

# **BALDOR® • RELIANCE**

## **Product Information Packet**

### **VEM3545**

**1HP,3450RPM,3PH,60HZ,56C,3516M,TEFC,F1,N**

| Part Detail |      |                |       |             |          |               |            |
|-------------|------|----------------|-------|-------------|----------|---------------|------------|
| Revision:   | P    | Status:        | PRD/A | Change #:   |          | Proprietary:  | No         |
| Type:       | AC   | Prod. Type:    | 3516M | Elec. Spec: | 35WGY474 | CD Diagram:   | CD0005     |
| Enclosure:  | TEFC | Mfg Plant:     |       | Mech. Spec: | 35J302   | Layout:       | 35LYJ302   |
| Frame:      | 56C  | Mounting:      | F1    | Poles:      | 02       | Created Date: | 05-05-2010 |
| Base:       | N    | Rotation:      | R     | Insulation: | F        | Eff. Date:    | 09-16-2016 |
| Leads:      | 9#18 |                |       |             |          | Replaced By:  |            |
| Literature: |      | Elec. Diagram: |       |             |          |               |            |

## Nameplate NP3441LUA

|              |              |  |      |                |     |     |      |   |    |  |    |  |   |
|--------------|--------------|--|------|----------------|-----|-----|------|---|----|--|----|--|---|
| CAT.NO.      | VEM3545      |  |      |                |     |     |      |   |    |  |    |  |   |
| SPEC.        | 35J302Y474G1 |  |      |                |     |     |      |   |    |  |    |  |   |
| HP           | 1            |  |      |                |     |     |      |   |    |  |    |  |   |
| VOLTS        | 230/460      |  |      |                |     |     |      |   |    |  |    |  |   |
| AMP          | 2.8/1.4      |  |      |                |     |     |      |   |    |  |    |  |   |
| RPM          | 3450         |  |      |                |     |     |      |   |    |  |    |  |   |
| FRAME        | 56C          |  |      |                | HZ  |     | 60   |   |    |  | PH |  | 3 |
| SER.F.       | 1.25         |  | CODE |                | K   | DES |      | B | CL |  | F  |  |   |
| NEMA-NOM-EFF | 77           |  |      | PF             |     | 87  |      |   |    |  |    |  |   |
| RATING       | 40C AMB-CONT |  |      |                |     |     |      |   |    |  |    |  |   |
| CC           | 010A         |  |      | USABLE AT 208V |     |     |      |   |    |  |    |  | 3 |
| DE           | 6205         |  |      |                | ODE |     | 6203 |   |    |  |    |  |   |
| ENCL         | TEFC         |  | SN   |                |     |     |      |   |    |  |    |  |   |

 VPWM INVERTER READY  
 CT6-60H(10:1)VT3-60H(20:1)

