

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA0903A3113GAAD01

Catalog No: SCA0903A3113GAAD01

TerraMAX® Cast Iron Motor, 120 HP, 3 Ph, 50 Hz, 415 V, 1000 RPM, 315M Frame, TEFC



Regal and Marathon are trademarks of Regal Rexnord Corporation or one of its affiliated companies.
©2022 Regal Rexnord Corporation, All Rights Reserved. MC017097E

RegalRexnord

Nameplate Specifications

| | | | |
|------------------------|---------------|----------------------------|-----------------------------|
| Output HP | 120 Hp | Output KW | 90.0 kW |
| Frequency | 50 Hz | Voltage | 415 V |
| Current | 160.5 A | Speed | 990 rpm |
| Service Factor | 1 | Phase | 3 |
| Efficiency | 94 % | Power Factor | 0.83 |
| Duty | S1 | Insulation Class | F |
| Frame | 315M | Enclosure | Totally Enclosed Fan Cooled |
| Thermal Protection | No Protection | Ambient Temperature | 50 °C |
| Drive End Bearing Size | 6319 | Opp Drive End Bearing Size | 6319 |
| UL | No | CSA | No |
| CE | Yes | IP Code | 55 |
| Number of Speeds | 1 | Efficiency Class | IE2 |

Technical Specifications

| | | | |
|-----------------------|---------------|-----------------------|----------------|
| Electrical Type | Squirrel Cage | Starting Method | Direct On Line |
| Poles | 6 | Rotation | Bi-Directional |
| Mounting | B3 | Motor Orientation | Horizontal |
| Drive End Bearing | C3 | Opp Drive End Bearing | C3 |
| Frame Material | Cast Iron | Shaft Type | Keyed |
| Overall Length | 1206 mm | Frame Length | 729 mm |
| Shaft Diameter | 80 mm | Shaft Extension | 170 mm |
| Assembly/Box Mounting | SIDE | | |
| Outline Drawing | 0231501362 | Connection Drawing | 8442000085 |

This is an uncontrolled document once printed or downloaded and is subject to change without notice. Date Created:12/01/2022

