

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: SCA7P53A3141GAAD01

Catalog No: SCA7P53A3141GAAD01

7.5kW, General Purpose Low Voltage IEC Motor, 3 phase, 6 Pole, 415V, B35, 50Hz, 87.2%, 160M Frame, TEFC  
Cast Iron IE2 Efficiency Motors



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**REGAL**

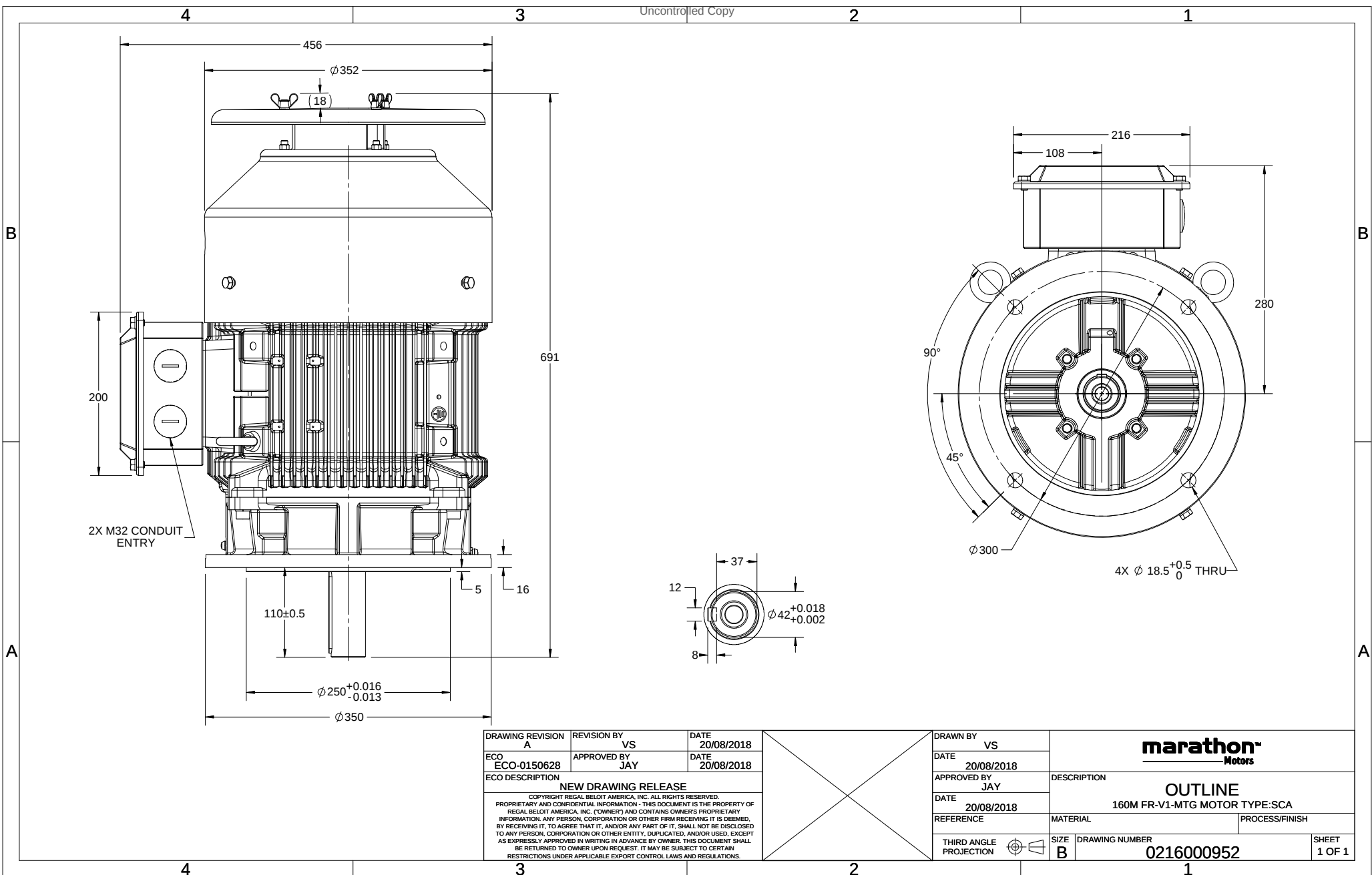
### Nameplate Specifications

|                            |        |                        |                             |
|----------------------------|--------|------------------------|-----------------------------|
| Output HP                  | 10 Hp  | Output KW              | 7.5 kW                      |
| Frequency                  | 50 Hz  | Voltage                | 415 V                       |
| Current                    | 16.8 A | Speed                  | 975 rpm                     |
| Service Factor             | 1      | Phase                  | 3                           |
| Efficiency                 | 87.2 % | Power Factor           | 0.71                        |
| Duty                       | S1     | Insulation Class       | F                           |
| Frame                      | 160M   | Enclosure              | Totally Enclosed Fan Cooled |
| Ambient Temperature        | 50 °C  | Drive End Bearing Size | 6309                        |
| Opp Drive End Bearing Size | 6209   | 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              | V1            | Motor Orientation     | Horizontal     |
| Drive End Bearing     | 2z-C3         | Opp Drive End Bearing | 2z-C3          |
| Frame Material        | Cast Iron     | Shaft Type            | Keyed          |
| Overall Length        | 691 mm        | Frame Length          | 254 mm         |
| Shaft Diameter        | 42 mm         | Shaft Extension       | 110 mm         |
| Assembly/Box Mounting | TOP           |                       |                |
| Connection Drawing    | 8442000085    | Outline Drawing       | 0216000952     |

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|                       |                    |                    |
|-----------------------|--------------------|--------------------|
| DRAWING REVISION<br>A | REVISION BY<br>SN  | DATE<br>13/01/2017 |
| ECO<br>ECO-0116390    | APPROVED BY<br>SBD | DATE<br>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.

|                        |             |  |                |
|------------------------|-------------|--|----------------|
|                        | DRAWN BY    |  | SN             |
|                        | DATE        |  | 16/12/2016     |
|                        | APPROVED BY |  | SBD            |
|                        | DATE        |  | 16/12/2016     |
| REFERENCE              | MATERIAL    |  | PROCESS/FINISH |
| THIRD ANGLE PROJECTION | SIZE        |  | DRAWING NUMBER |
|                        | A           |  | 8442000085     |
|                        |             |  | SHEET          |
|                        |             |  | 1 OF 1         |

