

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: QCA7P54AF113GAA001

Catalog No: QCA7P54AF113GAA001

TerraMAX® Cast Iron Motor, 10 HP, 3 Ph, 50 Hz, 380 V, 750 RPM, 160L Frame, TEFC



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**RegalRexnord**

### Nameplate Specifications

Output HP	10 Hp	Output KW	7.5 kW
Frequency	50 Hz	Voltage	380 V
Current	18.9 A	Speed	731 rpm
Service Factor	1	Phase	3
Efficiency	89.3 %	Power Factor	0.68
Duty	S1	Insulation Class	F
Frame	160L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6309	Opp Drive End Bearing Size	6209
UL	No	CSA	No
CE	YES	IP Code	55
Number of Speeds	1	Efficiency Class	IE4

### Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	8	Rotation	Bi-Directional
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	666 mm	Frame Length	298 mm
Shaft Diameter	42 mm	Shaft Extension	110 mm
Assembly/Box Mounting	R Side		
Connection Drawing	8442000085	Outline Drawing	0216000813

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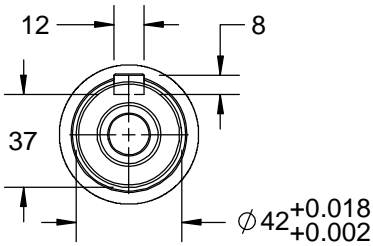
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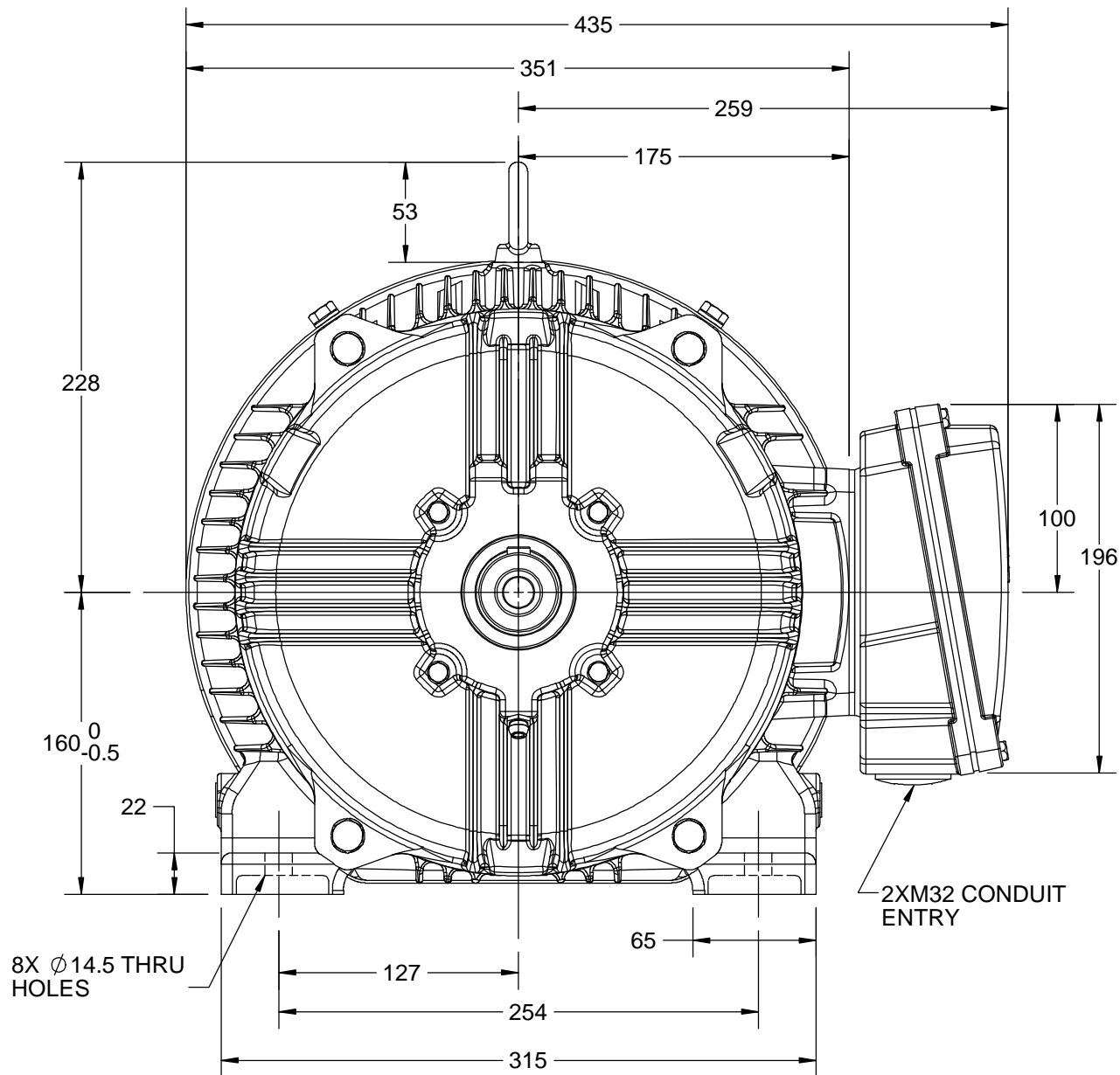
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OUTLINE



