

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCA0033AF131GAC010

Catalog No: TCA0033AF131GAC010

TerraMAX® Cast Iron Motor, 4 HP, 3 Ph, 50 Hz, 380 V, 1000 RPM, 132S Frame, TEFC



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**RegalRexnord**

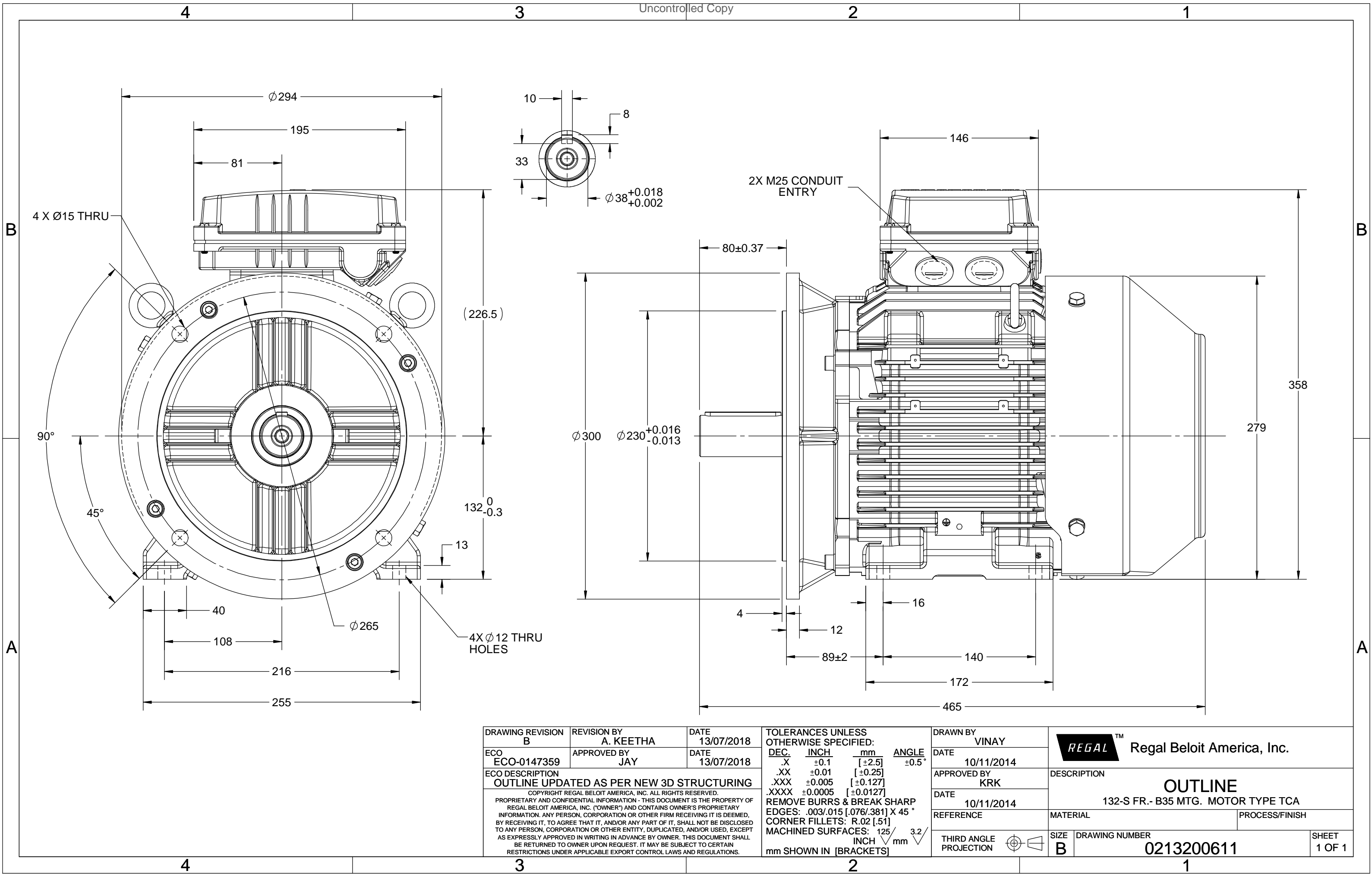
### Nameplate Specifications



Output HP	4 Hp	Output KW	3.0 kW
Frequency	50 Hz	Voltage	380 V
Current	7.5 A	Speed	973 rpm
Service Factor	1	Phase	3
Efficiency	85.6 %	Power Factor	0.71
Duty	S1	Insulation Class	F
Frame	132S	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6308	Opp Drive End Bearing Size	6208
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	6	Rotation	Bi-Directional
Mounting	B35	Motor Orientation	Horizontal
Drive End Bearing	2Z-C3	Opp Drive End Bearing	2Z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	465 mm	Frame Length	202 mm
Shaft Diameter	38 mm	Shaft Extension	80 mm
Assembly/Box Mounting	Top		
Connection Drawing	8442000085	Outline Drawing	0213200611

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DRAWING REVISION B	REVISION BY A. KEETHA	DATE 13/07/2018	TOLERANCES UNLESS OTHERWISE SPECIFIED: DEC. INCH mm ANGLE .X $\pm 0.1$ [ $\pm 2.5$ ] .XX $\pm 0.01$ [ $\pm 0.25$ ] .XXX $\pm 0.005$ [ $\pm 0.127$ ] .XXXX $\pm 0.0005$ [ $\pm 0.0127$ ] REMOVE BURRS & BREAK SHARP EDGES: .003/.015 [.076/.381] X 45° CORNER FILLETS: R.02 [.51] MACHINED SURFACES: 125 3.2 INCH mm mm SHOWN IN [BRACKETS]		DRAWN BY VINAY	 Regal Beloit America, Inc.		
ECO ECO-0147359	APPROVED BY JAY	DATE 13/07/2018			DATE 10/11/2014			
ECO DESCRIPTION OUTLINE UPDATED AS PER NEW 3D STRUCTURING					APPROVED BY KRK	DESCRIPTION OUTLINE		
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					REFERENCE	MATERIAL	PROCESS/FINISH	
					THIRD ANGLE PROJECTION 	SIZE B	DRAWING NUMBER 0213200611	SHEET 1 OF 1

