

PRODUCT INFORMATION PACKET

Model No: TCA1321A3111GACD01

Catalog No: TCA1321A3111GACD01

132.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 3000 RPM, 415 V, 315M Frame, TEFC
Cast Iron IE3 Efficiency Motors





Nameplate Specifications

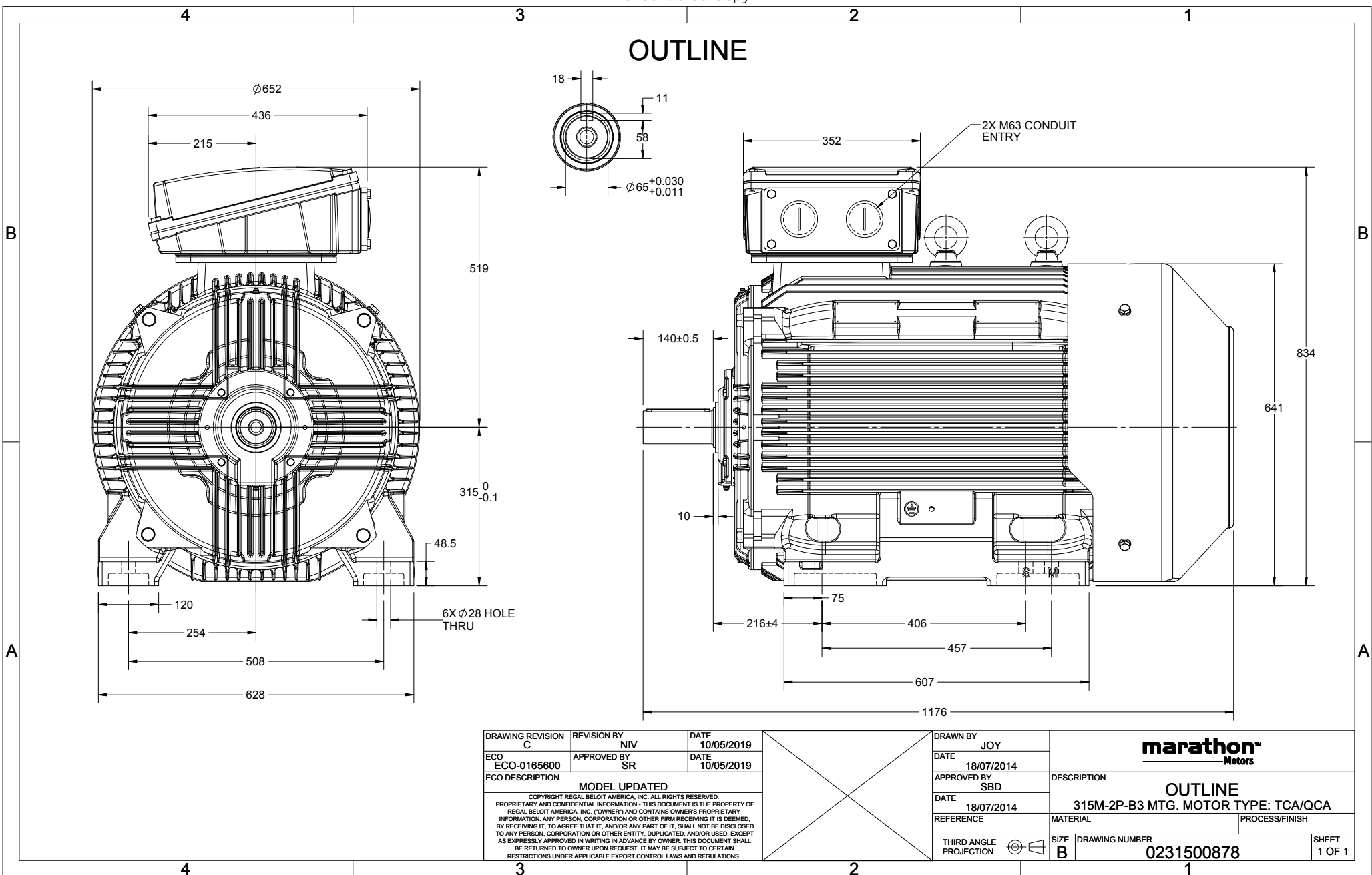
Output HP	175 Hp	Output KW	132.0 kW
Frequency	50 Hz	Voltage	415 V
Current	216.3 A	Speed	2984 rpm
Service Factor	1	Phase	3
Efficiency	95.4 %	Power Factor	0.89
Duty	S1	Insulation Class	F
Frame	315M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6316
Opp Drive End Bearing Size	6316	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	B3	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1176 mm	Frame Length	729 mm
Shaft Diameter	65 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Top		
Outline Drawing	0231500878	Connection Drawing	8442000085

