

**BALDOR® • RELIANCE** 

**Product Information Packet**

**ECP84102T-4**

**20HP, 1175RPM, 3PH, 60HZ, 286T, TEFC, F1**

| Part Detail |    |             |            |             |        |               |            |
|-------------|----|-------------|------------|-------------|--------|---------------|------------|
| Revision:   | G  | Status:     | PRD/A      | Change #:   |        | Proprietary:  | No         |
| Type:       | AC | Elec. Spec: | 10WGZ429   | CD Diagram: | CD0006 | Mfg Plant:    |            |
| Mech. Spec: |    | Layout:     | 10LYH231   | Poles:      | 06     | Created Date: | 12-06-2018 |
| Base:       |    | Eff. Date:  | 02-24-2022 | Leads:      | 3#10   |               |            |

| Specs                           |                         |                                |                                |
|---------------------------------|-------------------------|--------------------------------|--------------------------------|
| Catalog Number:                 | ECP84102T-4             | Inverter Code:                 | Inverter Duty                  |
| Enclosure:                      | TEFC                    | IP Rating:                     | IP56                           |
| Frame:                          | 286T                    | KVA Code:                      | G                              |
| Frame Material:                 | Iron                    | Lifting Lugs:                  | Standard Lifting Lugs          |
| Output @ Frequency:             | 20.000 HP @ 60 HZ       | Locked Bearing Indicator:      | Locked Bearing                 |
| Synchronous Speed @ Frequency:  | 1200 RPM @ 60 HZ        | Motor Lead Quantity/Wire Size: | 3 @ 10 AWG                     |
| Voltage @ Frequency:            | 460.0 V @ 60 HZ         | Motor Lead Exit:               | Ko Box                         |
| XP Class and Group:             | CLI GP A,B,C,D          | Motor Lead Termination:        | Ring Terminals                 |
| XP Division:                    | Division II             | Motor Type:                    | 1056M                          |
| Agency Approvals:               | CCSA US                 | Mounting Arrangement:          | F1                             |
|                                 | CSA EEV                 | Power Factor:                  | 78                             |
|                                 | UR                      | Product Family:                | Chem Process S/P 32-8 IEEE 841 |
| Auxillary Box:                  | No Auxillary Box        | Pulley End Bearing Type:       | Ball                           |
| Auxillary Box Lead Termination: | None                    | Pulley Face Code:              | Standard                       |
| Base Indicator:                 | Rigid                   | Pulley Shaft Indicator:        | Standard                       |
| Bearing Grease Type:            | Polyrex EM (-20F +300F) | Rodent Screen:                 | None                           |
| Blower:                         | None                    | Shaft Extension Location:      | Pulley End                     |
| Constant Torque Speed Range:    | 1.3                     | Shaft Ground Indicator:        | No Shaft Grounding             |

|                                       |                           |                                    |                     |
|---------------------------------------|---------------------------|------------------------------------|---------------------|
| <b>Current @ Voltage:</b>             | 26.000 A @ 460.0 V        | <b>Shaft Rotation:</b>             | Reversible          |
| <b>Design Code:</b>                   | B                         | <b>Shaft Slinger Indicator:</b>    | No Slinger          |
| <b>Drip Cover:</b>                    | No Drip Cover             | <b>Speed Code:</b>                 | Single Speed        |
| <b>Duty Rating:</b>                   | CONT                      | <b>Motor Standards:</b>            | NEMA                |
| <b>Electrically Isolated Bearing:</b> | Not Electrically Isolated | <b>Starting Method:</b>            | Direct on line      |
| <b>Enclosure Modification:</b>        | 841                       | <b>Thermal Device - Bearing:</b>   | None                |
| <b>Feedback Device:</b>               | NO FEEDBACK               | <b>Thermal Device - Winding:</b>   | None                |
| <b>Front Face Code:</b>               | Standard                  | <b>Vibration Sensor Indicator:</b> | No Vibration Sensor |
| <b>Front Shaft Indicator:</b>         | None                      | <b>Winding Thermal 1:</b>          | None                |
| <b>Heater Indicator:</b>              | No Heater                 | <b>Winding Thermal 2:</b>          | None                |
| <b>Insulation Class:</b>              | F                         | <b>XP Temp Code:</b>               | T3C                 |

