

# PRODUCT INFORMATION PACKET

Model No: TCA0041A3133GACD01

Catalog No: TCA0041A3133GACD01

4.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 3000 RPM, 415 V, 112M Frame, TEFC  
Cast Iron IE3 Efficiency Motors



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**REGAL**



### Nameplate Specifications

Output HP	5.50 Hp	Output KW	4.0 kW
Frequency	50 Hz	Voltage	415 V
Current	6.8 A	Speed	2908 rpm
Service Factor	1	Phase	3
Efficiency	88.1 %	Power Factor	0.93
Duty	S1	Insulation Class	F
Frame	112M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6306
Opp Drive End Bearing Size	6206	UL	No
CSA	No	CE	Yes
IP Code	55		

### Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	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	399 mm	Frame Length	174 mm
Shaft Diameter	28 mm	Shaft Extension	60 mm
Assembly/Box Mounting	R Side		
Outline Drawing	0211200591	Connection Drawing	8442000085

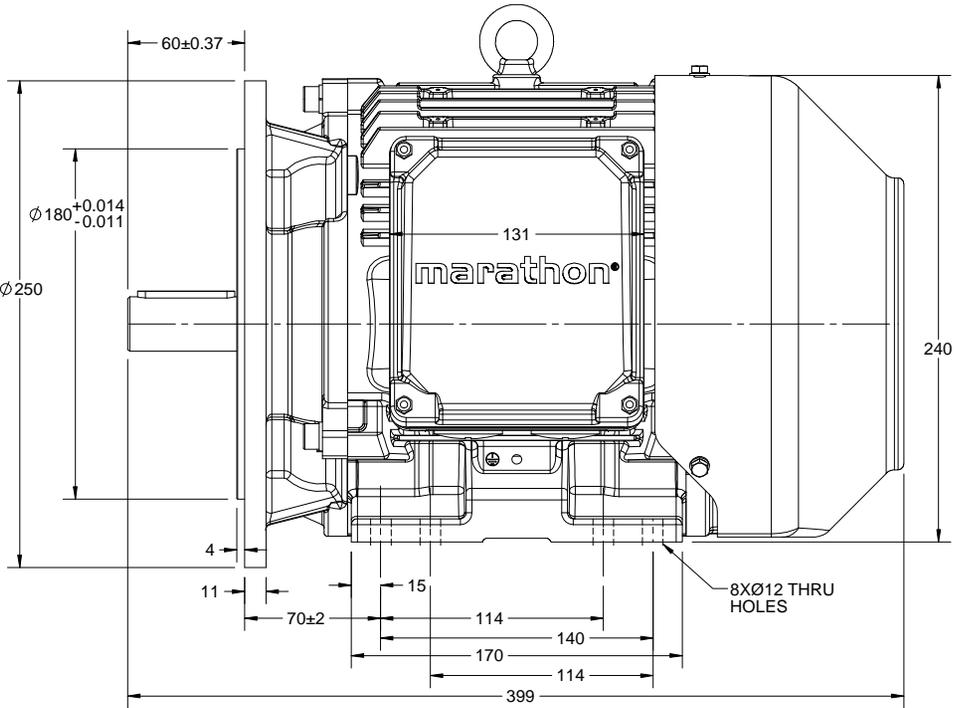
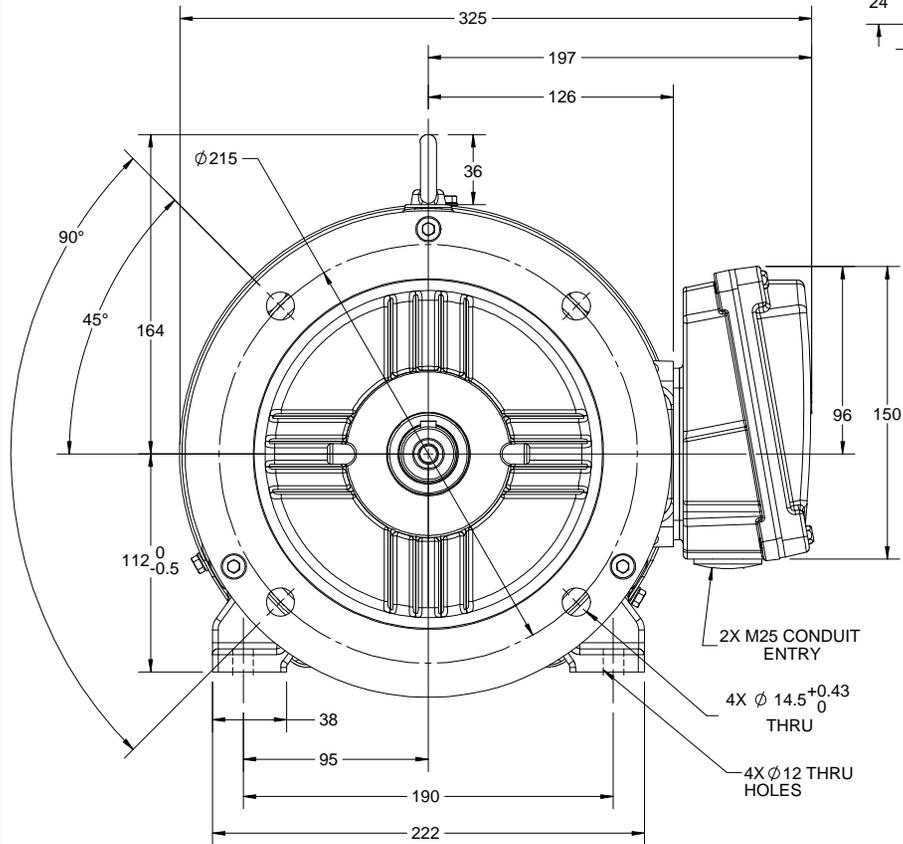
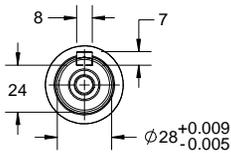
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B

