PRODUCT INFORMATION PACKET

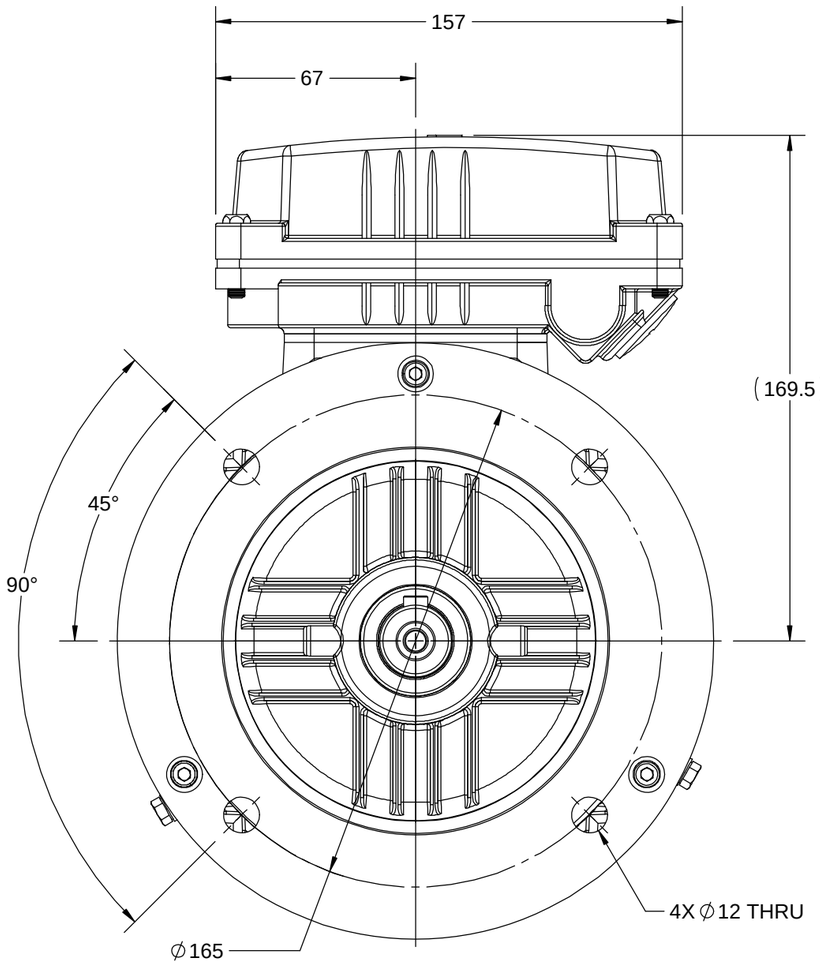
Model No: QCA1P51AF121GAA001
Catalog No: QCA1P51AF121GAA001
TerraMAX® Cast Iron Motor, 2 HP, 3 Ph, 50 Hz, 380 V, 3000 RPM, 90S Frame, TEFC

