

# Product Information Packet

January 12, 2017

Data shown is for the current revision model #. Ensure your nameplate model # matches.

|                            |                      |
|----------------------------|----------------------|
| <b>Model Number:</b>       | <b>5KS509EAG206A</b> |
| <b>Catalog Number:</b>     | <b>P266</b>          |
| <b>Instruction Manual:</b> | GEI-100351           |
| <b>Connection Diagram:</b> | GEM2034E-FIG2        |
| <b>Outline Drawing:</b>    | 50DP2100G001DBV      |

| Accessory Connection Diagrams |            |                              |           |
|-------------------------------|------------|------------------------------|-----------|
| <b>Bearing Thermocouple:</b>  | None       | <b>Heater:</b>               | 3027JE-1C |
| <b>RTD:</b>                   | 235A3027XC | <b>Thermistor:</b>           | None      |
| <b>Thermostat:</b>            | None       | <b>Winding Thermocouple:</b> | None      |
| <b>Bearing RTD:</b>           | None       |                              |           |

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**Marks:**

|                            |                      |                               |          |
|----------------------------|----------------------|-------------------------------|----------|
| <b>MODEL NUMBER:</b>       | <b>5KS509EAG206A</b> | <b>Estimated Weight:</b>      | 3230 Lbs |
| <b>Outline Drawing:</b>    | 50DP2100G001DBV      | <b>Time Rating:</b>           | CONT     |
| <b>Connection Diagram:</b> | GEM2034E-FIG2        | <b>Enclosure:</b>             | WP11     |
| <b>Instruction Book:</b>   | GEI-100351           | <b>Encl Construction:</b>     | OPEN     |
| <b>Design Code:</b>        | 50ED1314E            | <b>Ambient Max(°C):</b>       | 40       |
| <b>Type:</b>               | KS                   | <b>Alt Ambient Max(°C):</b>   | XX       |
| <b>Frame:</b>              | 509LL                | <b>Insulation Class:</b>      | F        |
| <b>Phases:</b>             | 3                    | <b>NEMA Design:</b>           | B        |
| <b>Poles:</b>              | 4                    | <b>Nominal Efficiency:</b>    | 95.0 %   |
| <b>Output Power:</b>       | 450HP 333KW          | <b>Guaranteed Efficiency:</b> | 94.1     |
| <b>RPM:</b>                | 1785                 | <b>3/4 Load Efficiency:</b>   | 95.7     |
| <b>Voltage:</b>            | 2300/4000            | <b>KVA Code:</b>              | G        |
| <b>Hertz:</b>              | 60                   | <b>Max KVAR:</b>              | 101.8    |
| <b>Amps - FL:</b>          | 101.4/58.3           | <b>Power Factor:</b>          | 87.5     |
| <b>Service Factor:</b>     | 1.15                 | <b>Bearing - DE:</b>          | 6318ZC3  |
| <b>Alt Service Factor:</b> | XX                   | <b>Bearing - ODE:</b>         | 6315ZC3  |

**Enclosure is Weather Protected Two**

**Stamped Nameplate Notes:**

NEMA ENCLOSURE WP-II, CSA ENCL DP  
 GE SELF DECLARED CLASS I DIV 2 MOTOR  
 MAX EXPOSED INTERNAL AND EXTERNAL SURFACE  
 TEMPERATURES UNDER USUAL SERVICE CONDITION  
 AT 1.00 S.F. DO NOT EXCEED 200 DEG C  
 VIBRATION LIMIT = 0.150 IN/SEC  
 TEMP CONTRL HTR LDS HE1-HE2 115V 200W  
 MAXIMUM SPACE HEATER SURFACE  
 TEMPERATURE 160 DEG C

**Additional Information:**

4 POLE, LL SHAFT EXTN  
 FORMED COIL  
 (2)GROUND BOLTS ON FRAME  
 TEMP CONTRL 115V HEATER LEADS TO ACC BOX  
 100 OHM WINDING RTD LEADS TO ACC BOX  
 SUGGESTED WINDING RTD SETTINGS  
 ALARM 165C TRIP 175C  
 PROVISION FOR BTDS BOTH ENDS  
 SUGGESTED BEARING RTD SETTINGS,IF PROVIDED  
 ALARM 115C TRIP 125C  
 2500 Cu. In. CBOX  
 PROVISION FOR JACK SCREWS

