



VALIADIS S.A.

Hellenic Motors

Quality Assurance Certificate EN ISO 9001:2008
Certificate Reg.No. 04100970683

Type Test Report three phase squirrel-cage motors

Name plate data

Type : K400-6	Output : 560 kW	Motor No. :	
Voltage : 400 V	Conn. : Δ	Duty type : S1	Frequency : 50 Hz
Current : 975.9 A	Speed : 990 rpm	Eff. : 95.2 %	Cos ϕ : 0.87
			SF : 1.00

Stator winding resistance measurement (cold)

Connection : Δ	$R_{u1-v1} : 0.00356 \Omega$		
Winding temp: 11,0 °C	$R_{v1-w1} : 0.00356 \Omega$	$R_{av} = 0.0036 \Omega$	Asymmetry : 0.0 %
Room temp: 11,0 °C	$R_{w1-u1} : 0.00356 \Omega$		

No-load test

$R_{end} = 0.3145 \Omega$

				Losses		
Uo	Io	Po	cos ϕ	Vcu1	Vfe	Vw
V	A	W		W	W	W
440	353.4	12342.3	0.046	767.9	9054.4	2520
400	285.8	9425.5	0.048	502.3	6403.2	2520
360	239.8	7394.6	0.049	353.8	4520.9	2520
320	205.1	5882.8	0.052	258.8	3104.0	2520
280	175.6	4724.1	0.055	189.7	2014.4	2520
240	148.6	3776.6	0.061	135.8	1120.8	2520
200	122.6	2969.7	0.070	92.4	357.3	2520
160	94.8	2578.6	0.098	55.2	3.4	2520

Sound pressure level in dB (A) (at 1 m): 77

Sound power level in dB(A): 90

Vibration level (mm/s): DE : x=0.8 y=0.9 z=0.7
NDE : x= 1 y=1.1 z=0.9

Temperature rise test

Voltage : 400 V, Frequency : 50 Hz, Current :97.1 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		11	0.00356	11	-----				
	10:00	10				400	931.5	306344.8	55
	10:30	11				400	976.9	324117.0	56
	11:00	11				400	975.8	323815.8	58
	11:30	11				400	972.4	322309.7	59
	12:00	12				400	973.3	322312.1	60
	12:30	12				400	989.7	329298.1	61
	13:00	13				400	997.6	332430.8	61
End			0.00463	71.303		*bearing:DE=50.3°C, NDE= 49.2°C			



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SF= 1.00

QN= 71.3 (k)

Fore bearing temperature: 50.3 (°C)

Rear Bearing temperature: 49.2 (°C)

Load test

Frequency: 50 Hz

Connection: Δ

SF :1

Rav= 0.00463 Ω

Qav= 84,3 °C

P2	U	I	P1	cosφ	n	s	P2	n	Tn
Approx. %	V	A	kW		Min ⁻¹	%	kW	%	Nm
25	400	358.0	150.770	0.608	995.9	0.41	140.003	92.9	1342.6
50	400	541.7	294.379	0.784	993.8	0.62	280.003	95.1	2690.7
75	400	746.7	440.058	0.851	991.7	0.83	420.005	95.4	4044.6
100	400	974.6	588.248	0.871	989.6	1.04	560.008	95.2	5404.2
125	400	1226.4	739.459	0.870	987.5	1.25	700.003	94.7	6769.4
150	400	1503.4	894.305	0.859	985.5	1.45	840.000	93.9	8140.4

P2	Pcu1	Pcu2	Pfe	Pfw	Ps
Approx. %	kW	kW	kW	kW	kW
25	0.889	0.592	6.361	2.520	0.406
50	2.036	1.776	6.316	2.520	1.728
75	3.869	3.566	6.276	2.520	3.822
100	6.591	5.971	6.236	2.520	6.922
125	10.437	9.007	6.179	2.520	11.314
150	15.683	12.690	6.127	2.520	17.285

