ABB BALDOR RELIANCE

# Customer information packet

## ECS100A1H1DB4

1HP, 1800RPM, 3PH, 60HZ, 145TC, 3516B, TEFC, F1
Class - None
Division - Not Applicable

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## Specifications

| | |
|---|---|
| **Enclosure** | TEFC |
| **Frame** | 145TC |
| **Frame Material** | Steel |
| **Frequency** | 60.00 Hz |
| **Haz Area Class and Group** | None |
| **Haz Area Division** | Not Applicable |
| **Motor Letter Type** | Brushless Wound Field PM Rotor |
| **Output @ Frequency** | 1.000 HP @ 60 HZ |
| **Phase** | 3 |
| **Synchronous Speed @ Frequency** | 1800 RPM @ 60 HZ |
| **Voltage @ Frequency** | 230.0 V @ 60 HZ |
| **Agency Approvals** | BLUETOOTH<br>CULUS<br>WEEE |
| **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 |
| **Constant Torque Speed Range** | 6 |
| **Current @ Voltage** | 2.500 A @ 230.0 V |
| **Design Code** | - |
| **Drip Cover** | No Drip Cover |
| **Duty Rating** | CONT |
| **Efficiency @ 100% Load** | 91.0 % |
| **Electrically Isolated Bearing** | Not Electrically Isolated |
| **Feedback Device** | NO FEEDBACK |
| **Heater Indicator** | No Heater |
| **High Voltage Full Load Amps** | 2.5 a |
| **Insulation Class** | F |
| **Inverter Code** | 03 |

## Part Detail

| | |
|---|---|
| **Revision** | C |
| **Type** | AC |
| **Mech. spec.** | 35E5351 |
| **Base** | |
| **Status** | PRD/A |
| **Elec. spec.** | 35WGG932 |
| **Layout** | 35LYE5351 |
| **Eff. date** | 10-31-2024 |
| **CD Diagram** | CD0006B03 |
| **Poles** | 04 |
| **Leads** | 3#14 13" LONG LEADS Y |
| **Proprietary** | False |
| **Created date** | 05-10-2024 |

| | |
|---|---|
| **KVA Code** | - |
| **Lifting Lugs** | No Lifting Lugs |
| **Locked Bearing Indicator** | Locked Bearing |
| **Motor Lead Quantity/Wire Size** | 3 @ 14 AWG |
| **Motor Lead Termination** | Flying Leads |
| **Motor Standards** | NEMA |
| **Motor Type** | 3516B |
| **Mounting Arrangement** | F1 |
| **Number of Poles** | 4 |
| **Overall Length** | 17.71 IN |
| **Power Factor** | 98 |
| **Product Family** | General Purpose |
| **Pulley Face Code** | C-Face |
| **Rodent Screen** | None |
| **Service Factor** | 1.00 |
| **Shaft Diameter** | 0.875 IN |
| **Shaft Ground Indicator** | Shaft Grounding |
| **Shaft Rotation** | Reversible |
| **Speed** | 1800 rpm |
| **Speed Code** | Single Speed |
| **Starting Method** | Direct on line |
| **Thermal Device - Bearing** | None |
| **Thermal Device - Winding** | None |
| **Vibration Sensor Indicator** | No Vibration Sensor |
| **Winding Thermal 1** | None |
| **Winding Thermal 2** | None |

**Nameplate**

| NP3968A01A01 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CAT.NO.** | ECS100A1H1DB4 | | | | | | | | | | |
| **SPEC.** | 35E5351G932G2 | | | | | | | | | | |
| **FRAME** | 145TC | | | **ENCL.** | TEFC | | **IP** | 54 | | | |
| **HP** | 1 | | 40 | **C AMB** | | CONT | | | | | |
| **NOM. EFF.** | 91 | **PF** | 98 | | **SF** | 1 | | | | | |
| **VOLTS** | 230 | | | **FLA** | 2.5 | | | | | | |
| **RPM** | 1800 | | | **RPM-MAX** | 3000 | | | | | | |
| **HZ** | 60 | | **PH.** | 3 | **CLASS** | F | | | | | |
| **BEMF (V)** | 135 | | | | **RS (OHMS)** | 4.9 | | | | | |
| **LD (MH)** | 30.8 | | | | **LQ (MH)** | 135 | | | | | |
| **VPWM** | **CHP** | 60 | **TO** | 133 | | | | | | | |
| **CT** | 6 | **TO** | 60 | **VT** | 6 | **TO** | 60 | | | | |
| **MATCHED INV** | ECI1A3P2 | | | | | | | | | | |
| **DE** | 6205 | | | **ODE** | 6203 | | | | | | |
| **SERIAL #** | | | | | | | | | | | |

