

PRODUCT INFORMATION PACKET

Model No: SCA1103A3123GAAD01

Catalog No: SCA1103A3123GAAD01

110kW, General Purpose Low Voltage IEC Motor, 3 phase, 6 Pole, 415V, B5, 50Hz, 94.3%, 315L Frame, TEFC
Cast Iron IE2 Efficiency Motors





Nameplate Specifications

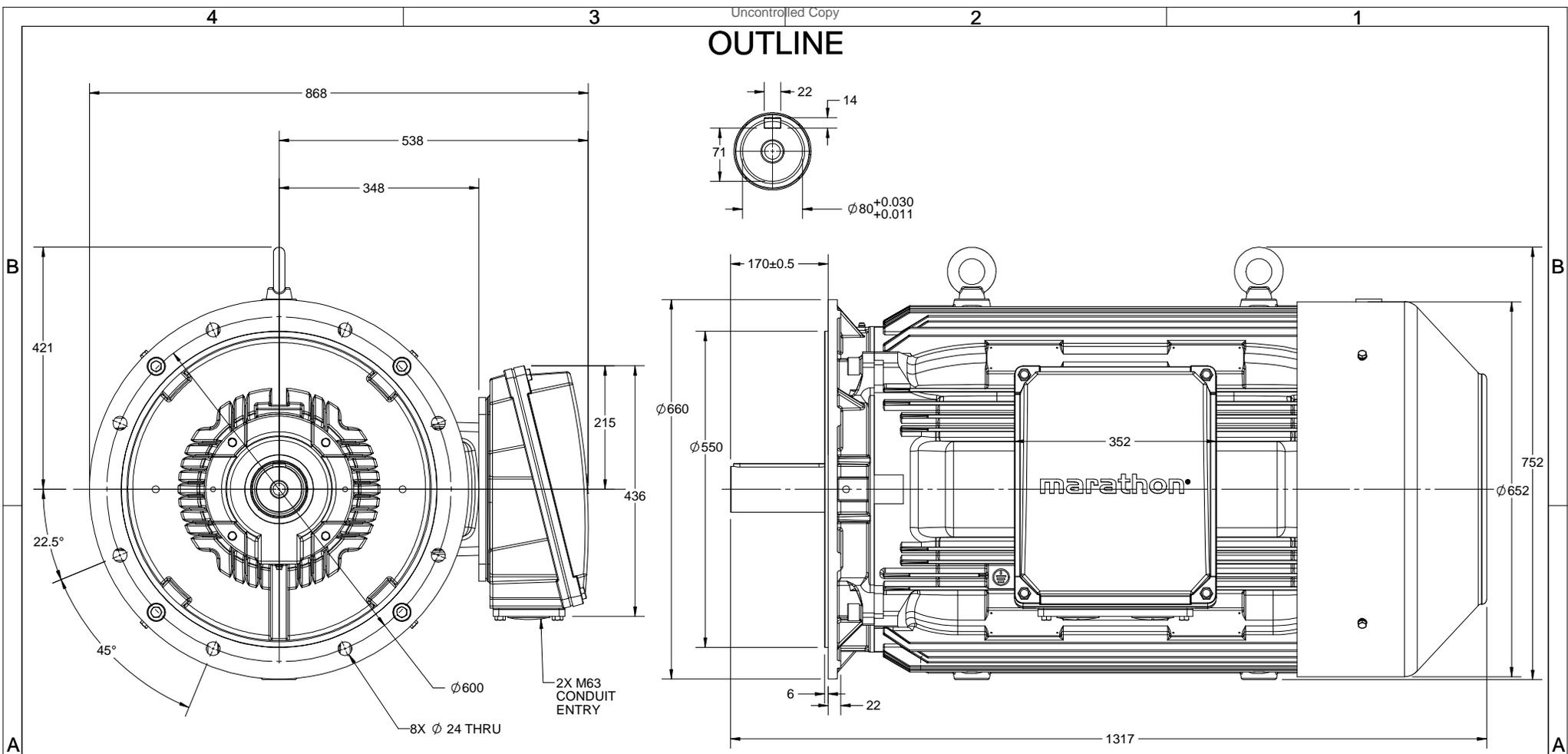
| | | | |
|----------------------------|---------|------------------------|-----------------------------|
| Output HP | 150 Hp | Output KW | 110.0 kW |
| Frequency | 50 Hz | Voltage | 415 V |
| Current | 196.7 A | Speed | 990 rpm |
| Service Factor | 1 | Phase | 3 |
| Efficiency | 94.3 % | Power Factor | 0.83 |
| Duty | S1 | Insulation Class | F |
| Frame | 315L | Enclosure | Totally Enclosed Fan Cooled |
| Ambient Temperature | 50 °C | Drive End Bearing Size | 6319 |
| Opp Drive End Bearing Size | 6319 | UL | No |
| CSA | No | CE | Yes |
| IP Code | 55 | | |

