

Technical Documentation

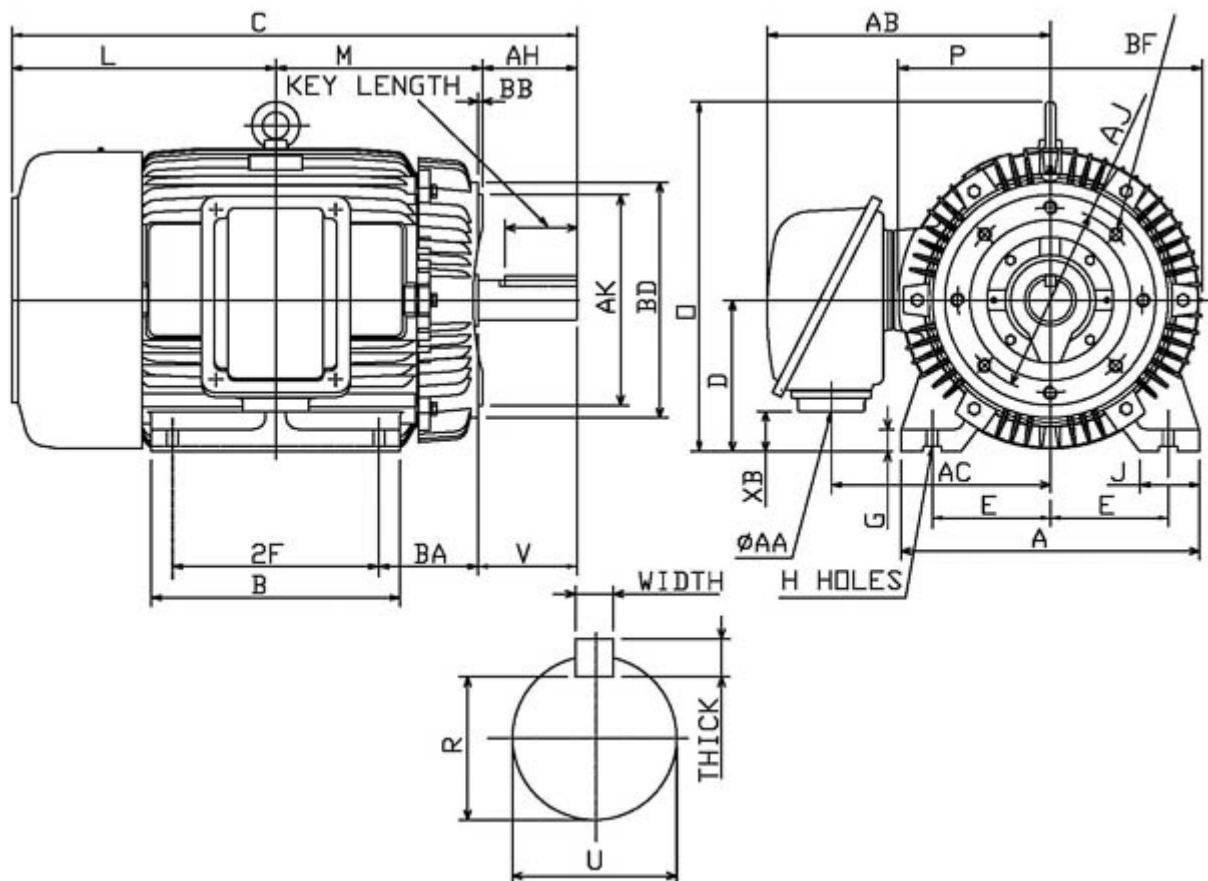
# **PDX04025C**

## **Optim TEFC | AEHH8N**

Date: July 2, 2021

### Dimensional Drawing

| Catalogue | Type   | HP | RPM  | Voltage | Hz | Frame Size |
|-----------|--------|----|------|---------|----|------------|
| PDX04025C | AEHH8N | 40 | 3600 | 575     | 60 | 324TSC(X)  |



