

PRODUCT INFORMATION PACKET

Model No: TCAP751A3111GACD01
Catalog No: TCAP751A3111GACD01

0.75 kW General Purpose Low Voltage IEC Motor, 3 phase, 3000 RPM, 415 V, 80M Frame, TEFC
Cast Iron IE3 Efficiency Motors





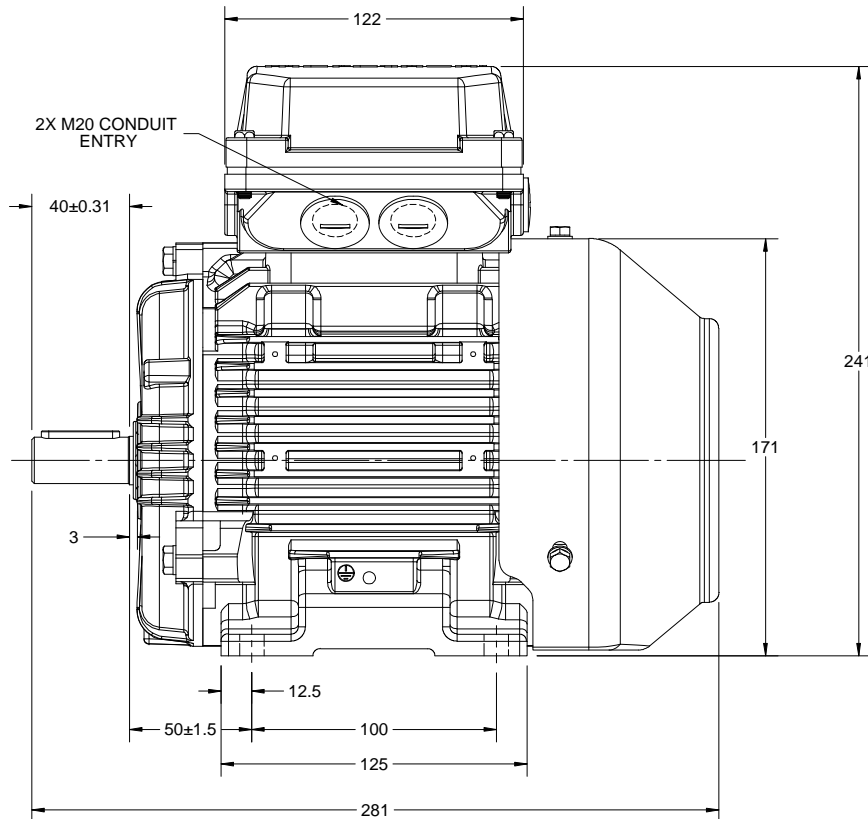
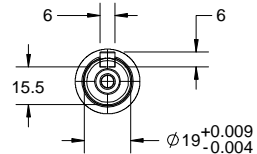
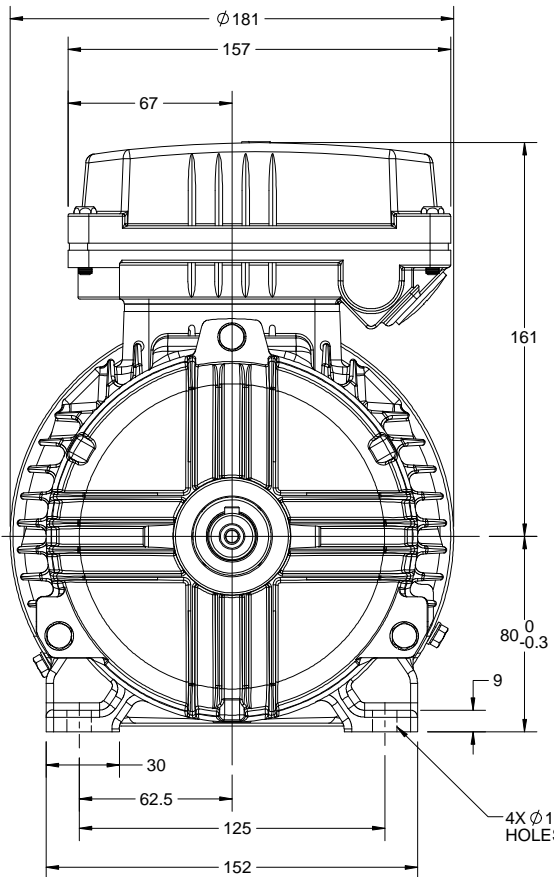
Nameplate Specifications

| | | | |
|----------------------------|--------|------------------------|-----------------------------|
| Output HP | 1 Hp | Output KW | 0.75 kW |
| Frequency | 50 Hz | Voltage | 415 V |
| Current | 1.6 A | Speed | 2881 rpm |
| Service Factor | 1 | Phase | 3 |
| Efficiency | 80.7 % | Power Factor | 0.82 |
| Duty | S1 | Insulation Class | F |
| Frame | 80M | Enclosure | Totally Enclosed Fan Cooled |
| Ambient Temperature | 50 °C | Drive End Bearing Size | 6204 |
| Opp Drive End Bearing Size | 6204 | UL | No |
| CSA | No | CE | Yes |
| IP Code | 55 | | |

