

# ABB BALDOR RELIANCE III

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## Customer information packet

### EM44304T-4

300HP, 1780RPM, 3PH, 60HZ, 449T, TEFC, F1

Class - None

Division - Not Applicable

**Specifications**

|                               |                         |
|-------------------------------|-------------------------|
| Enclosure                     | TEFC                    |
| Frame                         | 449T                    |
| 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            | 300.000 HP @ 60 HZ      |
| Phase                         | 3                       |
| Synchronous Speed @ Frequency | 1800 RPM @ 60 HZ        |
| Voltage @ Frequency           | 460.0 V @ 60 HZ         |
| Agency Approvals              | CURUSEEV                |
| Ambient Temperature           | 40 °C                   |
| Auxiliary Box                 | NO AUXILLARY BOX        |
| Base Indicator                | Rigid                   |
| Bearing Grease Type           | Polyrex EM (-20F +300F) |
| Current @ Voltage             | 327.000 A @ 460.0 V     |
| Design Code                   | B                       |
| Drip Cover                    | No Drip Cover           |
| Duty Rating                   | CONT                    |
| Efficiency @ 100% Load        | 96.2 %                  |
| Feedback Device               | NO FEEDBACK             |
| Heater Indicator              | No Heater               |
| High Voltage Full Load Amps   | 327.0 a                 |
| Insulation Class              | F                       |
| Inverter Code                 | Inverter Ready          |
| IP Rating                     | NONE                    |
| KVA Code                      | G                       |
| Motor Lead Quantity/Wire Size | 12 @ 2 AWG              |
| Motor Standards               | NEMA                    |
| Motor Type                    | A44144M                 |
| Mounting Arrangement          | F1                      |

**Part Detail**

|              |                    |
|--------------|--------------------|
| Revision     | F                  |
| Type         | AC                 |
| Mech. spec.  |                    |
| Base         |                    |
| Status       | PRD/A              |
| Elec. spec.  | A44WG2960          |
| Layout       | 617427-176         |
| Eff. date    | 10-24-2022         |
| CD Diagram   | 416820-008         |
| Poles        | 04                 |
| Leads        | 6#2 (02 per group) |
| Proprietary  | False              |
| Created date | 04-09-2015         |

|                                 |                              |
|---------------------------------|------------------------------|
| <b>Number of Poles</b>          | <b>4</b>                     |
| <b>Overall Length</b>           | <b>53.24 IN</b>              |
| <b>Power Factor</b>             | <b>89</b>                    |
| <b>Product Family</b>           | <b>General Industrial</b>    |
| <b>Pulley End Bearing Type</b>  | <b>Ball</b>                  |
| <b>Pulley Face Code</b>         | <b>Standard</b>              |
| <b>Service Factor</b>           | <b>1.15</b>                  |
| <b>Shaft Diameter</b>           | <b>3.375 IN</b>              |
| <b>Shaft Ground Indicator</b>   | <b>No Shaft Grounding</b>    |
| <b>Shaft Rotation</b>           | <b>Reversible</b>            |
| <b>Shaft Slinger Indicator</b>  | <b>No Slinger</b>            |
| <b>Speed</b>                    | <b>1780 rpm</b>              |
| <b>Speed Code</b>               | <b>Single Speed</b>          |
| <b>Starting Method</b>          | <b>Wye Start - Delta Run</b> |
| <b>Thermal Device - Bearing</b> | <b>None</b>                  |
| <b>Thermal Device - Winding</b> | <b>None</b>                  |

