

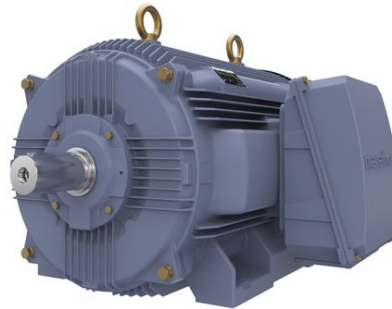
# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: SCA3152A3113GAAD01

Catalog No: SCA3152A3113GAAD01

315kW, General Purpose Low Voltage IEC Motor, 3 phase, 4 Pole, 415V, B3, 50Hz, 95.1%, 355L Frame, TEFC  
Cast Iron IE2 Efficiency Motors



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**REGAL**

### Nameplate Specifications

|                            |         |                        |                             |
|----------------------------|---------|------------------------|-----------------------------|
| Output HP                  | 425 Hp  | Output KW              | 315.0 kW                    |
| Frequency                  | 50 Hz   | Voltage                | 415 V                       |
| Current                    | 517.1 A | Speed                  | 1489 rpm                    |
| Service Factor             | 1       | Phase                  | 3                           |
| Efficiency                 | 95.1 %  | Power Factor           | 0.89                        |
| Duty                       | S1      | Insulation Class       | F                           |
| Frame                      | 355L    | Enclosure              | Totally Enclosed Fan Cooled |
| Ambient Temperature        | 50 °C   | Drive End Bearing Size | 6322                        |
| Opp Drive End Bearing Size | 6322    | UL                     | No                          |
| CSA                        | No      | CE                     | Yes                         |
| IP Code                    | 55      |                        |                             |

### Technical Specifications

|                       |               |                       |                |
|-----------------------|---------------|-----------------------|----------------|
| Electrical Type       | Squirrel Cage | Starting Method       | Direct On Line |
| Poles                 | 4             | Rotation              | Bi-Directional |
| Mounting              | B3            | Motor Orientation     | Horizontal     |
| Drive End Bearing     | C3            | Opp Drive End Bearing | C3             |
| Frame Material        | Cast Iron     | Shaft Type            | Keyed          |
| Overall Length        | 1542 mm       | Frame Length          | 1010 mm        |
| Shaft Diameter        | 95 mm         | Shaft Extension       | 170 mm         |
| Assembly/Box Mounting | SIDE          |                       |                |
| Connection Drawing    | 8442000085    | Outline Drawing       | 0235502296     |

