

# VALIADIS S.A.

## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

<b>NAMEPLATE DATA</b>	IEC	<b>TYPE</b>	2.2	<b>KW</b>	2840	<b>RPM</b>
AK90L - 2	<b>FRAME</b>	3	<b>PHASE</b>	400	<b>VOLTS</b>	50
81.0	<b>EFFICIENCY</b>	4.56	<b>AMPS</b>	55	<b>IP</b>	IC01
2	<b>POLE</b>	S1	<b>DUTY</b>	0.86	<b>PF</b>	N/A
VALIADIS	<b>MANUFACTURER</b>	<b>SERIAL NO.</b>	F	<b>INS. CLASS</b>	Y	<b>CONNECTION</b>

MAJOR CONTENTS	UNIT	TESE VALUE
STATOR RESISTANCE OF PHASE TO PHASE	75 DEG.C	OHM 6.4252
NO LOAD CURRENT		AMP 1.93
NO LOAD INPUT		kW 0.2075
CORE LOSS (Pfe)		kW 0.132
WINDAGE FRICTION LOSS (Pfw)		kW 0.037
STATOR WINDING LOSS(Pcu1)		kW 0.1978
ROTOR WINDING LOSS(Pcu2)		kW 0.1250
STRAY LOAD LOSS (Ps)		kW 0.0135
FULL LOAD CURRENT		AMP 4.53
LOCKED ROTOR CURRENT		AMP 28.32
LOCKED ROTOR CURRENT/FULL LOAD CURRENT		P.U. 6.3
LOCKED ROTOR INPUT @ 100% VOLT		kW 16.929
FULL LOAD TORQUE		N.m. 7.39
LOCKED ROTOR TORQUE		N.m. 23.43
LOCKED ROTOR TORQUE/FULL LOAD TORQUE		P.U. 3.17
PULL OUT TORQUE		N.m. 24.91
PULL OUT TORQUE/FULL LOAD TORQUE		P.U. 3.37
PULL UP TORQUE		N.m. 14.01
PULL UP TORQUE/FULL LOAD TORQUE		P.U. 1.90
EFFICIENCY @ FULL LOAD		% 81.31
POWER FACTOR @ FULL LOAD		0.861
FULL LOAD SLIP		5.27%
FULL LOAD SPEED		r/min 2842
STATOR WINDING TEMPERATURE RISE	30 SECS	K 59.7
DE BEARING TEMPERATURE BY PT100		Deg. C 55.0
NDE BEARING TEMPERATURE BY PT100		Deg. C 55.0
TEMPERATURE ON LEADS BY PT100		Deg. C
TEMPERATURE IN TERMINAL BOX BY PT100		Deg. C
AMBIENT TEMPERATURE BY PT100		Deg. C
SOUND PRESSURE LEVEL		dB (A) 60.8
VIBRATION		mm/s 0.8
MOMENT OF INERTIA		kgm <sup>2</sup> 0.0028
WEIGHT		kg 16

The data above is calculated as per IEC 34-2 , all data at nominal Volts

<b>VALIADIS S.A.</b>				SCALE	N/A		
				DATE		REV	
AK90L - 2 2.2 kW 400 VOLTS 50 Hz				DRAWN		DOCUMENT NO.	
				APPRVD			
				CHECKED			

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VALIADIS	<b>MANUFACTURER</b>	<b>SERIAL NO.</b>	F	<b>INS. CLASS</b>	Y	<b>CONNECTION</b>

<b>TEST DATA</b>	NO LOAD	25% LOAD	50% LOAD	75% LOAD	100% LOAD	125% LOAD	LOCKED ROTOR
EFFICIENCY	0	71.8	80.3	82.0	81.3	79.5	
PF	0.155	0.545	0.732	0.820	0.861	0.885	0.863
RPM	3000	2980	2940	2894	2842	2784	0
SLIP	0.00%	0.67%	2.00%	3.53%	5.27%	7.20%	100.00%
AMPS	1.93	2.03	2.7	3.54	4.53	5.64	28.32
VOLTS	400	400	400	400	400	400	400
TORQUE NM	0	1.76	3.57	5.44	7.39	9.43	23.43
KW INPUT	0.2075	0.7671	1.3684	2.0102	2.7036	3.4593	16.929
KW OUTPUT	0	0.551	1.099	1.648	2.198	2.749	

