

# **ABB BALDOR RELIANCE III**

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## **Customer information packet** IDDRPM21404

40HP, 1750, 460V, RL2162, DPFV, F1

**Specifications**

|                                      |                         |
|--------------------------------------|-------------------------|
| <b>Enclosure</b>                     | DPFV                    |
| <b>Frame</b>                         | RL2162Z                 |
| <b>Frame Material</b>                | Exposed Laminations     |
| <b>Frequency</b>                     | 60.00 Hz                |
| <b>Output @ Frequency</b>            | 40.000 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         |
| <b>Agency Approvals</b>              | CCSA US                 |
| <b>Auxiliary Box</b>                 | NO AUXILLARY BOX        |
| <b>Base Indicator</b>                | Rigid                   |
| <b>Bearing Grease Type</b>           | Polyrex EM (-20F +300F) |
| <b>Current @ Voltage</b>             | 52.000 A @ 460.0 V      |
| <b>Duty Rating</b>                   | CONT                    |
| <b>Feedback Device</b>               | NO FEEDBACK             |
| <b>Frame Prefix</b>                  | RL                      |
| <b>Heater Indicator</b>              | No Heater               |
| <b>High Voltage Full Load Amps</b>   | 52.0 a                  |
| <b>Insulation Class</b>              | H                       |
| <b>IP Rating</b>                     | NONE                    |
| <b>Motor Standards</b>               | NEMA                    |
| <b>Mounting Arrangement</b>          | F1                      |
| <b>Overall Length</b>                | 23.12 IN                |
| <b>Product Family</b>                | General Industrial      |
| <b>Pulley End Bearing Type</b>       | Ball                    |
| <b>Pulley Face Code</b>              | Standard                |
| <b>Service Factor</b>                | 1.00                    |
| <b>Shaft Diameter</b>                | 1.875 IN                |
| <b>Shaft Ground Indicator</b>        | Shaft Grounding         |
| <b>Shaft Rotation</b>                | Reversible              |
| <b>Speed</b>                         | 1750 rpm                |
| <b>Starting Method</b>               | Full Voltage            |

**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>  | L0231A     |
| <b>Layout</b>       | 617202-051 |
| <b>Eff. date</b>    | 05-21-2026 |
| <b>CD Diagram</b>   | 422927-001 |
| <b>Poles</b>        | 04         |
| <b>Leads</b>        |            |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 10-21-2021 |

|                          |                            |
|--------------------------|----------------------------|
| Thermal Device - Bearing | None                       |
| Thermal Device - Winding | Normally Closed Thermostat |

**Nameplate**

| 000613006MY |             |                |      |             |               |       |        |           |     |
|-------------|-------------|----------------|------|-------------|---------------|-------|--------|-----------|-----|
|             | DUTY        | HP             | RPM  | AMPS        | VOLTS         | HZ    |        |           |     |
|             | CONT        | 40             | 1750 |             | 52            | 460   |        | 60        |     |
|             | CONT        | 40             | 2000 |             | 52            | 460   |        | 69        |     |
|             |             |                |      |             |               |       |        |           |     |
| CAT.NO.     | IDDRPM21404 |                |      | SPEC. NO.   | R21-A000-0368 |       |        |           |     |
| SER.NO      |             |                |      | FR          | RL2162Z       | INSUL | H      |           |     |
| PH.         | 3           | MAX SAFE SPEED |      |             | 5000          | AMB.  | 40     | MIN. AMB. | -25 |
| DESIGN NO.  | L0231A      | TYPE           |      |             |               | ENCL. | DPG-FV |           |     |
| S.F.        | 1.00        | D.E. BRG.      |      |             | 50BC03JPP30A  |       |        |           |     |
| ENCL MOD    |             |                |      | O.D.E. BRG. | 45BC02JPP30A  |       |        |           |     |
|             | IP23        |                |      |             |               |       |        |           |     |
|             |             |                |      |             |               |       |        |           |     |

|            |        |                |       |                                       |           |         |         |
|------------|--------|----------------|-------|---------------------------------------|-----------|---------|---------|
| FRAME      | RL2162 | AMPS           | 49.26 | MAX SAFE SPEED                        | 5000      |         |         |
| HP         | 40     | DUTY           | CONT  | IM (AMPS)                             | 15.52     | R1 .177 | X1 .748 |
| BASE SPEED | 1750   | S.F.           | 1.0   | P.F. @NL / FL                         | .089/.872 | R2 .113 | X2 .717 |
| PHASE/HZ   | 3/60   | AMB.°C / INSUL | 40/H  | WK <sup>2</sup> (Lb-Ft <sup>2</sup> ) | 1.99      |         | XM 17.6 |