8WD.442.2017

**REGAL**™  
Regal Beloit America, Inc.

DESCRIPTION  
**CONN DIAGRAM-NAMEPLATE**

**Model No.** SCA7P53A3141GAAD01

| 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        | 7.5       | 10        | 16.8     | 975        | 74.18     | IE2         | S/4FL            | FL | 3/4FL | 1/2FL | FL            | 3/4FL | 1/2FL | 5.4                                    | 1.6                                    | 2.4                                    |
|          |               |           |           |           |          |            |           |             |                  |    |       |       |               |       |       |                                        |                                        |                                        |

|                                  |                    |                                           |                                            |
|----------------------------------|--------------------|-------------------------------------------|--------------------------------------------|
| Motor type                       | SCA                | Degree of protection                      | IP 55                                      |
| Enclosure                        | TEFC               | Mounting type                             | IM V1                                      |
| Frame Material                   | Cast Iron          | Cooling method                            | IC 411                                     |
| Frame size                       | 160M               | Motor weight - approx.                    | 141 kg                                     |
| Duty                             | S1                 | Gross weight - approx.                    | 161 kg                                     |
| Voltage variation *              | ± 10%              | Motor inertia                             | 0.0750 kgm <sup>2</sup>                    |
| Frequency variation *            | ± 5%               | Load inertia                              | Customer to Provide                        |
| Combined variation *             | 10%                | Vibration level                           | 2.2 mm/s                                   |
| Design                           | N                  | Noise level ( 1meter distance from motor) | 65 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)              | 12/25 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                 | 6309-2Z / 6209-2Z  | Terminal box position                     | TOP                                        |
| Lubrication method               | Greased for life   | Maximum cable size/conduit size           | 1R x 3C x 35mm <sup>2</sup> /2 X M32 x 1.5 |
| Type of grease                   | NA                 | Auxiliary terminal box                    | NA                                         |

I<sub>a</sub>/I<sub>N</sub> - Locked Rotor Current / Rated CurrentT<sub>k</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

