

BALDOR® • RELIANCE 

Product Information Packet

ECP84106T-4

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

| Part Detail | | | | | | | |
|-------------|--------|-------------|------------|-------------|--------|---------------|------------|
| Revision: | AA | Status: | PRD/A | Change #: | | Proprietary: | No |
| Type: | AC | Elec. Spec: | 09WGT034 | CD Diagram: | CD0006 | Mfg Plant: | |
| Mech. Spec: | 09G557 | Layout: | 09LYG557 | Poles: | 02 | Created Date: | 01-07-2014 |
| Base: | RG | Eff. Date: | 09-25-2018 | Leads: | 3#12 | | |

| Specs | | | |
|---------------------------------|-------------------------|--------------------------------|--------------------------------|
| Catalog Number: | ECP84106T-4 | Insulation Class: | F |
| Enclosure: | TEFC | Inverter Code: | Inverter Duty |
| Frame: | 256T | KVA Code: | G |
| Frame Material: | Ductile Iron | Lifting Lugs: | Standard Lifting Lugs |
| Output @ Frequency: | 20.000 HP @ 60 HZ | Locked Bearing Indicator: | Locked Bearing |
| Synchronous Speed @ Frequency: | 3600 RPM @ 60 HZ | Motor Lead Quantity/Wire Size: | 3 @ 12 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: | 0954M |
| Agency Approvals: | CSA EEV | Mounting Arrangement: | F1 |
| | UR | Power Factor: | 91 |
| | CSA | Product Family: | Chem Process S/P 32-8 IEEE 841 |
| | CCSA US | 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) | Shaft Extension Location: | Pulley End |
| Blower: | None | Shaft Ground Indicator: | No Shaft Grounding |

| | | | |
|---------------------------------------|---------------------------|------------------------------------|---------------------|
| Constant Torque Speed Range: | 6 | Shaft Rotation: | Reversible |
| Current @ Voltage: | 22.000 A @ 460.0 V | Shaft Slinger Indicator: | No Slinger |
| Design Code: | B | Speed Code: | Single Speed |
| Drip Cover: | No Drip Cover | Motor Standards: | NEMA |
| Duty Rating: | CONT | Starting Method: | Direct on line |
| Electrically Isolated Bearing: | Not Electrically Isolated | Thermal Device - Bearing: | NONE (OLD) |
| Feedback Device: | NO FEEDBACK | Thermal Device - Winding: | None |
| Front Face Code: | Standard | Vibration Sensor Indicator: | No Vibration Sensor |
| Front Shaft Indicator: | None | Winding Thermal 1: | None |
| Heater Indicator: | No Heater | Winding Thermal 2: | None |
| | | XP Temp Code: | T3 |

| Nameplate NP3190 | | | | | | | | | |
|------------------|--------------|--------------------|------|-------------|------------|-------------------------|------------|------------|------------|
| STK.NO. | ECP84106T-4 | P/N | | ENCLOSURE | TEFC | | | | |
| SPEC. | 09G557T034 | CC | 010A | FRAME | 256T | S/N | | | |
| HP | 20 | CLASS | F | HZ | 60 | ODE BRG | 6309 | DE BRG | 6309 |
| RPM | 3510 | RPM MAX | 5400 | PH | 3 | DES | B | D.E. BRG. | 45BC03X30X |
| VOLT | 460 | KVA-CODE | G | O.D.E. BRG. | 45BC03X30X | GREASE | POLYREX EM | | |
| AMP | 22 | MOTOR WEIGHT | 305 | BLANK | | | | | |
| RATING | 40C AMB-CONT | MAX. KVAR | 2 | IP | 56 | | | | |
| NEMA-NOM-EFF | 91 | # OF ROTOR BARS | 28 | SER.F. | 1.15 | INV.TYPE | PWM | | |
| G.MIN.EFF | 89.5 | # OF STATOR SLOTS | 36 | PF | 91 | | | | |
| TEMP CODE | T3 | INVERTER-TEMP-CODE | 200 | | | | | | |
| TEMP = | 200 | C HP FR | 60 | C HP TO | 90 | | | | |
| CT HZ FROM | 6 | CT HZ TO | 60 | | | | | | |
| HTR-VOLTS | | 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, 1.503 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 6.44 OAL HEX | 4.000 EA |
| HW1001A38 | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 EA |
| 12CB1503P | CONDUIT BOX LID, CAST W/EPOXY PRIMER | 1.000 EA |
| 12GS1002 | GASKET, CONDUIT BOX LID, NEOP | 1.000 EA |
| MJ5004A59 | ADHESIVE LOCTITE #401 SURFACE INSENSITIV | 0.010 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 |

