

|                                                                                   |                                  |                                                                                     |
|-----------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------|
|  | Beaver Electrical Machinery Ltd. |  |
|                                                                                   |                                  |                                                                                     |
|                                                                                   |                                  |                                                                                     |
|                                                                                   | Date: July 25, 2022              |                                                                                     |

Technical Documentation

# APH0254-841

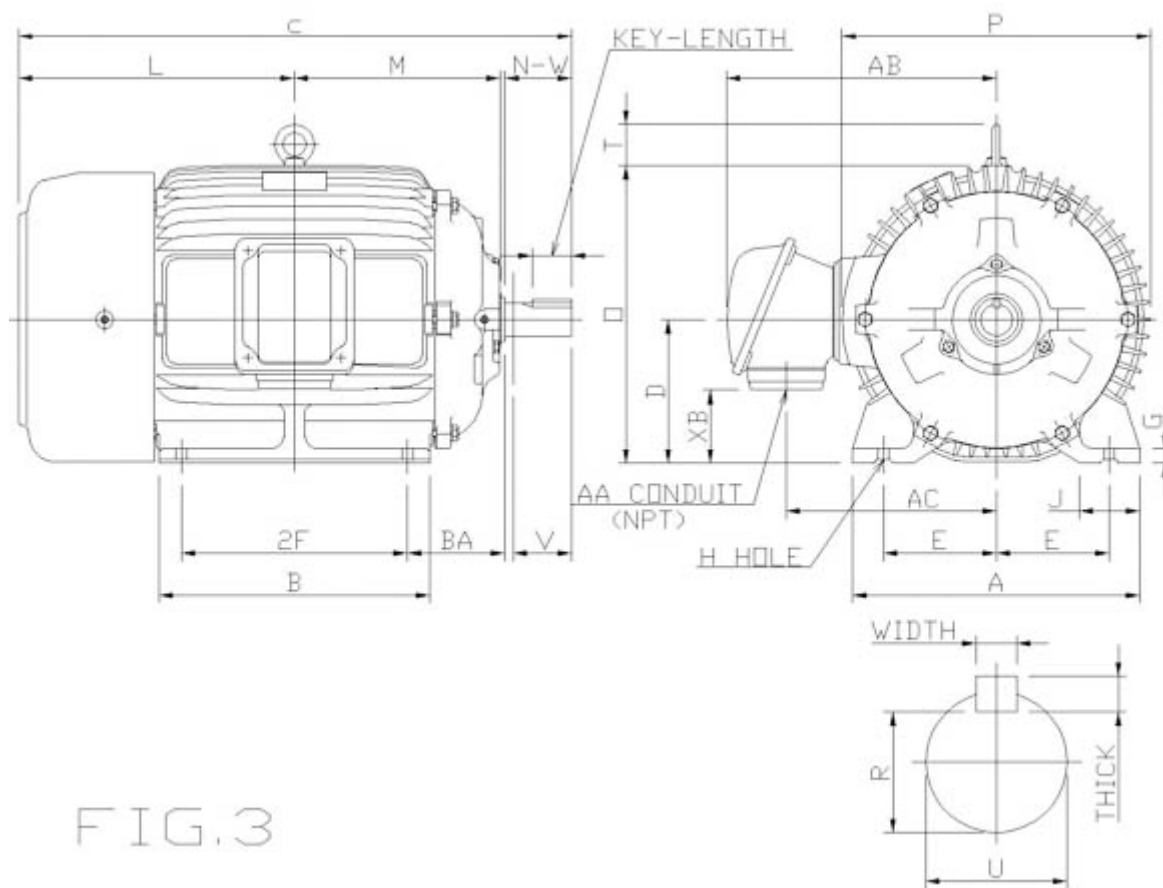
## Advantage Plus IEEE 841 | AEHH8B

Beaver Electrical Machinery Ltd.  
Date: July 25, 2022

|                                                                                   |                                  |                                                                                     |
|-----------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------|
|  | Beaver Electrical Machinery Ltd. |  |
|                                                                                   |                                  |                                                                                     |
|                                                                                   | Date: July 25, 2022              |                                                                                     |