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

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 <b>SN</b>		<b>Regal Beloit America, Inc.</b>		
	DATE <b>16/12/2016</b>				
	APPROVED BY <b>SBD</b>		DESCRIPTION <b>CONN DIAGRAM-NAMEPLATE</b>		
	DATE <b>16/12/2016</b>				
	REFERENCE		MATERIAL		PROCESS/FINISH
	THIRD ANGLE PROJECTION		SIZE <b>A</b>	DRAWING NUMBER <b>8442000085</b>	SHEET <b>1 OF 1</b>

**Model No.** TCA0033AF131GAC010

U (V)	$\Delta / Y$ 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			
380	Y	50	3	4	7.5	973	29.34	IE3	-	85.6	85.6	84.3	0.71	0.62	0.47	5.5	2.0	2.6

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	132S	Motor weight - approx.	70 kg
Duty	S1	Gross weight - approx.	73 kg
Voltage variation *	± 10%	Motor inertia	0.0390 kgm <sup>2</sup>
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	1.6 mm/s
Design	N	Noise level ( 1meter distance from motor)	59 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	6308-2Z / 6208-2Z	Terminal box position	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 16mm <sup>2</sup> /2 x M25 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.

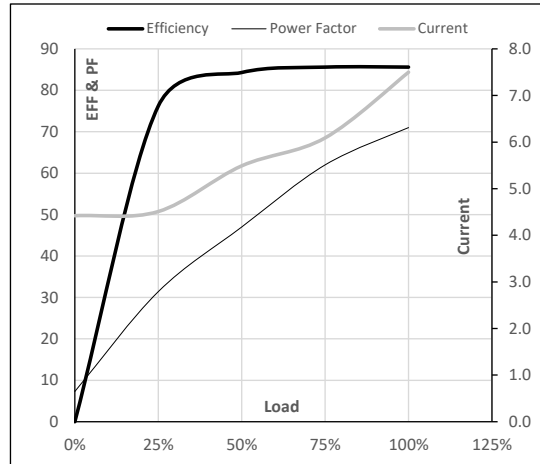
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30

**Model No.** TCA0033AF131GAC010

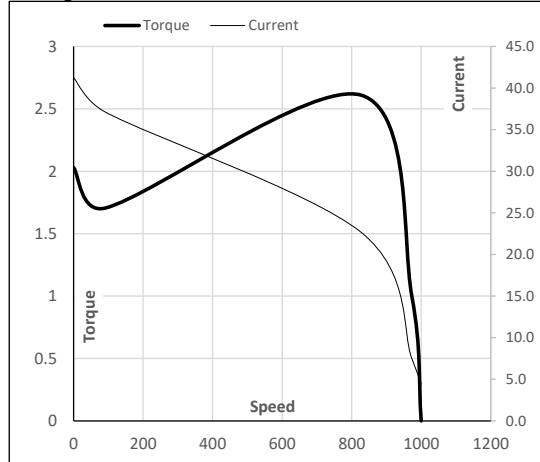
Enclosure	U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	380	Y	50	3	4.0	7.5	973	2.99	29.34	IE3	40	S1	1000	0.039	70

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	4.4	4.5	5.5	6.1	7.5	
Torque	Nm	0.0	7.2	14.5	21.8	29.3	
Speed	r/min	1000	994	987	981	973	
Efficiency	%	0.0	76.2	84.3	85.6	85.6	
Power Factor	%	7.3	31.4	47.0	62.0	71.0	

**Performance vs Load Chart**

**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	91	827	973	1000
Current	A	41.2	37.1	22.7	7.5	4.4
Torque	pu	2.0	1.7	2.6	1	0

**Starting Characteristics Chart**

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

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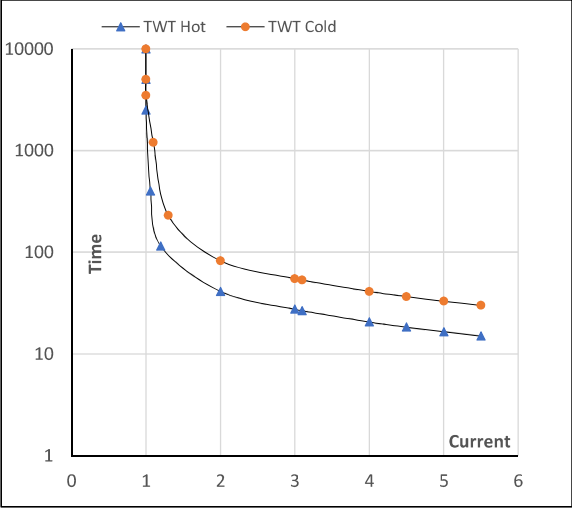
Model No. TCA0033AF131GAC010

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	Y	50	3	4.0	7.5	973	2.99	29.34	IE3	40	S1	1000	0.039	70

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	41	28	21	18	17	15
TWT Cold	s 10000	83	55	41	38	33	30
Current	pu 1	2	3	4	4.5	5	5.5

Thermal Characteristics Chart



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

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