4

3

2

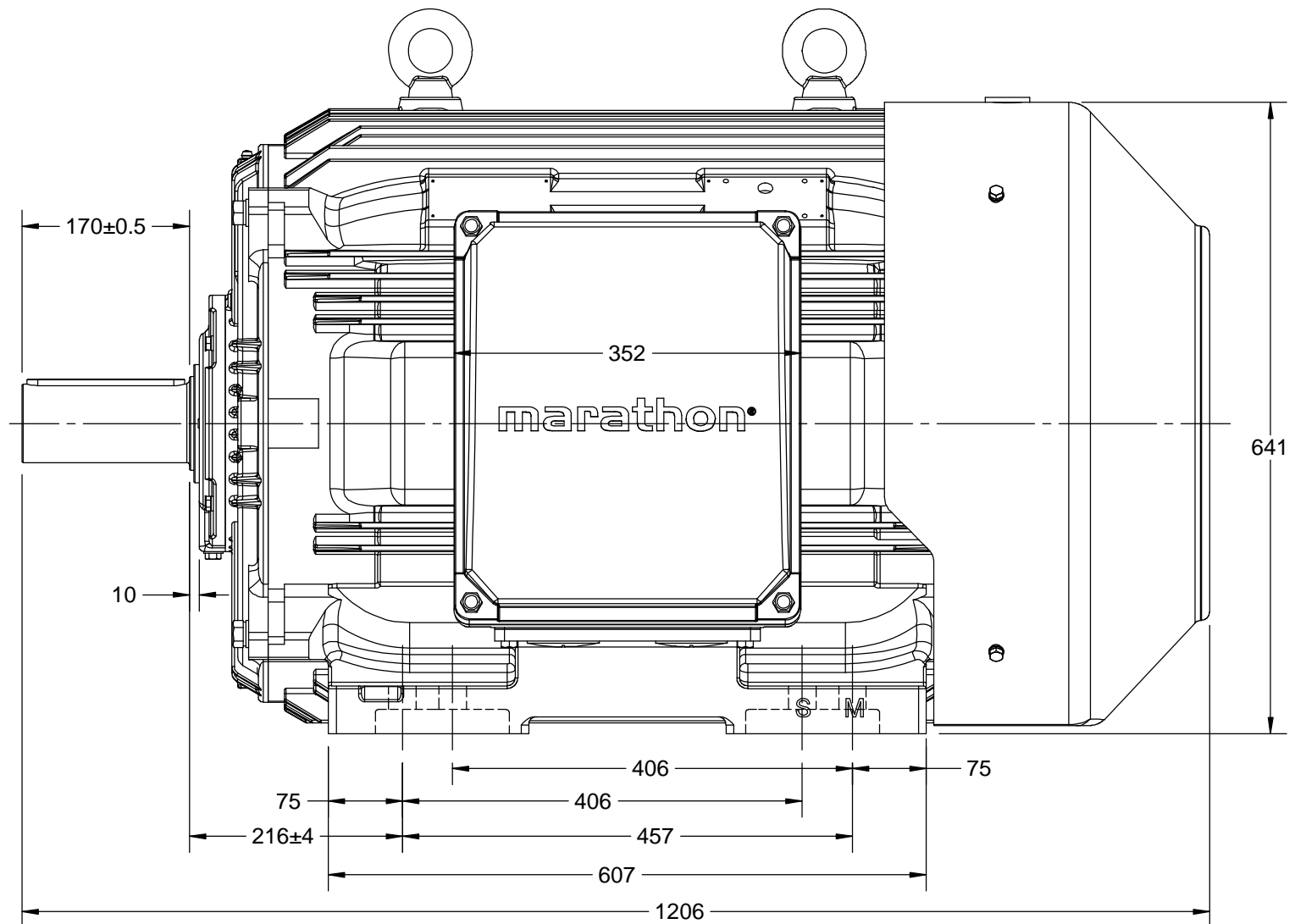
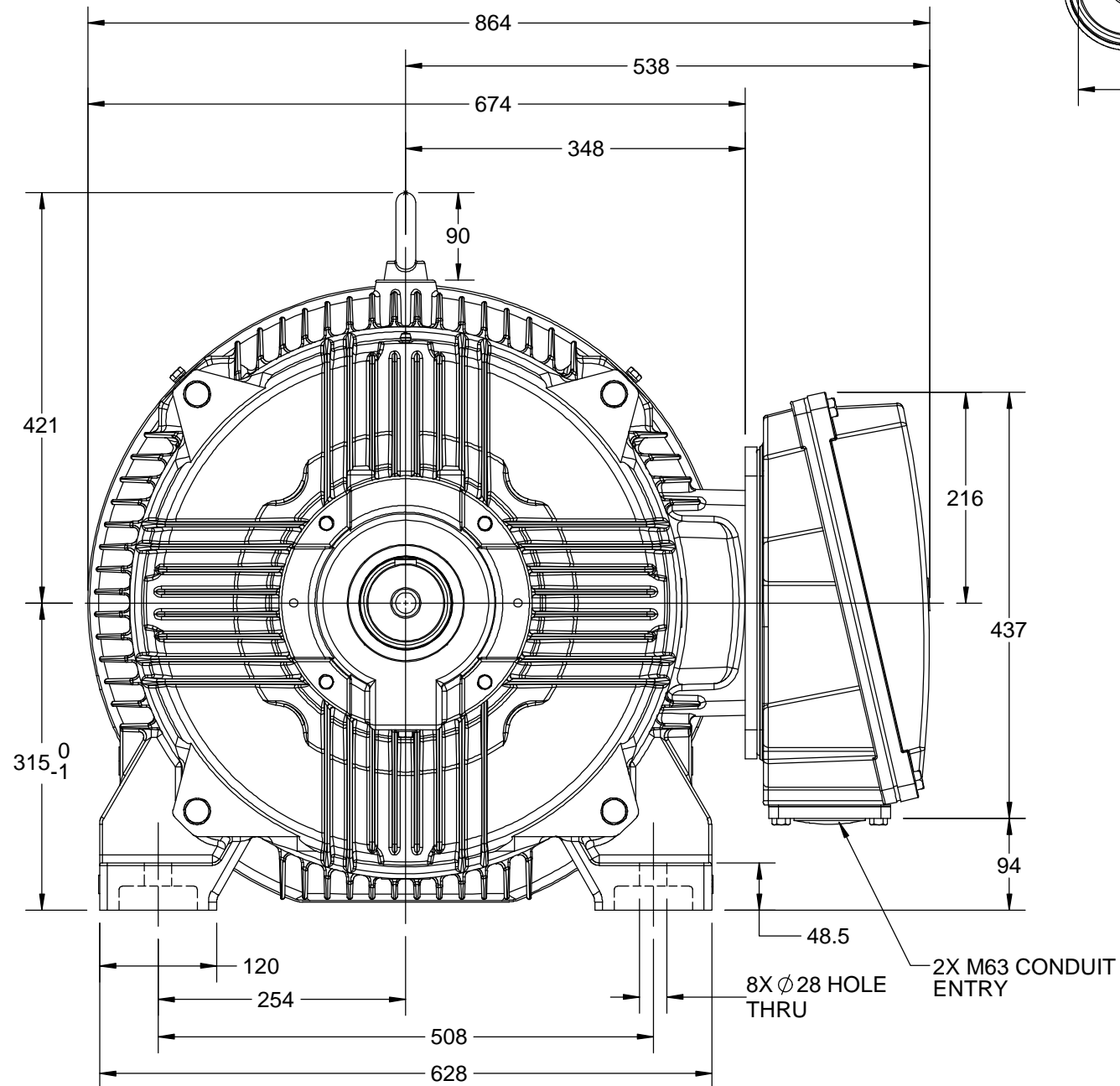
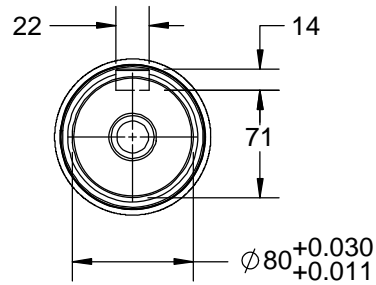
1

