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# Customer information packet

## VEM3581T

1HP, 1760RPM, 3PH, 60HZ, 143TC, 0520M, TEFC, F1

Class - None

Division - Not Applicable

## Specifications

|                                |   |
|--------------------------------|---|
| Enclosure                      | TEFC  |
| Frame                          | 143TC   |
| Frame Material                 | Iron  |
| Frequency                      | 60.00 Hz  |
| Haz Area Class and Group       | None  |
| Haz Area Division              | Not Applicable  |
| Motor Letter Type              | Three Phase   |
| Output @ Frequency             | 1.000 HP @ 60 HZ  |
| Phase                          | 3   |
| Synchronous Speed @ Frequency  | 1800 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              | 3.260 A @ 230.0 V<br>3.200 A @ 208.0 V<br>1.630 A @ 460.0 V |
| Design Code                    | B   |
| Drip Cover                     | No Drip Cover   |
| Duty Rating                    | CONT  |
| Efficiency @ 100% Load         | 85.5 %  |
| Electrically Isolated Bearing  | Not Electrically Isolated                                   |
| Feedback Device                | NO FEEDBACK   |
| Front Shaft Indicator          | None  |

## Part detail

|              |            |
|--------------|------------|
| Revision     | E          |
| Type         | AC         |
| Mech. spec.  | 05C053     |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 05WGX508   |
| Layout       | 05LYC053   |
| Eff. date    | 04-29-2024 |
| CD Diagram   | CD0005     |
| Poles        | 04         |
| Leads        | 9#18       |
| Proprietary  | False      |
| Created date | 09-29-2021 |

|                               |                       |
|-------------------------------|-----------------------|
| Heater Indicator              | No Heater             |
| High Voltage Full Load Amps   | 1.6 a                 |
| Insulation Class              | F                     |
| Inverter Code                 | Inverter Ready        |
| KVA Code                      | N                     |
| Lifting Lugs                  | Standard Lifting Lugs |
| Locked Bearing Indicator      | Locked Bearing        |
| Motor Lead Quantity/Wire Size | 9 @ 18 AWG            |
| Motor Lead Termination        | Flying Leads          |
| Motor Standards               | NEMA                  |
| Motor Type                    | 0520M                 |
| Mounting Arrangement          | F1                    |
| Number of Poles               | 4                     |
| Overall Length                | 13.03 IN              |
| Power Factor                  | 67                    |
| 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                | 0.875 IN              |
| Shaft Ground Indicator        | No Shaft Grounding    |
| Shaft Rotation                | Reversible            |
| Shaft Slinger Indicator       | No Slinger            |
| Speed                         | 1760 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**

|                                   |                            |             |           |            |   |              |       |
|-----------------------------------|----------------------------|-------------|-----------|------------|---|--------------|-------|
| <b>CAT.NO.</b>                    | VEM3581T                   |             |           |            |   |              |       |
| <b>SPEC</b>                       | 05C053X508G1               |             |           |            |   |              |       |
| <b>HP</b>                         | 1                          |             |           |            |   |              |       |
| <b>VOLTS</b>                      | 230/460                    |             |           |            |   |              |       |
| <b>AMPS</b>                       | 3.26/1.63                  |             |           |            |   |              |       |
| <b>RPM</b>                        | 1760                       |             |           |            |   |              |       |
| <b>FRAME</b>                      | 143TC                      |             | <b>HZ</b> | 60         |   | <b>PH</b>    | 3     |
| <b>SF</b>                         | 1.15                       | <b>CODE</b> | N         | <b>DES</b> | B | <b>CLASS</b> | F     |
| <b>NEMA NOM. EFF</b>              | 85.5                       | <b>PF</b>   | 67        |            |   |              |       |
| <b>RATING</b>                     | 40C AMB-CONT               |             |           |            |   |              |       |
| <b>CC</b>                         | 010A                       |             |           |            |   |              |       |
| <b>ENCL</b>                       | TEFC                       | <b>SER</b>  |           |            |   |              |       |
| <b>DE</b>                         | 6205                       | <b>ODE</b>  | 6203      |            |   |              |       |
| <b>VPWM INVERTER READY</b>        | SFA 3.52/1.76              |             |           |            |   |              |       |
| <b>CT6-60H(10:1)VT3-60H(20:1)</b> | 50HZ 1HP 190/380V 3.6/1.8A |             |           |            |   |              | SF1.0 |

