

# ABB BALDOR RELIANCE III

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## Customer information packet

### ECP4400TR-4

100HP, 1785RPM, 3PH, 60HZ, 405T, TEFC, F1

Class - CLI GP A,B,C,D

Division - Division II

**Specifications**

|                               |                             |
|-------------------------------|-----------------------------|
| Enclosure                     | TEFC                        |
| Frame                         | 405T                        |
| Frame Material                | Iron                        |
| Frequency                     | 60.00 Hz                    |
| Haz Area Class and Group      | CLI GP A,B,C,D              |
| Haz Area Division             | Division II                 |
| Motor Letter Type             | Three Phase                 |
| Output @ Frequency            | 100.000 HP @ 60 HZ          |
| Phase                         | 3                           |
| Synchronous Speed @ Frequency | 1800 RPM @ 60 HZ            |
| Voltage @ Frequency           | 460.0 V @ 60 HZ             |
| Agency Approvals              | CCSAUSEEV                   |
| Ambient Temperature           | 40 °C                       |
| Auxiliary Box                 | NO AUXILLARY BOX            |
| Base Indicator                | Rigid                       |
| Bearing Grease Type           | Mobil SHC 220 (Athens Only) |
| Constant Torque Speed Range   | 10-60                       |
| Current @ Voltage             | 112.000 A @ 460.0 V         |
| Design Code                   | B                           |
| Drip Cover                    | No Drip Cover               |
| Duty Rating                   | CONT                        |
| Efficiency @ 100% Load        | 95.4 %                      |
| Feedback Device               | NO FEEDBACK                 |
| Haz Area Temp Code            | T2D                         |
| Heater Indicator              | No Heater                   |
| High Voltage Full Load Amps   | 112.0 a                     |
| Insulation Class              | F                           |
| Inverter Code                 | Inverter Ready              |
| KVA Code                      | G                           |
| Lifting Lugs                  | Standard Lifting Lugs       |
| Motor Lead Quantity/Wire Size | 3 @ 2 AWG                   |
| Motor Standards               | NEMA                        |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | L          |
| Type         | AC         |
| Mech. spec.  |            |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | A40WG0028  |
| Layout       | 617429-501 |
| Eff. date    | 10-24-2024 |
| CD Diagram   | 416820-036 |
| Poles        | 04         |
| Leads        | 3#2        |
| Proprietary  | False      |
| Created date | 11-27-2013 |

|                                 |                    |
|---------------------------------|--------------------|
| <b>Motor Type</b>               | A40064M            |
| <b>Mounting Arrangement</b>     | F1                 |
| <b>Number of Poles</b>          | 4                  |
| <b>Overall Length</b>           | 38.20 IN           |
| <b>Power Factor</b>             | 87                 |
| <b>Product Family</b>           | General Industrial |
| <b>Pulley End Bearing Type</b>  | Roller             |
| <b>Pulley Face Code</b>         | Standard           |
| <b>Service Factor</b>           | 1.15               |
| <b>Shaft Diameter</b>           | 2.875 IN           |
| <b>Shaft Ground Indicator</b>   | No Shaft Grounding |
| <b>Shaft Rotation</b>           | Reversible         |
| <b>Shaft Slinger Indicator</b>  | Shaft Slinger      |
| <b>Speed</b>                    | 1785 rpm           |
| <b>Speed Code</b>               | Single Speed       |
| <b>Starting Method</b>          | Direct on line     |
| <b>Thermal Device - Bearing</b> | None               |
| <b>Thermal Device - Winding</b> | None               |

**Nameplate**

|                       |  |
|-----------------------|--|
| NP2496L               |  |
| MOBIL SHC -220 GREASE |  |

**NP3238**

|                    |             |        |                 |              |              |               |      |                       |      |      |      |             |   |
|--------------------|-------------|--------|-----------------|--------------|--------------|---------------|------|-----------------------|------|------|------|-------------|---|
| CAT NO             | ECP4400TR-4 |        |                 | SPEC NO.     |              | A40-4839-0028 |      |                       |      |      |      |             |   |
| HP                 | 100         | AMPS   | 112             | VOLTS        |              | 460           |      | DESIGN                | B    |      |      |             |   |
| FRAME              | 405T        | RPM    | 1785            | HZ           | 60           | AMB           | 40   | SF                    | 1.15 |      |      |             |   |
| D.E. BRG.DATA      | NU316       |        | O.D.E. BRG.DATA |              |              | 6316          |      | PH                    | 3    | DUTY | CONT | INSUL.CLASS | F |
| D.E. BRG.          | 80RU03M30X  |        |                 | TYPE         | P            | ENCL          | TEFC | CODE                  | G    |      |      |             |   |
| O.D.E. BRG.        | 80BC03J30X  |        |                 | POWER FACTOR |              |               | 87   | NEMA NOM EFFICIENCY   |      |      | 95.4 |             |   |
| 3/4 LOAD EFF.      | 95.7        |        | MAX CORR KVAR   |              |              | 18.0          |      | GUARANTEED EFFICIENCY |      |      | 94.5 |             |   |
| TEMP CODE          | T2D         | TEMP = |                 | 215          |              |               |      |                       |      |      |      |             |   |
| CHP HZ             | 60-90       | CT HZ  | 10-60           |              | VT HZ        | 0-60          |      |                       |      |      |      |             |   |
| INVERTER-TEMP-CODE | T2D         |        |                 |              |              |               |      |                       |      |      |      |             |   |
| SER.NO.            |             |        |                 |              | MOTOR WEIGHT |               |      |                       |      |      |      |             |   |

