

# ABB BALDOR RELIANCE III

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## Customer information packet

### ECR91004TR-4

100HP, 1785RPM, 3PH, 60HZ, 405T, A40076M, TEFC

Class - None

Division - Not Applicable

**Specifications**

|                               |                             |
|-------------------------------|-----------------------------|
| Enclosure                     | TEFC                        |
| Frame                         | 405T                        |
| 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           | 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   | 6-60                        |
| Current @ Voltage             | 115.000 A @ 460.0 V         |
| Design Code                   | A                           |
| 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   | 115.0 a                     |
| Insulation Class              | F                           |
| Inverter Code                 | Inverter Ready              |
| KVA Code                      | H                           |
| Lifting Lugs                  | Standard Lifting Lugs       |
| Max Speed                     | 3600 rpm                    |
| Motor Lead Quantity/Wire Size | 3 @ 1 AWG                   |
| Motor Standards               | NEMA                        |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | K          |
| Type         | AC         |
| Mech. spec.  |            |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | A40WG0454  |
| Layout       | 617429-501 |
| Eff. date    | 03-12-2020 |
| CD Diagram   | 416820-036 |
| Poles        | 04         |
| Leads        | 3#1        |
| Proprietary  | False      |
| Created date | 01-31-2015 |

|                                 |                    |
|---------------------------------|--------------------|
| <b>Motor Type</b>               | A40076M            |
| <b>Mounting Arrangement</b>     | F1                 |
| <b>Number of Poles</b>          | 4                  |
| <b>Overall Length</b>           | 38.20 IN           |
| <b>Power Factor</b>             | 85                 |
| <b>Product Family</b>           | Crusher / Chipper  |
| <b>Pulley End Bearing Type</b>  | Roller             |
| <b>Pulley Face Code</b>         | Standard           |
| <b>Service Factor</b>           | 1.25               |
| <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>  | 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**

| 000613007PV   |                  |         |                 |      |              |       |          |     |      |                     |      |      |  |      |             |   |
|---------------|------------------|---------|-----------------|------|--------------|-------|----------|-----|------|---------------------|------|------|--|------|-------------|---|
| CAT NO        | ECR91004TR-4     |         |                 |      | SPEC NO.     |       | P40G1705 |     |      |                     |      |      |  |      |             |   |
| HP            | 100              | AMPS    |                 | 115  |              | VOLTS |          | 460 |      | DESIGN              |      | A    |  |      |             |   |
| RPM           | 1785             | RPM MAX |                 | 3600 |              | HZ    |          | 60  | AMB  |                     | 40   | SF   |  | 1.25 |             |   |
| D.E. BRG.DATA | NU316            |         | O.D.E. BRG.DATA |      |              |       | 6316     |     | PH   |                     | 3    | DUTY |  | CONT | INSUL.CLASS | F |
| FRAME         | 405T             |         | I.P.            |      | 55           | TYPE  |          | P   | ENCL |                     | TEFC | CODE |  | H    |             |   |
| POWER FACTOR  | 85               |         | 3/4 LOAD EFF.   |      |              |       | 93.3     |     |      | NEMA NOM EFFICIENCY |      |      |  | 95.4 |             |   |
| CHP HZ        | 60-90            |         | CT HZ           |      | 6-60         |       | VT HZ    |     | 6-60 |                     |      |      |  |      |             |   |
| SER.NO.       |                  |         |                 |      | MOTOR WEIGHT |       |          |     |      |                     |      |      |  |      |             |   |
|               | 1.25SF AMPS= 132 |         |                 |      |              |       |          |     |      |                     |      |      |  |      |             |   |

