

# **BALDOR® • RELIANCE**

## **Product Information Packet**

### **ECP84106T-4**

**20HP,3510RPM,3PH,60HZ,256T,0954M,TEFC,F1**

| Part Detail |      |                |       |             |          |               |            |
|-------------|------|----------------|-------|-------------|----------|---------------|------------|
| Revision:   | T    | Status:        | PRD/A | Change #:   |          | Proprietary:  | No         |
| Type:       | AC   | Prod. Type:    | 0954M | Elec. Spec: | 09WGT034 | CD Diagram:   | CD0006     |
| Enclosure:  | TEFC | Mfg Plant:     |       | Mech. Spec: | 09G557   | Layout:       | 09LYG557   |
| Frame:      | 256T | Mounting:      | F1    | Poles:      | 02       | Created Date: | 01-07-2014 |
| Base:       | RG   | Rotation:      | R     | Insulation: | F        | Eff. Date:    | 01-06-2017 |
| Leads:      | 3#12 |                |       |             |          | Replaced By:  |            |
| Literature: |      | Elec. Diagram: |       |             |          |               |            |

## Nameplate NP3190

|              |              |                         |      |             |            |
|--------------|--------------|-------------------------|------|-------------|------------|
| STK.NO.      | ECP84106T-4  | P/N                     |      | ENCLOSURE   | TEFC       |
| SPEC.        | 09G557T034   | CC                      | 010A | FRAME       | 256T       |
| HP           | 20           | CLASS                   | F    | HZ          | 60         |
| RPM          | 3510         | RPM MAX                 | 5400 | PH          | 3          |
| VOLT         | 460          | DES                     | B    | ODE BRG     | 6309       |
| AMP          | 22           | KVA-CODE                | G    | DE BRG      | 6309       |
| RATING       | 40C AMB-CONT | MOTOR WEIGHT            | 305  | D.E. BRG.   | 45BC03X30X |
| NEMA-NOM-EFF | 91.7         | MAX. KVAR               | 2    | O.D.E. BRG. | 45BC03X30X |
| G.MIN.EFF    | 90.2         | # OF ROTOR BARS         | 28   | GREASE      | POLYREX EM |
| TEMP CODE    | T3           | SER.F.                  | 1.15 | BLANK       |            |
| TEMP =       | 200          | # OF STATOR SLOTS       | 36   | IP          | 56         |
| CT HZ FROM   | 6            | INVERTER-TEMP-CODE      | 200  | INV.TYPE    | PWM        |
| HTR-VOLTS    |              | C HP FR                 | 60   |             |            |
|              |              | C HP TO                 | 90   |             |            |
|              |              | HTR-AMPS                |      |             |            |
|              |              | HTR-WATTS               |      |             |            |
|              |              | MAX. SPACE HEATER TEMP. |      |             |            |
|              |              | VT HZ FROM              | 3    |             |            |
|              |              | VT HZ TO                | 60   |             |            |

| Parts List   |                                          |          |
|--------------|------------------------------------------|----------|
| Part Number  | Description                              | Quantity |
| SA274512     | SA 09G557T034                            | 1.000 EA |
| RA261097     | RA 09G557T034                            | 1.000 EA |
| 37FN3002C02  | EXFN, PLASTIC, 6.00 OD, 1.500 ID         | 1.000 EA |
| WD1000B16    | T&B CX70TN TERMINAL                      | 1.000 EA |
| 10XN2520K06  | 1/4-20 X 3/8" HX HD SCREWGRADE 5, ZINC P | 1.000 EA |
| HW1002A63    | WASHER, 5/8 HI-COLLAR SPRLCKWASHER       | 1.000 EA |
| 09CB1002A12P | KOBX W/1.25 NPT LEAD HOLE & 2.38 MTG HOL | 1.000 EA |
| 09GS1010     | GASKET, DWG, LEADWIRE SEPERATOR          | 1.000 EA |
| 10XN2520K12  | 1/4-20 X.75 GRD 5                        | 4.000 EA |
| HW1001A25    | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 4.000 EA |
| WD1000B16    | T&B CX70TN TERMINAL                      | 1.000 EA |
| 10XN2520K06  | 1/4-20 X 3/8" HX HD SCREWGRADE 5, ZINC P | 1.000 EA |
| HW1001A25    | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 1.000 EA |
| HA3400A39    | STUD- 3/8-16 X 6.19 OAL HEX WELKER       | 4.000 EA |
| HW1001A38    | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 EA |
| 12CB1503A01P | KOLD MACH, W/LIP & EPOXY PRIMER          | 1.000 EA |
| 12GS1002     | GASKET, CONDUIT BOX LID, NEOP            | 1.000 EA |
| HW4601A61    | INPRO SEAL #1698-A-17120-0, VBXX 309 BRG | 1.000 EA |
| HW4500A20    | 1/8NPT SL PIPE PLUG                      | 1.000 EA |
| HA4017A08    | .125X3.50 GREASER EXTEN.                 | 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 |
| HW4601A61    | INPRO SEAL #1698-A-17120-0, VBXX 309 BRG | 1.000 EA |
| HW5100A11    | W3917-042 WVY WSHR (WB)                  | 1.000 EA |

