

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA1602A3143GAAD01

Catalog No: SCA1602A3143GAAD01

160kW, General Purpose Low Voltage IEC Motor, 3 phase, 4 Pole, 415V, B35, 50Hz, 94.9%, 315L Frame, TEFC
Cast Iron IE2 Efficiency Motors



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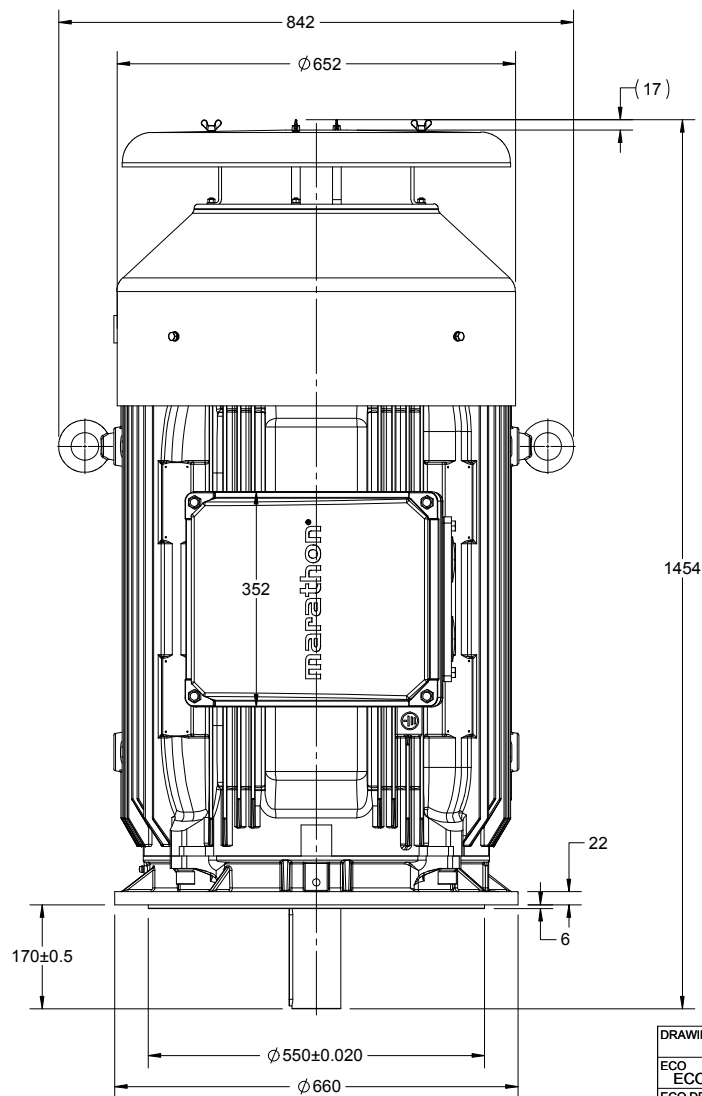
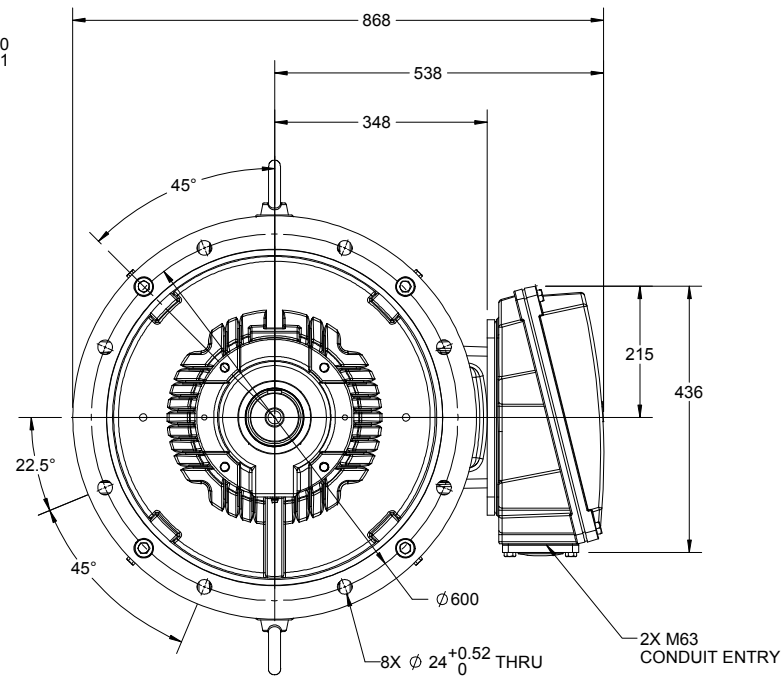
Nameplate Specifications

