



# VALIADIS S.A.

## HELLENIC MOTORS

### Type Test Report three phase squirrel-cage motors

#### Winding cale card

Type : K 280LX-2	Motor No. :		
Voltage : 400 V	Output : 160 kW	Duty type : S1	
Current : 268.4 A	Conn. : $\Delta$	Frequency : 50 Hz	Cos $\phi$ : 0.90
	Speed : 2985 rpm	Eff. : 95.6 %	SF. 1

#### Stator winding resistance measurement (cold)

Connection : $\Delta$	$R_{u1-v1} : 0.00957 \Omega$		
Winding temp: 25 °C	$R_{v1-w1} : 0.00958 \Omega$	$R_{av} = 0.00958 \Omega$	Asymmetry : 0.0487 %
Room temp: 25 °C	$R_{w1-u1} : 0.00958 \Omega$		

#### No-load test

$R_{end} = 0.01084 \Omega$

Uo	Io	Po	cos $\phi$	Losses		
				Vcu1	Vfe	Vfw
V	A	W		W	W	W
500	102.9	3750	0.042	172.3	1987.7	1590
440	76.5	3212.5	0.055	95.1	1527.4	1590
400	61.6	2830.0	0.066	61.7	1178.3	1590
320	46.6	2302.7	0.089	35.3	677.4	1590
240	32.3	2017.0	0.150	17.0	410.0	1590
200	26.3	1901.1	0.209	11.2	299.9	1590
160	22.5	1787.0	0.287	8.2	188.8	1590
120	18.3	1698.8	0.447	5.4	103.4	1590

Sound pressure level in dB (A) (at 1 m): 81.68

Sound power level in dB(A): 91

Vibration level (mm/s): x= 1.1    y= 1.5    z= 0.8  
                                   x= 1.2    y= 0.7    z= 0.9

#### Temperature rise test

Voltage : 400 V, Frequency : 50 Hz, Current : 268.4 A, connection :  $\Delta$

According to IEC 34-1	Time	Room temp. °C	Rwdg $\Omega$	Wdg. temp. °C	Wdg. temp. rise(K)	U V	I A	P W	*frame °C
Begin	9:58	30.8	0.009576	25	-----	400.5	266.3	165900	44.0
	10:28	31.8				400.5	265.2	165800	42.2
	10:58	32.0				400.5	262.9	163900	42.9
	11:28	32.1				400.8	260.4	162700	43.1
	11:58	32.2				400.3	269.4	168200	43.5
End			0.0117	82.4	50.3	*bearing: DE=38.2 °C, NDE= 43.2 °C			



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### Load test

Frequency: 50 Hz

Connection:  $\Delta$

Rav= 0.01170  $\Omega$

QAV= 82.4 ° C

SF = 1

P2	U	I	P1	cos $\phi$	n	s	P2	n
Approx. %	V	A	kW		Min <sup>-1</sup>	%	kW	%
25	400	92.2	43.124	0.666	2996	0.14	40	92.76
50	400	144.6	83.907	0.826	2992	0.27	80	95.34
75	400	203.5	125.255	0.895	2987	0.42	120	95.80
100	400	267.8	167.252	0.909	2983	0.57	160	95.66
125	400	336.7	209.973	0.898	2978	0.73	200	95.25
150	400	409.3	253.517	0.892	2973	0.92	240	94.67

P2	Pcu1	Pcu2	Pfe	Pfw	Ps
Approx. %	kW	kW	kW	kW	kW
25	0.150	0.058	1.173	1.590	0.158
50	0.350	0.225	1.167	1.590	0.572
75	0.710	0.511	1.164	1.590	1.281
100	0.570	0.567	1.178	1.590	2.330
125	1.950	1.516	1.158	1.590	3.762
150	2.864	2.278	1.155	1.590	5.631

### Locked rotor test

U	I	P1	cos $\phi$	T
V	A	kW		Nm
400	1887	421	0.322	1202.9
340	1587	302	0.323	850.9
280	1291	203	0.324	563.1
220	999	124	0.326	337.2
160	712	64	0.324	171.3
100	432	24	0.321	63

