ABB BALDOR RELIANCE

# Customer information packet

IDBRPM281004R1

100HP, 1750, 460V, FL2890, TEBC, F3

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## Specifications

| | |
|---|---|
| **Enclosure** | TEBC |
| **Frame** | FL2890Z |
| **Frame Material** | Exposed Laminations |
| **Frequency** | 60.00 Hz |
| **Output @ Frequency** | 100.000 HP @ 60 HZ |
| **Phase** | 3 |
| **Synchronous Speed @ Frequency** | 1800 RPM @ 60 HZ |
| **Voltage @ Frequency** | 460.0 V @ 60 HZ |
| **Agency Approvals** | CCSA US |
| **Auxiliary Box** | NO AUXILLARY BOX |
| **Base Indicator** | Rigid |
| **Bearing Grease Type** | Polyrex EM (-20F +300F) |
| **Current @ Voltage** | 124.000 A @ 460.0 V |
| **Duty Rating** | CONT |
| **Feedback Device** | NO FEEDBACK |
| **Frame Prefix** | FL |
| **Heater Indicator** | No Heater |
| **High Voltage Full Load Amps** | 124.0 a |
| **Insulation Class** | H |
| **IP Rating** | NONE |
| **Motor Standards** | NEMA |
| **Mounting Arrangement** | F3 |
| **Overall Length** | 46.80 IN |
| **Product Family** | General Industrial |
| **Pulley End Bearing Type** | Ball |
| **Pulley Face Code** | Standard |
| **Service Factor** | 1.00 |
| **Shaft Diameter** | 2.624 IN |
| **Shaft Ground Indicator** | Shaft Grounding |
| **Shaft Rotation** | Reversible |
| **Speed** | 1780 rpm |
| **Starting Method** | Full Voltage |

## Part Detail

| | |
|---|---|
| **Revision** | B |
| **Type** | AC |
| **Mech. spec.** | |
| **Base** | |
| **Status** | PRD/A |
| **Elec. spec.** | L4052A |
| **Layout** | 617531-053 |
| **Eff. date** | 03-24-2022 |
| **CD Diagram** | 422927-001 |
| **Poles** | 04 |
| **Leads** | |
| **Proprietary** | False |
| **Created date** | 11-02-2021 |

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

**Nameplate**

**000613006MY**

| DUTY | HP | RPM | AMPS | VOLTS | HZ |
|---|---|---|---|---|---|
| CONT | 100 | 1780 | 124 | 460 | 60 |
| CONT | 100 | 3555 | 120 | 460 | 120 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **CAT.NO.** | IDBRPM281004R1 | | **SPEC. NO.** | F28-A000-0370 | | | |
| **SER.NO** | | **FR** | FL2890Z | **INSUL** | H | | |
| **PH.** | 3 | **MAX SAFE SPEED** | 5000 | **AMB.** | 45 | **MIN. AMB.** | -25 |
| **DESIGN NO.** | L4052A | **TYPE** | | **ENCL.** | TEAO-BC | | |
| **S.F.** | 1.00 | **D.E. BRG.** | 75BC02J30X | | | | |
| **ENCL MOD** | | **O.D.E. BRG.** | 55BC02J30X | | | | |
| | IP44 | | | | | | |