**RATED FULL LOAD DATA**

|            | RPM  | HP   | TORQUE<br>LB-FT | FUND<br>VOLTS | FREQ-HZ | AMPS |
|------------|------|------|-----------------|---------------|---------|------|
| BASE SPEED | 1747 | 40.0 | 120             | 460           | 60      | 49.6 |
| MAX SPEED  | 2007 | 40.0 | 105             | 460           | 69      | 48.9 |
| MIN SPEED  | 0    | 0    | 120             | 26.7          | 1.78    | 49.6 |

**LOAD PERFORMANCE AT BASE SPEED**

|           | RPM  | HP   | TORQUE<br>LB-FT | FUND<br>VOLTS | FREQ-HZ | AMPS |
|-----------|------|------|-----------------|---------------|---------|------|
| NO LOAD   | 1800 | 0    | 0               | 460           | 60      | 15.3 |
| 1/4       | 1788 | 10.0 | 29              | 460           | 60      | 19.4 |
| 1/2       | 1776 | 20.0 | 59              | 460           | 60      | 27.6 |
| 3/4       | 1762 | 30.0 | 89              | 460           | 60      | 37.7 |
| FULL LOAD | 1747 | 40.0 | 120             | 460           | 60      | 49.6 |
| 0/L       | 1707 | 58.6 | 180             | 460           | 60      | 76.8 |