### Total/speed and current/speed test

n	T	I	n	T	I	n	T	I	n	T	I
Min <sup>-1</sup>	Nm	A	Min <sup>-1</sup>	Nm	A	Min <sup>-1</sup>	Nm	A	Min <sup>-1</sup>	Nm	A
3000	0.0	61.6	2996	127.5	92.2	2992	255.3	144.6	2987	383.7	203.5
2983	512.2	267.8	2978	641.4	336.7	2890	1693.1	1283.2	2625	2285.5	1440.2
2386	1323.2	1539.8	2237	1022.5	1580	2088	938.3	1604	1790	876.5	1641.7
1491	905.1	1679.4	1134	952.7	1717.2	895	1028.5	1745.5	686	1058.6	1770
298	1142.8	1830.4	0	1202.9	1887						



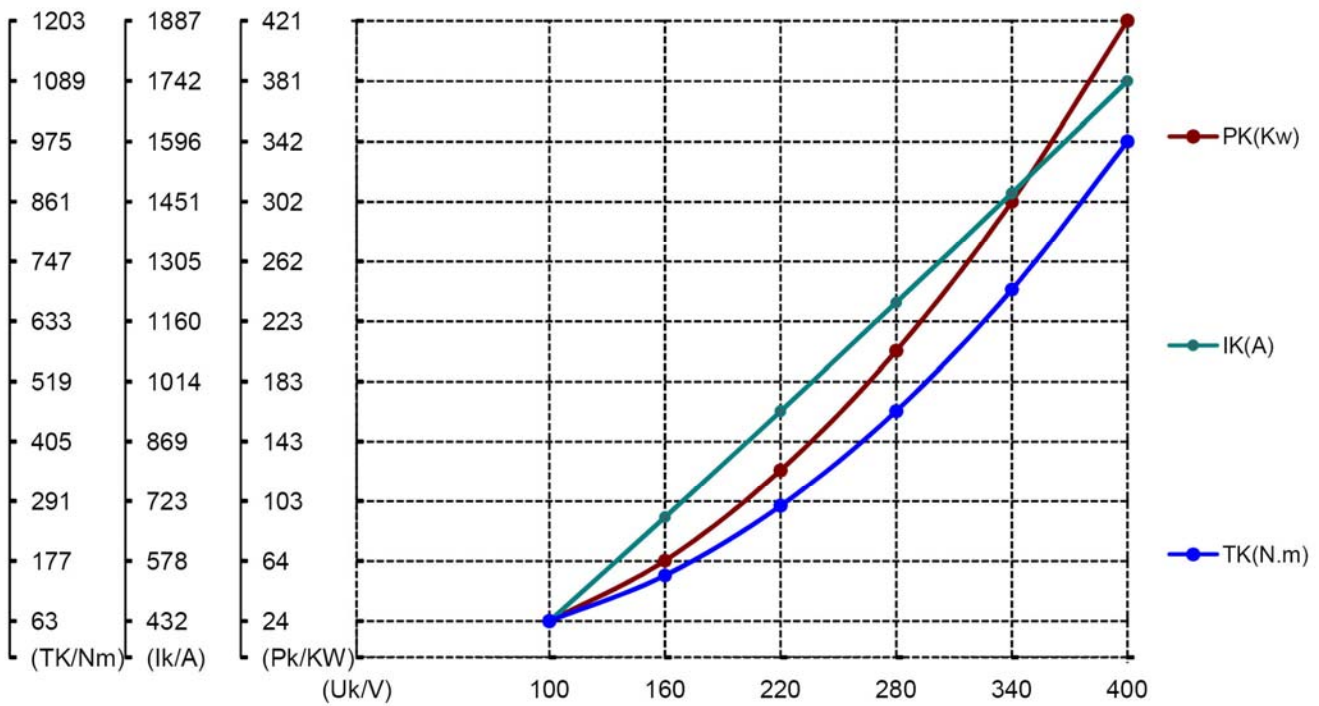
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### Locked rotor test





