

# ABB BALDOR RELIANCE III

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## Customer information packet

### VFSWDM3538-5E

.5HP, 1770RPM, 3PH, 60HZ, 56C, 3512M, TENV, F1

Class - None

Division - Not Applicable

**Specifications**

|                                |                                                         |
|--------------------------------|---------------------------------------------------------|
| Enclosure                      | TENV                                                    |
| Frame                          | 56C                                                     |
| Frame Material                 | Stainless Steel                                         |
| Frequency                      | 60.00 Hz                                                |
| Haz Area Class and Group       | None                                                    |
| Haz Area Division              | Not Applicable                                          |
| Motor Letter Type              | Three Phase                                             |
| Output @ Frequency             | .500 HP @ 60 HZ                                         |
| Phase                          | 3                                                       |
| Synchronous Speed @ Frequency  | 1800 RPM @ 60 HZ                                        |
| Voltage @ Frequency            | 575.0 V @ 60 HZ                                         |
| Agency Approvals               | CSA<br>WEEE<br>NEMA_PREMIUM<br>NEMA PREMIUM<br>CURUSEEV |
| 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                                                    |
| Current @ Voltage              | .770 A @ 575.0 V                                        |
| Design Code                    | B                                                       |
| Drip Cover                     | No Drip Cover                                           |
| Duty Rating                    | CONT                                                    |
| Efficiency @ 100% Load         | 80.0 %                                                  |
| Electrically Isolated Bearing  | Not Electrically Isolated                               |
| Feedback Device                | NO FEEDBACK                                             |
| Front Shaft Indicator          | None                                                    |
| Heater Indicator               | No Heater                                               |
| High Voltage Full Load Amps    | 0.8 a                                                   |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | B          |
| Type         | AC         |
| Mech. spec.  | 35E4656    |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 35WGZ951   |
| Layout       | 35LYE4656  |
| Eff. date    | 08-14-2023 |
| CD Diagram   | CD0006     |
| Poles        | 04         |
| Leads        | 3#18       |
| Proprietary  | False      |
| Created date | 03-11-2022 |

|                                      |                        |
|--------------------------------------|------------------------|
| <b>Insulation Class</b>              | H                      |
| <b>Inverter Code</b>                 | Inverter Duty          |
| <b>KVA Code</b>                      | M                      |
| <b>Lifting Lugs</b>                  | No Lifting Lugs        |
| <b>Locked Bearing Indicator</b>      | Locked Bearing         |
| <b>Max Speed</b>                     | 2700 rpm               |
| <b>Motor Finish</b>                  | UNPAINTED              |
| <b>Motor Lead Quantity/Wire Size</b> | 3 @ 18 AWG             |
| <b>Motor Lead Termination</b>        | Flying Leads           |
| <b>Motor Standards</b>               | NEMA                   |
| <b>Motor Type</b>                    | 3512M                  |
| <b>Mounting Arrangement</b>          | F1                     |
| <b>Number of Poles</b>               | 4                      |
| <b>Overall Length</b>                | 11.78 IN               |
| <b>Power Factor</b>                  | 62                     |
| <b>Product Family</b>                | WD All SS Encapsulated |
| <b>Pulley End Bearing Type</b>       | Sealed Bearing         |
| <b>Pulley Face Code</b>              | C-Face                 |
| <b>Pulley Shaft Indicator</b>        | Standard               |
| <b>Rodent Screen</b>                 | None                   |
| <b>Service Factor</b>                | 1.15                   |
| <b>Shaft Diameter</b>                | 0.625 IN               |
| <b>Shaft Ground Indicator</b>        | No Shaft Grounding     |
| <b>Shaft Rotation</b>                | Reversible             |
| <b>Shaft Slinger Indicator</b>       | No 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>      | None                   |
| <b>Vibration Sensor Indicator</b>    | No Vibration Sensor    |
| <b>Winding Thermal 1</b>             | None                   |
| <b>Winding Thermal 2</b>             | None                   |