| Parts List (continued) |                                          |          |
|------------------------|------------------------------------------|----------|
| Part Number            | Description                              | Quantity |
| 10XN2520K36            | 1/4-20 X 2.25" HX HD SCRWGRADE 5, ZINC P | 4.000 EA |
| 09EP1118A01P           | PUEP MACH, 309 BRG.INPRO SEALS-EPOXY PRI | 1.000 EA |
| HW4500A20              | 1/8NPT SL PIPE PLUG                      | 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 |
| 10XN2520K36            | 1/4-20 X 2.25" HX HD SCRWGRADE 5, ZINC P | 4.000 EA |
| XY3816A12              | 3/8-16 FINISHED NUT                      | 4.000 EA |
| HW1001A38              | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 EA |
| 10XN3118K16            | 5/16-18 X 1' GRADE #5, STL, ZINC PLATE   | 2.000 EA |
| HW1001A31              | LOCKWASHER 5/16, ZINC PLT.591 OD, .319 I | 2.000 EA |
| MJ5004A59              | ADHESIVE LOCTITE #401 SURFACE INSENSITIV | 0.010 EA |
| HW2501G25              | KEY, 3/8 SQ X 2.875                      | 1.000 EA |
| MJ5001A14              | DYNAPRO SEAL, CP MOTORS VC#2508050 (603  | 0.023 EA |
| LB1115N                | LABEL,LIFTING DEVICE (ON ROLLS)          | 1.000 EA |
| MN416A01               | TAG-INSTAL-MAINT no wire (1000/bx) 11/14 | 1.000 EA |
| WD1000B49              | T&B C73,RING TERMINAL 10-12 AWG 3/8 STUD | 3.000 EA |
| 09EP1118A02GP6         | FREP MACH, 309 BRG. EPOXY PRIMER         | 1.000 EA |
| HW4500A21              | 1618BALEMITE FITTING 825 UNIVERSAL       | 1.000 EA |
| HA4051A00              | PLASTIC CAP FOR GREASE FITTING           | 1.000 EA |
| HW4500A17              | 317400 ALEMITE GREASE RELIEF             | 1.000 EA |
| HA4002A01              | DRAIN PLUG STAINLESS STL                 | 1.000 EA |
| MJ1000A02              | GREASE, POLYREX EM EXXON (USe 4824-15A)  | 0.080 LB |
| HW4500A03              | GREASE FITTING, .125 NPT 1610(ALEMITE) 8 | 1.000 EA |
| HA4051A00              | PLASTIC CAP FOR GREASE FITTING           | 1.000 EA |

