

VALIADIS S.A.

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

NAMEPLATE DATA		4	POLE	355 KW	
K355L-4	FRAME	3	PHASE	50	HZ / CYCLES
400	VOLTS	585,4	AMPS	F	INS.CLASS
1489	RPM	S1	DUTY	DELTA	CONNECTION
MAJOR CONTENTS			UNIT	TEST VALUE	
(95°C) PHASE RESISTANCE OF WINDING			OHM	0,008730	
NO LOAD CURRENT			AMP	168,909	
NO LOAD INPUT			kW	6674,6	
CORE LOSS(Pfe)			kW	3306,0	
WINDAGE FRICTION LOSS(Pfw)			kW	3153,7	
STATOR WINDING LOSS(Pcu1)			kW	3099,1	
ROTOR WINDING LOSS(Pcu2)			kW	2738,4	
STRAY LOAD LOSS(Ps)			kW	1933,4	
LOCKED ROTOR CURRENT			A	3836,5	
LOCKED ROTOR INPUT @ FULL LOAD			W	639065,9	
LOCKED ROTOR TORQUE			N.m	4714,4	
PULL OUT TORQUE			N.m	6469,8	
LOCKED ROTOR CURRENT/RATED CURRENT			P.U.	6,55	
LOCKED ROTOR TORQUE/RATED TORQUE			P.U.	2,07	
PULL OUT TORQUE/RATED TORQUE			P.U.	2,84	
FULL LOAD TORQUE			N.m	2278,5	
FULL LOAD CURRENT			A	595,821	
FULL LOAD SLIP			%	0,751	
INPUT @ FULL LOAD			KW	371,067	
FULL LOAD SPEED			r/min	1489	
EFFICIENCY @ FULL LOAD			%	95,7	
POWER FACTOR @ FULL LOAD				0,90	
STATOR WINDING TEMPERATURE RISE			K	51	
D.E. BEARINGS TEMPERATURE BY PT100			°C	57,4	
SOUND PRESSURE LEVEL			dB(A)	89	
VIBRATION			mm/s	1,2	
VALIADIS S.A. K355-4 400 Volts 50 Hz				Manufacturing Date	
				Test Date	

