

# **BALDOR® • RELIANCE**

## **Product Information Packet**

### **VEM3710T**

**7.5HP,1770RPM,3PH,60HZ,213TC,3736M,TEFC**

| Part Detail |       |                |       |             |          |               |            |
|-------------|-------|----------------|-------|-------------|----------|---------------|------------|
| Revision:   | A     | Status:        | PRD/A | Change #:   |          | Proprietary:  | No         |
| Type:       | AC    | Prod. Type:    | 3736M | Elec. Spec: | 37WGT859 | CD Diagram:   | CD0005     |
| Enclosure:  | TEFC  | Mfg Plant:     |       | Mech. Spec: | 37A003   | Layout:       | 37LYA003   |
| Frame:      | 213TC | Mounting:      | F1    | Poles:      | 04       | Created Date: | 04-26-2010 |
| Base:       | N     | Rotation:      | R     | Insulation: | F        | Eff. Date:    | 02-05-2013 |
| Leads:      | 9#14  |                |       |             |          | Replaced By:  |            |
| Literature: |       | Elec. Diagram: |       |             |          |               |            |

|                   |              |                |  |  |      |     |   |    |   |
|-------------------|--------------|----------------|--|--|------|-----|---|----|---|
| Nameplate NP1259L |              |                |  |  |      |     |   |    |   |
| CAT.NO.           | VEM3710T     |                |  |  |      |     |   |    |   |
| SPEC.             | 37A003T859G3 |                |  |  |      |     |   |    |   |
| HP                | 7.5          |                |  |  |      |     |   |    |   |
| VOLTS             | 208-230/460  |                |  |  |      |     |   |    |   |
| AMP               | 21-18.8/9.4  |                |  |  |      |     |   |    |   |
| RPM               | 1770         |                |  |  |      |     |   |    |   |
| FRAME             | 213TC        | HZ             |  |  | 60   | PH  | 3 |    |   |
| SER.F.            | 1.15         | CODE           |  |  | J    | DES | A | CL | F |
| NEMA-NOM-EFF      | 91.7         | PF             |  |  | 81   |     |   |    |   |
| RATING            | 40C AMB-CONT |                |  |  |      |     |   |    |   |
| CC                | 010A         | USABLE AT 208V |  |  | 21   |     |   |    |   |
| DE                | 6307         | ODE            |  |  | 6206 |     |   |    |   |
| ENCL              | TEFC         | SN             |  |  |      |     |   |    |   |
|                   |              |                |  |  |      |     |   |    |   |

| Parts List     |                                          |          |
|----------------|------------------------------------------|----------|
| Part Number    | Description                              | Quantity |
| SA193900       | SA 37A003T859G3                          | 1.000 EA |
| RA181495       | RA 37A003T859G3                          | 1.000 EA |
| 37FN3002C01    | EXFN, PLASTIC, 6.00 OD, 1.155 ID         | 1.000 EA |
| S/P107-000-001 | SUPER E PROC'S-FS, WS & CK PLTS          | 1.000 EA |
| HW3200A01      | 3/8-16X3/4 I-BLT WELDED F/S              | 1.000 EA |
| 37CB3006       | 37 CB CASTING W/1.38 LEAD HOLE @ 6:00    | 1.000 EA |
| 37GS1000SP     | GASKET, CONDUIT BOX STD., .06 THICK LEXI | 1.000 EA |
| 51XW2520A12    | .25-20 X .75, TAPTITE II, HEX WSHR SLTD  | 2.000 EA |
| 11XW1032G06    | 10-32 X .38, TAPTITE II, HEX WSHR SLTD U | 1.000 EA |
| 37EP3101A01SP  | FR ENDPLATE,TEFC, 37 L&M, W/GREASER      | 1.000 EA |
| HW4500A01      | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 EA |
| HW5100A06      | W2420-025 WVY WSHR (WB)                  | 1.000 EA |
| 37EP3300A01    | FACE MT ENDPLATE-ENCL-307 BRG-213TC-215T | 1.000 EA |
| HW4500A01      | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 EA |
| 10XN2520A30    | HEX HD CAP SCREW-STD THD-.25 X 20 THD PE | 4.000 EA |
| HW1001A25      | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 4.000 EA |
| XY3118A12      | 5/16-18 HEX NUT DIRECTIONAL SERRATION    | 4.000 EA |
| 51XB1214A20    | 12-14X1.25 HXWSSLD SERTYB                | 1.000 EA |
| 07FH4007SP     | IEC FH W/GRSR, NOTCH @ 6:00 & 3 FAN CVR  | 1.000 EA |
| 51XW1032A06    | 10-32 X .38, TAPTITE II, HEX WSHR SLTD S | 3.000 EA |
| 37CB4516       | LIPPED LID FOR 37 FRAME NEC KOBX         | 1.000 EA |
| 37GS1008SP     | 37 GS FOR CB LID - LEXIDE                | 1.000 EA |
| 51XW0832A07    | 8-32 X .44, TAPTITE II, HEX WSHR SLTD SE | 4.000 EA |
| HW2501F21      | KEY, 5/16 SQ X 2.375                     | 1.000 EA |

