ABB BALDOR RELIANCE

# Customer information packet

## VLECP83770T-4

40M 4P TEFC VER 213LP CHEM PROC, SP#32-8
Class - CLI GP A,B,C,D
Division - Division II

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## Specifications

| | |
|---|---|
| **Enclosure** | TEFC |
| **Frame** | 213LP |
| **Frame Material** | Iron |
| **Frequency** | 60.00 Hz |
| **Haz Area Class and Group** | CLI GP A,B,C,D |
| **Haz Area Division** | Division II |
| **Motor Letter Type** | Three Phase |
| **Output @ Frequency** | 7.500 HP @ 60 HZ |
| **Phase** | 3 |
| **Synchronous Speed @ Frequency** | 1800 RPM @ 60 HZ |
| **Voltage @ Frequency** | 460.0 V @ 60 HZ |
| **Agency Approvals** | CSA EEV<br>NEMA PREMIUM<br>UR<br>CSA |
| **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** | 0- |
| **Current @ Voltage** | 9.500 A @ 460.0 V |
| **Design Code** | B |
| **Drip Cover** | Drip Cover |
| **Duty Rating** | CONT |
| **Efficiency @ 100% Load** | 91.7 % |
| **Electrically Isolated Bearing** | Not Electrically Isolated |
| **Enclosure Modification** | 841 |
| **Feedback Device** | NO FEEDBACK |
| **Front Shaft Indicator** | None |
| **Haz Area Temp Code** | T3C |

## Part Detail

| | |
|---|---|
| **Revision** | G |
| **Type** | AC |
| **Mech. spec.** | 07D516 |
| **Base** | |
| **Status** | PRD/A |
| **Elec. spec.** | 07WGX814 |
| **Layout** | 07LYD516 |
| **Eff. date** | 06-18-2026 |
| **CD Diagram** | CD0006 |
| **Poles** | 04 |
| **Leads** | 3#14 |
| **Proprietary** | False |
| **Created date** | 03-27-2019 |

| | |
|---|---|
| **Heater Indicator** | No Heater |
| **High Voltage Full Load Amps** | 9.5 a |
| **Insulation Class** | F |
| **Inverter Code** | Inverter Duty |
| **IP Rating** | IP56 |
| **KVA Code** | H |
| **Lifting Lugs** | Vertical Lifting Lugs |
| **Locked Bearing Indicator** | Locked Bearing |
| **Max Speed** | 2700 rpm |
| **Motor Lead Quantity/Wire Size** | 3 @ 14 AWG |
| **Motor Lead Termination** | Flying Leads |
| **Motor Standards** | NEMA |
| **Motor Type** | 0740M |
| **Mounting Arrangement** | W6 |
| **Number of Poles** | 4 |
| **Overall Length** | 24.71 IN |
| **Power Factor** | 81 |
| **Product Family** | Chem Process S/P 32-8 IEEE 841 |
| **Pulley End Bearing Type** | Roller |
| **Pulley Face Code** | P-Base |
| **Pulley Shaft Indicator** | P-Base Groove & Key |
| **Rodent Screen** | None |
| **RoHS Status** | ROHS COMPLIANT |
| **Service Factor** | 1.15 |
| **Shaft Diameter** | 1.625 IN |
| **Shaft Ground Indicator** | No Shaft Grounding |
| **Shaft Rotation** | Reversible |
| **Shaft Slinger Indicator** | No Slinger |
| **Speed** | 1765 rpm |
| **Speed Code** | Single Speed |
| **Starting Method** | Direct on line |
| **Thermal Device - Winding** | None |
| **Vibration Sensor Indicator** | No Vibration Sensor |
| **Winding Thermal 1** | None |

| | |
|---|---|
| **Winding Thermal 2** | None |

**Nameplate**

| NP4328 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **CAT.NO.** | VLECP83770T-4 | | | | | | | | |
| **SPEC.** | 07D516X814G1 | | | | | | | | |
| **HP** | 7.5 TE | | | **IP** | 56 | | | | |
| **VOLTS** | 460 | | | | | | | | |
| **AMPS** | 9.5 | | | | | | | | |
| **R.P.M.** | 1765 | | | | | | | | |
| **FRAME** | 213LP | **HZ** | 60 | | | **PH** | 3 | | |
| **SER.F.** | 1.15 | **CODE** | H | **DES.** | B | | **CLASS** | F | |
| **RATING** | 40C AMB-CONT | | | | | | | | |
| **SN** | | | | | | | | | |
| **DE** | 6309 | **ODE** | 7306 | | | | | | |
| **NEMA NOM. EFF.** | 91.7 | **P.F.** | 81 | | | | | | |
| **GUAR. MIN. EFF.** | 90.2 | **CC** | 010A | | | | | | |
| **T. CODE** | T3C | **TEMP=** | 160 | | | | | | |

