

# ABB BALDOR RELIANCE III

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## Customer information packet

### EM4400TS

100HP, 1785RPM, 3PH, 60HZ, 405TS, A40064M, TEF

Class - None

Division - Not Applicable

**Specifications**

|                               |                                            |
|-------------------------------|--------------------------------------------|
| Enclosure                     | TEFC                                       |
| Frame                         | 405TS                                      |
| Frame Material                | Iron                                       |
| Frequency                     | 60.00 Hz                                   |
| Haz Area Class and Group      | None                                       |
| Haz Area Division             | Not Applicable                             |
| Motor Letter Type             | Three Phase                                |
| Output @ Frequency            | 100.000 HP @ 60 HZ                         |
| Phase                         | 3                                          |
| Synchronous Speed @ Frequency | 1800 RPM @ 60 HZ                           |
| Voltage @ Frequency           | 230.0 V @ 60 HZ<br>460.0 V @ 60 HZ         |
| Agency Approvals              | CURUSEEV<br>CCSAUSEEV                      |
| Ambient Temperature           | 40 °C                                      |
| Auxiliary Box                 | NO AUXILLARY BOX                           |
| Base Indicator                | Rigid                                      |
| Bearing Grease Type           | No Grease                                  |
| Current @ Voltage             | 112.000 A @ 460.0 V<br>224.000 A @ 230.0 V |
| Design Code                   | B                                          |
| Drip Cover                    | No Drip Cover                              |
| Duty Rating                   | CONT                                       |
| Efficiency @ 100% Load        | 95.4 %                                     |
| Feedback Device               | NO FEEDBACK                                |
| 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                                  |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | K          |
| Type         | AC         |
| Mech. spec.  |            |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | A40WG0692  |
| Layout       | 617429-002 |
| Eff. date    | 09-04-2024 |
| CD Diagram   | 416820-002 |
| Poles        | 04         |
| Leads        | 3#2,6#4    |
| Proprietary  | False      |
| Created date | 07-17-2013 |

|                                 |                    |
|---------------------------------|--------------------|
| <b>Motor Standards</b>          | <b>NEMA</b>        |
| <b>Motor Type</b>               | A40064M            |
| <b>Mounting Arrangement</b>     | F1                 |
| <b>Number of Poles</b>          | 4                  |
| <b>Overall Length</b>           | 35.04 IN           |
| <b>Power Factor</b>             | 87                 |
| <b>Product Family</b>           | General Industrial |
| <b>Pulley End Bearing Type</b>  | Ball               |
| <b>Pulley Face Code</b>         | Standard           |
| <b>Service Factor</b>           | 1.15               |
| <b>Shaft Diameter</b>           | 2.125 IN           |
| <b>Shaft Ground Indicator</b>   | No Shaft Grounding |
| <b>Shaft Rotation</b>           | Reversible         |
| <b>Shaft Slinger Indicator</b>  | No 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**

| NP2349L           |            |       |         |              |       |                         |                     |                       |      |       |       |  |  |  |  |
|-------------------|------------|-------|---------|--------------|-------|-------------------------|---------------------|-----------------------|------|-------|-------|--|--|--|--|
| SPEC NO.          | P40G3928   |       |         | CAT.NO.      |       | EM4400TS                |                     |                       |      | FRAME | 405TS |  |  |  |  |
| HP                | 100        | VOLTS | 230/460 |              | PHASE | 3                       | DESIGN              | B                     | TYPE | P     |       |  |  |  |  |
| RPM               | 1785       | AMPS  | 224/112 |              | HZ    | 60                      | AMB                 | 40                    | SF   | 1.15  |       |  |  |  |  |
| DRIVE END BEARING | 80BC03J30X |       |         | DUTY         | CONT  | INSUL.CLASS             |                     | F                     |      |       |       |  |  |  |  |
| OPP D.E. BEARING  | 80BC03J30X |       |         | ENCL         | TEFC  | CODE                    | G                   |                       |      |       |       |  |  |  |  |
| SER.NO.           |            |       |         | POWER FACTOR |       | 87                      | NEMA-NOM-EFFICIENCY |                       |      | 95.4  |       |  |  |  |  |
|                   |            |       |         |              |       | MAX CORR KVAR           | 18                  | GUARANTEED EFFICIENCY |      | 94.5  |       |  |  |  |  |
|                   |            |       |         |              |       | NEMA NOM/CSA QUOTED EFF |                     |                       |      |       |       |  |  |  |  |
|                   |            |       |         |              |       | MOTOR WEIGHT            |                     |                       |      |       |       |  |  |  |  |

