



Technical Documentation

APH0502-841

Advantage Plus IEEE 841 | AEHH8B

Beaver Electrical Machinery Ltd.

Date: July 25, 2022



Dimensional Drawing

| Catalogue | Type | HP | RPM | Voltage | Hz | Frame Size |
|-------------|--------|----|------|---------|----|------------|
| APH0502-841 | AEHH8B | 50 | 3600 | 460 | 60 | 326TS |

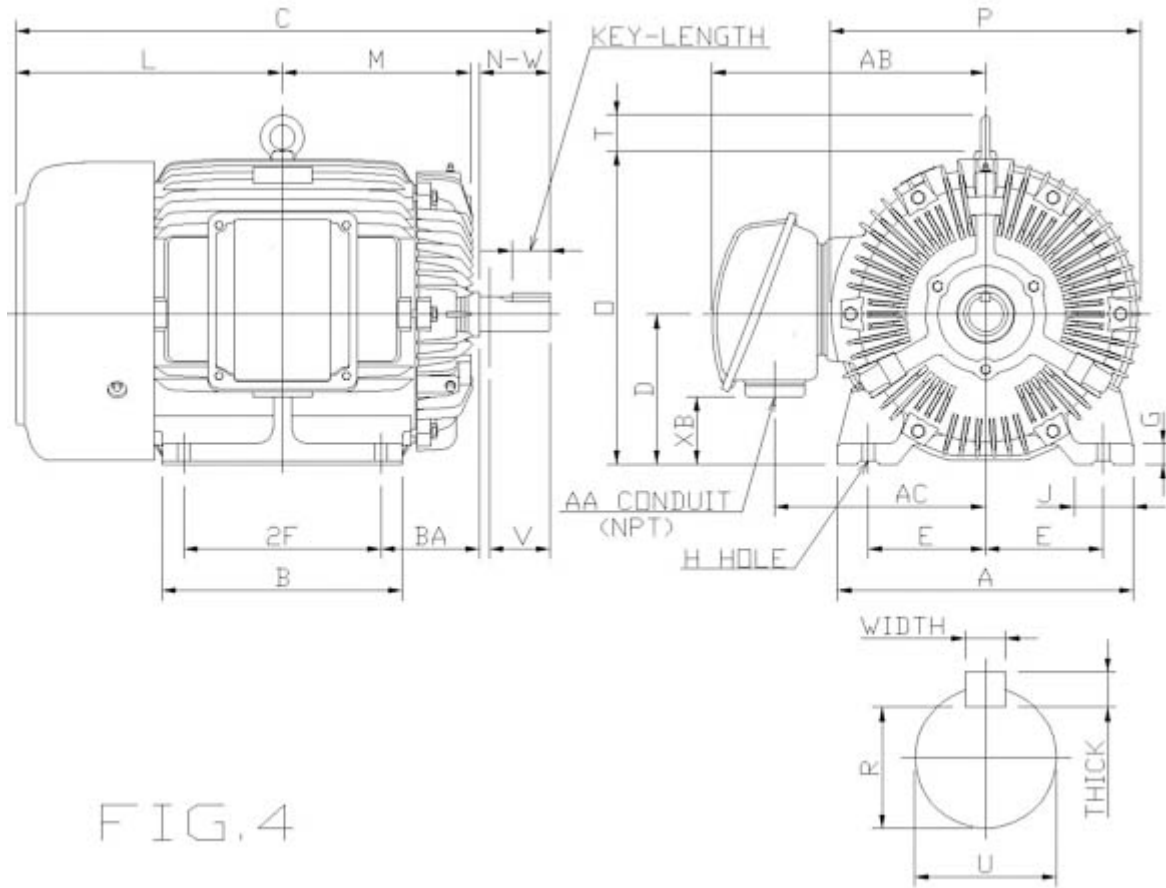


FIG. 4



| Mounting | | | | | A | B | C | CL1 | CL2 | D | G |
|----------|-----|------|------|------|-------|-------|-------|-----|-----|---|-----|
| E | 2F1 | 2F2 | H | BA | | | | | | | |
| 6.25 | 12 | 10.5 | 0.66 | 5.25 | 15.75 | 14.37 | 29.92 | | | 8 | 1.1 |

