

# ABB BALDOR RELIANCE III

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## Customer information packet

### VEM3545-57

1HP, 2850RPM, 3PH, 50HZ, 56C, 3516M, TEFC, F1, N

Class - None

Division - Not Applicable

**Specifications**

|                                       |                                               |
|---------------------------------------|-----------------------------------------------|
| <b>Enclosure</b>                      | TEFC                                          |
| <b>Frame</b>                          | 56C                                           |
| <b>Frame Material</b>                 | Steel                                         |
| <b>Frequency</b>                      | 50.00 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 @ 50 HZ                              |
| <b>Phase</b>                          | 3                                             |
| <b>Synchronous Speed @ Frequency</b>  | 3000 RPM @ 50 HZ                              |
| <b>Voltage @ Frequency</b>            | 230.0 V @ 50 HZ<br>400.0 V @ 50 HZ            |
| <b>Agency Approvals</b>               | C UR US<br>CE<br>CURUS<br>IE3<br>UKCA<br>WEEE |
| <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 @ 400.0 V<br>2.800 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>         | 82.5 %                                        |
| <b>Electrically Isolated Bearing</b>  | Not Electrically Isolated                     |
| <b>Feedback Device</b>                | NO FEEDBACK                                   |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | N          |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  | 35A013     |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 35WGL462   |
| <b>Layout</b>       | 35LYA013   |
| <b>Eff. date</b>    | 05-07-2024 |
| <b>CD Diagram</b>   | CD0022     |
| <b>Poles</b>        | 02         |
| <b>Leads</b>        | 6#18       |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 12-23-2015 |

|                               |                    |
|-------------------------------|--------------------|
| Front Face Code               | Standard           |
| Front Shaft Indicator         | None               |
| Heater Indicator              | No Heater          |
| High Voltage Full Load Amps   | 1.6 a              |
| Insulation Class              | B                  |
| Inverter Code                 | Inverter Ready     |
| KVA Code                      | J                  |
| Lifting Lugs                  | No Lifting Lugs    |
| Locked Bearing Indicator      | Locked Bearing     |
| Motor Lead Exit               | Ko Box             |
| Motor Lead Quantity/Wire Size | 6 @ 18 AWG         |
| Motor Lead Termination        | Flying Leads       |
| Motor Standards               | NEMA               |
| Motor Type                    | 3516M              |
| Mounting Arrangement          | F1                 |
| Number of Poles               | 2                  |
| Overall Length                | 12.23 IN           |
| Power Factor                  | 87                 |
| Product Family                | General Purpose    |
| Pulley End Bearing Type       | Ball               |
| Pulley Face Code              | C-Face             |
| Pulley Shaft Indicator        | Standard           |
| Rodent Screen                 | None               |
| RoHS Status                   | ROHS COMPLIANT     |
| Service Factor                | 1.25               |
| Shaft Diameter                | 0.625 IN           |
| Shaft Extension Location      | Pulley End         |
| Shaft Ground Indicator        | No Shaft Grounding |
| Shaft Rotation                | Reversible         |
| Shaft Slinger Indicator       | No Slinger         |
| Speed                         | 2850 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**

| NP2716L        |                        |      |          |     |      |      |   |    |  |
|----------------|------------------------|------|----------|-----|------|------|---|----|--|
| CAT NO         | VEM3545-57             |      |          |     |      |      |   |    |  |
| SPEC.          | 35A013L462G1           |      |          |     |      |      |   |    |  |
| HP             | 1/.75KW                |      |          |     |      | PH   | 3 |    |  |
| VOLTS          | 230/400                |      |          |     |      |      |   |    |  |
| AMP            | 2.8/1.6                |      |          |     |      |      |   |    |  |
| R.P.M. (1/MIN) | 2850                   |      |          |     |      |      |   |    |  |
| FRAME          | 56C                    |      | HZ       | 50  |      | I.P. |   | 44 |  |
| SER.F.         | 1.25                   | CODE | J        | DES | B    | CL   |   | B  |  |
| NOM.EFF.       | 82.5                   |      | % (100%) |     |      |      |   |    |  |
| PF             | 87                     |      |          |     |      |      |   |    |  |
| RATING         | 40C AMB-S1 CONT        |      |          |     | CC   |      |   |    |  |
| DE BRG         | 6205                   |      | ODE      |     | 6203 |      |   |    |  |
| ENCL           | TEFC                   | SN   |          |     |      |      |   |    |  |
| BLANK          | IE3-81.2(75%)77.8(50%) |      |          |     |      |      |   |    |  |
|                | SFA 3.3/1.9 IC411      |      |          |     |      |      |   |    |  |
|                | 16KG                   |      |          |     |      |      |   |    |  |

