

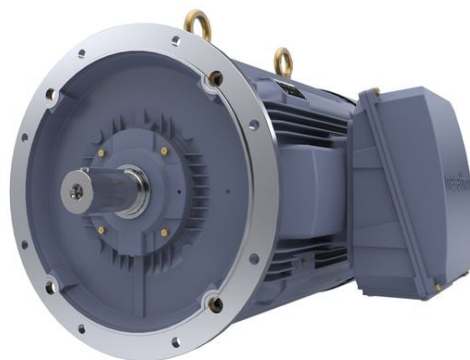
PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA3751A3123GAAD01

Catalog No: SCA3751A3123GAAD01

TerraMAX® Cast Iron Motor, 503 HP, 3 Ph, 50 Hz, 415 V, 3000 RPM, 355L Frame, TEFC



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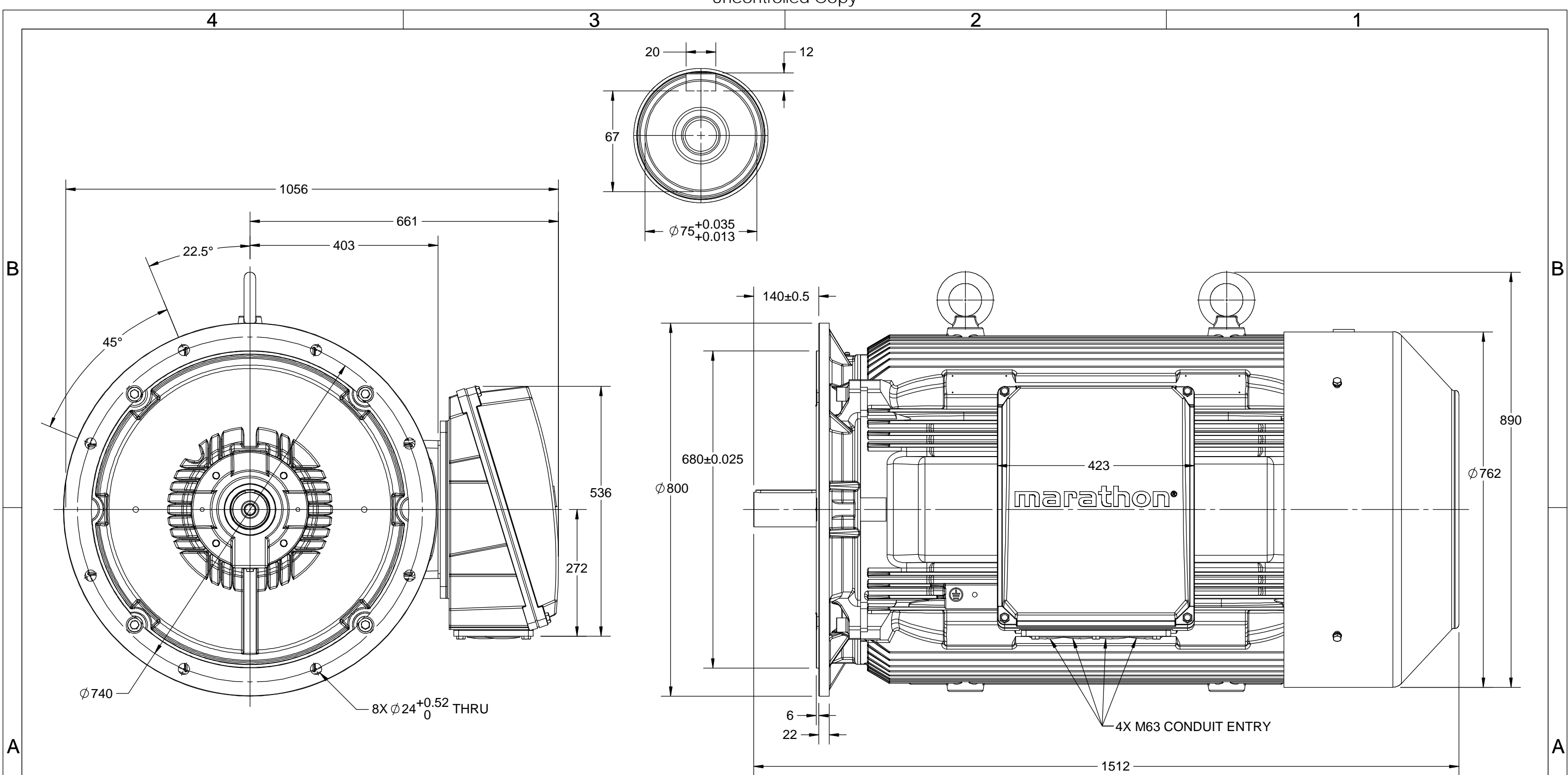
Nameplate Specifications

Output HP	503 Hp	Output KW	375.0 kW
Frequency	50 Hz	Voltage	415 V
Current	596.9 A	Speed	2980 rpm
Service Factor	1	Phase	3
Efficiency	95 %	Power Factor	0.92
Duty	S1	Insulation Class	F
Frame	355L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	50 °C
Drive End Bearing Size	6317	Opp Drive End Bearing Size	6317
UL	No	CSA	No
CE	Yes	IP Code	55
Number of Speeds	1	Efficiency Class	IE2