**Parts List**

| Part number | Description                              | Quantity |
|-------------|------------------------------------------|----------|
| SA272926    | SA A40-4839-0028                         | 1.000 ea |
| RA259531    | RA A40-4839-0028                         | 1.000 ea |
| 421948051   | LABEL, MYLAR                             | 1.000 ea |
| 000692000FF | N/P                                      | 1.000 ea |
| NP2496L     | MOTOR LUBE NAMEPLATE                     | 1.000 ea |
| 000613006PU | N/P (RELEASE QTY 10,000) UL CSA LABEL    | 1.000 ea |
| 000692000RT | N/P                                      | 1.000 ea |
| 000692000VD | LABEL WARNING                            | 1.000 ea |
| NP3238      | SS CP XEX SEVERE DUTY MAIN NP,CURUS EEV  | 1.000 ea |
| 089412501A  | BRKT FTMT G400 FIN MACH 6316 89412500WCA | 1.000 ea |
| 415072001B  | CLAMP                                    | 1.000 ea |
| 083198101A  | G400 STD FAN COVER MACHINING             | 1.000 ea |
| 034180012DA | KEY 1X4X1/4X1-1/2 L                      | 1.000 ea |
| 412118006A  | DRAIN                                    | 2.000 ea |
| 078548001R  | FAN KB 234/150 (84) 400                  | 1.000 ea |
| 004824015AP | GREASE MOBILITH SHC 220                  | 0.880 lb |
| 032018020EK | HHCS 5/8-11X2-1/2 PLTD.                  | 4.000 ea |
| 032018008CK | HHCS 3/8-16X1L PLATED                    | 4.000 ea |
| 032018026CK | HHCS 3/8-16X3-1/4 PLTD.                  | 3.000 ea |
| 415096002A  | CPLG 1/8 HEX TYPE                        | 1.000 ea |
| 415045002B  | SLGR                                     | 1.000 ea |
| 047174001AS | EXT SNAP RING(400)                       | 1.000 ea |
| 034000014AB | WSH ID.406 OD.812 TH.065                 | 4.000 ea |
| 034530052AB | P/NIP 1/8X6-1/2 Zinc                     | 1.000 ea |
| 035000001G  | GREASE RELIEF FITTING, ALEMITE 317400    | 1.000 ea |
| 034530056BB | P/NIP 1/4X7 SCHED 40                     | 1.000 ea |
| 089412501A  | BRKT FTMT G400 FIN MACH 6316 89412500WCA | 1.000 ea |
| 032018020EK | HHCS 5/8-11X2-1/2 PLTD.                  | 4.000 ea |
| 032018026CK | HHCS 3/8-16X3-1/4 PLTD.                  | 3.000 ea |
| 034631002AB | BUSH 1/4 TO 1/8 PLTD.                    | 1.000 ea |
| 034692005AA | P PLUG 3/4"BLK.                          | 1.000 ea |

