

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: SCA1324A3123GAAD01

Catalog No: SCA1324A3123GAAD01

TerraMAX® Cast Iron Motor, 175 HP, 3 Ph, 50 Hz, 415 V, 750 RPM, 355M Frame, TEFC



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**RegalRexnord**

### Nameplate Specifications

Output HP	175 Hp	Output KW	132.0 kW
Frequency	50 Hz	Voltage	415 V
Current	248.3 A	Speed	743 rpm
Service Factor	1	Phase	3
Efficiency	92.6 %	Power Factor	0.7987
Duty	S1	Insulation Class	F
Frame	355M	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	IE2

### Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	8	Rotation	Bi-Directional
Mounting	B5	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		
Connection Drawing	8442000085	Outline Drawing	0235501831

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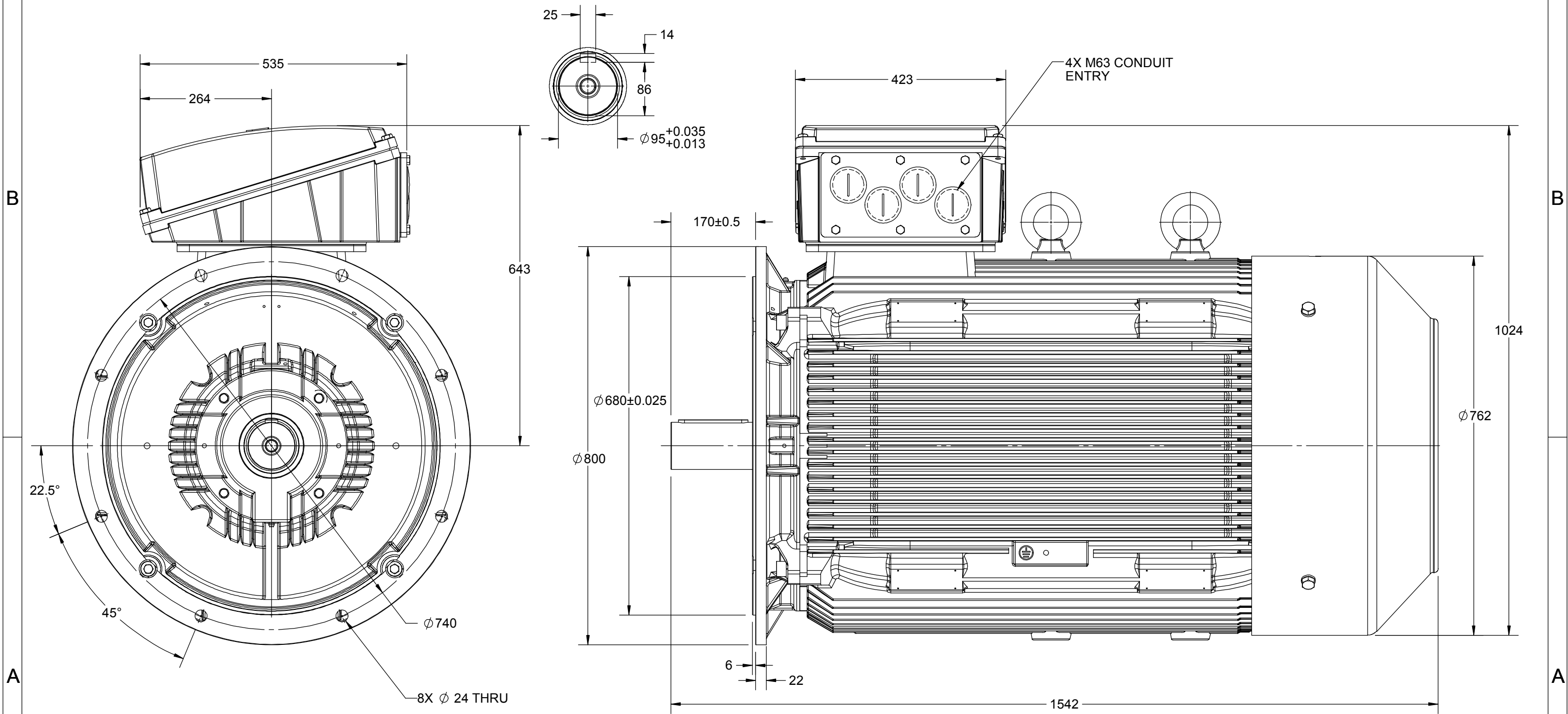
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
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# OUTLINE



DRAWING REVISION B		REVISION BY NIV		DATE 08/05/2019		<div></div>	DRAWN BY JOY		<div><div>marathon™</div><div>Motors</div></div>					
ECO ECO-0165600		APPROVED BY SR		DATE 08/05/2019			DATE 18/07/2014							
ECO DESCRIPTION							APPROVED BY SBD		DESCRIPTION					
MODEL UPDATED							DATE 18/07/2014		OUTLINE					
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							THIRD ANGLE PROJECTION				SIZE B		DRAWING NUMBER 0235501831	