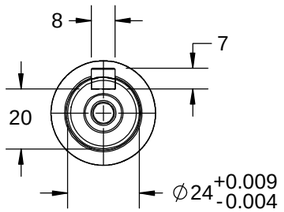
Nameplate Specifications

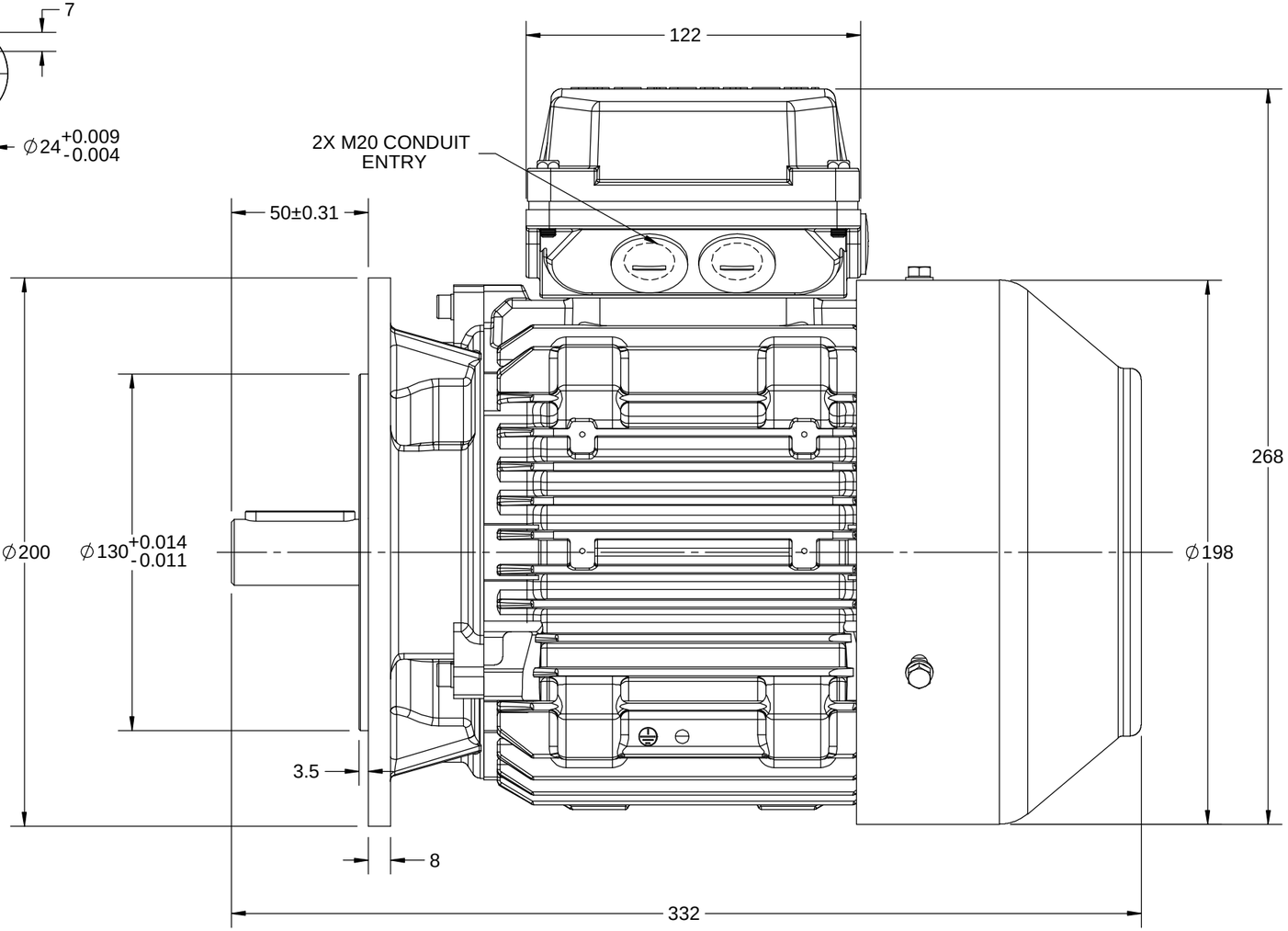
Output HP	2 Hp	Output KW	1.5 kW
Frequency	50 Hz	Voltage	380 V
Current	3.2 A	Speed	2907 rpm
Service Factor	1	Phase	3
Efficiency	86.5 %	Power Factor	0.83
Duty	S1	Insulation Class	F
Frame	90S	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6205	Opp Drive End Bearing Size	6205
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	B5	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	332 mm	Frame Length	153 mm
Shaft Diameter	24 mm	Shaft Extension	50 mm
Assembly/Box Mounting	Top		
Outline Drawing	0209000397	Connection Drawing	8442000085







DRAWING REVISION: C	REVISION BY: I. RAMDAS	DATE: 26/06/2018		DRAWN BY: SMAR	Regal Beloit America, Inc.
ECO: ECO-0147359	APPROVED BY: JAY	DATE: 26/06/2018		DATE: 01/09/13	
ECO DESCRIPTION: OUTLINE UPDATED AS PER 3D STRUCTURING				APPROVED BY: JAY	DESCRIPTION: OUTLINE — 90 FR.- B5 MTG. MOTOR TYPE: TCA
				DATE: 01/09/13	
				REFERENCE	MATERIAL / PROCESS/FINISH
				THIRD ANGLE PROJECTION	SIZE: B / DRAWING NUMBER: 0209000397 / SHEET: 1 OF 1

