

**BALDOR® • RELIANCE** 

**Product Information Packet**

**CEM3704T**

**3HP, 1160RPM, 3PH, 60HZ, 213TC, 3738M, TEFC, F1**

| Part Detail |        |             |            |             |        |               |            |
|-------------|--------|-------------|------------|-------------|--------|---------------|------------|
| Revision:   | H      | Status:     | PRD/A      | Change #:   |        | Proprietary:  | No         |
| Type:       | AC     | Elec. Spec: | 37WGS519   | CD Diagram: | CD0005 | Mfg Plant:    |            |
| Mech. Spec: | 37G814 | Layout:     | 37LYG814   | Poles:      | 06     | Created Date: | 06-16-2010 |
| Base:       | RG     | Eff. Date:  | 07-19-2017 | Leads:      | 9#14   |               |            |

| Specs                           |                         |                                |                       |
|---------------------------------|-------------------------|--------------------------------|-----------------------|
| Catalog Number:                 | CEM3704T                | Insulation Class:              | F                     |
| Enclosure:                      | TEFC                    | Inverter Code:                 | Inverter Ready        |
| Frame:                          | 213TC                   | KVA Code:                      | L                     |
| Frame Material:                 | Steel                   | Lifting Lugs:                  | Standard Lifting Lugs |
| Output @ Frequency:             | 3.000 HP @ 60 HZ        | Locked Bearing Indicator:      | Locked Bearing        |
| Synchronous Speed @ Frequency:  | 1200 RPM @ 60 HZ        | Motor Lead Quantity/Wire Size: | 9 @ 14 AWG            |
| Voltage @ Frequency:            | 460.0 V @ 60 HZ         | Motor Lead Exit:               | Ko Box                |
|                                 | 230.0 V @ 60 HZ         | Motor Lead Termination:        | Flying Leads          |
| XP Class and Group:             | None                    | Motor Type:                    | 3738M                 |
| XP Division:                    | Not Applicable          | Mounting Arrangement:          | F1                    |
| Agency Approvals:               | UR                      | Power Factor:                  | 68                    |
|                                 | CSA EEV                 | Product Family:                | General Purpose       |
|                                 | CSA                     | Pulley End Bearing Type:       | Ball                  |
| Auxillary Box:                  | No Auxillary Box        | Pulley Face Code:              | C-Face                |
| Auxillary Box Lead Termination: | None                    | Pulley Shaft Indicator:        | Standard              |
| Base Indicator:                 | Rigid                   | Rodent Screen:                 | None                  |
| Bearing Grease Type:            | Polyrex EM (-20F +300F) | RoHS Status:                   | ROHS COMPLIANT        |
| Blower:                         | None                    | Shaft Extension Location:      | Pulley End            |

|                                       |                           |                                    |                     |
|---------------------------------------|---------------------------|------------------------------------|---------------------|
| <b>Current @ Voltage:</b>             | 4.600 A @ 460.0 V         | <b>Shaft Ground Indicator:</b>     | No Shaft Grounding  |
|                                       | 9.200 A @ 230.0 V         | <b>Shaft Rotation:</b>             | Reversible          |
|                                       | 9.600 A @ 208.0 V         | <b>Shaft Slinger Indicator:</b>    | No Slinger          |
| <b>Design Code:</b>                   | B                         | <b>Speed Code:</b>                 | Single Speed        |
| <b>Drip Cover:</b>                    | No Drip Cover             | <b>Motor Standards:</b>            | NEMA                |
| <b>Duty Rating:</b>                   | CONT                      | <b>Starting Method:</b>            | Direct on line      |
| <b>Electrically Isolated Bearing:</b> | Not Electrically Isolated | <b>Thermal Device - Bearing:</b>   | NONE (OLD)          |
| <b>Feedback Device:</b>               | NO FEEDBACK               | <b>Thermal Device - Winding:</b>   | None                |
| <b>Front Face Code:</b>               | Standard                  | <b>Vibration Sensor Indicator:</b> | No Vibration Sensor |
| <b>Front Shaft Indicator:</b>         | None                      | <b>Winding Thermal 1:</b>          | None                |
| <b>Heater Indicator:</b>              | No Heater                 | <b>Winding Thermal 2:</b>          | None                |

