

BALDOR® • RELIANCE 

Product Information Packet

EM4106T-G

20HP,3520RPM,3PH,60HZ,256T,0936M,TEFC,F1

| Part Detail | | | | | | | |
|-------------|--------|-------------|------------|-------------|--------|---------------|------------|
| Revision: | AK | Status: | PRD/A | Change #: | | Proprietary: | No |
| Type: | AC | Elec. Spec: | 09WGZ601 | CD Diagram: | CD0005 | Mfg Plant: | |
| Mech. Spec: | 09J359 | Layout: | 09LYJ359 | Poles: | 02 | Created Date: | 11-29-2011 |
| Base: | RG | Eff. Date: | 02-21-2022 | Leads: | 9#12 | | |

| Specs | | | |
|---------------------------------|-------------------------|--------------------------------|-----------------------|
| Catalog Number: | EM4106T-G | Heater Indicator: | No Heater |
| Enclosure: | TEFC | Insulation Class: | H |
| Frame: | 256T | Inverter Code: | Inverter Ready |
| Frame Material: | Iron | KVA Code: | H |
| Motor Letter Type: | Three Phase | 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: | 9 @ 12 AWG |
| Voltage @ Frequency: | 230.0 V @ 60 HZ | Motor Lead Exit: | Ko Box |
| | 460.0 V @ 60 HZ | Motor Lead Termination: | Flying Leads |
| XP Class and Group: | None | Motor Type: | 0936M |
| XP Division: | Not Applicable | Mounting Arrangement: | F1 |
| Agency Approvals: | UR | Power Factor: | 89 |
| | CSA EEV | Product Family: | General Purpose |
| | CSA | 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: | Shaft Grounding |
| Current @ Voltage: | 23.000 A @ 460.0 V | Shaft Rotation: | Reversible |
| | 46.000 A @ 230.0 V | Shaft Slinger Indicator: | Shaft Slinger |
| | 50.000 A @ 208.0 V | Speed Code: | Single Speed |
| Design Code: | A | Motor Standards: | NEMA |
| Drip Cover: | No Drip Cover | Starting Method: | Direct on line |
| Duty Rating: | CONT | Thermal Device - Bearing: | None |
| Electrically Isolated Bearing: | Not Electrically Isolated | Thermal Device - Winding: | None |
| Feedback Device: | NO FEEDBACK | Vibration Sensor Indicator: | No Vibration Sensor |
| Front Face Code: | Standard | Winding Thermal 1: | None |
| Front Shaft Indicator: | None | Winding Thermal 2: | None |

| | | | | | | | | | | |
|-----------------------------------|---------------------------|--|-------------|------------|-----------------------|----|--|--------------|-----------|-------|
| Nameplate NP3441LUA | | | | | | | | | | |
| CAT.NO. | EM4106T-G | | | | | | | | | |
| SPEC | 09J359Z601G1 | | | | | | | | | |
| HP | 20 | | | | | | | | | |
| VOLTS | 230/460 | | | | | | | | | |
| AMPS | 46/23 | | | | | | | | | |
| RPM | 3520 | | | | | | | | | |
| FRAME | 256T | | | | HZ | 60 | | | PH | 3 |
| SF | 1.15 | | CODE | H | DES | A | | CLASS | H | |
| NEMA NOM. EFF | 91 | | PF | 89 | | | | | | |
| RATING | 40C AMB-CONT | | | | | | | | | |
| CC | 010A | | | | USABLE AT 208V | | | | | 50 |
| ENCL | TEFC | | SER | | | | | | | |
| DE | | | | ODE | | | | | | |
| VPWM INVERTER READY | SFA 43/26.5 | | | | | | | | | |
| CT6-60H(10:1)VT3-60H(20:1) | 50HZ 20HP 190/380V 56/28A | | | | | | | | | |
| | | | | | | | | | | SF1.0 |

