

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA0751A3123GAAD01

Catalog No: SCA0751A3123GAAD01

75kW, General Purpose Low Voltage IEC Motor, 3 phase, 2 Pole, 415V, B5, 50Hz, 93.8%, 280S Frame, TEFC
Cast Iron IE2 Efficiency Motors



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Nameplate Specifications

Output HP	100 Hp	Output KW	75.0 kW
Frequency	50 Hz	Voltage	415 V
Current	122.6 A	Speed	2977 rpm
Service Factor	1	Phase	3
Efficiency	93.8 %	Power Factor	0.91
Duty	S1	Insulation Class	F
Frame	280S	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6314
Opp Drive End Bearing Size	6314	UL	No
CSA	No	CE	Yes
IP Code	55		

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	1010 mm	Frame Length	499 mm
Shaft Diameter	65 mm	Shaft Extension	140 mm
Assembly/Box Mounting	SIDE		
Outline Drawing	0228001188	Connection Drawing	8442000085

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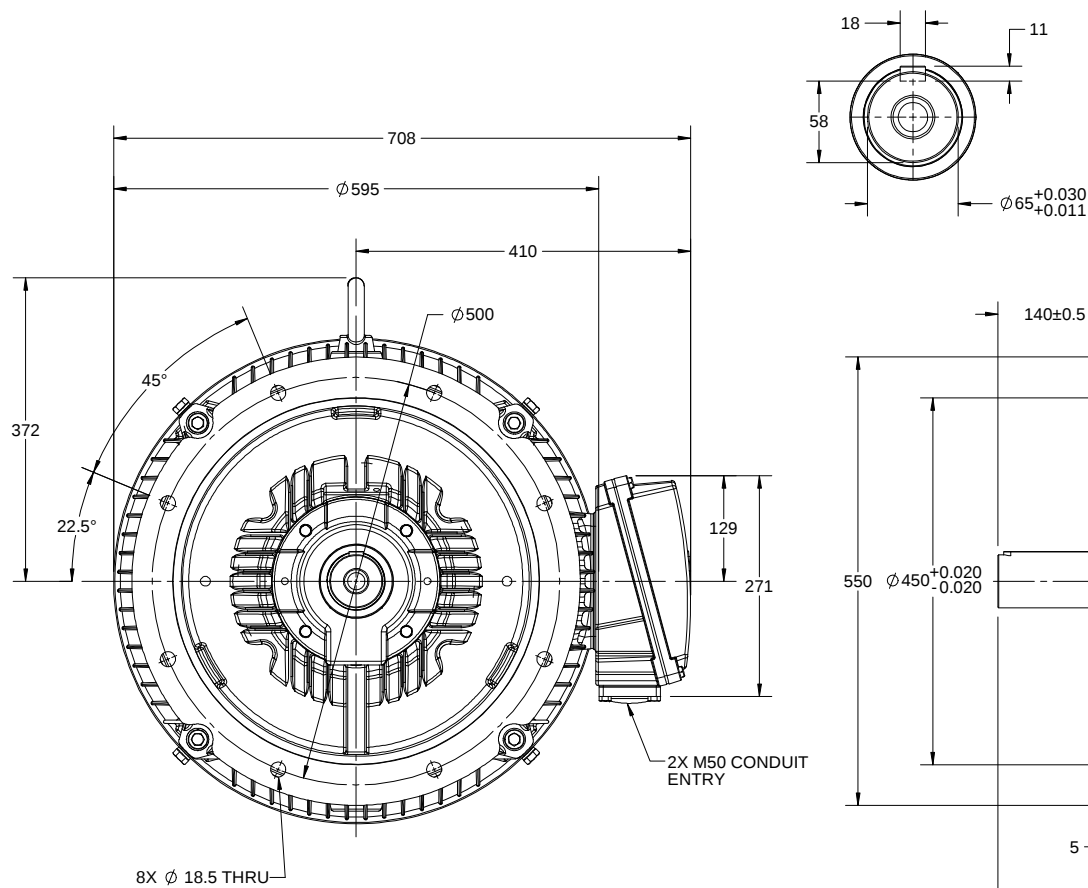
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DRAWING REVISION A	REVISION BY A. KEETHA	DATE 13/11/2018
ECO ECO-0153779	APPROVED BY JAY	DATE 13/11/2018
ECO DESCRIPTION NEW DRAWING RELEASE		
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DRAWN BY A. KEETHA	marathon[™] Motors	
DATE 13/11/2018		
APPROVED BY JAY	DESCRIPTION OUTLINE	
DATE 13/11/2018	280S FRAME 2P B5 MTG. MOTOR TYPE:SCA RHS TB	
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0228001188
		SHEET 1 OF 1