A

A



DRAWING REVISION A	REVISION BY BISWA	DATE 13/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 13/07/2018

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DRAWN BY BISWA
DATE 13/07/2018
APPROVED BY SBD
DATE 13/07/2018
REFERENCE

**marathon**  
Motors

DESCRIPTION  
**OUTLINE**  
112M FR.- B35 MTG. MOTOR TYPE: TCA-RHS TB

MATERIAL PROCESS/FINISH

THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0211200591	SHEET 1 OF 1
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DRAWING REVISION	REVISION BY	DATE
A	SN	13/01/2017
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		DESCRIPTION <b>REGAL</b> ™ Regal Beloit America, Inc.	
DATE 16/12/2016	APPROVED BY SBD	DATE 16/12/2016	
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE A	DRAWING NUMBER 8442000085	SHEET 1 OF 1

Model No. TCA0041A3133GACD01

U (V)	Δ / Y Conn	f (Hz)	P		I		n (RPM)	T (Nm)	IE Class	% EFF at __ load				PF at __ load			I <sub>L</sub> /I <sub>N</sub> [pu]	T <sub>M</sub> /T <sub>N</sub> [pu]	T <sub>L</sub> /T <sub>N</sub> [pu]
			[kW]	[hp]	[A]	[hp]				5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
415	Δ	50	4	5.5	6.8	2908	13.46		IE3	-	88.1	88.1	89.1	0.93	0.9	0.83	7.7	2.4	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	112M	Motor weight - approx.	52 kg
Duty	S1	Gross weight - approx.	55 kg
Voltage variation *	± 10%	Motor inertia	0.0117 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)	64 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 +50 °C	Type of coupling	Direct
Temperature rise (by resistance)	70 [ Class B ] K	LR withstand time (hot/cold)	7/15 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	-
Rotor type	Aluminum Die cast	Accessory - 2	-
Bearing type	Anti-friction ball bearing	Accessory - 3	-
DE / NDE bearing	6306-2Z / 6206-2Z	Terminal box position	RHS
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<sub>L</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

T<sub>M</sub>/T<sub>N</sub> - Breakdown Torque / Rated Torque

T<sub>L</sub>/T<sub>N</sub> - 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 Standards	Europe	China	India	Aus/Nz	Brazil	Global IEC
	-	-	IS 12615 : 2018	-	-	-

