

**BALDOR® • RELIANCE** 

**Product Information Packet**

**ECP83770T-4**

**7.5HP,1765RPM,3PH,60HZ,213T,0740M,TEFC,F**

| Part Detail |        |             |            |             |        |               |            |
|-------------|--------|-------------|------------|-------------|--------|---------------|------------|
| Revision:   | AZ     | Status:     | PRD/A      | Change #:   |        | Proprietary:  | No         |
| Type:       | AC     | Elec. Spec: | 07WGX814   | CD Diagram: | CD0006 | Mfg Plant:    |            |
| Mech. Spec: | 07K629 | Layout:     | 07LYK629   | Poles:      | 04     | Created Date: | 01-24-2006 |
| Base:       | RG     | Eff. Date:  | 02-11-2022 | Leads:      | 3#14   |               |            |

| Specs                           |                         |                                |                                |
|---------------------------------|-------------------------|--------------------------------|--------------------------------|
| Catalog Number:                 | ECP83770T-4             | Inverter Code:                 | Inverter Duty                  |
| Enclosure:                      | TEFC                    | KVA Code:                      | H                              |
| Frame:                          | 213T                    | Lifting Lugs:                  | Standard Lifting Lugs          |
| Frame Material:                 | Iron                    | Locked Bearing Indicator:      | Locked Bearing                 |
| Output @ Frequency:             | 7.500 HP @ 60 HZ        | Motor Lead Quantity/Wire Size: | 3 @ 14 AWG                     |
| Synchronous Speed @ Frequency:  | 1800 RPM @ 60 HZ        | Motor Lead Exit:               | Ko Box                         |
| Voltage @ Frequency:            | 460.0 V @ 60 HZ         | Motor Lead Termination:        | Flying Leads                   |
| XP Class and Group:             | CLI GP A,B,C,D          | Motor Type:                    | 0740M                          |
| XP Division:                    | Division II             | Mounting Arrangement:          | F1                             |
| Agency Approvals:               | CSA                     | Power Factor:                  | 81                             |
|                                 | CSA EEV                 | Product Family:                | Chem Process S/P 32-8 IEEE 841 |
|                                 | UR                      | Pulley End Bearing Type:       | Ball                           |
| Auxillary Box:                  | No Auxillary Box        | Pulley Face Code:              | Standard                       |
| Auxillary Box Lead Termination: | None                    | Pulley Shaft Indicator:        | Standard                       |
| Base Indicator:                 | Rigid                   | Rodent Screen:                 | None                           |
| Bearing Grease Type:            | Polyrex EM (-20F +300F) | RoHS Status:                   | ROHS COMPLIANT                 |
| Blower:                         | None                    | Shaft Extension Location:      | Pulley End                     |
| Constant Torque Speed Range:    | 1.2                     | Shaft Ground Indicator:        | No Shaft Grounding             |

|                                       |                           |                                    |                     |
|---------------------------------------|---------------------------|------------------------------------|---------------------|
| <b>Current @ Voltage:</b>             | 9.500 A @ 460.0 V         | <b>Shaft Rotation:</b>             | Reversible          |
| <b>Design Code:</b>                   | B                         | <b>Shaft Slinger Indicator:</b>    | Shaft 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>Feedback Device:</b>               | NO FEEDBACK               | <b>Thermal Device - Bearing:</b>   | None                |
| <b>Front Face Code:</b>               | Standard                  | <b>Thermal Device - Winding:</b>   | None                |
| <b>Front Shaft Indicator:</b>         | None                      | <b>Vibration Sensor Indicator:</b> | No Vibration Sensor |
| <b>Heater Indicator:</b>              | No Heater                 | <b>Winding Thermal 1:</b>          | None                |
| <b>Insulation Class:</b>              | F                         | <b>Winding Thermal 2:</b>          | None                |
|                                       |                           | <b>XP Temp Code:</b>               | T3C                 |

