

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: SCA1322A4131GAA001

Catalog No: SCA1322A4131GAA001

TerraMAX® Cast Iron Motor, 175 HP, 3 Ph, 50 Hz, 380/660 V, 1500 RPM, 315M Frame, TEFC



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**RegalRexnord**

### Nameplate Specifications

|                        |               |                            |                             |
|------------------------|---------------|----------------------------|-----------------------------|
| Output HP              | 175 Hp        | Output KW                  | 132.0 kW                    |
| Frequency              | 50 Hz         | Voltage                    | 380/660 V                   |
| Current                | 240.7 A       | Speed                      | 1486 rpm                    |
| Service Factor         | 1             | Phase                      | 3                           |
| Efficiency             | 94.7 %        | Power Factor               | 0.88                        |
| Duty                   | S1            | Insulation Class           | F                           |
| Frame                  | 315M          | Enclosure                  | Totally Enclosed Fan Cooled |
| Thermal Protection     | No Protection | Ambient Temperature        | 40 °C                       |
| Drive End Bearing Size | 6319          | Opp Drive End Bearing Size | 6319                        |
| UL                     | No            | CSA                        | No                          |
| CE                     | Yes           | IP Code                    | 55                          |
| Number of Speeds       | 1             | Efficiency Class           | IE2                         |

### Technical Specifications

|                       |               |                       |                |
|-----------------------|---------------|-----------------------|----------------|
| Electrical Type       | Squirrel Cage | Starting Method       | Direct On Line |
| Poles                 | 4             | Rotation              | Bi-Directional |
| Mounting              | B35           | Motor Orientation     | Horizontal     |
| Drive End Bearing     | C3            | Opp Drive End Bearing | C3             |
| Frame Material        | Cast Iron     | Shaft Type            | Keyed          |
| Overall Length        | 1206 mm       | Frame Length          | 729 mm         |
| Shaft Diameter        | 80 mm         | Shaft Extension       | 170 mm         |
| Assembly/Box Mounting | Top           |                       |                |
| Outline Drawing       | 0231500891    | Connection Drawing    | 8442000085     |

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## OUTLINE



|  |                    |                    |
|--|--------------------|--------------------|
| DRAWING REVISION<br>B  | REVISION BY<br>NIV | DATE<br>14/05/2019 |
| ECO<br>ECO-0165600   | APPROVED BY<br>SR  | DATE<br>14/05/2019 |
| ECO DESCRIPTION<br>MODEL UPDATED   |                    |                    |
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|                           |                               |                              |                 |
|---------------------------|-------------------------------|------------------------------|-----------------|
| DRAWN BY<br>JOY           | <b>marathon™</b><br>Motors    |                              |                 |
| DATE<br>18/07/2014        |                               |                              |                 |
| APPROVED BY<br>SBD        | DESCRIPTION<br>OUTLINE        |                              |                 |
| DATE<br>18/07/2014        | 315M-B35 MTG. MOTOR TYPE: TCA |                              |                 |
| REFERENCE                 | MATERIAL                      | PROCESS/FINISH               |                 |
| THIRD ANGLE<br>PROJECTION | SIZE<br>B                     | DRAWING NUMBER<br>0231500891 | SHEET<br>1 OF 1 |

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


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

**Model No.** SCA1322A4131GAA001

| 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>K</sub> /T <sub>N</sub><br>[pu] |
|----------|---------------|-----------|-----------|-----------|----------|------------|-----------|-------------|------------------|------|-------|-------|---------------|-------|-------|--|--|--|
|          |               |           |           |           |          |            |           |             | 5/4FL            | FL   | 3/4FL | 1/2FL | FL            | 3/4FL | 1/2FL |  |  |  |
| 380/660  | Δ             | 50        | 132       | 175       | 240.7    | 1486       | 838.47    | IE2         | -                | 94.7 | 94.7  | 95.1  | 0.88          | 0.85  | 0.78  | 6.2                                    | 1.8                                    | 2.8                                    |
|          |               |           |           |           |          |            |           |             |                  |      |       |       |               |       |       |  |  |  |

|                                  |                             |   |   |
|----------------------------------|-----------------------------|---|---|
| Motor type                       | SCA                         | Degree of protection                      | IP 55                                       |
| Enclosure                        | TEFC                        | Mounting type                             | IM B35                                      |
| Frame Material                   | Cast Iron                   | Cooling method                            | IC 411                                      |
| Frame size                       | 315M                        | Motor weight - approx.                    | 960 kg                                      |
| Duty                             | S1                          | Gross weight - approx.                    | 1005 kg                                     |
| Voltage variation *              | ± 10%                       | Motor inertia                             | 3.2416 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) | 69 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 +40 °C               | Type of coupling                          | Direct                                      |
| Temperature rise (by resistance) | 80 [ 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                     | TOP   |
| Lubrication method               | Regreasable                 | Maximum cable size/conduit size           | 1R x 3C x 240mm <sup>2</sup> /2 x M63 x 1.5 |
| Type of grease                   | CHEVRON SRI-2 or Equivalent | Auxiliary terminal box                    | Available on Request                        |

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.