<b>LOSSES (kW)</b>	25% LOAD	50% LOAD	75% LOAD	100% LOAD	125% LOAD
STATOR LOSS Pcu1	0.040	0.070	0.121	0.198	0.307
STATOR LOSS %	5.18%	5.13%	6.01%	7.32%	1.81%
ROTOR LOSS Pcu2	0.004	0.023	0.062	0.125	0.217
ROTOR LOSS %	0.52%	1.70%	3.09%	4.62%	1.28%
CORE LOSS Pfe	0.132	0.132	0.132	0.132	0.132
CORE LOSS %	17.21%	9.65%	6.57%	4.88%	0.78%
WINDGE/FRICTION Pfw	0.037	0.037	0.037	0.037	0.037
WINDGE/FRICTION %	4.82%	2.70%	1.84%	1.37%	0.22%
STRAY LOAD LOSS Ps	0.004	0.007	0.010	0.014	0.017
STRAY LOAD LOSS %	0.50%	0.50%	0.50%	0.50%	0.50%

Losses are measured/calculated as per IEC 34-2-The Summation of Losses Method  
 All data is measured at Nominal Volts

### TEMPERATURES

STATOR RESISTANCE COLD	5.32667 OHMS @	22.0	DEG.C.	BETWEEN STATOR LEADS
STATOR RESISTANCE ADJUSTED	6.4252 OHMS @	75	DEG.C.	BETWEEN STATOR LEADS
STATOR RESISTANCE HOT	6.5637 OHMS	after test of temp rise		BETWEEN STATOR LEADS
WINDING TEMPERATURE RISE	59.7 DEG.C.	at full load steady state at		30 SECS
WINDING TEMPERATURE RISE	DEG.C.	at full load steady state at		0 SECS
PT100 TEMPERATURE OF DE WINDING	DEG.C.	at full load steady state at ambient		DEG.C.
PT100 TEMPERATURE OF NDE WINDING	DEG.C.	at full load steady state at ambient		DEG.C.
PT100 TEMPERATURE OF DE BEARING	55.0 DEG.C.	at full load steady state at ambient		22.0 DEG.C.
PT100 TEMPERATURE OF NDE BEARING	55.0 DEG.C.	at full load steady state at ambient		22.0 DEG.C.
PT100 TEMPERATURE OF IN TERMINAL BOX	DEG.C.	at full load steady state at ambient		DEG.C.
PT100 TEMPERATURE OF ON STATOR LEAD	DEG.C.	at full load steady state at ambient		DEG.C.

### OTHER

NOISE LEVEL (Lp)	60.8	dB(A) 1meter	INSULATION RESISTANCE	500	MEG.OHMS
VIBRATION LEVEL	0.8	mm/sec on no load	D.E. BEARING		
WEIGHT	16	kg	N.D.E. BEARING		
H-POT TEST VOLTS	1800	VOLTS			

<b>VALIADIS S.A.</b>				<b>SCALE</b>	<b>N/A</b>		
				<b>DATE</b>		<b>REV</b>	
<b>AK90L - 2</b>				<b>DRAWN</b>		<b>DOCUMENT NO.</b>	
				<b>APPRVD</b>			
				<b>CHECKED</b>			
<b>400</b>	<b>2.2</b>	<b>50</b>	<b>kW</b>	<b>Hz</b>			
<b>VOLTS</b>		<b>50</b>					

