

# ABB BALDOR RELIANCE III

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## Customer information packet

### IDVSNM2238T

10HP, 1775RPM, 3PH, 60HZ, 254TC, TENV, FOOT,

Class - None

Division - Not Applicable

**Specifications**

|                                |                                          |
|--------------------------------|------------------------------------------|
| Enclosure                      | TENV                                     |
| Frame                          | 254TC                                    |
| 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             | 10.000 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               | 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                         | None                                     |
| Current @ Voltage              | 13.000 A @ 460.0 V<br>26.000 A @ 230.0 V |
| Design Code                    | A                                        |
| Drip Cover                     | No Drip Cover                            |
| Duty Rating                    | CONT                                     |
| Efficiency @ 100% Load         | 91.7 %                                   |
| Electrically Isolated Bearing  | Not Electrically Isolated                |
| Feedback Device                | NO FEEDBACK                              |
| Front Face Code                | Encoder/Feedback Device                  |
| Front Shaft Indicator          | None                                     |
| Heater Indicator               | No Heater                                |
| High Voltage Full Load Amps    | 13.0 a                                   |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | Z          |
| Type         | AC         |
| Mech. spec.  | 09F278     |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 09WGY402   |
| Layout       | 09LYF278   |
| Eff. date    | 08-28-2025 |
| CD Diagram   | CD0005     |
| Poles        | 04         |
| Leads        | 9#12       |
| Proprietary  | False      |
| Created date | 02-10-2012 |

|                                      |                            |
|--------------------------------------|----------------------------|
| <b>Insulation Class</b>              | F                          |
| <b>Inverter Code</b>                 | Inverter Duty              |
| <b>KVA Code</b>                      | K                          |
| <b>Lifting Lugs</b>                  | Standard Lifting Lugs      |
| <b>Locked Bearing Indicator</b>      | Locked Bearing             |
| <b>Max Speed</b>                     | 2700 rpm                   |
| <b>Motor Lead Exit</b>               | Ko Box                     |
| <b>Motor Lead Quantity/Wire Size</b> | 9 @ 12 AWG                 |
| <b>Motor Lead Termination</b>        | Flying Leads               |
| <b>Motor Standards</b>               | NEMA                       |
| <b>Motor Type</b>                    | 0948M                      |
| <b>Mounting Arrangement</b>          | F1                         |
| <b>Number of Poles</b>               | 4                          |
| <b>Overall Length</b>                | 24.05 IN                   |
| <b>Power Factor</b>                  | 78                         |
| <b>Product Family</b>                | General Purpose            |
| <b>Pulley End Bearing Type</b>       | Ball                       |
| <b>Pulley Face Code</b>              | C-Face                     |
| <b>Pulley Shaft Indicator</b>        | Standard                   |
| <b>Rodent Screen</b>                 | None                       |
| <b>Service Factor</b>                | 1.00                       |
| <b>Shaft Diameter</b>                | 1.625 IN                   |
| <b>Shaft Extension Location</b>      | Pulley End                 |
| <b>Shaft Ground Indicator</b>        | No Shaft Grounding         |
| <b>Shaft Rotation</b>                | Reversible                 |
| <b>Shaft Slinger Indicator</b>       | Shaft Slinger              |
| <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        |
| <b>Winding Thermal 1</b>             | None                       |
| <b>Winding Thermal 2</b>             | None                       |

