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# Customer information packet

## VEM3545

1HP, 3450RPM, 3PH, 60HZ, 56C, 3516M, TEFC, F1, N

MDS OF MICHIGAN INC

Class - None

Division - Not Applicable

## Specifications

|                                |   |
|--------------------------------|---|
| Enclosure                      | TEFC  |
| Frame                          | 56C   |
| 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             | 1.000 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              | 3.000 A @ 208.0 V<br>2.800 A @ 230.0 V<br>1.400 A @ 460.0 V |
| Design Code                    | B   |
| Drip Cover                     | No Drip Cover   |
| Duty Rating                    | CONT  |
| Efficiency @ 100% Load         | 77.0 %  |
| Electrically Isolated Bearing  | Not Electrically Isolated                                   |
| Feedback Device                | NO FEEDBACK   |
| Front Face Code                | Standard  |

## Part detail

|              |            |
|--------------|------------|
| Revision     | AB         |
| Type         | AC         |
| Mech. spec.  | 35J302     |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 35WGY474   |
| Layout       | 35LYJ302   |
| Eff. date    | 04-30-2024 |
| CD Diagram   | CD0005     |
| Poles        | 02         |
| Leads        | 9#18       |
| Proprietary  | False      |
| Created date | 05-05-2010 |

|                               |                    |
|-------------------------------|--------------------|
| Front Shaft Indicator         | None               |
| Heater Indicator              | No Heater          |
| High Voltage Full Load Amps   | 1.4 a              |
| Insulation Class              | F                  |
| Inverter Code                 | Inverter Ready     |
| KVA Code                      | K                  |
| Lifting Lugs                  | No Lifting Lugs    |
| Locked Bearing Indicator      | Locked Bearing     |
| Motor Lead Exit               | Ko Box             |
| Motor Lead Quantity/Wire Size | 9 @ 18 AWG         |
| Motor Lead Termination        | Flying Leads       |
| Motor Standards               | NEMA               |
| Motor Type                    | 3516M              |
| Mounting Arrangement          | F1                 |
| Number of Poles               | 2                  |
| Overall Length                | 12.23 IN           |
| Power Factor                  | 87                 |
| Product Family                | General Purpose    |
| Pulley End Bearing Type       | Ball               |
| Pulley Face Code              | C-Face             |
| Pulley Shaft Indicator        | Standard           |
| Rodent Screen                 | None               |
| RoHS Status                   | ROHS COMPLIANT     |
| Service Factor                | 1.25               |
| Shaft Diameter                | 0.625 IN           |
| Shaft Extension Location      | Pulley End         |
| Shaft Ground Indicator        | No Shaft Grounding |
| Shaft Rotation                | Reversible         |
| Shaft Slinger Indicator       | No Slinger         |
| Speed                         | 3450 rpm           |
| Speed Code                    | Single Speed       |
| Starting Method               | Direct on line     |
| Thermal Device - Bearing      | None               |
| Thermal Device - Winding      | None               |

| <b>Vibration Sensor Indicator</b> | <b>No Vibration Sensor</b> |
|-----------------------------------|----------------------------|
| <b>Winding Thermal 1</b>          | <b>None</b>                |
| <b>Winding Thermal 2</b>          | <b>None</b>                |

