

PRODUCT INFORMATION PACKET

Model No: QCA0031AF113GAA001

Catalog No: QCA0031AF113GAA001

TerraMAX® Cast Iron Motor, 4 HP, 3 Ph, 50 Hz, 380 V, 3000 RPM, 100L Frame, TEFC



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Nameplate Specifications

Output HP	4 Hp	Output KW	3.0 kW
Frequency	50 Hz	Voltage	380 V
Current	5.9 A	Speed	2917 rpm
Service Factor	1	Phase	3
Efficiency	89.1 %	Power Factor	0.88
Duty	S1	Insulation Class	F
Frame	100L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6206	Opp Drive End Bearing Size	6206
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	2	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	398 mm	Frame Length	200 mm
Shaft Diameter	28 mm	Shaft Extension	60 mm
Assembly/Box Mounting	R Side		
Outline Drawing	0210000505	Connection Drawing	8442000085

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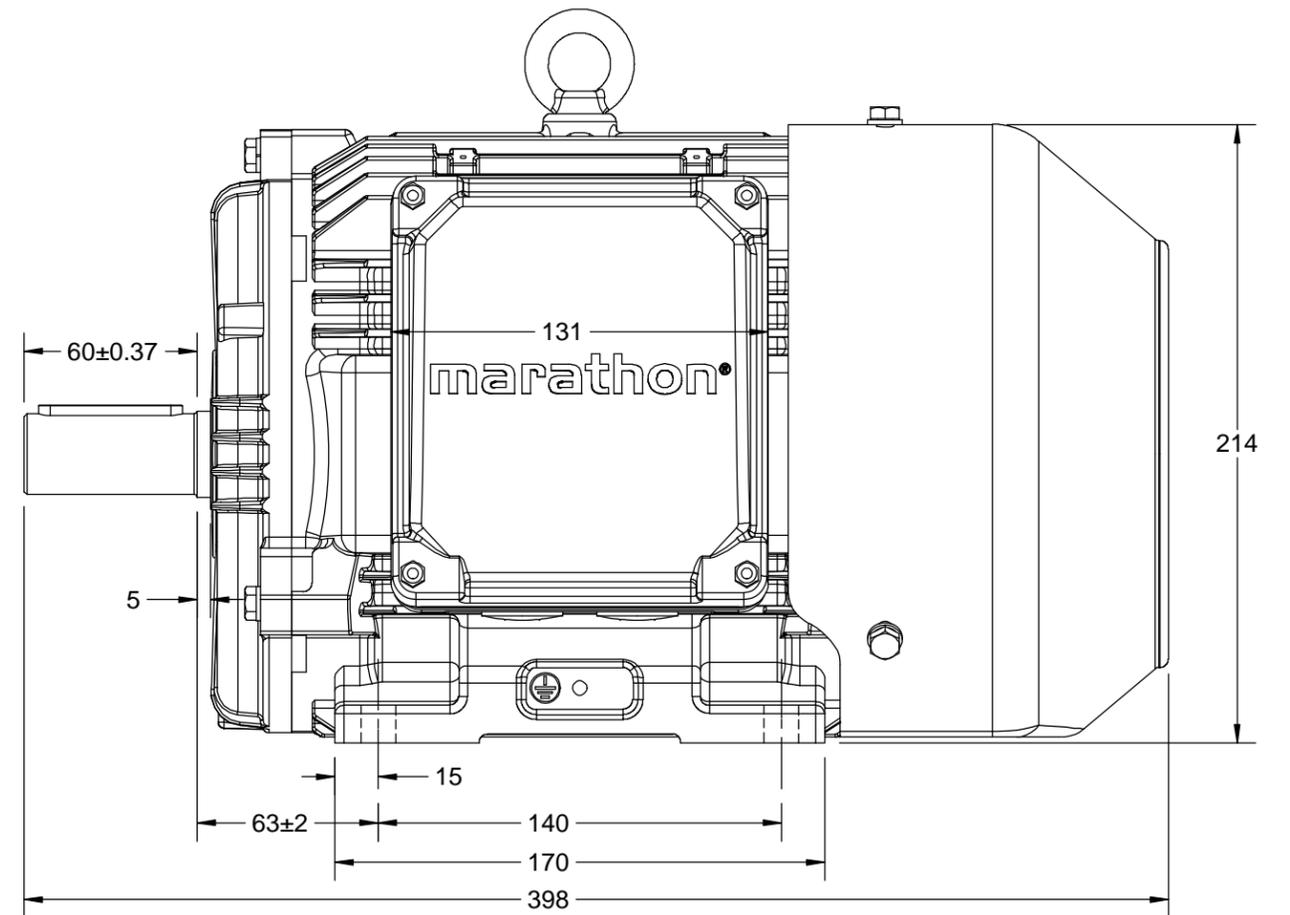
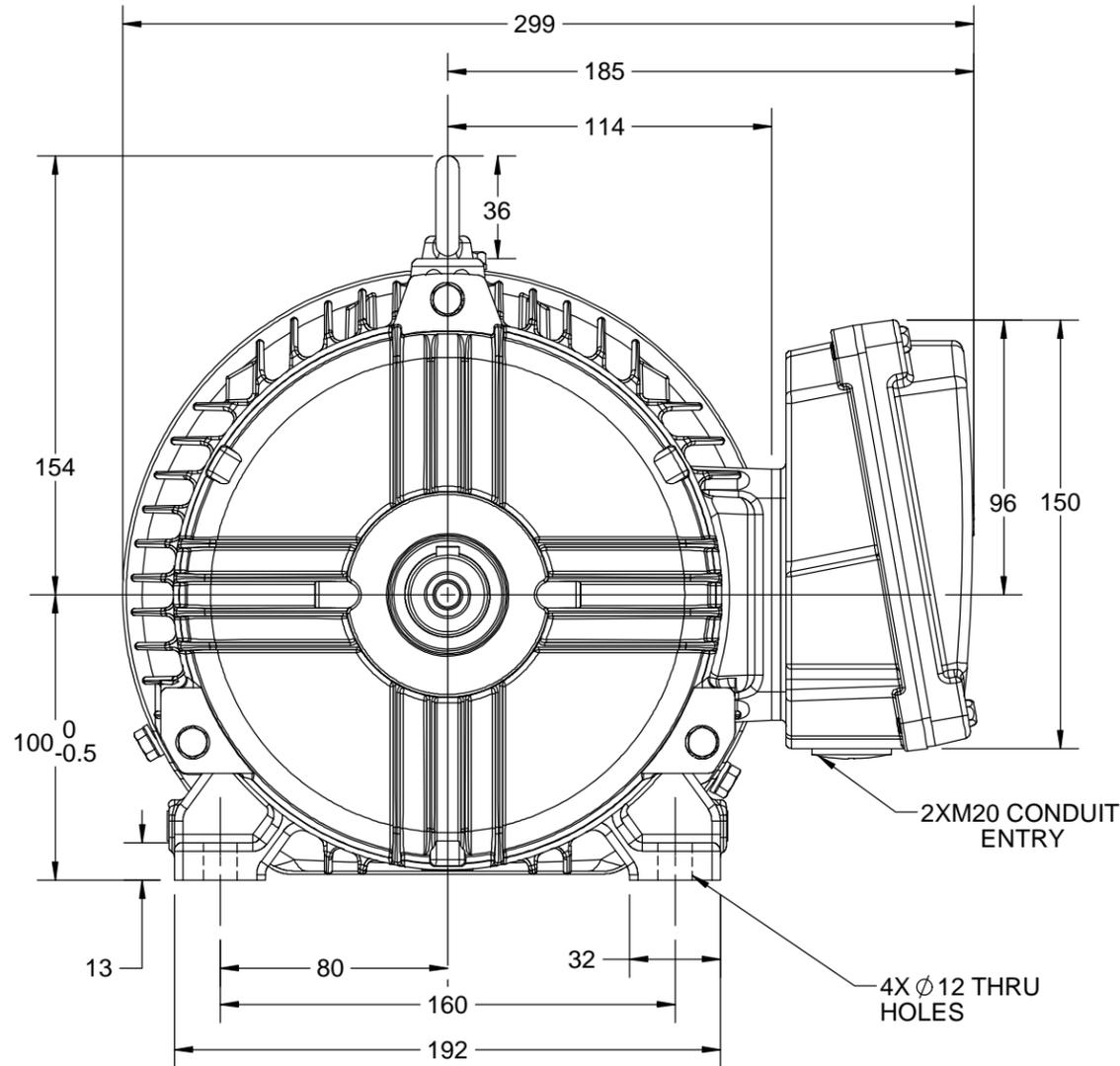
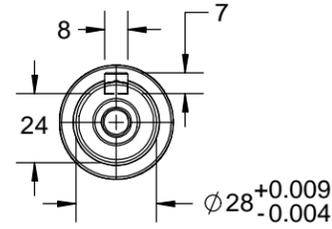
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DATE 12/07/2018
REFERENCE
THIRD ANGLE PROJECTION