**Nameplate**

|                  |  |
|------------------|--|
| NP2496L          |  |
| MOBIL POLYREX EM |  |

**NP2349L**

|                   |               |       |      |              |             |                         |                     |                       |       |      |  |
|-------------------|---------------|-------|------|--------------|-------------|-------------------------|---------------------|-----------------------|-------|------|--|
| SPEC NO.          | A44-7109-2960 |       |      | CAT.NO.      | EM44304T-4  |                         |                     |                       | FRAME | 449T |  |
| HP                | 300           | VOLTS | 460  | PHASE        | 3           | DESIGN                  | B                   | TYPE                  | P     |      |  |
| RPM               | 1780          | AMPS  | 327  | HZ           | 60          | AMB                     | 40                  | SF                    | 1.15  |      |  |
| DRIVE END BEARING | 90BC03J30X    |       | DUTY | CONT         | INSUL.CLASS |                         | F                   |                       |       |      |  |
| OPP D.E. BEARING  | 90BC03J30X    |       | ENCL | TEFC         | CODE        | G                       |                     |                       |       |      |  |
| SER.NO.           |               |       |      | POWER FACTOR |             | 89                      | NEMA-NOM-EFFICIENCY |                       |       | 96.2 |  |
|                   |               |       |      |              |             | MAX CORR KVAR           | 41                  | GUARANTEED EFFICIENCY |       | 95.4 |  |
|                   |               |       |      |              |             | NEMA NOM/CSA QUOTED EFF |                     |                       |       |      |  |
|                   |               |       |      |              |             | MOTOR WEIGHT            |                     |                       |       |      |  |

|                                                                                                                                                                                                                    |             |                   |                       |                                                                                       |                 |       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------|-----------------------|---------------------------------------------------------------------------------------|-----------------|-------|
| REL.<br>S.O.                                                                                                                                                                                                       | FRAME       | HP                | TYPE                  | PHASE/<br>HERTZ                                                                       | RPM             | VOLTS |
|                                                                                                                                                                                                                    | 449T        | 300               | P                     | 3/60                                                                                  | 1780            | 460   |
| AMPS                                                                                                                                                                                                               | DUTY        | AMB °C/<br>INSUL. | S.F.                  | NEMA<br>DESIGN                                                                        | CODE<br>LETTER  | ENCL. |
| 327                                                                                                                                                                                                                | CONT        | 40/F              | 1.15                  | B                                                                                     | G               | FCXE  |
| E/S                                                                                                                                                                                                                | ROTOR       | TEST<br>S.O.      | TEST<br>DATE          | STATOR RES. @25 °C<br>OHMS (BETWEEN LINES)                                            |                 |       |
| -                                                                                                                                                                                                                  | 418143047SE | ---               | ---                   | .0108                                                                                 |                 |       |
| PERFORMANCE                                                                                                                                                                                                        |             |                   |                       |                                                                                       |                 |       |
| LOAD                                                                                                                                                                                                               | HP          | AMPERES           | RPM                   | %<br>POWER FACTOR                                                                     | %<br>EFFICIENCY |       |
| NO LOAD                                                                                                                                                                                                            | 0           | 69.7              | 1800                  | 5.43                                                                                  | 0               |       |
| 1/4                                                                                                                                                                                                                | 75.1        | 104               | 1796                  | 71.8                                                                                  | 94.3            |       |
| 2/4                                                                                                                                                                                                                | 150         | 168               | 1792                  | 86.9                                                                                  | 96.2            |       |
| 3/4                                                                                                                                                                                                                | 225         | 245               | 1787                  | 89.3                                                                                  | 96.4            |       |
| 4/4                                                                                                                                                                                                                | 300         | 327               | 1783                  | 89.2                                                                                  | 96.2            |       |
| 5/4                                                                                                                                                                                                                | 375         | 412               | 1778                  | 89.0                                                                                  | 95.7            |       |
|                                                                                                                                                                                                                    |             |                   |                       |                                                                                       |                 |       |
| SPEED TORQUE                                                                                                                                                                                                       |             |                   |                       |                                                                                       |                 |       |
|                                                                                                                                                                                                                    |             | RPM               | TORQUE<br>% FULL LOAD | TORQUE<br>LB.-FT.                                                                     | AMPERES         |       |
| LOCKED ROTOR                                                                                                                                                                                                       |             | 0                 | 138                   | 1215                                                                                  | 2218            |       |
| PULL UP                                                                                                                                                                                                            |             | 1410              | 125                   | 1104                                                                                  | 1599            |       |
| BREAKDOWN                                                                                                                                                                                                          |             | 1726              | 242                   | 2136                                                                                  | 1096            |       |
| FULL LOAD                                                                                                                                                                                                          |             | 1783              | 100                   | 883                                                                                   | 327             |       |
| 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: CALCULATED DATA<br>XE MOTOR-NEMA NOM. EFF. 96.2 PCT. |             |                   |                       |                                                                                       |                 |       |
|                                                                                                                                 |             | DR. BY            | W. L. SMITH           | <b>A-C MOTOR<br/>PERFORMANCE DATA</b><br><b>A44WG2960-R008</b><br>ISSUE DATE 04/07/15 |                 |       |
|                                                                                                                                                                                                                    |             | CK. BY            | C. E. JAMISON         |                                                                                       |                 |       |
|                                                                                                                                                                                                                    |             | APP. BY           | W. L. SMITH           |                                                                                       |                 |       |
|                                                                                                                                                                                                                    |             | DATE              | 04/07/15              |                                                                                       |                 |       |