50Hz 1HP 190/380V 3.4/1.7A

SF1.0

| Parts List     |                                           |          |
|----------------|-------------------------------------------|----------|
| Part Number    | Description                               | Quantity |
| SA194441       | SA 35J302Y474G1                           | 1.000 EA |
| RA182028       | RA 35J302Y474G1                           | 1.000 EA |
| S/P107-000-001 | SUPER E PROC'S-FS, WS & CK PLTS           | 1.000 EA |
| NS2512A01      | INSULATOR, CONDUIT BOX X                  | 1.000 EA |
| 35CB3000SP     | CONDUIT BOX, CAST, W/.88 DIA. LEAD HOLE   | 1.000 EA |
| 36GS1000       | GASKET-CONDUIT BOX, .06 THICK #SV-330 LE  | 1.000 EA |
| 51XB1016A07    | 10-16 X 7/16 HXWSSLD SERTYB               | 2.000 EA |
| 11XW1032G06    | 10-32 X .38, TAPTITE II, HEX WSHR SLTD U  | 1.000 EA |
| MJ1000A02      | GREASE, POLYREX EM EXXON (USe 4824-15A)   | 0.050 LB |
| 34FN3002B01    | EXTERNAL FAN, PLASTIC, .637/.639 HUB W/   | 1.000 EA |
| 35EP3100M02    | FREP TEFC 203 BRG W/O GR SR (RAISED FH MT | 1.000 EA |
| HW5100A03SP    | WAVY WASHER (W1543-017)                   | 1.000 EA |
| 35EP3300A33    | SPL FACE MTD EP -ENCL-205 BRG             | 1.000 EA |
| 51XN1032A20    | 10-32 X 1 1/4 HX WS SL SR                 | 2.000 EA |
| 51XB1214A16    | 12-14X1.00 HXWSSLD SERTYB                 | 1.000 EA |
| 35FH4005A32SP  | IEC FH NO GR SR W/3 HOLES - PRIMED        | 1.000 EA |
| 51XW1032A06    | 10-32 X .38, TAPTITE II, HEX WSHR SLTD S  | 3.000 EA |
| 35CB4514       | 35 LIPPED CB LID                          | 1.000 EA |
| 36GS1001SP     | GASKET, CONDUIT BOX LID, .06 THICK #SV-3  | 1.000 EA |
| 51XW0832A07    | 8-32 X .44, TAPTITE II, HEX WSHR SLTD SE  | 4.000 EA |
| HW2501D13      | KEY, 3/16 SQ X 1.375                      | 1.000 EA |
| HA7000A04      | KEY RETAINER 0.625 DIA SHAFTS             | 1.000 EA |
| 85XU0407S04    | 4X1/4 U DRIVE PIN STAINLESS               | 2.000 EA |
| MG1000Y03      | MUNSELL 2.53Y 6.70/ 4.60, GLOSS 20,       | 0.017 GA |

| Parts List (continued) |                                          |          |
|------------------------|------------------------------------------|----------|
| Part Number            | Description                              | Quantity |
| HA3100A12              | THRUBOLT 10-32 X 7.375                   | 4.000 EA |
| LC0005E01              | CONN.DIA./WARNING LABEL (LC0005/LB1119N) | 1.000 EA |
| 35PA1066               | PKG GRP, PRINT PK1008A06                 | 1.000 EA |
| PK3082                 | STYROFOAM CRADLE                         | 1.000 EA |
| MN416A01               | TAG-INSTAL-MAINT no wire (1000/bx) 11/14 | 1.000 EA |
| NP3441LUA              | ALUM SUPER-E VPWM INV READY UL           | 1.000 EA |

**AC Induction Motor Performance Data**

Record # 56197 - Typical performance - not guaranteed values

|                               |                    |                        |
|-------------------------------|--------------------|------------------------|
| <b>Winding:</b> 35WGY474-R008 | <b>Type:</b> 3516M | <b>Enclosure:</b> TEFC |
|-------------------------------|--------------------|------------------------|

| Nameplate Data        |              |              |    | 460 V, 60 Hz:<br>High Voltage Connection |                           |
|-----------------------|--------------|--------------|----|------------------------------------------|---------------------------|
| Rated Output (HP)     | 1            |              |    | Full Load Torque                         | 1.47 LB-FT                |
| Volts                 | 230/460      |              |    | Start Configuration                      | direct on line            |
| Full Load Amps        | 2.8/1.4      |              |    | Breakdown Torque                         | 5.6 LB-FT                 |
| R.P.M.                | 3450         |              |    | Pull-up Torque                           | 2.56 LB-FT                |
| Hz                    | 60           | Phase        | 3  | Locked-rotor Torque                      | 4.62 LB-FT                |
| NEMA Design Code      | B            | KVA Code     | K  | Starting Current                         | 10.5 A                    |
| Service Factor (S.F.) | 1.25         |              |    | No-load Current                          | 0.585 A                   |
| NEMA Nom. Eff.        | 77           | Power Factor | 87 | Line-line Res. @ 25°C                    | 19.5 Ω                    |
| Rating - Duty         | 40C AMB-CONT |              |    | Temp. Rise @ Rated Load                  | 41°C                      |
| S.F. Amps             | 3.4/1.7      |              |    | Temp. Rise @ S.F. Load                   | 52°C                      |
|                       |              |              |    | Locked-rotor Power Factor                | 64.1                      |
|                       |              |              |    | Rotor inertia                            | 0.0443 LB-FT <sup>2</sup> |

