

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: QCA5P52AF111GAA001

Catalog No: QCA5P52AF111GAA001

TerraMAX® Cast Iron Motor, 7.50 HP, 3 Ph, 50 Hz, 380 V, 1500 RPM, 132S Frame, TEFC



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**RegalRexnord**

### Nameplate Specifications

|                        |               |                            |                             |
|------------------------|---------------|----------------------------|-----------------------------|
| Output HP              | 7.50 Hp       | Output KW                  | 5.5 kW                      |
| Frequency              | 50 Hz         | Voltage                    | 380 V                       |
| Current                | 11.6 A        | Speed                      | 1470 rpm                    |
| Service Factor         | 1             | Phase                      | 3                           |
| Efficiency             | 91.9 %        | Power Factor               | 0.79                        |
| Duty                   | S1            | Insulation Class           | F                           |
| Frame                  | 132S          | Enclosure                  | Totally Enclosed Fan Cooled |
| Thermal Protection     | No Protection | Ambient Temperature        | 40 °C                       |
| Drive End Bearing Size | 6308          | Opp Drive End Bearing Size | 6208                        |
| UL                     | No            | CSA                        | No                          |
| CE                     | YES           | IP Code                    | 55                          |
| Number of Speeds       | 1             | Efficiency Class           | IE4                         |

### Technical Specifications

|                       |               |                       |                |
|-----------------------|---------------|-----------------------|----------------|
| Electrical Type       | Squirrel Cage | Starting Method       | Direct On Line |
| Poles                 | 4             | Rotation              | Bi-Directional |
| Mounting              | B3            | 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       | 0213200587     |