**AC Induction Motor Performance Data**

Record # 54628

Typical performance - not guaranteed values

| Winding: 35WGL462-R001 |                   | Type: 3516M                              | Enclosure: TEFC           |
|------------------------|-------------------|------------------------------------------|---------------------------|
| Nameplate Data         |                   | 400 V, 50 Hz:<br>High Voltage Connection |                           |
| Rated Output (HP)      | 1                 | Full Load Torque                         | 1.9 LB-FT                 |
| Volts                  | 230/400           | Start Configuration                      | direct on line            |
| Full Load Amps         | 2.8/1.6           | Breakdown Torque                         | 6.33 LB-FT                |
| R.P.M.                 | 2850              | Pull-up Torque                           | 5.05 LB-FT                |
| Hz                     | 50 Phase          | Locked-rotor Torque                      | 5.67 LB-FT                |
| NEMA Design Code       | B KVA Code        | Starting Current                         | 11.3 A                    |
| Service Factor (S.F.)  | 1.25              | No-load Current                          | 0.718 A                   |
| NEMA Nom. Eff.         | 82.5 Power Factor | Line-line Res. @ 25°C                    | 15.2 Ω                    |
| Rating - Duty          | 40C AMB-CONT      | Temp. Rise @ Rated Load                  | 39°C                      |
| S.F. Amps              | 3.3/1.9           | Temp. Rise @ S.F. Load                   | 52°C                      |
|                        |                   | Locked-rotor Power Factor                | 63.4                      |
|                        |                   | Rotor inertia                            | 0.0443 LB-FT <sup>2</sup> |

**Load Characteristics 400 V, 50 Hz, 1 HP**

| % of Rated Load | 25    | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|-------|------|------|------|------|------|------|
| Power Factor    | 52    | 72   | 82   | 87   | 91   | 92   | 91   |
| Efficiency      | 74.5  | 81.7 | 83   | 83   | 81.9 | 79.9 | 81.9 |
| Speed           | 2963  | 2937 | 2906 | 2873 | 2836 | 2795 | 2836 |
| Line amperes    | 0.825 | 1.01 | 1.28 | 1.55 | 1.89 | 2.27 | 1.89 |

