



ESTABLISHED 1927

VALIADIS**HELLENIC MOTORS**Quality Assurance Certificate EN ISO 9001:2015
Certificate Reg. No. 041130055**Type Test Report three phase squirrel-cage motors****Winding calc card**

Type : K 400M-4	Output : 400 kW	Motor No. :	Duty type : S1
Voltage : 400 V	Conn. : Δ	Frequency : 50 Hz	Cos ϕ : 0.88
Current : 687.0 A	Speed : 1485 rpm	Eff. : 95.5 %	

Statorwinding resistance measurement (cold)

Connection : Δ	$R_{u1-v1} : 0.004360 \Omega$	
Winding temp: 25.0 °C	$R_{v1-w1} : 0.004360 \Omega$	$R_{av} = 0.004360 \Omega$
Room temp: 25.0 °C	$R_{w1-u1} : 0.004360 \Omega$	

No-load testRbegin = 0.005026 Ω Rend = 0.005014 Ω

				Losses		
Uo	Io	Po	cos ϕ_o	Vcu1	Vfe	Vw
V	A	W		W	W	W
473	359.17	16458	0.056	970	10824	4664
438	263.15	11910	0.060	521	6725	4664
400	202.74	9442	0.067	309	4469	4664
358	163.79	7962	0.078	202	3096	4664
310	134.96	6918	0.095	137	2117	4664
253	108.32	6059	0.128	88	1307	4664
179	77.54	5321	0.221	45	612	4664
127	55.92	5024	0.408	24	336	4664

Sound pressure level in dB (A) (at 1 m): 89.7

Vibration level (mm/s): x = 1.2 y = 1.4 z = 1.1

Temperature rise testVoltage : 400 V, Frequency : 50 Hz, Current : 685.6 A, connection : Δ

According to IEC 34-1	Time	Room temp. °C	R _{wdg} Ω	Wdg. temp. by R _{wdg}	Wdg. temp. rise(K)	Temperature (°C) with ETD*			
						Wdg.	Bearing DE	Bearing NDE	Frame
Begin	13:00	25.0	0.004360	25.0					25.0
	15:40	24.0							82.8
	16:10	23.5							82.5
End	16:40	23.0	0.005384	86.1	63.1		57.0	55.0	82.5

* ETD= embedded temperature detector



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Frequency: 50 Hz

 $T_{\text{wdg,begin}} = 85.7\text{ }^{\circ}\text{C}$ $T_{\text{wdg,end}} = 85.1\text{ }^{\circ}\text{C}$ Connection: Δ $R_{\text{begin}} = 0.005378\ \Omega$ $R_{\text{end}} = 0.005368\ \Omega$

P2	U	I	P1	cosφ	n	s	Vfe	Vcu1	Ve	Vcu2	Vw	Vv	P2	n
Approx. %	V	A	kW		Min⁻¹	%	W	W	W	W	W	W	kW	%
25	400	262.3	110.094	0.606	1496.4	0.24	4469	571	136	254	4664	10094	100	90.83
50	400	384.2	211.502	0.795	1495.5	0.30	4469	1225	523	621	4664	11502	200	94.56
75	400	525.9	313.791	0.861	1494.1	0.39	4469	2296	1156	1206	4664	13791	300	95.61
100	400	682.8	417.302	0.882	1491.9	0.54	4469	3870	2086	2213	4664	17302	400	95.85
125	400	850.1	522.434	0.887	1488.4	0.77	4469	6000	3346	3955	4664	22434	500	95.71
150	400	1023.3	629.624	0.888	1483.3	1.11	4469	8692	4937	6862	4664	29624	600	95.29

 $T_s/T_n = 1.64$ $I_s/I_n = 6.14$ **Locked rotor test**

U	I	P1	cosφ	T
V	A	kW		Nm
400	4217.0	875.649	0.300	4208
350	3670.7	663.346	0.298	3188
300	3127.1	481.511	0.296	2314
250	2587.1	329.637	0.294	1584
200	2051.7	207.220	0.292	996
100	998.2	49.733	0.288	238