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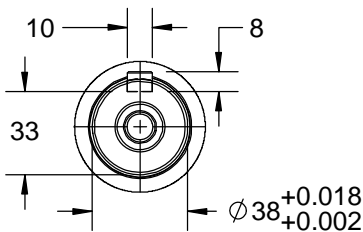
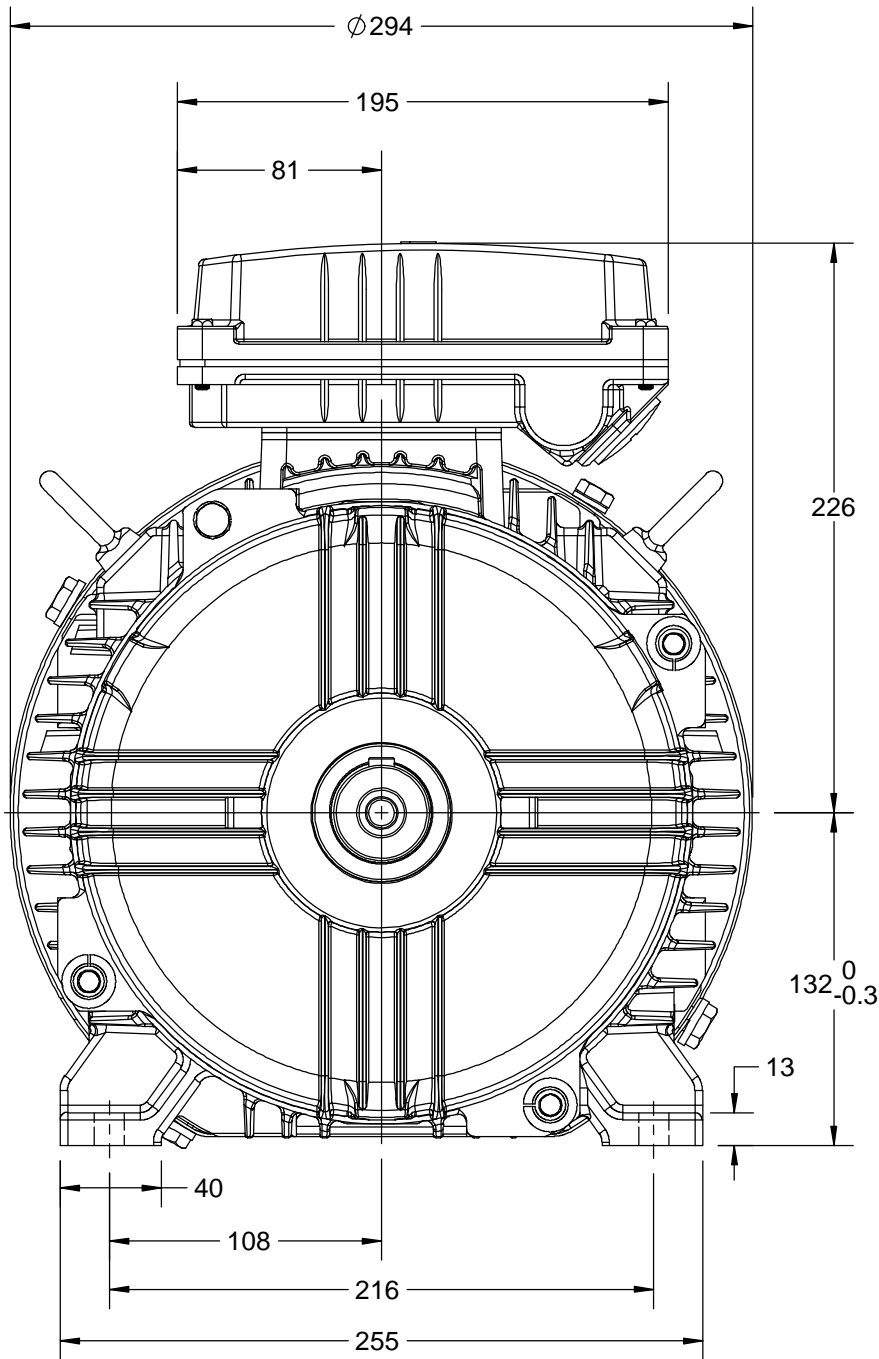
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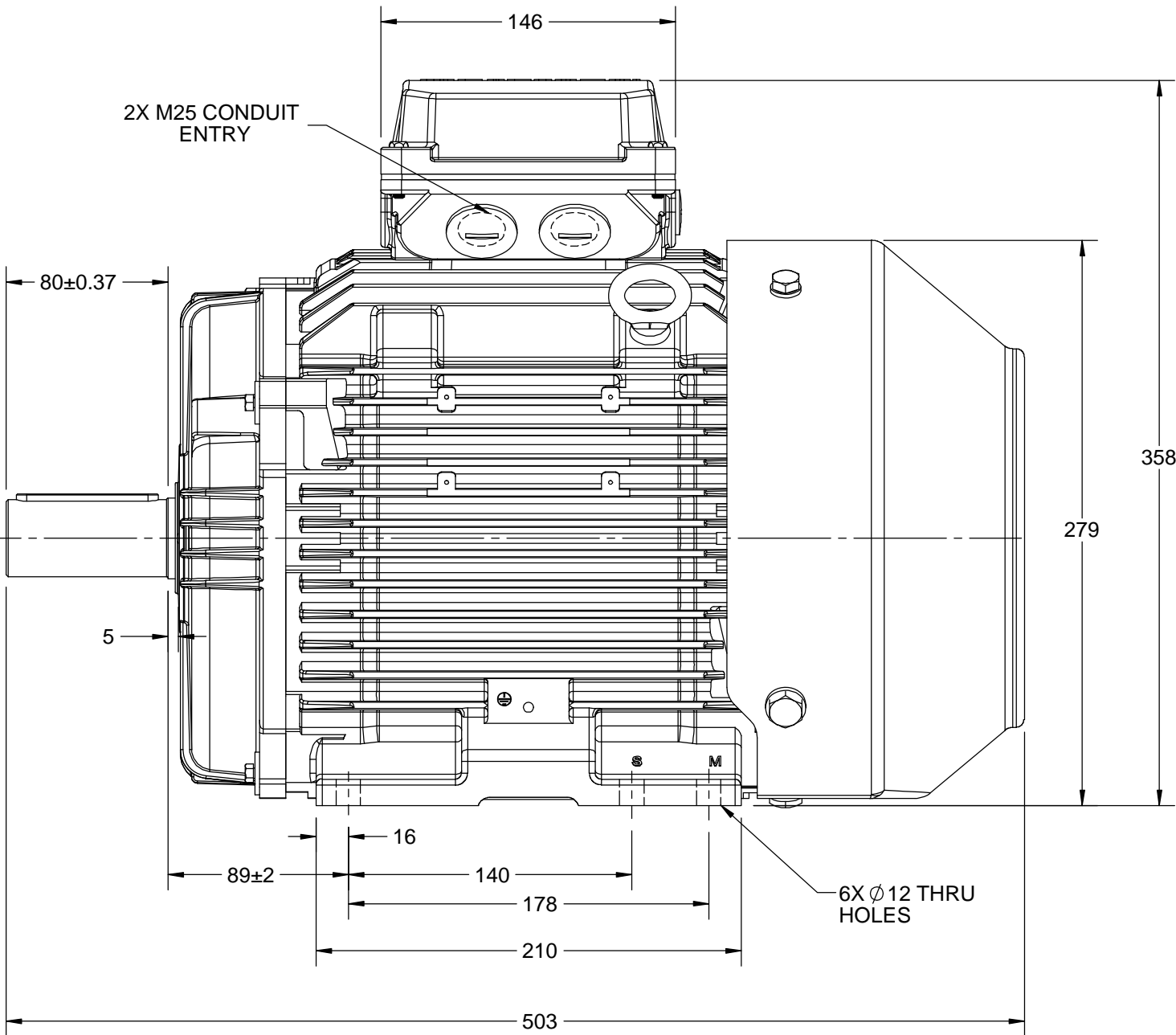
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A

