

# ABB BALDOR RELIANCE III

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## Customer information packet

### CXM25242T

20//15HP, 1770//1470RPM, 3PH, 60//50HZ, 256T

Class - CLI GP D; CLII GP F,G

Division - Division I

**Specifications**

|                                       |                                                                                                            |
|---------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Enclosure</b>                      | XPFC                                                                                                       |
| <b>Frame</b>                          | 256TC                                                                                                      |
| <b>Frame Material</b>                 | Iron                                                                                                       |
| <b>Frequency</b>                      | 50.00 Hz<br>60.00 Hz                                                                                       |
| <b>Haz Area Class and Group</b>       | CLI GP D; CLII GP F,G                                                                                      |
| <b>Haz Area Division</b>              | Division I                                                                                                 |
| <b>Motor Letter Type</b>              | Three Phase                                                                                                |
| <b>Output @ Frequency</b>             | 15.000 HP @ 50 HZ<br>20.000 HP @ 60 HZ                                                                     |
| <b>Phase</b>                          | 3                                                                                                          |
| <b>Synchronous Speed @ Frequency</b>  | 1800 RPM @ 60 HZ                                                                                           |
| <b>Voltage @ Frequency</b>            | 380.0 V @ 50 HZ<br>230.0 V @ 60 HZ<br>190.0 V @ 50 HZ<br>460.0 V @ 60 HZ                                   |
| <b>Agency Approvals</b>               | CSA EEV<br>UL                                                                                              |
| <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>Constant Torque Speed Range</b>    | 6                                                                                                          |
| <b>Current @ Voltage</b>              | 52.000 A @ 208.0 V<br>48.000 A @ 230.0 V<br>44.000 A @ 190.0 V<br>24.000 A @ 460.0 V<br>22.000 A @ 380.0 V |
| <b>Design Code</b>                    | A                                                                                                          |
| <b>Drip Cover</b>                     | No Drip Cover                                                                                              |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | D          |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  |            |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 09WGT459   |
| <b>Layout</b>       | 09LYE689   |
| <b>Eff. date</b>    | 11-14-2023 |
| <b>CD Diagram</b>   | CD0180     |
| <b>Poles</b>        | 04         |
| <b>Leads</b>        | 9#10       |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 02-17-2021 |

|                                      |                            |
|--------------------------------------|----------------------------|
| <b>Duty Rating</b>                   | CONT                       |
| <b>Efficiency @ 100% Load</b>        | 93.0 %                     |
| <b>Electrically Isolated Bearing</b> | Not Electrically Isolated  |
| <b>Feedback Device</b>               | NO FEEDBACK                |
| <b>Haz Area Temp Code</b>            | T3C                        |
| <b>Heater Indicator</b>              | No Heater                  |
| <b>High Voltage Full Load Amps</b>   | 22.0 a                     |
| <b>Insulation Class</b>              | F                          |
| <b>Inverter Code</b>                 | Inverter Duty              |
| <b>IP Rating</b>                     | NONE                       |
| <b>KVA Code</b>                      | J                          |
| <b>Lifting Lugs</b>                  | Standard Lifting Lugs      |
| <b>Locked Bearing Indicator</b>      | Locked Bearing             |
| <b>Max Speed</b>                     | 2700 rpm                   |
| <b>Motor Lead Termination</b>        | Flying Leads               |
| <b>Motor Standards</b>               | NEMA                       |
| <b>Motor Type</b>                    | 0960M                      |
| <b>Mounting Arrangement</b>          | F1                         |
| <b>Number of Poles</b>               | 4                          |
| <b>Overall Length</b>                | 26.00 IN                   |
| <b>Power Factor</b>                  | 83                         |
| <b>Product Family</b>                | Hazardous Location Motor   |
| <b>Pulley Face Code</b>              | C-Face                     |
| <b>Rodent Screen</b>                 | None                       |
| <b>Service Factor</b>                | 1.00                       |
| <b>Shaft Diameter</b>                | 1.625 IN                   |
| <b>Shaft Ground Indicator</b>        | No Shaft Grounding         |
| <b>Shaft Rotation</b>                | Reversible                 |
| <b>Speed</b>                         | 1770 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>      | Normally Closed Thermostat |
| <b>Vibration Sensor Indicator</b>    | No Vibration Sensor        |



|                   |      |
|-------------------|------|
| Winding Thermal 1 | None |
| Winding Thermal 2 | None |

