

# ABB BALDOR RELIANCE III

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## Customer information packet

### EM4400T

100HP, 1785RPM, 3PH, 60HZ, 405T, A40064M, 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           | 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           | Polyrex EM (-20F +300F)                    |
| Current @ Voltage             | 224.000 A @ 230.0 V<br>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                                |
| 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     | T          |
| Type         | AC         |
| Mech. spec.  |            |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | A40WG0251  |
| Layout       | 617429-001 |
| Eff. date    | 09-04-2024 |
| CD Diagram   | 416820-002 |
| Poles        | 04         |
| Leads        | 3#2,6#4    |
| Proprietary  | False      |
| Created date | 07-16-2013 |

| <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>           | 38.19 IN           |
| <b>Power Factor</b>             | 87                 |
| <b>Pulley End Bearing Type</b>  | Ball               |
| <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>  | 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.          | P40G3923   |       |  | CAT.NO.      |      | EM4400T                 |    |                     |    | FRAME | 405T                  |      |      |
| 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            |    |                     |    |       |                       |      |      |

|                                                                                                                                                                                                                                                     |              |                                                                                     |                   |                                                                             |                 |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------|-----------------|---------|
| 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                                                                 |                 |         |
| <b>PERFORMANCE</b>                                                                                                                                                                                                                                  |              |                                                                                     |                   |                                                                             |                 |         |
| 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            |         |
|                                                                                                                                                                                                                                                     |              |                                                                                     |                   |                                                                             |                 |         |
| <b>SPEED TORQUE</b>                                                                                                                                                                                                                                 |              |                                                                                     |                   |                                                                             |                 |         |
|                                                                                                                                                                                                                                                     | 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<br><br>REMARKS: TYPICAL DATA<br>XE MOTOR-DATA-NEMA NOM. EFF. 95.4 PCT<br>GUARANTEED MIN EFF. 95.0 PCT |              |                                                                                     |                   |                                                                             |                 |         |
|                                                                                                                                                                  |              | DR. BY J. J. HARRISON<br>CK. BY W. L. SMITH<br>APP. BY W. L. SMITH<br>DATE 07/26/04 |                   | <b>A-C MOTOR<br/>PERFORMANCE DATA</b> A40WG0251-R001<br>ISSUE DATE 12/15/10 |                 |         |