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|             |                                          |          |
|-------------|------------------------------------------|----------|
| HW4500A17   | 317400 ALEMITE GREASE RELIEF             | 1.000 EA |
| HA4002A01   | DRAIN PLUG STAINLESS STL                 | 1.000 EA |
| HW2500A25   | WOODRUFF KEY USA #1008 #BLOW CARBON STEE | 1.000 EA |
| 51XB1214A20 | 12-14X1.25 HXWSSLD SERTYB                | 1.000 EA |
| 09FH1000GP6 | FAN COVER, CAST W/EPOXY PRIMER & PAINT   | 1.000 EA |
| MJ5001A27   | 32220KN GRAY SEALER *MIN BUY 4 QTS=1GAL  | 0.031 QT |
| MG1025N19   | WILKOFAS, 778.50, RELIANCE BLUE-GREEN    | 0.050 GA |
| 85XU0407S04 | 4X1/4 U DRIVE PIN STAINLESS              | 4.000 EA |
| LB1449      | DIV-2/NEC WARNING LABEL                  | 1.000 EA |
| LB1119N     | WARNING LABEL                            | 1.000 EA |
| LC0006      | CONNECTION LABEL                         | 1.000 EA |
| NP3190      | SS IEEE841 INV DIV-2 UL CSA-C US EEV     | 1.000 EA |
| 40PA1005    | PACKAGING GROUP, 09 STD                  | 1.000 EA |

**AC Induction Motor Performance Data**

Record # 46537 - Typical performance - not guaranteed values

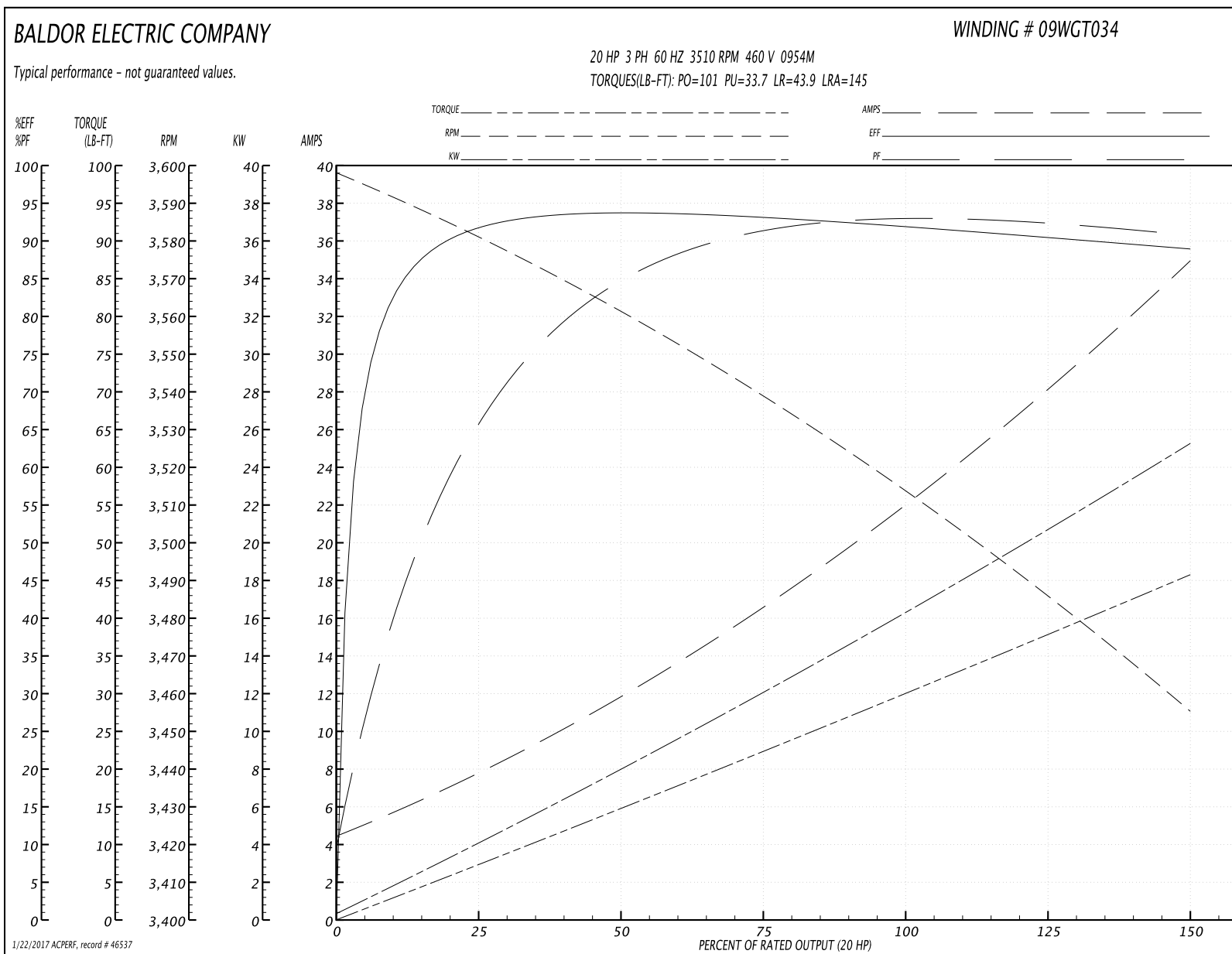
|                               |                    |                        |
|-------------------------------|--------------------|------------------------|
| <b>Winding:</b> 09WGT034-R003 | <b>Type:</b> 0954M | <b>Enclosure:</b> TEFC |
|-------------------------------|--------------------|------------------------|

