

# PRODUCT INFORMATION PACKET



Model No: TCN0222A1131GAC010

Catalog No: TCN0222A1131GAC010

TerraMAX® Cast Iron Motor, 30 HP, 3 Ph, 50 Hz, 400 V, 1500 RPM, 180L Frame, TEFC





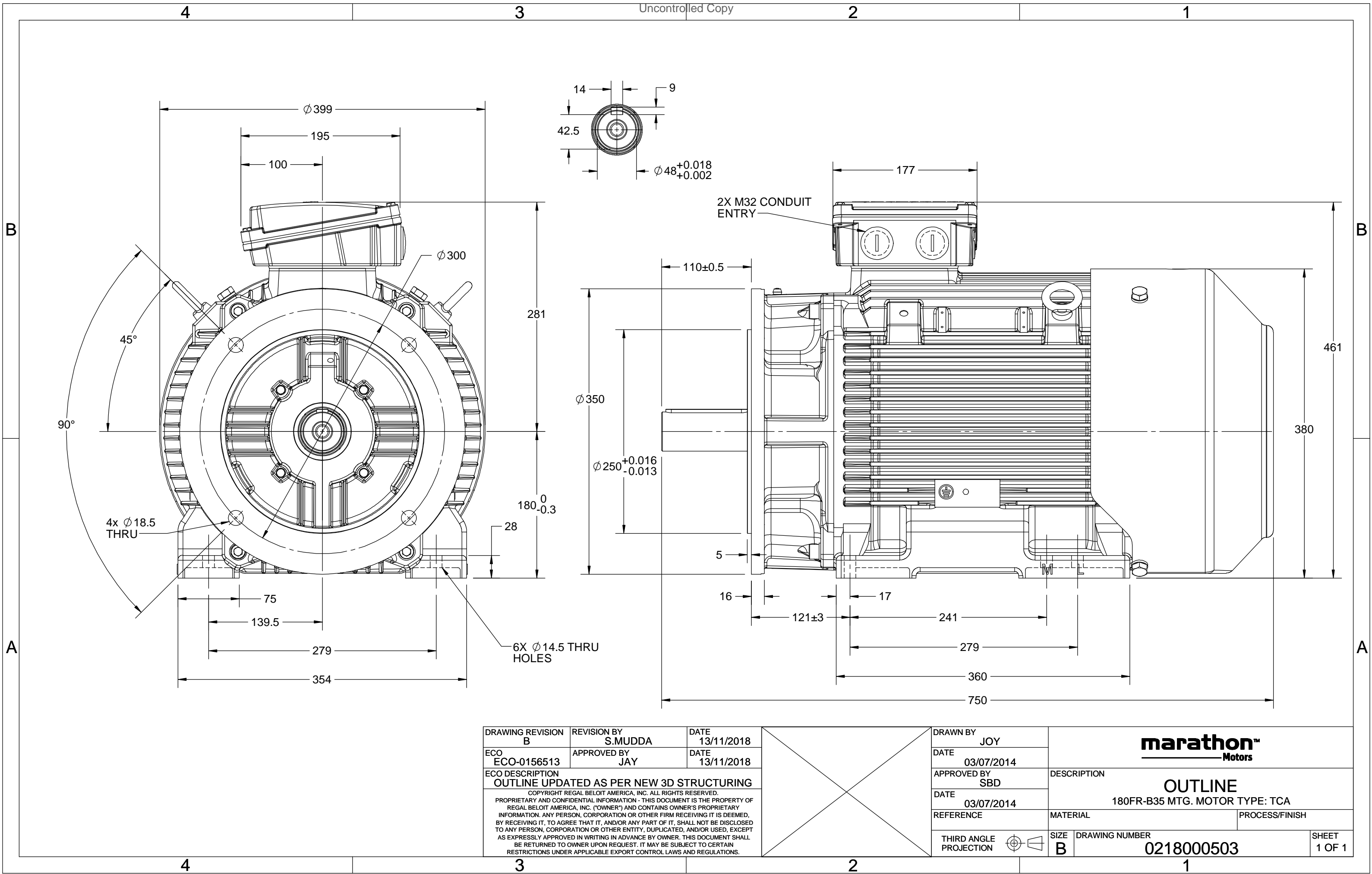
## Nameplate Specifications

Phase	3	Output HP	30 Hp
Output KW	22.0 kW	Voltage	400 V
Speed	1478 r/min	Service Factor	1
Frame	180L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Efficiency	93 %
Ambient Temperature	40 °C	Frequency	50 Hz
Current	41.6 A	Power Factor	0.82
Duty	S1	Insulation Class	F
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	IE3

## Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	4	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	750 mm	Frame Length	366 mm
Shaft Diameter	48 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Connection Drawing	8442000085	Outline Drawing	0218000503

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DRAWING REVISION

A

REVISION BY

SN

DATE

13/01/2017

ECO  
ECO-0116390

APPROVED BY  
SBD

DATE

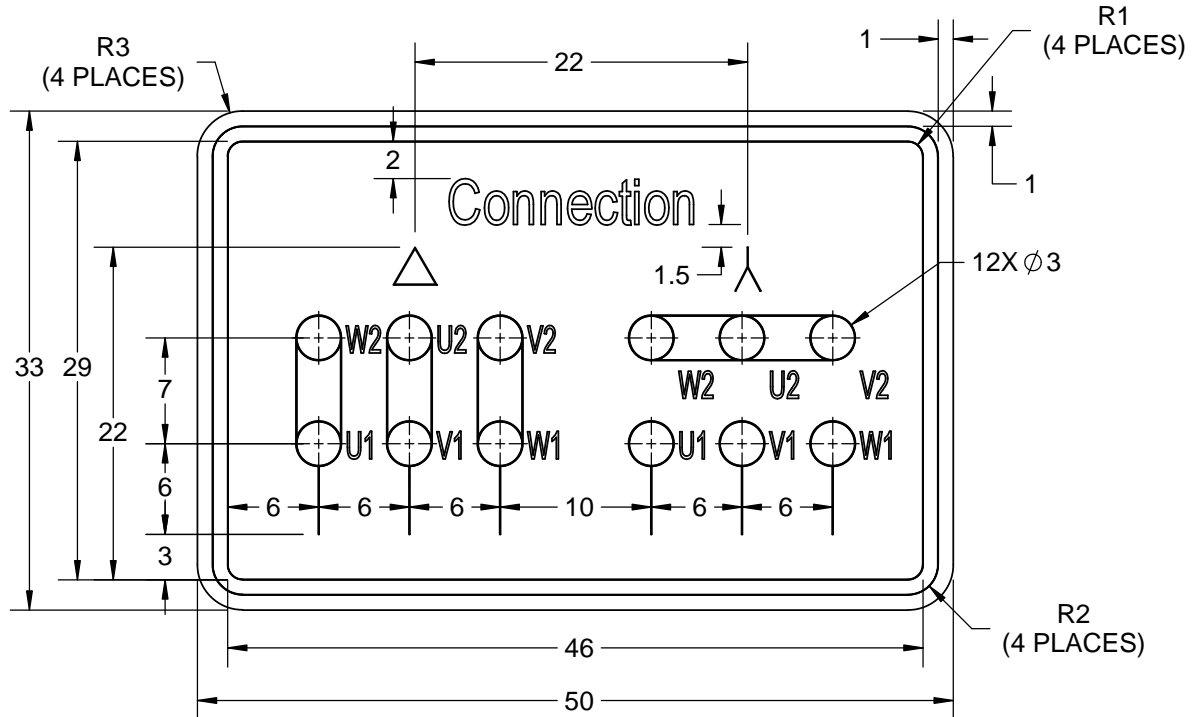
13/01/2017

ECO DESCRIPTION

NEW DRAWING RELEASE

GEOMETRIC TOLERANCE

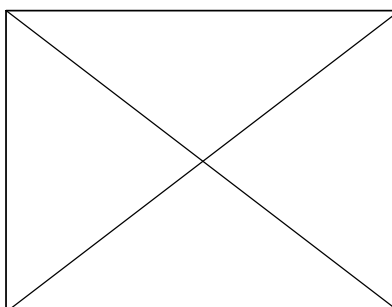
LINEAR DIM	>0~6	±0.1
	>6~30	±0.2
	>30~120	±0.3



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



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16/12/2016  
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SBD  
DATE  
16/12/2016  
REFERENCE  
THIRD ANGLE  
PROJECTION

REGAL<sup>TM</sup> Regal Beloit America, Inc.  
DESCRIPTION  
CONN DIAGRAM-NAMEPLATE  
MATERIAL  
PROCESS/FINISH  
SIZE  
A  
DRAWING NUMBER  
8442000085  
SHEET  
1 OF 1

**Model No.** TCN0222A1131GAC010

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	22	30	41.6	1478	144.6	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	7.5	2.7	3.5

Motor type	TCN	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	180L	Motor weight - approx.	247 kg
Duty	S1	Gross weight - approx.	267 kg
Voltage variation *	± 10%	Motor inertia	0.2415 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)	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 +40 °C	Type of coupling	Direct
Temperature rise (by resistance)	80 [ Class B ] K	LR withstand time (hot/cold)	12/25 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	6311-2Z / 6211-2Z	Terminal box position	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 35mm <sup>2</sup> /2 X M32 x 1.5
Type of grease	NA	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.