Locked rotor test

U	I	P1	cosφ	Tn
V	A	kW		Nm
400	6429.72	1179.368	0.265	8269.9
360	5760.31	946.580	0.264	6637.6
320	5094.14	740.298	0.262	5191.1
280	4431.58	560.250	0.261	3928.6
240	3773.13	406.134	0.259	2847.9
160	2471.49	174.254	0.254	1221.9

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
1000	0.0	285.8	995.9	1342.5	357.6	993.8	2690.7	539.1	991.7	4044.5	741.3
990.5	4859.6	963.6	989.6	5404.1	12006.8	933.5	17725.0	3752.5	871.6	16019.9	4674.4
792.4	9274.7	5193.8	742.8	7166.8	5382.1	693.3	6576.6	5518.4	594.3	6143.5	5648.2
495.2	6343.9	5778.1	376.4	6677.8	5907.9	297.1	7208.9	6005.3	227.8	7419.7	6089.7
99	8009.9	6297.5	0.0	8431.5	6492.2						



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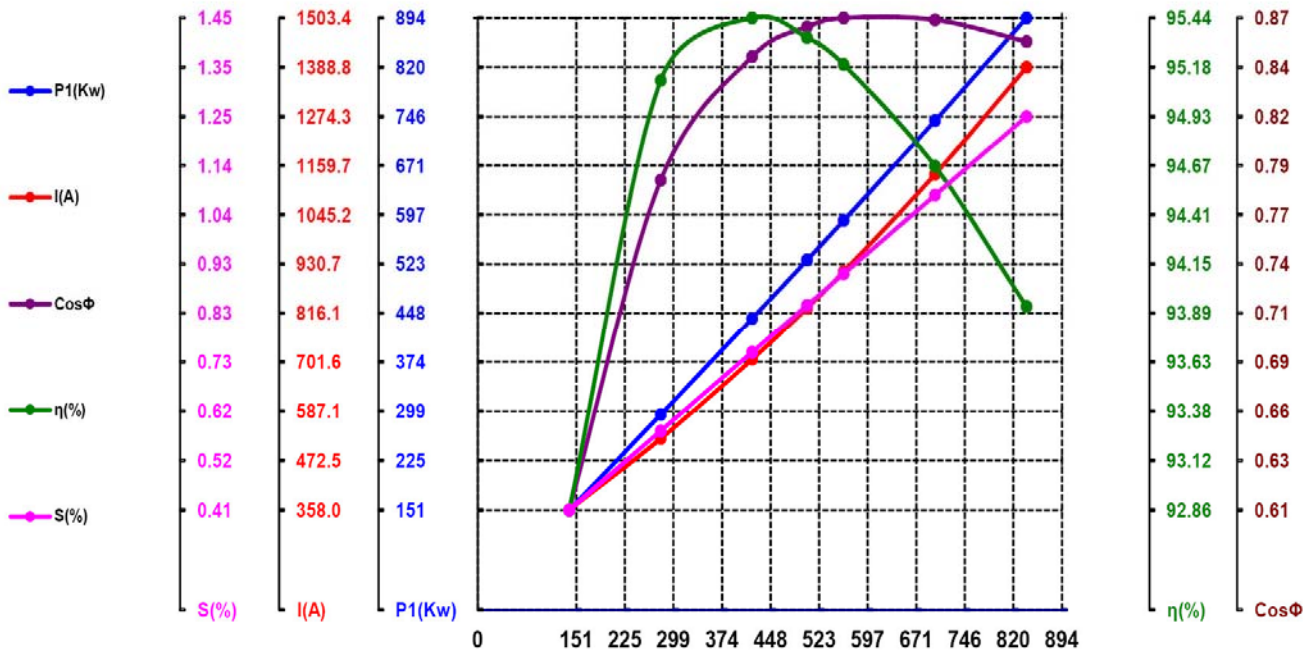
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Load Test