### Nameplate

| NP4427AAA02 |               |  |        |         |      |               |      |      |      |    |       |    |      |  |       |
|-------------|---------------|--|--------|---------|------|---------------|------|------|------|----|-------|----|------|--|-------|
| CAT #       | VFSWDM3538-5E |  |        |         |      | LBS           |      |      |      |    |       |    |      |  |       |
| SPEC        | 35E4656Z951G1 |  |        |         |      | ENCL          |      | TENV |      |    |       |    |      |  |       |
| SER #       |               |  |        |         |      | CC            |      | 010A |      | IP |       | 69 |      |  |       |
| HP          | .5            |  |        | MAG CUR |      |               | .64  |      |      |    |       |    |      |  |       |
| VOLTS       | 575           |  |        |         |      | NEMA NOM. EFF |      |      |      |    | 80    |    |      |  |       |
| AMPS        | .77           |  |        |         |      | PF            |      | 62   |      |    |       |    |      |  |       |
| RATING      | 40C AMB-CONT  |  |        |         |      |               |      |      |      |    |       |    |      |  |       |
| RPM         | 1770          |  |        |         |      | MAX RPM       |      |      | 2700 |    |       |    |      |  |       |
| FRAME       | 56C           |  | HZ     |         | 60   |               | CODE |      | M    |    | CLASS |    | H    |  |       |
| SER.F.      | 1.15          |  | SF AMP |         | .83  |               | PH   |      | 3    |    | DES   |    | B    |  |       |
| DE          | 6205          |  |        | ODE     |      | 6205          |      |      |      |    |       |    |      |  |       |
| LUBRICATION | POLYREX EM    |  |        |         |      |               |      |      |      |    |       |    |      |  |       |
| ID LOGO     | INVERTER TYPE |  |        |         | VPWM |               | CHP  |      | 60   |    | TO    |    | 90   |  | 1.5:1 |
| ID LOGO     | WK2           |  | 0.087  |         | CT   |               | 15   |      | TO   |    | 60    |    | 4:1  |  |       |
| ID LOGO     | SL HZ         |  | 1      |         | VT   |               | 3    |      | TO   |    | 60    |    | 20:1 |  |       |
|             |               |  |        |         |      |               |      |      |      |    |       |    |      |  |       |
|             |               |  |        |         |      |               |      |      |      |    |       |    |      |  |       |
|             |               |  |        |         |      |               |      |      |      |    |       |    |      |  |       |
|             |               |  |        |         |      |               |      |      |      |    |       |    |      |  |       |
|             |               |  |        |         |      |               |      |      |      |    |       |    | QR   |  |       |
| YR          |               |  |        |         |      |               |      |      |      |    |       |    |      |  |       |

**Parts List**

| Part number | Description                              | Quantity |
|-------------|------------------------------------------|----------|
| SA411408    | SA 35E4656Z951G1                         | 1.000 ea |
| RA403050    | RA 35E4656Z951G1                         | 1.000 ea |
| 35CB1017A01 | 35/36 MID SECT - 3 PC. CONDUIT BOX 1/2 N | 1.000 ea |
| HA3424S48   | STUD - M6X1.0 THDS X 3.00"               | 1.000 ea |
| RM1070A81   | O-RING, -043 VITON/FKM .070CS X 3.489ID  | 1.000 ea |
| 11XW1032G08 | 10-32 X .50, TAPTITE II, HEX WSHR SLTD U | 1.000 ea |
| HW3001B02   | BRASS CUP WASHER W/GROUND SYMBOL TAB,    | 1.000 ea |
| 35EP1940A03 | FRONT TENV 205 BRG (STAINLESS)           | 1.000 ea |
| RM1070A25   | O-RING, VITON/FKM .070CS X 6.190ID       | 1.000 ea |
| HW4500S33   | 1/8 NPT STAINLESS #304 SS PLUG           | 4.000 ea |
| HW5100A05   | WVY WSHR F/205 & 304 BRGS                | 1.000 ea |
| 35EP1935A02 | PULLEY 56C/143-5TC ENCL 205 BRG          | 1.000 ea |
| RM1070A25   | O-RING, VITON/FKM .070CS X 6.190ID       | 1.000 ea |
| HW4600G01   | .984X1.499X.25 VITON SLICK SERIES LIP    | 1.000 ea |
| HW4600E99   | 25 X 42 X 6 AFX SEAL, GRAPHITE INFUSED V | 1.000 ea |
| HW4500S33   | 1/8 NPT STAINLESS #304 SS PLUG           | 4.000 ea |
| RM1070A26   | O-RING,4.5MM I.D.X1.5MM C.S. (VITON)     | 4.000 ea |
| RM1070A81   | O-RING, -043 VITON/FKM .070CS X 3.489ID  | 1.000 ea |
| 35CB1513A01 | 35-36-37 MACH. LID - 3 PC. CONDUIT BOX   | 1.000 ea |
| HW2502D13   | SS KEY, 3/16 SQ X 1.375                  | 1.000 ea |
| HA7000A04   | KEY RETAINER 0.625 DIA SHAFTS            | 1.000 ea |
| MJ5001A27   | 32220KN GRAY SEALER *MIN BUY 4 QTS=1GAL  | 0.005 qt |
| MJ5004A93   | FOOD GRADE (H1 RATED) ANTISEIZE THRD COM | 0.005 ea |
| HA1025A21   | WSHR,FELT .125" THK                      | 1.000 ea |
| HA5027A09   | DRAIN KIT,(2)HA4002A03 BAGGED W/LABEL    | 1.000 ea |
| MJ1000A02   | GREASE, POLYREX EM EXXON                 | 0.050 lb |
| WD5603A02   | KIT, CLOSED-END LEAD SPLICE (18-14GA)    | 1.000 ea |
| HA3100FS11  | THRUBOLT, 10-32 X 8.500 SS FOOD SAFE     | 4.000 ea |
| 36PA1000    | PKG GRP, PRINT PK1016A08                 | 1.000 ea |
| PK3082      | STYROFOAM CRADLE                         | 1.000 ea |
| MN416A01    | TAG-INSTAL-MAINT no wire (2500 bx)11/25  | 1.000 ea |