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OUTLINE



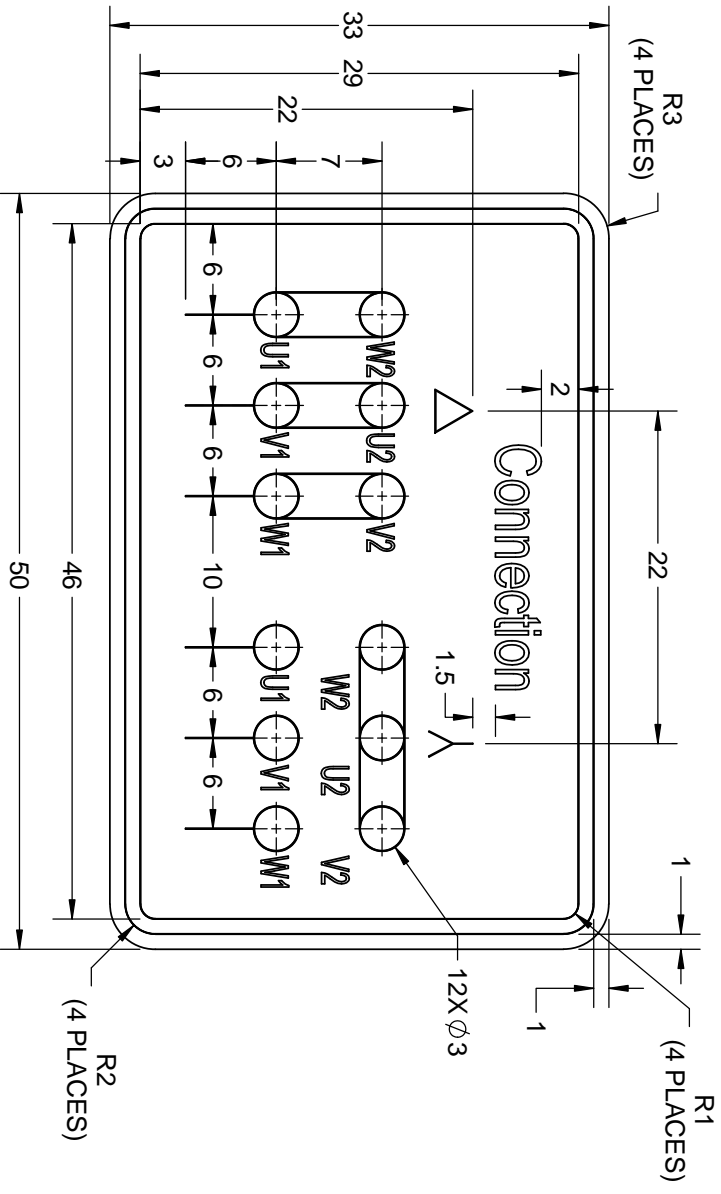
DRAWING REVISION C	REVISION BY NIV	DATE 10/05/2019
ECO ECO-0165600	APPROVED BY SR	DATE 10/05/2019
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY JOY	
DATE 18/07/2014	
APPROVED BY SBD	
DATE 18/07/2014	
REFERENCE	DESCRIPTION 315M-2P-B3 MTG. MOTOR TYPE: TCA/QCA
THIRD ANGLE PROJECTION	MATERIAL
SIZE B	DRAWING NUMBER 0231500878
	PROCESS/FINISH
	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 REGAL ™ Regal Beloit America, Inc. CONN DIAGRAM-NAMEPLATE	
DATE 16/12/2016	APPROVED BY SBD	MATERIAL	PROCESS/FINISH
DATE 16/12/2016	REFERENCE	SIZE A	DRAWING NUMBER 8442000085
THIRD ANGLE PROJECTION		SIZE A	DRAWING NUMBER 8442000085
		THIRD ANGLE PROJECTION	SHEET 1 OF 1

Model No. TCA1321A3111GACD01

U (V)	Δ / Y Conn	f (Hz)	P		I		n (RPM)	T (Nm)	IE Class	% EFF at __ load				PF at __ load			I _L /I _N [pu]	T _M /T _N [pu]	T _L /T _N [pu]
			[kW]	[hp]	[A]	[hp]				5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
415	Δ	50	132	175	216.3	2984	417.55		IE3	-	95.4	95.4	93.3	0.89	0.85	0.77	7.7	2.3	3.9

