

VALIADIS S.A.

ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

Type	K355M-4	Poles	4	Power	250,0	kW	IE:2	
Voltage	400	V	Current	421,6	A	Frequen	50	Hz
Speed	1485	r/min	Duty	S1	Connect	Δ		
Ins.class	F					IP55		
MAJOR CONTENTS				TEST VALUE				
STATOR RESISTANCE OF PHASE		Ω					0,0160	
NO LOAD CURRENT		A					97,773	
NO LOAD INPUT		W					4815,50	
CORE LOSS(Pfe)		W					2298,40	
WINDAGE FRICTION LOSS(Pfw)		W					2376,20	
STATOR WINDING LOSS(Pcu1)		W					2822,50	
ROTOR WINDING LOSS(Pcu2)		W					2072,70	
STRAY LOAD LOSS(Ps)		W					2814,00	
FULL LOAD CURRENT		A					423,7	
LOCKED ROTOR CURRENT		A					2564,650	
LOCKED ROTOR CURRENT/FULL LOAD CURRENT		P.U.					6,08	
FULL LOAD TORQUE		N.m.					1604,4	
LOCKED ROTOR TORQUE		N.m.					3076,00	
LOCKED ROTOR TORQUE / FULL LOAD TORQUE		P.U.					1,91	
PULL OUT TORQUE		N.m.					4317,32	
PULL OUT TORQUE/FULL LOAD TORQUE		P.U.					2,68	
INPUT @ FULL LOAD		kW					262,33	
EFFICIENCY @ FULL LOAD		%					95,30	
POWER FACTOR @ FULL LOAD							0,894	
FULL LOAD SLIP		%					0,806	
FULL LOAD SPEED		r/min					1487,9	
STATOR WINDING TEMPERATURE RISE		K					62	
D.E.BEARINGS TEMPERATURE BY PT100		Deg.C					49,8	
AMBIENT TEMPERATURE OF TESTING		Deg.C					16,3	
HIGH VOLTAGE TEST		V					1800	
INSULATION RESISTANCE		MΩ					500	
NOISE		dB(A)					94	
VIBRATION		mm/s					0,6	