|                          |              |    |  |             |              |      |             |           |    |              |   |
|--------------------------|--------------|----|--|-------------|--------------|------|-------------|-----------|----|--------------|---|
| <b>Nameplate NP3235E</b> |              |    |  |             |              |      |             |           |    |              |   |
| <b>CAT.NO.</b>           | ECP83770T-4  |    |  |             |              |      |             |           |    |              |   |
| <b>SPEC.</b>             | 07K629X814   |    |  |             |              |      |             |           |    |              |   |
| <b>HP</b>                | 7.5          | TE |  |             |              |      |             | <b>IP</b> | 56 |              |   |
| <b>VOLTS</b>             | 460          |    |  |             |              |      |             |           |    |              |   |
| <b>AMPS</b>              | 9.5          |    |  |             |              |      |             |           |    |              |   |
| <b>R.P.M.</b>            | 1765         |    |  |             |              |      |             |           |    |              |   |
| <b>FRAME</b>             | 213T         |    |  |             |              |      | <b>HZ</b>   | 60        |    |              |   |
| <b>SER.F.</b>            | 1.15         |    |  | <b>CODE</b> | H            |      | <b>DES.</b> | B         |    |              |   |
| <b>RATING</b>            | 40C AMB-CONT |    |  |             |              |      |             |           |    |              |   |
| <b>SN</b>                |              |    |  |             |              |      |             |           |    |              |   |
| <b>DE</b>                | 6307         |    |  |             | <b>ODE</b>   | 6307 |             |           |    |              |   |
| <b>NEMA NOM. EFF.</b>    | 91.7         |    |  |             | <b>P.F.</b>  | 82   |             |           |    |              |   |
| <b>GUAR. MIN. EFF.</b>   | 90.2         |    |  |             | <b>CC</b>    | 010A |             |           |    |              |   |
| <b>T. CODE</b>           | T3C          |    |  |             | <b>TEMP=</b> | 160  |             |           |    |              |   |
|                          |              |    |  |             |              |      | <b>PH</b>   | 3         |    | <b>CLASS</b> | F |

|                          |            |                                |     |
|--------------------------|------------|--------------------------------|-----|
| <b>Nameplate NP3186E</b> |            |                                |     |
| <b>SPEC.</b>             | 07K629X814 |                                |     |
| <b>ABMA DE BRG</b>       | 35BC03X30X |                                |     |
| <b>ABMA ODE BRG</b>      | 35BC03X30X |                                |     |
| <b>GREASE</b>            | POLYREX EM |                                |     |
| <b>MOTOR WEIGHT</b>      | 199        | <b>ROTOR BARS</b>              | 28  |
| <b>MAX. R.P.M.</b>       | 2700       | <b>MAX. KVAR</b>               | 1.3 |
|                          |            | <b>STATOR BARS</b>             | 36  |
| <b>INV. TYPE</b>         | PWM        |                                |     |
| <b>T=</b>                | 160        | <b>TO</b>                      | 90  |
| <b>CHP</b>               | 60         | <b>TO</b>                      | 60  |
| <b>CT</b>                | 1.2        | <b>TO</b>                      | 60  |
| <b>VT</b>                | 0-         |                                |     |
| <b>HTR-VOLTS</b>         | N/A        | <b>HTR-AMPS</b>                | N/A |
| <b>HTR-WATTS</b>         |            |                                |     |
|                          |            | <b>MAX. SPACE HEATER TEMP.</b> | N/A |