**Performance Characteristics**

1st Winding 1st Connection

**Design: 50ED1314E**

**Marks:**

| LOAD % | 125.0 | 115.0 | 100.0 | 75.0  | 50.0  | 25.0  | 0.0   |
|--------|-------|-------|-------|-------|-------|-------|-------|
| % EFF  | 94.96 | 95.18 | 95.66 | 95.69 | 95.38 | 93.13 | 0.00  |
| % PF   | 87.66 | 87.7  | 88.34 | 85.18 | 78.6  | 58.62 | 4.56  |
| AMPS   | 72.73 | 66.72 | 57.24 | 44.57 | 32.31 | 22.18 | 16.32 |

**TORQ(FL)#FT** 1323.49  
**AMPS(LR)** 366.6

**TORQ(LR)%FL** 143.46  
**PF AT START** 0.24

**TORQ(BD)%FL** 225.59

This motor is capable of two cold or one hot start with a maximum connected load inertia of 3012 Lb-Ft Sq (126.81 Kg-meter Sq)at 100% voltage, where the load torque varies with the square of the speed. Acceleration time with maximum inertia and the above load type is 14 seconds. Safe stall time at 100% voltage is 51 seconds cold, 27 seconds hot. Rotor inertia is 122.44 Lb-Ft Sq (5.15 Kg-meter Sq).

