

PRODUCT INFORMATION PACKET

Model No: SCA7P53A1121GAA001

Catalog No: SCA7P53A1121GAA001

TerraMAX® Cast Iron Motor, 10 HP, 3 Ph, 50 Hz, 400 V, 1000 RPM, 160M Frame, TEFC





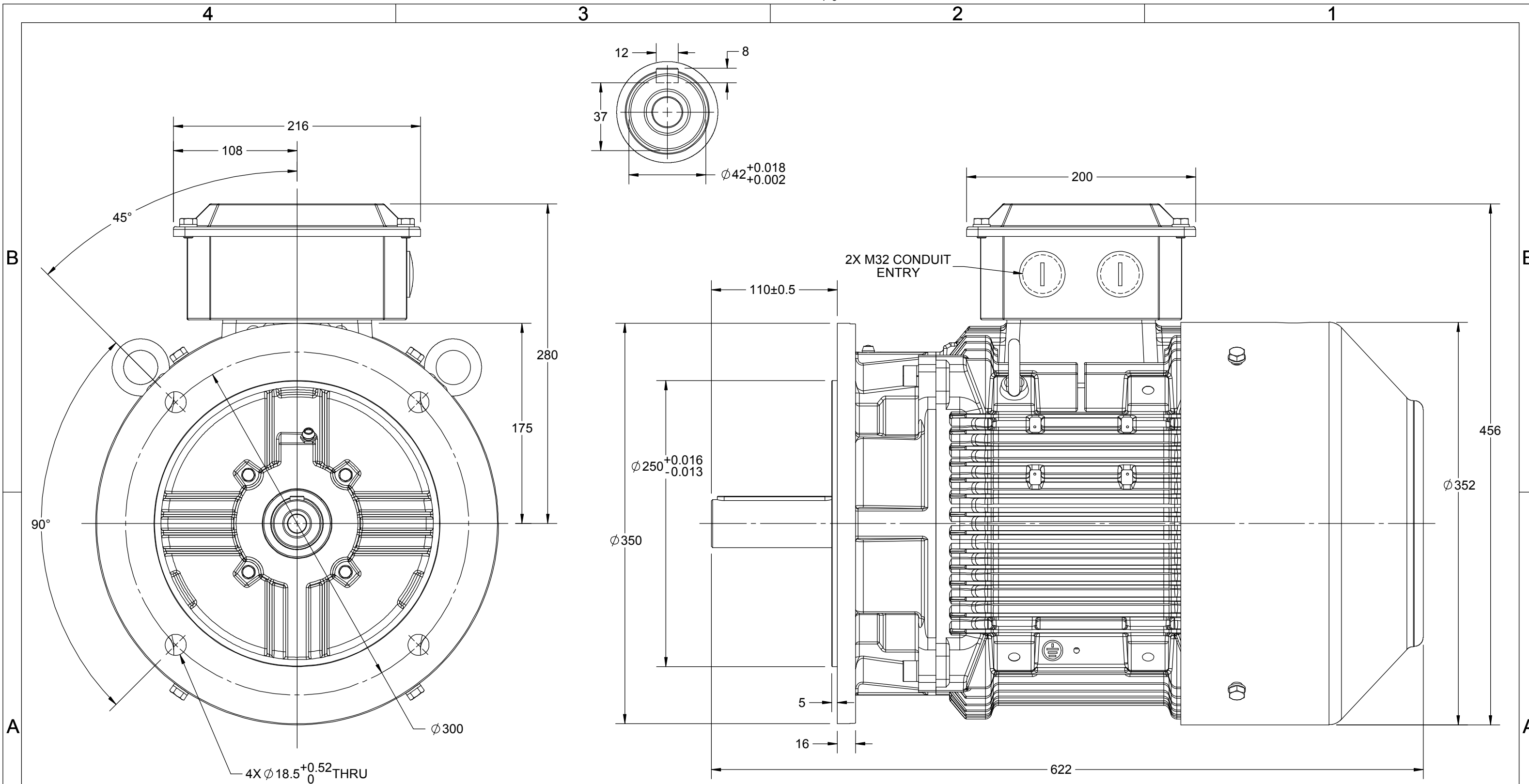
Nameplate Specifications

| | | | |
|------------------------|----------------------|----------------------------|------------------------------------|
| Output HP | 10 Hp | Output KW | 7.5 kW |
| Frequency | 50 Hz | Voltage | 400 V |
| Current | 16.1 A | Speed | 970 rpm |
| Service Factor | 1 | Phase | 3 |
| Efficiency | 87.2 % | Power Factor | 0.77 |
| Duty | S1 | Insulation Class | F |
| Frame | 160M | Enclosure | Totally Enclosed Fan Cooled |
| Thermal Protection | No Protection | Ambient Temperature | 40 °C |
| Drive End Bearing Size | 6309 | Opp Drive End Bearing Size | 6209 |
| UL | No | CSA | No |
| CE | Yes | IP Code | 55 |
| Number of Speeds | 1 | Efficiency Class | IE2 |

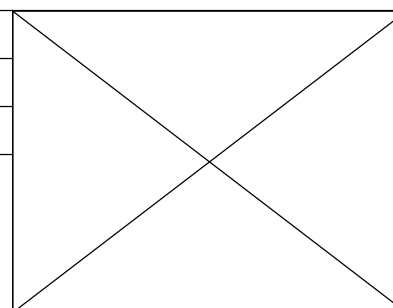
Technical Specifications