Technical Specifications

| | | | |
|-----------------------|---------------|-----------------------|----------------|
| Electrical Type | Squirrel Cage | Starting Method | Direct On Line |
| Poles | 2 | 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 | 281 mm | Frame Length | 140 mm |
| Shaft Diameter | 19 mm | Shaft Extension | 40 mm |
| Assembly/Box Mounting | Top | | |
| Connection Drawing | 8442000085 | Outline Drawing | 0208000179 |

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| | | |
|---|------------------------|--------------------|
| DRAWING REVISION C | REVISION BY S.MUDDA | DATE 20/06/2018 |
| ECO ECO-0147359 | APPROVED BY JAY | DATE 20/06/2018 |
| ECO DESCRIPTION OUTLINE UPDATED AS PER THE NEW 3D STRUCTURING | | |
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| | |
|-------------------------------------|--|
| DRAWN BY SMAR | marathon Motors |
| DATE 21/06/2013 | |
| APPROVED BY JAY | DESCRIPTION OUTLINE 80 FR- B3 MTG. MOTOR TYPE TCA/QCA |
| DATE 30/08/2013 | MATERIAL |
| REFERENCE | PROCESS/FINISH |
| THIRD ANGLE PROJECTION | SIZE B |
| DRAWING NUMBER 0208000179 | SHEET 1 OF 1 |

Model No. TCAP751A3111GACD01

| U (V) | Δ / Y Conn | f (Hz) | P | | I | | n [RPM] | T [Nm] | IE Class | % EFF at __ load | | | | PF at __ load | | | I _L /I _N [pu] | T _M /T _N [pu] | T _L /T _N [pu] |
|----------|---------------|-----------|------|------|-----|------|------------|-----------|-------------|------------------|------|-------|-------|---------------|-------|-------|--|--|--|
| | | | [kW] | [hp] | [A] | [hp] | | | | 5/4FL | FL | 3/4FL | 1/2FL | FL | 3/4FL | 1/2FL | | | |
| 415 | Y | 50 | 0.75 | 1.0 | 1.6 | 2881 | 2.47 | | IE3 | - | 80.7 | 80.7 | 75.8 | 0.82 | 0.75 | 0.61 | 6.5 | 3.1 | 3.4 |
| | | | | | | | | | | | | | | | | | | | |

| | | | |
|----------------------------------|----------------------------|---|--|
| Motor type | TCA | Degree of protection | IP 55 |
| Enclosure | TEFC | Mounting type | IM B3 |
| Frame Material | Cast Iron | Cooling method | IC 411 |
| Frame size | 80M | Motor weight - approx. | 18.5 kg |
| Duty | S1 | Gross weight - approx. | 19.5 kg |
| Voltage variation * | ± 10% | Motor inertia | 0.0013 kgm ² |
| 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) | 56 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) | 7/15 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 bearing | Accessory - 3 | - |
| DE / NDE bearing | 6204-2Z / 6204-2Z | Terminal box position | TOP |
| Lubrication method | Greased for life | Maximum cable size/conduit size | 1R x 3C x 10mm ² /2 x M20 x 1.5 |
| Type of grease | NA | Auxiliary terminal box | NA |

I_L/I_N - Locked Rotor Current / Rated Current

T_M/T_N - Breakdown Torque / Rated Torque

T_L/T_N - 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 |
|----------------------|--------|-------|-----------------|--------|--------|------------|
| | - | - | IS 12615 : 2018 | - | - | - |

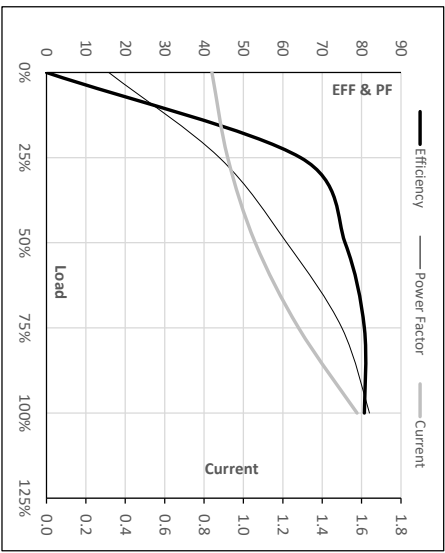
Model No. TCAP751A3111GACD01

| Enclosure | U [V] | Δ /Y Conn | f [Hz] | P [kW] | P [hp] | I [A] | n [RPM] | T [kgm] | T [Nm] | IE Class | Amb Temp [°C] | Duty | Elevation [m] | Inertia [kg·m ²] | Weight [kg] |
|-----------|-------|------------------|--------|--------|--------|-------|---------|---------|--------|----------|---------------|------|---------------|------------------------------|-------------|
| TFC | 415 | Y | 50 | 0.75 | 1.0 | 1.6 | 2881 | 0.25 | 2.47 | IE3 | 50 | S1 | 1000 | 0.0013 | 18.5 |