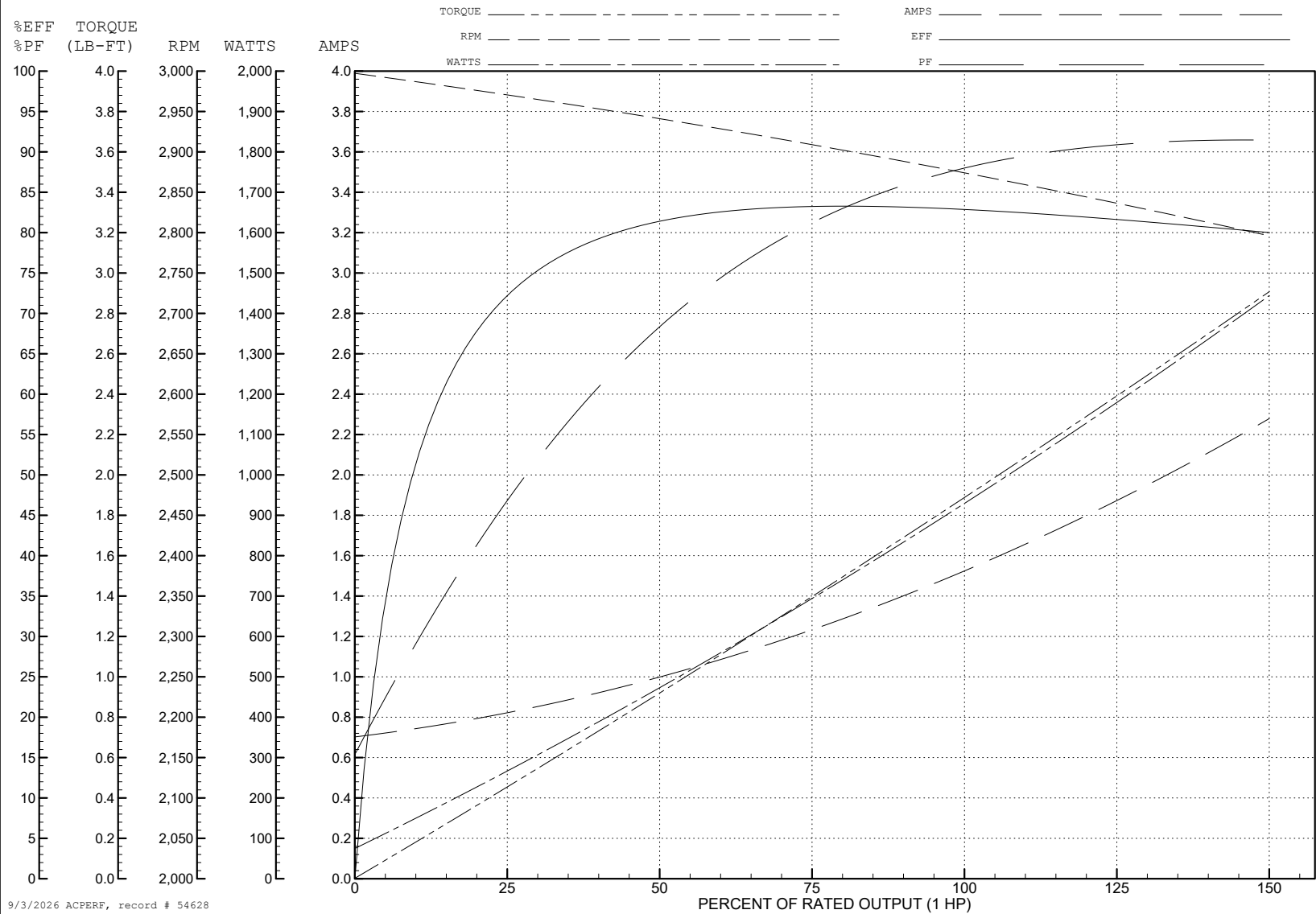
ABB Motors and Mechanical Inc.

