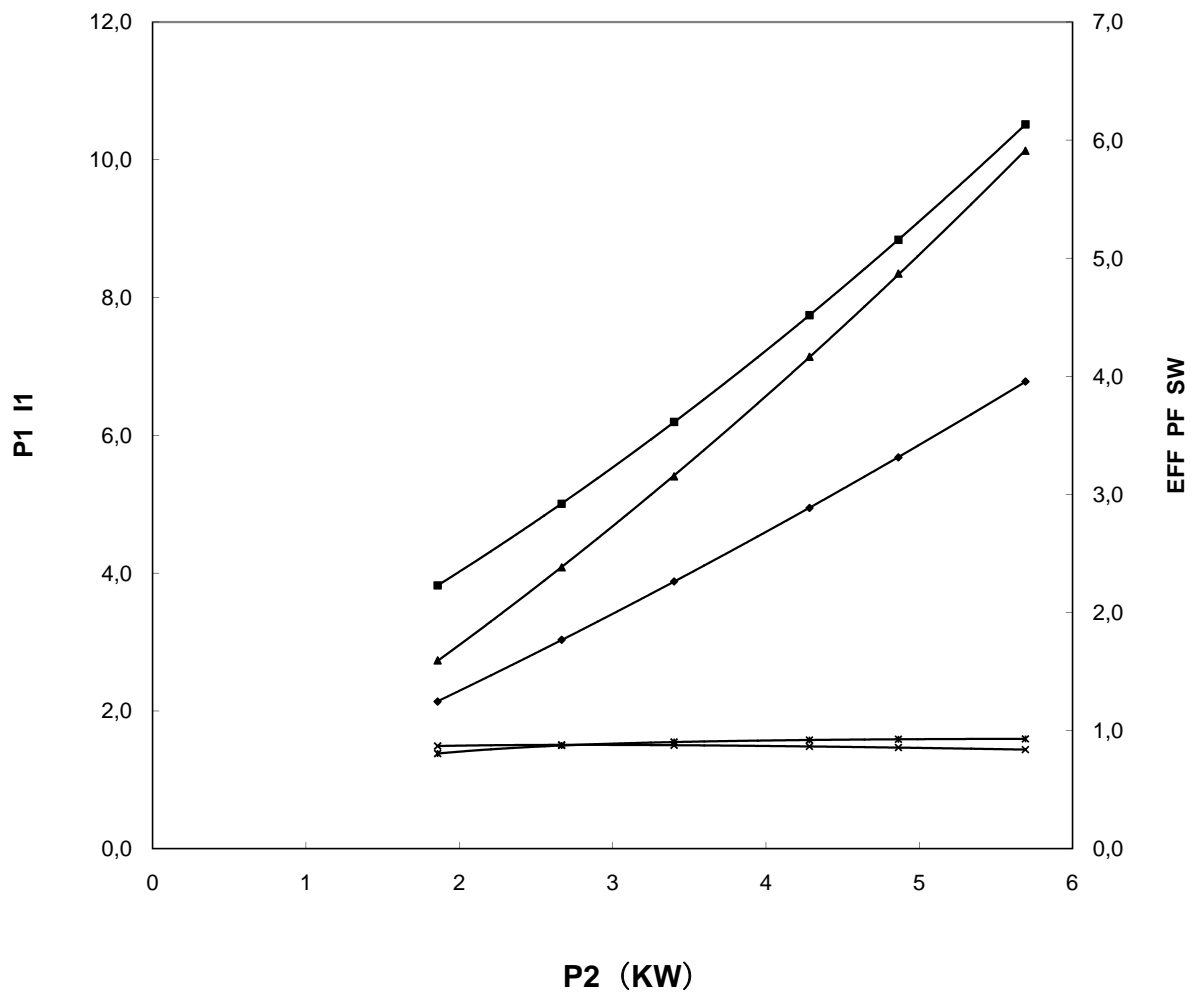
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### LOAD CURVE



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