

**BALDOR® • RELIANCE** 

**Product Information Packet**

**EM2515T**

**20HP, 1765RPM, 3PH, 60HZ, 256T, 3948M, OPSB, F1**

| Part Detail |       |             |            |             |        |               |            |
|-------------|-------|-------------|------------|-------------|--------|---------------|------------|
| Revision:   | K     | Status:     | PRD/A      | Change #:   |        | Proprietary:  | No         |
| Type:       | AC    | Elec. Spec: | 39WGX952   | CD Diagram: | CD0180 | Mfg Plant:    |            |
| Mech. Spec: | 39K57 | Layout:     | 39LYK057   | Poles:      | 04     | Created Date: | 03-03-2016 |
| Base:       | RG    | Eff. Date:  | 10-23-2017 | Leads:      | 9#10   |               |            |

| Specs                           |                         |                                |                       |
|---------------------------------|-------------------------|--------------------------------|-----------------------|
| Catalog Number:                 | EM2515T                 | Heater Indicator:              | No Heater             |
| Enclosure:                      | OPSB                    | Insulation Class:              | F                     |
| Frame:                          | 256T                    | Inverter Code:                 | Inverter Ready        |
| Frame Material:                 | Steel                   | KVA Code:                      | G                     |
| Output @ Frequency:             | 20.000 HP @ 60 HZ       | Lifting Lugs:                  | Standard Lifting Lugs |
| Synchronous Speed @ Frequency:  | 1800 RPM @ 60 HZ        | Locked Bearing Indicator:      | No Locked Bearing     |
| Voltage @ Frequency:            | 460.0 V @ 60 HZ         | Motor Lead Quantity/Wire Size: | 9 @ 10 AWG            |
|                                 | 230.0 V @ 60 HZ         | Motor Lead Exit:               | Ko Box                |
| XP Class and Group:             | None                    | Motor Lead Termination:        | Flying Leads          |
| XP Division:                    | Not Applicable          | Motor Type:                    | 3948M                 |
| Agency Approvals:               | UR                      | Mounting Arrangement:          | F1                    |
|                                 | CSA EEV                 | Power Factor:                  | 85                    |
|                                 | CSA                     | Product Family:                | General Purpose       |
| 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            |

|                                       |                           |                                    |                     |
|---------------------------------------|---------------------------|------------------------------------|---------------------|
| <b>Current @ Voltage:</b>             | 24.000 A @ 460.0 V        | <b>Shaft Ground Indicator:</b>     | No Shaft Grounding  |
|                                       | 48.000 A @ 230.0 V        | <b>Shaft Rotation:</b>             | Reversible          |
|                                       | 52.000 A @ 208.0 V        | <b>Shaft Slinger Indicator:</b>    | No Slinger          |
| <b>Design Code:</b>                   | A                         | <b>Speed Code:</b>                 | Single Speed        |
| <b>Drip Cover:</b>                    | No Drip Cover             | <b>Motor Standards:</b>            | NEMA                |
| <b>Duty Rating:</b>                   | CONT                      | <b>Starting Method:</b>            | Direct on line      |
| <b>Electrically Isolated Bearing:</b> | Not Electrically Isolated | <b>Thermal Device - Bearing:</b>   | NONE (OLD)          |
| <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>Winding Thermal 2:</b>          | None                |

| Nameplate NP3554LUA |                           |  |          |                |        |                         |         |            |         |        |      |
|---------------------|---------------------------|--|----------|----------------|--------|-------------------------|---------|------------|---------|--------|------|
| CAT.NO.             | EM2515T                   |  |          | P/N            |        |                         |         | ENCL       | OPSB    |        |      |
| SPEC.               | 39K057X952                |  | CC       | 010A           |        | FRAME                   | 256T    |            | SER.NO. |        |      |
| HP                  | 20                        |  | CLASS    | F              |        | HZ                      | 60      |            |         |        |      |
| RPM                 | 1765                      |  | PH       | 3              |        | DES                     | A       |            |         |        |      |
| VOLTS               | 230/460                   |  |          | CODE           | G      |                         | ODE BRG | 6208       |         | DE BRG | 6309 |
| AMPS                | 48/24                     |  |          | USABLE AT 208V | 52     |                         |         |            |         |        |      |
| RATING              | 40C AMB-CONT              |  |          | NEMA-NOM-EFF   | 93     |                         | GREASE  | POLYREX EM |         |        |      |
| PF                  | 85                        |  | SER.F.   | 1.15           |        | VPWM INVERTER READY     |         |            |         |        |      |
| USABLE AT           | 50Hz 20Hp 190/380V 58/29A |  |          |                | SF 1.0 |                         |         |            |         |        |      |
| HTR-VOLTS           |                           |  | HTR-AMPS |                |        | MAX. SPACE HEATER TEMP. |         |            |         |        |      |

