

Technical Documentation

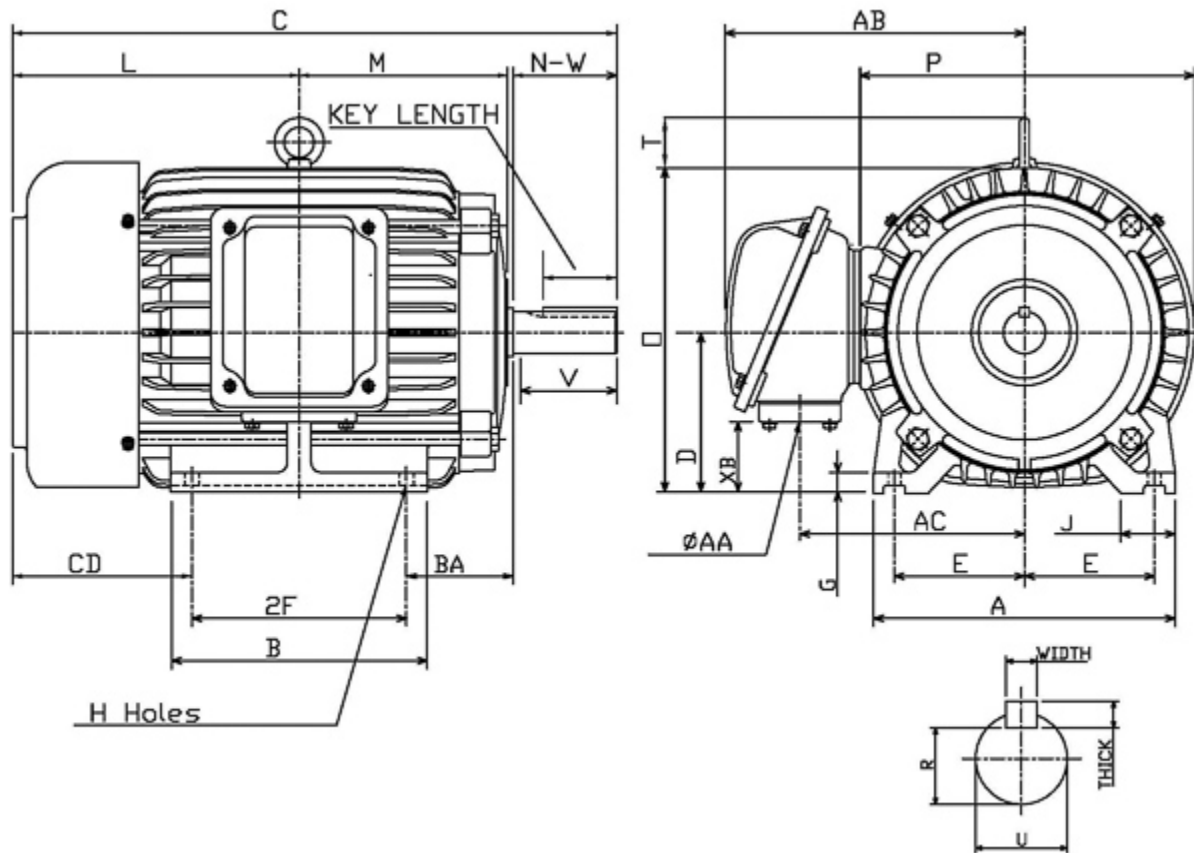
# **PDH1/565**

## **Optim TEFC | AEHH8N**

Date: November 30, 2016

### Dimensional Drawing

| Catalogue | Model  | HP  | Pole | kW  | Rating     | Voltage | Hz | RPM  |
|-----------|--------|-----|------|-----|------------|---------|----|------|
| PDH1/565  | AEHH8N | 1.5 | 6    | 1.1 | Continuous | 575 V   | 60 | 1200 |



