

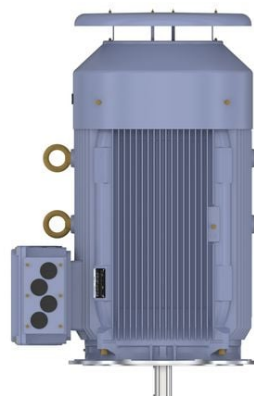
PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA3552A3141GACD01

Catalog No: TCA3552A3141GACD01

Cast Iron Motor, 475 HP, 3 Ph, 50 Hz, 415 V, 1500 RPM, 355L Frame, TEFC



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RegalRexnord

Nameplate Specifications

| | | | |
|------------------------|----------------------|----------------------------|------------------------------------|
| Output HP | 475 Hp | Output KW | 355.0 kW |
| Frequency | 50 Hz | Voltage | 415 V |
| Current | 571.6 A | Speed | 1491 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 | 50 °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 | V1 | Motor Orientation | Shaftdown |
| Drive End Bearing | C3 | Opp Drive End Bearing | C3 |
| Frame Material | Cast Iron | Shaft Type | Keyed |
| Overall Length | 1677 mm | Frame Length | 1010 mm |
| Shaft Diameter | 95 mm | Shaft Extension | 170 mm |
| Assembly/Box Mounting | Top | | |
| Outline Drawing | 0235501832 | 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 | | Regal Beloit America, Inc. | | | | |
| | DATE 16/12/2016 | | | | | | |
| | APPROVED BY SBD | | DESCRIPTION CONN DIAGRAM-NAMEPLATE | | | | |
| | DATE 16/12/2016 | | | | | | |
| | REFERENCE | | MATERIAL | | PROCESS/FINISH | | |
| | THIRD ANGLE PROJECTION | | SIZE A | | DRAWING NUMBER 8442000085 | | SHEET 1 OF 1 |

Model No. TCA3552A3141GACD01

| 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] |
|----------|---------------|-----------|-----------|-----------|----------|------------|-----------|-------------|------------------|------|-------|-------|---------------|-------|-------|--|--|--|
| 415 | Δ | 50 | 355 | 475 | 571.6 | 1491 | 2269.02 | IE3 | 5/4FL | FL | 3/4FL | 1/2FL | FL | 3/4FL | 1/2FL | 7.7 | 2.3 | 2.7 |
| | | | | | | | | | - | 96.0 | 96.0 | 96.3 | 0.90 | 0.87 | 0.80 | | | |
| | | | | | | | | | | | | | | | | | | |

| | |
|----------------------------------|-----------------------------------|
| Motor type | TCA |
| Enclosure | TEFC |
| Frame Material | Cast Iron |
| Frame size | 355L |
| Duty | S1 |
| Voltage variation * | ± 10% |
| Frequency variation * | ± 5% |
| Combined variation * | 10% |
| Design | N |
| Service factor | 1.0 |
| Insulation class | F |
| Ambient temperature | -20 to +50 °C |
| Temperature rise (by resistance) | 70 [Class B] K |
| Altitude above sea level | 1000 meter |
| Hazardous area classification | NA |
| Zone classification | NA |
| Gas group | NA |
| Temperature class | NA |
| Rotor type | Aluminum Die cast |
| Bearing type | Anti-friction ball bearing |
| DE / NDE bearing | 6322 C3 / 6322 C3 |
| Lubrication method | Regreasable |
| Type of grease | Shell Gadus S5 V100 or Equivalent |

| | |
|---|---|
| Degree of protection | IP 55 |
| Mounting type | IM V1 |
| Cooling method | IC 411 |
| Motor weight - approx. | 2022 kg |
| Gross weight - approx. | 2067 kg |
| Motor inertia | 11.3302 kgm ² |
| Load inertia | Customer to Provide |
| Vibration level | 2.8 mm/s |
| Noise level (1meter distance from motor) | 82 dB(A) |
| No. of starts hot/cold/Equally spread | 2/3/4 |
| Starting method | DOL |
| Type of coupling | Direct |
| LR withstand time (hot/cold) | 15/30 s |
| Direction of rotation | Bi-directional |
| Standard rotation | Clockwise form DE |
| Paint shade | RAL 5014 |
| Accessories | |
| Accessory - 1 | - |
| Accessory - 2 | - |
| Accessory - 3 | - |
| Terminal box position | TOP |
| Maximum cable size/conduit size | 1R x 3C x 300mm ² /4 x M63 x 1.5 |
| 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 combined 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 | - | - | IS 12615 : 2018 | - | - | - |