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

| % of Rated Load | 25   | 50    | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|-------|------|------|------|------|------|
| Power Factor    | 55   | 72    | 82   | 86   | 90   | 91   | 90   |
| Efficiency      | 57.7 | 70.5  | 75.4 | 77   | 77   | 75.8 | 77   |
| Speed           | 3564 | 3533  | 3500 | 3460 | 3418 | 3366 | 3418 |
| Line amperes    | 0.68 | 0.851 | 1.08 | 1.37 | 1.65 | 2.01 | 1.65 |

**AC Induction Motor Performance Data**

Record # 59169 - Typical performance - not guaranteed values

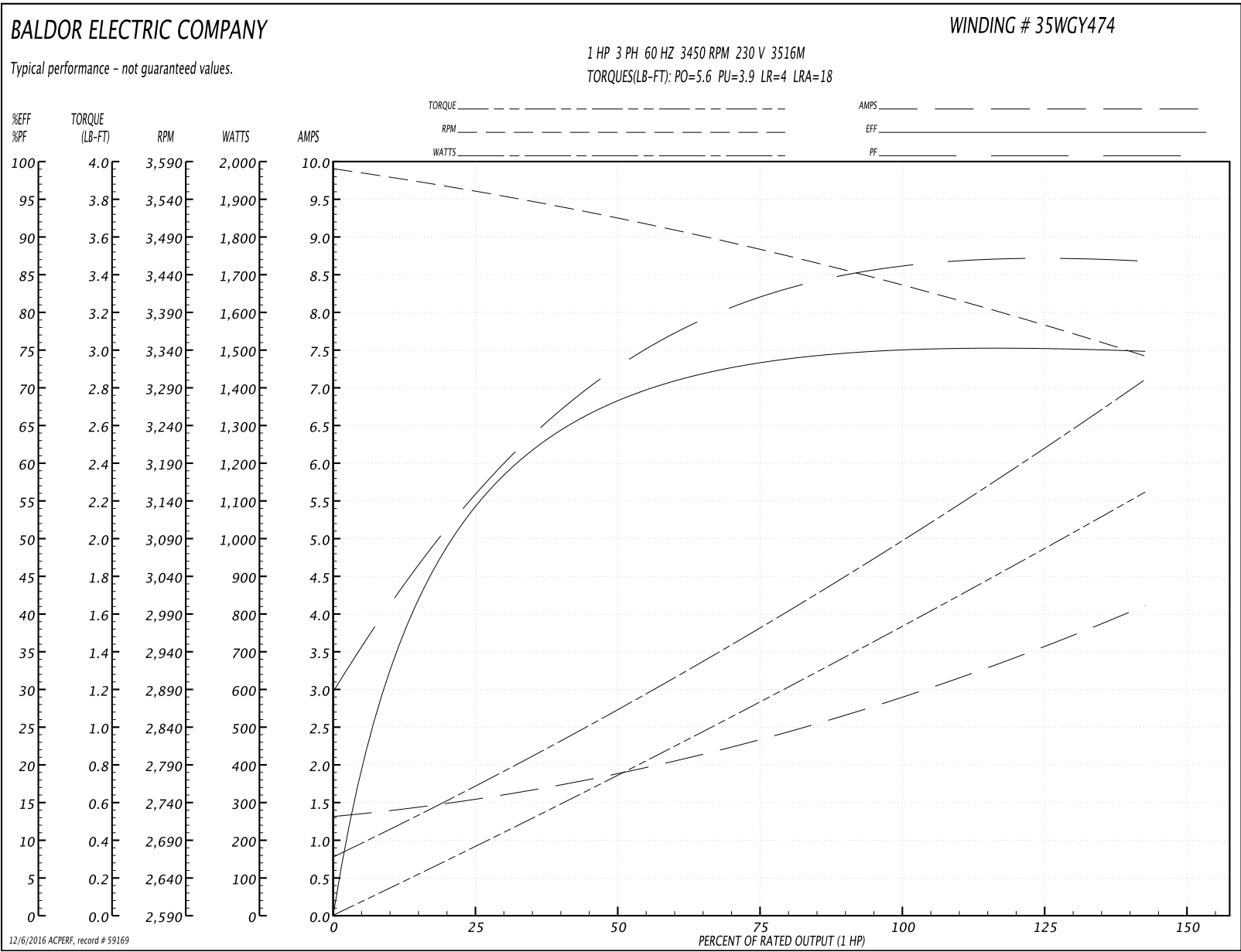
|                               |                    |                        |
|-------------------------------|--------------------|------------------------|
| <b>Winding:</b> 35WGY474-R008 | <b>Type:</b> 3516M | <b>Enclosure:</b> TEFC |
|-------------------------------|--------------------|------------------------|