|            |                  |          |
|------------|------------------|----------|
| FE-0000007 | ZRTG FE ASSEMBLY | 1.000 ea |
| PE-0000010 | ZRTG PE ASSEMBLY | 1.000 ea |

**AC Induction Motor Performance Data**

Record # 91703

Typical performance - not guaranteed values

| Winding: 35WGZ951-R001 |          |      | Type: 3512M                           |  | Enclosure: TENV         |                       |        |
|------------------------|----------|------|---------------------------------------|--|-------------------------|-----------------------|--------|
| Nameplate Data         |          |      | 575 V, 60 Hz:<br>Single Voltage Motor |  |                         |                       |        |
| Rated Output (HP)      |          | .5   | Full Load Torque                      |  | 1.49 LB-FT              |                       |        |
| Volts                  |          | 575  | Start Configuration                   |  | direct on line          |                       |        |
| Full Load Amps         |          | .77  | Breakdown Torque                      |  | 6.26 LB-FT              |                       |        |
| R.P.M.                 |          | 1770 | Pull-up Torque                        |  | 3.25 LB-FT              |                       |        |
| Hz                     | 60 Phase | 3    | Locked-rotor Torque                   |  | 4.02 LB-FT              |                       |        |
| NEMA Design Code       |          | B    | KVA Code                              |  | M                       | Starting Current      | 5.36 A |
| Service Factor (S.F.)  |          | 1.15 | No-load Current                       |  | 0.636 A                 |                       |        |
| NEMA Nom. Eff.         |          | 80   | Power Factor                          |  | 62                      | Line-line Res. @ 25°C | 68 Ω   |
| Rating - Duty          |          | 40C  | AMB-CONT                              |  | Temp. Rise @ Rated Load |                       | 29°C   |
| S.F. Amps              |          | .83  | Temp. Rise @ S.F. Load                |  | 33°C                    |                       |        |
|                        |          |      | Locked-rotor Power Factor             |  | 71.0377                 |                       |        |
|                        |          |      | Rotor inertia                         |  | 0.0866 lb-ft²           |                       |        |

**Load Characteristics 575 V, 60 Hz, 0.5 HP**

| % of Rated Load | 25    | 50    | 75    | 100   | 125  | 150   | S.F. |
|-----------------|-------|-------|-------|-------|------|-------|------|
| Power Factor    | 27    | 41    | 52    | 62    | 69   | 75    | 66   |
| Efficiency      | 56.2  | 70.6  | 76.3  | 78.9  | 79.9 | 79.8  | 79.5 |
| Speed           | 1792  | 1786  | 1779  | 1771  | 1763 | 1755  | 1766 |
| Line amperes    | 0.638 | 0.664 | 0.713 | 0.774 | 0.85 | 0.946 | 0.82 |