Technical Specifications

| | | | |
|-----------------------|---------------|-----------------------|----------------|
| Electrical Type | Squirrel Cage | Starting Method | Direct On Line |
| Poles | 6 | Rotation | Bi-Directional |
| Mounting | B5 | Motor Orientation | Horizontal |
| Drive End Bearing | C3 | Opp Drive End Bearing | C3 |
| Frame Material | Cast Iron | Shaft Type | Keyed |
| Overall Length | 1317 mm | Frame Length | 840 mm |
| Shaft Diameter | 80 mm | Shaft Extension | 170 mm |
| Assembly/Box Mounting | SIDE | | |
| Connection Drawing | 8442000085 | Outline Drawing | 0231501396 |

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OUTLINE



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|-----------------------|--------------------|--------------------|
| DRAWING REVISION A | REVISION BY GSR | DATE 15/11/2017 |
| ECO ECO-0134564 | APPROVED BY JAY | DATE 15/11/2017 |

ECO DESCRIPTION
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| DRAWN BY GSR |
| DATE 15/11/2017 |
| APPROVED BY JAY |
| DATE 15/11/2017 |
| REFERENCE |

| | |
|--|-----------------|
| marathon Motors | |
| DESCRIPTION OUTLINE 315L 4P-8P B5 MTG. TCA-RHS TB | |
| MATERIAL | PROCESS/FINISH |
| THIRD ANGLE PROJECTION | SIZE B |
| DRAWING NUMBER 0231501396 | SHEET 1 OF 1 |

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| DRAWING REVISION | REVISION BY | DATE |
|--|--------------------|--------------------|
| A | SN | 13/01/2017 |
| ECO-0116390 | APPROVED BY SBD | DATE 13/01/2017 |
| ECO DESCRIPTION NEW DRAWING RELEASE | | |

| GEOMETRIC TOLERANCE | | |
|---------------------|---------|------|
| LINEAR DIM | >0-6 | ±0.1 |
| | >6-30 | ±0.2 |
| | >30-120 | ±0.3 |



- NOTES:
1. PRESSURE-SENSITIVE ADHESIVE COATED PAPER ON THE BACK OF SELF-ADHESIVE.
 2. AT THE END OF YELLOW, WORDS, SYMBOLS, LETTERS ARE BLACK, BORDER IS BLACK.
 3. THE TOLERANCE OF THE LINEAR SIZE OF THE TOLERANCE WITHOUT THE TOLERANCE BY THE TABLE.

