

# ABB BALDOR RELIANCE III

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## Customer information packet

### EM3770T-BG

7.5HP, 1770RPM, 3PH, 60HZ, 213T, TEFC, F1

Class - None

Division - Not Applicable

**Specifications**

|                                       |                                                               |
|---------------------------------------|---------------------------------------------------------------|
| <b>Enclosure</b>                      | TEFC                                                          |
| <b>Frame</b>                          | 213T                                                          |
| <b>Frame Material</b>                 | Iron                                                          |
| <b>Frequency</b>                      | 60.00 Hz                                                      |
| <b>Haz Area Class and Group</b>       | None                                                          |
| <b>Haz Area Division</b>              | Not Applicable                                                |
| <b>Motor Letter Type</b>              | Three Phase                                                   |
| <b>Output @ Frequency</b>             | 7.500 HP @ 60 HZ                                              |
| <b>Phase</b>                          | 3                                                             |
| <b>Synchronous Speed @ Frequency</b>  | 1800 RPM @ 60 HZ                                              |
| <b>Voltage @ Frequency</b>            | 460.0 V @ 60 HZ<br>230.0 V @ 60 HZ                            |
| <b>Agency Approvals</b>               | CSA<br>CSA EEV<br>NEMA PREMIUM<br>UR                          |
| <b>Ambient Temperature</b>            | 40 °C                                                         |
| <b>Auxiliary Box</b>                  | NO AUXILLARY BOX                                              |
| <b>Auxiliary Box Lead Termination</b> | None                                                          |
| <b>Base Indicator</b>                 | Rigid                                                         |
| <b>Bearing Grease Type</b>            | Polyrex EM (-20F +300F)                                       |
| <b>Blower</b>                         | None                                                          |
| <b>Current @ Voltage</b>              | 9.500 A @ 460.0 V<br>19.800 A @ 208.0 V<br>19.000 A @ 230.0 V |
| <b>Design Code</b>                    | A                                                             |
| <b>Drip Cover</b>                     | No Drip Cover                                                 |
| <b>Duty Rating</b>                    | CONT                                                          |
| <b>Efficiency @ 100% Load</b>         | 91.7 %                                                        |
| <b>Electrically Isolated Bearing</b>  | Not Electrically Isolated                                     |
| <b>Feedback Device</b>                | NO FEEDBACK                                                   |
| <b>Heater Indicator</b>               | No Heater                                                     |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | E          |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  |            |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 07WGX790   |
| <b>Layout</b>       | 07LYN555   |
| <b>Eff. date</b>    | 04-29-2024 |
| <b>CD Diagram</b>   | CD0005     |
| <b>Poles</b>        | 04         |
| <b>Leads</b>        | 9#14       |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 04-12-2019 |

|                             |                       |
|-----------------------------|-----------------------|
| High Voltage Full Load Amps | 9.5 a                 |
| Insulation Class            | H                     |
| Inverter Code               | Inverter Ready        |
| IP Rating                   | NONE                  |
| KVA Code                    | J                     |
| Lifting Lugs                | Standard Lifting Lugs |
| Locked Bearing Indicator    | Locked Bearing        |
| Motor Lead Termination      | Flying Leads          |
| Motor Standards             | NEMA                  |
| Motor Type                  | 0738M                 |
| Mounting Arrangement        | F1                    |
| Number of Poles             | 4                     |
| Overall Length              | 18.45 IN              |
| Power Factor                | 81                    |
| Product Family              | General Purpose       |
| Pulley Face Code            | Standard              |
| Rodent Screen               | None                  |
| Service Factor              | 1.15                  |
| Shaft Diameter              | 1.375 IN              |
| Shaft Ground Indicator      | Shaft Grounding       |
| Shaft Rotation              | Reversible            |
| Speed                       | 1770 rpm              |
| Speed Code                  | Single Speed          |
| Starting Method             | Direct on line        |
| Thermal Device - Winding    | None                  |
| Vibration Sensor Indicator  | No Vibration Sensor   |
| Winding Thermal 1           | None                  |
| Winding Thermal 2           | None                  |