| Mounting |      |     |      |      | A     | B    | C     | CL1 | CL2 | D | G   |
|----------|------|-----|------|------|-------|------|-------|-----|-----|---|-----|
| E        | 2F1  | 2F2 | H    | BA   |       |      |       |     |     |   |     |
| 6.25     | 10.5 |     | 0.66 | 5.25 | 15.75 | 12.8 | 28.43 |     |     | 8 | 1.1 |

| J    | K | AK   | AJ | L     | M     | O     | P     | T    | BD    | BB   |
|------|---|------|----|-------|-------|-------|-------|------|-------|------|
| 3.15 |   | 12.5 | 11 | 14.18 | 10.29 | 16.27 | 16.54 | 2.32 | 13.58 | 0.25 |

| Terminal Housing |       |      |      |
|------------------|-------|------|------|
| AA               | AB    | AC   | XB   |
| 2 NPT            | 14.65 | 11.3 | 3.59 |

| Shaft Extension |       |      | Key   |       |        | Keyseat |
|-----------------|-------|------|-------|-------|--------|---------|
| N-W             | U     | V    | Width | Thick | Length | R       |
| 3.75            | 1.875 | 3.65 | 0.5   | 0.5   |        |         |

| Bearings |        | Weight Lbs | Drive Method    | Dimensions |
|----------|--------|------------|-----------------|------------|
| DE       | NDE    |            |                 |            |
| 6312C3   | 6310C3 | 566        | Direct Coupling | Inches     |

|                                                                                   |                    |
|-----------------------------------------------------------------------------------|--------------------|
|  |                    |
|                                                                                   |                    |
|                                                                                   |                    |
|                                                                                   | Date: July 2, 2021 |

## Technical Data Sheet

|                    |                         |
|--------------------|-------------------------|
| Motor Type: AEHH8N | Catalogue No: PDX04025C |
|--------------------|-------------------------|

### Nameplate Information

| HP        | Pole       | RPM            | Frame       | Voltage     | Hz           | Phase          |
|-----------|------------|----------------|-------------|-------------|--------------|----------------|
| 40        | 2          | 3550           | 324TSC(X)   | 575         | 60           | 3              |
| Enclosure | Ins. Class | Service Factor | Time Rating | NEMA Design | Rated Amb.   | Rated Altitude |
| TEFC      | F          | 1.15           | Continuous  | B           | -40 to 40 °C | <1000 m        |

### Typical Performance

| Efficiency (%)    |                             |                                 |                                      | Power Factor (%)    |           |                                |
|-------------------|-----------------------------|---------------------------------|--------------------------------------|---------------------|-----------|--------------------------------|
| Full Load         |                             | 3/4 Load                        | 1/2 Load                             | Full Load           | 3/4 Load  | 1/2 Load                       |
| Nom.              | Min.                        |                                 |                                      |                     |           |                                |
| 92.40             | 91.00                       | 93.00                           | 92.70                                | 92.00               | 91.00     | 88.00                          |
| Torque            |                             |                                 |                                      | Current (A)         |           |                                |
| Full Load (lb-ft) | Locked Rotor (% FLT)        | Pull Up (% FLT)                 | Break Down (% FLT)                   | No Load             | Full Load | Locked Rotor                   |
| 59.41             | 220                         | 180                             | 240                                  | 7.4                 | 35.3      | 232.00                         |
| NEMA KVA Code     | Inertia (WR <sup>2</sup> )  |                                 |                                      | Safe Stall Time (s) |           | Noise Level Sound Press. dB(A) |
|                   | Rotor (lb-ft <sup>2</sup> ) | NEMA Load (lb-ft <sup>2</sup> ) | Max. Allowable (lb-ft <sup>2</sup> ) | Cold                | Hot       |                                |
| G                 | 2.784                       | 40.00                           | 99.00                                | 17                  | 12        | 78.0                           |

### VFD Duty Information

| Speed Range     |                 |                | VFD     |              | S.F.     |
|-----------------|-----------------|----------------|---------|--------------|----------|
| Constant Torque | Variable Torque | Constant Power | Carrier | Type         |          |
| 6-60Hz          | 3-60Hz          | 60-75Hz        | 0       | VPWM or CPWM | 1.0 Only |