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

|                                                                                                                                                                            |             |                                                                                     |                   |                                                                     |                 |       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------|-----------------|-------|
| 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. |
| 115                                                                                                                                                                        | CONT        | 40/F                                                                                | 1.25              | A                                                                   | H               | TEFC  |
| E/S                                                                                                                                                                        | ROTOR       | TEST<br>S.O.                                                                        | TEST<br>DATE      | STATOR RES. @25 °C<br>OHMS (BETWEEN LINES)                          |                 |       |
| 596166                                                                                                                                                                     | 418142034ZE | ---                                                                                 | ---               | .0366                                                               |                 |       |
| PERFORMANCE                                                                                                                                                                |             |                                                                                     |                   |                                                                     |                 |       |
| LOAD                                                                                                                                                                       | HP          | AMPERES                                                                             | RPM               | %<br>POWER FACTOR                                                   | %<br>EFFICIENCY |       |
| NO LOAD                                                                                                                                                                    | 0           | 33.5                                                                                | 1800              | 5.30                                                                | 0               |       |
| 1/4                                                                                                                                                                        | 25.0        | 48.9                                                                                | 1796              | 52.0                                                                | 92.2            |       |
| 2/4                                                                                                                                                                        | 50.0        | 67.4                                                                                | 1792              | 73.2                                                                | 95.0            |       |
| 3/4                                                                                                                                                                        | 75.0        | 90.1                                                                                | 1788              | 81.6                                                                | 95.5            |       |
| 4/4                                                                                                                                                                        | 100         | 115                                                                                 | 1783              | 85.1                                                                | 95.4            |       |
| 5/4                                                                                                                                                                        | 125         | 142                                                                                 | 1778              | 86.4                                                                | 95.1            |       |
| SPEED TORQUE                                                                                                                                                               |             |                                                                                     |                   |                                                                     |                 |       |
|                                                                                                                                                                            | RPM         | TORQUE<br>% FULL LOAD                                                               | TORQUE<br>LB.-FT. | AMPERES                                                             |                 |       |
| LOCKED ROTOR                                                                                                                                                               | 0           | 249                                                                                 | 732               | 853                                                                 |                 |       |
| PULL UP                                                                                                                                                                    | 1260        | 206                                                                                 | 608               | 678                                                                 |                 |       |
| BREAKDOWN                                                                                                                                                                  | 1716        | 297                                                                                 | 875               | 462                                                                 |                 |       |
| FULL LOAD                                                                                                                                                                  | 1783        | 100                                                                                 | 295               | 115                                                                 |                 |       |
| AMPERES SHOWN FOR 460. VOLT CONNECTION. IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE<br>AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE<br><br>REMARKS: TYPICAL DATA |             |                                                                                     |                   |                                                                     |                 |       |
|                                                                                         |             | DR. BY W. L. SMITH<br>CK. BY J. J. HARRISON<br>APP. BY W. L. SMITH<br>DATE 06/09/10 |                   | A-C MOTOR<br>PERFORMANCE DATA A40WG0454-R002<br>ISSUE DATE 02/19/21 |                 |       |

REL S.O.