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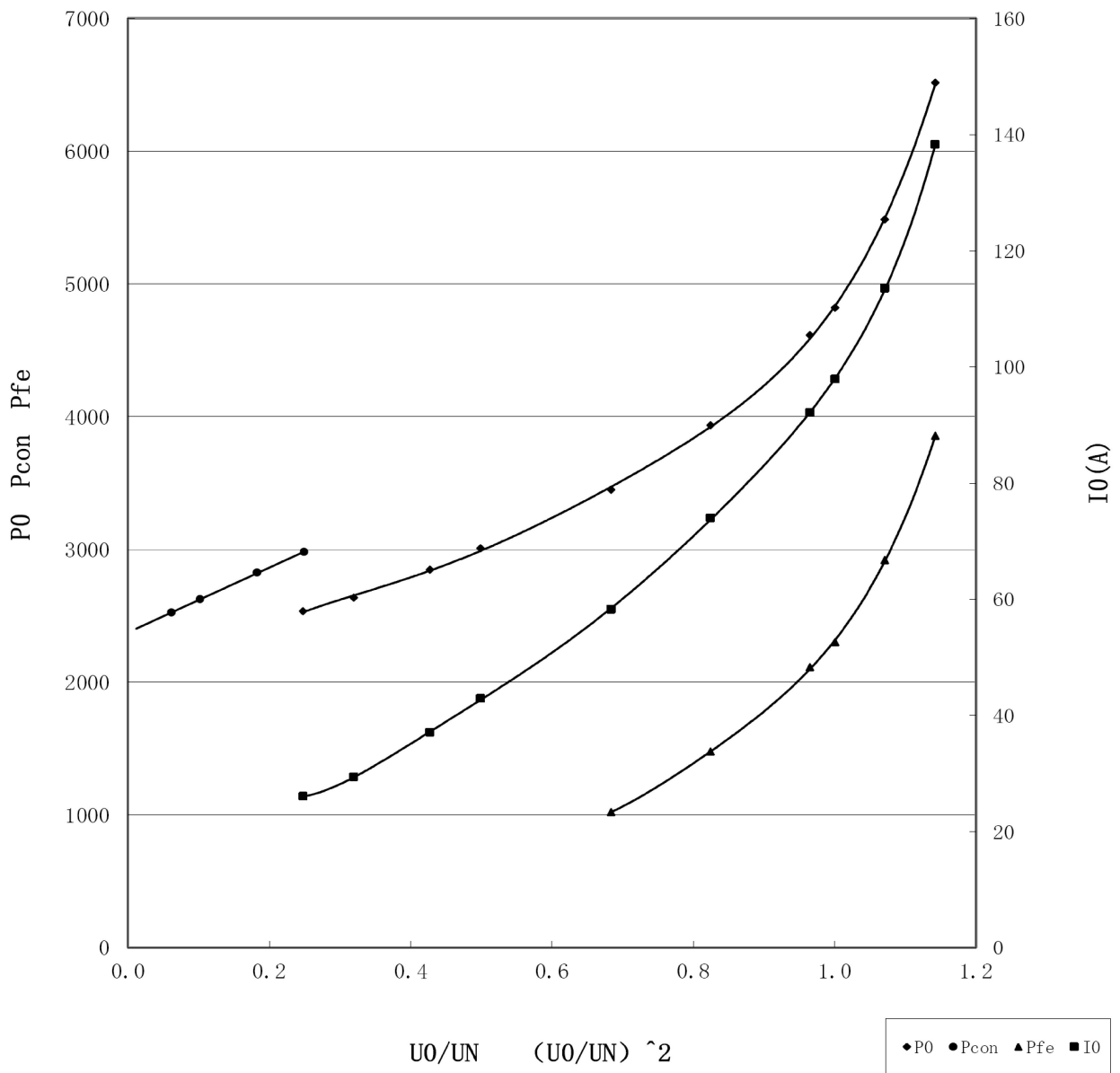
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Voltage	400	V	Current	421,6	A	Frequency	50 Hz			
Speed	1485	r/min	Duty	S1		Connection	Δ			
Ins.class	F						IP55			
NO LOAD TEST										
VOL	mul.	HZ	I01	I02	I03	mul.	W1	W2	mul.	°C
457,1	1	50	2,785	2,743	2,770	50	-565,8	696,1	50	68,6
428,5	1	50	2,285	2,252	2,273	50	-431,0	540,7	50	68,5
400,3	1	50	1,971	1,941	1,962	50	-341,9	438,3	50	68,3
386,2	1	50	4,637	4,561	4,619	20	-767,5	998,2	20	68,1
329,8	1	50	3,722	3,661	3,712	20	-504,8	701,5	20	68,0
273,5	1	50	2,931	2,883	2,922	20	-306,3	478,7	20	67,9
199,7	1	50	2,158	2,127	2,152	20	-133,1	283,5	20	67,6
171,1	1	50	1,865	1,836	1,861	20	-80,2	222,5	20	67,5
127,9	1	50	2,981	2,908	2,927	10	-38,8	302,5	10	67,2
99,1	1	50	2,641	2,582	2,589	10	21,6	231,9	10	67,0

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Voltage	400 V	Current	421,6 A	Frequency	50,0	kW
Speed	1485 r/min	Duty	S1	Connection	Δ	Hz
Ins.class	F					IP55