**Nameplate**

| NP0887XPSLEV |                        |        |   |              |         |          |            |      |     |          |  |    |
|--------------|------------------------|--------|---|--------------|---------|----------|------------|------|-----|----------|--|----|
| NO.          |                        |        |   |              |         |          | CC         | 010A |     |          |  |    |
| S/N          |                        |        |   |              |         |          | TEMP CODE  |      | T3C |          |  |    |
| SPEC.        | 09-0000-2931           |        |   |              |         |          | INV.TYPE   |      | PWM |          |  |    |
| CAT.NO.      | CXM25242T              |        |   |              |         |          | C HP FR    |      | 60  | C HP TO  |  | 90 |
| HP           | 20//15                 |        |   |              |         |          | CT HZ FROM |      | 6   | CT HZ TO |  | 60 |
| VOLTS        | 230/460//190/380       |        |   |              |         |          | VT HZ FROM |      | 6   | VT HZ TO |  | 60 |
| AMPS         | 48/24//44/22           |        |   |              | MAG CUR |          | 20.8/10.4  |      |     |          |  |    |
| RPM          | 1770//1470             |        |   |              | MX RPM  |          | 2700       |      |     |          |  |    |
| HZ           | 60//50                 | PH     | 3 | CL           | F       | NOM.EFF. |            | 93   |     |          |  |    |
| SER.F.       | 1.00                   | DES    | A | SL HZ        |         | 1        | WK2        | 2.62 |     |          |  |    |
| FRAME        | 256TC                  | RATING |   | 40C AMB-CONT |         |          |            |      |     |          |  |    |
|              | NEMA MG-1 PART 5, IP54 |        |   |              |         |          |            |      |     |          |  |    |
|              | 1.15 SF ON SINE WAVE   |        |   |              |         |          |            |      |     |          |  |    |

**AC Induction Motor Performance Data**

Record # 68069

Typical performance - not guaranteed values

| Winding: 09WGT459-R010 |        |                  | Type: 0960M  |                                          | Enclosure: XPFC       |                |           |
|------------------------|--------|------------------|--------------|------------------------------------------|-----------------------|----------------|-----------|
| Nameplate Data         |        |                  |              | 460 V, 60 Hz:<br>High Voltage Connection |                       |                |           |
| Rated Output (HP)      |        | 20//15           |              | Full Load Torque                         |                       | 59.27 LB-FT    |           |
| Volts                  |        | 230/460//190/380 |              | Start Configuration                      |                       | direct on line |           |
| Full Load Amps         |        | 48/24//44/22     |              | Breakdown Torque                         |                       | 232 LB-FT      |           |
| R.P.M.                 |        | 1770//1470       |              | Pull-up Torque                           |                       | 126 LB-FT      |           |
| Hz                     | 60//50 | Phase            | 3            | Locked-rotor Torque                      |                       | 141 LB-FT      |           |
| NEMA Design Code       |        | A                | KVA Code     | J                                        | Starting Current      |                | 198 A     |
| Service Factor (S.F.)  |        | 1.15             |              | No-load Current                          |                       | 10.4 A         |           |
| NEMA Nom. Eff.         |        | 93               | Power Factor | 83                                       | Line-line Res. @ 25°C |                | 0.33814 Ω |
| Rating - Duty          |        | 40C AMB-CONT     |              | Temp. Rise @ Rated Load                  |                       | 58°C           |           |
| S.F. Amps              |        |                  |              | Temp. Rise @ S.F. Load                   |                       | 70°C           |           |
|                        |        |                  |              | Locked-rotor Power Factor                |                       | 26.5           |           |

**Load Characteristics 460 V, 60 Hz, 20 HP**

| % of Rated Load | 25     | 50     | 75     | 100    | 125    | 150    | S.F. |
|-----------------|--------|--------|--------|--------|--------|--------|------|
| Power Factor    | 45     | 67     | 78     | 83     | 86     | 87     | 85   |
| Efficiency      | 89.2   | 93     | 93.7   | 93.6   | 93.1   | 92.4   | 93.3 |
| Speed           | 1793.2 | 1786.4 | 1779.1 | 1771.9 | 1763.7 | 1755.3 | 1767 |
| Line amperes    | 11.8   | 15     | 19.2   | 24     | 29.3   | 34.9   | 27.2 |

