



# Type Test Report

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## Test Details

TR Number: <b>HG600110-1</b>
Test Date: 12-Dec-07
Test Lab: CMG Technology Laboratory

## Name Plate Data

Three phase cage induction motor		
Type : HGA90L	Prod.Code: M3600110_HGA	
1.1 kW	940 r/m	Ser.No.: 830491/004-001
Duty: S1	cos fi: 0.69	50 Hz
230/400 V	Conn: Delta/Star	4.9/2.8 A
IP: 55	Ins.Cl: F	Eff.[%] 81.2
Brg.DE: 6205	Brg.NDE: 6205	30.5 kg

## Test Data

	Voltage [V]	Current [A]	Input Power [Watts]	Frequency [Hz]	Speed [r/m]	Torque [Nm]	Output Power [Watts]	Power Factor	Effic. [%]
No Load	380	1.8	106	50	1000	0.0	0	0.09	0.0
No Load	400	2.0	124	50	1000	0.0	0	0.09	0.0
No Load	415	2.1	141	50	1000	0.0	0	0.09	0.0
25% F.L.	401	2.0	408.9	50	987	2.7	278	0.30	67.9
50% F.L.	401	2.2	708.1	50	975	5.4	554	0.47	78.3
75% F.L.	401	2.4	1014.8	50	961	8.2	822	0.60	81.0
100% F.L.	401	2.9	1373	50	944	11.3	1116	0.69	81.3
125% F.L.	400	3.3	1733.4	50	926	14.3	1389	0.75	80.1
Locked Rt.T.	400	15.2	-	50	0	33.34	-	-	-
Break D.T.	400	-	-	50	600	36.3	-	-	-
F.L. at 380V	380	2.9	1369.9	50	935	11.3	1111	0.73	81.1
F.L. at 415V	415	2.9	1363.5	50	948	11.1	1102	0.66	80.8

Legend: F.L. = Full Load; Locked Rt.T. = Locked Rotor Torque Test; Break D.T. = Break Down Torque Test

Resistance between terminals [Ohms]	U1 - V1 U1 - W1 V1 - W1 Conn. @Temp[°C]	7.6050 7.6040 7.5960 Star 24.7	Heat Run Test	Part of motor	Temperature rise in [K] at amb. temp. 25 [°C] measured by:		
					thermometer	resistance	temp.detector
Insulation resistance to frame	Instrument voltage megohms @Temp[°C]	Megger 1000 27900 24.7	After continuous test at: 400 V 2.8 A 944 r/m	Winding	-	55.4	-
				Frame	47.4	-	-
H.V. test winding to frame	Voltage Minutes Result	2440 1 PASSED	Over rate tests	Excess Torque [Nm]	18.5	166	15sec.
				Excess Current [A]	4.2555	152	2min.
				Overspeed [r/m]	1200	120	2min.

## Measurement Uncertainty

Measurement uncertainties at the 95% confidence level using a k factor of 2 are:
Current, Voltage, Power: +/-0.5%
Speed, Frequency: +/-0.5%
Resistance: +/-0.2%
Temperature by-thermometer/detector: +/-10°C
resistance: +/- 2°C

## Exclusions/Deviations

High Voltage test conducted by the manufacturer
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## Compliance to Standard

Motors tested in accordance with IEC60034-1 / AS1359.101 Sections 7 & 8 Efficiency as per IEC60034-2 / AS1359 Part 102.1
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## Comments

This Test Report is also applicable for M3600110_HLA
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Tested By: J.Wilson	Checked By: S.Jois	Printed: 1-Oct-08
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