

Technical Documentation

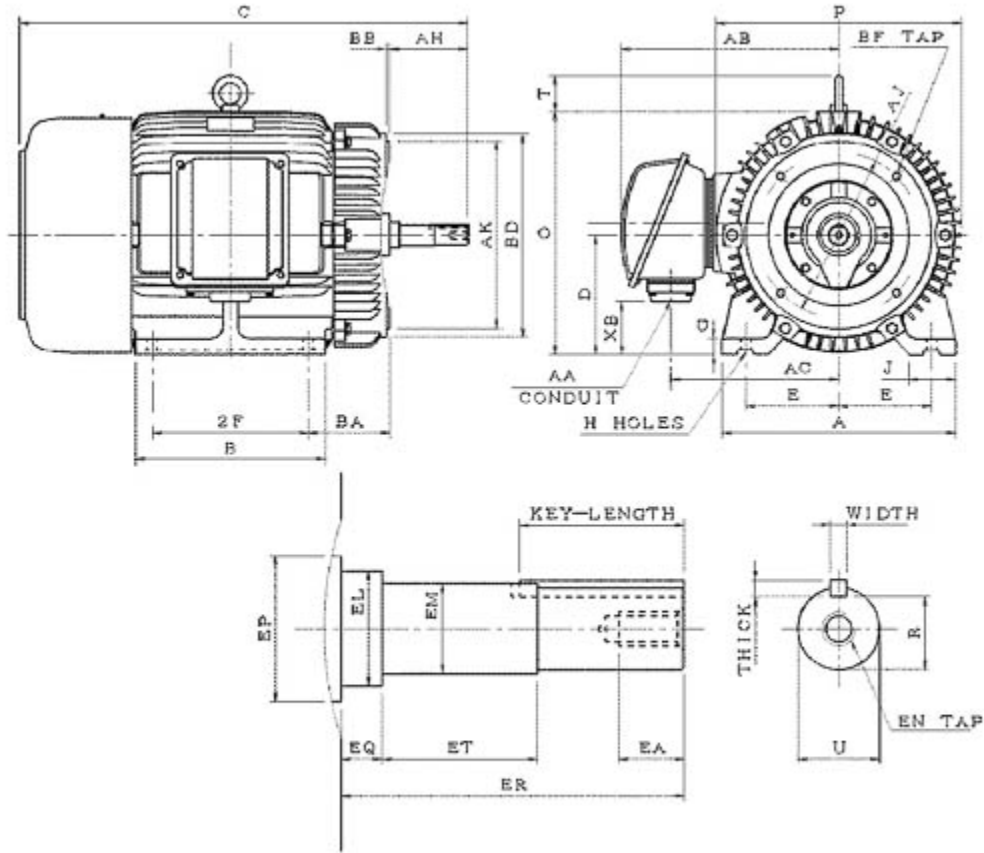
# **CJM0402**

## **Optim JM | AEHH8N\_JM**

Date: November 29, 2016

**Dimensional Drawing**

|           |           |    |      |    |            |             |    |      |
|-----------|-----------|----|------|----|------------|-------------|----|------|
| Catalogue | Model     | HP | Pole | kW | Rating     | Voltage     | Hz | RPM  |
| CJM0402   | AEHH8N_JM | 40 | 2    | 30 | Continuous | 230 / 460 V | 60 | 3600 |



AEHH8N-JM-SMP-7

| Frame Size       | Mounting |      |          |        |                    | A           | B          | C     | CD             | D          |              |
|------------------|----------|------|----------|--------|--------------------|-------------|------------|-------|----------------|------------|--------------|
|                  | E        | 2F   | 2F2      | H      | BA                 |             |            |       |                |            |              |
| 324JM            | 6.25     | 10.5 |          | 0.66   | 5.5                | 15.75       | 12.8       | 30.18 |                | 8          |              |
| G                | J        | K    | L        | M      | O                  | P           | T          | Key   |                |            | Keyseat      |
| 1.11             | 3.15     |      |          |        | 16.22              | 16.54       | 2.36       | Width | Thick          | Length     | R            |
|                  |          |      |          |        |                    |             |            | 0.25  | 0.25           | 2.52       | 1.112        |
| Terminal Housing |          |      | Aux Box  |        |                    | C/D Flange  |            |       |                |            |              |
| AA               | AB       | AC   | XB       | AE     | AX                 | BB          | AH         | AK    | BD             | AJ         | BF           |
| 2"               | 14.65    | 11.3 | 3.59     |        |                    | 0.25        | 5.25       | 12.5  | 13.59          | 11         | 4-5/8"-11UNC |
| Shaft Extension  |          |      | Bearings |        | Approx. Weight Lbs | SPL dBA/3ft | Ins. Class | S.F.  | Drive Method   | Dimensions |              |
| N-W              | U        | V    | DE       | NDE    |                    |             |            |       |                |            |              |
|                  | 1.25     |      | 6312C3   | 6212C3 | 645                | 78          | F          | 1.15  | DirectCoupling | Inches     |              |

