

PRODUCT INFORMATION PACKET

marathon[®]
Motors

Model No: SCA5P51A3131GAAD01

Catalog No: SCA5P51A3131GAAD01

5.5kW, General Purpose Low Voltage IEC Motor, 3 phase, 2 Pole, 415V, B5, 50Hz, 87.0%, 132S Frame, TEFC
Cast Iron IE2 Efficiency Motors



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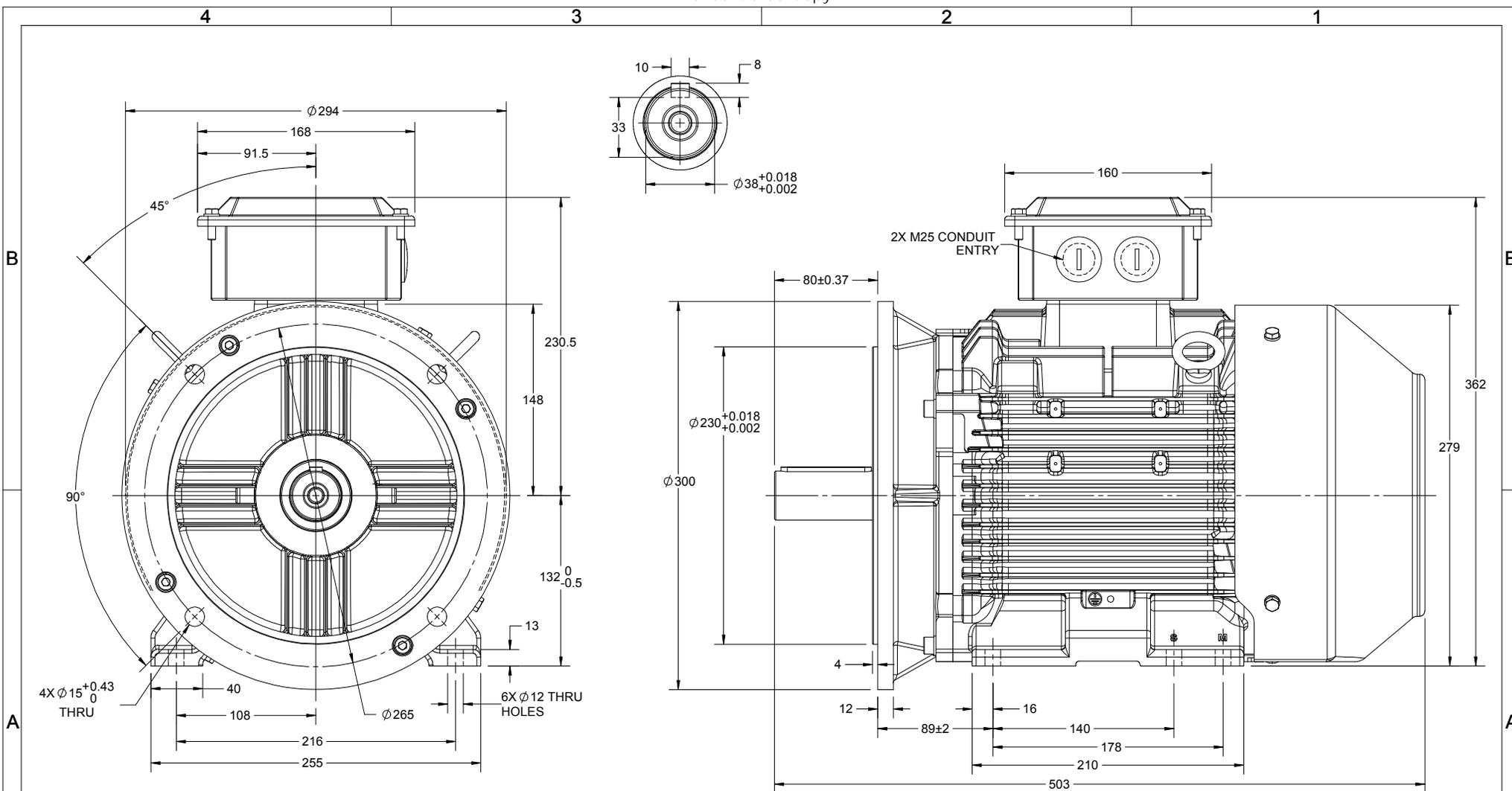
Nameplate Specifications

