# SIEMENS

## COMPLETE TEST FOR INDUCTION MOTOR

Serial Number: E14859-01-1 Date of Test: September 18, 2001

Purchaser: SCFM Purchaser's Order Number:

NAMEPLATE RATING

| Rated HP | Service Factor | Rated RPM | Voltage | Freq Hz./Ph | Amperes | Insul. Class | Temp. Rise (°C) | Duty | Type | Frame |
|---|---|---|---|---|---|---|---|---|---|---|
| 400 | 1.15 | 894 | 4160 | 60/3 | 55.2 | F | 80 | Cont. | CGZ | 5810S |

TEMPERATURE TEST

| Conditions of Test | | | | | Temperature Rise, (°C) | | | |
|---|---|---|---|---|---|---|---|---|
| Hours Run | Line Volts | Line Amps | Cooling Air (°C) | | Stator Winding Rise by | Temperature Rise | | |
| 3.0 | 4160 | 55.2 | 27.9 | | RTD | 67 | | |

TEST CHARACTERISTICS

| Rated Slip in Percent | No Load | | Resistance between lines (ohms @ 25°C) |
|---|---|---|---|
| | Current (amperes) | Power (kilowatts) | |
| .77 | 21.8 | 5.70 | .6048 |

TORQUE AND STARTING CURRENT

| Breakdown Torque (lb.-ft.) | Locked Rotor Torque | | Starting Current | |
|---|---|---|---|---|
| 4229 | 543<br>58.5 | lb.-ft. @<br>% Volts | 159<br>58.5 | Amps @<br>% Volts |

EFFICIENCY & POWER FACTOR

| Load | 115% | Rated | 75% | 50% |
|---|---|---|---|---|
| Efficiency (%) | 94.8 | 95.1 | 95.4 | 94.9 |
| Power Factor (%) | 79.4 | 78.9 | 75.6 | 66.4 |

INSULATION TESTS

| Resistance Test | | High Potential | | |
|---|---|---|---|---|
| Megohms | Volts | | Volts | Seconds |
| 37500 | 2500 | | 9320 | 60 |

NO LOAD VIBRATION LEVELS[1]

VELOCITY INCH PER SECOND:

| | Opposite Drive End | Drive End |
|---|---|---|
| HOUSING: | | |
| Vertical | .009 | .009 |
| Horizontal | .017 | .017 |
| Axial | .006 | .008 |

AMPLITUDE - MILS PEAK-TO-PEAK:

| SHAFT: | | |
|---|---|---|
| Vertical | | .416 |
| Horizontal | | .406 |

1 *Unfiltered*

Notes:

Data from test on this motor,

Issued By: Betty Koonce

Date: September 19, 2001

**Siemens Energy & Automation, Inc.**

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# Siemens Energy & Automation, Inc. Norwood, Ohio

## *Induction Motor Data*

| | |
|---|---|
| Customer | : SCFM |
| Serial Number | : E14859-01 |
| Customer Order | : 01003-002 |

| | | | |
|---|---|---|---|
| Enclosure | : TEFC | Type | : CGZ |
| Horsepower | : 400 | Amps | : 55.2 |
| Full Load RPM | : 894 | Hertz | : 60 |
| Insulation Class | : F-VPI | KVA Code | : G |
| Service Factor | : 1.15 | Frame | : 5810S |
| Volts | : 4160 | NEMA Design | : - |
| Phases | : 3 | Bearing Type | : Anti-Friction |
| | | Ambient | : 40 $^{0}$ C |

| | |
|---|---|
| Rotor Weight | : 1795 lbs. |
| Motor Weight | : 6500 lbs. |
| Rotor wk$^2$ | : 386 lbs*ft$^2$. |

| **EFFICIENCY** | | **POWER FACTOR** | |
|---|---|---|---|
| ½ Load | : 95.2 | ½ Load | : 63.2 |
| ¾ Load | : 95.4 | ¾ Load | : 73.9 |
| Full Load | : 95.2 | Full Load | : 78.8 |

| | | | |
|---|---|---|---|
| Full Load Amps | : 55.2 | Full Load Torque | : 2350 lb*ft |
| Locked Rotor Amps | : 340 | Starting Torque | : 2350 lb*ft |
| No Load Amps | : 23.6 | Breakdown Torque | : 5405 lb*ft |

**SAFE STALL TIME**

| | 100%V | 90%V |
|---|---|---|
| Hot | : 36 sec. | : 47 sec. |
| Cold | : 43 sec. | : 55 sec. |

**STARTING DUTY:**

*Number of starts per hour, coasting to rest between starts*
2 starts with motor initially at ambient temperature (cold).
1 starts with motor at service factor operating temperature (hot).

Cooling period, after either of above before making an additional start:
30 minutes, motor running at service factor load.
20 minutes, motor running, equipment unloaded.
60 minutes, motor de-energized, coasted to rest and left idle.

***Please Note***:
1. All values are typical.
2. Guaranteed values are indicated in (GUAR)

ENGINEER : Jim Zuptich DATE : 07/24/01