

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA0223A3121GAAD01

Catalog No: SCA0223A3121GAAD01

22kW, General Purpose Low Voltage IEC Motor, 3 phase, 6 Pole, 415V, B5, 50Hz, 90.9%, 200L Frame, TEFC
Cast Iron IE2 Efficiency Motors



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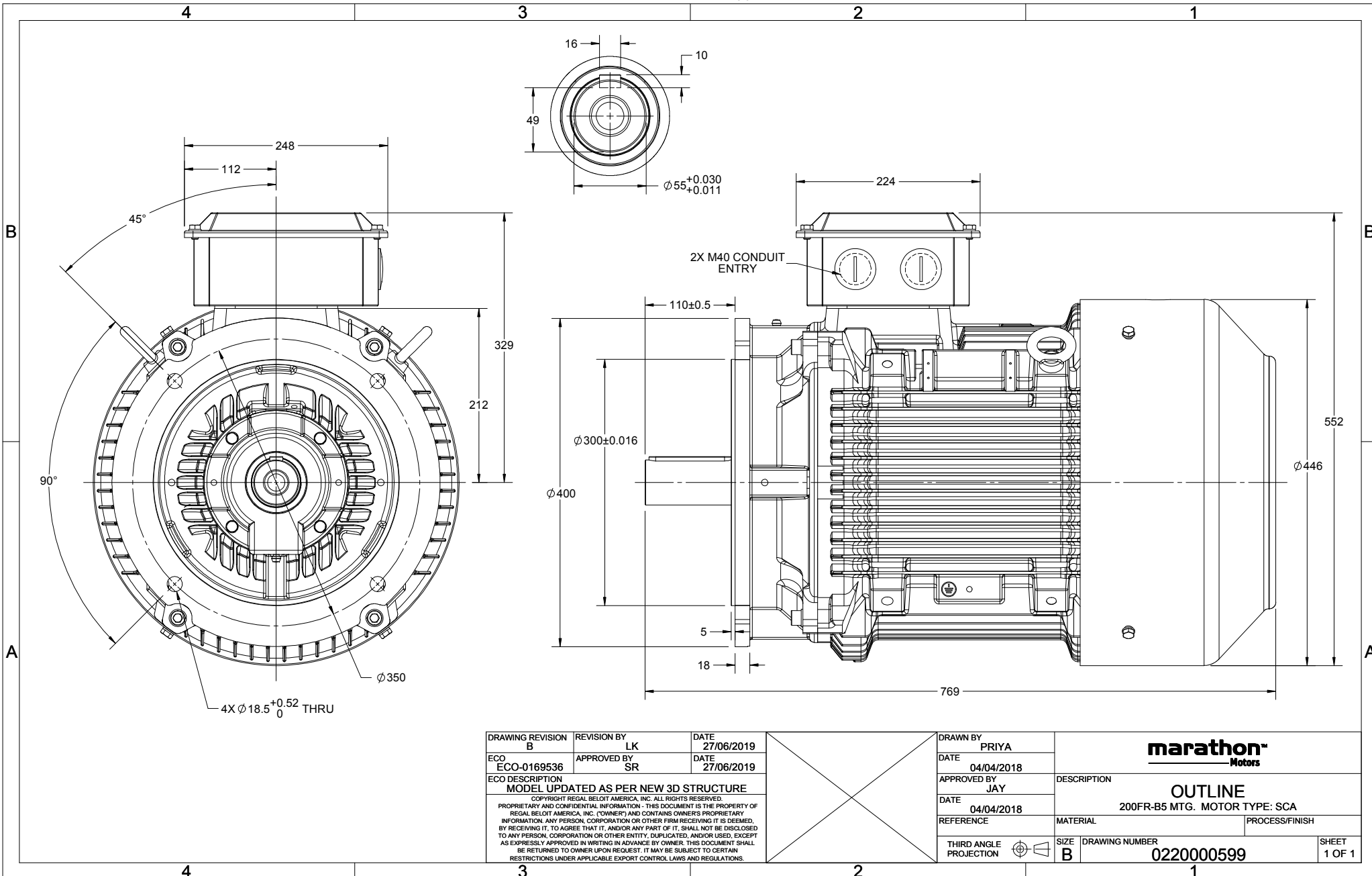
Nameplate Specifications

Output HP	30 Hp	Output KW	22.0 kW
Frequency	50 Hz	Voltage	415 V
Current	42.8 A	Speed	980 rpm
Service Factor	1	Phase	3
Efficiency	90.9 %	Power Factor	0.79
Duty	S1	Insulation Class	F
Frame	200L	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6312
Opp Drive End Bearing Size	6212	UL	No
CSA	No	CE	Yes
IP Code	55		

