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# Customer information packet

## VEM3616T

7.5HP, 3495RPM, 3PH, 60HZ, 184TC, 3646M, TEFC

MDS OF MICHIGAN INC

Class - None

Division - Not Applicable

## Specifications

|                                |                                                               |
|--------------------------------|---------------------------------------------------------------|
| Enclosure                      | TEFC                                                          |
| Frame                          | 184TC                                                         |
| Frame Material                 | Steel                                                         |
| Frequency                      | 60.00 Hz                                                      |
| Haz Area Class and Group       | None                                                          |
| Haz Area Division              | Not Applicable                                                |
| Motor Letter Type              | Three Phase                                                   |
| Output @ Frequency             | 7.500 HP @ 60 HZ                                              |
| Phase                          | 3                                                             |
| Synchronous Speed @ Frequency  | 3600 RPM @ 60 HZ                                              |
| Voltage @ Frequency            | 230.0 V @ 60 HZ<br>460.0 V @ 60 HZ                            |
| Agency Approvals               | CSA EEV<br>NEMA PREMIUM<br>NEMA_PREMIUM<br>UR                 |
| Ambient Temperature            | 40 °C                                                         |
| Auxillary Box                  | No Auxillary Box                                              |
| Auxillary Box Lead Termination | None                                                          |
| Base Indicator                 | No Mounting                                                   |
| Bearing Grease Type            | Polyrex EM (-20F +300F)                                       |
| Blower                         | None                                                          |
| Current @ Voltage              | 8.800 A @ 460.0 V<br>18.600 A @ 208.0 V<br>17.600 A @ 230.0 V |
| Design Code                    | A                                                             |
| Drip Cover                     | No Drip Cover                                                 |
| Duty Rating                    | CONT                                                          |
| Efficiency @ 100% Load         | 90.2 %                                                        |
| Electrically Isolated Bearing  | Not Electrically Isolated                                     |
| Feedback Device                | NO FEEDBACK                                                   |
| Front Shaft Indicator          | None                                                          |

## Part detail

|              |            |
|--------------|------------|
| Revision     | F          |
| Type         | AC         |
| Mech. spec.  | 36A003     |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 36WGQ046   |
| Layout       | 36LYA003   |
| Eff. date    | 06-11-2024 |
| CD Diagram   | CD0005     |
| Poles        | 02         |
| Leads        | 9#14       |
| Proprietary  | False      |
| Created date | 12-18-2020 |

|                               |                     |
|-------------------------------|---------------------|
| Heater Indicator              | No Heater           |
| High Voltage Full Load Amps   | 8.8 a               |
| Insulation Class              | F                   |
| Inverter Code                 | Inverter Ready      |
| KVA Code                      | M                   |
| Lifting Lugs                  | No Lifting Lugs     |
| Locked Bearing Indicator      | Locked Bearing      |
| Motor Lead Quantity/Wire Size | 9 @ 14 AWG          |
| Motor Lead Termination        | Flying Leads        |
| Motor Standards               | NEMA                |
| Motor Type                    | 3646M               |
| Mounting Arrangement          | F1                  |
| Number of Poles               | 2                   |
| Overall Length                | 18.04 IN            |
| Power Factor                  | 89                  |
| Product Family                | General Purpose     |
| Pulley End Bearing Type       | Ball                |
| Pulley Face Code              | C-Face              |
| Pulley Shaft Indicator        | Standard            |
| Rodent Screen                 | None                |
| Service Factor                | 1.15                |
| Shaft Diameter                | 1.125 IN            |
| Shaft Ground Indicator        | No Shaft Grounding  |
| Shaft Rotation                | Reversible          |
| Shaft Slinger Indicator       | No Slinger          |
| Speed                         | 3495 rpm            |
| Speed Code                    | Single Speed        |
| Starting Method               | Direct on line      |
| Thermal Device - Bearing      | None                |
| Thermal Device - Winding      | None                |
| Vibration Sensor Indicator    | No Vibration Sensor |
| Winding Thermal 1             | None                |
| Winding Thermal 2             | None                |

