

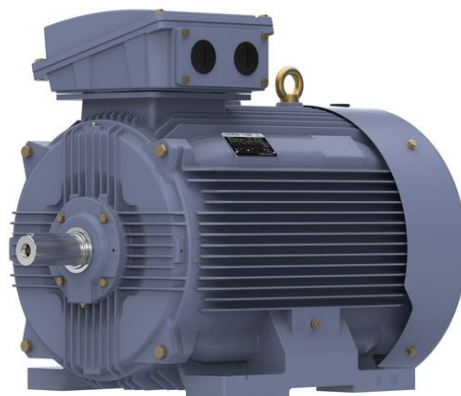
# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCA0903AF111GAC010

Catalog No: TCA0903AF111GAC010

TerraMAX® Cast Iron Motor, 120 HP, 3 Ph, 50 Hz, 380 V, 1000 RPM, 315M Frame, TEFC



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**RegalRexnord**

### Nameplate Specifications

Output HP	120 Hp	Output KW	90.0 kW
Frequency	50 Hz	Voltage	380 V
Current	175.7 A	Speed	990 rpm
Service Factor	1	Phase	3
Efficiency	94.9 %	Power Factor	0.82
Duty	S1	Insulation Class	F
Frame	315M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
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	Top		
Outline Drawing	0231500890	Connection Drawing	8442000085