|             |                                        |          |
|-------------|----------------------------------------|----------|
| 035000001G  | GREASE RELIEF FITTING, ALEMITE 317400  | 1.000 ea |
| 415045002B  | SLGR                                   | 1.000 ea |
| 034530040AB | P/NIP 1/8X5 GALV.                      | 1.000 ea |
| 415096002A  | CPLG 1/8 HEX TYPE                      | 1.000 ea |
| 034530040BB | P/NIP 1/4X5                            | 1.000 ea |
| 034631002AB | BUSH 1/4 TO 1/8 PLTD.                  | 1.000 ea |
| 076708000BB | CONDUIT BOX-360                        | 1.000 ea |
| 415039016A  | TERBD, 360-400                         | 1.000 ea |
| 076709000A  | C/B Cover - 360                        | 1.000 ea |
| 067053000B  | GASK 320-400                           | 1.000 ea |
| 418150003A  | GREASE FITTING CAP                     | 1.000 ea |
| 032018010CK | HHCS 3/8-16X1-1/4 PLTD. 032018010CR    | 4.000 ea |
| 035000001A  | ALFTG 1/8" 1610-BL                     | 1.000 ea |
| 415000115H  | T/LUG #2AWG-4/0AWG                     | 1.000 ea |
| 033512008LB | HHTTS 1/4-20X1 PLATED                  | 4.000 ea |
| 406099000A  | PLUG - FAN COVER 320-440               | 1.000 ea |
| 034000014AB | WSH ID.406 OD.812 TH.065               | 4.000 ea |
| 035000001A  | ALFTG 1/8" 1610-BL                     | 1.000 ea |
| 418150003A  | GREASE FITTING CAP                     | 1.000 ea |
| MG1025N19   | WILKO 778.50 BLUE GREEN - 55 GAL DRUMS | 0.380 ga |
| 033775004EA | DRSCR #6-1/4 304 S.S.                  | 4.000 ea |
| 034180044JA | KEY 3/4X3/4X5-1/2 L                    | 1.000 ea |
| 604797045   | STD. 400 FRAME SKID                    | 1.000 ea |
| 032510024D  | CARRIAGE BOLT - 444                    | 2.000 ea |
| 034001016AB | WSHR .562ID 1.375OD .109               | 2.000 ea |
| 034001014AB | FLAT WASHER 3/8"PLATED                 | 2.000 ea |
| LB1449      | DIV-2/NEC WARNING LABEL                | 1.000 ea |
| 033300014AC | HEX NUT, SHIPPING - 400                | 2.000 ea |
| 604799003C  | PLASTIC BAG 42X32X46                   | 1.000 ea |
| 604797013R  | 447 FR. ROLLER BEARING MOTOR SHAFT     | 1.000 ea |
| 032018024CK | HHCS 3/8-16X3 PLTD.                    | 1.000 ea |
| 415070001A  | RUBBER MOUNT 3X3X1 THICK               | 1.000 ea |
| 034001016AB | WSHR .562ID 1.375OD .109               | 1.000 ea |
| 034001014AB | FLAT WASHER 3/8"PLATED                 | 1.000 ea |