 RPM **1785**

 S.F. **1.25**

 ROTOR **418142034ZE**

 FRAME **405T**

 VOLTS **460**

 NEMA DESIGN **A**

 TEST S.O. **TYPICAL DATA**

 HP **100**

 AMPS **115**

 CODE LETTER **H**

 TEST DATE **---**

 TYPE **P**

 DUTY **CONT**

 ENCLOSURE **TEFC**

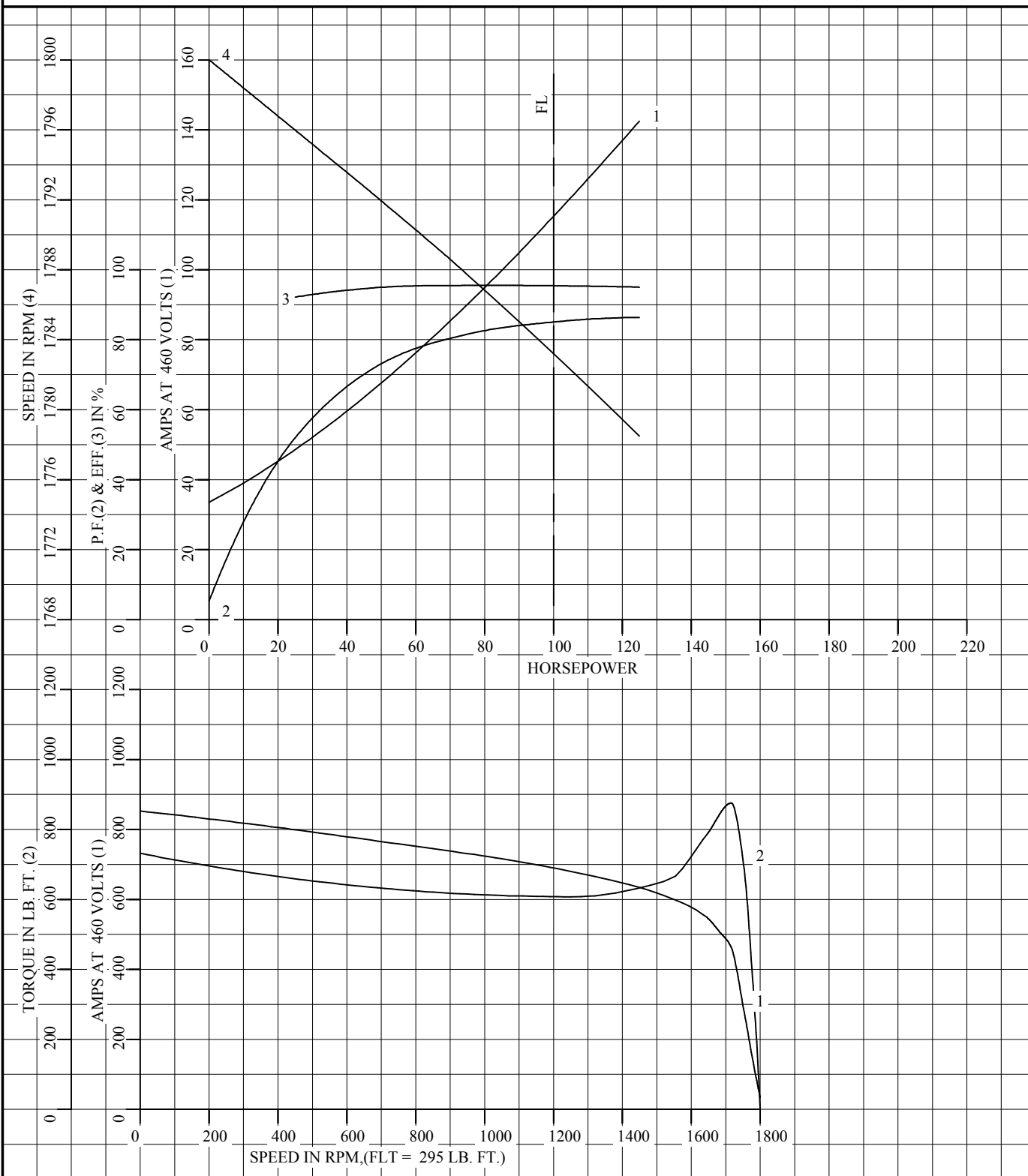
 STATOR RES. @ 25 °C **.0366**

 PHASE/HERTZ **3/60**

 AMB °C/INSUL **40/F**

 E/S **596166**

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 W. L. SMITH  
CK. BY J. J. HARRISON  
APP. BY W. L. SMITH  
DATE 06/09/10

**A-C MOTOR  
PERFORMANCE  
CURVES**

A40WG0454-R002

ISSUE DATE 02/19/21

Page 7 of 11

REL. S.O.

