

# ABB BALDOR RELIANCE III

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## Customer information packet

VDRX051544

1.5//1HP, 1770//1475RPM, 3PH, 60//50HZ, 56C

Class - CLI GP C,D

Division - Division I

**Specifications**

|                                |                                                                                                       |
|--------------------------------|-------------------------------------------------------------------------------------------------------|
| Enclosure                      | XPFC                                                                                                  |
| Frame                          | 56C                                                                                                   |
| Frame Material                 | Steel                                                                                                 |
| Frequency                      | 50.00 Hz<br>60.00 Hz                                                                                  |
| Haz Area Class and Group       | CLI GP C,D                                                                                            |
| Haz Area Division              | Division I                                                                                            |
| Motor Letter Type              | Three Phase                                                                                           |
| Output @ Frequency             | 1.000 HP @ 50 HZ<br>1.500 HP @ 60 HZ                                                                  |
| Phase                          | 3                                                                                                     |
| Synchronous Speed @ Frequency  | 1800 RPM @ 60 HZ                                                                                      |
| Voltage @ Frequency            | 230.0 V @ 60 HZ<br>190.0 V @ 50 HZ<br>460.0 V @ 60 HZ<br>380.0 V @ 50 HZ                              |
| Agency Approvals               | CSA EEV<br>UL                                                                                         |
| Ambient Temperature            | 40 °C                                                                                                 |
| Auxiliary Box                  | NO AUXILLARY BOX                                                                                      |
| Auxiliary Box Lead Termination | None                                                                                                  |
| Base Indicator                 | No Mounting                                                                                           |
| Bearing Grease Type            | Polyrex EM (-20F +300F)                                                                               |
| Blower                         | None                                                                                                  |
| Constant Torque Speed Range    | 6                                                                                                     |
| Current @ Voltage              | 4.300 A @ 208.0 V<br>4.600 A @ 230.0 V<br>4.000 A @ 190.0 V<br>2.300 A @ 460.0 V<br>2.000 A @ 380.0 V |
| Design Code                    | B                                                                                                     |
| Drip Cover                     | No Drip Cover                                                                                         |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | D          |
| Type         | AC         |
| Mech. spec.  |            |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 35WGL955   |
| Layout       | 35LYX748   |
| Eff. date    | 04-21-2025 |
| CD Diagram   | CD0005     |
| Poles        | 04         |
| Leads        | 9#18       |
| Proprietary  | False      |
| Created date | 10-28-2021 |

|                                      |                                   |
|--------------------------------------|-----------------------------------|
| <b>Duty Rating</b>                   | <b>CONT</b>                       |
| <b>Efficiency @ 100% Load</b>        | <b>86.5 %</b>                     |
| <b>Electrically Isolated Bearing</b> | <b>Not Electrically Isolated</b>  |
| <b>Feedback Device</b>               | <b>NO FEEDBACK</b>                |
| <b>Haz Area Temp Code</b>            | <b>T3C</b>                        |
| <b>Heater Indicator</b>              | <b>No Heater</b>                  |
| <b>High Voltage Full Load Amps</b>   | <b>2.0 a</b>                      |
| <b>Insulation Class</b>              | <b>F</b>                          |
| <b>Inverter Code</b>                 | <b>Inverter Duty</b>              |
| <b>KVA Code</b>                      | <b>L</b>                          |
| <b>Lifting Lugs</b>                  | <b>No Lifting Lugs</b>            |
| <b>Locked Bearing Indicator</b>      | <b>Locked Bearing</b>             |
| <b>Max Speed</b>                     | <b>2700 rpm</b>                   |
| <b>Motor Lead Termination</b>        | <b>Flying Leads</b>               |
| <b>Motor Standards</b>               | <b>NEMA</b>                       |
| <b>Motor Type</b>                    | <b>3522M</b>                      |
| <b>Mounting Arrangement</b>          | <b>F1</b>                         |
| <b>Number of Poles</b>               | <b>4</b>                          |
| <b>Overall Length</b>                | <b>15.15 IN</b>                   |
| <b>Power Factor</b>                  | <b>76</b>                         |
| <b>Product Family</b>                | <b>General Purpose</b>            |
| <b>Pulley Face Code</b>              | <b>C-Face</b>                     |
| <b>Rodent Screen</b>                 | <b>None</b>                       |
| <b>Service Factor</b>                | <b>1.00</b>                       |
| <b>Shaft Diameter</b>                | <b>0.625 IN</b>                   |
| <b>Shaft Ground Indicator</b>        | <b>No Shaft Grounding</b>         |
| <b>Shaft Rotation</b>                | <b>Reversible</b>                 |
| <b>Speed</b>                         | <b>1770 rpm</b>                   |
| <b>Speed Code</b>                    | <b>Single Speed</b>               |
| <b>Starting Method</b>               | <b>Direct on line</b>             |
| <b>Thermal Device - Bearing</b>      | <b>None</b>                       |
| <b>Thermal Device - Winding</b>      | <b>Normally Closed Thermostat</b> |
| <b>Vibration Sensor Indicator</b>    | <b>No Vibration Sensor</b>        |
| <b>Winding Thermal 1</b>             | <b>None</b>                       |