**Open Circuit A-C:** 1.115

**Short Circuit D-C:** 0.026

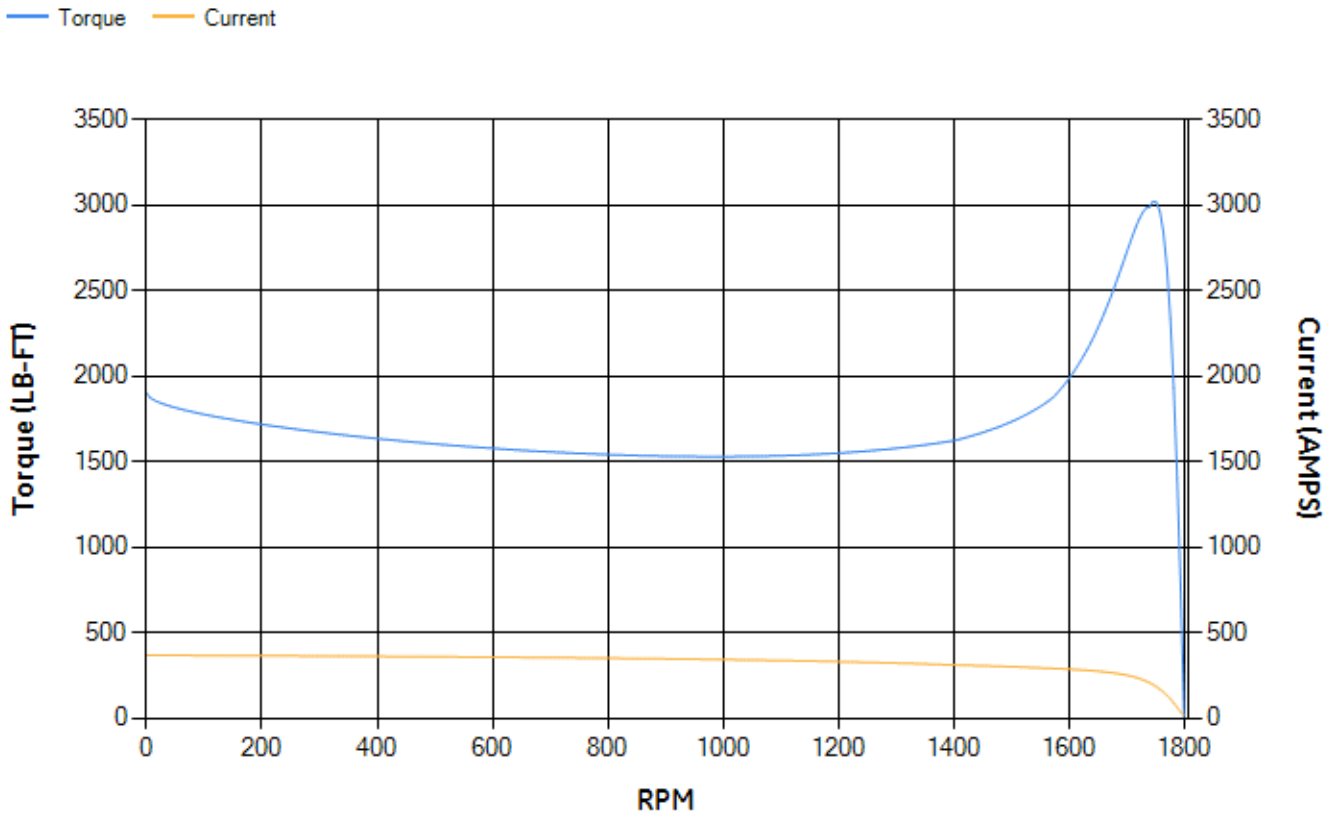
**Short Circuit A-C:** 0.046

**X/R Ratio:** 9.956

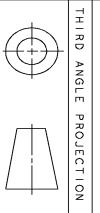
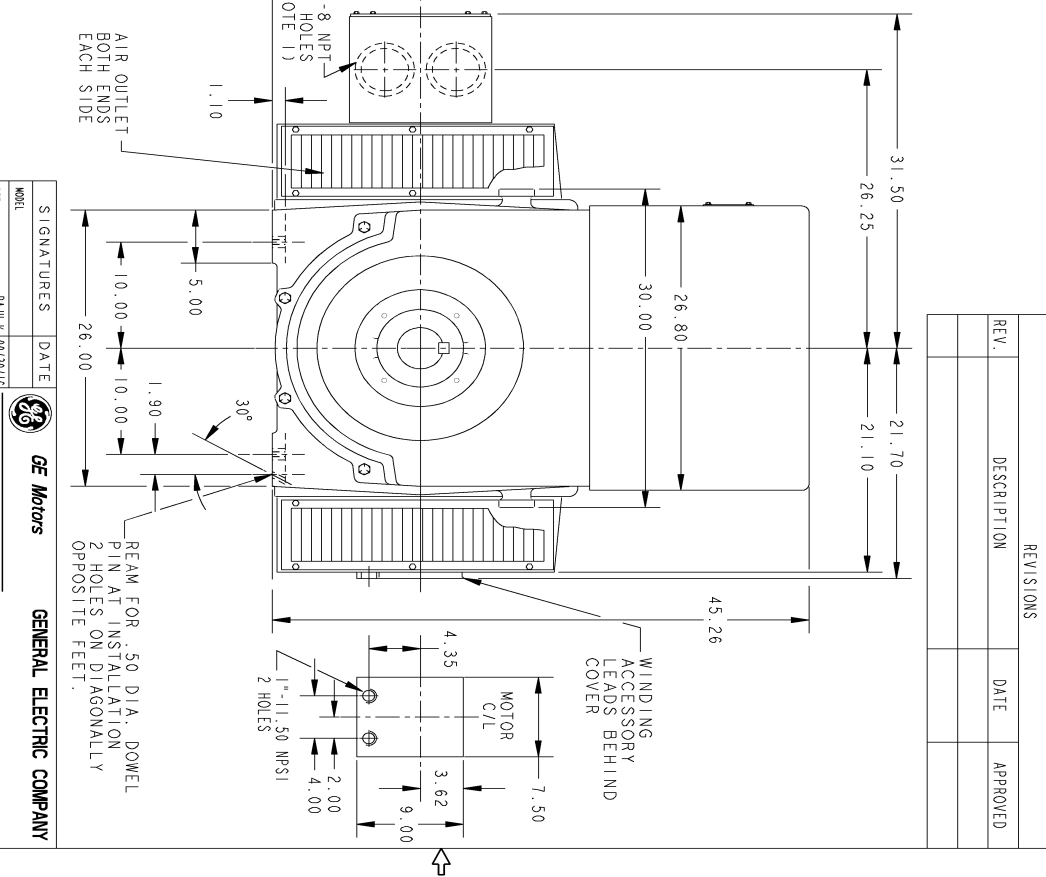
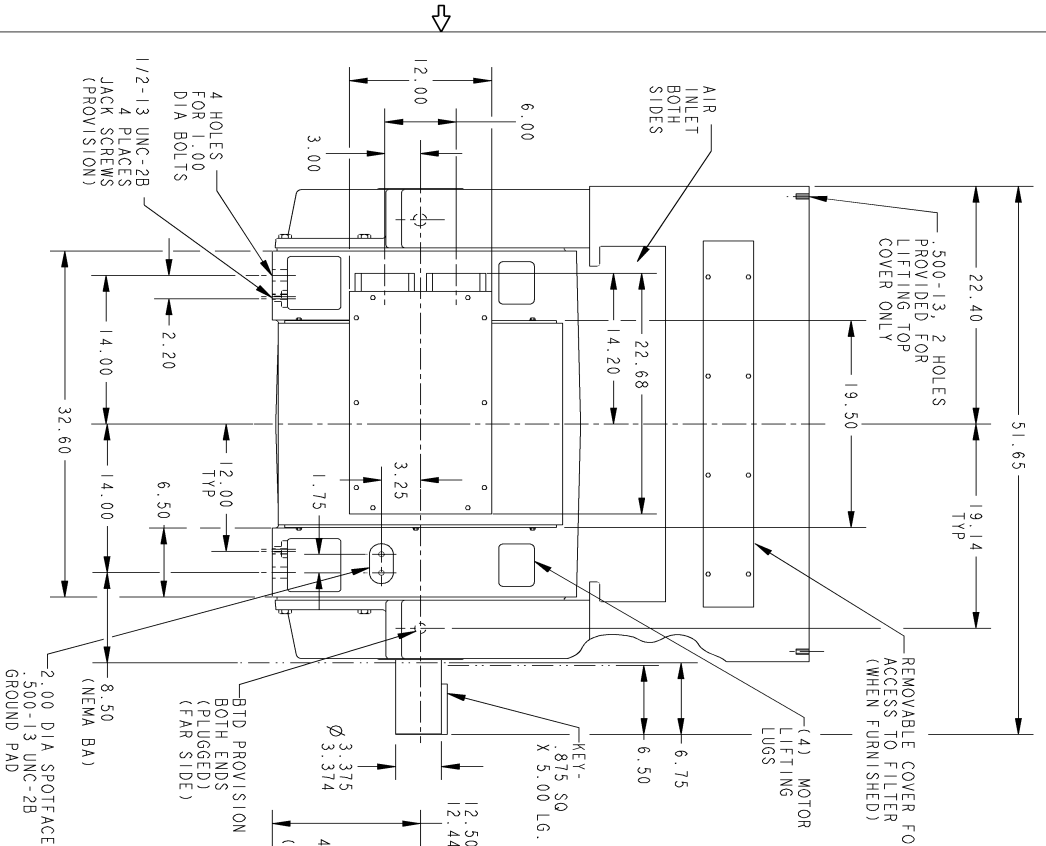
**Stator Slots:** 72

**Rotor Slots:** 56

**Speed Torque Current Curve (First Connection, First Speed)**



Marks:



NOTES:  
 1. CONDUIT BOX MAY BE TURNED, SO THAT ENTRANCE CAN BE MADE UPWARDS, DOWNWARDS, OR FROM EITHER SIDE, WHEN DOWNWARDS, ENTRANCE IS BELOW THE FEET.  
 2. CONFIGURATION SHOWN IS F-1 ASSEMBLY. F-2 ASSEMBLY HAS CONDUIT BOXES LOCATED DIAGONALLY OPPOSITE.