 RPM **1785**

 S.F. **1.25**

 ROTOR **418142034ZE**

 FRAME **405T**

 VOLTS **460**

 NEMA DESIGN **A**

 TEST S.O. **TYPICAL DATA**

 HP **100**

 AMPS **115**

 CODE LETTER **H**

 TEST DATE **---**

 TYPE **P**

 DUTY **CONT**

 ENCLOSURE **TEFC**

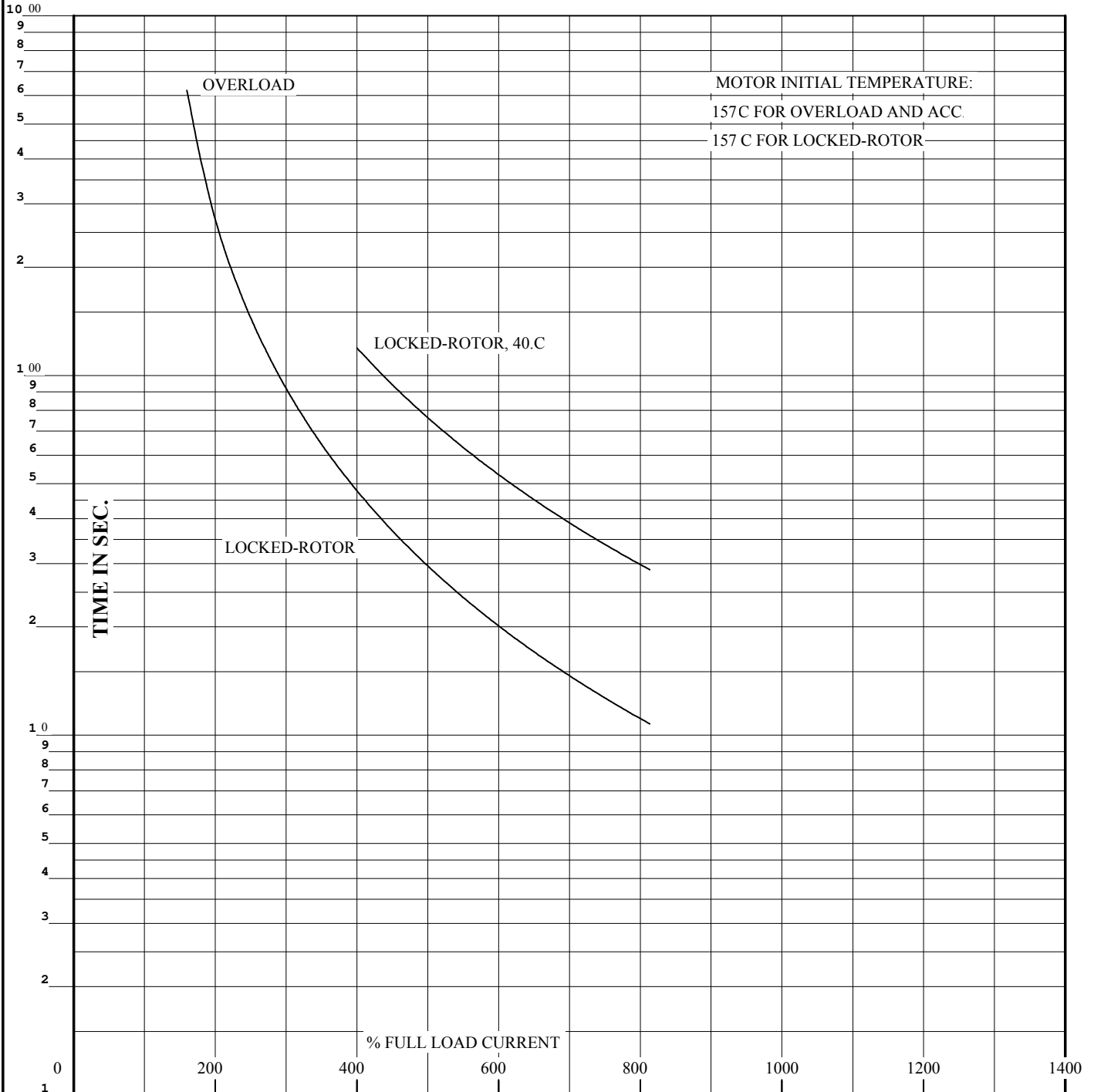
 STATOR RES. @ 25 °C **.0366**

 PHASE/HERTZ **3/60**

 AMB °C/INSUL **40/F**

 E/S **596166**

OHMS (BETWEEN LINES)



THERMAL LIMIT CURVE

REMARKS:

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

 DR. BY W. L. SMITH  
 CK. BY J.J. HARRISON  
 APP. BY W. L. SMITH  
 DATE 06/09/10
**A-C MOTOR  
PERFORMANCE  
CURVES**
**A40WG0454-R002**

 ISSUE DATE 02/19/21 Page 8 of 11



# DUTY MASTER ALTERNATING CURRENT MOTORS

## SQUIRREL-CAGE INDUCTION

ENCLOSURE: TOTALLY ENCLOSED

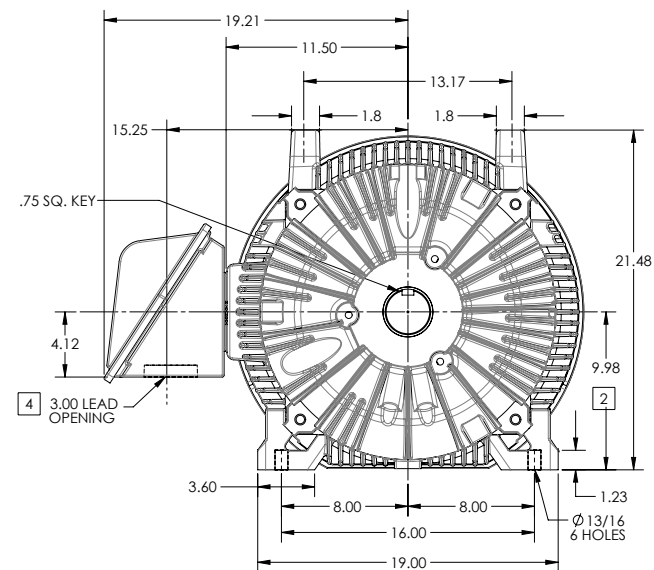
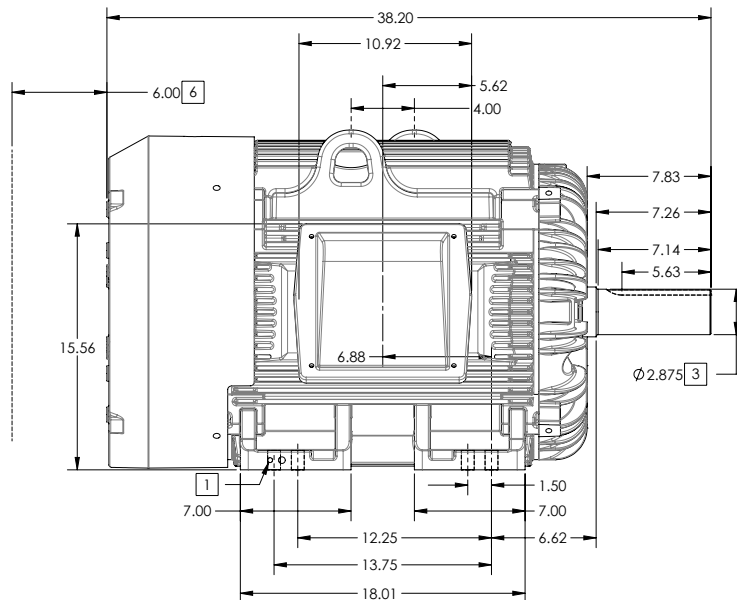
FRAME G405T ABOVE NEMA RATINGS