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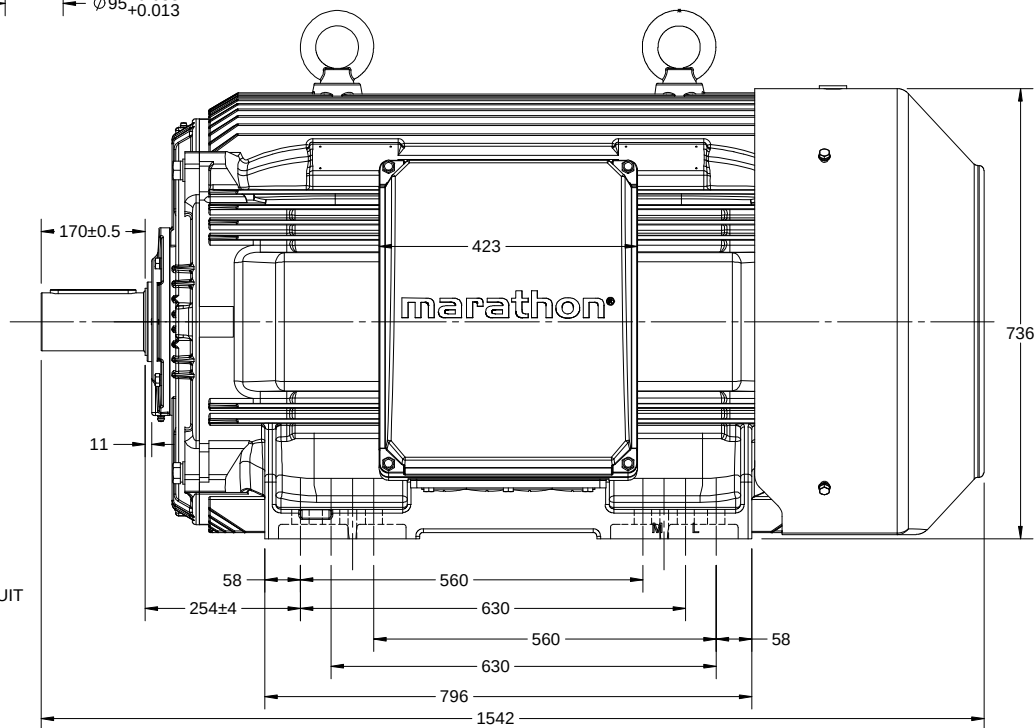
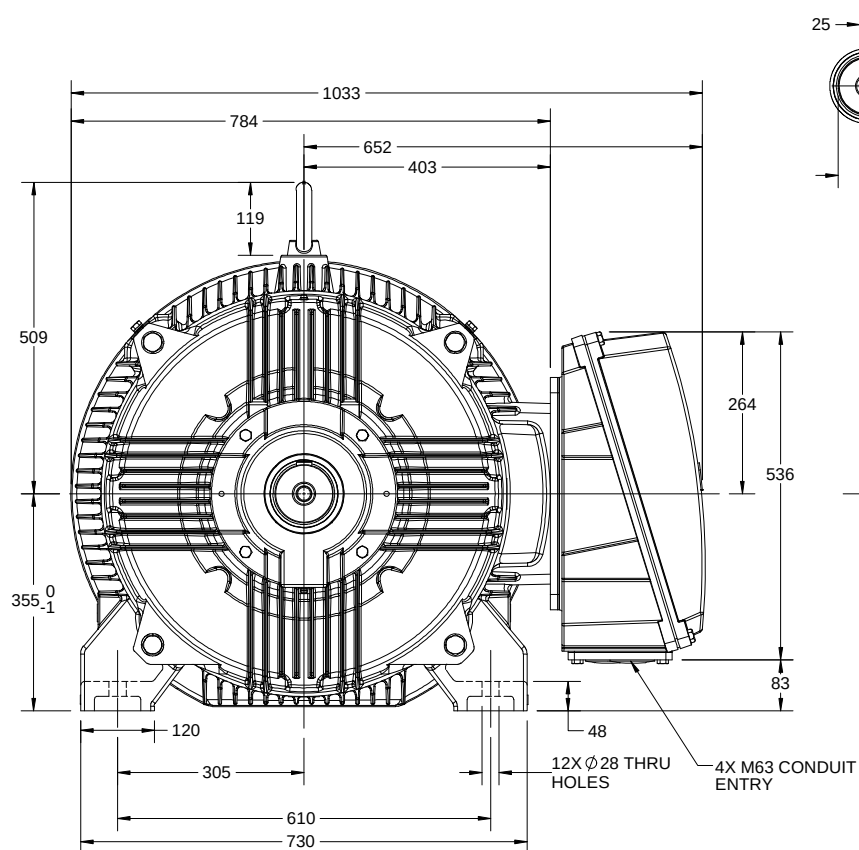
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B

B



A

A

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|
| DRAWING REVISION<br>B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | REVISION BY<br>VS  | DATE<br>09/07/2018 |
| ECO<br>ECO-0148344                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | APPROVED BY<br>SBD | DATE<br>09/07/2018 |
| ECO DESCRIPTION<br>MODEL UPDATED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |                    |
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|                           |                                                                                       |                              |
|---------------------------|---------------------------------------------------------------------------------------|------------------------------|
| DRAWN BY<br>SKM           |  |                              |
| DATE<br>11/08/2017        |                                                                                       |                              |
| APPROVED BY<br>JAY        | DESCRIPTION<br><b>OUTLINE</b><br>355L FR-4-8P-B3 MTG. TCA/QCA-RHS TB                  |                              |
| DATE<br>11/08/2017        |                                                                                       |                              |
| REFERENCE                 | MATERIAL                                                                              | PROCESS/FINISH               |
| THIRD ANGLE<br>PROJECTION | SIZE<br>B                                                                             | DRAWING NUMBER<br>0235502296 |
|                           |                                                                                       | SHEET<br>1 OF 1              |

