PRODUCT INFORMATION PACKET

Model No: QCA0153AF111GAA001
Catalog No: QCA0153AF111GAA001
TerraMAX® Cast Iron Motor, 20 HP, 3 Ph, 50 Hz, 380 V, 1000 RPM, 180L Frame, TEFC

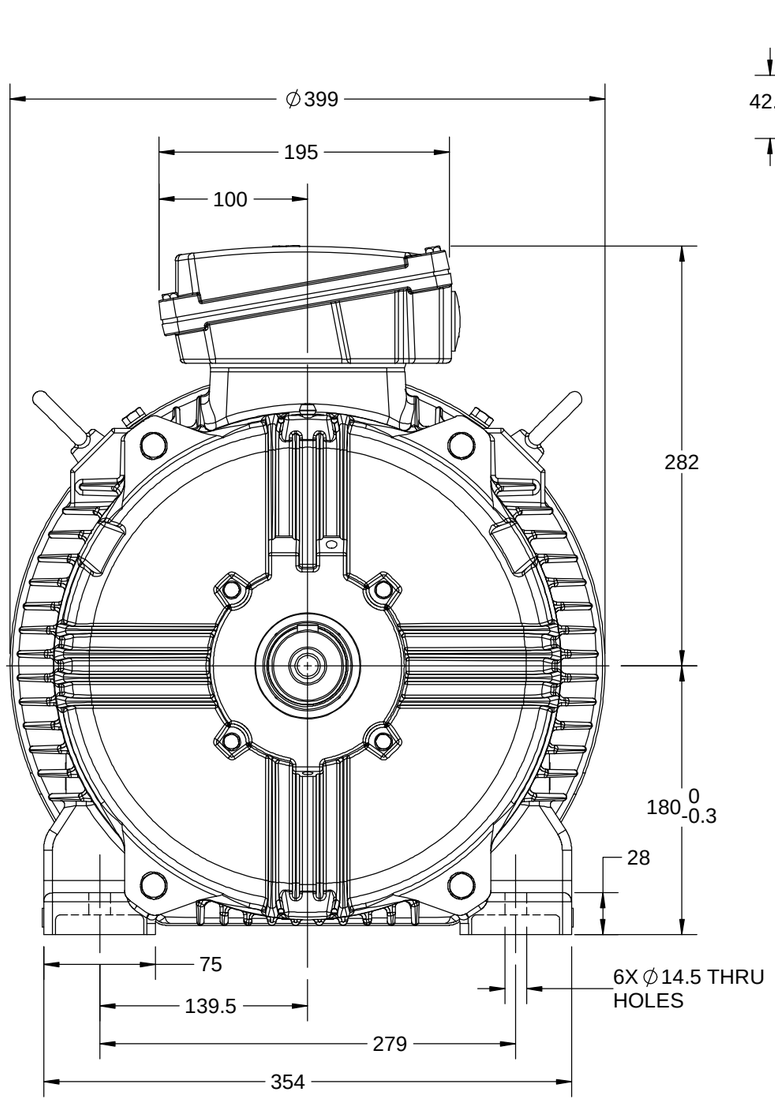
Nameplate Specifications

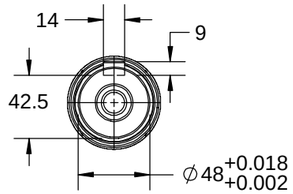
Output HP	20 Hp	Output KW	15.0 kW
Frequency	50 Hz	Voltage	380 V
Current	32.5 A	Speed	987 rpm
Service Factor	1	Phase	3
Efficiency	92.9 %	Power Factor	0.76
Duty	S1	Insulation Class	F
Frame	180L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6311	Opp Drive End Bearing Size	6211
UL	No	CSA	No
CE	YES	IP Code	55
Number of Speeds	1	Efficiency Class	IE4