| J | K | L | M | O | P | T |
|------|---|-------|-------|-------|-------|------|
| 3.15 | | 14.93 | 10.85 | 16.22 | 16.55 | 2.36 |

| Terminal Housing | | | |
|------------------|-------|------|------|
| AA | AB | AC | XB |
| NPT2" | 14.72 | 11.3 | 3.59 |

| Shaft Extension | | | Key | | | Keyseat |
|-----------------|-------|------|-------|-------|--------|---------|
| N-W | U | V | Width | Thick | Length | R |
| 3.75 | 1.875 | 3.65 | 0.5 | 0.5 | 2.03 | 1.591 |

| Bearings | | Weight Lbs | Drive Method | Dimensions |
|----------|---------|------------|-----------------|------------|
| DE | NDE | | | |
| 6312ZC3 | 6212ZC3 | 708 | Direct Coupling | Inches |

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

Technical Data Sheet

| | |
|--------------------|---------------------------|
| Motor Type: AEHH8B | Catalogue No: APH0502-841 |
|--------------------|---------------------------|

Nameplate Information

| | | | | | | |
|-----------|------------|----------------|-------------|-------------|--------------|----------------|
| HP | Pole | RPM | Frame | Voltage | Hz | Phase |
| 50 | 2 | 3550 | 326TS | 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. | | | | | |
| 94.1 | 93 | 94.5 | 94.5 | 91 | 90 | 86.5 |
| Torque | | | | Current (A) | | |
| Full Load (lb-ft) | Locked Rotor (% FLT) | Pull Up (% FLT) | Break Down (% FLT) | No Load | Full Load | Locked Rotor |
| 73.95 | 150 | 130 | 240 | 10.2 | 54.7 | 363 |
| 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 | |
| G | 4.488 | 49 | 83 | 17 | 12 | 78 |

VFD Duty Information

| Max HP | Current (A) | Speed Range | | VFD | | S.F. |
|--------|-------------|-----------------|-----------------|------------|--------------|------|
| | | Constant Torque | Variable Torque | Carrier Hz | Type | |
| 50 | 54.67 | 6-60Hz | 3-60Hz | 3-6kHz | VPWM or CPWM | 1 |



Hazardous Locations Information

| | |
|--|---------------------|
| CSA Certified | Other Certification |
| Class I, Div 2, Groups B, C & D Class I, Zone 2, Groups IIB+H2, IIB & IIA | |
| Temp Code (Sinewave / VFD) | T3C / T3 |

Additional Certifications

Additional Information

| Bearings | | Approx. Weight |
|----------|---------|----------------|
| DE | NDE | lbs |
| 6312ZC3 | 6212ZC3 | 708 |

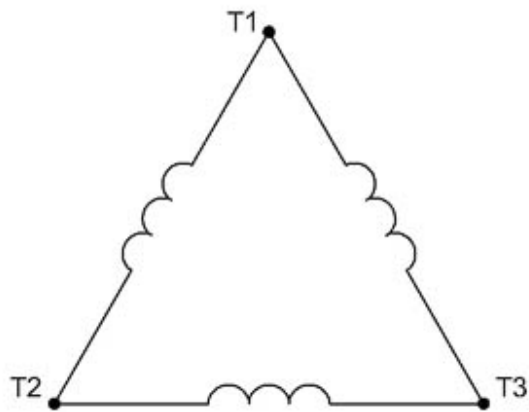
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|---|----------------------------------|---|
|  | Beaver Electrical Machinery Ltd. |  |
| | | |
| | Date: July 25, 2022 | |