Technical Specifications

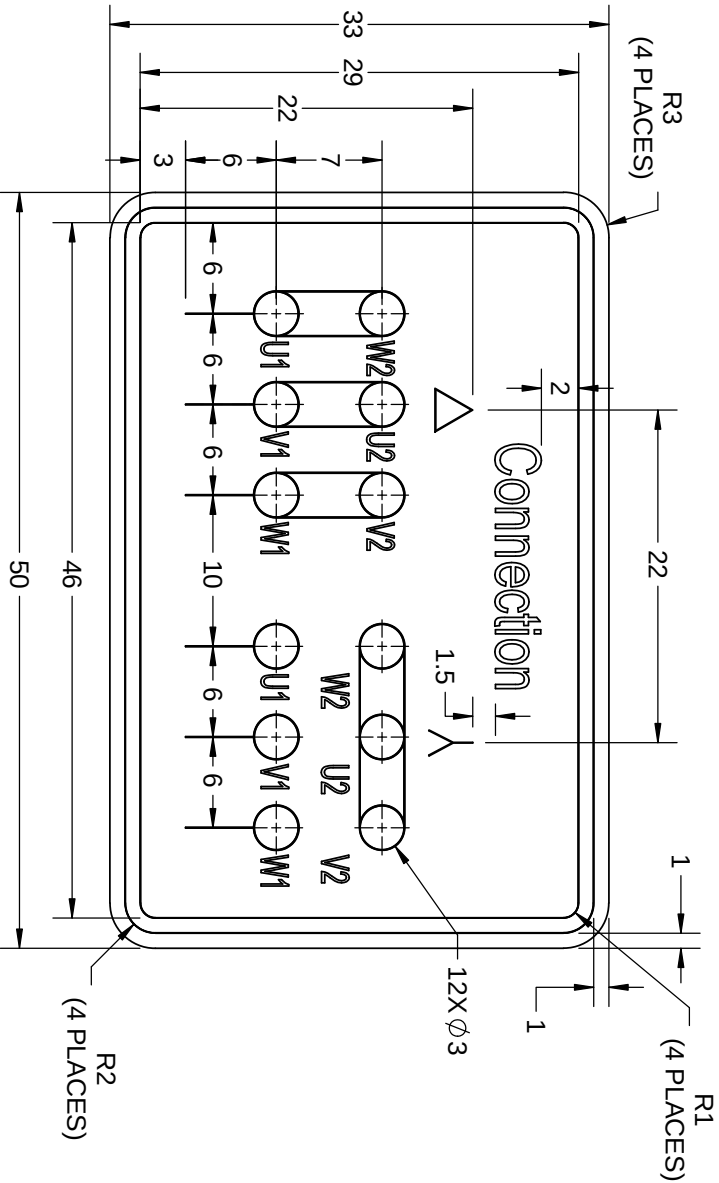
Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	6	Rotation	Bi-Directional
Mounting	B5	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	769 mm	Frame Length	370 mm
Shaft Diameter	55 mm	Shaft Extension	110 mm
Assembly/Box Mounting	TOP		
Outline Drawing	0220000599	Connection Drawing	8442000085

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DRAWING REVISION		REVISION BY	DATE
A		SN	13/01/2017
ECO	ECO-0116390	APPROVED BY	DATE
ECO DESCRIPTION		SBD	13/01/2017
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			
				DESCRIPTION					
				CONN DIAGRAM-NAMEPLATE					
				REGALTM Regal Beloit America, Inc.					

Model No. SCA0223A3121GAAD01

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 _k /T _N [pu]	T _k /T _N [pu]
415	Δ	50	22	30	42.7	980	218.31	IE2	S/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	5.3	2.1	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	200L	Motor weight - approx.	281 kg
Duty	S1	Gross weight - approx.	311 kg
Voltage variation *	± 10%	Motor inertia	0.3767 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)	72 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	6312 C3 / 6212 C3	Terminal box position	TOP
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 50mm ² /2 x M40 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	Auxiliary terminal box	NA

I_a/I_N - Locked Rotor Current / Rated CurrentT_k/T_N - Breakdown Torque / Rated TorqueT_k/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	-	-	-



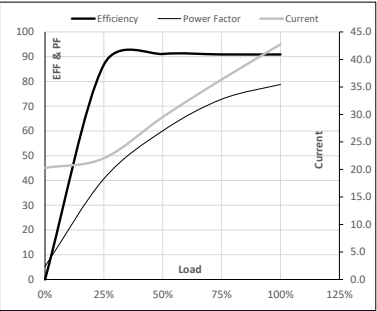
Model No. SCA0223A3121GAAD01

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	22	30	42.7	980	22.26	218.31	IE2	50	S1	1000	0.3767	281

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	20.3	22.0	29.5	36.4	42.7	
Torque	Nm	0.0	53.7	107.9	162.7	218.3	
Speed	r/min	1000	995	991	986	980	
Efficiency	%	0.0	86.8	91.1	90.9	90.9	
Power Factor	%	5.3	40.7	60.1	72.8	78.8	

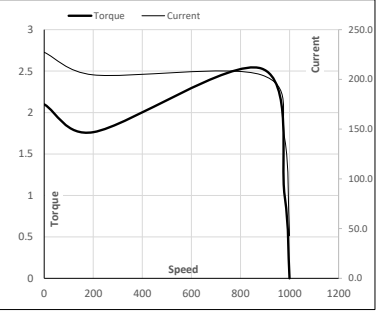
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	200	885	980	1000
Current	A	227.3	204.5	140.9	42.7	20.3
Torque	pu	2.1	1.8	2.5	1	0

Starting Characteristics Chart



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

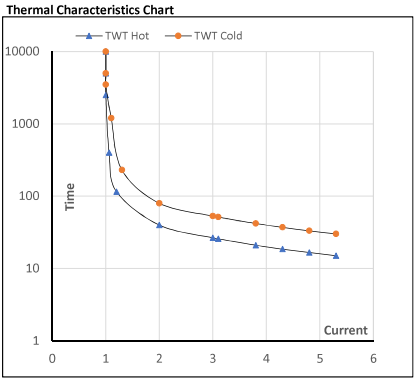
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg·m ²]	Weight [kg]
TEFC	415	Δ	50	22	30	42.7	980	22.26	218.31	IE2	50	S1	1000	0.3767	281

Motor Speed Torque Data								
Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	40	27	20	17	16	15	
TWT Cold	s 10000	80	53	40	35	32	30	
Current	pu	1	2	3	4	4.5	5	5.3



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

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