**Nameplate**

| NP3302L      |                      |    |         |       |       |       |     |  |  |
|--------------|----------------------|----|---------|-------|-------|-------|-----|--|--|
| CAT NO       | IDVSNM2238T          |    |         |       |       |       |     |  |  |
| SPEC.        | 09F278Y402G2         |    |         |       |       |       |     |  |  |
| FRAME        | 254TC                |    |         | HP    | 10 TE |       |     |  |  |
| VOLTS        | 230/460              |    |         |       |       |       |     |  |  |
| MAG CUR      | 11.2/5.6             |    |         |       | FLA   | 26/13 |     |  |  |
| RPM          | 1770                 |    | RPM MAX |       |       | 2700  |     |  |  |
| HZ           | 60                   | PH | 3       | CLASS |       |       | F   |  |  |
| SER.F.       | 1.00                 |    |         | SL HZ |       |       | 0.9 |  |  |
| NEMA-NOM-EFF | 91.7                 |    | WK2     | 2.1   |       |       |     |  |  |
| RATING       | 40C AMB-CONT         |    |         |       |       |       |     |  |  |
| DE BRG       | 6309                 |    | ODE BRG |       |       | 6208  |     |  |  |
| CC           | 010A                 | SN |         |       |       |       |     |  |  |
|              | 1.5:1 CHP PWM        |    |         |       |       |       |     |  |  |
|              | 1000:1 CT, 1000:1 VT |    |         |       |       |       |     |  |  |

**Parts List**

| Part number  | Description                              | Quantity |
|--------------|------------------------------------------|----------|
| SA238900     | SA 09F278Y402G2                          | 1.000 ea |
| RA225813     | RA 09F278Y402G2                          | 1.000 ea |
| HW1002A63    | WASHER, 5/8 HI-COLLAR SPRCLKWASHER       | 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 |
| 09EP1300A12  | ENDPLATE, MACH                           | 1.000 ea |
| 10XN3816K28  | 3/8-16 X 1.75 HEX HD CAP SCREW, GRADE 5  | 4.000 ea |
| HW4600B44    | V-RING SLINGER 1.500 X 1.810 X .28 VITON | 1.000 ea |
| 09EP1100A119 | FREP TEBC/TENV W/THRU SHAFT ENCODER DESI | 1.000 ea |
| 10XN3816K28  | 3/8-16 X 1.75 HEX HD CAP SCREW, GRADE 5  | 4.000 ea |
| HA4051A00    | PLASTIC CAP FOR GREASE FITTING           | 1.000 ea |
| MG1025N19    | WILKOFAS, 778.50, RELIANCE BLUE-GREEN 8  | 0.050 ga |
| 85XU0407S04  | 4X1/4 U DRIVE PIN STAINLESS              | 2.000 ea |
| LB1624       | COMBINED WARNING LABEL, ISO/ANSI PICTOGR | 1.000 ea |
| LC0145B01    | CONNECTION LABEL                         | 1.000 ea |
| HW1001A38    | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 ea |
| 51XW2520A12  | .25-20 X .75, TAPTITE II, HEX WSHR SLTD  | 1.000 ea |
| HA6881       | BEI HS35 THRU SHAFT ENCODER PROTECTIVE C | 1.000 ea |
| HW1001A25    | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 1.000 ea |
| HW1001A38    | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 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 |
| HA4051A00    | PLASTIC CAP FOR GREASE FITTING           | 1.000 ea |
| 10XN3816K12  | 3/8-16 X 3/4 HEX HD CAP GRADE 5          | 3.000 ea |
| HW1001A38    | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 3.000 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 |
| HW4500A03   | GREASE FITTING, .125 NPT 1610(ALEMITE) 8 | 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 |
| HW4500A17   | 317400 ALEMITE GREASE RELIEF             | 1.000 ea |
| HA4054      | SHORT T-DRAIN FITTING, .125" N.P.T.      | 1.000 ea |
| MN416A01    | TAG-INSTAL-MAINT no wire (2500 bx)11/25  | 1.000 ea |
| NP3302L     | ALUM INV UL CSA CC (W/OUT DESIGN FIELD)  | 1.000 ea |
| 40PA1005    | PACKAGING GROUP, 09 STD                  | 1.000 ea |
| LD7020D09   | LEAD SET, 12AWG, 9 LEAD, 20" LONG LEADS  | 1.000 ea |