**Nameplate**

**NP3441LUA**

|                                   |                            |             |           |            |   |              |       |
|-----------------------------------|----------------------------|-------------|-----------|------------|---|--------------|-------|
| <b>CAT.NO.</b>                    | VEM3545                    |             |           |            |   |              |       |
| <b>SPEC</b>                       | 35J302Y474G1               |             |           |            |   |              |       |
| <b>HP</b>                         | 1                          |             |           |            |   |              |       |
| <b>VOLTS</b>                      | 230/460                    |             |           |            |   |              |       |
| <b>AMPS</b>                       | 2.8/1.4                    |             |           |            |   |              |       |
| <b>RPM</b>                        | 3450                       |             |           |            |   |              |       |
| <b>FRAME</b>                      | 56C                        |             | <b>HZ</b> | 60         |   | <b>PH</b>    | 3     |
| <b>SF</b>                         | 1.25                       | <b>CODE</b> | K         | <b>DES</b> | B | <b>CLASS</b> | F     |
| <b>NEMA NOM. EFF</b>              | 77                         | <b>PF</b>   | 87        |            |   |              |       |
| <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 3.4/1.7                |             |           |            |   |              |       |
| <b>CT6-60H(10:1)VT3-60H(20:1)</b> | 50Hz 1HP 190/380V 3.4/1.7A |             |           |            |   |              | SF1.0 |

## Parts list

| Part number   | Description                              | Quantity |
|---------------|--|----------|
| SA194441      | SA 35J302Y474G1                          | 1.000 ea |
| RA182028      | RA 35J302Y474G1                          | 1.000 ea |
| 35CB3007      | 35 CB CASTING W/.88 DIA. LEAD HOLE       | 1.000 ea |
| 36GS1000SP    | GASKET-CONDUIT BOX, .06 THICK #SV-330 LE | 1.000 ea |
| 51XB1016A07   | 10-16 X 7/16 HXWSSLD SERTYB              | 2.000 ea |
| 11XW1032G06   | 10-32 X .38, TAPTITE II, HEX WSHR SLTD U | 1.000 ea |
| 35EP3122K00   | MASTER ODE,203 BRG,.683SH,#26 DRN,FH MTG | 1.000 ea |
| HW5100A03     | WAVY WASHER (W1543-017)                  | 1.000 ea |
| 35EP3307F00   | MASTER DE,205 BRG,.998SH,#26 DRN         | 1.000 ea |
| 51XN1032A20   | 10-32 X 1 1/4 HX WS SL SR                | 2.000 ea |
| 51XB1214A16   | 12-14X1.00 HXWSSLD SERTYB                | 1.000 ea |
| 35FH4005A32SP | IEC FH NO GRSR W/3 HOLES - PRIMED        | 1.000 ea |
| 51XW1032A06   | 10-32 X .38, TAPTITE II, HEX WSHR SLTD S | 3.000 ea |
| 35CB4521GX    | CONDUIT BOX LID KIT **ORDER INDIV PARTS  | 1.000 ea |
| 51XW0832A07   | 8-32 X .44, TAPTITE II, HEX WSHR SLTD SE | 4.000 ea |
| HW2501D13     | KEY, 3/16 SQ X 1.375                     | 1.000 ea |
| HA7000A04     | KEY RETAINER 0.625 DIA SHAFTS            | 1.000 ea |
| 85XU0407S04   | 4X1/4 U DRIVE PIN STAINLESS              | 2.000 ea |
| MJ1000A02     | GREASE, POLYREX EM EXXON                 | 0.050 lb |
| 34FN3002B01   | EXTERNAL FAN, PLASTIC, .637/.639 HUB W/  | 1.000 ea |
| MG1050Y01     | CELEROL BALDOR GOLD *** NLA IN 5 GALLON  | 0.017 ga |
| HA3100A12     | THRUBOLT 10-32 X 7.375                   | 4.000 ea |
| LC0005E01     | CONN.DIA./WARNING LABEL (LC0005/LB1119N) | 1.000 ea |
| MN416A01      | TAG-INSTAL-MAINT no wire (2500bx)4/22    | 1.000 ea |
| NP3441LUA     | AL SUPER-E VPWM INV RDY,UL EEV,NEMA PREM | 1.000 ea |
| 35PA1066      | PKG GRP, PRINT PK1008A06                 | 1.000 ea |
| PK3083        | STYROFOAM PACKING CRADLE                 | 1.000 ea |
| PK3088        | MICROFOAM, 8"X"8 PERF. SHEETS            | 1.000 ea |
| FE-0000001    | ZRTG FE ASSEMBLY                         | 1.000 ea |
| PE-0000001    | ZRTG PE ASSEMBLY                         | 1.000 ea |