Nameplate Drawing

| | | | | | |
|-------------------------|-------------------|----------------|-------------|--------------|------|
| Advantage Plus IEEE 841 | | | | | |
| TYPE | AEHH8B | CAT. NO. | APH0502-841 | | |
| OUTPUT | 50 HP 37.3 kW | FRAME | 326TS | TEFC | |
| R.P.M. | 3550 | POLE | 2 | INS. | F |
| VOLTS | 460 | PHASE | 3 | Hz | 60 |
| AMPS | 54.7 | CODE | G | S.F. | 1.15 |
| AMBIENT | 40 °C | NOM. EFF. 94.1 | | MIN. EFF. 93 | |
| BEARINGS | 6312ZC3 / 6212ZC3 | | | RATING Cont. | |
| SER. NO. | TBD | DESIGN | B | WT. 708 LBS | |
| PWM VFD DUTY | VT | CT | CP | S.F. | |
| | 3-60Hz | 6-60Hz | 60-75Hz | 1 | |



Connection Diagram



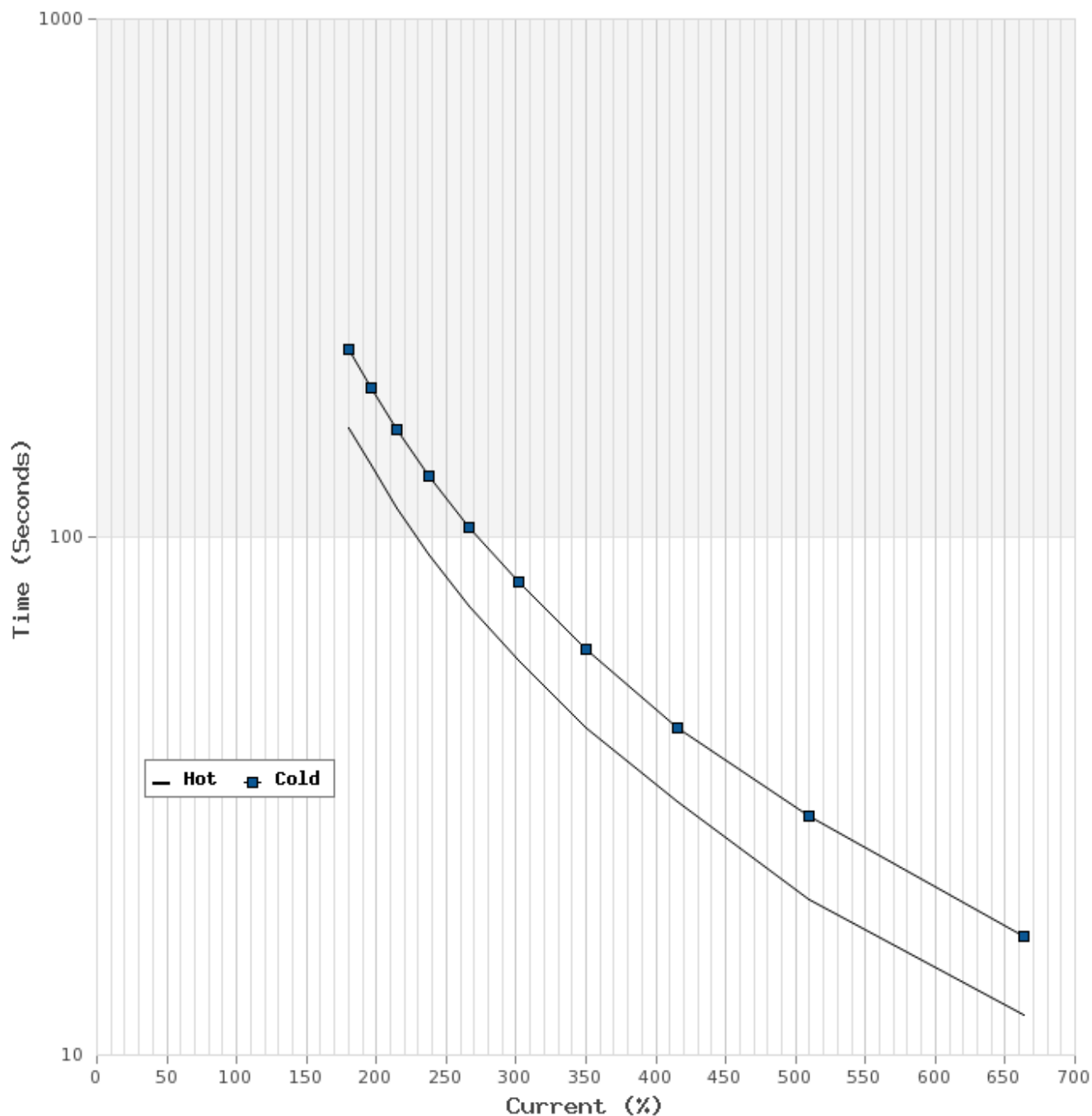
| 3 LEAD SINGLE VOLTAGE DELTA | | | | | |
|-----------------------------|-------|----|----|----|--|
| VOLTAGE | CONN. | L1 | L2 | L3 | |
| - | DELTA | 1 | 2 | 3 | |