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DRAWING REVISION	REVISION BY	DATE
A	SN	13/01/2017
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			
				APPROVED BY		SBD			
				DATE		16/12/2016			
				REFERENCE					
THIRD ANGLE PROJECTION				SIZE		DRAWING NUMBER		SHEET	
				A		8442000085		1 OF 1	
				MATERIAL				PROCESS/FINISH	

Model No. SCA0751A3123GAAD01

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 _d /T _N [pu]
415	Δ	50	75	100	122.6	2977	239.17	IE2	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	6.5	2.1	3.3
									-	93.8	93.8	93.4	0.91	0.88	0.82			

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	280S	Motor weight - approx.	675 kg
Duty	S1	Gross weight - approx.	710 kg
Voltage variation *	± 10%	Motor inertia	0.8390 kgm ²
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.2 mm/s
Design	N	Noise level (1meter distance from motor)	86 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	6314 C3 / 6314 C3	Terminal box position	RHS
Lubrication method	Regreaseable	Maximum cable size/conduit size	1R x 3C x 95mm ² /2 x M50 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 CurrentT_d/T_N - Breakdown Torque / Rated TorqueT_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	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	-	IS 12615 : 2018	-	-	-



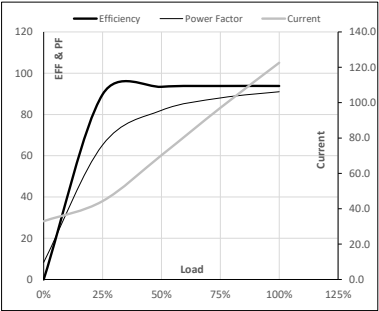
Model No. SCA0751A3123GAAD01

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	75	100	122.6	2977	24.39	239.17	IE2	50	S1	1000	0.8390	675

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	33.0	44.3	70.3	97.1	122.6	
Torque	Nm	0.0	59.5	119.1	179.0	239.2	
Speed	r/min	3000	2994	2989	2983	2977	
Efficiency	%	0.0	89.7	93.4	93.8	93.8	
Power Factor	%	8.3	65.2	82.0	88.0	91.0	

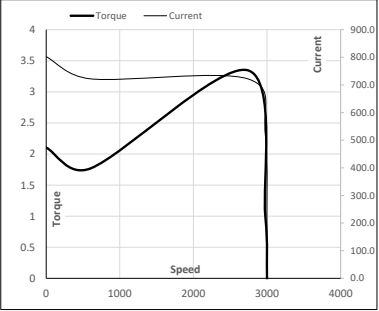
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2739	2977	3000
Current	A	802.2	722.0	520.7	122.6	33.0
Torque	pu	2.1	1.8	3.3	1	0

Starting Characteristics Chart



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

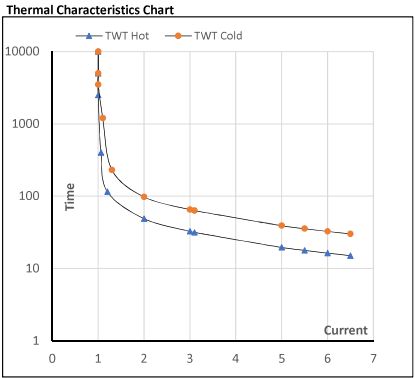
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg·m ²]	Weight [kg]
TEFC	415	Δ	50	75	100	122.6	2977	24.39	239.17	IE2	50	S1	1000	0.8390	675

Motor Speed Torque Data								
Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	49	33	25	20	18	15	
TWT Cold	s 10000	98	65	50	39	36	30	
Current	pu	1	2	3	4	5	5.5	6.5



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

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