| Parts List | | |
|---------------|--|----------|
| Part Number | Description | Quantity |
| SA235032 | SA 09J359Z601G1 | 1.000 EA |
| RA221996 | RA 09J359Z601G1 | 1.000 EA |
| 37FN3002C02 | EXFN, PLASTIC, 6.00 OD, 1.503 ID | 1.000 EA |
| HW1002A63 | WASHER, 5/8 HI-COLLAR SPRLCKWASHER | 1.000 EA |
| 09CB3003 | CB W/1.75" DIA LD HL - 37, 39, 307 & 309 | 1.000 EA |
| 09GS1000SP | GASKET-CONDUIT BOX, 1/16 THICK LEXIDE | 1.000 EA |
| 51XW2520A12 | .25-20 X .75, TAPTITE II, HEX WSHR SLTD | 4.000 EA |
| HW1001A25 | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 2.000 EA |
| 09EP1101A11SP | PU ENDPLATE, MACH | 1.000 EA |
| 10XN3816K28 | 3/8-16 X 1.75 HEX HD CAP SCREW, GRADE 5 | 4.000 EA |
| WD1000B16 | T&B CX70TN OR L70P TERMINAL LUG | 1.000 EA |
| 59XW2520G07 | .25-20X.44,HEX SER WSHR,TAPTITE 2,GREEN | 1.000 EA |
| HW4600B44 | V-RING SLINGER 1.500 X 1.810 X .28 VITON | 1.000 EA |
| 09EP1100A14 | FREP ASSM, (FOR INTRL ROUTING PURPOSE) | 1.000 EA |
| HA3400A33 | STUD- 3/8-16 X 4.82 HEX WELKER | 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 |
| HW5100A08 | W3118-035 WVY WSHR (WB) | 1.000 EA |
| 10XN2520K28 | 1/4-20 X 1.75" HX HD SCRWGRADE 5, ZINC P | 2.000 EA |
| 10XN2520K36 | 1/4-20 X 2.25" HX HD SCRWGRADE 5, ZINC P | 4.000 EA |
| HW1001A25 | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 4.000 EA |
| HW1001A38 | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 EA |
| 09FH4000SP | 309 FH - BLACK PRIMER | 1.000 EA |
| HW1001A38 | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 EA |

| Parts List (continued) | | |
|------------------------|--|----------|
| Part Number | Description | Quantity |
| 09CB3501SP | CONDUIT BOX LID FOR 09CB3001 & 09CB3002 | 1.000 EA |
| 09GS1013SP | GS FOR 09CB3501, 12CB1500 & 12CB1503 LID | 1.000 EA |
| 51XW2520A12 | .25-20 X .75, TAPTITE II, HEX WSHR SLTD | 2.000 EA |
| HW2501G25 | KEY, 3/8 SQ X 2.875 | 1.000 EA |
| LB1115N | LABEL,LIFTING DEVICE (ON ROLLS) | 1.000 EA |
| HW4500A05 | 1669B ALEM/UNIV860 GR FTG X | 1.000 EA |
| HW4500A17 | 317400 ALEMITE GREASE RELIEF | 1.000 EA |
| MN416A01 | TAG-INSTAL-MAINT no wire (2100/bx) 4/22 | 1.000 EA |
| LB1350 | BAR CODE LABEL FOR YORK | 1.000 EA |
| LD7020D09 | LEAD SET, 12AWG, 9 LEAD, 20" LONG LEADS | 1.000 EA |
| HA4054 | SHORT T-DRAIN FITTING, .125" N.P.T. | 1.000 EA |
| MJ1000A02 | GREASE, POLYREX EM EXXON | 0.080 LB |
| HW4500A03 | GREASE FITTING, .125 NPT 1610(ALEMITE) 8 | 1.000 EA |
| HW4500A17 | 317400 ALEMITE GREASE RELIEF | 1.000 EA |
| HA4054 | SHORT T-DRAIN FITTING, .125" N.P.T. | 1.000 EA |
| HW2500A25 | WOODRUFF KEY USA #1008 #BLOW CARBON STEE | 1.000 EA |
| MG1000Y03 | MUNSELL 2.53Y 6.70/ 4.60, GLOSS 20, | 0.050 GA |
| 85XU0407S04 | 4X1/4 U DRIVE PIN STAINLESS | 2.000 EA |
| LB1119N | WARNING LABEL | 1.000 EA |
| LC0005 | CONN.DIA.,TY M,9-LD,DUAL VOLT,REVERSING | 1.000 EA |
| NP3441LUA | ALUM SUPER-E VPWM INV READY UL CSA-EEV C | 1.000 EA |
| 09PA1000 | PACKAGING GROUP COMBINED PRINT | 1.000 EA |
| PE-0000003 | ZRTG PE ASSEMBLY | 1.000 EA |