WD_3D



Thermal Limit Curves

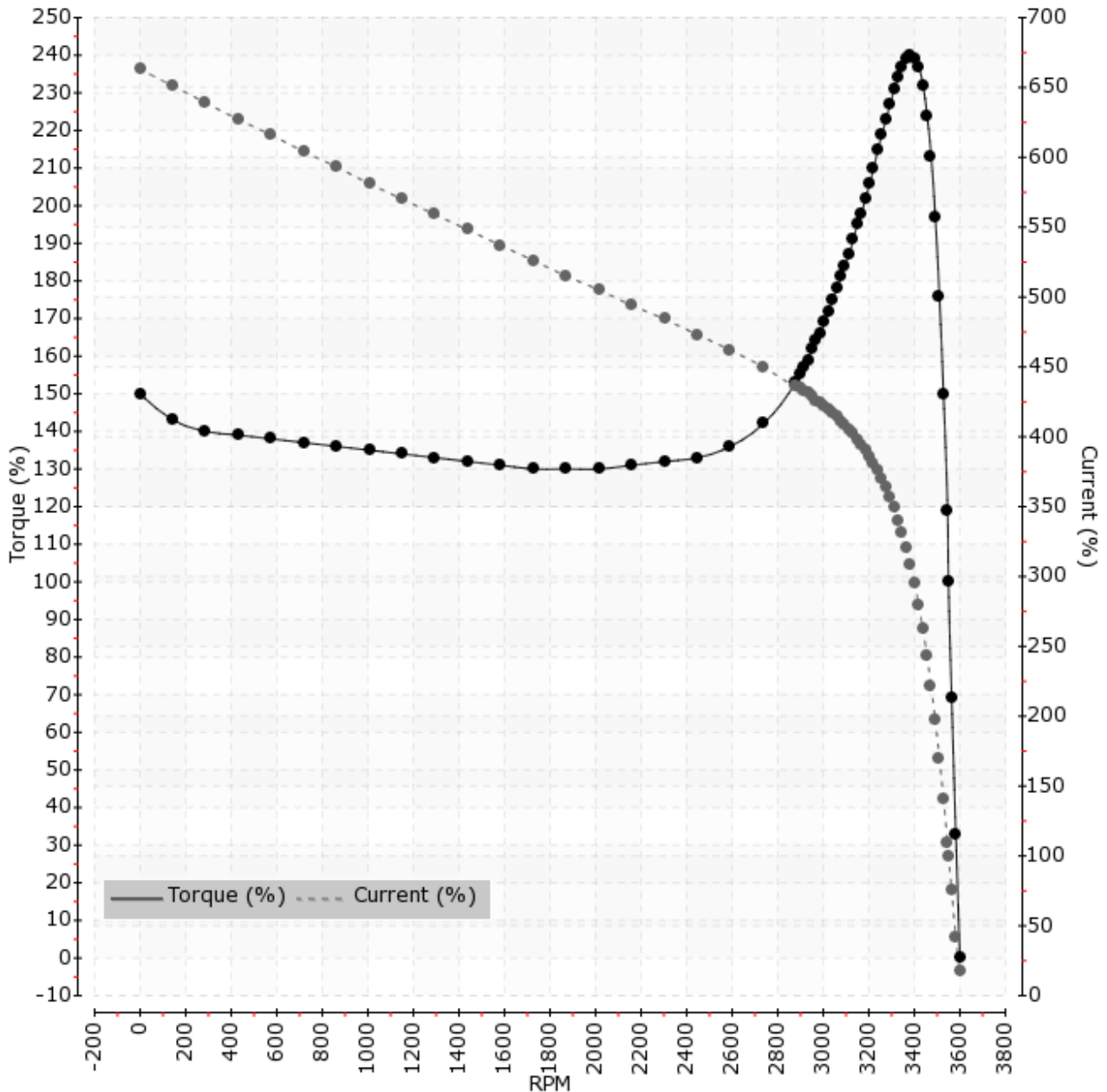
| | | | | | |
|--------------------|-----------|---------------------------|------|---------------------------------|--------|
| Motor Type: AEHH8B | | Catalogue No: APH0502-841 | | Family: Advantage Plus IEEE 841 | |
| HP | 50 | Safe Stall Time | | Full Load A | 54.7 A |
| Voltage | 460V 60Hz | Hot | 12 s | % Inrush | 664 % |
| RPM | 3600 | Cold | 17 s | Locked Rotor A | 363 A |





