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# Customer information packet

## VENM3581T

1HP, 1770RPM, 3PH, 60HZ, 143TC, 0522M, TENV, F1

Class - None

Division - Not Applicable

## Specifications

|                                |                                               |
|--------------------------------|-----------------------------------------------|
| Enclosure                      | TENV                                          |
| Frame                          | 143TC                                         |
| 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               | NEMA PREMIUM<br>NEMA_PREMIUM<br>UR<br>CSA EEV |
| Ambient Temperature            | 40 °C                                         |
| Auxillary Box                  | No Auxillary Box                              |
| Auxillary Box Lead Termination | None                                          |
| Base Indicator                 | No Mounting                                   |
| Bearing Grease Type            | Polyrex EM (-20F +300F)                       |
| Blower                         | None                                          |
| Current @ Voltage              | 1.600 A @ 460.0 V<br>3.200 A @ 230.0 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                                          |
| Heater Indicator               | No Heater                                     |

## Part detail

|              |            |
|--------------|------------|
| Revision     | C          |
| Type         | AC         |
| Mech. spec.  | 05E124     |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 05WGX545   |
| Layout       | 05LYE124   |
| Eff. date    | 04-29-2024 |
| CD Diagram   | CD0005     |
| Poles        | 04         |
| Leads        | 9#18 Y     |
| Proprietary  | False      |
| Created date | 03-11-2022 |

|                               |                     |
|-------------------------------|---------------------|
| High Voltage Full Load Amps   | 1.6 a               |
| Insulation Class              | F                   |
| Inverter Code                 | Inverter Ready      |
| KVA Code                      | N                   |
| Lifting Lugs                  | No 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                    | 0522M               |
| Mounting Arrangement          | F1                  |
| Number of Poles               | 4                   |
| Overall Length                | 11.36 IN            |
| Power Factor                  | 68                  |
| 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                | 0.875 IN            |
| Shaft Ground Indicator        | No Shaft Grounding  |
| Shaft Rotation                | Reversible          |
| Shaft Slinger Indicator       | No Slinger          |
| Speed                         | 1770 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.                   | VENM3581T                  |              |     |      |   |       |       |  |  |
| SPEC                      | 05E124X545G1               |              |     |      |   |       |       |  |  |
| HP                        | 1                          |              |     |      |   |       |       |  |  |
| VOLTS                     | 230/460                    |              |     |      |   |       |       |  |  |
| AMPS                      | 3.2/1.6                    |              |     |      |   |       |       |  |  |
| RPM                       | 1770                       |              |     |      |   |       |       |  |  |
| FRAME                     | 143TC                      |              | HZ  | 60   |   | PH    | 3     |  |  |
| SF                        | 1.15                       | CODE         | N   | DES  | B | CLASS | F     |  |  |
| NEMA NOM. EFF             | 85.5                       | PF           | 68  |      |   |       |       |  |  |
| RATING                    | 40C AMB-CONT               |              |     |      |   |       |       |  |  |
| CC                        | 010A                       |              |     |      |   |       |       |  |  |
| ENCL                      | TENV                       | SER          |     |      |   |       |       |  |  |
| DE                        | 6205                       |              | ODE | 6203 |   |       |       |  |  |
| VPWM INVERTER READY       |                            | SFA 3.5/1.75 |     |      |   |       |       |  |  |
| CT6-60H(10:1)VT3-60H(20:1 |                            |              |     |      |   |       |       |  |  |
|                           | 50HZ 1HP 190/380V 3.6/1.8A |              |     |      |   |       | SF1.0 |  |  |

## AC Induction Motor Performance Data

Record # 87235

Preliminary Data Sheet

| Winding: 05WGX545-R004 |    |         | Type: 0522M                              |                     | Enclosure: TENV           |                       |              |        |
|------------------------|----|---------|------------------------------------------|---------------------|---------------------------|-----------------------|--------------|--------|
| Nameplate Data         |    |         | 460 V, 60 Hz:<br>High Voltage Connection |                     |                           |                       |              |        |
| Rated Output (HP)      |    | 1       | Full Load Torque                         |                     | 3 LB-FT                   |                       |              |        |
| Volts                  |    | 230/460 | Start Configuration                      |                     | direct on line            |                       |              |        |
| Full Load Amps         |    | 3.2/1.6 | Breakdown Torque                         |                     | 15.27 LB-FT               |                       |              |        |
| R.P.M.                 |    | 1770    | Pull-up Torque                           |                     | 6.77 LB-FT                |                       |              |        |
| Hz                     | 60 | Phase   | 3                                        | Locked-rotor Torque |                           | 9.41 LB-FT            |              |        |
| NEMA Design Code       |    | B       | KVA Code                                 | N                   | Starting Current          |                       | 15.07 A      |        |
| Service Factor (S.F.)  |    | 1.15    | No-load Current                          |                     | 1.16 A                    |                       |              |        |
| NEMA Nom. Eff.         |    | 85.5    | Power Factor                             |                     | 68                        | Line-line Res. @ 25°C |              | 16.4 Ω |
| Rating - Duty          |    | 40C     | AMB-CONT                                 |                     | Temp. Rise @ Rated Load   |                       | 65°C         |        |
| S.F. Amps              |    |         |                                          |                     | Temp. Rise @ S.F. Load    |                       | 75°C         |        |
|                        |    |         |                                          |                     | Locked-rotor Power Factor |                       | 61.4         |        |
|                        |    |         |                                          |                     | Rotor inertia             |                       | 0.159 lb-ft² |        |

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

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|------|------|------|------|------|------|
| Power Factor    | 29   | 45   | 58   | 68   | 75   | 79   | 72   |
| Efficiency      | 70.9 | 81.1 | 84.4 | 85.7 | 85.4 | 84.6 | 85.5 |
| Speed           | 1793 | 1786 | 1780 | 1772 | 1765 | 1756 | 1768 |
| Line amperes    | 1.18 | 1.28 | 1.43 | 1.62 | 1.83 | 2.09 | 1.75 |

ABB Motors and Mechanical Inc.

WINDING # 05WGX545

Typical performance - not guaranteed values.

1 HP 3 PH 60 HZ 1770 RPM 460 V 0522M

TORQUES (LB-FT): PO=15.27 PU=6.77 LR=9.41 LRA=15.07





