

# Product Information Packet

January 12, 2017

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

|                            |                       |
|----------------------------|-----------------------|
| <b>Model Number:</b>       | <b>5KAF286SAA202C</b> |
| <b>Catalog Number:</b>     | <b>M9309</b>          |
| <b>Instruction Manual:</b> | GEI-56128             |
| <b>Connection Diagram:</b> | GEM2034E-FIG9         |
| <b>Outline Drawing:</b>    | 4002B5828PBP5435      |

| Accessory Connection Diagrams |           |                              |      |
|-------------------------------|-----------|------------------------------|------|
| <b>Bearing Thermocouple:</b>  | None      | <b>Heater:</b>               | None |
| <b>RTD:</b>                   | None      | <b>Thermistor:</b>           | None |
| <b>Thermostat:</b>            | 3027JE-2A | <b>Winding Thermocouple:</b> | None |
| <b>Bearing RTD:</b>           | None      |                              |      |

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**Marks:**

|                            |                       |                               |         |
|----------------------------|-----------------------|-------------------------------|---------|
| <b>MODEL NUMBER:</b>       | <b>5KAF286SAA202C</b> | <b>Estimated Weight:</b>      | 510 Lbs |
| <b>Outline Drawing:</b>    | 4002B5828PBP5435      | <b>Time Rating:</b>           | CONT    |
| <b>Connection Diagram:</b> | GEM2034E-FIG9         | <b>Enclosure:</b>             | TEFC    |
| <b>Instruction Book:</b>   | GEI-56128             | <b>Encl Construction:</b>     | A\$D    |
| <b>Design Code:</b>        | 28BD1007A             | <b>Ambient Max(°C):</b>       | 40      |
| <b>Type:</b>               | KAF                   | <b>Alt Ambient Max(°C):</b>   | --      |
| <b>Frame:</b>              | 286TC                 | <b>Insulation Class:</b>      | H       |
| <b>Phases:</b>             | 3                     | <b>NEMA Design:</b>           | --      |
| <b>Poles:</b>              | 4                     | <b>Nominal Efficiency:</b>    | 94.1 %  |
| <b>Output Power:</b>       | 30HP 22.2KW           | <b>Guaranteed Efficiency:</b> | 93.0    |
| <b>RPM:</b>                | 1780                  | <b>3/4 Load Efficiency:</b>   | 94.1    |
| <b>Voltage:</b>            | 230/460               | <b>KVA Code:</b>              | J       |
| <b>Hertz:</b>              | 60                    | <b>Max KVAR:</b>              | 11.3    |
| <b>Amps - FL:</b>          | 72.8/36.4             | <b>Power Factor:</b>          | 82.0    |
| <b>Service Factor:</b>     | 1.00                  | <b>Bearing - DE:</b>          | 6310ZC3 |
| <b>Alt Service Factor:</b> | --                    | <b>Bearing - ODE:</b>         | 6310ZC3 |

**Enclosure is Totally Enclosed Fan-Cooled**

**Stamped Nameplate Notes:**

THERMOSTAT LEADS TB1-TB2  
 IP 55  
 HP RPM VOLTS HZ AMPS  
 30 2670 230/460 90 68.2/34.1  
 30 1780 230/460 60 72.8/36.4  
 0 0 6/12 0.6 72.8/36.4  
 SPEED RANGE CONST TORQUE 0-1780 RPM  
 SPEED RANGE CONST HP 1780-2670 RPM  
 SF 1.0 - SINE 1.0 ASD - ASD TYPE PWM - POLES 4  
 CLASS H INS WITH CLASS F RISE AT 1.00SF,  
 INVERTER DUTY PER NEMA MG1 PART31 WITH PWM CONTROL