No Load Curve



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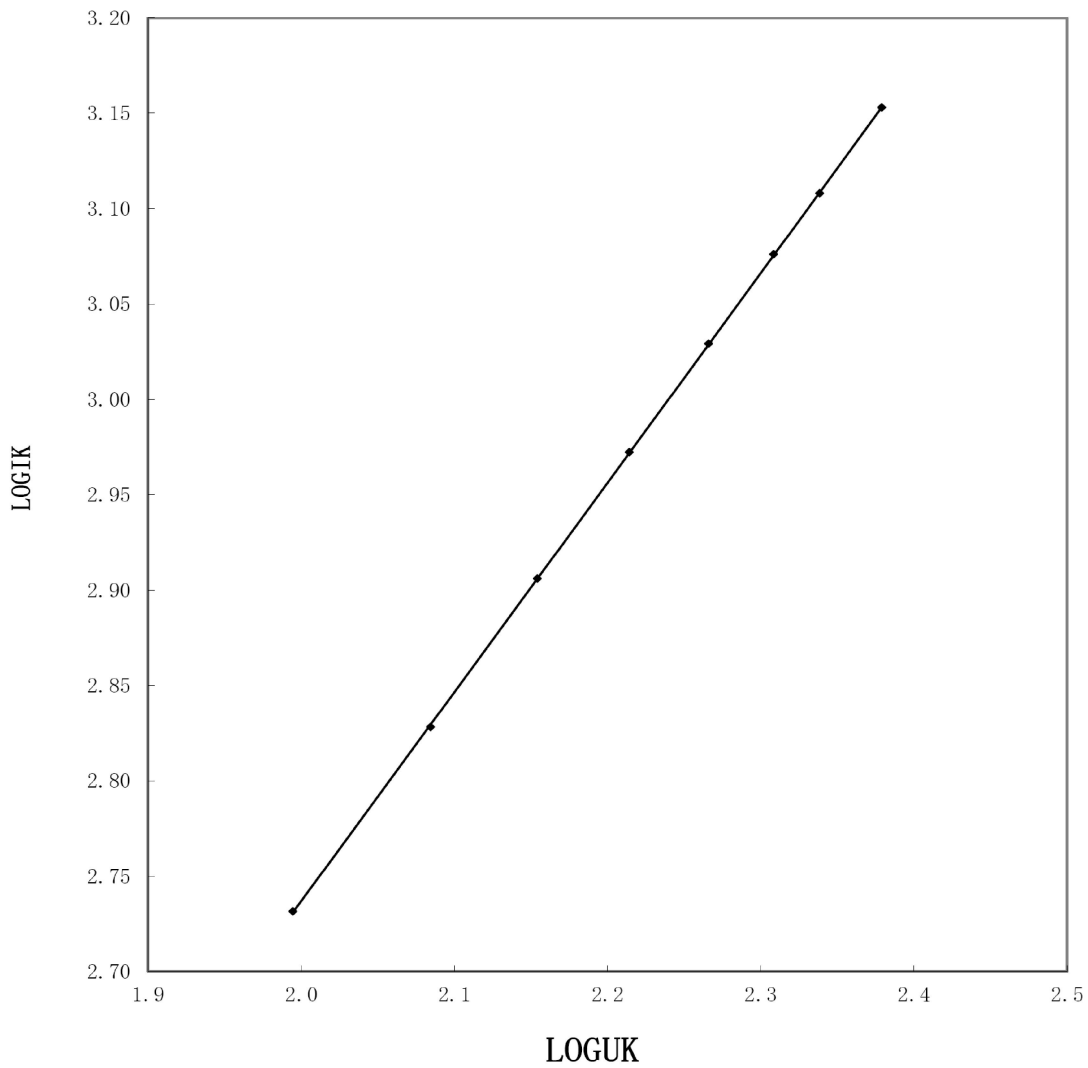
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Voltage	400	V	Current	421,6	A	Frequency	50,0		kW
Speed	1485	r/min	Duty	S1		Connection	Δ		Hz
Ins.class	F						IP55		
LOCKED ROTOR TEST									
VOL	mul.	Ik1	Ik2	Ik3	mul.	W1	W2	mul.	Torque (N.m)
239,4	1,0	3,550	3,554	3,563	400	638,1	-174,1	400	946,0
218,1	1,0	3,198	3,206	3,212	400	522,6	-145,5	400	769,0
203,4	1,0	2,973	2,977	2,985	400	451,4	-128,5	400	657,0
184,5	1,0	2,669	2,673	2,679	400	366,2	-106,9	400	530,0
163,8	1,0	2,341	2,345	2,350	400	284,2	-84,2	400	406,0
142,6	1,0	2,010	2,013	2,016	400	211,6	-64,3	400	299,0
121,5	1,0	3,361	3,365	3,372	200,0	299,7	-94,2	200	209,0
98,8	1,0	2,683	2,700	2,701	200,0	194,9	-61,0	200	134,0

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Speed	1485 r/min	Duty	S1	Connection	Δ	Hz
Ins.class	F					IP55