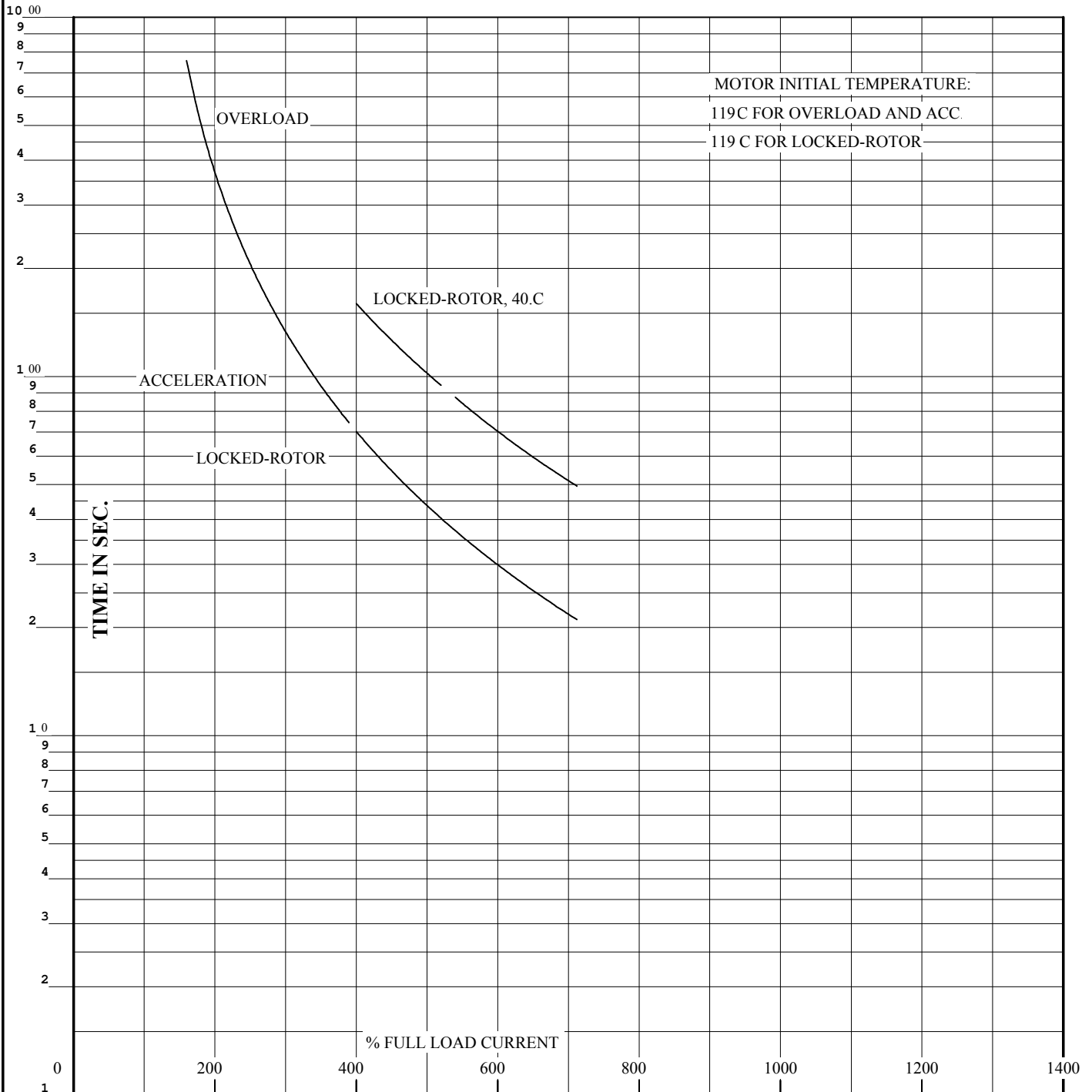
032018005DL

1/2-13 X 5/8 SILICON BRONZE HHCS

1.000 ea

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|                         |                          |                       |                                  |
|-------------------------|--------------------------|-----------------------|----------------------------------|
| REL. S.O.               | RPM <b>1785</b>          | S.F. <b>1.15</b>      | ROTOR <b>418142-33-RE</b>        |
| FRAME <b>405T</b>       | VOLTS <b>460</b>         | NEMA DESIGN <b>B</b>  | TEST S.O. <b>TYPICAL DATA</b>    |
| HP <b>100</b>           | AMPS <b>112</b>          | CODE LETTER <b>G</b>  | TEST DATE <b>---</b>             |
| TYPE <b>P</b>           | DUTY <b>CONT</b>         | ENCLOSURE <b>TEFC</b> | STATOR RES. @ 25 °C <b>.0492</b> |
| PHASE/HERTZ <b>3/60</b> | AMB °C/INSUL <b>40/F</b> | E/S <b>596909</b>     | OHMS (BETWEEN LINES)             |


**THERMAL LIMIT CURVE**

REMARKS: XE MOTOR-DATA-NEMA NOM. EFF. 95.4 PCT  
GURANTEED MIN EFF. 95.0 PCT

AMPERES SHOWN FOR 460 VOLT CONNECTION, IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE  
AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE.

**BALDOR**  
A MEMBER OF THE ABB GROUP

|         |              |
|---------|--------------|
| DR. BY  | J.J.HARRISON |
| CK. BY  | W.L.SMITH    |
| APP. BY | W.L.SMITH    |
| DATE    | 02/05/09     |