| Parts List    |  |          |
|---------------|--|----------|
| Part Number   | Description                              | Quantity |
| SA316112      | SA 39K057X952                            | 1.000 EA |
| RA303672      | RA 39K057X952                            | 1.000 EA |
| HA6361A01     | LIFTING LUG FOR 37, 39 & 40 FRAME ZINC   | 2.000 EA |
| HA6016        | ADAPTER, CAST CONDUIT BOX                | 1.000 EA |
| 09CB3002SP    | CB W/1.38 LEAD HOLE FOR 37, 39, 307 & 30 | 1.000 EA |
| 51XW2520A12   | .25-20 X .75, TAPTITE II, HEX WSHR SLTD  | 2.000 EA |
| HW1001A25     | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 2.000 EA |
| WD1000B16     | T&B CX70TN TERMINAL                      | 1.000 EA |
| 59XW2520G07   | .25-20X.44,HEX SER WSHR,TAPTITE 2,GREEN  | 1.000 EA |
| 39EP3200A01SP | FR/PU ENDPLATE, MACH                     | 1.000 EA |
| HW5100A08     | W3118-035 WVY WSHR (WB)                  | 1.000 EA |
| 39EP3201A13   | PU ENDPLATE, MACH                        | 1.000 EA |
| XY3816A12     | 3/8-16 FINISHED NUT                      | 8.000 EA |
| 09CB3501SP    | CONDUIT BOX LID FOR 09CB3001 & 09CB3002  | 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 |
| HA4051A00     | PLASTIC CAP FOR GREASE FITTING           | 1.000 EA |
| HW4500A03     | GREASE FITTING, .125 NPT 1610(ALEMITE) 8 | 1.000 EA |
| HW4500A20     | 1/8NPT SL PIPE PLUG                      | 1.000 EA |
| MJ1000A02     | GREASE, POLYREX EM EXXON (USe 4824-15A)  | 0.030 LB |
| HA4051A00     | PLASTIC CAP FOR GREASE FITTING           | 1.000 EA |
| HW4500A03     | GREASE FITTING, .125 NPT 1610(ALEMITE) 8 | 1.000 EA |
| HW4500A20     | 1/8NPT SL PIPE PLUG                      | 1.000 EA |

| <b>Parts List (continued)</b> |  |                 |
|-------------------------------|--|-----------------|
| <b>Part Number</b>            | <b>Description</b>                       | <b>Quantity</b> |
| MG1000Y03                     | MUNSELL 2.53Y 6.70/ 4.60, GLOSS 20,      | 0.050 GA        |
| 85XU0407S04                   | 4X1/4 U DRIVE PIN STAINLESS              | 4.000 EA        |
| 39AD2002A01                   | BAFFLE PLATE 39 OPEN, SLOTTED BAND MTRS  | 1.000 EA        |
| 39AD2002A01                   | BAFFLE PLATE 39 OPEN, SLOTTED BAND MTRS  | 1.000 EA        |
| HA3154A03                     | STUD, 3/8-16 X 17.75                     | 4.000 EA        |
| LB1119N                       | WARNING LABEL                            | 1.000 EA        |
| LC0181                        | CONNECTION LABEL                         | 1.000 EA        |
| NP3554LUA                     | SS SUPER-E VPWM INV READY UL CSA-EEV PRE | 1.000 EA        |
| 39PA1000                      | PACKAGING GROUP 39 PRINT                 | 1.000 EA        |
| MN416A01                      | TAG-INSTAL-MAINT no wire (1200/bx) 5/18  | 1.000 EA        |

| <b>Accessories</b> |                    |                   |
|--------------------|--------------------|-------------------|
| <b>Part Number</b> | <b>Description</b> | <b>Multiplier</b> |
| 39-3400            | C FACE KIT         | A8                |

**AC Induction Motor Performance Data**

Record # 56778 - Typical performance - not guaranteed values

|                               |                    |                        |
|-------------------------------|--------------------|------------------------|
| <b>Winding:</b> 39WGX952-R001 | <b>Type:</b> 3948M | <b>Enclosure:</b> OPSB |
|-------------------------------|--------------------|------------------------|

