

# ABB BALDOR RELIANCE III

---

## Customer information packet

### VEM3546T

1HP, 1770RPM, 3PH, 60HZ, 143TC, 3520M, TEFC, F1

Class - None

Division - Not Applicable

**Specifications**

|                                       |                                                             |
|---------------------------------------|-------------------------------------------------------------|
| <b>Enclosure</b>                      | TEFC                                                        |
| <b>Frame</b>                          | 143TC                                                       |
| <b>Frame Material</b>                 | Steel                                                       |
| <b>Frequency</b>                      | 60.00 Hz                                                    |
| <b>Haz Area Class and Group</b>       | None                                                        |
| <b>Haz Area Division</b>              | Not Applicable                                              |
| <b>Motor Letter Type</b>              | Three Phase                                                 |
| <b>Output @ Frequency</b>             | 1.000 HP @ 60 HZ                                            |
| <b>Phase</b>                          | 3                                                           |
| <b>Synchronous Speed @ Frequency</b>  | 1800 RPM @ 60 HZ                                            |
| <b>Voltage @ Frequency</b>            | 230.0 V @ 60 HZ<br>460.0 V @ 60 HZ                          |
| <b>Agency Approvals</b>               | CURUSEEV<br>NEMA PREMIUM                                    |
| <b>Ambient Temperature</b>            | 40 °C                                                       |
| <b>Auxiliary Box</b>                  | NO AUXILLARY BOX                                            |
| <b>Auxiliary Box Lead Termination</b> | None                                                        |
| <b>Base Indicator</b>                 | No Mounting                                                 |
| <b>Bearing Grease Type</b>            | Polyrex EM (-20F +300F)                                     |
| <b>Blower</b>                         | None                                                        |
| <b>Current @ Voltage</b>              | 1.600 A @ 460.0 V<br>3.200 A @ 208.0 V<br>3.200 A @ 230.0 V |
| <b>Design Code</b>                    | B                                                           |
| <b>Drip Cover</b>                     | No Drip Cover                                               |
| <b>Duty Rating</b>                    | CONT                                                        |
| <b>Efficiency @ 100% Load</b>         | 85.5 %                                                      |
| <b>Electrically Isolated Bearing</b>  | Not Electrically Isolated                                   |
| <b>Feedback Device</b>                | NO FEEDBACK                                                 |
| <b>Front Shaft Indicator</b>          | None                                                        |
| <b>Heater Indicator</b>               | No Heater                                                   |
| <b>High Voltage Full Load Amps</b>    | 1.6 a                                                       |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | H          |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  | 35A003     |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 35WGG004   |
| <b>Layout</b>       | 35LYA003   |
| <b>Eff. date</b>    | 01-02-2026 |
| <b>CD Diagram</b>   | CD0005     |
| <b>Poles</b>        | 04         |
| <b>Leads</b>        | 9#18 Y     |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 07-16-2021 |

|                                      |                            |
|--------------------------------------|----------------------------|
| <b>Insulation Class</b>              | <b>F</b>                   |
| <b>Inverter Code</b>                 | <b>Inverter Duty</b>       |
| <b>KVA Code</b>                      | <b>N</b>                   |
| <b>Lifting Lugs</b>                  | <b>No Lifting Lugs</b>     |
| <b>Locked Bearing Indicator</b>      | <b>Locked Bearing</b>      |
| <b>Motor Lead Quantity/Wire Size</b> | <b>9 @ 18 AWG</b>          |
| <b>Motor Lead Termination</b>        | <b>Flying Leads</b>        |
| <b>Motor Standards</b>               | <b>NEMA</b>                |
| <b>Motor Type</b>                    | <b>3520M</b>               |
| <b>Mounting Arrangement</b>          | <b>F1</b>                  |
| <b>Number of Poles</b>               | <b>4</b>                   |
| <b>Overall Length</b>                | <b>12.29 IN</b>            |
| <b>Power Factor</b>                  | <b>69</b>                  |
| <b>Product Family</b>                | <b>General Purpose</b>     |
| <b>Pulley End Bearing Type</b>       | <b>Ball</b>                |
| <b>Pulley Face Code</b>              | <b>C-Face</b>              |
| <b>Pulley Shaft Indicator</b>        | <b>Standard</b>            |
| <b>Rodent Screen</b>                 | <b>None</b>                |
| <b>RoHS Status</b>                   | <b>ROHS COMPLIANT</b>      |
| <b>Service Factor</b>                | <b>1.15</b>                |
| <b>Shaft Diameter</b>                | <b>0.875 IN</b>            |
| <b>Shaft Ground Indicator</b>        | <b>No Shaft Grounding</b>  |
| <b>Shaft Rotation</b>                | <b>Reversible</b>          |
| <b>Shaft Slinger Indicator</b>       | <b>No Slinger</b>          |
| <b>Speed</b>                         | <b>1770 rpm</b>            |
| <b>Speed Code</b>                    | <b>Single Speed</b>        |
| <b>Starting Method</b>               | <b>Direct on line</b>      |
| <b>Thermal Device - Bearing</b>      | <b>None</b>                |
| <b>Thermal Device - Winding</b>      | <b>None</b>                |
| <b>Vibration Sensor Indicator</b>    | <b>No Vibration Sensor</b> |
| <b>Winding Thermal 1</b>             | <b>None</b>                |
| <b>Winding Thermal 2</b>             | <b>None</b>                |