| Parts List (continued) |                                          |          |
|------------------------|------------------------------------------|----------|
| Part Number            | Description                              | Quantity |
| HA7000A02              | KEY RETAINER RING, 1 1/8 DIA, 1 3/8 DIA  | 1.000 EA |
| LB1115N                | LABEL,LIFTING DEVICE (ON ROLLS)          | 1.000 EA |
| 85XU0407S04            | 4X1/4 U DRIVE PIN STAINLESS              | 2.000 EA |
| MJ1000A75              | GREASE, POLYREX EM EXXON (USe 4824-15A)  | 0.050 LB |
| MG1000Y03              | MUNSELL 2.53Y 6.70/ 4.60, GLOSS 20,      | 0.028 GA |
| HA3104A17              | 5/16-18X13.250 T-BLT/OHIO                | 4.000 EA |
| LB1125C02              | SUPER-E (STOCK CTN LABEL SUPER-E WITH FL | 1.000 EA |
| LC0005E01              | CONN.DIA./WARNING LABEL (LC0005/LB1119N) | 1.000 EA |
| NP1259L                | ALUM SUPER-E UL CSA-EEV CC NEMA PREMIUM  | 1.000 EA |
| G0PA1000               | SPCL PACKAGING                           | 1.000 EA |
| PK3082                 | STYROFOAM CRADLE                         | 1.000 EA |
| LB1506                 | LABEL "AMERICAN MADE" 1.50 X 1.00        | 1.000 EA |
| MN416A01               | TAG-INSTAL-MAINT no wire (1200/bx) 10/13 | 1.000 EA |

**AC Induction Motor Performance Data**

Record # 27682 - Typical performance - not guaranteed values

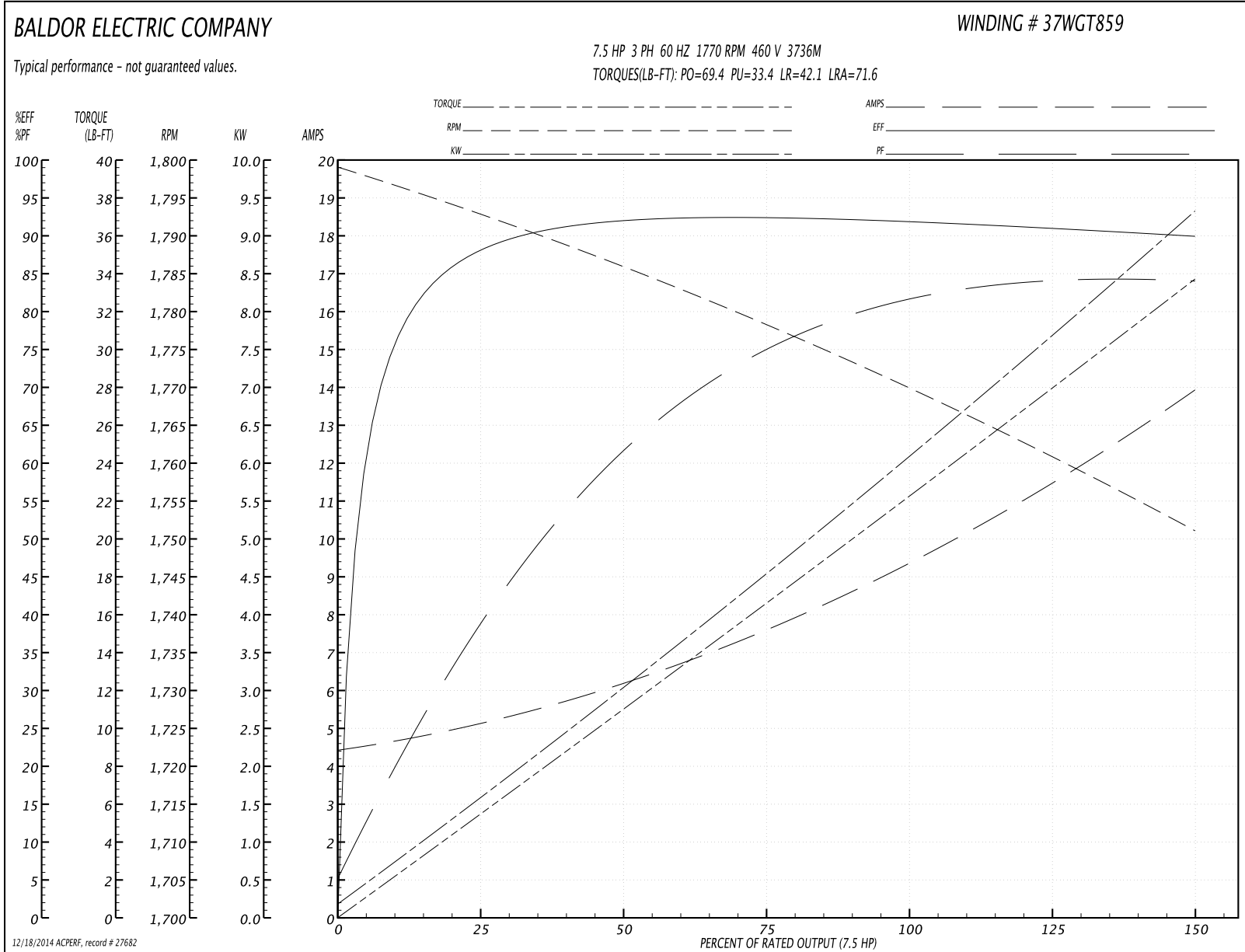
|                               |                    |                        |
|-------------------------------|--------------------|------------------------|
| <b>Winding:</b> 37WGT859-R003 | <b>Type:</b> 3736M | <b>Enclosure:</b> TEFC |
|-------------------------------|--------------------|------------------------|