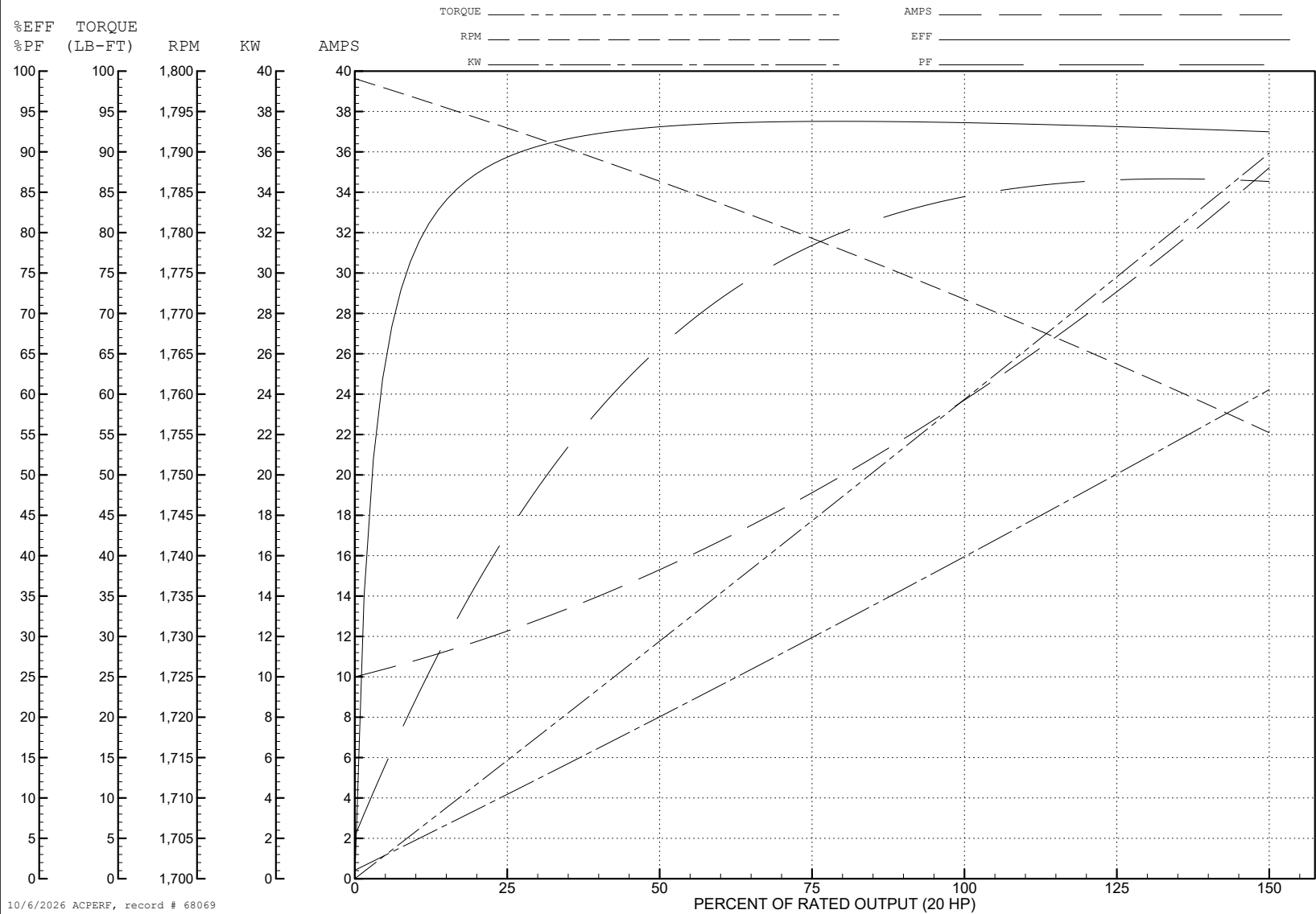
ABB Motors and Mechanical Inc.

WINDING # 09WGT459

Typical performance - not guaranteed values.