**AC Induction Motor Performance Data**

Record # 56197

Typical performance - not guaranteed values

| <b>Winding:</b> 35WGY474-R008 |                        | <b>Type:</b> 3516M         |  | <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>    | 1.47 LB-FT                                       |                           |  |
| <b>Volts</b>                  | 230/460                | <b>Start Configuration</b> | direct on line                                   |                           |  |
| <b>Full Load Amps</b>         | 2.8/1.4                | <b>Breakdown Torque</b>    | 5.6 LB-FT  |                           |  |
| <b>R.P.M.</b>                 | 3450                   | <b>Pull-up Torque</b>      | 2.56 LB-FT                                       |                           |  |
| <b>Hz</b>                     | 60 <b>Phase</b>        | 3                          | <b>Locked-rotor Torque</b>                       | 4.62 LB-FT                |  |
| <b>NEMA Design Code</b>       | <b>B KVA Code</b>      | K                          | <b>Starting Current</b>                          | 10.5 A                    |  |
| <b>Service Factor (S.F.)</b>  |                        | 1.25                       | <b>No-load Current</b>                           | 0.585 A                   |  |
| <b>NEMA Nom. Eff.</b>         | <b>77 Power Factor</b> | 87                         | <b>Line-line Res. @ 25°C</b>                     | 19.5 Ω                    |  |
| <b>Rating - Duty</b>          | 40C AMB-CONT           |                            | <b>Temp. Rise @ Rated Load</b>                   | 41°C                      |  |
| <b>S.F. Amps</b>              | 3.4/1.7                |                            | <b>Temp. Rise @ S.F. Load</b>                    | 52°C                      |  |
|                               |                        |                            | <b>Locked-rotor Power Factor</b>                 | 64.1                      |  |
|                               |                        |                            | <b>Rotor inertia</b>                             | 0.0443 LB-FT <sup>2</sup> |  |

**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>    | 55        | 72        | 82        | 86         | 90         | 91         | 90          |
| <b>Efficiency</b>      | 57.7      | 70.5      | 75.4      | 77         | 77         | 75.8       | 77          |
| <b>Speed</b>           | 3564      | 3533      | 3500      | 3460       | 3418       | 3366       | 3418        |
| <b>Line amperes</b>    | 0.68      | 0.851     | 1.08      | 1.37       | 1.65       | 2.01       | 1.65        |

