



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	Motor No. :
Output : 560 kW	Duty type : S1
Voltage : 400 V	Conn. : $\Delta$
Current : 958.8 A	Speed : 1485 rpm
	Eff. : 95.8 %
	Frequency : 50 Hz
	Cos $\phi$ : 0.88

**Statorwinding resistance measurement (cold)**

Connection : $\Delta$	$R_{u1-v1} : 0.002110 \Omega$
Winding temp: 24.1 °C	$R_{v1-w1} : 0.002110 \Omega$ $R_{av} = 0.002110 \Omega$
Room temp: 24.1 °C	$R_{w1-u1} : 0.002110 \Omega$

**No-load test** $R_{begin} = 0.002426 \Omega$      $R_{end} = 0.002414 \Omega$ 

				Losses		
$U_o$	$I_o$	$P_o$	$\cos\phi_o$	$V_{cu1}$	$V_{fe}$	$V_w$
V	A	W		W	W	W
473	526.46	26011	0.060	1004	20222	4785
438	374.83	17696	0.062	509	12402	4785
400	283.47	13325	0.068	291	8249	4785
358	227.43	11006	0.078	187	6034	4785
310	187.19	9415	0.094	127	4503	4785
253	148.18	7882	0.121	80	3017	4785
179	102.87	6304	0.198	38	1481	4785
127	79.84	5579	0.318	23	771	4785

Sound pressure level in dB (A) (at 1 m): 89.9

Vibration level (mm/s): x = 1.5 y = 1.7 z = 1.4

**Temperature rise test**Voltage : 400 V, Frequency : 50 Hz, Current : 990.7 A, connection :  $\Delta$ 

According to IEC 34-1	Time	Room temp. °C	$R_{wdg}$ $\Omega$	Wdg. temp. by $R_{wdg}$	Wdg. temp. rise(K)	Temperature (°C)with ETD*			
						Wdg.	Bearing DE	Bearing NDE	Frame
Begin	20:00	24.1	0.002110	24.1					24.1
	22:10	24.5							87.0
	22:40	24.5							85.5
End	23:10	24.5	0.002650	90.4	65.9		56.0	54.0	86.0

\* ETD= embedded temperature detector



ESTABLISHED 1927

# VALIADIS

## HELLENIC MOTORS

Quality Assurance Certificate EN ISO 9001:2015  
Certificate Reg. No. 041130055

### Load test

Frequency: 50 Hz

 $T_{wdg,begin} = 100.4 \text{ }^{\circ}\text{C}$  $T_{wdg,end} = 98.9 \text{ }^{\circ}\text{C}$ Connection:  $\Delta$  $R_{begin} = 0.002236 \text{ } \Omega$  $R_{end} = 0.002226 \text{ } \Omega$ 

<b>P2</b>	<b>U</b>	<b>I</b>	<b>P1</b>	<b>cos<math>\phi</math></b>	<b>n</b>	<b>s</b>	<b>Vfe</b>	<b>Vcu1</b>	<b>Ve</b>	<b>Vcu2</b>	<b>Vw</b>	<b>Vv</b>	<b>P2</b>	<b>n</b>
<b>Approx. %</b>	<b>V</b>	<b>A</b>	<b>kW</b>		<b>Min<sup>-1</sup></b>	<b>%</b>	<b>W</b>	<b>W</b>	<b>W</b>	<b>W</b>	<b>W</b>	<b>W</b>	<b>kW</b>	<b>%</b>
25	400	360.9	153.863	0.615	1498.7	0.09	8249	525	175	129	4785	13863	140.0	90.99
50	400	537.7	295.663	0.794	1496.2	0.25	8249	1165	731	733	4785	15663	280.0	94.70
75	400	737.6	438.638	0.858	1493.7	0.42	<b>8249</b>	2193	1625	1786	4785	18638	420.0	95.75
100	400	955.1	582.977	0.881	1491.2	0.59	<b>8249</b>	3677	2915	3351	4785	22977	560.0	96.06
125	400	1184.5	728.892	0.888	1488.3	0.78	<b>8249</b>	5656	4635	5567	4785	28892	700.0	96.04
150	400	1420.3	876.613	0.891	1484.9	1.01	<b>8249</b>	8131	6787	8661	4785	36613	840.0	95.82

