

# PRODUCT INFORMATION PACKET



Model No: TCN0301A1133GAC010

Catalog No: TCN0301A1133GAC010

TerraMAX® Cast Iron Motor, 40 HP, 3 Ph, 50 Hz, 400 V, 3000 RPM, 200L Frame, TEFC





### Nameplate Specifications

Phase	3	Output HP	40 Hp
Output KW	30.0 kW	Voltage	400 V
Speed	2973 r/min	Service Factor	1
Frame	200L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Efficiency	93.3 %
Ambient Temperature	40 °C	Frequency	50 Hz
Current	54.6 A	Power Factor	0.85
Duty	S1	Insulation Class	F
Drive End Bearing Size	6312	Opp Drive End Bearing Size	6212
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	769 mm	Frame Length	370 mm
Shaft Diameter	55 mm	Shaft Extension	110 mm
Assembly/Box Mounting	R Side		
Connection Drawing	8442000085	Outline Drawing	0220000523

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### ECO DESCRIPTION

## GEOMETRIC TOLERANCE

LINEAR DIM	>0~6	±0.1
	>6~30	±0.2
	>30~120	±0.3



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 <b>A</b>	DRAWING NUMBER <b>8442000085</b>	SHEET 1 OF 1

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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]
400	Δ	50	30	40	54.6	2973	95.82	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	7.4	2.1	3.7

Motor type	TCN	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	200L	Motor weight - approx.	276 kg
Duty	S1	Gross weight - approx.	306 kg
Voltage variation *	± 10%	Motor inertia	0.2430 kgm <sup>2</sup>
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)	73 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	Ex nA	Standard rotation	Clockwise form DE
Zone classification	Zone 2	Paint shade	RAL 5014
Gas group	IIC	Accessories	
Temperature class	T3	Accessory - 1	PTC 150°C
Rotor type	Aluminum Die cast	Accessory - 2	-
Bearing type	Anti-friction ball	Accessory - 3	-
DE / NDE bearing	6312 C3 / 6212 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 50mm <sup>2</sup> /2 x M40 x 1.5
Type of grease	CHEVRON SRI-2 or Equivalent	Auxiliary terminal box	NA

I<sub>A</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

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

T<sub>A</sub>/T<sub>N</sub> - Locked Rotor Torque / Rated Torque

**NOTE**

ATEX/IEC Ex certified as per IEC/EN 60079-0; IEC/EN 60079-15

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.

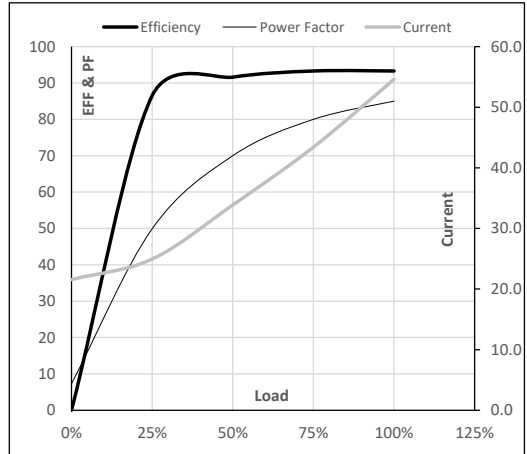
Efficiency Standards	Europe IEC:60034-30-1	China -	India -	Aus/Nz GEMS 2019	Brazil -	Global IEC IEC:60034-30-1
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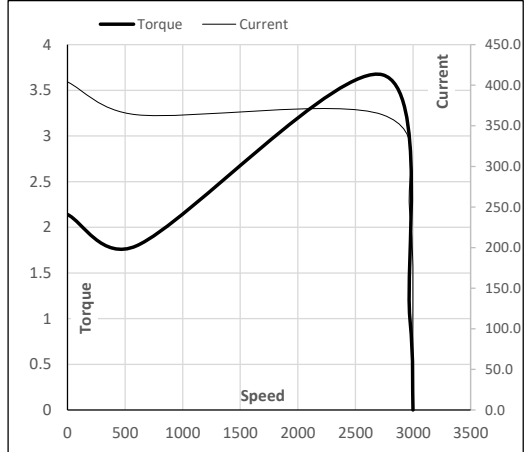
Enclosure	U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	400	$\Delta$	50	30	40	54.6	2973	9.77	95.82	IE3	40	S1	1000	0.243	276

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	21.6	25.0	33.9	43.4	54.6	
Torque	Nm	0.0	23.8	47.7	71.7	95.8	
Speed	r/min	3000	2993	2987	2980	2973	
Efficiency	%	0.0	86.5	91.6	93.3	93.3	
Power Factor	%	7.3	49.9	70.0	80.0	85.0	

**Performance vs Load Chart**

**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2735	2973	3000
Current	A	404.0	363.6	242.5	54.6	21.6
Torque	pu	2.1	1.8	3.7	1	0

**Starting Characteristics Chart**

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

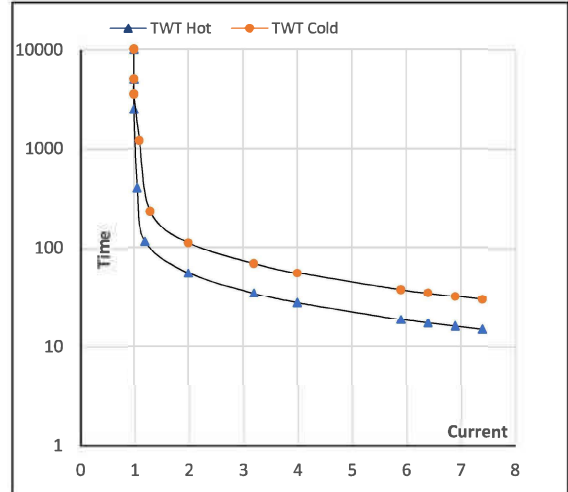
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Enclosure	U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	400	$\Delta$	50	30	40.0	54.6	2973	9.77	95.82	IE3	40	S1	1000	0.243	276

**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	56	40	28	25	22	15
TWT Cold	s	10000	111	80	56	45	40	30
Current	pu	1	2	3	4	5	5.5	7.4

**Thermal Characteristics Chart**

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

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