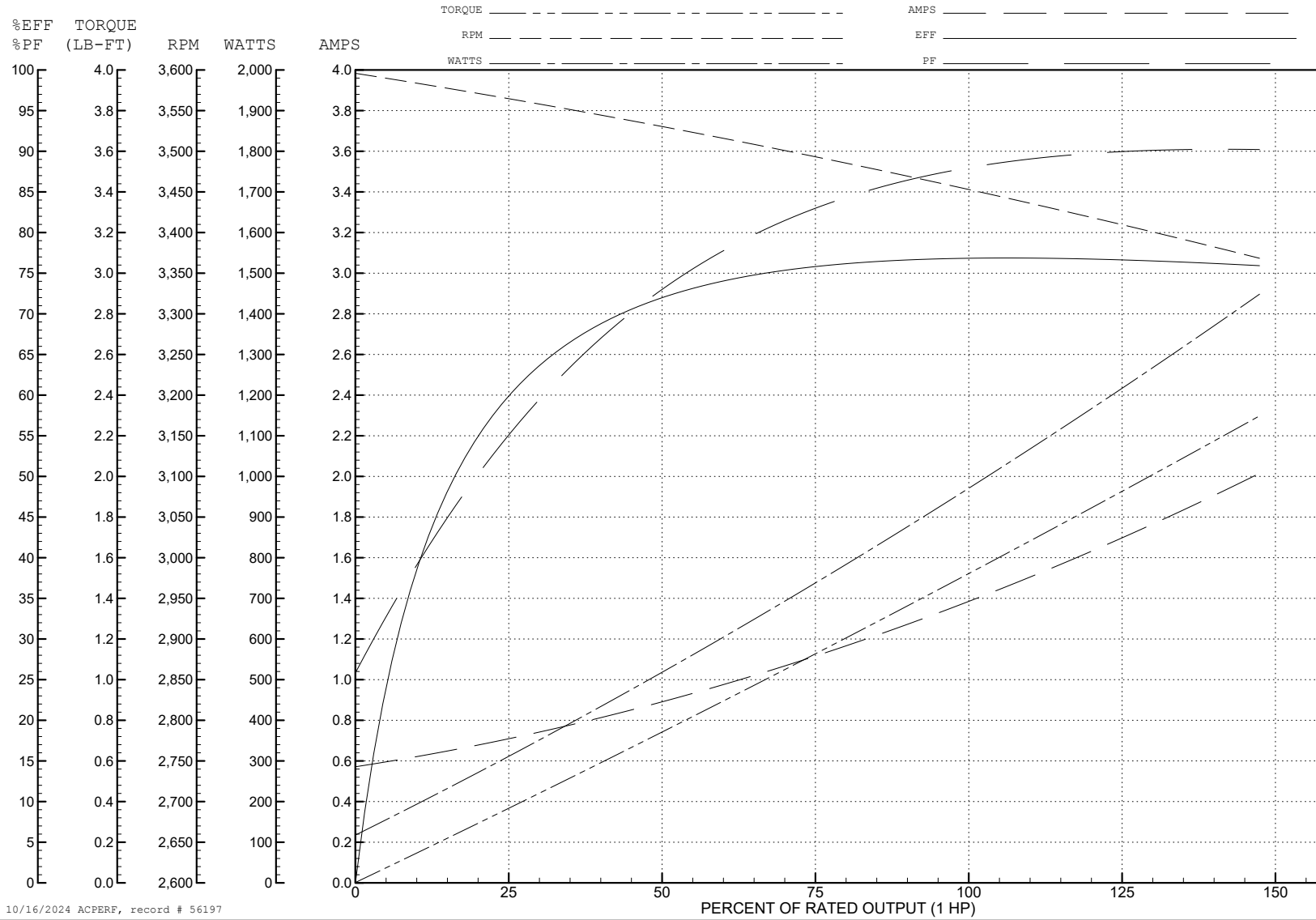
ABB Motors and Mechanical Inc.

WINDING # 35WGY474

Typical performance - not guaranteed values.

1 HP 3 PH 60 HZ 3450 RPM 460 V 3516M

TORQUES (LB-FT): PO=5.6 PU=2.56 LR=4.62 LRA=10.5



10/16/2024 ACPERF, record # 56197

**AC Induction Motor Performance Data**

Record # 59169

Typical performance - not guaranteed values

| Winding: 35WGY474-R008 |                 | Type: 3516M               | Enclosure: TEFC                                 |  |
|------------------------|-----------------|---------------------------|---|--|
| <b>Nameplate Data</b>  |                 |                           | <b>230 V, 60 Hz:<br/>Low Voltage Connection</b> |  |
| Rated Output (HP)      | 1               | Full Load Torque          | 1.5 LB-FT                                       |  |
| Volts                  | 230/460         | Start Configuration       | direct on line                                  |  |
| Full Load Amps         | 2.8/1.4         | Breakdown Torque          | 5.6 LB-FT                                       |  |
| R.P.M.                 | 3450            | Pull-up Torque            | 3.9 LB-FT                                       |  |
| Hz                     | 60 Phase        | Locked-rotor Torque       | 4 LB-FT   |  |
| NEMA Design Code       | B KVA Code      | Starting Current          | 18 A  |  |
| Service Factor (S.F.)  | 1.25            | No-load Current           | 1.32 A  |  |
| NEMA Nom. Eff.         | 77 Power Factor | Line-line Res. @ 25°C     | 4.88 Ω  |  |
| Rating - Duty          | 40C AMB-CONT    | Temp. Rise @ Rated Load   | 47°C  |  |
| S.F. Amps              | 3.4/1.7         | Temp. Rise @ S.F. Load    | 60°C  |  |
|                        |                 | Locked-rotor Power Factor | 64.1  |  |
|                        |                 | Rotor inertia             | 0.0443 LB-FT <sup>2</sup>                       |  |

