

# ABB BALDOR RELIANCE III

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## Customer information packet

### ZDM2334T-5

60M 4P TEBC HOR 256TC T'STAT VECTOR

Class - None

Division - Not Applicable

**Specifications**

|                                |                           |
|--------------------------------|---------------------------|
| Enclosure                      | TEBC                      |
| Frame                          | 256TC                     |
| 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             | 20.000 HP @ 60 HZ         |
| Phase                          | 3                         |
| Synchronous Speed @ Frequency  | 1800 RPM @ 60 HZ          |
| Voltage @ Frequency            | 575.0 V @ 60 HZ           |
| Agency Approvals               | UR<br>CSA                 |
| Ambient Temperature            | 40 °C                     |
| Auxiliary Box                  | NO AUXILLARY BOX          |
| Auxiliary Box Lead Termination | None                      |
| Base Indicator                 | Rigid                     |
| Bearing Grease Type            | Polyrex EM (-20F +300F)   |
| Blower                         | BLOWER                    |
| Current @ Voltage              | 19.200 A @ 575.0 V        |
| Design Code                    | A                         |
| Drip Cover                     | No Drip Cover             |
| Duty Rating                    | CONT                      |
| Efficiency @ 100% Load         | 93.0 %                    |
| Electrically Isolated Bearing  | Not Electrically Isolated |
| Feedback Device                | ENCODER                   |
| Front Shaft Indicator          | None                      |
| Heater Indicator               | No Heater                 |
| High Voltage Full Load Amps    | 19.2 a                    |
| Insulation Class               | H                         |
| Inverter Code                  | Inverter Duty             |
| KVA Code                       | J                         |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | H          |
| Type         | AC         |
| Mech. spec.  | 09T110     |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 09WGT507   |
| Layout       | 09LYT110   |
| Eff. date    | 08-28-2025 |
| CD Diagram   | CD0006     |
| Poles        | 04         |
| Leads        | 3#12       |
| Proprietary  | False      |
| Created date | 03-13-2019 |

| Lifting Lugs                  | Standard Lifting Lugs      |
|-------------------------------|----------------------------|
| Locked Bearing Indicator      | Locked Bearing             |
| Max Speed                     | 2700 rpm                   |
| Motor Lead Quantity/Wire Size | 3 @ 12 AWG                 |
| Motor Lead Termination        | Flying Leads               |
| Motor Standards               | NEMA                       |
| Motor Type                    | 0960M                      |
| Mounting Arrangement          | F1                         |
| Number of Poles               | 4                          |
| Overall Length                | 29.41 IN                   |
| Power Factor                  | 83                         |
| Product Family                | General Purpose            |
| Pulley End Bearing Type       | Ball                       |
| Pulley Face Code              | C-Face                     |
| Pulley Shaft Indicator        | Standard                   |
| Rodent Screen                 | None                       |
| RoHS Status                   | ROHS COMPLIANT             |
| Service Factor                | 1.00                       |
| Shaft Diameter                | 1.625 IN                   |
| Shaft Ground Indicator        | No Shaft Grounding         |
| Shaft Rotation                | Reversible                 |
| Shaft Slinger Indicator       | Shaft Slinger              |
| Speed                         | 1770 rpm                   |
| Speed Code                    | Single Speed               |
| Starting Method               | Direct on line             |
| Thermal Device - Bearing      | None                       |
| Thermal Device - Winding      | Normally Closed Thermostat |
| Vibration Sensor Indicator    | No Vibration Sensor        |
| Winding Thermal 1             | None                       |
| Winding Thermal 2             | None                       |