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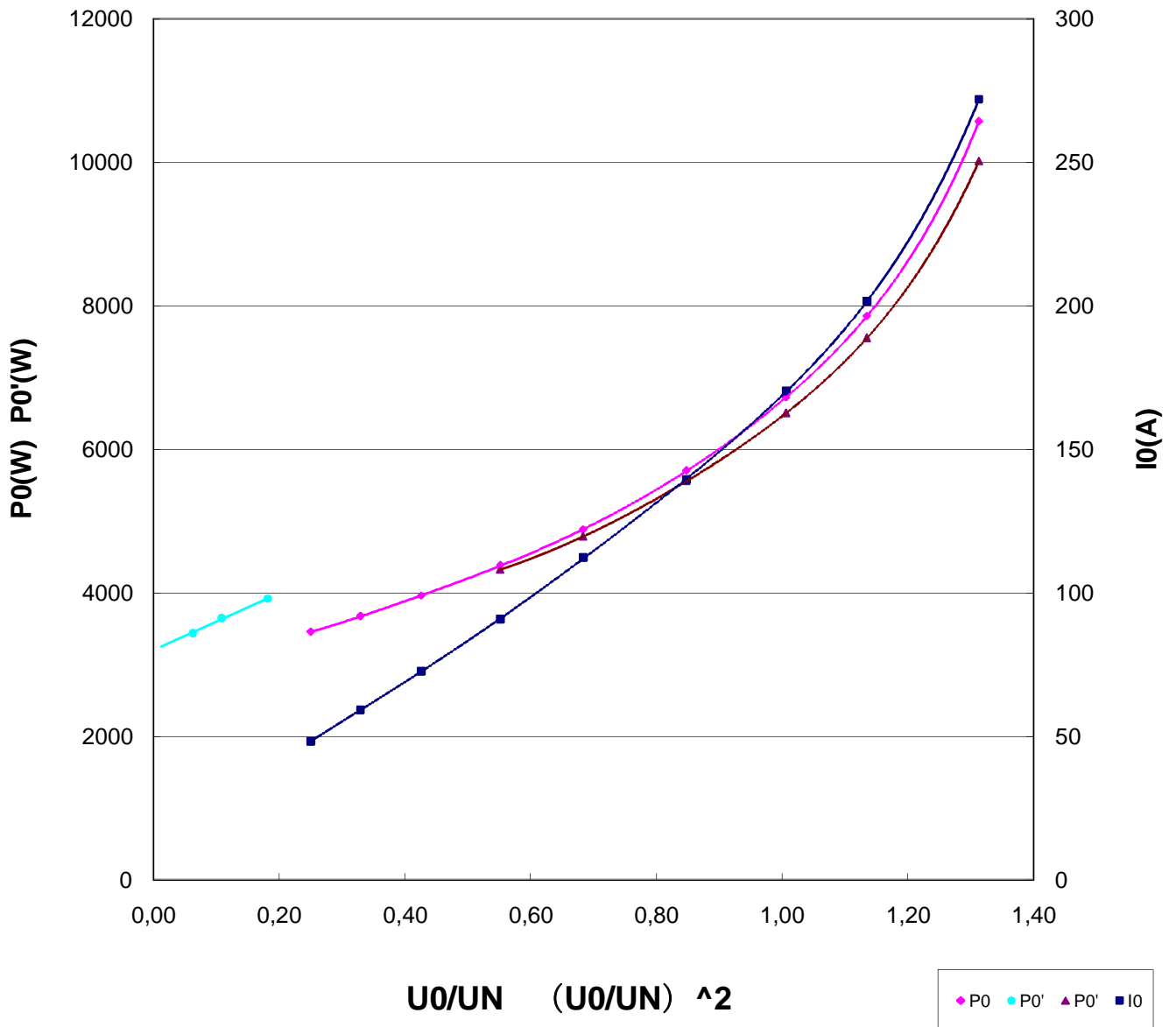
NAMEPLATE DATA		4	POLE	50	HZ / CYCLES	355 KW				
K355L-4	FRAME	3	PHASE	F	INS.CLASS					
400	VOLTS	585,4	AMPS	DELTA	CONNECTION					
1489	RPM	S1	DUTY							
NO LOAD TEST										
V (unit)	mul.	HZ	A1 (unit)	A2 (unit)	A3 (unit)	mul.	W1 (unit)	W2 (uni t)	mul.	RESISTANCE
525,3	1	50	2,640	2,872	2,651	100	540,3	-434,5	100	0,005024
454,1	1	50	3,902	4,308	3,889	50	714,9	-557,7	50	0,005026
402,6	1	50	3,290	3,653	3,279	50	545,4	-410,8	50	0,005026
339,2	1	50	2,701	3,007	2,664	50	392,0	-277,9	50	0,005026
273,5	1	50	2,179	2,414	2,147	50	266,3	-168,6	50	0,005024
220,9	1	50	1,759	1,955	1,741	50	186,5	-98,7	50	0,005024
170,5	1	50	3,514	3,909	3,488	20	315,6	-117,6	20	0,005024
131,9	1	50	2,839	3,179	2,876	20	222,6	-38,8	20	0,005023