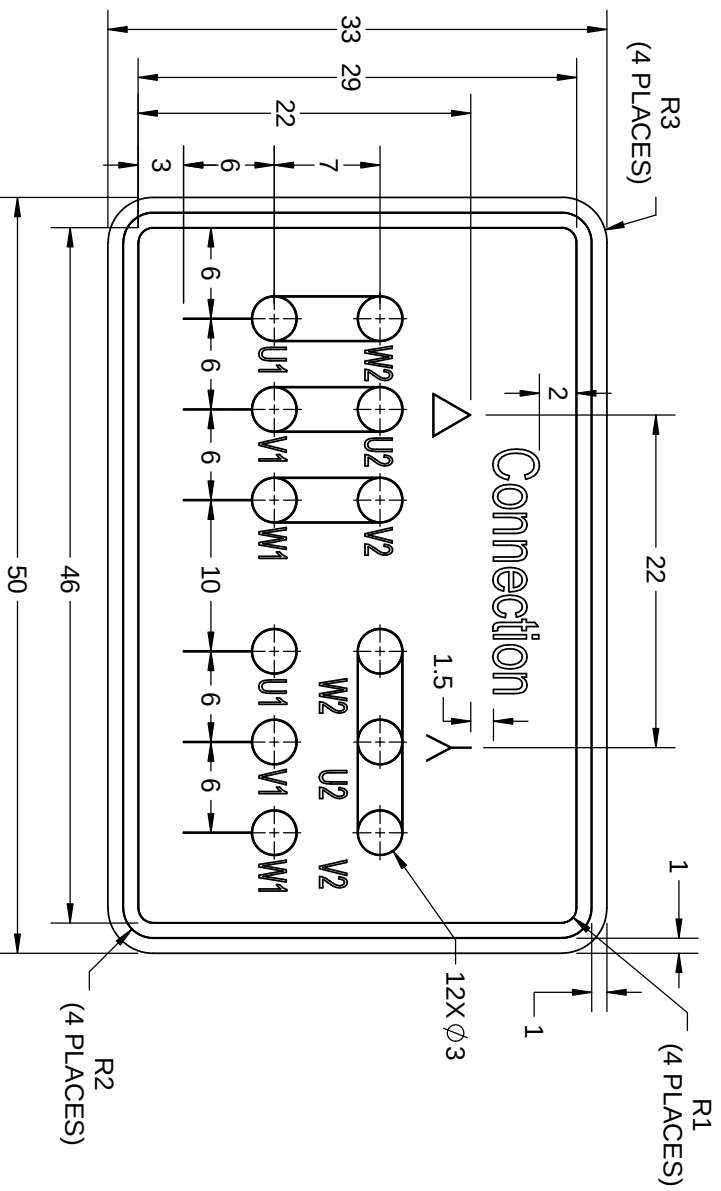
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| GEOMETRIC TOLERANCE |         |      |
|---------------------|---------|------|
| LINEAR DIM          | >0~6    | ±0.1 |
|                     | >6~30   | ±0.2 |
|                     | >30~120 | ±0.3 |



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

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|                        |  |                        |  |                                                                   |  |
|------------------------|--|------------------------|--|-------------------------------------------------------------------|--|
| <div><div></div></div> |  | DRAWN BY               |  | SN                                                                |  |
|                        |  | DATE                   |  | 16/12/2016                                                        |  |
|                        |  | APPROVED BY            |  | SBD                                                               |  |
|                        |  | DATE                   |  | 16/12/2016                                                        |  |
|                        |  | REFERENCE              |  |                                                                   |  |
|                        |  | DESCRIPTION            |  | <div><div>REGAL™</div><div>Regal Beloit America, Inc.</div></div> |  |
|                        |  | CONN DIAGRAM-NAMEPLATE |  |                                                                   |  |
| MATERIAL               |  | PROCESS/FINISH         |  |                                                                   |  |
| SIZE                   |  | DRAWING NUMBER         |  | SHEET                                                             |  |
| A                      |  | 84420000085            |  | 1 OF 1                                                            |  |

