



**Product Information Packet**

**PFC EQUIPMENT**

**VEM3581T**

**1HP,1760RPM,3PH,60HZ,143TC,0519M,TEFC,F1**

| Part Detail |        |             |            |             |        |               |            |
|-------------|--------|-------------|------------|-------------|--------|---------------|------------|
| Revision:   | K      | Status:     | PRD/A      | Change #:   |        | Proprietary:  | No         |
| Type:       | AC     | Elec. Spec: | 05WGX122   | CD Diagram: | CD0005 | Mfg Plant:    |            |
| Mech. Spec: | 05C053 | Layout:     | 05LYC053   | Poles:      | 04     | Created Date: | 08-03-2010 |
| Base:       | N      | Eff. Date:  | 07-19-2017 | Leads:      | 9#18   |               |            |

| Specs                           |                         |                                |                 |
|---------------------------------|-------------------------|--------------------------------|-----------------|
| Catalog Number:                 | VEM3581T                | Insulation Class:              | F               |
| Enclosure:                      | TEFC                    | Inverter Code:                 | Inverter Ready  |
| Frame:                          | 143TC                   | KVA Code:                      | L               |
| Frame Material:                 | Iron                    | Lifting Lugs:                  | No Lifting Lugs |
| Output @ Frequency:             | 1.000 HP @ 60 HZ        | Locked Bearing Indicator:      | Locked Bearing  |
| Synchronous Speed @ Frequency:  | 1800 RPM @ 60 HZ        | Motor Lead Quantity/Wire Size: | 9 @ 18 AWG      |
| Voltage @ Frequency:            | 460.0 V @ 60 HZ         | Motor Lead Exit:               | Ko Box          |
|                                 | 230.0 V @ 60 HZ         | Motor Lead Termination:        | Flying Leads    |
| XP Class and Group:             | None                    | Motor Type:                    | 0518M           |
| XP Division:                    | Not Applicable          | Mounting Arrangement:          | F1              |
| Agency Approvals:               | UR                      | Power Factor:                  | 71              |
|                                 | CSA EEV                 | Product Family:                | General Purpose |
|                                 | CSA                     | Pulley End Bearing Type:       | Ball            |
| Auxillary Box:                  | No Auxillary Box        | Pulley Face Code:              | C-Face          |
| Auxillary Box Lead Termination: | None                    | Pulley Shaft Indicator:        | Standard        |
| Base Indicator:                 | No Mounting             | Rodent Screen:                 | None            |
| Bearing Grease Type:            | Polyrex EM (-20F +300F) | RoHS Status:                   | ROHS COMPLIANT  |
| Blower:                         | None                    | Shaft Extension Location:      | Pulley End      |

|                                       |                           |                                    |                     |
|---------------------------------------|---------------------------|------------------------------------|---------------------|
| <b>Current @ Voltage:</b>             | 1.500 A @ 460.0 V         | <b>Shaft Ground Indicator:</b>     | No Shaft Grounding  |
|                                       | 3.000 A @ 230.0 V         | <b>Shaft Rotation:</b>             | Reversible          |
|                                       | 3.100 A @ 208.0 V         | <b>Shaft Slinger Indicator:</b>    | No Slinger          |
| <b>Design Code:</b>                   | B                         | <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                |
| <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>Heater Indicator:</b>              | No Heater                 | <b>Winding Thermal 2:</b>          | None                |

## Nameplate NP3441LUA

|                           |                            |  |  |                |       |       |      |  |       |     |       |  |
|---------------------------|----------------------------|--|--|----------------|-------|-------|------|--|-------|-----|-------|--|
| CAT.NO.                   | VEM3581T                   |  |  |                |       |       |      |  |       |     |       |  |
| SPEC                      | 05C053X122G1               |  |  |                |       |       |      |  |       |     |       |  |
| HP                        | 1                          |  |  |                |       |       |      |  |       |     |       |  |
| VOLTS                     | 230/460                    |  |  |                |       |       |      |  |       |     |       |  |
| AMPS                      | 3/1.5                      |  |  |                |       |       |      |  |       |     |       |  |
| RPM                       | 1760                       |  |  |                |       |       |      |  |       |     |       |  |
| FRAME                     | 143TC                      |  |  |                | HZ 60 |       |      |  | PH    | 3   |       |  |
| SF                        | 1.15                       |  |  | CODE           | L     | DES B |      |  | CLASS | F   |       |  |
| NEMA NOM. EFF             | 85.5                       |  |  | PF             | 71    |       |      |  |       |     |       |  |
| RATING                    | 40C AMB-CONT               |  |  |                |       |       |      |  |       |     |       |  |
| CC                        | 010A                       |  |  | USABLE AT 208V |       |       |      |  |       | 3.1 |       |  |
| ENCL                      | TEFC                       |  |  | SER            |       |       |      |  |       |     |       |  |
| DE                        | 6205                       |  |  |                | ODE   |       | 6203 |  |       |     |       |  |
| VPWM INVERTER READY       |                            |  |  |                |       |       |      |  |       |     |       |  |
| CT6-60H(10:1)VT3-60H(20:1 |                            |  |  |                |       |       |      |  |       |     |       |  |
|                           | 50Hz 1HP 190/380V 3.6/1.8A |  |  |                |       |       |      |  |       |     | SF1.0 |  |