| Nameplate NP3190 |              |                   |                    |      |        |             |            |          |                         |           |            |    |
|------------------|--------------|-------------------|--------------------|------|--------|-------------|------------|----------|-------------------------|-----------|------------|----|
| STK.NO.          | ECP84102T-4  |                   | P/N                |      |        | ENCLOSURE   | TEFC       |          |                         |           |            |    |
| SPEC.            | 10-0000-0394 |                   | CC                 | 010A | FRAME  | 286T        |            | S/N      |                         |           |            |    |
| HP               | 20           |                   | CLASS              | F    | HZ     | 60          |            | ODE BRG  | 6311                    | DE BRG    | 6311       |    |
| RPM              | 1175         | RPM MAX           | 1800               |      | PH     | 3           | DES        | B        |                         | D.E. BRG. | 55BC03X30X |    |
| VOLT             | 460          |                   | KVA-CODE           | G    |        | O.D.E. BRG. | 55BC03X30X |          |                         |           |            |    |
| AMP              | 26           |                   | MOTOR WEIGHT       | 425  |        | GREASE      | POLYREX EM |          |                         |           |            |    |
| RATING           | 40C AMB-CONT |                   | MAX. KVAR          | 7.7  |        | BLANK       |            |          |                         |           |            |    |
| NEMA-NOM-EFF     | 91.7         | # OF ROTOR BARS   | 42                 |      | SER.F. | 1.15        |            | IP       | 56                      |           |            |    |
| G.MIN.EFF        | 90.2         | # OF STATOR SLOTS | 54                 |      | PF     | 78          |            | INV.TYPE | PWM                     |           |            |    |
| TEMP CODE        | T3C          |                   | INVERTER-TEMP-CODE | 180  |        |             |            |          |                         |           |            |    |
| TEMP =           | 160          |                   | C HP FR            | 60   |        | C HP TO     | 90         |          |                         |           |            |    |
| CT HZ FROM       | 1.3          |                   | CT HZ TO           | 60   |        |             |            |          |                         |           |            |    |
| HTR-VOLTS        |              |                   | HTR-AMPS           |      |        | HTR-WATTS   |            |          | MAX. SPACE HEATER TEMP. |           |            |    |
|                  |              |                   |                    |      |        |             |            |          | VT HZ FROM              | O         | VT HZ TO   | 60 |

| Parts List     |  |          |
|----------------|--|----------|
| Part Number    | Description                              | Quantity |
| SA363728       | SA 10-0000-0394                          | 1.000 EA |
| RA353017       | RA 10-0000-0394                          | 1.000 EA |
| LB1115N        | LABEL,LIFTING DEVICE (ON ROLLS)          | 1.000 EA |
| LB1119N        | WARNING LABEL                            | 1.000 EA |
| LC0006         | CONNECTION LABEL                         | 1.000 EA |
| LB1449         | DIV-2/NEC WARNING LABEL                  | 1.000 EA |
| NP3190         | SS IEEE841 INV DIV-2 UL CSA-C US EEV     | 1.000 EA |
| 85XU0407S04    | 4X1/4 U DRIVE PIN STAINLESS              | 4.000 EA |
| MN416A01       | TAG-INSTAL-MAINT no wire (2100/bx) 4/22  | 1.000 EA |
| WD1000B49      | T&B C73,RING TERMINAL 10-12 AWG 3/8 STUD | 3.000 EA |
| WD1000B16      | T&B CX70TN OR L70P TERMINAL LUG          | 1.000 EA |
| 80XN3816A12    | SET SCREW,HEX SOCKET CUP POINT,3/8-16 X  | 4.000 EA |
| 10FH1007A24GP6 | FAN COVER W/1.00 SLOT @ 6:00             | 1.000 EA |
| HW1001A31      | LOCKWASHER 5/16, ZINC PLT.591 OD, .319 I | 3.000 EA |
| 10XN3118K20    | 5/16-18 X 1 1/4 GRADE 5 STEEL ZC PLATED  | 3.000 EA |
| 09FN3001C02    | EXTERNAL FAN, PLASTIC (COMES W/SCREW FRO | 1.000 EA |
| HW2500A25      | WOODRUFF KEY USA #1008 #BLOW CARBON STEE | 1.000 EA |
| MJ1000A02      | GREASE, MOBIL POLYREX EM - 124047        | 0.130 LB |
| 10XN2520K06    | 1/4-20 X 3/8" HX HD SCREWGRADE 5, ZINC P | 1.000 EA |
| 10EP1110A02GP6 | FR ENDPLATE, MACH W/PRIMER & PAINT       | 1.000 EA |
| 10XN3816K28    | 3/8-16 X 1.75 HEX HD CAP SCREW, GRADE 5  | 4.000 EA |
| HW1001A38      | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 EA |
| HW4601A53      | INPRO/SEAL VBXX FOR 311 BEARING/310 FRAM | 1.000 EA |
| HW5100A13      | W4627-047 WVY WSHER                      | 1.000 EA |

