

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA3151A3133GAAD01

Catalog No: SCA3151A3133GAAD01

315kW, General Purpose Low Voltage IEC Motor, 3 phase, 2 Pole, 415V, B35, 50Hz, 95.0%, 355L Frame, TEFC
Cast Iron IE2 Efficiency Motors



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Nameplate Specifications

Output HP	425 Hp	Output KW	315.0 kW
Frequency	50 Hz	Voltage	415 V
Current	505.8 A	Speed	2979 rpm
Service Factor	1	Phase	3
Efficiency	95 %	Power Factor	0.91
Duty	S1	Insulation Class	F
Frame	355L	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6317
Opp Drive End Bearing Size	6317	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	B35	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		
Connection Drawing	8442000085	Outline Drawing	0235502332

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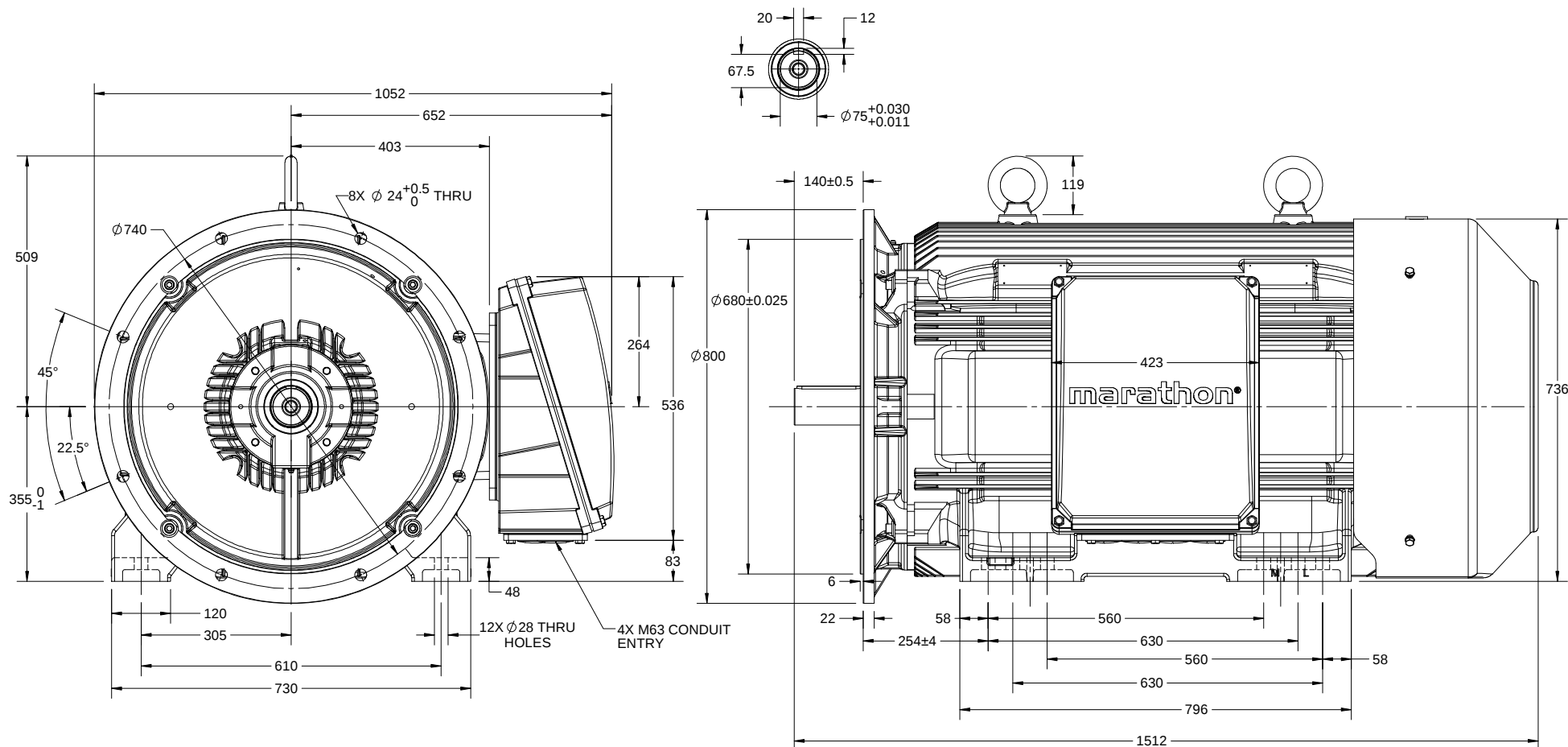
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DRAWING REVISION B	REVISION BY VS	DATE 09/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 09/07/2018
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY GSR	marathon[™] Motors	
DATE 15/11/2017		
APPROVED BY SKM	DESCRIPTION OUTLINE 355L FR-2P-B35 MTG. TCA/QCA-RHS TB	
DATE 15/11/2017		
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0235502332
		SHEET 1 OF 1