| | | | |
|----------------------------|---------|------------------------|-----------------------------|
| Output HP | 7.50 Hp | Output KW | 5.5 kW |
| Frequency | 50 Hz | Voltage | 415 V |
| Current | 9.4 A | Speed | 2897 rpm |
| Service Factor | 1 | Phase | 3 |
| Efficiency | 87 % | Power Factor | 0.94 |
| Duty | S1 | Insulation Class | F |
| Frame | 132S | Enclosure | Totally Enclosed Fan Cooled |
| Ambient Temperature | 50 °C | Drive End Bearing Size | 6308 |
| Opp Drive End Bearing Size | 6208 | UL | No |
| CSA | No | CE | Yes |
| IP Code | 55 | | |

Technical Specifications

| | | | |
|-----------------------|---------------|-----------------------|----------------|
| Electrical Type | Squirrel Cage | Starting Method | Direct On Line |
| Poles | 2 | Rotation | Bi-Directional |
| Mounting | B35 | Motor Orientation | Horizontal |
| Drive End Bearing | 2z-C3 | Opp Drive End Bearing | 2z-C3 |
| Frame Material | Cast Iron | Shaft Type | Keyed |
| Overall Length | 503 mm | Frame Length | 240 mm |
| Shaft Diameter | 38 mm | Shaft Extension | 80 mm |
| Assembly/Box Mounting | TOP | | |
| Connection Drawing | 8442000085 | Outline Drawing | 0213201111 |

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| | | |
|---|-------------------|--------------------|
| DRAWING REVISION B | REVISION BY LK | DATE 30/05/2019 |
| ECO ECO-0167983 | APPROVED BY SR | DATE 30/05/2019 |
| ECO DESCRIPTION MODEL UPDATED AS PER NEW 3D STRUCTURE | | |
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| |
|--------------------|
| DRAWN BY GSR |
| DATE 29/03/2018 |
| APPROVED BY JAY |
| DATE 29/03/2018 |
| REFERENCE |

marathon
Motors

DESCRIPTION
OUTLINE
132M FR.- B35 MTG. MOTOR TYPE SCA

MATERIAL PROCESS/FINISH

THIRD ANGLE
PROJECTION

SIZE
B DRAWING NUMBER
0213201111

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.

8WD.442.2017

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



Model No. SCA5P51A3131GAAD01

| U (V) | Δ / Y Conn | f (Hz) | P | | I (A) | n (RPM) | T (Nm) | IE Class | % EFF at __ load | | | | PF at __ load | | | I _w /I _N (pu) | T _k /T _N (pu) | T _k /T _N (pu) |
|----------|---------------|-----------|------|------|----------|------------|-----------|-------------|------------------|------|-------|-------|---------------|-------|-------|--|--|--|
| | | | [kW] | [hp] | | | | | S/4FL | FL | 3/4FL | 1/2FL | FL | 3/4FL | 1/2FL | | | |
| 415 | Δ | 50 | 5.5 | 7.5 | 9.4 | 2897 | 18.49 | IE2 | - | 87.0 | 87.0 | 88.3 | 0.94 | 0.92 | 0.88 | 6.5 | 2.3 | 2.9 |
| | | | | | | | | | | | | | | | | | | |

| | | | |
|----------------------------------|--------------------|---|--|
| Motor type | SCA | Degree of protection | IP 55 |
| Enclosure | TEFC | Mounting type | IM B35 |
| Frame Material | Cast Iron | Cooling method | IC 411 |
| Frame size | 132S | Motor weight - approx. | 81 kg |
| Duty | S1 | Gross weight - approx. | 84 kg |
| Voltage variation * | ± 10% | Motor inertia | 0.0155 kgm ² |
| Frequency variation * | ± 5% | Load inertia | Customer to Provide |
| Combined variation * | 10% | Vibration level | 1.6 mm/s |
| Design | N | Noise level (1meter distance from motor) | 77 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) | 7/15 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 | 6308-2Z / 6208-2Z | Terminal box position | TOP |
| Lubrication method | Greased for life | Maximum cable size/conduit size | 1R x 3C x 16mm ² /2 x M25 x 1.5 |
| Type of grease | NA | Auxiliary terminal box | NA |

