

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: QCA0451A1121GAA001

Catalog No: QCA0451A1121GAA001

TerraMAX® Cast Iron Motor, 60 HP, 3 Ph, 50 Hz, 400 V, 3000 RPM, 225M Frame, TEFC



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RegalRexnord

Nameplate Specifications

Output HP	60 Hp	Output KW	45.0 kW
Frequency	50 Hz	Voltage	400 V
Current	80.9 A	Speed	2981 rpm
Service Factor	1	Phase	3
Efficiency	95 %	Power Factor	0.85
Duty	S1	Insulation Class	F
Frame	225M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6313	Opp Drive End Bearing Size	6213
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	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	877 mm	Frame Length	425 mm
Shaft Diameter	55 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Outline Drawing	0222500476	Connection Drawing	8442000085

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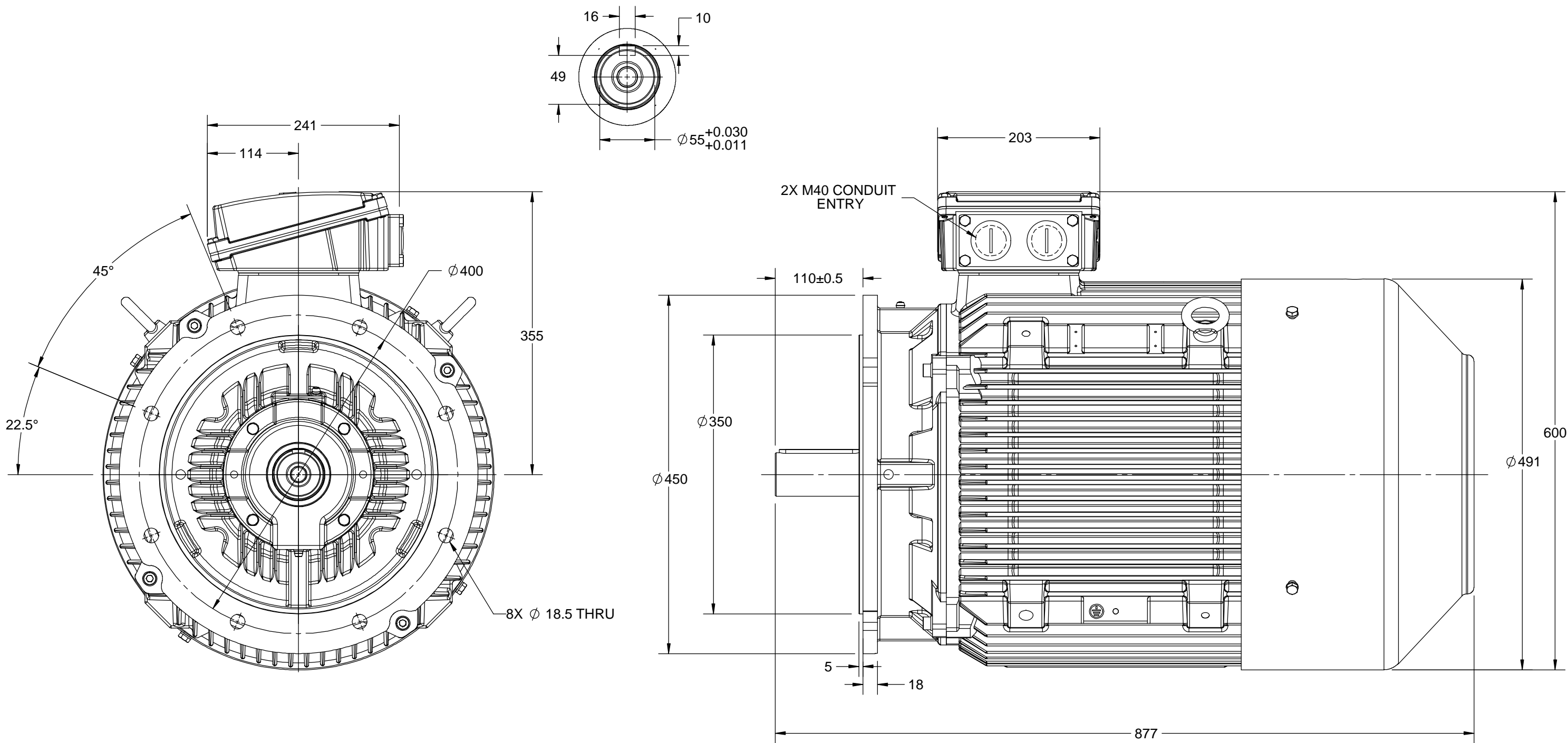
OUTLINE

