

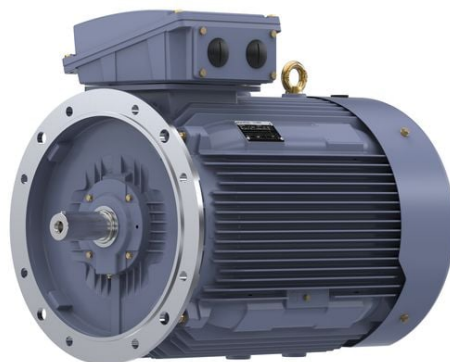
PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA1601A3121GACD01

Catalog No: TCA1601A3121GACD01

Cast Iron Motor, 215 HP, 3 Ph, 50 Hz, 415 V, 3000 RPM, 315L Frame, TEFC



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RegalRexnord

Nameplate Specifications

Output HP	215 Hp	Output KW	160.0 kW
Frequency	50 Hz	Voltage	415 V
Current	258.7 A	Speed	2984 rpm
Service Factor	1	Phase	3
Efficiency	95.6 %	Power Factor	0.9
Duty	S1	Insulation Class	F
Frame	315L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	50 °C
Drive End Bearing Size	6316	Opp Drive End Bearing Size	6316
UL	No	CSA	No
CE	Yes	IP Code	55
Number of Speeds	1	Efficiency Class	IE3

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	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	1287 mm	Frame Length	840 mm
Shaft Diameter	65 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Top		
Connection Drawing	8442000085	Outline Drawing	0231500883