**Accessories**

| Part number | Description                    | Multiplier |
|-------------|--------------------------------|------------|
| K40G71      | C-FACE KIT G400 4/6/8 POLES    | A8         |
| 089412054B  | D-FLANGE BRKT 400 089416055WCB | P1         |

|                                                                                                                                               |              |                     |                       |                                                                     |                 |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------|-----------------------|---------------------------------------------------------------------|-----------------|---------|
| REL.<br>S.O.                                                                                                                                  | FRAME        | HP                  | TYPE                  | PHASE/<br>HERTZ                                                     | RPM             | VOLTS   |
|                                                                                                                                               | 405T         | 100                 | P                     | 3/60                                                                | 1785            | 230/460 |
|                                                                                                                                               |              |                     |                       |                                                                     |                 |         |
| AMPS                                                                                                                                          | DUTY         | AMB °C/<br>INSUL.   | S.F.                  | NEMA<br>DESIGN                                                      | CODE<br>LETTER  | ENCL.   |
| 224/112                                                                                                                                       | 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)                           |                 |         |
| 596956                                                                                                                                        | 418142-33-RE | ---                 | ---                   | .0123/.0492                                                         |                 |         |
| PERFORMANCE                                                                                                                                   |              |                     |                       |                                                                     |                 |         |
| LOAD                                                                                                                                          | HP           | AMPERES             | RPM                   | %<br>POWER FACTOR                                                   | %<br>EFFICIENCY |         |
| NO LOAD                                                                                                                                       | 0            | 28.6                | 1800                  | 5.49                                                                | 0               |         |
| 1/4                                                                                                                                           | 25.0         | 39.2                | 1796                  | 64.3                                                                | 93.0            |         |
| 2/4                                                                                                                                           | 50.0         | 59.5                | 1792                  | 82.5                                                                | 95.4            |         |
| 3/4                                                                                                                                           | 75.0         | 84.6                | 1788                  | 86.7                                                                | 95.7            |         |
| 4/4                                                                                                                                           | 100          | 112                 | 1783                  | 87.4                                                                | 95.4            |         |
| 5/4                                                                                                                                           | 125          | 141                 | 1778                  | 87.3                                                                | 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             |         |
| AMPERES SHOWN FOR 460. VOLT CONNECTION. IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE<br>AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE |              |                     |                       |                                                                     |                 |         |
| REMARKS: TYPICAL DATA<br>NEMA NOM. EFF. 95.4 PCT<br>GUARANTEED MIN EFF. 94.5 PCT                                                              |              |                     |                       |                                                                     |                 |         |
|                                                            |              | DR. BY R.K. BRIDGES |                       | A-C MOTOR<br>PERFORMANCE DATA A40WG0692-R001<br>ISSUE DATE 01/04/18 |                 |         |
|                                                                                                                                               |              | CK. BY W. L. SMITH  |                       |                                                                     |                 |         |
|                                                                                                                                               |              | APP. BY W. L. SMITH |                       |                                                                     |                 |         |
|                                                                                                                                               |              | DATE 05/14/14       |                       |                                                                     |                 |         |
|                                                                                                                                               |              | Page 6 of 6         |                       |                                                                     |                 |         |

REL S.O.