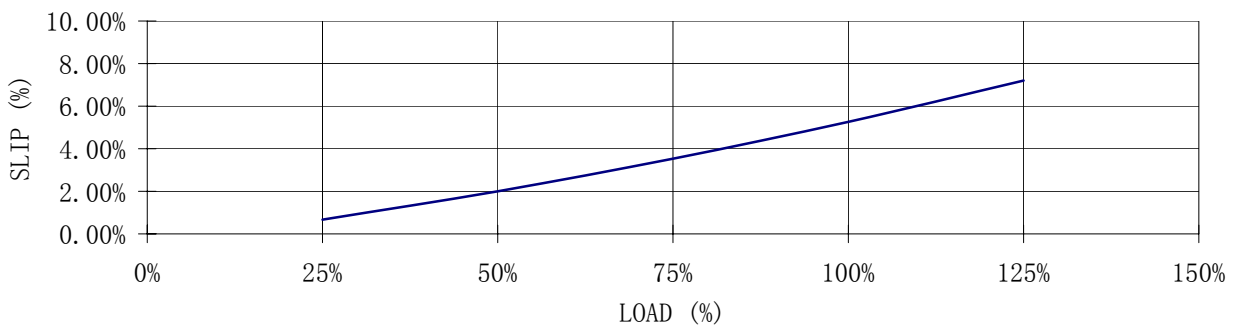
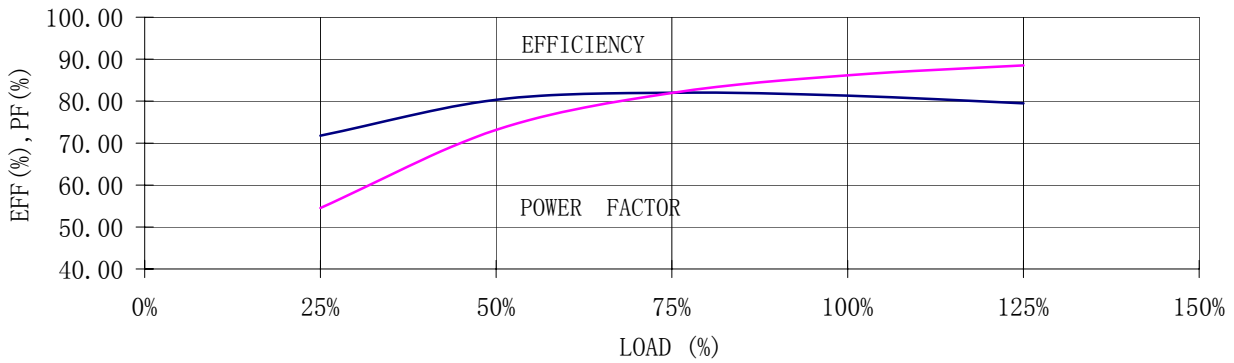
RESULT SUMMARY

# VALIADIS S.A.

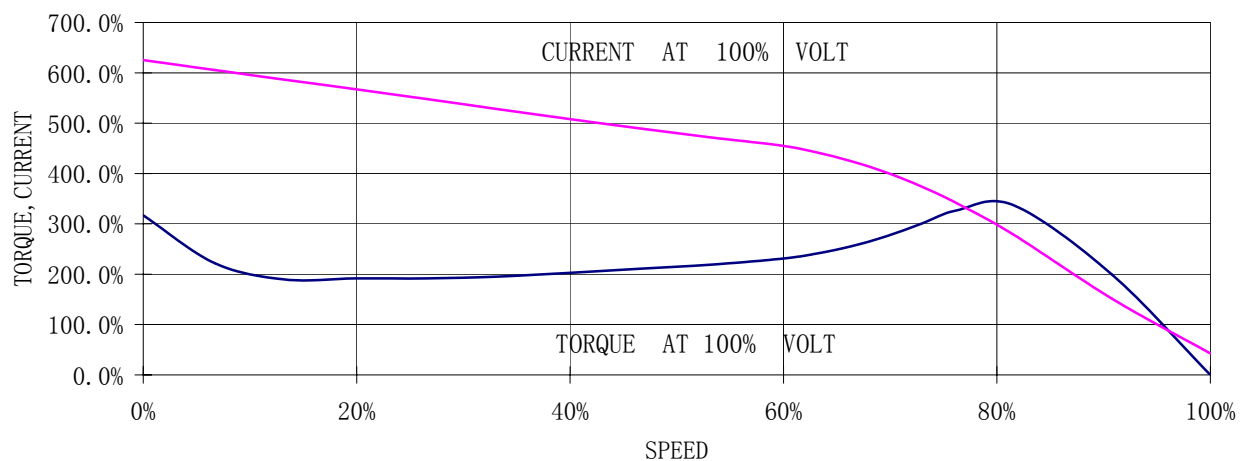
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### LOAD TEST



