

PRODUCT INFORMATION PACKET

Model No: TCA1324A3113GACD01

Catalog No: TCA1324A3113GACD01

Cast Iron Motor, 175 HP, 3 Ph, 50 Hz, 415 V, 750 RPM, 355M Frame, TEFC



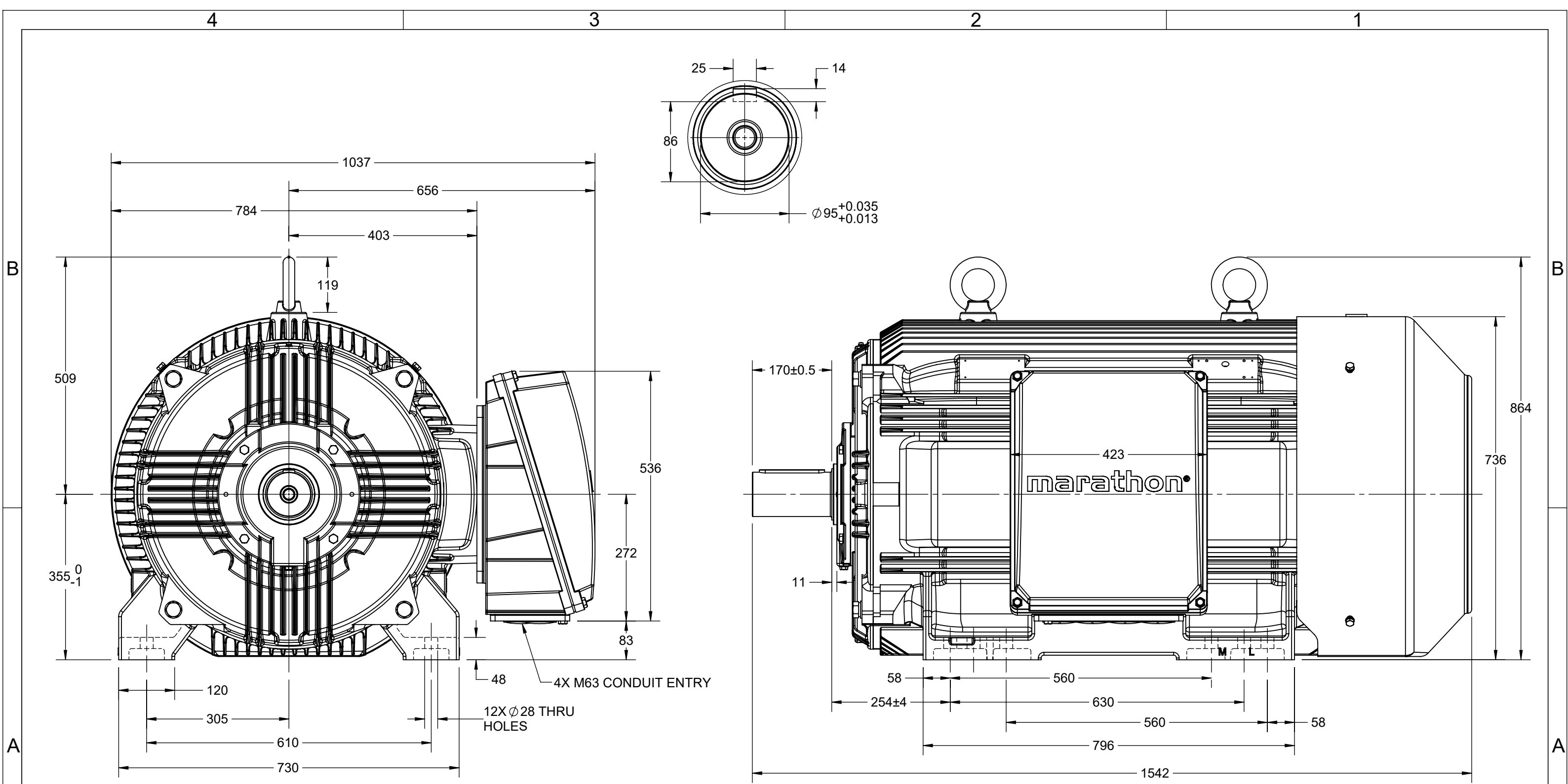
Nameplate Specifications

Output HP	175 Hp	Output KW	132.0 kW
Frequency	50 Hz	Voltage	415 V
Current	238.3 A	Speed	742 rpm
Service Factor	1	Phase	3
Efficiency	94 %	Power Factor	0.82
Duty	S1	Insulation Class	F
Frame	355M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	50 °C
Drive End Bearing Size	6322	Opp Drive End Bearing Size	6322
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	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	1542 mm	Frame Length	1010 mm
Shaft Diameter	95 mm	Shaft Extension	170 mm
Assembly/Box Mounting	R Side		
Connection Drawing	8442000085	Outline Drawing	0235502296