|            |         |                                       |      |                                                   |       |    |        |
|------------|---------|---------------------------------------|------|---------------------------------------------------|-------|----|--------|
| NP VOLTS   | 230/460 | MAX SAFE RPM                          | 5000 | WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C) |       |    |        |
| NP AMPS    | 26/13   | Base Volt                             | 460  | R1                                                | 0.355 | X1 | 1.360  |
| HP         | 10HP    | NL AMPS                               | 5.6  | R2                                                | 0.289 | X2 | 1.650  |
| BASE SPEED | 1770    | Slips (Hz)                            | 0.90 |                                                   |       | XM | 45.200 |
| PHASE/HZ   | 3/60    | WK <sup>2</sup> (lb-ft <sup>2</sup> ) | 2.1  |                                                   |       |    |        |

### Rated Full Load Data

|            | RPM  | HP   | Torque | Volts | Freq-Hz | Amps |
|------------|------|------|--------|-------|---------|------|
| Base Speed | 1773 | 10.1 | 29.8   | 460   | 60      | 13.0 |
| Max Speed  | 2659 | 10.0 | 19.8   | 460   | 90      | 12.2 |
| Min Speed  | 0    | 0.0  | 29.8   | 21.51 | 0.90    | 13.0 |

### Load Performance at Base Speed

|           | RPM  | HP   | Torque | Volts | Freq-Hz | Amps |
|-----------|------|------|--------|-------|---------|------|
| No Load   | 1799 | 0.0  | 0.0    | 460   | 60      | 5.6  |
| 1/4       | 1793 | 2.5  | 7.5    | 460   | 60      | 6.6  |
| 1/2       | 1787 | 5.1  | 14.9   | 460   | 60      | 8.1  |
| 3/4       | 1780 | 7.6  | 22.4   | 460   | 60      | 10.4 |
| Full Load | 1773 | 10.1 | 29.8   | 460   | 60      | 13.0 |
| O/L       | 1748 | 20.1 | 60.3   | 460   | 60      | 24.6 |