**Parts List**

| Part number | Description | Quantity |
|---|---|---|
| WS393150 | WS F28-A000-0370 | 1.000 ea |
| RA389680 | RA F28-A000-0370 | 1.000 ea |
| 418018122A | LABEL | 2.000 ea |
| 033775004EA | DRSCR #6-1/4 304 S.S. | 4.000 ea |
| 000613006MY | NP-RPMAC INVERTER DUTY | 1.000 ea |
| 000692000NH | LABEL DIRECTION AIR FL | 1.000 ea |
| LB1613 | LABEL, QR CODE, ADHESIVE LABEL | 1.000 ea |
| 000692000XM | LABEL QR CODE | 1.000 ea |
| 422927001 | C/D LABEL | 1.000 ea |
| 807583004AAB | BRKT,ODE,FL280 | 1.000 ea |
| 807583003AAA | BRKT,DE,FL280 | 1.000 ea |
| BP5068BJ01 | BRUSH, .187 X .187 X 1.00 | 2.000 ea |
| HA4054 | SHORT T-DRAIN FITTING, .125" N.P.T. | 1.000 ea |
| HA4054 | SHORT T-DRAIN FITTING, .125" N.P.T. | 1.000 ea |
| 004824015A | GREASE POLYREX EM | 0.300 lb |
| 036600014AB | FLTW MOTOR MTG. | 2.000 ea |
| 400638001G | WAVEN (Customer number 43699) | 1.000 ea |
| 036000016DB | HHCS | 4.000 ea |
| 418150003A | GREASE FITTING CAP | 2.000 ea |
| 035000001A | ALFTG 1/8" 1610-BL | 1.000 ea |
| 035000001A | ALFTG 1/8" 1610-BL | 1.000 ea |
| 036100070KA | METRIC HSHCS | 3.000 ea |
| 036100070JA | HSHCS M8 70MM UNPLATED | 3.000 ea |
| 036140001D | EYEBOLT - 360 | 2.000 ea |
| 034693001AB | PPLG - G508- use 034692001AB | 1.000 ea |
| 034693001AB | PPLG - G508- use 034692001AB | 1.000 ea |
| 036500011AB | METRIC NUT M12-1.75 PLT. | 4.000 ea |
| 036500011AB | METRIC NUT M12-1.75 PLT. | 4.000 ea |
| 609830005G | TBOLT VERSION 3 | 4.000 ea |
| BP5248 | BP5248 | 2.000 ea |
| 610490001A | 16M 2P TENV VER 56C SUPER E, CE | 1.000 ea |

| | | |
|---|---|---|
| 415000103D | T/LUG #4AWG-1/0AWG W/HOLE FOR .250 BOLT | 1.000 ea |
| 036000012HB | HHCS M6X12MM LONG PLATED | 3.000 ea |
| 600164003A | WHEEL, BLOWER | 1.000 ea |
| 036600008AB | MFWSH M6 PLATED | 4.000 ea |
| 417733004J | GASKT | 1.000 ea |
| 706310640B | BACKPLATE GASKET C/BOX 706310-637 | 1.000 ea |
| 609843001K | GASKET HANDHOLE COVER FE | 1.000 ea |
| 708535017A | FAN COVER,GRILL | 1.000 ea |
| 036000025HB | HHCS M6-1.0X25L PLTD. | 4.000 ea |
| 032018006CK | HHCS 3/8-16X3/4L PLATED 411409 | 4.000 ea |
| 036500008AB | METRIC H.NUT M6-1.0 PLTD | 4.000 ea |
| 708535010A | FAN COVER FL280 | 1.000 ea |
| 036000012KB | M10 1.50 X 12MM HXHDCS | 3.000 ea |
| 000613006NT | NAME PLATE IEC | 1.000 ea |
| 418057256F | HHCS M6 12MM ZINCPLAT | 1.000 ea |
| 036610008AB | METRIC LCKW M6 PLTD-G508 | 4.000 ea |
| 418057373A | SCREW SHEET METAL | 7.000 ea |
| 418018074A | GROUND LABEL G100 METRIC 160 D.C. | 1.000 ea |
| 708533003A | PLATE, BTM FAN/BLOWER | 2.000 ea |
| 706313063A | BLOWER HOUSING | 1.000 ea |
| 410978010A | FLANGE, INLET BLOWER | 1.000 ea |
| 410978011A | GRILL, INLET BLOWER HSG | 1.000 ea |
| 406673002C | .75 CAP PLUG | 1.000 ea |
| 036620009AB | M8 EXTERNAL LK WASHER | 1.000 ea |
| 034630001AJ | 1/8" PIPE COUPLING | 1.000 ea |
| 034017014AB | LCKW 3/8 STD. PLATED | 4.000 ea |
| 706310642A | BACK PLATE FOR 706310-637 WITH 5.00" BOL | 1.000 ea |
| 036600009AB | METRIC FLWASH M8 PLATED | 2.000 ea |
| 034530016AB | P/NIP 1/8X2 PLATED - 320 | 1.000 ea |
| 706310637A | C/BOX, MILL, RPMAC,9X9X4, 375IN^3 | 1.000 ea |
| 706310641A | LIPPED CBOX LID FOR 706310-642 | 1.000 ea |
| 706310640A | LID GASKET C/BOX 706310-637 | 1.000 ea |
| 036010012HB | HHCS T/BOX BRACE | 16.000 ea |
| 036000012JB | M8-1.25 X 12MM HXHDC | 4.000 ea |