**Additional Information:**

4P - T EXTN  
 STANDARD FLOOR MOUNT  
 C/BOX 137 CU IN-1.50 NPT  
 F1 CONDUIT BOX MOUNTING  
 AUX LEADS EXIT WITH MOTOR LEADS  
 "C" FACE AT DE ENDSHIELD AK=10 1/2"  
 INPRO SEAL DE / SLINGER ODE  
 ODE PROVISION FOR MTG TACH WITH 1.50" EXTEN & SHAFT COVER  
 OIL RESISTANT SLEEVING ON LEADS  
 SHAFT GROUNDING RING MOUNTED ON DE BRG CAP  
 PAINTED ODE ACCESSORY RABBET

**Performance Characteristics**

1st Winding 1st Connection

**Design: 28BD1007A**

**Marks:**

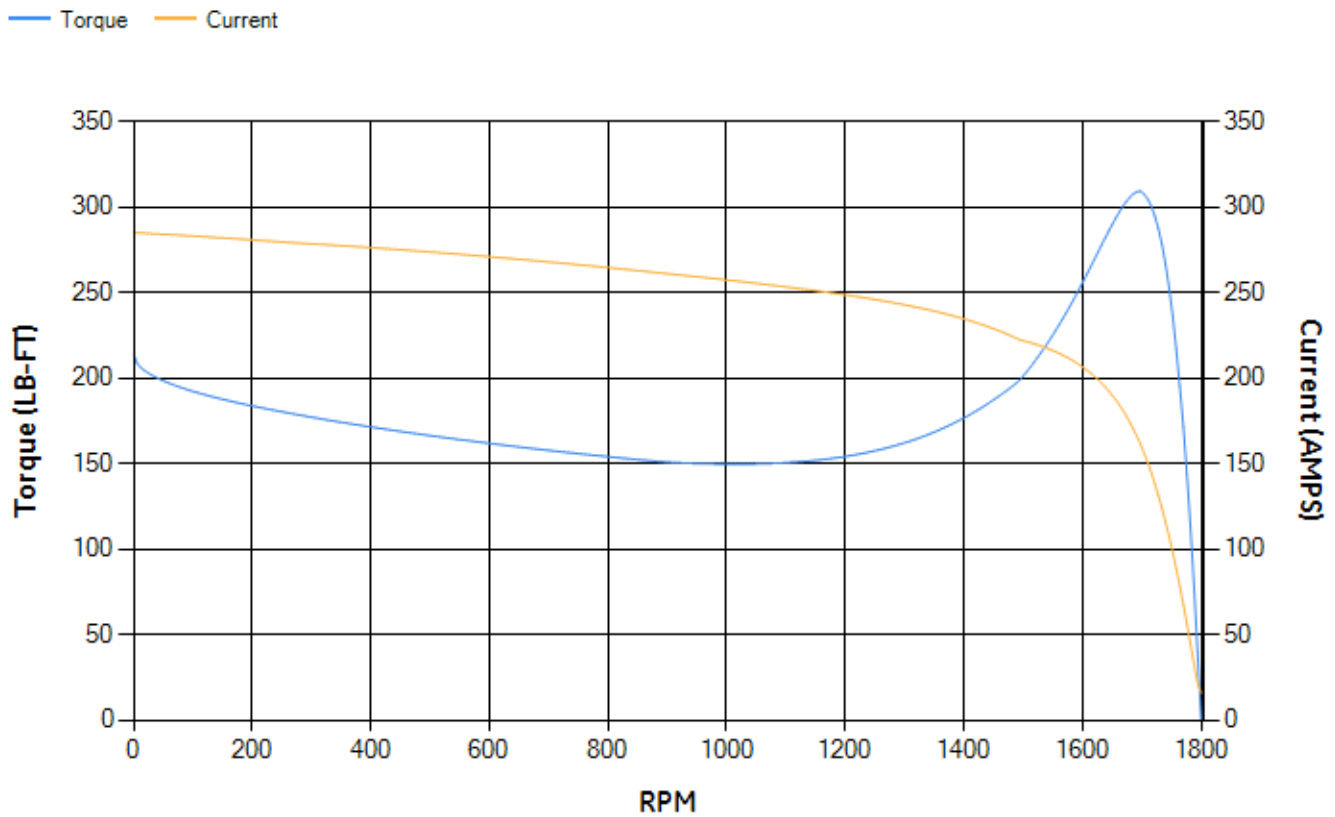
| LOAD % | 125.0 | 115.0 | 100.0 | 75.0  | 50.0  | 25.0  | 0.0   |
|--------|-------|-------|-------|-------|-------|-------|-------|
| % EFF  | 93.3  | 93.57 | 94.09 | 94.12 | 93.6  | 90.39 | 0.00  |
| % PF   | 84.66 | 83.88 | 82.15 | 76.88 | 65.93 | 43.28 | 4.05  |
| AMPS   | 44.43 | 41.14 | 36.31 | 29.1  | 22.75 | 17.94 | 15.73 |