**AC Induction Motor Performance Data**

Record # 82131

Typical performance - not guaranteed values

| <b>Winding:</b> 05WGX508-R001 |                       | <b>Type:</b> 0520M         |  | <b>Enclosure:</b> TEFC |  |
|-------------------------------|-----------------------|----------------------------|--|------------------------|--|
| <b>Nameplate Data</b>         |                       |                            | <b>460 V, 60 Hz:<br/>High Voltage Connection</b> |                        |  |
| <b>Rated Output (HP)</b>      | 1                     | <b>Full Load Torque</b>    | 2.979 LB-FT                                      |                        |  |
| <b>Volts</b>                  | 230/460               | <b>Start Configuration</b> | direct on line                                   |                        |  |
| <b>Full Load Amps</b>         | 3.2-3.2/1.6           | <b>Breakdown Torque</b>    | 13.9 LB-FT                                       |                        |  |
| <b>R.P.M.</b>                 | 1760                  | <b>Pull-up Torque</b>      | 8 LB-FT  |                        |  |
| <b>Hz</b>                     | 60 <b>Phase</b>       | 3                          | <b>Locked-rotor Torque</b>                       | 9.18 LB-FT             |  |
| <b>NEMA Design Code</b>       | <b>B KVA Code</b>     | N                          | <b>Starting Current</b>                          | 14.4 A                 |  |
| <b>Service Factor (S.F.)</b>  |                       | 1.15                       | <b>No-load Current</b>                           | 1.11 A                 |  |
| <b>NEMA Nom. Eff.</b>         | <b>0 Power Factor</b> | 0                          | <b>Line-line Res. @ 25°C</b>                     | 16.215 Ω               |  |
| <b>Rating - Duty</b>          |                       | 40C AMB-CONT               | <b>Temp. Rise @ Rated Load</b>                   | 24°C                   |  |
| <b>S.F. Amps</b>              |                       |                            | <b>Temp. Rise @ S.F. Load</b>                    | 28°C                   |  |
|                               |                       |                            | <b>Locked-rotor Power Factor</b>                 | 62                     |  |

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

| <b>% of Rated Load</b> | <b>25</b> | <b>50</b> | <b>75</b> | <b>100</b> | <b>125</b> | <b>150</b> | <b>S.F.</b> |
|------------------------|-----------|-----------|-----------|------------|------------|------------|-------------|
| <b>Power Factor</b>    | 29        | 46        | 59        | 68         | 74         | 79         | 72          |
| <b>Efficiency</b>      | 71.2      | 81.4      | 84.6      | 85.5       | 85.4       | 84.7       | 85.4        |
| <b>Speed</b>           | 1791.4    | 1784.2    | 1776.7    | 1768.6     | 1760       | 1750.7     | 1763        |
| <b>Line amperes</b>    | 1.14      | 1.25      | 1.41      | 1.61       | 1.84       | 2.11       | 1.75        |