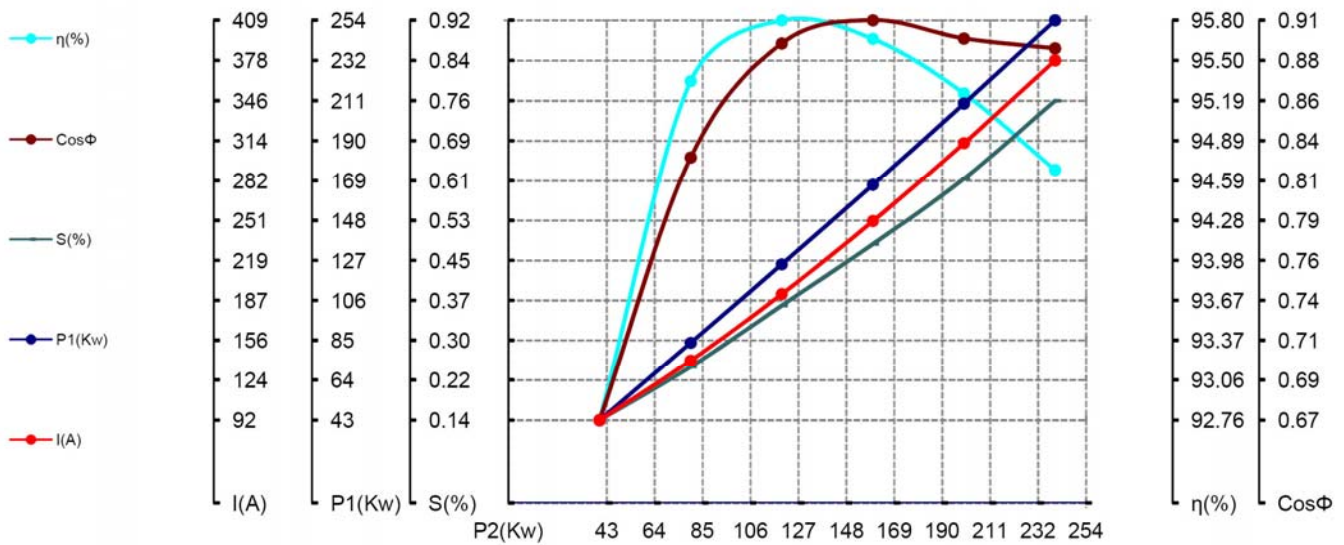
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### Load Test





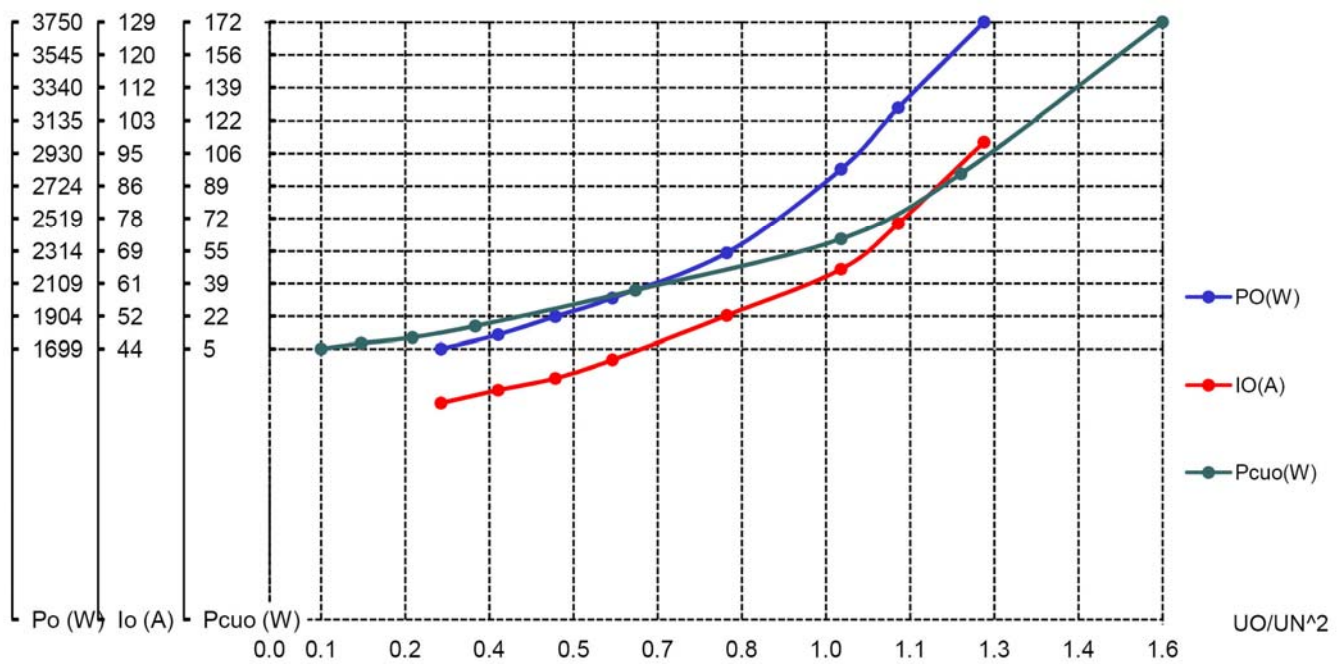
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### No Load Test





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### Torque / speed and Current / speed Test

