

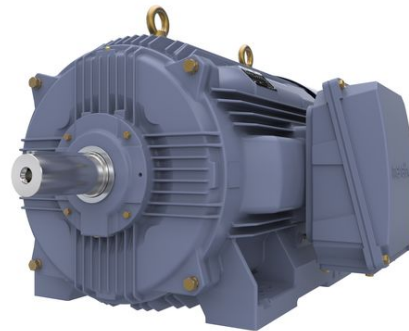
PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA0554A3113GACD01

Catalog No: TCA0554A3113GACD01

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



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REGAL

Nameplate Specifications

Output HP	75 Hp	Output KW	55.0 kW
Frequency	50 Hz	Voltage	415 V
Current	113.3 A	Speed	742 rpm
Service Factor	1	Phase	3
Efficiency	92.5 %	Power Factor	0.73
Duty	S1	Insulation Class	F
Frame	315S	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	B3	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	R Side		
Outline Drawing	0231501362	Connection Drawing	8442000085

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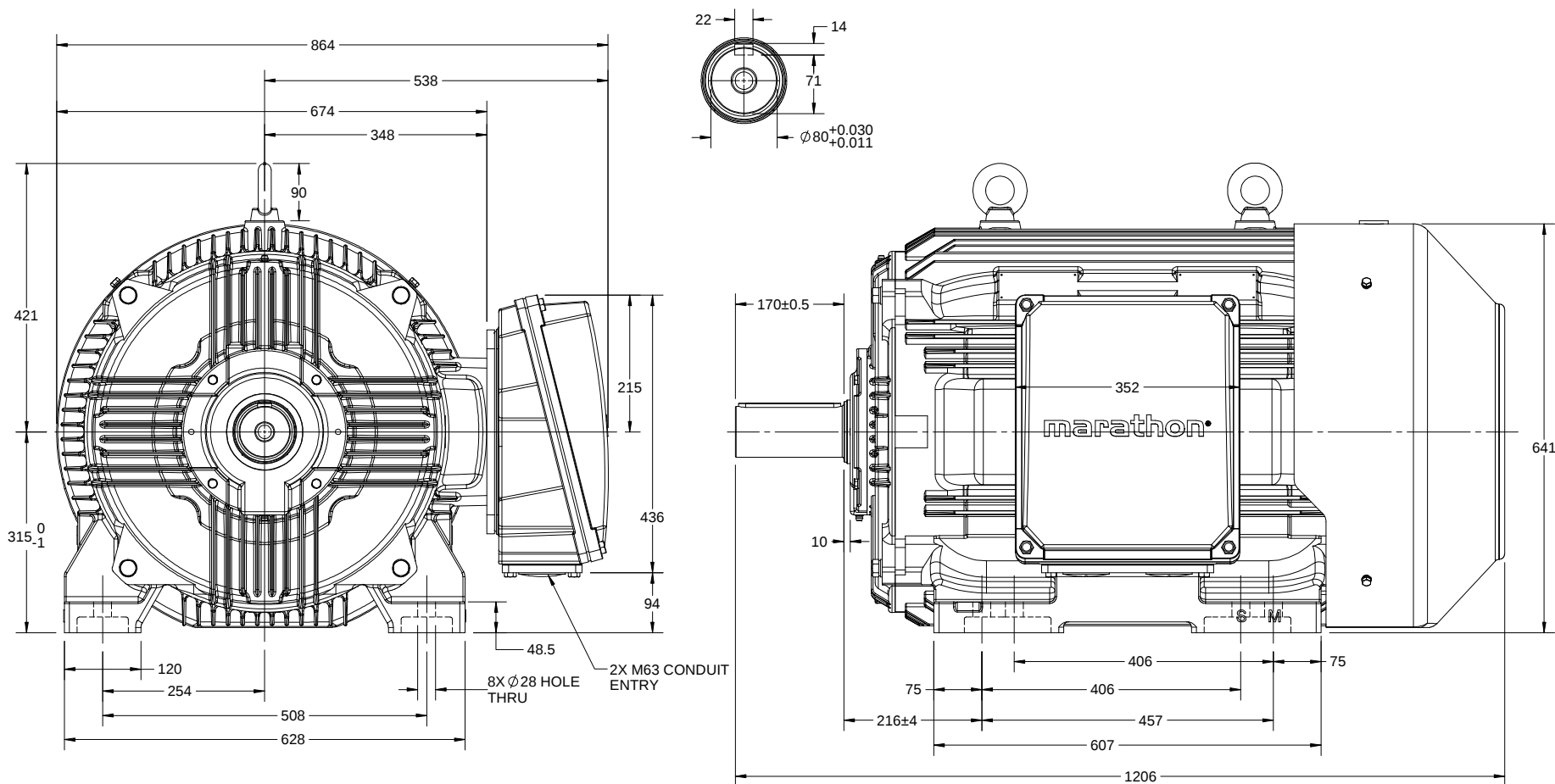
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A

