

# **BALDOR® • RELIANCE**

## **Product Information Packet**

### **VEM3613T**

**5HP,3450RPM,3PH,60HZ,184TC,3630M,TEFC,F1**

| Part Detail |       |                |       |             |          |               |            |
|-------------|-------|----------------|-------|-------------|----------|---------------|------------|
| Revision:   | K     | Status:        | PRD/A | Change #:   |          | Proprietary:  | No         |
| Type:       | AC    | Prod. Type:    | 3630M | Elec. Spec: | 36WGS042 | CD Diagram:   | CD0005     |
| Enclosure:  | TEFC  | Mfg Plant:     |       | Mech. Spec: | 36A003   | Layout:       | 36LYA003   |
| Frame:      | 184TC | Mounting:      | F1    | Poles:      | 02       | Created Date: | 05-10-2010 |
| Base:       | N     | Rotation:      | R     | Insulation: | F        | Eff. Date:    | 11-16-2016 |
| Leads:      | 9#16  |                |       |             |          | Replaced By:  |            |
| Literature: |       | Elec. Diagram: |       |             |          |               |            |

## Nameplate NP3441LUA

|              |              |  |  |      |                |     |      |    |    |  |   |    |    |   |
|--------------|--------------|--|--|------|----------------|-----|------|----|----|--|---|----|----|---|
| CAT.NO.      | VEM3613T     |  |  |      |                |     |      |    |    |  |   |    |    |   |
| SPEC.        | 36A003S042G1 |  |  |      |                |     |      |    |    |  |   |    |    |   |
| HP           | 5            |  |  |      |                |     |      |    |    |  |   |    |    |   |
| VOLTS        | 230/460      |  |  |      |                |     |      |    |    |  |   |    |    |   |
| AMP          | 11.8/5.9     |  |  |      |                |     |      |    |    |  |   |    |    |   |
| RPM          | 3450         |  |  |      |                |     |      |    |    |  |   |    |    |   |
| FRAME        | 184TC        |  |  |      |                | HZ  |      | 60 |    |  |   |    | PH | 3 |
| SER.F.       | 1.15         |  |  | CODE | L              | DES |      | A  | CL |  | F |    |    |   |
| NEMA-NOM-EFF | 88.5         |  |  |      | PF             | 91  |      |    |    |  |   |    |    |   |
| RATING       | 40C AMB-CONT |  |  |      |                |     |      |    |    |  |   |    |    |   |
| CC           | 010A         |  |  |      | USABLE AT 208V |     |      |    |    |  |   | 12 |    |   |
| DE           | 6206         |  |  |      | ODE            |     | 6205 |    |    |  |   |    |    |   |
| ENCL         | TEFC         |  |  | SN   |                |     |      |    |    |  |   |    |    |   |