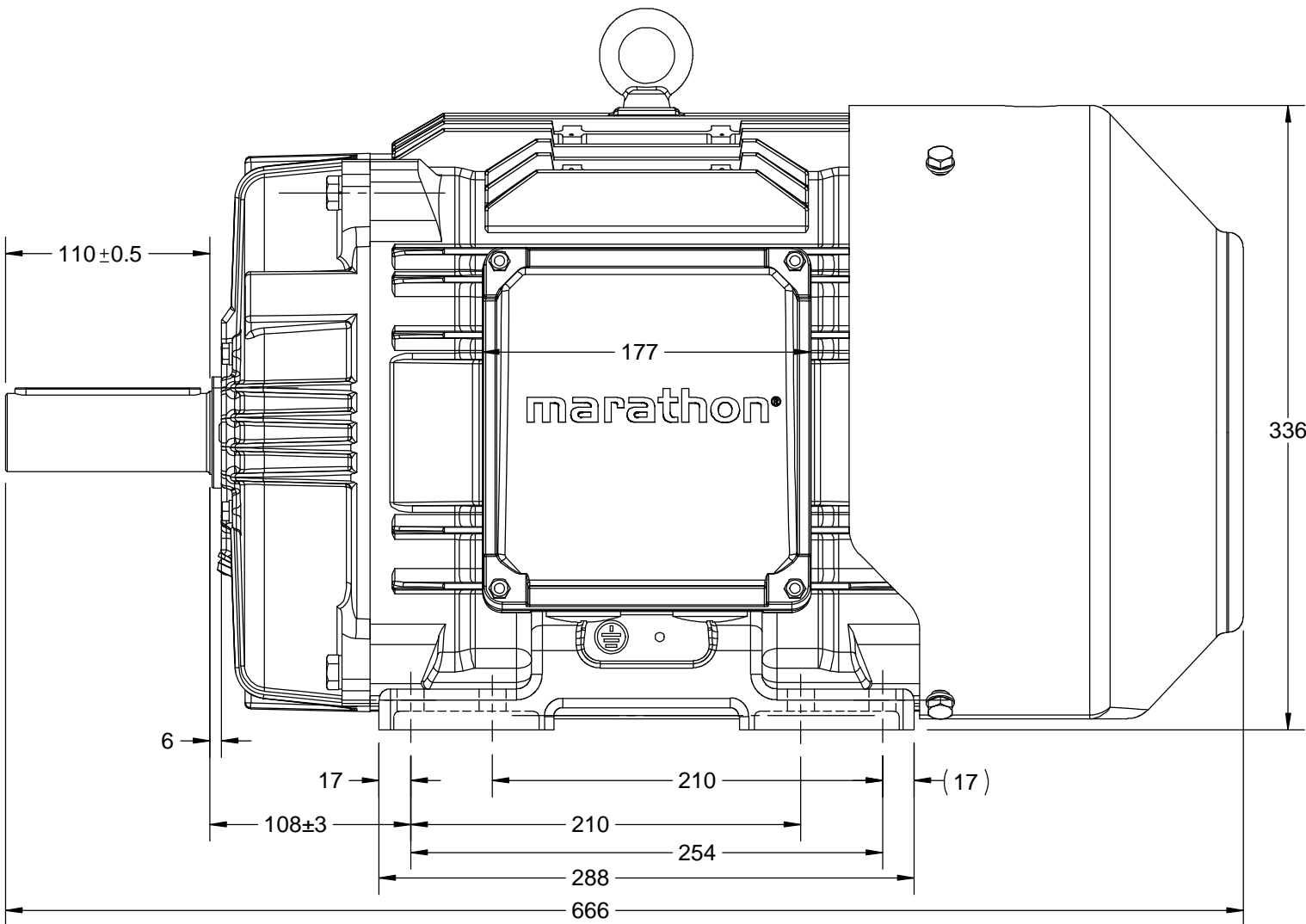
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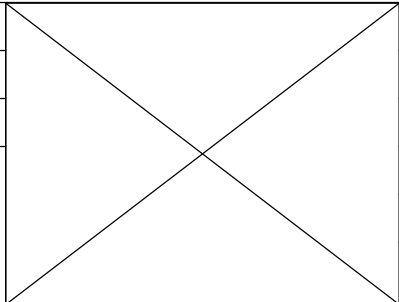


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DRAWING REVISION B	REVISION BY BISWA	DATE 27/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 27/07/2018
ECO DESCRIPTION		
DRAWING UPDATED		
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DRAWN BY SN	<b>marathon™</b> Motors		
DATE 19/08/2016			
APPROVED BY SBD	DESCRIPTION		
DATE 19/08/2016	OUTLINE		
REFERENCE	160LFR B3-MTG.TYPE: TCA/QCA-RHS TB		
THIRD ANGLE PROJECTION		MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER 0216000813	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 <b>CONN DIAGRAM-NAMEPLATE</b>				
	DATE 16/12/2016						
	REFERENCE		MATERIAL		PROCESS/FINISH		
	THIRD ANGLE PROJECTION		SIZE A		DRAWING NUMBER 8442000085		SHEET 1 OF 1

