

Technical Documentation

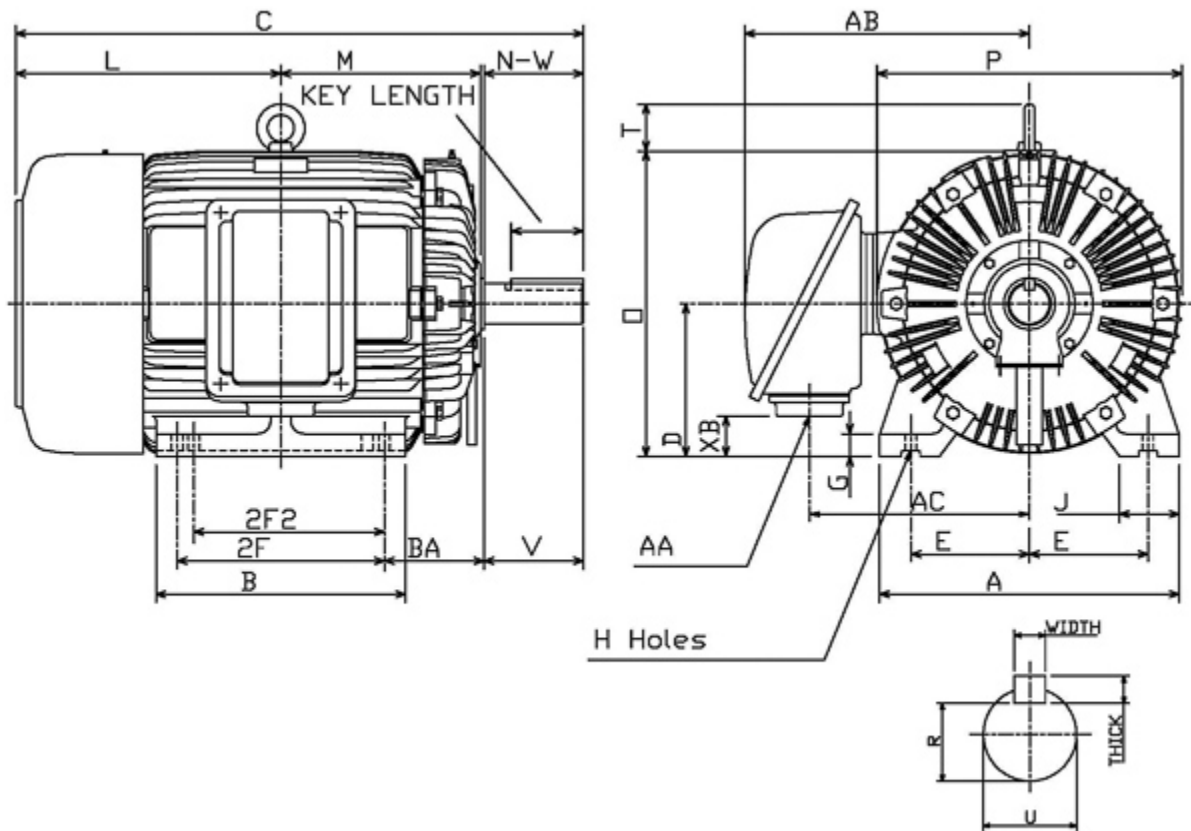
# **PDH03025**

## **Optim TEFC | AEHH8N**

Date: November 30, 2016

**Dimensional Drawing**

|           |        |    |      |    |            |         |    |      |
|-----------|--------|----|------|----|------------|---------|----|------|
| Catalogue | Model  | HP | Pole | kW | Rating     | Voltage | Hz | RPM  |
| PDH03025  | AEHH8N | 30 | 2    | 22 | Continuous | 575 V   | 60 | 3600 |