Winding Thermal 2

None

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**Nameplate**

| NP1401XPSLEV |                  |        |              |       |   |          |                      |       |          |    |  |  |
|--------------|------------------|--------|--------------|-------|---|----------|----------------------|-------|----------|----|--|--|
| NO.          |                  |        |              |       |   |          | CC                   | 010A  |          |    |  |  |
| S/N          |                  |        |              |       |   |          | TEMP CODE            | T3C   |          |    |  |  |
| SPEC.        | 35-0000-1356     |        |              |       |   |          | INV.TYPE             | PWM   |          |    |  |  |
| CAT.NO.      | VDRX051544       |        |              |       |   |          | C HP FR              | 60    | C HP TO  | 90 |  |  |
| HP           | 1.5//1           |        |              |       |   |          | CT HZ FROM           | 6     | CT HZ TO | 60 |  |  |
| VOLTS        | 230/460//190/380 |        |              |       |   |          | VT HZ FROM           | 6     | VT HZ TO | 60 |  |  |
| AMPS         | 4.6/2.3//4/2     |        |              |       |   |          | MAG CUR              | 3/1.5 |          |    |  |  |
| RPM          | 1770//1475       |        |              |       |   |          | MX RPM               | 2700  |          |    |  |  |
| HZ           | 60//50           | PH     | 3            | CL    | F | NOM.EFF. | 86.5                 |       |          |    |  |  |
| SER.F.       | 1.00             | DES    | B            | SL HZ | 1 | WK2      | 0.174                |       |          |    |  |  |
| FRAME        | 56C              | RATING | 40C AMB-CONT |       |   |          |                      |       |          |    |  |  |
|              | 55C AMB @ 1.0 SF |        |              |       |   |          |                      |       |          |    |  |  |
|              | 1.15 SF SINEWAVE |        |              |       |   |          | NEMA MG-1 PT 5, IP55 |       |          |    |  |  |