|                    |        |                    |        |                    |        |
|--------------------|--------|--------------------|--------|--------------------|--------|
| <b>TORQ(FL)#FT</b> | 88.38  | <b>TORQ(LR)%FL</b> | 241.89 | <b>TORQ(BD)%FL</b> | 348.79 |
| <b>AMPS(LR)</b>    | 284.93 | <b>PF AT START</b> | 0.39   |                    |        |

This motor is capable of two cold or one hot start with a maximum connected load inertia of 913 Lb-Ft Sq (38.44 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 35 seconds. Safe stall time at 100% voltage is 78 seconds cold, 52 seconds hot. Rotor inertia is 5.44 Lb-Ft Sq (0.23 Kg-meter Sq).

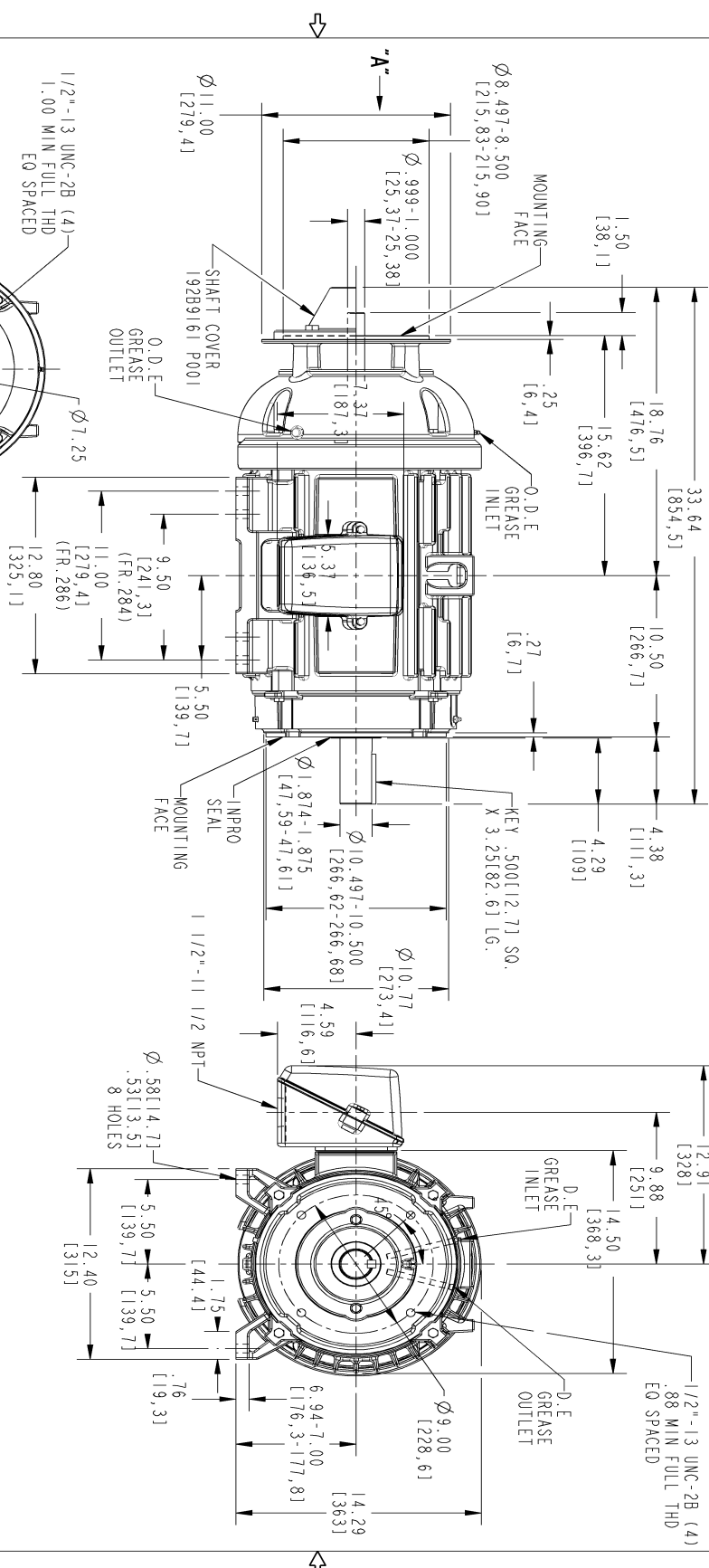
|                           |       |                           |       |
|---------------------------|-------|---------------------------|-------|
| <b>Open Circuit A-C:</b>  | 0.578 | <b>Short Circuit D-C:</b> | 0.014 |
| <b>Short Circuit A-C:</b> | 0.025 | <b>X/R Ratio:</b>         | 5.411 |
| <b>Stator Slots:</b>      | 48    | <b>Rotor Slots:</b>       | 40    |