20 HP 3 PH 60 HZ 1771.9 RPM 460 V 0960M

TORQUES (LB-FT): PO=232 PU=126 LR=141 LRA=198



**AC Induction Motor Performance Data**

Record # 68070

Typical performance - not guaranteed values

| Winding: 09WGT459-R010 |        |                  | Type: 0960M  |                                          | Enclosure: XPFC       |                |         |
|------------------------|--------|------------------|--------------|------------------------------------------|-----------------------|----------------|---------|
| Nameplate Data         |        |                  |              | 380 V, 50 Hz:<br>High Voltage Connection |                       |                |         |
| Rated Output (HP)      |        | 20//15           |              | Full Load Torque                         |                       | 53.45 LB-FT    |         |
| Volts                  |        | 230/460//190/380 |              | Start Configuration                      |                       | direct on line |         |
| Full Load Amps         |        | 48/24//44/22     |              | Breakdown Torque                         |                       | 224 LB-FT      |         |
| R.P.M.                 |        | 1770//1470       |              | Pull-up Torque                           |                       | 131 LB-FT      |         |
| Hz                     | 60//50 | Phase            | 3            | Locked-rotor Torque                      |                       | 146 LB-FT      |         |
| NEMA Design Code       |        | A                | KVA Code     | J                                        | Starting Current      |                | 193 A   |
| Service Factor (S.F.)  |        | 1.15             |              | No-load Current                          |                       | 10.16 A        |         |
| NEMA Nom. Eff.         |        | 93               | Power Factor | 83                                       | Line-line Res. @ 25°C |                | 0.316 Ω |
| Rating - Duty          |        | 40C AMB-CONT     |              | Temp. Rise @ Rated Load                  |                       | 50°C           |         |
| S.F. Amps              |        |                  |              | Temp. Rise @ S.F. Load                   |                       | 61°C           |         |
|                        |        |                  |              | Locked-rotor Power Factor                |                       | 29.3           |         |
|                        |        |                  |              | Rotor inertia                            |                       | 2.65 LB-FT2    |         |

**Load Characteristics 380 V, 50 Hz, 15 HP**

| % of Rated Load | 25    | 50    | 75    | 100   | 125   | 150   | S.F. |
|-----------------|-------|-------|-------|-------|-------|-------|------|
| Power Factor    | 43    | 66    | 77    | 83    | 86    | 87    | 85   |
| Efficiency      | 88    | 92.2  | 93.1  | 93.1  | 92.5  | 91.8  | 92.7 |
| Speed           | 1494  | 1488  | 1481  | 1475  | 1467  | 1460  | 1470 |
| Line amperes    | 11.32 | 14.06 | 17.76 | 22.07 | 26.82 | 31.83 | 24.9 |