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

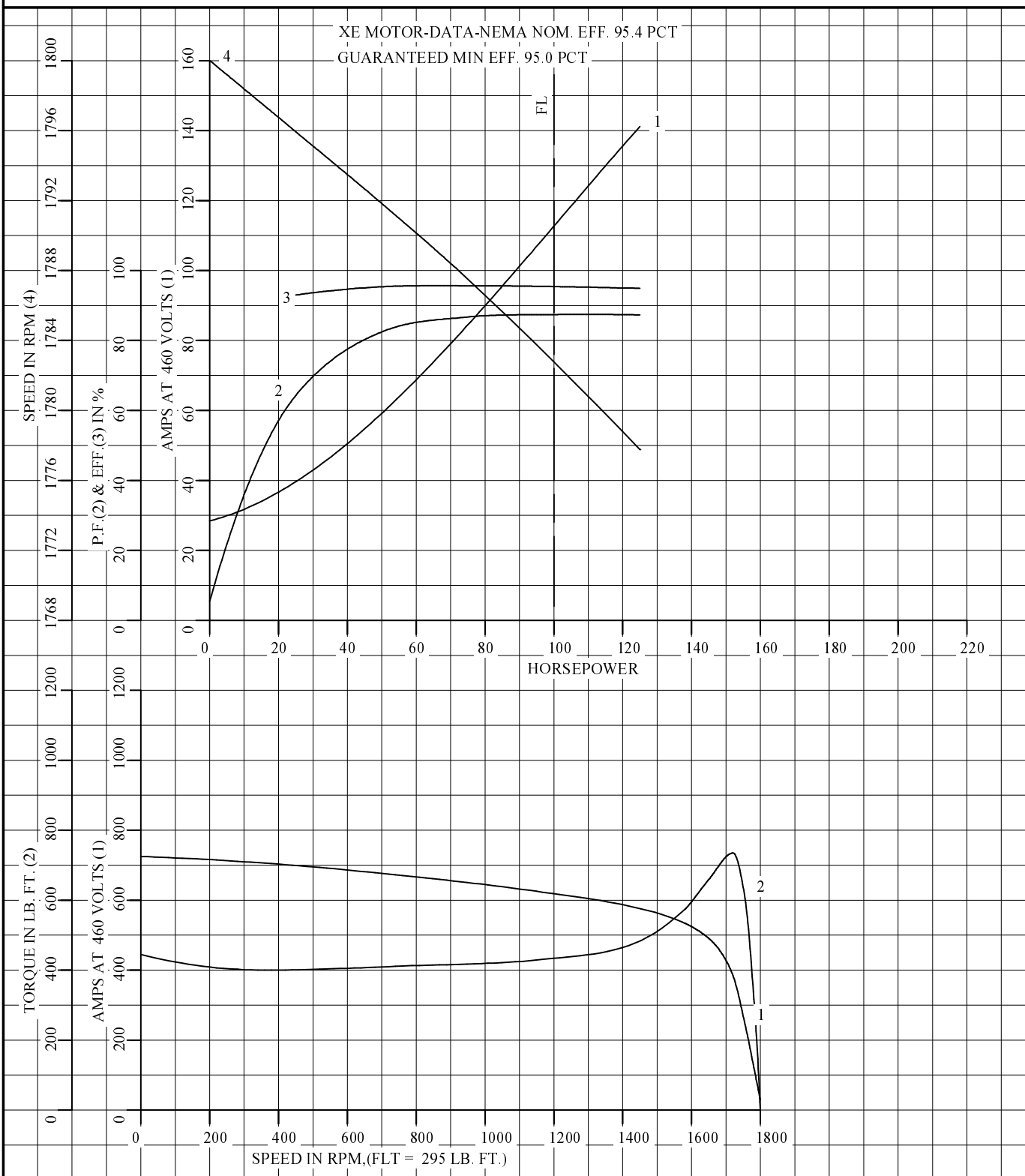
STATOR RES. @ 25 °C .0123/.0492

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**

DR. BY J.J. HARRISON  
CK. BY W.L. SMITH  
APP. BY W.L. SMITH  
DATE 07/26/04

**A-C MOTOR  
PERFORMANCE  