| | | |
|---|---|---|
| 034180032HA | KEY 5/8X5/8X4 | 1.000 ea |
| 000640000P | TAG WINDING THERMOST | 1.000 ea |
| 004824007CQR | C2 PAINT SYSTEM MEDIUM GRAY CHARCOAL MET | 0.100 ea |
| LB1549 | LABEL, BLANK 1.375 X 2.250 IMPRINTABLE | 1.000 ea |
| 004824007AB | PAINT,XT | 0.100 ea |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| REL S.O. | – | VOLTS | 460 | ENCLOSURE | TEBC | WYE CONN EQ CKT OHMS PER PHASE | | | |
| FRAME | FL2890 | AMPS | 124 | MAX SAFE RPM | 4800 | (AT BASE RATING, 25 °C) | | | |
| HP | 100 | DUTY | CONT | IM (AMPS) | 59 | R1 | .0288 | X1 | .200 |
| BASE SPEED | 1780 | S.F. | 1.0 | P.F.@NL/FL | .035/.805 | R2 | .0185 | X2 | .254 |
| PHASE/HERTZ | 3/60 | AMB °C/INSUL | 45/H | $WK^2$ ($Lb-Ft^2$) | 9.7 | | | XM | 4.49 |

## RATED FULL LOAD DATA

| | RPM | HP | TORQUE LB-FT | FUND VOLTS | FREQ-HZ | AMPS |
|---|---|---|---|---|---|---|
| BASE SPEED | 1781 | 100 | 295 | 460 | 60 | 125 |
| MAX SPEED | 3556 | 100 | 148 | 460 | 120 | 120 |
| MIN SPEED | 0 | 0 | 295 | 10.5 | .648 | 125 |

## LOAD PERFORMANCE AT BASE SPEED

| | RPM | HP | TORQUE LB-FT | FUND VOLTS | FREQ-HZ | AMPS |
|---|---|---|---|---|---|---|
| NO LOAD | 1800 | 0 | 0 | 460 | 60 | 58.3 |
| 1/4 | 1795 | 25.0 | 73 | 460 | 60 | 65.8 |
| 1/2 | 1791 | 50.1 | 147 | 460 | 60 | 81.0 |
| 3/4 | 1786 | 74.9 | 220 | 460 | 60 | 101 |
| FULL LOAD | 1781 | 100 | 295 | 460 | 60 | 125 |
| O/L | 1756 | 197 | 590 | 460 | 60 | 237 |