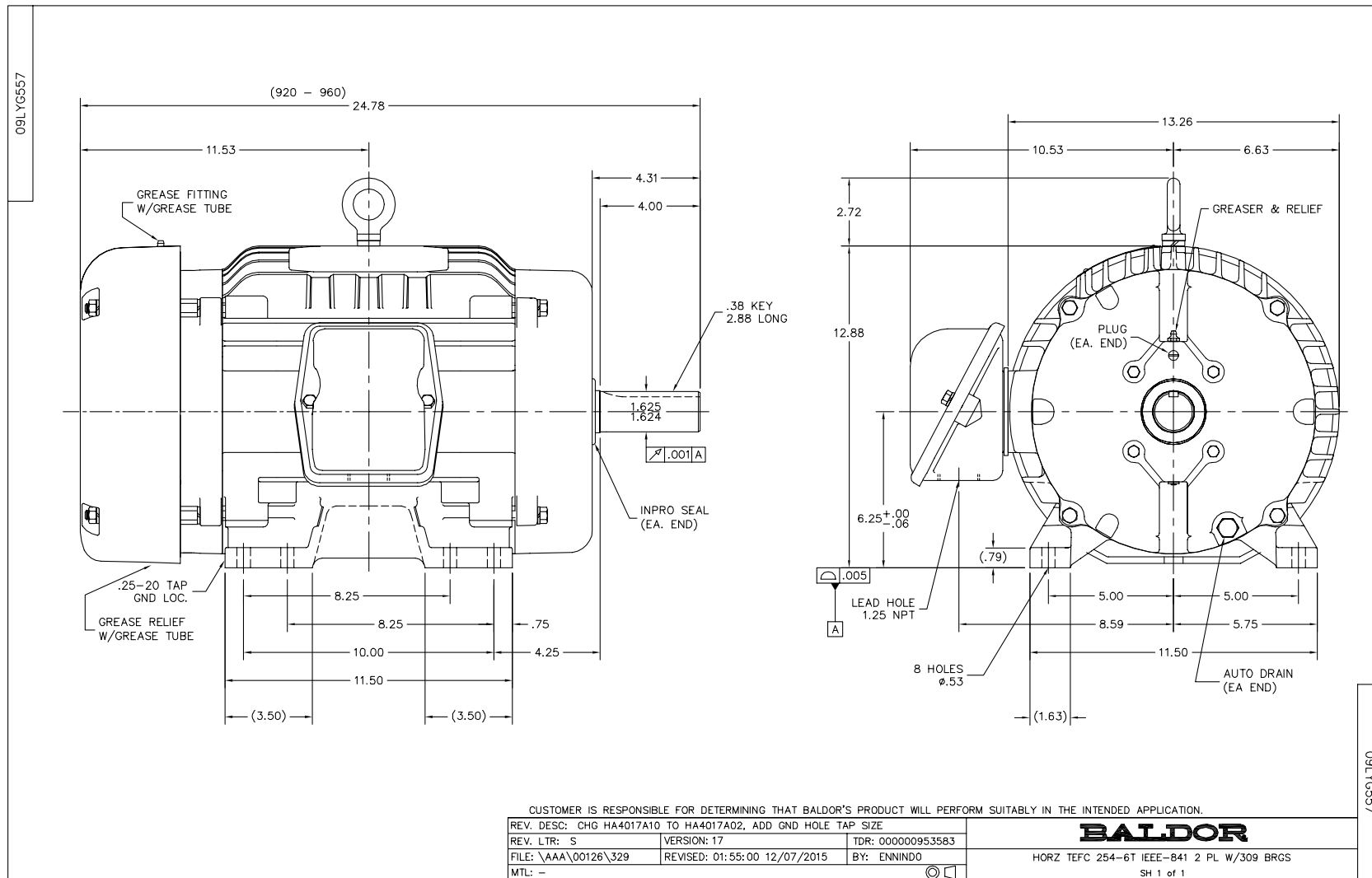
| Nameplate Data        |              |              |    | 460 V, 60 Hz:<br>Single Voltage Motor |                         |
|-----------------------|--------------|--------------|----|---------------------------------------|-------------------------|
| Rated Output (HP)     | 20           |              |    | Full Load Torque                      | 30.1 LB-FT              |
| Volts                 | 460          |              |    | Start Configuration                   | direct on line          |
| Full Load Amps        | 22           |              |    | Breakdown Torque                      | 101 LB-FT               |
| R.P.M.                | 3510         |              |    | Pull-up Torque                        | 33.7 LB-FT              |
| Hz                    | 60           | Phase        | 3  | Locked-rotor Torque                   | 43.9 LB-FT              |
| NEMA Design Code      | B            | KVA Code     | G  | Starting Current                      | 145 A                   |
| Service Factor (S.F.) | 1.15         |              |    | No-load Current                       | 4.81 A                  |
| NEMA Nom. Eff.        | 91.7         | Power Factor | 91 | Line-line Res. @ 25°C                 | 0.45009 Ω               |
| Rating - Duty         | 40C AMB-CONT |              |    | Temp. Rise @ Rated Load               | 68°C                    |
| S.F. Amps             |              |              |    | Temp. Rise @ S.F. Load                | 87°C                    |
|                       |              |              |    | Locked-rotor Power Factor             | 27                      |
|                       |              |              |    | Rotor inertia                         | 1.38 LB-FT <sup>2</sup> |