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| DRAWN BY SN | |  Regal Beloit America, Inc. | |
| DATE 16/12/2016 | | | |
| APPROVED BY SBD | | DESCRIPTION CONN DIAGRAM-NAMEPLATE | |
| DATE 16/12/2016 | | | |
| REFERENCE | | | |
| THIRD ANGLE PROJECTION | SIZE A | DRAWING NUMBER 8442000085 | PROCESS/FINISH |
| | | SHEET 1 OF 1 | |

Model No. SCA1103A3123GAAD01

| U (V) | Δ / Y Conn | f (Hz) | P [kW] | P [hp] | I [A] | n [RPM] | T [Nm] | IE Class | % EFF at __load | | | | PF at __load | | | I _a /I _N [pu] | T _a /T _N [pu] | T _d /T _N [pu] |
|----------|---------------|-----------|-----------|-----------|----------|------------|-----------|-------------|-----------------|------|-------|-------|--------------|-------|-------|--|--|--|
| | | | | | | | | | 5/4FL | FL | 3/4FL | 1/2FL | FL | 3/4FL | 1/2FL | | | |
| 415 | Δ | 50 | 110 | 150 | 196.7 | 990 | 1078.8 | IE2 | - | 94.3 | 94.3 | 95.0 | 0.83 | 0.80 | 0.71 | 5.0 | 1.8 | 2.2 |

| | | | |
|----------------------------------|-----------------------------------|---|---|
| Motor type | SCA | Degree of protection | IP 55 |
| Enclosure | TEFC | Mounting type | IM B5 |
| Frame Material | Cast Iron | Cooling method | IC 411 |
| Frame size | 315L | Motor weight - approx. | 1002 kg |
| Duty | S1 | Gross weight - approx. | 1047 kg |
| Voltage variation * | ± 10% | Motor inertia | 4.7728 kgm ² |
| Frequency variation * | ± 5% | Load inertia | Customer to Provide |
| Combined variation * | 10% | Vibration level | 2.8 mm/s |
| Design | N | Noise level (1meter distance from motor) | 66 dB(A) |
| Service factor | 1.0 | No. of starts hot/cold/Equally spread | 2/3/4 |
| Insulation class | F | Starting method | DOL |
| Ambient temperature | -20 to +50 °C | Type of coupling | Direct |
| Temperature rise (by resistance) | 70 [Class B] K | LR withstand time (hot/cold) | 15/30 s |
| Altitude above sea level | 1000 meter | Direction of rotation | Bi-directional |
| Hazardous area classification | NA | Standard rotation | Clockwise form DE |
| Zone classification | NA | Paint shade | RAL 5014 |
| Gas group | NA | Accessories | |
| Temperature class | NA | Accessory - 1 | - |
| Rotor type | Aluminum Die cast | Accessory - 2 | - |
| Bearing type | Anti-friction ball | Accessory - 3 | - |
| DE / NDE bearing | 6319 C3 / 6319 C3 | Terminal box position | RHS |
| Lubrication method | Regreaseable | Maximum cable size/conduit size | 1R x 3C x 240mm ² /2 x M63 x 1.5 |
| Type of grease | Shell Gadus S5 V100 or Equivalent | Auxiliary terminal box | Available on Request |

I_a/I_N - Locked Rotor Current / Rated Current

T_d/T_N - Breakdown Torque / Rated Torque

T_a/T_N - Locked Rotor Torque / Rated Torque

NOTE

All performance values at rated voltage and frequency.

All performance parameters are subjected to standard tolerance as per IEC 60034-1

* Voltage, Frequency and combine variation are as per IEC60034-1

Technical data are subject to change. There may be discrepancies between calculated and name plate values.

| Efficiency Standards | Europe | China | India | Aus/Nz | Brazil | Global IEC |
|----------------------|--------|-------|-----------------|--------|--------|------------|
| | - | - | IS 12615 : 2018 | - | - | - |