## Nameplate

## NP3441LUA

|                              |              |      |     |     |     |      |       |    |   |       |
|------------------------------|--------------|------|-----|-----|-----|------|-------|----|---|-------|
| CAT.NO.                      | VEM3616T     |      |     |     |     |      |       |    |   |       |
| SPEC                         | 36A003Q046G1 |      |     |     |     |      |       |    |   |       |
| HP                           | 7.5          |      |     |     |     |      |       |    |   |       |
| VOLTS                        | 230/460      |      |     |     |     |      |       |    |   |       |
| AMPS                         | 17.6/8.8     |      |     |     |     |      |       |    |   |       |
| RPM                          | 3495         |      |     |     |     |      |       |    |   |       |
| FRAME                        | 184TC        |      |     | HZ  |     | 60   |       | PH |   | 3     |
| SF                           | 1.15         | CODE |     | M   | DES | A    | CLASS |    | F |       |
| NEMA NOM. EFF                | 90.2         |      | PF  |     | 89  |      |       |    |   |       |
| RATING                       | 40C AMB-CONT |      |     |     |     |      |       |    |   |       |
| CC                           | 010A         |      |     |     |     |      |       |    |   |       |
| ENCL                         | TEFC         |      | SER |     |     |      |       |    |   |       |
| DE                           | 6206         |      |     | ODE |     | 6205 |       |    |   |       |
| VPWM INVERTER READY          |              |      |     |     |     |      |       |    |   |       |
| CT6-60H(10:1)VT3-60H(20:1    |              |      |     |     |     |      |       |    |   |       |
| 50HZ 7.5HP 190/380V 20/10.0A |              |      |     |     |     |      |       |    |   | SF1.0 |

## Parts list

| Part number   | Description                              | Quantity |
|---------------|------------------------------------------|----------|
| SA388925      | SA 36A003Q046G1                          | 1.000 ea |
| RA379290      | RA 36A003Q046G1                          | 1.000 ea |
| 36CB3004      | 36 CB CASTING W/1.09 DIA LEAD HOLE @ 6:0 | 1.000 ea |
| 36GS1000SP    | GASKET-CONDUIT BOX, .06 THICK #SV-330 LE | 1.000 ea |
| 51XB1016A08   | 10-16X 1/2HXWSSLD SERTYB                 | 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 |
| 36EP3104A01   | FREP MACH ASSEMBLY FOR ROUTING           | 1.000 ea |
| HW4500A01     | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 ea |
| HW5100A05     | WVY WSHR F/205 & 304 BRGS                | 1.000 ea |
| 36EP3301A23   | PUEP ASSEMBLY FOR ROUTING PURPOSES       | 1.000 ea |
| HW4500A01     | 1641B(ALEMITE)400 UNIV, GREASE FITT      | 1.000 ea |
| 10XN2520A28   | 1/4-20X 1 3/4 HEX HD                     | 4.000 ea |
| HW1001A25     | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 4.000 ea |
| 51XB1214A16   | 12-14X1.00 HXWSSLD SERTYB                | 1.000 ea |
| 36FH4009A102  | IEC FH GREASER PRIMED                    | 1.000 ea |
| 51XW1032A06   | 10-32 X .38, TAPTITE II, HEX WSHR SLTD S | 3.000 ea |
| 36CB4516      | 750LIPPED CB LID - GALVANNEAL            | 1.000 ea |
| 37GS1001      | GASKET, CONDUIT BOX LID, .06 THICK LEXID | 1.000 ea |
| 51XW0832A07   | 8-32 X .44, TAPTITE II, HEX WSHR SLTD SE | 4.000 ea |
| HW2501E16     | KEY, 1/4 SQ X 1.750                      | 1.000 ea |
| HA7000A02     | KEY RETAINER RING, 1 1/8 DIA, 1 3/8 DIA  | 1.000 ea |
| 85XU0407S04   | 4X1/4 U DRIVE PIN STAINLESS              | 2.000 ea |
| HW3200A01     | 3/8-16X3/4 EYEBOLT WELDED F/S            | 1.000 ea |
| MJ1000A02     | GREASE, POLYREX EM EXXON                 | 0.050 lb |
| 36FN3000C01SP | EXFN, PLASTIC, 5.25 OD, .912 ID          | 1.000 ea |
| MG1050Y01     | CELEROL BALDOR GOLD *** NLA IN 5 GALLON  | 0.022 ga |
| HA3101A28     | THRUBOLT 1/4-20 X 12.500 OHIO ROD        | 4.000 ea |
| LC0005        | CONN.DIA.,TY M,9-LD,DUAL VOLT,REVERSING  | 1.000 ea |
| NP3441LUA     | AL SUPER-E VPWM INV RDY,UL EEV,NEMA PREM | 1.000 ea |
| 36PA1001      | PKG GRP, PRINT PK1017A06                 | 1.000 ea |