**Parts List**

| <b>Part number</b> | <b>Description</b>                        | <b>Quantity</b> |
|--------------------|-------------------------------------------|-----------------|
| SA400529           | SA 35-0000-1356                           | 1.000 ea        |
| RA391694           | RA 35-0000-1356                           | 1.000 ea        |
| 34FN3002B01        | EXTERNAL FAN, PLASTIC, .637/.639 HUB W/   | 1.000 ea        |
| LB1624             | COMBINED WARNING LABEL, ISO/ANSI PICTOGR  | 1.000 ea        |
| LC0145B01          | CONNECTION LABEL                          | 1.000 ea        |
| PK3082             | STYROFOAM CRADLE                          | 1.000 ea        |
| NP1401XPSLEV       | SS XP INV UL CSA-EEV CC CL-I GP-C&D       | 1.000 ea        |
| 85XU0407S04        | 4X1/4 U DRIVE PIN STAINLESS               | 2.000 ea        |
| 85XU0407S04        | 4X1/4 U DRIVE PIN STAINLESS               | 4.000 ea        |
| MN416A01           | TAG-INSTAL-MAINT no wire (2500 bx)11/25   | 1.000 ea        |
| LB1359F            | ALUM XP CAUTION LABEL                     | 1.000 ea        |
| 35FH4005A01SP      | IEC FH NO GREASER W/PRIMED                | 1.000 ea        |
| 51XW1032A06        | 10-32 X .38, TAPTITE II, HEX WSHR SLTD S  | 3.000 ea        |
| 35FN3002A05SP      | EXFN, PLASTIC, 6.376 OD, .638 ID          | 1.000 ea        |
| 51XB1214A16        | 12-14X1.00 HXWSSLD SERTYB                 | 1.000 ea        |
| MJ1000A02          | GREASE, POLYREX EM EXXON                  | 0.050 lb        |
| HA3104A08          | THRUBOLT 5/16-18 X 9.375 X                | 4.000 ea        |
| XY3118A12          | 5/16-18 HEX NUT DIRECTIONAL SERRATION     | 4.000 ea        |
| 35EP3700B07        | FR ENDPLATE, XPFC - GROUP C, W/ DRAIN     | 1.000 ea        |
| HW5100A03          | WAVY WASHER (W1543-017)                   | 1.000 ea        |
| HW4506A02          | BREATHHER/DRAIN-EXP PROOF-.125-27 NPTF AI | 1.000 ea        |
| HW3022E05          | .125 DIA X .500 ROLLED SPRING PIN         | 1.000 ea        |
| 35EP1704A39        | PUEP 205 BRG XP GRP C W/SLINGER, DRAIN    | 1.000 ea        |
| HA2071A02          | ALUM SLINGER 205 BRG DRILL RIG MOTOR      | 1.000 ea        |
| 80XN1032J04        | 10-32 X 1/4 SET SCREW, HEX SOC, CUP PT    | 1.000 ea        |
| 84XN1032J20        | SCREW, SOC 10-32 X 1 1/4"BMH4602          | 2.000 ea        |
| HW4001A01          | 1/4 HX SOC PIPE PLG (F/S) ALLOY STEEL W/  | 2.000 ea        |
| 63XN1032A07        | 10-32 X 7/16 TRUSS HEAD,TORX SERRATED ZN  | 2.000 ea        |
| HW4506A02          | BREATHHER/DRAIN-EXP PROOF-.125-27 NPTF AI | 1.000 ea        |
| HW3022E05          | .125 DIA X .500 ROLLED SPRING PIN         | 1.000 ea        |
| 35CB1005A01        | CONDUIT BOX,MACH - GROUP "C" MTRS         | 1.000 ea        |

|             |                                          |          |
|-------------|------------------------------------------|----------|
| 11XW1032G06 | 10-32 X .38, TAPTITE II, HEX WSHR SLTD U | 1.000 ea |
| HW3001B01   | BRASS CUP WASHER, FOR #10 SCREW          | 1.000 ea |
| 35CB1501A01 | CONDUIT BOX LID, MACH. - GROUP "C" MTRS  | 1.000 ea |
| RM1020A41   | O-RING, -150 BUNA-N, .103 CS X 2.862 ID  | 1.000 ea |
| MG1500Y02   | WILKOPON PRIMER YELLOW                   | 0.022 ga |
| MG1025G29   | WILKOFASST, 789.229, DARK CHARCOAL GRAY  | 0.022 ga |
| 36PA1001    | PKG GRP, PRINT PK1017A07                 | 1.000 ea |
| HW2501D13   | KEY, 3/16 SQ X 1.375                     | 1.000 ea |
| HA7000A04   | KEY RETAINER 0.625 DIA SHAFTS            | 1.000 ea |

**AC Induction Motor Performance Data**

Record # 95398

Typical performance - not guaranteed values

| Winding: 35WGL955-R010 |  |                  | Type: 3524M  |                                          | Enclosure: XPFC     |                           |            |              |
|------------------------|--|------------------|--------------|------------------------------------------|---------------------|---------------------------|------------|--------------|
| Nameplate Data         |  |                  |              | 460 V, 60 Hz:<br>High Voltage Connection |                     |                           |            |              |
| Rated Output (HP)      |  | 1.5//1           |              | Full Load Torque                         |                     | 4.48 LB-FT                |            |              |
| Volts                  |  | 230/460//190/380 |              | Start Configuration                      |                     | direct on line            |            |              |
| Full Load Amps         |  | 4.6/2.3//4/2     |              | Breakdown Torque                         |                     | 18.8 LB-FT                |            |              |
| R.P.M.                 |  | 1770//1475       |              | Pull-up Torque                           |                     | 9.6 LB-FT                 |            |              |
| Hz                     |  | 60//50           | Phase        | 3                                        | Locked-rotor Torque |                           | 12.6 LB-FT |              |
| NEMA Design Code       |  | B                |              | KVA Code                                 | M                   | Starting Current          |            | 19.7 A       |
| Service Factor (S.F.)  |  | 1                |              | No-load Current                          |                     | 1.51 A                    |            |              |
| NEMA Nom. Eff.         |  | 86.5             | Power Factor |                                          | 72                  | Line-line Res. @ 25°C     |            | 11.8 Ω       |
| Rating - Duty          |  | 40C              |              | AMB-CONT                                 |                     | Temp. Rise @ Rated Load   |            | 48°C         |
|                        |  |                  |              |                                          |                     | Locked-rotor Power Factor |            | 58.4         |
|                        |  |                  |              |                                          |                     | Rotor inertia             |            | 0.173 lb-ft² |

