

# VALIADIS S.A.

## ELECTRIC MOTOR TEST REPORT - THREE PHASE INDUCTION MOTOR

<b>NAMEPLATE DATA</b>	IEC	<b>TYPE</b>	1.5	<b>KW</b>	2850	<b>RPM</b>
AK90S - 2 <b>FRAME</b>	3	<b>PHASE</b>	400	<b>VOLTS</b>	50	<b>HZ/CYCLES</b>
79.5 <b>EFFICIENCY</b>	3.32	<b>AMPS</b>	55	<b>IP</b>	IC01	<b>IC</b>
2 <b>POLE</b>	S1	<b>DUTY</b>	0.82	<b>PF</b>	N/A	<b>EFF2</b>
VALIADIS <b>MANUFACTURER</b>		<b>SERIAL NO.</b>	F	<b>INS. CLASS</b>	Y	<b>CONNECTION</b>

<b>MAJOR CONTENTS</b>	<b>UNIT</b>	<b>TEST VALUE</b>
STATOR RESISTANCE OF PHASE TO PHASE	75 DEG.C	OHM 9.6116
NO LOAD CURRENT		AMP 1.58
NO LOAD INPUT		kW 0.1771
CORE LOSS (Pfe)		kW 0.108
WINDAGE FRICTION LOSS (Pfw)		kW 0.031
STATOR WINDING LOSS(Pcu1)		kW 0.1589
ROTOR WINDING LOSS(Pcu2)		kW 0.0788
STRAY LOAD LOSS (Ps)		kW 0.0094
FULL LOAD CURRENT		AMP 3.32
LOCKED ROTOR CURRENT		AMP 21.41
LOCKED ROTOR CURRENT/FULL LOAD CURRENT		P.U. 6.4
LOCKED ROTOR INPUT @ 100% VOLT		kW 10.584
FULL LOAD TORQUE		N.m. 5.02
LOCKED ROTOR TORQUE		N.m. 15.49
LOCKED ROTOR TORQUE/FULL LOAD TORQUE		P.U. 3.09
PULL OUT TORQUE		N.m. 16.12
PULL OUT TORQUE/FULL LOAD TORQUE		P.U. 3.21
PULL UP TORQUE		N.m. 9.18
PULL UP TORQUE/FULL LOAD TORQUE		P.U. 1.83
EFFICIENCY @ FULL LOAD		% 79.52
POWER FACTOR @ FULL LOAD		0.820
FULL LOAD SLIP		4.87%
FULL LOAD SPEED		r/min 2854
STATOR WINDING TEMPERATURE RISE	30 SECS	K 49.3
DE BEARING TEMPERATURE BY PT100		Deg. C 57.0
NDE BEARING TEMPERATURE BY PT100		Deg. C 56.0
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) 62.1
VIBRATION		mm/s 0.9
MOMENT OF INERTIA		kgm <sup>2</sup> 0.0024
WEIGHT		kg 13

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

<b>VALIADIS S.A.</b>				<b>SCALE</b>	<b>N/A</b>		
				<b>DATE</b>		<b>REV</b>	
<b>AK90S - 2</b> <b>1.5 kW</b> <b>400 VOLTS 50 Hz</b>				<b>DRAWN</b>		<b>DOCUMENT NO.</b>	
				<b>APPRVD</b>			
				<b>CHECKED</b>			

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79.5	EFFICIENCY	3.32	AMPS	55	IP	IC01
2	POLE	S1	DUTY	0.82	PF	N/A
VALIADIS	MANUFACTURER	SERIAL NO.	F	INS. CLASS	Y	CONNECTION

TEST DATA	NO LOAD	25% LOAD	50% LOAD	75% LOAD	100% LOAD	125% LOAD	LOCKED ROTOR
EFFICIENCY	0	66.5	76.6	79.4	79.5	78.3	
PF	0.162	0.467	0.652	0.758	0.820	0.854	0.714
RPM	3000	2969	2936	2897	2854	2807	0
SLIP	0.00%	1.03%	2.13%	3.43%	4.87%	6.43%	100.00%
AMPS	1.58	1.76	2.17	2.7	3.32	4.04	21.41
VOLTS	400	400	400	400	400	400	400
TORQUE NM	0	1.22	2.44	3.71	5.02	6.37	15.49
KW INPUT	0.1771	0.5689	0.9804	1.4173	1.8855	2.3912	10.584
KW OUTPUT	0	0.378	0.751	1.125	1.499	1.873	