T-N and I-N Curves

| | | | | | |
|--------------------|-----------|---------------------------|-------------|---------------------------------|---------|
| Motor Type: AEHH8B | | Catalogue No: APH0502-841 | | Family: Advantage Plus IEEE 841 | |
| HP | 50 | Full Load T | 73.95 lb-ft | Full Load A | 54.7 A |
| Voltage | 460V 60Hz | Locked Rotor T | 150 % | Locked Rotor A | 363.0 A |
| RPM | 3600 | Pull Up T | 130 % | Break Down T | 240 % |





Dimensional Drawing (50 Hz)

| Catalogue | Model | HP | Pole | kW | Rating | Voltage | Hz | RPM |
|-------------|--------|----|------|------|------------|---------|----|-----|
| APH0502-841 | AEHH8B | 50 | 2 | 37.3 | Continuous | 380 | 50 | |

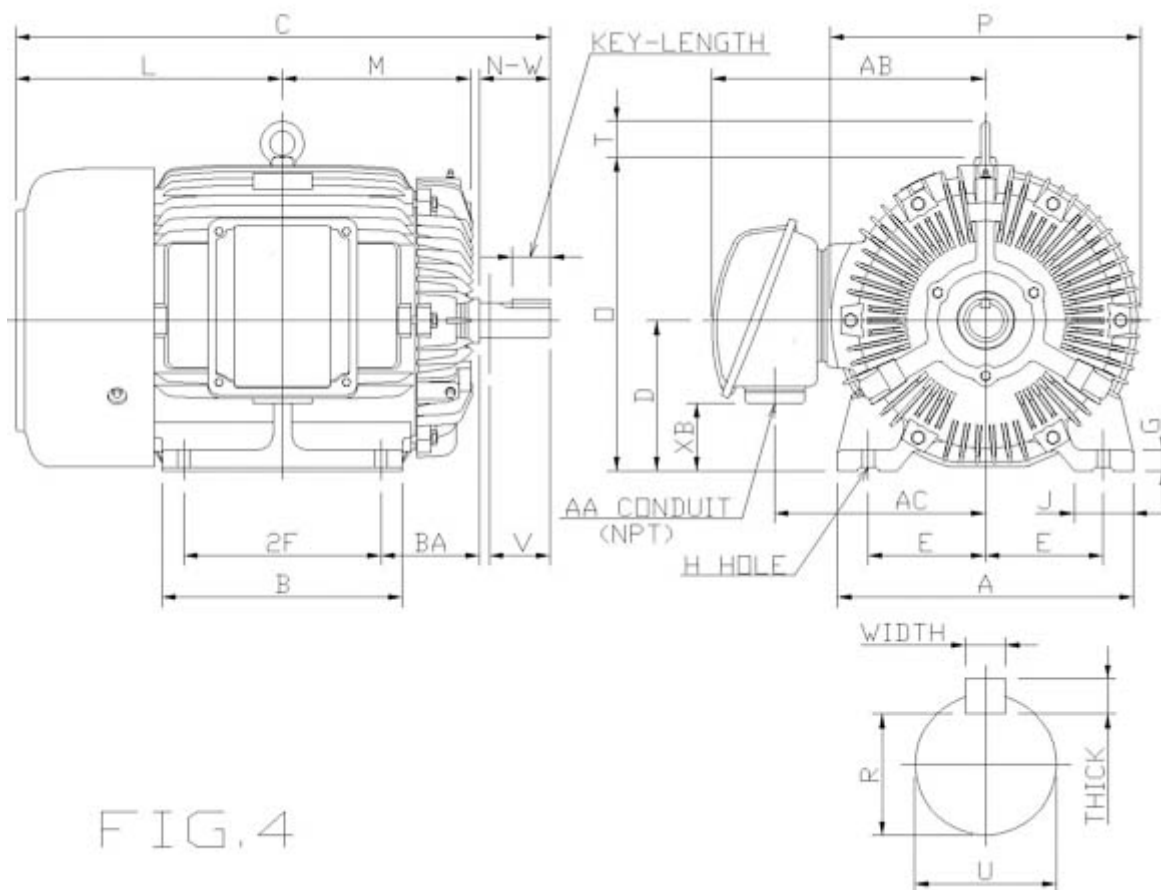




FIG. 4

| Frame Size | Mounting | | | | | A | B | C | CD | D | |
|------------------|----------|------|----------|---------|-----------------------|----------------|---------------|-------|--------------------|------------|--------------|
| | E | 2F | 2F2 | H | BA | | | | | | |
| 326TS | 6.25 | | 10.5 | 0.66 | 5.25 | 15.75 | 14.37 | 29.92 | | 8 | |
| G | J | K | L | M | O | P | T | Key | | | Keyseat R |
| | | | | | | | | Width | Thick | Length | |
| 1.1 | 3.15 | | 14.93 | 10.85 | 16.22 | 16.55 | 2.36 | 0.5 | 0.5 | 2.03 | 1.591 |
| Terminal Housing | | | Aux Box | | | C/D Flange | | | | | |
| AA | AB | AC | XB | AE | AX | BB | AH | AK | BD | AJ | BF |
| NPT2" | 14.72 | 11.3 | 3.59 | | | | | | | | |
| Shaft Extension | | | Bearings | | Approx. Weight Lbs | SPL dBA/3ft | Ins. Class | S.F. | Drive Method | Dimensions | |