| NP3186 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **SPEC.** | 07D516X814G1 | | | | | | |
| **ABMA DE BRG** | 45BC03X30X | | | | | | |
| **ABMA ODE BRG** | 30BT03X30X | | | | | | |
| **GREASE** | POLYREX EM | | | | | | |
| **MOTOR WEIGHT** | 178 | **ROTOR BARS** | 28 | **STATOR BARS** | 36 | | |
| **MAX. R.P.M.** | 2700 | **MAX. KVAR** | 1.46 | | | | |
| | | | | | | | |
| **INV.TYPE** | PWM | | | | | | |
| **T=** | 160 | | | | | | |
| **CHP** | 60 | **TO** | 90 | | | | |
| **CT** | -0 | **TO** | 60 | | | | |
| **VT** | -0 | **TO** | 60 | | | | |
| **HTR-VOLTS** | N/A | **HTR-AMPS** | N/A | | | | |
| **HTR-WATTS** | N/A | **MAX. SPACE HEATER TEMP.** | | | N/A | | |

**AC Induction Motor Performance Data**
Record # 72748
Typical performance - not guaranteed values

| **Winding:** 07WGX814-R095 | **Type:** 0740M | **Enclosure:** TEFC |
|---|---|---|

| **Nameplate Data** | | | | **460 V, 60 Hz: Single Voltage Motor** | |
|---|---|---|---|---|---|
| **Rated Output (HP)** | | | 7.5 | **Full Load Torque** | 22.37 LB-FT |
| **Volts** | | | 460 | **Start Configuration** | direct on line |
| **Full Load Amps** | | | 9.5 | **Breakdown Torque** | 65.7 LB-FT |
| **R.P.M.** | | | 1765 | **Pull-up Torque** | 32.5 LB-FT |
| **Hz** | 60 | **Phase** | 3 | **Locked-rotor Torque** | 41.9 LB-FT |
| **NEMA Design Code** | B | **KVA Code** | H | **Starting Current** | 64.6 A |
| **Service Factor (S.F.)** | | | 1.15 | **No-load Current** | 3.67 A |
| **NEMA Nom. Eff.** | 91.7 | **Power Factor** | 81 | **Line-line Res. @ 25ºC** | 1.47 Ω |
| **Rating - Duty** | | | 40C AMB-CONT | **Temp. Rise @ Rated Load** | 57°C |
| **S.F. Amps** | | | | **Temp. Rise @ S.F. Load** | 72°C |
| | | | | **Locked-rotor Power Factor** | 36.2 |
| | | | | **Rotor inertia** | 0.984 LB-FT2 |

**Load Characteristics 460 V, 60 Hz, 7.5 HP**

| **% of Rated Load** | **25** | **50** | **75** | **100** | **125** | **150** | **S.F.** |
|---|---|---|---|---|---|---|---|
| **Power Factor** | 47 | 69 | 78 | 83 | 84 | 85 | 84 |
| **Efficiency** | 88.8 | 92 | 92.2 | 91.6 | 90.4 | 89.1 | 90.9 |
| **Speed** | 1791 | 1783 | 1775 | 1765 | 1755 | 1743 | 1759 |
| **Line amperes** | 4.29 | 5.61 | 7.32 | 9.29 | 11.6 | 13.9 | 10.7 |