 RPM **1785**

 S.F. **1.15**

 ROTOR **418142-33-RE**

 FRAME **405T**

 VOLTS **230/460**

 NEMA DESIGN **B**

 TEST S.O. **TYPICAL DATA**

 HP **100**

 AMPS **224/112**

 CODE LETTER **G**

 TEST DATE **---**

 TYPE **P**

 DUTY **CONT**

 ENCLOSURE **TEFC**

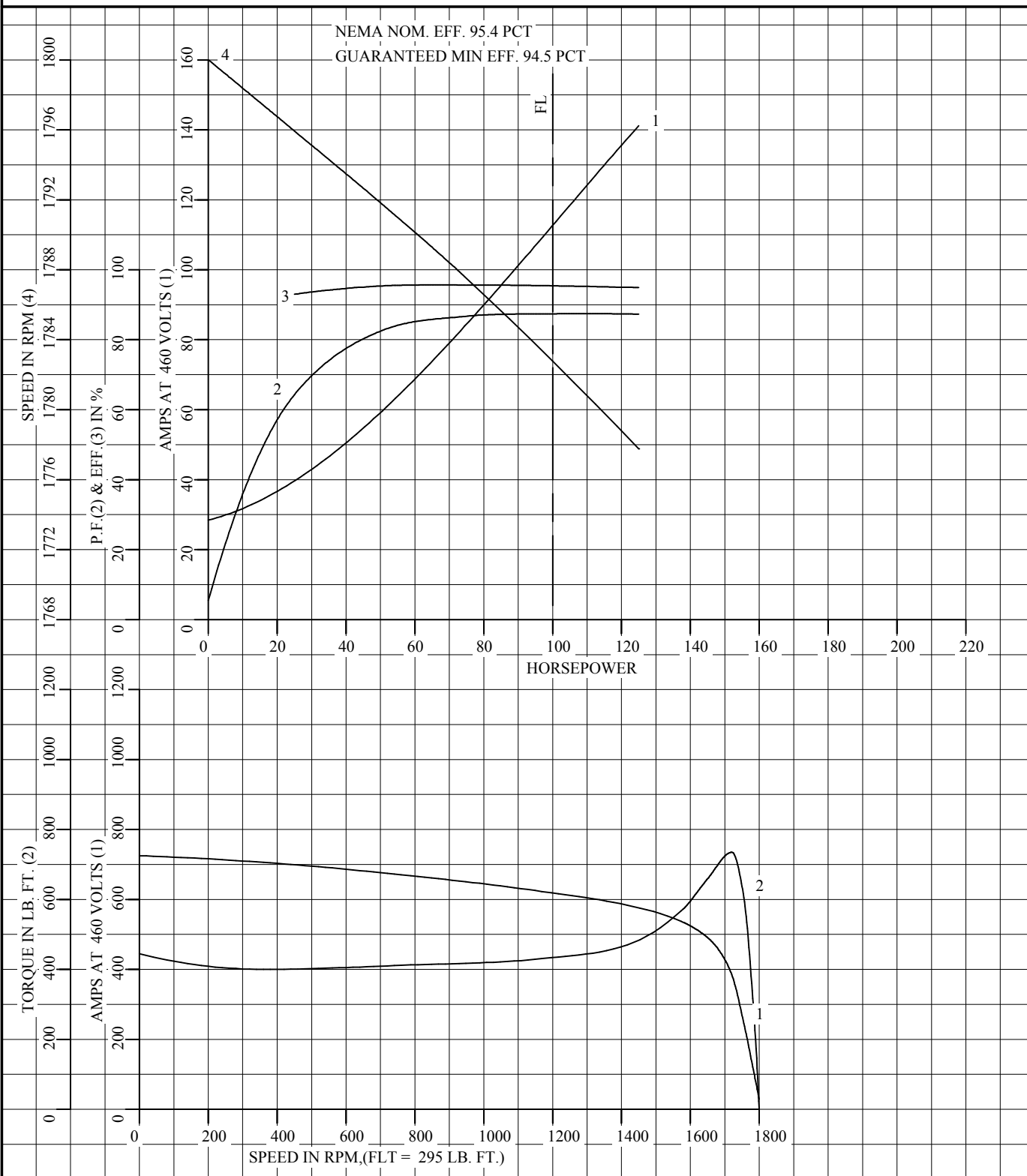
 STATOR RES. @ 25 °C **.0123/.0492**

 PHASE/HERTZ **3/60**

 AMB °C/INSUL **40/F**

 E/S **596956**

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 R.K. BRIDGES  
CK. BY W.L. SMITH  
APP. BY W.L. SMITH  
DATE 05/14/14