| Parts List (continued) |  |          |
|------------------------|--|----------|
| Part Number            | Description                              | Quantity |
| HA4017A02              | .125X2.50 GREASER EXTENS.F/S             | 1.000 EA |
| HA4017A02              | .125X2.50 GREASER EXTENS.F/S             | 1.000 EA |
| HW4019A01              | PIPE COUPLING 1/8 NPT,STEEL,ZINC COATING | 1.000 EA |
| 10XN3118K40            | 5/16-18 X 2.50" HEX HD, GRADE 5          | 4.000 EA |
| HA4051A00              | PLASTIC CAP FOR GREASE FITTING           | 1.000 EA |
| HW4500A21              | 1618BALEMITE FITTING 825 UNIVERSAL       | 1.000 EA |
| HW4500A17              | 317400 ALEMITE GREASE RELIEF             | 1.000 EA |
| HW4500A20              | 1/8NPT SL PIPE PLUG                      | 1.000 EA |
| HA4002A03              | #304 S.S. DRAIN FITTING, .125 NPT (.44 H | 1.000 EA |
| 10EP1110A01P           | MACH'D EPOXY PRIMED EP                   | 1.000 EA |
| HW1001A38              | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 EA |
| 10XN3816K28            | 3/8-16 X 1.75 HEX HD CAP SCREW, GRADE 5  | 4.000 EA |
| HW4601A53              | INPRO/SEAL VBXX FOR 311 BEARING/310 FRAM | 1.000 EA |
| 10XN3118K40            | 5/16-18 X 2.50" HEX HD, GRADE 5          | 4.000 EA |
| HA4051A00              | PLASTIC CAP FOR GREASE FITTING           | 1.000 EA |
| HW4500A03              | GREASE FITTING, .125 NPT 1610(ALEMITE) 8 | 1.000 EA |
| HW4500A17              | 317400 ALEMITE GREASE RELIEF             | 1.000 EA |
| HW4500A20              | 1/8NPT SL PIPE PLUG                      | 1.000 EA |
| HA4002A03              | #304 S.S. DRAIN FITTING, .125 NPT (.44 H | 1.000 EA |
| 10CB1000A09P           | KOBX, MACH W/1.50 NPT & PRIMER           | 1.000 EA |
| 09GS1010               | GASKET, DWG, LEADWIRE SEPERATOR          | 1.000 EA |
| 10XN3118K16            | 5/16-18 X 1' GRADE #5, STL, ZINC PLATE   | 4.000 EA |
| HW1001A31              | LOCKWASHER 5/16, ZINC PLT.591 OD, .319 I | 4.000 EA |
| WD1000B16              | T&B CX70TN OR L70P TERMINAL LUG          | 1.000 EA |