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

Remarks: Calculated Data  
Vector PWM Inverter Duty

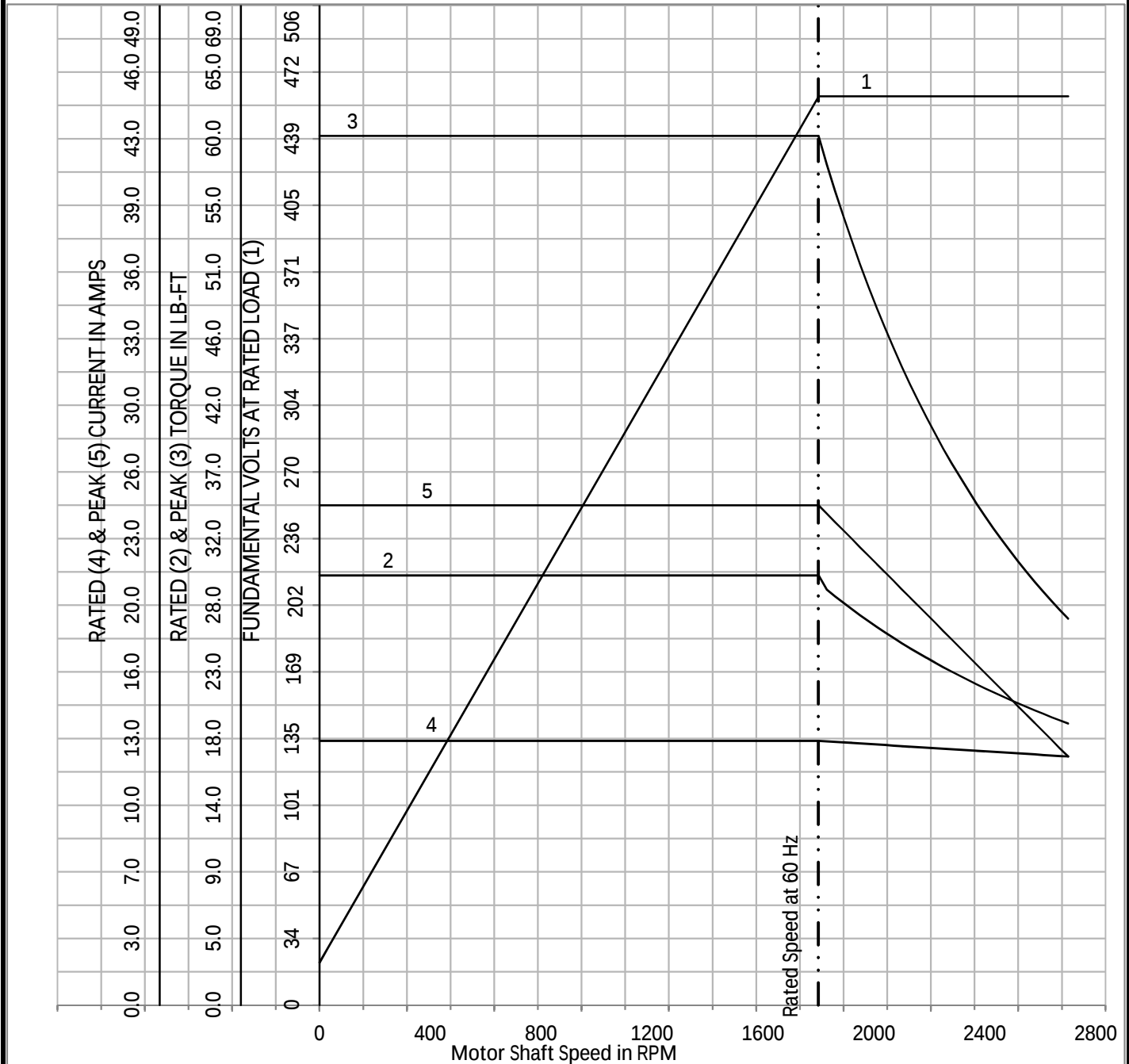
NP VOLTS 230/460  
NP AMPS 26/13  
HP 10HP  
BASE SPEED 1770  
PHASE/HZ 3/60

MAX SAFE RPM 5000  
Base Volt 460  
NL AMPS 5.6  
Slips (Hz) 0.90  
WK2 (lb-ft<sup>2</sup>) 2.1

WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C)

|    |       |    |        |
|----|-------|----|--------|
| R1 | 0.355 | X1 | 1.360  |
| R2 | 0.289 | X2 | 1.650  |
|    |       | XM | 45.200 |