**Nameplate**

| NP1259L      |              |      |     |      |   |    |   |    |   |  |  |
|--------------|--------------|------|-----|------|---|----|---|----|---|--|--|
| CAT.NO.      | EM3770T-BG   |      |     |      |   |    |   |    |   |  |  |
| SPEC.        | 07-0000-0097 |      |     |      |   |    |   |    |   |  |  |
| HP           | 7.5          |      |     |      |   |    |   |    |   |  |  |
| VOLTS        | 230/460      |      |     |      |   |    |   |    |   |  |  |
| AMP          | 19/9.5       |      |     |      |   |    |   |    |   |  |  |
| RPM          | 1770         |      |     |      |   |    |   |    |   |  |  |
| FRAME        | 213T         |      | HZ  | 60   |   |    |   | PH | 3 |  |  |
| SER.F.       | 1.15         | CODE | J   | DES  | A | CL | H |    |   |  |  |
| NEMA-NOM-EFF | 91.7         | PF   | 81  |      |   |    |   |    |   |  |  |
| RATING       | 40C AMB-CONT |      |     |      |   |    |   |    |   |  |  |
| CC           | 010A         |      |     |      |   |    |   |    |   |  |  |
| DE           | 6307         |      | ODE | 6307 |   |    |   |    |   |  |  |
| ENCL         | TEFC         | SN   |     |      |   |    |   |    |   |  |  |

**Parts List**

| Part number   | Description                              | Quantity |
|---------------|------------------------------------------|----------|
| SA368442      | SA 07-0000-0097                          | 1.000 ea |
| RA357953      | RA 07-0000-0097                          | 1.000 ea |
| LB1624        | COMBINED WARNING LABEL, ISO/ANSI PICTOGR | 1.000 ea |
| LC0005        | CONN.DIA.,TY M,9-LD,DUAL VOLT,REVERSING  | 1.000 ea |
| NP1259L       | ALUM SUPER-E UL CC NEMA PREMIUM A60      | 1.000 ea |
| 85XU0407S04   | 4X1/4 U DRIVE PIN STAINLESS              | 2.000 ea |
| MN416A01      | TAG-INSTAL-MAINT no wire (2500 bx)11/25  | 1.000 ea |
| HW3201A05     | 3/8-16 EYEBOLT                           | 1.000 ea |
| 07FH4007SP    | PRIMED                                   | 1.000 ea |
| 51XW1032A06   | 10-32 X .38, TAPTITE II, HEX WSHR SLTD S | 3.000 ea |
| 37FN3002A01SP | EXFN, PLASTIC, 9.00 OD, 1.155 ID         | 1.000 ea |
| 51XB1214A20   | 12-14X1.25 HXWSSLD SERTYB                | 1.000 ea |
| MJ1000A02     | GREASE, POLYREX EM EXXON                 | 0.050 lb |
| HA3104A32     | THRUBOLT- 5/16-18 X12.750                | 4.000 ea |
| LB1508        | LABEL "SHAFT GROUNDING BRUSH" 1.50 X .81 | 1.000 ea |
| XY3118A12     | 5/16-18 HEX NUT DIRECTIONAL SERRATION    | 4.000 ea |
| 37EP1101A71   | FR TEFC 37M 307 BRG W/ /GREASER, RELIEF, | 1.000 ea |
| HW5100A08     | W3118-035 WVY WSHR (WB)                  | 1.000 ea |
| HW4500A01     | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 ea |
| HW4500A17     | 317400 ALEMITE GREASE RELIEF             | 1.000 ea |
| 37EP1101A119  | PUEP LOCKED 307 BRG, GREASER, RELIEF     | 1.000 ea |
| 10XN2520A28   | 1/4-20X 1 3/4 HEX HD                     | 4.000 ea |
| HW4500A01     | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 ea |
| HW4500A17     | 317400 ALEMITE GREASE RELIEF             | 1.000 ea |
| BP5338A07     | SHAFT GRD ASSY, RB3000A25 RETAINER RING  | 1.000 ea |
| 09CB3002SP    | CB W/1.38 LEAD HOLE FOR 37, 39, 307 & 30 | 1.000 ea |
| 09GS1000      | GASKET-CONDUIT BOX, 1/16 THICK LEXIDE    | 1.000 ea |
| 51XW2520A12   | .25-20 X .75, TAPTITE II, HEX WSHR SLTD  | 2.000 ea |
| MG1050Y01     | CELEROL BALDOR GOLD *5 GALLON BUCKET*    | 0.022 ga |
| WD1000B16     | T&B CX70TN OR L70P TERMINAL LUG          | 1.000 ea |
| 59XW2520G07   | .25-20X.44,HEX SER WSHR,TAPTITE 2,GREEN  | 1.000 ea |