### SPEED VS TORQUE, CURRENT



<b>VALIADIS S.A.</b>	<b>SCALE</b>	N/A	
	<b>DATE</b>		<b>REV</b>
	<b>AK90L - 2</b>	<b>DRAWN</b>	<b>DOCUMENT NO.</b>
	<b>2.2</b>	<b>APPRVD</b>	
<b>400</b>	<b>CHECKED</b>		

2.2 kW  
400 VOLTS 50 Hz

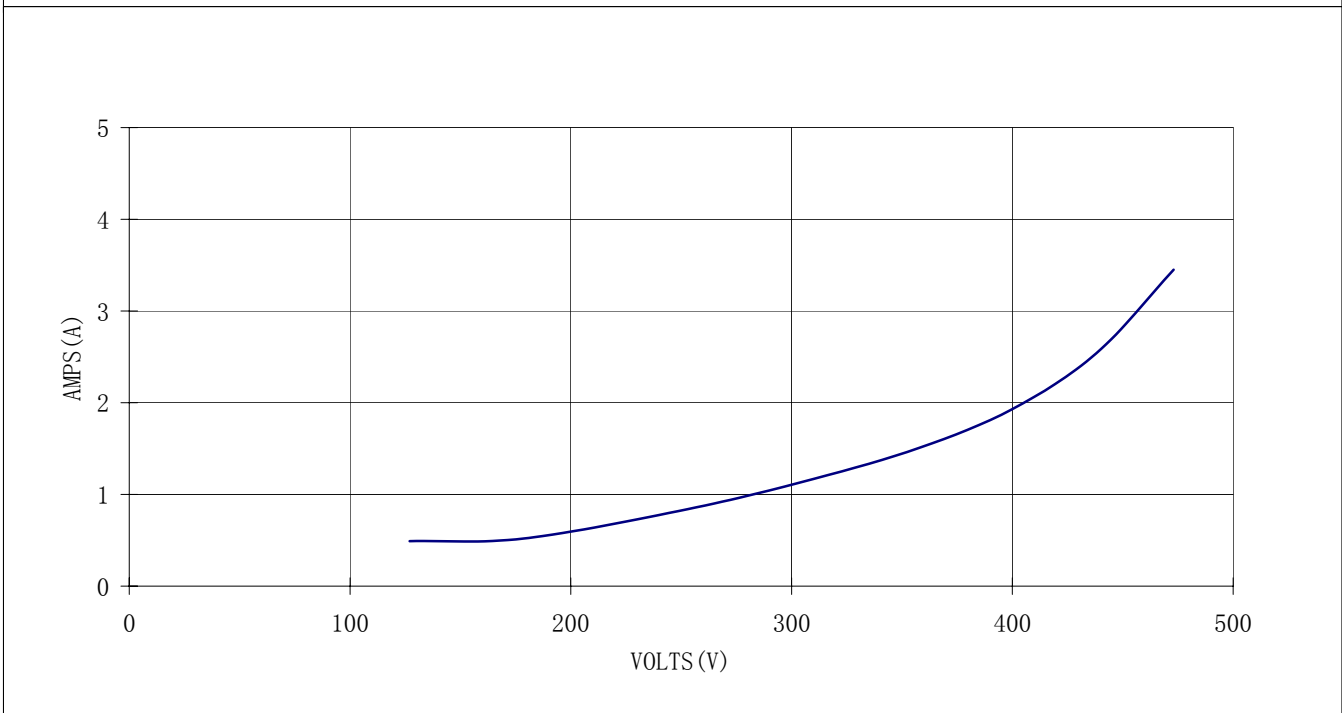