Vector PWM Inverter Duty  
Variable Speed AC Motor Curves



Calculated Data

Data Valid For Nameplate Speed Range only



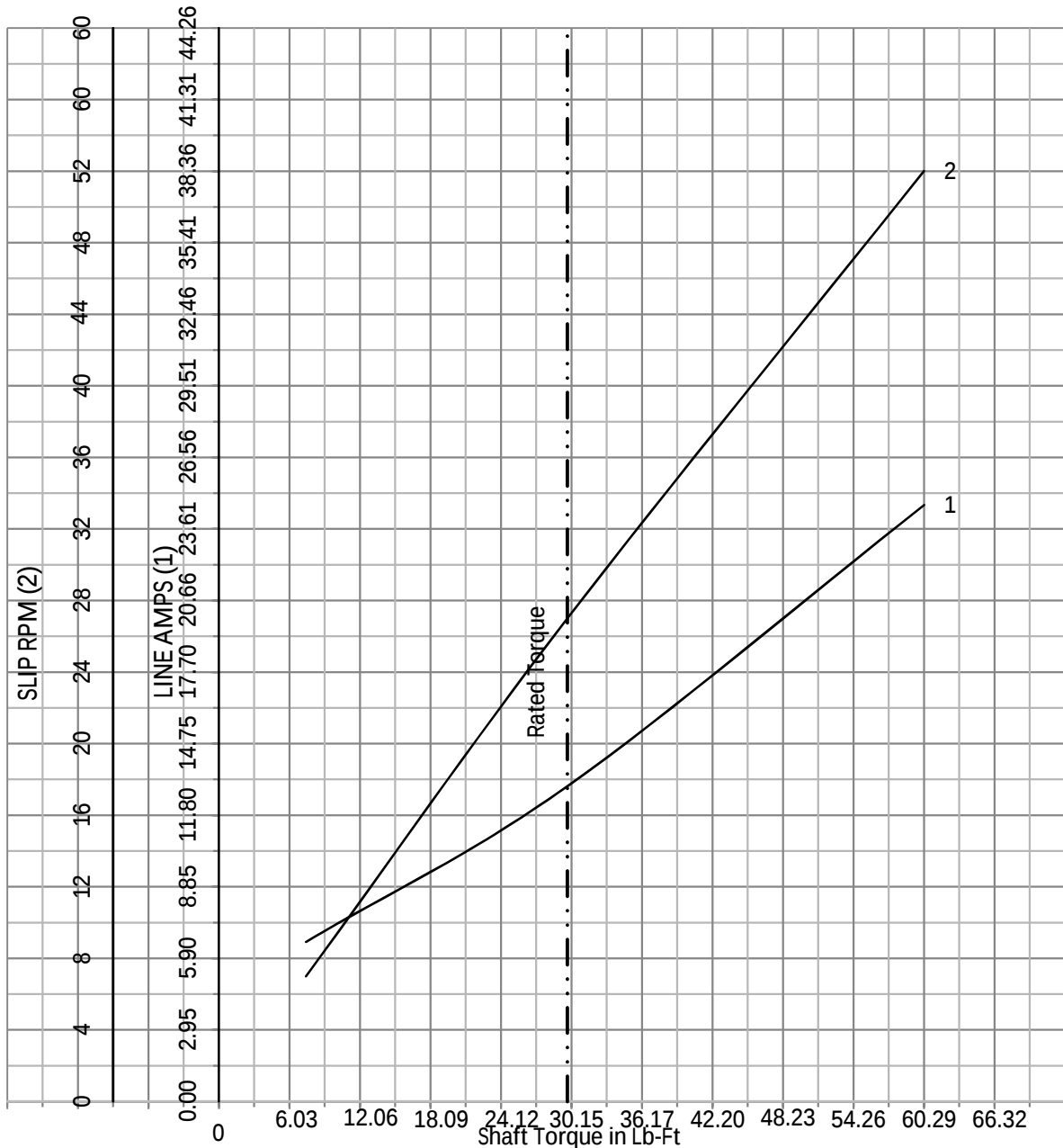
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CK BY  
APP BY BR  
DATE 3/28/2017

A-C MOTOR  
PERFORMANCE  
CURVES

09WGY402

|            |         |              |      |                                                   |       |    |        |
|------------|---------|--------------|------|---------------------------------------------------|-------|----|--------|
| NP VOLTS   | 230/460 | MAX SAFE RPM | 5000 | WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C) |       |    |        |
| NP AMPS    | 26/13   | Base Volt    | 460  | R1                                                | 0.355 | X1 | 1.360  |
| HP         | 10HP    | NL AMPS      | 5.6  | R2                                                | 0.289 | X2 | 1.650  |
| BASE SPEED | 1770    | Slips (Hz)   | 0.90 |                                                   |       | XM | 45.200 |
| PHASE/HZ   | 3/60    | WK2 (lb-ft2) | 2.1  |                                                   |       |    |        |

Vector PWM Inverter Duty  
Variable Speed AC Motor Curves



Calculated Data

Data Valid For Nameplate Speed Range only



DR BY BR  
CK BY  
APP BY BR  
DATE 3/28/2017

A-C MOTOR  
PERFORMANCE  
CURVES  
**09WGY402**