**Load Characteristics 230 V, 60 Hz, 1 HP**

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|------|------|------|------|------|------|
| Power Factor    | 57   | 74   | 81   | 85   | 87   | 87   | 87   |
| Efficiency      | 54   | 67.8 | 73.5 | 75.1 | 75.6 | 74.6 | 75.6 |
| Speed           | 3549 | 3513 | 3474 | 3432 | 3384 | 3330 | 3384 |
| Line amperes    | 1.54 | 1.88 | 2.34 | 2.86 | 3.44 | 4.12 | 3.44 |

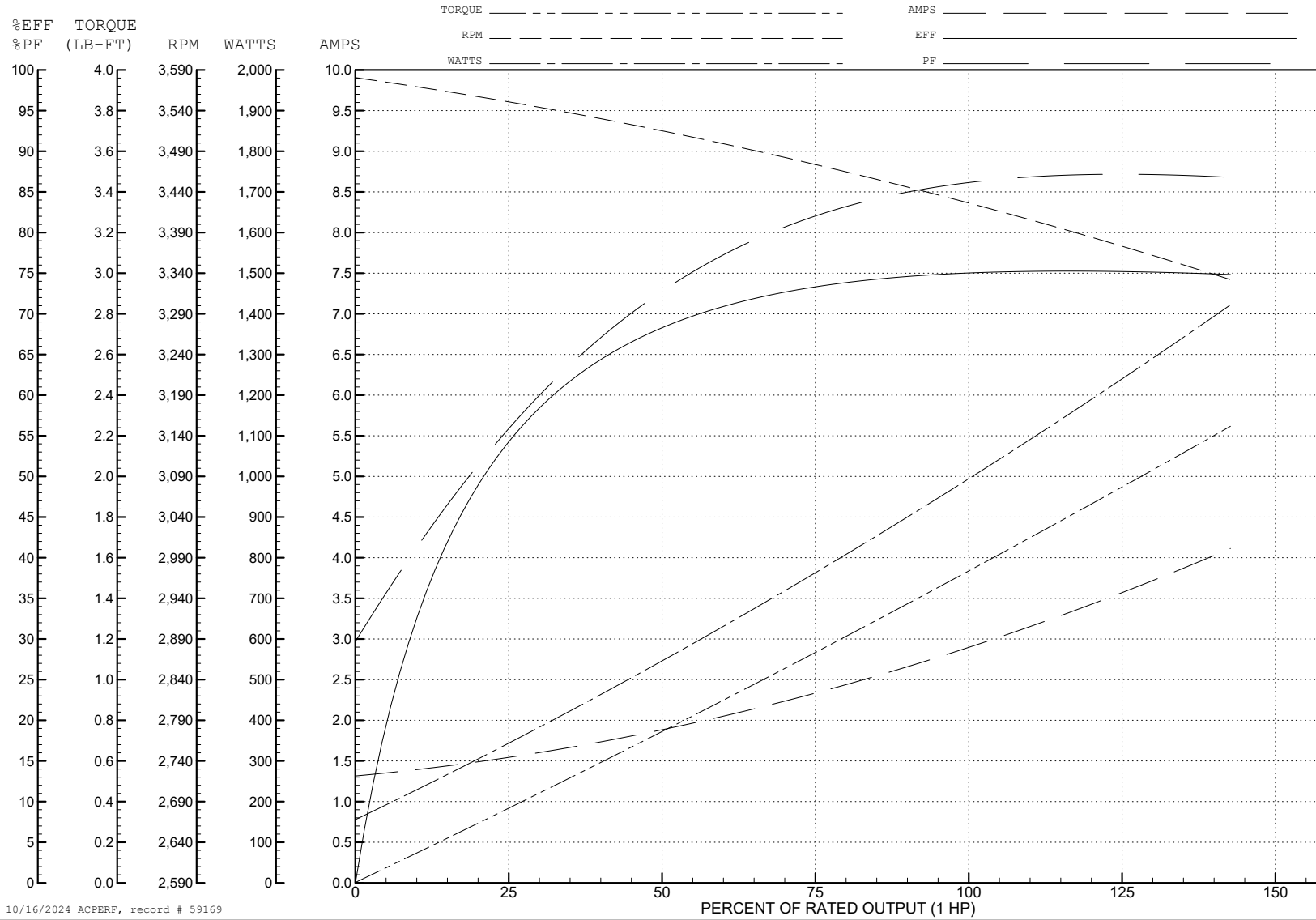
ABB Motors and Mechanical Inc.

