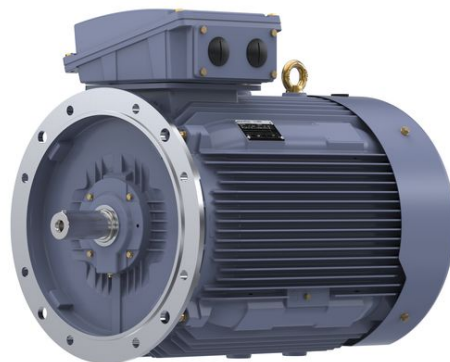


PRODUCT INFORMATION PACKET

Model No: TCA0754A3121GACD01

Catalog No: TCA0754A3121GACD01

75.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 750 RPM, 415 V, 315M Frame, TEFC
Cast Iron IE3 Efficiency Motors





Nameplate Specifications

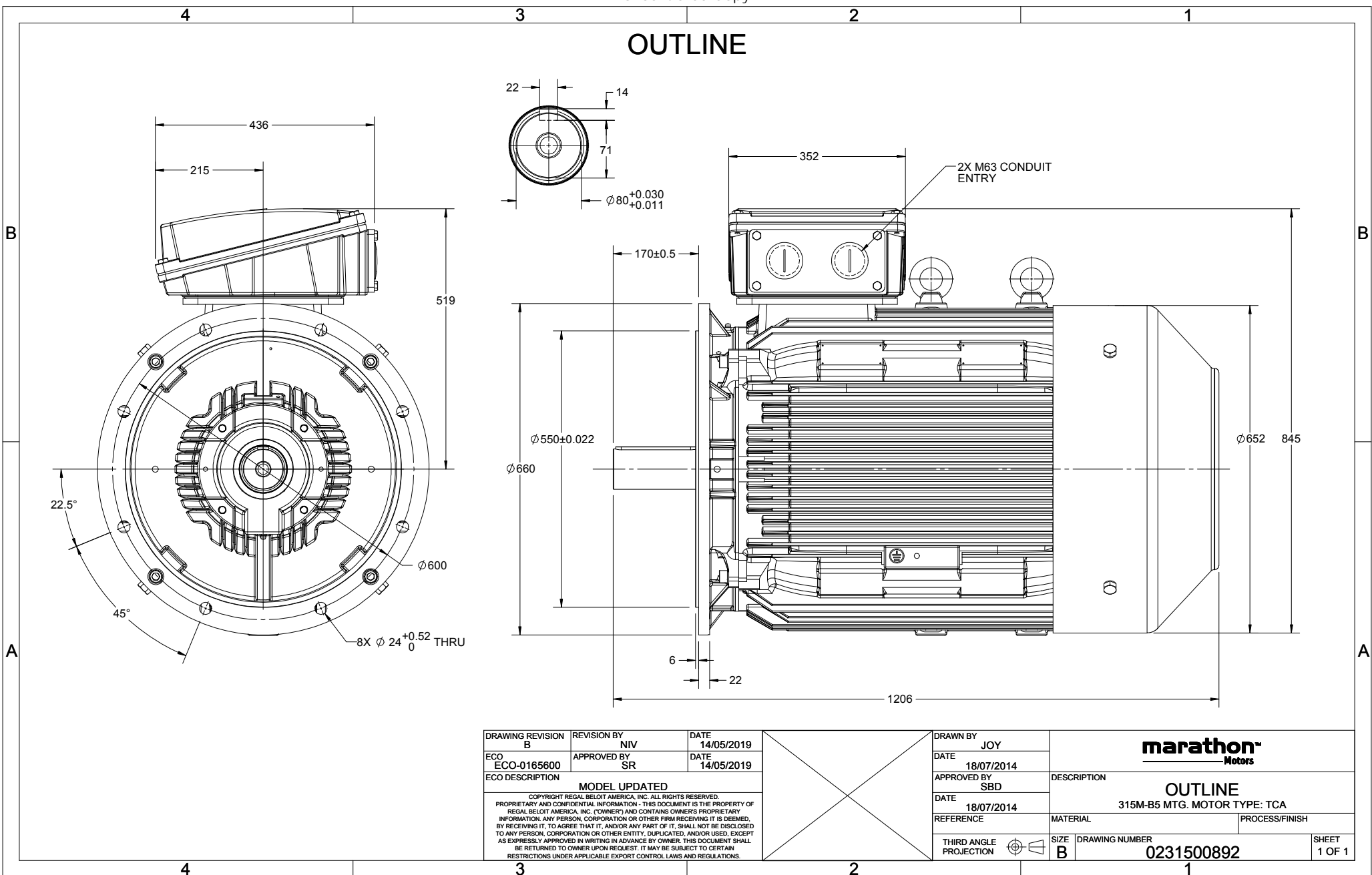
Output HP	100 Hp	Output KW	75.0 kW
Frequency	50 Hz	Voltage	415 V
Current	155.7 A	Speed	743 rpm
Service Factor	1	Phase	3
Efficiency	93.1 %	Power Factor	0.72
Duty	S1	Insulation Class	F
Frame	315M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6319
Opp Drive End Bearing Size	6319	UL	No
CSA	No	CE	Yes
IP Code	55		

