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# Customer information packet

## VEM3581

1HP, 1760RPM, 3PH, 60HZ, 56C, 0520M, TEFC, F1, N

Class - None

Division - Not Applicable

## Specifications

|                                |                                                             |
|--------------------------------|-------------------------------------------------------------|
| Enclosure                      | TEFC                                                        |
| Frame                          | 56C                                                         |
| Frame Material                 | Iron                                                        |
| Frequency                      | 60.00 Hz                                                    |
| Haz Area Class and Group       | None                                                        |
| Haz Area Division              | Not Applicable                                              |
| Motor Letter Type              | Three Phase                                                 |
| Output @ Frequency             | 1.000 HP @ 60 HZ                                            |
| Phase                          | 3                                                           |
| Synchronous Speed @ Frequency  | 1800 RPM @ 60 HZ                                            |
| Voltage @ Frequency            | 230.0 V @ 60 HZ<br>460.0 V @ 60 HZ                          |
| Agency Approvals               | CSA EEV<br>NEMA PREMIUM<br>NEMA_PREMIUM<br>UR               |
| Ambient Temperature            | 40 °C                                                       |
| Auxiliary Box                  | NO AUXILLARY BOX                                            |
| Auxiliary Box Lead Termination | None                                                        |
| Base Indicator                 | No Mounting                                                 |
| Bearing Grease Type            | Polyrex EM (-20F +300F)                                     |
| Blower                         | None                                                        |
| Current @ Voltage              | 3.260 A @ 230.0 V<br>3.200 A @ 208.0 V<br>1.630 A @ 460.0 V |
| Design Code                    | B                                                           |
| Drip Cover                     | No Drip Cover                                               |
| Duty Rating                    | CONT                                                        |
| Efficiency @ 100% Load         | 85.5 %                                                      |
| Electrically Isolated Bearing  | Not Electrically Isolated                                   |
| Feedback Device                | NO FEEDBACK                                                 |
| Front Shaft Indicator          | None                                                        |

## Part detail

|              |            |
|--------------|------------|
| Revision     | E          |
| Type         | AC         |
| Mech. spec.  | 05C013     |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 05WGX508   |
| Layout       | 05LYC013   |
| Eff. date    | 04-29-2024 |
| CD Diagram   | CD0005     |
| Poles        | 04         |
| Leads        | 9#18       |
| Proprietary  | False      |
| Created date | 09-29-2021 |

|                               |                       |
|-------------------------------|-----------------------|
| Heater Indicator              | No Heater             |
| High Voltage Full Load Amps   | 1.6 a                 |
| Insulation Class              | F                     |
| Inverter Code                 | Inverter Ready        |
| KVA Code                      | N                     |
| Lifting Lugs                  | Standard Lifting Lugs |
| Locked Bearing Indicator      | Locked Bearing        |
| Motor Lead Quantity/Wire Size | 9 @ 18 AWG            |
| Motor Lead Termination        | Flying Leads          |
| Motor Standards               | NEMA                  |
| Motor Type                    | 0520M                 |
| Mounting Arrangement          | F1                    |
| Number of Poles               | 4                     |
| Overall Length                | 12.47 IN              |
| Power Factor                  | 67                    |
| Product Family                | General Purpose       |
| Pulley End Bearing Type       | Ball                  |
| Pulley Face Code              | C-Face                |
| Pulley Shaft Indicator        | Standard              |
| Rodent Screen                 | None                  |
| Service Factor                | 1.15                  |
| Shaft Diameter                | 0.625 IN              |
| Shaft Ground Indicator        | No Shaft Grounding    |
| Shaft Rotation                | Reversible            |
| Shaft Slinger Indicator       | No Slinger            |
| Speed                         | 1760 rpm              |
| Speed Code                    | Single Speed          |
| Starting Method               | Direct on line        |
| Thermal Device - Bearing      | None                  |
| Thermal Device - Winding      | None                  |
| Vibration Sensor Indicator    | No Vibration Sensor   |
| Winding Thermal 1             | None                  |
| Winding Thermal 2             | None                  |