marathon™ Motors	
DESCRIPTION OUTLINE	
100L FR.- B3 MTG. MOTOR TYPE: TCA/QCA-RHS TB	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER 0210000505
SHEET 1 OF 1	

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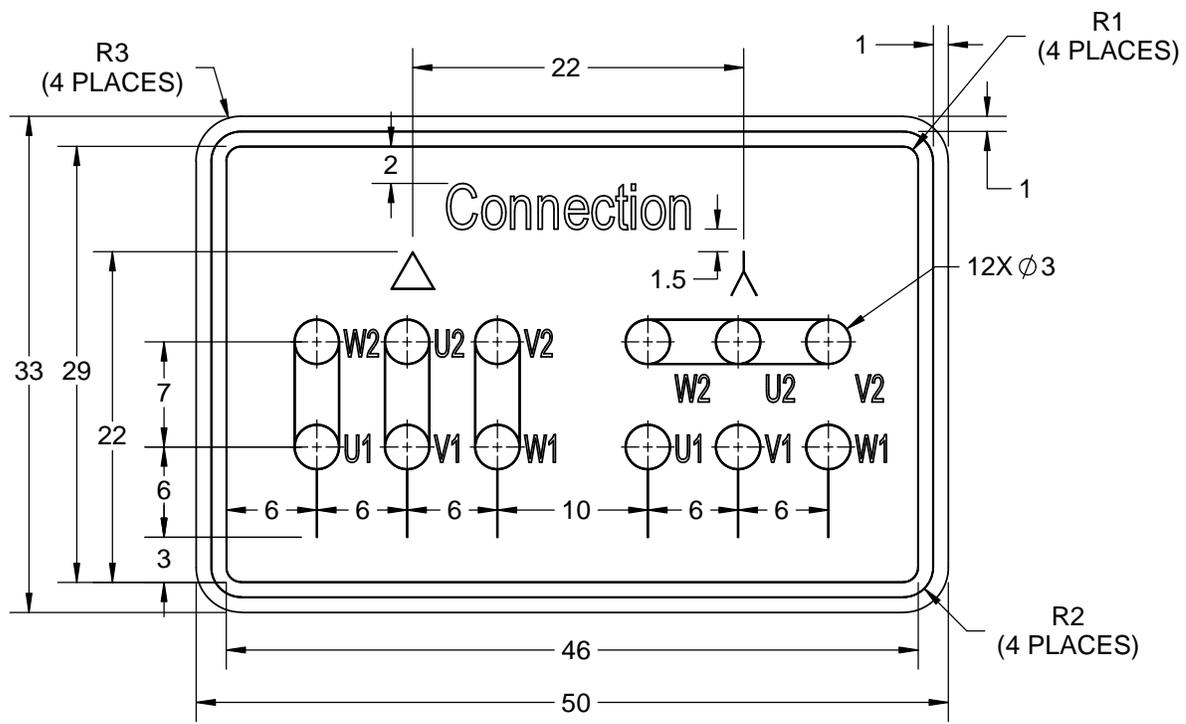
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DRAWING REVISION A	REVISION BY SN	DATE 13/01/2017
ECO ECO-0116390	APPROVED BY SBD	DATE 13/01/2017
ECO DESCRIPTION NEW DRAWING RELEASE		