Technical Specifications

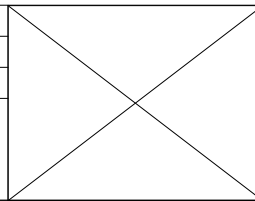
Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	8	Rotation	Bi-Directional
Mounting	B5	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1206 mm	Frame Length	729 mm
Shaft Diameter	80 mm	Shaft Extension	170 mm
Assembly/Box Mounting	Top		
Outline Drawing	0231500892	Connection Drawing	8442000085

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OUTLINE



DRAWING REVISION B	REVISION BY NIV	DATE 14/05/2019
ECO ECO-0165600	APPROVED BY SR	DATE 14/05/2019
ECO DESCRIPTION MODEL UPDATED		
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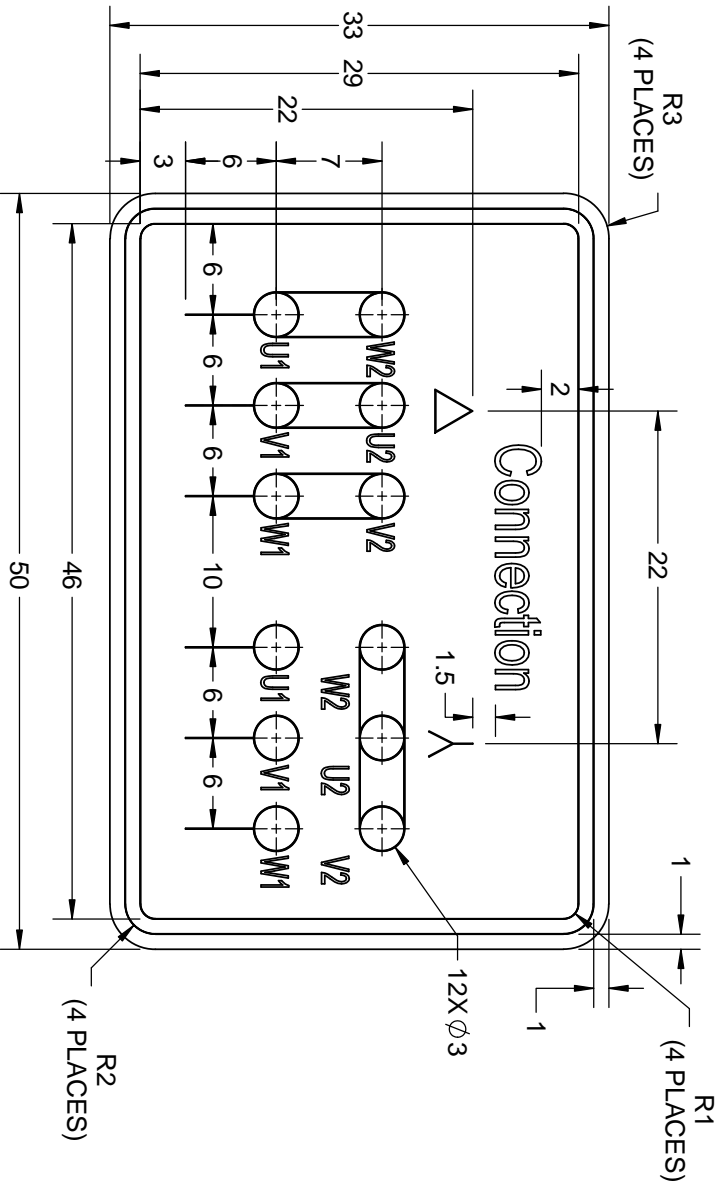
DRAWN BY JOY
DATE 18/07/2014
APPROVED BY SBD
DATE 18/07/2014
REFERENCE
THIRD ANGLE PROJECTION

marathon Motors	
DESCRIPTION OUTLINE 315M-B5 MTG. MOTOR TYPE: TCA	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER 0231500892
	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.	
DATE 16/12/2016		DATE 16/12/2016	
APPROVED BY SBD		DATE 16/12/2016	
REFERENCE		MATERIAL	
THIRD ANGLE PROJECTION		SIZE A	
		DRAWING NUMBER 8442000085	
		PROCESS/FINISH	
		SHEET 1 OF 1	