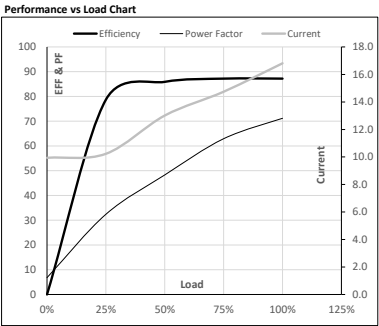
\* Voltage, Frequency and combine variation are as per IEC60034-1

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

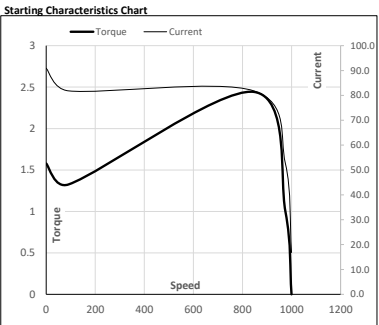
| Efficiency | Europe | China | India           | Aus/Nz | Brazil | Global IEC |
|------------|--------|-------|-----------------|--------|--------|------------|
| Standards  | -      | -     | IS 12615 : 2018 | -      | -      | -          |

|                              |     |       |      |      |      |      |       |       |       |       |      |      |           |                      |        |
|------------------------------|-----|-------|------|------|------|------|-------|-------|-------|-------|------|------|-----------|----------------------|--------|
| Model No. SCA7P53A3141GAAD01 |     |       |      |      |      |      |       |       |       |       |      |      |           |                      |        |
| Enclosure                    | U   | Δ / Y | f    | P    | P    | I    | n     | T     | T     | IE    | Amb  | Duty | Elevation | Inertia              | Weight |
|                              | (V) | Conn  | [Hz] | [kW] | [hp] | [A]  | (RPM) | [kgm] | [Nm]  | Class | [°C] |      | [m]       | [kg·m <sup>2</sup> ] | [kg]   |
| TEFC                         | 415 | Δ     | 50   | 7.5  | 10   | 16.8 | 975   | 7.56  | 74.18 | IE2   | 50   | S1   | 1000      | 0.0750               | 141    |

| Motor Load Data |       |      |       |       |       |      |       |
|-----------------|-------|------|-------|-------|-------|------|-------|
| Load Point      |       | NL   | 1/4FL | 1/2FL | 3/4FL | FL   | 5/4FL |
| Current         | A     | 9.9  | 10.2  | 13.0  | 14.7  | 16.8 |       |
| Torque          | Nm    | 0.0  | 18.0  | 36.1  | 54.5  | 74.2 |       |
| Speed           | r/min | 1000 | 994   | 988   | 982   | 975  |       |
| Efficiency      | %     | 0.0  | 78.7  | 85.9  | 87.2  | 87.2 |       |
| Power Factor    | %     | 6.8  | 32.4  | 48.3  | 62.9  | 71.2 |       |



| Motor Speed Torque Data |       |      |      |      |       |      |
|-------------------------|-------|------|------|------|-------|------|
| Load Point              |       | LR   | P-Up | BD   | Rated | NL   |
| Speed                   | r/min | 0    | 91   | 846  | 975   | 1000 |
| Current                 | A     | 90.9 | 81.8 | 52.6 | 16.8  | 9.9  |
| Torque                  | pu    | 1.6  | 1.3  | 2.4  | 1     | 0    |



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

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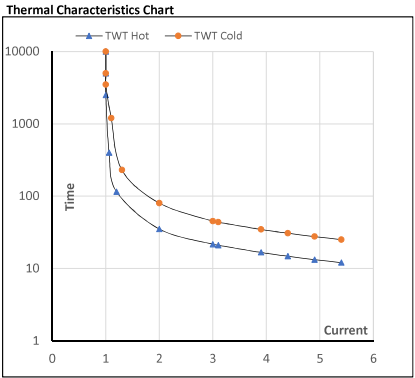
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Model No. SCA7P53A3141GAAD01

| Enclosure | U<br>(V) | $\Delta$ / 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      | $\Delta$             | 50        | 7.5       | 10        | 16.8     | 975        | 7.56       | 74.18     | IE2         | 50          | S1   | 1000             | 0.0750                          | 141            |

| 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 | 35             | 22             | 16             | 14             | 13             | 12 |     |
| TWT Cold                | s 10000 | 80             | 45             | 34             | 30             | 26             | 25 |     |
| Current                 | pu      | 1              | 2              | 3              | 4              | 4.5            | 5  | 5.4 |



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

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