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Type : K 400M-4

Voltage : 400 V

Current : 687.0 A

Output : 400 kW

Conn. : Δ

Speed : 1485 rpm

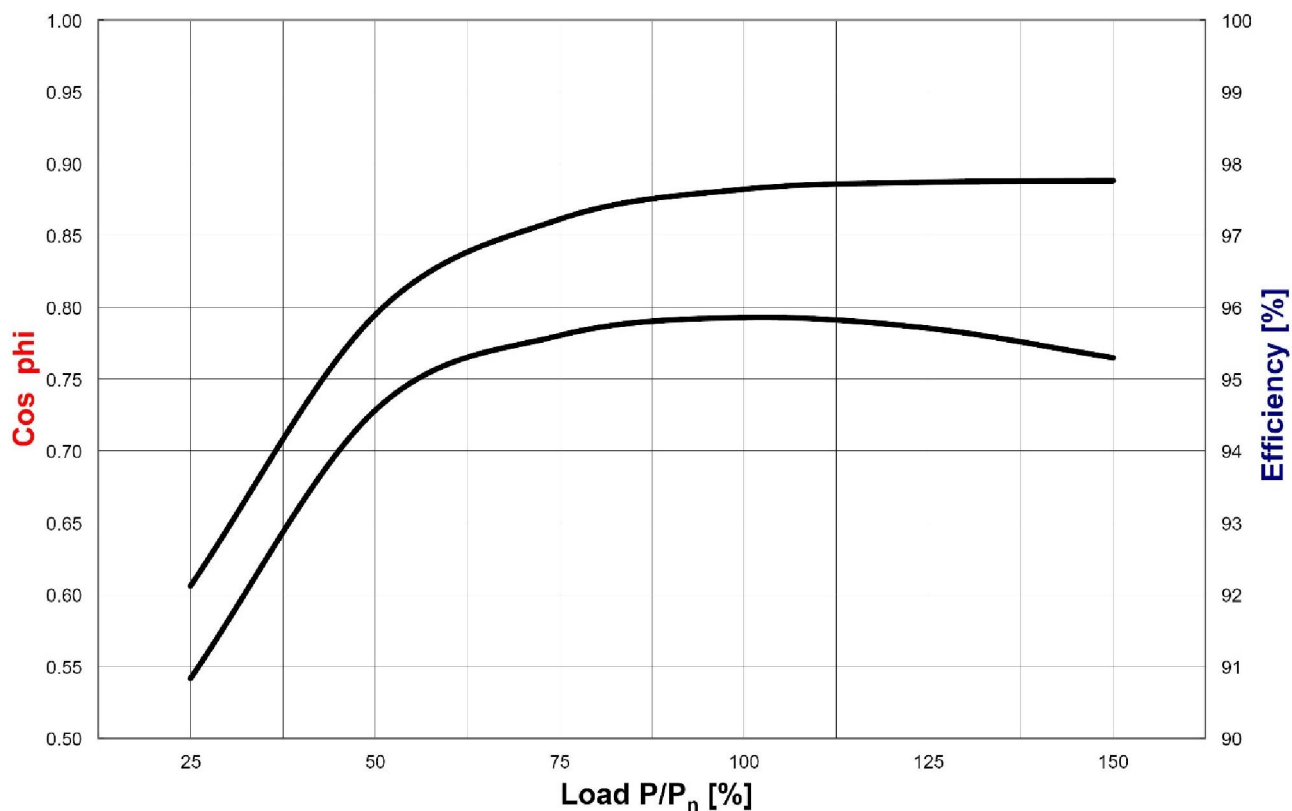
Motor No. :

Duty type : S1

Frequency : 50 Hz

Eff. : 95.5 %

Cos ϕ : 0.88





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Type : K 400M-4

Voltage : 400 V

Current : 687.0 A

Output : 400 kW

Conn. : Δ

Speed : 1485 rpm

Motor No. :