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

50Hz 5HP 190/380V 14.2/7.1A

SF1.0

| Parts List   |                                          |          |
|--------------|------------------------------------------|----------|
| Part Number  | Description                              | Quantity |
| SA194649     | SA 36A003S042G1                          | 1.000 EA |
| RA182235     | RA 36A003S042G1                          | 1.000 EA |
| 34FN3002B02  | EXTERNAL FAN, PLASTIC, .905/.907 HUB W/  | 1.000 EA |
| 36CB3004     | 36 CB CASTING W/1.09 DIA LEAD HOLE @ 6:0 | 1.000 EA |
| 36GS1000     | GASKET-CONDUIT BOX, .06 THICK #SV-330 LE | 1.000 EA |
| 51XB1016A08  | 10-16X 1/2HXWSSLD SERTYB                 | 2.000 EA |
| 11XW1032G06  | 10-32 X .38, TAPTITE II, HEX WSHR SLTD U | 1.000 EA |
| HW3001B01    | BRASS CUP WASHER, FOR #8 SCREW           | 1.000 EA |
| 36FE3104A01  | FREP MACH ASSEMBLY FOR ROUTING           | 1.000 EA |
| HW4500A01    | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 EA |
| HW5100A05    | WVY WSHR F/205 & 304 BRGS                | 1.000 EA |
| 36PE3301A23  | PUEP ASSEMBLY FOR ROUTING PURPOSES       | 1.000 EA |
| HW4500A01    | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 EA |
| 10XN2520A28  | 1/4-20X 1 3/4 HEX HD                     | 4.000 EA |
| HW1001A25    | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 4.000 EA |
| 51XB1214A16  | 12-14X1.00 HXWSSLD SERTYB                | 1.000 EA |
| 36FH4009A102 | IEC FH GREASER PRIMED                    | 1.000 EA |
| 51XW1032A06  | 10-32 X .38, TAPTITE II, HEX WSHR SLTD S | 3.000 EA |
| 36CB4516     | 36 LIPPED CB LID                         | 1.000 EA |
| 37GS1001     | GASKET, CONDUIT BOX LID, .06 THICK LEXID | 1.000 EA |
| 51XW0832A07  | 8-32 X .44, TAPTITE II, HEX WSHR SLTD SE | 4.000 EA |
| HW2501E16    | 3KEY, 1/4 SQ X 1.750                     | 1.000 EA |
| HA7000A02    | KEY RETAINER RING, 1 1/8 DIA, 1 3/8 DIA  | 1.000 EA |
| 85XU0407S04  | 4X1/4 U DRIVE PIN STAINLESS              | 2.000 EA |

| Parts List (continued) |                                          |          |
|------------------------|------------------------------------------|----------|
| Part Number            | Description                              | Quantity |
| MJ1000A02              | GREASE, POLYREX EM EXXON (USe 4824-15A)  | 0.050 LB |
| HA3101A25              | THRUBOLT 1/4-20 X 11.000 OHIO ROD        | 4.000 EA |
| MG1000Y03              | MUNSELL 2.53Y 6.70/ 4.60, GLOSS 20,      | 0.022 GA |
| LC0005E01              | CONN.DIA./WARNING LABEL (LC0005/LB1119N) | 1.000 EA |
| NP3441LUA              | ALUM SUPER-E VPWM INV READY UL           | 1.000 EA |
| 36PA1001               | PKG GRP, PRINT      PK1017A06            | 1.000 EA |
| PK3082                 | STYROFOAM CRADLE                         | 1.000 EA |
| MN416A01               | TAG-INSTAL-MAINT no wire (1000/bx) 11/14 | 1.000 EA |