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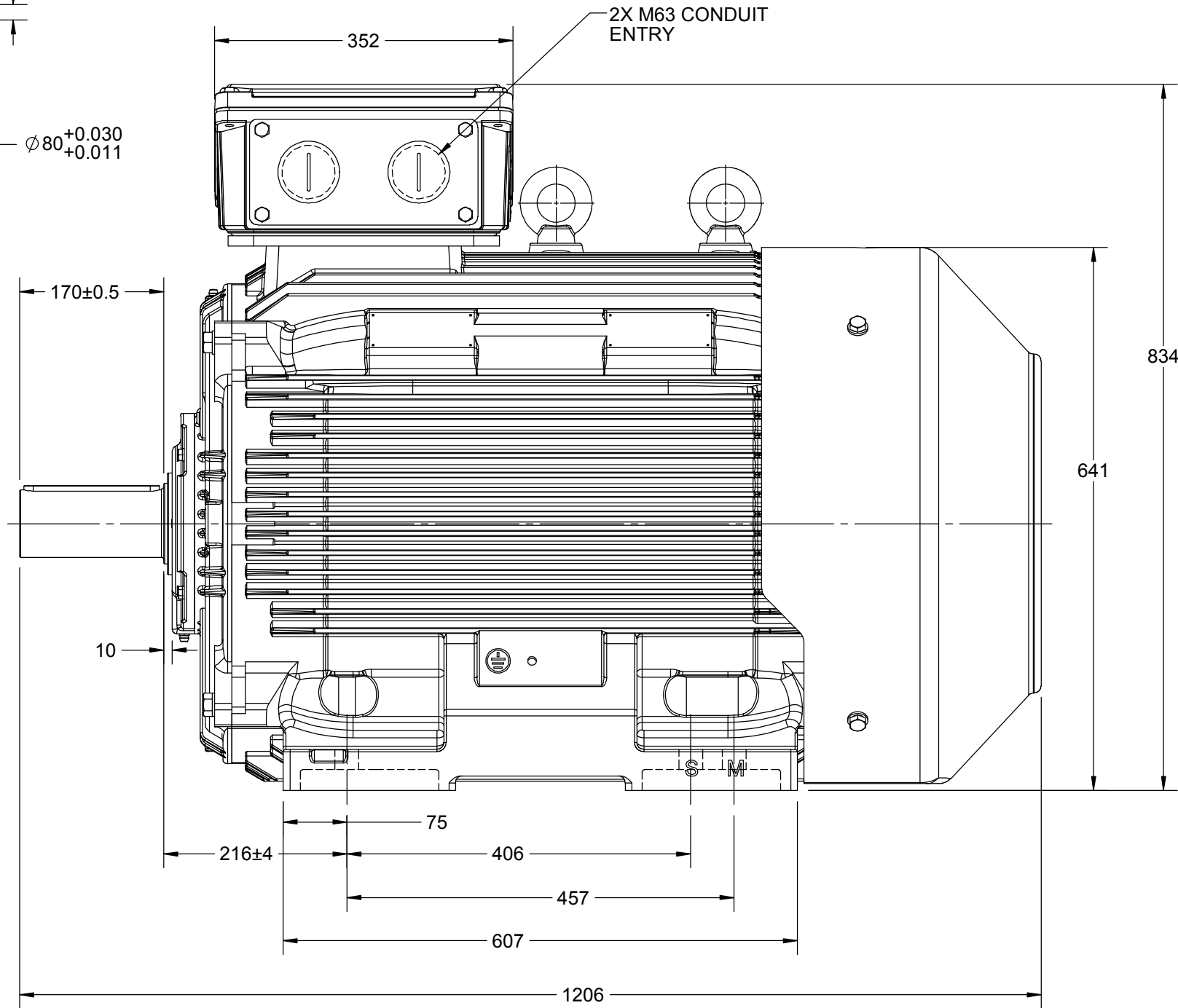
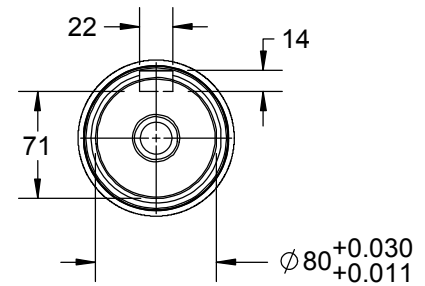
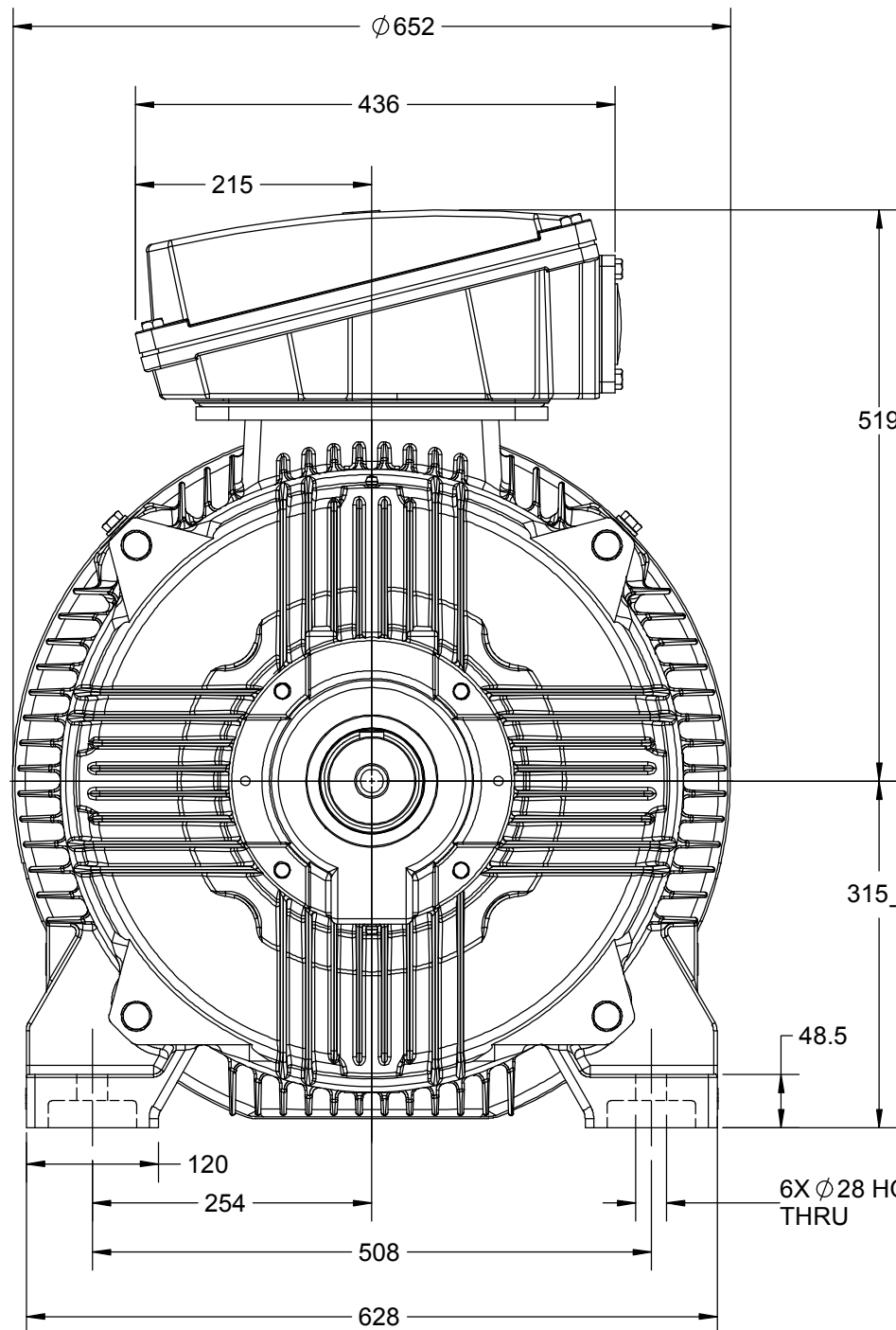
# OUTLINE

B

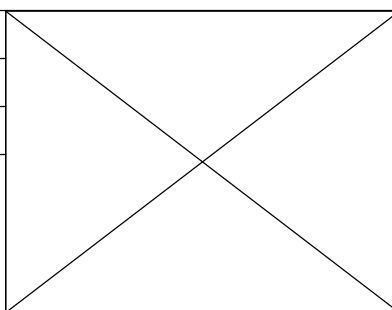
B

A

A



DRAWING REVISION C	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	<b>marathon™</b> Motors		
DATE 18/07/2014			
APPROVED BY SBD	DESCRIPTION OUTLINE		
DATE 18/07/2014	315M FR-B3 4-8P MTG. MOTOR TYPE: TCA/QCA		
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0231500890	SHEET 1 OF 1

