

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA0903A3143GAAD01

Catalog No: SCA0903A3143GAAD01

90kW, General Purpose Low Voltage IEC Motor, 3 phase, 6 Pole, 415V, B35, 50Hz, 94.0%, 315M Frame, TEFC
Cast Iron IE2 Efficiency Motors



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REGAL

Nameplate Specifications

Output HP	120 Hp	Output KW	90.0 kW
Frequency	50 Hz	Voltage	415 V
Current	160.5 A	Speed	990 rpm
Service Factor	1	Phase	3
Efficiency	94 %	Power Factor	0.83
Duty	S1	Insulation Class	F
Frame	315M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6319
Opp Drive End Bearing Size	6319	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	V1	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1343 mm	Frame Length	729 mm
Shaft Diameter	80 mm	Shaft Extension	170 mm
Assembly/Box Mounting	SIDE		
Connection Drawing	8442000085	Outline Drawing	0231501495

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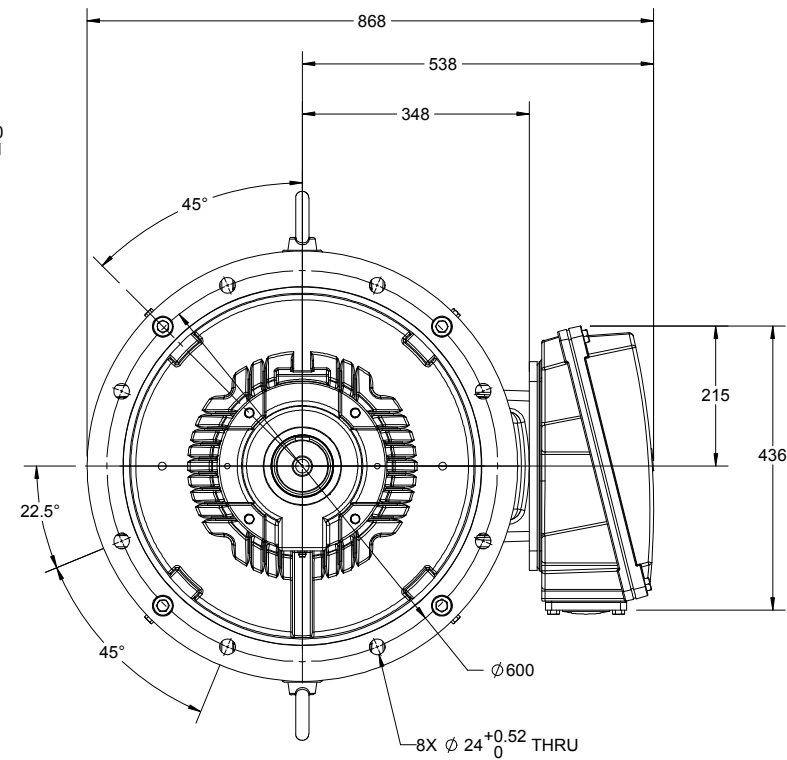
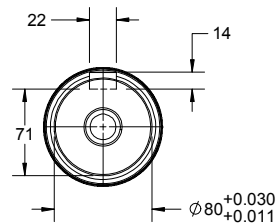
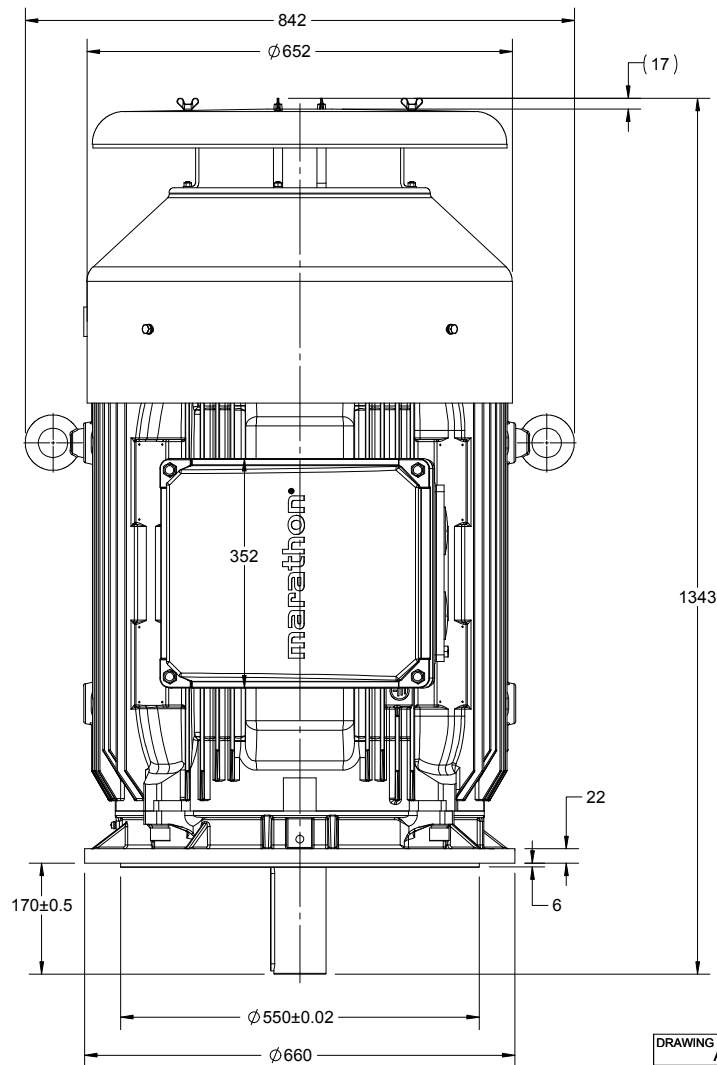
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DRAWING REVISION A	REVISION BY NIV	DATE 02/02/2019
ECO ECO-0160988	APPROVED BY SR	DATE 02/02/2019
ECO DESCRIPTION NEW DRAWING RELEASE		
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DRAWN BY NIV		
DATE 02/02/2019		
APPROVED BY SR	DESCRIPTION OUTLINE 315-S/M FR 4P-8P-V1 MTG. TCA-RHS TB	
DATE 02/02/2019		
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0231501495
		SHEET 1 OF 1