REL S.O.

RPM 1780

S.F. 1.15

ROTOR 418143047SE

FRAME 449T

VOLTS 460

NEMA DESIGN B

TEST S.O. CALCULATED DATA

HP 300

AMPS 327

CODE LETTER G

TEST DATE ---

TYPE P

DUTY CONT

ENCLOSURE FCXE

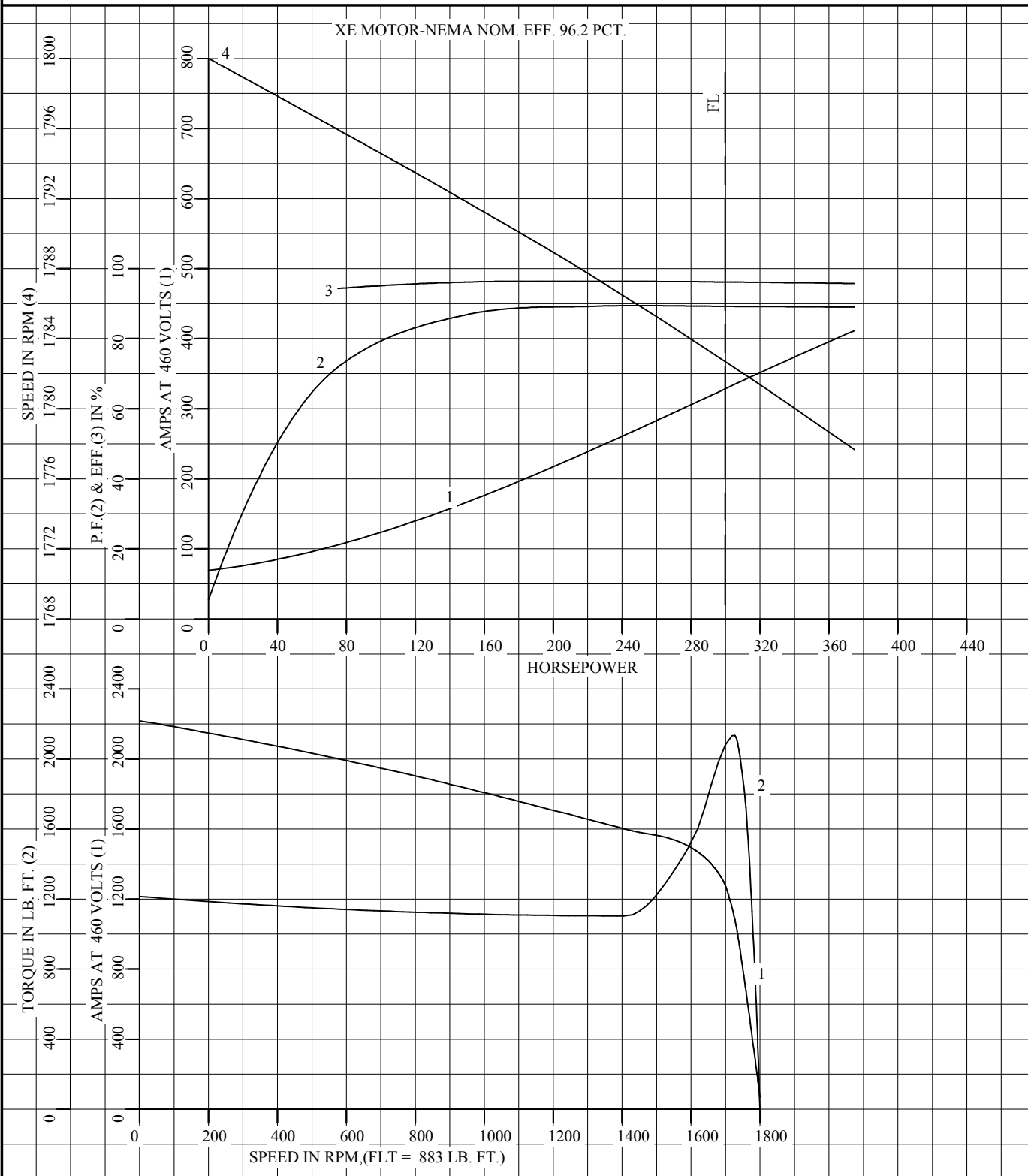
STATOR RES. @ 25 °C .0108

PHASE/HERTZ 3/60

AMB °C/INSUL 40/F

E/S -

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 C. E. JAMISON  
APP. BY W. L. SMITH  
DATE 04/07/15

**A-C MOTOR  
PERFORMANCE  
CURVES**

A44WG2960-R008  
ISSUE DATE 04/07/15

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## DUTY MASTER ALTERNATING CURRENT MOTORS