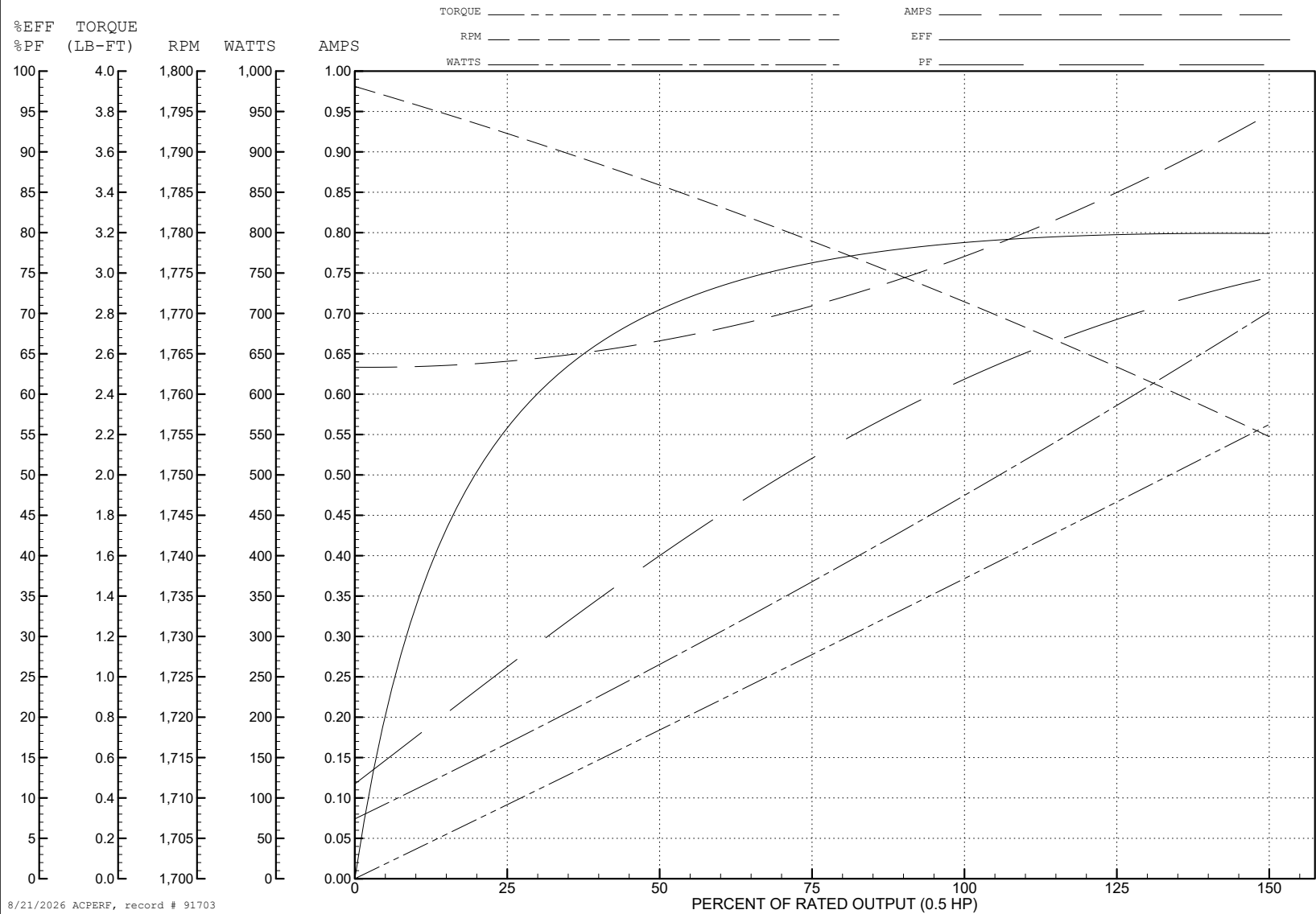
ABB Motors and Mechanical Inc.