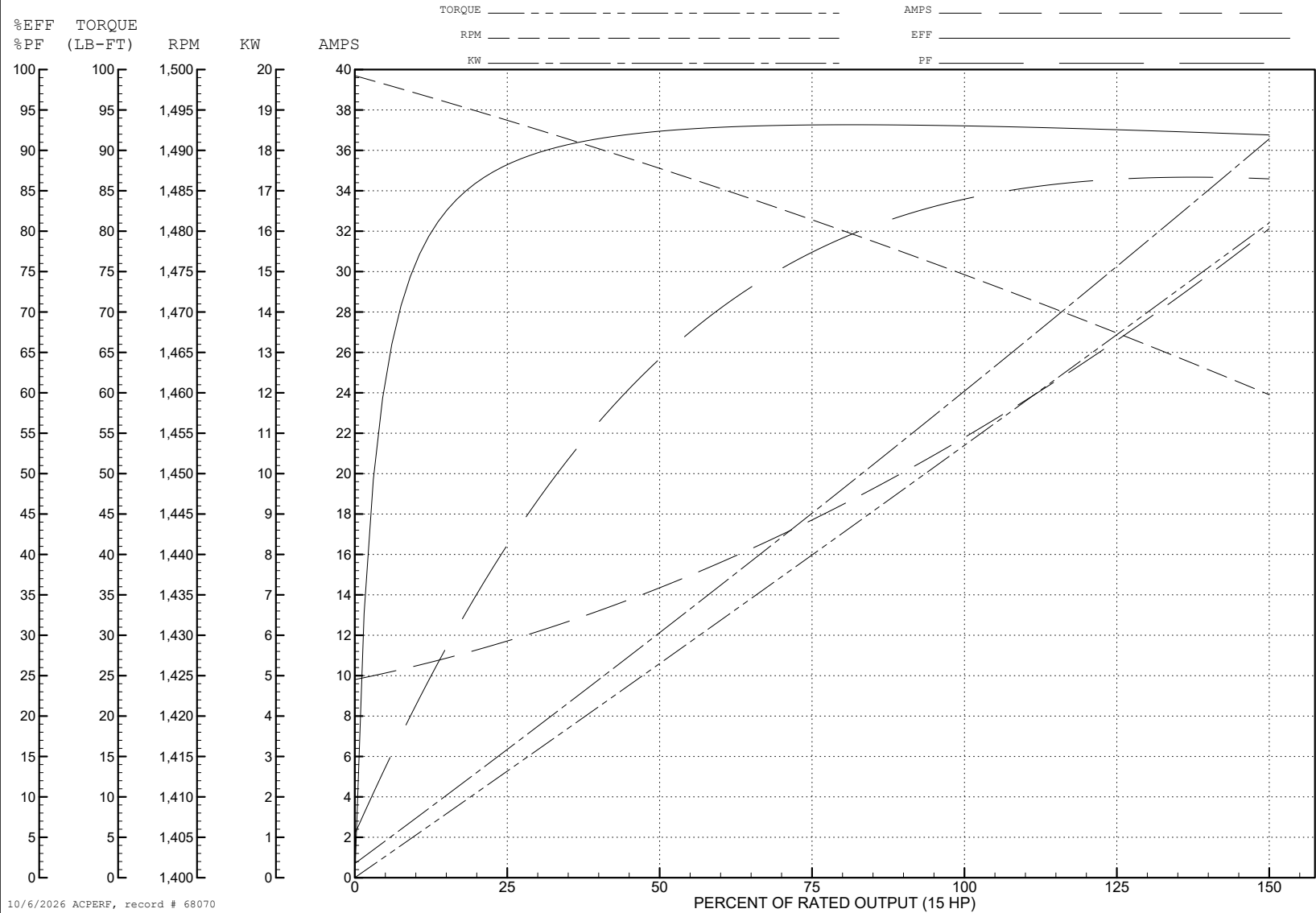
ABB Motors and Mechanical Inc.