AC Induction Motor Performance Data

Record # 36290

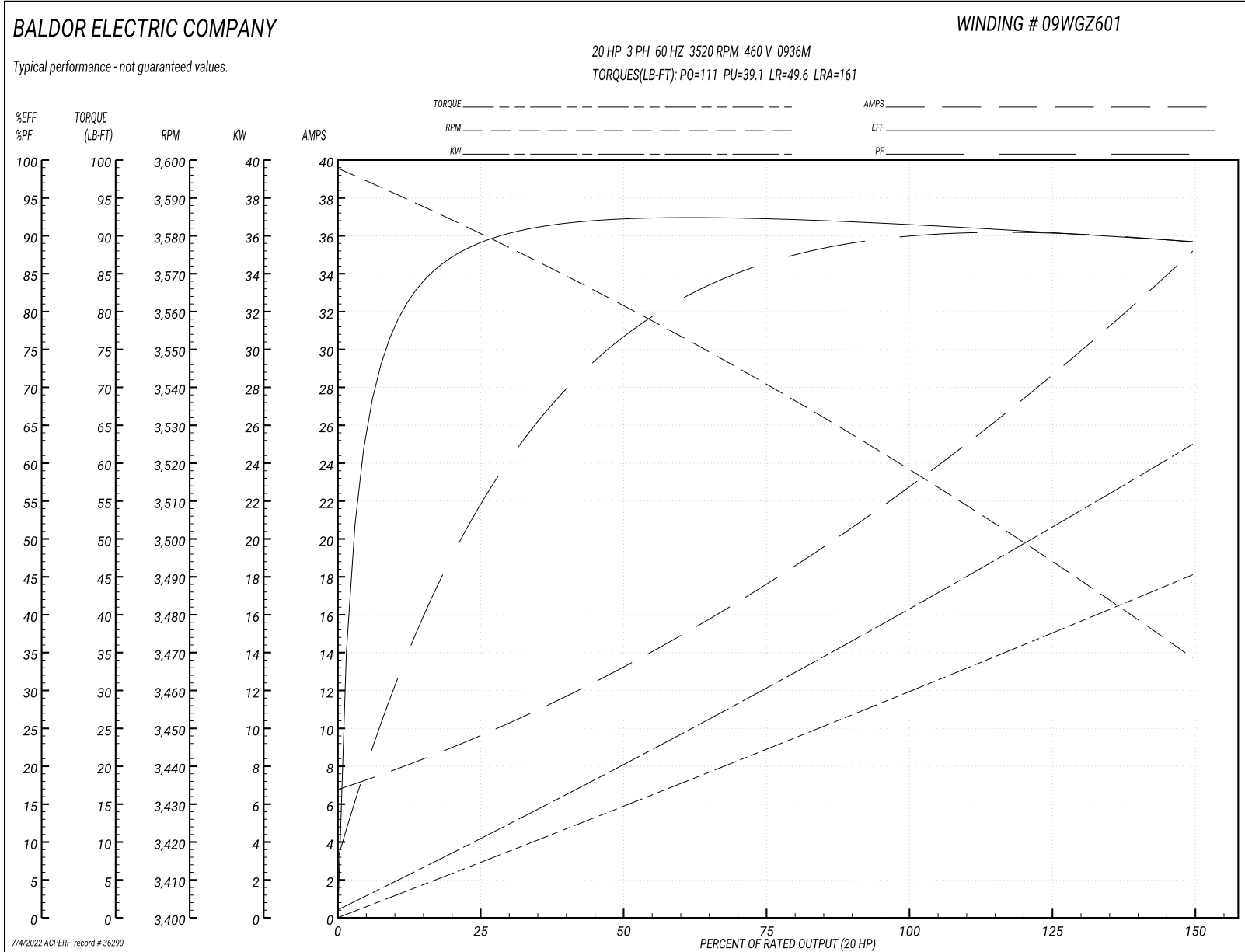
Typical performance - not guaranteed values