| SIGNATURES        | DATE | REV | DESCRIPTION | DATE | APPROVED |
|-------------------|------|-----|-------------|------|----------|
| RAJU K [09/30/16] |      | 0   |             |      |          |
| MANCH [09/30/16]  |      |     |             |      |          |
| MANCH [09/30/16]  |      |     |             |      |          |
| RAJU K [09/30/16] |      |     |             |      |          |

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**GENERAL ELECTRIC COMPANY**

**OUTLINE**

509LL WP11 2500 CU IN C/B JACK SCREWS PROV.  
 ACC BOX, DUAL GROUND PAD, BTG PROV.

50DP2100G001DBV

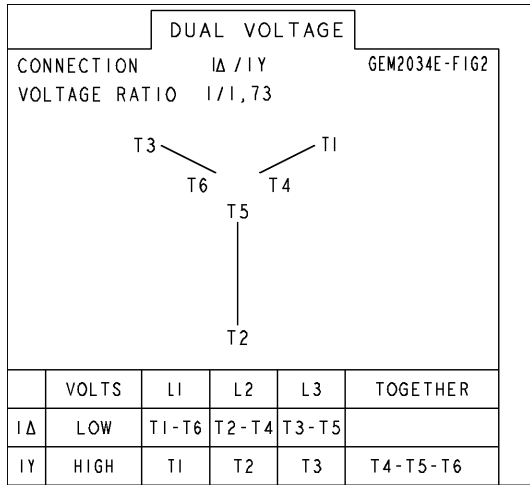
SCALE: .10 REF. NO.: 50DP21036G01CPW SHEET 1 OF 1

| REV. | DESCRIPTION | DATE | APPROVED |
|------|-------------|------|----------|
|      |             |      |          |
|      |             |      |          |

SIZE DRAWING NO. B  
 50DP2100G001DBV  
 SHEET 0

Marks:

**Connection Diagram**  
**GEM2034E-FIG2**



**Heater Connection**  
**3027JE-1C**

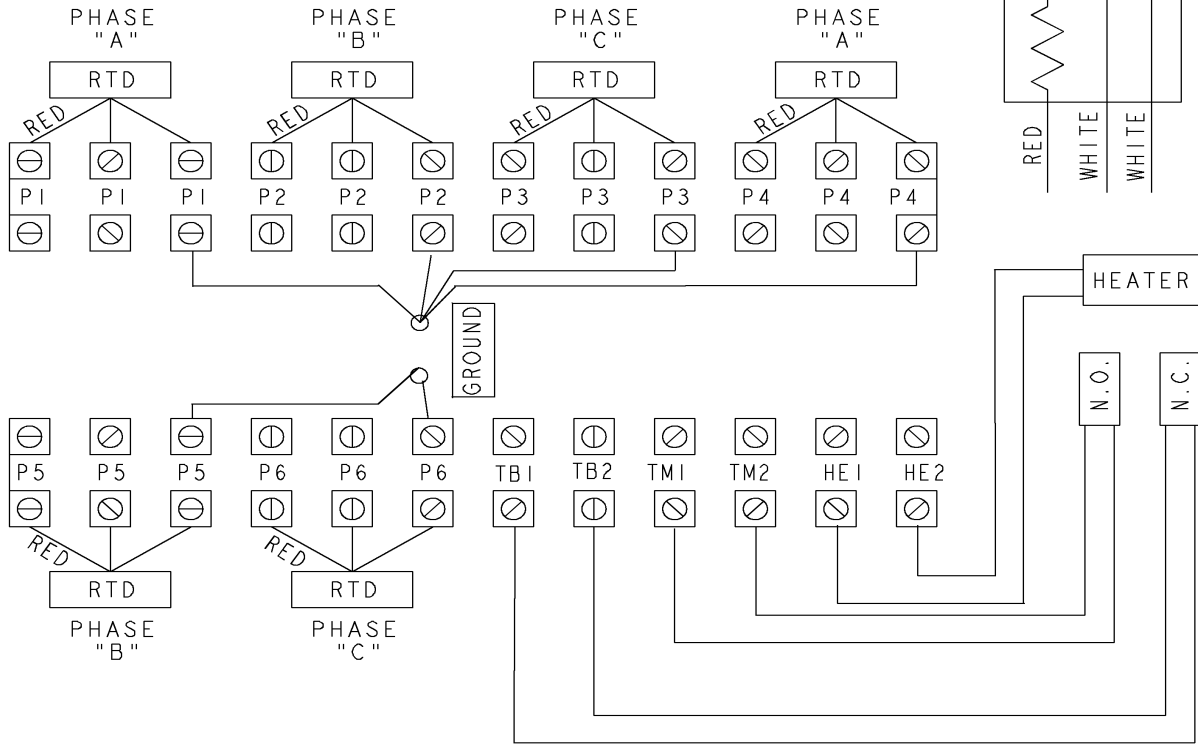
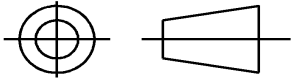


