

# PRODUCT INFORMATION PACKET

Model No: QCA0302AF111GAA001

Catalog No: QCA0302AF111GAA001

TerraMAX® Cast Iron Motor, 40 HP, 3 Ph, 50 Hz, 380 V, 1500 RPM, 200L Frame, TEFC



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### Nameplate Specifications

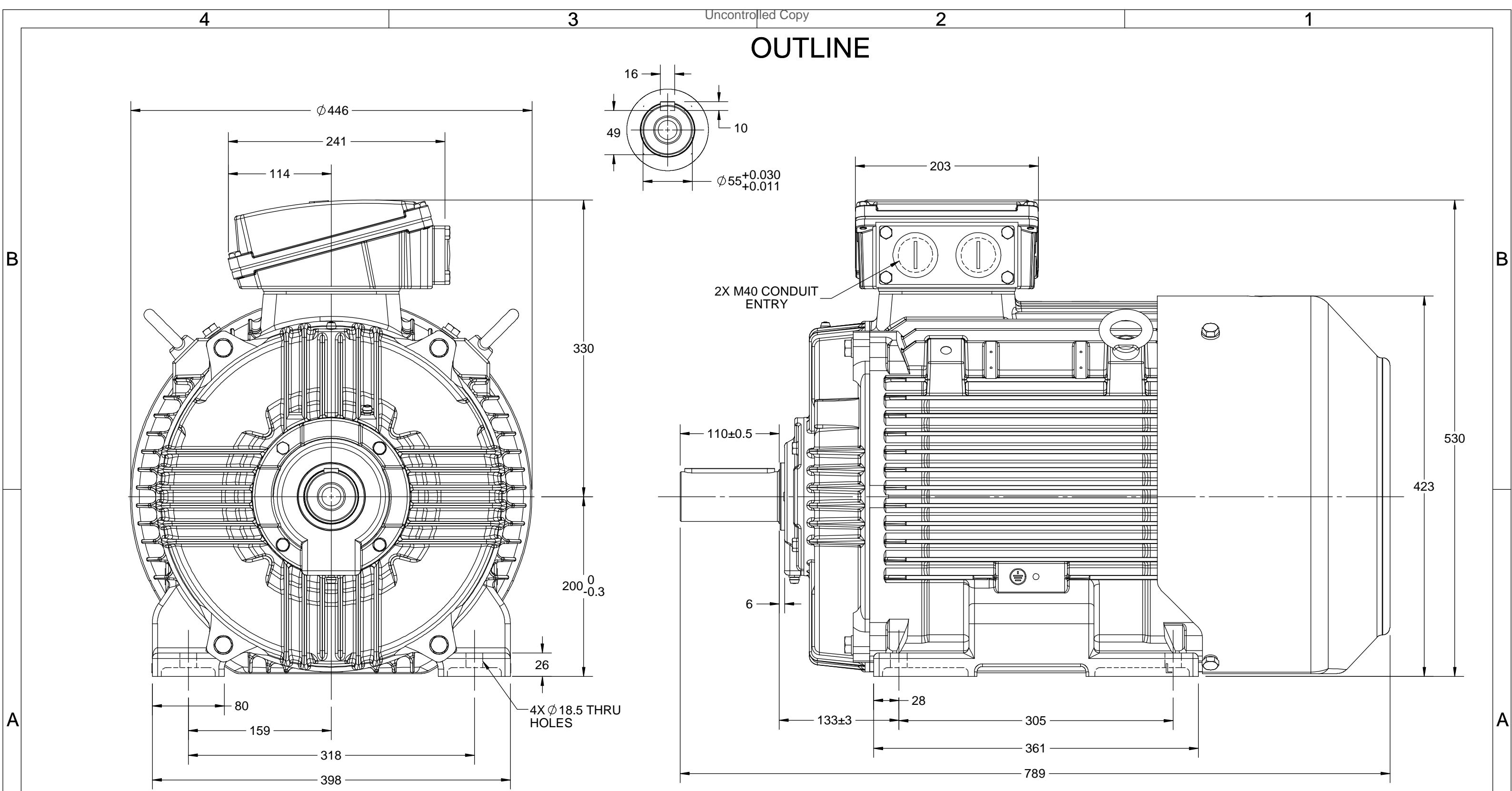
Output HP	<b>40 Hp</b>	Output KW	<b>30.0 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>380 V</b>
Current	<b>58.4 A</b>	Speed	<b>1485 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>94.9 %</b>	Power Factor	<b>0.83</b>
Duty	<b>S1</b>	Insulation Class	<b>F</b>
Frame	<b>200L</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Thermal Protection	<b>No Protection</b>	Ambient Temperature	<b>40 °C</b>
Drive End Bearing Size	<b>6312</b>	Opp Drive End Bearing Size	<b>6212</b>
UL	<b>No</b>	CSA	<b>No</b>
CE	<b>YES</b>	IP Code	<b>55</b>
Number of Speeds	<b>1</b>	Efficiency Class	<b>IE4</b>

### Technical Specifications

Electrical Type	<b>Squirrel Cage</b>	Starting Method	<b>Direct On Line</b>
Poles	<b>4</b>	Rotation	<b>Bi-Directional</b>
Mounting	<b>B3</b>	Motor Orientation	<b>Horizontal</b>
Drive End Bearing	<b>C3</b>	Opp Drive End Bearing	<b>C3</b>
Frame Material	<b>Cast Iron</b>	Shaft Type	<b>Keyed</b>
Overall Length	<b>789 mm</b>	Frame Length	<b>370 mm</b>
Shaft Diameter	<b>55 mm</b>	Shaft Extension	<b>110 mm</b>
Assembly/Box Mounting	<b>Top</b>		
Connection Drawing	<b>8442000085</b>	Outline Drawing	<b>0220000577</b>