| | | | |
|-----------------------|----------------------|-----------------------|-----------------------|
| Electrical Type | Squirrel Cage | Starting Method | Direct On Line |
| Poles | 6 | Rotation | Bi-Directional |
| Mounting | B5 | Motor Orientation | Horizontal |
| Drive End Bearing | 2z-C3 | Opp Drive End Bearing | 2z-C3 |
| Frame Material | Cast Iron | Shaft Type | Keyed |
| Overall Length | 622 mm | Frame Length | 254 mm |
| Shaft Diameter | 42 mm | Shaft Extension | 110 mm |
| Assembly/Box Mounting | Top | | |
| Connection Drawing | 8442000085 | Outline Drawing | 0216000931 |

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| | | |
|---|-------------------|--------------------|
| DRAWING REVISION B | REVISION BY LK | DATE 26/06/2019 |
| ECO ECO-0169536 | APPROVED BY SR | DATE 26/06/2019 |
| ECO DESCRIPTION MODEL UPDATED AS PER NEW 3D STRUCTURE | | |
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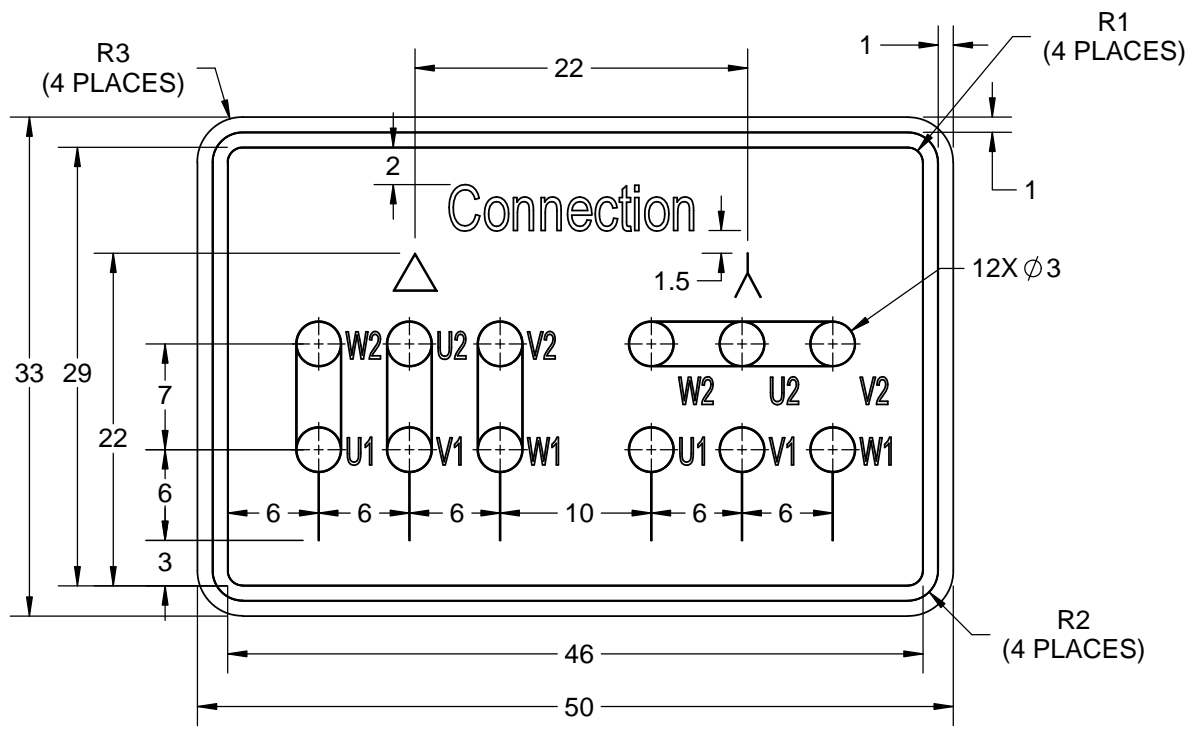