LOCKED



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Type	K355M-4			Poles	4		Power	250 kW		IE:2
Voltage	400	V		Current	421,6	A	Frequency	50 Hz		
Speed	1485	r/min		Duty	S1		Connection	Δ		
Ins.class	F							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	
11:00	400,3	4,322	4,238	4,275	100	944,4	1694,1	100	40,8	—	61,6	65,8	—	—	—	—	—	—	—	—	—	13,1
11:30	400,4	4,307	4,222	4,256	100	941,7	1687,5	100	44,1	—	65,7	70,0	—	—	—	—	—	—	—	—	—	14,0
12:00	400,4	4,323	4,236	4,271	100	949,8	1693,6	100	46,7	—	68,9	73,4	—	—	—	—	—	—	—	—	—	14,2
12:30	400,4	4,314	4,224	4,264	100	946,6	1688,4	100	47,9	—	72,3	76,9	—	—	—	—	—	—	—	—	—	15,1
13:00	400,5	4,286	4,204	4,240	100	941,0	1680,1	100	49,0	—	73,6	78,0	—	—	—	—	—	—	—	—	—	15,6
13:30	400,5	4,264	4,176	4,217	100	936,7	1670,0	100	49,1	—	75,2	79,7	—	—	—	—	—	—	—	—	—	16,1
14:00	400,4	4,306	4,216	4,255	100	947,9	1685,3	100	49,4	—	76,0	80,5	—	—	—	—	—	—	—	—	—	16,2
14:30	400,4	4,307	4,218	4,258	100	947,6	1686,1	100	49,8	—	76,4	80,8	—	—	—	—	—	—	—	—	—	16,5
The average of the last three		424,633		A		262453,3		W	49,8	—	75,9	80,3	—	—	—	—	—	—	—	—	—	16,3

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)	71	99	120	148	165	186	213	242		
RESISTANCE	0,01017	0,01015	0,01013	0,01011	0,01010	0,01009	0,01007	0,01000		

WINDING RESISTANCE(COLD)

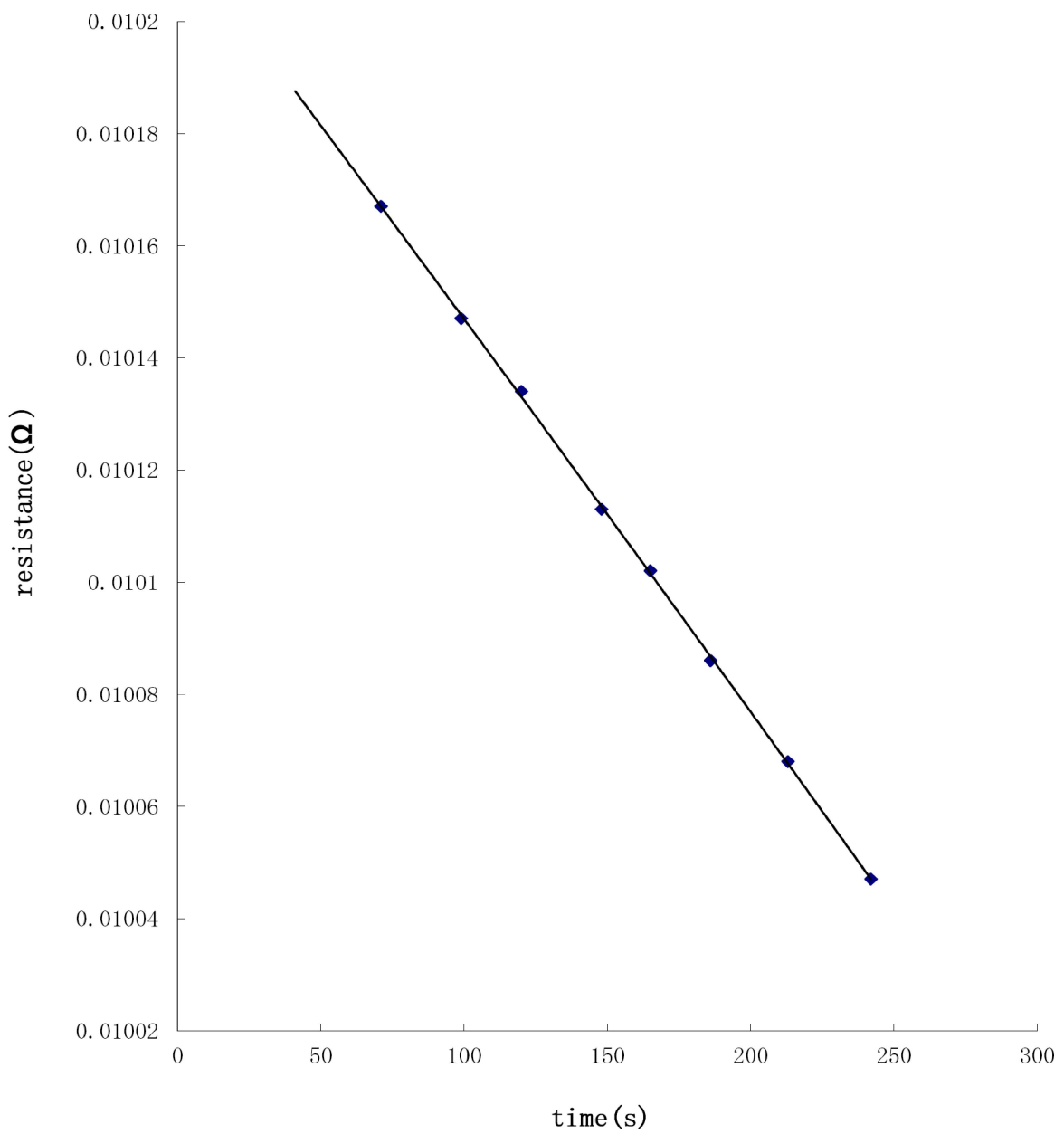
	U1-V1	U1-W1	V1-W1	AVERAGE	MIN	AMBIENT TEM.
	0,007757	0,00775	0,007788	0,00777	0,00775	4,8 °C