WINDING # 35WGY474

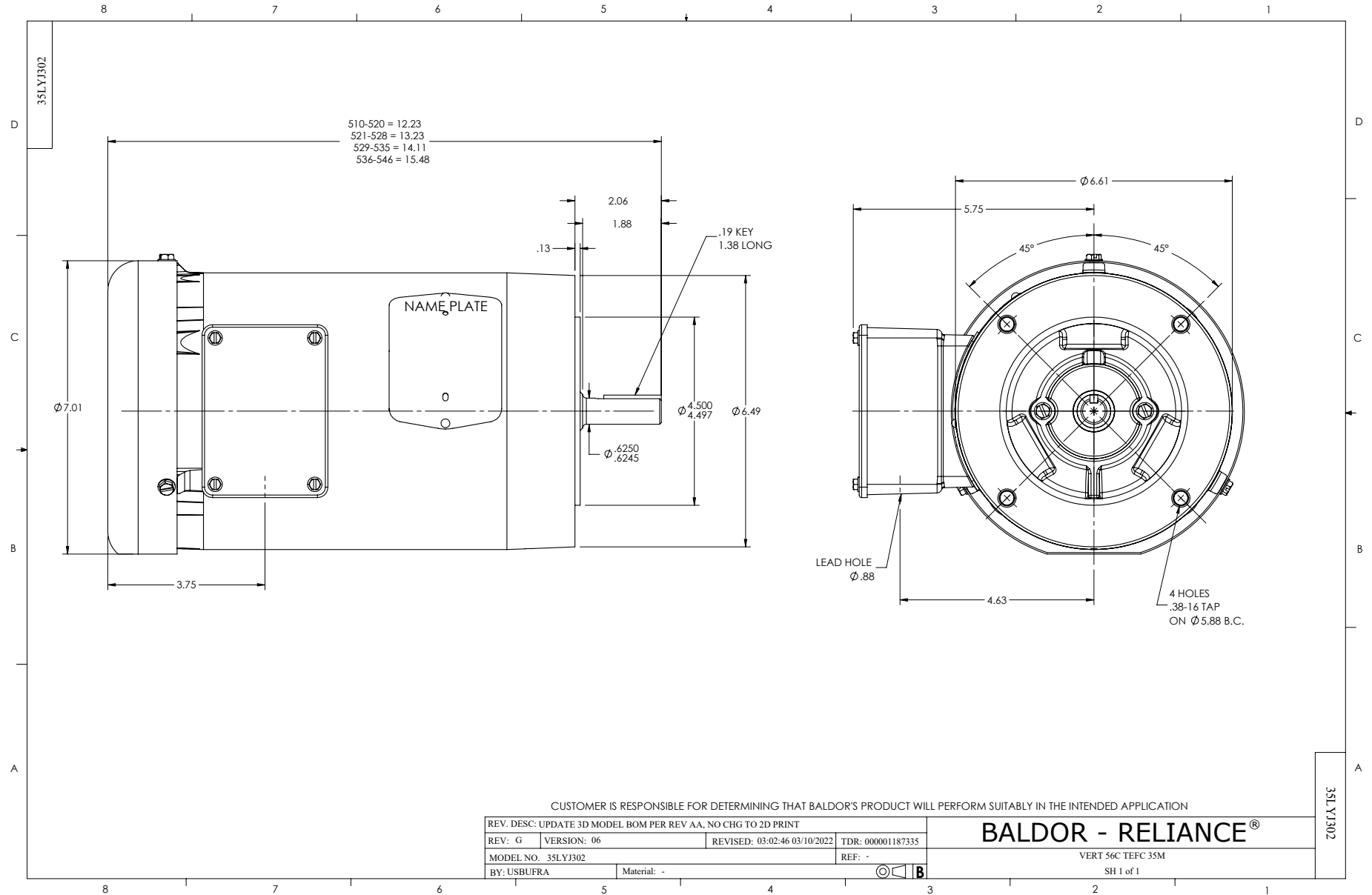
Typical performance - not guaranteed values.