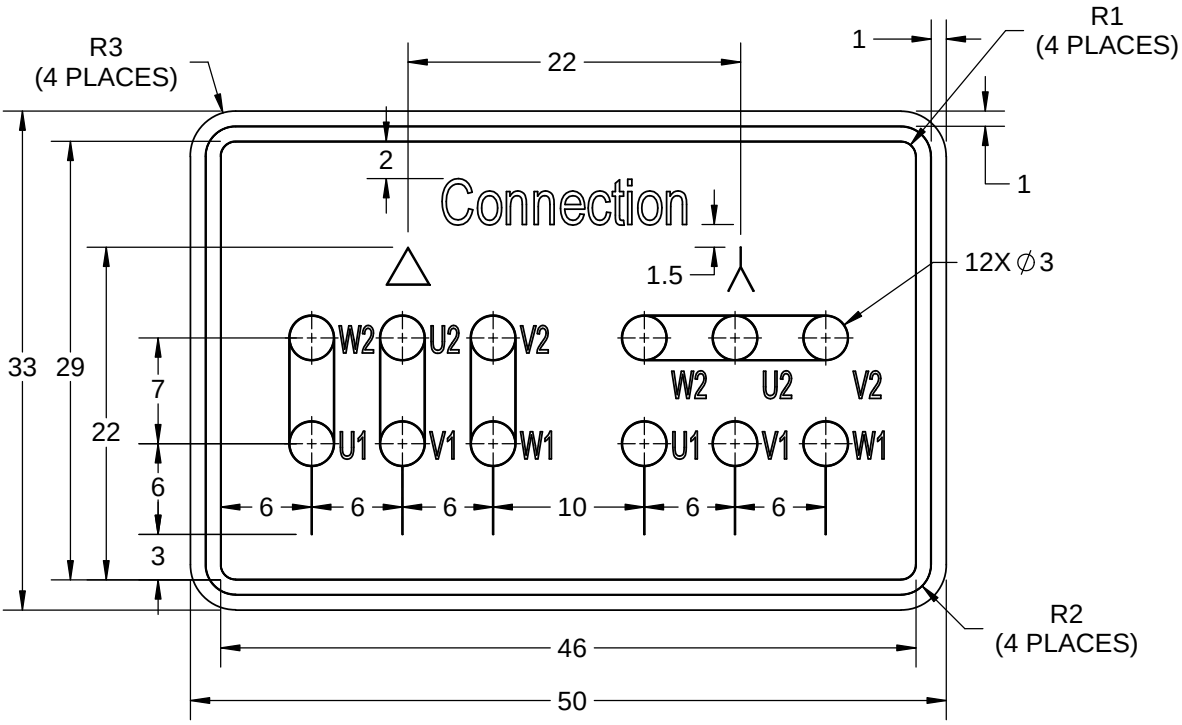
TOLERANCES UNLESS OTHERWISE SPECIFIED:

DEC.	mm	INCH	ANGLE
.X	±2.5	[±0.10]	±0.5°
.XX	±0.25	[±0.010]	
.XXX	±0.130	[±0.0051]	
.XXXX	±0.0130	[±0.00051]	

REMOVE BURRS & BREAK SHARP EDGES: .08/.38 [.003/.015] X 45 °
CORNER FILLETS: R.50 [.020]
MACHINED SURFACES: 125 / 3.2 INCH / mm
INCH SHOWN IN [BRACKETS]

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

GEOMENTRIC 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™ 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

marathon® Motors

TerraMAX®

Model No. QCA1P51AF121GAA001

U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load 5/4FL	FL	3/4FL	1/2FL	PF at __ load FL	3/4FL	1/2FL	I_A/I_N [pu]	T_A/T_N [pu]	T_K/T_N [pu]
380	Y	50	1.5	2.0	3.2	2907	4.89	IE4	-	86.5	86.5	83.5	0.83	0.75	0.61	8.7	4.3	4.4

Motor type	QCA	
Enclosure	TEFC	
Frame Material	Cast Iron	
Frame size	90S	
Duty	S1	
Voltage variation *	± 10%	
Frequency variation *	± 5%	
Combined variation *	10%	
Design	N	
Service factor	1.0	
Insulation class	F	
Ambient temperature	-20 to +40	°C
Temperature rise (by resistance)	80 [Class B]	K
Altitude above sea level	1000	meter
Hazardous area classification	NA	
Zone classification	NA	
Gas group	NA	
Temperature class	NA	
Rotor type	Aluminum Die cast	
Bearing type	Anti-friction ball	
DE / NDE bearing	6205-2Z / 6205-2Z	
Lubrication method	Greased for life	
Type of grease	NA	