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

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 <b>SN</b>	 <b>Regal Beloit America, Inc.</b>	
	DESCRIPTION <b>CONN DIAGRAM-NAMEPLATE</b>	
	DATE <b>16/12/2016</b>	
APPROVED BY <b>SBD</b>	MATERIAL	
	PROCESS/FINISH	
DATE <b>16/12/2016</b>	DRAWING NUMBER <b>8442000085</b>	
REFERENCE	SIZE <b>A</b>	SHEET <b>1 OF 1</b>
THIRD ANGLE PROJECTION 		

**Model No.** TCA0903AF111GAC010

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 <sub>A</sub> /I <sub>N</sub> [pu]	T <sub>A</sub> /T <sub>N</sub> [pu]	T <sub>K</sub> /T <sub>N</sub> [pu]
380	Δ	50	90	120	175.72	990	863.58	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	5.2	1.7	2.2

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	315M	Motor weight - approx.	888 kg
Duty	S1	Gross weight - approx.	933 kg
Voltage variation *	± 10%	Motor inertia	3.9282 kgm <sup>2</sup>
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)	66 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)	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	PTC 150°C
Rotor type	Aluminum Die cast	Accessory - 2	-
Bearing type	Anti-friction ball	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 <sup>2</sup> /2 x M63 x 1.5
Type of grease	CHEVRON SRI-2 or Equivalent	Auxiliary terminal box	NA

I<sub>A</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

T<sub>K</sub>/T<sub>N</sub> - Breakdown Torque / Rated Torque

T<sub>A</sub>/T<sub>N</sub> - 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.

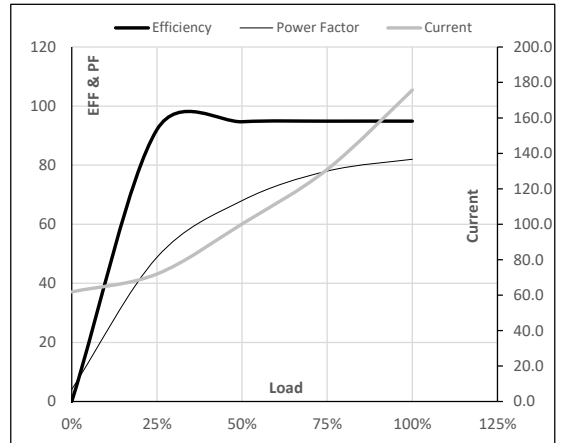
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30


**TerraMAX®**
**Model No.** TCA0903AF111GAC010

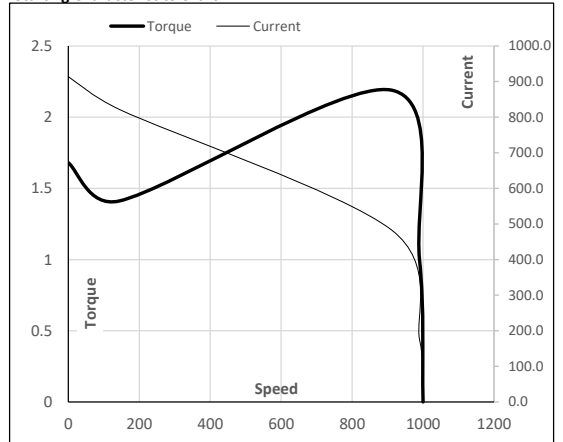
Enclosure	U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	380	$\Delta$	50	90	120	175.7	990	88.06	863.58	IE3	40	S1	1000	3.9282	888

**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	175.7	
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	913.7	822.4	483.5	175.7	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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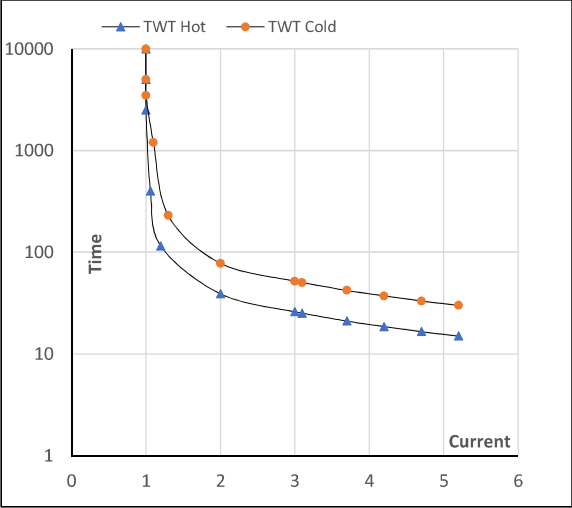
Model No. TCA0903AF111GAC010

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 <sup>2</sup> ]	Weight [kg]
TEFC	380	Δ	50	90	120.0	175.7	990	88.06	863.58	IE3	40	S1	1000	3.9282	888

Motor Speed Torque Data

Load		FL	I <sub>1</sub>	I <sub>2</sub>	I <sub>3</sub>	I <sub>4</sub>	I <sub>5</sub>	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



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

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