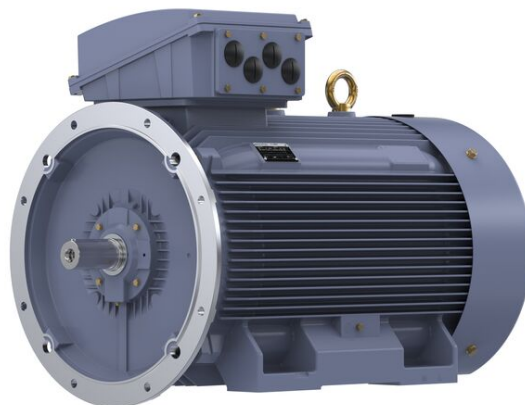


# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCA3151A3131GACD01  
Catalog No: TCA3151A3131GACD01  
TerraMAX® Cast Iron Motor, 425 HP, 3 Ph, 50 Hz, 415 V, 355L Frame



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**RegalRexnord**

### Nameplate Specifications

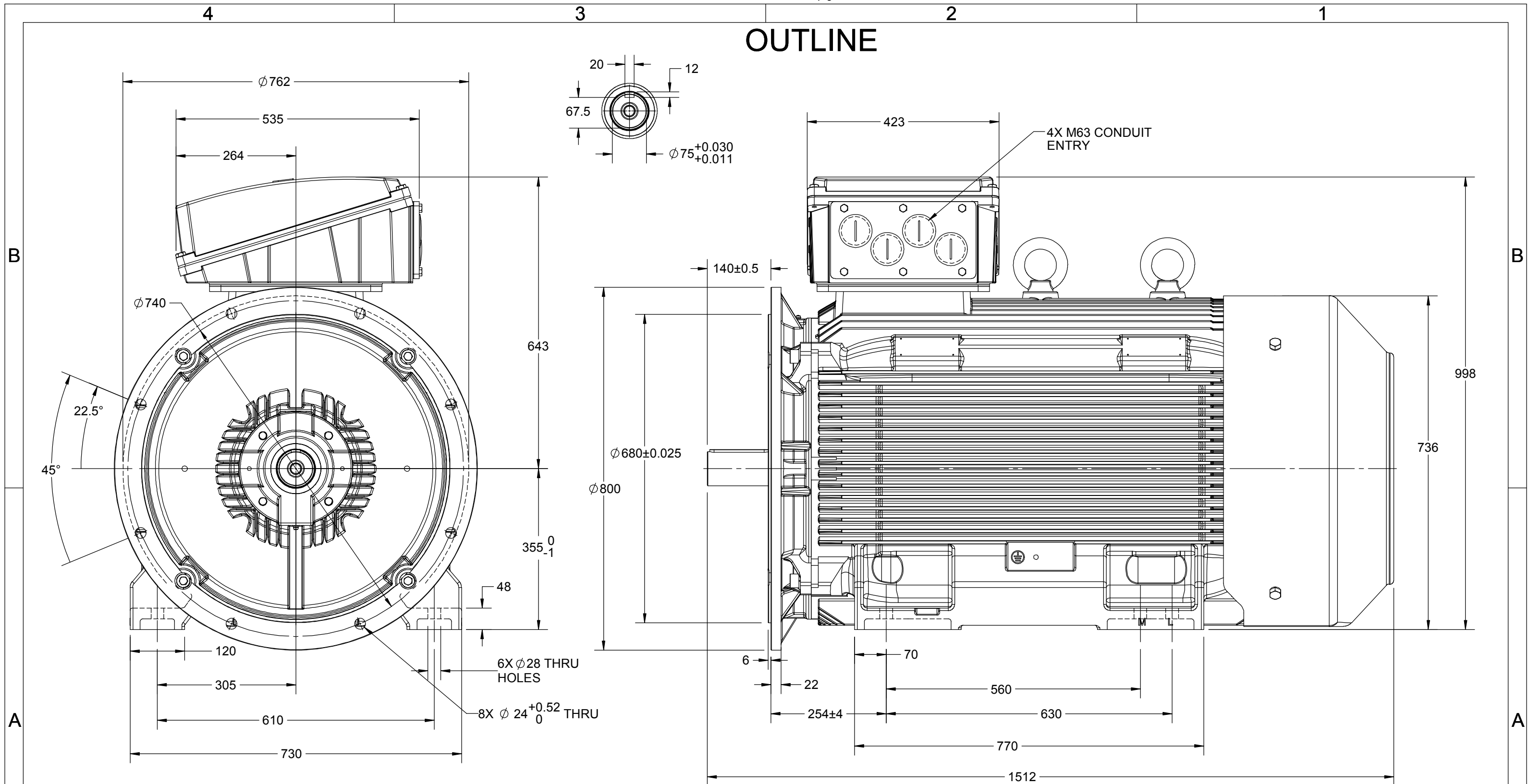
Phase	3	Output HP	425 Hp
Output KW	315.0 kW	Voltage	415 V
Speed	2985 r/min	Service Factor	1
Frame	355L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Efficiency	95.8 %
Ambient Temperature	50 °C	Frequency	50 Hz
Current	514.0 A	Power Factor	0.89
Duty	S1	Insulation Class	F
Drive 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	Top		
Outline Drawing	0235501825	Connection Drawing	8442000085