|             |                                          |          |
|-------------|------------------------------------------|----------|
| 09CB3501SP  | CONDUIT BOX LID FOR 09CB3001 & 09CB3002  | 1.000 ea |
| 09GS1013SP  | GS FOR 09CB3501, 12CB1500 & 12CB1503 LID | 1.000 ea |
| 51XW2520A12 | .25-20 X .75, TAPTITE II, HEX WSHR SLTD  | 2.000 ea |
| 07PA1011    | PKG GRP, 07 CAST IRON PK1181             | 1.000 ea |
| 10XL3807A28 | 3/8-7 X 1 3/4" LAG SCREW                 | 2.000 ea |
| HW2501F21   | KEY, 5/16 SQ X 2.375                     | 1.000 ea |
| HA7000A02   | KEY RETAINER RING, 1 1/8 DIA, 1 3/8 DIA  | 1.000 ea |

**AC Induction Motor Performance Data**

Record # 75447

Typical performance - not guaranteed values

| Winding: 07WGX790-R019 |    |         | Type: 0738M                              |                     | Enclosure: TEFC         |          |        |
|------------------------|----|---------|------------------------------------------|---------------------|-------------------------|----------|--------|
| Nameplate Data         |    |         | 460 V, 60 Hz:<br>High Voltage Connection |                     |                         |          |        |
| Rated Output (HP)      |    | 7.5     | Full Load Torque                         |                     | 22.18 LB-FT             |          |        |
| Volts                  |    | 230/460 | Start Configuration                      |                     | direct on line          |          |        |
| Full Load Amps         |    | 19/9.5  | Breakdown Torque                         |                     | 70.9 LB-FT              |          |        |
| R.P.M.                 |    | 1770    | Pull-up Torque                           |                     | 32.7 LB-FT              |          |        |
| Hz                     | 60 | Phase   | 3                                        | Locked-rotor Torque |                         | 43 LB-FT |        |
| NEMA Design Code       |    | A       | KVA Code                                 | J                   | Starting Current        |          | 70.8 A |
| Service Factor (S.F.)  |    | 1.15    | No-load Current                          |                     | 4.3 A                   |          |        |
| NEMA Nom. Eff.         |    | 91.7    | Power Factor                             | 81                  | Line-line Res. @ 25°C   |          | 1.41 Ω |
| Rating - Duty          |    | 40C     | AMB-CONT                                 |                     | Temp. Rise @ Rated Load |          | 41°C   |
| S.F. Amps              |    |         | Temp. Rise @ S.F. Load                   |                     | 51°C                    |          |        |
|                        |    |         | Locked-rotor Power Factor                |                     | 37.2                    |          |        |
|                        |    |         | Rotor inertia                            |                     | 0.934 LB-FT2            |          |        |

**Load Characteristics 460 V, 60 Hz, 7.5 HP**

| % of Rated Load | 25   | 50   | 75   | 100  | 125   | 150   | S.F. |
|-----------------|------|------|------|------|-------|-------|------|
| Power Factor    | 42   | 64   | 75   | 80   | 83    | 84    | 82   |
| Efficiency      | 87.4 | 91.5 | 92.2 | 91.8 | 91    | 89.9  | 91.3 |
| Speed           | 1793 | 1786 | 1778 | 1770 | 1760  | 1750  | 1764 |
| Line amperes    | 4.83 | 6.02 | 7.6  | 9.5  | 11.62 | 13.88 | 10.8 |