| Parts List  |                                          |          |
|-------------|------------------------------------------|----------|
| Part Number | Description                              | Quantity |
| SA201061    | SA 05C053X122G1                          | 1.000 EA |
| RA188366    | RA 05C053X122G1                          | 1.000 EA |
| 34FN3002B01 | EXTERNAL FAN, PLASTIC, .637/.639 HUB W/  | 1.000 EA |
| 06CB3000    | BALDOR CONDUIT BOX CAST                  | 1.000 EA |
| 06GS1000    | GASKET,CONDUIT BOX                       | 1.000 EA |
| 51XW2520A12 | SCREW, HEX SER SLT HD, ZN, 1/4-20 X .75  | 2.000 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 |
| HW3001B01   | BRASS CUP WASHER, FOR #10 SCREW          | 1.000 EA |
| 35EP1100A02 | FR ENDPLATE, TEFC W/GREASER              | 1.000 EA |
| HW4500A01   | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 EA |
| HW5100A03   | WAVY WASHER (W1543-017)                  | 1.000 EA |
| 35EP1329A01 | PU EP ENCL 143-5TC 205 BRG W/GRSR & STD  | 1.000 EA |
| HW4500A01   | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 EA |
| 51XN1032A20 | 10-32 X 1 1/4 HX WS SL SR                | 2.000 EA |
| HA3100A28   | THRUBOLT 10-32 X 8.187                   | 4.000 EA |
| 51XB1214A16 | 12-14X1.00 HXWSSLD SERTYB                | 1.000 EA |
| 35FH4005A02 | IEC FH W/GREASER - W/PRIMER              | 1.000 EA |
| 51XW1032A06 | 10-32 X .38, TAPTITE II, HEX WSHR SLTD S | 3.000 EA |
| 06CB3500    | BALDOR CONDUIT BOX LID                   | 1.000 EA |
| 06GS1001    | BALDOR CONDUIT BOX GASKET                | 1.000 EA |
| HW2501D13   | KEY, 3/16 SQ X 1.375                     | 1.000 EA |
| HA7000A01   | KEY RETAINER 7/8" DIA SHAFT              | 1.000 EA |
| 85XU0407S04 | 4X1/4 U DRIVE PIN STAINLESS              | 2.000 EA |

| Parts List (continued) |                                          |          |
|------------------------|------------------------------------------|----------|
| Part Number            | Description                              | Quantity |
| MJ1000A02              | GREASE, MOBIL POLYREX EM - 124047        | 0.050 LB |
| MG1000Y03              | MUNSELL 2.53Y 6.70/ 4.60, GLOSS 20,      | 0.022 GA |
| LC0005E01              | CONN.DIA./WARNING LABEL (LC0005/LB1119N) | 1.000 EA |
| NP3441LUA              | ALUM SUPER-E VPWM INV READY UL CSA-EEV C | 1.000 EA |
| 36PA1000               | PKG GRP, PRINT     PK1016A06             | 1.000 EA |
| PK3082                 | STYROFOAM CRADLE                         | 1.000 EA |
| MN416A01               | TAG-INSTAL-MAINT no wire (1200/bx) 3/19  | 1.000 EA |

**AC Induction Motor Performance Data**

Record # 53432 - Typical performance - not guaranteed values

|                               |                    |                        |
|-------------------------------|--------------------|------------------------|
| <b>Winding:</b> 05WGX122-R023 | <b>Type:</b> 0518M | <b>Enclosure:</b> XPFC |
|-------------------------------|--------------------|------------------------|

| Nameplate Data        |              |              |    | 460 V, 60 Hz:<br>High Voltage Connection |                          |
|-----------------------|--------------|--------------|----|------------------------------------------|--------------------------|
| Rated Output (HP)     | 1            |              |    | Full Load Torque                         | 2.98 LB-FT               |
| Volts                 | 230/460      |              |    | Start Configuration                      | direct on line           |
| Full Load Amps        | 3/1.5        |              |    | Breakdown Torque                         | 12.7 LB-FT               |
| R.P.M.                | 1760         |              |    | Pull-up Torque                           | 7.92 LB-FT               |
| Hz                    | 60           | Phase        | 3  | Locked-rotor Torque                      | 8.7 LB-FT                |
| NEMA Design Code      | B            | KVA Code     | L  | Starting Current                         | 12.2 A                   |
| Service Factor (S.F.) | 1.15         |              |    | No-load Current                          | 1.02 A                   |
| NEMA Nom. Eff.        | 85.5         | Power Factor | 71 | Line-line Res. @ 25°C                    | 15.4 Ω                   |
| Rating - Duty         | 40C AMB-CONT |              |    | Temp. Rise @ Rated Load                  | 29°C                     |
| S.F. Amps             |              |              |    | Temp. Rise @ S.F. Load                   | 34°C                     |
|                       |              |              |    | Locked-rotor Power Factor                | 54.1                     |
|                       |              |              |    | Rotor inertia                            | 0.106 LB-FT <sup>2</sup> |

## Load Characteristics 460 V, 60 Hz, 1 HP

|                 |      |      |      |      |      |      |      |
|-----------------|------|------|------|------|------|------|------|
| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
| Power Factor    | 30   | 48   | 61   | 70   | 76   | 80   | 74   |
| Efficiency      | 72.2 | 82.2 | 85.2 | 86   | 85.6 | 84.7 | 85.6 |
| Speed           | 1790 | 1781 | 1771 | 1760 | 1748 | 1736 | 1754 |
| Line amperes    | 1.07 | 1.19 | 1.35 | 1.55 | 1.8  | 2.06 | 1.69 |

## Performance Graph at 460V, 60Hz, 1.0HP Typical performance - Not guaranteed values