**Model No.** SCA3152A3113GAAD01

| U<br>(V) | Δ / Y<br>Conn | f<br>[Hz] | P<br>[kW] | P<br>[hp] | I<br>[A] | n<br>[RPM] | T<br>[Nm] | IE<br>Class | % EFF at __ load |      |       |       | PF at __ load |       |       | I <sub>a</sub> /I <sub>N</sub><br>[pu] | T <sub>a</sub> /T <sub>N</sub><br>[pu] | T <sub>d</sub> /T <sub>N</sub><br>[pu] |
|----------|---------------|-----------|-----------|-----------|----------|------------|-----------|-------------|------------------|------|-------|-------|---------------|-------|-------|----------------------------------------|----------------------------------------|----------------------------------------|
| 415      | Δ             | 50        | 315       | 425       | 517.1    | 1489       | 2032.3    | IE2         | 5/4FL            | FL   | 3/4FL | 1/2FL | FL            | 3/4FL | 1/2FL | 5.7                                    | 1.9                                    | 2.4                                    |
|          |               |           |           |           |          |            |           |             | -                | 95.1 | 95.1  | 96.1  | 0.89          | 0.88  | 0.83  |                                        |                                        |                                        |
|          |               |           |           |           |          |            |           |             |                  |      |       |       |               |       |       |                                        |                                        |                                        |

|                                  |                                   |                                           |                                             |
|----------------------------------|-----------------------------------|-------------------------------------------|---------------------------------------------|
| Motor type                       | SCA                               | Degree of protection                      | IP 55                                       |
| Enclosure                        | TEFC                              | Mounting type                             | IM B3                                       |
| Frame Material                   | Cast Iron                         | Cooling method                            | IC 411                                      |
| Frame size                       | 355L                              | Motor weight - approx.                    | 1818 kg                                     |
| Duty                             | S1                                | Gross weight - approx.                    | 1863 kg                                     |
| Voltage variation *              | ± 10%                             | Motor inertia                             | 9.2132 kgm <sup>2</sup>                     |
| 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) | 82 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                 | 6322 C3 / 6322 C3                 | Terminal box position                     | RHS                                         |
| Lubrication method               | Regreaseable                      | Maximum cable size/conduit size           | 1R x 3C x 300mm <sup>2</sup> /4 x M63 x 1.5 |
| Type of grease                   | Shell Gadus S5 V100 or Equivalent | Auxiliary terminal box                    | Available on Request                        |

I<sub>a</sub>/I<sub>N</sub> - Locked Rotor Current / Rated CurrentT<sub>d</sub>/T<sub>N</sub> - Breakdown Torque / Rated TorqueT<sub>a</sub>/T<sub>N</sub> - 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 | Europe | China | India           | Aus/Nz | Brazil | Global IEC |
|------------|--------|-------|-----------------|--------|--------|------------|
| Standards  | -      | -     | IS 12615 : 2018 | -      | -      | -          |



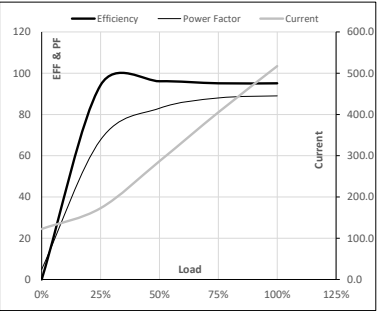
Model No. SCA3152A3113GAAD01

| Enclosure | U<br>(V) | Δ / Y<br>Conn | f<br>[Hz] | P<br>[kW] | P<br>[hp] | I<br>[A] | n<br>[RPM] | T<br>[kgm] | T<br>[Nm] | IE<br>Class | Amb<br>[°C] | Duty | Elevation<br>[m] | Inertia<br>[kg·m <sup>2</sup> ] | Weight<br>[kg] |
|-----------|----------|---------------|-----------|-----------|-----------|----------|------------|------------|-----------|-------------|-------------|------|------------------|---------------------------------|----------------|
| TEFC      | 415      | Δ             | 50        | 315       | 425       | 517.1    | 1489       | 207.23     | 2032.25   | IE2         | 50          | S1   | 1000             | 9.2132                          | 1818           |