I_w/I_N - Locked Rotor Current / Rated Current

T_k/T_N - Breakdown Torque / Rated Torque

T_k/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 | - | - | - |



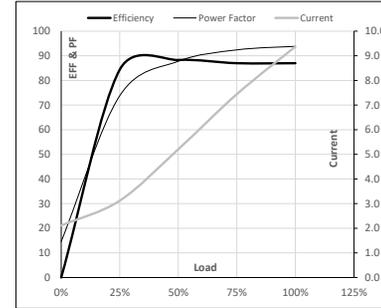
Model No. SCA5P51A3131GAAD01

| 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 | 5.5 | 7.5 | 9.4 | 2897 | 1.89 | 18.49 | IE2 | 50 | S1 | 1000 | 0.0155 | 81 |

Motor Load Data

| Load Point | | NL | 1/4FL | 1/2FL | 3/4FL | FL | 5/4FL |
|--------------|-------|------|-------|-------|-------|------|-------|
| Current | A | 2.1 | 3.1 | 5.2 | 7.4 | 9.4 | |
| Torque | Nm | 0.0 | 4.5 | 9.0 | 13.7 | 18.5 | |
| Speed | r/min | 3000 | 2976 | 2952 | 2926 | 2897 | |
| Efficiency | % | 0.0 | 84.4 | 88.3 | 87.0 | 87.0 | |
| Power Factor | % | 14.6 | 73.8 | 87.8 | 92.4 | 93.8 | |

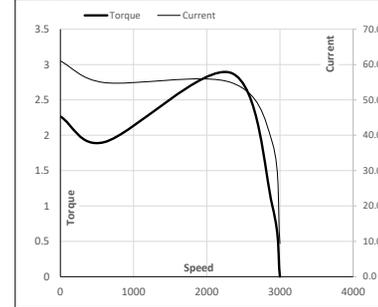
Performance vs Load Chart



Motor Speed Torque Data

| Load Point | | LR | P-Up | BD | Rated | NL |
|------------|-------|------|------|------|-------|------|
| Speed | r/min | 0 | 600 | 2336 | 2897 | 3000 |
| Current | A | 61.0 | 54.9 | 37.9 | 9.4 | 2.1 |
| Torque | pu | 2.3 | 1.9 | 2.9 | 1 | 0 |

Starting Characteristics Chart



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

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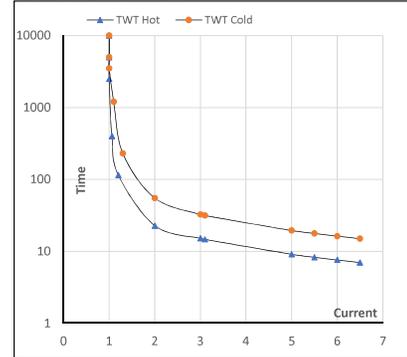
Model No. SCA5P51A3131GAAD01

| 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 | 5.5 | 7.5 | 9.4 | 2897 | 1.89 | 18.49 | IE2 | 50 | S1 | 1000 | 0.0155 | 81 |

Motor Speed Torque Data

| Load | FL | I_1 | I_2 | I_3 | I_4 | I_5 | LR | |
|----------|---------|-------|-------|-------|-------|-------|-----|-----|
| TWT Hot | s 10000 | 23 | 15 | 13 | 9 | 8 | 7 | |
| TWT Cold | s 10000 | 55 | 33 | 25 | 20 | 18 | 15 | |
| Current | pu | 1 | 2 | 3 | 4 | 5 | 5.5 | 6.5 |

Thermal Characteristics Chart



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

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