

Technical Documentation

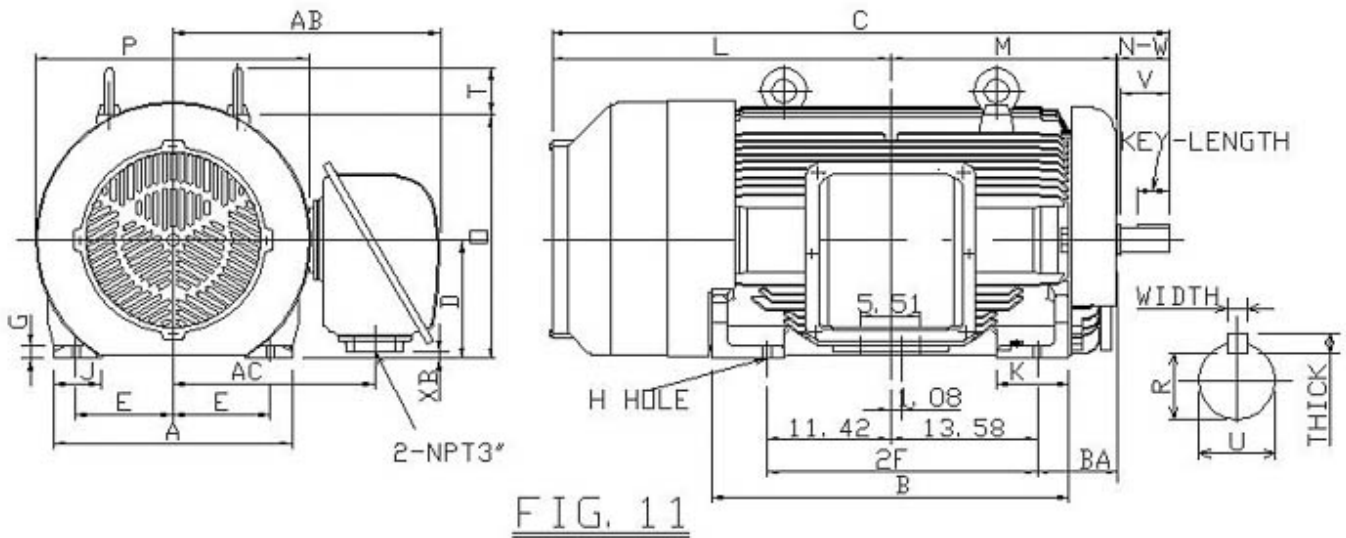
PDX4002

Optim TEFC | AEHH8N

Date: July 1, 2021

Dimensional Drawing

| | | | | | | |
|-----------|--------|-----|------|---------|----|------------|
| Catalogue | Type | HP | RPM | Voltage | Hz | Frame Size |
| PDX4002 | AEHH8N | 400 | 3600 | 460 | 60 | 449TS(X) |



| Mounting | | | | A | B | C | D | G | J | K | KL |
|----------|----|------|-----|-------|-------|-------|----|------|------|-----|----|
| E | 2F | H | BA | | | | | | | | |
| 9 | 25 | 0.81 | 7.5 | 22.05 | 33.07 | 57.17 | 11 | 1.18 | 4.35 | 6.7 | |

| L | M | O | P | T |
|-------|-------|------|------|------|
| 31.34 | 20.87 | 22.6 | 25.7 | 4.33 |

| Terminal Housing | | | |
|------------------|------|------|------|
| AA | AB | AC | XB |
| 2-3 | 24.8 | 18.7 | 0.65 |

| Shaft Extension | | | Key | | | Keyseat |
|-----------------|-------|-----|-------|-------|--------|---------|
| N-W | U | V | Width | Thick | Length | R |
| 4.75 | 2.375 | 4.5 | 0.625 | 0.625 | 3.03 | 2.021 |

| Bearings | | Weight Lbs | Drive Method | Dimensions |
|----------|--------|------------|-----------------|------------|
| DE | NDE | | | |
| 6314C3 | 6314C3 | 3045 | Direct Coupling | Inches |