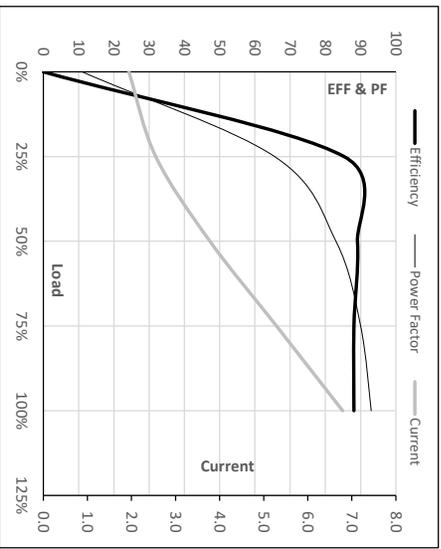
Model No. TCA0041A3133GACD01

Enclosure	U [V]	$\Delta$ /Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb Temp [°C]	Duty	Elevation [m]	Inertia [kg·m <sup>2</sup> ]	Weight [kg]
TFC	415	$\Delta$	50	4	5.5	6.8	2908	1.37	13.46	IE3	50	S1	1000	0.0117	52

**Motor Load Data**

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	1.9	2.6	3.8	5.3	6.8
Torque	Nm	0.0	3.3	6.6	10.0	13.5
Speed	r/min	3000	2978	2957	2934	2908
Efficiency	%	0.0	85.3	89.1	88.1	88.1
Power Factor	%	11.0	65.6	83.0	90.0	93.0

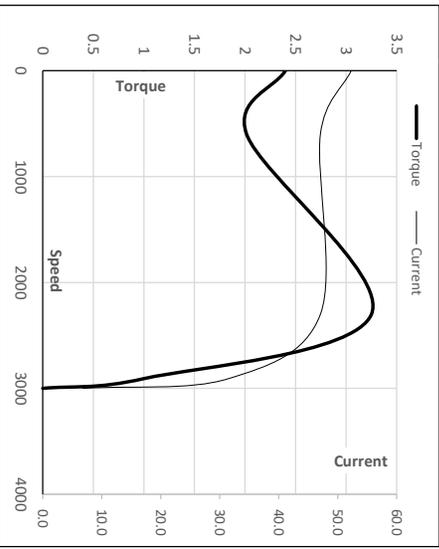
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	600	2301	2908	3000
Current	A	52.3	47.1	31.5	6.8	1.9
Torque	pu	2.4	2.0	3.3	1	0

**Starting Characteristics Chart**



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

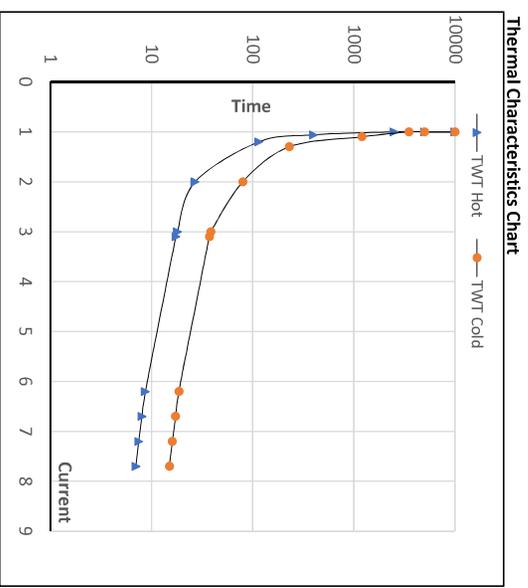
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Model No. TCA0041A3133GACD01

Enclosure	U	$\Delta$ /Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
(V)	415	Conn	[Hz]	[kW]	[hp]	[A]	[rpm]	[kgm]	[Nm]	Class	[°C]	S1	[m]	[kg·m <sup>2</sup> ]	[kg]
TEFC		$\Delta$	50	4	5.5	6.8	2908	1.37	13.46	IE3	50	S1	1000	0.0117	52

**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	27	18	16	13	10
TWT Cold	s	10000	80	39	35	30	22
Current	pu	1	2	3	4	5	5.5
							7.7



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

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