| NP3978A01 | | | | | | |
|---|---|---|---|---|---|---|
| **PART NO.** | ECI1A3P2 | | | | | |
| **U1** | 120 | **PH** | 1 | **HZ** | 60 | |
| **I1** | 9.6 | **W/EXT. CHOKE** | | | | 9 |
| **SERIAL #** | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Volts | 120 | Max RPM | 4000 | Conn Diag. | CD0006B03 | Leads | 3 |
| Amps | 2.4 | Max Amps | | Cs Diagram | CS1127 | BEMF | 135 |
| HP | 1 | VFD# | ECIN1A3P2 | | | LD | 29.3 |
| RPM | 1800 | S.F. | 1.00 | | | LQ | 136 |
| Phase/Hz | 3/60 | Rating | 40C AMB-CONT | | | Rs | 4.8894 Meas. L-L |

## 60034-2-3 Motor Performance at Standardized Operating Points

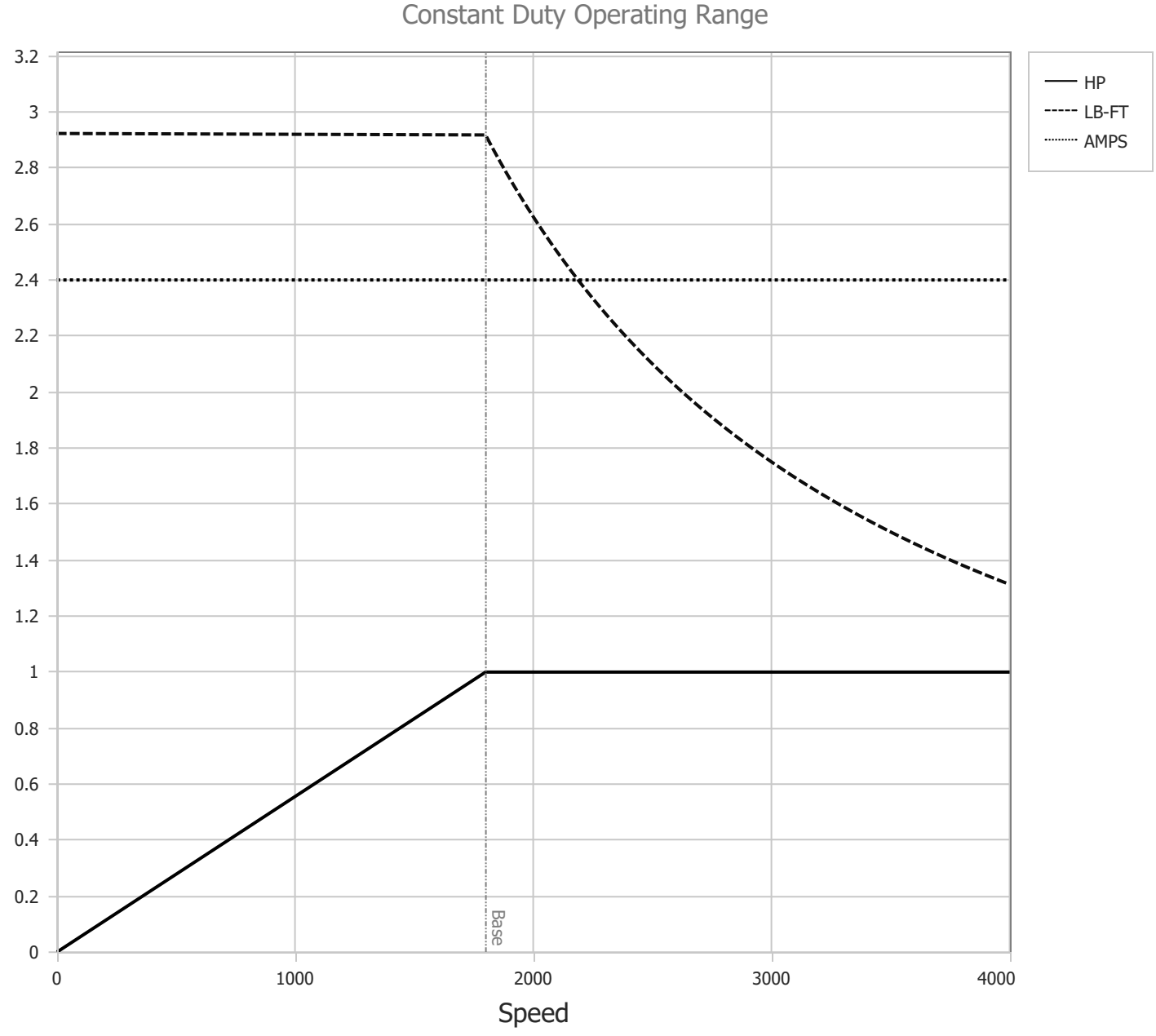
| | RPM | % Speed | LB-FT | % Torque | HP | Efficiency | Loss (% FL) | Watts Loss (W) |
|---|---|---|---|---|---|---|---|---|
| P1 | 1618 | 90% | 2.9 | 100% | 0.9 | 89.8 | 10.17% | 77 |
| P2 | 900 | 50% | 2.9 | 100% | 0.5 | 85.4 | 8.48% | 64 |
| P3 | 450 | 25% | 2.9 | 100% | 0.2 | 78.7 | 6.68% | 50 |
| P4 | 1620 | 90% | 1.5 | 50% | 0.5 | 89.3 | 5.36% | 40 |
| P5 | 900 | 50% | 1.5 | 50% | 0.2 | 87.3 | 3.61% | 27 |
| P6 | 900 | 50% | 0.7 | 25% | 0.1 | 86.0 | 2.03% | 15 |
| P7 | 450 | 25% | 0.7 | 25% | 0.1 | 83.2 | 1.24% | 9 |

