

# PRODUCT INFORMATION PACKET

Model No: QCA2001AF133GAA001

Catalog No: QCA2001AF133GAA001

TerraMAX® Cast Iron Motor, 270 HP, 3 Ph, 50 Hz, 380 V, 3000 RPM, 315L Frame, TEFC



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### Nameplate Specifications

Output HP	<b>270 Hp</b>	Output KW	<b>200.0 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>380 V</b>
Current	<b>356.0 A</b>	Speed	<b>2984 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>96.5 %</b>	Power Factor	<b>0.89</b>
Duty	<b>S1</b>	Insulation Class	<b>F</b>
Frame	<b>315L</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>6316</b>	Opp Drive End Bearing Size	<b>6316</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>2</b>	Rotation	<b>Bi-Directional</b>
Mounting	<b>B35</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>1287 mm</b>	Frame Length	<b>840 mm</b>
Shaft Diameter	<b>65 mm</b>	Shaft Extension	<b>140 mm</b>
Assembly/Box Mounting	<b>R Side</b>		
Outline Drawing	<b>0231501399</b>	Connection Drawing	<b>8442000085</b>

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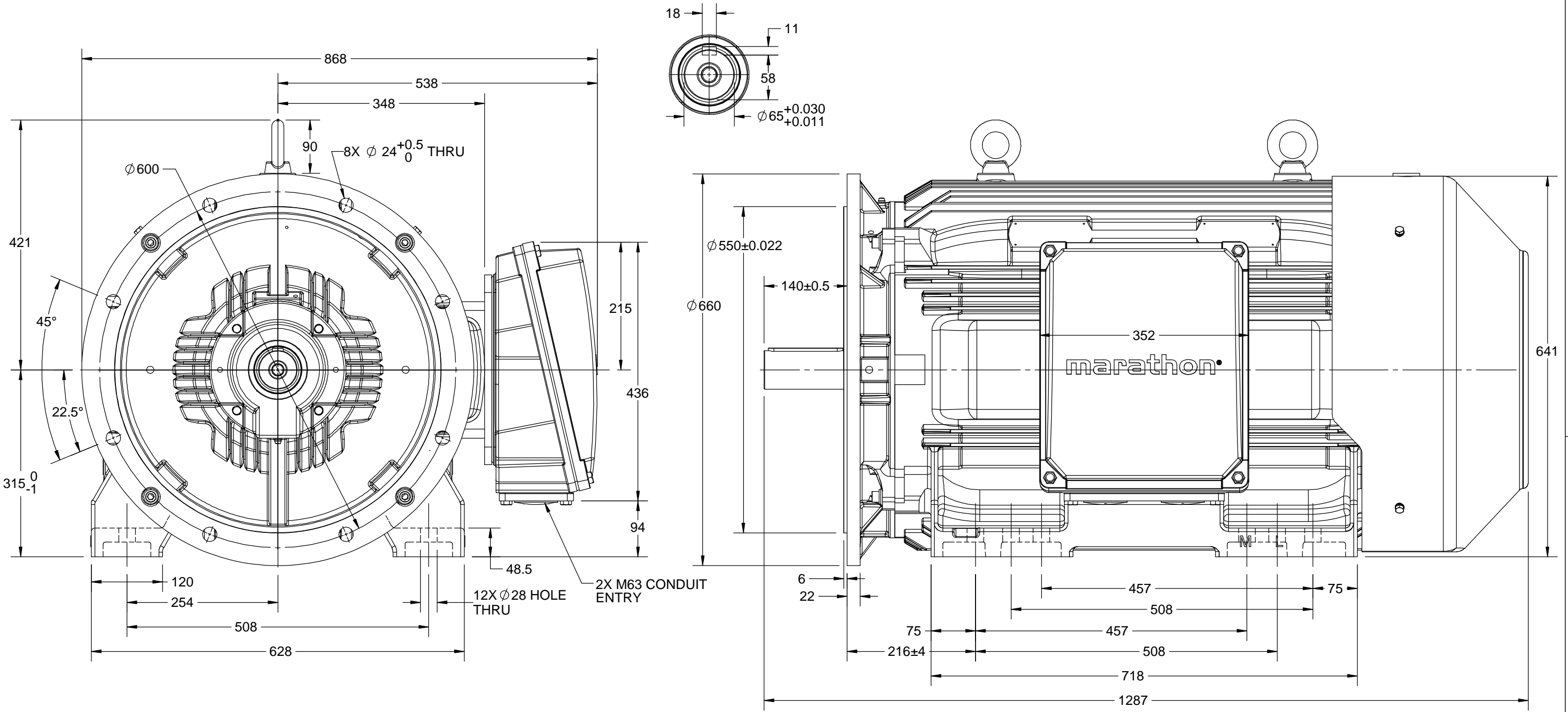
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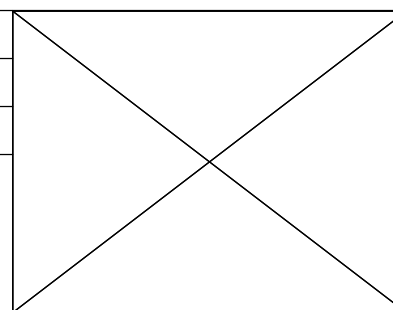
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DRAWING REVISION B	REVISION BY VS	DATE 11/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 11/07/2018
ECO DESCRIPTION <b>MODEL UPDATED</b>		
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DRAWN BY GSR	<b>marathon™</b> Motors	
DATE 15/11/2017		
APPROVED BY JAY	DESCRIPTION <b>OUTLINE</b>	
DATE 15/11/2017	315L FR-2P-B35 MTG. TCA/QCA-RHS TB	
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0231501399
		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>	DATE <b>16/12/2016</b>		 <b>Regal Beloit America, Inc.</b>	
	APPROVED BY <b>SBD</b>	DESCRIPTION <b>CONN DIAGRAM-NAMEPLATE</b>		
	DATE <b>16/12/2016</b>	MATERIAL	PROCESS/FINISH	
	REFERENCE	SIZE <b>A</b>	DRAWING NUMBER <b>8442000085</b>	SHEET <b>1 OF 1</b>
	THIRD ANGLE PROJECTION 			