**A-C MOTOR  
PERFORMANCE  
CURVES**

**A40WG0028-R001**

ISSUE DATE 03/04/2014 Page 9 of 14

|                                                                                                                                                                                                                                                          |              |                   |                       |                                              |                 |       |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------|-----------------------|----------------------------------------------|-----------------|-------|--|--|
| REL.<br>S.O.                                                                                                                                                                                                                                             | FRAME        | HP                | TYPE                  | PHASE/<br>HERTZ                              | RPM             | VOLTS |  |  |
|                                                                                                                                                                                                                                                          | 405T         | 100               | P                     | 3/60                                         | 1785            | 460   |  |  |
| AMPS                                                                                                                                                                                                                                                     | DUTY         | AMB °C/<br>INSUL. | S.F.                  | NEMA<br>DESIGN                               | CODE<br>LETTER  | ENCL. |  |  |
| 112                                                                                                                                                                                                                                                      | CONT         | 40/F              | 1.15                  | B                                            | G               | TEFC  |  |  |
| E/S                                                                                                                                                                                                                                                      | ROTOR        | TEST<br>S.O.      | TEST<br>DATE          | STATOR RES. @25 °C<br>OHMS (BETWEEN LINES)   |                 |       |  |  |
| 596909                                                                                                                                                                                                                                                   | 418142-33-RE | ---               | ---                   | .0492                                        |                 |       |  |  |
| PERFORMANCE                                                                                                                                                                                                                                              |              |                   |                       |                                              |                 |       |  |  |
| LOAD                                                                                                                                                                                                                                                     | HP           | AMPERES           | RPM                   | %<br>POWER FACTOR                            | %<br>EFFICIENCY |       |  |  |
| NO LOAD                                                                                                                                                                                                                                                  | 0            | 28.7              | 1800                  | 5.48                                         | 0               |       |  |  |
| 1/4                                                                                                                                                                                                                                                      | 25.0         | 39.2              | 1796                  | 64.3                                         | 93.0            |       |  |  |
| 2/4                                                                                                                                                                                                                                                      | 50.0         | 59.4              | 1792                  | 82.6                                         | 95.4            |       |  |  |
| 3/4                                                                                                                                                                                                                                                      | 75.0         | 84.4              | 1788                  | 86.9                                         | 95.7            |       |  |  |
| 4/4                                                                                                                                                                                                                                                      | 100          | 112               | 1783                  | 87.6                                         | 95.4            |       |  |  |
| 5/4                                                                                                                                                                                                                                                      | 125          | 141               | 1778                  | 87.4                                         | 94.9            |       |  |  |
|                                                                                                                                                                                                                                                          |              |                   |                       |                                              |                 |       |  |  |
| SPEED TORQUE                                                                                                                                                                                                                                             |              |                   |                       |                                              |                 |       |  |  |
|                                                                                                                                                                                                                                                          |              | RPM               | TORQUE<br>% FULL LOAD | TORQUE<br>LB.-FT.                            | AMPERES         |       |  |  |
| LOCKED ROTOR                                                                                                                                                                                                                                             |              | 0                 | 151                   | 445                                          | 725             |       |  |  |
| PULL UP                                                                                                                                                                                                                                                  |              | 360               | 136                   | 400                                          | 706             |       |  |  |
| BREAKDOWN                                                                                                                                                                                                                                                |              | 1721              | 250                   | 735                                          | 382             |       |  |  |
| FULL LOAD                                                                                                                                                                                                                                                |              | 1783              | 100                   | 295                                          | 112             |       |  |  |
| <p>AMPERES SHOWN FOR 460. VOLT CONNECTION. IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE</p> <p>REMARKS: TYPICAL DATA<br/>XE MOTOR-DATA-NEMA NOM. EFF. 95.4 PCT<br/>GURANTEED MIN EFF. 95.0 PCT</p> |              |                   |                       |                                              |                 |       |  |  |
|                                                                                                                                                                       |              | DR. BY            | J. J. HARRISON        | <b>A-C MOTOR<br/>PERFORMANCE DATA</b>        |                 |       |  |  |
|                                                                                                                                                                                                                                                          |              | CK. BY            | W. L. SMITH           |                                              |                 |       |  |  |
|                                                                                                                                                                                                                                                          |              | APP. BY           | W. L. SMITH           |                                              |                 |       |  |  |
|                                                                                                                                                                                                                                                          |              | DATE              | 02/05/09              |                                              |                 |       |  |  |
|                                                                                                                                                                                                                                                          |              |                   |                       | <b>A40WG0028-R001</b><br>ISSUE DATE 03/04/20 |                 |       |  |  |

REL S.O.