## 61800-9-2 PDS Performance at Reference Operating Points

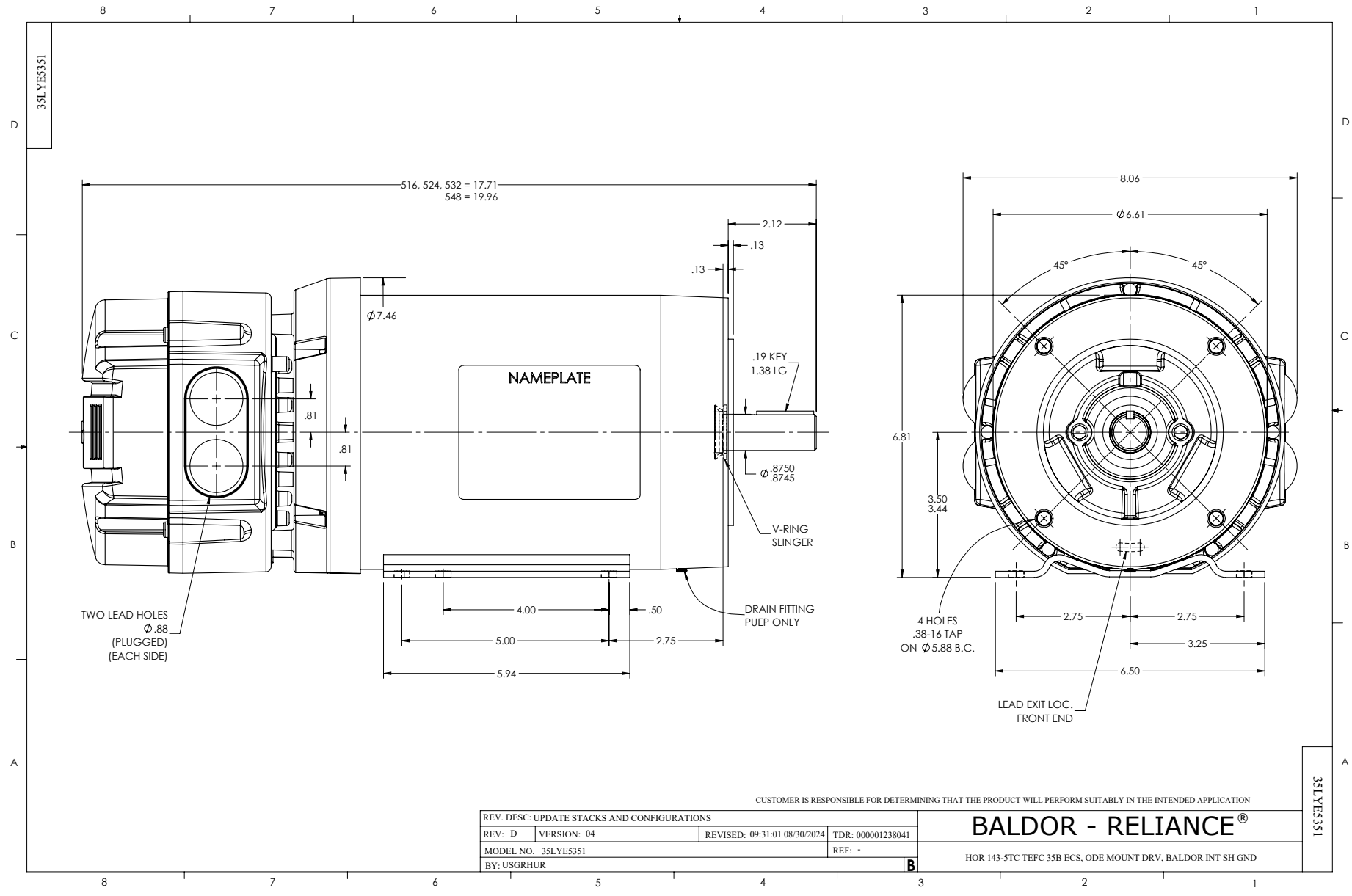
| | RPM | % Speed | LB-FT | % Torque | HP | System Efficiency | Loss (% FL) | Watts Loss (W) |
|---|---|---|---|---|---|---|---|---|
| P1 | 1801 | 100% | 2.9 | 100% | 1.0 | 86.8 | 15.08% | 114 |
| P2 | 900 | 50% | 2.9 | 100% | 0.5 | 81.0 | 11.57% | 87 |
| P3 | 299 | 17% | 2.9 | 100% | 0.2 | 65.1 | 8.79% | 66 |
| P4 | 1799 | 100% | 1.5 | 50% | 0.5 | 85.7 | 8.23% | 62 |
| P5 | 900 | 50% | 1.5 | 50% | 0.2 | 82.0 | 5.43% | 41 |
| P6 | 300 | 17% | 1.5 | 50% | 0.1 | 67.1 | 4.03% | 30 |
| P7 | 900 | 50% | 0.7 | 25% | 0.1 | 78.9 | 3.32% | 25 |
| P8 | 300 | 17% | 0.7 | 25% | 0.0 | 64.6 | 2.25% | 17 |