**REMARKS:**
**TYPICAL DATA**
**CORRELATED DATA**

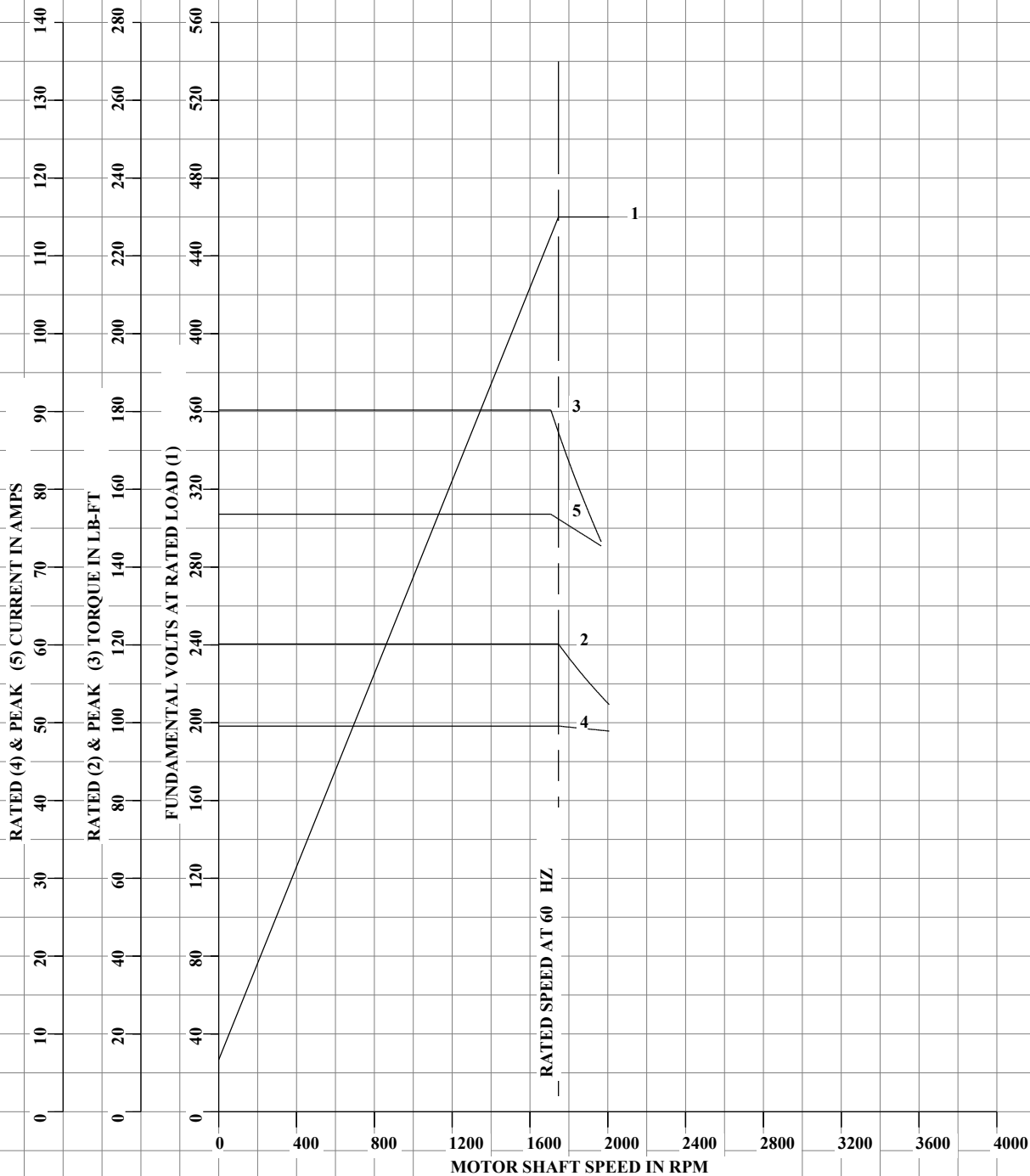

**DRAWN BY: B. GRANT**  
**CHECKED BY: B. GRANT**  
**APPROVED BY: T. EVON**  
**DATE: 3-7-05**

**AC MOTOR  
PERFORMANCE  
DATA**

**L0231A**
**ISSUE DATE 3-7-05**

|            |        |                |       |                |           |                        |      |    |      |
|------------|--------|----------------|-------|----------------|-----------|------------------------|------|----|------|
| FRAME      | RL2162 | AMPS           | 49.26 | MAX SAFE SPEED | 5000      | (AT BASE RATING, 25°C) |      |    |      |
| HP         | 40     | DUTY           | CONT  | IM (AMPS)      | 15.52     | R1                     | .177 | X1 | .748 |
| BASE SPEED | 1750   | S.F.           | 1.0   | P.F. @NL / FL  | .089/.872 | R2                     | .113 | X2 | .717 |
| PHASE/HZ   | 3/60   | AMB.°C / INSUL | 40/H  | WK² (Lb-Ft²)   | 1.99      |                        |      | XM | 17.6 |

