



VALIADIS S.A.

HELLENIC MOTORS

Type Test Report three phase squirrel-cage motors

Winding cale card

Type : K 280LX-4	Output : 160 kW	Motor No. :	
Voltage : 400 V	Conn. : Δ	Duty type : S1	
Current : 277.1 A	Speed : 1490 rpm	Frequency : 50 Hz	Cos ϕ : 0.87
		Eff. : 95.8 %	SF. 1

Stator winding resistance measurement (cold)

Connection : Δ	$R_{u1-v1} : 0.01135 \Omega$		
Winding temp: 25 °C	$R_{v1-w1} : 0.01135 \Omega$	$R_{av} = 0.01135 \Omega$	Asymmetry : 0.00 %
Room temp: 25 °C	$R_{w1-u1} : 0.01135 \Omega$		

No-load test

$R_{end} = 0.01293 \Omega$

				Losses		
Uo	Io	Po	cos ϕ o	Vcu1	Vfe	Vfw
V	A	W		W	W	W
500	180.7	6560.7	0.042	633.5	5516.2	411
440	128.2	4108.5	0.042	318.9	3378.6	411
400	94.3	2540.0	0.039	172.5	1956.5	411
320	63.0	1417.1	0.041	76.9	929.2	411
240	46.1	1036.7	0.054	41.1	584.6	411
200	37.6	840.5	0.065	27.5	402.0	411
160	29.9	693.0	0.084	17.4	264.6	411
120	22.4	572.7	0.123	9.8	151.9	411

Sound pressure level in dB (A) (at 1 m): 70.74

Sound power level in dB(A): 80

Vibration level (mm/s): x= 0.6 y= 0.65 z= 0.6
 x= 0.5 y= 0.4 z= 0.5

Temperature rise test

Voltage : 400 V, Frequency : 50 Hz, Current : 277.1 A, connection : Δ

According to IEC 34-1	Time	Room temp. °C	Rwdg Ω	Wdg. temp. °C	Wdg. temp. rise(K)	U V	I A	P W	*frame °C
Begin	12:19	30.6	0.01135	25.0	-----	399.6	278.6	165300	34.6
	13:52	29.9				401.2	293.9	175800	49.8
	14:22	32.0				401.7	279.9	167100	48.2
	14:52	31.7				402.0	278.9	166900	49.5
	15:22	31.8				401.9	279.7	167300	50.4
	15:52	32.5				400.2	279.2	166700	50.8
End			0.0139	82.5	50.5	*bearing: DE=56.5 °C, NDE= 51 °C			



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Load test

Frequency: 50 Hz

Connection: Δ

Rav= 0.0139 Ω

QAV= 82.5 °C

P2	U	I	P1	cos ϕ	n	s	P2	n
Approx. %	V	A	kW		Min ⁻¹	%	kW	%
25	400	117.2	42.849	0.524	1498	0.14	40	93.35
50	400	162.6	83.659	0.731	1496	0.28	80	95.63
75	400	217.4	125.093	0.833	1494	0.43	120	95.93
100	400	279.6	167.218	0.87	1491	0.58	160	95.68
125	400	347.8	210.091	0.871	1489	0.75	200	95.20
150	400	420.5	253.768	0.87	1486	0.93	240	94.57

P2	Pcu1	Pcu2	Pfe	Pfw	Ps
Approx. %	kW	kW	kW	kW	kW
25	0.280	0.059	1.938	0.411	0.163
50	0.530	0.226	1.920	0.411	0.574
75	0.960	0.518	1.909	0.411	1.296
100	0.580	0.580	1.957	0.411	2.358
125	2.470	1.543	1.882	0.411	3.787
150	3.587	2.309	1.859	0.411	5.602

Locked rotor test

U	I	P1	cos ϕ	T
V	A	kW		Nm
400	1982	469	0.342	2685.3
340	1667	338	0.344	1899.6
280	1355	228	0.347	1255.1
220	1048	139	0.348	750.8
160	746	72	0.348	380.4
100	452	27	0.345	139.7

Total/speed and current/speed test

n	T	I	n	T	I	n	T	I	n	T	I
Min ⁻¹	Nm	A	Min ⁻¹	Nm	A	Min ⁻¹	Nm	A	Min ⁻¹	Nm	A
1500	0.0	94.3	1498	255	117.2	1496	510.6	162.6	1494	767	217.4
1491	1024.7	279.6	1489	1282.6	347.8	1441	3531.4	1347.8	1312	5101.7	1512.7
1193	2953.6	1617.3	1118	2282.3	1659.5	1044	2094.4	1684.7	895	1956.5	1724.3
746	2020.3	1764	567	2126.6	1803.6	447	2295.8	1833.4	343	2362.9	1859.1
149	2552.8	1922.5	0	2685.1	1982						