100,2	1	50	2,401	2,437	2,409	20	170,0	2,9	20	0,005022
data calculation of no load										
V%	U0/UN	I0	P0	(U0/UN)^2	P0cu1	P0'				
131,3%	1,31	272,069	10576,1	1,724	557,84	10018,26				
113,5%	1,14	201,663	7861,8	1,289	306,57	7555,22				
100,7%	1,01	170,365	6727,7	1,013	218,80	6508,94				
84,8%	0,85	139,524	5705,5	0,719	146,75	5558,76				
68,4%	0,68	112,333	4882,9	0,468	95,10	4787,76				
55,2%	0,55	90,913	4387,7	0,305	62,29	4325,42				
42,6%	0,43	72,741	3960,1	0,182	39,88	3920,19				
33,0%	0,33	59,299	3676,8	0,109	26,49	3650,34				
25,1%	0,25	48,315	3458,1	0,063	17,59	3440,52				
RESULTS AT: 400 Volts										
N.L.AMP		N.L.LOSS			WINDAGE/FRICTION Pfw		CORE LOSS Pfe			
168,909		6674,61			3153,7		3306,0			
VALIADIS S.A. K355-4 400 Volts 50 Hz					Manufacturing Date		Manufacturing Code			
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1489	RPM	S1	DUTY		