B

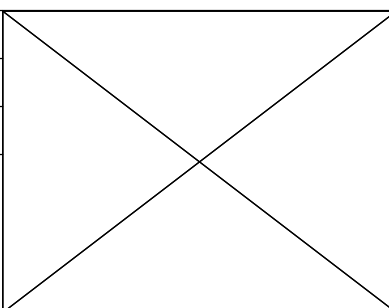
B

A

A



| | | |
|--|--------------------|--------------------|
| DRAWING REVISION C | REVISION BY LK | DATE 05/08/2020 |
| ECO ECO-0190270 | APPROVED BY JAY | DATE 05/08/2020 |
| ECO DESCRIPTION MODEL UPDATED | | |
| COPYRIGHT REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF REGAL BELOIT AMERICA, INC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED, BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS. | | |



| | | | |
|---------------------------|----------------------------|------------------------------|-----------------|
| DRAWN BY SKM | marathon™ Motors | | |
| DATE 08/11/2017 | | | |
| APPROVED BY JAY | DESCRIPTION OUTLINE | | |
| DATE 08/11/2017 | 315S/M 4~8P-B3-RHS TB | | |
| REFERENCE | MATERIAL | PROCESS/FINISH | |
| THIRD ANGLE PROJECTION | SIZE B | DRAWING NUMBER 0231501362 | SHEET 1 OF 1 |

4

3

2

1

COPYRIGHT REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. UNCONTROLLED COPY
 PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF
 REGAL BELOIT AMERICA, INC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY
 INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED,
 BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED
 TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT
 AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL
 BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN
 RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS.

| | | |
|---|---------------------------|---------------------------|
| 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 | | |

Model No. SCA0903A3113GAAD01

| 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 | 90 | 120 | 160.5 | 990 | 863.39 | IE2 | 5/4FL | FL | 3/4FL | 1/2FL | FL | 3/4FL | 1/2FL | 4.8 | 1.5 | 2.0 |
| | | | | | | | | | | | | | | | | | | |

| | | | |
|----------------------------------|-----------------------------------|---|---|
| Motor type | SCA | Degree of protection | IP 55 |
| Enclosure | TEFC | Mounting type | IM B3 |
| Frame Material | Cast Iron | Cooling method | IC 411 |
| Frame size | 315M | Motor weight - approx. | 884 kg |
| Duty | S1 | Gross weight - approx. | 929 kg |
| Voltage variation * | ± 10% | Motor inertia | 3.9282 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) | 66 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) | 20/40 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 | Accessory - 3 | - |
| DE / NDE bearing | 6319 C3 / 6319 C3 | Terminal box position | RHS |
| Lubrication method | Regreasable | Maximum cable size/conduit size | 1R x 3C x 240mm ² /2 x M63 x 1.5 |
| Type of grease | Shell Gadus S5 V100 or Equivalent | Auxiliary terminal box | Available on Request |

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 Standards | Europe | China | India | Aus/Nz | Brazil | Global IEC |
|----------------------|--------|-------|-----------------|--------|--------|------------|
| | - | - | IS 12615 : 2018 | - | - | - |

