

PRODUCT INFORMATION PACKET

Model No: TCM3551A2113GAC011

Catalog No: TCM3551A2113GAC011

TerraMAX® IE3, Mining Duty Motors, 355 kW, 3Ph, 2 Pole, 400/690V, B3, 50Hz, 355L Frame, TEFC



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Nameplate Specifications

Output HP	475 Hp	Output KW	355.0 kW
Frequency	50 Hz	Voltage	400/690 V
Current	601.0 A	Speed	2987 rpm
Service Factor	1	Phase	3
Efficiency	95.8 %	Power Factor	0.89
Duty	S1	Insulation Class	H
Frame	355L	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6319	Opp Drive End Bearing Size	6317
UL	NO	CSA	NO
CE	YES	IP Code	66
Number of Speeds	1	Efficiency Class	IE3

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	Rotation	Bi-Directional
Mounting	B3	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1542 mm	Frame Length	1010 mm
Shaft Diameter	85 mm	Shaft Extension	170 mm
Assembly/Box Mounting	RHS		
Connection Drawing	8442180001	Outline Drawing	0235502343

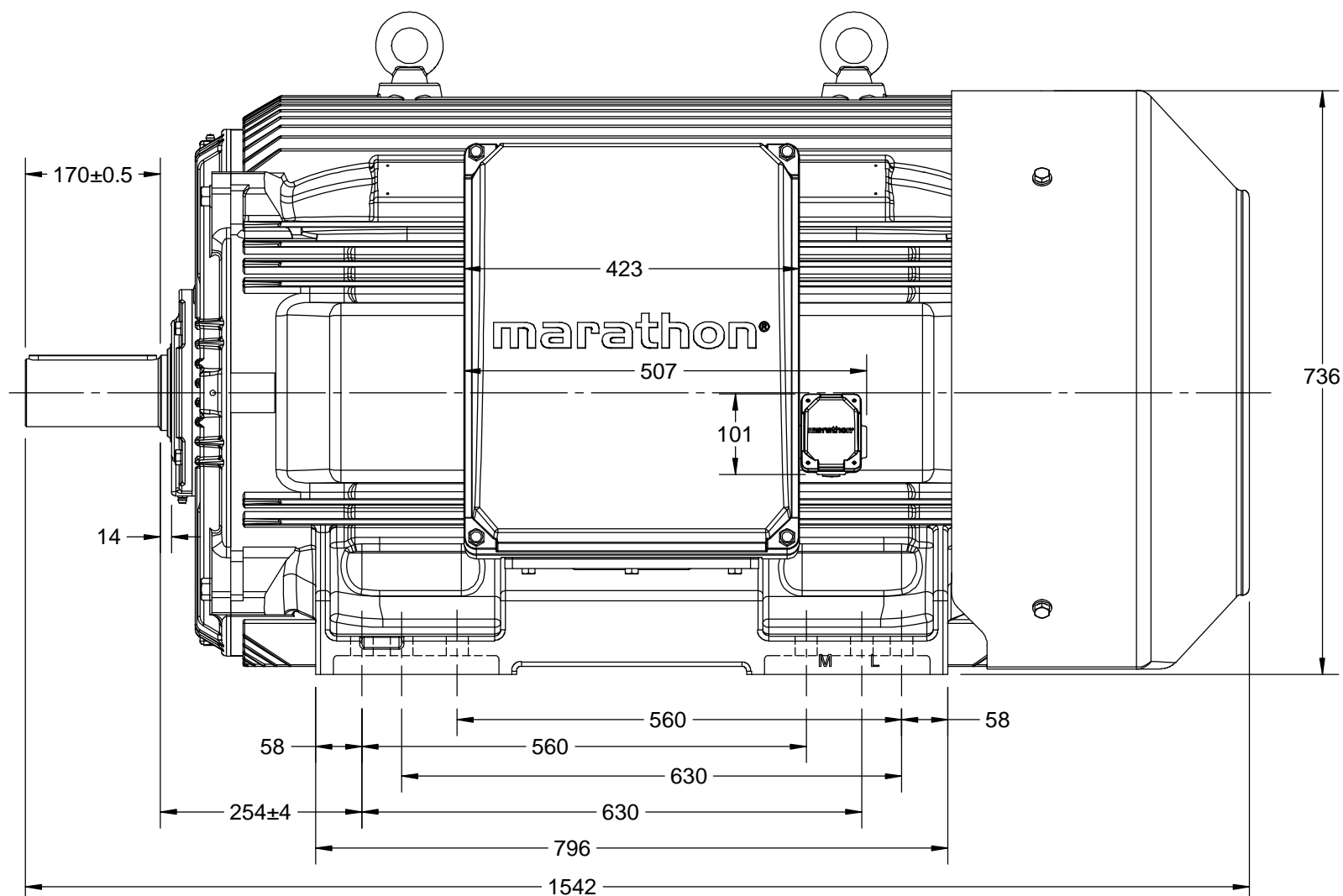
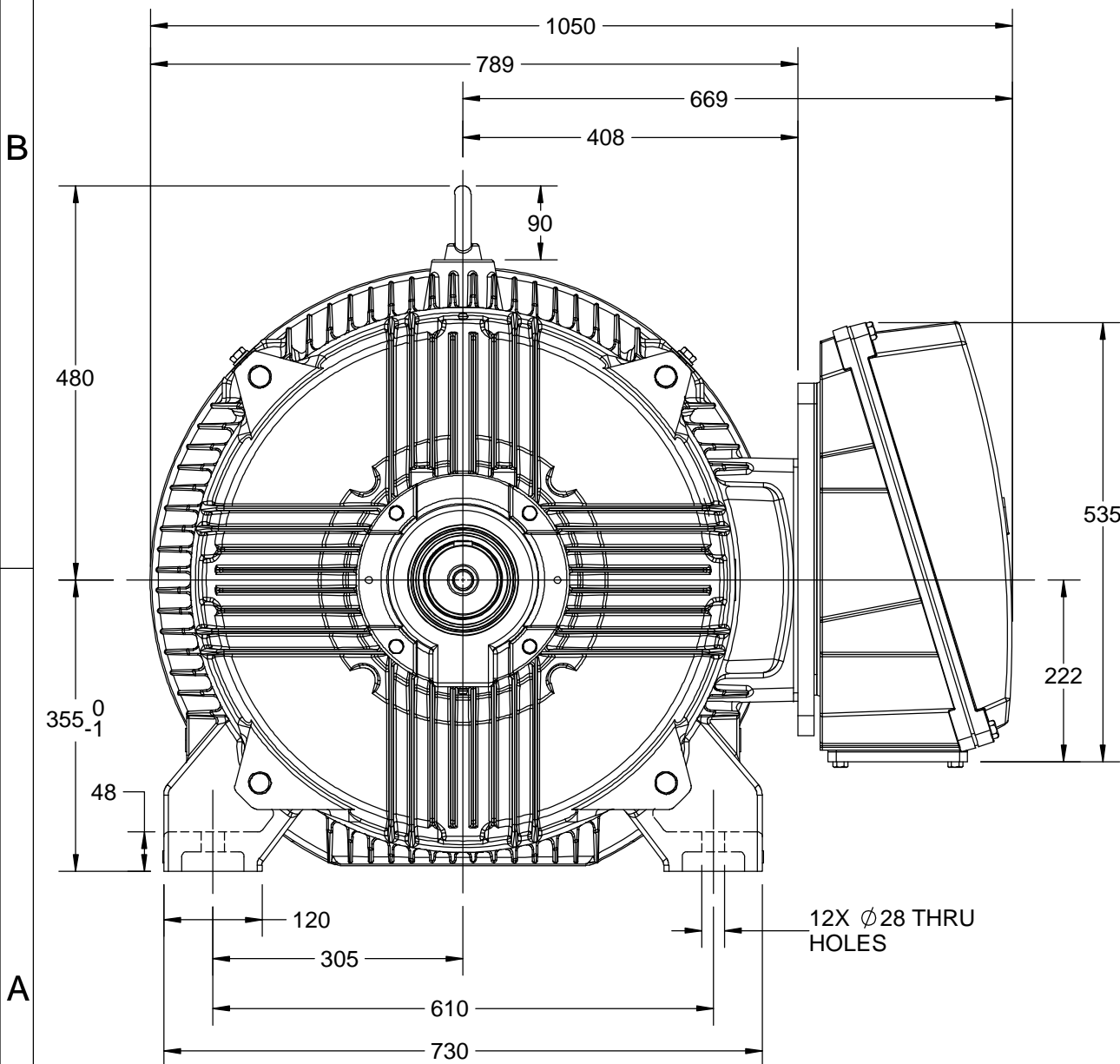
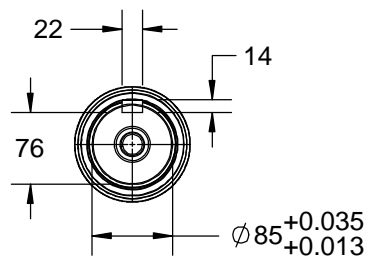
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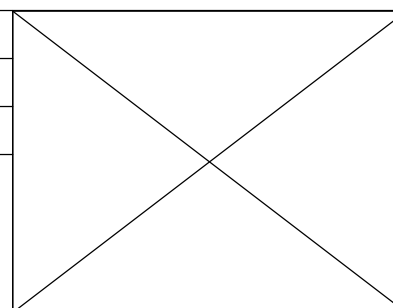
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DRAWING REVISION B	REVISION BY LK	DATE 01/08/2018
ECO ECO-0158551	APPROVED BY SBD	DATE 01/08/2018
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DRAWN BY LK
DATE 24/01/2018
APPROVED BY SBD
DATE 24/01/2018
REFERENCE
THIRD ANGLE PROJECTION