**Load Characteristics 460 V, 60 Hz, 1.5 HP**

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  |
|-----------------|------|------|------|------|------|------|
| Power Factor    | 31   | 49   | 63   | 72   | 78   | 81   |
| Efficiency      | 75.1 | 83.5 | 86   | 86.5 | 85.8 | 84.8 |
| Speed           | 1792 | 1785 | 1777 | 1769 | 1760 | 1750 |
| Line amperes    | 1.56 | 1.72 | 1.97 | 2.28 | 2.65 | 3.06 |



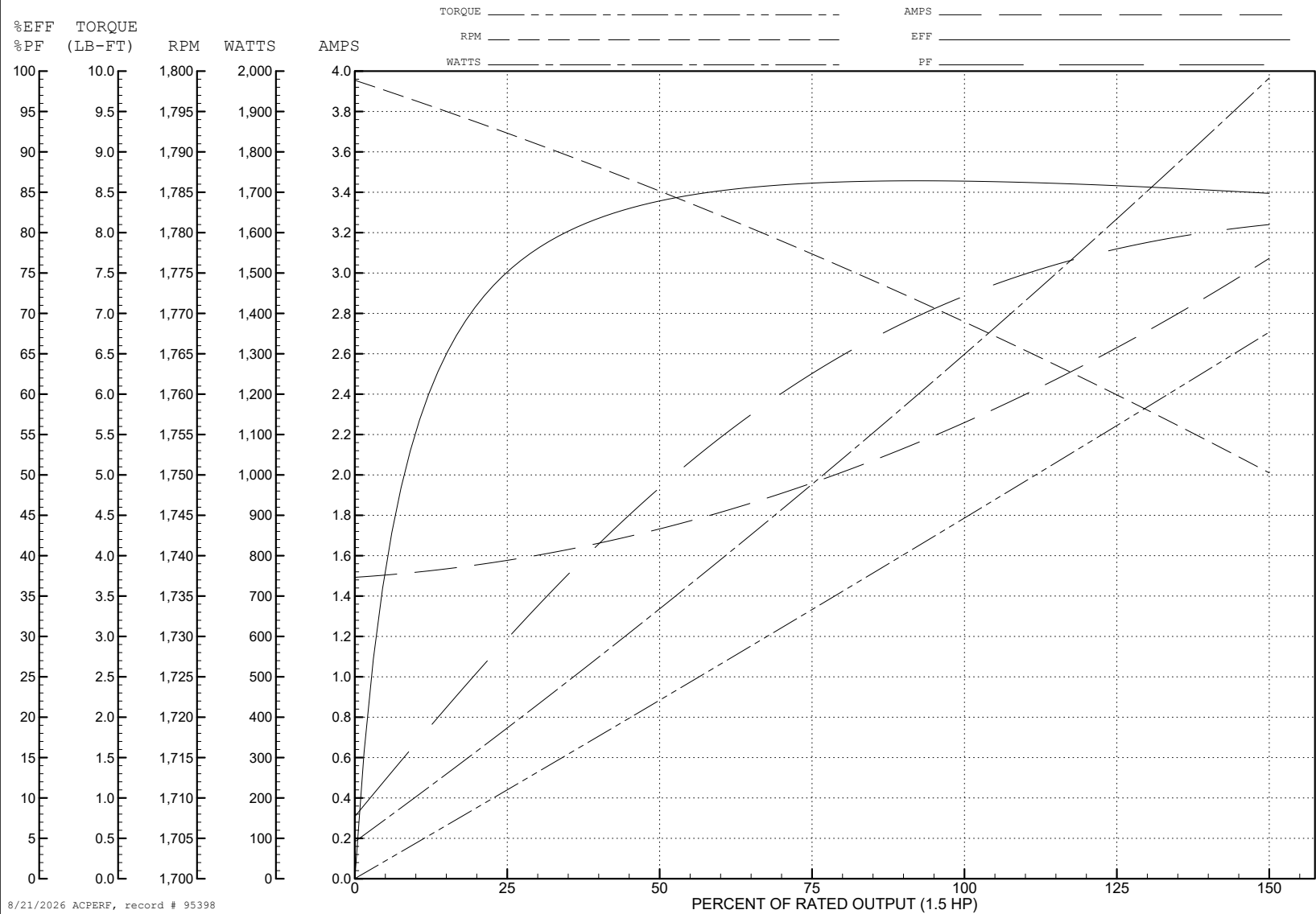
ABB Motors and Mechanical Inc.