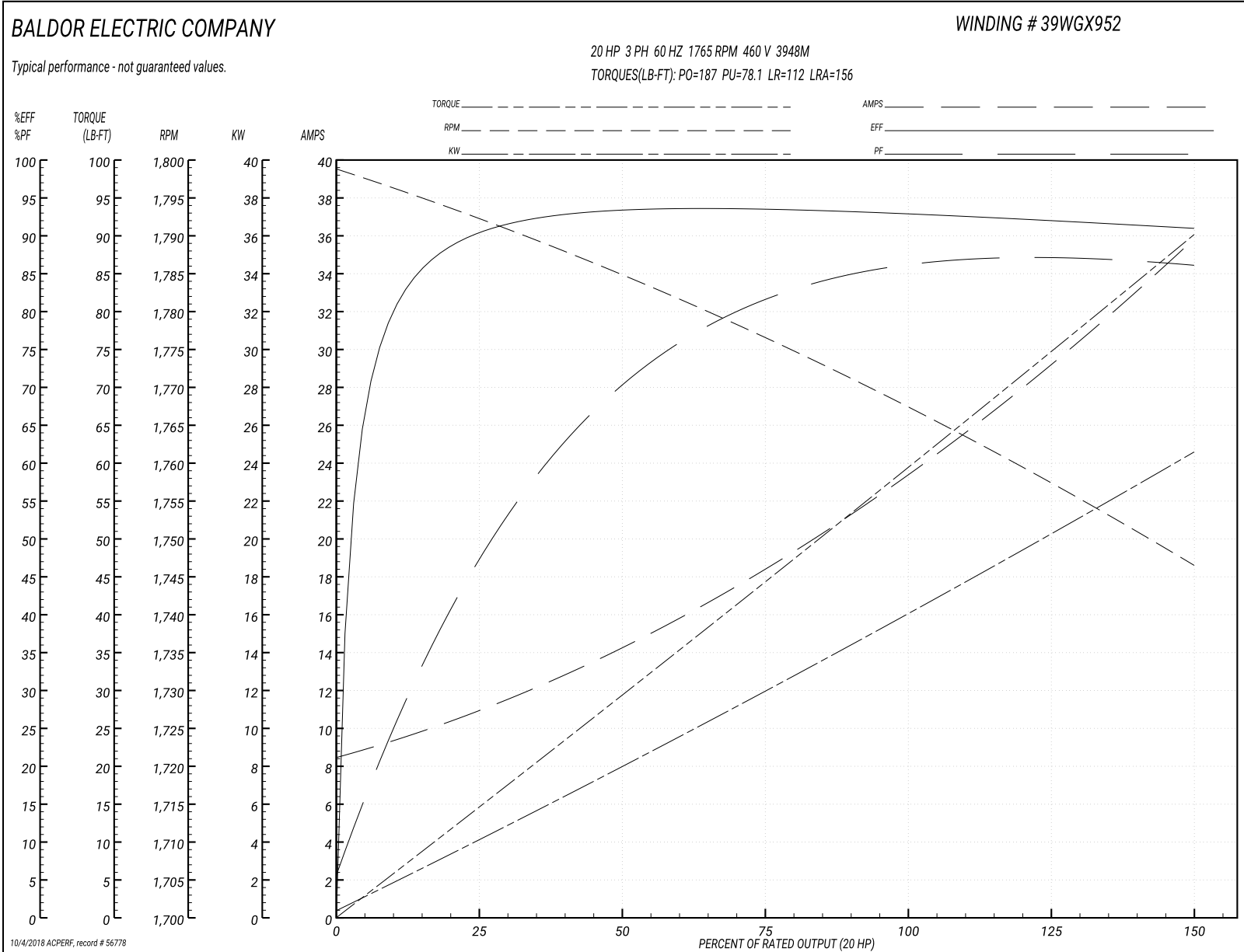
| Nameplate Data        |              |              |    | 460 V, 60 Hz:<br>High Voltage Connection |                |
|-----------------------|--------------|--------------|----|--|----------------|
| Rated Output (HP)     | 20           |              |    | Full Load Torque                         | 59.7 LB-FT     |
| Volts                 | 230/460      |              |    | Start Configuration                      | direct on line |
| Full Load Amps        | 48/24        |              |    | Breakdown Torque                         | 187 LB-FT      |
| R.P.M.                | 1765         |              |    | Pull-up Torque                           | 78.1 LB-FT     |
| Hz                    | 60           | Phase        | 3  | Locked-rotor Torque                      | 112 LB-FT      |
| NEMA Design Code      | A            | KVA Code     | G  | Starting Current                         | 156 A          |
| Service Factor (S.F.) | 1.15         |              |    | No-load Current                          | 8.83 A         |
| NEMA Nom. Eff.        | 93           | Power Factor | 85 | Line-line Res. @ 25°C                    | 0.48438 Ω      |
| Rating - Duty         | 40C AMB-CONT |              |    | Temp. Rise @ Rated Load                  | 37°C           |
| S.F. Amps             |              |              |    | Temp. Rise @ S.F. Load                   | 46°C           |
|                       |              |              |    | Locked-rotor Power Factor                | 33.3           |

