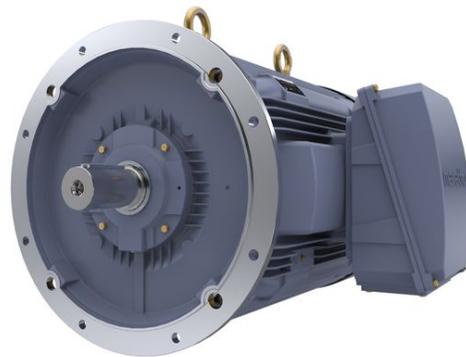


# PRODUCT INFORMATION PACKET

Model No: SCA1603A3123GAAD01

Catalog No: SCA1603A3123GAAD01

160kW, General Purpose Low Voltage IEC Motor, 3 phase, 6 Pole, 415V, B5, 50Hz, 94.8%, 355M Frame, TEFC  
Cast Iron IE2 Efficiency Motors



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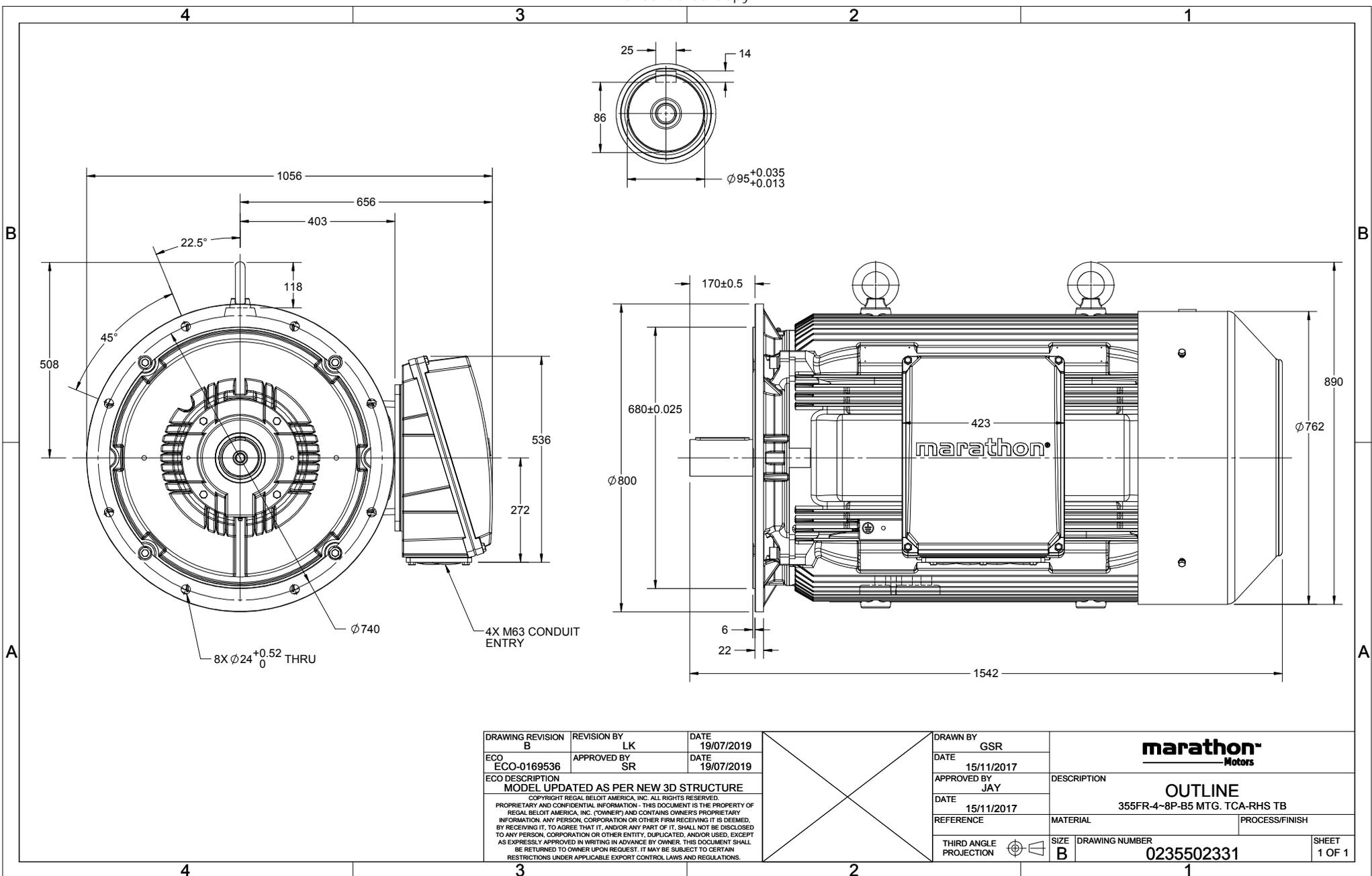
### Nameplate Specifications

Output HP	215 Hp	Output KW	160.0 kW
Frequency	50 Hz	Voltage	415 V
Current	277.9 A	Speed	991 rpm
Service Factor	1	Phase	3
Efficiency	94.8 %	Power Factor	0.84
Duty	S1	Insulation Class	F
Frame	355M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6322
Opp Drive End Bearing Size	6322	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	1542 mm	Frame Length	1010 mm
Shaft Diameter	95 mm	Shaft Extension	170 mm
Assembly/Box Mounting	SIDE		
Outline Drawing	0235502331	Connection Drawing	8442000085