| Parts List   |  |          |
|--------------|--|----------|
| Part Number  | Description                              | Quantity |
| SA139004     | SA 07K629X814                            | 1.000 EA |
| RA128516     | RA 07K629X814                            | 1.000 EA |
| 37FN3002C01  | EXFN, PLASTIC, 6.00 OD, 1.155 ID         | 1.000 EA |
| HW3201A05    | 3/8-16 EYEBOLT                           | 1.000 EA |
| 09CB1002A05G | CONDUIT BOX, 1.00 N.P.T. (GRAY)          | 1.000 EA |
| RM1017       | LEAD SEPERATOR GASKET MODEL 307 1/8" THK | 1.000 EA |
| 19XW2520A16  | SCREW,1/4-20X1 TAPTITE-II OR ROLOC 91    | 2.000 EA |
| HW1001A25    | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 2.000 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 |
| 10XN2520S06  | 1/4 20X3/8 HX HD CAP S.S.                | 1.000 EA |
| WD1000B16    | T&B CX70TN OR L70P TERMINAL LUG          | 1.000 EA |
| 07EP1119A02G | 307 BRG,C.I.FH,GRSR,RLF,DRAIN FITTING,IN | 1.000 EA |
| HW4601B25    | INPRO SEAL, 307 BRG, MINI66              | 1.000 EA |
| 10XN2520A26  | 1/4-20X 1 5/8 HEX HD                     | 4.000 EA |
| XY3118A12    | 5/16-18 HEX NUT DIRECTIONAL SERRATION    | 4.000 EA |
| HW4500A32    | FIT./EXT 1698-B (ALEMITE)GREASE FITTING  | 1.000 EA |
| HA4051A00    | PLASTIC CAP FOR GREASE FITTING           | 1.000 EA |
| HW4500A17    | 317400 ALEMITE GREASE RELIEF             | 1.000 EA |
| HA4010A01    | T-DRAIN PLUG,416 S.S.,W/ 1/4-28 THD & .0 | 1.000 EA |
| HA3104A32    | THRUBOLT- 5/16-18 X12.750                | 4.000 EA |
| HW5100A08    | W3118-035 WVY WSHR (WB)                  | 1.000 EA |
| 07EP1119A01G | 307 BRG,BRG RET,GRSR,RLF,DRAIN FITTING,I | 1.000 EA |
| HW4601B25    | INPRO SEAL, 307 BRG, MINI66              | 1.000 EA |

| Parts List (continued) |  |          |
|------------------------|--|----------|
| Part Number            | Description                              | Quantity |
| HW4500A01              | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 EA |
| HA4051A00              | PLASTIC CAP FOR GREASE FITTING           | 1.000 EA |
| HW4500A17              | 317400 ALEMITE GREASE RELIEF             | 1.000 EA |
| 10XN2520A26            | 1/4-20X 1 5/8 HEX HD                     | 4.000 EA |
| HA4010A01              | T-DRAIN PLUG,416 S.S.,W/ 1/4-28 THD & .0 | 1.000 EA |
| 07FH1001A01G           | SPL FAN HOUSING, 307, W/GREASER, GRAY EP | 1.000 EA |
| 10XN2520A28            | 1/4-20X 1 3/4 HEX HD                     | 3.000 EA |
| WD4100A02              | DP-1000 HEYCO PLUG OR 62MP1000 MICRO PL  | 1.000 EA |
| 12CB1503G              | CONDUIT BOX CAST. (GRAY)                 | 1.000 EA |
| 09GS1013A01            | 09 GS FOR 09CB3501 LID - BLACK NEOPRENE  | 1.000 EA |
| 10XN2520A12            | 1/4-20 X 3/4 HEX HEAD CAP                | 2.000 EA |
| MJ5004A59              | ADHESIVE LOCTITE #401 SURFACE INSENSITIV | 0.010 EA |
| HW2501F21              | KEY, 5/16 SQ X 2.375                     | 1.000 EA |
| HA7000A02              | KEY RETAINER RING, 1 1/8 DIA, 1 3/8 DIA  | 1.000 EA |
| MJ5001A27              | 32220KN GRAY SEALER *MIN BUY 4 QTS=1GAL  | 0.001 QT |
| MJ1000A73              | INPRO P-80 ASSEMBLY LUB./ 1 QT. CONTAIN  | 0.001 QT |
| 85XU0407S04            | 4X1/4 U DRIVE PIN STAINLESS              | 4.000 EA |
| LB1115N                | LABEL,LIFTING DEVICE (ON ROLLS)          | 1.000 EA |
| LT0019A00              | MOTOR NO-LOAD PERFORMANCE DATA SHEET     | 1.000 EA |
| WD1000D21              | TRM,T&B #B71M,RING,18-14,.25,NON-INSL    | 3.000 EA |
| MJ1000A02              | GREASE, MOBIL POLYREX EM - 124047        | 0.050 LB |
| 51XB1214A20            | 12-14X1.25 HXWSSLD SERTYB                | 1.000 EA |
| MG1025N19              | WILKOFASST, 778.50, RELIANCE BLUE-GREEN  | 0.036 GA |
| LB1119N                | WARNING LABEL                            | 1.000 EA |