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DRAWING REVISION B	REVISION BY VS	DATE 11/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 11/07/2018
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY SKM		
DATE 08/11/2017		
APPROVED BY JAY	DESCRIPTION OUTLINE 315S/M 4P-8P B3 MTG. TCA/QCA-RHS TB	
DATE 08/11/2017		
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0231501362
		SHEET 1 OF 1

4

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Model No. TCA0554A3113GACD01

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 _b /T _N [pu]
415	Δ	50	55	75	113.3	742	720.05	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	4.7	1.8	2.0

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	315S	Motor weight - approx.	889 kg
Duty	S1	Gross weight - approx.	934 kg
Voltage variation *	± 10%	Motor inertia	3.7895 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	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	NA

I_a/I_N - Locked Rotor Current / Rated CurrentT_b/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 Standards	Europe	China	India	Aus/Nz	Brazil	Global IEC
	-	-	IS 12615 : 2018	-	-	-

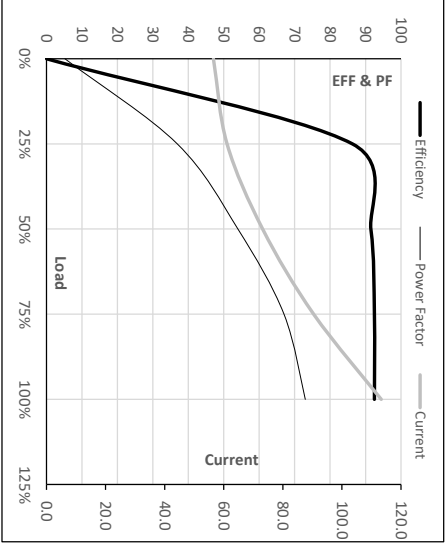
Model No. TCA0554A3113GACD01

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]
TEFC	415	Δ	50	55	75	113.3	742	73.42	720.05	IE3	50	S1	1000	3.7895	889

Motor Speed Data

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	56.5	61.1	73.2	90.4	113.3
Torque	Nm	0.0	178.7	358.1	538.5	720.0
Speed	r/min	750	748	746	745	742
Efficiency	%	0.0	86.3	91.5	92.5	92.5
Power Factor	%	5.2	36.9	54.0	67.0	73.0

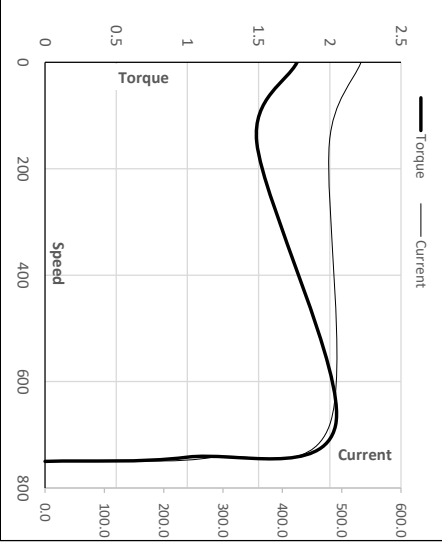
Performance vs Load Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	150	683	742	750
Current	A	532.6	479.3	283.7	113.3	56.5
Torque	pu	1.8	1.5	2.0	1	0

Starting Characteristics Chart



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

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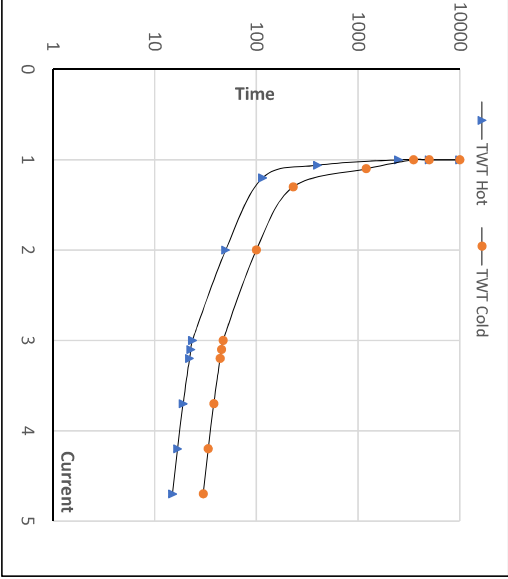
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg·m ²]	Weight [kg]
TEFC	415	Δ	50	55	75	113.3	742	73.37	720.05	IE3	50	S1	1000	3.7895	889

Motor Speed Torque Data

Load	FL	I_1	I_2	I_3	I_4	I_5	LR	
TWT Hot	s	10000	50	24	21	18	16	15
TWT Cold	s	10000	100	47	42	37	31	30
Current	pu	1	2	3	3.5	4	4.5	4.7

Thermal Characteristics Chart



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

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