| Frame Size       |       | Mounting |          |         |                       |                | A             | B     | C                               | CD         | D       |
|------------------|-------|----------|----------|---------|-----------------------|----------------|---------------|-------|---------------------------------|------------|---------|
|                  |       | E        | 2F       | 2F2     | H                     | BA             |               |       |                                 |            |         |
| 182T             |       | 3.75     | 4.5      |         | 0.41                  | 2.75           | 8.8           | 5.9   | 14.71                           |            | 4.5     |
| G                | J     | K        | L        | M       | O                     | P              | T             | Key   |                                 |            | Keyseat |
|                  |       |          |          |         |                       |                |               | Width | Thick                           | Length     | R       |
| 0.65             | 1.75  |          | 6.96     | 4.87    | 9.31                  | 9.61           | 1.19          | 0.25  | 0.25                            | 1.78       | 0.986   |
| Terminal Housing |       |          |          | Aux Box |                       | C/D Flange     |               |       |                                 |            |         |
| AA               | AB    | AC       | XB       | AE      | AX                    | BB             | AH            | AK    | BD                              | AJ         | BF      |
| 3/4 NPT          | 8.31  | 6.38     | 1.86     |         |                       |                |               |       |                                 |            |         |
| 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     |                       |                |               |       |                                 |            |         |
| 2.75             | 1.125 | 2.7      | 6306ZZ   | 6306ZZ  | 92                    | 52             | F             | 1.15  | Direct Coupling<br>/ Belt Drive | Inches     |         |

### Technical Data Sheet

Motor Type: AEHH8N

Catalogue No: PDH1/565

#### Nameplate Information

| HP        | Pole       | RPM            | Frame       | Voltage     | Hz           | Phase          |
|-----------|------------|----------------|-------------|-------------|--------------|----------------|
| 1.5       | 6          | 1170           | 182T        | 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.                        |                                 |                                      |                     |           |                                |
| 87.5              | 85.5                        | 85.5                            | 82.5                                 | 63.5                | 55.0      | 42.5                           |
| Torque            |                             |                                 |                                      | Current (A)         |           |                                |
| Full Load (lb-ft) | Locked Rotor (% FLT)        | Pull Up (% FLT)                 | Break Down (% FLT)                   | No Load             | Full Load | Locked Rotor                   |
| 6.73              | 210                         | 190                             | 350                                  | 1.4                 | 2.0       | 16                             |
| 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       |                                |
| M                 | 0.313                       | 23.0                            | 204.0                                | 97                  | 68        | 52                             |

#### VFD Duty Information

| Speed Range     |                 |                | VFD     |              | S.F.     |
|-----------------|-----------------|----------------|---------|--------------|----------|
| Constant Torque | Variable Torque | Constant Power | Carrier | Type         |          |
| 6-60Hz          | 3-60Hz          | 60-120Hz       | ≤ 5 kHz | VPWM or CPWM | 1.0 Only |

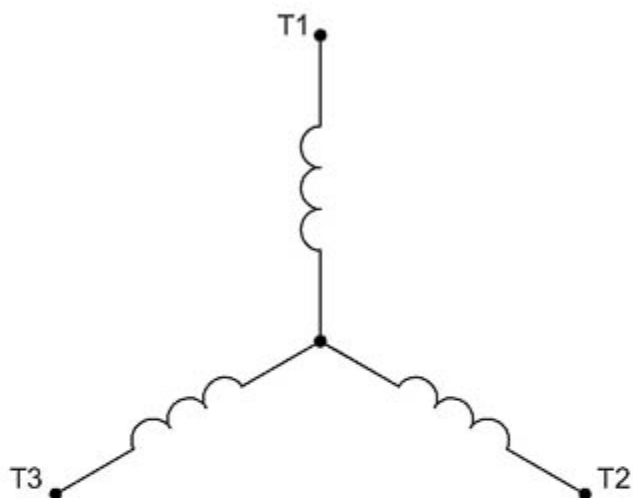
#### Additional Information

| Bearings |        | Approx. Weight |
|----------|--------|----------------|
| DE       | NDE    | lbs            |
| 6306ZZ   | 6306ZZ | 92             |

