

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: QCA18P1AF121GAA001

Catalog No: QCA18P1AF121GAA001

TerraMAX® Cast Iron Motor, 25 HP, 3 Ph, 50 Hz, 380 V, 3000 RPM, 160L Frame, TEFC



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RegalRexnord

Nameplate Specifications

Output HP	25 Hp	Output KW	18.5 kW
Frequency	50 Hz	Voltage	380 V
Current	33.4 A	Speed	2958 rpm
Service Factor	1	Phase	3
Efficiency	93.7 %	Power Factor	0.9
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	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	686 mm	Frame Length	298 mm
Shaft Diameter	42 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Connection Drawing	8442000085	Outline Drawing	0216000483

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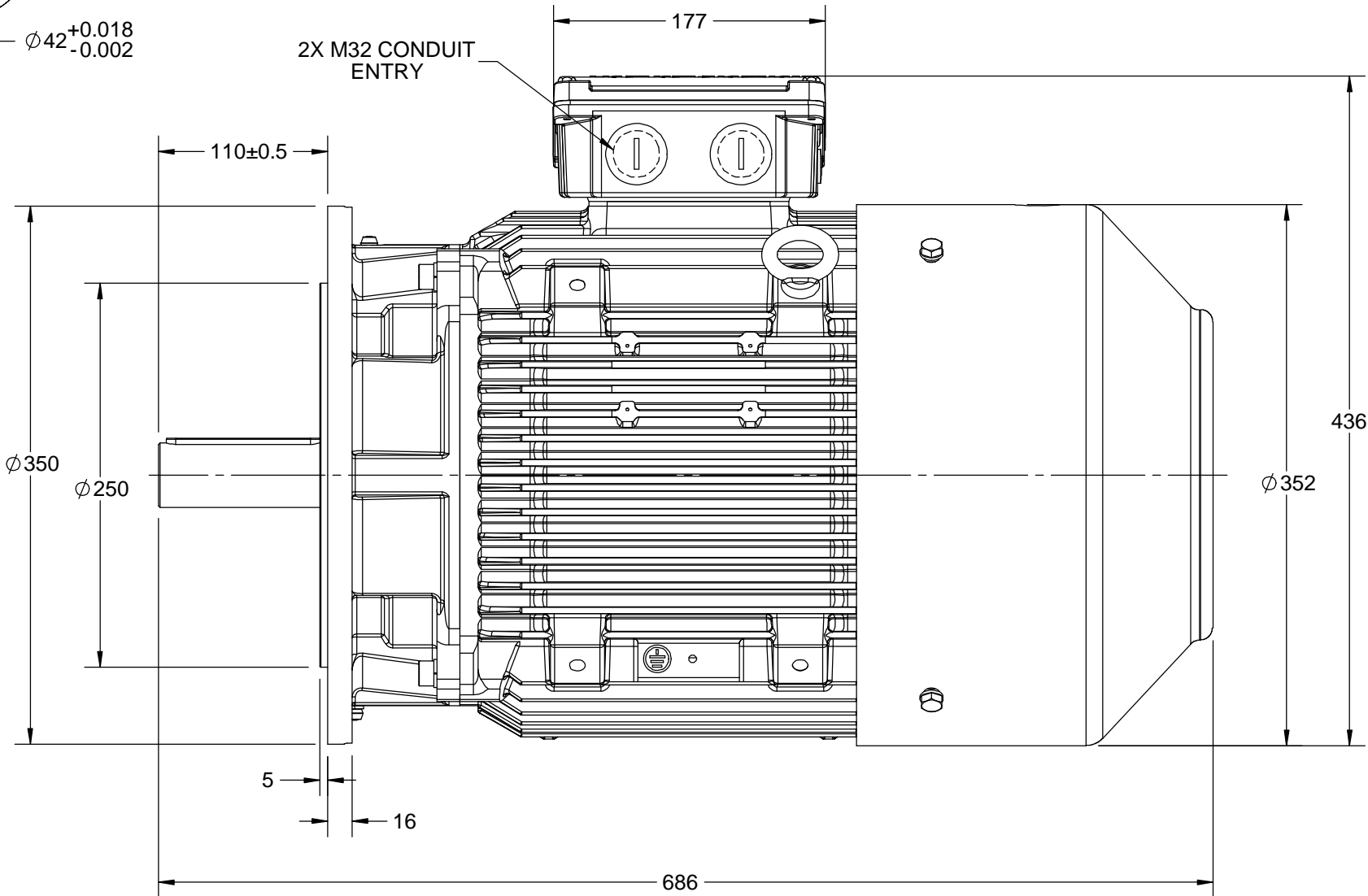
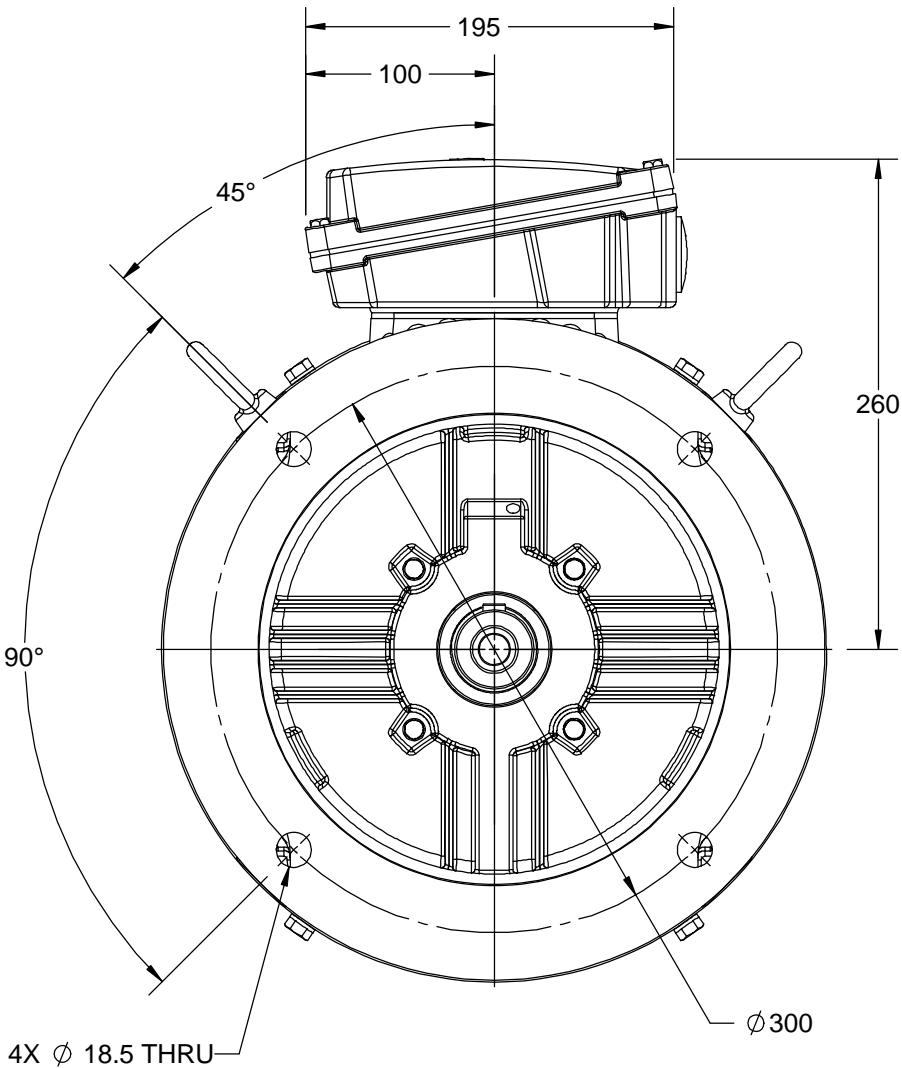
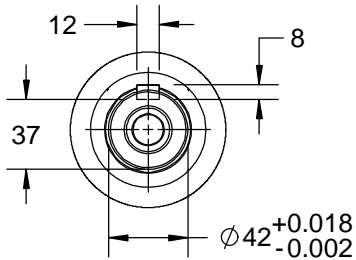
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OUTLINE