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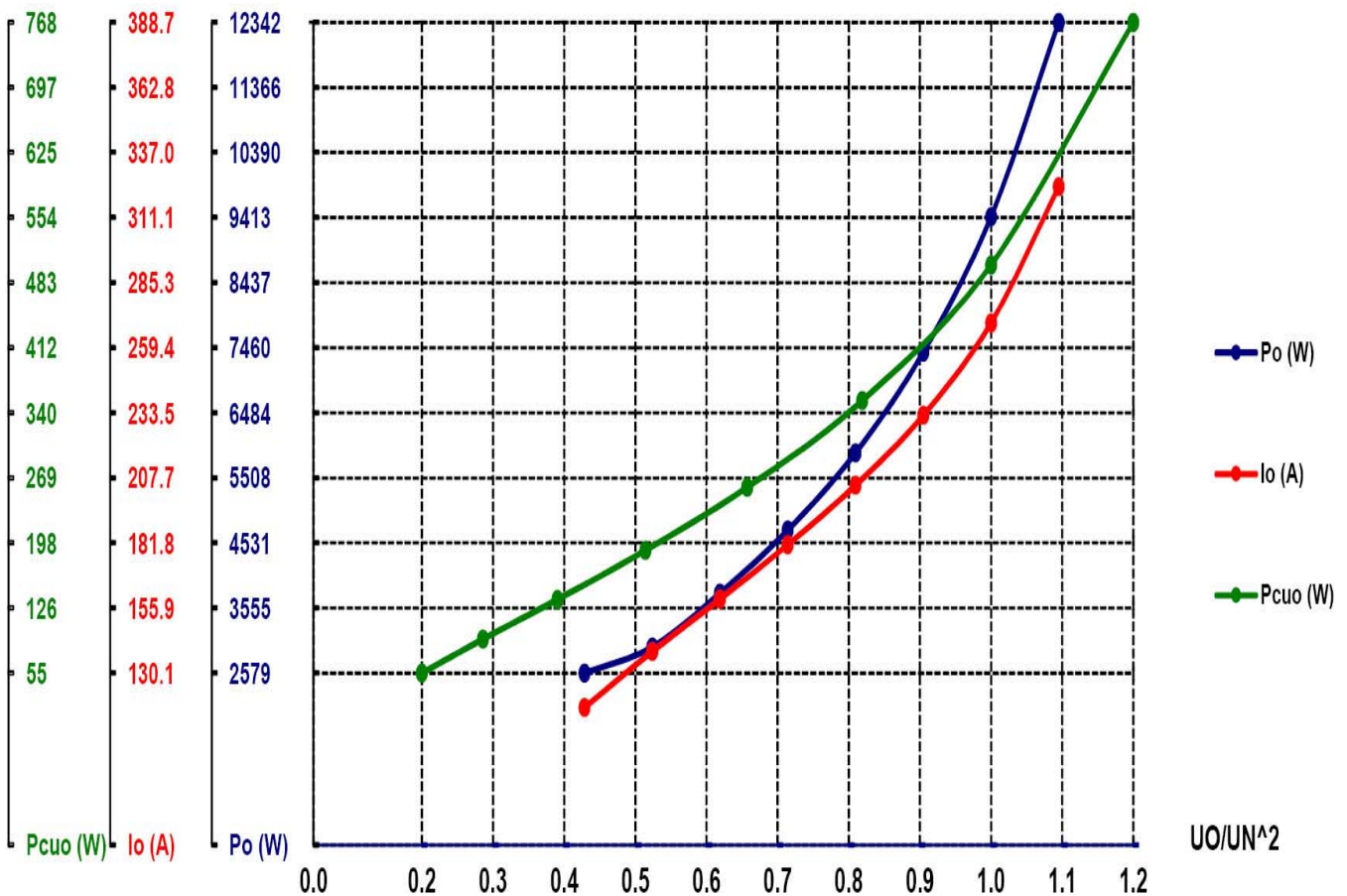
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No Load