 $T_s/T_n = 1.60$  $I_s/I_n = 6.07$ 

### Locked rotor test

<b>U</b>	<b>I</b>	<b>P1</b>	<b>cos<math>\phi</math></b>	<b>T</b>
<b>V</b>	<b>A</b>	<b>kW</b>		<b>Nm</b>
400	5824.2	1316.663	0.326	5757
350	5069.4	997.274	0.325	4361
300	4318.4	723.831	0.323	3165
250	3572.4	495.476	0.320	2133
200	2832.8	311.350	0.317	1362
100	1377.7	72.358	0.303	324



ESTABLISHED 1927

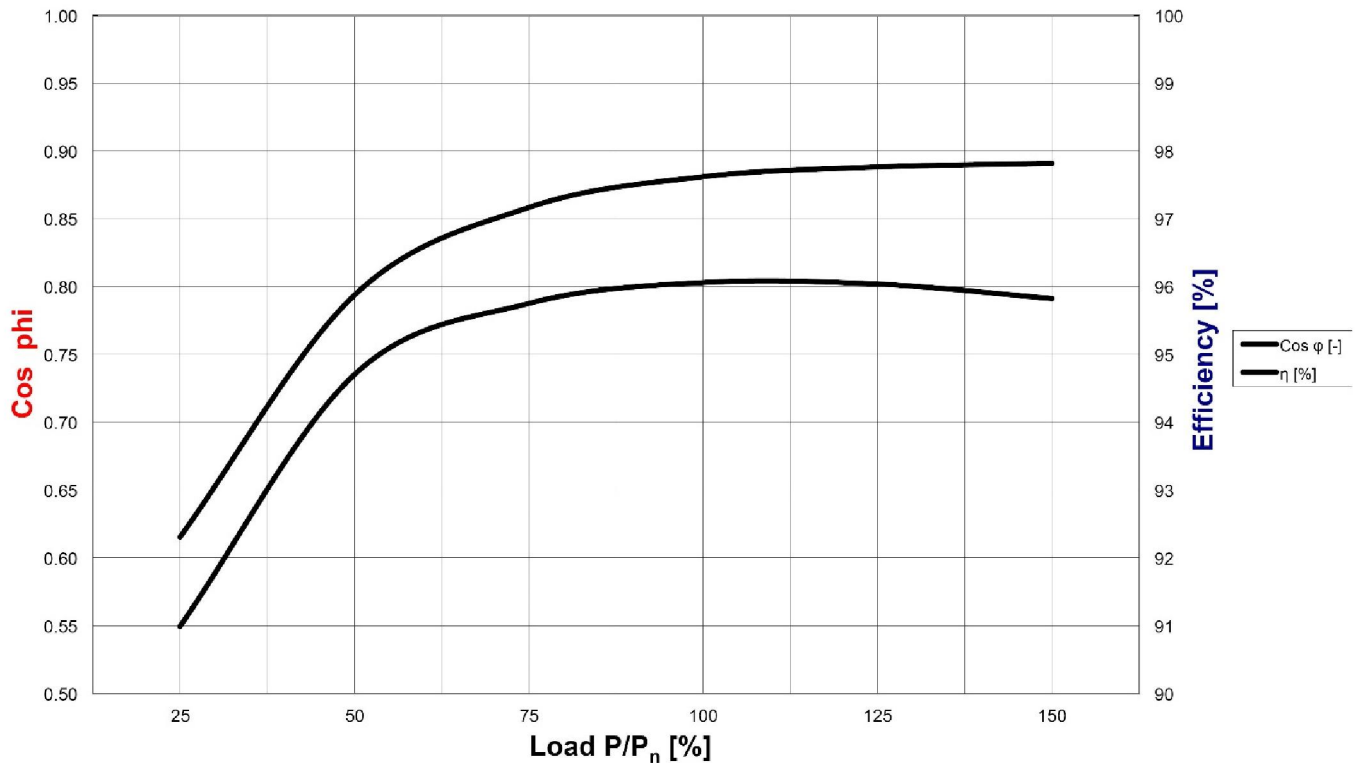
# VALIADIS

HELLENIC MOTORS

Quality Assurance Certificate EN ISO 9001:2015  
Certificate Reg. No. 041130055



Type : K 400M-4	Output : 560 kW	Motor No. :	Duty type : S1
Voltage : 400 V	Conn. : $\Delta$	Frequency : 50 Hz	Cos $\phi$ : 0.88
Current : 958.8 A	Speed : 1485 rpm	Eff. : 95.8 %	