1 HP 3 PH 60 HZ 3450 RPM 230 V 3516M

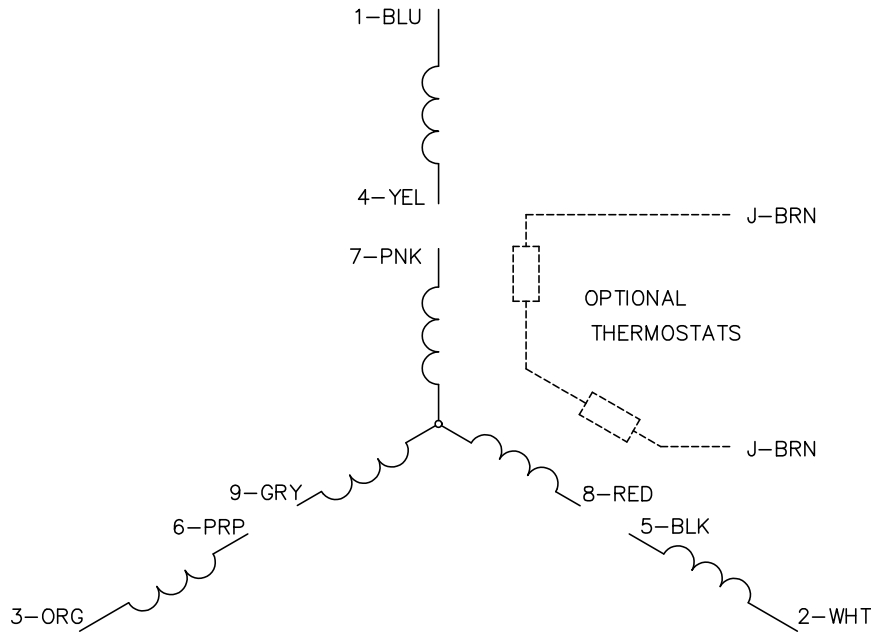
TORQUES (LB-FT): PO=5.6 PU=3.9 LR=4 LRA=18



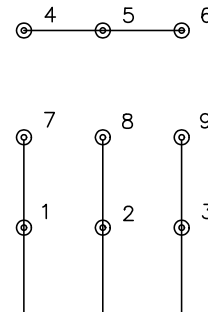
10/16/2024 ACPERF, record # 59169



CD0005

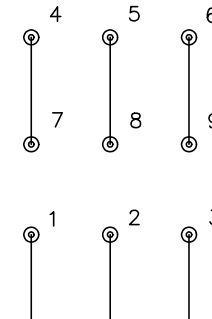


LOW VOLTAGE  
(2Y)



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.

|   |         |                         |              |
|---|---------|-------------------------|--------------|
| 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

CD0005