**Nameplate**

| NP1168L      |                      |    |         |         |       |      |  |  |  |
|--------------|----------------------|----|---------|---------|-------|------|--|--|--|
| CAT NO       | ZDM2334T-5           |    |         |         |       |      |  |  |  |
| SPEC.        | 09T110T507Z1         |    |         |         |       |      |  |  |  |
| FRAME        | 256TC                |    |         | HP      | 20 TE |      |  |  |  |
| VOLTS        | 575                  |    |         |         |       |      |  |  |  |
| MAG CUR      | 8.3                  |    |         |         | FLA   | 19.2 |  |  |  |
| RPM          | 1770                 |    |         | RPM MAX | 2700  |      |  |  |  |
| HZ           | 60                   |    | PH      | 3       | CLASS | H    |  |  |  |
| SER.F.       | 1.00                 |    | DES     | A       | SL HZ | 1    |  |  |  |
| NEMA-NOM-EFF | 93                   |    | WK2     | 2.62    |       |      |  |  |  |
| BLWR V       |                      | PH |         | HZ      |       | A    |  |  |  |
| RATING       | 40C AMB-CONT         |    |         |         |       |      |  |  |  |
| DE BRG       | 6309                 |    | ODE BRG |         |       | 6208 |  |  |  |
| CC           | 010A                 |    | SER.NO  |         |       |      |  |  |  |
|              | 1000:1 CT, 1000:1 VT |    |         |         |       |      |  |  |  |

**Parts List**

| Part number | Description                              | Quantity |
|-------------|------------------------------------------|----------|
| SA371170    | SA 09T110T507Z1                          | 1.000 ea |
| RA360850    | RA 09T110T507Z1                          | 1.000 ea |
| HW1002A63   | WASHER, 5/8 HI-COLLAR SPRICKWASHER       | 1.000 ea |
| 09CB3003    | CB W/1.75" DIA LD HL - 37, 39, 307 & 309 | 1.000 ea |
| 09GS1000    | GASKET-CONDUIT BOX, 1/16 THICK LEXIDE    | 1.000 ea |
| 51XW2520A12 | .25-20 X .75, TAPTITE II, HEX WSHR SLTD  | 4.000 ea |
| HW1001A25   | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 2.000 ea |
| WD1000B16   | T&B CX70TN OR L70P TERMINAL LUG          | 1.000 ea |
| 59XW2520G07 | .25-20X.44,HEX SER WSHR,TAPTITE 2,GREEN  | 1.000 ea |
| 09EP1100A74 | FR. E.P. TEBC/TENV W/THRU SHAFT ENCODER  | 1.000 ea |
| HA3400A39   | STUD- 3/8-16 X 6.44 OAL HEX              | 4.000 ea |
| HW1001A38   | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 ea |
| XY3816A12   | 3/8-16 FINISHED NUT W/SERRATIONS         | 4.000 ea |
| HA1005A12   | SLINGER, OD 2.50, ID 1.433, 208 BRG      | 1.000 ea |
| 10XN2520K12 | 1/4-20 X.75 GRD 5                        | 1.000 ea |
| HW1001A25   | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 1.000 ea |
| HW5100A08   | W3118-035 WVY WSHR (WB)                  | 1.000 ea |
| 10XN2520K28 | 1/4-20 X 1.75" HX HD SCRWGRADE 5, ZINC P | 2.000 ea |
| 10XN2520K36 | 1/4-20 X 2.25" HX HD SCRWGRADE 5, ZINC P | 4.000 ea |
| HW1001A25   | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 4.000 ea |
| 09EP1300A12 | ENDPLATE, MACH                           | 1.000 ea |
| 10XN3816K28 | 3/8-16 X 1.75 HEX HD CAP SCREW, GRADE 5  | 4.000 ea |
| HW1001A38   | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 ea |
| HW4600B44   | V-RING SLINGER 1.500 X 1.810 X .28 VITON | 1.000 ea |
| HW1001A38   | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 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 |
| HW2501G25   | KEY, 3/8 SQ X 2.875                      | 1.000 ea |
| HW4500A05   | 1669B ALEM/UNIV860 GR FTG X              | 1.000 ea |
| HA4051A00   | PLASTIC CAP FOR GREASE FITTING           | 1.000 ea |