ESTABLISHED 1927

# VALIADIS

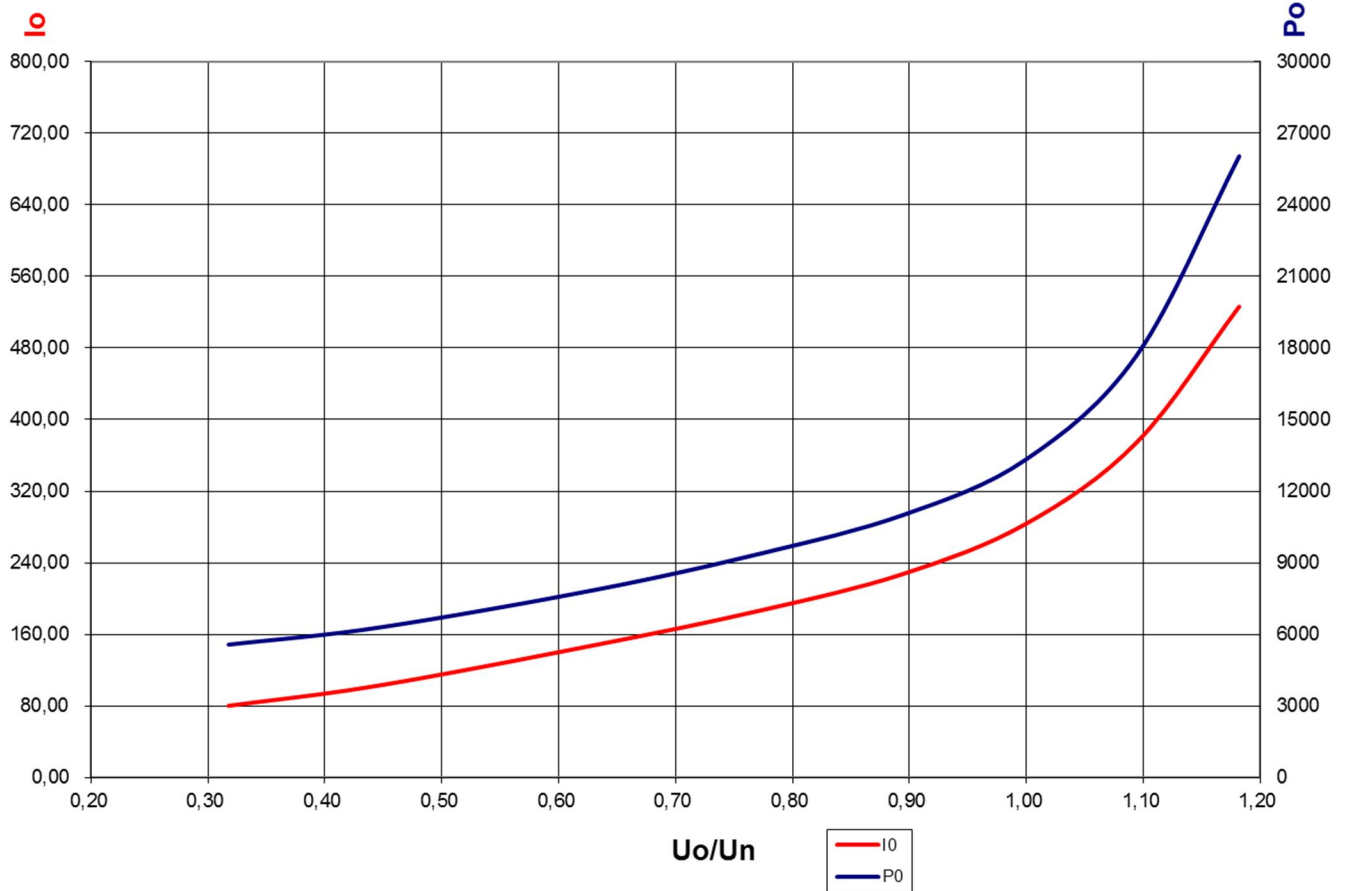
## HELLENIC MOTORS

Quality Assurance Certificate EN ISO 9001:2015  
Certificate Reg. No. 041130055



Type : K 400M-4	Output : 560 kW	Motor No. :	Duty type : S1
Voltage : 400 V	Conn. : $\Delta$	Frequency : 50 Hz	Cos $\phi$ : 0.88
Current : 958.8 A	Speed : 1485 rpm	Eff. : 95.8 %	