WINDING # 35WGL955

Typical performance - not guaranteed values.

1.5 HP 3 PH 60 HZ 1769 RPM 460 V 3524M

TORQUES (LB-FT): PO=18.8 PU=9.6 LR=12.6 LRA=19.7



**AC Induction Motor Performance Data**

Record # 95399

Typical performance - not guaranteed values

| Winding: 35WGL955-R010 |  |        | Type: 3524M      |       |  | Enclosure: XPFC                          |  |                     |                           |  |            |                       |  |  |        |  |  |
|------------------------|--|--------|------------------|-------|--|------------------------------------------|--|---------------------|---------------------------|--|------------|-----------------------|--|--|--------|--|--|
| Nameplate Data         |  |        |                  |       |  | 380 V, 50 Hz:<br>High Voltage Connection |  |                     |                           |  |            |                       |  |  |        |  |  |
| Rated Output (HP)      |  |        | 1.5//1           |       |  | Full Load Torque                         |  |                     | 3.58 LB-FT                |  |            |                       |  |  |        |  |  |
| Volts                  |  |        | 230/460//190/380 |       |  | Start Configuration                      |  |                     | direct on line            |  |            |                       |  |  |        |  |  |
| Full Load Amps         |  |        | 4.6/2.3//4/2     |       |  | Breakdown Torque                         |  |                     | 17 LB-FT                  |  |            |                       |  |  |        |  |  |
| R.P.M.                 |  |        | 1770//1475       |       |  | Pull-up Torque                           |  |                     | 9.2 LB-FT                 |  |            |                       |  |  |        |  |  |
| Hz                     |  | 60//50 |                  | Phase |  | 3                                        |  | Locked-rotor Torque |                           |  | 12.1 LB-FT |                       |  |  |        |  |  |
| NEMA Design Code       |  |        | B                |       |  | KVA Code                                 |  |                     | M                         |  |            | Starting Current      |  |  | 18.4 A |  |  |
| Service Factor (S.F.)  |  |        | 1                |       |  |                                          |  |                     | No-load Current           |  |            | 1.48 A                |  |  |        |  |  |
| NEMA Nom. Eff.         |  |        | 86.5             |       |  | Power Factor                             |  |                     | 72                        |  |            | Line-line Res. @ 25°C |  |  | 11.8 Ω |  |  |
| Rating - Duty          |  |        | 40C              |       |  | AMB-CONT                                 |  |                     | Temp. Rise @ Rated Load   |  |            | 39°C                  |  |  |        |  |  |
|                        |  |        |                  |       |  |                                          |  |                     | Locked-rotor Power Factor |  |            | 63.9                  |  |  |        |  |  |
|                        |  |        |                  |       |  |                                          |  |                     | Rotor inertia             |  |            | 0.173 lb-ft²          |  |  |        |  |  |

**Load Characteristics 380 V, 50 Hz, 1 HP**

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  |
|-----------------|------|------|------|------|------|------|
| Power Factor    | 27   | 44   | 57   | 67   | 74   | 79   |
| Efficiency      | 70.1 | 80.3 | 83.7 | 84.8 | 84.5 | 83.8 |
| Speed           | 1493 | 1487 | 1481 | 1474 | 1467 | 1459 |
| Line amperes    | 1.5  | 1.61 | 1.78 | 2    | 2.27 | 2.58 |

ABB Motors and Mechanical Inc.

WINDING # 35WGL955

Typical performance - not guaranteed values.

1 HP 3 PH 50 HZ 1474 RPM 380 V 3524M

TORQUES (LB-FT): PO=17 PU=9.2 LR=12.1 LRA=18.4