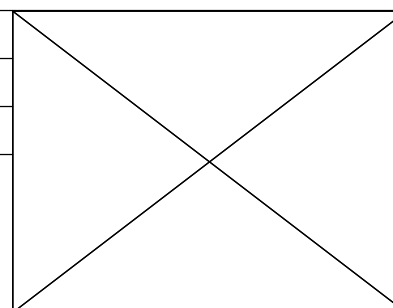
Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	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	1512 mm	Frame Length	1010 mm
Shaft Diameter	75 mm	Shaft Extension	140 mm
Assembly/Box Mounting	SIDE		
Outline Drawing	0235502330	Connection Drawing	8442000085

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DRAWING REVISION B	REVISION BY LK	DATE 01/09/2020
ECO ECO-0190270	APPROVED BY JAY	DATE 01/09/2020
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY GSR	marathon™ Motors	
DATE 15/11/2017		
APPROVED BY JAY	DESCRIPTION OUTLINE 355FR-2P-B5	
DATE 15/11/2017	MATERIAL	PROCESS/FINISH
REFERENCE	SIZE B	DRAWING NUMBER 0235502330
THIRD ANGLE PROJECTION	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	DATE 16/12/2016		 Regal Beloit America, Inc.	
	APPROVED BY SBD			DESCRIPTION CONN DIAGRAM-NAMEPLATE
	DATE 16/12/2016		MATERIAL PROCESS/FINISH	
	REFERENCE			
	THIRD ANGLE PROJECTION 		SHEET 1 OF 1	

Model No. SCA3751A3123GAAD01

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			
415	Δ	50	375	503	596.9	2980	1199.3	IE2	-	95.0	95.0	95.2	0.92	0.91	0.88	5.5	1.9	2.5

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	355L	Motor weight - approx.	1961 kg
Duty	S1	Gross weight - approx.	2006 kg
Voltage variation *	± 10%	Motor inertia	5.2214 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)	90 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)	12/25 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	6317 C3 / 6317 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 300mm ² /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	-	-	-



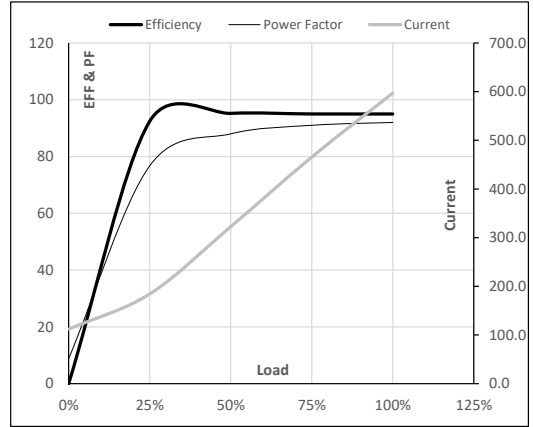
Model No. SCA3751A3123GAAD01

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	375	503	596.9	2980	122.29	1199.29	IE2	50	S1	1000	5.2214	1961

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	112.0	184.2	322.5	465.5	596.9	
Torque	Nm	0.0	299.0	598.8	899.7	1199.3	
Speed	r/min	3000	2995	2991	2986	2980	
Efficiency	%	0.0	92.4	95.2	95.0	95.0	
Power Factor	%	8.8	76.7	88.0	91.0	92.0	

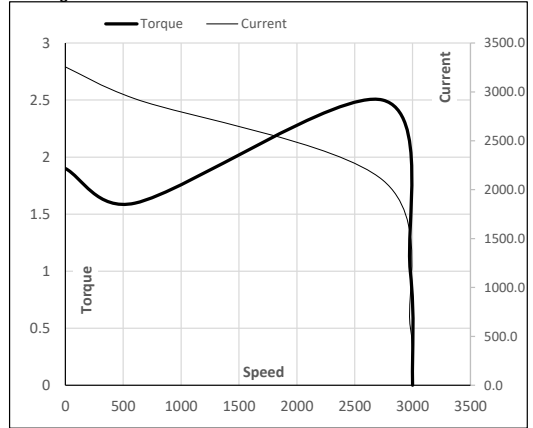
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2742	2980	3000
Current	A	3256.0	2930.4	2098.5	596.9	112.0
Torque	pu	1.9	1.6	2.5	1	0

Starting Characteristics Chart



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

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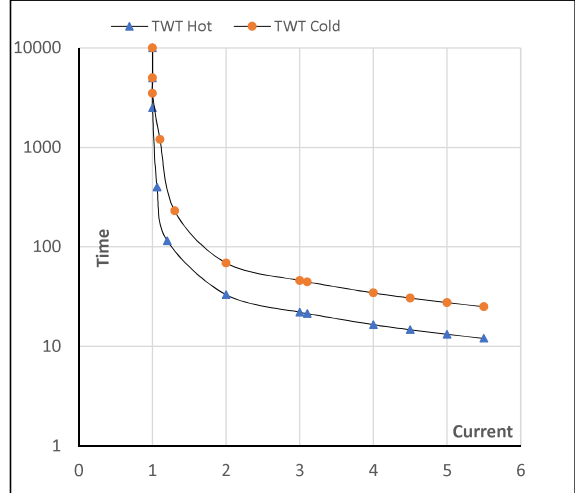
Model No. SCA3751A3123GAAD01

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	375	503	596.9	2980	122.29	1199.29	IE2	50	S1	1000	5.2214	1961

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR
TWT Hot	s 10000	33	22	17	15	13	12
TWT Cold	s 10000	69	46	34	31	28	25
Current	pu	1	2	3	4	4.5	5

Thermal Characteristics Chart



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

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