Nameplate

| NP3441LUA                 |                            |  |             |      |     |   |       |       |  |
|---------------------------|----------------------------|--|-------------|------|-----|---|-------|-------|--|
| CAT.NO.                   | VEM3546T                   |  |             |      |     |   |       |       |  |
| SPEC                      | 35A003G004G1               |  |             |      |     |   |       |       |  |
| 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          | 69   |     |   |       |       |  |
| RATING                    | 40C AMB-CONT               |  |             |      |     |   |       |       |  |
| CC                        | 010A                       |  |             |      |     |   |       |       |  |
| ENCL                      | TEFC                       |  | SER         |      |     |   |       |       |  |
| DE                        | 6205                       |  | ODE         | 6203 |     |   |       |       |  |
| VPWM INVERTER READY       |                            |  | SFA 3.4/1.7 |      |     |   |       |       |  |
| CT6-60H(10:1)VT3-60H(20:1 |                            |  |             |      |     |   |       |       |  |
|                           | 50HZ 1HP 190/380V 3.6/1.8A |  |             |      |     |   |       | SF1.0 |  |

**AC Induction Motor Performance Data**

Record # 91625

Typical performance - not guaranteed values

| Winding: 35WGG004-R001 |      |              | Type: 3520M                              |                       | Enclosure: TEFC |  |
|------------------------|------|--------------|------------------------------------------|-----------------------|-----------------|--|
| Nameplate Data         |      |              | 460 V, 60 Hz:<br>High Voltage Connection |                       |                 |  |
| Rated Output (HP)      |      | 1            | Full Load Torque                         |                       | 2.982 LB-FT     |  |
| Volts                  |      | 230/460      | Start Configuration                      |                       | direct on line  |  |
| Full Load Amps         |      | 3.2/1.6      | Breakdown Torque                         |                       | 14.6 LB-FT      |  |
| R.P.M.                 |      | 1770         | Pull-up Torque                           |                       | 7.57 LB-FT      |  |
| Hz                     | 60   | Phase        | 3                                        | Locked-rotor Torque   | 9.17 LB-FT      |  |
| NEMA Design Code       | B    | KVA Code     | N                                        | Starting Current      | 14.6 A          |  |
| Service Factor (S.F.)  |      | 1.15         | No-load Current                          |                       | 1.2 A           |  |
| NEMA Nom. Eff.         | 85.5 | Power Factor | 69                                       | Line-line Res. @ 25°C | 16.049 Ω        |  |
| Rating - Duty          |      | 40C AMB-CONT | Temp. Rise @ Rated Load                  |                       | 36°C            |  |
| S.F. Amps              |      | 3.4/1.7      | Temp. Rise @ S.F. Load                   |                       | 41°C            |  |
|                        |      |              | Locked-rotor Power Factor                |                       | 61.549          |  |
|                        |      |              | Rotor inertia                            |                       | 0.144 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     | 67     | 73     | 78     | 71   |
| Efficiency      | 71.1 | 81.2   | 84.7   | 85.8   | 86     | 85.6   | 85.9 |
| Speed           | 1794 | 1787.3 | 1781.1 | 1774.3 | 1767.4 | 1759.4 | 1770 |
| Line amperes    | 1.22 | 1.31   | 1.46   | 1.64   | 1.86   | 2.11   | 1.77 |

ABB Motors and Mechanical Inc.

WINDING # 35WGG004

Typical performance - not guaranteed values.

1 HP 3 PH 60 HZ 1770 RPM 460 V 3520M

TORQUES (LB-FT): PO=14.6 PU=7.57 LR=9.17 LRA=14.6