Product Information Packet: ECP84102T-4 - 20HP,1175RPM,3PH,60HZ,286T,TEFC,F1

|              |  |          |
|--------------|--|----------|
| 59XW2520G07  | .25-20X.44,HEX SER WSHR,TAPTITE 2,GREEN  | 1.000 EA |
| 10CB1503A01P | CONDUIT BOX LIPPED LID, MACH W/EPXY PRMR | 1.000 EA |
| 14GS1003     | GASKET CONDUIT BOX LID, NEOP             | 1.000 EA |
| 10XN2520K16  | 1/4-20 X 1" HX HD SCRW GRADE 5, ZINC P   | 4.000 EA |
| HW1001A25    | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 4.000 EA |
| MG1025N19    | WILKOFAS, 778.50, RELIANCE BLUE-GREEN    | 0.125 GA |
| MJ5001A27    | 32220KN GRAY SEALER *MIN BUY 4 QTS=1GAL  | 0.031 QT |
| MJ5002A01    | SILICON RUBBER SEALANT, 732CL 10.3 OZ TU | 0.033 EA |
| MJ5002A01    | SILICON RUBBER SEALANT, 732CL 10.3 OZ TU | 0.025 EA |
| 10PA1000     | PACKAGING GROUP COMBINED PRINT PK1023A06 | 1.000 EA |
| HW2501H28    | KEY, 1/2 SQ X 3.250                      | 1.000 EA |
| MJ5004A59    | ADHESIVE LOCTITE #401 SURFACE INSENSITIV | 0.010 EA |