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Model No. SCA3151A3133GAAD01

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	315	425	505.8	2979	1015.9	IE2	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	5.2	1.8	2.6
									-	95.0	95.0	94.7	0.91	0.91	0.88			

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	355L	Motor weight - approx.	1793 kg
Duty	S1	Gross weight - approx.	1838 kg
Voltage variation *	± 10%	Motor inertia	4.2643 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)	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	6317 C3 / 6317 C3	Terminal box position	RHS
Lubrication method	Regreaseable	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 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	-	-	-



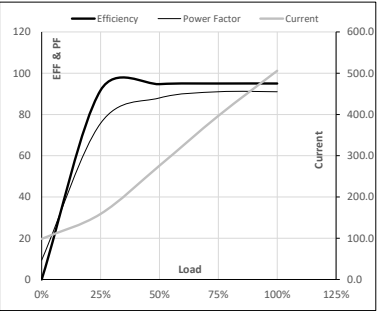
Model No. SCA3151A3133GAAD01

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	315	425	505.8	2979	103.60	1015.93	IE2	50	S1	1000	4.2643	1793

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	98.4	158.9	275.8	396.6	505.8	
Torque	Nm	0.0	252.6	506.1	760.5	1015.9	
Speed	r/min	3000	2995	2990	2985	2979	
Efficiency	%	0.0	91.7	94.7	95.0	95.0	
Power Factor	%	9.4	75.7	88.0	91.0	91.0	

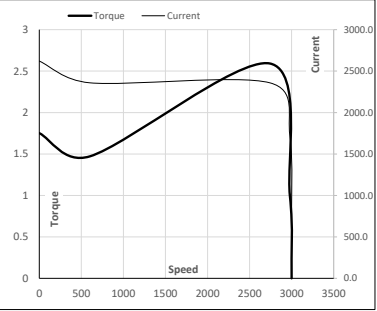
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2741	2979	3000
Current	A	2621.0	2358.9	1723.9	505.8	98.4
Torque	pu	1.8	1.5	2.6	1	0

Starting Characteristics Chart



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

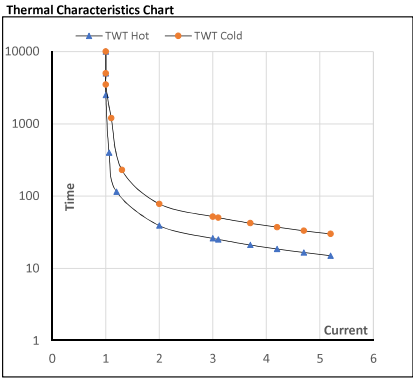
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg·m ²]	Weight [kg]
TEFC	415	Δ	50	315	425	505.8	2979	103.60	1015.93	IE2	50	S1	1000	4.2643	1793

Motor Speed Torque Data								
Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	39	26	20	17	16	15	
TWT Cold	s 10000	78	52	40	36	32	30	
Current	pu	1	2	3	4	4.5	5	5.2



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

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