|                                  |                             |  |             |            |                       |    |  |              |           |     |
|----------------------------------|-----------------------------|--|-------------|------------|-----------------------|----|--|--------------|-----------|-----|
| <b>Nameplate NP3441LUA</b>       |                             |  |             |            |                       |    |  |              |           |     |
| <b>CAT.NO.</b>                   | CEM3704T                    |  |             |            |                       |    |  |              |           |     |
| <b>SPEC</b>                      | 37G814S519G1                |  |             |            |                       |    |  |              |           |     |
| <b>HP</b>                        | 3                           |  |             |            |                       |    |  |              |           |     |
| <b>VOLTS</b>                     | 230/460                     |  |             |            |                       |    |  |              |           |     |
| <b>AMPS</b>                      | 9.2/4.6                     |  |             |            |                       |    |  |              |           |     |
| <b>RPM</b>                       | 1160                        |  |             |            |                       |    |  |              |           |     |
| <b>FRAME</b>                     | 213TC                       |  |             |            | <b>HZ</b>             | 60 |  |              | <b>PH</b> | 3   |
| <b>SF</b>                        | 1.15                        |  | <b>CODE</b> | L          | <b>DES</b>            | B  |  | <b>CLASS</b> | F         |     |
| <b>NEMA NOM. EFF</b>             | 89.5                        |  | <b>PF</b>   | 68         |                       |    |  |              |           |     |
| <b>RATING</b>                    | 40C AMB-CONT                |  |             |            |                       |    |  |              |           |     |
| <b>CC</b>                        | 010A                        |  |             |            | <b>USABLE AT 208V</b> |    |  |              |           | 9.6 |
| <b>ENCL</b>                      | TEFC                        |  | <b>SER</b>  |            |                       |    |  |              |           |     |
| <b>DE</b>                        | 6307                        |  |             | <b>ODE</b> | 6206                  |    |  |              |           |     |
| <b>VPWM INVERTER READY</b>       |                             |  |             |            |                       |    |  |              |           |     |
| <b>CT6-60H(10:1)VT3-60H(20:1</b> |                             |  |             |            |                       |    |  |              |           |     |
|                                  | 50Hz 3HP 190/380V 10.6/5.3A |  |             |            |                       |    |  |              |           |     |
|                                  | SF1.0                       |  |             |            |                       |    |  |              |           |     |

| Parts List  |  |          |
|-------------|--|----------|
| Part Number | Description                              | Quantity |
| SA198865    | SA 37G814S519G1                          | 1.000 EA |
| RA186220    | RA 37G814S519G1                          | 1.000 EA |
| 37FN3002C01 | EXFN, PLASTIC, 6.00 OD, 1.155 ID         | 1.000 EA |
| HW3200A01   | 3/8-16X3/4 I-BLT WELDED F/S              | 1.000 EA |
| 37CB3006    | 37 CB CASTING W/1.38 LEAD HOLE @ 6:00    | 1.000 EA |
| 37GS1000SP  | GASKET, CONDUIT BOX STD., .06 THICK LEXI | 1.000 EA |
| 51XW2520A12 | .25-20 X .75, TAPTITE II, HEX WSHR SLTD  | 2.000 EA |
| 11XW1032G06 | 10-32 X .38, TAPTITE II, HEX WSHR SLTD U | 1.000 EA |
| 37EP3101A01 | FR ENDPLATE, FOR ROUTING PURPOSES        | 1.000 EA |
| HW4500A01   | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 EA |
| HW5100A06   | W2420-025 WVY WSHR (WB)                  | 1.000 EA |
| 37PE3300A01 | PUEP ASSEMBLY FOR ROUTING                | 1.000 EA |
| HW4500A01   | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 EA |
| 10XN2520A30 | HEX HD CAP SCREW-STD THD-.25 X 20 THD PE | 4.000 EA |
| HW1001A25   | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 4.000 EA |
| XY3118A12   | 5/16-18 HEX NUT DIRECTIONAL SERRATION    | 4.000 EA |
| 51XB1214A20 | 12-14X1.25 HXWSSLD SERTYB                | 1.000 EA |
| 07FH4007SP  | PRIMED                                   | 1.000 EA |
| 51XW1032A06 | 10-32 X .38, TAPTITE II, HEX WSHR SLTD S | 3.000 EA |
| 37CB4516    | LIPPED LID FOR 37 FRAME NEC KOBX         | 1.000 EA |
| 37GS1008    | 37 GS FOR CB LID - LEXIDE                | 1.000 EA |
| 51XW0832A07 | 8-32 X .44, TAPTITE II, HEX WSHR SLTD SE | 4.000 EA |
| HW2501F21   | KEY, 5/16 SQ X 2.375                     | 1.000 EA |
| HA7000A02   | KEY RETAINER RING, 1 1/8 DIA, 1 3/8 DIA  | 1.000 EA |