|             |   |          |
|-------------|---|----------|
| LB1002N     | LABEL,MARINE DUTY (ON ROLLS)            | 1.000 EA |
| LB1449      | DIV-2/NEC WARNING LABEL                 | 1.000 EA |
| LC0006      | CONNECTION LABEL                        | 1.000 EA |
| NP3235E     | SS IEEE841 DIV-2 UL CSA-C US EEV PREM   | 1.000 EA |
| NP3186E     | SS IEEE841 INV AUX DATA INFORMATION     | 1.000 EA |
| 07PA1011    | PKG GRP, 07 CAST IRON PK1181            | 1.000 EA |
| 10XL3808A28 | 3/8 X 1 3/4" LAG SCREW                  | 2.000 EA |
| MN416A01    | TAG-INSTAL-MAINT no wire (2100/bx) 4/22 | 1.000 EA |



**AC Induction Motor Performance Data**

Record # 83955

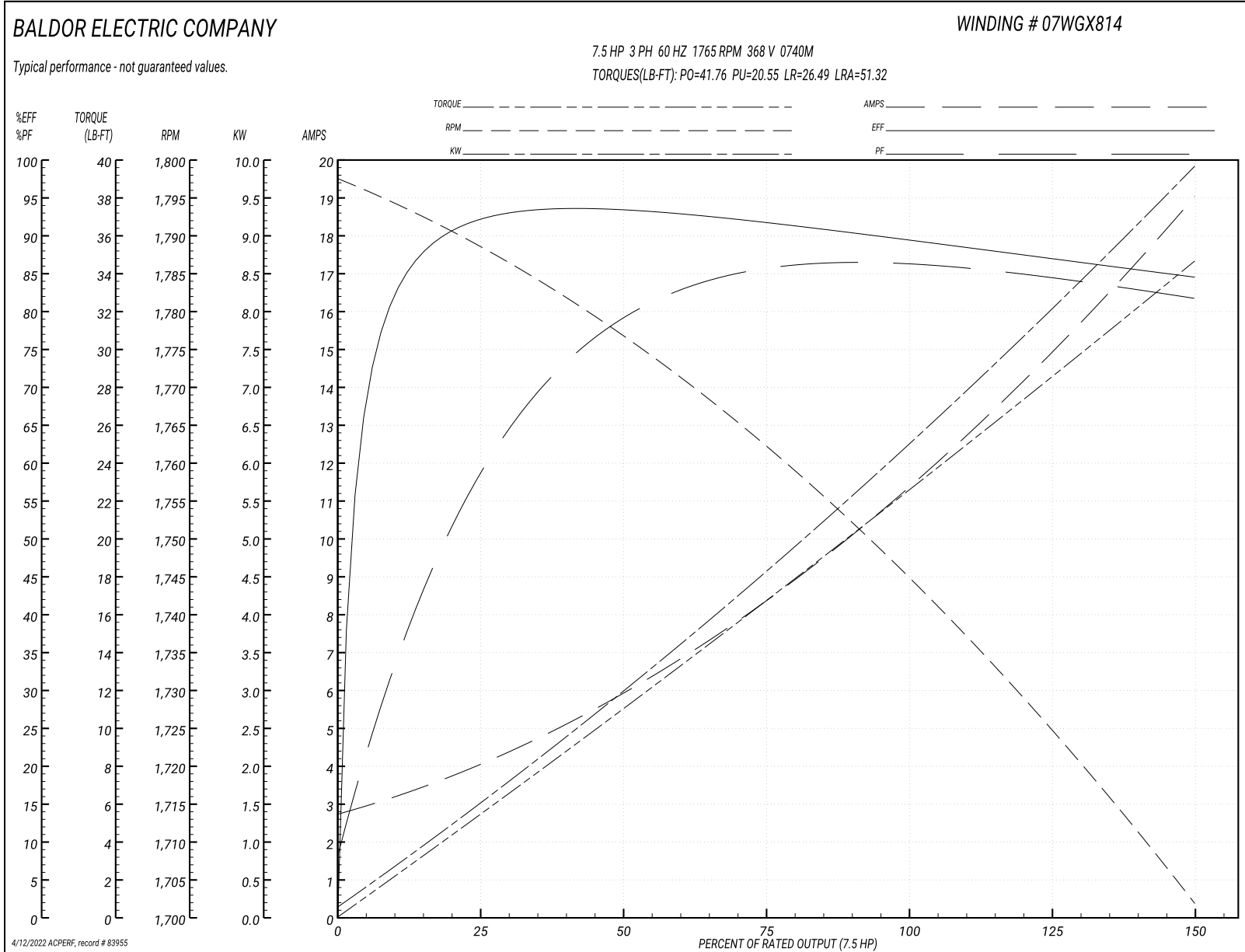
Typical performance - not guaranteed values

