

# PRODUCT INFORMATION PACKET

Model No: SCA1322A1111GAA001

Catalog No: SCA1322A1111GAA001

TerraMAX® Cast Iron Motor, 175 HP, 3 Ph, 50 Hz, 400 V, 1500 RPM, 315M Frame, TEFC



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### Nameplate Specifications

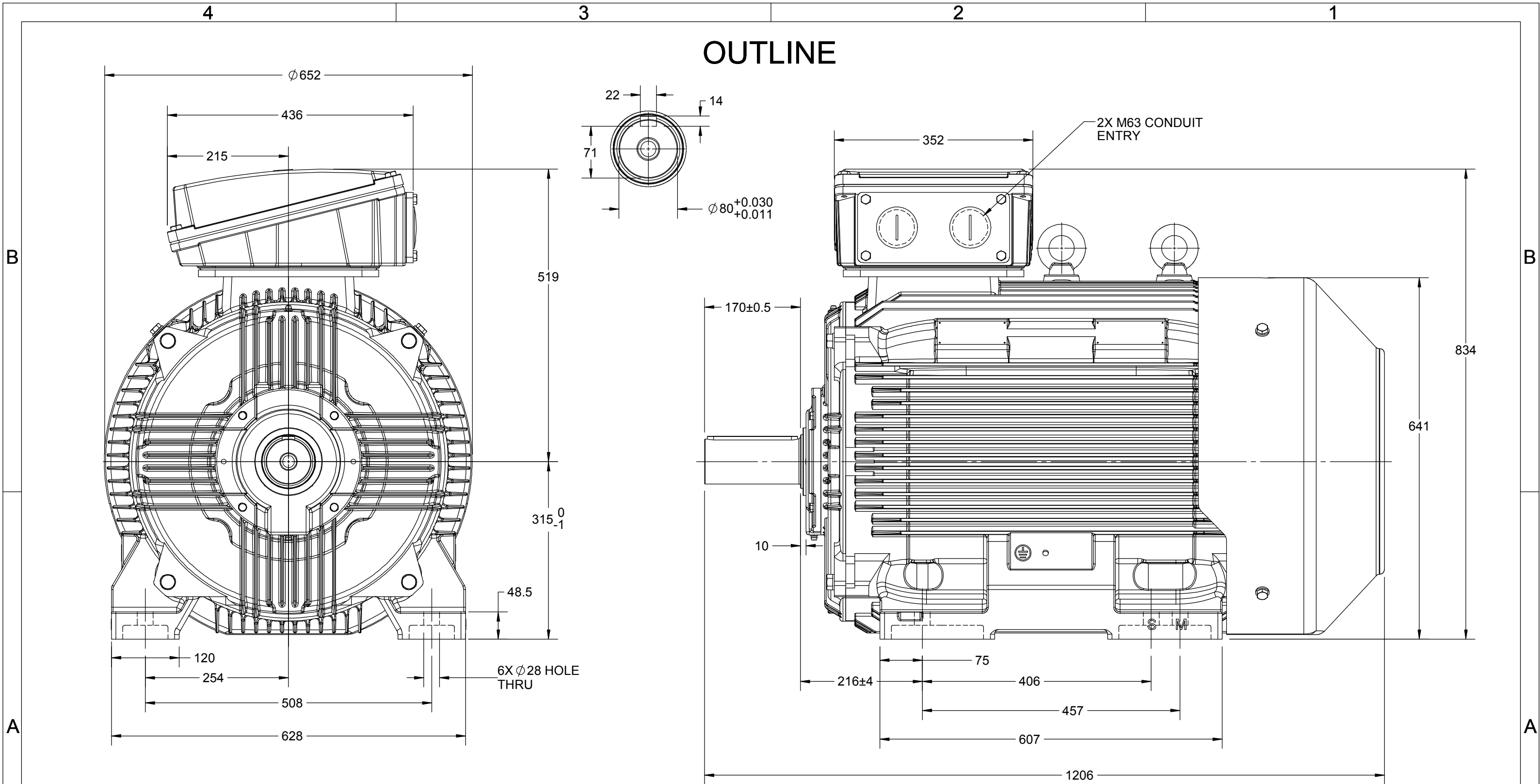
Output HP	<b>175 Hp</b>	Output KW	<b>132.0 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>400 V</b>
Current	<b>228.6 A</b>	Speed	<b>1486 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>94.7 %</b>	Power Factor	<b>0.88</b>
Duty	<b>S1</b>	Insulation Class	<b>F</b>
Frame	<b>315M</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Thermal Protection	<b>No Protection</b>	Ambient Temperature	<b>40 °C</b>
Drive End Bearing Size	<b>6319</b>	Opp Drive End Bearing Size	<b>6319</b>
UL	<b>No</b>	CSA	<b>No</b>
CE	<b>Yes</b>	IP Code	<b>55</b>
Number of Speeds	<b>1</b>	Efficiency Class	<b>IE2</b>