NO LOAD



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400 Volts 50 Hz

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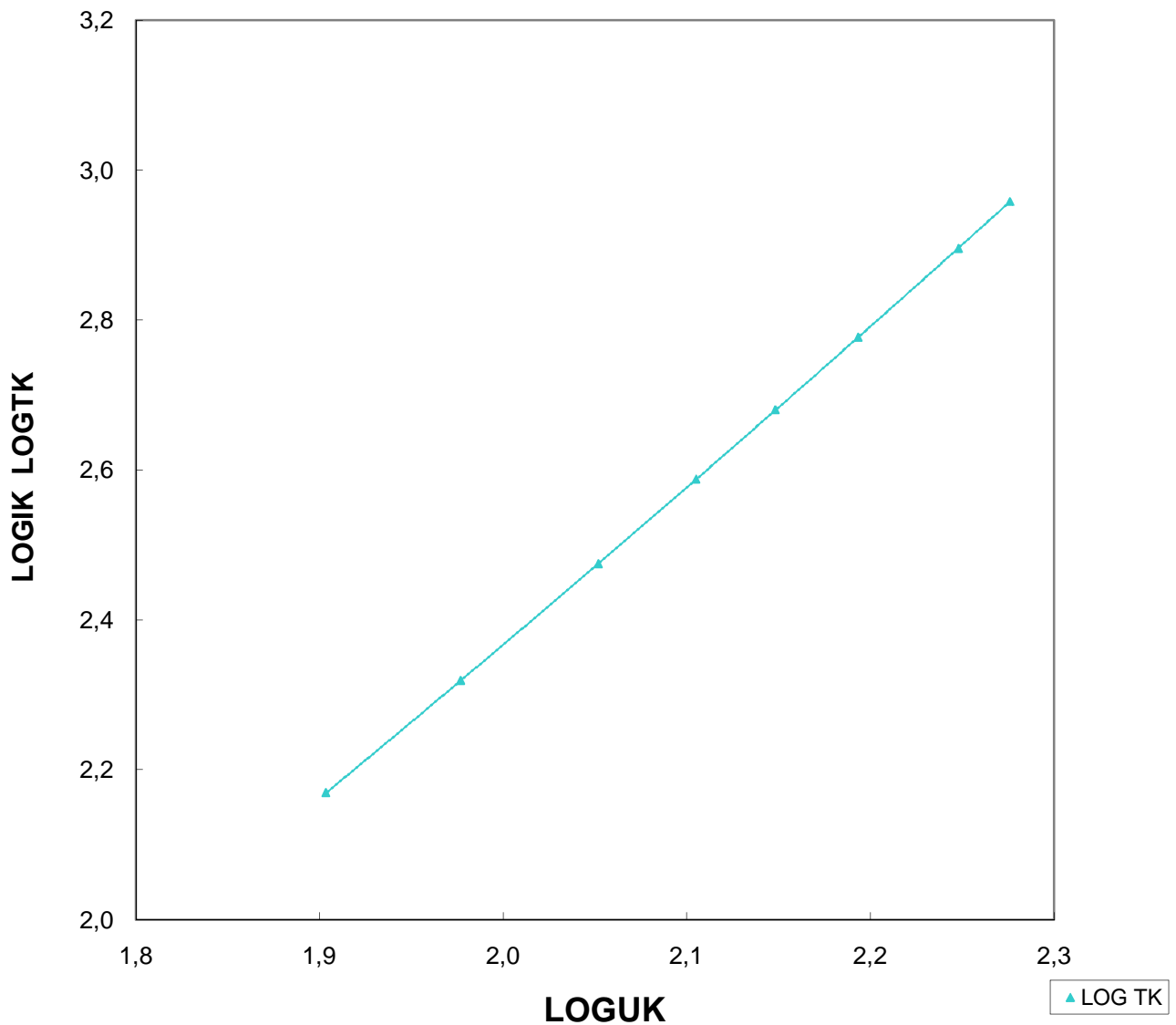
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400	VOLTS	585,4	AMPS	DELTA	CONNECTION				
1489	RPM	S1	DUTY						
LOCKED ROTOR TEST									
V (unit)	mul.	A1 (unit)	A2 (unit)	A3 (unit)	mul.	W1 (unit)	W2 (unit)	mul.	TORQUE (N.m)
188,8	1	4,180	4,216	4,234	400	429,1	-117,8	400	908,33
177,0	1	3,893	3,928	3,942	400	373,8	-103,9	400	786,54
156,1	1	3,393	3,424	3,435	400	286,5	-80,9	400	598,64
140,7	1	3,035	3,065	3,071	400	230,8	-66,1	400	479,02
127,4	1	2,728	2,753	2,759	400	187,5	-54,3	400	387,14
112,7	1	2,392	2,418	2,421	400	145,5	-42,7	400	298,41
94,8	1	2,000	2,021	2,021	400	102,2	-30,3	400	208,57
80,1	1	3,364	3,394	3,394	200	144,9	-43,1	200	147,68
data calculation of locked rotor									
UK		IK	PK	TK		LOG	LOG	LOG	LOG
V		A	KW	N.m		UK	IK	PK	TK
188,8		1683,99	124,533	908,33		2,2760	3,2263	2,0953	2,9582
177,0		1568,49	107,959	786,54		2,2480	3,1955	2,0333	2,8957
156,1		1366,89	82,245	598,64		2,1934	3,1357	1,9151	2,7772
140,7		1222,83	65,892	479,02		2,1484	3,0874	1,8188	2,6804
127,4		1098,72	53,294	387,14		2,1052	3,0409	1,7267	2,5879
112,7		964,11	41,125	298,41		2,0520	2,9841	1,6141	2,4748
94,8		805,56	28,767	208,57		1,9769	2,9061	1,4589	2,3193
80,1		676,83	20,367	147,68		1,9036	2,8305	1,3089	2,1693
performance collection of locked rotor									
	at rated		at rated		at 2.5 times rated		at 100V		
	volts		current		current				
VOLTS (V)	400		69,764		166,2		100,0		
AMPS (A)		3836,5	585,4		1463,55		847,566		
INPUT (KW)		639,066	15,266		94,2		31,766		
TORQUE (N.m)		4714,396	110,594						
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1489	RPM	S1	DUTY		