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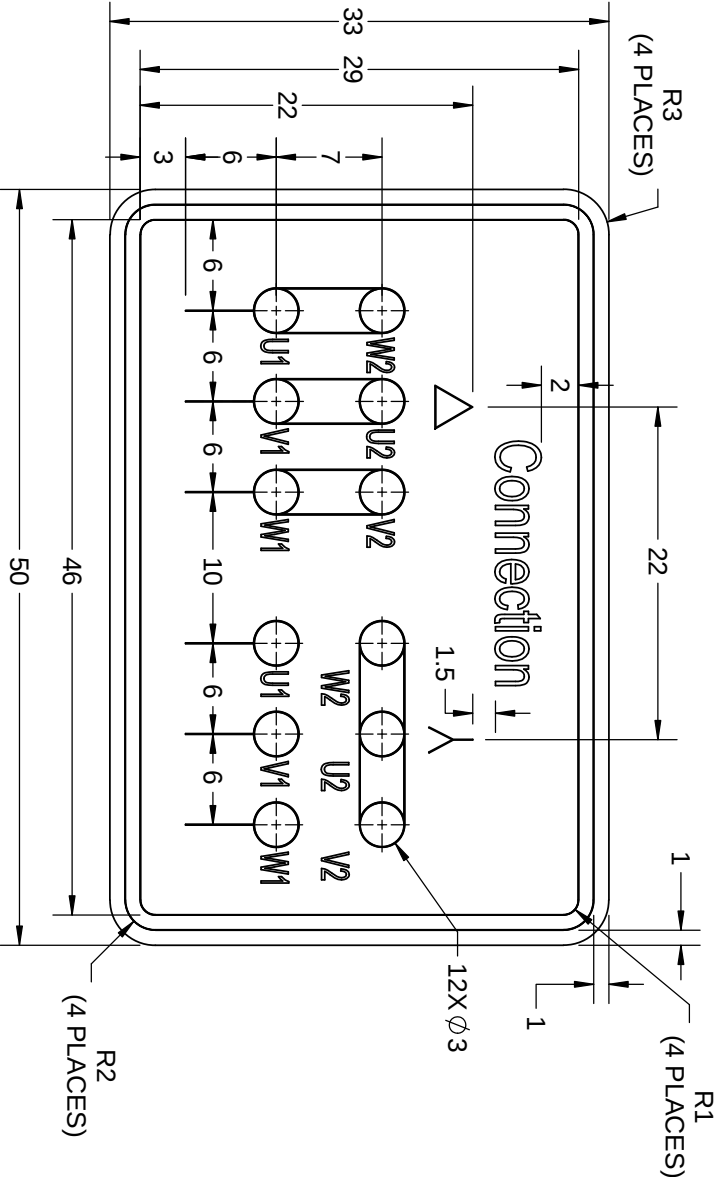
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DRAWING REVISION A		REVISION BY SN	DATE 13/01/2017
ECO ECO-0116390	APPROVED BY SBD	DATE 13/01/2017	
ECO DESCRIPTION			
NEW DRAWING RELEASE			