LOSSES (kW)	25% LOAD	50% LOAD	75% LOAD	100% LOAD	125% LOAD
STATOR LOSS Pcu1	0.045	0.068	0.105	0.159	0.235
STATOR LOSS %	7.85%	6.92%	7.42%	8.43%	2.22%
ROTOR LOSS Pcu2	0.004	0.017	0.041	0.079	0.132
ROTOR LOSS %	0.76%	1.75%	2.92%	4.18%	1.24%
CORE LOSS Pfe	0.108	0.108	0.108	0.108	0.108
CORE LOSS %	18.98%	11.02%	7.62%	5.73%	1.02%
WINDGE/FRICTION Pfw	0.031	0.031	0.031	0.031	0.031
WINDGE/FRICTION %	5.45%	3.16%	2.19%	1.64%	0.29%
STRAY LOAD LOSS Ps	0.003	0.005	0.007	0.009	0.012
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	7.93733 OHMS @	21.0	DEG.C.	BETWEEN STATOR LEADS
STATOR RESISTANCE ADJUSTED	9.6116 OHMS @	75	DEG.C.	BETWEEN STATOR LEADS
STATOR RESISTANCE HOT	9.4644 OHMS	after test of temp rise		BETWEEN STATOR LEADS
WINDING TEMPERATURE RISE	49.3 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	57.0 DEG.C.	at full load steady state at ambient		21.0 DEG.C.
PT100 TEMPERATURE OF NDE BEARING	56.0 DEG.C.	at full load steady state at ambient		21.0 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)	62.1	dB(A) 1meter	INSULATION RESISTANCE	500	MEG.OHMS
VIBRATION LEVEL	0.9	mm/sec on no load	D.E. BEARING		
WEIGHT	13	kg	N.D.E. BEARING		
H-POT TEST VOLTS	1800	VOLTS			

<b>VALIADIS S.A.</b>				SCALE	N/A		
				DATE		REV	
<b>AK90S - 2</b>				DRAWN		<b>DOCUMENT NO.</b>	
1.5	kW			APPRVD			
400	VOLTS	50	Hz	CHECKED			

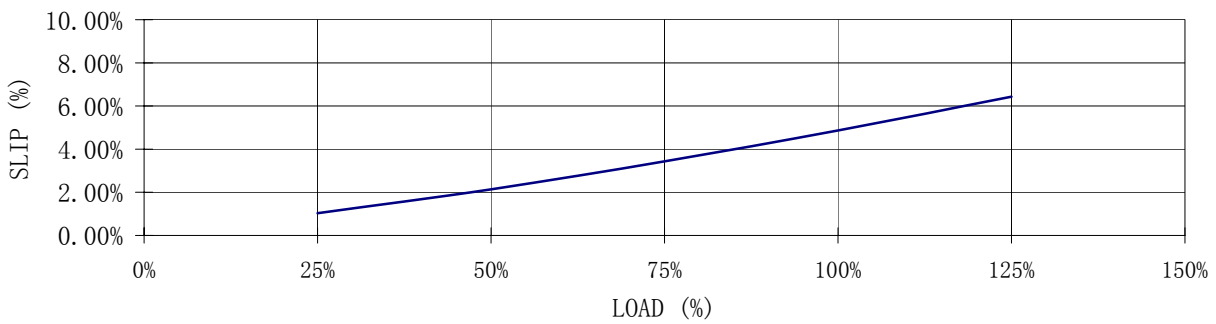
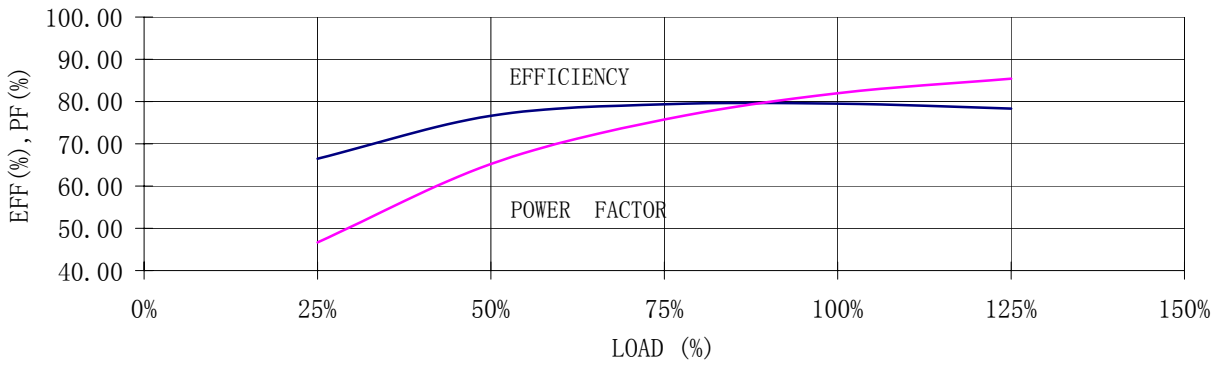
RESULT SUMMARY