### SQUIRREL-CAGE INDUCTION

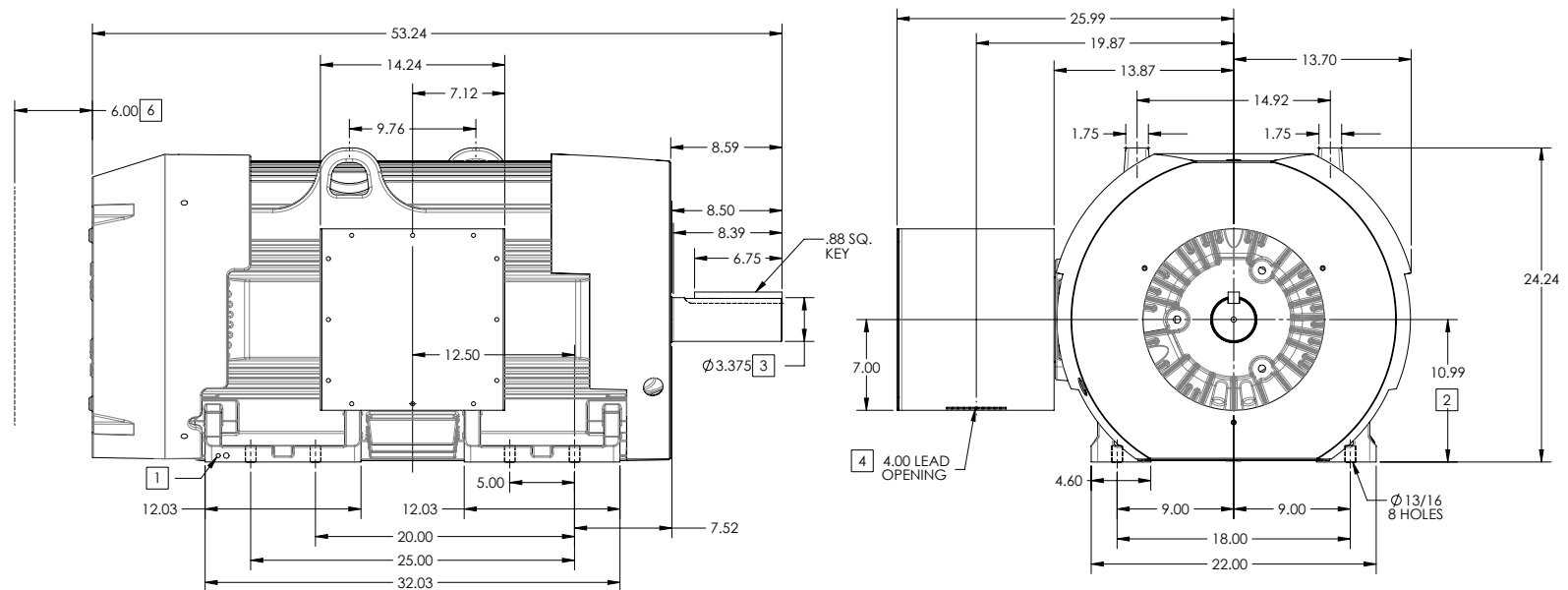
ENCLOSURE: TOTALLY ENCLOSED

FRAME 449T ABOVE NEMA RATINGS (1800 RPM MAX)

COOLING: FAN COOLED

MOUNTING: FOOT

INCLUDES 447T FRAME MTG HOLES



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 NO 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): 3130**

DRIVE END AIR DEFLECTOR IS ONLY INCLUDED WHEN NECESSARY.

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**

9L1-272119

REV. DESC: NEW DRAWING  
REV: - VERSION: 00 REVISED: 03-12-20 02/04/2014 TDR: 000000836085  
MODEL NO. 617427-176  
BY: RAGEC

