

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCE0371A2121GAA001  
Catalog No: TCE0371A2121GAA001

TerraMAX® Increased Safety Motors Ex eb, Totally Enclosed Fan Cooled, 50 HP, 3 Ph, 50 Hz, 400 V,  
2973 RPM, 200L Frame



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**RegalRexnord**

### Nameplate Specifications

|                        |               |                            |                             |
|------------------------|---------------|----------------------------|-----------------------------|
| Output HP              | 50 Hp         | Output KW                  | 37.0 kW                     |
| Frequency              | 50 Hz         | Voltage                    | 400 V                       |
| Current                | 66.3 A        | Speed                      | 2973 rpm                    |
| Service Factor         | 1             | Phase                      | 3                           |
| Efficiency             | 93.7 %        | Power Factor               | 0.86                        |
| Duty                   | S1            | Insulation Class           | F                           |
| Frame                  | 200L          | Enclosure                  | Totally Enclosed Fan Cooled |
| Thermal Protection     | No Protection | Ambient Temperature        | 40 °C                       |
| Drive End Bearing Size | 6312          | Opp Drive End Bearing Size | 6312                        |
| UL                     | No            | CSA                        | No                          |
| CE                     | Yes           | IP Code                    | IP55                        |
| Number of Speeds       | 3             |                            |                             |

### Technical Specifications

|                       |               |                       |                |
|-----------------------|---------------|-----------------------|----------------|
| Electrical Type       | Squirrel Cage | Starting Method       | Direct On Line |
| Poles                 | 2             | Rotation              | Bi-Directional |
| Mounting              | B5            | Motor Orientation     | Horizontal     |
| Drive End Bearing     | 2z-C3         | Opp Drive End Bearing | 2z-C3          |
| Frame Material        | Cast Iron     | Shaft Type            | Keyed          |
| Overall Length        | 769 mm        | Frame Length          | 370 mm         |
| Shaft Diameter        | 55.000 mm     | Shaft Extension       | 110 mm         |
| Assembly/Box Mounting | Top           |                       |                |
| Outline Drawing       | 0220000344    | Connection Drawing    | 8442000085     |

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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>     | Regal Beloit America, Inc.                   |                                     |
|  | DATE<br><b>16/12/2016</b> |  |                                     |
|  | APPROVED BY<br><b>SBD</b> | DESCRIPTION<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  
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**Model No.** TCE0371A2121GAA001

| U   | Δ / Y | f    | P    | P    | I    | n     | T      | IE    | % EFF at __ load |      |       |       | PF at __ load |       |       | I <sub>A</sub> /I <sub>N</sub> | T <sub>A</sub> /T <sub>N</sub> | T <sub>K</sub> /T <sub>N</sub> |
|-----|-------|------|------|------|------|-------|--------|-------|------------------|------|-------|-------|---------------|-------|-------|--------------------------------|--------------------------------|--------------------------------|
| (V) | Conn  | [Hz] | [kW] | [hp] | [A]  | [RPM] | [Nm]   | Class | 5/4FL            | FL   | 3/4FL | 1/2FL | FL            | 3/4FL | 1/2FL | [pu]                           | [pu]                           | [pu]                           |
| 400 | Δ     | 50   | 37   | 50.0 | 66.3 | 2973  | 119.76 | IE3   | -                | 93.7 | 93.7  | 92.6  | 0.86          | 0.82  | 0.71  | 7.5                            | 2.2                            | 3.7                            |
|     |       |      |      |      |      |       |        |       |                  |      |       |       |               |       |       |                                |                                |                                |

|                                  |                             |   |  |
|----------------------------------|-----------------------------|---|--|
| Motor type                       | TCE                         | Degree of protection                      | IP 55                                      |
| Enclosure                        | TEFC                        | Mounting type                             | IM B5                                      |
| Frame Material                   | Cast Iron                   | Cooling method                            | IC 411                                     |
| Frame size                       | 200L                        | Motor weight - approx.                    | 310 kg                                     |
| Duty                             | S1                          | Gross weight - approx.                    | 340 kg                                     |
| Voltage variation *              | ± 10%                       | Motor inertia                             | 0.3060 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) | 73 dB(A)                                   |
| Service factor                   | 1.0                         | No. of starts hot/cold/Equally spread     | 2/3/4                                      |
| Insulation class                 | F                           | Starting method                           | DOL  |
| Ambient temperature              | -15 to +40 °C               | Type of coupling                          | Direct                                     |
| Temperature rise (by resistance) | 70 [ Class B ] K            | tE time                                   | 10 s                                       |
| Altitude above sea level         | 1000 meter                  | Direction of rotation                     | Bi-directional                             |
| Hazardous area classification    | Ex eb                       | Standard rotation                         | Clockwise form DE                          |
| Zone classification              | Zone 2                      | Paint shade                               | RAL 7016                                   |
| Gas group                        | IIC                         | Accessories                               |  |
| Temperature class                | T3                          | Accessory - 1                             | PTC 150°C                                  |
| Rotor type                       | Aluminum Die cast           | Accessory - 2                             | -  |
| Bearing type                     | Anti-friction ball          | Accessory - 3                             | -  |
| DE / NDE bearing                 | 6312 C3 / 6212 C3           | Terminal box position                     | TOP  |
| Lubrication method               | Regreasable                 | Maximum cable size/conduit size           | 1R x 3C x 50mm <sup>2</sup> /2 x M40 x 1.5 |
| Type of grease                   | CHEVRON SRI-2 or Equivalent | Auxiliary terminal box                    | NA   |