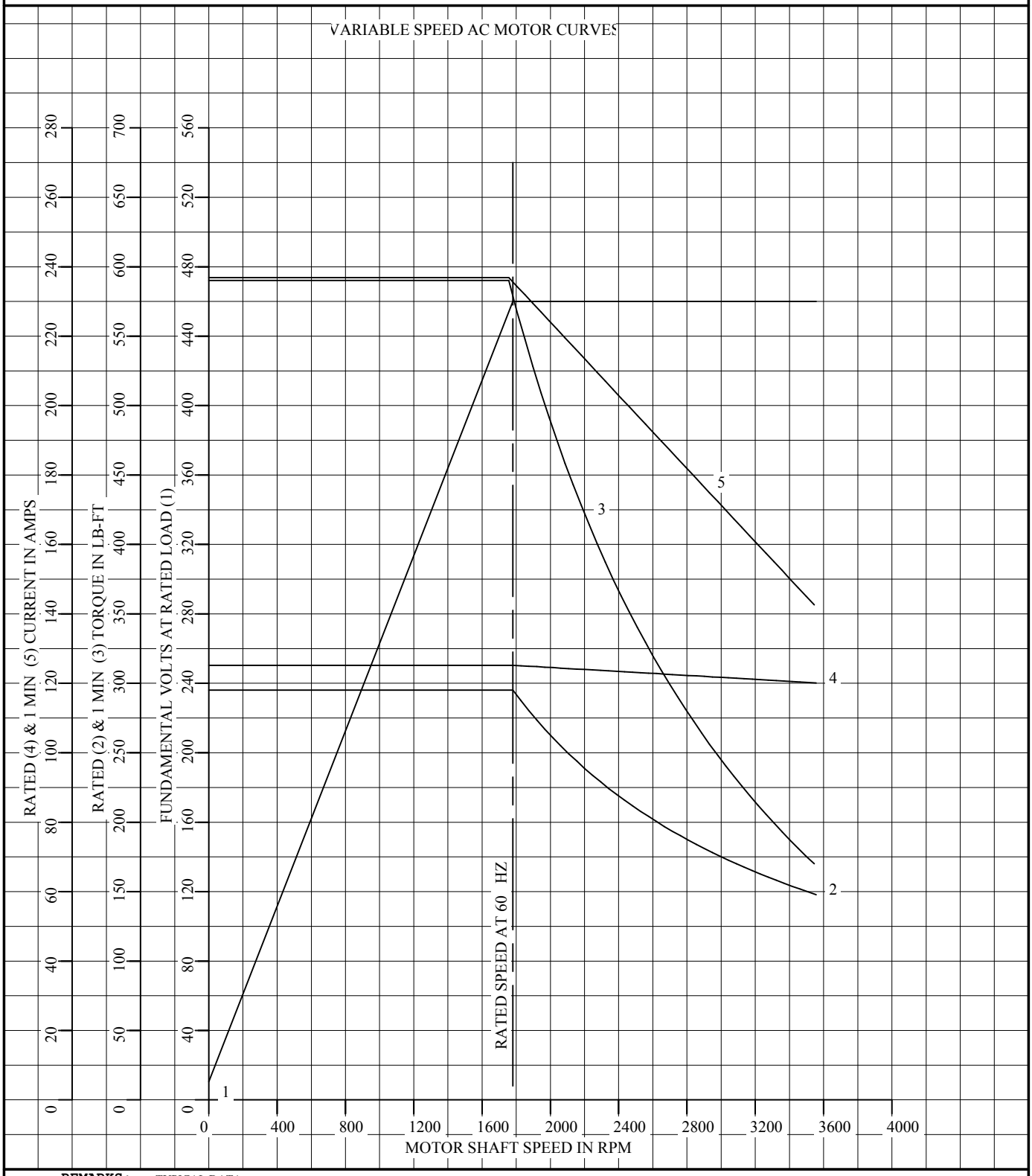
REMARKS: TYPICAL DATA

BALDOR
A MEMBER OF THE ABB GROUP

DR. BY R. SMITH
CK. BY R. SMITH
APP. BY S. EVON
DATE 6-27-08

A-C MOTOR PERFORMANCE DATA L4052A
ISSUE DATE 6-27-08

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| REL S.O. | - | VOLTS | 460 | ENCLOSURE | TEBC | WYE CONN EQ CKT OHMS PER PHASE (AT BASE RATING, 25 ℃) | |
| FRAME | FL2890 | AMPS | 124 | MAX SAFE RPM | 4800 | | |
| HP | 100 | DUTY | CONT | IM (AMPS) | 59 | R1 .0288 | X1 .200 |
| BASE SPEED | 1780 | S.F. | 1.0 | P.F.@NL/FL | .035/.805 | R2 .0185 | X2 .254 |
| PHASE/HERTZ | 3/60 | AMB ℃/INSUL | 45/H | WK$^2$ (Lb-Ft$^2$) | 9.7 | | XM 4.49 |