### Hazardous Locations Information

### Additional Certifications

| CSA Certified                                                                | Other Certification |
|------------------------------------------------------------------------------|---------------------|
| Class I, Div 2, Groups B, C & D<br>Class I, Zone 2, Groups IIB+H2, IIB & IIA |                     |
| Temp Code (Sinewave / VFD)                                                   | T3 / T3             |

### Additional Information

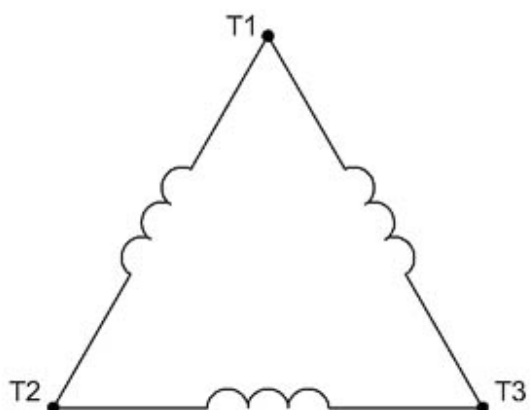
| Bearings |        | Approx. Weight |
|----------|--------|----------------|
| DE       | NDE    | lbs            |
| 6312C3   | 6310C3 | 566            |

### Nameplate Drawing

## Optim TEFC

|                 |                   |        |                 |           |                 |      |
|-----------------|-------------------|--------|-----------------|-----------|-----------------|------|
| TYPE            | AEHH8N            |        | CAT. NO.        | PDX04025C |                 |      |
| OUTPUT          | 40 HP    29.84 kW |        | FRAME           | 324TSC(X) | TEFC            |      |
| R.P.M.          | 3550              |        | POLE            | 2         | INS.            | F    |
| VOLTS           | 575               |        | PHASE           | 3         | Hz              | 60   |
| AMPS            | 35.3              |        | CODE            | G         | S.F.            | 1.15 |
| AMBIENT         | 40 °C             |        | NOM. EFF. 92.40 |           | MIN. EFF. 91.00 |      |
| BEARINGS        | 6312C3 / 6310C3   |        |                 |           | RATING Cont.    |      |
| SER. NO.        | TBD               |        | DESIGN          | B         | WT. 566 LBS     |      |
| PWM VFD<br>DUTY | VT                | CT     | CP              |           | S.F.            |      |
|                 | 3-60Hz            | 6-60Hz | 60-75Hz         |           | 1.0 Only        |      |