Technical Data Sheet

Motor Type: AEHH8N

Catalogue No: PDX4002

Nameplate Information

| HP | Pole | RPM | Frame | Voltage | Hz | Phase |
|-----------|------------|----------------|-------------|-------------|--------------|----------------|
| 400 | 2 | 3570 | 449TS(X) | 460 | 60 | 3 |
| Enclosure | Ins. Class | Service Factor | Time Rating | NEMA Design | Rated Amb. | Rated Altitude |
| TEFC | F | 1.15 | Continuous | | -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. | | | | | |
| 95.80 | | 96.40 | 96.00 | 88.50 | 87.80 | 84.20 |
| Torque | | | | Current (A) | | |
| Full Load (lb-ft) | Locked Rotor (% FLT) | Pull Up (% FLT) | Break Down (% FLT) | No Load | Full Load | Locked Rotor |
| 587.43 | 170 | 150 | 300 | | 441.8 | 3150.00 |
| NEMA KVA Code | Inertia (WR ²) | | | Safe Stall Time (s) | | Noise Level Sound Press. dB(A) |
| | Rotor (lb-ft ²) | NEMA Load (lb-ft ²) | Max. Allowable (lb-ft ²) | Cold | Hot | |
| | 64.600 | | | | | |

VFD Duty Information

| Speed Range | | | VFD | | S.F. |
|-----------------|-----------------|----------------|---------|--------------|----------|
| Constant Torque | Variable Torque | Constant Power | Carrier | Type | |
| 20-60Hz | 3-60Hz | 60-60Hz | 0 | VPWM or CPWM | 1.0 Only |

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) | T3 / T2C |

Additional Certifications

| |
|-------------------------------|
| Other Certification |
| Class II, Div 2, Groups F & G |

Additional Information

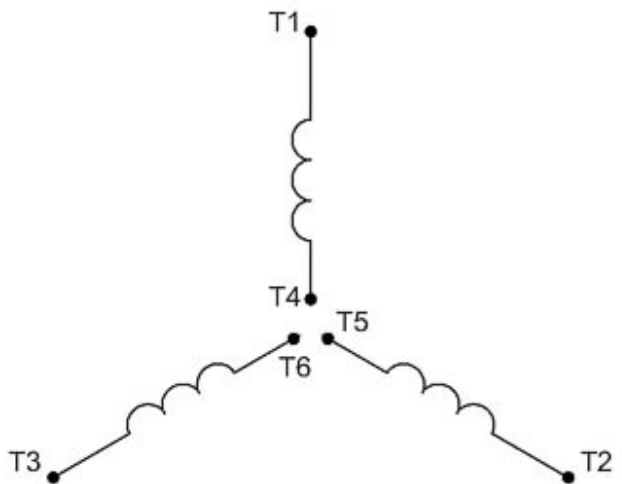
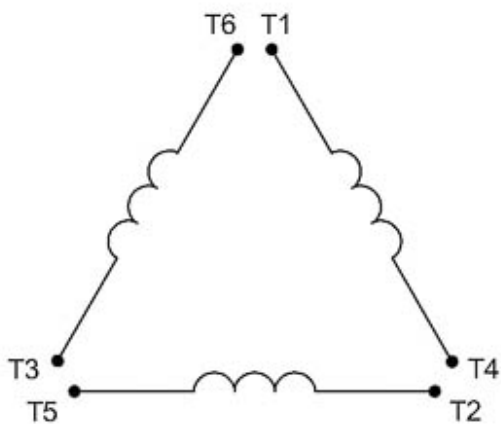
| Bearings | | Approx. Weight |
|----------|--------|----------------|
| DE | NDE | lbs |
| 6314C3 | 6314C3 | 3045 |

Nameplate Drawing

Optim TEFC

| | | | | | |
|--------------|------------------|-----------------|----------|--------------|------|
| TYPE | AEHH8N | CAT. NO. | PDX4002 | | |
| OUTPUT | 400 HP 298.40 kW | FRAME | 449TS(X) | TEFC | |
| R.P.M. | 3570 | POLE | 2 | INS. | F |
| VOLTS | 460 | PHASE | 3 | Hz | 60 |
| AMPS | 441.8 | CODE | | S.F. | 1.15 |
| AMBIENT | 40 °C | NOM. EFF. 95.80 | | MIN. EFF. | |
| BEARINGS | 6314C3 / 6314C3 | | | RATING Cont. | |
| SER. NO. | TBD | DESIGN | | WT. 3045 LBS | |
| PWM VFD DUTY | VT | CT | CP | S.F. | |
| | 3-60Hz | 20-60Hz | 60-60Hz | 1.0 Only | |