| | | |
|---------------------------|-------------------------------|------------------------------|
| DRAWN BY PRIYA | | |
| DATE 03/04/2018 | | |
| APPROVED BY JAY | DESCRIPTION OUTLINE | |
| DATE 03/04/2018 | 160M FR B5-MTG MOTOR TYPE:SCA | |
| REFERENCE | MATERIAL | PROCESS/FINISH |
| THIRD ANGLE PROJECTION | SIZE B | DRAWING NUMBER 0216000931 |
| | | SHEET 1 OF 1 |

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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. SCA7P53A1121GAA001

| U (V) | Δ / Y Conn | f [Hz] | P | | 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] |
|----------|----------------------|-----------|------|------|----------|------------|-----------|-------------|------------------|------|-------|-------|---------------|-------|-------|-------------------|-------------------|-------------------|
| | | | [kW] | [hp] | | | | | 5/4FL | FL | 3/4FL | 1/2FL | FL | 3/4FL | 1/2FL | | | |
| 400 | Δ | 50 | 7.5 | 10 | 16.1 | 970 | 73.80 | IE2 | - | 87.2 | 87.2 | 86.2 | 0.77 | 0.73 | 0.63 | 5.86134454 | 2.4 | 3.6 |
| | | | | | | | | | | | | | | | | | | |

| | | | |
|----------------------------------|--------------------|---|--|
| Motor type | SCA | Degree of protection | IP 55 |
| Enclosure | TEFC | Mounting type | IM B5 |
| Frame Material | Cast Iron | Cooling method | IC 411 |
| Frame size | 160M | Motor weight - approx. | 123 kg |
| Duty | S1 | Gross weight - approx. | 143 kg |
| Voltage variation * | $\pm 10\%$ | Motor inertia | 0.1140 kgm ² |
| Frequency variation * | $\pm 5\%$ | Load inertia | Customer to Provide |
| Combined variation * | 10% | Vibration level | 2.2 mm/s |
| Design | N | Noise level (1meter distance from motor) | 65 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) | 30/15 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 | PTC 150°C |
| Rotor type | Aluminum Die cast | Accessory - 2 | - |
| Bearing type | Anti-friction ball | Accessory - 3 | - |
| DE / NDE bearing | 6309-2Z / 6209-2Z | Terminal box position | TOP |
| Lubrication method | Greased for life | Maximum cable size/conduit size | 1R x 3C x 35mm ² /2 X M32 x 1.5 |
| Type of grease | NA | 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 IEC: 60034-30 | China - | India - | Aus/Nz AS/NZ 1359:5:2004 | Brazil - | Global IEC IEC: 60034-30 |
|----------------------|-------------------------|------------|------------|-----------------------------|-------------|-----------------------------|
| | | | | | | |

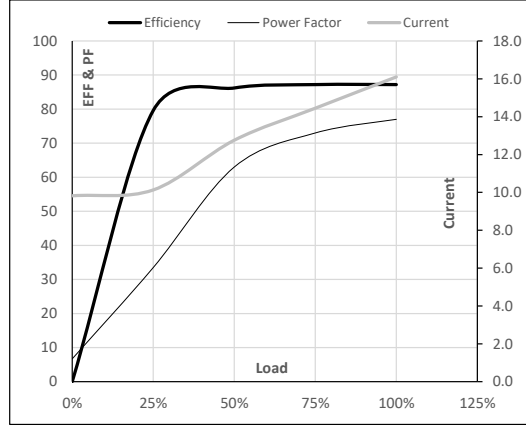
Model No. SCA7P53A1121GAA001

| 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 | 400 | Δ | 50 | 7.5 | 10 | 16.1 | 970 | 7.53 | 73.80 | IE2 | 40 | S1 | 1000 | 0.1140 | 123 |