**Model No.** QCA7P54AF113GAA001

U	Δ / Y	f	P	P	I	n	T	IE	% EFF at __ load				PF at __ load			I <sub>A</sub> /I <sub>N</sub>	T <sub>A</sub> /T <sub>N</sub>	T <sub>K</sub> /T <sub>N</sub>
(V)	Conn	[Hz]	[kW]	[hp]	[A]	[RPM]	[Nm]	Class	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	[pu]	[pu]	[pu]
380	Δ	50	7.5	10	18.8	731	97.56	IE4	-	89.3	89.3	87	0.68	0.59	0.45	6.1	2.3	2.7

Motor type	QCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	160L	Motor weight - approx.	180 kg
Duty	S1	Gross weight - approx.	200 kg
Voltage variation *	± 10%	Motor inertia	0.2176 kgm <sup>2</sup>
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.2 mm/s
Design	N	Noise level ( 1meter distance from motor)	59 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	6309-2Z / 6209-2Z	Terminal box position	RHS
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 35mm <sup>2</sup> /2 X M32 x 1.5
Type of grease	NA	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.

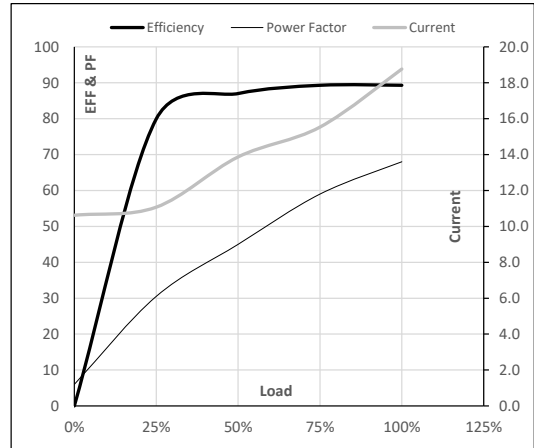
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30

**Model No.** QCA7P54AF113GAA001

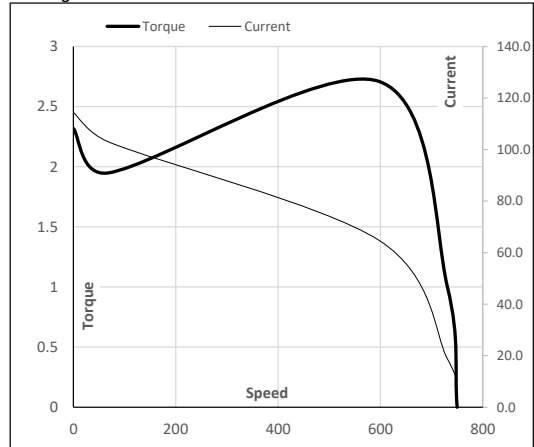
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	380	Δ	50	7.5	10	18.8	731	9.95	97.56	IE4	40	S1	1000	0.2176	180

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	10.6	11.1	13.9	15.5	18.8	
Torque	Nm	0.0	23.9	48.2	72.7	97.6	
Speed	r/min	750	745	741	736	731	
Efficiency	%	0.0	79.9	87.0	89.3	89.3	
Power Factor	%	6.0	30.5	45.0	59.0	68.0	

**Performance vs Load Chart**

**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	68	597	731	750
Current	A	114.5	103.0	64.8	18.8	10.6
Torque	pu	2.3	1.9	2.7	1	0

**Starting Characteristics Chart**

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

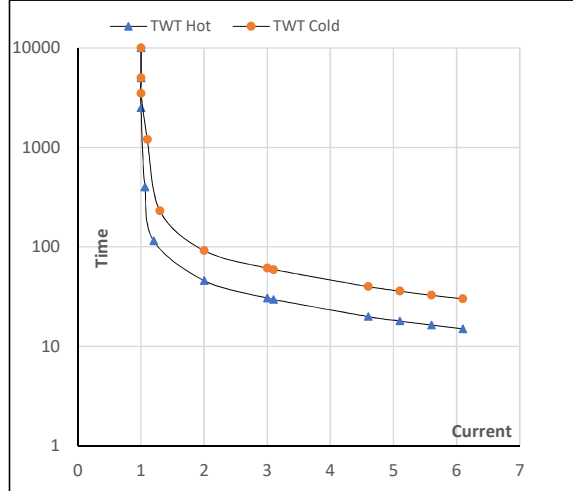
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**Model No.** QCA7P54AF113GAA001

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	7.5	10	18.8	731	9.95	97.56	IE4	40	S1	1000	0.2176	180

**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	46	31	25	18	17	15	
TWT Cold	s 10000	92	59	45	38	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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