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. QCA0031AF113GAA001

U (V)	Δ / Y Conn	f [Hz]	P		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]
			[kW]	[hp]					5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
380	Y	50	3	4.0	5.8	2917	9.76	IE4	-	89.1	89.1	88.2	0.88	0.82	0.7	10.2	4.6	5.0

Motor type	QCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	100L	Motor weight - approx.	43 kg
Duty	S1	Gross weight - approx.	46 kg
Voltage variation *	± 10%	Motor inertia	0.0052 kgm ²
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	1.6 mm/s
Design	N	Noise level (1meter distance from motor)	63 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)	10/20 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	6206-2Z / 6206-2Z	Terminal box position	RHS
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 10mm ² /2 x M20 x 1.5
Type of grease	NA	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 combine 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
	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30



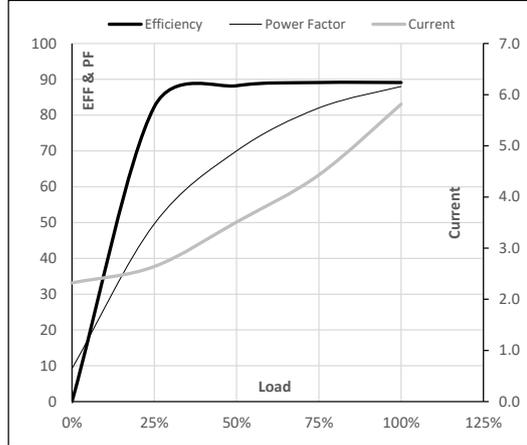
Model No. QCA0031AF113GAA001

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	380	Y	50	3	4.0	5.8	2917	1.00	9.76	IE4	40	S1	1000	0.0052	43

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	2.3	2.6	3.5	4.4	5.8	
Torque	Nm	0.0	2.4	4.8	7.3	9.8	
Speed	r/min	3000	2979	2959	2939	2917	
Efficiency	%	0.0	82.3	88.2	89.1	89.1	
Power Factor	%	9.2	49.6	70.0	82.0	88.0	

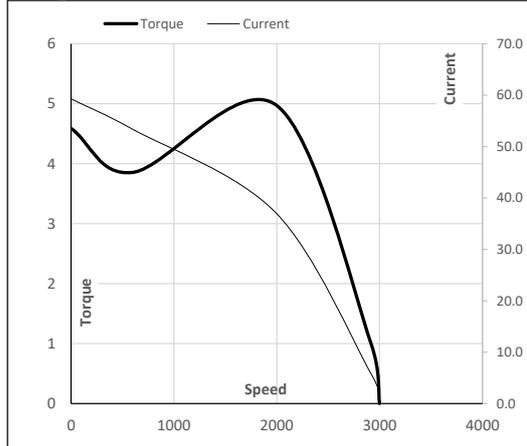
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	1993	2917	3000
Current	A	59.3	53.4	37.1	5.8	2.3
Torque	pu	4.6	3.9	5.0	1	0

Starting Characteristics Chart



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

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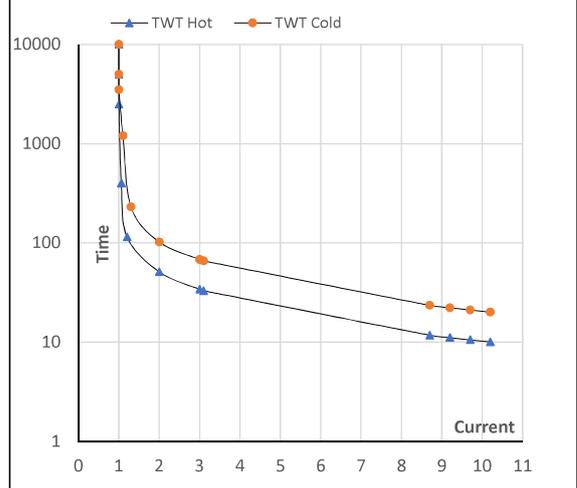
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	380	Y	50	3.0	4.0	5.8	2917	1.00	9.76	IE4	40	S1	1000	0.0052	43

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	51	34	23	19	15	10	
TWT Cold	s 10000	102	68	45	35	30	20	
Current	pu	1	2	3	4	5	5.5	10.2

Thermal Characteristics Chart



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

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