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

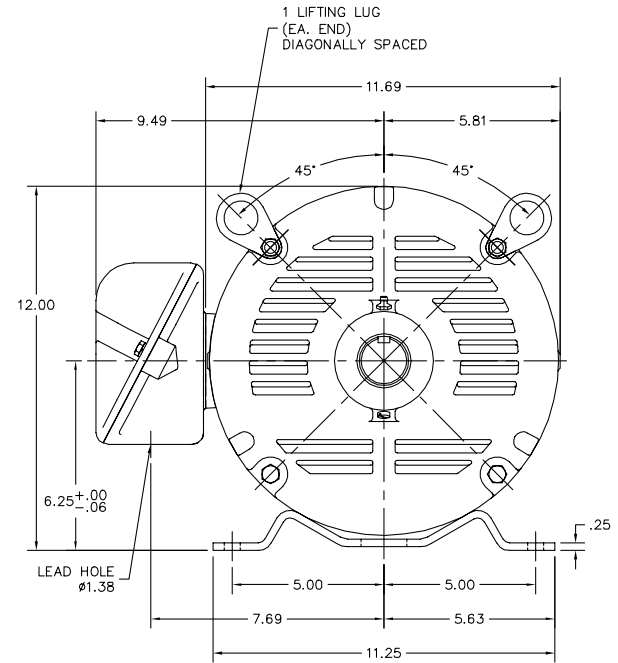
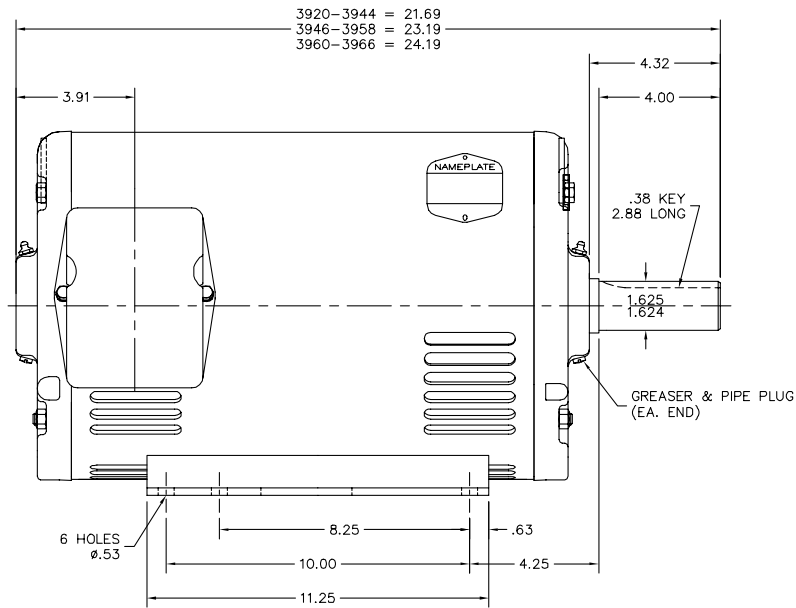
| % of Rated Load | 25     | 50     | 75     | 100    | 125    | 150    | S.F. |
|-----------------|--------|--------|--------|--------|--------|--------|------|
| Power Factor    | 50     | 72     | 81     | 85     | 87     | 87     | 86   |
| Efficiency      | 90.2   | 93.3   | 93.5   | 93     | 92.2   | 91     | 92.5 |
| Speed           | 1792.2 | 1784.8 | 1776.1 | 1767.5 | 1757.6 | 1746.3 | 1762 |
| Line amperes    | 10.5   | 14     | 18.6   | 23.8   | 29.4   | 35.6   | 27.2 |



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



39LYK057



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

|                                |                              |                   |
|--------------------------------|------------------------------|-------------------|
| REV. DESC: UPDATED DESCRIPTION |                              |                   |
| REV. LTR: H                    | VERSION: 06                  | TDR: 000000B55568 |
| FILE: \AAA\00049\866           | REVISED: 03:22:41 05/28/2014 | BY: ENNINDO       |
| MTL: -                         |                              |                   |

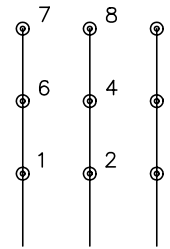
**BALDOR**  
 HORZ OPSB 254-6T SUPER-E  
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39LYK057

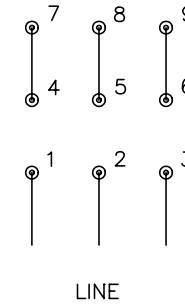
CD0180



LOW VOLTAGE  
(2D)



HIGH VOLTAGE  
(1D)



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: C                               | BY: JLP | REVISED: 01/21/99 2:28 | TDR: 0171435 |
| 0810D0                                    |         | FILE: AAA00005148      | MDL: -       |
|   |         | MTL: -                 |              |

**BALDOR ELECTRIC Co.**

3PH, DV, 9 LEADS, DELTA CONNECTION

CD0180

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