

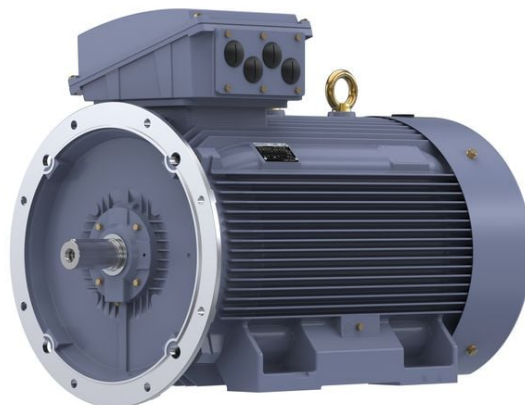
PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA3152AF131GAC010

Catalog No: TCA3152AF131GAC010

TerraMAX® Cast Iron Motor, 425 HP, 3 Ph, 50 Hz, 380 V, 1500 RPM, 355L Frame, TEFC



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RegalRexnord

Nameplate Specifications

| | | | |
|------------------------|---------------|----------------------------|-----------------------------|
| Output HP | 425 Hp | Output KW | 315.0 kW |
| Frequency | 50 Hz | Voltage | 380 V |
| Current | 553.9 A | Speed | 1489 rpm |
| Service Factor | 1 | Phase | 3 |
| Efficiency | 96 % | Power Factor | 0.9 |
| Duty | S1 | Insulation Class | F |
| Frame | 355L | Enclosure | Totally Enclosed Fan Cooled |
| Thermal Protection | No Protection | Ambient Temperature | 40 °C |
| Drive End Bearing Size | 6322 | Opp Drive End Bearing Size | 6322 |
| UL | No | CSA | No |
| CE | Yes | IP Code | 55 |
| Number of Speeds | 1 | Efficiency Class | IE3 |

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 | 1542 mm | Frame Length | 1010 mm |
| Shaft Diameter | 95 mm | Shaft Extension | 170 mm |
| Assembly/Box Mounting | Top | | |
| Outline Drawing | 0235501830 | Connection Drawing | 8442000085 |