**CORRELATED DATA  
VARIABLE SPEED AC MOTOR CURVES**



TYPICAL DATA, DATA VALID FOR NAMEPLATE SPEED RANGE ONLY



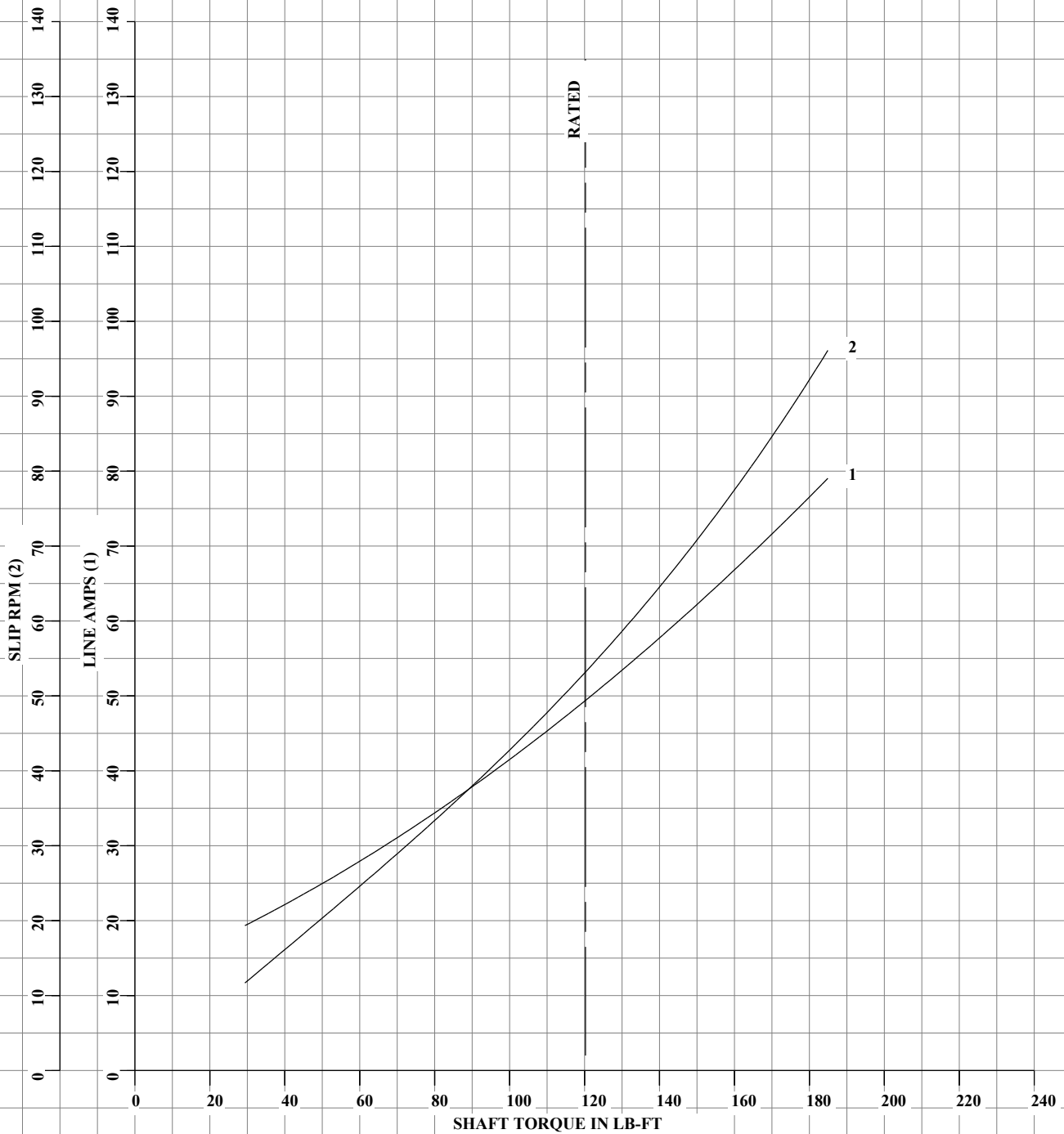
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 CHECKED BY: B. GRANT  
 APPROVED BY: T. EVON  
 DATE: 3-7-05

**AC MOTOR  
PERFORMANCE  
DATA**

**L0231A**  
 ISSUE DATE: 3-7-05

| FRAME      |      | VOLTS          |       | ENCLOSURE      |           | WYE CONN EQ CKT PER PHASE<br>(AT BASE RATING, 25°C) |      |
|------------|------|----------------|-------|----------------|-----------|-----------------------------------------------------|------|
| RL2162     |      | AMPS           | 49.26 | MAX SAFE SPEED | 5000      |                                                     |      |
| HP         | 40   | DUTY           | CONT  | IM (AMPS)      | 15.52     | R1                                                  | .177 |
| BASE SPEED | 1750 | S.F.           | 1.0   | P.F. @NL / FL  | .089/.872 | R2                                                  | .113 |
| PHASE/HZ   | 3/60 | AMB.°C / INSUL | 40/H  | WK² (Lb-Ft²)   | 1.99      | X1                                                  | .748 |
|            |      |                |       |                |           | X2                                                  | .717 |
|            |      |                |       |                |           | XM                                                  | 17.6 |