Motor Load Data

| Load Point | | NL | 1/4FL | 1/2FL | 3/4FL | FL | 5/4FL |
|--------------|-------|------|-------|-------|-------|------|-------|
| Current | A | 9.8 | 10.1 | 12.8 | 14.4 | 16.1 | |
| Torque | Nm | 0.0 | 18.0 | 36.1 | 54.5 | 73.8 | |
| Speed | r/min | 1000 | 994 | 988 | 982 | 970 | |
| Efficiency | % | 0.0 | 79.6 | 86.2 | 87.2 | 87.2 | |
| Power Factor | % | 6.7 | 33.5 | 63.0 | 73.0 | 77.0 | |

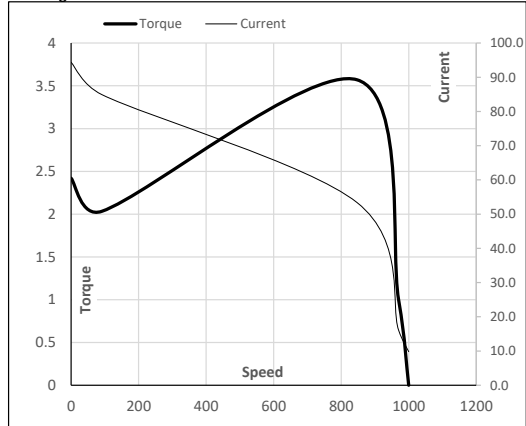
Performance vs Load Chart



Motor Speed Torque Data

| Load Point | | LR | P-Up | BD | Rated | NL |
|------------|-------|------|------|------|-------|------|
| Speed | r/min | 0 | 91 | 847 | 970 | 1000 |
| Current | A | 94.4 | 84.9 | 53.4 | 16.1 | 9.8 |
| Torque | pu | 2.4 | 2.0 | 3.6 | 1 | 0 |

Starting Characteristics Chart



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

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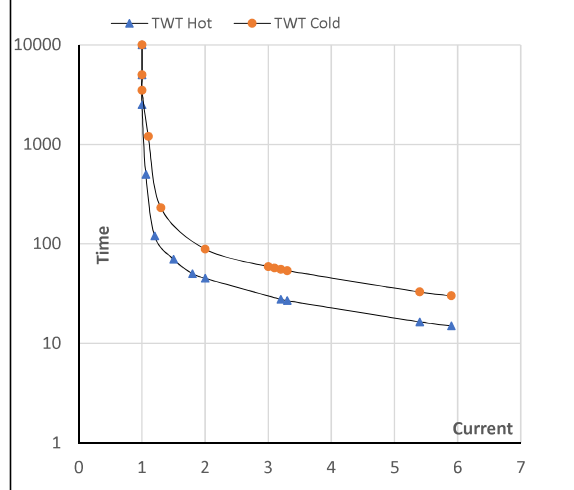
Model No. SCA7P53A1121GAA001

| | | | | | | | | | | | | | | | |
|-----------|----------|----------------------|-----------|-----------|-----------|----------|------------|------------|-----------|-------------|-------------|------|------------------|---------------------------------|----------------|
| 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 | 400 | Δ | 50 | 7.5 | 10 | 16.1 | 970 | 7.53 | 73.80 | IE2 | 40 | S1 | 1000 | 0.1140 | 123 |

Motor Speed Torque Data

| Load | FL | I ₁ | I ₂ | I ₃ | I ₄ | I ₅ | LR | |
|----------|---------|----------------|----------------|----------------|----------------|----------------|-----|-----|
| TWT Hot | s 10000 | 45 | 36 | 25 | 20 | 16 | 15 | |
| TWT Cold | s 10000 | 59 | 56 | 50 | 45 | 32 | 30 | |
| Current | pu | 1 | 2 | 3 | 4 | 5 | 5.5 | 5.9 |

Thermal Characteristics Chart



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

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