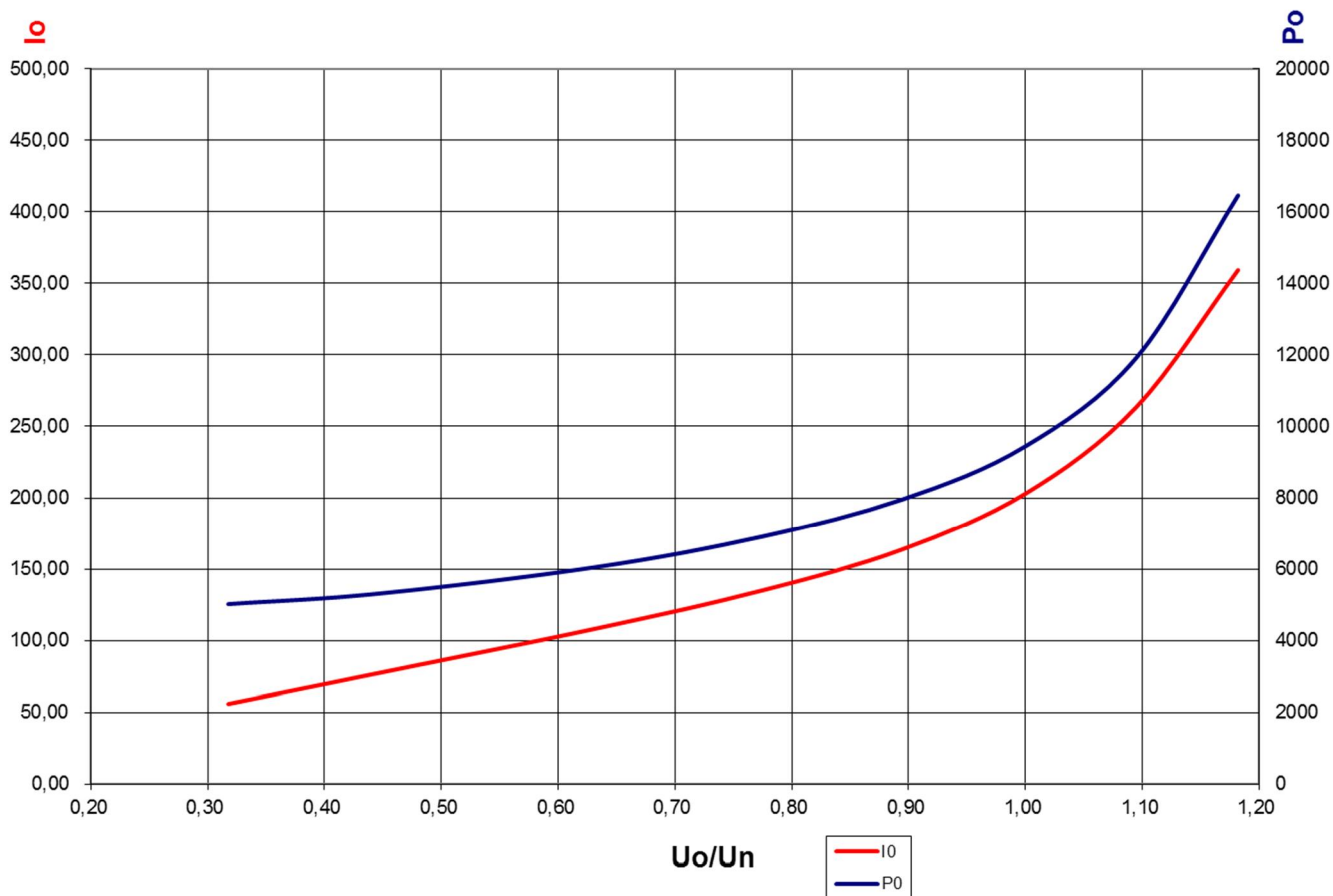
Duty type : S1

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No-load Test





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Voltage : 400 V

Current : 687.0 A

Output : 400 kW

Conn. : Δ

Speed : 1485 rpm

Motor No. :