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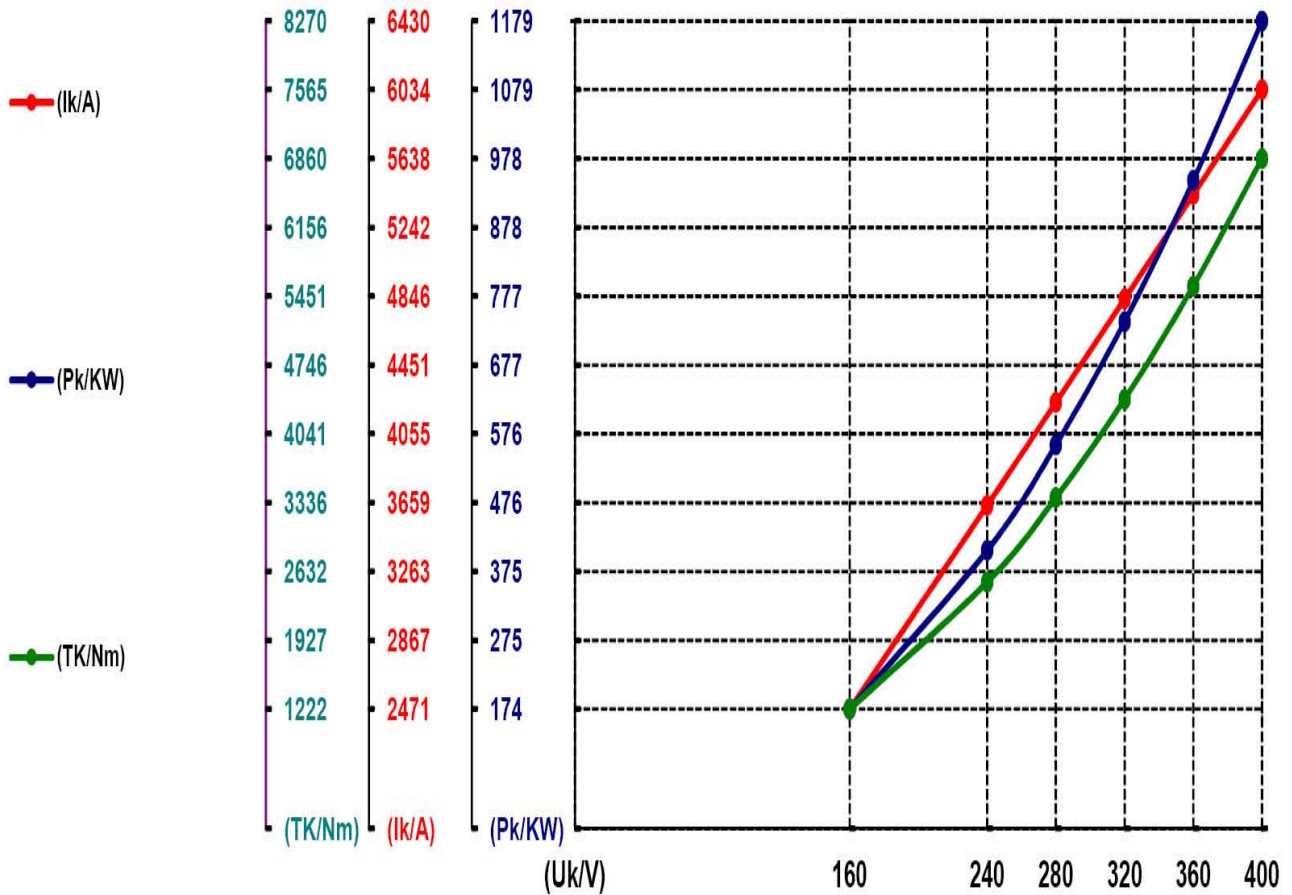
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Locked Rotor Test





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