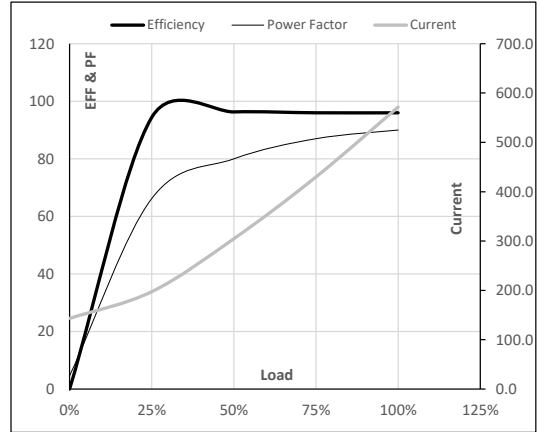
Model No. TCA3552A3141GACD01

| 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 | 415 | Δ | 50 | 355 | 475 | 571.6 | 1491 | 231.38 | 2269.02 | IE3 | 50 | S1 | 1000 | 11.3302 | 2022 |

Motor Load Data

| Load Point | | NL | 1/4FL | 1/2FL | 3/4FL | FL | 5/4FL |
|--------------|-------|-------|-------|--------|--------|--------|-------|
| Current | A | 143.1 | 197.4 | 304.7 | 430.0 | 571.6 | |
| Torque | Nm | 0.0 | 564.6 | 1130.8 | 1698.9 | 2269.0 | |
| Speed | r/min | 1500 | 1498 | 1496 | 1493 | 1491 | |
| Efficiency | % | 0.0 | 94.4 | 96.3 | 96.0 | 96.0 | |
| Power Factor | % | 4.6 | 66.2 | 80.0 | 87.0 | 90.0 | |

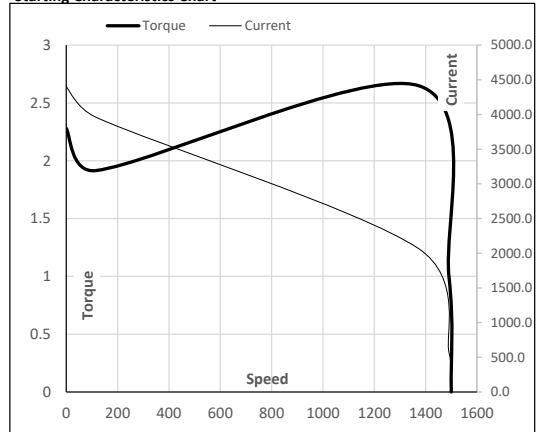
Performance vs Load Chart



Motor Speed Torque Data

| Load Point | | LR | P-Up | BD | Rated | NL |
|------------|-------|--------|--------|--------|-------|-------|
| Speed | r/min | 0 | 115 | 1372 | 1491 | 1500 |
| Current | A | 4401.6 | 3961.4 | 2070.3 | 571.6 | 143.1 |
| Torque | pu | 2.3 | 1.9 | 2.7 | 1 | 0 |

Starting Characteristics Chart



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

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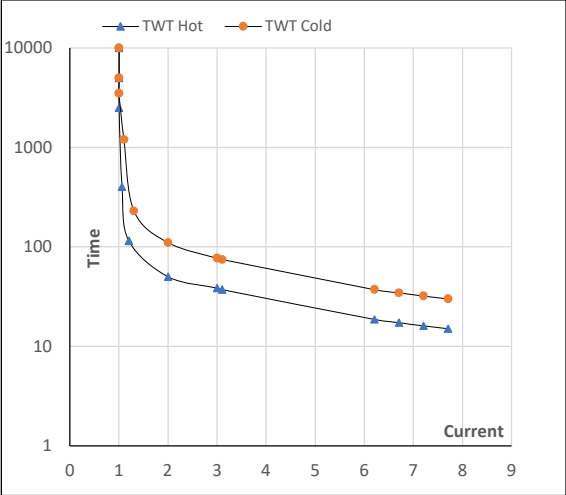
Model No. TCA3552A3141GACD01

| 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 | 415 | Δ | 50 | 355 | 475 | 571.6 | 1491 | 231.38 | 2269.02 | IE3 | 50 | S1 | 1000 | 11.3302 | 2022 |

Motor Speed Torque Data

| Load | | FL | I_1 | I_2 | I_3 | I_4 | I_5 | LR |
|----------|----|-------|-------|-------|-------|-------|-------|-----|
| TWT Hot | s | 10000 | 50 | 39 | 30 | 26 | 22 | 15 |
| TWT Cold | s | 10000 | 110 | 77 | 60 | 50 | 40 | 30 |
| Current | pu | 1 | 2 | 3 | 4 | 5 | 6 | 7.7 |

Thermal Characteristics Chart



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

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