| N-W | U | V | DE | NDE | | | | | | | |
| 3.75 | 1.875 | 3.65 | 6312ZC3 | 6212ZC3 | 708 | 78 | F | 1 | Direct Coupling | Inches | |

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

Technical Data Sheet (50 Hz)

| | |
|--------------------|---------------------------|
| Motor Type: AEHH8B | Catalogue No: APH0502-841 |
|--------------------|---------------------------|

Nameplate Information

| | | | | | | |
|-----------|------------|----------------|-------------|-------------|--------------|----------------|
| HP | Pole | RPM | Frame | Voltage | Hz | Phase |
| 50 | 2 | | 326TS | 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. | | | | | |
| 92.5 | 91.2 | 93 | 93 | 90 | 89.50 | 89.50 |
| Torque | | | | Current (A) | | |
| Full Load (lb-ft) | Locked Rotor (% FLT) | Pull Up (% FLT) | Break Down (% FLT) | No Load | Full Load | Locked Rotor |
| 89 | 120 | 100 | 210 | 9.1 | 68.1 | 482 |
| 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 | |
| H | 4.488 | 76.1 | 125.71 | 17 | 12 | 78 |

VFD Duty Information

| Speed Range | | | VFD | | S.F. |
|-----------------|-----------------|----------------|---------|--------------|------|
| Constant Torque | Variable Torque | Constant Power | Carrier | Type | |
| 6-50Hz | 3-50Hz | 50-62.5Hz | 3-6kHz | VPWM or CPWM | 1 |

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 / T3 |

Additional Certification

| |
|---------------------|
| Other Certification |
|---------------------|

Additional Information

| Bearings | | Approx. Weight |
|----------|---------|----------------|
| DE | NDE | lbs |
| 6312ZC3 | 6212ZC3 | 708 |