# VALIADIS S.A.

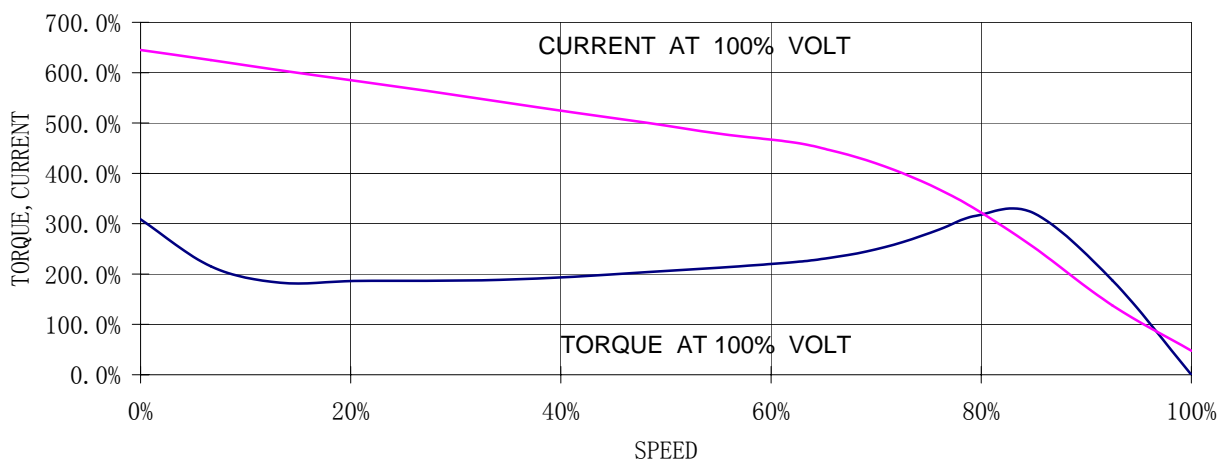
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### LOAD TEST



### SPEED VS TORQUE, CURRENT



	<b>VALIADIS S.A.</b>	<b>SCALE</b>	N/A	
		<b>DATE</b>		REV
	<b>AK90S - 2</b>	<b>DRAWN</b>		<b>DOCUMENT NO.</b>
	<b>1.5 kW</b>	<b>APPRVD</b>		
<b>400 VOLTS 50 Hz</b>	<b>CHECKED</b>			