|          |                                          |          |
|----------|------------------------------------------|----------|
| PK3082   | STYROFOAM CRADLE                         | 1.000 ea |
| MN416A01 | TAG-INSTAL-MAINT no wire (2500bx)4/22    | 1.000 ea |
| LB1624   | COMBINED WARNING LABEL, ISO/ANSI PICTOGR | 1.000 ea |

## AC Induction Motor Performance Data

Record # 85922

Preliminary Data Sheet

| Winding: 36WGQ046-R001 |    |              | Type: 3646M  |                                          | Enclosure: TEFC       |                |        |
|------------------------|----|--------------|--------------|------------------------------------------|-----------------------|----------------|--------|
| Nameplate Data         |    |              |              | 460 V, 60 Hz:<br>High Voltage Connection |                       |                |        |
| Rated Output (HP)      |    | 7.5          |              | Full Load Torque                         |                       | 11.3 LB-FT     |        |
| Volts                  |    | 230/460      |              | Start Configuration                      |                       | direct on line |        |
| Full Load Amps         |    | 17.6/8.8     |              | Breakdown Torque                         |                       | 73 LB-FT       |        |
| R.P.M.                 |    | 3495         |              | Pull-up Torque                           |                       | 49.1 LB-FT     |        |
| Hz                     | 60 | Phase        | 3            | Locked-rotor Torque                      |                       | 62.3 LB-FT     |        |
| NEMA Design Code       |    | A            | KVA Code     | N                                        | Starting Current      |                | 112 A  |
| Service Factor (S.F.)  |    | 1.15         |              | No-load Current                          |                       | 3.47 A         |        |
| NEMA Nom. Eff.         |    | 90.2         | Power Factor | 89                                       | Line-line Res. @ 25°C |                | 1.24 Ω |
| Rating - Duty          |    | 40C AMB-CONT |              | Temp. Rise @ Rated Load                  |                       | 73°C           |        |
| S.F. Amps              |    | 20/10        |              | Temp. Rise @ S.F. Load                   |                       | 95°C           |        |
|                        |    |              |              | Locked-rotor Power Factor                |                       | 68.2           |        |
|                        |    |              |              | Rotor inertia                            |                       | 0.206 lb-ft²   |        |

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

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|------|------|------|------|------|------|
| Power Factor    | 52   | 75   | 84   | 89   | 92   | 93   | 91   |
| Efficiency      | 84.5 | 89.6 | 90.5 | 90.2 | 89.3 | 88   | 89.7 |
| Speed           | 3574 | 3549 | 3522 | 3494 | 3463 | 3431 | 3476 |
| Line amperes    | 4.06 | 5.28 | 6.94 | 8.75 | 10.7 | 12.9 | 9.91 |

ABB Motors and Mechanical Inc.

WINDING # 36WGQ046

Typical performance - not guaranteed values.

7.5 HP 3 PH 60 HZ 3495 RPM 460 V 3646M

TORQUES (LB-FT): PO=73 PU=49.1 LR=62.3 LRA=112