**CORRELATED DATA**  
**LOAD PERFORMANCE (CONSTANT V/HZ RANGE)**



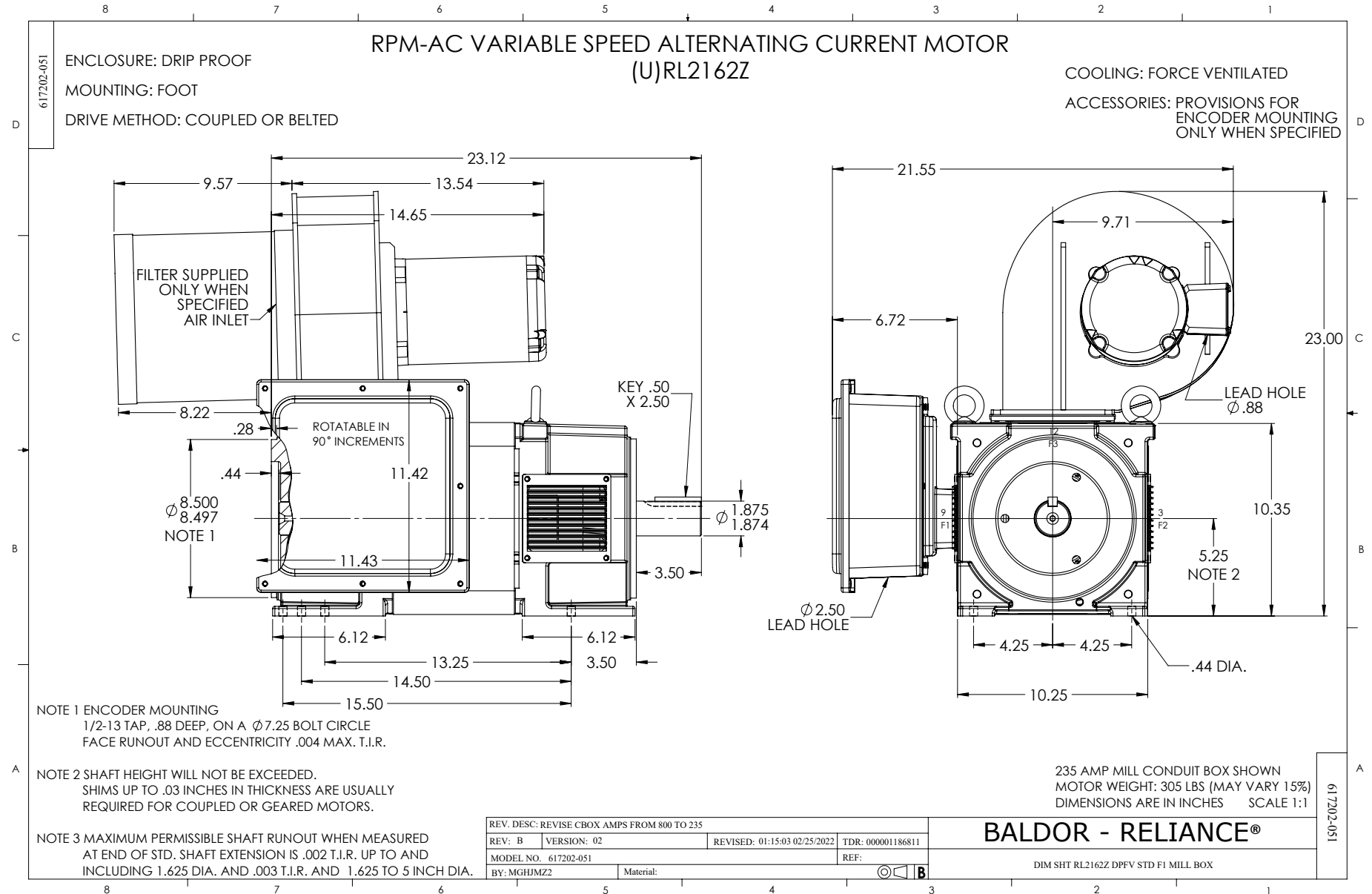
TYPICAL DATA, DATA VALID FOR NAMEPLATE SPEED RANGE ONLY