**A-C MOTOR  
PERFORMANCE  
CURVES**

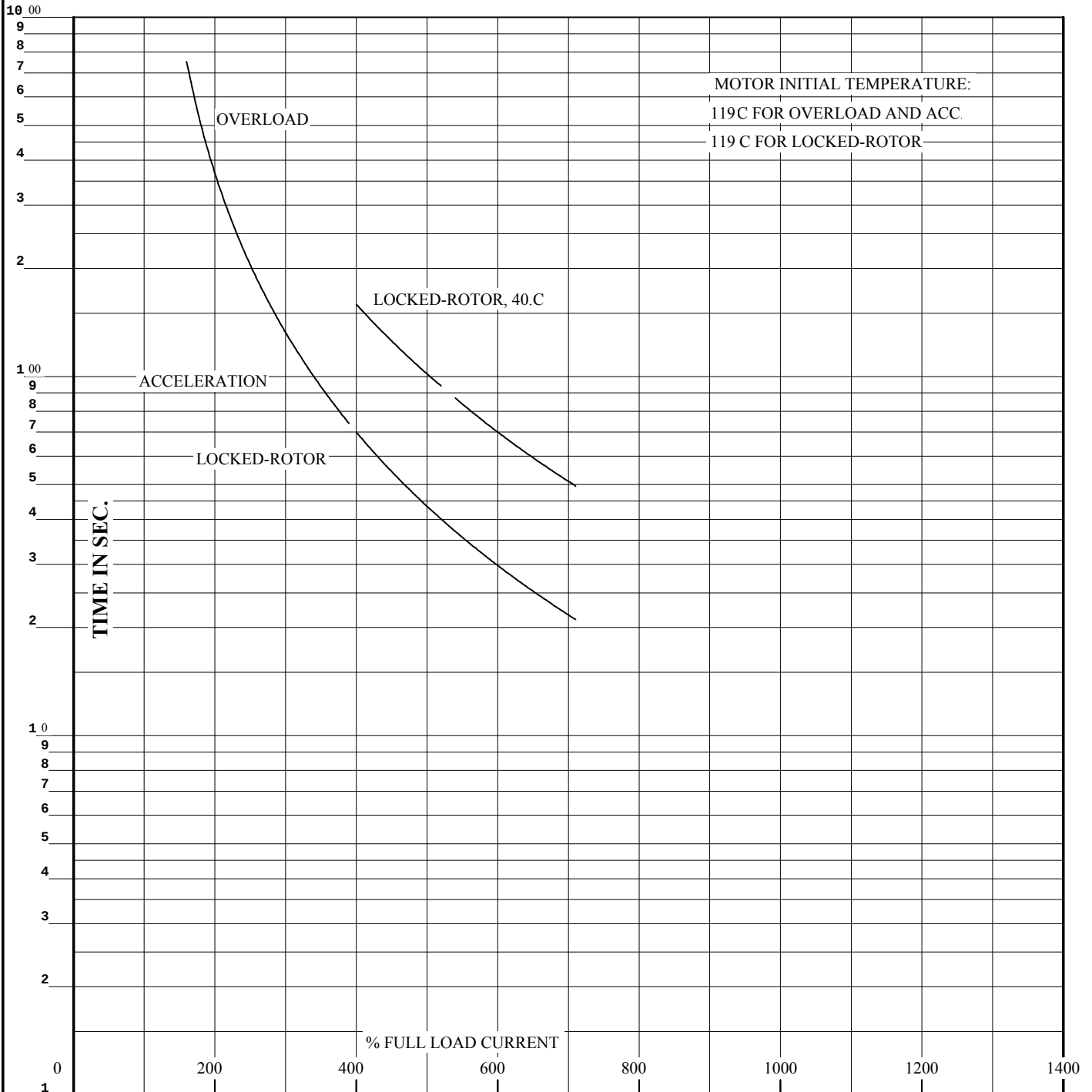
A40WG0692-R001  
ISSUE DATE 01/04/18

Page 7 of 11

REL. S.O.  
 FRAME **405T**  
 HP **100**  
 TYPE **P**  
 PHASE/HERTZ **3/60**

 RPM **1785**  
 VOLTS **230/460**  
 AMPS **224/112**  
 DUTY **CONT**  
 AMB °C/INSUL **40/F**

 S.F. **1.15**  
 NEMA DESIGN **B**  
 CODE LETTER **G**  
 ENCLOSURE **TEFC**  
 E/S **596956**

 ROTOR **418142-33-RE**  
 TEST S.O. **TYPICAL DATA**  
 TEST DATE **- - -**  
 STATOR RES. @ 25 °C **.0123/.0492**  
 OHMS (BETWEEN LINES)


THERMAL LIMIT CURVE

REMARKS:

NEMA NOM. EFF. 95.4 PCT

GUARANTEED MIN EFF. 94.5 PCT

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

 DR. BY R.K. BRIDGES  
 CK. BY W. L. SMITH  
 APP. BY W. L. SMITH  
 DATE 05/14/14
**A-C MOTOR  
PERFORMANCE  
CURVES**
**A40WG0692-R001**