CURVES** A40WG0251-R001  
ISSUE DATE 12/15/10

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

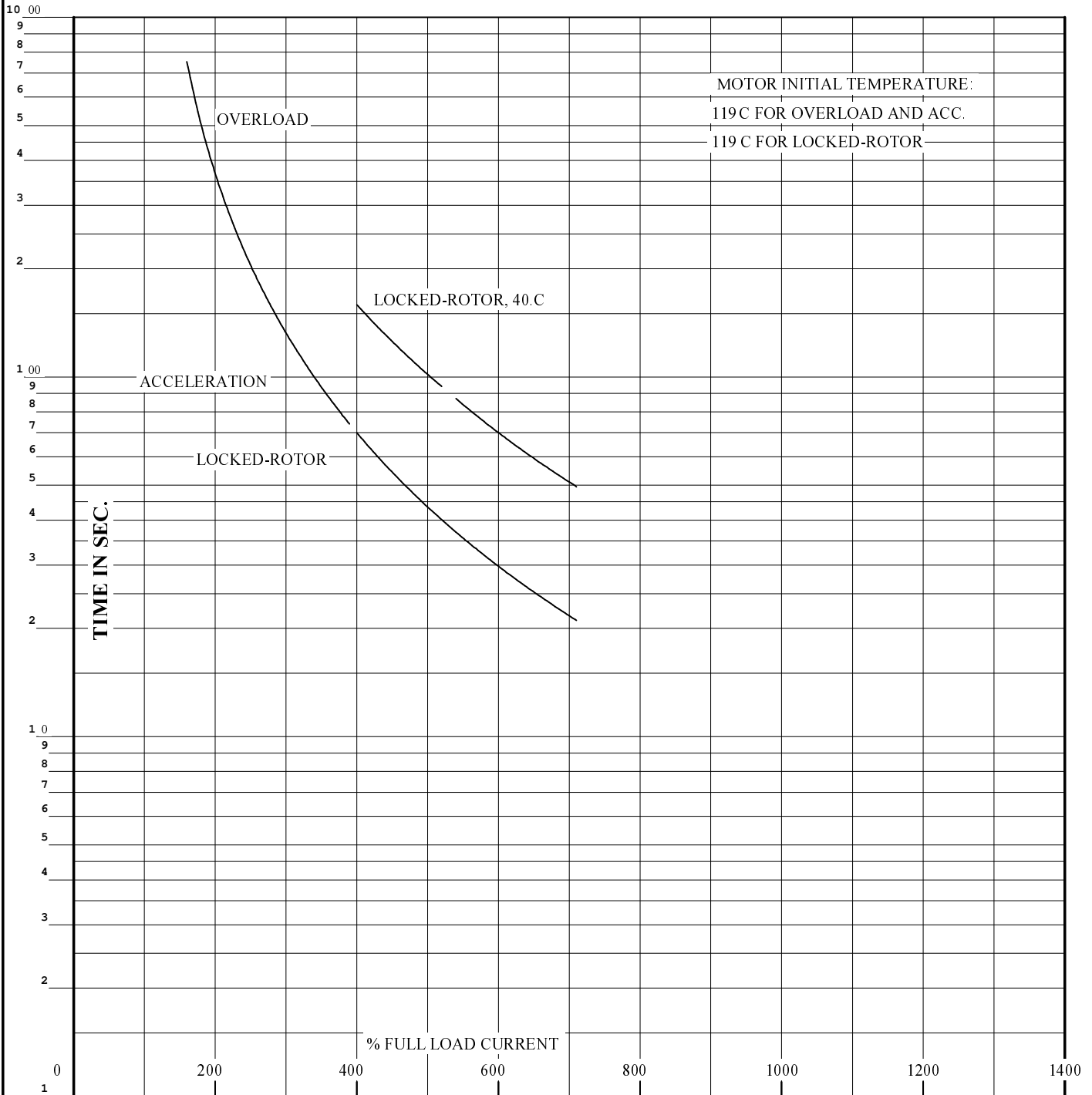
STATOR RES. @ 25 °C .0123/.0492

PHASE/HERTZ 3/60

AMB °C/INSUL 40/F

E/S 596956

OHMS (BETWEEN LINES)



THERMAL LIMIT CURVE

REMARKS:

XE MOTOR-DATA-NEMA NOM. EFF. 95.4 PCT

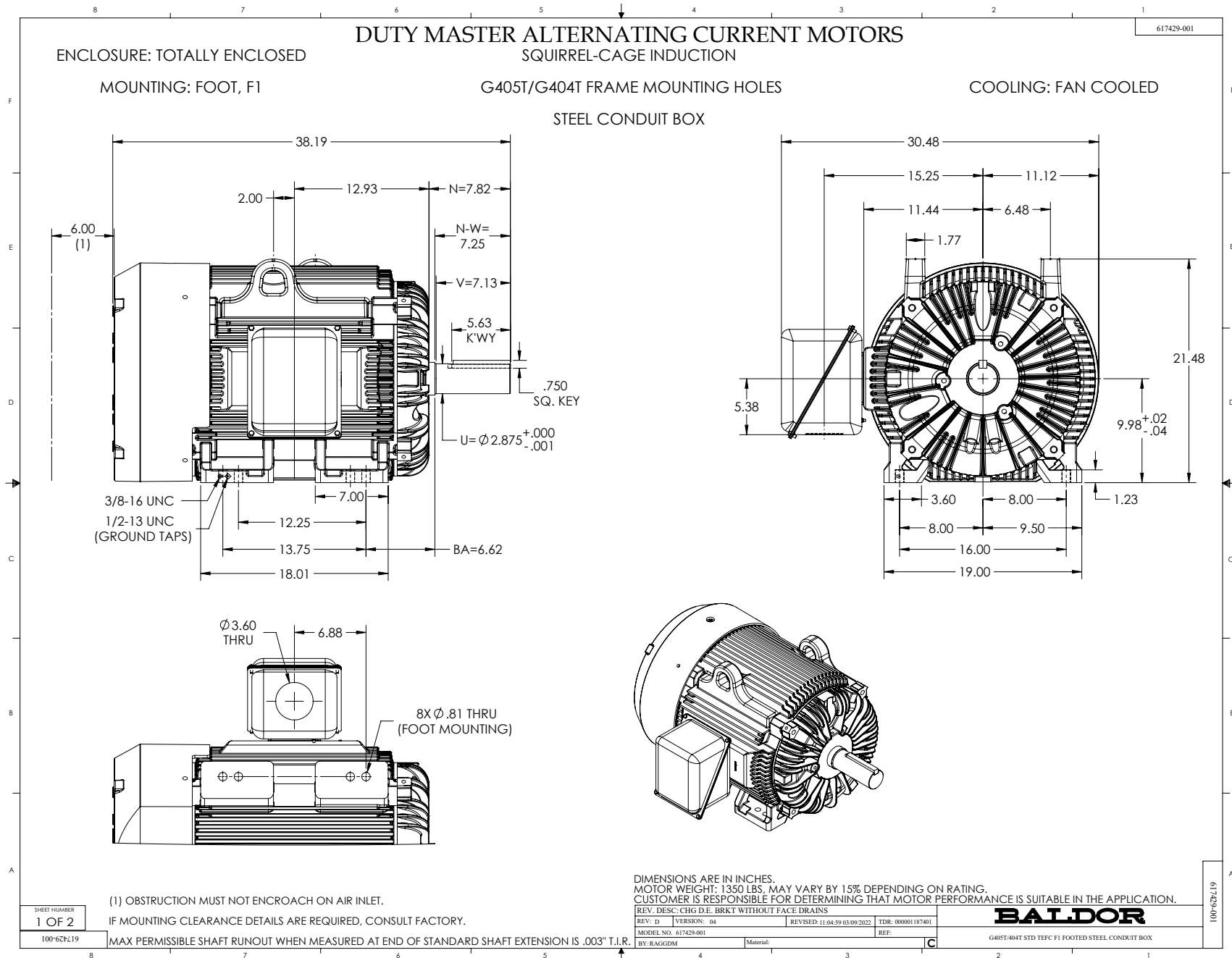
GUARANTEED MIN EFF. 95.0 PCT

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

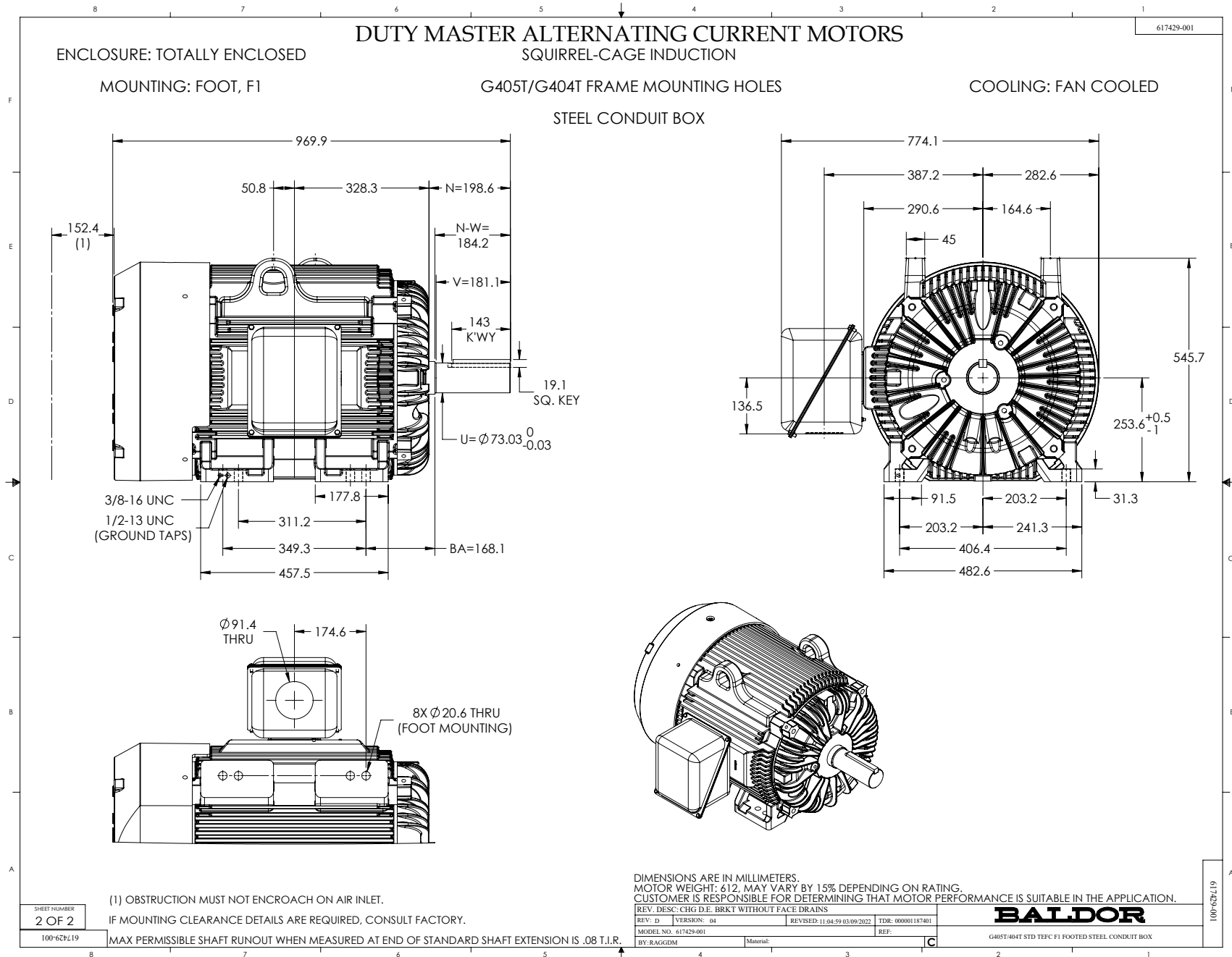
# BALDOR

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DATE 07/26/04

**A-C MOTOR  
PERFORMANCE  
CURVES** A40WG0251-R001  
ISSUE DATE 12/15/10

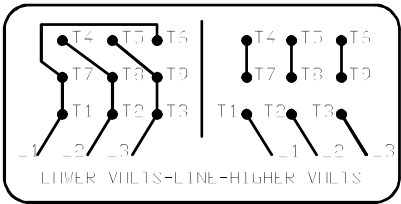
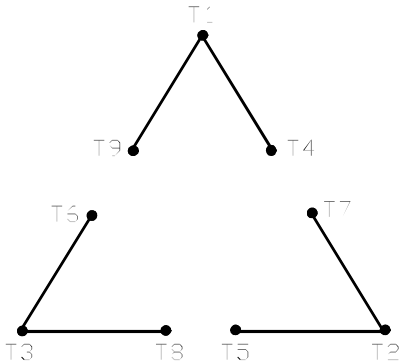






416820-002

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