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# OUTLINE



DRAWING REVISION <b>B</b>	REVISION BY <b>GNK</b>	DATE <b>02/04/2018</b>
ECO <b>ECO-0141751</b>	APPROVED BY <b>JAY</b>	DATE <b>02/04/2018</b>
ECO DESCRIPTION <b>C DIM UPDATED AS PER STANDARD</b>		
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DRAWN BY <b>NIV</b>
DATE <b>06/07/2017</b>
APPROVED BY <b>JAY</b>
DATE <b>06/07/2017</b>
REFERENCE
THIRD ANGLE PROJECTION

<b>marathon™ Motors</b>	
<b>OUTLINE</b>	
200FR-B3-H/O MTG. MOTOR TYPE: TCA/QCA	
MATERIAL	PROCESS/FINISH
SIZE <b>B</b>	DRAWING NUMBER <b>0220000577</b>
SHEET <b>1 OF 1</b>	

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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>	DATE <b>16/12/2016</b>		 <b>Regal Beloit America, Inc.</b>
	APPROVED BY <b>SBD</b>		
	DATE <b>16/12/2016</b>		MATERIAL
	REFERENCE		
	THIRD ANGLE PROJECTION 	SIZE <b>A</b>	DRAWING NUMBER <b>8442000085</b>

**Model No.** QCA0302AF111GAA001

U (V)	$\Delta$ / 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
380	$\Delta$	50	30	40	57.9	1485	191.79	IE4	-	94.9	94.9	94.1	0.83	0.77	0.64	9.2	3.3	4.1

Motor type	QCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	200L	Motor weight - approx.	317 kg
Duty	S1	Gross weight - approx.	347 kg
Voltage variation *	$\pm 10\%$	Motor inertia	0.5982 kgm <sup>2</sup>
Frequency variation *	$\pm 5\%$	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.2 mm/s
Design	N	Noise level ( 1meter distance from motor)	65 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	6312 C3 / 6212 C3	Terminal box position	TOP
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 50mm <sup>2</sup> /2 x M40 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**

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

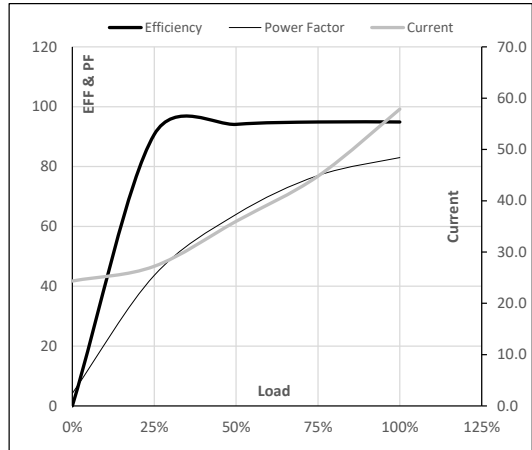
Model No. QCA0302AF111GAA001

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	30	40	57.9	1485	19.56	191.79	IE4	40	S1	1000	0.5982	317

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	24.4	27.2	36.0	44.8	57.9	
Torque	Nm	0.0	47.6	95.4	143.5	191.8	
Speed	r/min	1500	1496	1493	1489	1485	
Efficiency	%	0.0	90.7	94.1	94.9	94.9	
Power Factor	%	4.2	43.6	64.0	77.0	83.0	

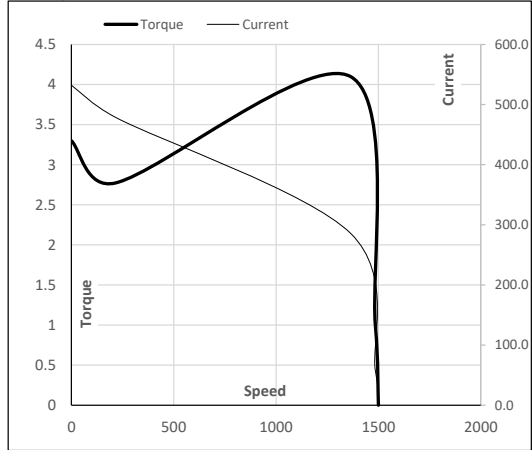
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	214	1364	1485	1500
Current	A	532.4	479.1	286.0	57.9	24.4
Torque	pu	3.3	2.8	4.1	1	0

**Starting Characteristics Chart**



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

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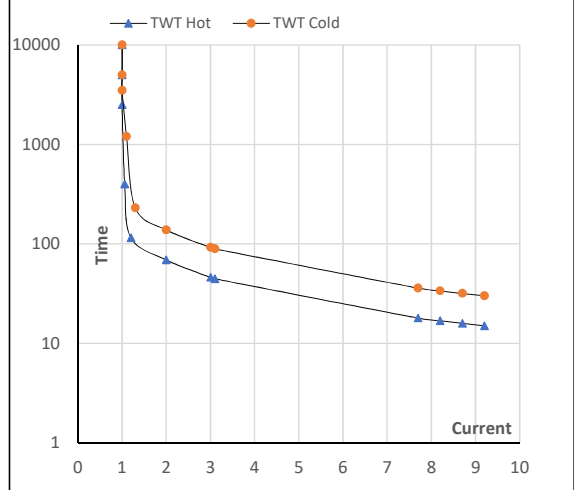
**Model No.** QCA0302AF111GAA001

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	30	40	57.9	1485	19.56	191.79	IE4	40	S1	1000	0.5982	317

**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	69	46	34	25	20	15	
TWT Cold	s 10000	138	92	70	55	50	30	
Current	pu	1	2	3	4	5	5.5	9.2

**Thermal Characteristics Chart**



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

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