| Winding: 07WGX814-R056 |                   | Type: 0740M                                   | Enclosure: TEFC          |
|------------------------|-------------------|---|--------------------------|
| <b>Nameplate Data</b>  |                   | <b>368 V, 60 Hz:<br/>Single Voltage Motor</b> |                          |
| 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          | Locked-rotor Torque                           | 26.49 LB-FT              |
| NEMA Design Code       | B KVA Code        | Starting Current                              | 51.32 A                  |
| Service Factor (S.F.)  | 1.15              | No-load Current                               | 2.84 A                   |
| NEMA Nom. Eff.         | 91.7 Power Factor | Line-line Res. @ 25°C                         | 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-ft <sup>2</sup> |

**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 |

Performance Graph at 368V, 60Hz, 7.5HP Typical performance - Not guaranteed values



**AC Induction Motor Performance Data**

Record # 92344

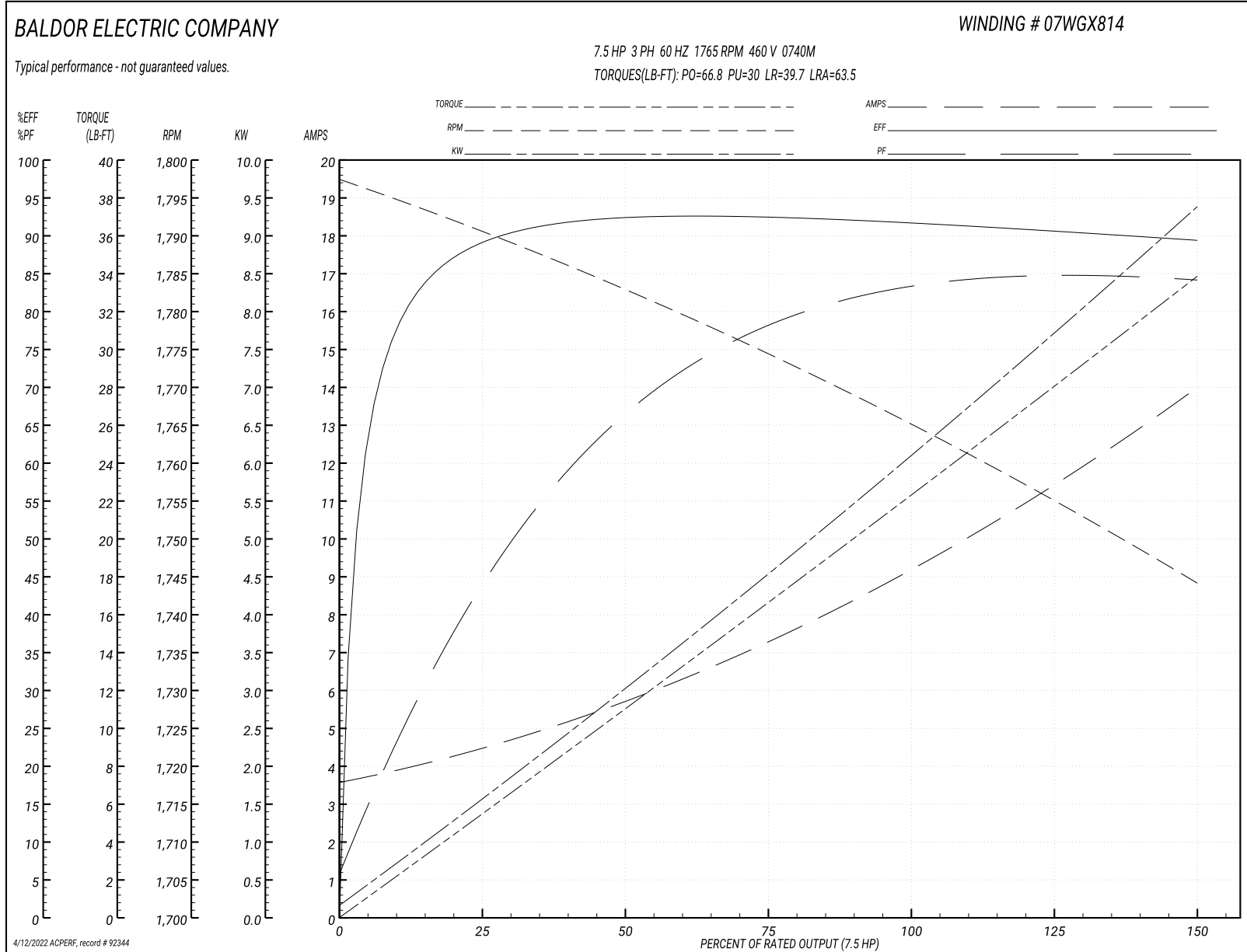
Typical performance - not guaranteed values

| Winding: 07WGX814-R056 |                   | Type: 0740M                                   | Enclosure: TEFC |
|------------------------|-------------------|---|-----------------|
| <b>Nameplate Data</b>  |                   | <b>460 V, 60 Hz:<br/>Single Voltage Motor</b> |                 |
| Rated Output (HP)      | 7.5               | Full Load Torque                              | 22.32 LB-FT     |
| Volts                  | 460               | Start Configuration                           | direct on line  |
| Full Load Amps         | 9.5               | Breakdown Torque                              | 66.8 LB-FT      |
| R.P.M.                 | 1765              | Pull-up Torque                                | 30 LB-FT        |
| Hz                     | 60 Phase          | Locked-rotor Torque                           | 39.7 LB-FT      |
| NEMA Design Code       | B KVA Code        | Starting Current                              | 63.5 A          |
| Service Factor (S.F.)  | 1.15              | No-load Current                               | 3.71 A          |
| NEMA Nom. Eff.         | 91.7 Power Factor | Line-line Res. @ 25°C                         | 1.485 Ω         |
| Rating - Duty          | 40C AMB-CONT      | Temp. Rise @ Rated Load                       | 49°C            |
| S.F. Amps              |                   | Temp. Rise @ S.F. Load                        | 61°C            |
|                        |                   | Locked-rotor Power Factor                     | 36.2            |