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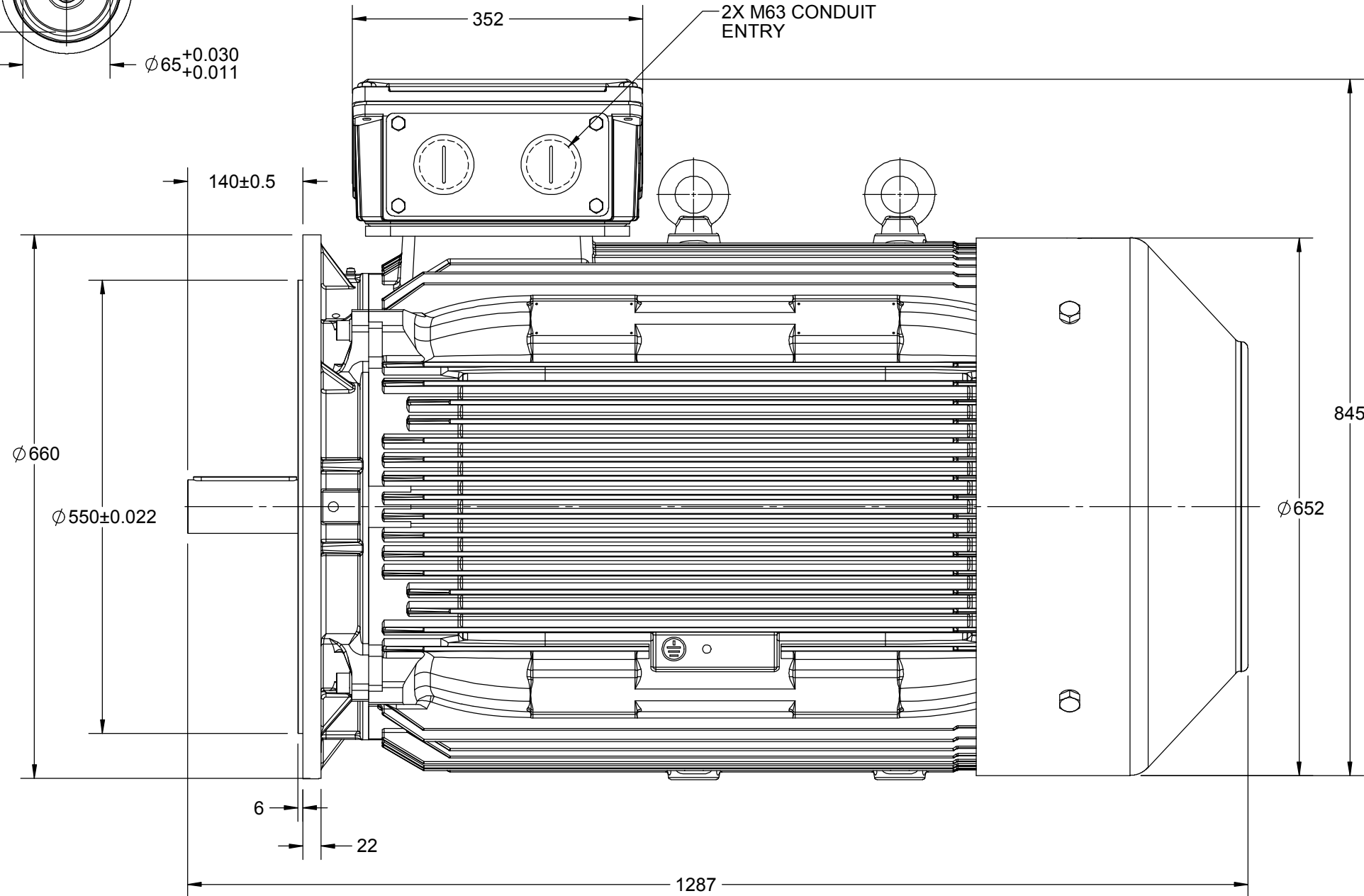
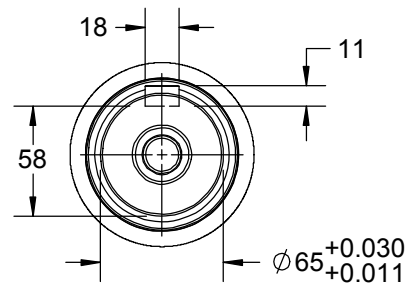
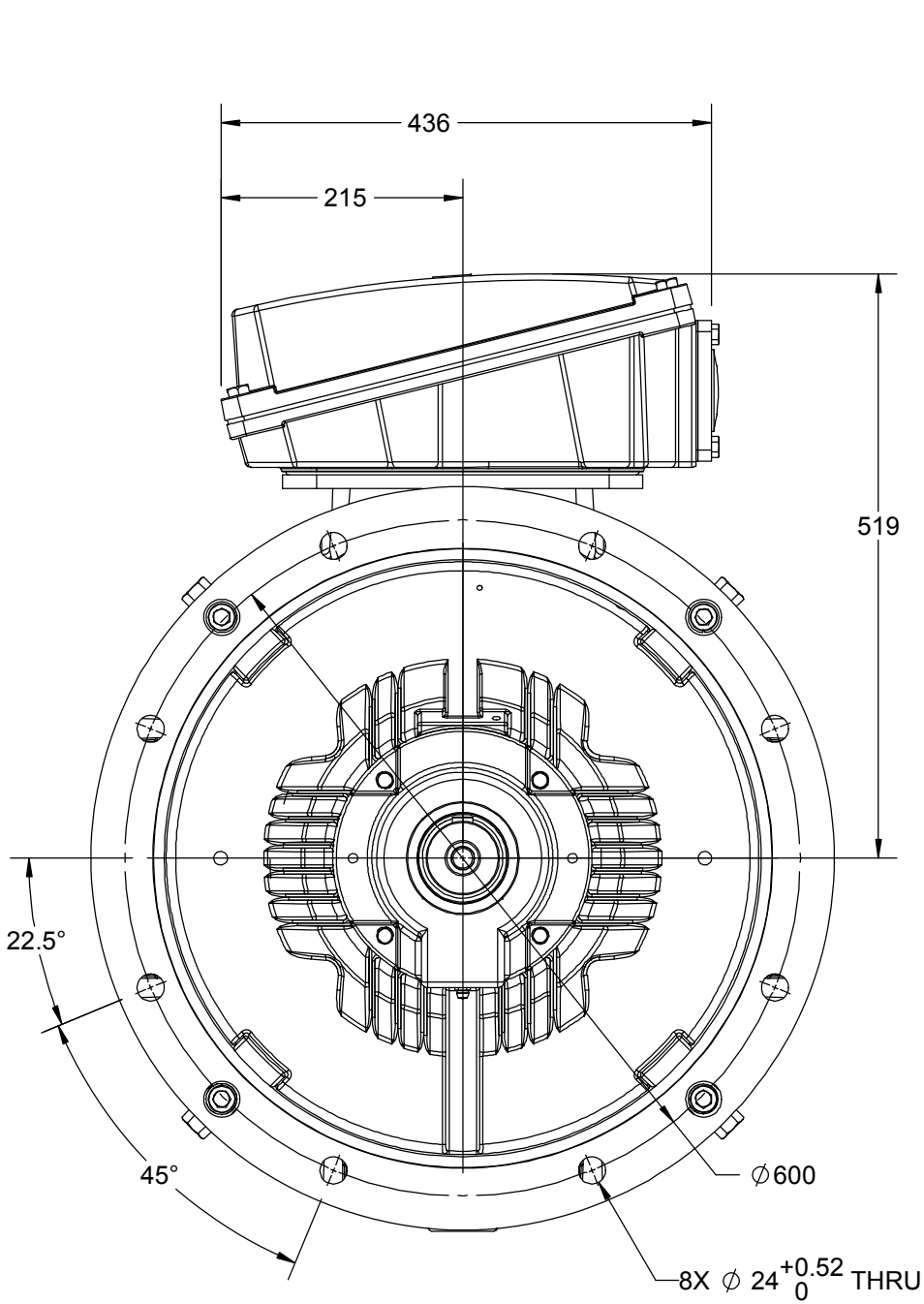
OUTLINE