**AC Induction Motor Performance Data**

Record # 35706 - Typical performance - not guaranteed values

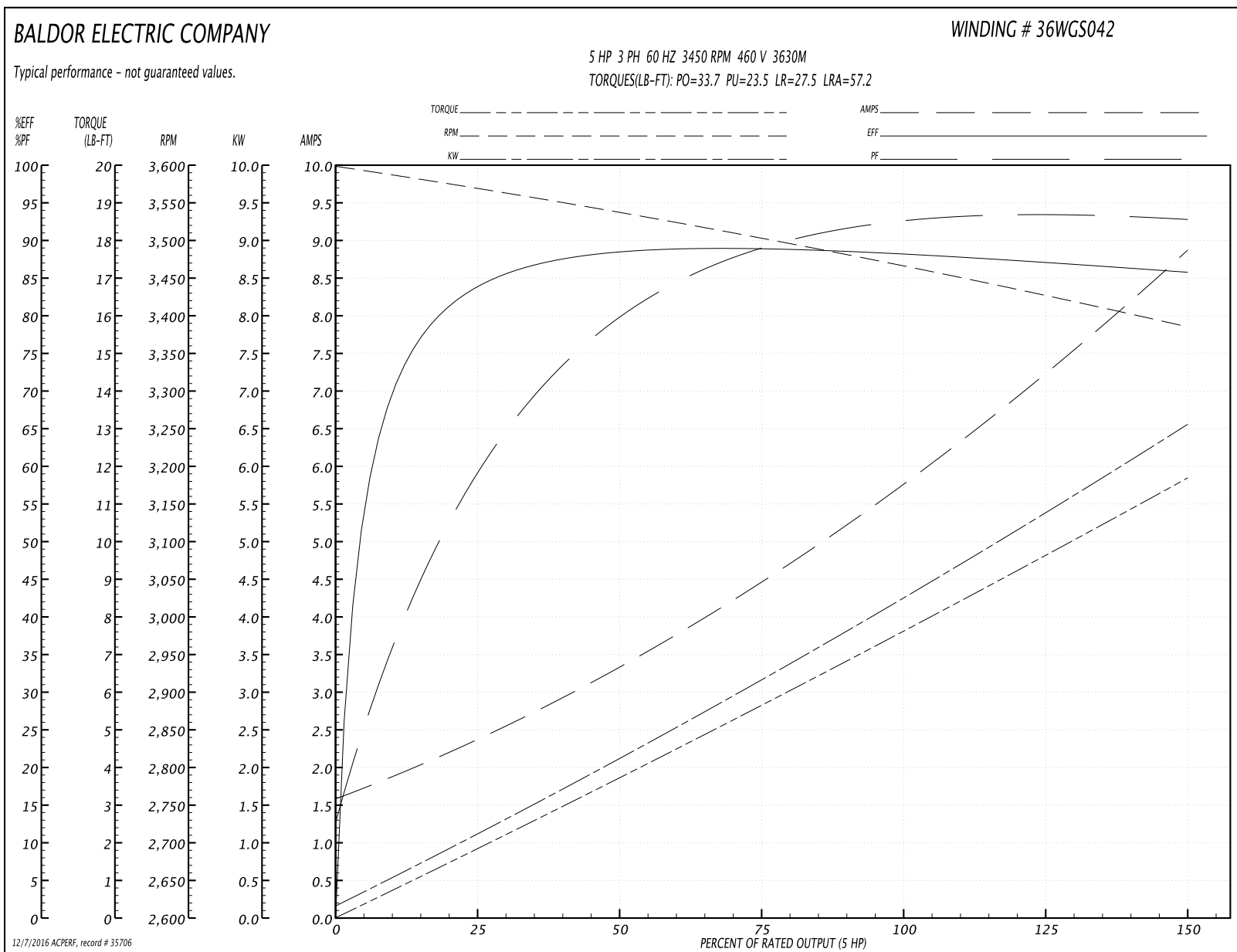
|                               |                    |                        |
|-------------------------------|--------------------|------------------------|
| <b>Winding:</b> 36WGS042-R003 | <b>Type:</b> 3630M | <b>Enclosure:</b> TEFC |
|-------------------------------|--------------------|------------------------|

| Nameplate Data        |              |              |    | 460 V, 60 Hz:<br>High Voltage Connection |                          |
|-----------------------|--------------|--------------|----|------------------------------------------|--------------------------|
| Rated Output (HP)     | 5            |              |    | Full Load Torque                         | 7.64 LB-FT               |
| Volts                 | 208-230/460  |              |    | Start Configuration                      | direct on line           |
| Full Load Amps        | 12-11.8/5.9  |              |    | Breakdown Torque                         | 33.7 LB-FT               |
| R.P.M.                | 3450         |              |    | Pull-up Torque                           | 23.5 LB-FT               |
| Hz                    | 60           | Phase        | 3  | Locked-rotor Torque                      | 27.5 LB-FT               |
| NEMA Design Code      | A            | KVA Code     | L  | Starting Current                         | 57.2 A                   |
| Service Factor (S.F.) | 1.15         |              |    | No-load Current                          | 1.68 A                   |
| NEMA Nom. Eff.        | 88.5         | Power Factor | 91 | Line-line Res. @ 25°C                    | 2.27 Ω                   |
| Rating - Duty         | 40C AMB-CONT |              |    | Temp. Rise @ Rated Load                  | 72°C                     |
| S.F. Amps             |              |              |    | Temp. Rise @ S.F. Load                   | 88°C                     |
|                       |              |              |    | Locked-rotor Power Factor                | 45                       |
|                       |              |              |    | Rotor inertia                            | 0.134 LB-FT <sup>2</sup> |