 RPM **1785**

 S.F. **1.15**

 ROTOR **418142-33-RE**

 FRAME **405T**

 VOLTS **460**

 NEMA DESIGN **B**

 TEST S.O. **TYPICAL DATA**

 HP **100**

 AMPS **112**

 CODE LETTER **G**

 TEST DATE **---**

 TYPE **P**

 DUTY **CONT**

 ENCLOSURE **TEFC**

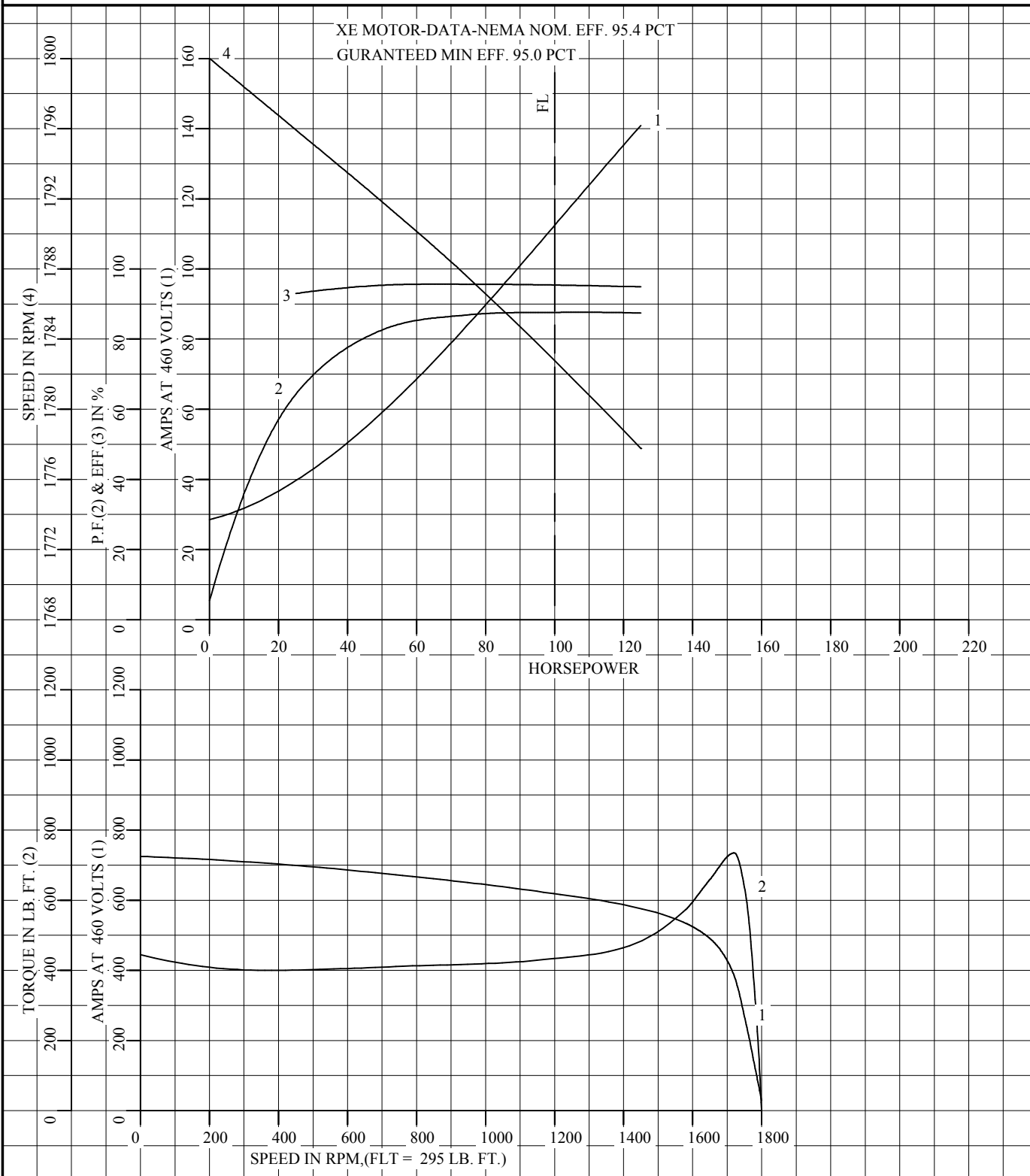
 STATOR RES. @ 25 °C **.0492**

 PHASE/HERTZ **3/60**

 AMB °C/INSUL **40/F**

 E/S **596909**

OHMS (BETWEEN LINES)



AMPERES SHOWN FOR 460 VOLT CONNECTION, IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE  
 AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE.