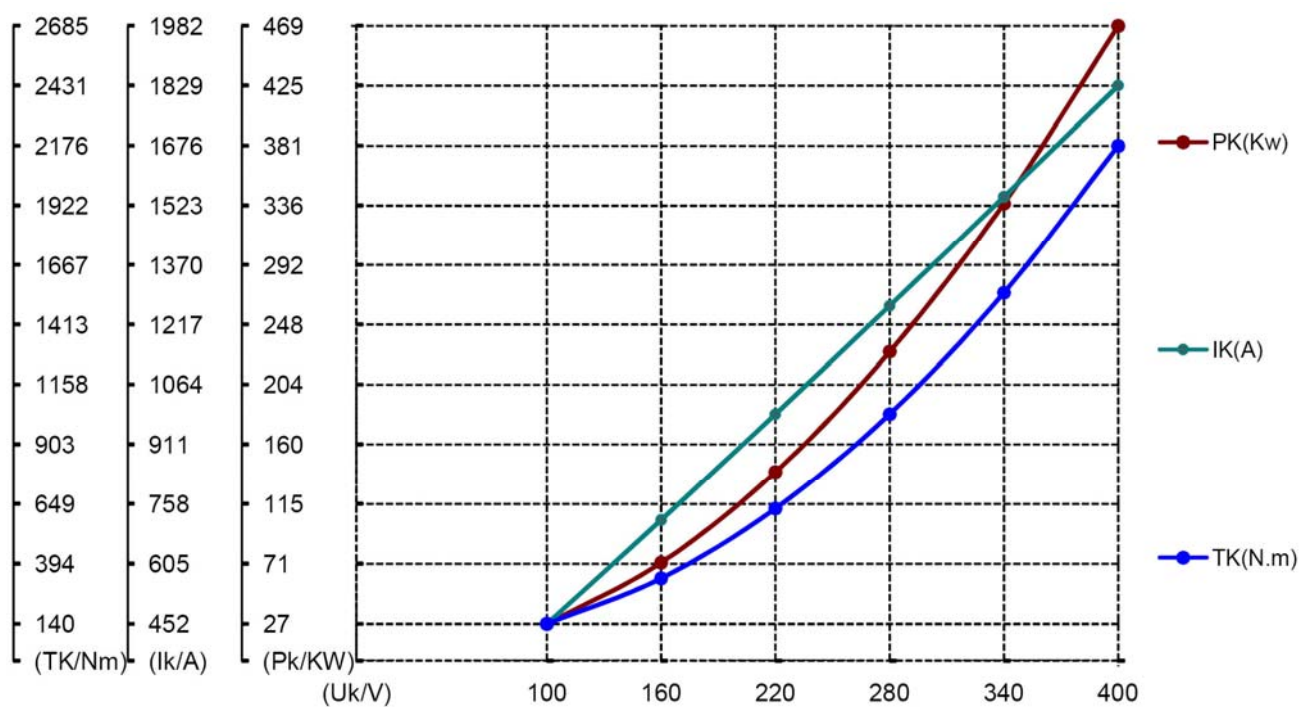
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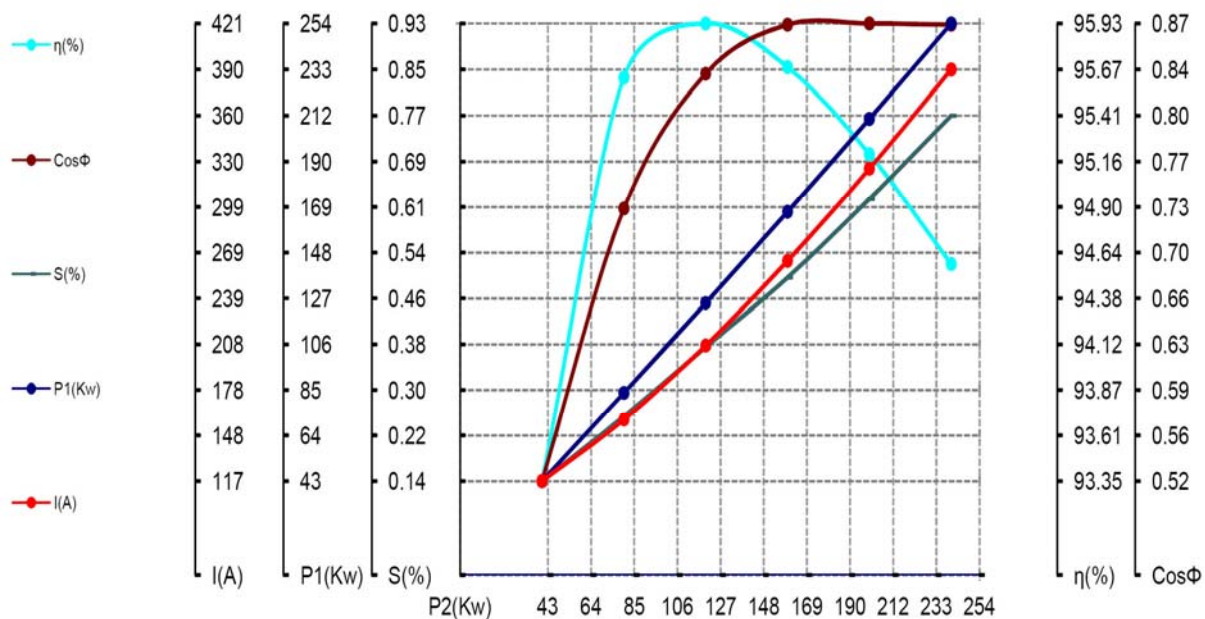
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