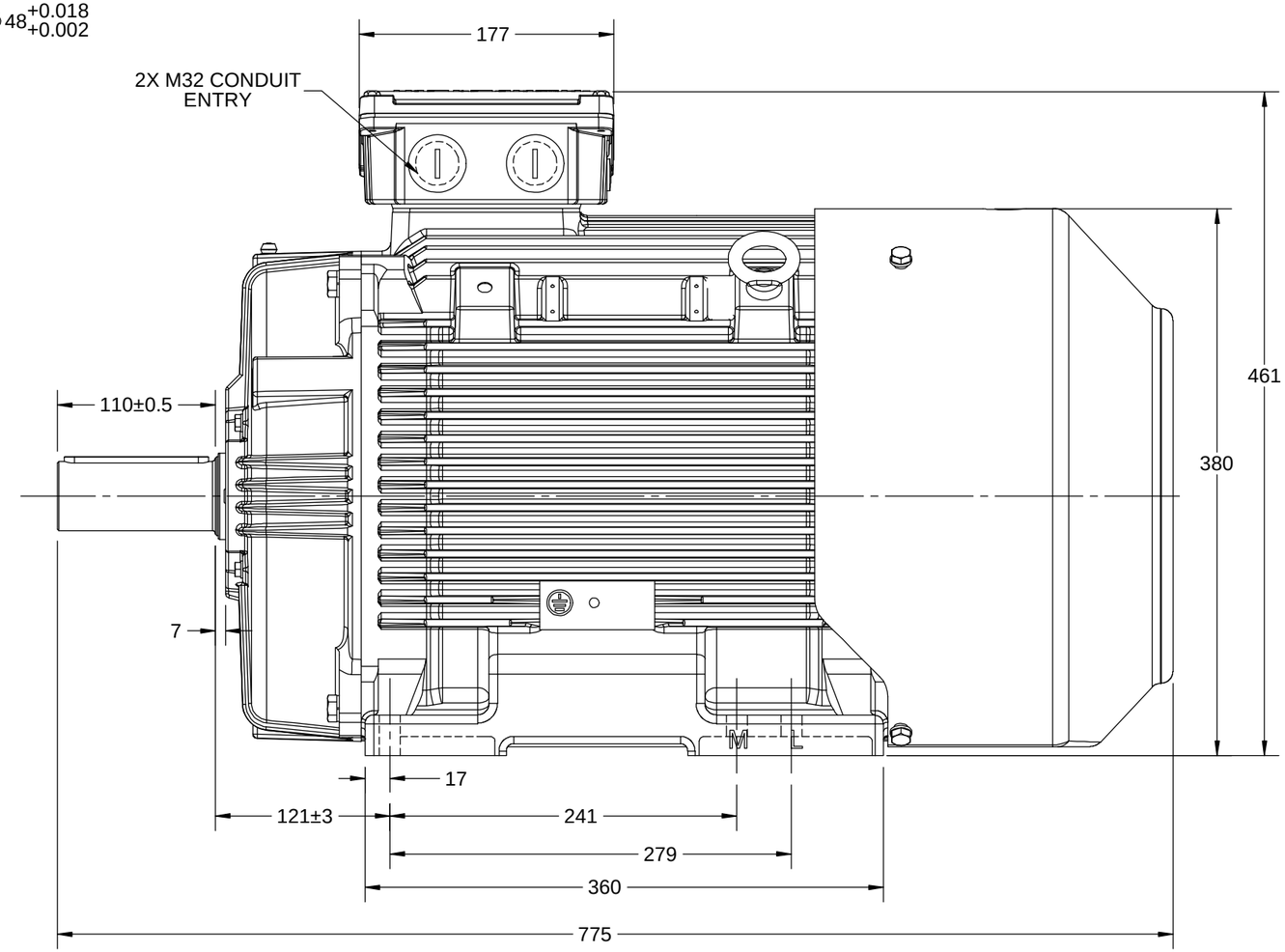
Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	6	Rotation	Bi-Directional
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	775 mm	Frame Length	366 mm
Shaft Diameter	48 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Outline Drawing	0218000514	Connection Drawing	8442000085