| <b>Parts List (continued)</b> |  |                 |
|-------------------------------|--|-----------------|
| <b>Part Number</b>            | <b>Description</b>                       | <b>Quantity</b> |
| 85XU0407S04                   | 4X1/4 U DRIVE PIN STAINLESS              | 2.000 EA        |
| LB1115N                       | LABEL,LIFTING DEVICE (ON ROLLS)          | 1.000 EA        |
| MJ1000A02                     | GREASE, POLYREX EM EXXON (USe 4824-15A)  | 0.050 LB        |
| HA3104A17                     | 5/16-18X13.250 T-BLT/OHIO                | 4.000 EA        |
| MG1000Y03                     | MUNSELL 2.53Y 6.70/ 4.60, GLOSS 20,      | 0.028 GA        |
| LC0005E01                     | CONN.DIA./WARNING LABEL (LC0005/LB1119N) | 1.000 EA        |
| NP3441LUA                     | ALUM SUPER-E VPWM INV READY UL CSA-EEV C | 1.000 EA        |
| G0PA1000                      | PKG GRP, PRINT PK1026A06                 | 1.000 EA        |
| MN416A01                      | TAG-INSTAL-MAINT no wire (1200/bx) 5/18  | 1.000 EA        |

**AC Induction Motor Performance Data**

Record # 53388 - Typical performance - not guaranteed values

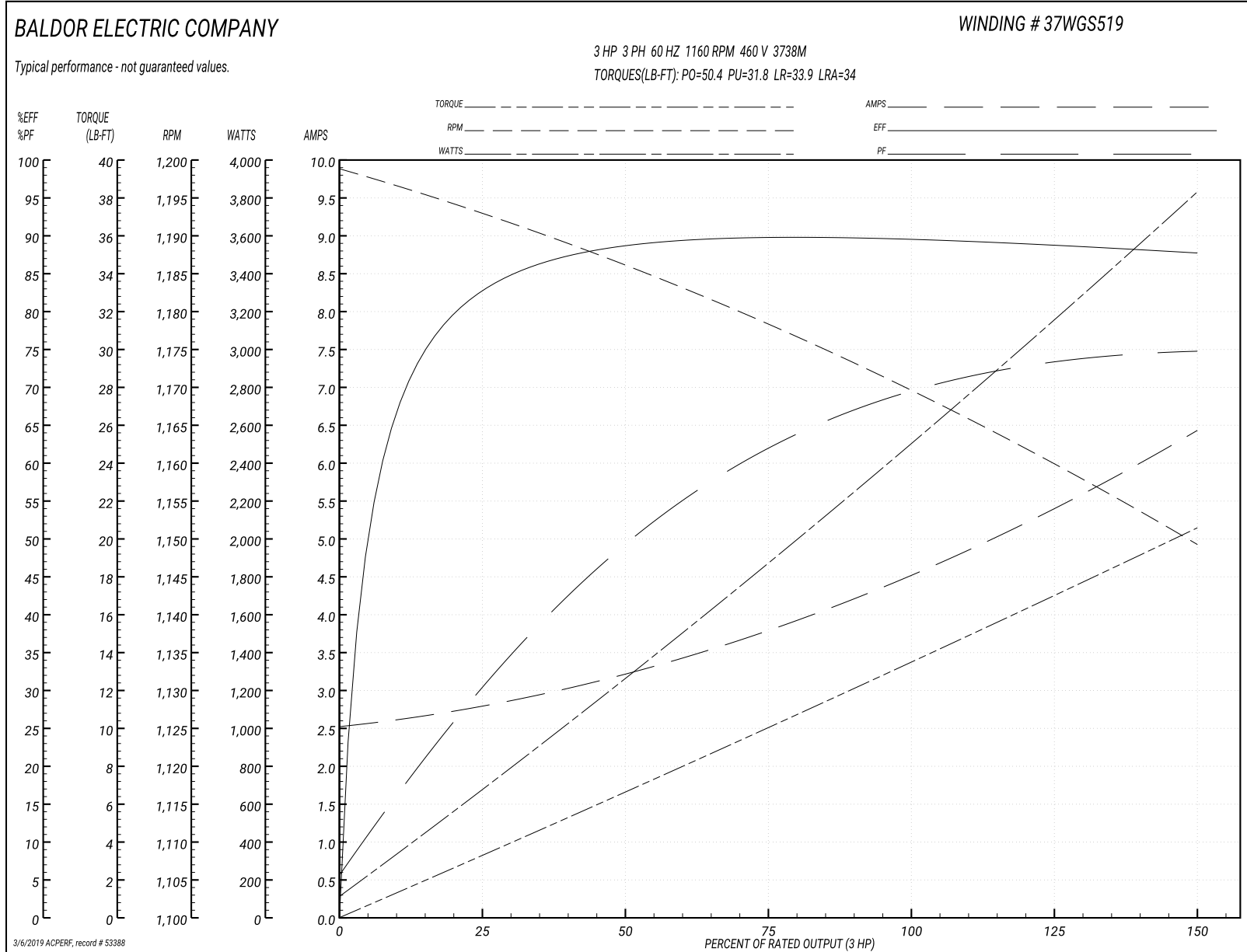
|                               |                    |                        |
|-------------------------------|--------------------|------------------------|
| <b>Winding:</b> 37WGS519-R032 | <b>Type:</b> 3738M | <b>Enclosure:</b> TEFC |
|-------------------------------|--------------------|------------------------|

| Nameplate Data        |              |              |    | 460 V, 60 Hz:<br>High Voltage Connection |                          |