REMARKS: TYPICAL DATA
DATA VALID FOR NAMEPLATE SPEED RANGE ONLY

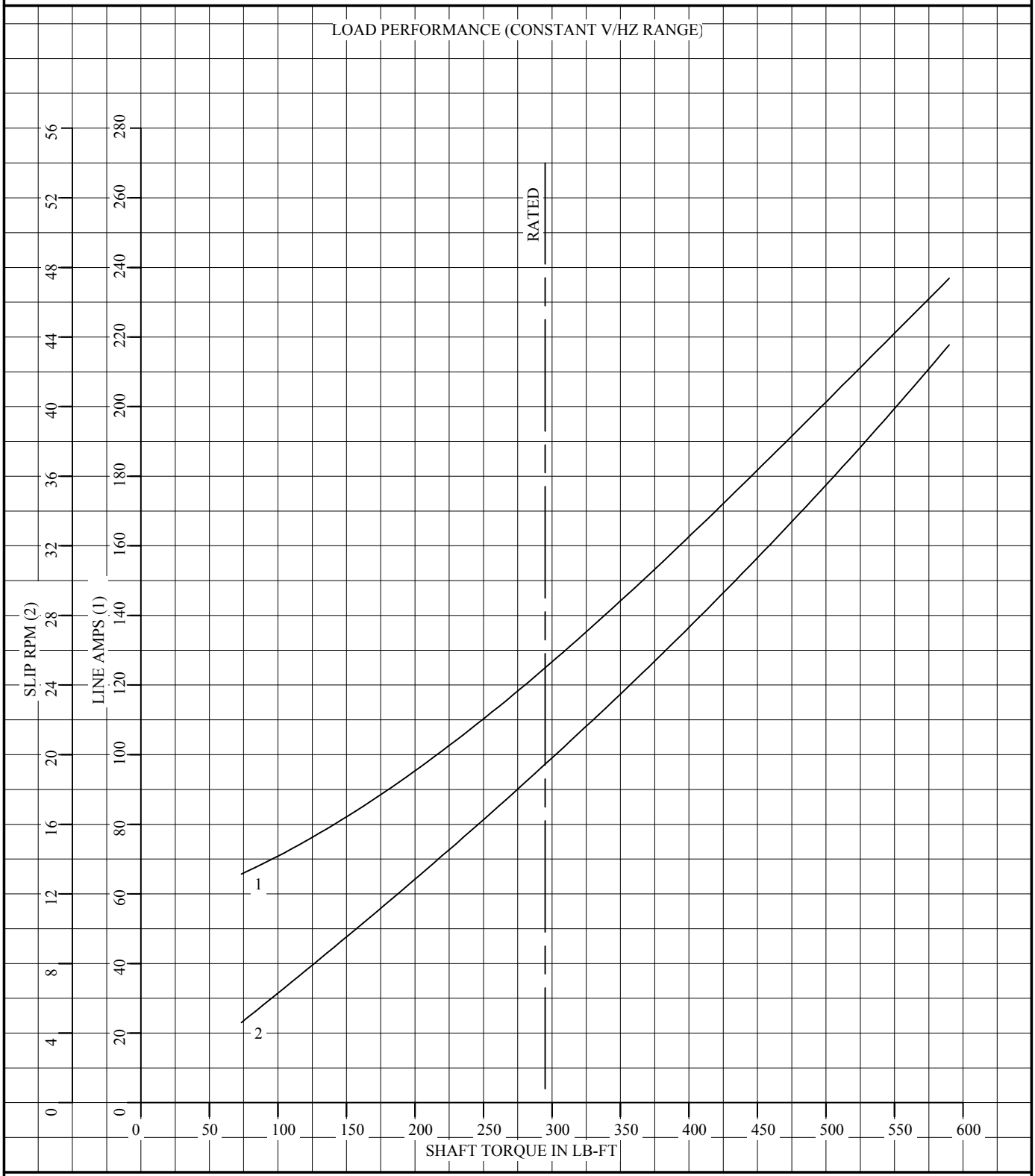
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CK. BY R. SMITH
APP. BY S. EVON
DATE 6-27-08

A-C MOTOR PERFORMANCE CURVES

L4052A
SH 1 OF 2
ISSUE DATE 6-27-08

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| REL S.O. | - | VOLTS | 460 | ENCLOSURE | TEBC | WYE CONN EQ CKT OHMS PER PHASE (AT BASE RATING, 25 °C) | |
| FRAME | FL2890 | AMPS | 124 | MAX SAFE RPM | 4800 | | |
| HP | 100 | DUTY | CONT | IM (AMPS) | 59 | R1 .0288 | X1 .200 |
| BASE SPEED | 1780 | S.F. | 1.0 | P.F.@NL/FL | .035/.805 | R2 .0185 | X2 .254 |
| PHASE/HERTZ | 3/60 | AMB °C/INSUL | 45/H | WK$^2$ (Lb-Ft$^2$) | 9.7 | | XM 4.49 |