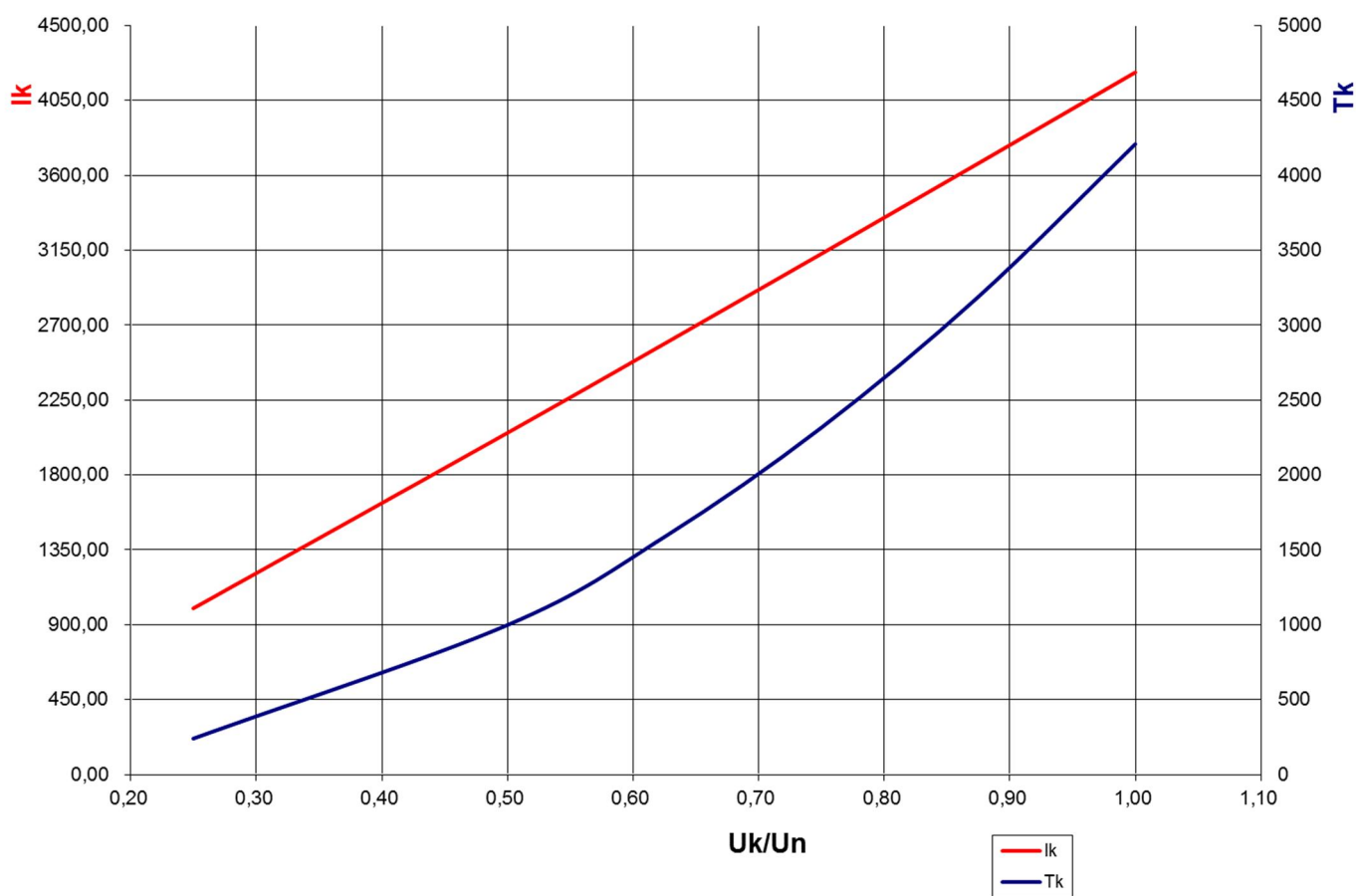
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Locked-rotor Test1





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Output : 400 kW

Conn. : Δ

Speed : 1485 rpm

Motor No. :

Duty type : S1

Frequency : 50 Hz

Eff. : 95.5 %

Cos ϕ : 0.88

Locked-rotor Test2