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

**Model No.** SCA1324A3123GAAD01

U (V)	$\Delta$ / 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	$\Delta$	50	132	175	247.9	743	1678.2	IE2	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	5.9	1.7	2.7

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	355M	Motor weight - approx.	1629 kg
Duty	S1	Gross weight - approx.	1674 kg
Voltage variation *	$\pm 10\%$	Motor inertia	8.9257 kgm <sup>2</sup>
Frequency variation *	$\pm 5\%$	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.8 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 +50 °C	Type of coupling	Direct
Temperature rise (by resistance)	70 [ 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	-
Rotor type	Aluminum Die cast	Accessory - 2	-
Bearing type	Anti-friction ball	Accessory - 3	-
DE / NDE bearing	6322 C3 / 6322 C3	Terminal box position	RHS
Lubrication method	Regreaseable	Maximum cable size/conduit size	1R x 3C x 300mm <sup>2</sup> /4 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.

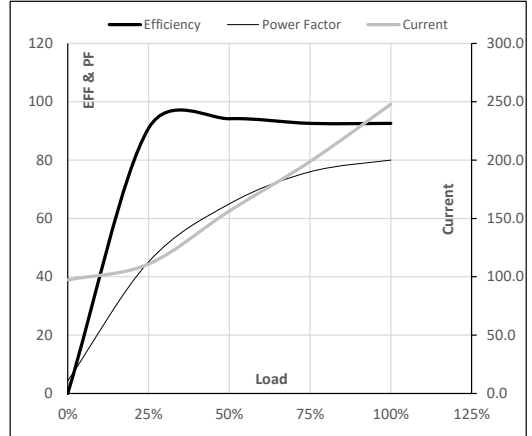
Efficiency Standards	Europe	China	India	Aus/Nz	Brazil	Global IEC
	-	-	IS 12615 : 2018	-	-	-

**Model No.** SCA1324A3123GAAD01

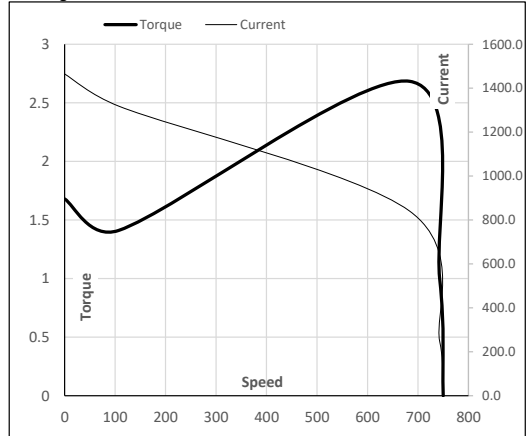
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	415	Δ	50	132	175	247.9	743	171.13	1678.21	IE2	50	S1	1000	8.9257	1629

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	97.3	110.9	156.3	198.7	247.9	
Torque	Nm	0.0	416.6	835.1	1255.5	1678.2	
Speed	r/min	750	748	747	745	743	
Efficiency	%	0.0	90.9	94.2	92.6	92.6	
Power Factor	%	4.3	45.1	65.0	76.0	80.0	

**Performance vs Load Chart**

**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	107	684	743	750
Current	A	1464.8	1318.3	840.4	247.9	97.3
Torque	pu	1.7	1.4	2.7	1	0

**Starting Characteristics Chart**

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

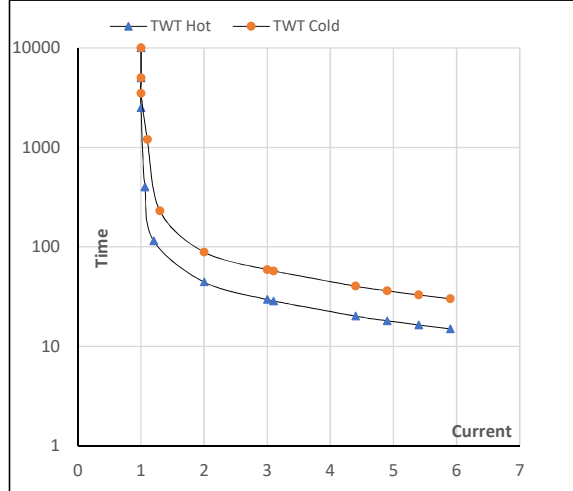
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Enclosure	U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	415	$\Delta$	50	132	175	247.9	743	171.13	1678.21	IE2	50	S1	1000	8.9257	1629

**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	44	30	25	18	16	15
TWT Cold	s	10000	89	59	45	35	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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