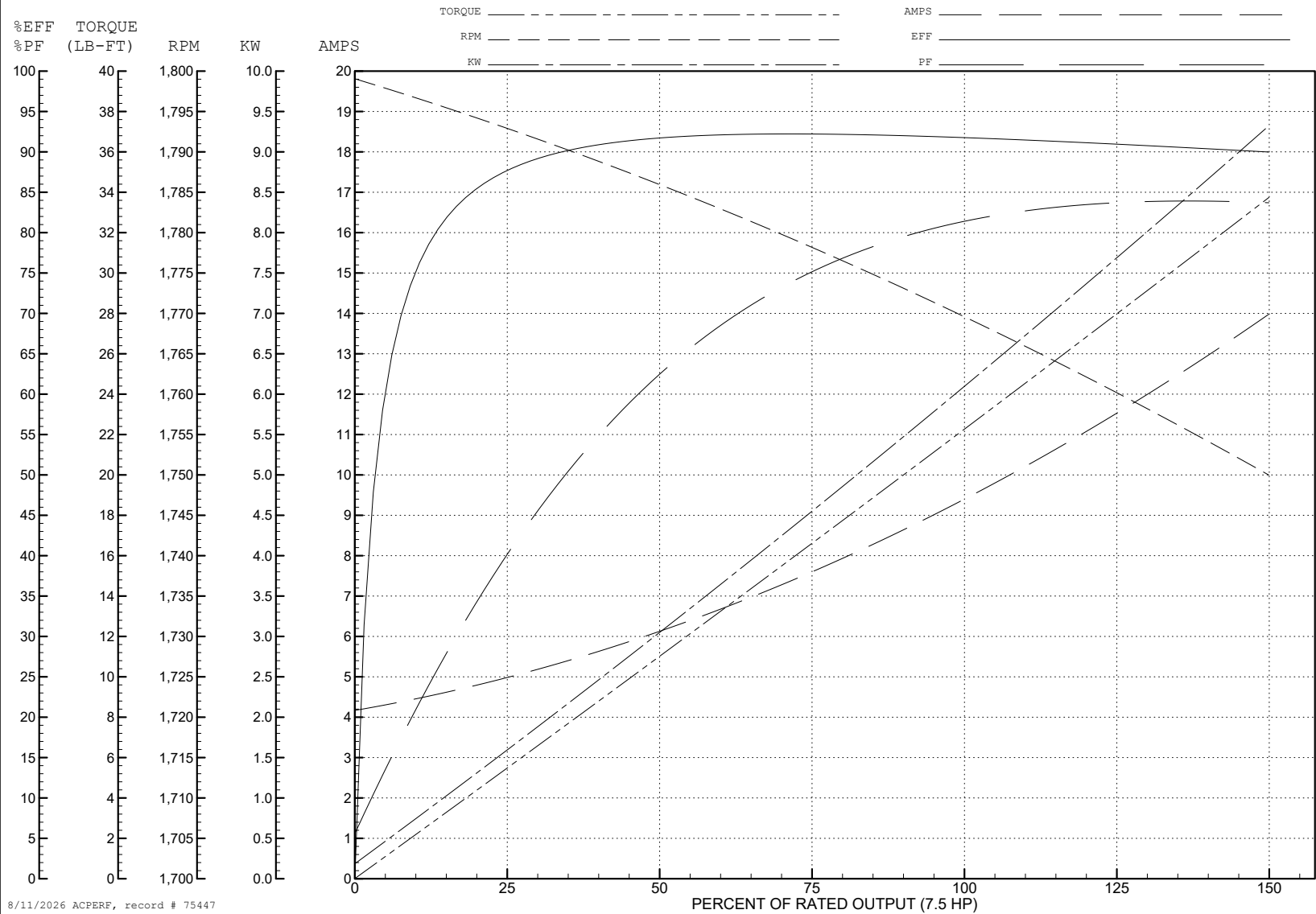
ABB Motors and Mechanical Inc.