### Technical Data Sheet

Motor Type: AEHH8N\_JM

Catalogue No: CJM0402

#### Nameplate Information

|           |            |                |             |             |              |                |
|-----------|------------|----------------|-------------|-------------|--------------|----------------|
| HP        | Pole       | RPM            | Frame       | Voltage     | Hz           | Phase          |
| 40        | 2          | 3550           | 324JM       | 230 / 460   | 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.                        |                                 |                                      |                     |             |                                |
| 94.1              | 93.0                        | 94.5                            | 94.1                                 | 90.0                | 89.0        | 84.5                           |
| Torque            |                             |                                 |                                      | Current (A)         |             |                                |
| Full Load (lb-ft) | Locked Rotor (% FLT)        | Pull Up (% FLT)                 | Break Down (% FLT)                   | No Load             | Full Load   | Locked Rotor                   |
| 59.16             | 150                         | 130                             | 240                                  | 18.4 / 9.2          | 88.4 / 44.2 | 580 / 290                      |
| 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                 | 3.590                       | 40                              | 81                                   | 17                  | 12          | 78                             |

#### VFD Duty Information

| Speed Range     |                 |                | VFD     |              | S.F.     |
|-----------------|-----------------|----------------|---------|--------------|----------|
| Constant Torque | Variable Torque | Constant Power | Carrier | Type         |          |
| 6-60Hz          | 3-60Hz          | 60-75Hz        | ≤ 5 kHz | VPWM or CPWM | 1.0 Only |

#### Additional Information

| Bearings |        | Approx. Weight |
|----------|--------|----------------|
| DE       | NDE    | lbs            |
| 6312C3   | 6212C3 | 645            |