### Connection Diagram

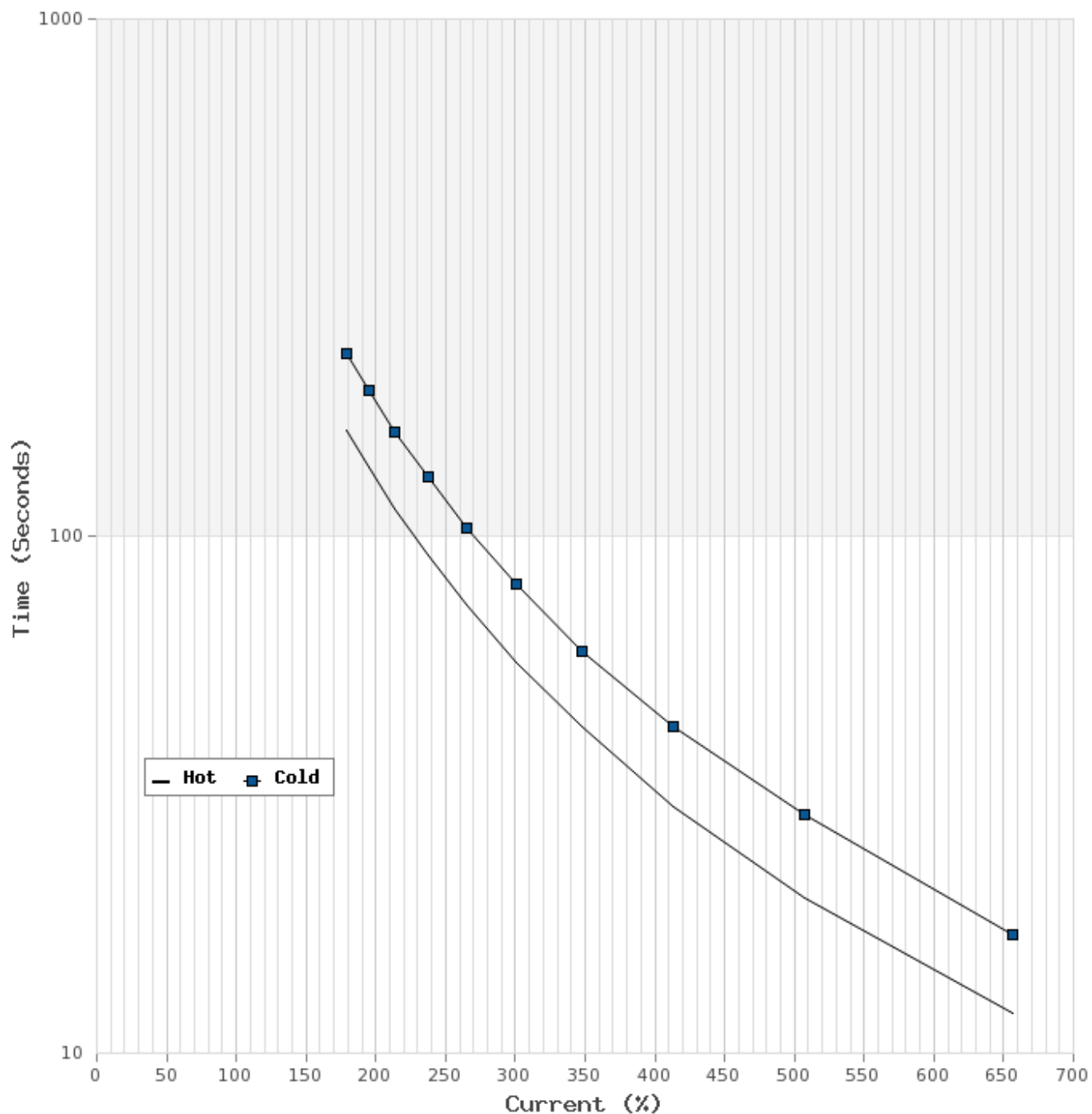


| 3 LEAD  |       | SINGLE VOLTAGE |    |    | DELTA |
|---------|-------|----------------|----|----|-------|
| VOLTAGE | CONN. | L1             | L2 | L3 |       |
| -       | DELTA | 1              | 2  | 3  |       |

WD\_3D

### Thermal Limit Curves

|                    |           |                         |      |                    |          |
|--------------------|-----------|-------------------------|------|--------------------|----------|
| Motor Type: AEHH8N |           | Catalogue No: PDX04025C |      | Family: Optim TEFC |          |
| HP                 | 40        | Safe Stall Time         |      | Full Load A        | 35.3 A   |
| Voltage            | 575V 60Hz | Hot                     | 12 s | % Inrush           | 658 %    |
| RPM                | 3600      | Cold                    | 17 s | Locked Rotor A     | 232.00 A |



### T-N and I-N Curves

|                    |           |                         |             |                    |         |
|--------------------|-----------|-------------------------|-------------|--------------------|---------|
| Motor Type: AEHH8N |           | Catalogue No: PDX04025C |             | Family: Optim TEFC |         |
| HP                 | 40        | Full Load T             | 59.41 lb-ft | Full Load A        | 35.3 A  |
| Voltage            | 575V 60Hz | Locked Rotor T          | 220 %       | Locked Rotor A     | 232.0 A |
| RPM                | 3600      | Pull Up T               | 180 %       | Break Down T       | 240 %   |