A



2X M25 CONDUIT ENTRY



|  |                        |                    |
|--|------------------------|--------------------|
| DRAWING REVISION<br>C  | REVISION BY<br>S.MUDDA | DATE<br>25/06/2018 |
| ECO<br>ECO-0147359   | APPROVED BY<br>JAY     | DATE<br>25/06/2018 |
| ECO DESCRIPTION<br>OUTLINE UPDATED AS PER NEW 3D STRUCTURING   |                        |                    |
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|                           |                                     |                              |                 |
|---------------------------|-------------------------------------|------------------------------|-----------------|
| DRAWN BY<br>SMAR          |                                     |                              |                 |
| DATE<br>05/09/13          |                                     |                              |                 |
| APPROVED BY<br>JAY        | DESCRIPTION<br>OUTLINE              |                              |                 |
| DATE<br>05/09/13          | 132 FR.- B3 MTG. MOTOR TYPE TCA/QCA |                              |                 |
| REFERENCE                 | MATERIAL                            | PROCESS/FINISH               |                 |
| THIRD ANGLE<br>PROJECTION | SIZE<br>B                           | DRAWING NUMBER<br>0213200587 | SHEET<br>1 OF 1 |

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### ECO DESCRIPTION

## GEOMETRIC TOLERANCE

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



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>SN         |  |                                     |                |
|   | DATE<br>16/12/2016     |  |                                     |                |
|   | APPROVED BY<br>SBD     | DESCRIPTION<br><b>CONN DIAGRAM-NAMEPLATE</b>   |                                     |                |
|   | DATE<br>16/12/2016     |  |                                     |                |
|   | REFERENCE              | MATERIAL   |                                     | PROCESS/FINISH |
|   | THIRD ANGLE PROJECTION | SIZE<br><b>A</b>   | DRAWING NUMBER<br><b>8442000085</b> |                |

**Model No.** QCA5P52AF111GAA001

| 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      | Δ             | 50        | 5.5       | 7.5       | 11.5     | 1470       | 36.36     | IE4         | -                 | 91.9 | 91.9  | 91.1  | 0.79           | 0.72  | 0.59  | 6.9                                    | 2.5                                    | 3.1                                    |
|          |               |           |           |           |          |            |           |             |                   |      |       |       |                |       |       |  |  |  |
|          |               |           |           |           |          |            |           |             |                   |      |       |       |                |       |       |  |  |  |

|                                  |                    |   |  |
|----------------------------------|--------------------|---|--|
| Motor type                       | QCA                | Degree of protection                      | IP 55                                      |
| Enclosure                        | TEFC               | Mounting type                             | IM B3                                      |
| Frame Material                   | Cast Iron          | Cooling method                            | IC 411                                     |
| Frame size                       | 132S               | Motor weight - approx.                    | 87 kg                                      |
| Duty                             | S1                 | Gross weight - approx.                    | 90 kg                                      |
| Voltage variation *              | ± 10%              | Motor inertia                             | 0.0476 kgm <sup>2</sup>                    |
| 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) | 61 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                             | PTC 150°C                                  |
| 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 <sup>2</sup> /2 x M25 x 1.5 |
| Type of grease                   | NA                 | 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**

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.

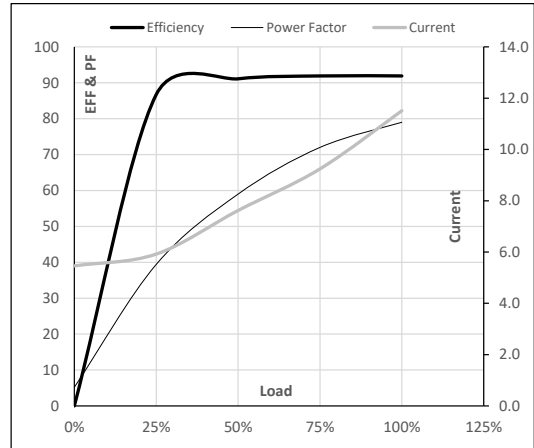
| Efficiency | Europe | China                 | India | Aus/Nz | Brazil | Global IEC    |
|------------|--------|-----------------------|-------|--------|--------|---------------|
| Standards  | -      | GB 18613-2012 Grade 2 | -     | -      | -      | IEC: 60034-30 |