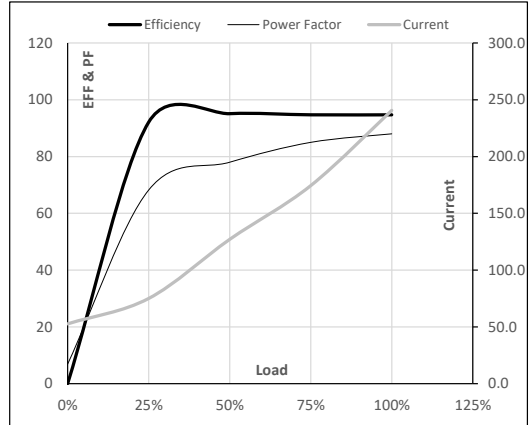
| Efficiency Standards | Europe | China                 | India | Aus/Nz | Brazil | Global IEC    |
|----------------------|--------|-----------------------|-------|--------|--------|---------------|
|                      | -      | GB 18613-2012 Grade 2 | -     | -      | -      | IEC: 60034-30 |

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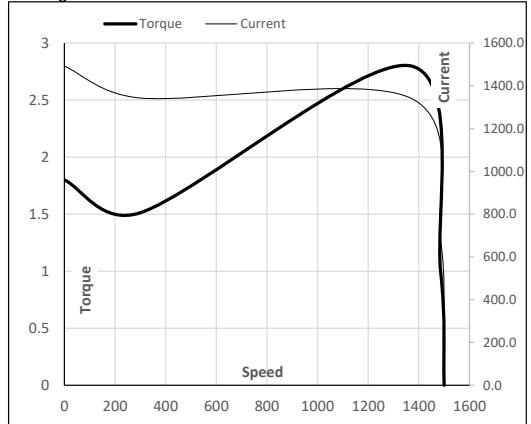
| Enclosure | U<br>(V) | $\Delta$ / Y<br>Conn | f<br>[Hz] | P<br>[kW] | P<br>[hp] | I<br>[A] | n<br>[RPM] | T<br>[kgm] | T<br>[Nm] | IE<br>Class | Amb<br>[°C] | Duty | Elevation<br>[m] | Inertia<br>[kg-m <sup>2</sup> ] | Weight<br>[kg] |
|-----------|----------|----------------------|-----------|-----------|-----------|----------|------------|------------|-----------|-------------|-------------|------|------------------|---------------------------------|----------------|
| TEFC      | 380/660  | $\Delta$             | 50        | 132       | 175       | 240.7    | 1486       | 85.50      | 838.47    | IE2         | 40          | S1   | 1000             | 3.2416                          | 960            |

**Motor Load Data**

| Load Point   |       | NL   | 1/4FL | 1/2FL | 3/4FL | FL    | 5/4FL |
|--------------|-------|------|-------|-------|-------|-------|-------|
| Current      | A     | 52.7 | 75.0  | 127.1 | 174.4 | 240.7 |       |
| Torque       | Nm    | 0.0  | 173.5 | 347.7 | 522.8 | 838.5 |       |
| Speed        | r/min | 1500 | 1796  | 1792  | 1788  | 1486  |       |
| Efficiency   | %     | 0.0  | 92.1  | 95.1  | 94.7  | 94.7  |       |
| Power Factor | %     | 6.9  | 68.2  | 78.0  | 85.0  | 88.0  |       |

**Performance vs Load Chart**

**Motor Speed Torque Data**

| Load Point |       | LR     | P-Up   | BD    | Rated | NL   |
|------------|-------|--------|--------|-------|-------|------|
| Speed      | r/min | 0      | 300    | 1367  | 1486  | 1500 |
| Current    | A     | 1492.0 | 1342.8 | 677.2 | 240.7 | 52.7 |
| Torque     | pu    | 1.8    | 1.5    | 2.8   | 1     | 0    |

**Starting Characteristics Chart**

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

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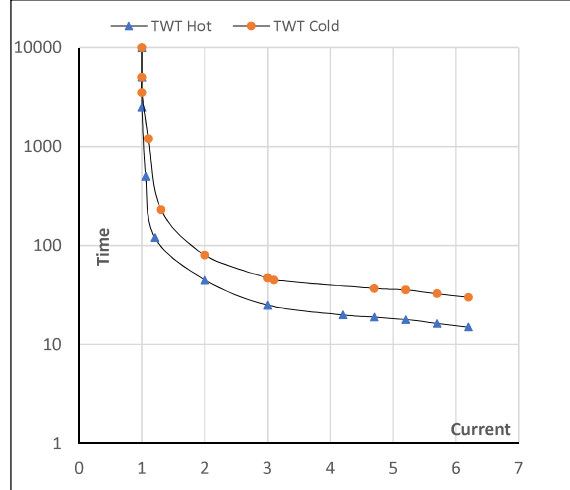
Issued Date


**Model No.** SCA1322A4131GAA001

| 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      | 380/660  | $\Delta$             | 50        | 132       | 175       | 240.7    | 1486       | 85.50      | 838.47    | IE2         | 40          | S1   | 1000             | 3.2416                          | 960            |

**Motor Speed Torque Data**

| Load     |    | FL    | $I_1$ | $I_2$ | $I_3$ | $I_4$ | $I_5$ | LR  |
|----------|----|-------|-------|-------|-------|-------|-------|-----|
| TWT Hot  | s  | 10000 | 45    | 25    | 21    | 18    | 17    | 15  |
| TWT Cold | s  | 10000 | 80    | 47    | 46    | 36    | 34    | 30  |
| Current  | pu | 1     | 2     | 3     | 4     | 5     | 5.5   | 6.2 |

**Thermal Characteristics Chart**

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

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