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CHECKED BY: B. GRANT  
APPROVED BY: T. EVON  
DATE: 3-7-05

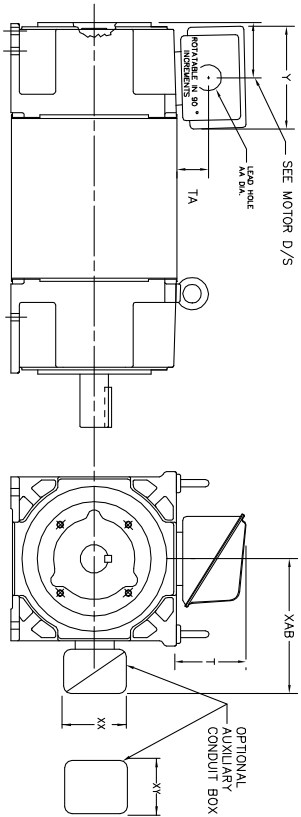
**AC MOTOR  
PERFORMANCE  
DATA**

**L0231A**  
ISSUE DATE: 3-7-05



INDUSTRIAL ALTERNATING CURRENT MOTORS  
RPM AC

STEEL, CAST IRON, MILL AND TERMINAL BOARD CONDUIT BOX DIMENSIONS  
NEMA FRAMES RL210 thru RL280 and IEC FRAMES RDL132 thru RDL180  
NEMA FRAMES FL180 thru FL280 and IEC FRAMES FDL112 thru FDL180



| FRAME         | TYPE      | TERMINAL STRIP | AMPS | C/BOX      | Y    | TA   | T    | AA        |
|---------------|-----------|----------------|------|------------|------|------|------|-----------|
| FL180         | STEEL     | N              | 40   | 706320003A | 5.00 | 1.62 | 3.00 | 1.12      |
| FL180         | STEEL     | Y/N            | 75   | 706320003A | 6.12 | 2.35 | 4.38 | 1.75/2.00 |
| FL180         | STEEL     | N              | 208  | 706320007A | 6.62 | 2.00 | 7.00 | 2.50/2.00 |
| FL180         | CAST IRON | Y/N            | 100  | 706320004B | 6.75 | 2.50 | 4.38 | 1.0/1.75  |
| FL180 & FDL11 | MILL      | Y              | 100  | 706310056A | 7.75 | 2.30 | 4.40 | PG29/PG16 |

|               |           |     |     |            |       |      |      |           |
|---------------|-----------|-----|-----|------------|-------|------|------|-----------|
| FL210 & RL210 | STEEL     | N   | 61  | 075452000B | 6.34  | 2.00 | 4.12 | 1.75      |
| FL210 & RL210 | STEEL     | N   | 121 | 075452001A | 7.69  | 2.38 | 5.25 | 1.94      |
| FL210 & RL210 | STEEL     | N   | 305 | 706320016A | 9.00  | 4.12 | 8.44 | 4.59      |
| FL210 & RL210 | CAST IRON | N   | 110 | 075460052B | 7.25  | 2.50 | 5.25 | 1.5 TAP   |
| FL210 & RL210 | MILL      | Y   | 100 | 706310229A | 7.75  | 2.30 | 4.40 | PG29/PG16 |
| FL210 & RL210 | MILL      | Y   | 160 | 706310056A | 9.00  | 3.06 | 5.40 | PG36/PG16 |
| FL210 & RL210 | MILL      | Y/N | 235 | 706310056B | 11.42 | 4.00 | 6.72 | 2.50      |

