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# Customer information packet

## CEM4114T

50HP, 3540RPM, 3PH, 60HZ, 326TSC, 1252M, TEFC

Class - None

Division - Not Applicable

## Specifications

|                                |                                                                  |
|--------------------------------|------------------------------------------------------------------|
| Enclosure                      | TEFC                                                             |
| Frame                          | 326TSC                                                           |
| 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             | 50.000 HP @ 60 HZ                                                |
| Phase                          | 3                                                                |
| Synchronous Speed @ Frequency  | 3600 RPM @ 60 HZ                                                 |
| Voltage @ Frequency            | 460.0 V @ 60 HZ<br>230.0 V @ 60 HZ                               |
| Agency Approvals               | NEMA PREMIUM<br>NEMA_PREMIUM<br>UR<br>CSA EEV                    |
| Ambient Temperature            | 40 °C                                                            |
| Auxiliary Box                  | NO AUXILLARY BOX                                                 |
| Auxiliary Box Lead Termination | None                                                             |
| Base Indicator                 | Rigid                                                            |
| Bearing Grease Type            | Polyrex EM (-20F +300F)                                          |
| Blower                         | None                                                             |
| Current @ Voltage              | 122.000 A @ 208.0 V<br>56.000 A @ 460.0 V<br>112.000 A @ 230.0 V |
| Design Code                    | A                                                                |
| Drip Cover                     | No Drip Cover                                                    |
| Duty Rating                    | CONT                                                             |
| Efficiency @ 100% Load         | 93.0 %                                                           |
| Electrically Isolated Bearing  | Not Electrically Isolated                                        |
| Feedback Device                | NO FEEDBACK                                                      |
| Front Face Code                | Standard                                                         |

## Part detail

|              |            |
|--------------|------------|
| Revision     | U          |
| Type         | AC         |
| Mech. spec.  | 12H41      |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 12WGY291   |
| Layout       | 12LYH041   |
| Eff. date    | 06-27-2024 |
| CD Diagram   | CD0180     |
| Poles        | 02         |
| Leads        | 9#8        |
| Proprietary  | False      |
| Created date | 09-15-2010 |

|                               |                       |
|-------------------------------|-----------------------|
| Front Shaft Indicator         | None                  |
| Heater Indicator              | No Heater             |
| High Voltage Full Load Amps   | 56.0 a                |
| Insulation Class              | F                     |
| Inverter Code                 | Inverter Ready        |
| KVA Code                      | H                     |
| Lifting Lugs                  | Standard Lifting Lugs |
| Locked Bearing Indicator      | Locked Bearing        |
| Motor Lead Exit               | Ko Box                |
| Motor Lead Quantity/Wire Size | 9 @ 8 AWG             |
| Motor Lead Termination        | Flying Leads          |
| Motor Standards               | NEMA                  |
| Motor Type                    | 1252M                 |
| Mounting Arrangement          | F1                    |
| Number of Poles               | 2                     |
| Overall Length                | 28.78 IN              |
| Power Factor                  | 90                    |
| 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                | 1.875 IN              |
| Shaft Extension Location      | Pulley End            |
| Shaft Ground Indicator        | No Shaft Grounding    |
| Shaft Rotation                | Reversible            |
| Shaft Slinger Indicator       | Shaft Slinger         |
| Speed                         | 3540 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

| NP3443LUA |                            |                         |                |                           |        |         |        |      |            |      |      |
|-----------|----------------------------|-------------------------|----------------|---------------------------|--------|---------|--------|------|------------|------|------|
| CAT.NO.   | CEM4114T                   |                         |                | CUST. P/N                 |        |         |        |      |            | ENCL | TEFC |
| SPEC.     | 12H041Y291G2               | CC                      | 010A           | FRAME                     | 326TSC | SER.NO. |        |      |            |      |      |
| HP        | 50                         |                         | CLASS          | F                         | HZ     | 60      |        |      |            |      |      |
| R.P.M.    | 3540                       |                         | PH.            | 3                         | DES.   | A       |        |      |            |      |      |
| VOLTS     | 230/460                    |                         |                | CODE                      | H      | ODE BRG |        | 6311 | DE BRG     | 6312 |      |
| AMPS      | 112/56                     |                         |                |                           |        |         |        |      |            |      |      |
| RATING    | 40C AMB-CONT               |                         | NEMA NOM. EFF. |                           |        | 93      | GREASE |      | POLYREX EM |      |      |
| P.F.      | 90                         | SER.F.                  | 1.15           | CT6-60H(10:1)VT3-60H(20:1 |        |         |        |      |            |      |      |
| USABLE AT | 50Hz 50HP 190/380V 134/67A |                         |                | SF1.0                     |        |         |        |      |            |      |      |
| VOLTS     | AMPS                       | MAX. SPACE HEATER TEMP. |                |                           |        |         |        |      |            |      |      |

**AC Induction Motor Performance Data**

Record # 35504

Typical performance - not guaranteed values

| Winding: 12WGY291-R005 |    |              |              | Type: 1252M                              |                       | Enclosure: TEFC |           |
|------------------------|----|--------------|--------------|------------------------------------------|-----------------------|-----------------|-----------|
| Nameplate Data         |    |              |              | 460 V, 60 Hz:<br>High Voltage Connection |                       |                 |           |
| Rated Output (HP)      |    | 50           |              | Full Load Torque                         |                       | 74.4 LB-FT      |           |
| Volts                  |    | 230/460      |              | Start Configuration                      |                       | direct on line  |           |
| Full Load Amps         |    | 112/56       |              | Breakdown Torque                         |                       | 292 LB-FT       |           |
| R.P.M.                 |    | 3540         |              | Pull-up Torque                           |                       | 112 LB-FT       |           |
| Hz                     | 60 | Phase        | 3            | Locked-rotor Torque                      |                       | 139 LB-FT       |           |
| NEMA Design Code       |    | A            | KVA Code     | H                                        | Starting Current      |                 | 408 A     |
| Service Factor (S.F.)  |    | 1.15         |              | No-load Current                          |                       | 14.9 A          |           |
| NEMA Nom. Eff.         |    | 93           | Power Factor | 90                                       | Line-line Res. @ 25°C |                 | 0.11257 Ω |
| Rating - Duty          |    | 40C AMB-CONT |              | Temp. Rise @ Rated Load                  |                       | 77°C            |           |
| S.F. Amps              |    |              |              | Temp. Rise @ S.F. Load                   |                       | 95°C            |           |
|                        |    |              |              | Locked-rotor Power Factor                |                       | 20.9            |           |
|                        |    |              |              | Rotor inertia                            |                       | 4.07 LB-FT2     |           |

**Load Characteristics 460 V, 60 Hz, 50 HP**

| % of Rated Load | 25     | 50     | 75     | 100    | 125    | 150    | S.F. |
|-----------------|--------|--------|--------|--------|--------|--------|------|
| Power Factor    | 66     | 82     | 88     | 90     | 91     | 90     | 91   |
| Efficiency      | 91.1   | 93.8   | 94.2   | 93.9   | 93.2   | 92.3   | 93.5 |
| Speed           | 3584.1 | 3571.8 | 3558.2 | 3544.1 | 3528.2 | 3511.2 | 3535 |
| Line amperes    | 20.4   | 30.8   | 42.9   | 55.8   | 69.5   | 84.6   | 64   |

ABB Motors and Mechanical Inc.

WINDING # 12WGY291

Typical performance - not guaranteed values.

50 HP 3 PH 60 HZ 3540 RPM 460 V 1252M

TORQUES (LB-FT): PO=292 PU=112 LR=139 LRA=408