| Parts List (continued) | | |
|------------------------|--|----------|
| Part Number | Description | Quantity |
| HW5100A11 | W3917-042 WVY WSHR (WB) | 1.000 EA |
| 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 |
| HW2501G25 | KEY, 3/8 SQ X 2.875 | 1.000 EA |
| MJ5001A14 | DYNAPRO SEALANT, CP MTR VC#2508050 (603 | 0.023 EA |
| LB1115N | LABEL,LIFTING DEVICE (ON ROLLS) | 1.000 EA |
| MN416A01 | TAG-INSTAL-MAINT no wire (1200/bx) 5/18 | 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 |
| HA4002A03 | #304 S.S. DRAIN FITTING, .125 NPT (.44 H | 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 |
| HA4002A03 | #304 S.S. DRAIN FITTING, .125 NPT (.44 H | 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 | WILKOFASST, 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

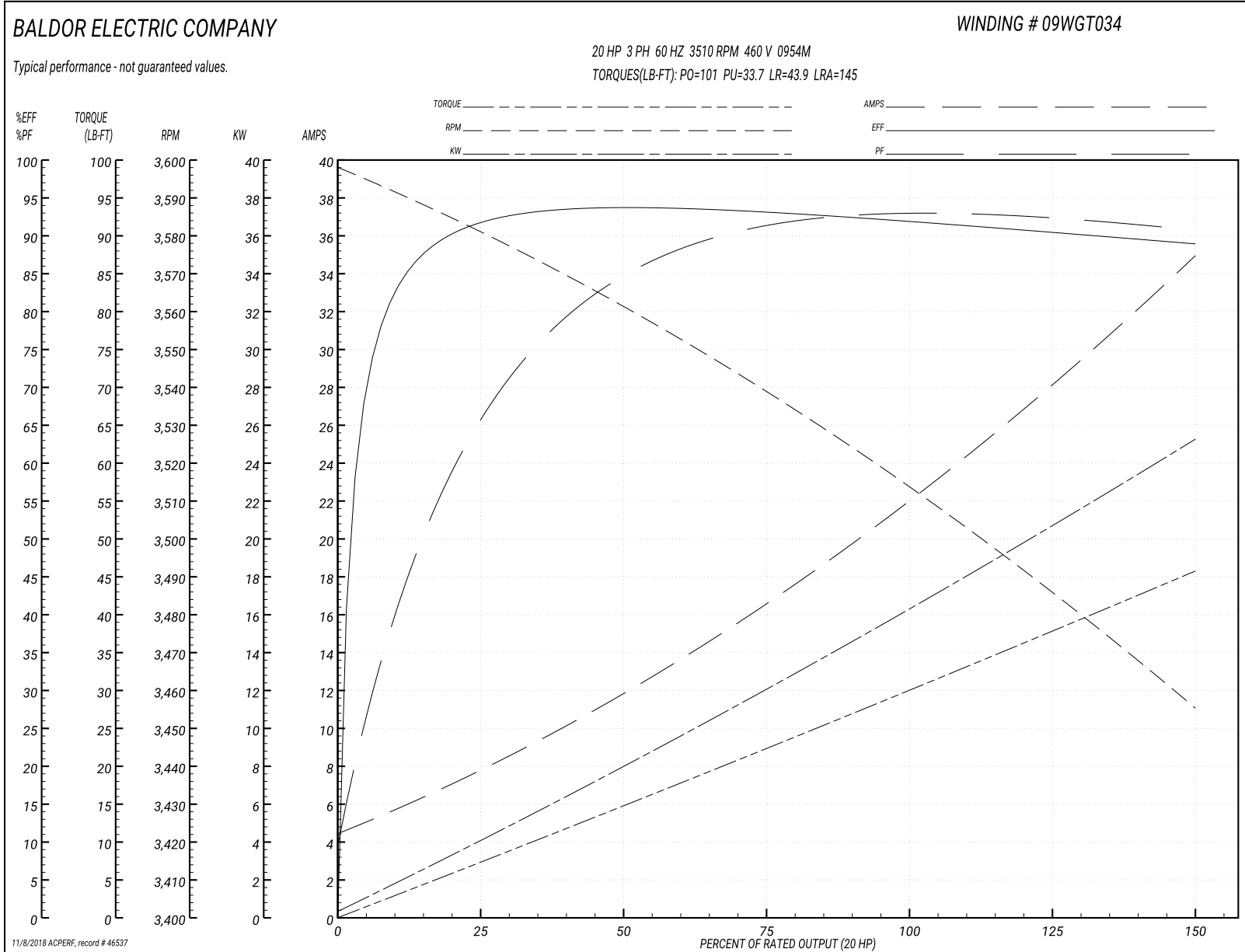
| | | |
|-------------------------------|--------------------|------------------------|
| Winding: 09WGT034-R003 | Type: 0954M | Enclosure: TEFC |
|-------------------------------|--------------------|------------------------|