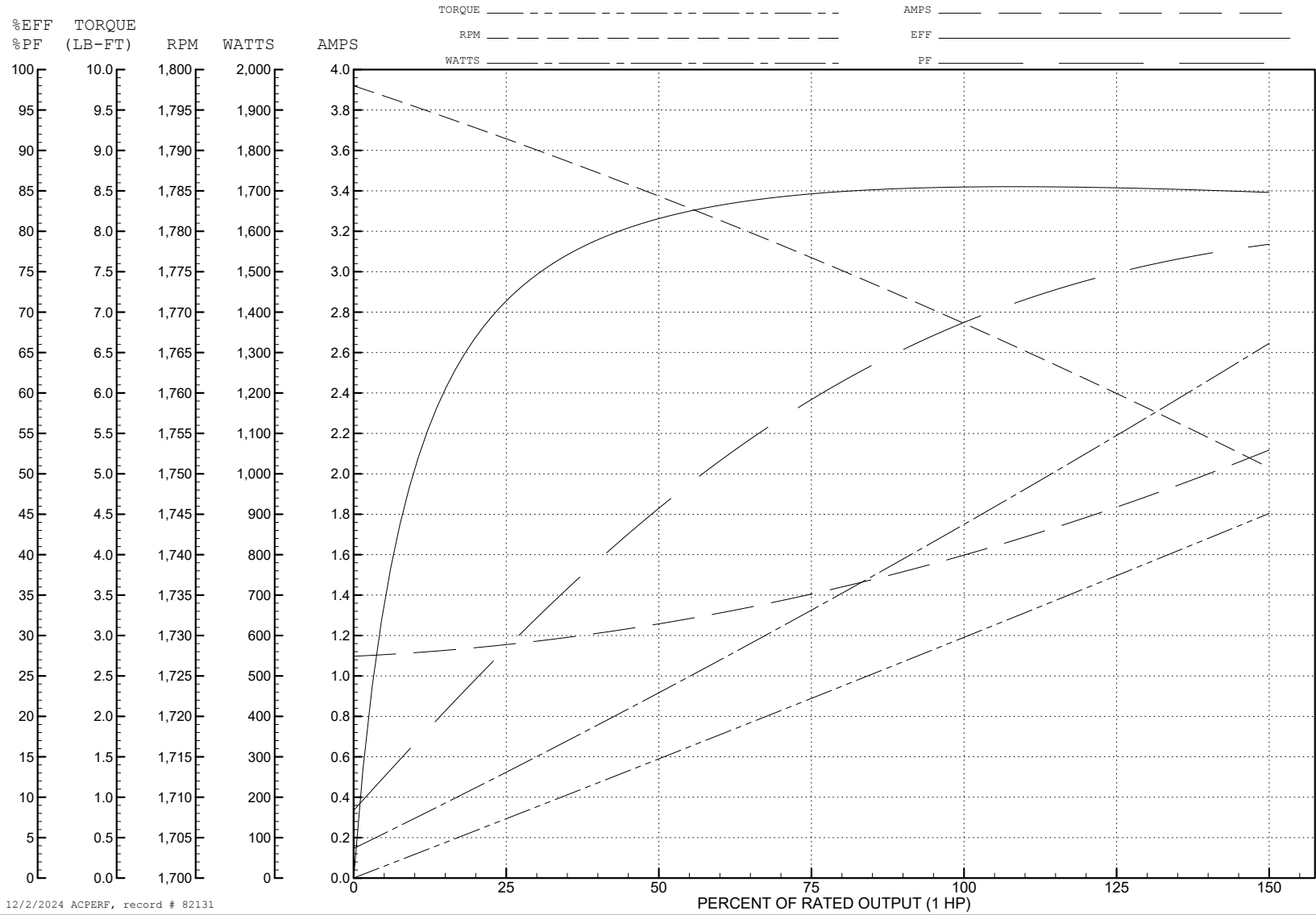
ABB Motors and Mechanical Inc.