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DRAWING REVISION C	REVISION BY LK	DATE 07/09/2020
ECO CR-0000087	APPROVED BY JAY	DATE 07/09/2020
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY SKM	marathon™ Motors	
DATE 11/08/2017		
APPROVED BY JAY	DESCRIPTION OUTLINE 355L-4~8P-B3	
DATE 11/08/2017	MATERIAL	PROCESS/FINISH
REFERENCE	SIZE B	DRAWING NUMBER 0235502296
THIRD ANGLE PROJECTION	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	DATE 16/12/2016		 Regal Beloit America, Inc.	
	APPROVED BY SBD	DESCRIPTION CONN DIAGRAM-NAMEPLATE		
	DATE 16/12/2016	MATERIAL	PROCESS/FINISH	
	REFERENCE	SIZE A	DRAWING NUMBER 8442000085	SHEET 1 OF 1
	THIRD ANGLE PROJECTION 			

Model No. TCA1324A3113GACD01

U (V)	Δ / Y Conn	f [Hz]	P			I			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]
			[kW]	[hp]	[A]	[A]	[A]	5/4FL				FL	3/4FL	1/2FL	FL	3/4FL	1/2FL				
415	Δ	50	132	175	238.2	742	1679.33			IE3	-	94	94	94.5	0.82	0.79	0.69	6.1	1.5	2.5	

Motor type	TCA	
Enclosure	TEFC	
Frame Material	Cast Iron	
Frame size	355M	
Duty	S1	
Voltage variation *	\pm 10%	
Frequency variation *	\pm 5%	
Combined variation *	10%	
Design	N	
Service factor	1.0	
Insulation class	F	
Ambient temperature	-20 to +50	$^{\circ}$ 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	6322 C3 / 6322 C3	
Lubrication method	Regreasable	
Type of grease	Shell Gadus S5 V100 or Equivalent	

Degree of protection	IP 55	
Mounting type	IM B3	
Cooling method	IC 411	
Motor weight - approx.	1643	kg
Gross weight - approx.	1688	kg
Motor inertia	8.9257	kgm ²
Load inertia	Customer to Provide	
Vibration level	2.8	mm/s
Noise level (1meter distance from motor)	65	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	RHS	
Maximum cable size/conduit size	1R x 3C x 300mm ² /4 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 combined 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	-	-	-

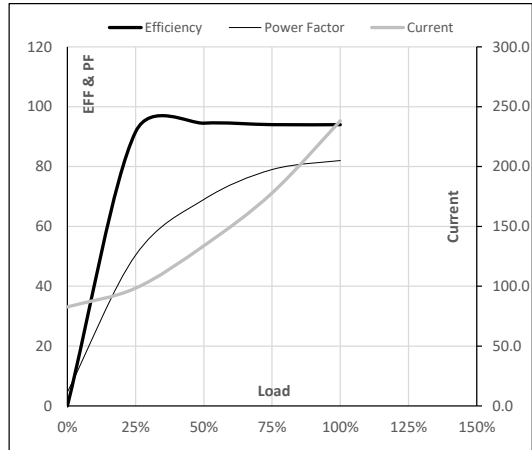
Model No. TCA1324A3113GACD01

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	132	175	238.2	742	171.24	1679.33	IE3	50	S1	1000	8.9257	1643

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	82.7	98.4	133.8	177.9	238.2	
Torque	Nm	0.0	416.6	835.2	1256.0	1679.3	
Speed	r/min	750	748	746	745	742	
Efficiency	%	0.0	91.6	94.5	94.0	94.0	
Power Factor	%	4.6	50.4	69.0	79.0	82.0	

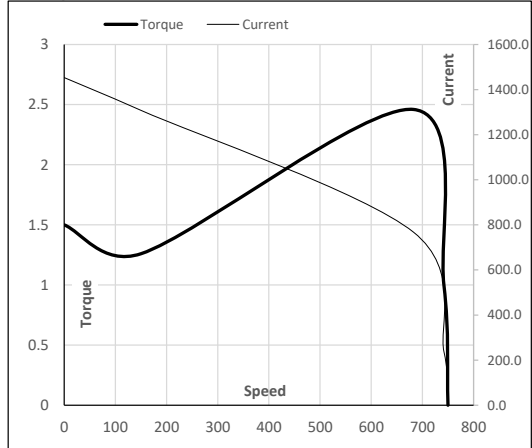
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	150	683	742	750
Current	A	1453.3	1308.0	767.6	238.2	82.7
Torque	pu	1.5	1.3	2.5	1	0

Starting Characteristics Chart



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

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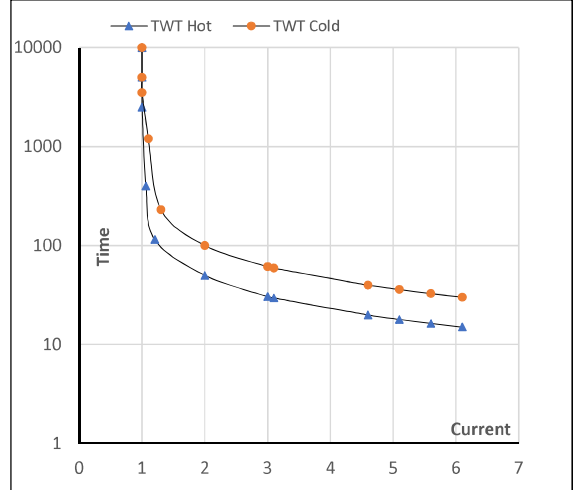
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Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	50	31	25	18	17	15	
TWT Cold	s 10000	100	61	50	37	34	30	
Current	pu	1	2	3	4	5	5.5	6.1

Thermal Characteristics Chart



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

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