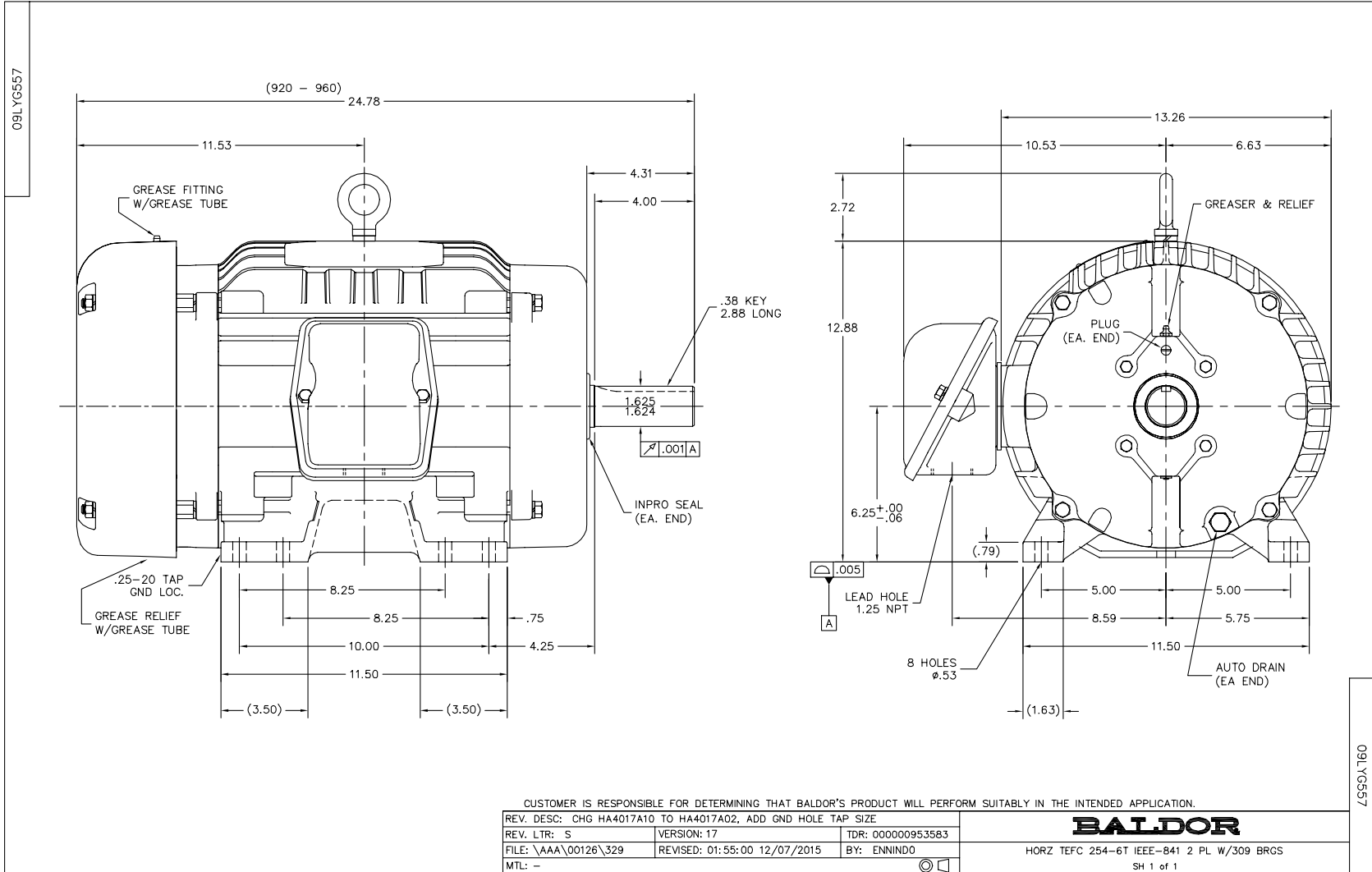
| Nameplate Data | | | | 460 V, 60 Hz: Single Voltage Motor | |
|-----------------------|--------------|--------------|----|---------------------------------------|-------------------------|
| Rated Output (HP) | 20 | | | Full Load Torque | 30.1 LB-FT |
| Volts | 460 | | | Start Configuration | direct 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 | 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 ² |