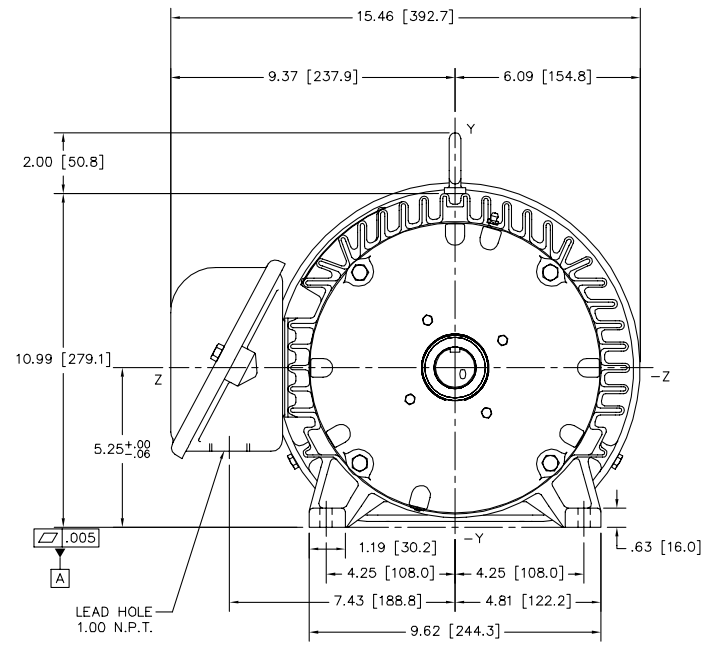
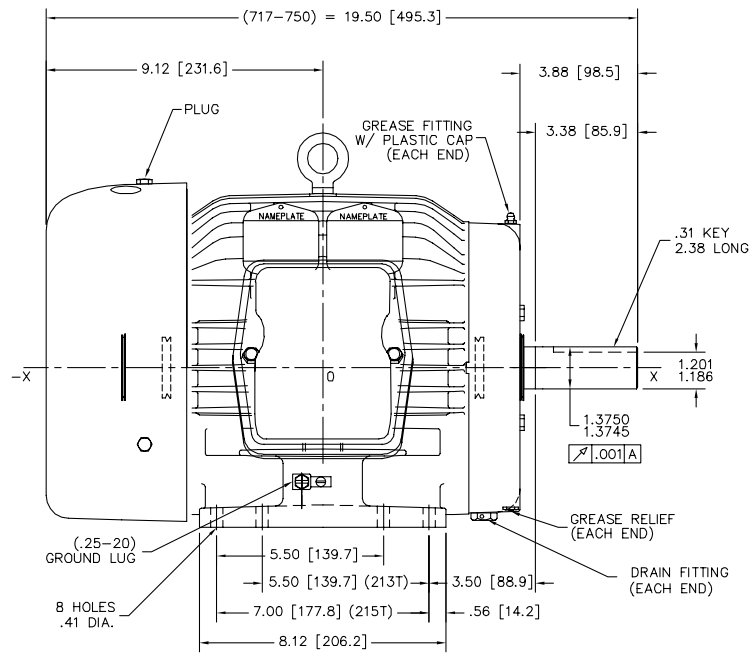
**Load Characteristics 460 V, 60 Hz, 7.5 HP**

| % of Rated Load | 25     | 50     | 75     | 100    | 125    | 150    | S.F. |
|-----------------|--------|--------|--------|--------|--------|--------|------|
| Power Factor    | 46     | 68     | 78     | 82     | 84     | 85     | 83   |
| Efficiency      | 88.6   | 92.1   | 92.4   | 91.7   | 90.7   | 89.3   | 91.1 |
| Speed           | 1789.9 | 1782.7 | 1774.5 | 1765.4 | 1755.6 | 1743.7 | 1760 |
| Line amperes    | 4.3    | 5.61   | 7.32   | 9.31   | 11.5   | 13.9   | 10.6 |