| Nameplate Data        |              |              |    | 230 V, 60 Hz:<br>Low Voltage Connection |                           |
|-----------------------|--------------|--------------|----|-----------------------------------------|---------------------------|
| Rated Output (HP)     | 1            |              |    | Full Load Torque                        | 1.5 LB-FT                 |
| Volts                 | 230/460      |              |    | Start Configuration                     | direct on line            |
| Full Load Amps        | 2.8/1.4      |              |    | Breakdown Torque                        | 5.6 LB-FT                 |
| R.P.M.                | 3450         |              |    | Pull-up Torque                          | 3.9 LB-FT                 |
| Hz                    | 60           | Phase        | 3  | Locked-rotor Torque                     | 4 LB-FT                   |
| NEMA Design Code      | B            | KVA Code     | K  | Starting Current                        | 18 A                      |
| Service Factor (S.F.) | 1.25         |              |    | No-load Current                         | 1.32 A                    |
| NEMA Nom. Eff.        | 77           | Power Factor | 87 | Line-line Res. @ 25°C                   | 4.88 Ω                    |
| Rating - Duty         | 40C AMB-CONT |              |    | Temp. Rise @ Rated Load                 | 47°C                      |
| S.F. Amps             | 3.4/1.7      |              |    | Temp. Rise @ S.F. Load                  | 60°C                      |
|                       |              |              |    | Locked-rotor Power Factor               | 64.1                      |
|                       |              |              |    | Rotor inertia                           | 0.0443 LB-FT <sup>2</sup> |