OUTLINE



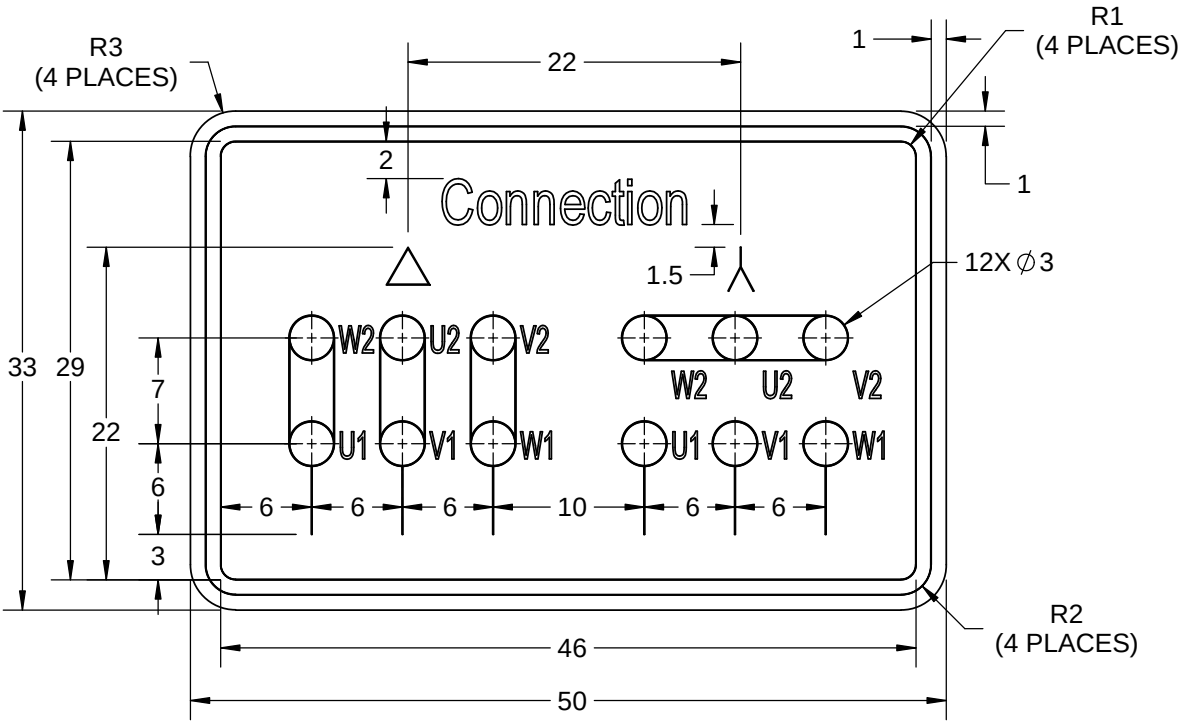




DRAWING REVISION A	REVISION BY UDAY	DATE 12/06/2017		DRAWN BY MR	marathon™ Motors
ECO ECO-0128043	APPROVED BY SBD	DATE 12/06/2017		DATE 06/11/2014	
ECO DESCRIPTION NEW DRAWING RELEASE				APPROVED BY JOY	DESCRIPTION OUTLINE 180FR-B3-H/O MTG. MOTOR TYPE: TCA
				DATE 06/11/2014	
				REFERENCE	MATERIAL / PROCESS/FINISH
				THIRD ANGLE PROJECTION	SIZE B / DRAWING NUMBER 0218000514 / SHEET 1 OF 1

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. QCA0153AF111GAA001

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	Δ	50	15	20	32.3	987	144.41	IE4	-	92.9	92.9	90.6	0.76	0.68	0.54	7.8	2.9	3.5

Motor type	QCA		Degree of protection	IP 55	
Enclosure	TEFC		Mounting type	IM B3	
Frame Material	Cast Iron		Cooling method	IC 411	
Frame size	180L		Motor weight - approx.	268	kg
Duty	S1		Gross weight - approx.	288	kg
Voltage variation *	± 10%		Motor inertia	0.4279	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)	62	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	6311-2Z / 6211-2Z		Terminal box position	TOP	
Lubrication method	Greased for life		Maximum cable size/conduit size	1R x 3C x 35mm²/2 X M32 x 1.5	
Type of grease	NA		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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marathon® Motors