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Voltage	400 V	Current	421,6 A	Frequency	50,0	kW
Speed	1485 r/min	Duty	S1	Connection	Δ	Hz
Ins.class	F				IP55	

RESISTANCE CURVE



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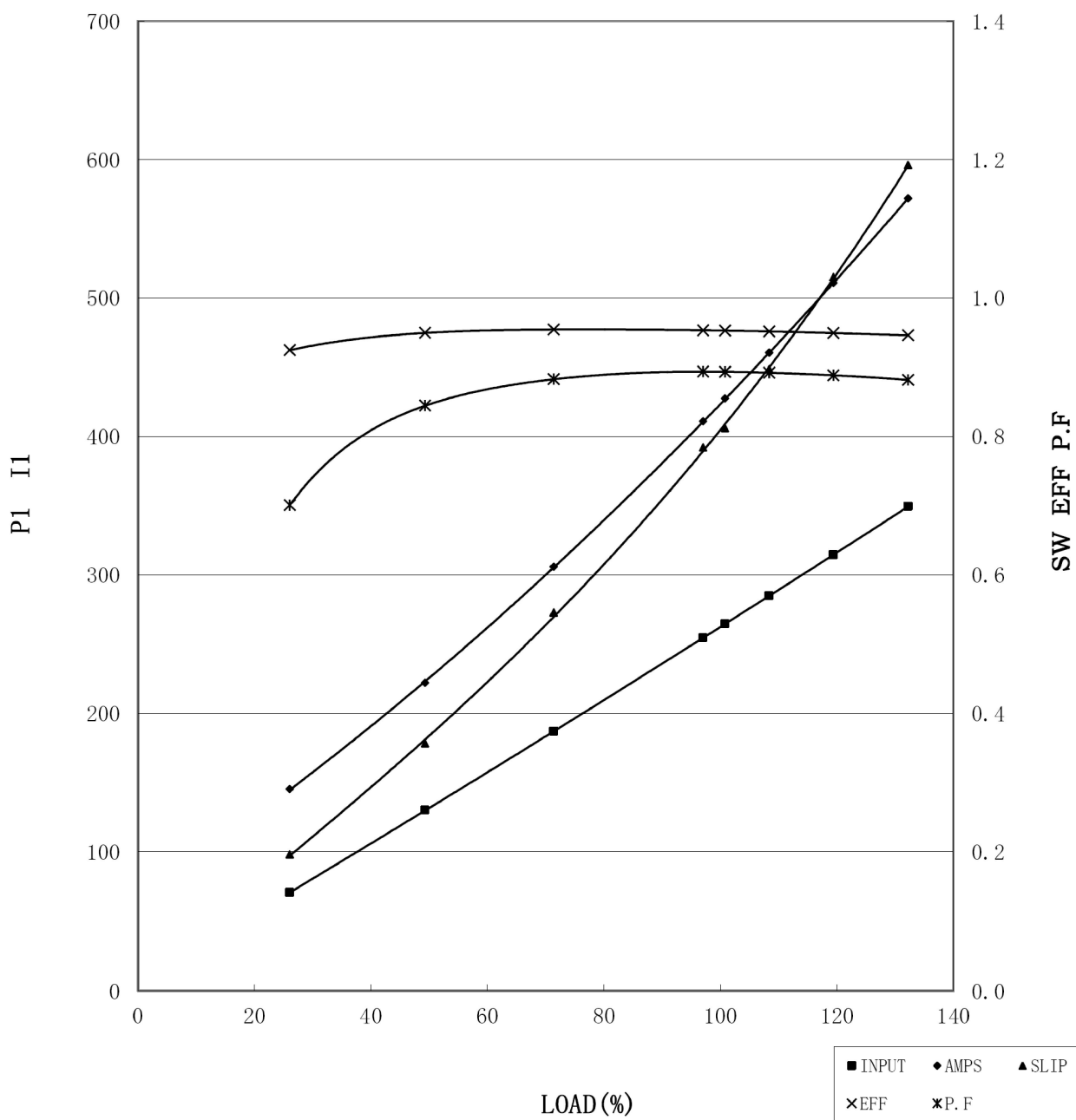
											IE:2
Type	K355M-4		Poles	4		Power	250,0				kW
Voltage	400	V	Current	421,6	A	Frequency	50,0				Hz
Speed	1485	r/min	Duty	S1		Connection	Δ				
Ins.class	F						IP55				
LOAD TEST											
V	HZ	I1	I2	I3	mul.	W1	W2	mul.	r/min	Temper ature °C	Torque N.m
400,2	50,00	2,893	2,832	2,852	200	614,7	1132,3	200	1483	74,1	2123,9
400,2	50,00	2,581	2,531	2,550	200	560,6	1012,1	200	1485,3	74,2	1915,3
400,3	50,00	2,328	2,282	2,297	200	511,9	912,1	200	1487,2	74,3	1730,1
400,1	50,00	2,159	2,118	2,134	200	476,6	846,4	200	1488,4	74,5	1608,4
400,2	50,01	2,075	2,038	2,051	200	458,0	814,8	200	1489,1	74,5	1547,1