marathon™ Motors	
DESCRIPTION OUTLINE 355FR-B3 MTG. 2P MOTOR TYPE: TCM	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER 0235502343
SHEET 1 OF 1	

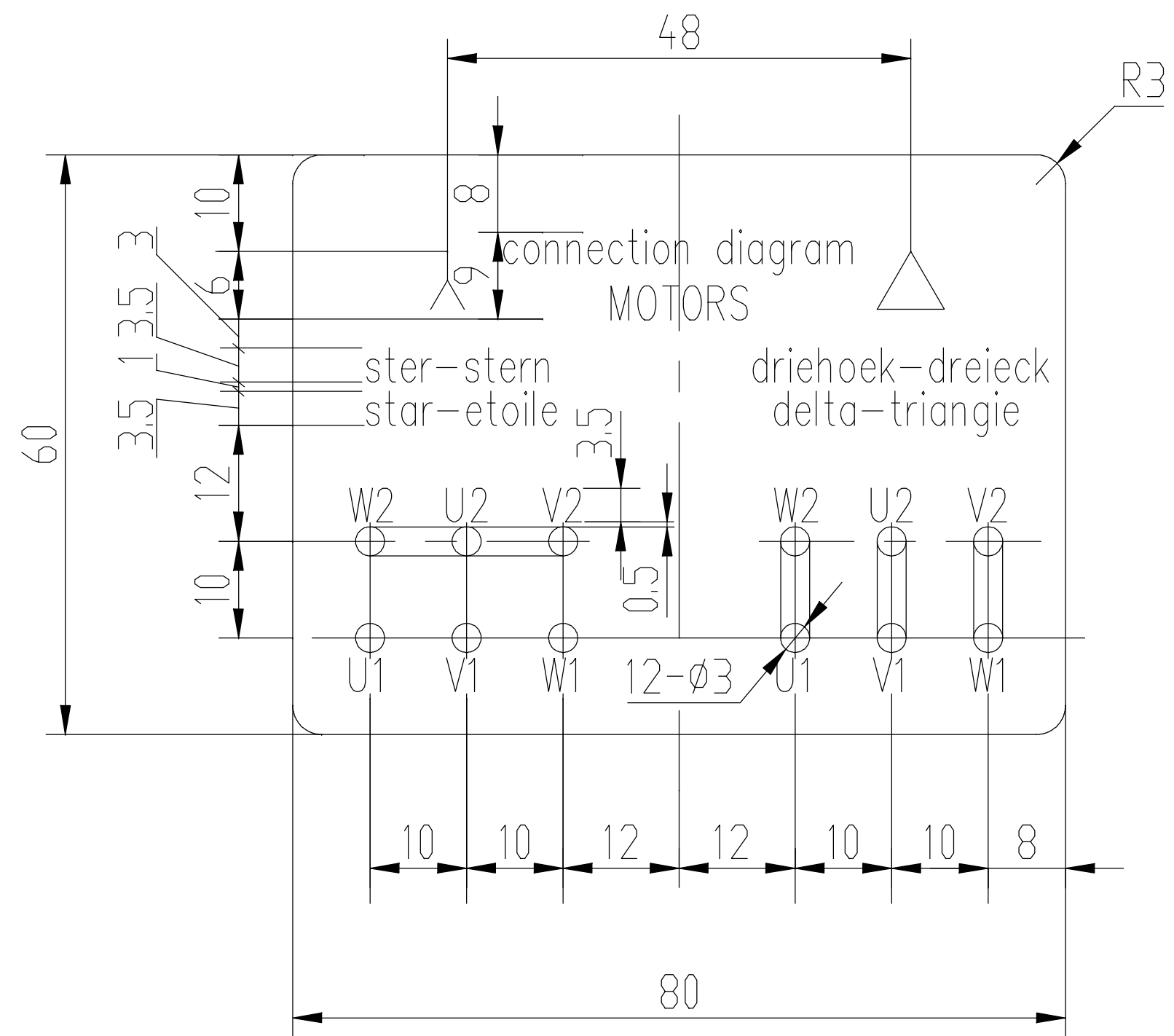
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8442180001