Connection Diagram

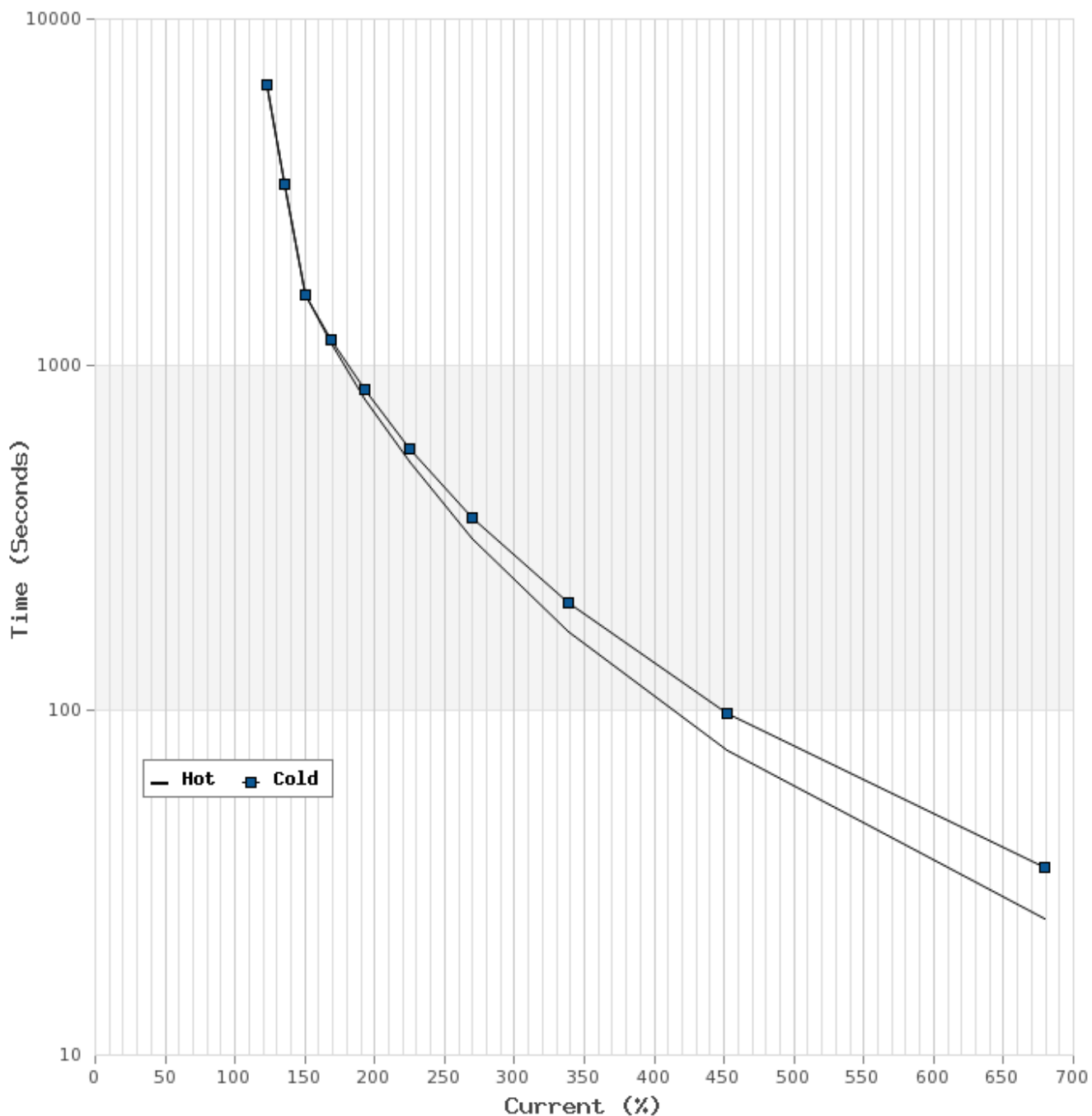


| 6 LEAD | | SINGLE VOLTAGE | | | WYE/DELTA |
|------------|-------|----------------|-----|-----|-----------|
| CONNECTION | | L1 | L2 | L3 | JOIN |
| START | WYE | 1 | 2 | 3 | 4&5&6 |
| RUN | DELTA | 1,6 | 2,4 | 3,5 | - |

WD_6YD

Thermal Limit Curves

| | | | | | |
|--------------------|-----------|-----------------------|---|--------------------|-----------|
| Motor Type: AEHH8N | | Catalogue No: PDX4002 | | Family: Optim TEFC | |
| HP | 400 | Safe Stall Time | | Full Load A | 441.8 A |
| Voltage | 460V 60Hz | Hot | s | % Inrush | 713 % |
| RPM | 3600 | Cold | s | Locked Rotor A | 3150.00 A |



T-N and I-N Curves

| | | | | | |
|--------------------|-----------|-----------------------|--------------|--------------------|----------|
| Motor Type: AEHH8N | | Catalogue No: PDX4002 | | Family: Optim TEFC | |
| HP | 400 | Full Load T | 587.43 lb-ft | Full Load A | 441.8 A |
| Voltage | 460V 60Hz | Locked Rotor T | 170 % | Locked Rotor A | 3150.0 A |
| RPM | 3600 | Pull Up T | 150 % | Break Down T | 300 % |