 ISSUE DATE 01/04/18 Page 8 of 11

# DUTY MASTER ALTERNATING CURRENT MOTORS

## SQUIRREL-CAGE INDUCTION

ENCLOSURE: TOTALLY ENCLOSED

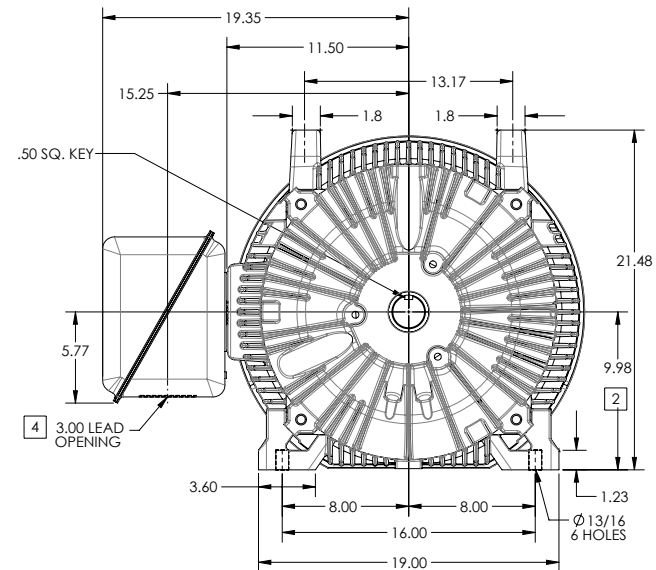
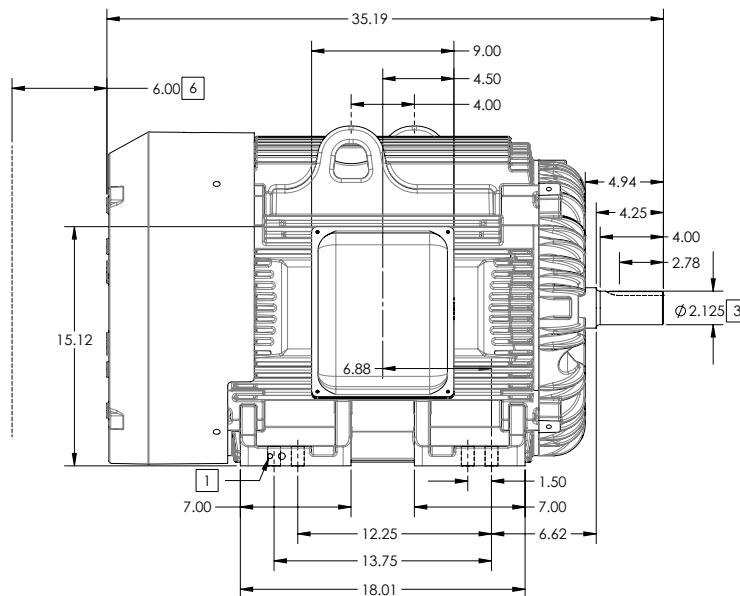
FRAME G405TS ABOVE NEMA RATINGS

COOLING: FAN COOLED

MOUNTING: FOOT

INCLUDES 404TS FRAME MOUNTING HOLES

STANDARD INDUSTRIAL 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 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 .003" T.I.R. TO 5 INCH DIA.

**[5] WEIGHT (LBS): 1160**

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**

000-6242119

|                                        |             |                              |                   |
|----------------------------------------|-------------|------------------------------|-------------------|
| REV. DESC: CHANGE BA FROM 6.76 TO 6.62 |             |                              |                   |
| REV: B                                 | VERSION: 02 | REVISED: 04/37:41 04/14/2014 | TDR: 000000848770 |
| MODEL NO. 617429-002                   |             | REF:                         |                   |
| BY: MGHUMZ2                            |             | Material:                    |                   |