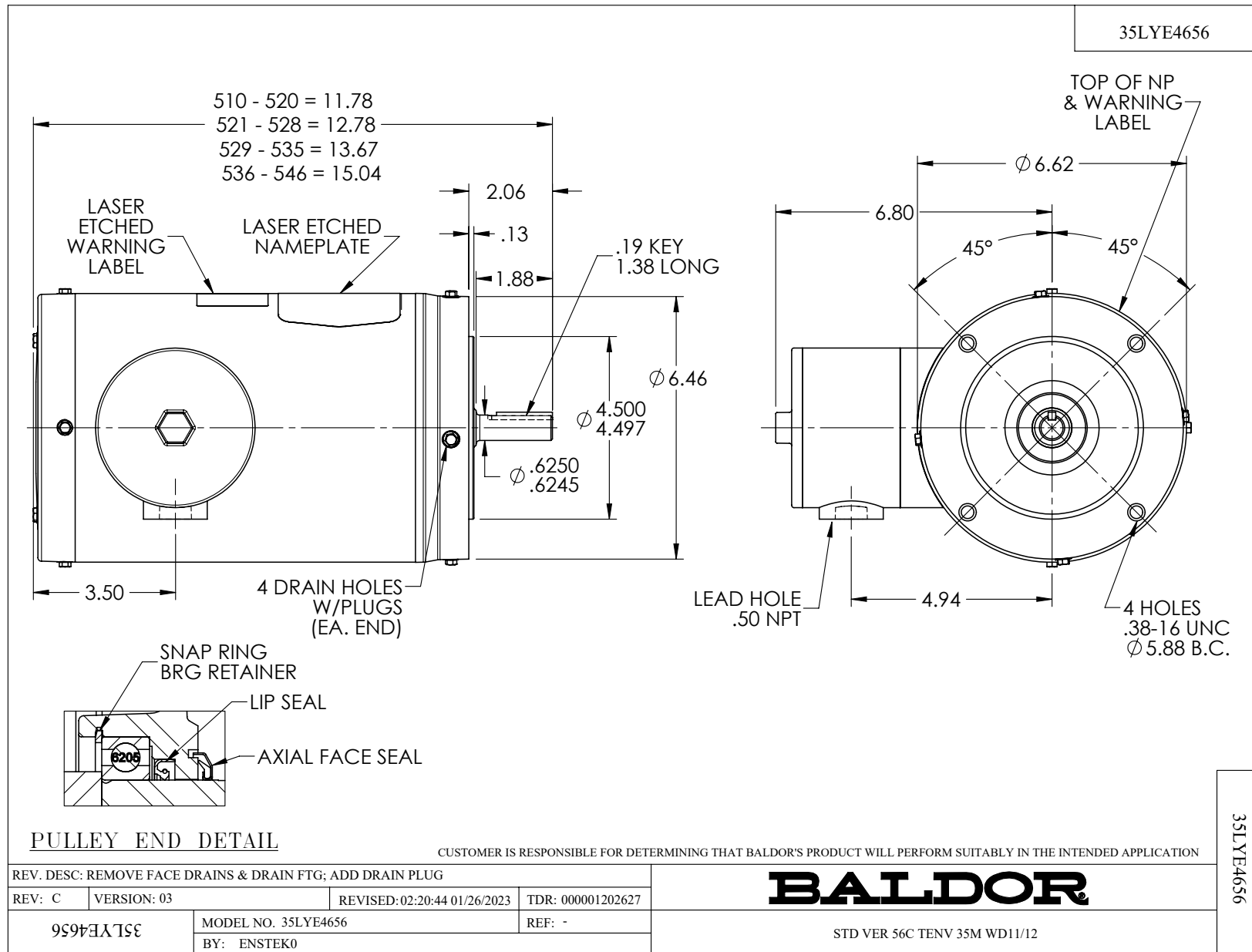
WINDING # 35WGZ951

Typical performance - not guaranteed values.

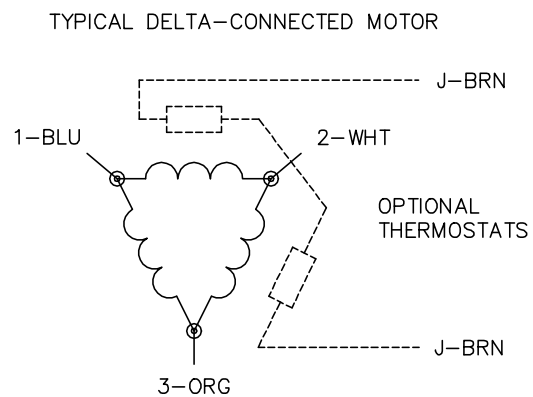
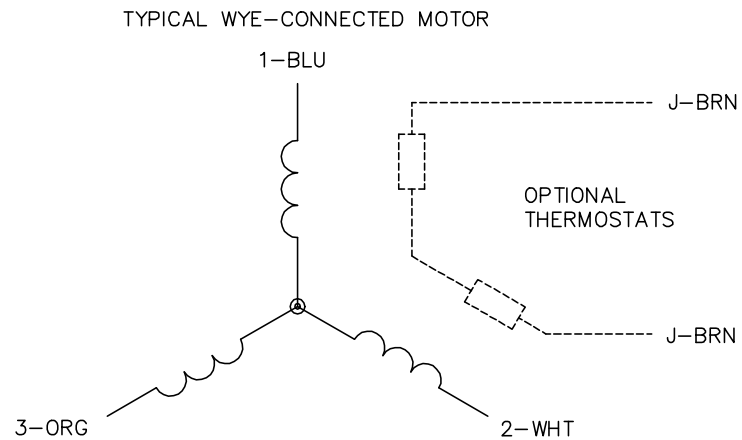
0.5 HP 3 PH 60 HZ 1770 RPM 575 V 3512M

TORQUES (LB-FT): PO=6.26 PU=3.25 LR=4.02 LRA=5.36





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