

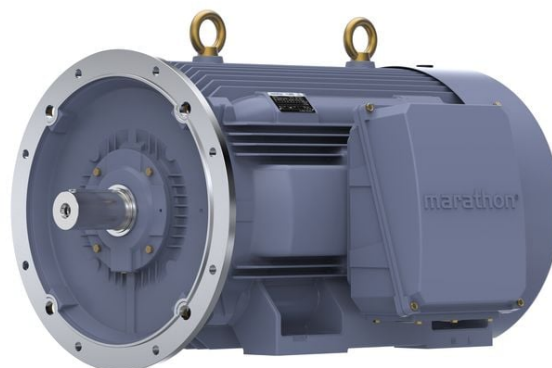
# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCA3151AF133GAC010

Catalog No: TCA3151AF133GAC010

TerraMAX® Cast Iron Motor, 425 HP, 3 Ph, 50 Hz, 380 V, 3000 RPM, 355L Frame, TEFC



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**RegalRexnord**

## Nameplate Specifications

Output HP	425 Hp	Output KW	315.0 kW
Frequency	50 Hz	Voltage	380 V
Current	555.1 A	Speed	2984 rpm
Service Factor	1	Phase	3
Efficiency	95.8 %	Power Factor	0.9
Duty	S1	Insulation Class	F
Frame	355L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6317	Opp Drive End Bearing Size	6317
UL	No	CSA	No
CE	Yes	IP Code	55
Number of Speeds	1	Efficiency Class	IE3

## Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	Rotation	Bi-Directional
Mounting	B35	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1512 mm	Frame Length	1010 mm
Shaft Diameter	75 mm	Shaft Extension	140 mm
Assembly/Box Mounting	R Side		
Outline Drawing	0235502332	Connection Drawing	8442000085

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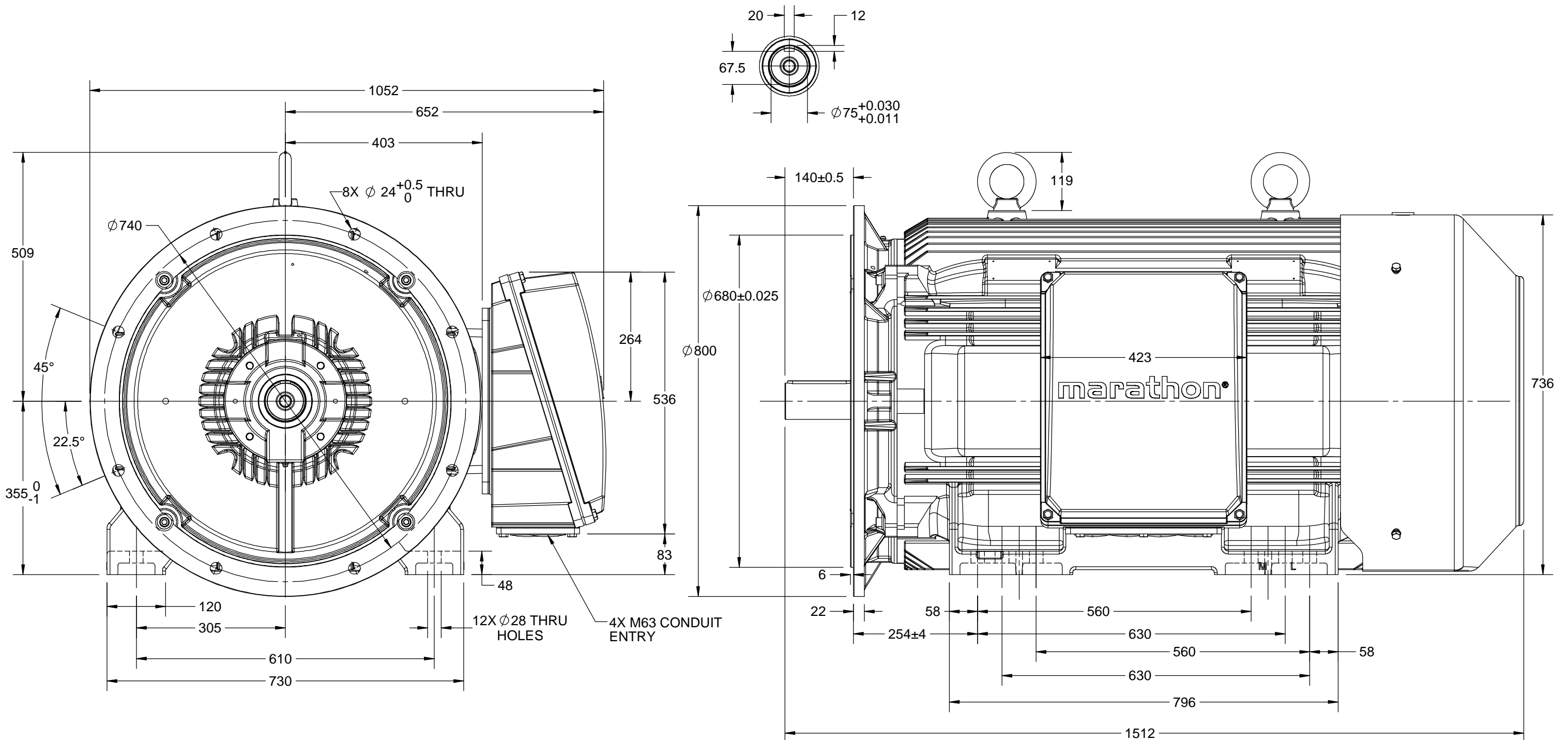
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B