Load Characteristics 460 V, 60 Hz, 5 HP

|                 |      |      |      |      |      |      |      |
|-----------------|------|------|------|------|------|------|------|
| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
| Power Factor    | 62   | 81   | 88   | 91   | 93   | 94   | 92   |
| Efficiency      | 83.2 | 88.4 | 89.1 | 88.3 | 87   | 85.8 | 87.5 |
| Speed           | 3569 | 3537 | 3504 | 3466 | 3428 | 3385 | 3443 |
| Line amperes    | 2.24 | 3.26 | 4.47 | 5.85 | 7.26 | 8.8  | 6.7  |

## Performance Graph at 460V, 60Hz, 5.0HP Typical performance - Not guaranteed values



**AC Induction Motor Performance Data**

Record # 35722 - Typical performance - not guaranteed values

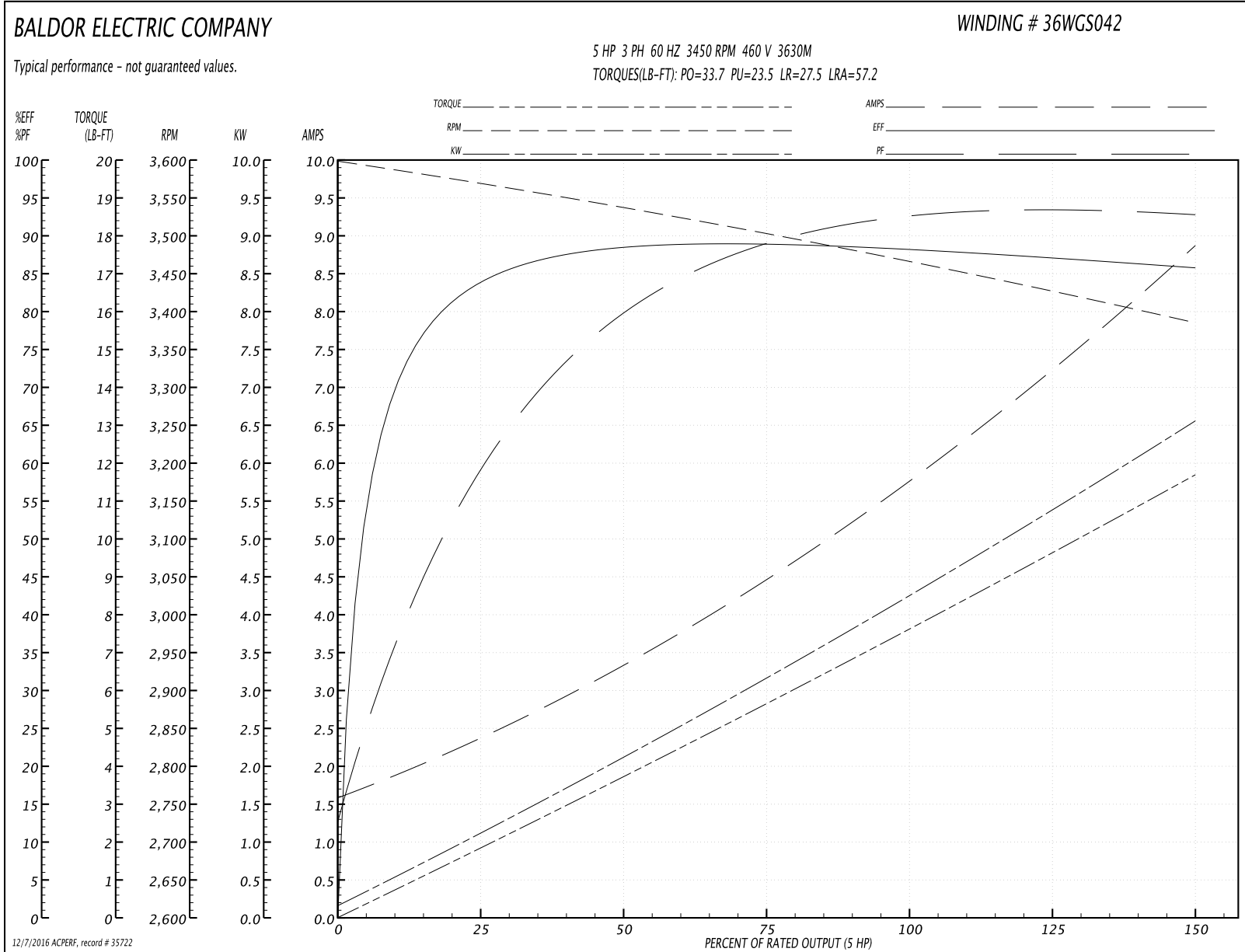
|                               |                    |                        |
|-------------------------------|--------------------|------------------------|
| <b>Winding:</b> 36WGS042-R003 | <b>Type:</b> 3630M | <b>Enclosure:</b> TEFC |
|-------------------------------|--------------------|------------------------|