#### 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 / T3C |

### Connection Diagram

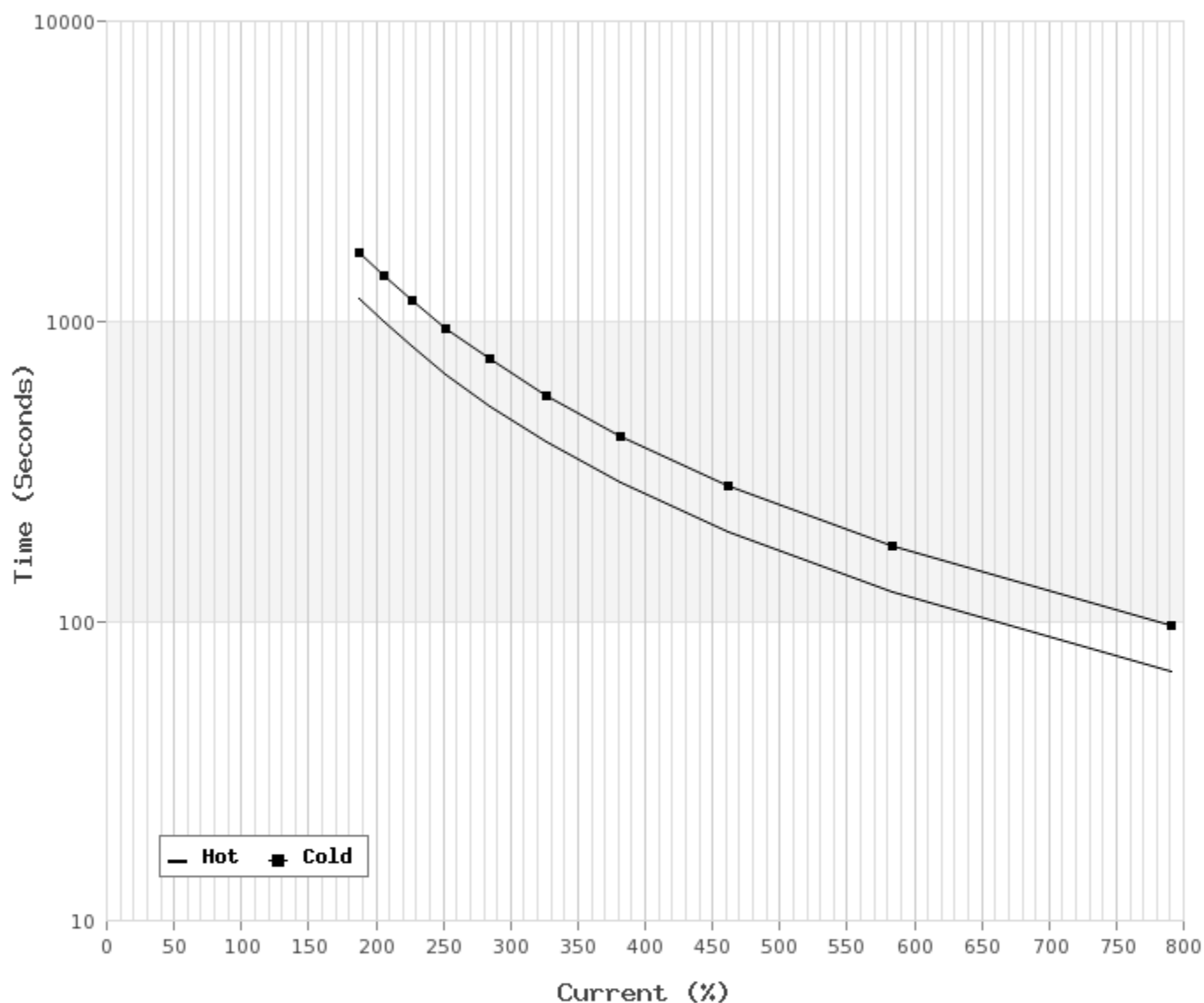


| 3 LEAD  |       | SINGLE VOLTAGE |    |    | WYE |
|---------|-------|----------------|----|----|-----|
| VOLTAGE | CONN. | L1             | L2 | L3 |     |
| -       | WYE   | 1              | 2  | 3  |     |

WD\_3Y

### Thermal Limit Curves

|                    |               |                        |      |                    |             |
|--------------------|---------------|------------------------|------|--------------------|-------------|
| Motor Type: AEHH8N |               | Catalogue No: PDH1/565 |      | Family: Optim TEFC |             |
| HP                 | 1.5           | Safe Stall Time        |      | Full Load A        | 0.0 / 2.0 A |
| Voltage            | 0 / 575V 60Hz | Hot                    | 68 s | Locked Rotor A     | 792 %       |
| RPM                | 1200          | Cold                   | 97 s | Locked Rotor A     | 0.0 / 16 A  |



### T-N and I-N Curves

|                    |           |                        |            |                    |        |
|--------------------|-----------|------------------------|------------|--------------------|--------|
| Motor Type: AEHH8N |           | Catalogue No: PDH1/565 |            | Family: Optim TEFC |        |
| HP                 | 1.5       | Full Load T            | 6.73 lb-ft | Full Load A        | 2.0 A  |
| Voltage            | 575V 60Hz | Locked Rotor T         | 210 %      | Locked Rotor A     | 16.0 A |
| RPM                | 1200      | Pull Up T              | 190 %      | Break Down T       | 350 %  |