**BALDOR**  
 A MEMBER OF THE ABB GROUP

DR. BY J.J.HARRISON  
 CK. BY W.L.SMITH  
 APP. BY W.L.SMITH  
 DATE 02/05/09

**A-C MOTOR  
PERFORMANCE  
CURVES**

**A40WG0028-R001**  
 ISSUE DATE 03/04/2014

# DUTY MASTER ALTERNATING CURRENT MOTORS

## SQUIRREL-CAGE INDUCTION

ENCLOSURE: TOTALLY ENCLOSED

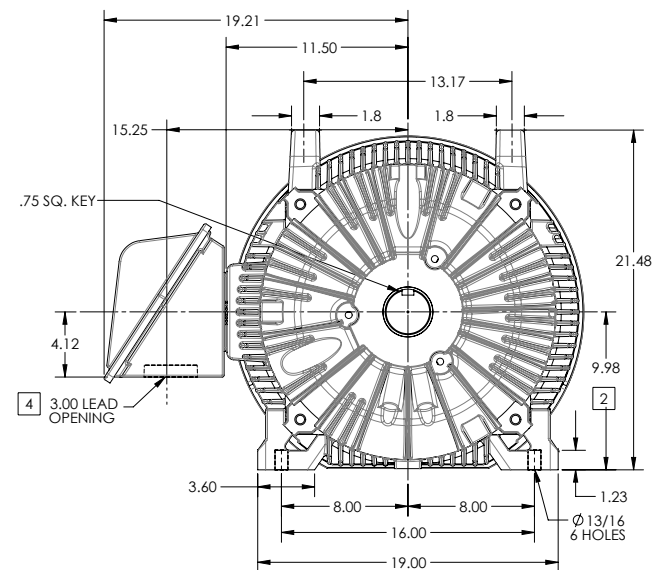
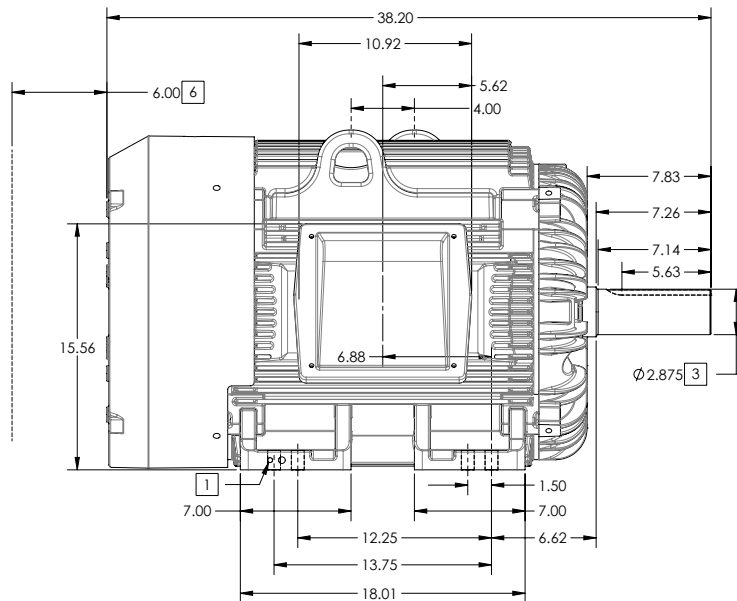
FRAME G405T ABOVE NEMA RATINGS

COOLING: FAN COOLED

MOUNTING: FOOT

INCLUDES 404T FRAME MOUNTING HOLES

XT/ECP SEVERE DUTY ENCLOSURE



1. GROUND HOLES QTY 1 1/2-13 TAP; QTY 1 3/8-16 TAP
2. VARIES +.00,-.06
3. VARIES +.000,-.001
4. ON STANDARD MOTORS THIS IS CONDUIT SIZE. ON XT AND CORROSION PROOF MOTOR THIS IS PIPE TAP.
5. MOTOR WEIGHTS MAY VARY BY 15% DEPENDING ON RATING.
6. OBSTRUCTION MUST NOT ENCR OACH ON AIR INLET

CONDUIT BOX LOCATED ON OPPOSITE SIDE WHEN F-2.  
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.  
MAXIMUM PERMISSIBLE SHAFT RUNOUT WHEN MEASURED AT END OF  
STANDARD SHAFT EXTENSION IS .003" T.I.R. TO 5 INCH DIA.

**[5] WEIGHT (LBS): 1370**

DIMENSIONS ARE IN INCHES; SEE SHEET 2 FOR DIMENSIONS IN MILLIMETERS

CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT MOTOR PERFORMANCE IS SUITABLE IN THE APPLICATION.

SHEET NUMBER  
**1 OF 2**

105-627219

|                                        |                              |
|----------------------------------------|------------------------------|
| REV. DESC: CHANGE BA FROM 6.76 TO 6.62 | TDR: 000000848770            |
| REV: B VERSION: 02                     | REVISED: 01-11-16 04/14/2014 |
| MODEL NO. 617429-501                   | REF:                         |
| BY: MGHUMZ2                            | Material:                    |