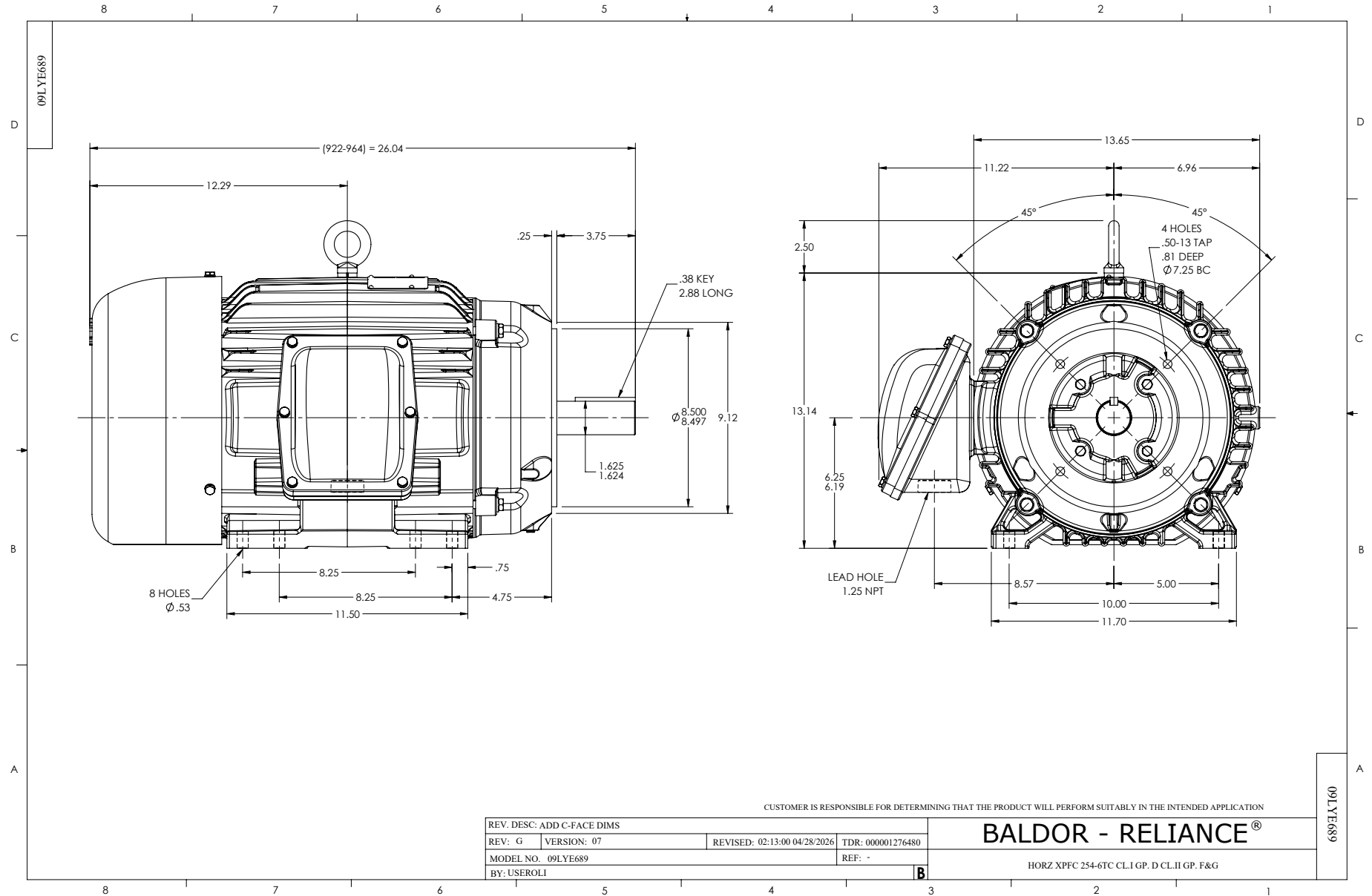
WINDING # 09WGT459

Typical performance - not guaranteed values.

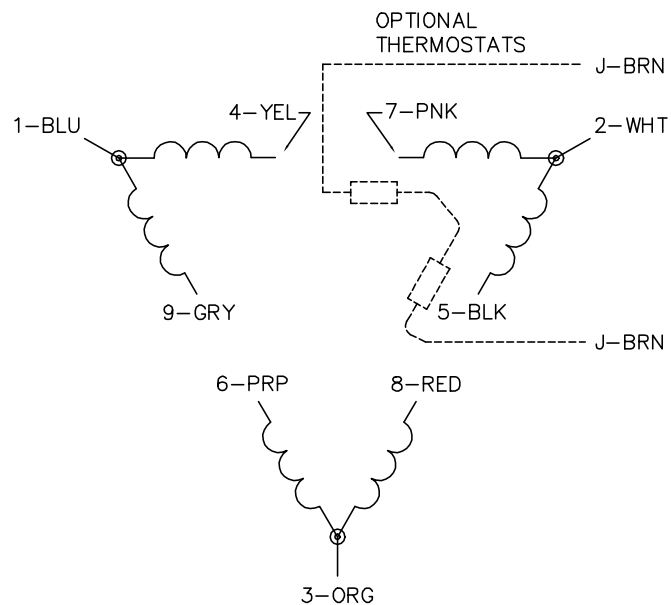
15 HP 3 PH 50 HZ 1475 RPM 380 V 0960M

TORQUES (LB-FT): PO=224 PU=131 LR=146 LRA=193

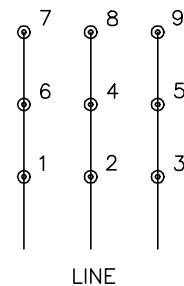




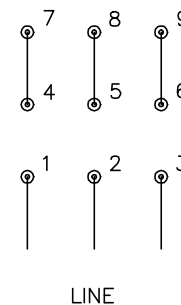
CD0180



LOW VOLTAGE  
(2D)



HIGH VOLTAGE  
(1D)



**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.

CD0180

REV. DESC: ADD CLASS CONN00000007

REV. LTR: D

VERSION: 01

TDR: 000001099922

FILE: \AAA\00005\148

REVISED: 10: 25: 29 02/19/2019

BY: ENBRIRO

MTL: —



**BALDOR - RELIANCE®**

3PH, DV, 9 LEADS, DELTA CONNECTION

SH 1 of 1