|             |                                           |          |
|-------------|-------------------------------------------|----------|
| HW4500A17   | 317400 ALEMITE GREASE RELIEF              | 1.000 ea |
| HA4054      | SHORT T-DRAIN FITTING, .125" N.P.T.       | 1.000 ea |
| MJ1000A02   | GREASE, POLYREX EM EXXON                  | 0.080 lb |
| HW4500A03   | GREASE FITTING, .125 NPT 1610(ALEMITE) 8  | 1.000 ea |
| HA4051A00   | PLASTIC CAP FOR GREASE FITTING            | 1.000 ea |
| HW4500A17   | 317400 ALEMITE GREASE RELIEF              | 1.000 ea |
| HA4054      | SHORT T-DRAIN FITTING, .125" N.P.T.       | 1.000 ea |
| 09FH5100A01 | 309 BLOWER ASSY. (09FH4016 & EF5101)      | 1.000 ea |
| MG1050G01   | CELEROL MEDIUM CHARCOAL METALLIC GRAY     | 0.050 ga |
| 85XU0407S04 | 4X1/4 U DRIVE PIN STAINLESS               | 2.000 ea |
| ENC02BC-B2  | ENC DR KIT TEBC W/OEHS35A09 W/BLIND SHAFT | 1.000 ea |
| LB1624      | COMBINED WARNING LABEL, ISO/ANSI PICTOGR  | 1.000 ea |
| LC0006      | CONNECTION LABEL                          | 1.000 ea |
| NP1168L     | ALUM VEC UL CSA CC                        | 1.000 ea |
| 42PA1010    | PACKAGING GROUP, PRINT PK1151A06          | 1.000 ea |
| MN416A01    | TAG-INSTAL-MAINT no wire (2500 bx)11/25   | 1.000 ea |
| LD7020D03   | LEAD SET, 12AWG, 3 LEAD, 20" LONG LEADS   | 1.000 ea |

|                            |  |                                    |  |                   |                                                     |  |
|----------------------------|--|------------------------------------|--|-------------------|-----------------------------------------------------|--|
| <b>BALDOR<br/>RELIANCE</b> |  | <b>CUSTOMER INFORMATION PACKET</b> |  | MAX SAFE RPM 2700 | WYE CONNECTION CT OHMS PER PHASE (BASE RATING, 20C) |  |
| HP 20 HP                   |  | Base Volt 575                      |  | R1 0.264          | X1 1.370                                            |  |
| BASE SPEED 1772            |  | NL AMPS 8.28                       |  | R2 0.249          | X2 1.820                                            |  |
| PHASE/HZ 3/60              |  | Slips(HZ) 0.93                     |  |                   | XM 47.200                                           |  |
|                            |  | WK2 (lb-ft <sup>2</sup> ) 2.650    |  |                   |                                                     |  |

### Rated Full Load Data

|            | RPM  | HP   | Torque | Volts | Freq-Hz | Amps |
|------------|------|------|--------|-------|---------|------|
| Base Speed | 1772 | 20.0 | 59.3   | 575   | 60      | 19.2 |
| Max Speed  | 2657 | 20.0 | 39.6   | 575   | 90      | 18.5 |
| Min Speed  | 0    | 0.0  | 59.3   | 22.51 | 0.93    | 19.2 |

### Load Performance at Base Speed

|           | RPM  | HP   | Torque | Volts | Freq-Hz | Amps |
|-----------|------|------|--------|-------|---------|------|
| No Load   | 1799 | 0.0  | 0.0    | 575   | 60      | 8.3  |
| 1/4       | 1793 | 5.0  | 14.7   | 575   | 60      | 9.4  |
| 1/2       | 1786 | 10.0 | 29.5   | 575   | 60      | 12.0 |
| 3/4       | 1779 | 15.0 | 44.3   | 575   | 60      | 15.3 |
| Full Load | 1772 | 20.0 | 59.3   | 575   | 60      | 19.2 |
| O/L       | 1741 | 40.1 | 121.0  | 575   | 60      | 39.1 |

| Blower Data | Volts | Ph/Hz | FL Amps | LR Amps | Frame | CFM |
|-------------|-------|-------|---------|---------|-------|-----|
|             |       |       |         |         |       |     |