REMARKS: TYPICAL DATA
DATA VALID FOR NAMEPLATE SPEED RANGE ONLY

BALDOR
A MEMBER OF THE ABB GROUP

| | |
|---|---|
| DR. BY | R. SMITH |
| CK. BY | R. SMITH |
| APP. BY | S. EVON |
| DATE | 6-27-08 |

A-C MOTOR PERFORMANCE CURVES

L4052A
SH 2 OF 2
ISSUE DATE 6-27-08

# RPM-AC FINNED FRAME VARIABLE SPEED ALTERNATING CURRENT MOTOR
## FL2890Z

617531-053

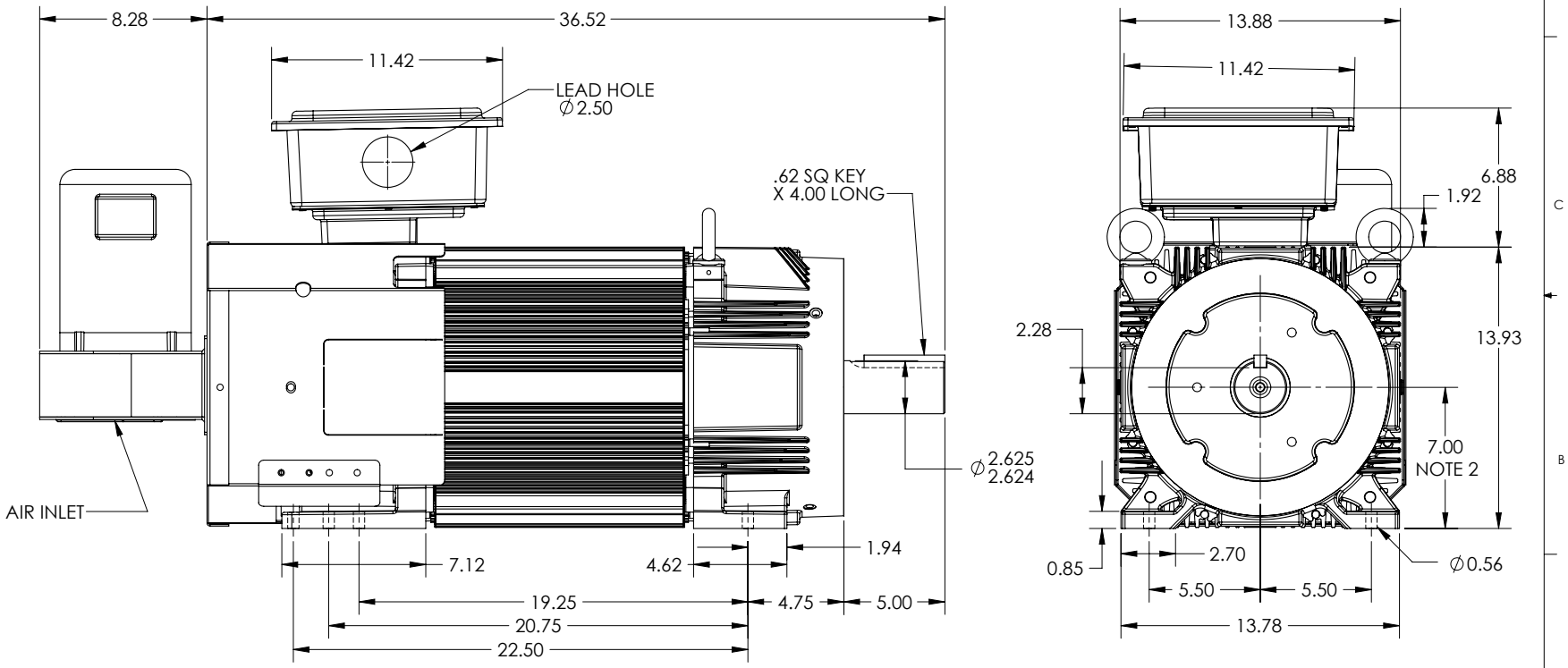
ENCLOSURE: TOTALLY ENCLOSED

MOUNTING: FOOT

DRIVE METHOD: COUPLED OR BELTED

COOLING: BLOWER COOLED

ACCESSORIES: PROVISIONS FOR TACHOMETER MOUNTING ONLY WHEN SPECIFIED




NOTE 1: O.D.E. C-FACE & TACHOMETER MOUNTING
1/2-13 TAP, 1.00 DEEP, ON A ∅7.25 B.C.
FACE RUNOUT AND ECCENTRICITY 0.004 MAX. T.I.R.