**AC Induction Motor Performance Data**

Record # 53389

Typical performance - not guaranteed values

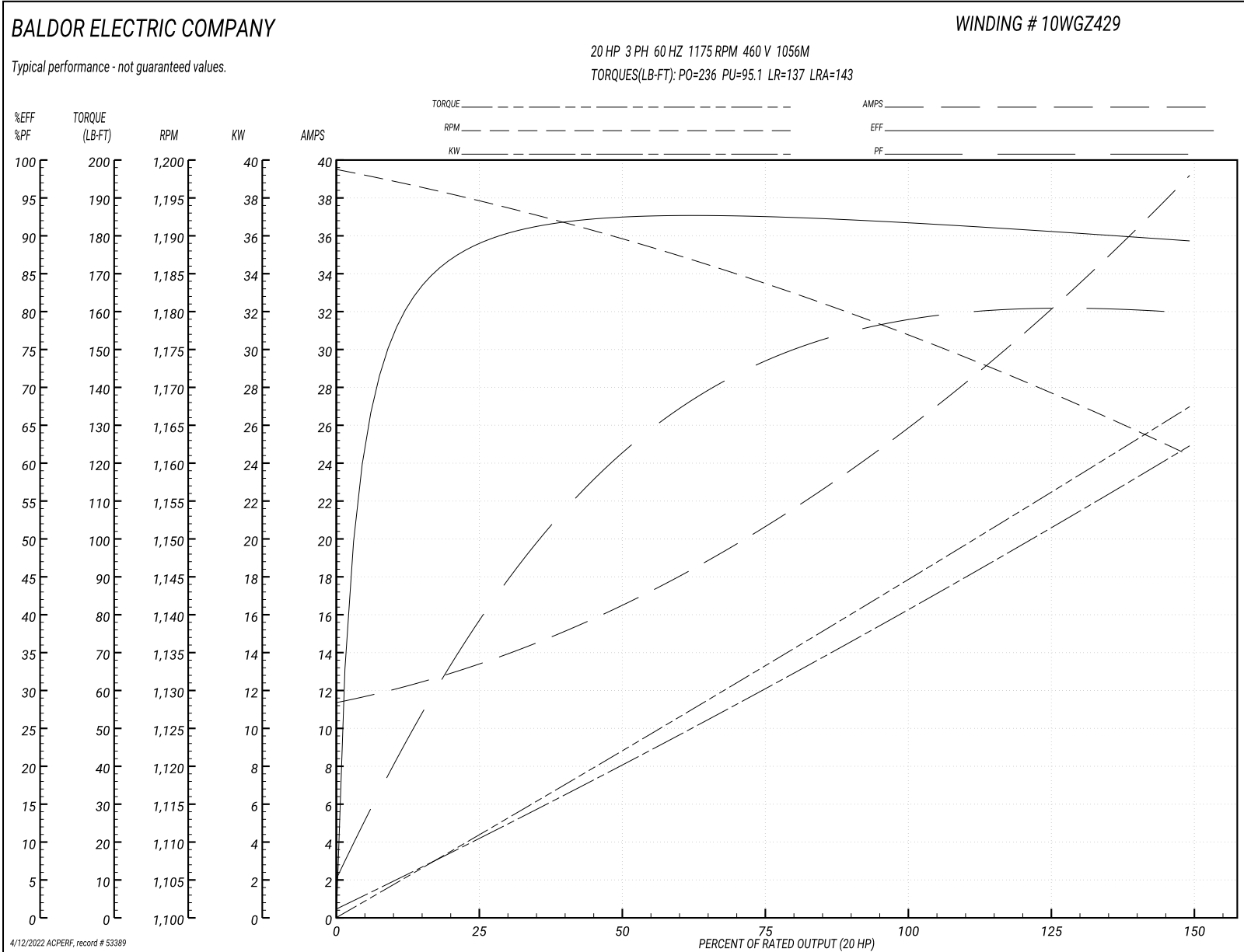
| <b>Winding: 10WGZ429-R001</b> |              | <b>Type: 1056M</b>         |   | <b>Enclosure: TEFC</b>       |           |
|-------------------------------|--------------|----------------------------|---|------------------------------|-----------|
| <b>Nameplate Data</b>         |              |                            | <b>460 V, 60 Hz:<br/>Single Voltage Motor</b> |                              |           |
| <b>Rated Output (HP)</b>      | 20           | <b>Full Load Torque</b>    | 89.1 LB-FT                                    |                              |           |
| <b>Volts</b>                  | 460          | <b>Start Configuration</b> | direct on line                                |                              |           |
| <b>Full Load Amps</b>         | 26           | <b>Breakdown Torque</b>    | 236 LB-FT                                     |                              |           |
| <b>R.P.M.</b>                 | 1175         | <b>Pull-up Torque</b>      | 95.1 LB-FT                                    |                              |           |
| <b>Hz</b>                     | 60 Phase     | <b>Locked-rotor Torque</b> | 137 LB-FT                                     |                              |           |
| <b>NEMA Design Code</b>       | B KVA Code   | <b>G</b>                   | <b>Starting Current</b>                       | 143 A                        |           |
| <b>Service Factor (S.F.)</b>  | 1.15         | <b>No-load Current</b>     | 11.6 A  |                              |           |
| <b>NEMA Nom. Eff.</b>         | 91.7         | <b>Power Factor</b>        | 78  | <b>Line-line Res. @ 25°C</b> | 0.47101 Ω |
| <b>Rating - Duty</b>          | 40C AMB-CONT |                            | <b>Temp. Rise @ Rated Load</b>                | 63°C                         |           |
| <b>S.F. Amps</b>              |              |                            | <b>Temp. Rise @ S.F. Load</b>                 | 79°C                         |           |
|                               |              |                            | <b>Locked-rotor Power Factor</b>              | 31.8                         |           |