|-----------------------|--------------|--------------|----|--|--------------------------|
| Rated Output (HP)     | 3            |              |    | Full Load Torque                         | 13.4 LB-FT               |
| Volts                 | 230/460      |              |    | Start Configuration                      | direct on line           |
| Full Load Amps        | 9.2/4.6      |              |    | Breakdown Torque                         | 50.4 LB-FT               |
| R.P.M.                | 1160         |              |    | Pull-up Torque                           | 31.8 LB-FT               |
| Hz                    | 60           | Phase        | 3  | Locked-rotor Torque                      | 33.9 LB-FT               |
| NEMA Design Code      | B            | KVA Code     | L  | Starting Current                         | 34 A                     |
| Service Factor (S.F.) | 1.15         |              |    | No-load Current                          | 2.56 A                   |
| NEMA Nom. Eff.        | 89.5         | Power Factor | 68 | Line-line Res. @ 25°C                    | 2.67 Ω                   |
| Rating - Duty         | 40C AMB-CONT |              |    | Temp. Rise @ Rated Load                  | 38°C                     |
| S.F. Amps             |              |              |    | Temp. Rise @ S.F. Load                   | 45°C                     |
|                       |              |              |    | Locked-rotor Power Factor                | 22.9                     |
|                       |              |              |    | Rotor inertia                            | 0.945 LB-FT <sup>2</sup> |