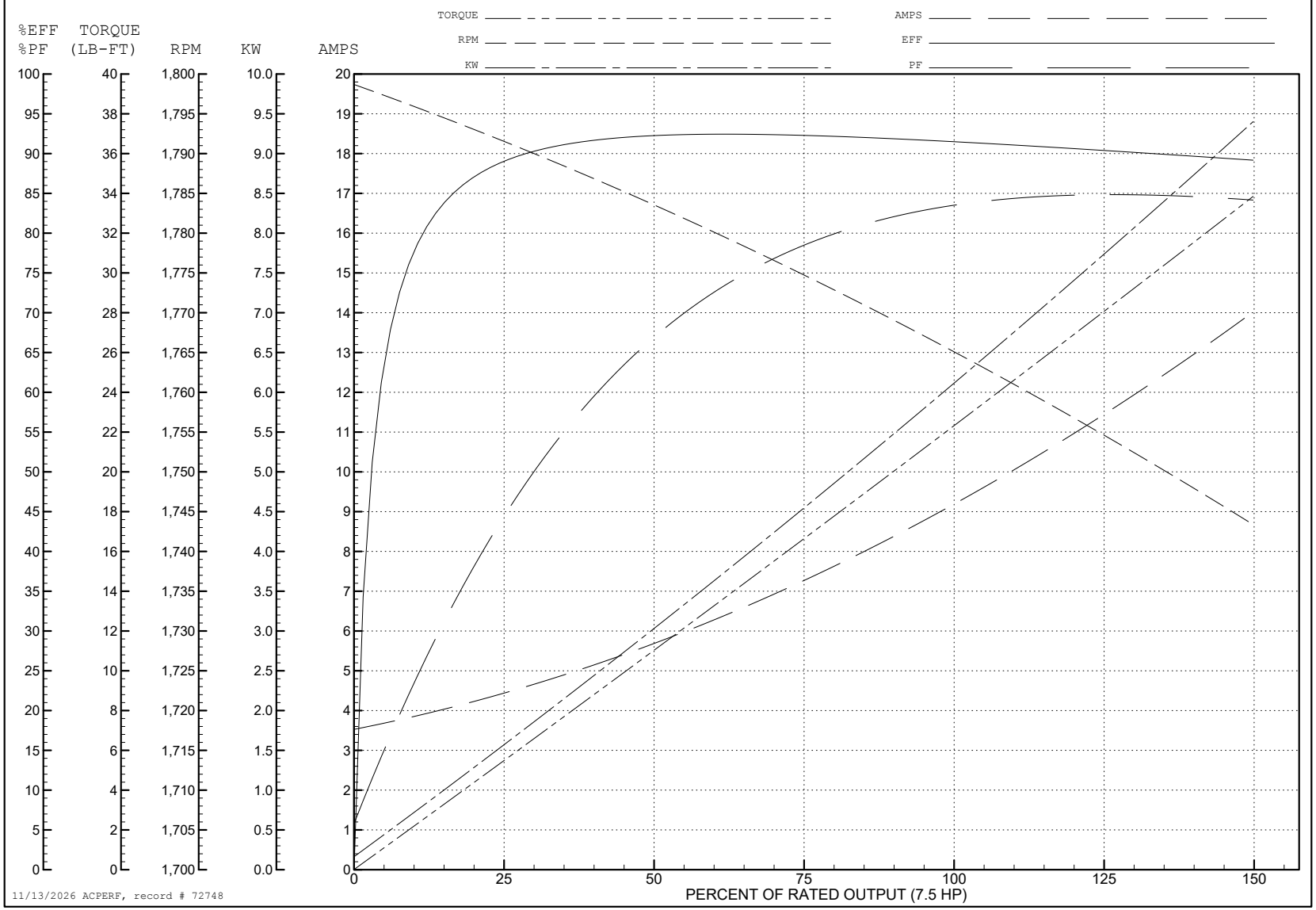
ABB Motors and Mechanical Inc.

WINDING # 07WGX814

7.5 HP 3 PH 60 HZ 1765 RPM 460 V 0740M

Typical performance - not guaranteed values.

TORQUES(LB-FT): PO=65.7 PU=32.5 LR=41.9 LRA=64.6



**AC Induction Motor Performance Data**
Record # 72749
Typical performance - not guaranteed values

| **Winding:** 07WGX814-R095 | **Type:** 0740M | **Enclosure:** TEFC |
|---|---|---|

| **Nameplate Data** | | | | **368 V, 60 Hz: Single Voltage Motor** | |
|---|---|---|---|---|---|
| **Rated Output (HP)** | | | 7.5 | **Full Load Torque** | 22.6 LB-FT |
| **Volts** | | | 460 | **Start Configuration** | direct on line |
| **Full Load Amps** | | | 9.5 | **Breakdown Torque** | 41.76 LB-FT |
| **R.P.M.** | | | 1765 | **Pull-up Torque** | 20.55 LB-FT |
| **Hz** | 60 | **Phase** | 3 | **Locked-rotor Torque** | 26.49 LB-FT |
| **NEMA Design Code** | B | **KVA Code** | H | **Starting Current** | 51.32 A |
| **Service Factor (S.F.)** | | | 1.15 | **No-load Current** | 2.84 A |
| **NEMA Nom. Eff.** | 91.7 | **Power Factor** | 81 | **Line-line Res. @ 25ºC** | 1.47 Ω |
| **Rating - Duty** | | | 40C AMB-CONT | **Temp. Rise @ Rated Load** | 73°C |
| **S.F. Amps** | | | | **Temp. Rise @ S.F. Load** | 97°C |
| | | | | **Locked-rotor Power Factor** | 36.2 |
| | | | | **Rotor inertia** | 0.984 LB-FT2 |