Degree of protection	IP 55	
Mounting type	IM B5	
Cooling method	IC 411	
Motor weight - approx.	26.8	kg
Gross weight - approx.	27.8	kg
Motor inertia	0.0024	kgm^2
Load inertia	Customer to Provide	
Vibration level	1.6	mm/s
Noise level (1meter distance from motor)	63	dB(A)
No. of starts hot/cold/Equally spread	2/3/4	
Starting method	DOL	
Type of coupling	Direct	
LR withstand time (hot/cold)	7/15	s
Direction of rotation	Bi-directional	
Standard rotation	Clockwise form DE	
Paint shade	RAL 5014	
Accessories		
Accessory - 1	-	
Accessory - 2	-	
Accessory - 3	-	
Terminal box position	TOP	
Maximum cable size/conduit size	1R x 3C x 10mm²/2 x M20 x 1.5	
Auxiliary terminal box	NA	

I_A/I_N - Locked Rotor Current / Rated Current

T_A/T_N - Locked Rotor Torque / Rated Torque

T_K/T_N - Breakdown 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

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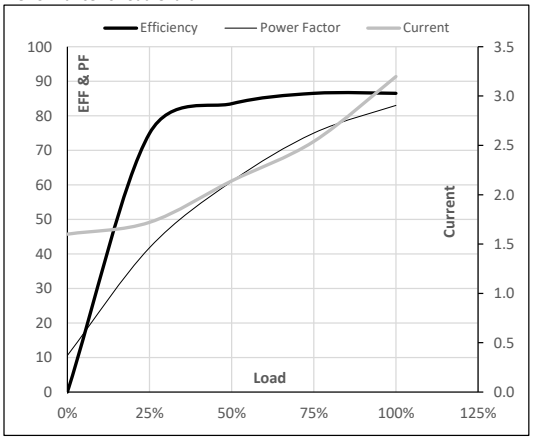
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m^2]	Weight [kg]
TEFC	380	Y	50	1.5	2.0	3.2	2907	0.50	4.89	IE4	40	S1	1000	0.0024	26.8

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	1.6	1.7	2.1	2.5	3.2	
Torque	Nm	0.0	1.2	2.4	3.6	4.9	
Speed	r/min	3000	2976	2955	2932	2907	
Efficiency	%	0.0	74.9	83.5	86.5	86.5	
Power Factor	%	10.6	41.8	61.0	75.0	83.0	

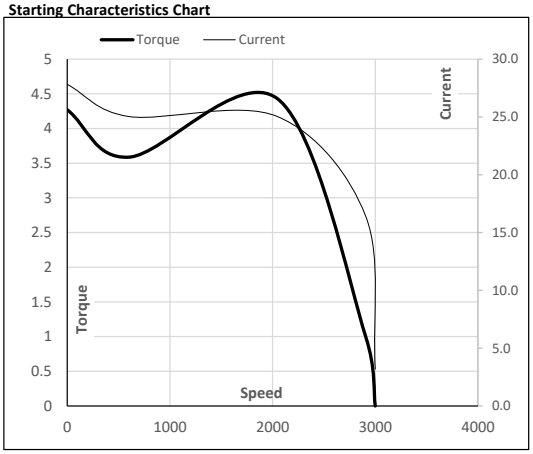
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2047	2907	3000
Current	A	27.8	25.0	16.4	3.2	1.6
Torque	pu	4.3	3.6	4.4	1	0

Starting Characteristics Chart



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

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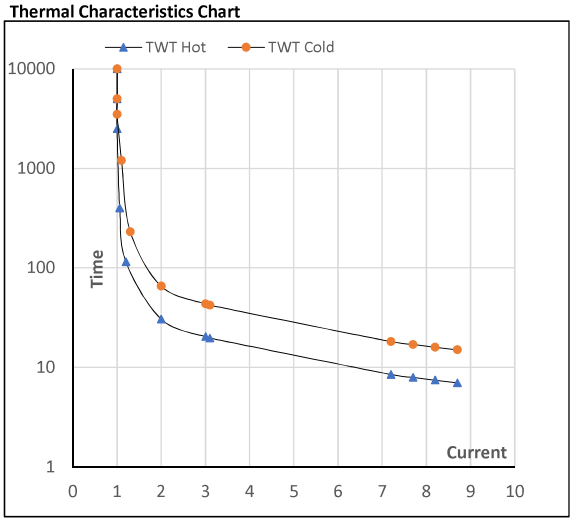
Model No. QCA1P51AF121GAA001

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	1.5	2.0	3.2	2907	0.50	4.89	IE4	40	S1	1000	0.0024	26.8

Motor Speed Torque Data

Load		FL	I_1	I_2	I_3	I_4	I_5	LR
TWT Hot	s	10000	31	20	18	15	11	7
TWT Cold	s	10000	65	44	40	35	30	15
Current	pu	1	2	3	4	5	5.5	8.7

Thermal Characteristics Chart



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

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