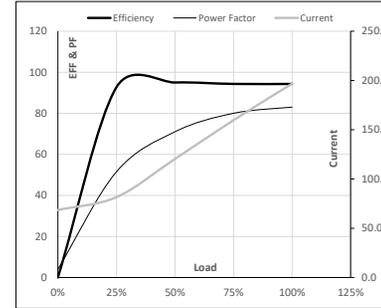
Model No. SCA1103A3123GAAD01

| Enclosure | U [V] | Δ / Y Conn | f [Hz] | P [kW] | P [hp] | I [A] | n [RPM] | T [kgm] | T [Nm] | IE Class | Amb [°C] | Duty | Elevation [m] | Inertia [kg·m ²] | Weight [kg] |
|-----------|-------|-------------------|--------|--------|--------|-------|---------|---------|---------|----------|----------|------|---------------|------------------------------|-------------|
| TEFC | 415 | Δ | 50 | 110 | 150 | 196.7 | 990 | 110.01 | 1078.81 | IE2 | 50 | S1 | 1000 | 4.7728 | 1002 |

Motor Load Data

| Load Point | | NL | 1/4FL | 1/2FL | 3/4FL | FL | 5/4FL |
|--------------|-------|------|-------|-------|-------|--------|-------|
| Current | A | 68.5 | 81.6 | 120.3 | 159.6 | 196.7 | |
| Torque | Nm | 0.0 | 267.8 | 536.8 | 807.2 | 1078.8 | |
| Speed | r/min | 1000 | 998 | 995 | 993 | 990 | |
| Efficiency | % | 0.0 | 92.7 | 95.0 | 94.3 | 94.3 | |
| Power Factor | % | 4.0 | 51.5 | 71.0 | 80.0 | 83.0 | |

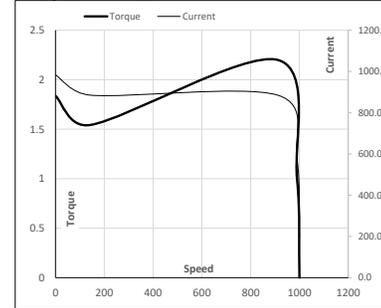
Performance vs Load Chart



Motor Speed Torque Data

| Load Point | | LR | P-Up | BD | Rated | NL |
|------------|-------|-------|-------|-------|-------|------|
| Speed | r/min | 0 | 143 | 911 | 990 | 1000 |
| Current | A | 983.4 | 885.1 | 576.8 | 196.7 | 68.5 |
| Torque | pu | 1.8 | 1.5 | 2.2 | 1 | 0 |

Starting Characteristics Chart



NOTE Refer data sheet for applicable standard and tolerances on performance parameters

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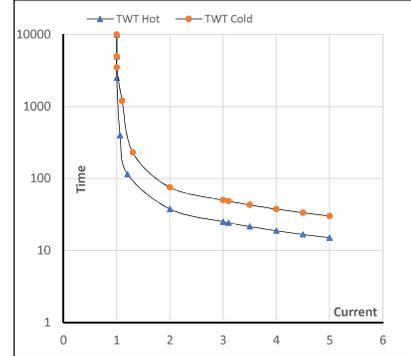
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| Enclosure | U (V) | Δ / Y Conn | f [Hz] | P [kW] | P [hp] | I [A] | n [rpm] | T [kgm] | T [Nm] | IE Class | Amb [°C] | Duty | Elevation [m] | Inertia [kg·m ²] | Weight [kg] |
|-----------|-------|-------------------|--------|--------|--------|-------|---------|---------|---------|----------|----------|------|---------------|------------------------------|-------------|
| TEFC | 415 | Δ | 50 | 110 | 150 | 196.7 | 990 | 110.01 | 1078.81 | IE2 | 50 | S1 | 1000 | 4.7728 | 1002 |

Motor Speed Torque Data

| Load | FL | I ₁ | I ₂ | I ₃ | I ₄ | I ₅ | LR | |
|----------|---------|----------------|----------------|----------------|----------------|----------------|-----|---|
| TWT Hot | s 10000 | 38 | 25 | 21 | 19 | 17 | 15 | |
| TWT Cold | s 10000 | 75 | 50 | 43 | 38 | 33 | 30 | |
| Current | pu | 1 | 2 | 3 | 3.5 | 4 | 4.5 | 5 |

Thermal Characteristics Chart



NOTE Refer data sheet for applicable standard and tolerances on performance parameters

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