**Load Characteristics 368 V, 60 Hz, 7.5 HP**

| **% of Rated Load** | **25** | **50** | **75** | **100** | **125** | **150** | **S.F.** |
|---|---|---|---|---|---|---|---|
| **Power Factor** | 63 | 80 | 85 | 86 | 84 | 82 | 85 |
| **Efficiency** | 90.9 | 92.4 | 91.5 | 89.8 | 87.4 | 84.2 | 88.4 |
| **Speed** | 1787 | 1775 | 1762 | 1746 | 1727 | 1700 | 1735 |
| **Line amperes** | 3.89 | 5.98 | 8.5 | 11.39 | 14.91 | 19.04 | 13.5 |

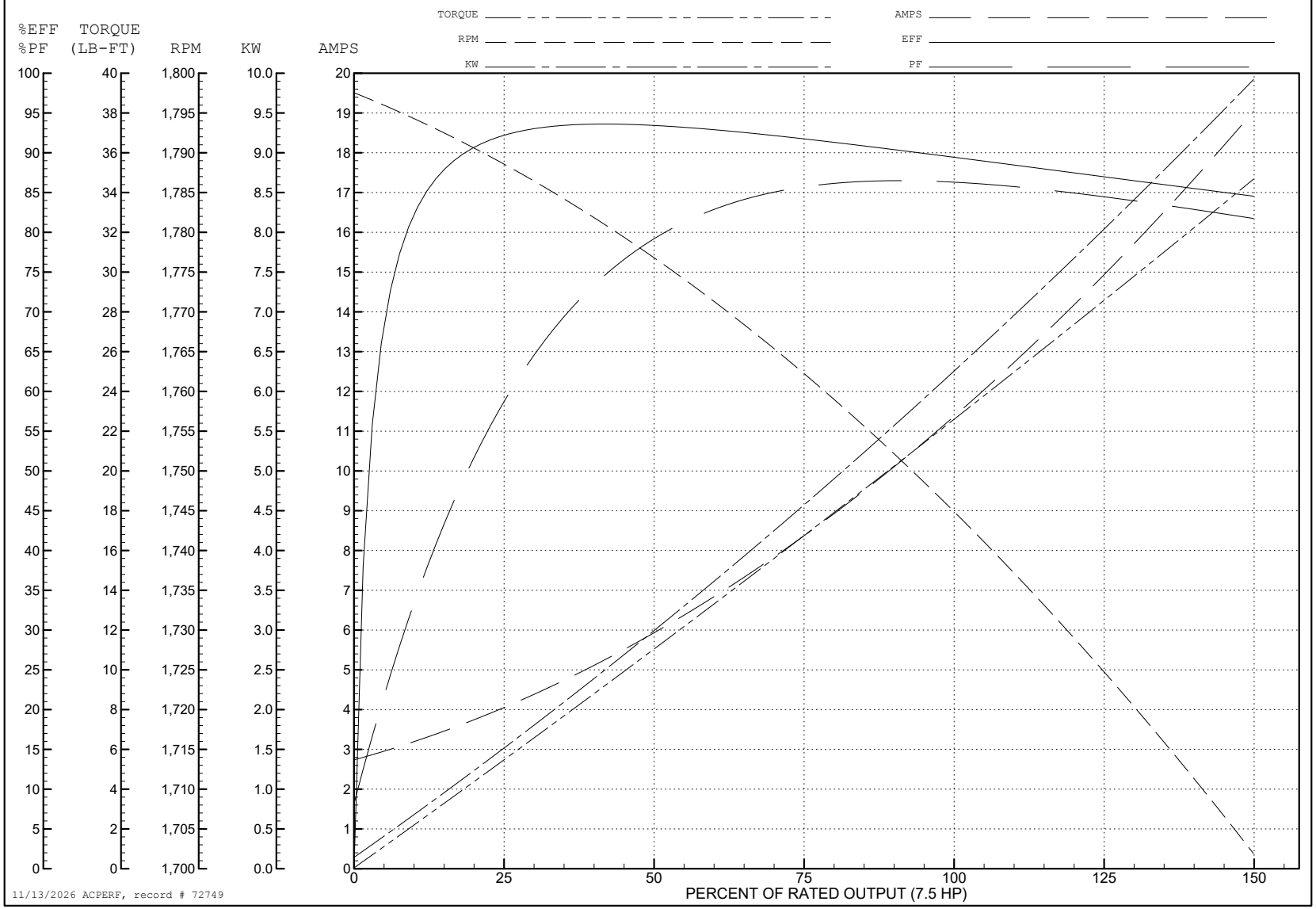
ABB Motors and Mechanical Inc.