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DRAWING REVISION B	REVISION BY LK	DATE 19/07/2019
ECO ECO-0169536	APPROVED BY SR	DATE 19/07/2019
ECO DESCRIPTION <b>MODEL UPDATED AS PER NEW 3D STRUCTURE</b> <small>COPYRIGHT REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED.                  PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF                  REGAL BELOIT AMERICA, INC. (OWNER) AND CONTAINS OWNER'S PROPRIETARY                  INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED,                  BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED                  TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT                  AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL                  BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN                  RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS.</small>		

DRAWN BY GSR	
DATE 15/11/2017	
APPROVED BY JAY	DESCRIPTION <b>OUTLINE</b> 355FR-4-8P-B5 MTG. TCA-RHS TB
DATE 15/11/2017	MATERIAL
REFERENCE	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B
	DRAWING NUMBER <b>0235502331</b>
	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		DESCRIPTION <b>REGAL</b> <sup>TM</sup> Regal Beloit America, Inc. CONN DIAGRAM-NAMEPLATE	
DATE 16/12/2016	APPROVED BY SBD	DATE 16/12/2016	MATERIAL
REFERENCE	PROCESS/FINISH	SIZE A	DRAWING NUMBER 8442000085
THIRD ANGLE PROJECTION		SHEET 1 OF 1	

**Model No.** SCA1603A3123GAAD01

U (V)	Δ / Y Conn	f (Hz)	P		I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __load				PF at __load			I <sub>a</sub> /I <sub>N</sub> [pu]	T <sub>a</sub> /T <sub>N</sub> [pu]	T <sub>d</sub> /T <sub>N</sub> [pu]
			[kW]	[hp]					5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
415	Δ	50	160	215	277.9	991	1545.4	IE2	-	94.8	94.8	95.6	0.84	0.81	0.72	5.5	1.9	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	355M	Motor weight - approx.	1606 kg
Duty	S1	Gross weight - approx.	1651 kg
Voltage variation *	± 10%	Motor inertia	8.5699 kgm <sup>2</sup>
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)	70 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	6322 C3 / 6322 C3	Terminal box position	RHS
Lubrication method	Regreaseable	Maximum cable size/conduit size	1R x 3C x 300mm <sup>2</sup> /4 x M63 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	Auxiliary terminal box	Available on Request

I<sub>a</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

T<sub>d</sub>/T<sub>N</sub> - Breakdown Torque / Rated Torque

T<sub>a</sub>/T<sub>N</sub> - 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 Standards	Europe	China	India	Aus/Nz	Brazil	Global IEC
	-	-	IS 12615 : 2018	-	-	-



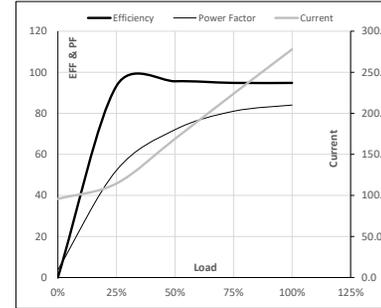
Model No. SCA1603A3123GAAD01

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 <sup>2</sup> ]	Weight [kg]
TEFC	415	Δ	50	160	215	277.9	991	157.58	1545.38	IE2	50	S1	1000	8.5699	1606

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	95.7	114.5	168.9	223.8	277.9	
Torque	Nm	0.0	383.7	769.0	1156.1	1545.4	
Speed	r/min	1000	998	996	993	991	
Efficiency	%	0.0	93.3	95.6	94.8	94.8	
Power Factor	%	3.8	52.2	72.0	81.0	84.0	

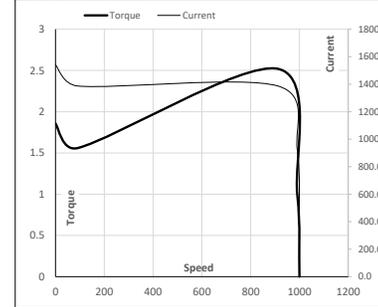
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	91	912	991	1000
Current	A	1541.1	1387.0	922.5	277.9	95.7
Torque	pu	1.9	1.6	2.5	1	0

**Starting Characteristics Chart**



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

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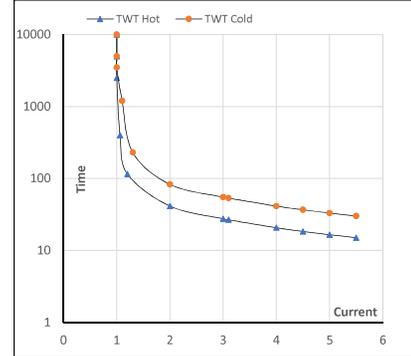
Model No. SCA1603A3123GAAD01

Enclosure	U (V)	$\Delta / Y$ 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 <sup>2</sup> ]	Weight [kg]
TEFC	415	$\Delta$	50	160	215	277.9	991	157.58	1545.38	IE2	50	S1	1000	8.5699	1606

**Motor Speed Torque Data**

Load	FL	$I_1$	$I_2$	$I_3$	$I_4$	$I_5$	LR
TWT Hot	s 10000	41	28	21	18	17	15
TWT Cold	s 10000	83	55	41	37	33	30
Current	pu	1	2	3	4	4.5	5, 5.5

**Thermal Characteristics Chart**



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

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