### Dimensional Drawing

| Catalogue   | Type   | HP | RPM  | Voltage | Hz | Frame Size |
|-------------|--------|----|------|---------|----|------------|
| APH0254-841 | AEHH8B | 25 | 1800 | 460     | 60 | 284T       |



| Mounting |     |     |      |      | A     | B     | C    | CL1 | CL2 | D | G   |
|----------|-----|-----|------|------|-------|-------|------|-----|-----|---|-----|
| E        | 2F1 | 2F2 | H    | BA   |       |       |      |     |     |   |     |
| 5.5      | 9.5 |     | 0.53 | 4.75 | 13.98 | 11.69 | 26.8 |     |     | 7 | 0.7 |

| J    | K | L     | M    | O    | P     | T    |
|------|---|-------|------|------|-------|------|
| 2.95 |   | 12.68 | 9.23 | 14.5 | 15.05 | 2.36 |

| Terminal Housing |       |       |      |
|------------------|-------|-------|------|
| AA               | AB    | AC    | XB   |
| NPT11/2"         | 13.27 | 10.35 | 3.54 |

| Shaft Extension |       |     | Key   |       |        | Keyseat |
|-----------------|-------|-----|-------|-------|--------|---------|
| N-W             | U     | V   | Width | Thick | Length | R       |
| 4.62            | 1.875 | 4.5 | 0.5   | 0.5   | 3.28   | 1.591   |

| Bearings |         | Weight Lbs | Drive Method                 | Dimensions |
|----------|---------|------------|------------------------------|------------|
| DE       | NDE     |            |                              |            |
| 6311ZC3  | 6310ZC3 | 464        | Direct Coupling / Belt Drive | Inches     |

|                                                                                   |                                  |                                                                                     |
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|  | Beaver Electrical Machinery Ltd. |  |
|                                                                                   |                                  |                                                                                     |
|                                                                                   | Date: July 25, 2022              |                                                                                     |

## Technical Data Sheet

|                    |                           |
|--------------------|---------------------------|
| Motor Type: AEHH8B | Catalogue No: APH0254-841 |
|--------------------|---------------------------|

### Nameplate Information

|           |            |                |             |             |              |                |
|-----------|------------|----------------|-------------|-------------|--------------|----------------|
| HP        | Pole       | RPM            | Frame       | Voltage     | Hz           | Phase          |
| 25        | 4          | 1765           | 284T        | 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 | <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.                        |                                 |                                      |                     |           |                                |
| 93.6              | 92.4                        | 93.6                            | 93.6                                 | 86                  | 83        | 77                             |
|                   |                             |                                 |                                      |                     |           |                                |
| Torque            |                             |                                 |                                      | Current (A)         |           |                                |
| Full Load (lb-ft) | Locked Rotor (% FLT)        | Pull Up (% FLT)                 | Break Down (% FLT)                   | No Load             | Full Load | Locked Rotor                   |
| 74.37             | 205                         | 165                             | 240                                  | 7.1                 | 29.1      | 183                            |
|                   |                             |                                 |                                      |                     |           |                                |
| 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                 | 4.586                       | 122                             | 255                                  | 28                  | 20        | 68                             |

### VFD Duty Information

| Max HP | Current (A) | Speed Range     |                 | VFD        |              | S.F. |
|--------|-------------|-----------------|-----------------|------------|--------------|------|
|        |             | Constant Torque | Variable Torque | Carrier Hz | Type         |      |
| 25     | 29.08       | 6-60Hz          | 3-60Hz          | 3-6kHz     | VPWM or CPWM | 1    |

### Hazardous Locations Information

### Additional Certifications

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

### Additional Information

| Bearings |         | Approx. Weight |
|----------|---------|----------------|
| DE       | NDE     | lbs            |
| 6311ZC3  | 6310ZC3 | 464            |

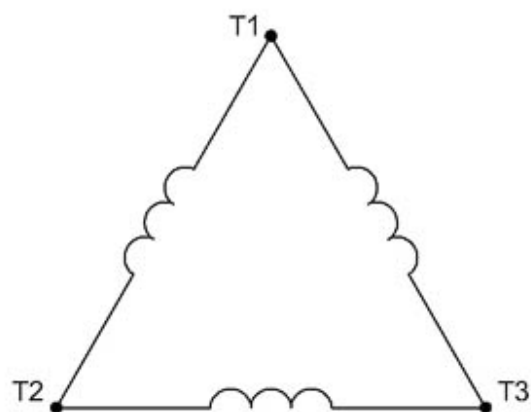
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|-----------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------|
|  | Beaver Electrical Machinery Ltd. |  |
|                                                                                   |                                  |                                                                                     |
|                                                                                   |                                  |                                                                                     |
|                                                                                   | Date: July 25, 2022              |                                                                                     |