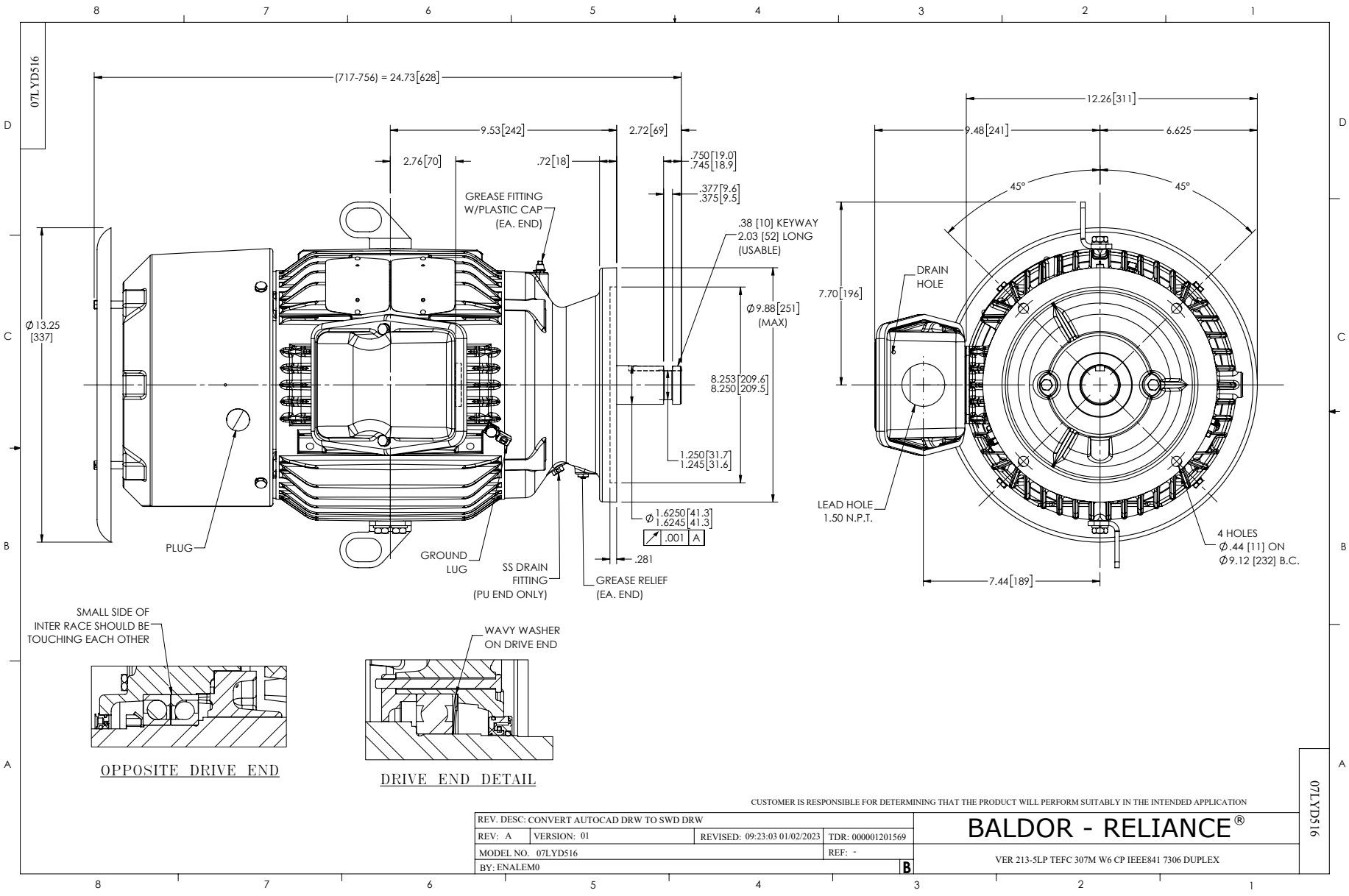
WINDING # 07WGX814

7.5 HP 3 PH 60 HZ 1765 RPM 368 V 0740M

Typical performance - not guaranteed values.

