

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCN3551A1113GAC010

Catalog No: TCN3551A1113GAC010

TerraMAX® Cast Iron Motor, 475 HP, 3 Ph, 50 Hz, 400 V, 3000 RPM, 355L Frame, TEFC



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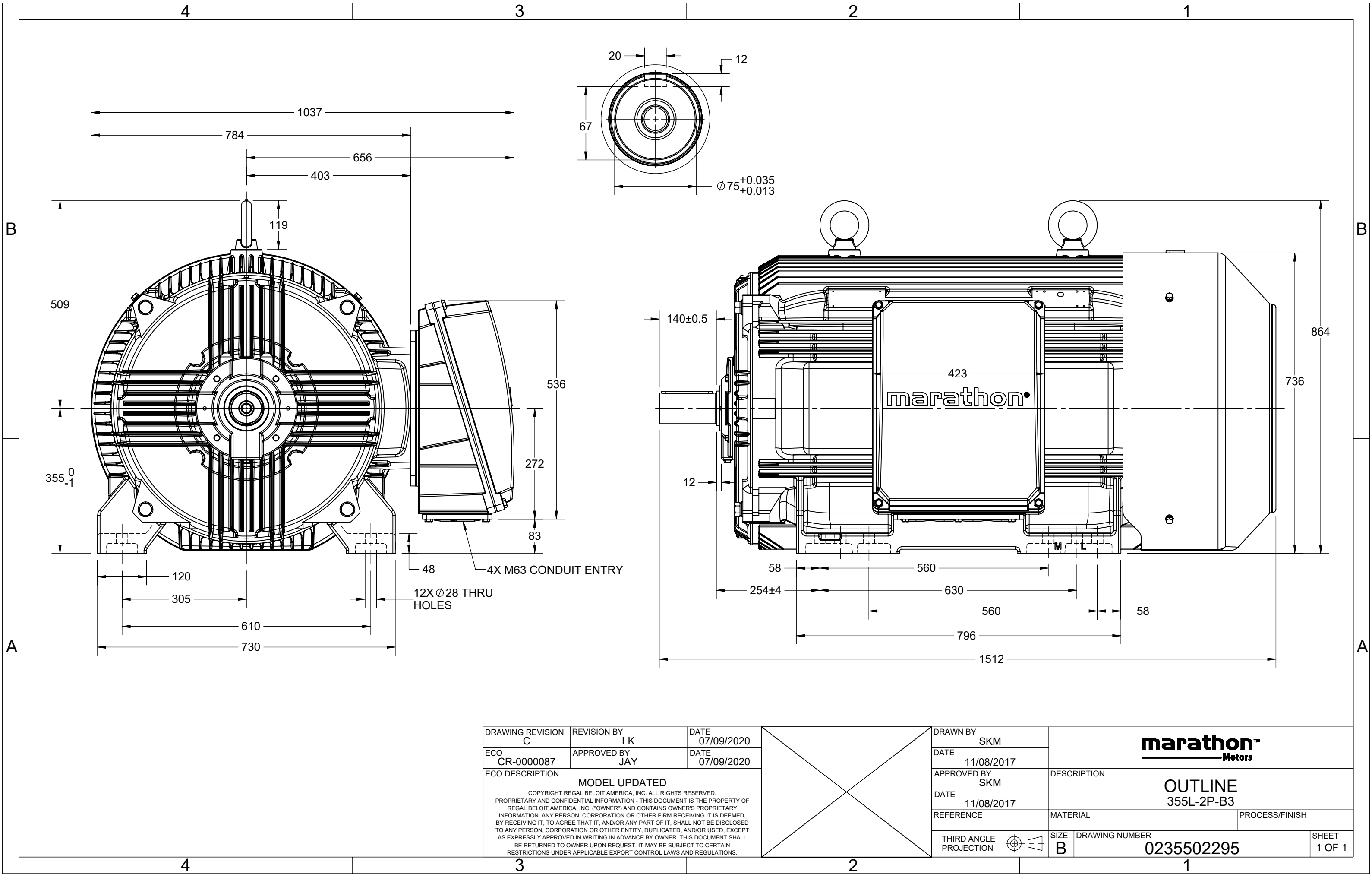
Nameplate Specifications

Output HP	475 Hp	Output KW	355.0 kW
Frequency	50 Hz	Voltage	400 V
Current	527.3 A	Speed	2984 rpm
Service Factor	1	Phase	3
Efficiency	95.8 %	Power Factor	0.9
Duty	S1	Insulation Class	F
Frame	355L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6317	Opp Drive End Bearing Size	6317
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	B3	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1512 mm	Frame Length	1010 mm
Shaft Diameter	75 mm	Shaft Extension	140 mm
Assembly/Box Mounting	R Side		
Connection Drawing	8442000085	Outline Drawing	0235502295

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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 SKM	DESCRIPTION OUTLINE 355L-2P-B3	
DATE 11/08/2017	MATERIAL 304/316L SS	
REFERENCE	PROCESS/FINISH 304/316L SS	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0235502295
		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.		
	DATE 16/12/2016				
	APPROVED BY SBD		DESCRIPTION CONN DIAGRAM-NAMEPLATE		
	DATE 16/12/2016				
	REFERENCE		MATERIAL		PROCESS/FINISH
	THIRD ANGLE PROJECTION		SIZE A	DRAWING NUMBER 8442000085	SHEET 1 OF 1