SHEET 0  
REV 0  
235A3027XC  
A  
SIZE DRAWING NO.

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| REVISIONS |             |      |          |
|-----------|-------------|------|----------|
| REV.      | DESCRIPTION | DATE | APPROVED |
|           |             |      |          |

THIRD ANGLE PROJECTION



- NOTE 1: TERMINAL LABELS ARE PROVIDED FOR ACCESSORIES THAT MAY OR MAY NOT BE INCLUDED WITH THE MOTOR.
- NOTE 2: SPARE RTDS (P7 & P8) FURNISHED IN CASE OF FAILURE IN OTHER RTDS (P1-P6). PHASE LOCATION WILL DEPEND UPON NUMBER OF POLES WINDING CONFIGURATION.
- NOTE 3: IT IS RECOMMENDED THAT RTDS BE GROUNDED AT EITHER THE MACHINE OR CONNECTED TO A GROUNDED CONTROL CIRCUIT. FOR PROPER OPERATION DO NOT GROUND AT THE MACHINE IF CONNECTED TO A GROUND CIRCUIT AT THE CONTROL.

Part must conform to SI 900000 Sect. 4, Toxicity Procedure

|                               |                         |          |
|-------------------------------|-------------------------|----------|
| FOR ADDITIONAL INFO REFER TO: | SIGNATURES              | DATE     |
| APPLIED PRACTICES             | MODEL                   |          |
| DIMENSIONS ARE IN INCHES      | DETAIL VIVEK            | 01/08/15 |
| TOLERANCE ON:                 | CHECKED KARTHIK         | 01/08/15 |
| 1 PL DECIMALS ± 0.1           | ENGRG                   |          |
| 2 PL DECIMALS ± 0.02          | MFG                     |          |
| 3 PL DECIMALS ± 0.005         | QUALITY                 |          |
| ANGLES ± 0.5                  | ISSUED VIVEK            | 01/08/15 |
| FRACTIONS ±                   |                         |          |
| FINISH ✓                      |                         |          |
| MATERIAL                      | SOLID MODEL: MODEL NAME |          |

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TITLE: **CONNECTION DIAGRAM**  
IEC  
WINDING RTD'S & T'STATS & HEATERS

SIZE DRAWING: A  
235A3027XC  
REV 0

SCALE: NA  
SHEET 1 of 1

| End shield Assembly |               |                |
|---------------------|---------------|----------------|
| Part Description    | DE Side Part# | ODE Side Part# |
| End Shield          | 119D1856AN1   | 119D1857AP1    |
| Bearing             | 235A2514AG01  | 235A2513AG01   |
| Slinger/Inproseal   | 235A2300FR1   |                |

| Fan & Fan Cover Assembly |       |
|--------------------------|-------|
| Part Description         | Part# |
| Fan                      |       |
| Fan Cover                |       |

| Conduit & Accessories Box Assembly |             |
|------------------------------------|-------------|
| Part Description                   | Part#       |
| Conduit Box                        | 179B9025G01 |

| Mechanical Accessories |       |
|------------------------|-------|
| Part Description       | Part# |
| Brake                  |       |
| Tachometer             |       |