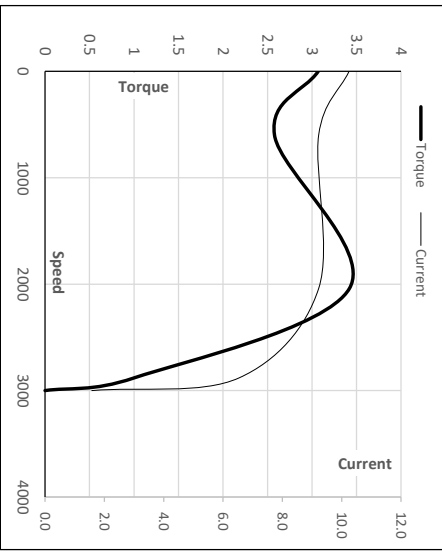
Motor Load Data

| Load Point | NL | 1/4FL | 1/2FL | 3/4FL | FL | 5/4FL |
|--------------|-------|-------|-------|-------|------|-------|
| Current | A | 0.8 | 0.9 | 1.1 | 1.3 | 1.6 |
| Torque | Nm | 0.0 | 0.8 | 1.6 | 2.5 | 2.5 |
| Speed | r/min | 3000 | 2969 | 2943 | 2914 | 2881 |
| Efficiency | % | 0.0 | 64.5 | 75.8 | 80.7 | 80.7 |
| Power Factor | % | 15.8 | 43.9 | 61.0 | 75.0 | 82.0 |

Performance vs Load Chart



Starting Characteristics Chart



Motor Speed Torque Data

| Load Point | LR | P-Up | BD | Rated | NL | |
|------------|-------|------|-----|-------|------|------|
| Speed | r/min | 0 | 600 | 2041 | 2881 | 3000 |
| Current | A | 10.2 | 9.2 | 6.5 | 1.6 | 0.8 |
| Torque | pu | 3.1 | 2.6 | 3.4 | 1 | 0 |

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

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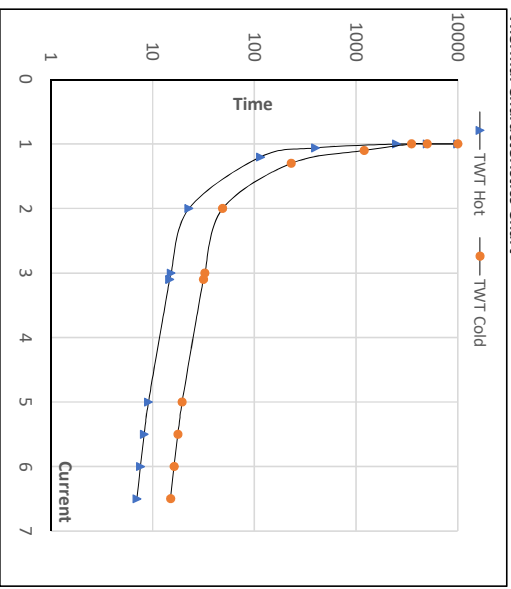
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|-----------|-----|-------|----|------|------|-----|-------|-------|------|-------|------|------|-----------|----------------------|--------|
| Enclosure | U | Δ / Y | f | P | P | I | n | T | T | IE | Amb | Duty | Elevation | Inertia | Weight |
| (V) | 415 | Y | 50 | [kW] | [hp] | [A] | [rpm] | [kgm] | [Nm] | Class | [°C] | S1 | [m] | [kg·m ²] | [kg] |
| TEFC | | | | 0.75 | 1.0 | 1.6 | 2881 | 0.25 | 2.47 | IE3 | 50 | | 1000 | 0.0013 | 18.5 |

Motor Speed Torque Data

| Load | FL | I ₁ | I ₂ | I ₃ | I ₄ | I ₅ | LR |
|----------|----|----------------|----------------|----------------|----------------|----------------|-----|
| TWT Hot | s | 10000 | 23 | 15 | 12 | 9 | 8 |
| TWT Cold | s | 10000 | 49 | 33 | 25 | 20 | 18 |
| Current | pu | 1 | 2 | 3 | 4 | 5 | 5.5 |
| | | | | | | | 6.5 |

Thermal Characteristics Chart



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

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