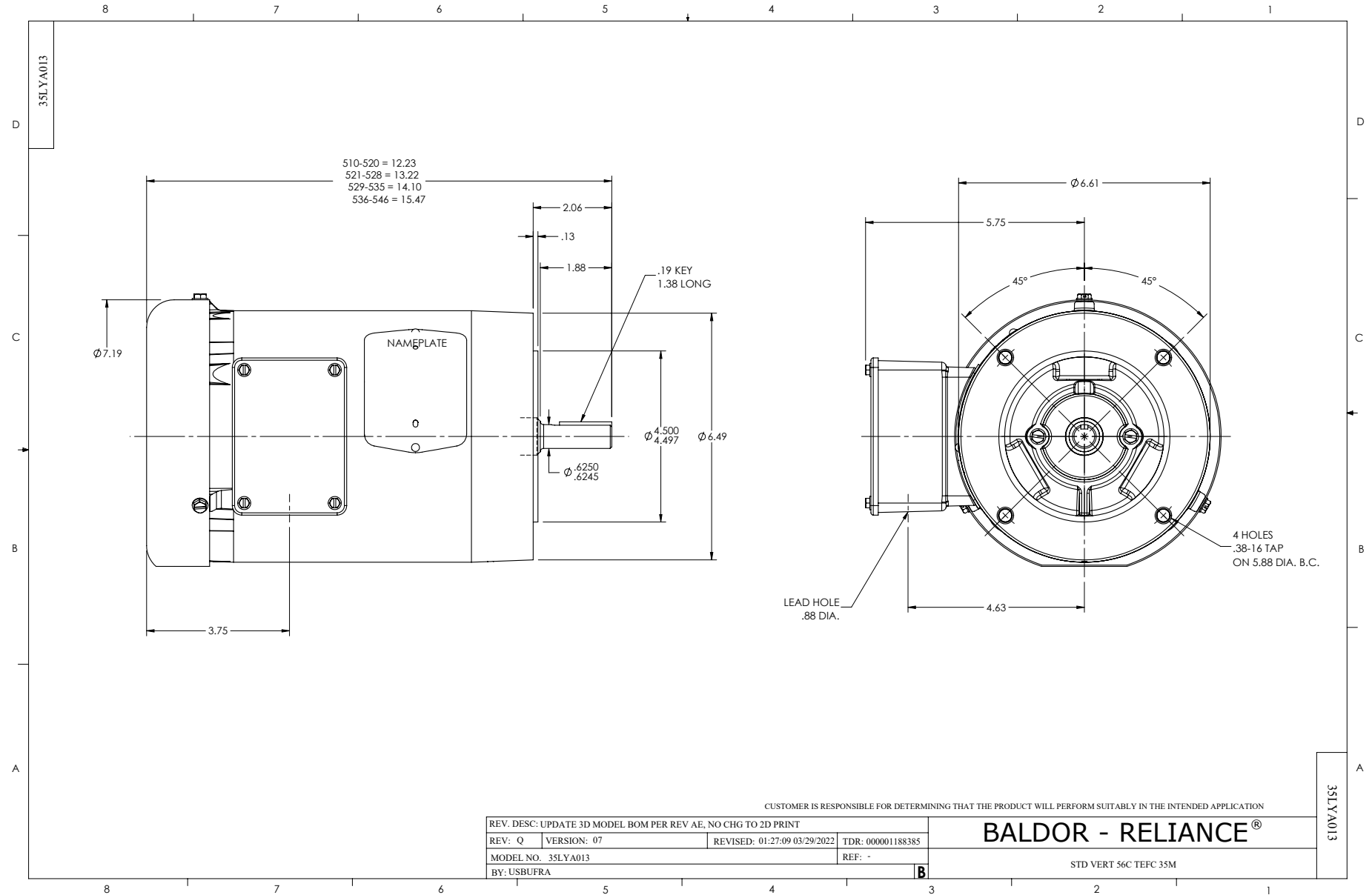
WINDING # 35WGL462

Typical performance - not guaranteed values.

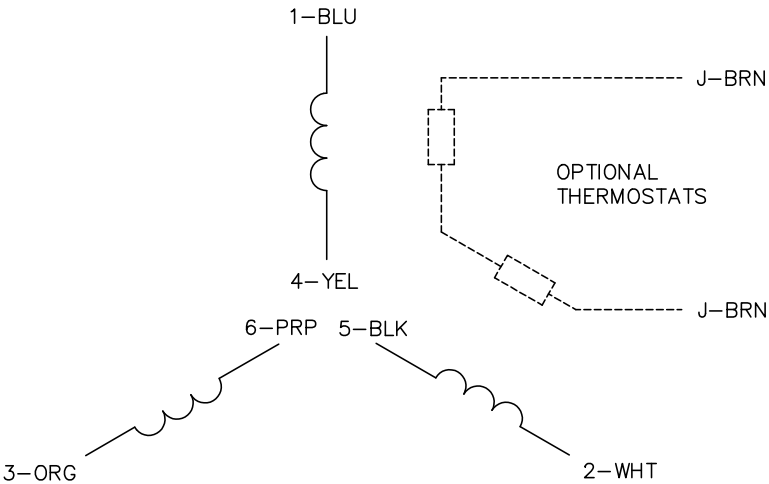
1 HP 3 PH 50 HZ 2850 RPM 400 V 3516M

TORQUES (LB-FT): PO=6.33 PU=5.05 LR=5.67 LRA=11.3

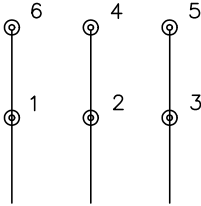




CD0022

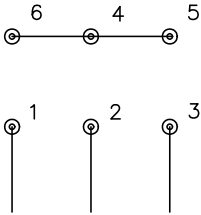


LOW VOLTAGE  
(1D)



LINE

HIGH VOLTAGE  
(1Y)



LINE

- NOTES:
1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
  2. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
  3. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY BE A MULTIPLE OF THOSE SHOWN ABOVE.
  4. LEAD COLORS ARE OPTIONAL. LEADS MUST ALWAYS BE NUMBERED AS SHOWN.

REV. DESC: REVISE TO SHOW OPTIONAL COLORS

REV. LTR: F

BY: JLP

REVISED: 01/21/99 3:54

TDR: 0171435

CD0022

FILE: AAA00005144

MDL: -

MTL: -

**BALDOR ELECTRIC Co.**

3PH, DV, 6 LEADS, DELTA/WYE CONNECTION

CD0022