### No-load Test





ESTABLISHED 1927

# VALIADIS

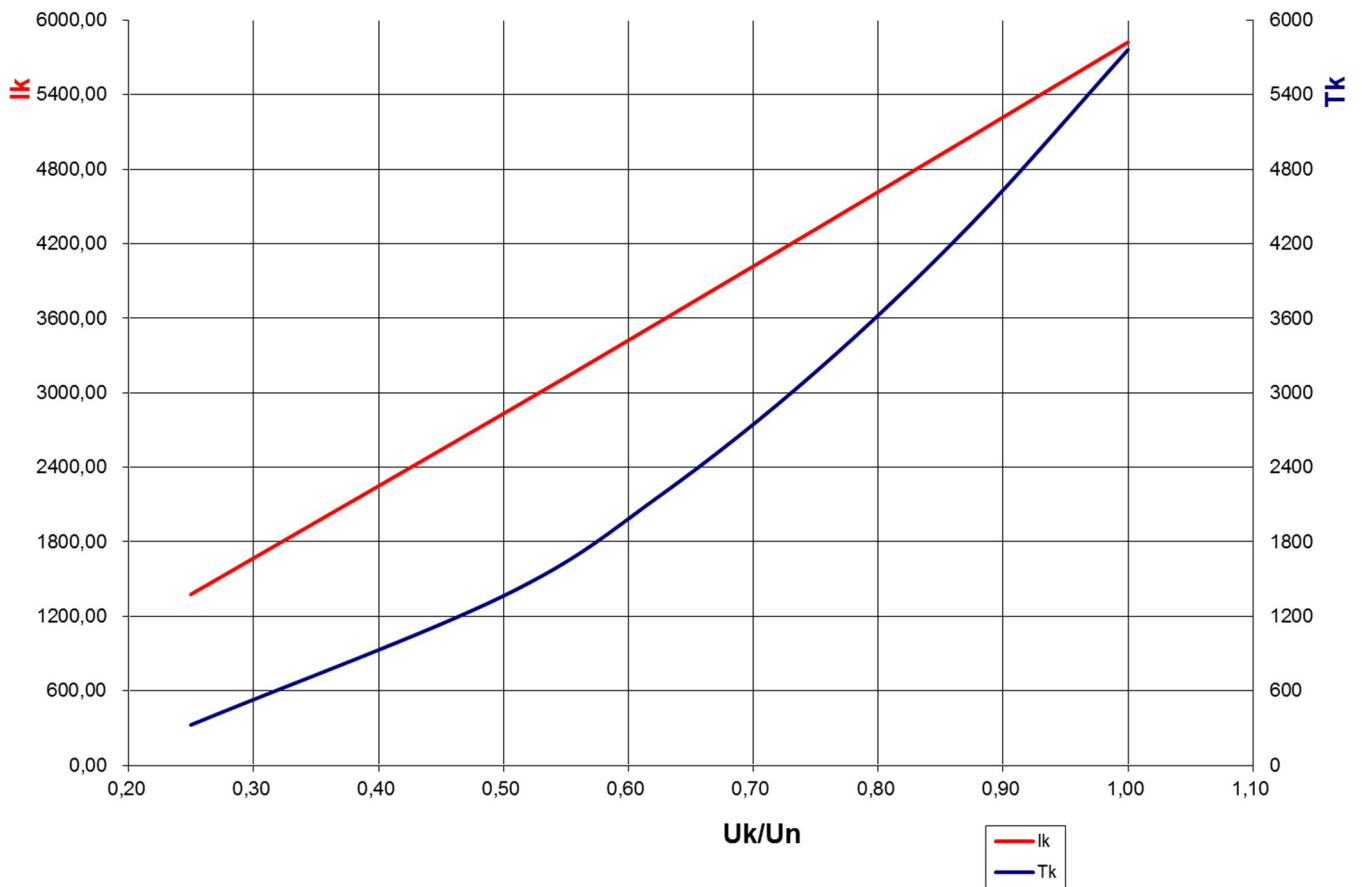
## HELLENIC MOTORS

Quality Assurance Certificate EN ISO 9001:2015  
Certificate Reg. No. 041130055



Type : K 400M-4	Output : 560 kW	Motor No. :	Duty type : S1
Voltage : 400 V	Conn. : $\Delta$	Frequency : 50 Hz	Cos $\phi$ : 0.88
Current : 958.8 A	Speed : 1485 rpm	Eff. : 95.8 %	

### Locked-rotor Test1





ESTABLISHED 1927

# VALIADIS

## HELLENIC MOTORS

Quality Assurance Certificate EN ISO 9001:2015  
Certificate Reg. No. 041130055



Type : K 400M-4	Output : 560 kW	Motor No. :	Duty type : S1
Voltage : 400 V	Conn. : $\Delta$	Frequency : 50 Hz	Cos $\phi$ : 0.88
Current : 958.8 A	Speed : 1485 rpm	Eff. : 95.8 %	

Locked-rotor Test2