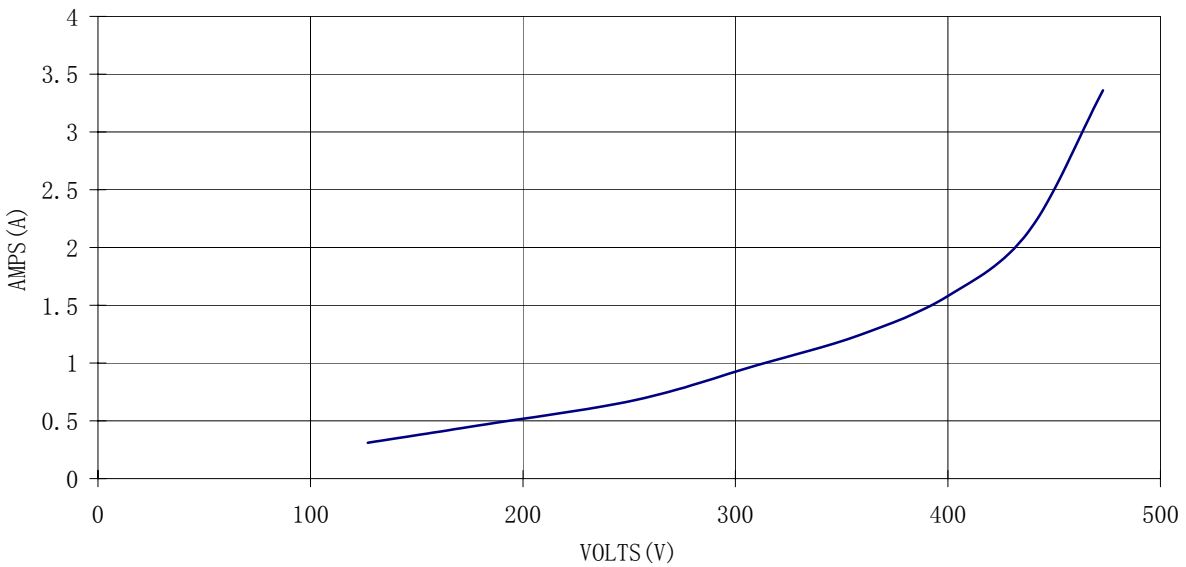
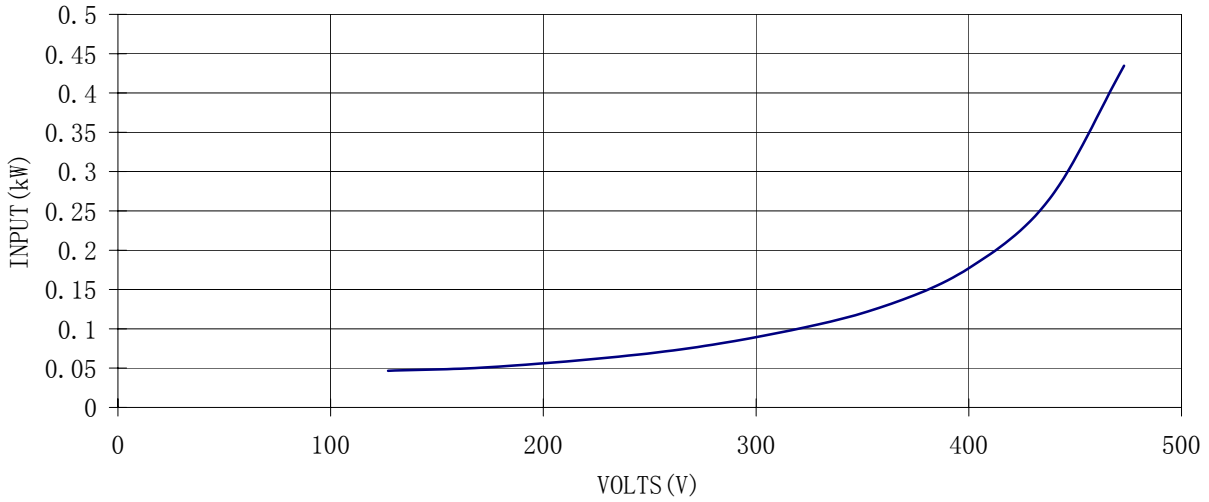
CURVE

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

**NO LOAD TEST**



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		<b>DATE</b>		<b>REV</b>
	<b>AK90S - 2</b>	<b>DRAWN</b>		<b>DOCUMENT NO.</b>
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CURVE