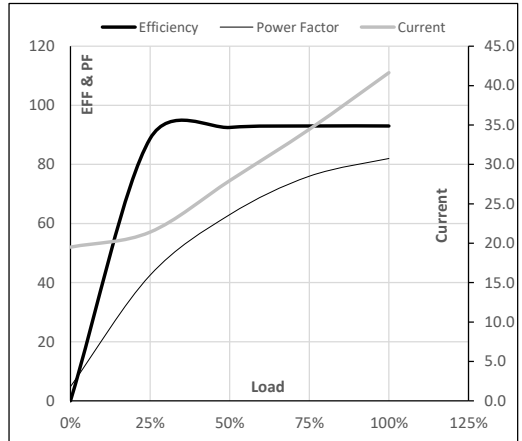
Efficiency Standards	Europe IEC:60034-30-1	China -	India -	Aus/Nz GEMS 2019	Brazil -	Global IEC IEC:60034-30-1
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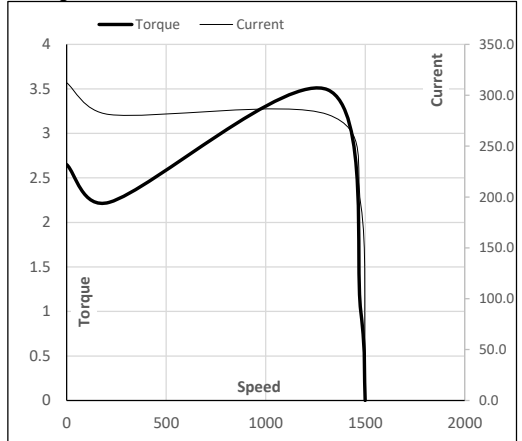
Enclosure	U (V)	Δ / Y Conn	f (Hz)	P (kW)	P (hp)	I (A)	n (RPM)	T (kgm)	T (Nm)	IE Class	Amb [°C]	Duty	Elevation (m)	Inertia (kg-m <sup>2</sup> )	Weight (kg)
TEFC	400	Δ	50	22	30	41.6	1478	14.74	144.60	IE3	40	S1	1000	0.2415	247

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	19.5	21.4	27.9	34.5	41.6	
Torque	Nm	0.0	35.7	71.7	108.0	144.6	
Speed	r/min	1500	1495	1489	1484	1478	
Efficiency	%	0.0	88.7	92.5	93.0	93.0	
Power Factor	%	4.8	42.5	63.0	76.0	82.0	

**Performance vs Load Chart**

**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	214	1312	1478	1500
Current	A	312.3	281.1	192.4	41.6	19.5
Torque	pu	2.7	2.2	3.5	1	0

**Starting Characteristics Chart**

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

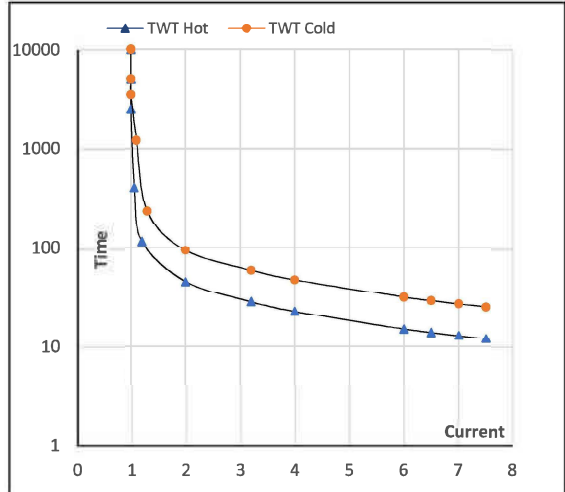
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	400	Δ	50	22	30.0	41.6	1478	14.74	144.60	IE3	40	S1	1000	0.2415	247

**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	45	31	23	20	14	12
TWT Cold	s 10000	94	60	47	44	40	25
Current	pu	1	2	4	5	5.5	7.5

**Thermal Characteristics Chart**

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

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