PRODUCT INFORMATION PACKET

Model No: TCN0903A1113GAC010
Catalog No: TCN0903A1113GAC010
TerraMAX® Cast Iron Motor, 120 HP, 3 Ph, 50 Hz, 400 V, 1000 RPM, 315M Frame, TEFC

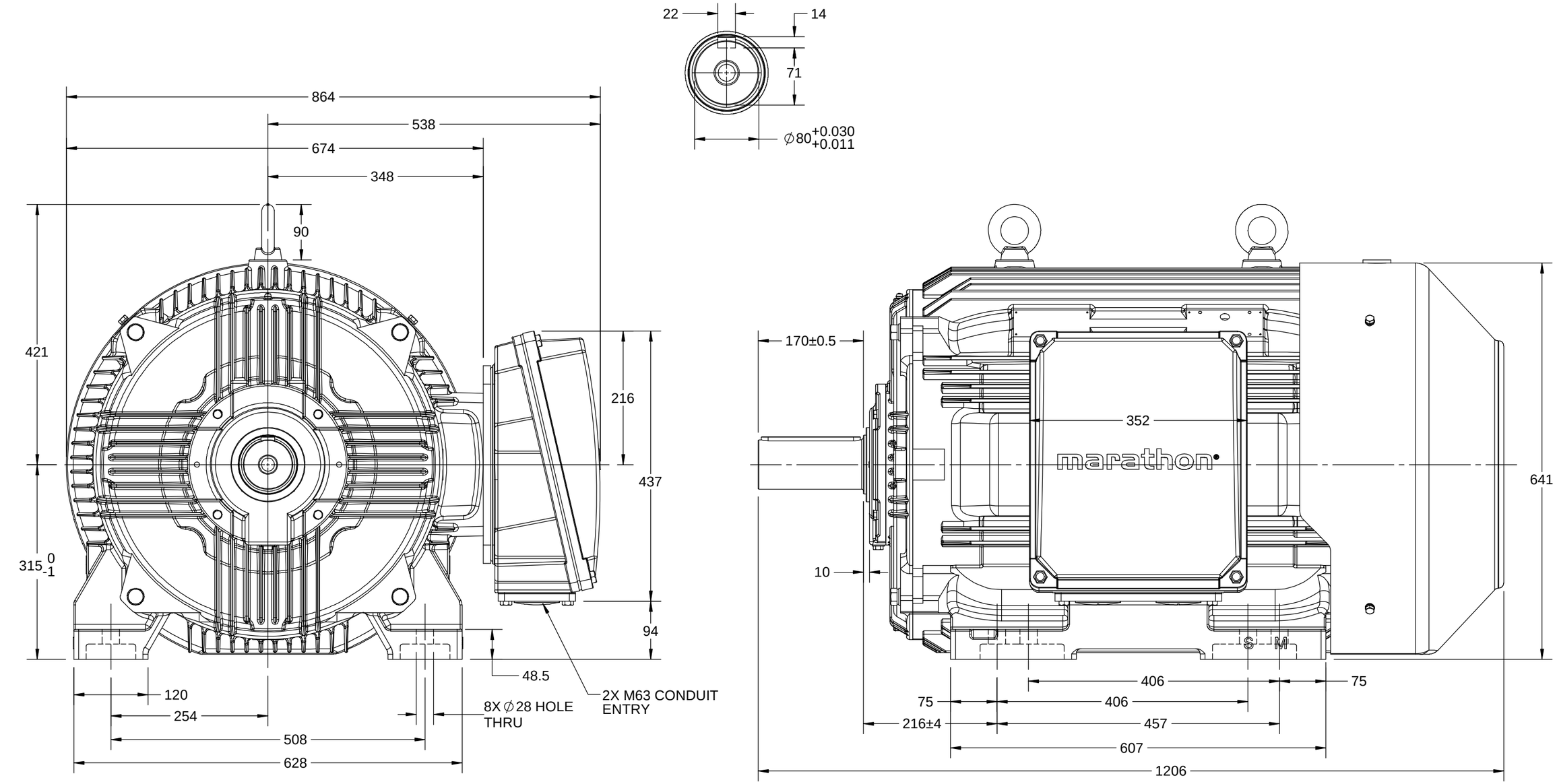
marathon®

Nameplate Specifications

Phase	3	Output HP	120 Hp
Output KW	90.0 kW	Voltage	400 V
Speed	990 r/min	Service Factor	1
Frame	315M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Efficiency	94.9 %
Ambient Temperature	40 °C	Frequency	50 Hz
Current	166.9 A	Power Factor	0.82
Duty	S1	Insulation Class	F
Drive End Bearing Size	6319	Opp Drive End Bearing Size	6319
UL	No	CSA	No
CE	Yes	IP Code	55
Number of Speeds	1	Efficiency Class	IE3