## Nameplate Drawing

# Advantage Plus IEEE 841

|                 |                   |                |             |                |             |
|-----------------|-------------------|----------------|-------------|----------------|-------------|
| TYPE            | AEHH8B            | CAT. NO.       | APH0254-841 |                |             |
| OUTPUT          | 25 HP    18.65 kW | FRAME          | 284T        | TEFC           |             |
| R.P.M.          | 1765              | POLE           | 4           | INS.           | F           |
| VOLTS           | 460               | PHASE          | 3           | Hz             | 60          |
| AMPS            | 29.1              | CODE           | G           | S.F.           | 1.15        |
| AMBIENT         | 40 °C             | NOM. EFF. 93.6 |             | MIN. EFF. 92.4 |             |
| BEARINGS        | 6311ZC3 / 6310ZC3 |                |             | RATING Cont.   |             |
| SER. NO.        | TBD               |                | DESIGN      | B              | WT. 464 LBS |
| PWM VFD<br>DUTY | VT                | CT             | CP          | S.F.           |             |
|                 | 3-60Hz            | 6-60Hz         | 60-90Hz     | 1              |             |

## Connection Diagram

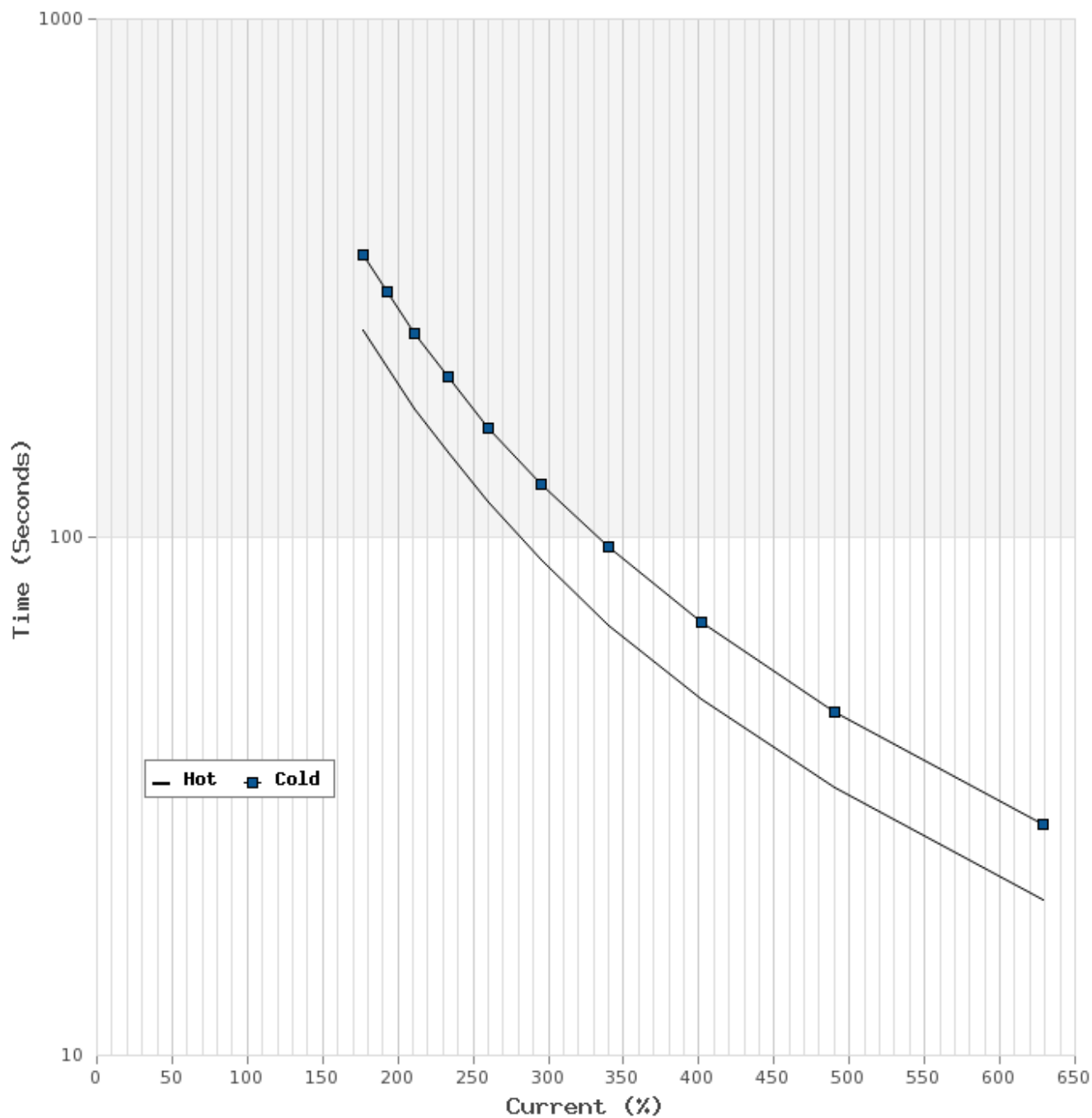


| 3 LEAD  |       | SINGLE VOLTAGE |    |    | DELTA |
|---------|-------|----------------|----|----|-------|
| VOLTAGE | CONN. | L1             | L2 | L3 |       |
| -       | DELTA | 1              | 2  | 3  |       |