B

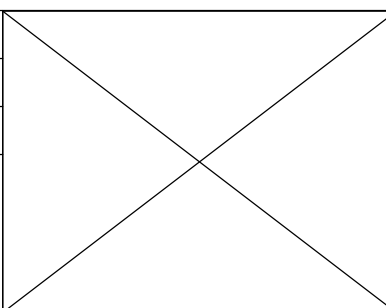
B

A

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DRAWING REVISION B	REVISION BY NIV	DATE 13/05/2019
ECO ECO-0165600	APPROVED BY SR	DATE 13/05/2019
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY JOY	marathon™ Motors		
DATE 18/07/2014			
APPROVED BY SBD	DESCRIPTION OUTLINE		
DATE 18/07/2014	FR-315L-2P-B5 MTG. MOTOR TYPE: TCA		
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0231500883	SHEET 1 OF 1

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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.

8WD.442.2017



DRAWN BY SN	 Regal Beloit America, Inc.		
	DESCRIPTION CONN DIAGRAM-NAMEPLATE		
	MATERIAL		PROCESS/FINISH
	SIZE A	DRAWING NUMBER 8442000085	SHEET 1 OF 1

Model No. TCA1601A3121GACD01

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 _K /T _N [pu]
415	Δ	50	160	215	258.7	2984	513.07	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	7.5	2.3	3.7
									-	95.6	95.6	94.1	0.9	0.87	0.8			

Motor type	TCA
Enclosure	TEFC
Frame Material	Cast Iron
Frame size	315L
Duty	S1
Voltage variation *	± 10%
Frequency variation *	± 5%
Combined variation *	10%
Design	N
Service factor	1.0
Insulation class	F
Ambient temperature	-20 to +50 °C
Temperature rise (by resistance)	70 [Class B] K
Altitude above sea level	1000 meter
Hazardous area classification	NA
Zone classification	NA
Gas group	NA
Temperature class	NA
Rotor type	Aluminum Die cast
Bearing type	Anti-friction ball bearing
DE / NDE bearing	6316 C3 / 6316 C3
Lubrication method	Regreasable
Type of grease	Shell Gadus S5 V100 or Equivalent

Degree of protection	IP 55
Mounting type	IM B5
Cooling method	IC 411
Motor weight - approx.	1199 kg
Gross weight - approx.	1244 kg
Motor inertia	2.9603 kgm ²
Load inertia	Customer to Provide
Vibration level	2.8 mm/s
Noise level (1meter distance from motor)	83 dB(A)
No. of starts hot/cold/Equally spread	2/3/4
Starting method	DOL
Type of coupling	Direct
LR withstand time (hot/cold)	15/30 s
Direction of rotation	Bi-directional
Standard rotation	Clockwise form DE
Paint shade	RAL 5014
Accessories	
Accessory - 1	-
Accessory - 2	-
Accessory - 3	-
Terminal box position	TOP
Maximum cable size/conduit size	1R x 3C x 240mm ² /2 x M63 x 1.5
Auxiliary terminal box	NA

I_A/I_N - Locked Rotor Current / Rated Current

T_K/T_N - Breakdown Torque / Rated Torque

T_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.