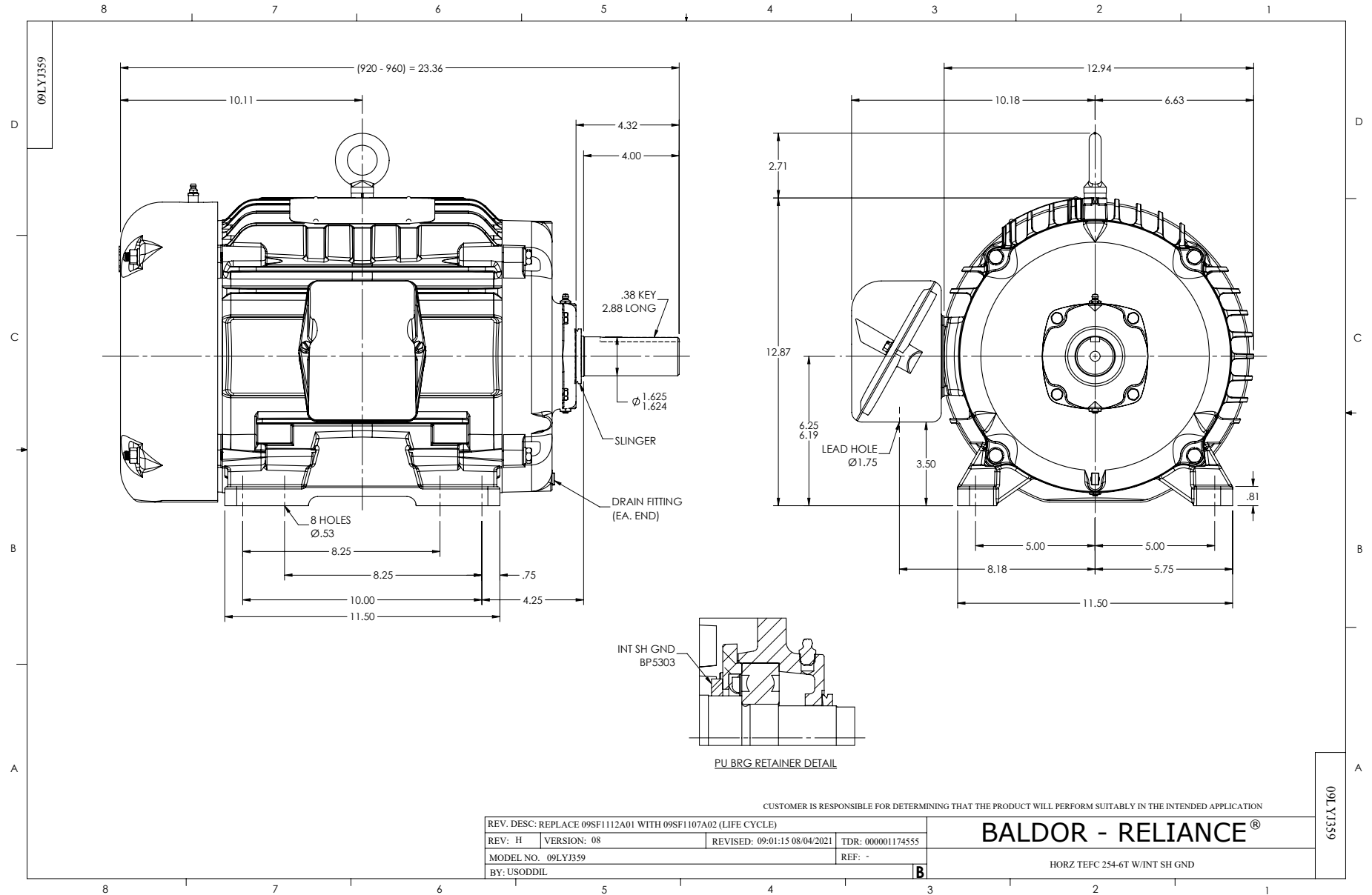
| Winding: 09WGZ601-R024 | | | Type: 0936M | | | Enclosure: TEFC | | |
|------------------------|-----------------|----|---------------------------|--|--|-----------------|--|--|
| Nameplate Data | | | | 460 V, 60 Hz: High Voltage Connection | | | | |
| Rated Output (HP) | 20 | | Full Load Torque | 29.6 LB-FT | | | | |
| Volts | 230/460 | | Start Configuration | direct on line | | | | |
| Full Load Amps | 46/23 | | Breakdown Torque | 111 LB-FT | | | | |
| R.P.M. | 3520 | | Pull-up Torque | 39.1 LB-FT | | | | |
| Hz | 60 Phase | 3 | Locked-rotor Torque | 49.6 LB-FT | | | | |
| NEMA Design Code | B KVA Code | H | Starting Current | 161 A | | | | |
| Service Factor (S.F.) | 1.15 | | No-load Current | 7.17 A | | | | |
| NEMA Nom. Eff. | 91 Power Factor | 89 | Line-line Res. @ 25°C | 0.47592 Ω | | | | |
| Rating - Duty | 40C AMB-CONT | | Temp. Rise @ Rated Load | 76°C | | | | |
| S.F. Amps | | | Temp. Rise @ S.F. Load | 95°C | | | | |
| | | | Locked-rotor Power Factor | 29 | | | | |
| | | | Rotor inertia | 0.92 LB-FT ² | | | | |