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 +.00,-.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): 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: MGH/MZ2                            | Material:                    |

**BALDOR**

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

617429-501

## DUTY MASTER ALTERNATING CURRENT MOTORS

### SQUIRREL-CAGE INDUCTION

ENCLOSURE: TOTALLY ENCLOSED

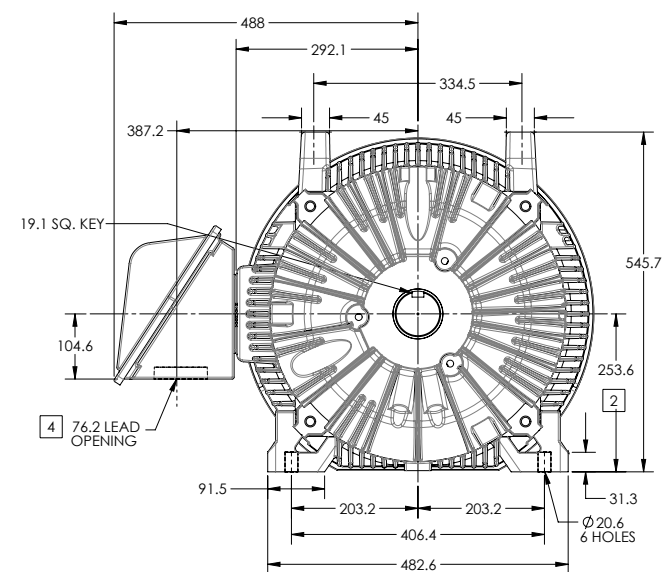
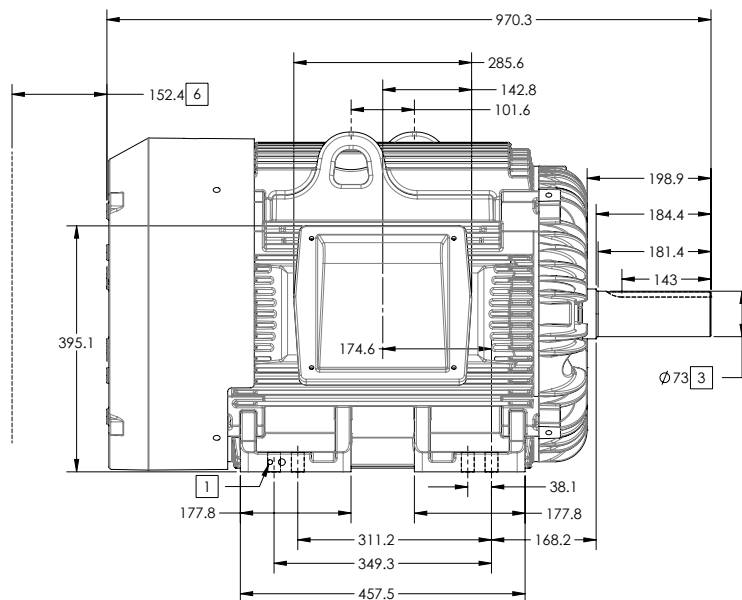
FRAME G405T ABOVE NEMA RATINGS

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 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 .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:                    |

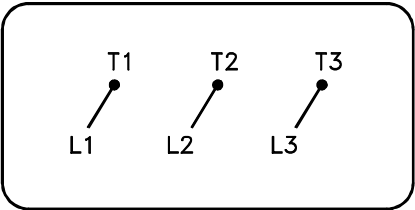
**BALDOR**

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