

Technical Documentation

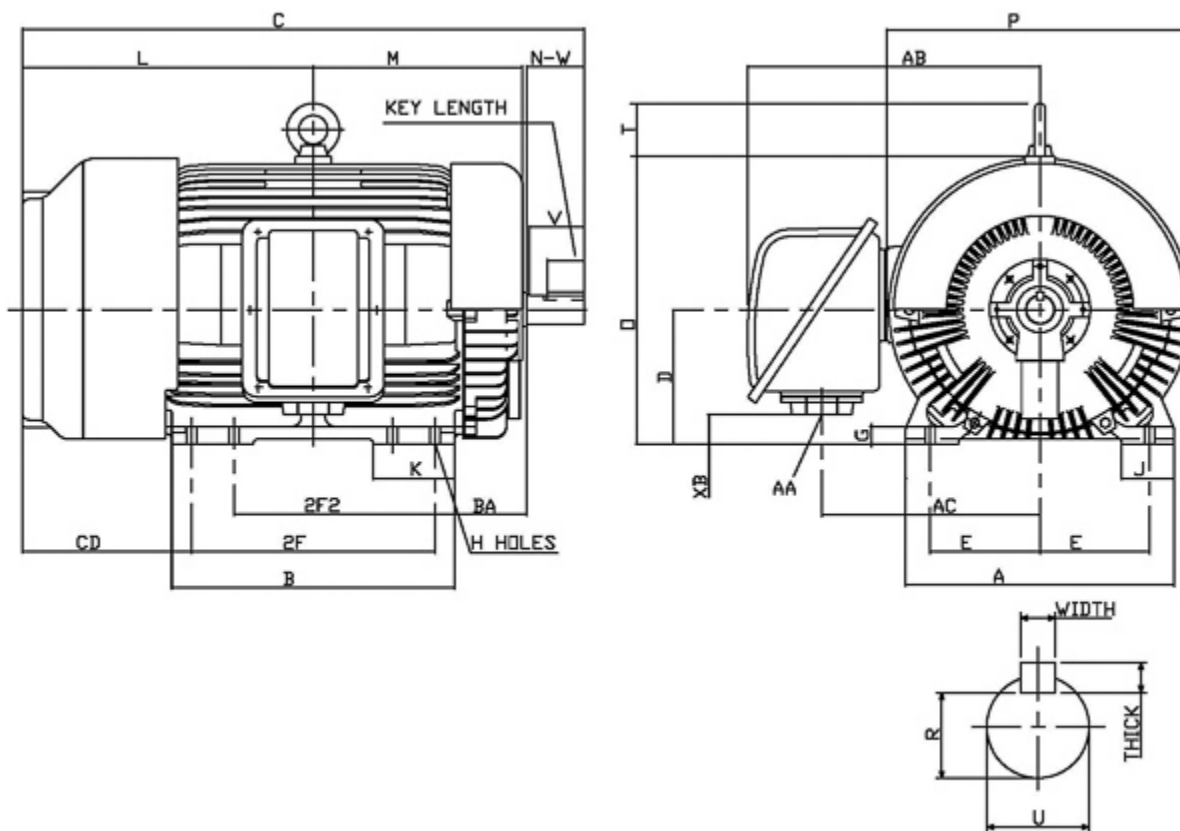
# **PDH30025**

## **Optim TEFC | AEHH8N**

Date: July 10, 2017

### Dimensional Drawing

| Catalogue | Model  | HP  | Pole | kW  | Rating     | Voltage | Hz | RPM  |
|-----------|--------|-----|------|-----|------------|---------|----|------|
| PDH30025  | AEHH8N | 300 | 2    | 224 | Continuous | 575 V   | 60 | 3600 |



| Frame Size |  | Mounting |    |     |      |     | A     | B     | C     | CD   | D  |
|------------|--|----------|----|-----|------|-----|-------|-------|-------|------|----|
|            |  | E        | 2F | 2F2 | H    | BA  |       |       |       |      |    |
| 449TS      |  | 9        | 25 | 20  | 0.81 | 7.5 | 22.05 | 27.95 | 51.15 | 13.9 | 11 |

| G   | J    | K    | L    | M     | O     | P     | T    | Key   |       |        | Keyseat |
|-----|------|------|------|-------|-------|-------|------|-------|-------|--------|---------|
|     |      |      |      |       |       |       |      | Width | Thick | Length | R       |
| 1.4 | 4.35 | 8.25 | 26.4 | 19.65 | 23.55 | 24.75 | 4.35 | 0.625 | 0.625 | 3.03   | 2.021   |

| Terminal Housing |    |      |     | Aux Box |    | C/D Flange |    |    |    |    |    |
|------------------|----|------|-----|---------|----|------------|----|----|----|----|----|
| AA               | AB | AC   | XB  | AE      | AX | BB         | AH | AK | BD | AJ | BF |
| 3 NPT            | 24 | 17.9 | 2.4 |         |    |            |    |    |    |    |    |

| Shaft Extension |       |     | Bearings |        | Approx.<br>Weight Lbs | SPL<br>dBA/3ft | Ins.<br>Class | S.F. | Drive Method    | Dimensions |
|-----------------|-------|-----|----------|--------|-----------------------|----------------|---------------|------|-----------------|------------|
| N-W             | U     | V   | DE       | NDE    |                       |                |               |      |                 |            |
| 4.75            | 2.375 | 4.5 | 6314C3   | 6314C3 | 2493                  | 83             | F             | 1.15 | Direct Coupling | Inches     |