WINDING # 05WGX508

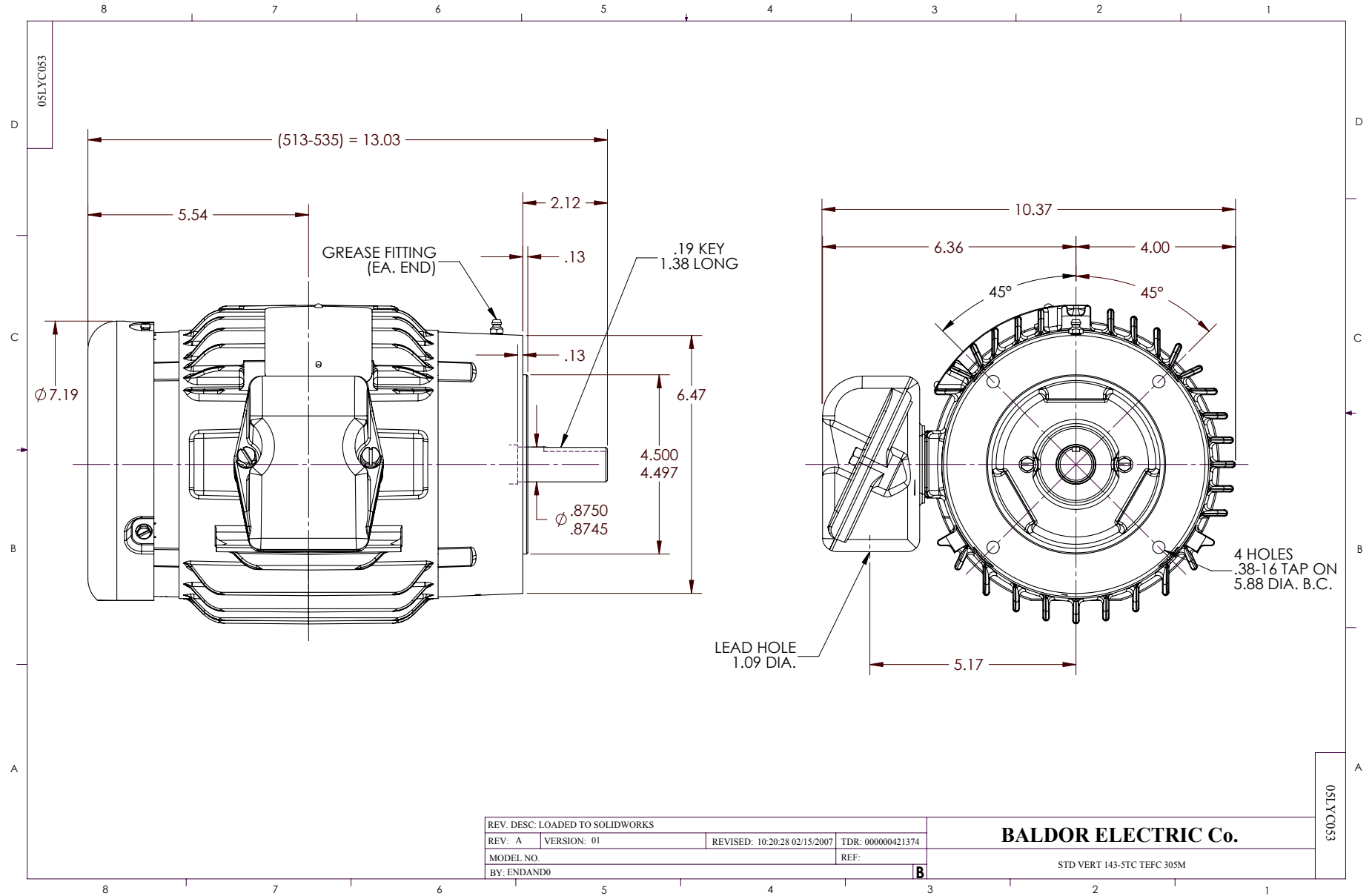
Typical performance - not guaranteed values.

1 HP 3 PH 60 HZ 1760 RPM 460 V 0520M

TORQUES (LB-FT): PO=13.9 PU=8 LR=9.18 LRA=14.4



12/2/2024 ACPERF, record # 82131



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.

CD0005

|   |         |                         |              |
|---|---------|-------------------------|--------------|
| REV. DESC: REVISE TO SHOW OPTIONAL COLORS |         |                         |              |
| REV. LTR: E                               | BY: JLP | REVISED: 01/19/99 10:15 | TDR: 0171435 |
| S00000                                    |         | FILE: AAA00005140       | MDL: -       |
|   |         | MTL: -                  |              |

**BALDOR ELECTRIC Co.**

3PH, DV, 9 LEADS