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	315M	Motor weight - approx.	1064 kg
Duty	S1	Gross weight - approx.	1109 kg
Voltage variation *	± 10%	Motor inertia	2.5544 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)	83 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 bearing	Accessory - 3	-
DE / NDE bearing	6316 C3 / 6316 C3	Terminal box position	TOP
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	NA

I_L/I_N - Locked Rotor Current / Rated Current

T_M/T_N - Breakdown Torque / Rated Torque

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

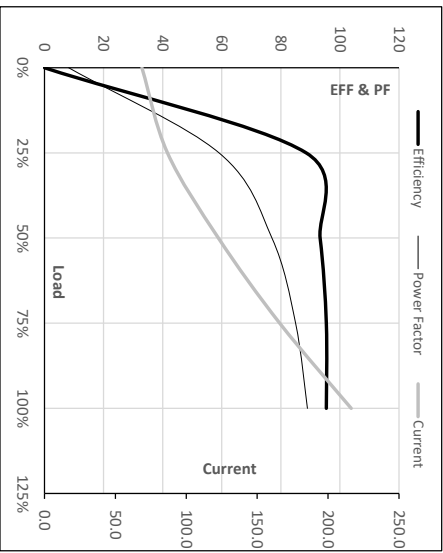
Model No. TCA1321A3111GACD01

Enclosure	U [V]	Δ /Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb Temp [°C]	Duty	Elevation [m]	Inertia [kg·m ²]	Weight [kg]
TFC	415	Δ	50	132	175	216.3	2984	42.58	417.55	IE3	50	S1	1000	2.5544	1064

Motor Load Data

Load Point	NI	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A 68.7	86.7	122.7	165.9	216.3	
Torque	Nm 0.0	104.0	208.2	312.7	417.6	
Speed	r/min 3000	2996	2992	2988	2984	
Efficiency	% 0.0	88.6	93.3	95.4	95.4	
Power Factor	% 8.2	59.1	77.0	85.0	89.0	

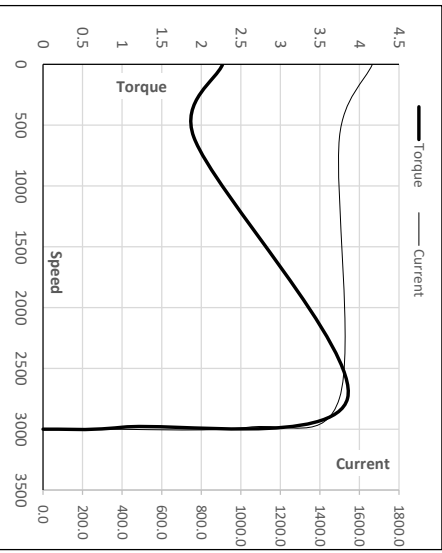
Performance vs Load Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NI
Speed	r/min 0	600	2745	2984	3000
Current	A 1665.4	1498.9	1037.9	216.3	68.7
Torque	pu 2.3	1.9	3.9	1	0

Starting Characteristics Chart



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

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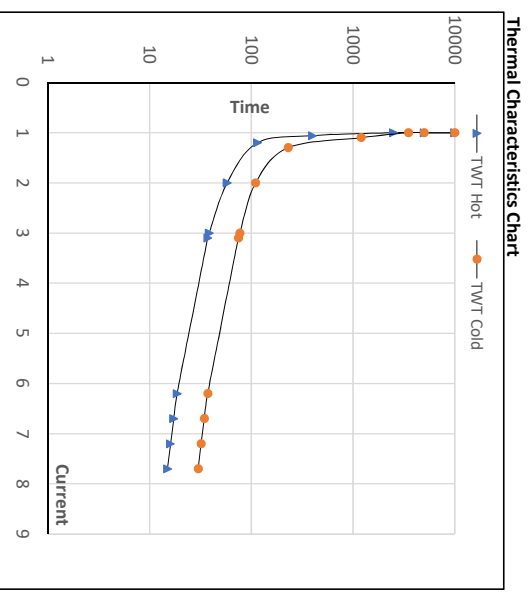


Model No. TCA1321A3111GACD01

Enclosure	U	Δ / Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
(V)	415	Δ	50	[kW]	[hp]	[A]	[rpm]	[kgm]	[Nm]	Class	[°C]	S1	[m]	[kg·m ²]	[kg]
TEFC				132	175	216.3	2984	42.55	417.55	IE3	50	S1	1000	2.5544	1064

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s	10000	58	39	35	25	20	15
TWT Cold	s	10000	110	77	60	45	40	30
Current	pu	1	2	3	4	5	5.5	7.7



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

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