B

B

A

A



DRAWING REVISION A	REVISION BY UDAY	DATE 12/06/2017
ECO ECO-0128043	APPROVED BY SBD	DATE 12/06/2017
ECO DESCRIPTION NEW DRAWING RELEASE		
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DRAWN BY MR	marathon™ Motors		
DATE 06/11/2014			
APPROVED BY JOY	DESCRIPTION OUTLINE		
DATE 06/11/2014	225FR-2P-B5-H/O MTG. MOTOR TYPE: TCA		
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0222500476	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. QCA0451A1121GAA001

U (V)	Δ / 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			
400	Δ	50	45	60	80.9	2981	143.35	IE4	-	95	95	93.2	0.85	0.79	0.68	8.7	2.6	4.4

Motor type	QCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	225M	Motor weight - approx.	453 kg
Duty	S1	Gross weight - approx.	483 kg
Voltage variation *	± 10%	Motor inertia	0.4855 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)	75 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	6313 C3 / 6213 C3	Terminal box position	TOP
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 50mm ² /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 CurrentT_K/T_N - Breakdown Torque / Rated TorqueT_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 combined variation are as per IEC60034-1

Technical data are subject to change. There may be slight variations between calculated values in this datasheet and the motor nameplate figures.

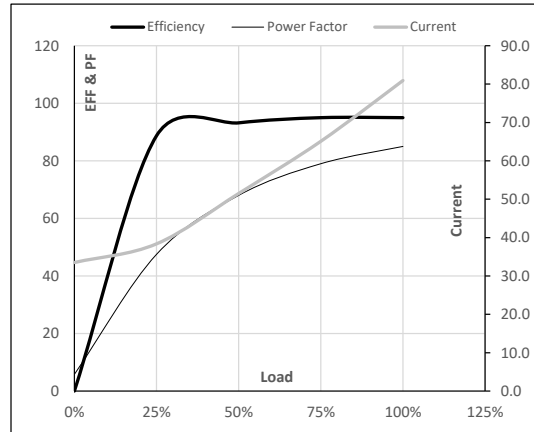
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	IEC 60034-30-1	-	-	AS/NZ 1359:5:2004	-	IEC 60034-30-1

Model No. QCA0451A1121GAA001

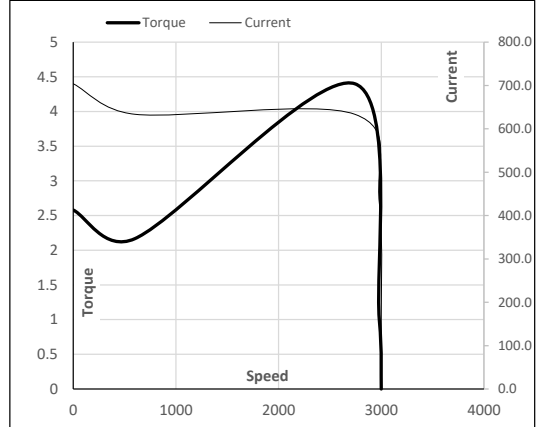
Enclosure	U (V)	Δ / Y Conn	f (Hz)	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	400	Δ	50	45	60	80.9	2981	14.62	143.35	IE4	40	S1	1000	0.4855	453

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	33.5	38.4	51.5	65.1	80.9	
Torque	Nm	0.0	35.7	71.4	107.3	143.4	
Speed	r/min	3000	2995	2990	2986	2981	
Efficiency	%	0.0	88.7	93.2	95.0	95.0	
Power Factor	%	5.8	47.5	68.0	79.0	85.0	

Performance vs Load Chart

Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2743	2981	3000
Current	A	704.0	633.6	429.6	80.9	33.5
Torque	pu	2.6	2.2	4.4	1	0

Starting Characteristics Chart

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

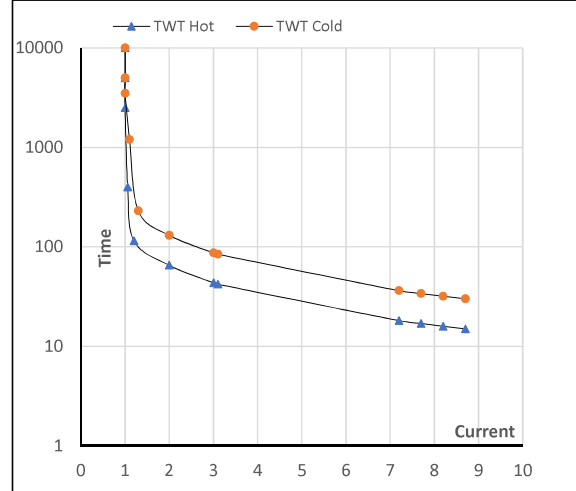
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	400	Δ	50	45	60	80.9	2981	14.62	143.35	IE4	40	S1	1000	0.4855	453

Motor Speed Torque Data

Load		FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR
TWT Hot	s	10000	65	44	30	25	20	15
TWT Cold	s	10000	131	87	65	50	45	30
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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