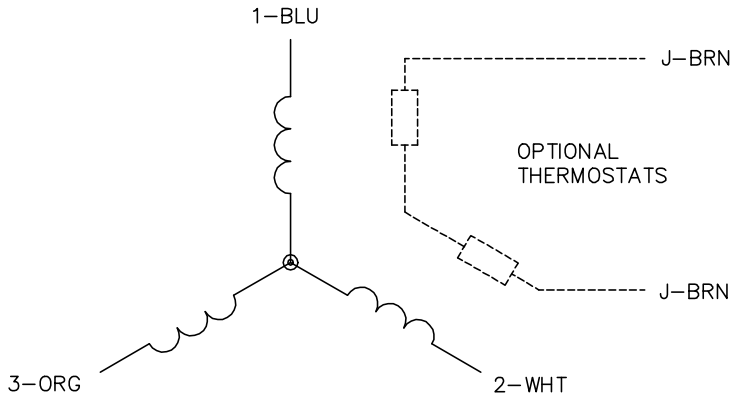
TORQUES(LB-FT): PO=41.76 PU=20.55 LR=26.49 LRA=51.32

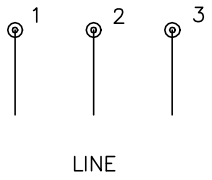



07LYD516
(717-756) = 24.73[628]
9.53[242]
2.72[69]
2.76[70]
.72[18]
.750[19.0]
.745[18.9]
.377[9.6]
.375[9.5]
GREASE FITTING
W/PLASTIC CAP
(EA. END)
.38 [10] KEYWAY
2.03 [52] LONG
(USABLE)
Ø13.25
[337]
Ø9.88[251]
(MAX)
8.253[209.6]
8.250[209.5]
1.250[31.7]
1.245[31.6]
Ø 1.6250[41.3]
1.6245[41.3]
.001 A
.281
PLUG
GROUND
LUG
SS DRAIN
FITTING
(PU END ONLY)
GREASE RELIEF
(EA. END)
12.26[311]
9.48[241]
6.625
45°
45°
7.70[196]
DRAIN
HOLE
LEAD HOLE
1.50 N.P.T.
4 HOLES
Ø.44 [11] ON
Ø9.12 [232] B.C.
7.44[189]
SMALL SIDE OF
INTER RACE SHOULD BE
TOUCHING EACH OTHER
WAVY WASHER
ON DRIVE END
OPPOSITE DRIVE END
DRIVE END DETAIL
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT THE PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION
REV. DESC: CONVERT AUTOCAD DRW TO SWD DRW
REV: A
VERSION: 01
REVISED: 09:23:03 01/02/2023
TDR: 000001201569
MODEL NO. 07LYD516
REF: -
BY: ENALEM0
B
BALDOR - RELIANCE®
VER 213-5LP TEFC 307M W6 CP IEEE841 7306 DUPLEX
07LYD516

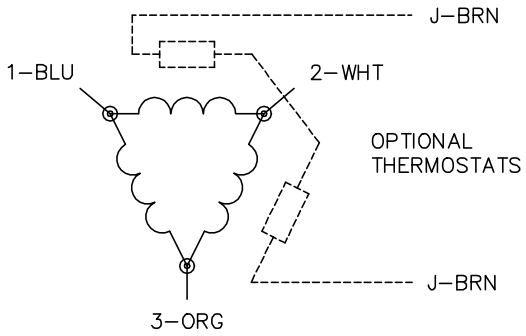
CD0006

TYPICAL WYE–CONNECTED MOTOR




TYPICAL DELTA–CONNECTED MOTOR




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 | | | BALDOR - RELIANCE® |
| REV. LTR: E | VERSION: 01 | TDR: 000001099922 | |
| FILE: \AAA\00005\141 | REVISED: 10:24:49 02/19/2019 | BY: ENBRIR0 | 3PH, SV, 3 LEADS, WYE OR DELTA CONNECTED |
| MTL: – | | | SH 1 of 1 |