B

A

A



DRAWING REVISION B	REVISION BY VS	DATE 09/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 09/07/2018
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY GSR	<b>marathon™</b> Motors		
DATE 15/11/2017			
APPROVED BY SKM	DESCRIPTION OUTLINE		
DATE 15/11/2017	355L FR-2P-B35 MTG. TCA/QCA-RHS TB		
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0235502332	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 <b>CONN DIAGRAM-NAMEPLATE</b>			
	DATE 16/12/2016					
	REFERENCE		MATERIAL		PROCESS/FINISH	
	THIRD ANGLE PROJECTION		SIZE A	DRAWING NUMBER 8442000085		SHEET 1 OF 1

**Model No.** TCA3151AF133GAC010

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 <sub>A</sub> /I <sub>N</sub> [pu]	T <sub>A</sub> /T <sub>N</sub> [pu]	T <sub>K</sub> /T <sub>N</sub> [pu]
380	Δ	50	315	425	555.08	2984	1014.4	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	7	2.1	3.3

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	355L	Motor weight - approx.	1888 kg
Duty	S1	Gross weight - approx.	1933 kg
Voltage variation *	± 10%	Motor inertia	4.7428 kgm <sup>2</sup>
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.8 mm/s
Design	N	Noise level ( 1meter distance from motor)	90 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	6317 C3 / 6317 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 300mm <sup>2</sup> /4 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.

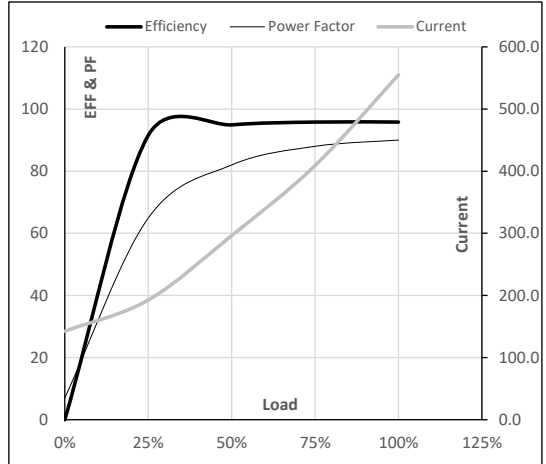
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30


**Model No.** TCA3151AF133GAC010

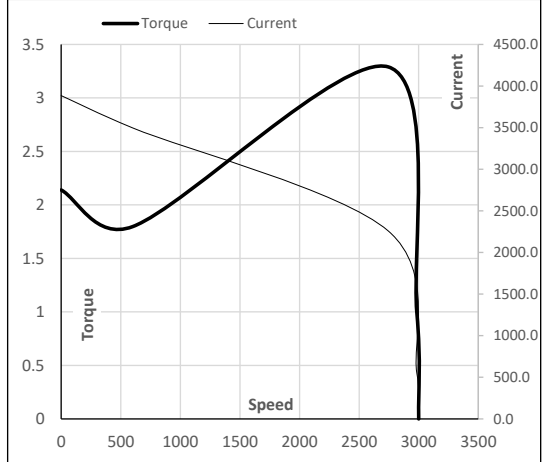
Enclosure	U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	380	$\Delta$	50	315	425	555.1	2984	103.44	1014.37	IE3	40	S1	1000	4.7428	1888

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	142.4	192.6	296.3	409.0	555.1	
Torque	Nm	0.0	252.5	505.8	759.7	1014.4	
Speed	r/min	3000	2996	2992	2988	2984	
Efficiency	%	0.0	91.5	94.9	95.8	95.8	
Power Factor	%	7.0	64.9	82.0	88.0	90.0	

**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	3885.6	3497.0	2258.1	555.1	142.4
Torque	pu	2.1	1.8	3.3	1	0

**Starting Characteristics Chart**

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

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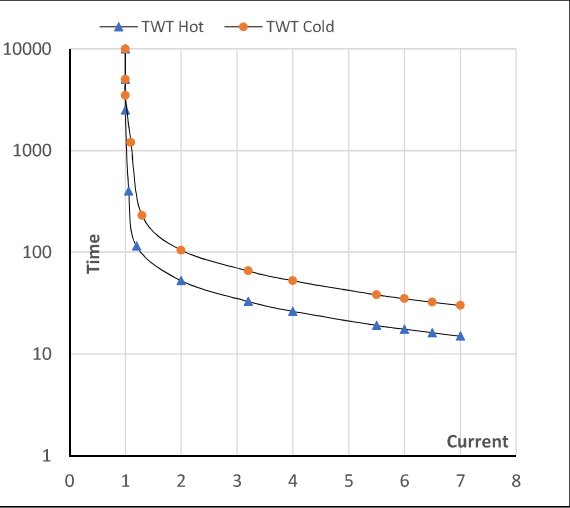
Model No. TCA3151AF133GAC010

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	315	425.0	555.1	2984	103.44	1014.37	IE3	40	S1	1000	4.7428	1888

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	26	23	18	15
TWT Cold	s	10000	105	80	53	40	36	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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