| Nameplate Data        |              |              |    | 460 V, 60 Hz:<br>High Voltage Connection |                       |
|-----------------------|--------------|--------------|----|------------------------------------------|-----------------------|
| Rated Output (HP)     | 7.5          |              |    | Full Load Torque                         | 22.25 LB-FT           |
| Volts                 | 208-230/460  |              |    | Start Configuration                      | direct on line        |
| Full Load Amps        | 21-18.8/9.4  |              |    | Breakdown Torque                         | 69.4 LB-FT            |
| R.P.M.                | 1770         |              |    | Pull-up Torque                           | 33.4 LB-FT            |
| Hz                    | 60           | Phase        | 3  | Locked-rotor Torque                      | 42.1 LB-FT            |
| NEMA Design Code      | A            | KVA Code     | J  | Starting Current                         | 71.6 A                |
| Service Factor (S.F.) | 1.15         |              |    | No-load Current                          | 4.46 A                |
| NEMA Nom. Eff.        | 91.7         | Power Factor | 81 | Line-line Res. @ 25°C                    | 1.36 Ω                |
| Rating - Duty         | 40C AMB-CONT |              |    | Temp. Rise @ Rated Load                  | 53°C                  |
| S.F. Amps             |              |              |    | Temp. Rise @ S.F. Load                   | 65°C                  |
|                       |              |              |    | Rotor inertia                            | 0.885 LF <sup>2</sup> |

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

|                 |      |      |      |      |      |      |      |
|-----------------|------|------|------|------|------|------|------|
| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
| Power Factor    | 39   | 62   | 75   | 81   | 84   | 84   | 82   |
| Efficiency      | 87.9 | 91.8 | 92.4 | 92   | 91.1 | 89.9 | 91.5 |
| Speed           | 1793 | 1786 | 1778 | 1770 | 1761 | 1751 | 1765 |
| Line amperes    | 5.1  | 6.13 | 7.62 | 9.39 | 11.5 | 13.9 | 10.7 |

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



**AC Induction Motor Performance Data**

Record # 46181 - Typical performance - not guaranteed values

|                               |                    |                        |
|-------------------------------|--------------------|------------------------|
| <b>Winding:</b> 37WGT859-R003 | <b>Type:</b> 3736M | <b>Enclosure:</b> TEFC |
|-------------------------------|--------------------|------------------------|

| Nameplate Data        |              |              |    | 208 V, 60 Hz:<br>Low Voltage Connection |                       |
|-----------------------|--------------|--------------|----|-----------------------------------------|-----------------------|
| Rated Output (HP)     | 7.5          |              |    | Full Load Torque                        | 22.3 LB-FT            |
| Volts                 | 208-230/460  |              |    | Start Configuration                     | direct on line        |
| Full Load Amps        | 21-18.8/9.4  |              |    | Breakdown Torque                        | 55.9 LB-FT            |
| R.P.M.                | 1770         |              |    | Pull-up Torque                          | 26.4 LB-FT            |
| Hz                    | 60           | Phase        | 3  | Locked-rotor Torque                     | 33.3 LB-FT            |
| NEMA Design Code      | A            | KVA Code     | J  | Starting Current                        | 127 A                 |
| Service Factor (S.F.) | 1.15         |              |    | No-load Current                         | 7.29 A                |
| NEMA Nom. Eff.        | 91.7         | Power Factor | 81 | Line-line Res. @ 25°C                   | 0.341 Ω               |
| Rating - Duty         | 40C AMB-CONT |              |    | Temp. Rise @ Rated Load                 | 55°C                  |
| S.F. Amps             |              |              |    | Temp. Rise @ S.F. Load                  | 70°C                  |
|                       |              |              |    | Rotor inertia                           | 0.885 LF <sup>2</sup> |

**Load Characteristics 208 V, 60 Hz, 7.5 HP**

|                 |      |      |      |      |      |      |      |
|-----------------|------|------|------|------|------|------|------|
| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
| Power Factor    | 48   | 72   | 82   | 86   | 87   | 86   | 87   |
| Efficiency      | 89.6 | 92.7 | 92.4 | 91.6 | 90.5 | 88.7 | 90.9 |
| Speed           | 1792 | 1783 | 1774 | 1764 | 1753 | 1740 | 1757 |
| Line amperes    | 8.89 | 11.7 | 15.4 | 19.7 | 24.8 | 30.6 | 22.8 |

## Performance Graph at 208V, 60Hz, 7.5HP Typical performance - Not guaranteed values