LOCKED



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400	VOLTS	585,4	AMPS	DELTA	CONNECTION							
1489	RPM	S1	DUTY									

TEMPERATURE RISE TEST

TIME (h:min)	V	A1 (unit)	A1 (unit)	A1 (unit)	mul.	W1 (unit)	W2 (unit)	mul.	T1 °C	T2 °C	T3 °C	T4 °C
10,30	400,19	2,885	3,004	2,994	200	1239,7	607,9	200	54,4	53,4	—	18,1
11,00	401,03	2,892	3,010	3,000	200	1239,2	610,2	200	55,7	53,6	—	18,6
11,30	399,97	2,869	2,979	2,971	200	1227,5	606,5	200	58,2	54,4	—	18,9
12,00	399,85	2,914	3,028	3,016	200	1250,9	618,1	200	59,6	55,3	—	19,3
12,30	400,02	2,860	2,972	2,960	200	1231,1	604,2	200	60,4	57,4	—	19,8
average value of the last three points				590,4113 A		369222,4		W	59,4	53,4	—	19,3

T1 : CORE TEMPERATRE

T3 : NDE BEARING TEMPERATURE

T2 : DE WINDING TEMPERATURE

T4 : AMBIENT TEMPERATURE

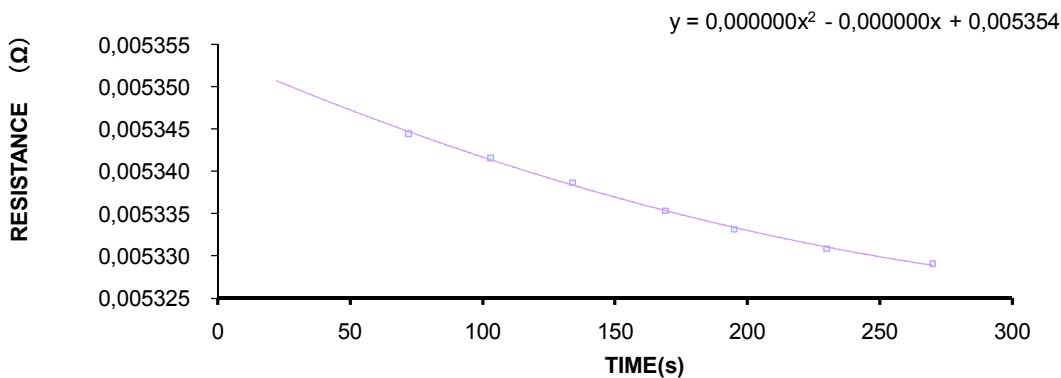
WINDING RESISTANCE (HOT) AT END OF TEMPERATURE RISE TEST

TIMES (S)	72	103	134	169	195	230	270					
RESISTANCE (Ω)	0,005344	0,005342	0,005339	0,00534	0,00533	0,00533	0,00533					

WINDING RESISTANCE(COLD)

Δ	U1 to V1	U1 to W1	V1 to W1	AVERAGE RESISTANCE	MINIMUM RESISTANCE	AMBIENT TEMPERATURE
	0,00446667	0,00442913	0,004463	0,004453	0,0044291	17,5
Y	U	V	W	AVERAGE RESISTANCE	MINIMUM RESISTANCE	AMBIENT TEMPERATURE
				#ΔIAIP/0!	0	

resistance curve when break off electricity



full load curent

595,82 A

modify value of temp. rising

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LOAD TEST

V	HZ	A1 (unit)	A2 (unit)	A3 (unit)	mul.	W1 (unit)	W2 (unit)	mul.	RPM
400,01	50	3,750	3,878	3,864	200	793,8	1623,9	200	1487,4
400,16	50	3,397	3,521	3,506	200	710,3	1474,8	200	1488,6
399,80	50	3,102	3,224	3,214	200	639,1	1349,7	200	1489,2
400,01	50	2,691	2,812	2,800	200	528,3	1176,9	200	1491,6
400,12	50	2,203	2,316	2,298	200	383,4	966,2	200	1493,4
399,97	50	1,826	1,943	1,916	200	260,1	798,1	200	1494,0
399,88	50	2,922	3,158	3,078	100	240,8	1248,7	100	1495,8
400,05	50	2,166	2,378	2,237	100	-207,0	741,2	100	1498,2
400,01	50	2,123	2,326	2,169	100	-311,0	649,1	100	1499,4

% LOAD	OUTPUT W	INPUT W	AMPS A	Pcu1 W	SLIP %	Pcu2 W	Ps W	EFF %	P.F.
125	443750	464937,8	735,19	4718,5	0,91	4137,0	2943,64	95,44	0,913
110	390500	408484,6	652,01	3711,2	0,79	3175,5	2315,22	95,60	0,904
100	355000	371067,1	595,82	3099,1	0,751	2738,4	1933,37	95,67	0,899
75	266250	278348,9	466,2	1897,4	0,492	1344,8	1183,68	95,65	0,862
50	177500	187109,3	350,15	1070,3	0,383	699,3	667,70	94,86	0,771
25	88750	96494,3	237,92	494,2	0,321	297,1	308,29	91,97	0,585