Load Characteristics 460 V, 60 Hz, 3 HP

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|------|------|------|------|------|------|
| Power Factor    | 30   | 50   | 62   | 69   | 73   | 75   | 70   |
| Efficiency      | 82.1 | 88.6 | 89.5 | 89.8 | 89.1 | 87.6 | 89.1 |
| Speed           | 1193 | 1186 | 1178 | 1170 | 1160 | 1149 | 1166 |
| Line amperes    | 2.74 | 3.19 | 3.82 | 4.53 | 5.44 | 6.41 | 5.14 |

Performance Graph at 460V, 60Hz, 3.0HP Typical performance - Not guaranteed values





**AC Induction Motor Performance Data**

Record # 60478 - Typical performance - not guaranteed values

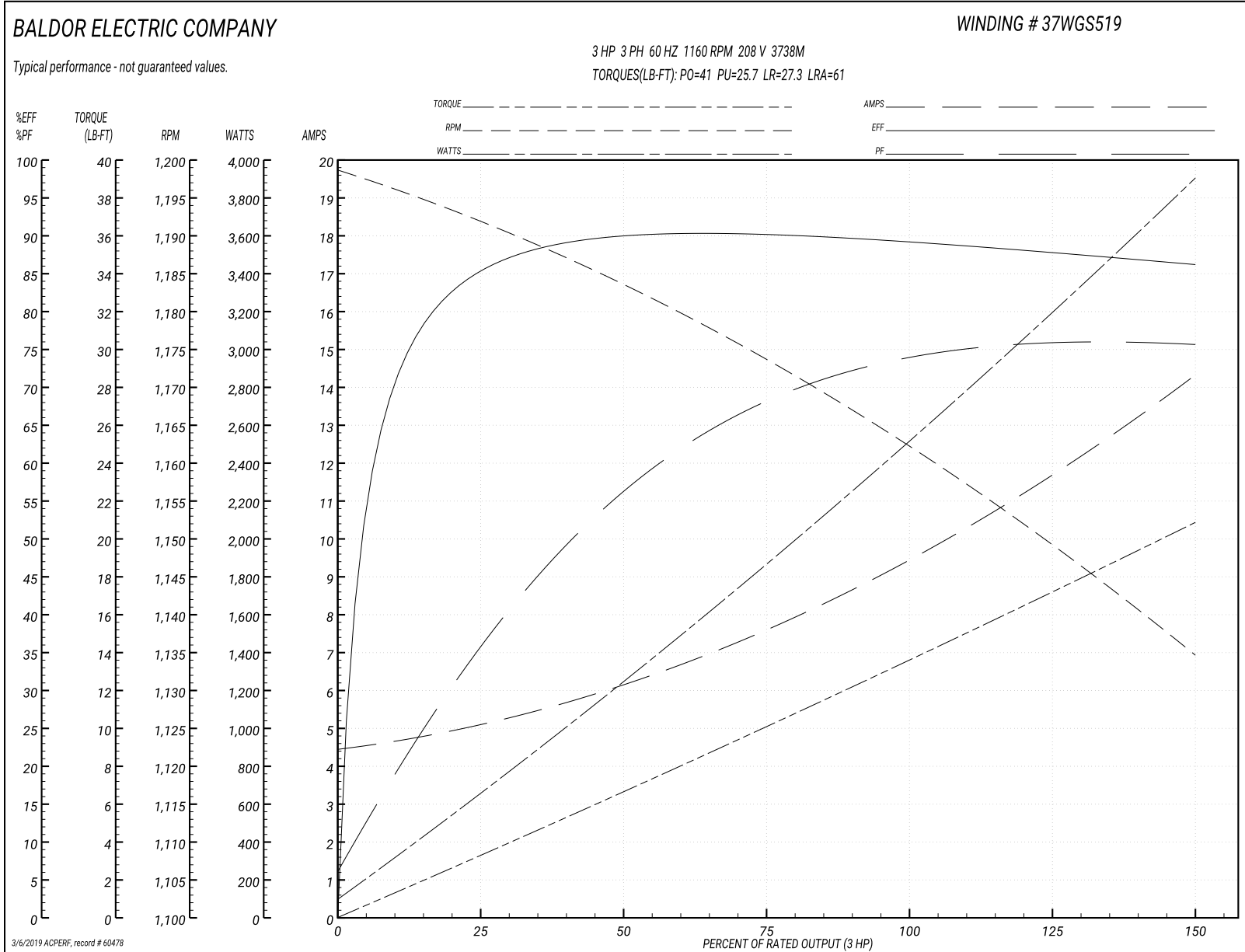
|                               |                    |                        |
|-------------------------------|--------------------|------------------------|
| <b>Winding:</b> 37WGS519-R032 | <b>Type:</b> 3738M | <b>Enclosure:</b> TEFC |
|-------------------------------|--------------------|------------------------|