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

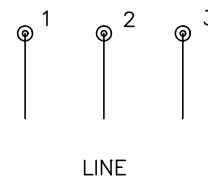
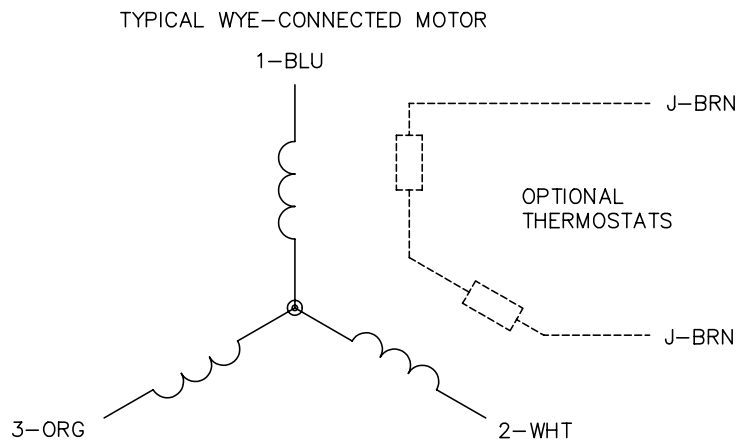
| % of Rated Load | 25     | 50     | 75     | 100    | 125    | 150    | S.F. |
|-----------------|--------|--------|--------|--------|--------|--------|------|
| Power Factor    | 72     | 87     | 91     | 91     | 92     | 92     | 92   |
| Efficiency      | 91.4   | 93.3   | 93     | 92     | 90.6   | 88.9   | 91.2 |
| Speed           | 3579.7 | 3560.2 | 3538.1 | 3514.3 | 3486.6 | 3454.4 | 3498 |
| Line amperes    | 7.42   | 11.8   | 16.7   | 22.4   | 28.4   | 34.7   | 26   |

## 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.

REV. DESC: REVISE TO SHOW OPTIONAL COLORS

REV. LTR: D

BY: JLP

REVISED: 01/21/99 4:02

TDR: 0171435

9000D

FILE: AAA00005141

MDL: -

MTL: -

**BALDOR ELECTRIC Co.**

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

CD0006