**BALDOR**

G405TS/404TS STD - FOOTED - STANDARD ENCLOSURE

617429-002

## DUTY MASTER ALTERNATING CURRENT MOTORS

### SQUIRREL-CAGE INDUCTION

ENCLOSURE: TOTALLY ENCLOSED

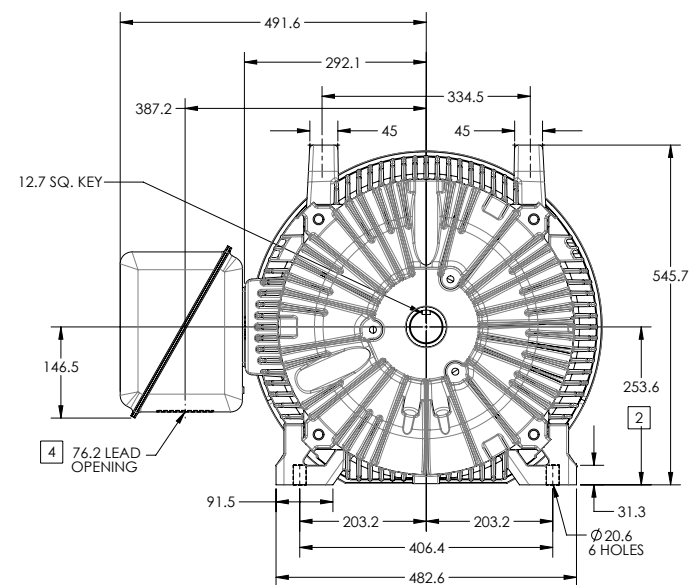
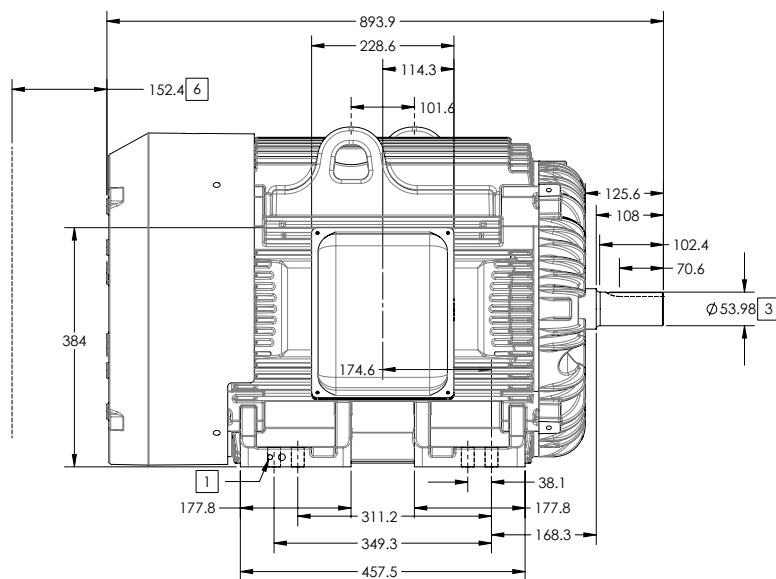
FRAME G405TS ABOVE NEMA RATINGS

COOLING: FAN COOLED

MOUNTING: FOOT

INCLUDES 404TS FRAME MOUNTING HOLES

STANDARD INDUSTRIAL 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): 530**

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

000-6242119

|                                        |                              |
|----------------------------------------|------------------------------|
| REV. DESC: CHANGE BA FROM 6.76 TO 6.62 | TDR: 000000848770            |
| REV: B VERSION: 02                     | REVISED: 04/37/41 04/14/2014 |
| MODEL NO. 617429-002                   | REF:                         |
| BY: MGHUMZ2                            | Material:                    |

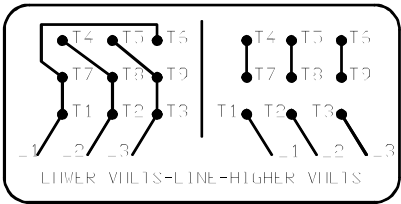
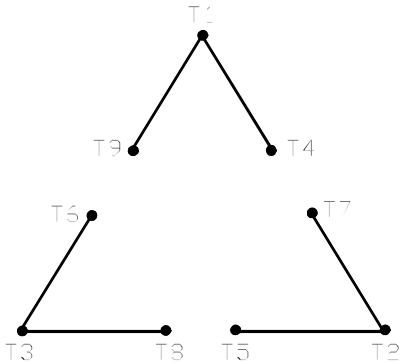
**BALDOR**

G405TS/404TS STD - FOOTED - STANDARD ENCLOSURE

617429-002

416820-002

A-C MOTOR  
CONNECTION DIAGRAM  
STANDARD 9 LEAD DELTA-CONNECTED



(N.P. 1575-B)

|                                           |                              |                   |
|-------------------------------------------|------------------------------|-------------------|
| REV. DESC: FONT CHANGE FOR PDF SEARCHABLE |                              |                   |
| REV. LTR: A                               | VERSION: 01                  | TDR: 000001009382 |
| FILE: \MGA\00000\661                      | REVISED: 02:46:19 02/13/2020 | BY: MGHMTT        |
| MTL: —                                    | © □                          |                   |

**BALDOR - RELIANCE®**

CONN DIAG — STANDARD 9 LEAD, DELTA-CONNECTED  
SH 1 of 1

416820-002