| Nameplate Data        |              |              |    | 208 V, 60 Hz:<br>Low Voltage Connection |                          |
|-----------------------|--------------|--------------|----|---|--------------------------|
| Rated Output (HP)     | 3            |              |    | Full Load Torque                        | 13.5 LB-FT               |
| Volts                 | 208-230/460  |              |    | Start Configuration                     | direct on line           |
| Full Load Amps        | 9.5-9.2/4.6  |              |    | Breakdown Torque                        | 41 LB-FT                 |
| R.P.M.                | 1160         |              |    | Pull-up Torque                          | 25.7 LB-FT               |
| Hz                    | 60           | Phase        | 3  | Locked-rotor Torque                     | 27.3 LB-FT               |
| NEMA Design Code      | B            | KVA Code     | L  | Starting Current                        | 61 A                     |
| Service Factor (S.F.) | 1.15         |              |    | No-load Current                         | 4.52 A                   |
| NEMA Nom. Eff.        | 89.5         | Power Factor | 68 | Line-line Res. @ 25°C                   | 0.668 Ω                  |
| Rating - Duty         | 40C AMB-CONT |              |    | Temp. Rise @ Rated Load                 | 39°C                     |
| S.F. Amps             |              |              |    | Temp. Rise @ S.F. Load                  | 49°C                     |
|                       |              |              |    | Locked-rotor Power Factor               | 22.9                     |
|                       |              |              |    | Rotor inertia                           | 0.945 LB-FT <sup>2</sup> |