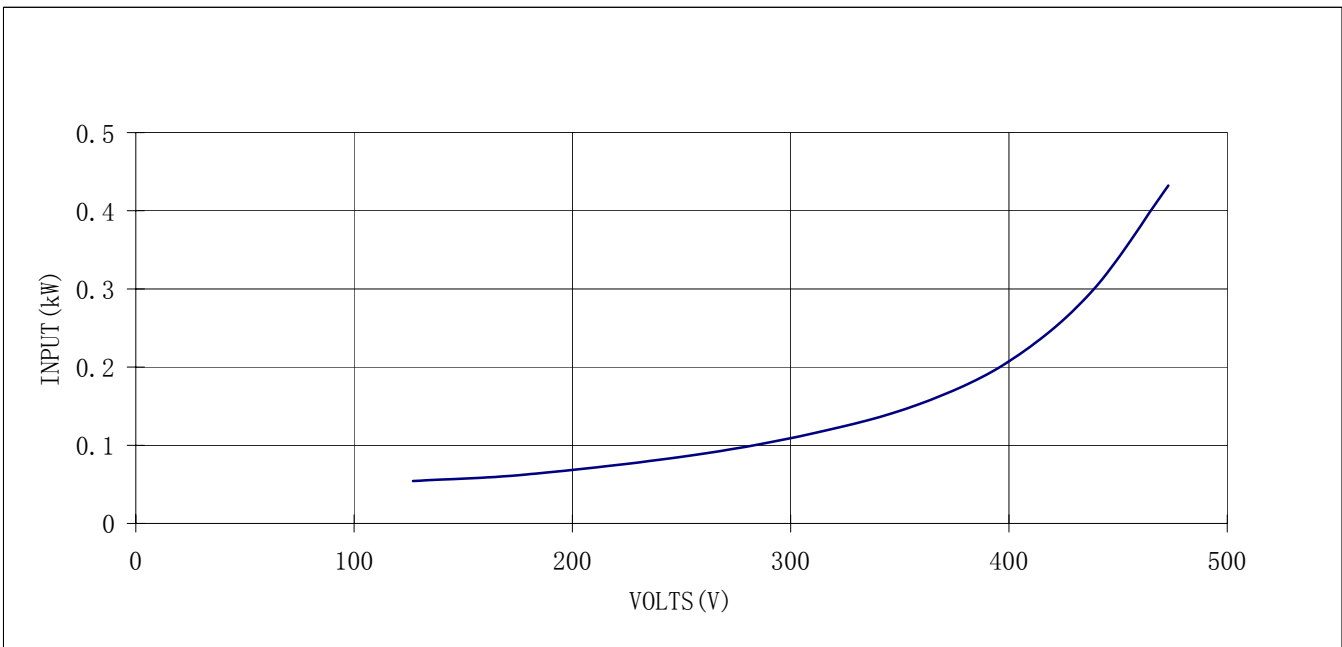
CURVE

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### NO LOAD TEST



	<b>VALIADIS S.A.</b>	<b>SCALE</b>	N/A	
		<b>DATE</b>		REV
	AK90L - 2	<b>DRAWN</b>		DOCUMENT NO.
	2.2 kW	<b>APPRVD</b>		
400 VOLTS 50 Hz	<b>CHECKED</b>			

CURVE