TerraMAX®

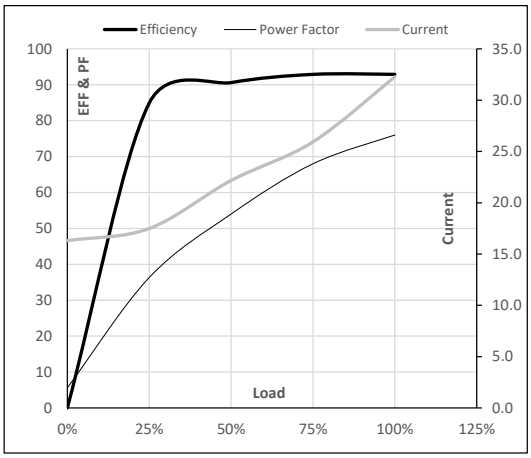
Model No. QCA0153AF111GAA001

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	15	20	32.3	987	14.73	144.41	IE4	40	S1	1000	0.4279	268

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	16.3	17.5	22.2	25.9	32.3	
Torque	Nm	0.0	35.7	71.7	107.9	144.4	
Speed	r/min	1000	997	993	990	987	
Efficiency	%	0.0	84.9	90.6	92.9	92.9	
Power Factor	%	5.6	36.3	54.0	68.0	76.0	

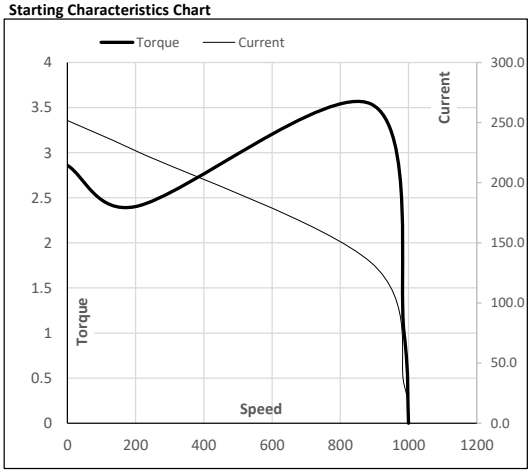
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	200	890	987	1000
Current	A	251.8	226.6	133.7	32.3	16.3
Torque	pu	2.9	2.4	3.5	1	0

Starting Characteristics Chart



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

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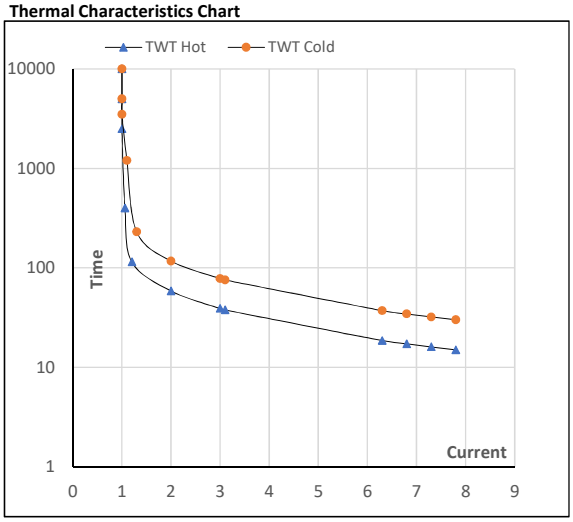
Model No. QCA0153AF111GAA001

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	15	20	32.3	987	14.73	144.41	IE4	40	S1	1000	0.4279	268

Motor Speed Torque Data

Load		FL	I_1	I_2	I_3	I_4	I_5	LR
TWT Hot	s	10000	59	39	30	25	20	15
TWT Cold	s	10000	117	78	60	45	40	30
Current	pu	1	2	3	4	5	5.5	7.8

Thermal Characteristics Chart



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