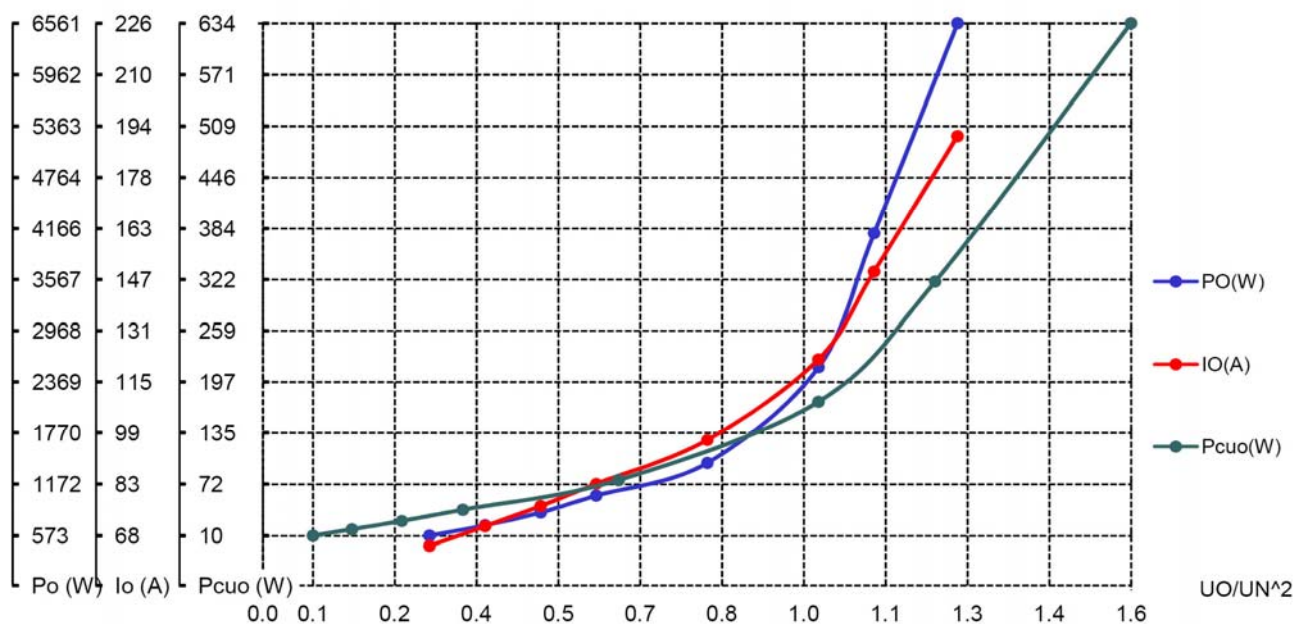
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No Load Test





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Torque / speed and Current / speed Test