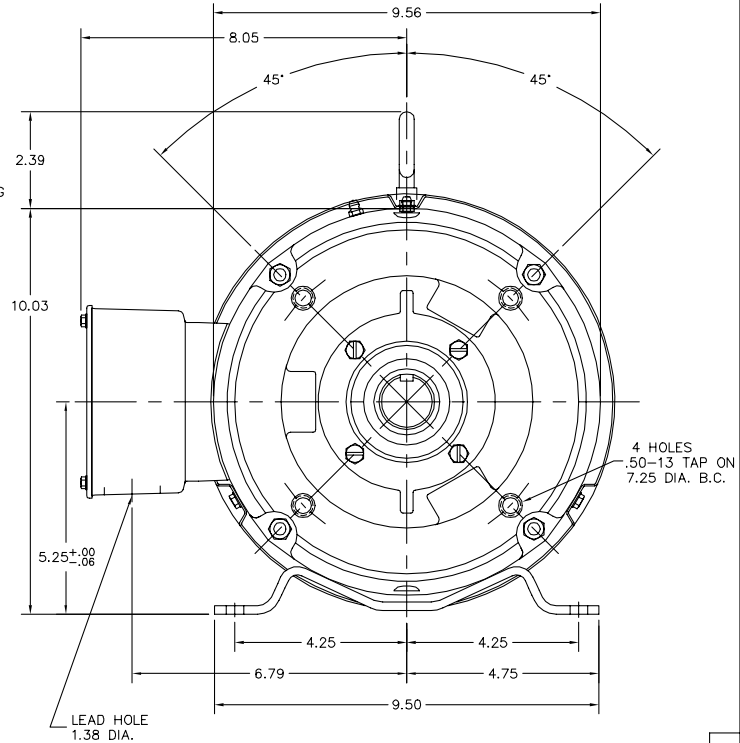
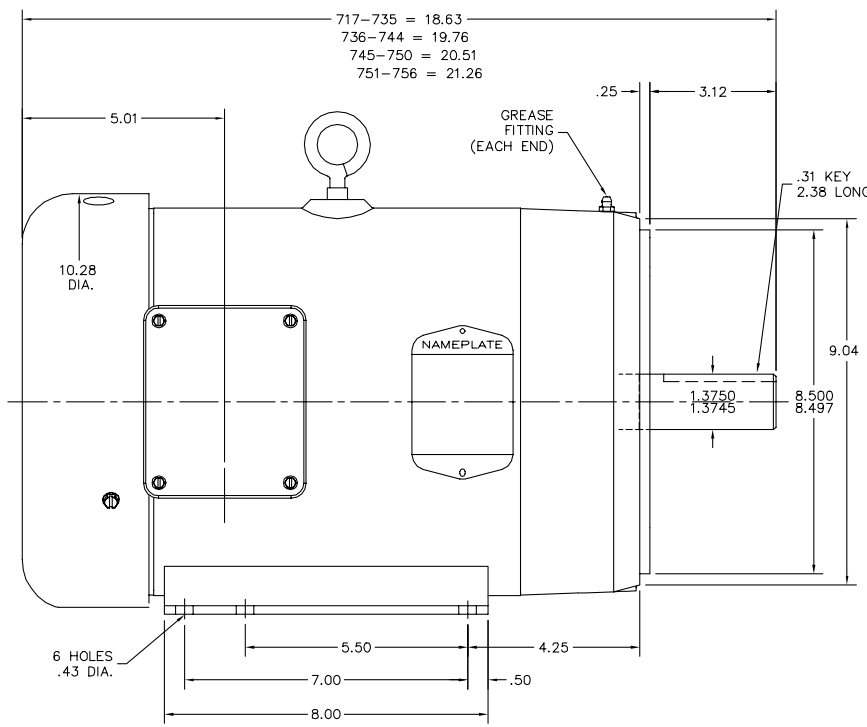
Load Characteristics 208 V, 60 Hz, 3 HP

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|------|------|------|------|------|------|
| Power Factor    | 36   | 57   | 68   | 73   | 76   | 76   | 75   |
| Efficiency      | 84.3 | 89.5 | 90.1 | 89.6 | 88   | 86.1 | 88.6 |
| Speed           | 1192 | 1183 | 1173 | 1163 | 1150 | 1134 | 1155 |
| Line amperes    | 4.98 | 6.11 | 7.69 | 9.46 | 11.7 | 14.3 | 10.8 |

Performance Graph at 208V, 60Hz, 3.0HP Typical performance - Not guaranteed values



37LYG814



37LYG814

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

|  |                              |                   |
|--|------------------------------|-------------------|
| REV. DESC: UPDATE LAYOUT GRAPHICS - NO DIM CHANGES |                              |                   |
| REV. LTR: D  | VERSION: 01                  | TDR: 000000859468 |
| FILE: \AAA\00051\948                               | REVISED: 11:08:35 06/24/2014 | BY: ENBRAMO       |
| MTL: -   |                              |                   |

**BALDOR**

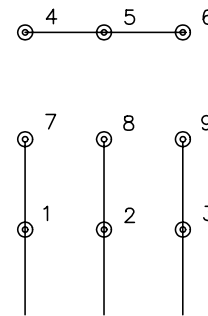
STD HORZ 213-5TC TEFC 37M W/EPACT SHOVE

SH 1 of 1

CD0005

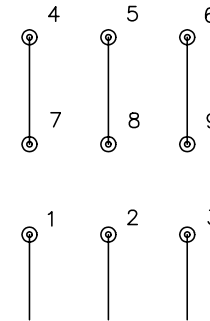


LOW VOLTAGE  
(2Y)



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

9000D

FILE: AAA00005140

MDL: -

MTL: -

**BALDOR ELECTRIC Co.**

3PH, DV, 9 LEADS

CD0005