| Frame Size       | Mounting |      |          |         |                    | A           | B          | C     | CD              | D          |         |
|------------------|----------|------|----------|---------|--------------------|-------------|------------|-------|-----------------|------------|---------|
|                  | E        | 2F   | 2F2      | H       | BA                 |             |            |       |                 |            |         |
| 286TS            | 5.5      | 11   | 9.5      | 0.53    | 4.75               | 14          | 13.2       | 26.93 |                 | 7          |         |
| G                | J        | K    | L        | M       | O                  | P           | T          | Key   |                 |            | Keyseat |
|                  |          |      |          |         |                    |             |            | Width | Thick           | Length     | R       |
| 0.7              | 2.95     |      | 13.43    | 10.06   | 14.52              | 15.04       | 1.97       | 0.375 | 0.375           | 1.93       | 1.416   |
| Terminal Housing |          |      |          | Aux Box |                    | C/D Flange  |            |       |                 |            |         |
| AA               | AB       | AC   | XB       | AE      | AX                 | BB          | AH         | AK    | BD              | AJ         | BF      |
| 1.25 NPT         | 12.28    | 9.84 | 3.97     |         |                    |             |            |       |                 |            |         |
| Shaft Extension  |          |      | Bearings |         | Approx. Weight Lbs | SPL dBA/3ft | Ins. Class | S.F.  | Drive Method    | Dimensions |         |
| N-W              | U        | V    | DE       | NDE     |                    |             |            |       |                 |            |         |
| 3.25             | 1.625    | 3.2  | 6211C3   | 6211C3  | 482                | 77          | F          | 1.15  | Direct Coupling | Inches     |         |

### Technical Data Sheet

Motor Type: AEHH8N

Catalogue No: PDH03025

#### Nameplate Information

|           |            |                |             |             |              |                |
|-----------|------------|----------------|-------------|-------------|--------------|----------------|
| HP        | Pole       | RPM            | Frame       | Voltage     | Hz           | Phase          |
| 30        | 2          | 3545           | 286TS       | 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.                        |                                 |                                      |                     |           |                                |
| 93.0              | 91.7                        | 93.6                            | 93.0                                 | 91.0                | 90.5      | 87.5                           |
| Torque            |                             |                                 |                                      | Current (A)         |           |                                |
| Full Load (lb-ft) | Locked Rotor (% FLT)        | Pull Up (% FLT)                 | Break Down (% FLT)                   | No Load             | Full Load | Locked Rotor                   |
| 44.43             | 175                         | 140                             | 240                                  | 4.8                 | 26.6      | 174                            |
| 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                 | 2.831                       | 30.0                            | 73.0                                 | 24                  | 17        | 77                             |

#### VFD Duty Information

| Speed Range     |                 |                | VFD     |              | S.F.     |
|-----------------|-----------------|----------------|---------|--------------|----------|
| Constant Torque | Variable Torque | Constant Power | Carrier | Type         |          |
| 6-60Hz          | 3-60Hz          | 60-90Hz        | ≤ 5 kHz | VPWM or CPWM | 1.0 Only |

#### Additional Information

| Bearings |        | Approx. Weight |
|----------|--------|----------------|
| DE       | NDE    | lbs            |
| 6211C3   | 6211C3 | 482            |

#### Hazardous Locations Information

| CSA Certified                             |           |
|---|-----------|
| Class I, Div 2, Groups B, C & D           |           |
| Class I, Zone 2, Groups IIB+H2, IIB & IIA |           |
| Temp Code (Sinewave / VFD)                | T3C / T3B |