Model No. TCA0754A3121GACD01

U (V)	Δ / Y Conn	f (Hz)	P		I			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]	[RPM]	5/4FL			FL	3/4FL	1/2FL	FL	3/4FL	1/2FL				
415	Δ	50	75	100	155.7	743	959.57		IE3	-	93.1	93.1	92	0.72	0.66	0.53	4.9	1.9	2.1

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	315M	Motor weight - approx.	902 kg
Duty	S1	Gross weight - approx.	947 kg
Voltage variation *	± 10%	Motor inertia	4.8296 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)	64 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	6319 C3 / 6319 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	-	-	-

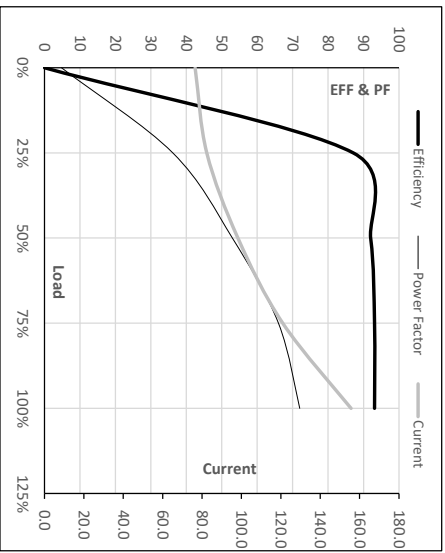
Model No. TCA0754A3121GACD01

Enclosure	U [V]	Δ /Y	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	75	100	155.7	743	97.85	959.57	IE3	50	S1	1000	4.8296	902

Motor Load Data

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	76.5	82.4	98.2	121.0	155.7
Torque	Nm	0.0	238.2	477.4	717.8	959.6
Speed	r/min	750	748	747	745	743
Efficiency	%	0.0	87.1	92.0	93.1	93.1
Power Factor	%	4.8	36.2	53.0	66.0	72.0

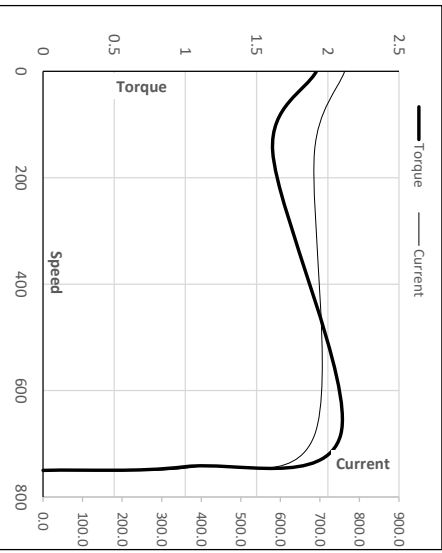
Performance vs Load Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	150	684	743	750
Current	A	762.7	686.5	387.1	155.7	76.5
Torque	pu	1.9	1.6	2.1	1	0

Starting Characteristics Chart



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

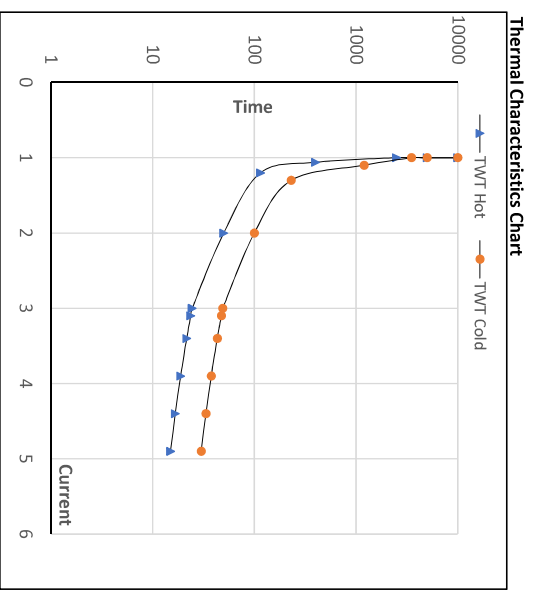
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Issued Date

Model No. TCA075AA3121GACD01

Enclosure	U	Δ /Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
(V)	415	Conn	[Hz]	[kW]	[hp]	[A]	[rpm]	[kgm]	[Nm]	Class	[°C]	S1	[m]	[kg·m ²]	[kg]
TEFC		Δ	50	75	100	155.7	743	97.78	959.57	IE3	50	S1	1000	4.8296	902

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s	10000	50	25	21	18	16	15
TWT Cold	s	10000	100	49	42	37	31	30
Current	pu	1	2	3	3.5	4	4.5	4.9



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

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