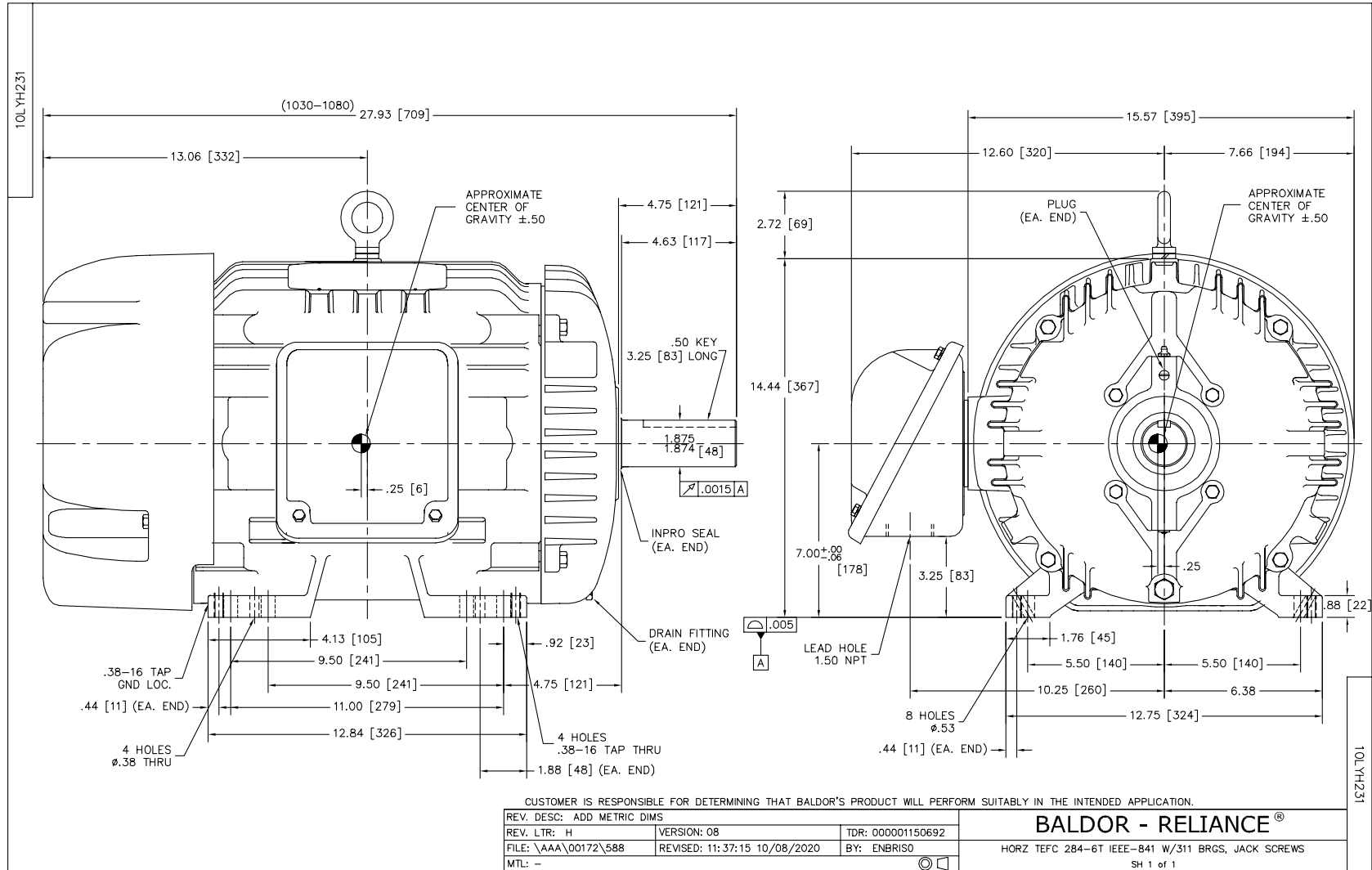
**Load Characteristics 460 V, 60 Hz, 20 HP**

| <b>% of Rated Load</b> | <b>25</b> | <b>50</b> | <b>75</b> | <b>100</b> | <b>125</b> | <b>150</b> | <b>S.F.</b> |
|------------------------|-----------|-----------|-----------|------------|------------|------------|-------------|
| <b>Power Factor</b>    | 41        | 63        | 73        | 78         | 80         | 80         | 79          |
| <b>Efficiency</b>      | 88.6      | 92.1      | 92.5      | 91.9       | 90.8       | 89.2       | 91.2        |
| <b>Speed</b>           | 1194.6    | 1189.1    | 1183.8    | 1177.1     | 1169.8     | 1160.7     | 1173        |
| <b>Line amperes</b>    | 13.1      | 16.4      | 20.7      | 26.1       | 32         | 39.1       | 29.6        |



Performance Graph at 460V, 60Hz, 20.0HP Typical performance - Not guaranteed values





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

Marketing maintained PDF of MN416:

<http://www.baldor.com/support/Literature/Load.ashx/MN416?ManNumber=MN416>