| Nameplate Data        |              |              |    | 460 V, 60 Hz:<br>High Voltage Connection |                          |
|-----------------------|--------------|--------------|----|------------------------------------------|--------------------------|
| Rated Output (HP)     | 5            |              |    | Full Load Torque                         | 7.64 LB-FT               |
| Volts                 | 230/460      |              |    | Start Configuration                      | direct on line           |
| Full Load Amps        | 11.8/5.9     |              |    | Breakdown Torque                         | 33.7 LB-FT               |
| R.P.M.                | 3450         |              |    | Pull-up Torque                           | 23.5 LB-FT               |
| Hz                    | 60           | Phase        | 3  | Locked-rotor Torque                      | 27.5 LB-FT               |
| NEMA Design Code      | A            | KVA Code     | L  | Starting Current                         | 57.2 A                   |
| Service Factor (S.F.) | 1.15         |              |    | No-load Current                          | 1.68 A                   |
| NEMA Nom. Eff.        | 88.5         | Power Factor | 91 | Line-line Res. @ 25°C                    | 2.27 Ω                   |
| Rating - Duty         | 40C AMB-CONT |              |    | Temp. Rise @ Rated Load                  | 72°C                     |
| S.F. Amps             |              |              |    | Temp. Rise @ S.F. Load                   | 88°C                     |
|                       |              |              |    | Locked-rotor Power Factor                | 45                       |
|                       |              |              |    | Rotor inertia                            | 0.134 LB-FT <sup>2</sup> |

## Load Characteristics 460 V, 60 Hz, 5 HP

|                 |      |      |      |      |      |      |      |
|-----------------|------|------|------|------|------|------|------|
| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
| Power Factor    | 62   | 81   | 88   | 91   | 93   | 94   | 92   |
| Efficiency      | 83.2 | 88.4 | 89.1 | 88.3 | 87   | 85.8 | 87.5 |
| Speed           | 3569 | 3537 | 3504 | 3466 | 3428 | 3385 | 3443 |
| Line amperes    | 2.24 | 3.26 | 4.47 | 5.85 | 7.26 | 8.8  | 6.7  |