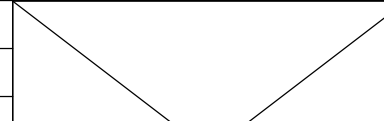




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DRAWING REVISION A	REVISION BY UDAY	DATE 12/06/2017		DRAWN BY MR				
ECO ECO-0128043	APPROVED BY SBD	DATE 12/06/2017		DATE 05/11/2014	DESCRIPTION OUTLINE 160FR-B5 H/O MTG. MOTOR TYPE TCA			
ECO DESCRIPTION NEW DRAWING RELEASE COPYRIGHT REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF REGAL BELOIT AMERICA, INC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED, BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS.				APPROVED BY JOY				
				DATE 05/11/2014				
				REFERENCE	MATERIAL		PROCESS/FINISH	
				THIRD ANGLE PROJECTION		SIZE B	DRAWING NUMBER 0216000483	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 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. QCA18P1AF121GAA001

U	Δ / Y	f	P	P	I	n	T	IE	% EFF at __ load				PF at __ load			I _A /I _N	T _A /T _N	T _K /T _N
(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	18.5	25	33.3	2958	60.18	IE4	-	93.7	93.7	92.8	0.9	0.87	0.78	8.8	3.0	4.2

Motor type	QCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	160L	Motor weight - approx.	193 kg
Duty	S1	Gross weight - approx.	213 kg
Voltage variation *	± 10%	Motor inertia	0.1077 kgm ²
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)	71 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	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 35mm ² /2 X M32 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.

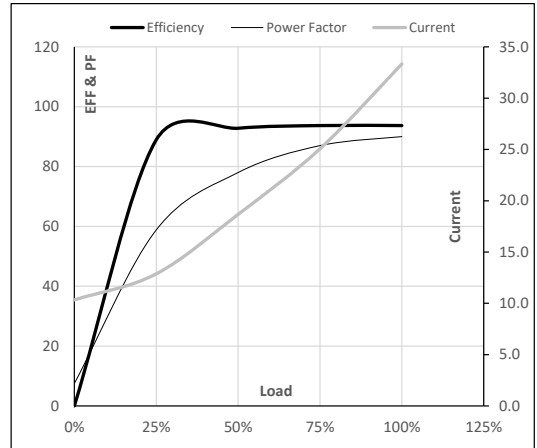
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30

Model No. QCA18P1AF121GAA001

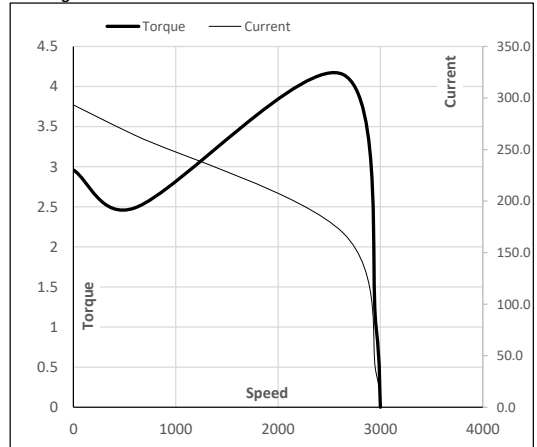
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	380	Δ	50	18.5	25	33.3	2958	6.14	60.18	IE4	40	S1	1000	0.1077	193

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	10.3	12.9	18.7	25.1	33.3	
Torque	Nm	0.0	14.9	29.9	45.0	60.2	
Speed	r/min	3000	2989	2979	2969	2958	
Efficiency	%	0.0	88.9	92.8	93.7	93.7	
Power Factor	%	7.5	58.8	78.0	87.0	90.0	

Performance vs Load Chart

Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2637	2958	3000
Current	A	293.3	264.0	169.0	33.3	10.3
Torque	pu	3.0	2.5	4.2	1	0

Starting Characteristics Chart

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

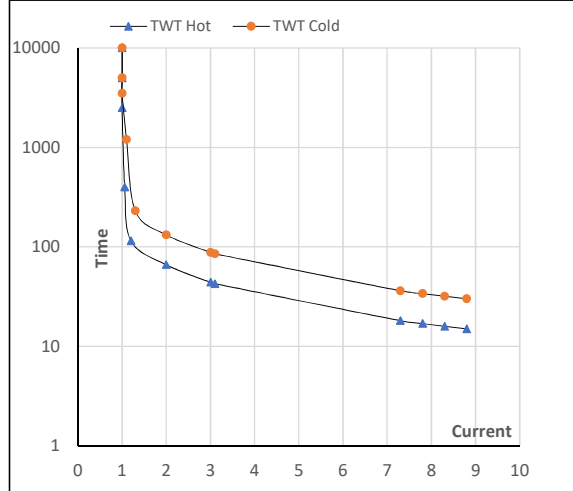
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	380	Δ	50	18.5	25	33.3	2958	6.14	60.18	IE4	40	S1	1000	0.1077	193

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR
TWT Hot	s 10000	66	44	35	25	20	15
TWT Cold	s 10000	132	88	70	50	40	30
Current	pu	1	2	4	5	5.5	8.8

Thermal Characteristics Chart

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

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