### Technical Specifications

Electrical Type	<b>Squirrel Cage</b>	Starting Method	<b>Direct On Line</b>
Poles	<b>4</b>	Rotation	<b>Bi-Directional</b>
Mounting	<b>B3</b>	Motor Orientation	<b>Horizontal</b>
Drive End Bearing	<b>C3</b>	Opp Drive End Bearing	<b>C3</b>
Frame Material	<b>Cast Iron</b>	Shaft Type	<b>Keyed</b>
Overall Length	<b>1206 mm</b>	Frame Length	<b>729 mm</b>
Shaft Diameter	<b>80 mm</b>	Shaft Extension	<b>170 mm</b>
Assembly/Box Mounting	<b>Top</b>		
Connection Drawing	<b>8442000085</b>	Outline Drawing	<b>0231500890</b>

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# OUTLINE



DRAWING REVISION C	REVISION BY NIV	DATE 14/05/2019
ECO ECO-0165600	APPROVED BY SR	DATE 14/05/2019
ECO DESCRIPTION <b>MODEL UPDATED</b>		
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DRAWN BY JOY		
DATE 18/07/2014		
APPROVED BY SBD	DESCRIPTION <b>OUTLINE</b>	
DATE 18/07/2014	315M FR-B3 4-8P MTG. MOTOR TYPE: TCA/QCA	
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0231500890
		SHEET 1 OF 1

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DRAWING REVISION <b>A</b>	REVISION BY <b>SN</b>	DATE <b>13/01/2017</b>
ECO <b>ECO-0116390</b>	APPROVED BY <b>SBD</b>	DATE <b>13/01/2017</b>
ECO DESCRIPTION <b>NEW DRAWING RELEASE</b>		

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 <b>SN</b>	DATE <b>16/12/2016</b>		 <b>Regal Beloit America, Inc.</b>	
	APPROVED BY <b>SBD</b>	DESCRIPTION <b>CONN DIAGRAM-NAMEPLATE</b>		
	DATE <b>16/12/2016</b>	MATERIAL	PROCESS/FINISH	
	REFERENCE	SIZE <b>A</b>	DRAWING NUMBER <b>8442000085</b>	SHEET <b>1 OF 1</b>
	THIRD ANGLE PROJECTION 			

**Model No.** SCA1322A1111GAA001

U (V)	Δ / Y Conn	f [Hz]	P		I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load				PF at __ load			I <sub>A</sub> /I <sub>N</sub> [pu]	T <sub>A</sub> /T <sub>N</sub> [pu]	T <sub>R</sub> /T <sub>N</sub> [pu]
			[kW]	[hp]					5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
400	Δ	50	132	175	228.6	1486	838.47	IE2	-	94.7	94.7	95.1	0.88	0.85	0.78	6.2	1.8	2.8

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.	937 kg
Duty	S1	Gross weight - approx.	982 kg
Voltage variation *	± 10%	Motor inertia	3.2416 kgm <sup>2</sup>
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)	69 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	6319 C3 / 6319 C3	Terminal box position	TOP
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 240mm <sup>2</sup> /2 x M63 x 1.5
Type of grease	CHEVRON SRI-2 or Equivalent	Auxiliary terminal box	Available on Request