## Performance Graph at 460V, 60Hz, 5.0HP Typical performance - Not guaranteed values



**AC Induction Motor Performance Data**

Record # 59172 - Typical performance - not guaranteed values

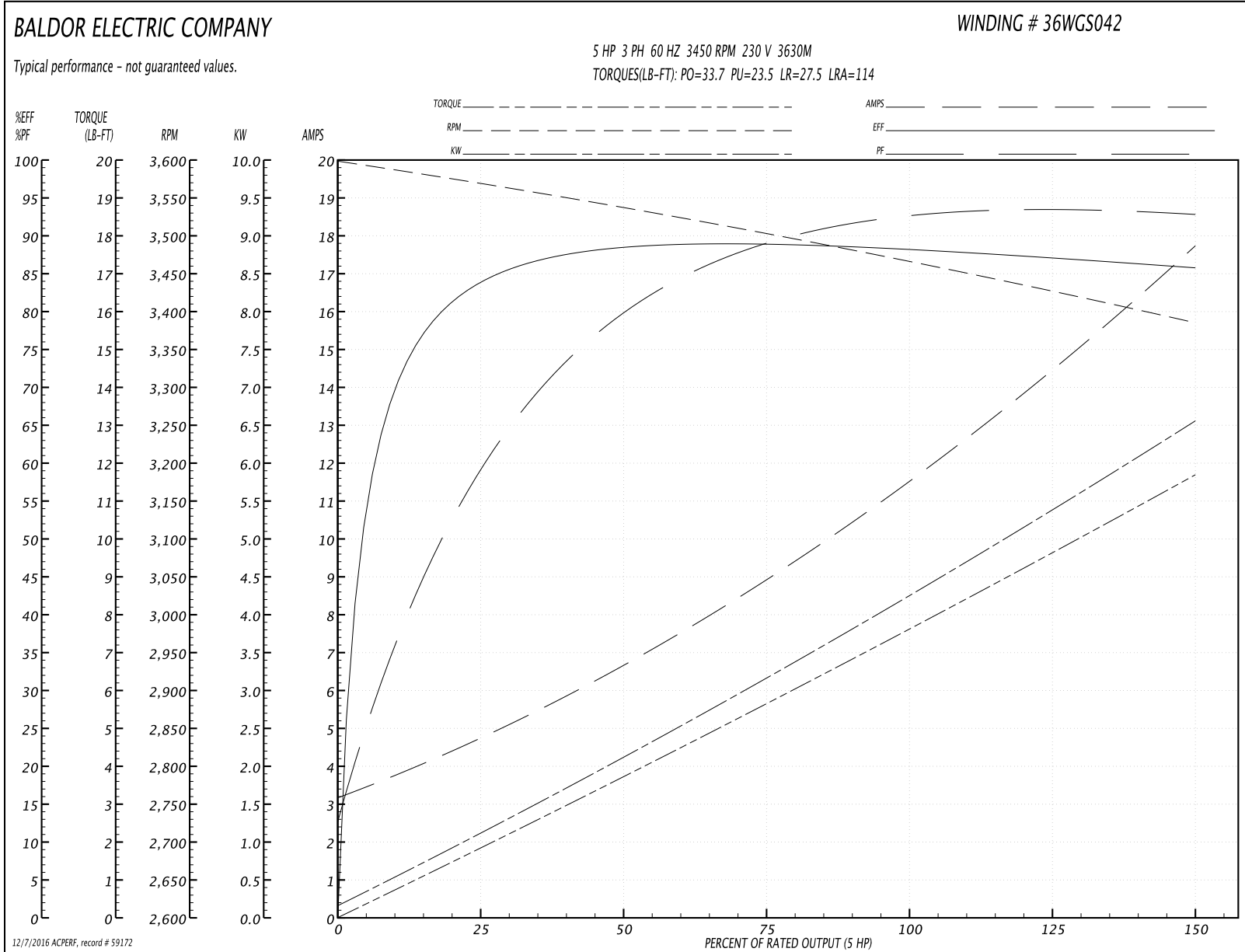
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|-------------------------------|--------------------|------------------------|
| <b>Winding:</b> 36WGS042-R003 | <b>Type:</b> 3630M | <b>Enclosure:</b> TEFC |
|-------------------------------|--------------------|------------------------|