|               |           |     |     |            |       |      |       |           |
|---------------|-----------|-----|-----|------------|-------|------|-------|-----------|
| FL250 & RL250 | STEEL     | N   | 61  | 075452000B | 6.34  | 2.00 | 4.12  | 1.75      |
| FL250 & RL250 | STEEL     | N   | 121 | 075452001A | 7.69  | 2.38 | 5.25  | 1.94      |
| FL250 & RL250 | STEEL     | N   | 305 | 706320016A | 9.00  | 4.12 | 8.44  | 4.59      |
| FL250 & RL250 | CAST IRON | N   | 110 | 075460052B | 7.25  | 2.50 | 5.25  | 1.5 TAP   |
| FL250 & RL250 | CAST IRON | N   | 210 | 706320013A | 10.50 | 4.88 | 9.00  | 4.0 TAP   |
| FL250 & RL250 | MILL      | Y   | 100 | 706310229A | 7.75  | 2.30 | 4.40  | PG29/PG16 |
| FL250 & RL250 | MILL      | Y   | 160 | 706310056B | 9.00  | 3.06 | 5.40  | PG36/PG16 |
| FL250 & RL250 | MILL      | Y/N | 235 | 706310057A | 11.42 | 4.00 | 6.72  | 2.50      |
| FL250 & RL250 | MILL      | Y   | 400 | 706310063B | 14.39 | 7.43 | 12.15 | BLANK     |

|               |           |     |     |            |       |      |       |           |
|---------------|-----------|-----|-----|------------|-------|------|-------|-----------|
| FL280 & RL280 | STEEL     | N   | 160 | 706320029A | 7.25  | 3.50 | 7.06  | 2.50      |
| FL280 & RL280 | STEEL     | N   | 305 | 706320016A | 9.00  | 4.12 | 8.44  | 4.59      |
| FL280 & RL280 | STEEL     | N   | 500 | 702658001C | 14.62 | 7.56 | 12.70 | 5.00      |
| FL280 & RL280 | CAST IRON | N   | 140 | 706320012B | 9.25  | 4.81 | 8.56  | 3.0 TAP   |
| FL280 & RL280 | CAST IRON | N   | 210 | 706320013A | 10.50 | 4.88 | 9.00  | 4.0 TAP   |
| FL280 & RL280 | CAST IRON | N   | 510 | 706320014D | 15.00 | 7.56 | 12.81 | 5.0 TAP   |
| FL280 & RL280 | MILL      | Y   | 100 | 706310056A | 7.75  | 2.30 | 4.40  | PG29/PG16 |
| FL280 & RL280 | MILL      | Y   | 160 | 706310056B | 9.00  | 3.06 | 5.40  | PG36/PG16 |
| FL280 & RL280 | MILL      | Y/N | 235 | 706310057A | 11.42 | 4.00 | 6.72  | 2.50      |
| FL280 & RL280 | MILL      | Y   | 400 | 706310063B | 14.39 | 7.43 | 12.15 | BLANK     |

| FRAME SIZE        | XAB  | XX   | XY   | PART NUMBER | FRAME SIZE        | XAB   | XX   | XY   | PART NUMBER |
|-------------------|------|------|------|-------------|-------------------|-------|------|------|-------------|
| FL210/RL210/FL112 | 7.38 | 4.25 | 4.25 | 602007-25-A | FL210/RL210/FL112 | 10.88 | 8.00 | 8.00 | 706310-3-B  |
| FL250/RL250/FL160 | 8.44 | 4.25 | 4.25 | 602007-25-A | FL250/RL250/FL160 | 11.88 | 8.00 | 8.00 | 706310-3-B  |
| FL280/RL280/FL180 | 9.12 | 4.25 | 4.25 | 602007-25-A | FL280/RL280/FL180 | 12.62 | 8.00 | 8.00 | 706310-3-B  |

(1) 1" MIN. CONDUIT.  
(2) 1/2" MIN. PIPE TAP.  
(3) CUSTOMER TO PROVIDE HOLE PER CONDUIT.  
(4) 1/2" MIN. DIA. OR 1" MIN. DIA. MIN.

TERMINAL BOX CAN BE ROTATED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.  
TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, V-1, V-4, V-5, V-7,  
OR C-1 MOUNTING IS SPECIFIED. BOX LOCATED ON TOP WHEN SPECIFIED.