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DRAWING REVISION

A

REVISION BY

SN

DATE

13/01/2017

ECO
ECO-0116390

APPROVED BY
SBD

DATE

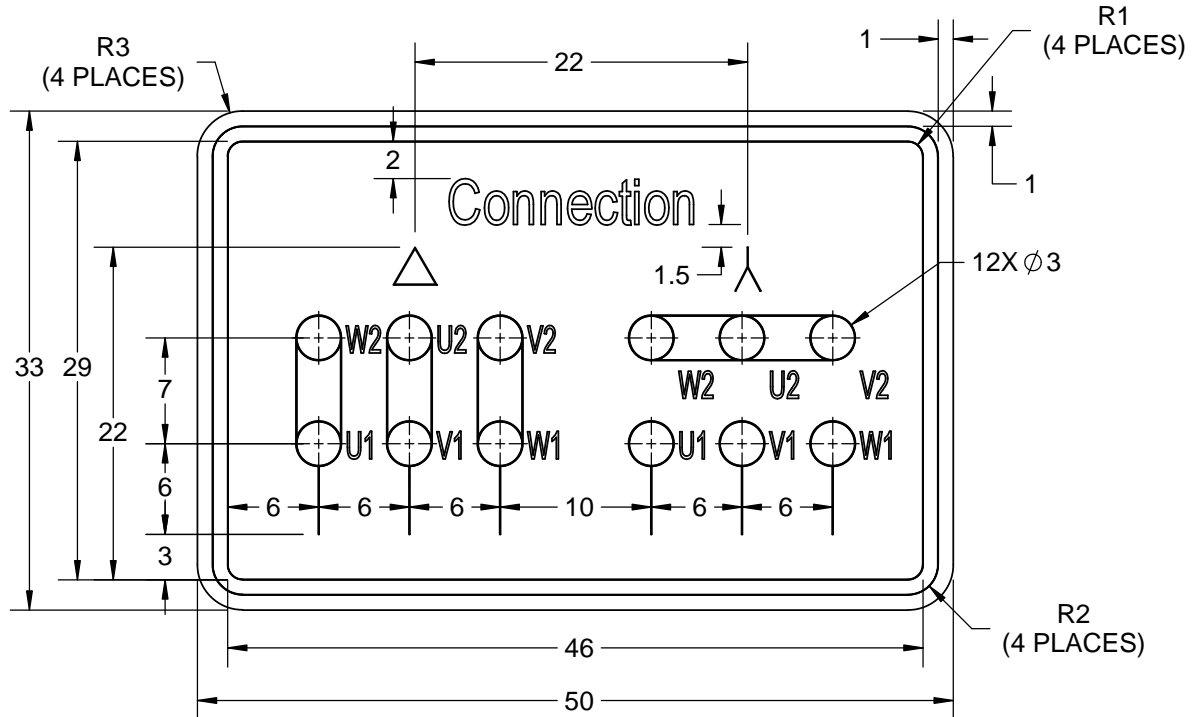
13/01/2017

ECO DESCRIPTION

NEW DRAWING RELEASE

GEOMETRIC TOLERANCE

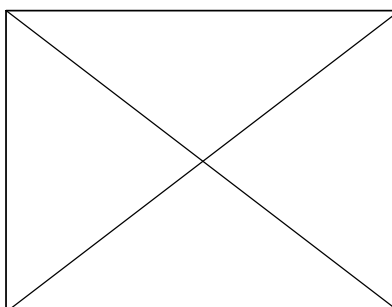
| | | |
|------------|---------|------|
| LINEAR DIM | >0~6 | ±0.1 |
| | >6~30 | ±0.2 |
| | >30~120 | ±0.3 |



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.

8WD.442.2017



DRAWN BY
SN
DATE
16/12/2016
APPROVED BY
SBD
DATE
16/12/2016
REFERENCE
THIRD ANGLE
PROJECTION

REGALTM Regal Beloit America, Inc.
DESCRIPTION
CONN DIAGRAM-NAMEPLATE
MATERIAL
PROCESS/FINISH
SIZE
A
DRAWING NUMBER
8442000085
SHEET
1 OF 1

Model No. TCA3152AF131GAC010

| U (V) | Δ / Y Conn | f [Hz] | P [kW] | P [hp] | I [A] | n [RPM] | T [Nm] | IE Class | % EFF at __ load | | | | PF at __ load | | | I _A /I _N [pu] | T _A /T _N [pu] | T _K /T _N [pu] |
|----------|---------------|-----------|-----------|-----------|----------|------------|-----------|-------------|------------------|----|-------|-------|---------------|-------|-------|--|--|--|
| 380 | Δ | 50 | 315 | 425 | 553.93 | 1489 | 2032.4 | IE3 | 5/4FL | FL | 3/4FL | 1/2FL | FL | 3/4FL | 1/2FL | 6.2 | 1.8 | 2.3 |
| | | | | | | | | | | | | | | | | | | |

| | | | |
|----------------------------------|-----------------------------|---|---|
| Motor type | TCA | Degree of protection | IP 55 |
| Enclosure | TEFC | Mounting type | IM B35 |
| Frame Material | Cast Iron | Cooling method | IC 411 |
| Frame size | 355L | Motor weight - approx. | 1948 kg |
| Duty | S1 | Gross weight - approx. | 1993 kg |
| Voltage variation * | ± 10% | Motor inertia | 10.1755 kgm ² |
| 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) | 82 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 | 6322 C3 / 6322 C3 | Terminal box position | TOP |
| Lubrication method | Regreasable | Maximum cable size/conduit size | 1R x 3C x 300mm ² /4 x M63 x 1.5 |
| Type of grease | CHEVRON SRI-2 or Equivalent | Auxiliary terminal box | NA |

 I_A/I_N - Locked Rotor Current / Rated Current

 T_K/T_N - Breakdown Torque / Rated Torque

 T_A/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.

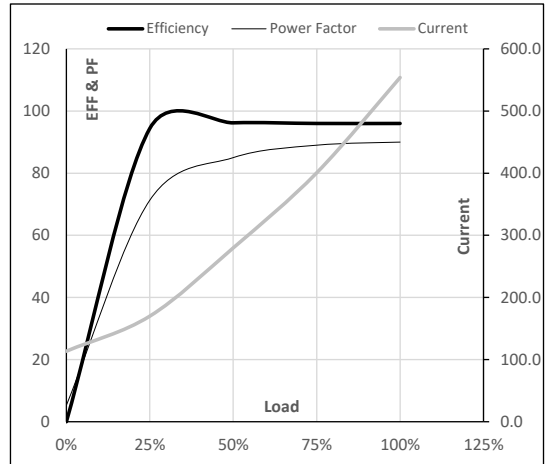
| Efficiency | Europe | China | India | Aus/Nz | Brazil | Global IEC |
|------------|--------|-----------------------|-------|--------|--------|---------------|
| Standards | - | GB 18613-2012 Grade 2 | - | - | - | IEC: 60034-30 |