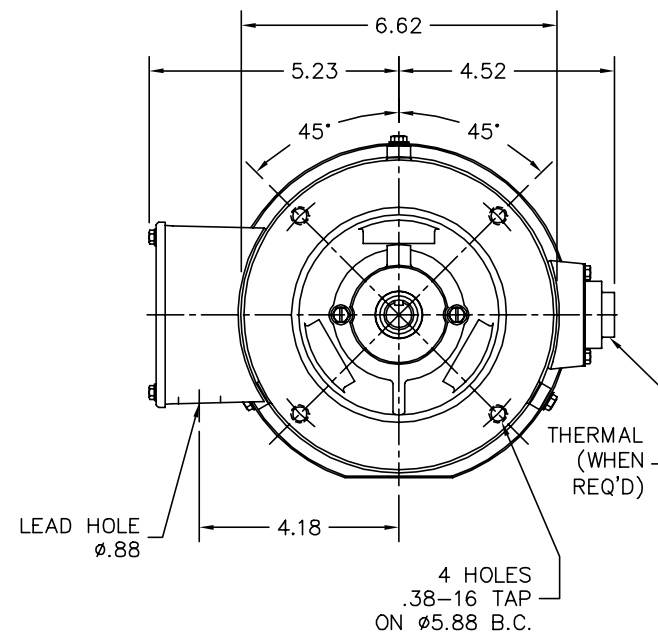
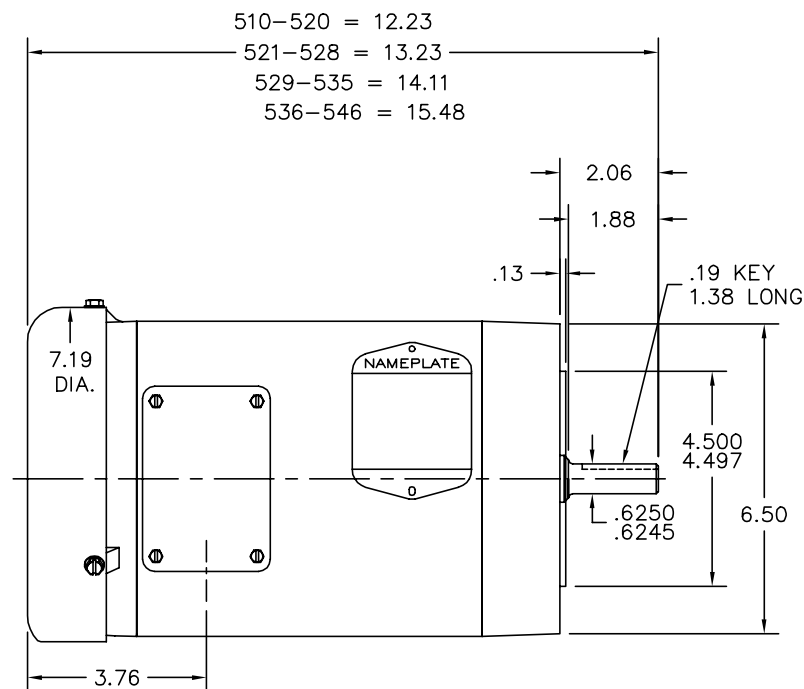
## Load Characteristics 230 V, 60 Hz, 1 HP

|                 |      |      |      |      |      |      |      |
|-----------------|------|------|------|------|------|------|------|
| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
| Power Factor    | 57   | 74   | 81   | 85   | 87   | 87   | 87   |
| Efficiency      | 54   | 67.8 | 73.5 | 75.1 | 75.6 | 74.6 | 75.6 |
| Speed           | 3549 | 3513 | 3474 | 3432 | 3384 | 3330 | 3384 |
| Line amperes    | 1.54 | 1.88 | 2.34 | 2.86 | 3.44 | 4.12 | 3.44 |

Performance Graph at 230V, 60Hz, 1.0HP Typical performance - Not guaranteed values



35LYJ302



CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION.

REV. DESC: UPDATE DRWG PARTS

REV. LTR: C

VERSION: 02

TDR: 000000738205

FILE: \AAA\00041\631

REVISED: 02:09:50 03/15/2012

MTL: -

BY: ENBENBO

**BALDOR**

VERT 56C TEFC 35M SUPER-E

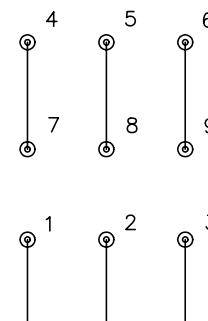
SH 1 of 1

35LYJ302

CD0005


 LOW VOLTAGE  
(2Y)


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: E BY: JLP

REVISED: 01/19/99 10:15

TDR: 0171435

900000

FILE: AAA00005140

MDL: -

MTL: -

**BALDOR ELECTRIC Co.**

3PH, DV, 9 LEADS

CD0005