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## OUTLINE



DRAWING REVISION B	REVISION BY NIV	DATE 07/05/2019
ECO ECO-0165600	APPROVED BY SR	DATE 07/05/2019
ECO DESCRIPTION MODEL UPDATED		
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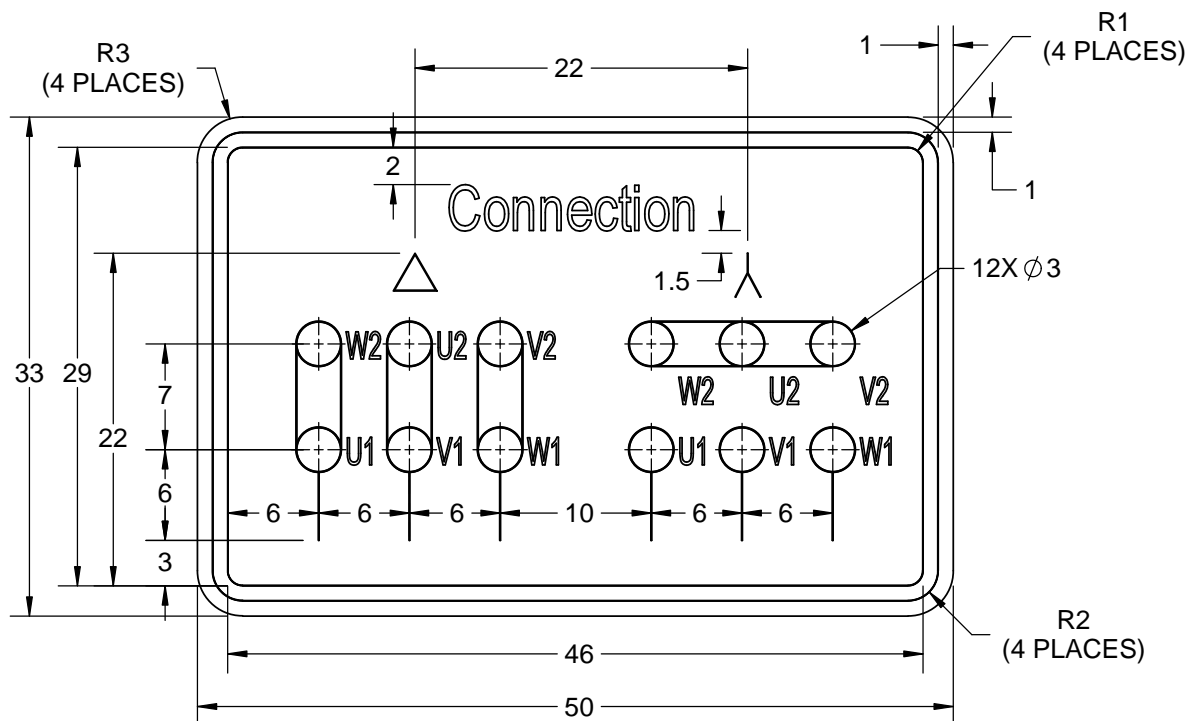
DRAWN BY JOY	<b>marathon™</b> Motors		
DATE 18/07/2014			
APPROVED BY SBD	DESCRIPTION OUTLINE		
DATE 18/07/2014	355FR-2P-B35 MTG. MOTOR TYPE: TCA		
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0235501825	SHEET 1 OF 1

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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>	

**Model No.** TCA3151A3131GACD01

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]
415	Δ	50	315	425	514.0	2985	1013.95	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	7.5	2.3	3.6
									-	95.8	95.8	94.7	0.89	0.86	0.78			

Motor type	TCA
Enclosure	TEFC
Frame Material	Cast Iron
Frame size	355L
Duty	S1
Voltage variation *	± 10%
Frequency variation *	± 5%
Combined variation *	10%
Design	N
Service factor	1.0
Insulation class	F
Ambient temperature	-20 to +50 °C
Temperature rise (by resistance)	70 [ Class B ] K
Altitude above sea level	1000 meter
Hazardous area classification	NA
Zone classification	NA
Gas group	NA
Temperature class	NA
Rotor type	Aluminum Die cast
Bearing type	Anti-friction ball bearing
DE / NDE bearing	6317 C3 / 6317 C3
Lubrication method	Regreasable
Type of grease	Shell Gadus S5 V100 or Equivalent