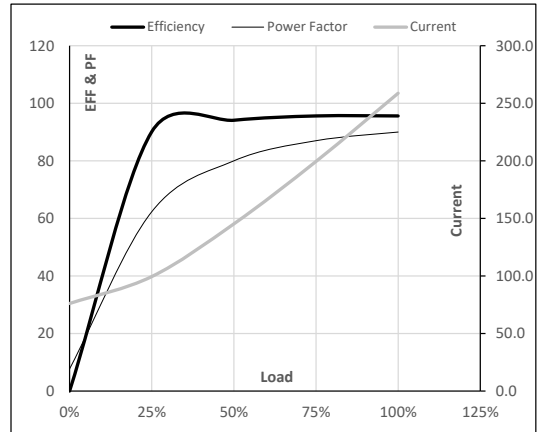
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	-	IS 12615 : 2018	-	-	-

Model No. TCA1601A3121GACD01

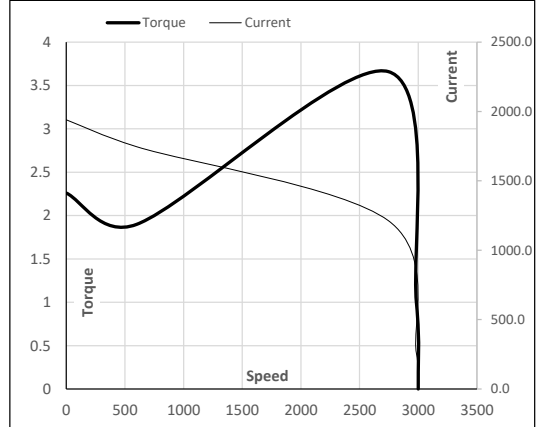
Enclosure	U (V)	Δ / Y Conn	f (Hz)	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	415	Δ	50	160	215.0	258.7	2984	52.32	513.07	IE3	50	S1	1000	2.9603	1199

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	76.1	99.5	145.2	199.5	258.7	
Torque	Nm	0.0	127.8	255.8	384.3	513.1	
Speed	r/min	3000	2996	2992	2988	2984	
Efficiency	%	0.0	90.1	94.1	95.6	95.6	
Power Factor	%	7.7	62.3	80.0	87.0	90.0	

Performance vs Load Chart

Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2745	2984	3000
Current	A	1940.4	1746.3	1213.2	258.7	76.1
Torque	pu	2.3	1.9	3.7	1	0

Starting Characteristics Chart

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

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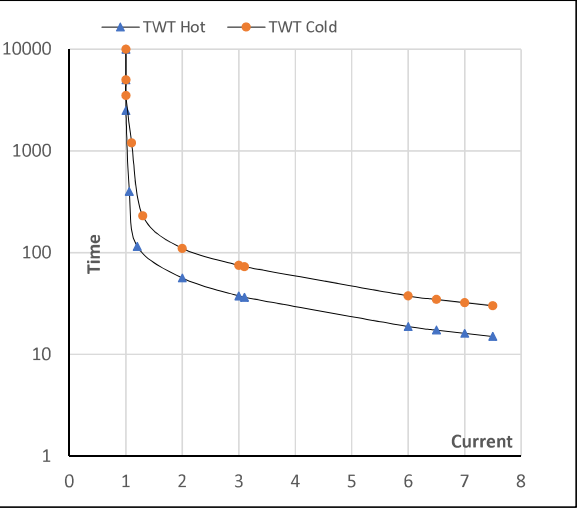
Model No. TCA1601A3121GACD01

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	258.7	2984	52.28	513.07	IE3	50	S1	1000	2.9603	1199

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR
TWT Hot	s 10000	56	38	35	25	20	15
TWT Cold	s 10000	110	75	60	45	40	30
Current	pu 1	2	3	4	5	5.5	7.5

Thermal Characteristics Chart



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

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