Model No. QCA2001AF133GAA001

U (V)	$\Delta$ / 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	$\Delta$	50	200	270	353.8	2984	644.38	IE4	-	96.5	96.5	95.7	0.89	0.86	0.78	7	2.2	3.5

Motor type	QCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	315L	Motor weight - approx.	1301 kg
Duty	S1	Gross weight - approx.	1346 kg
Voltage variation *	$\pm 10\%$	Motor inertia	3.2219 kgm <sup>2</sup>
Frequency variation *	$\pm 5\%$	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.8 mm/s
Design	N	Noise level ( 1meter distance from motor)	83 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	6316 C3 / 6316 C3	Terminal box position	RHS
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

 $I_A/I_N$  - 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

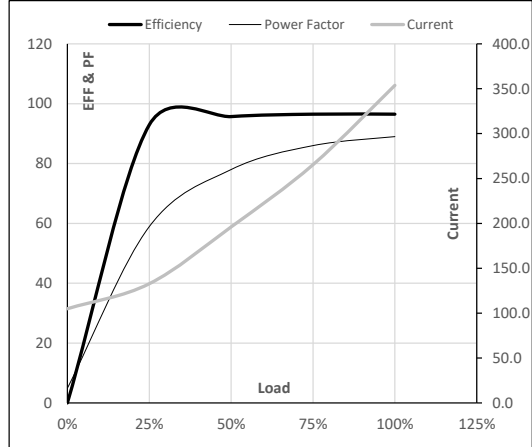
Model No. QCA2001AF133GAA001

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	200	270	353.8	2984	65.71	644.38	IE4	40	S1	1000	3.2219	1301

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	104.9	132.8	196.1	265.4	353.8	
Torque	Nm	0.0	160.4	321.3	482.6	644.4	
Speed	r/min	3000	2996	2992	2988	2984	
Efficiency	%	0.0	92.9	95.7	96.5	96.5	
Power Factor	%	4.9	58.9	78.0	86.0	89.0	

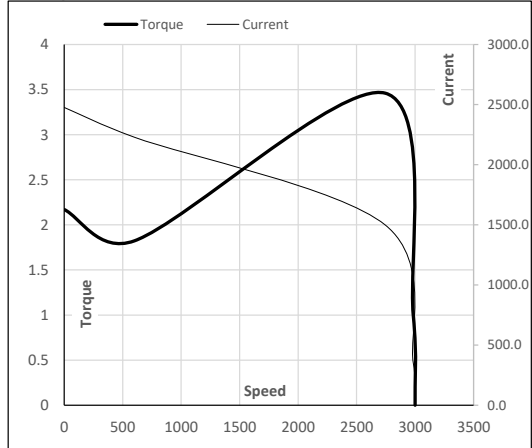
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2745	2984	3000
Current	A	2476.7	2229.0	1498.5	353.8	104.9
Torque	pu	2.2	1.8	3.5	1	0

**Starting Characteristics Chart**



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

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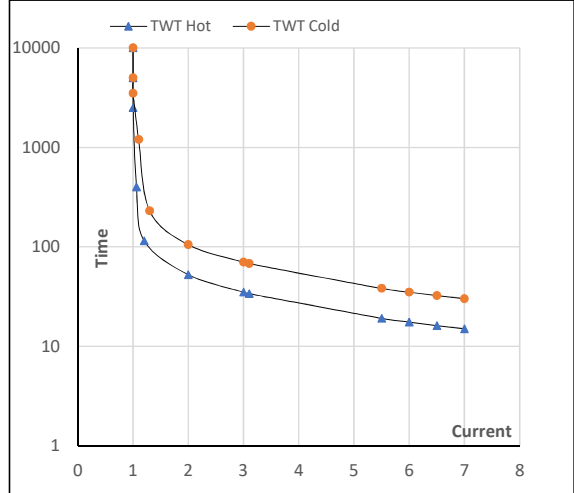
**Model No.** QCA2001AF133GAA001

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	200	270	353.8	2984	65.71	644.38	IE4	40	S1	1000	3.2219	1301

**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	53	35	30	25	19	15	
TWT Cold	s 10000	105	70	65	50	38	30	
Current	pu	1	2	3	4	5	5.5	7

**Thermal Characteristics Chart**



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

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