Degree of protection	IP 55
Mounting type	IM B35
Cooling method	IC 411
Motor weight - approx.	1898 kg
Gross weight - approx.	1943 kg
Motor inertia	4.7428 kgm <sup>2</sup>
Load inertia	Customer to Provide
Vibration level	2.8 mm/s
Noise level ( 1meter distance from motor)	90 dB(A)
No. of starts hot/cold/Equally spread	2/3/4
Starting method	DOL
Type of coupling	Direct
LR withstand time (hot/cold)	15/30 s
Direction of rotation	Bi-directional
Standard rotation	Clockwise form DE
Paint shade	RAL 5014
Accessories	
Accessory - 1	-
Accessory - 2	-
Accessory - 3	-
Terminal box position	TOP
Maximum cable size/conduit size	1R x 3C x 300mm <sup>2</sup> /4 x M63 x 1.5
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**

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.

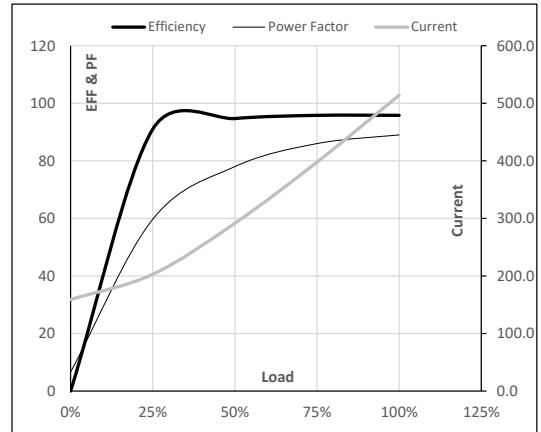
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	-	IS 12615 : 2018	-	-	-

**Model No.** TCA3151A3131GACD01

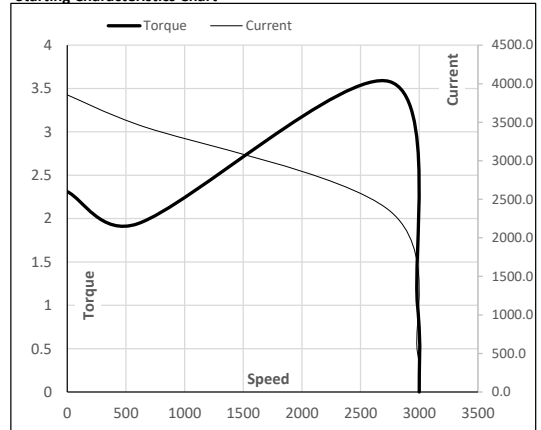
Enclosure	U (V)	Δ / Y Conn	f (Hz)	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	415	Δ	50	315	425.0	514.0	2985	103.39	1013.95	IE3	50	S1	1000	4.7428	1898

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	159.0	202.9	291.6	397.7	514.0	
Torque	Nm	0.0	252.5	505.7	759.5	1013.9	
Speed	r/min	3000	2996	2993	2989	2985	
Efficiency	%	0.0	91.0	94.7	95.8	95.8	
Power Factor	%	6.6	59.7	78.0	86.0	89.0	

**Performance vs Load Chart**

**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2746	2985	3000
Current	A	3855.0	3469.5	2353.1	514.0	159.0
Torque	pu	2.3	1.9	3.6	1	0

**Starting Characteristics Chart**

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

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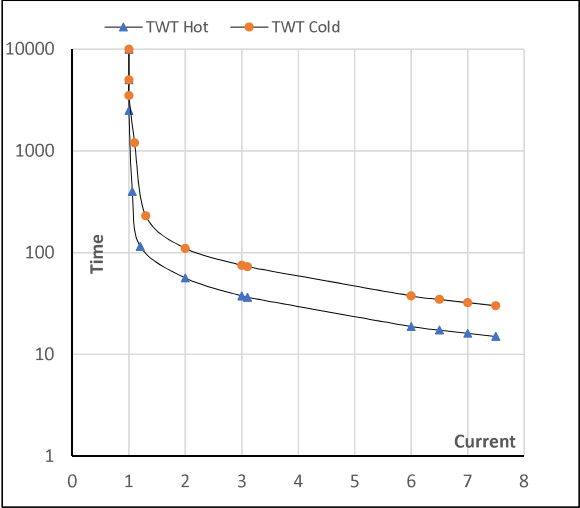
Model No. TCA3151A3131GACD01

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	415	Δ	50	315	425	514.0	2985	103.32	1013.95	IE3	50	S1	1000	4.7428	1898

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	38	30	25	20	15
TWT Cold	s 10000	110	75	60	45	40	30
Current	pu 1	2	3	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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