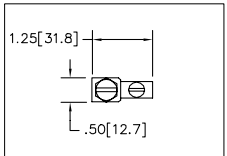
Performance Graph at 460V, 60Hz, 7.5HP Typical performance - Not guaranteed values



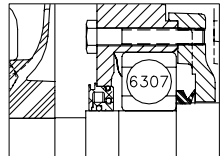
07LYK629



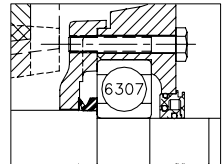
\*MAIN CONDUIT BOX VOLUME 70 CUBIC IN.



GROUND LUG DETAIL



FRONT END DETAIL



PULLEY END DETAIL

| SPEC          | MOTOR WEIGHT | C.O.G. FROM CENTERLINE |
|---------------|--------------|------------------------|
| 07K629X813G32 | 231 LBS      | X=.01, Y=.48, Z=.24    |

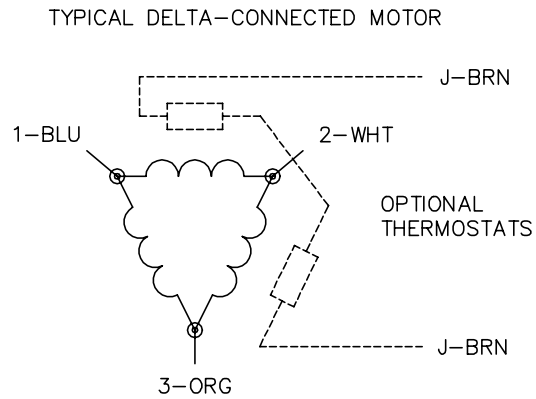
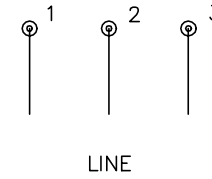
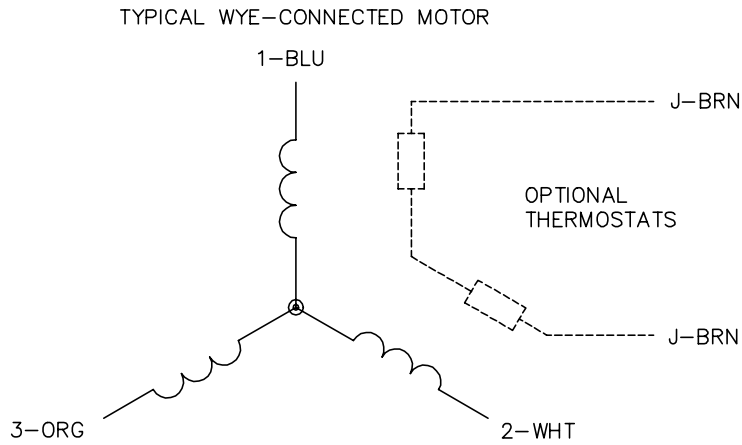
07LYK629

CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION.

|                               |                              |                   |
|-------------------------------|------------------------------|-------------------|
| REV. DESC: ADD GRD LUG DETAIL | VERSION: 09                  | TDR: 000001134451 |
| REV. LTR: J                   | REVISED: 04:28:35 04/30/2020 | BY: USTRTAY1      |
| FILE: \AAA\00118\406          |                              |                   |
| MTL: -                        |                              |                   |

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 STD HORZ 213-5T TEFC 07M (ECP) IEEE841  
 SH 1 of 1

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: -                            | © □                          |                   |

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3PH, SV, 3 LEADS, WYE OR DELTA CONNECTED

SH 1 of 1