NOTE 2: SHAFT HEIGHT WILL NOT BE EXCEEDED
SHIMS UP TO 0.03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES

235 AMP MILL TERMINAL BOX SHOWN
ROTATABLE IN 90° INCREMENTS

DIMENSIONS ARE IN INCHES
MOTOR WEIGHT: 805 LBS. (MAY VARY 15%)

| | | | |
|---|---|---|---|
| REV. DESC: CHANGE C/BOX ORIENTATION. UPDATE SHAFT | | | |
| REV: B | VERSION: 02 | REVISED: 09:32:24 03/24/2022 | TDR: 000001188207 |
| MODEL NO. 617531-053 | | | |
| BY: USANBRO28 | | | B |

BALDOR - RELIANCE®

DIM SHT,FL2890Z,TEBC,PROV FOR TACH,FT MTG,RMM BLOWER

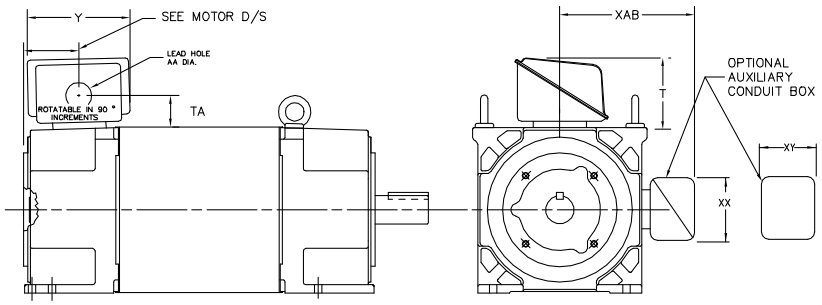
617531-053

616779-050

# 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 | 706320005A | 6.12 | 2.38 | 4.38 | 1.75/2.00 |
| FL180 | STEEL | N | 208 | 706320007A | 7.62 | 2.00 | 7.00 | 2.50/3.00 |
| FL180 | CAST IRON | Y/N | 60 | 706320004C | 5.75 | 2.38 | 4.38 | 1.0 TAP |
| 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 | 075454001AJ | 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 | 075460062B | 7.25 | 2.50 | 5.25 | 1.5 TAP |
| FL210 & RL210 FDL13 & RDL13 | MILL | Y | 100 | 706310225R 706310056A | 7.75 | 2.30 | 4.40 | PG29/PG16 |
| FL210 & RL210 FDL13 & RDL13 | MILL | Y | 160 | 706310226R 706310056B | 9.00 | 3.06 | 5.40 | PG36/PG16 |
| FL210 & RL210 FDL13 & RDL13 | MILL | Y/N | 235 | 706310637A | 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 | 075454001AJ | 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 | 075460062B | 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 FDL16 & RDL16 | MILL | Y | 100 | 706310225R 706310056A | 7.75 | 2.30 | 4.40 | PG29/PG16 |
| FL250 & RL250 FDL16 & RDL16 | MILL | Y | 160 | 706310226R 706310056B | 9.00 | 3.06 | 5.40 | PG36/PG16 |
| FL250 & RL250 FDL16 & RDL16 | MILL | Y/N | 235 | 706310637A | 11.42 | 4.00 | 6.72 | 2.50 |
| FL250 & RL250 FDL16 & RDL16 | MILL | Y | 400 | 706310063B | 14.39 | 7.43 | 12.15 | BLANK |
| FL280 & RL280 | STEEL | N | 160 | 706320009A | 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 FDL18 & RDL18 | MILL | Y | 100 | 706310056A | 7.75 | 2.30 | 4.40 | PG29/PG16 |
| FL280 & RL280 FDL18 & RDL18 | MILL | Y | 160 | 706310056B | 9.00 | 3.06 | 5.40 | PG36/PG16 |
| FL280 & RL280 FDL18 & RDL18 | MILL | Y/N | 235 | 706310637A | 11.42 | 4.00 | 6.72 | 2.50 |
| FL280 & RL280 FDL18 & RDL18 | MILL | Y | 400 | 706310063B | 14.39 | 7.43 | 12.15 | BLANK |

OPTIONAL AUXILIARY CONDUIT BOX DIMENSIONS (MAXIMUM)

| FRAME SIZE | XAB | XX | XY | PART NUMBER | FRAME SIZE | XAB | XX | XY | PART NUMBER |
|---|---|---|---|---|---|---|---|---|---|
| FL210/FDL132/RL210/RDL132 | 7.38 | 4.25 | 4.25 | 602007-26-A | FL210/FDL132/RL210/RDL132 | 10.88 | 8.00 | 8.00 | 706310-3-B |
| FL250/FDL160/RL250/RDL160 | 8.44 | 4.25 | 4.25 | 602007-26-A | FL250/FDL160/RL250/RDL160 | 11.88 | 8.00 | 8.00 | 706310-3-B |
| FL280/FDL180/RL280/RDL180 | 9.12 | 4.25 | 4.25 | 602007-26-A | FL280/FDL180/RL280/RDL180 | 12.62 | 8.00 | 8.00 | 706310-3-B |

(1) 'AA' CONDUIT.
(2) 'AA' PIPE TAP.
(3) CUSTOMER TO PROVIDE HOLE FOR CONDUIT.
(4) 2" DN -5A or 1" TAP DN -4C

TERMINAL BOX CAN BE ROTATED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM. TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-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.