Technical Specifications

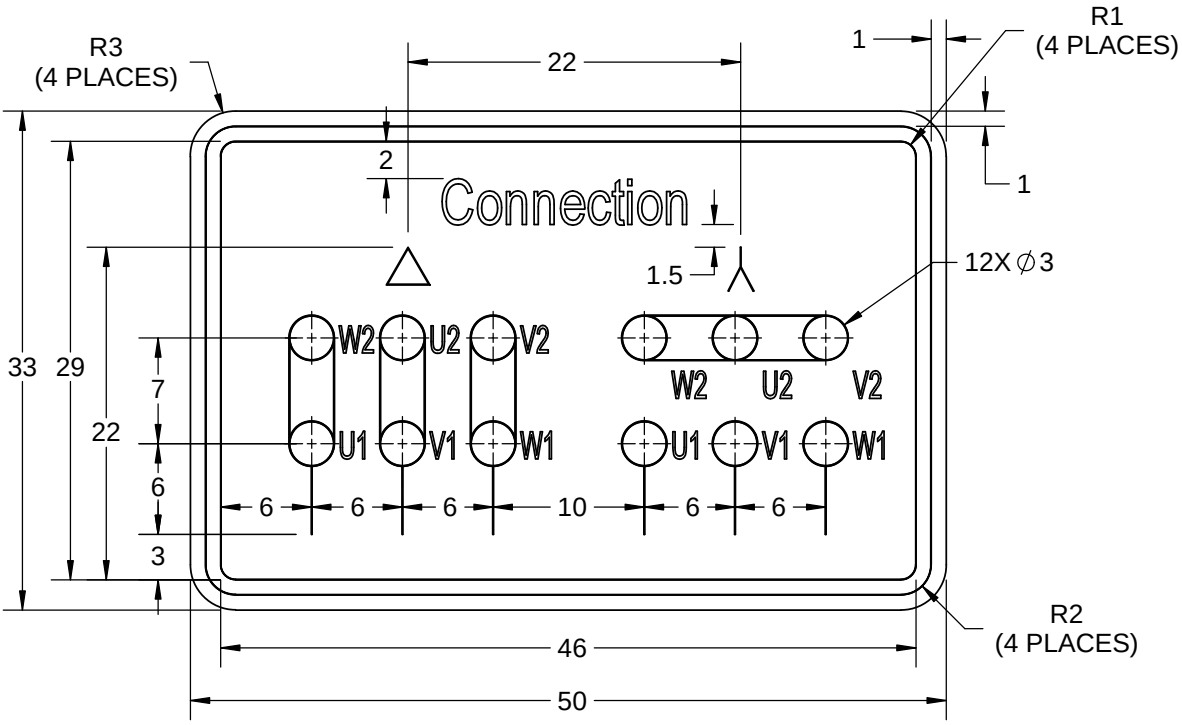
Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	6	Rotation	Bi-Directional
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1206 mm	Frame Length	729 mm
Shaft Diameter	80 mm	Shaft Extension	170 mm
Assembly/Box Mounting	R Side		
Outline Drawing	0231501362	Connection Drawing	8442000085



DRAWING REVISION C	REVISION BY LK	DATE 05/08/2020		DRAWN BY SKM	marathon™ Motors
ECO ECO-0190270	APPROVED BY JAY	DATE 05/08/2020		DATE 08/11/2017	
ECO DESCRIPTION MODEL UPDATED				APPROVED BY JAY	DESCRIPTION OUTLINE 315S/M 4~8P-B3-RHS TB
				DATE 08/11/2017	
				REFERENCE	MATERIAL / PROCESS/FINISH
				THIRD ANGLE PROJECTION	SIZE B / DRAWING NUMBER 0231501362 / SHEET 1 OF 1

DRAWING REVISION	REVISION BY	DATE
A	SN	13/01/2017
ECO	APPROVED BY	DATE
ECO-0116390	SBD	13/01/2017
ECO DESCRIPTION		
NEW DRAWING RELEASE		

GEOMENTRIC 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™ 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

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TerraMAX®

Model No. TCN0903A1113GAC010

U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load 5/4FL	FL	3/4FL	1/2FL	PF at __ load FL	3/4FL	1/2FL	I_A/I_N [pu]	T_A/T_N [pu]	T_K/T_N [pu]
400	Δ	50	90	120	166.9	990	863.58	IE3	-	94.9	94.9	94.7	0.82	0.78	0.68	5.2	1.7	2.2

Motor type	TCN	
Enclosure	TEFC	
Frame Material	Cast Iron	
Frame size	315M	
Duty	S1	
Voltage variation *	± 10%	
Frequency variation *	± 5%	
Combined variation *	10%	
Design	N	
Service factor	1.0	
Insulation class	F	
Ambient temperature	-20 to +40	°C
Temperature rise (by resistance)	80 [Class B]	K
Altitude above sea level	1000	meter
Hazardous area classification	Ex nA	
Zone classification	Zone 2	
Gas group	IIC	
Temperature class	T3	
Rotor type	Aluminum Die cast	
Bearing type	Anti-friction ball	
DE / NDE bearing	6319 C3 / 6319 C3	
Lubrication method	Regreasable	
Type of grease	CHEVRON SRI-2 or Equivalent	