I<sub>A</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

T<sub>K</sub>/T<sub>N</sub> - Breakdown Torque / Rated Torque

T<sub>A</sub>/T<sub>N</sub> - Locked Rotor Torque / Rated Torque

#### NOTE

ATEX/IEC Ex certified as per IEC/EN 60079-0; IEC/EN 60079-7

All performance values at rated voltage and frequency.

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

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

Technical data are subject to change. There may be slight variations between calculated values in this datasheet and the motor nameplate figures.

| Efficiency | Europe         | China | India | Aus/Nz | Brazil | Global IEC     |
|------------|----------------|-------|-------|--------|--------|----------------|
| Standards  | IEC:60034-30-1 |       | -     | -      | -      | IEC:60034-30-1 |

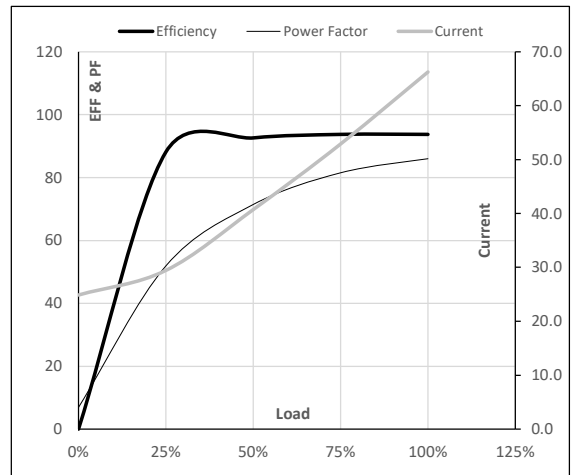
**Model No.** TCE0371A2121GAA001

| 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      | 400      | $\Delta$             | 50        | 37        | 50        | 66.3     | 2973       | 12.21      | 119.76    | IE3         | 40          | S1   | 1000             | 0.306                           | 310            |

**Motor Load Data**

| Load Point   |       | NL   | 1/4FL | 1/2FL | 3/4FL | FL    | 5/4FL |
|--------------|-------|------|-------|-------|-------|-------|-------|
| Current      | A     | 24.9 | 29.4  | 40.7  | 52.9  | 66.3  |       |
| Torque       | Nm    | 0.0  | 40.3  | 80.8  | 121.5 | 119.8 |       |
| Speed        | r/min | 3000 | 2993  | 2987  | 2980  | 2973  |       |
| Efficiency   | %     | 0.0  | 88.1  | 92.6  | 93.7  | 93.7  |       |
| Power Factor | %     | 6.9  | 51.9  | 71.4  | 81.5  | 86.0  |       |

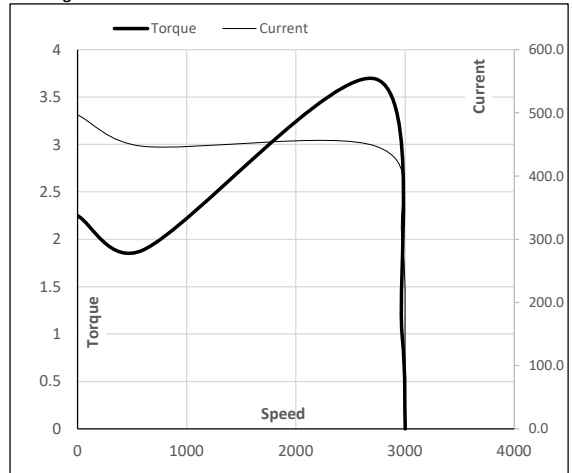
**Performance vs Load Chart**



**Motor Speed Torque Data**

| Load Point |       | LR    | P-Up  | BD    | Rated | NL   |
|------------|-------|-------|-------|-------|-------|------|
| Speed      | r/min | 0     | 600   | 2735  | 2973  | 3000 |
| Current    | A     | 496.9 | 447.2 | 299.6 | 66.3  | 24.9 |
| Torque     | pu    | 2.2   | 1.9   | 3.7   | 1     | 0    |

**Starting Characteristics Chart**



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

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