**BALDOR**

G449T FT MTG 14X14X12 CENTER C/B F1

617427-176

## DUTY MASTER ALTERNATING CURRENT MOTORS

### SQUIRREL-CAGE INDUCTION

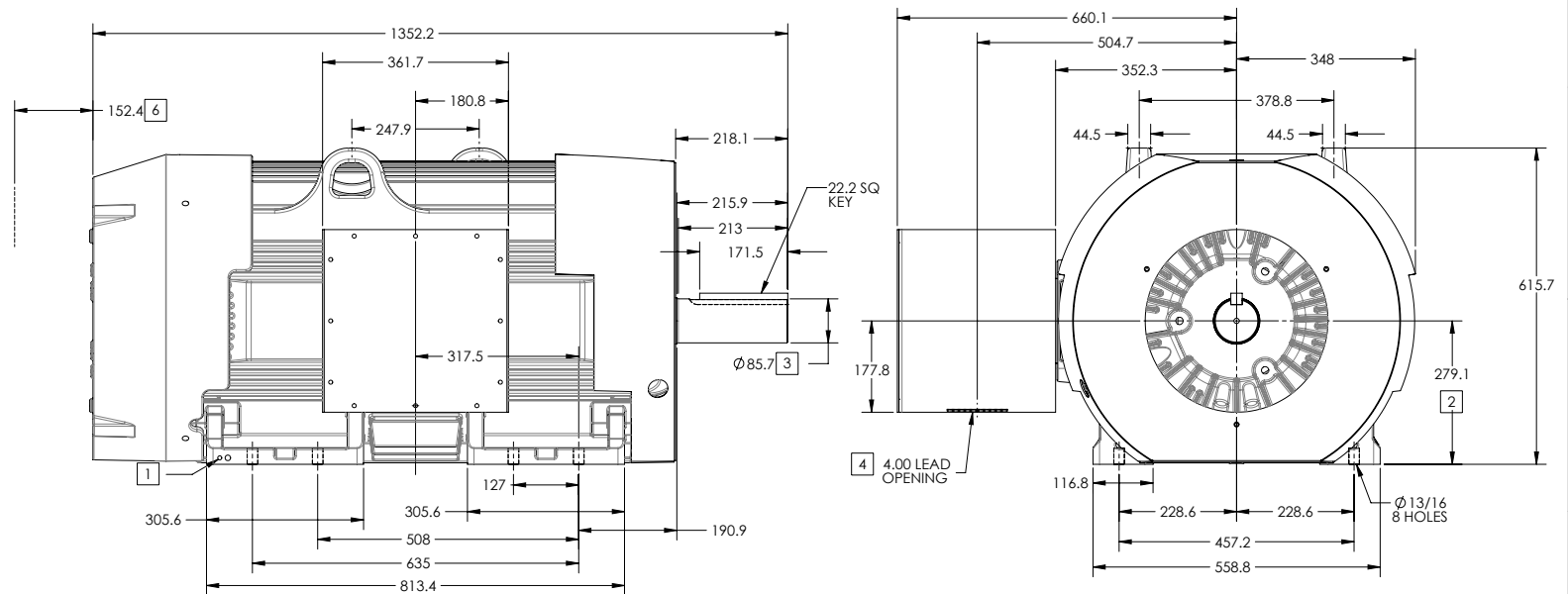
ENCLOSURE: TOTALLY ENCLOSED

FRAME 449T ABOVE NEMA RATINGS (1800 RPM MAX)

COOLING: FAN COOLED

MOUNTING: FOOT

INCLUDES 447T FRAME MTG HOLES



1. GROUND HOLES QTY 1 1/2-13 TAP; QTY 1 3/8-16 TAP
2. VARIES +.00,-.06
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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 NO 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): 1420**

DRIVE END AIR DEFLECTOR IS ONLY INCLUDED WHEN NECESSARY.

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

9L1-727-119

|                        |             |                              |                   |
|------------------------|-------------|------------------------------|-------------------|
| REV. DESC: NEW DRAWING | VERSION: 00 | REVISED: 03-12-20 02/04/2014 | TDR: 000000836085 |