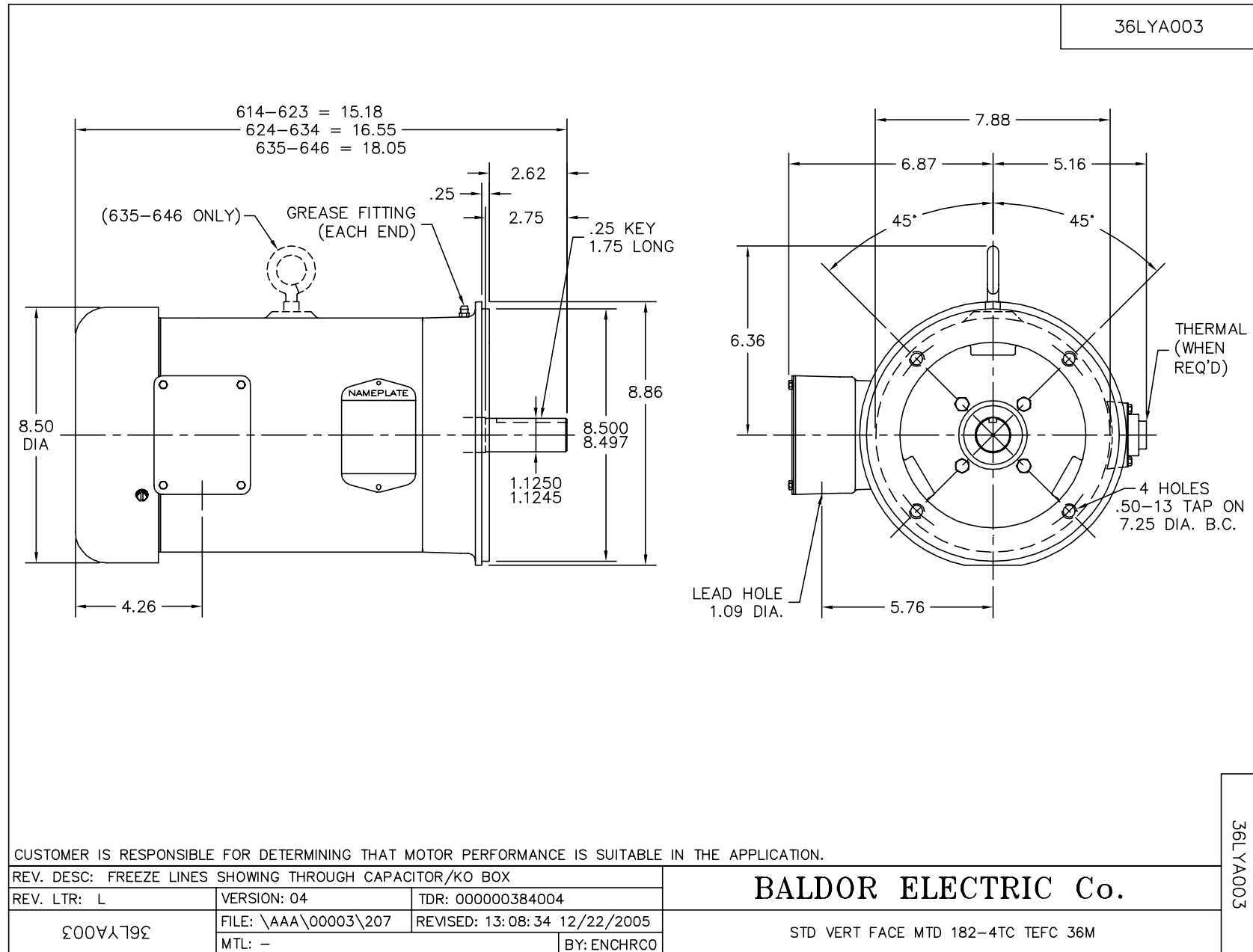
| Nameplate Data        |              |              |    | 230 V, 60 Hz:<br>Low Voltage Connection |                |
|-----------------------|--------------|--------------|----|-----------------------------------------|----------------|
| Rated Output (HP)     | 5            |              |    | Full Load Torque                        | 7.64 LB-FT     |
| Volts                 | 230/460      |              |    | Start Configuration                     | direct on line |
| Full Load Amps        | 11.8/5.9     |              |    | Breakdown Torque                        | 33.7 LB-FT     |
| R.P.M.                | 3450         |              |    | Pull-up Torque                          | 23.5 LB-FT     |
| Hz                    | 60           | Phase        | 3  | Locked-rotor Torque                     | 27.5 LB-FT     |
| NEMA Design Code      | A            | KVA Code     | L  | Starting Current                        | 114 A          |
| Service Factor (S.F.) | 1.15         |              |    | No-load Current                         | 3.36 A         |
| NEMA Nom. Eff.        | 88.5         | Power Factor | 91 | Line-line Res. @ 25°C                   | 0.576 Ω        |
| Rating - Duty         | 40C AMB-CONT |              |    | Temp. Rise @ Rated Load                 | 72°C           |
| S.F. Amps             |              |              |    | Temp. Rise @ S.F. Load                  | 88°C           |
|                       |              |              |    | Locked-rotor Power Factor               | 45.4           |
|                       |              |              |    | Rotor inertia                           | 0.134 LB-FT2   |