Model No. TCA3152AF131GAC010

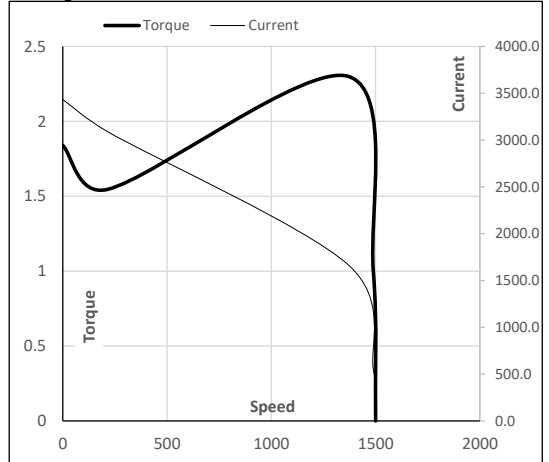
| Enclosure | U (V) | Δ / Y Conn | f [Hz] | P [kW] | P [hp] | I [A] | n [RPM] | T [kgm] | T [Nm] | IE Class | Amb [°C] | Duty | Elevation [m] | Inertia [kg-m ²] | Weight [kg] |
|-----------|----------|----------------------|-----------|-----------|-----------|----------|------------|------------|-----------|-------------|-------------|------|------------------|---------------------------------|----------------|
| TEFC | 380 | Δ | 50 | 315 | 425 | 553.9 | 1489 | 207.25 | 2032.40 | IE3 | 40 | S1 | 1000 | 10.1755 | 1948 |

Motor Load Data

| Load Point | | NL | 1/4FL | 1/2FL | 3/4FL | FL | 5/4FL |
|--------------|-------|-------|-------|--------|--------|--------|-------|
| Current | A | 113.5 | 169.9 | 279.8 | 400.5 | 553.9 | |
| Torque | Nm | 0.0 | 505.3 | 1012.3 | 1521.2 | 2032.4 | |
| Speed | r/min | 1500 | 1497 | 1495 | 1492 | 1489 | |
| Efficiency | % | 0.0 | 94.4 | 96.2 | 96.0 | 96.0 | |
| Power Factor | % | 5.3 | 71.3 | 85.0 | 89.0 | 90.0 | |

Performance vs Load Chart

Motor Speed Torque Data

| Load Point | | LR | P-Up | BD | Rated | NL |
|------------|-------|--------|--------|--------|-------|-------|
| Speed | r/min | 0 | 214 | 1370 | 1489 | 1500 |
| Current | A | 3434.3 | 3090.9 | 1665.7 | 553.9 | 113.5 |
| Torque | pu | 1.8 | 1.5 | 2.3 | 1 | 0 |

Starting Characteristics Chart

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

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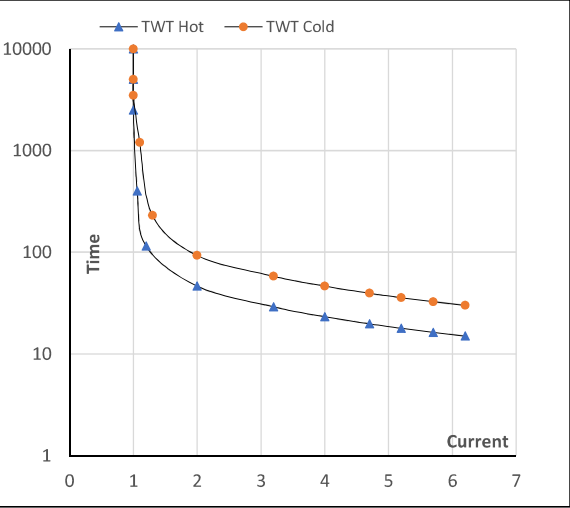
Model No. TCA3152AF131GAC010

| Enclosure | U (V) | Δ / Y Conn | f [Hz] | P [kW] | P [hp] | I [A] | n [rpm] | T [kgm] | T [Nm] | IE Class | Amb [°C] | Duty | Elevation [m] | Inertia [kg-m²] | Weight [kg] |
|-----------|----------|---------------|-----------|-----------|-----------|----------|------------|------------|-----------|-------------|-------------|------|------------------|--------------------|----------------|
| TEFC | 380 | Δ | 50 | 315 | 425.0 | 553.9 | 1489 | 207.25 | 2032.40 | IE3 | 40 | S1 | 1000 | 10.1755 | 1948 |

Motor Speed Torque Data

| Load | FL | I ₁ | I ₂ | I ₃ | I ₄ | I ₅ | LR |
|----------|---------|----------------|----------------|----------------|----------------|----------------|-----|
| TWT Hot | s 10000 | 47 | 33 | 23 | 18 | 17 | 15 |
| TWT Cold | s 10000 | 93 | 65 | 47 | 37 | 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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