**Connection Diagram**

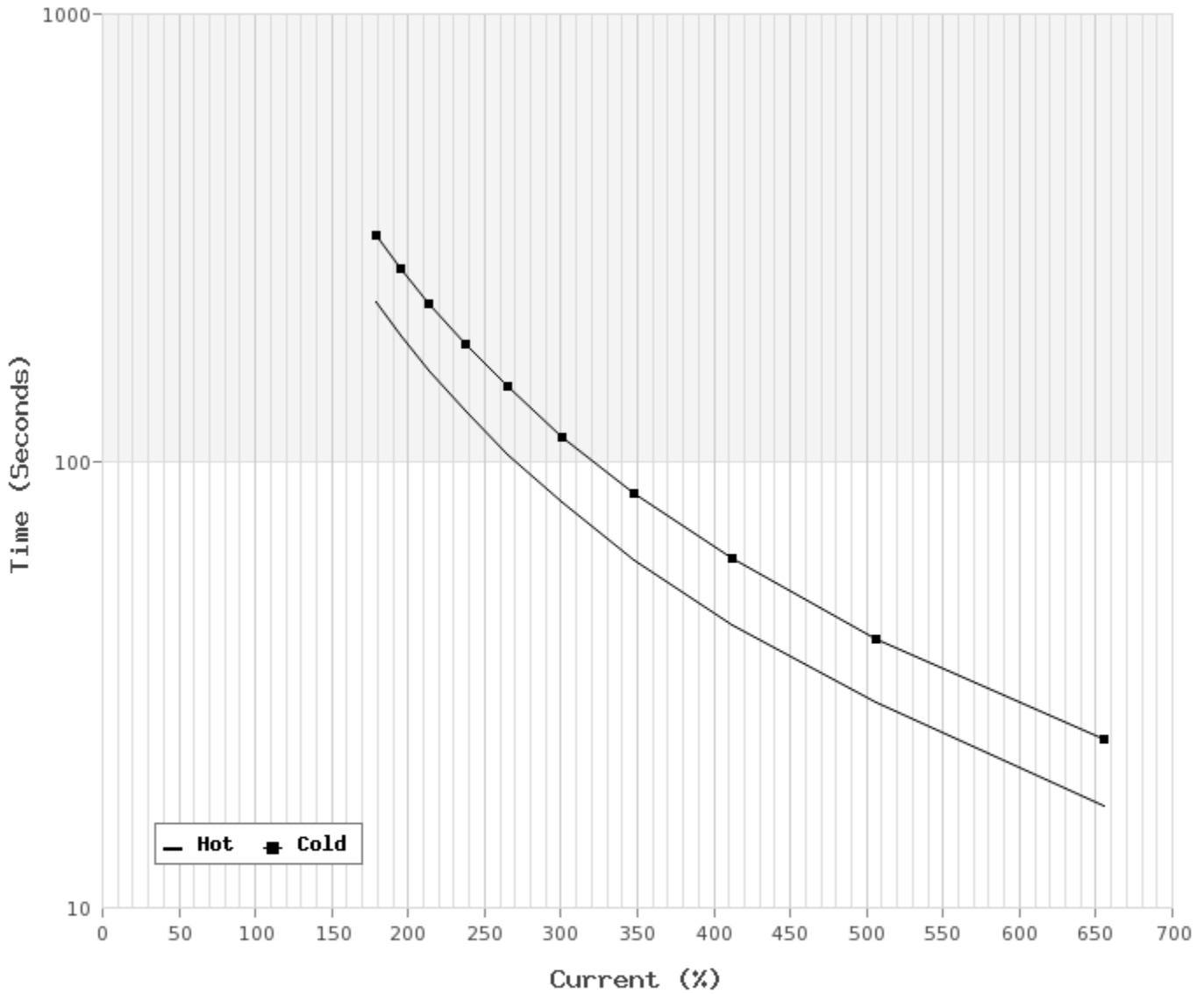


| 3 LEAD SINGLE VOLTAGE DELTA |       |    |    |    |  |
|-----------------------------|-------|----|----|----|--|
| VOLTAGE                     | CONN. | L1 | L2 | L3 |  |
| -                           | DELTA | 1  | 2  | 3  |  |

WD\_3D

**Thermal Limit Curves**

|                    |               |                        |      |                    |              |
|--------------------|---------------|------------------------|------|--------------------|--------------|
| Motor Type: AEHH8N |               | Catalogue No: PDH03025 |      | Family: Optim TEFC |              |
| HP                 | 30            | Safe Stall Time        |      | Full Load A        | 0.0 / 26.6 A |
| Voltage            | 0 / 575V 60Hz | Hot                    | 17 s | Locked Rotor A     | 655 %        |
| RPM                | 3600          | Cold                   | 24 s | Locked Rotor A     | 0.0 / 174 A  |



**T-N and I-N Curves**

|                    |           |                        |             |                    |         |
|--------------------|-----------|------------------------|-------------|--------------------|---------|
| Motor Type: AEHH8N |           | Catalogue No: PDH03025 |             | Family: Optim TEFC |         |
| HP                 | 30        | Full Load T            | 44.43 lb-ft | Full Load A        | 26.6 A  |
| Voltage            | 575V 60Hz | Locked Rotor T         | 175 %       | Locked Rotor A     | 174.0 A |
| RPM                | 3600      | Pull Up T              | 140 %       | Break Down T       | 240 %   |