Remarks: Calculated Data  
Vector PWM Inverter Duty

|                          |  |                        |                                             |                                      |
|--------------------------|--|------------------------|---------------------------------------------|--------------------------------------|
| <b>BALDOR • RELIANCE</b> |  | DR BY <u>USBRRAN1</u>  | <b>A-C MOTOR<br/>PERFORMANCE<br/>CURVES</b> | <b>09WGT507</b><br><br>Record: 85523 |
|                          |  | CK BY                  |                                             |                                      |
|                          |  | APP BY <u>USBRRAN1</u> |                                             |                                      |
|                          |  | DATE <u>11/19/2020</u> |                                             |                                      |



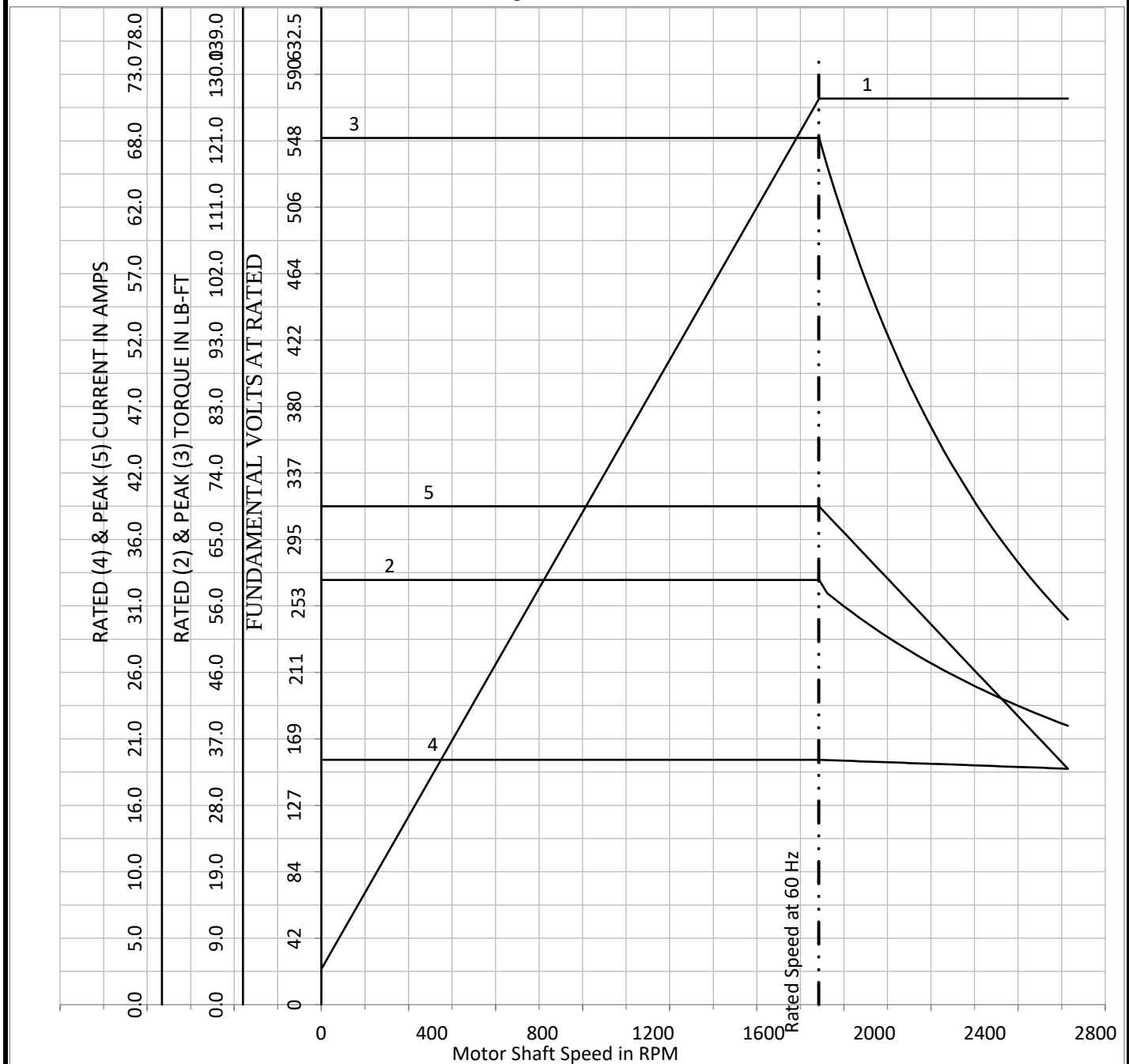
## CUSTOMER INFORMATION PACKET

HP 20 HP  
BASE SPEED 1772  
PHASE/HZ 3/60

MAX SAFE RPM 2700  
Base Volt 575  
NL AMPS 8.28  
Slips(HZ) 0.93  
WK2 (lb-ft<sup>2</sup>) 2.650

WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C)  
R1 0.264 X1 1.370  
R2 0.249 X2 1.820  
XM 47.200

Vector PWM Inverter Duty  
Variable Speed AC Motor Curves



Calculated Data

Data Valid For Nameplate Speed Range only

**BALDOR • RELIANCE**

DR BY USBRRAN1  
CK BY  
APP BY USBRRAN1  
DATE 11/19/2020

**A-C MOTOR  
PERFORMANCE  
CURVES**

**09WGT507**

Record: 85523



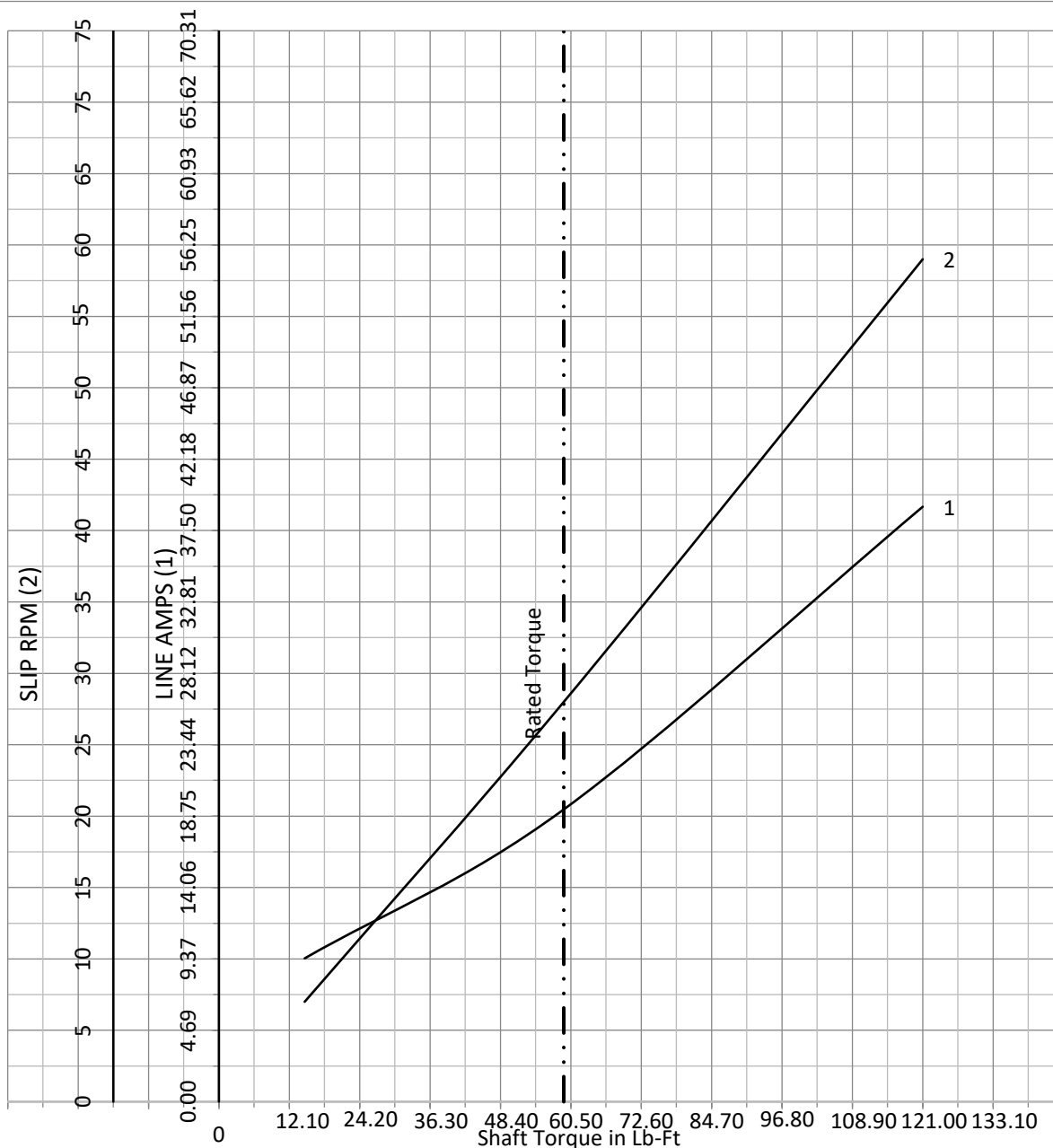
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HP 20 HP  
BASE SPEED 1772  
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MAX SAFE RPM 2700  
Base Volt 575  
NL AMPS 8.28  
Slips(HZ) 0.93  
WK2 (lb-ft²) 2.650

WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C)  
R1 0.264 X1 1.370  
R2 0.249 X2 1.820  
XM 47.200

## Vector PWM Inverter Duty Variable Speed AC Motor Curves



Calculated Data

Data Valid For Nameplate Speed Range only

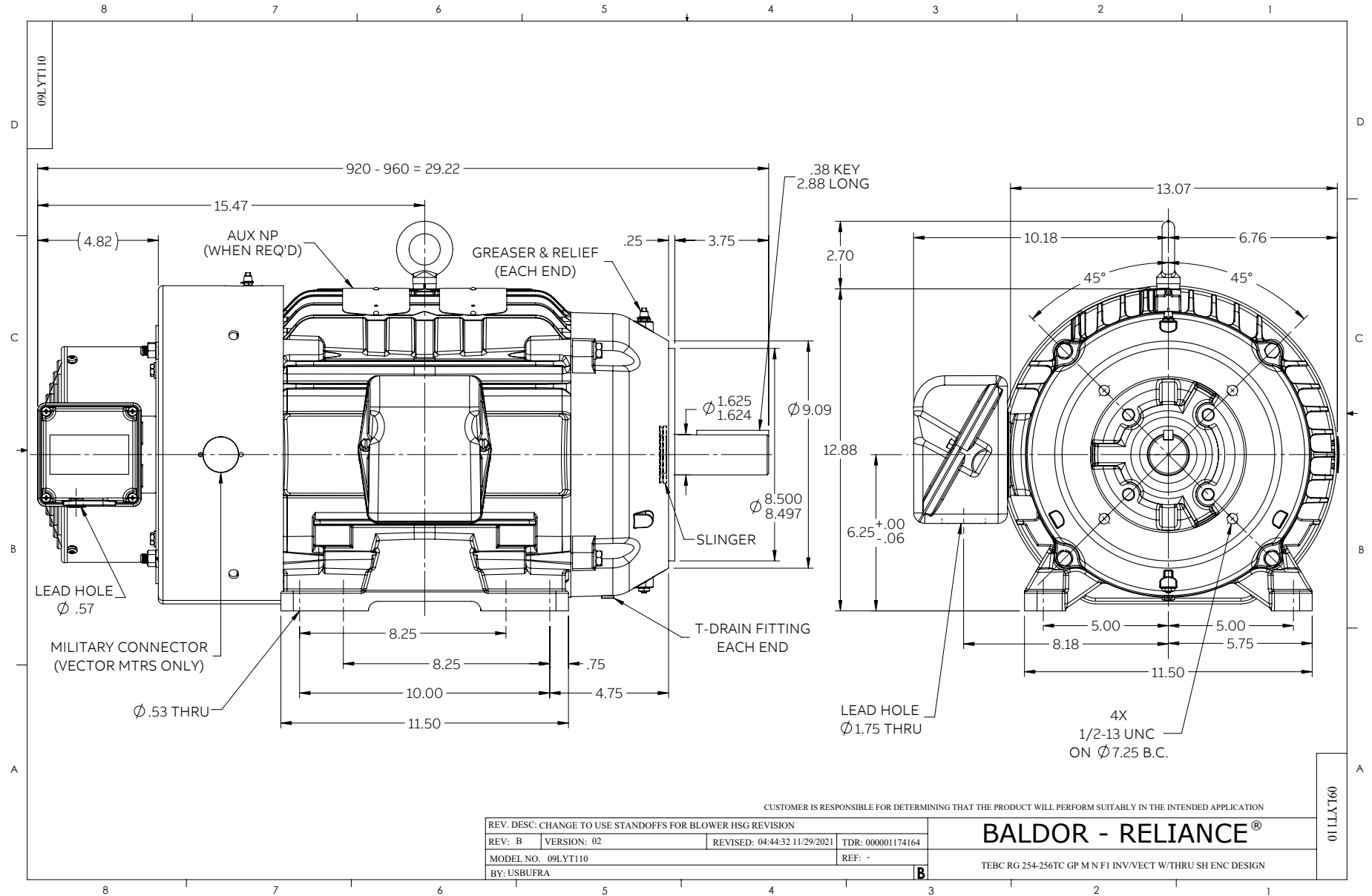
**BALDOR • RELIANCE**

DR BY USBRRAN1  
CK BY  
APP BY USBRRAN1  
DATE 11/19/2020

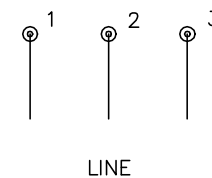
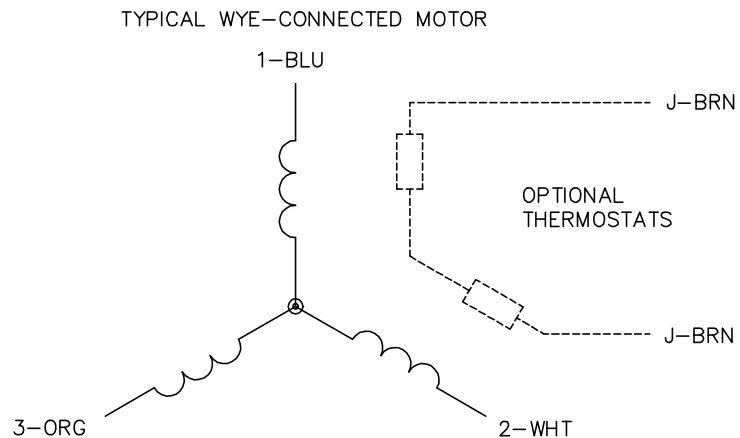
**A-C MOTOR  
PERFORMANCE  
CURVES**

**09WGT507**

Record: 85523



CD0006


**NOTES:**

1. THREE LEAD MOTOR MAY BE EITHER WYE CONNECTED OR DELTA CONNECTED.
2. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
3. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
4. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY VARY.
5. LEAD COLORS ARE OPTIONAL. LEADS MUST BE NUMBERED AS SHOWN.

CD0006

REV. DESC: ADD CLASS CONN00000007

REV. LTR: E

VERSION: 01

TDR: 000001099922

FILE: \AAA\00005\141

REVISED: 10:24:49 02/19/2019

BY: ENBRIRO

MTL: -


**BALDOR - RELIANCE®**

3PH, SV, 3 LEADS, WYE OR DELTA CONNECTED

SH 1 of 1