| MODEL NO. 617427-176   |             | BY: RAGEC                    |                   |

**BALDOR**

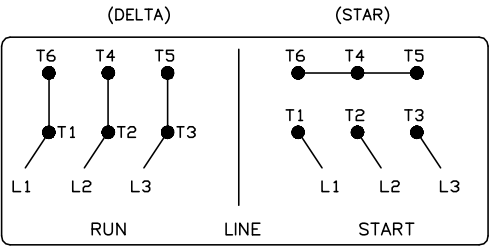
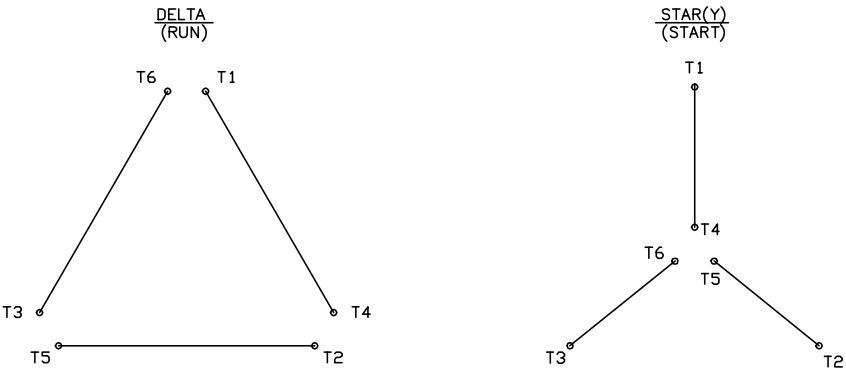
G449T FT MTG 14X14X12 CENTER C/B F1

617427-176

416820-008

A-C MOTOR  
CONNECTION DIAGRAM

STANDARD 6 LEAD      Y START – DELTA RUN



< N. P. 1767-DC >

|                                          |                                |                   |
|------------------------------------------|--------------------------------|-------------------|
| REV. DESC: ADDED T4 TO Y CONNECT DIAGRAM |                                |                   |
| REV. LTR: D                              | VERSION: 04                    | TDR: 000000847713 |
| FILE: \RAG\00001\808                     | REVISED: 10: 41: 26 04/08/2014 | BY: RAGJSS1       |
| MTL: —                                   |                                |                   |

**BALDOR**

CONNECT DIAGRAM STD 6 LEAD Y START DELTA RUN  
SH 1 of 1

416820-008