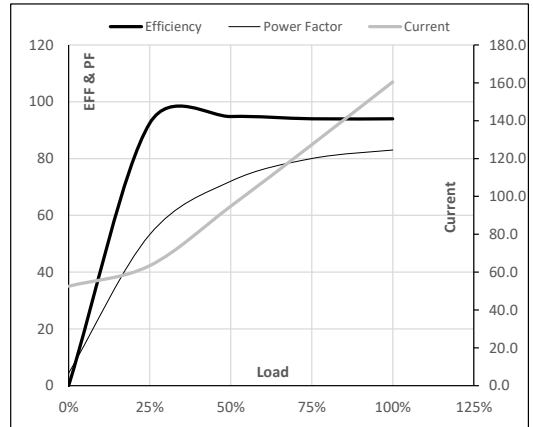
Model No. SCA0903A3113GAAD01

| 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 | 90 | 120.0 | 160.5 | 990 | 88.04 | 863.39 | IE2 | 50 | S1 | 1000 | 3.9282 | 884 |

Motor Load Data

| Load Point | | NL | 1/4FL | 1/2FL | 3/4FL | FL | 5/4FL |
|--------------|-------|------|-------|-------|-------|-------|-------|
| Current | A | 52.5 | 63.4 | 94.8 | 127.3 | 160.5 | |
| Torque | Nm | 0.0 | 214.2 | 429.6 | 646.1 | 863.4 | |
| Speed | r/min | 1000 | 997 | 995 | 992 | 990 | |
| Efficiency | % | 0.0 | 92.4 | 94.8 | 94.0 | 94.0 | |
| Power Factor | % | 4.4 | 53.2 | 72.0 | 80.0 | 83.0 | |

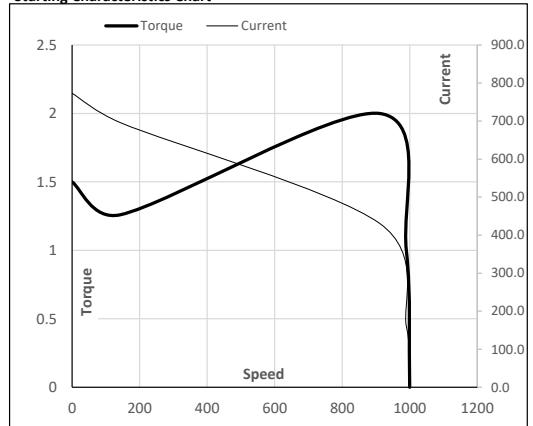
Performance vs Load Chart



Motor Speed Torque Data

| Load Point | | LR | P-Up | BD | Rated | NL |
|------------|-------|-------|-------|-------|-------|------|
| Speed | r/min | 0 | 143 | 911 | 990 | 1000 |
| Current | A | 773.3 | 695.9 | 431.0 | 160.5 | 52.5 |
| Torque | pu | 1.5 | 1.3 | 2.0 | 1 | 0 |

Starting Characteristics Chart



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

Issued By

Issued Date

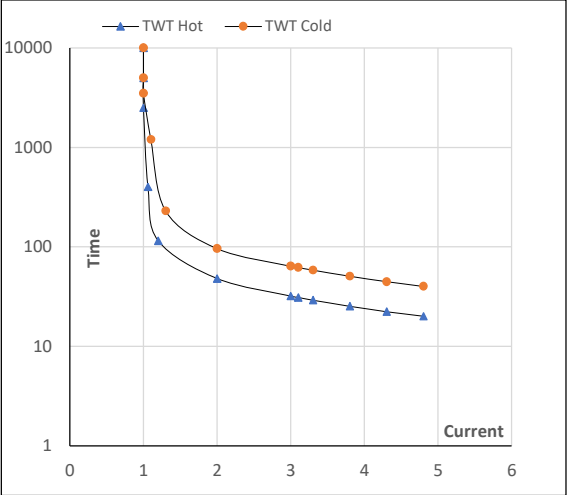
Model No. SCA0903A3113GAAD01

| 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 | 90 | 120 | 160.5 | 990 | 88.04 | 863.39 | IE2 | 50 | S1 | 1000 | 3.9282 | 884 |

Motor Speed Torque Data

| Load | FL | I_1 | I_2 | I_3 | I_4 | I_5 | LR | |
|----------|---------|-------|-------|-------|-------|-------|-----|-----|
| TWT Hot | s 10000 | 48 | 32 | 28 | 23 | 21 | 20 | |
| TWT Cold | s 10000 | 96 | 64 | 57 | 50 | 44 | 40 | |
| Current | pu | 1 | 2 | 3 | 3.5 | 4 | 4.5 | 4.8 |

Thermal Characteristics Chart



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

Issued By
Issued Date