Motor Load Data

| Load Point   |       | NL    | 1/4FL | 1/2FL  | 3/4FL  | FL     | 5/4FL |
|--------------|-------|-------|-------|--------|--------|--------|-------|
| Current      | A     | 122.5 | 172.9 | 286.7  | 405.1  | 517.1  |       |
| Torque       | Nm    | 0.0   | 505.3 | 1012.3 | 1521.2 | 2032.3 |       |
| Speed        | r/min | 1500  | 1497  | 1495   | 1492   | 1489   |       |
| Efficiency   | %     | 0.0   | 94.2  | 96.1   | 95.1   | 95.1   |       |
| Power Factor | %     | 4.9   | 67.7  | 83.0   | 88.0   | 89.0   |       |

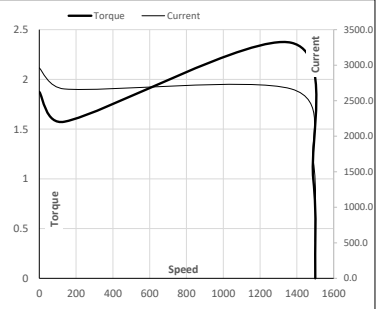
Performance vs Load Chart



Motor Speed Torque Data

| Load Point |       | LR     | P-Up   | BD     | Rated | NL    |
|------------|-------|--------|--------|--------|-------|-------|
| Speed      | r/min | 0      | 136    | 1370   | 1489  | 1500  |
| Current    | A     | 2961.7 | 2665.5 | 1652.7 | 517.1 | 122.5 |
| Torque     | pu    | 1.9    | 1.6    | 2.4    | 1     | 0     |

Starting Characteristics Chart



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

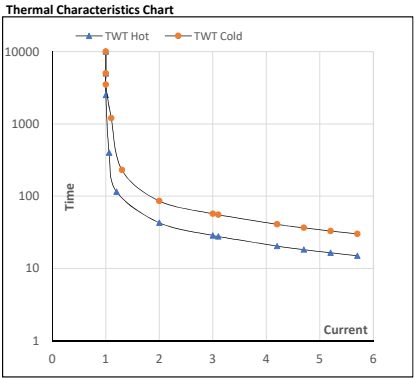
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Model No. SCA3152A3113GAAD01

| Enclosure | U<br>(V) | Δ / Y<br>Conn | f<br>(Hz) | P<br>(kW) | P<br>(hp) | I<br>(A) | n<br>(rpm) | T<br>(kgm) | T<br>(Nm) | IE<br>Class | Amb<br>(°C) | Duty | Elevation<br>(m) | Inertia<br>(kg·m <sup>2</sup> ) | Weight<br>(kg) |
|-----------|----------|---------------|-----------|-----------|-----------|----------|------------|------------|-----------|-------------|-------------|------|------------------|---------------------------------|----------------|
| TEFC      | 415      | Δ             | 50        | 315       | 425       | 517.1    | 1489       | 207.23     | 2032.25   | IE2         | 50          | S1   | 1000             | 9.2132                          | 1818           |

| Motor Speed Torque Data |         |                |                |                |                |                |     |     |
|-------------------------|---------|----------------|----------------|----------------|----------------|----------------|-----|-----|
| Load                    | FL      | I <sub>1</sub> | I <sub>2</sub> | I <sub>3</sub> | I <sub>4</sub> | I <sub>5</sub> | LR  |     |
| TWT Hot                 | s 10000 | 43             | 29             | 25             | 17             | 16             | 15  |     |
| TWT Cold                | s 10000 | 86             | 57             | 45             | 35             | 31             | 30  |     |
| Current                 | pu      | 1              | 2              | 3              | 4              | 5              | 5.5 | 5.7 |



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

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