400,1	50,01	3,089	3,029	3,055	100	658,1	1212,1	100	1492,5	74,7	1132,2
400,2	50,02	2,239	2,203	2,217	100	417,3	882,0	100	1495,5	74,7	780,3
400,0	50,00	2,924	2,877	2,915	50	299,9	1110,9	50	1497,2	74,7	408,6
LOAD TEST											
LOAD %	P2 W	I A	P1 W	Pcu1s W	Ss %	Pcu2s W	Ps W	Pfe W	EFF %	P.F	
150,0	375000	656,40	397761,3	6775,3	1,459	5671,1	6416,1	2234,4	94,19	0,875	
125,0	312500	537,30	329680,2	4539,2	1,098	3543,8	4423,2	2245,8	94,80	0,886	
100,0	250000	423,70	262331,2	2822,5	0,806	2072,7	2814,2	2256,0	95,30	0,894	
75,0	187500	318,70	196502,5	1597,3	0,574	1106,0	1575,6	2267,0	95,42	0,890	
50,0	125000	224,10	131617,6	789,5	0,361	464,3	697,3	2279,0	94,97	0,848	
25,0	62500	142,40	67757,7	318,9	0,190	124,1	173,7	2287,0	92,35	0,687	

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LOAD CURVE



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TORQUE&CURRENT VS SPEED