## Nameplate

## NP3441LUA

|                           |                            |  |               |      |     |    |       |       |  |  |
|---------------------------|----------------------------|--|---------------|------|-----|----|-------|-------|--|--|
| CAT.NO.                   | VEM3581                    |  |               |      |     |    |       |       |  |  |
| SPEC                      | 05C013X508G1               |  |               |      |     |    |       |       |  |  |
| HP                        | 1                          |  |               |      |     |    |       |       |  |  |
| VOLTS                     | 230/460                    |  |               |      |     |    |       |       |  |  |
| AMPS                      | 3.26/1.63                  |  |               |      |     |    |       |       |  |  |
| RPM                       | 1760                       |  |               |      |     |    |       |       |  |  |
| FRAME                     | 56C                        |  | HZ            | 60   |     | PH | 3     |       |  |  |
| SF                        | 1.15                       |  | CODE          | N    | DES | B  | CLASS | F     |  |  |
| NEMA NOM. EFF             | 85.5                       |  | PF            | 67   |     |    |       |       |  |  |
| RATING                    | 40C AMB-CONT               |  |               |      |     |    |       |       |  |  |
| CC                        | 010A                       |  |               |      |     |    |       |       |  |  |
| ENCL                      | TEFC                       |  | SER           |      |     |    |       |       |  |  |
| DE                        | 6205                       |  | ODE           | 6203 |     |    |       |       |  |  |
| VPWM INVERTER READY       |                            |  | SFA 3.52/1.76 |      |     |    |       |       |  |  |
| CT6-60H(10:1)VT3-60H(20:1 |                            |  |               |      |     |    |       |       |  |  |
|                           | 50HZ 1HP 190/380V 3.6/1.8A |  |               |      |     |    |       | SF1.0 |  |  |

**AC Induction Motor Performance Data**

Record # 82131

Typical performance - not guaranteed values

| Winding: 05WGX508-R001 |    |             | Type: 0520M                              |                     | Enclosure: TEFC           |            |          |
|------------------------|----|-------------|------------------------------------------|---------------------|---------------------------|------------|----------|
| Nameplate Data         |    |             | 460 V, 60 Hz:<br>High Voltage Connection |                     |                           |            |          |
| Rated Output (HP)      |    | 1           | Full Load Torque                         |                     | 2.979 LB-FT               |            |          |
| Volts                  |    | 230/460     | Start Configuration                      |                     | direct on line            |            |          |
| Full Load Amps         |    | 3.2-3.2/1.6 | Breakdown Torque                         |                     | 13.9 LB-FT                |            |          |
| R.P.M.                 |    | 1760        | Pull-up Torque                           |                     | 8 LB-FT                   |            |          |
| Hz                     | 60 | Phase       | 3                                        | Locked-rotor Torque |                           | 9.18 LB-FT |          |
| NEMA Design Code       |    | B           | KVA Code                                 | N                   | Starting Current          |            | 14.4 A   |
| Service Factor (S.F.)  |    | 1.15        | No-load Current                          |                     | 1.11 A                    |            |          |
| NEMA Nom. Eff.         |    | 0           | Power Factor                             | 0                   | Line-line Res. @ 25°C     |            | 16.215 Ω |
| Rating - Duty          |    | 40C         | AMB-CONT                                 |                     | Temp. Rise @ Rated Load   |            | 24°C     |
| S.F. Amps              |    |             |                                          |                     | Temp. Rise @ S.F. Load    |            | 28°C     |
|                        |    |             |                                          |                     | Locked-rotor Power Factor |            | 62       |

**Load Characteristics 460 V, 60 Hz, 1 HP**

| % of Rated Load | 25     | 50     | 75     | 100    | 125  | 150    | S.F. |
|-----------------|--------|--------|--------|--------|------|--------|------|
| Power Factor    | 29     | 46     | 59     | 68     | 74   | 79     | 72   |
| Efficiency      | 71.2   | 81.4   | 84.6   | 85.5   | 85.4 | 84.7   | 85.4 |
| Speed           | 1791.4 | 1784.2 | 1776.7 | 1768.6 | 1760 | 1750.7 | 1763 |
| Line amperes    | 1.14   | 1.25   | 1.41   | 1.61   | 1.84 | 2.11   | 1.75 |

ABB Motors and Mechanical Inc.

WINDING # 05WGX508

Typical performance - not guaranteed values.

1 HP 3 PH 60 HZ 1760 RPM 460 V 0520M

TORQUES (LB-FT): PO=13.9 PU=8 LR=9.18 LRA=14.4