WD\_3D

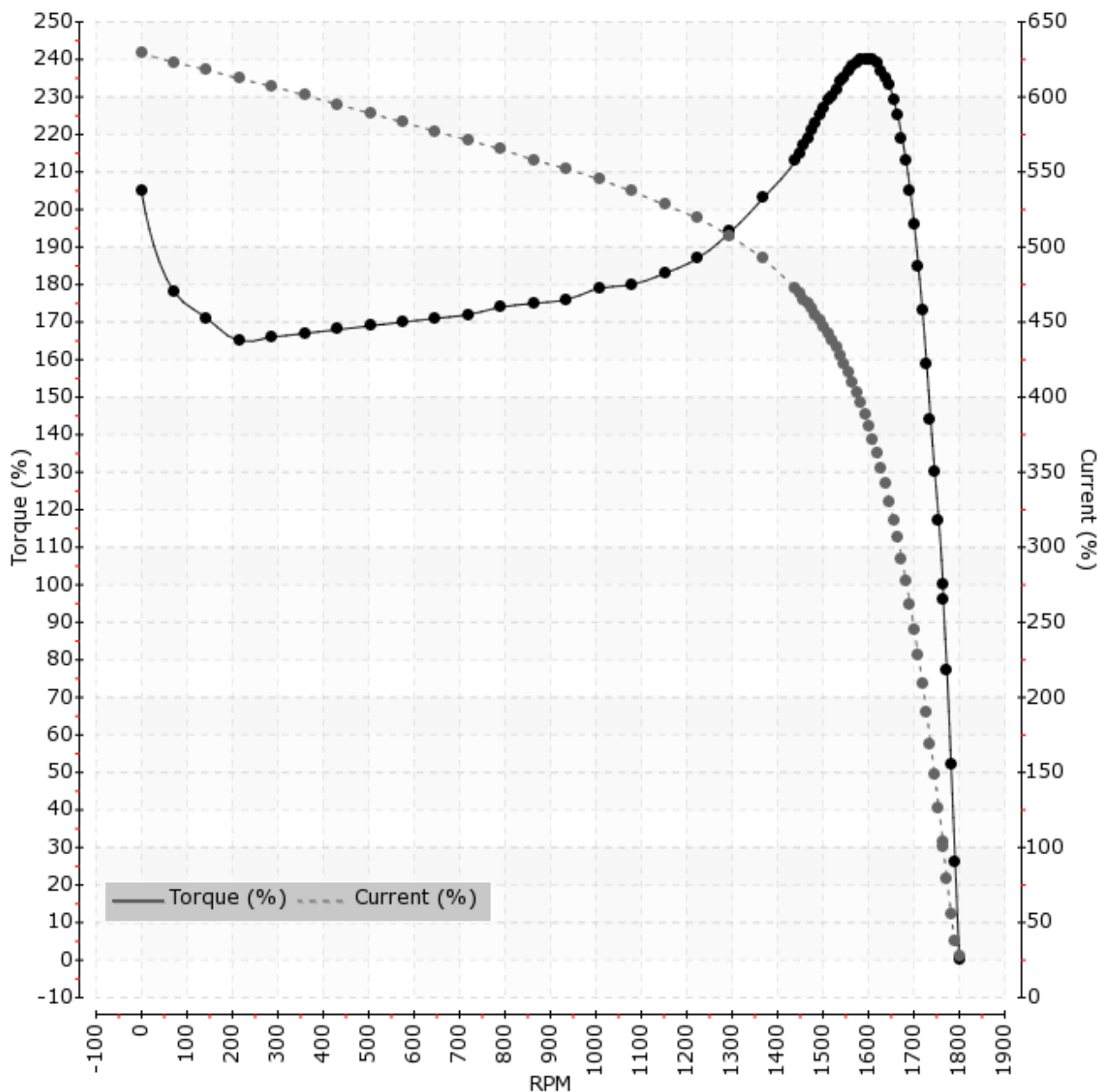
### Thermal Limit Curves

|                    |           |                           |      |                                 |        |
|--------------------|-----------|---------------------------|------|---------------------------------|--------|
| Motor Type: AEHH8B |           | Catalogue No: APH0254-841 |      | Family: Advantage Plus IEEE 841 |        |
| HP                 | 25        | Safe Stall Time           |      | Full Load A                     | 29.1 A |
| Voltage            | 460V 60Hz | Hot                       | 20 s | % Inrush                        | 629 %  |
| RPM                | 1800      | Cold                      | 28 s | Locked Rotor A                  | 183 A  |



### T-N and I-N Curves

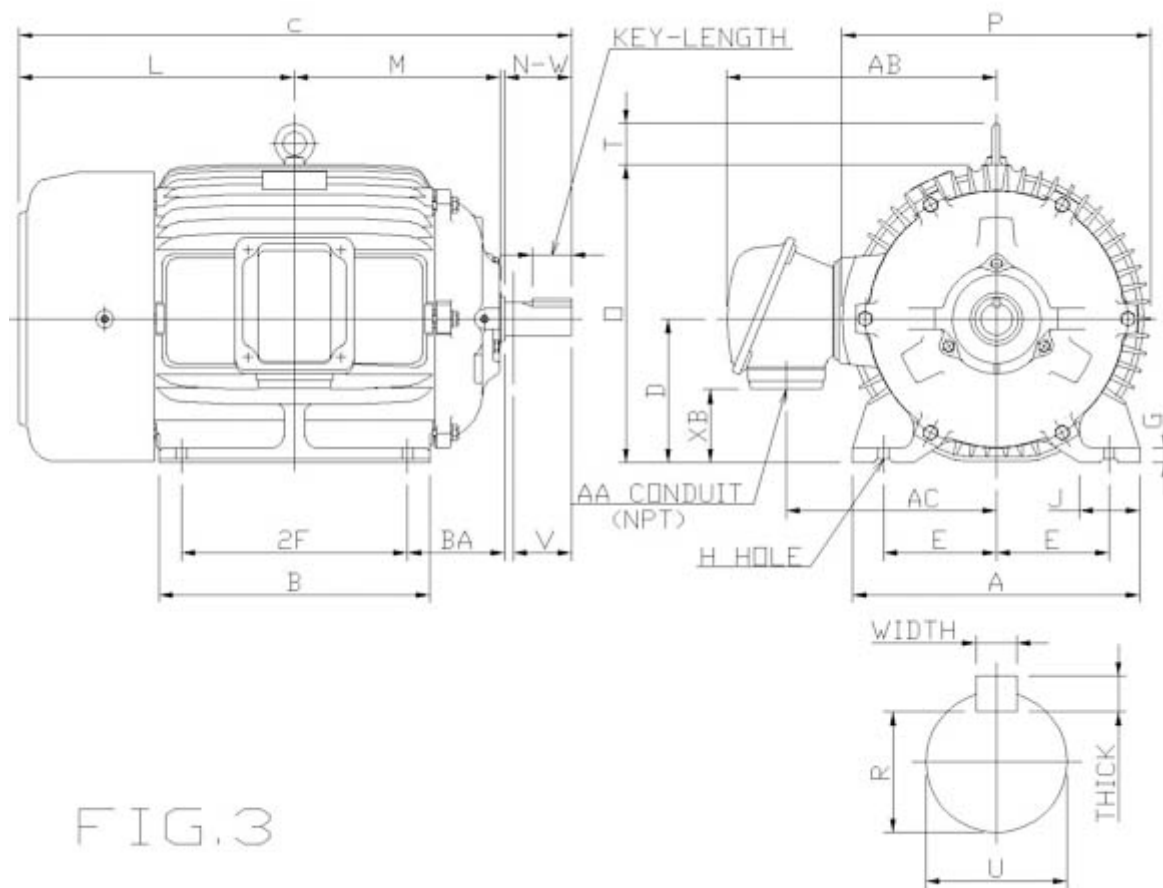
|                    |           |                           |             |                                 |         |
|--------------------|-----------|---------------------------|-------------|---------------------------------|---------|
| Motor Type: AEHH8B |           | Catalogue No: APH0254-841 |             | Family: Advantage Plus IEEE 841 |         |
| HP                 | 25        | Full Load T               | 74.37 lb-ft | Full Load A                     | 29.1 A  |
| Voltage            | 460V 60Hz | Locked Rotor T            | 205 %       | Locked Rotor A                  | 183.0 A |
| RPM                | 1800      | Pull Up T                 | 165 %       | Break Down T                    | 240 %   |



|                                                                                   |                                  |                                                                                     |
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|                                                                                   |                                  |                                                                                     |
|                                                                                   | Date: July 25, 2022              |                                                                                     |