Load Characteristics 460 V, 60 Hz, 20 HP

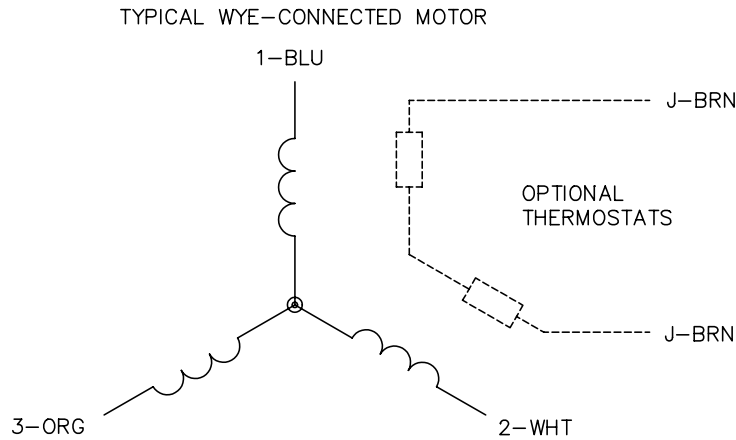
| % of Rated Load | 25 | 50 | 75 | 100 | 125 | 150 | S.F. |
|-----------------|--------|--------|--------|--------|--------|--------|------|
| Power Factor | 72 | 87 | 91 | 91 | 92 | 92 | 92 |
| Efficiency | 91.4 | 93.3 | 93 | 92 | 90.6 | 88.9 | 91.2 |
| Speed | 3579.7 | 3560.2 | 3538.1 | 3514.3 | 3486.6 | 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