BALDOR - RELIANCE®

| | | |
|---|---|---|
| REV. DESC: ADD 706310-637 & 639 BOX | | TDR: 00000118O260 |
| REV. LTR: F | VERSION: 06 | |
| FILE: \RGV\00003\692 | REVISED: 11:08:56 10/26/2021 | BY: RGGRWM |
| MTL: - | | |

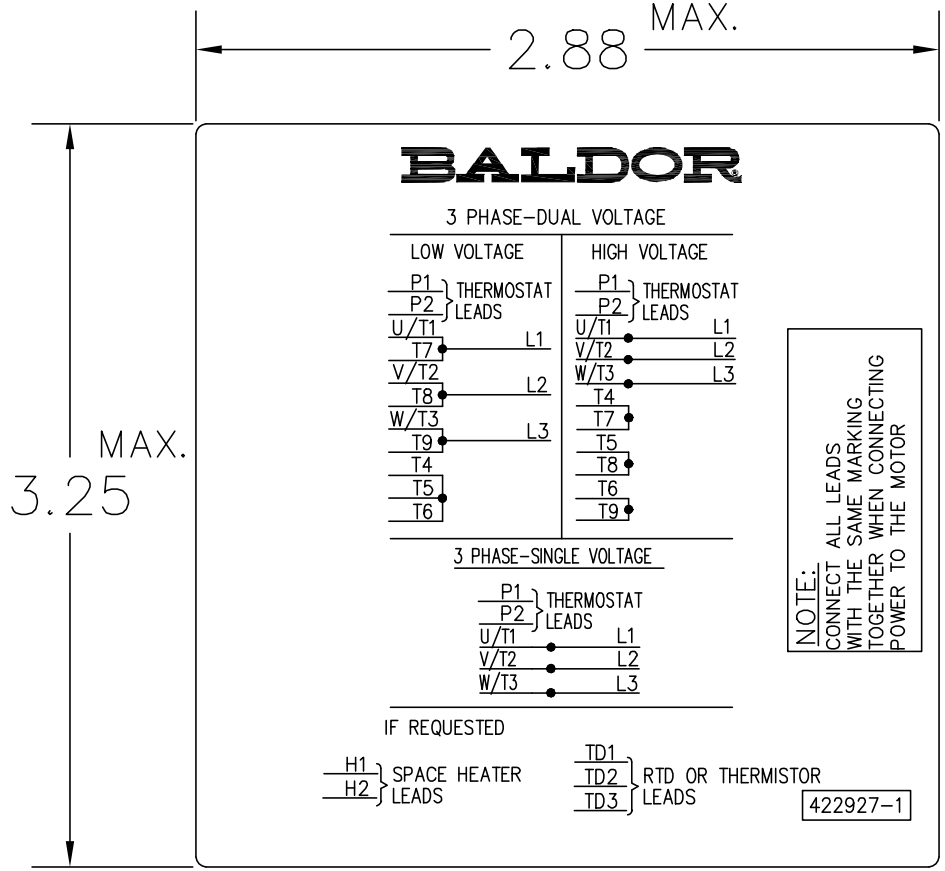
DIM SHT NEMA RL210-RL280 FL180-FL280 IEC RDL132-RDL180
SH 1 of 1

616779-050



ABB BALDOR RELIANCE
CUSTOMER INFORMATION PACKET IDBRPM281004R1 - 100HP, 1750, 460V, FL2890, TEBC, F3

422927–001




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

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 | | | BALDOR |
| REV. LTR: B | VERSION: 02 | TDR: 000000788708 | |
| FILE: \RGG\00000\203 | | REVISED: 08:09:29 03/04/2013 | EXTERNAL CONNECTION LABEL |
| MTL: – | | BY: RGGWT | SH 1 of 1 |