Load Characteristics 230 V, 60 Hz, 5 HP

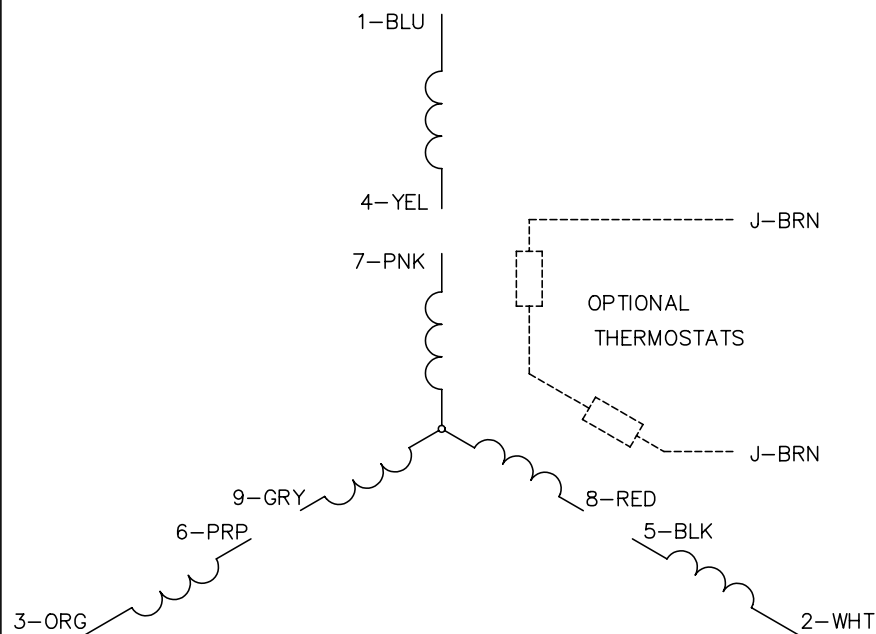
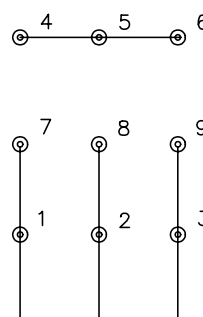
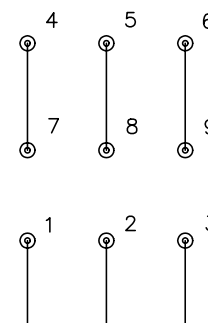
|                 |      |      |      |      |      |      |      |
|-----------------|------|------|------|------|------|------|------|
| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
| Power Factor    | 62   | 81   | 88   | 91   | 93   | 94   | 92   |
| Efficiency      | 83.2 | 88.4 | 89.1 | 88.3 | 87   | 85.8 | 87.5 |
| Speed           | 3569 | 3537 | 3504 | 3466 | 3428 | 3385 | 3443 |
| Line amperes    | 4.48 | 6.52 | 8.94 | 11.7 | 14.5 | 17.6 | 13.4 |

## Performance Graph at 230V, 60Hz, 5.0HP Typical performance - Not guaranteed values





CD0005

LOW VOLTAGE  
(2Y)HIGH VOLTAGE  
(1Y)

## 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