#### 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**

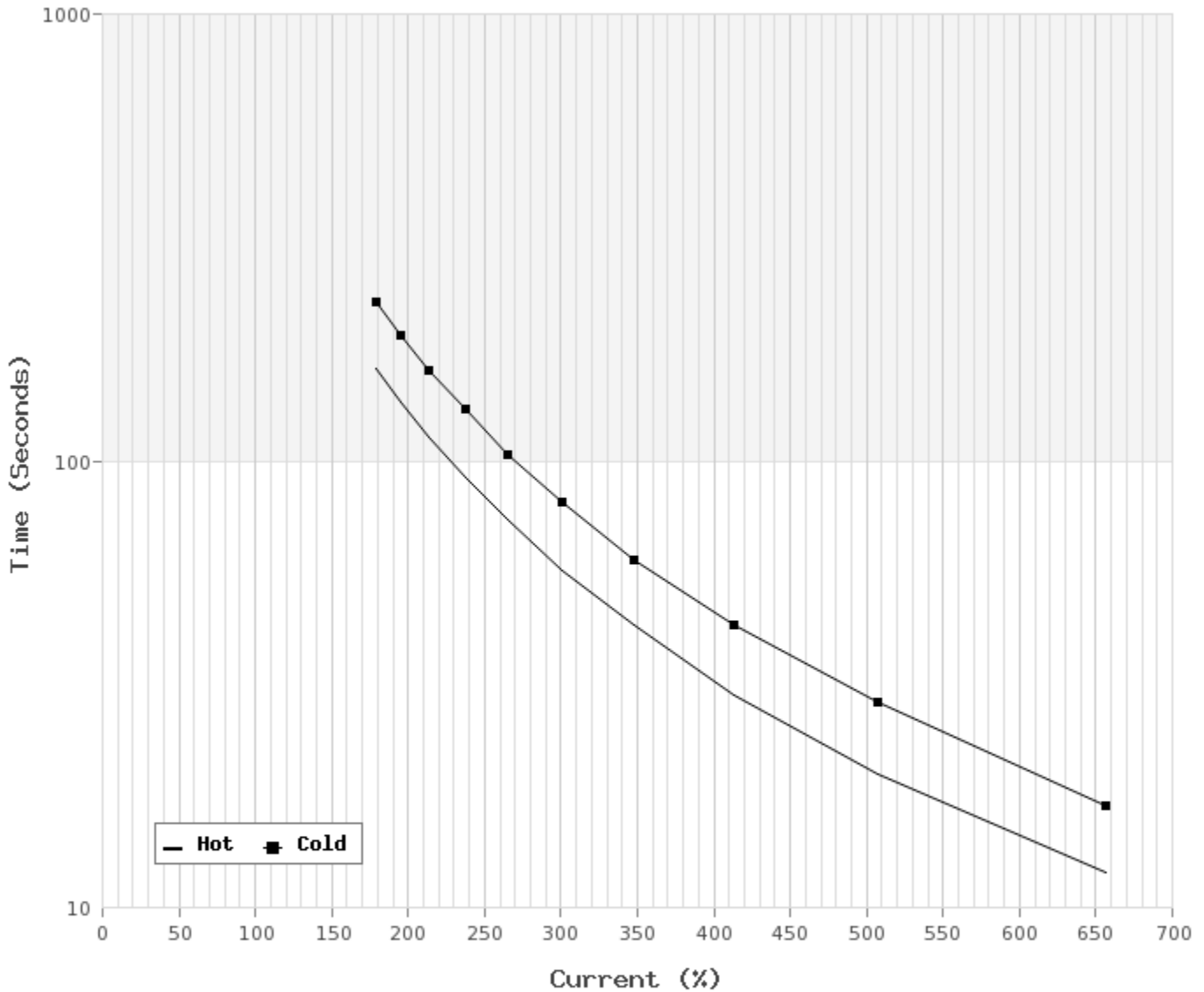


| 12 LEAD DUAL VOLTAGE WYE/DELTA |            |         |             |             |             |                         |
|--------------------------------|------------|---------|-------------|-------------|-------------|-------------------------|
| VOLTAGE                        | CONNECTION |         | L1          | L2          | L3          | JOIN                    |
| HIGH                           | START      | WYE     | 1           | 2           | 3           | 4&7,5&8,6&9<br>10&11&12 |
|                                | RUN        | DELTA   | 1,12        | 2,10        | 3,11        | 4&7,5&8,6&9             |
| LOW                            | START      | 2 WYE   | 1,7         | 2,8         | 3,9         | 4&5&6<br>10&11&12       |
|                                | RUN        | 2 DELTA | 1,6,7<br>12 | 2,4,8<br>10 | 3,5,9<br>11 |                         |

WD\_12YD

**Thermal Limit Curves**

|                       |                 |                       |      |                  |               |
|-----------------------|-----------------|-----------------------|------|------------------|---------------|
| Motor Type: AEHH8N_JM |                 | Catalogue No: CJM0402 |      | Family: Optim JM |               |
| HP                    | 40              | Safe Stall Time       |      | Full Load A      | 88.4 / 44.2 A |
| Voltage               | 230 / 460V 60Hz | Hot                   | 12 s | Locked Rotor A   | 656 / 656 %   |
| RPM                   | 3600            | Cold                  | 17 s | Locked Rotor A   | 580.0 / 290 A |



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

|                       |                 |                       |             |                  |                 |
|-----------------------|-----------------|-----------------------|-------------|------------------|-----------------|
| Motor Type: AEHH8N_JM |                 | Catalogue No: CJM0402 |             | Family: Optim JM |                 |
| HP                    | 40              | Full Load T           | 59.16 lb-ft | Full Load A      | 88.4 / 44.2 A   |
| Voltage               | 230 / 460V 60Hz | Locked Rotor T        | 150 %       | Locked Rotor A   | 580.0 / 290.0 A |
| RPM                   | 3600            | Pull Up T             | 130 %       | Break Down T     | 240 %           |