Load Characteristics 460 V, 60 Hz, 20 HP

| % of Rated Load | 25 | 50 | 75 | 100 | 125 | 150 | S.F. |
|-----------------|--------|--------|--------|--------|--------|--------|------|
| Power Factor | 58 | 78 | 86 | 89 | 90 | 90 | 90 |
| Efficiency | 88.9 | 92.2 | 92.4 | 91.7 | 90.7 | 89.2 | 91.1 |
| Speed | 3579.6 | 3561.5 | 3541.3 | 3519.5 | 3495.4 | 3467.8 | 3505 |
| Line amperes | 9 | 13 | 17.7 | 22.9 | 28.6 | 35 | 26.3 |

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





CD0005



LOW VOLTAGE
(2Y)



LINE

HIGH VOLTAGE
(1Y)



LINE

NOTES:

1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
2. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
3. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY BE A MULTIPLE OF THOSE SHOWN ABOVE.
4. LEAD COLORS ARE OPTIONAL. LEADS MUST ALWAYS BE NUMBERED AS SHOWN.

| | | | |
|---|---------|-------------------------|--------------|
| REV. DESC: REVISE TO SHOW OPTIONAL COLORS | | | |
| REV. LTR: E | BY: JLP | REVISED: 01/19/99 10:15 | TDR: 0171435 |
| 90000 | | FILE: AAA00005140 | MDL: - |
| | | MTL: - | |

BALDOR ELECTRIC Co.

3PH, DV, 9 LEADS

CD0005

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