### Dimensional Drawing (50 Hz)

| Catalogue   | Model  | HP | Pole | kW    | Rating     | Voltage | Hz | RPM |
|-------------|--------|----|------|-------|------------|---------|----|-----|
| APH0254-841 | AEHH8B | 25 | 4    | 18.65 | Continuous | 380     | 50 |     |



| Frame Size | Mounting |    |     |      |      | A     | B     | C    | CD | D |
|------------|----------|----|-----|------|------|-------|-------|------|----|---|
|            | E        | 2F | 2F2 | H    | BA   |       |       |      |    |   |
| 284T       | 5.5      |    |     | 0.53 | 4.75 | 13.98 | 11.69 | 26.8 |    | 7 |

| G   | J    | K | L     | M    | O    | P     | T    | Key   |       |        | Keyseat<br>R |
|-----|------|---|-------|------|------|-------|------|-------|-------|--------|--------------|
|     |      |   |       |      |      |       |      | Width | Thick | Length |              |
| 0.7 | 2.95 |   | 12.68 | 9.23 | 14.5 | 15.05 | 2.36 | 0.5   | 0.5   | 3.28   | 1.591        |

| Terminal Housing |       |       |      | Aux Box |    | C/D Flange |    |    |    |    |    |
|------------------|-------|-------|------|---------|----|------------|----|----|----|----|----|
| AA               | AB    | AC    | XB   | AE      | AX | BB         | AH | AK | BD | AJ | BF |
| NPT11/2"         | 13.27 | 10.35 | 3.54 |         |    |            |    |    |    |    |    |

| 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     |                       |                |               |      |                                    |            |
| 4.62            | 1.875 | 4.5 | 6311ZC3  | 6310ZC3 | 464                   | 68             | F             | 1    | Direct<br>Coupling / Belt<br>Drive | Inches     |

|                                                                                   |                                  |                                                                                     |
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|                                                                                   |                                  |                                                                                     |
|                                                                                   | Date: July 25, 2022              |                                                                                     |

## Technical Data Sheet (50 Hz)

|                    |                           |
|--------------------|---------------------------|
| Motor Type: AEHH8B | Catalogue No: APH0254-841 |
|--------------------|---------------------------|

### Nameplate Information

| HP        | Pole       | RPM            | Frame       | Voltage     | Hz           | Phase          |
|-----------|------------|----------------|-------------|-------------|--------------|----------------|
| 25        | 4          |                | 284T        | 380         | 50           | 3              |
| Enclosure | Ins. Class | Service Factor | Time Rating | NEMA Design | Rated Amb.   | Rated Altitude |
| TEFC      | F          | 1              | Continuous  | B           | -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.                        |                                 |                                      |                     |           |                                |
| 92.4              | 91                          | 93.6                            | 94.1                                 | 91                  | 91.00     | 88.50                          |
| Torque            |                             |                                 |                                      | Current (A)         |           |                                |
| Full Load (lb-ft) | Locked Rotor (% FLT)        | Pull Up (% FLT)                 | Break Down (% FLT)                   | No Load             | Full Load | Locked Rotor                   |
| 90                | 160                         | 130                             | 200                                  | 5.5                 | 33.7      | 243                            |
| 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       |                                |
| H                 | 4.586                       | 188.9                           | 314.29                               | 17                  | 12        | 68                             |

### VFD Duty Information

| Speed Range     |                 |                | VFD     |              | S.F. |
|-----------------|-----------------|----------------|---------|--------------|------|
| Constant Torque | Variable Torque | Constant Power | Carrier | Type         |      |
| 6-50Hz          | 3-50Hz          | 50-75Hz        | 3-6kHz  | VPWM or CPWM | 1    |

### Hazardous Locations Information

### Additional Certification

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

### Additional Information

| Bearings |         | Approx. Weight |
|----------|---------|----------------|
| DE       | NDE     | lbs            |
| 6311ZC3  | 6310ZC3 | 464            |