I<sub>A</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

T<sub>R</sub>/T<sub>N</sub> - Breakdown Torque / Rated Torque

T<sub>A</sub>/T<sub>N</sub> - 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



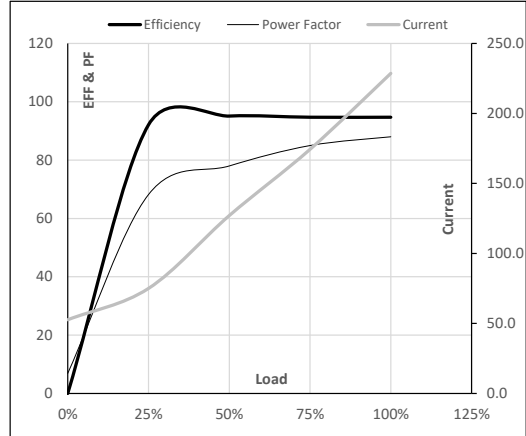
Model No. SCA1322A1111GAA001

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 <sup>2</sup> ]	Weight [kg]
TEFC	400	Δ	50	132	175	228.6	1486	85.50	838.47	IE2	40	S1	1000	3.2416	937

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	52.7	75.0	127.1	174.4	228.6	
Torque	Nm	0.0	173.5	347.7	522.8	838.5	
Speed	r/min	1500	1796	1792	1788	1486	
Efficiency	%	0.0	92.1	95.1	94.7	94.7	
Power Factor	%	6.9	68.2	78.0	85.0	88.0	

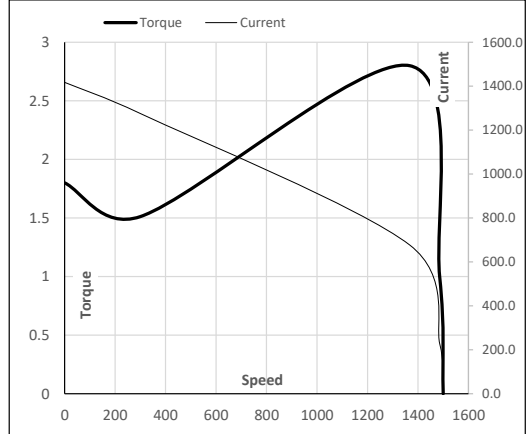
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	300	1367	1486	1500
Current	A	1417.4	1275.7	677.2	228.6	52.7
Torque	pu	1.8	1.5	2.8	1	0

**Starting Characteristics Chart**



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

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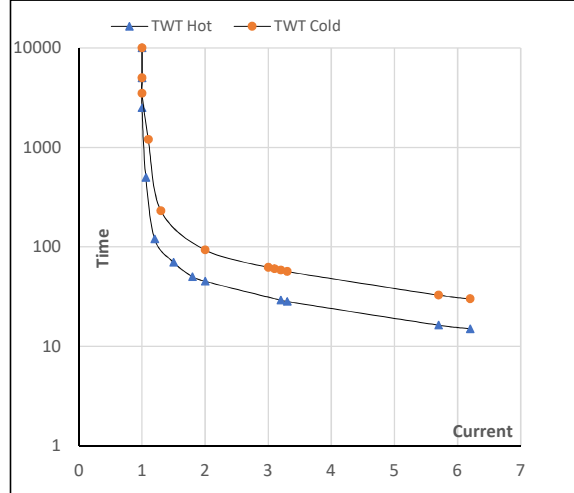
**Model No.** SCA1322A1111GAA001

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 <sup>2</sup> ]	Weight [kg]
TEFC	400	Δ	50	132	175	228.6	1486	85.50	838.47	IE2	40	S1	1000	3.2416	937

**Motor Speed Torque Data**

Load	FL	I <sub>1</sub>	I <sub>2</sub>	I <sub>3</sub>	I <sub>4</sub>	I <sub>5</sub>	LR	
TWT Hot	s 10000	45	36	27	25	20	15	
TWT Cold	s 10000	60	59	50	45	40	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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