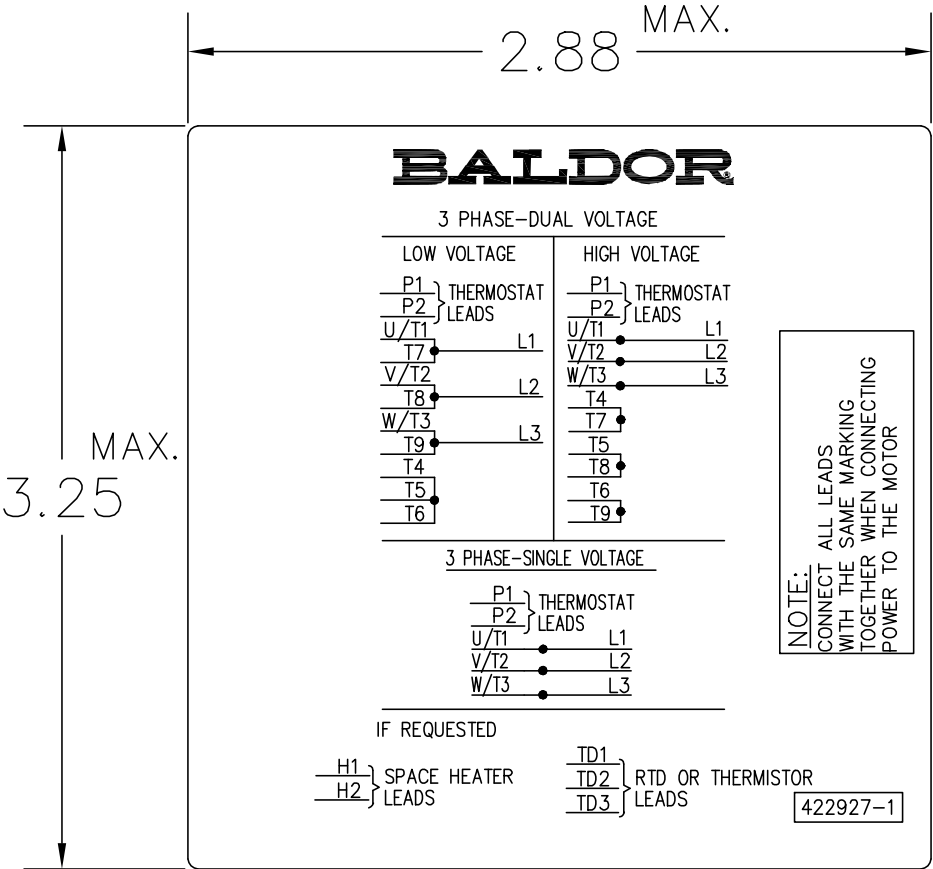
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION.

|                                     |                              |                   |
|-------------------------------------|------------------------------|-------------------|
| REV. DESC: ADD 706310-637 & 639 BOX | VERSION: 06                  | TDR: 000001180260 |
| REV. LTR: F                         | REVISED: 11:08:56 10/26/2021 | BY: RCGRWM        |
| FILE: \\RGG\00003\692               |                              |                   |
| MTL: -                              |                              |                   |

BALDOR - RELIANCE®

DIM SHT NEMA RL210-RL280 FL180-FL280 IEC RDL132-RDL180

422927-001



NOTE:  
DATA TO BE SIZED  
SO THAT IT FITS INTO  
MATERIAL DECAL  
DIMENSIONS. MAKE  
LETTERS & NUMBERS  
AS LARGE AS POSSIBLE.

MATERIAL:    CERAMATIC DGF-P4  
                     PERMA GRIP ADHESIVE

ALL LETTERS, NUMBERS  
AND LINES TO BE BLACK  
ON WHITE BACKGROUND.

422927-001

|                                                       |                              |                   |
|-------------------------------------------------------|------------------------------|-------------------|
| REV. DESC: CHANGE BACKGROUND COLOR FROM GOLD TO WHITE |                              |                   |
| REV. LTR: B                                           | VERSION: 02                  | TDR: 000000788708 |
| FILE: \RGG\00000\203                                  | REVISED: 08:09:29 03/04/2013 |                   |
| MTL: -                                                | BY: RGGWT                    |                   |

**BALDOR**

EXTERNAL CONNECTION LABEL

SH 1 of 1