## Technical Data Sheet

Motor Type: AEHH8N

Catalogue No: PDH30025

### Nameplate Information

| HP        | Pole       | RPM            | Frame       | Voltage     | Hz           | Phase          |
|-----------|------------|----------------|-------------|-------------|--------------|----------------|
| 300       | 2          | 3583           | 449TS       | 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 | <3300 ft       |

### Typical Performance

| Efficiency (%)    |                             |                                 |                                      | Power Factor (%)    |           |                                |
|-------------------|-----------------------------|---------------------------------|--------------------------------------|---------------------|-----------|--------------------------------|
| Full Load         |                             | 3/4 Load                        | 1/2 Load                             | Full Load           | 3/4 Load  | 1/2 Load                       |
| Nom.              | Min.                        |                                 |                                      |                     |           |                                |
| 95.8              | 95.0                        | 95.4                            | 94.5                                 | 88.0                | 85.5      | 82.5                           |
| Torque            |                             |                                 |                                      | Current (A)         |           |                                |
| Full Load (lb-ft) | Locked Rotor (% FLT)        | Pull Up (% FLT)                 | Break Down (% FLT)                   | No Load             | Full Load | Locked Rotor                   |
| 439.00            | 102                         | 81                              | 210                                  | 40.4                | 266.6     | 1776                           |
| 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       |                                |
| 0                 | 52.500                      | 246.0                           | 246.0                                | 22                  | 15        | 83                             |

### VFD Duty Information

| Speed Range     |                 |                | VFD     |              | S.F.     |
|-----------------|-----------------|----------------|---------|--------------|----------|
| Constant Torque | Variable Torque | Constant Power | Carrier | Type         |          |
| 20-60Hz         | 3-60Hz          | 60-60Hz        | ≤ 5 kHz | VPWM or CPWM | 1.0 Only |

### Additional Information

| Bearings |        | Approx. Weight |
|----------|--------|----------------|
| DE       | NDE    | lbs            |
| 6314C3   | 6314C3 | 2493           |

### Hazardous Locations Information

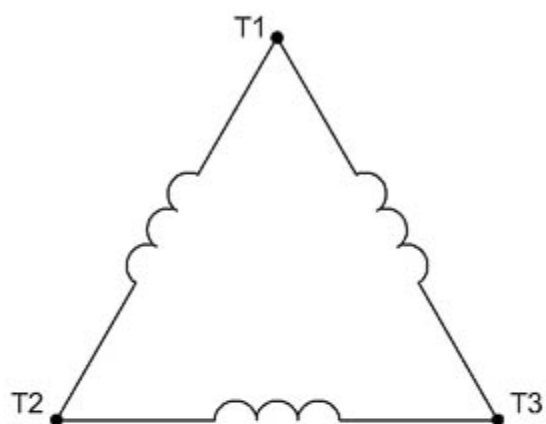
| CSA Certified                                                                |          |
|------------------------------------------------------------------------------|----------|
| Class I, Div 2, Groups B, C & D<br>Class I, Zone 2, Groups IIB+H2, IIB & IIA |          |
| Temp Code (Sinewave / VFD)                                                   | T3C / T3 |

### Nameplate Drawing

# Optim TEFC

|                 |                  |                |          |                 |              |
|-----------------|------------------|----------------|----------|-----------------|--------------|
| TYPE            | AEHH8N           | CAT. NO.       | PDH30025 |                 |              |
| OUTPUT          | 300 HP    224 kW | FRAME          | 449TS    | TEFC            |              |
| R.P.M.          | 3583             | POLE           | 2        | INS.            | F            |
| VOLTS           | 575              | PHASE          | 3        | Hz              | 60           |
| AMPS            | 266.6            | CODE           | 0        | S.F.            | 1.15         |
| AMBIENT         | 40 °C            | NOM. EFF. 95.8 |          | MIN. EFF. 95.0  |              |
| BEARINGS        | 6314C3 / 6314C3  |                |          | RATING    Cont. |              |
| SER. NO.        | TBD              |                | DESIGN   | B               | WT. 2493 LBS |
| PWM VFD<br>DUTY | VT               | CT             | CP       | S.F.            |              |
|                 | 3-60Hz           | 20-60Hz        | 60-60Hz  | 1.0 Only        |              |