Degree of protection	IP 55	
Mounting type	IM B3	
Cooling method	IC 411	
Motor weight - approx.	888	kg
Gross weight - approx.	933	kg
Motor inertia	3.9282	kgm^2
Load inertia	Customer to Provide	
Vibration level	2.8	mm/s
Noise level (1meter distance from motor)	66	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	PTC 150°C	
Accessory - 2	-	
Accessory - 3	-	
Terminal box position	RHS	
Maximum cable size/conduit size	1R x 3C x 240mm²/2 x M63 x 1.5	
Auxiliary terminal box	NA	

I_A/I_N - Locked Rotor Current / Rated Current

T_A/T_N - Locked Rotor Torque / Rated Torque

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

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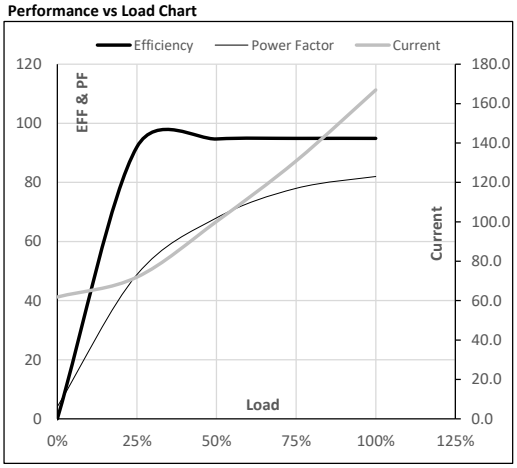
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m^2]	Weight [kg]
TEFC	400	Δ	50	90	120	166.9	990	88.06	863.58	IE3	40	S1	1000	3.9282	888

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	61.8	71.9	100.2	130.9	166.9	
Torque	Nm	0.0	214.2	429.5	645.8	863.6	
Speed	r/min	1000	998	995	993	990	
Efficiency	%	0.0	92.0	94.7	94.9	94.9	
Power Factor	%	4.1	48.8	68.0	78.0	82.0	

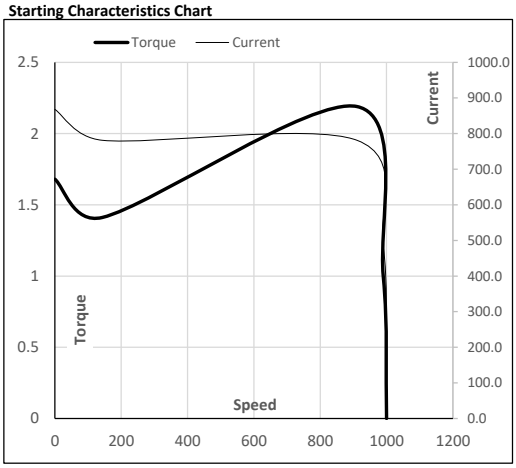
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	143	911	990	1000
Current	A	868.1	781.2	483.5	166.9	61.8
Torque	pu	1.7	1.4	2.2	1	0

Starting Characteristics Chart



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

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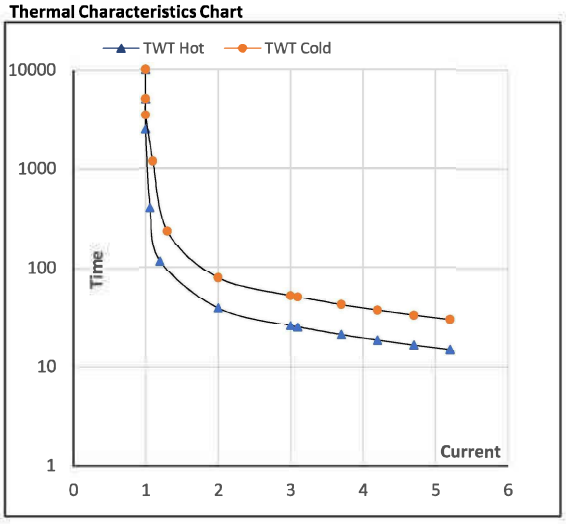
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m^2]	Weight [kg]
TEFC	400	Δ	50	90	120.0	166.9	990	88.06	863.58	IE3	40	S1	1000	3.9282	888

Motor Speed Torque Data

Load		FL	I_1	I_2	I_3	I_4	I_5	LR
TWT Hot	s	10000	39	26	20	17	16	15
TWT Cold	s	10000	78	52	39	35	32	30
Current	pu	1	2	3	4	4.5	5	5.2

Thermal Characteristics Chart



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