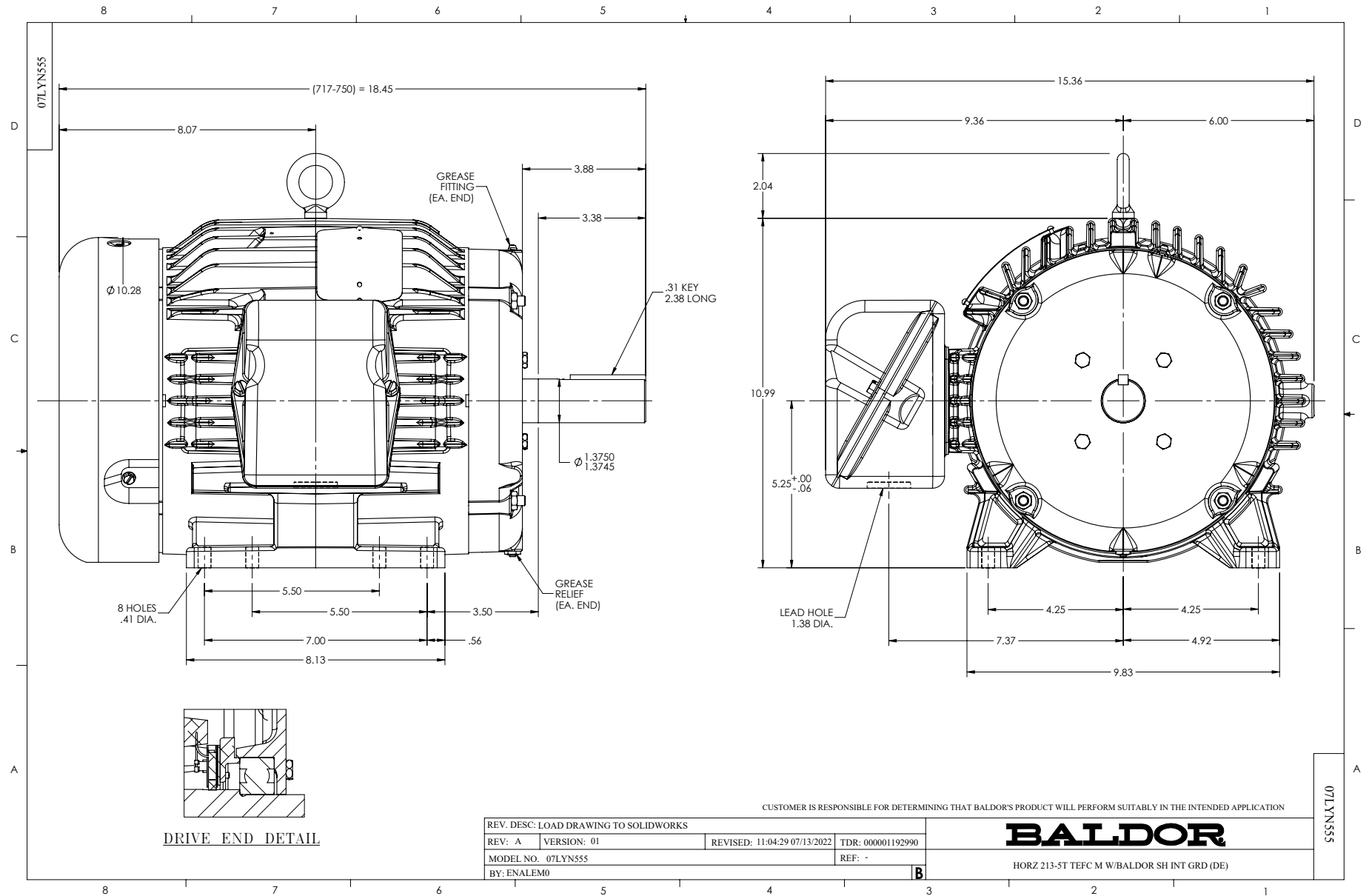
WINDING # 07WGX790

Typical performance - not guaranteed values.

7.5 HP 3 PH 60 HZ 1770 RPM 460 V 0738M

TORQUES (LB-FT): PO=70.9 PU=32.7 LR=43 LRA=70.8





CD0005



- NOTES:
- 1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
  - 2. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
  - 3. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY BE A MULTIPLE OF THOSE SHOWN ABOVE.
  - 4. LEAD COLORS ARE OPTIONAL. LEADS MUST ALWAYS BE NUMBERED AS SHOWN.

|                                           |         |                         |              |
|-------------------------------------------|---------|-------------------------|--------------|
| REV. DESC: REVISE TO SHOW OPTIONAL COLORS |         |                         |              |
| REV. LTR: E                               | BY: JLP | REVISED: 01/19/99 10:15 | TDR: 0171435 |
| 900000                                    |         | FILE: AAA00005140       | MDL: -       |
|                                           |         | MTL: -                  |              |

**BALDOR ELECTRIC Co.**

3PH, DV, 9 LEADS

CD0005