### Connection Diagram

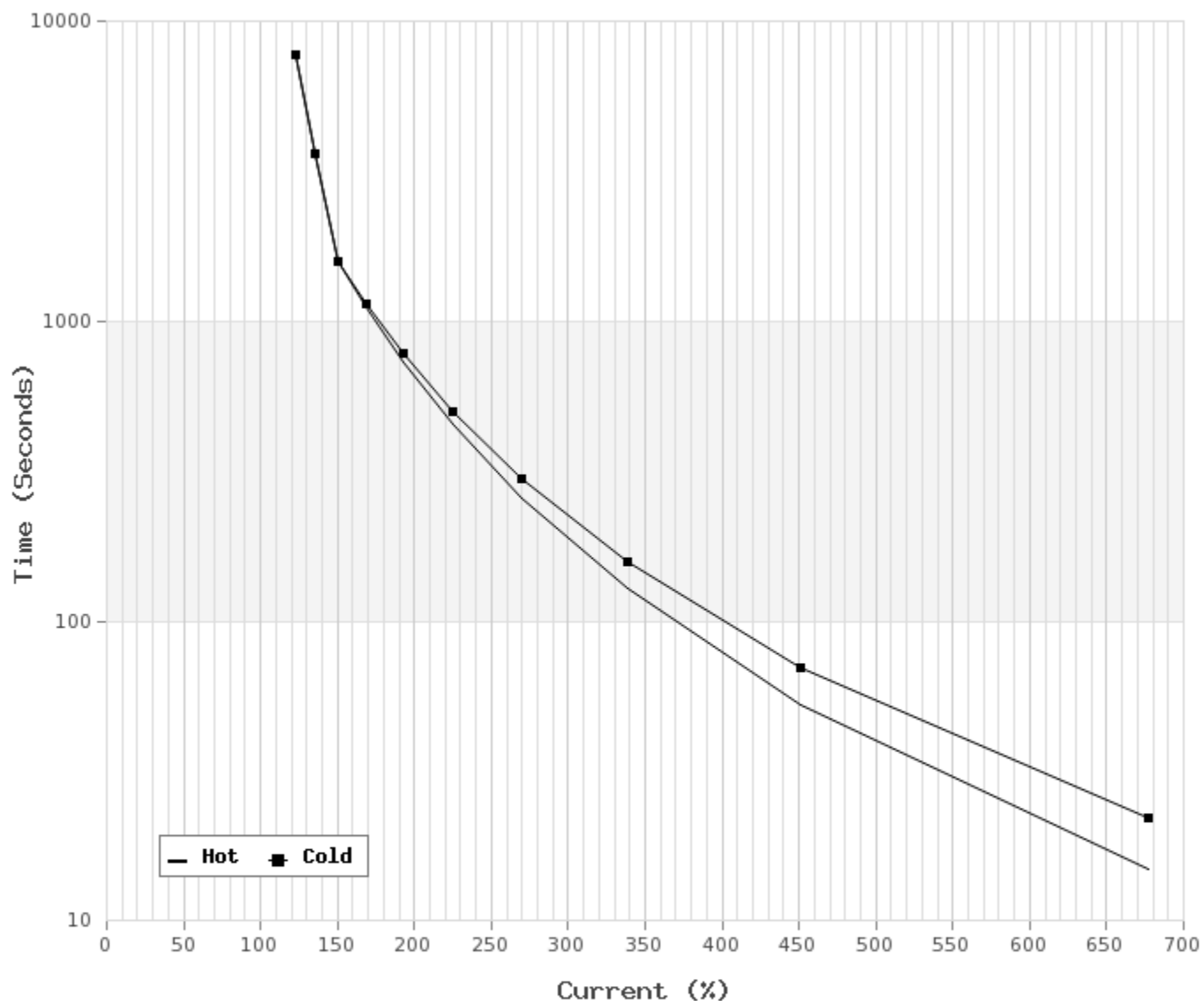


| 3 LEAD SINGLE VOLTAGE DELTA |       |    |    |    |  |
|-----------------------------|-------|----|----|----|--|
| VOLTAGE                     | CONN. | L1 | L2 | L3 |  |
| -                           | DELTA | 1  | 2  | 3  |  |

WD\_3D

### Thermal Limit Curves

|                    |               |                        |      |                    |               |
|--------------------|---------------|------------------------|------|--------------------|---------------|
| Motor Type: AEHH8N |               | Catalogue No: PDH30025 |      | Family: Optim TEFC |               |
| HP                 | 300           | Safe Stall Time        |      | Full Load A        | 0.0 / 266.6 A |
| Voltage            | 0 / 575V 60Hz | Hot                    | 15 s | Locked Rotor A     | 666 %         |
| RPM                | 3600          | Cold                   | 22 s | Locked Rotor A     | 0.0 / 1 A     |



### T-N and I-N Curves

|                    |           |                        |              |                    |           |
|--------------------|-----------|------------------------|--------------|--------------------|-----------|
| Motor Type: AEHH8N |           | Catalogue No: PDH30025 |              | Family: Optim TEFC |           |
| HP                 | 300       | Full Load T            | 439.00 lb-ft | Full Load A        | 266.6 A   |
| Voltage            | 575V 60Hz | Locked Rotor T         | 102 %        | Locked Rotor A     | 1,776.0 A |
| RPM                | 3600      | Pull Up T              | 81 %         | Break Down T       | 210 %     |