**BALDOR**

G405T/404T STD - FOOTED - XT/ECP SEVERE DUTY ENCLOSURE

617429-501

# DUTY MASTER ALTERNATING CURRENT MOTORS

## SQUIRREL-CAGE INDUCTION

ENCLOSURE: TOTALLY ENCLOSED

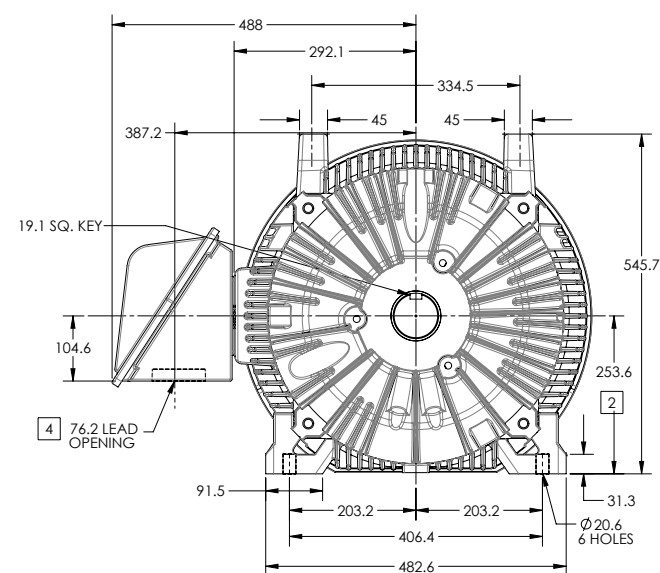
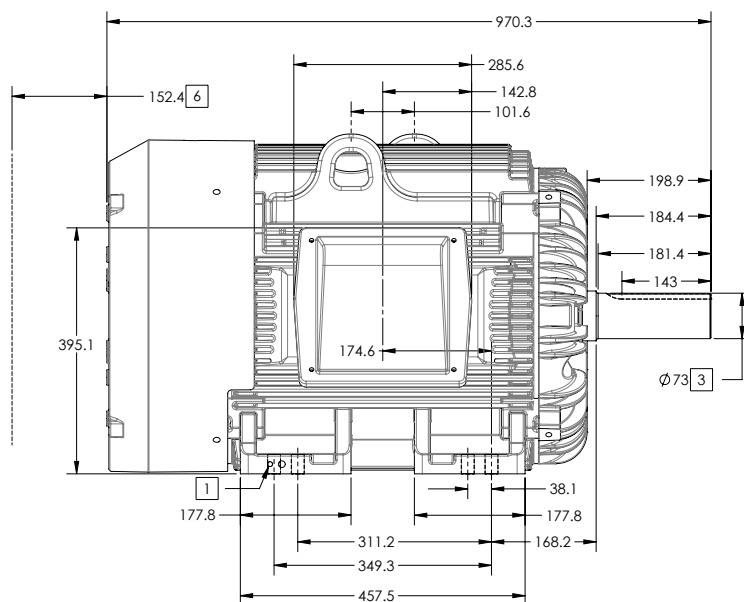
FRAME G405T ABOVE NEMA RATINGS

COOLING: FAN COOLED

MOUNTING: FOOT

INCLUDES 404T FRAME MOUNTING HOLES

XT/ECP SEVERE DUTY ENCLOSURE



1. GROUND HOLES QTY 1 1/2-13 TAP; QTY 1 3/8-16 TAP
2. VARIES +0,-1.5
3. VARIES +00,-.03
4. ON STANDARD MOTORS THIS IS CONDUIT SIZE. ON XT AND CORROSION PROOF MOTOR THIS IS PIPE TAP.
5. MOTOR WEIGHTS MAY VARY BY 15% DEPENDING ON RATING.
6. OBSTRUCTION MUST NOT ENCROACH ON AIR INLET

CONDUIT BOX LOCATED ON OPPOSITE SIDE WHEN F-2.  
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.  
MAXIMUM PERMISSIBLE SHAFT RUNOUT WHEN MEASURED AT END OF  
STANDARD SHAFT EXTENSION IS .08 MM T.I.R. TO 127 MM DIA.

**[5] WEIGHT (KGS): 630**

DIMENSIONS ARE IN MILLIMETERS; SEE SHEET 1 FOR DIMENSIONS IN INCHES

CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT MOTOR PERFORMANCE IS SUITABLE IN THE APPLICATION.

SHEET NUMBER  
**2 OF 2**

105-627219

|                                        |                              |
|----------------------------------------|------------------------------|
| REV. DESC: CHANGE BA FROM 6.76 TO 6.62 | TDR: 000000848770            |
| REV: B VERSION: 02                     | REVISED: 01-11-16 04/14/2014 |
| MODEL NO. 617429-501                   | REF:                         |
| BY: MGHUMZ2                            | Material:                    |

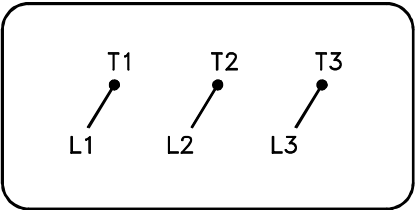
**BALDOR**

G405T/404T STD - FOOTED - XT/ECP SEVERE DUTY ENCLOSURE

617429-501

416820-036

A-C MOTOR  
CONNECTION DIAGRAM  
STANDARD 3 LEAD                      CONNECTED



(N.P. 1575-BA)

416820-036

|                                      |             |                                |
|--------------------------------------|-------------|--------------------------------|
| REV. DESC: LOADED TO BUS, C/R 335225 |             |                                |
| REV. LTR: -                          | VERSION: 00 | TDR: 000000538207              |
| FILE: \MGA\00000\682                 |             | REVISED: 11: 54: 06 04/30/2010 |
| MTL: -                               |             | BY: RAGRA                      |

**BALDOR**

CONN DIAG - STANDARD 3 LEAD  
SH 1 of 1