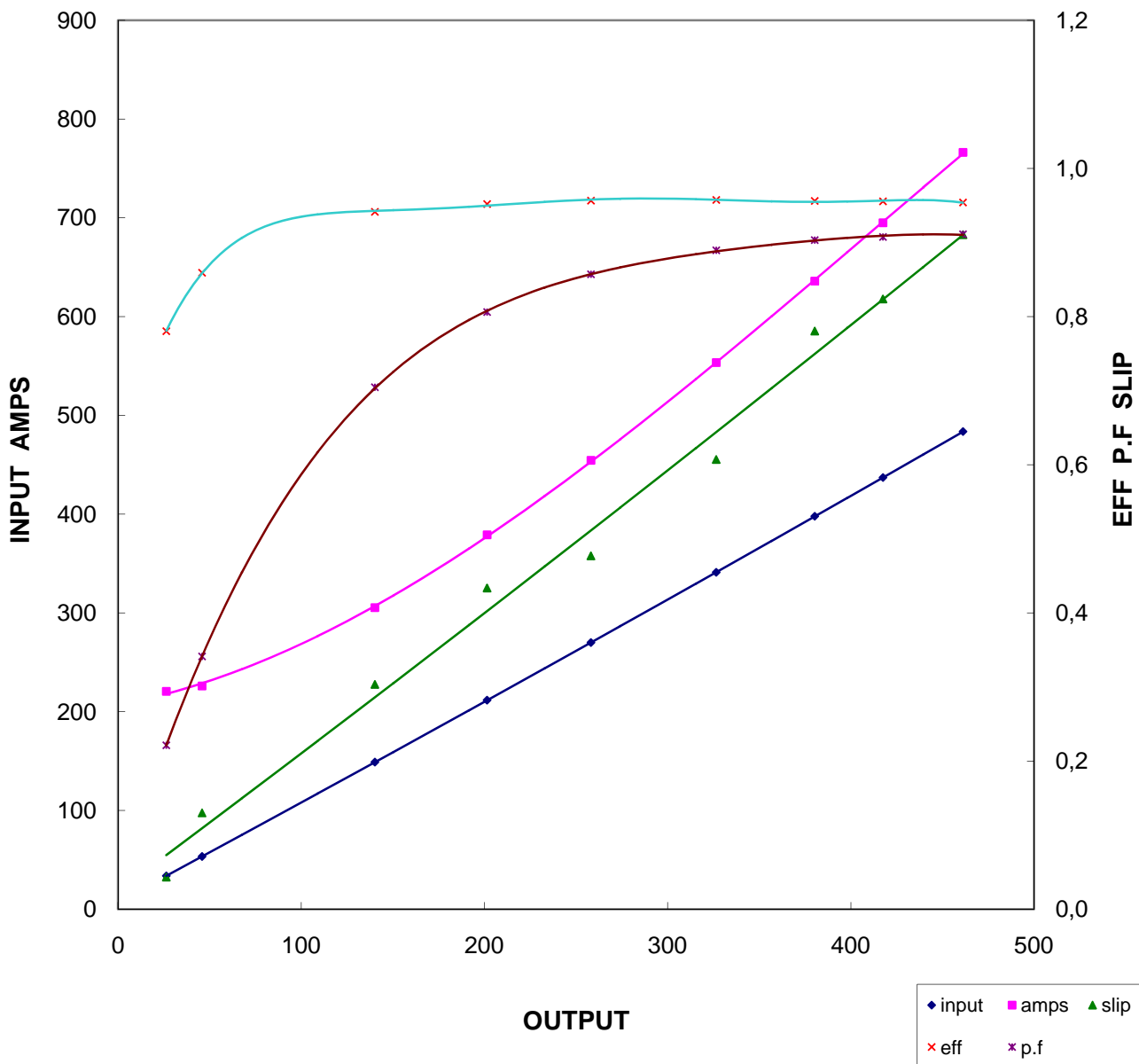
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LOAD CURVE



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