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.

				DRAWN BY		SN	
				DATE		16/12/2016	
				APPROVED BY		SBD	
				DATE		16/12/2016	
				REFERENCE			
				DESCRIPTION		CONN DIAGRAM-NAMEPLATE	
				MATERIAL		PROCESS/FINISH	
THIRD ANGLE PROJECTION				SIZE	DRAWING NUMBER		SHEET
				A	8442000085		1 OF 1

8WD.442.2017

Model No. SCA0903A3143GAAD01

U	Δ / Y	f	P	P	I	n	T	IE	% EFF at ___ load				PF at ___ load			I _A /I _N	T _A /T _N	T _d /T _N
(V)	Conn	[Hz]	[kW]	[hp]	[A]	[RPM]	[Nm]	Class	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	[pu]	[pu]	[pu]
415	Δ	50	90	120	160.5	990	863.39	IE2	-	94.0	94.0	94.8	0.83	0.80	0.72	4.8	1.5	2.0

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM V1
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	315M	Motor weight - approx.	892 kg
Duty	S1	Gross weight - approx.	937 kg
Voltage variation *	± 10%	Motor inertia	3.9282 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)	66 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	6319 C3 / 6319 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 240mm ² /2 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.

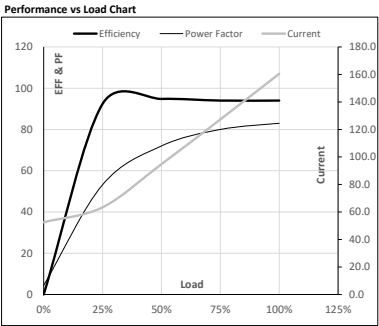
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	-	IS 12615 : 2018	-	-	-

Model No. SCA0903A3143GAAD01

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	90	120	160.5	990	88.04	863.39	IE2	50	S1	1000	3.9282	892

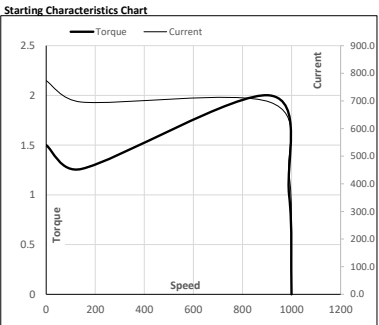
Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	52.5	63.4	94.8	127.3	160.5	
Torque	Nm	0.0	214.2	429.6	646.1	863.4	
Speed	r/min	1000	997	995	992	990	
Efficiency	%	0.0	92.4	94.8	94.0	94.0	
Power Factor	%	4.4	53.2	72.0	80.0	83.0	



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	143	911	990	1000
Current	A	773.3	695.9	431.0	160.5	52.5
Torque	pu	1.5	1.3	2.0	1	0



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

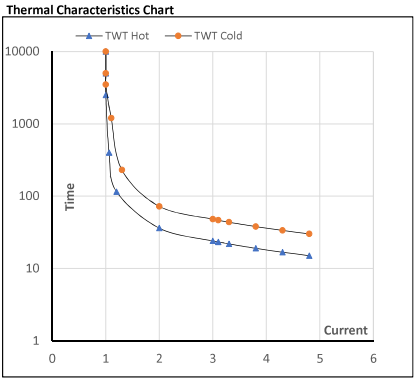
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Model No. SCA0903A3143GAAD01

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	90	120	160.5	990	88.04	863.39	IE2	50	S1	1000	3.9282	892

Motor Speed Torque Data								
Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	36	24	20	18	16	15	
TWT Cold	s 10000	72	48	40	37	32	30	
Current	pu	1	2	3	3.5	4	4.5	4.8



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

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