*Points not taken in certified order.*

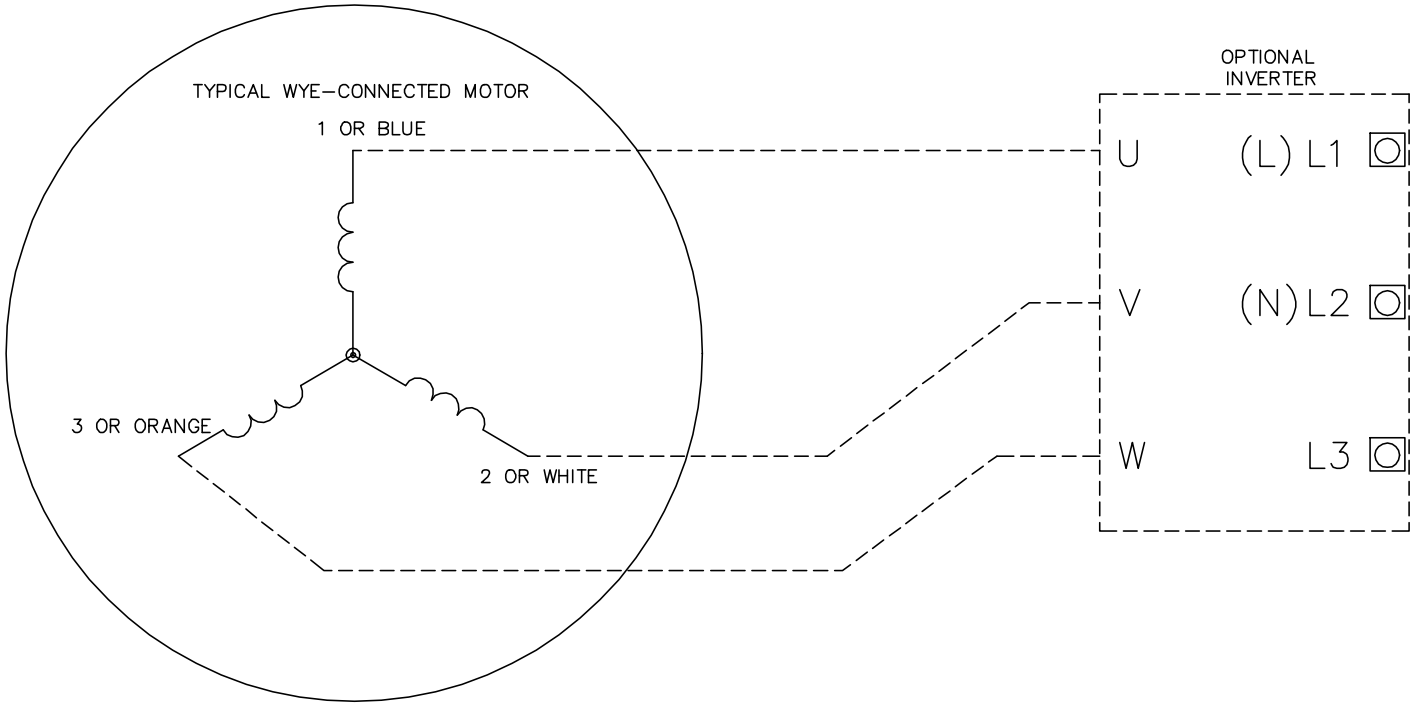
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Volts | 120 | Max RPM | 4000 | Conn Diag. | CD0006B03 | Leads | 3 |
| Amps | 2.4 | Max Amps | | Cs Diagram | CS1127 | BEMF | 135 |
| HP | 1 | VFD # | ECIN1A3P2 | | | LD | 29.3 |
| RPM | 1800 | S.F. | 1.00 | | | LQ | 136 |
| Phase/Hz | 3/60 | Rating | 40C AMB-CONT | | | Rs | 4.8894 Meas L-L |




| | | | |
|---|---|---|---|
| BALDOR • RELIANCE | DR By: R & D<br>CK By: USBIBAK<br>APP By: USWEQUA1<br>Date: 12/07/2024 | **AC MOTOR PERFORMANCE CURVES** | **35WGG932**<br>35-0000-1616<br>*Test - 111671* |


35LYE5351
516, 524, 532 = 17.71
548 = 19.96
2.12
.13
.13
Ø7.46
NAMEPLATE
.19 KEY
1.38 LG
.81
.81
Ø.8750
Ø.8745
V-RING
SLINGER
TWO LEAD HOLES
Ø.88
(PLUGGED)
(EACH SIDE)
4.00
.50
5.00
2.75
5.94
DRAIN FITTING
PUEP ONLY
8.06
Ø6.61
45°
45°
6.81
3.50
3.44
4 HOLES
.38-16 TAP
ON Ø5.88 B.C.
2.75
2.75
3.25
6.50
LEAD EXIT LOC.
FRONT END
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT THE PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION
REV. DESC: UPDATE STACKS AND CONFIGURATIONS
REV: D
VERSION: 04
REVISED: 09:31:01 08/30/2024
TDR: 000001238041
MODEL NO. 35LYE5351
REF: -
BY: USGRHUR
B
BALDOR - RELIANCE®
HOR 143-5TC TEFC 35B ECS, ODE MOUNT DRV, BALDOR INT SH GND
35LYE5351

CD0006B03




NOTES:

1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
2. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY VARY.

CD0006B03

| | | |
|---|---|---|
| REV. DESC: CHANGE LEAD COLORS TO BLUE WHITE ORANGE | | |
| REV. LTR: A | VERSION: 01 | TDR: 000001158598 |
| FILE: \AAA\00252\917 | REVISED: 11:01:03 01/19/2021 | BY: ENMARSO |
| MTL: – | | |

BALDOR - RELIANCE®

3PH, SV, 3 LEADS, WYE CONNECTED, ECS

SH 1 of 1