Model No. TCN3551A1113GAC010

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]
									5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
400	Δ	50	355	475	601.0	2987	1132.5	IE3	-	95.8	95.8	95	0.89	0.86	0.79	8.6	2.8	4.0

Motor type	TCN	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	355L	Motor weight - approx.	2082 kg
Duty	S1	Gross weight - approx.	2127 kg
Voltage variation *	± 10%	Motor inertia	5.7956 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)	90 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 +40 °C	Type of coupling	Direct
Temperature rise (by resistance)	80 [Class B] K	LR withstand time (hot/cold)	12/25 s
Altitude above sea level	1000 meter	Direction of rotation	Bi-directional
Hazardous area classification	Ex nA	Standard rotation	Clockwise form DE
Zone classification	Zone 2	Paint shade	RAL 5014
Gas group	IIC	Accessories	
Temperature class	T3	Accessory - 1	PTC 150°C
Rotor type	Aluminum Die cast	Accessory - 2	-
Bearing type	Anti-friction ball	Accessory - 3	-
DE / NDE bearing	6317 C3 / 6317 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 300mm ² /4 x M63 x 1.5
Type of grease	CHEVRON SRI-2 or Equivalent	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

ATEX/IEC Ex certified as per IEC/EN 60079-0; IEC/EN 60079-15

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 slight variations between calculated values in this datasheet and the motor nameplate figures.

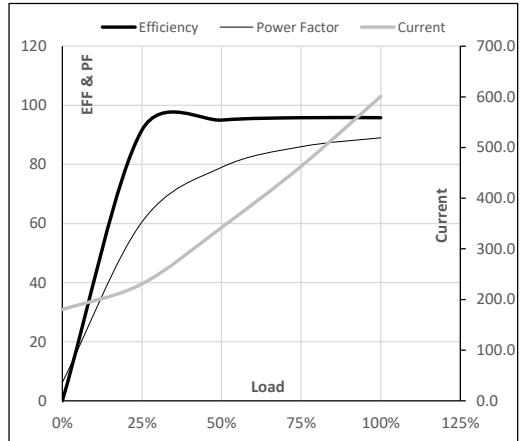
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	IEC 60034-30-1	-	-	GEMS 2019	-	IEC:60034-30-1

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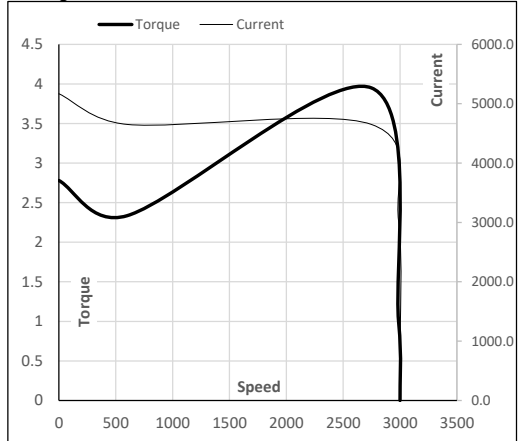
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	400	Δ	50	355	475	601.0	2987	115.48	1132.50	IE3	40	S1	1000	5.7956	2082

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	180.1	230.9	342.1	462.9	601.0	
Torque	Nm	0.0	282.2	565.0	848.4	1132.5	
Speed	r/min	3000	2997	2993	2990	2987	
Efficiency	%	0.0	91.6	95.0	95.8	95.8	
Power Factor	%	6.2	60.5	79.0	86.0	89.0	

Performance vs Load Chart

Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2748	2987	3000
Current	A	5168.3	4651.5	3023.2	601.0	180.1
Torque	pu	2.8	2.3	4.0	1	0

Starting Characteristics Chart

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

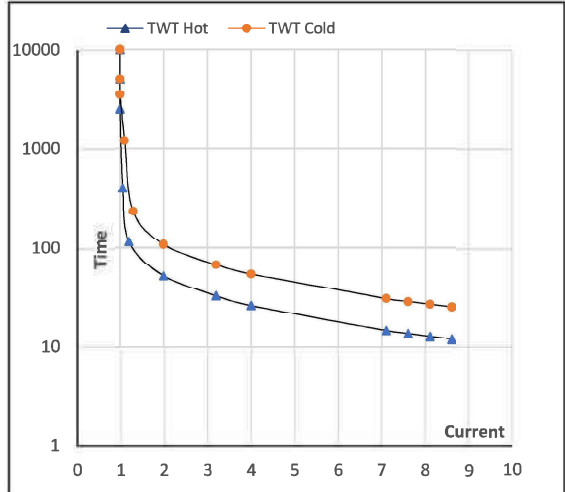
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Issued Date


Model No. TCN3551A1113GAC010

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	400	Δ	50	355	475.0	601.0	2987	115.48	1132.50	IE3	40	S1	1000	5.7956	2082

Motor Speed Torque Data

Load		FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR
TWT Hot	s	10000	52	43	26	23	20	12
TWT Cold	s	10000	107	75	54	50	45	25
Current	pu	1	2	3	4	5	5.5	8.6

Thermal Characteristics Chart

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

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