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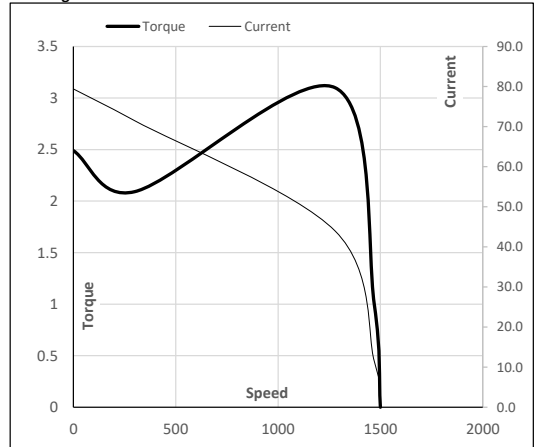
| Enclosure | U<br>(V) | Δ / Y<br>Conn | f<br>[Hz] | P<br>[kW] | P<br>[hp] | I<br>[A] | n<br>[RPM] | T<br>[kgm] | T<br>[Nm] | IE<br>Class | Amb<br>[°C] | Duty | Elevation<br>[m] | Inertia<br>[kg-m <sup>2</sup> ] | Weight<br>[kg] |
|-----------|----------|---------------|-----------|-----------|-----------|----------|------------|------------|-----------|-------------|-------------|------|------------------|---------------------------------|----------------|
| TEFC      | 380      | Δ             | 50        | 5.5       | 7.5       | 11.5     | 1470       | 3.71       | 36.36     | IE4         | 40          | S1   | 1000             | 0.0476                          | 87             |

**Motor Load Data**

| Load Point   |       | NL   | 1/4FL | 1/2FL | 3/4FL | FL   | 5/4FL |
|--------------|-------|------|-------|-------|-------|------|-------|
| Current      | A     | 5.5  | 5.9   | 7.6   | 9.2   | 11.5 |       |
| Torque       | Nm    | 0.0  | 8.9   | 18.0  | 27.1  | 36.4 |       |
| Speed        | r/min | 1500 | 1493  | 1486  | 1478  | 1470 |       |
| Efficiency   | %     | 0.0  | 86.7  | 91.1  | 91.9  | 91.9 |       |
| Power Factor | %     | 5.2  | 39.4  | 59.0  | 72.0  | 79.0 |       |

**Performance vs Load Chart**

**Motor Speed Torque Data**

| Load Point |       | LR   | P-Up | BD   | Rated | NL   |
|------------|-------|------|------|------|-------|------|
| Speed      | r/min | 0    | 300  | 1279 | 1470  | 1500 |
| Current    | A     | 79.4 | 71.5 | 44.0 | 11.5  | 5.5  |
| Torque     | pu    | 2.5  | 2.1  | 3.1  | 1     | 0    |

**Starting Characteristics Chart**

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

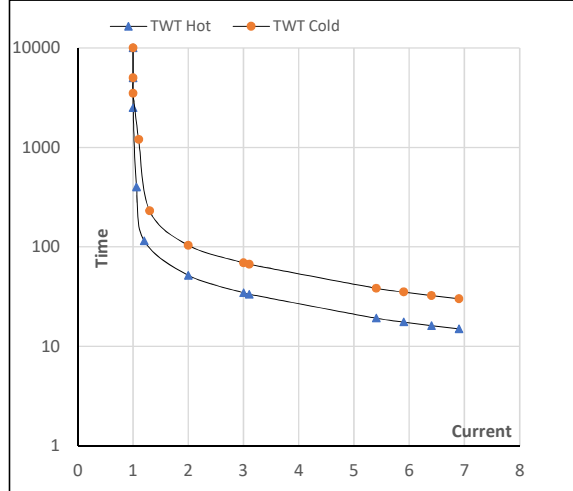
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| Enclosure | U<br>(V) | $\Delta$ / Y<br>Conn | f<br>[Hz] | P<br>[kW] | P<br>[hp] | I<br>[A] | n<br>[rpm] | T<br>[kgm] | T<br>[Nm] | IE<br>Class | Amb<br>[°C] | Duty | Elevation<br>[m] | Inertia<br>[kg-m <sup>2</sup> ] | Weight<br>[kg] |
|-----------|----------|----------------------|-----------|-----------|-----------|----------|------------|------------|-----------|-------------|-------------|------|------------------|---------------------------------|----------------|
| TEFC      | 380      | Y                    | 50        | 5.5       | 7.5       | 11.5     | 1470       | 3.71       | 36.36     | IE4         | 40          | S1   | 1000             | 0.0476                          | 87             |

**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 | 52             | 35             | 30             | 25             | 18             | 15  |
| TWT Cold | s  | 10000 | 104            | 69             | 60             | 45             | 35             | 30  |
| Current  | pu | 1     | 2              | 3              | 4              | 5              | 5.5            | 6.9 |
|          |    |       |                |                |                |                |                |     |

**Thermal Characteristics Chart**

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

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