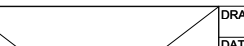
Output HP	215 Hp	Output KW	160.0 kW
Frequency	50 Hz	Voltage	415 V
Current	263.2 A	Speed	1487 rpm
Service Factor	1	Phase	3
Efficiency	94.9 %	Power Factor	0.89
Duty	S1	Insulation Class	F
Frame	315L	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6319
Opp Drive End Bearing Size	6319	UL	No
CSA	No	CE	Yes
IP Code	55		

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	4	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	1454 mm	Frame Length	840 mm
Shaft Diameter	80 mm	Shaft Extension	170 mm
Assembly/Box Mounting	SIDE		
Outline Drawing	0231501496	Connection Drawing	8442000085

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DRAWING REVISION A	REVISION BY NIV	DATE 04/02/2019		DRAWN BY NIV		
EEO ECO-0160988	APPROVED BY SR	DATE 04/02/2019		DATE 04/02/2019		
ECO DESCRIPTION NEW DRAWING RELEASE				APPROVED BY SR	DESCRIPTION	
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				REFERENCE	MATERIAL	PROCESS/FINISH
			THIRD ANGLE PROJECTION		SIZE DRAWING NUMBER 0231501496	SHEET 1 OF 1

DRAWING REVISION	REVISION BY	DATE
A	SN	13/01/2017
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		A
DRAWING NUMBER		8442000085
SHEET		1 OF 1

Model No. SCA1602A3143GAAD01

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	160	215	263.2	1487	1029.9	IE2	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	5.6	1.9	2.7
									-	94.9	94.9	95.7	0.89	0.87	0.81			

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM V1
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	315L	Motor weight - approx.	1154 kg
Duty	S1	Gross weight - approx.	1199 kg
Voltage variation *	± 10%	Motor inertia	4.4423 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)	69 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	-	-	-



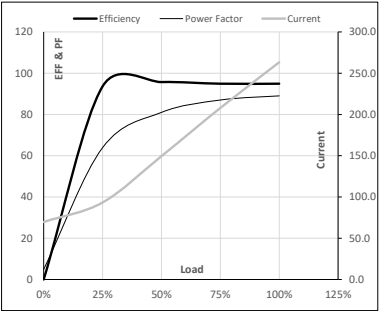
Model No. SCA1602A3143GAAD01

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	160	215	263.2	1487	105.02	1029.92	IE2	50	S1	1000	4.4423	1154

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	69.7	93.3	149.4	207.9	263.2	
Torque	Nm	0.0	255.7	512.5	770.6	1029.9	
Speed	r/min	1500	1497	1494	1490	1487	
Efficiency	%	0.0	93.6	95.7	94.9	94.9	
Power Factor	%	4.9	63.9	81.0	87.0	89.0	

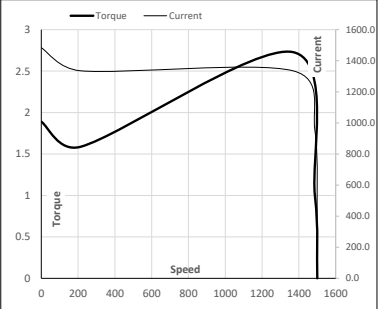
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	214	1368	1487	1500
Current	A	1483.6	1335.2	951.7	263.2	69.7
Torque	pu	1.9	1.6	2.7	1	0

Starting Characteristics Chart



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

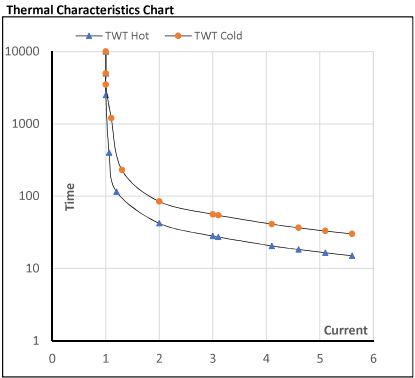
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TEFC	415	Δ	50	160	215	263.2	1487	105.02	1029.92	IE2	50	S1	1000	4.4423	1154

Motor Speed Torque Data								
Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	42	28	20	17	16	15	
TWT Cold	s 10000	84	56	39	35	31	30	
Current	pu	1	2	3	4	5	5,5 5,6	



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

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