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

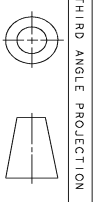


Marks:

NOTE 1: CONDUIT BOX MAY BE ASSEMBLED WITH ENTRANCE UP, DOWN OR TO EITHER SIDE.  
 NOTE 2: F1 ASSEMBLY AS SHOWN. F2 ASSEMBLY CONDUIT BOX ON OPPOSITE SIDE FROM SHOWN LOCATION.  
 NOTE 3: MOUNTING SURFACES TO BE SQUARE AND CONCENTRIC WITH SHAFT WITHIN .004 T.I.R.  
 NOTE 4: SHAFT RUNOUT NOT TO EXCEED .002 T.I.R.



VIEW AT A



|      |                  |     |       |
|------|------------------|-----|-------|
| SIZE | DRAWING NO.      | REV | SHEET |
| B    | 4002B5828PBP5435 | 0   | 1     |

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

|                               |          |          |  |
|-------------------------------|----------|----------|--|
| SIGNATURES                    |          | DATE     |  |
| MODEL                         | HAREGHAN | 05/23/14 |  |
| DETAIL                        | HAREGHAN | 05/23/14 |  |
| CHECKED                       | MARTINEK | 05/23/14 |  |
| ENGR                          |          |          |  |
| ISSUED                        | HAREGHAN | 05/23/14 |  |
| SOLID MODEL: 4002B5828PBP5435 |          |          |  |

|                                          |       |                          |                 |
|------------------------------------------|-------|--------------------------|-----------------|
| GE Motors                                |       | GENERAL ELECTRIC COMPANY |                 |
| INDUCTION MOTOR OUTLINE                  |       |                          |                 |
| PROVISION FOR MTG TACH                   |       |                          |                 |
| F1-F2 TACH TFC "C" FACE AT DE INPRO SEAL |       |                          |                 |
| SIZE DRAWING                             | B     | REV                      | 0               |
| SCALE:                                   | 0.160 | REF. No.:                | 4002B5828PBP263 |
| SHEET 1                                  |       | OF 1                     |                 |

Marks:

**Connection Diagram**  
**GEM2034E-FIG9**



**Thermostat Connection**  
**3027JE-2A**