修改
校对
审核
工艺
标准

修改
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技术要求

- 1、字母小号3.5，大号5，字母应整齐清晰，Δ、Y下面的字母分别关于Δ、Y对称；
- 2、底为黄色，文字线条为黑色；
- 3、压敏胶纸反面涂不干胶。

修改
校对
审核
工艺
标准

设计							8442180001				
校对							压敏胶纸				
审核	标记	处数	分区	更改文件号	签名	年月日					
工艺	设计			标准化			阶段标记	重量	比例	接线指示 DM1-180	
标准	校核			审定					1:1		
批准	审核										
	工艺			批准			共 页	第 页	无锡华达电机有限公司		

Model No. TCM3551A2113GAC011

U (V)	Δ / Y Conn	f [Hz]	P		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]
			[kW]	[hp]					5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
400	Δ	50	355	475	601.0	2987	1132.5	IE3	-	95.8	95.8	95	0.89	0.86	0.79	8.6	2.8	4

Motor type	TCM	Degree of protection	IP 66
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	355L	Motor weight - approx.	2107 kg
Duty	S1	Gross weight - approx.	2152 kg
Voltage variation *	± 10%	Motor inertia	5.7956 kgm ²
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.8 mm/s
Design	N	Noise level (1meter distance from motor)	90 dB(A)
Service factor	1.15	No. of starts hot/cold/Equally spread	2/3/4
Insulation class	H	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	NA	Standard rotation	Clockwise form DE
Zone classification	NA	Paint shade	RAL 2008
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	6319-C3 / 6317-C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 300mm ² /4 X M63 x 1.5
Type of grease	CHEVRON SRI-2 or Equivalent	Auxiliary terminal box	YES

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 slight variations between calculated values in this datasheet and the motor nameplate figures.

Efficiency Standards	Europe IEC:60034-30-1	China -	India -	Aus/Nz AS/NZ 1359:5:2004	Brazil -	Global IEC IEC:60034-30-1

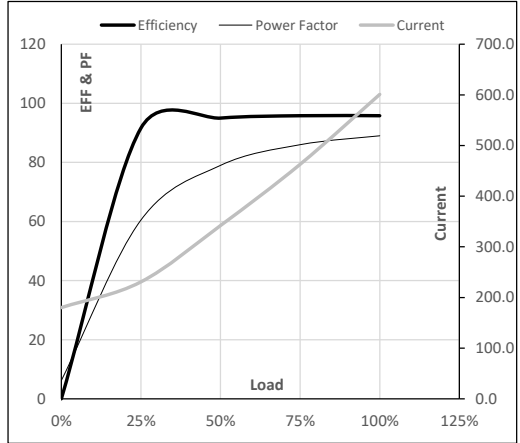
Model No. TCM3551A2113GAC011

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 ²]	Weight [kg]
TEFC	400	Δ	50	355	475.0	601.0	2987	115.48	1132.50	IE3	40	S1	1000	5.7956	2107

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	180.1	230.9	342.1	462.9	601.0	
Torque	Nm	0.0	282.2	565.0	848.4	1132.5	
Speed	r/min	3000	2997	2993	2990	2987	
Efficiency	%	0.0	91.6	95.0	95.8	95.8	
Power Factor	%	6.2	60.5	79.0	86.0	89.0	

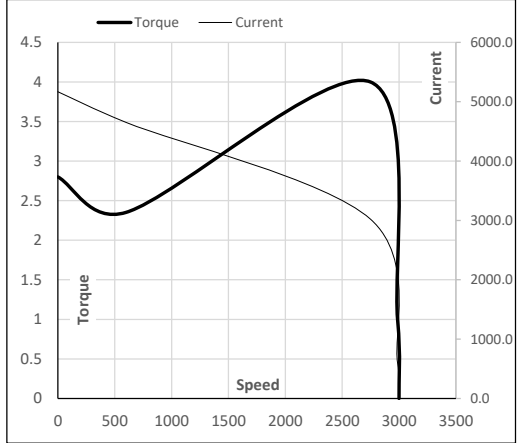
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2748	2987	3000
Current	A	5168.3	4651.5	3023.2	601.0	180.1
Torque	pu	2.8	2.4	4.0	1	0

Starting Characteristics Chart



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

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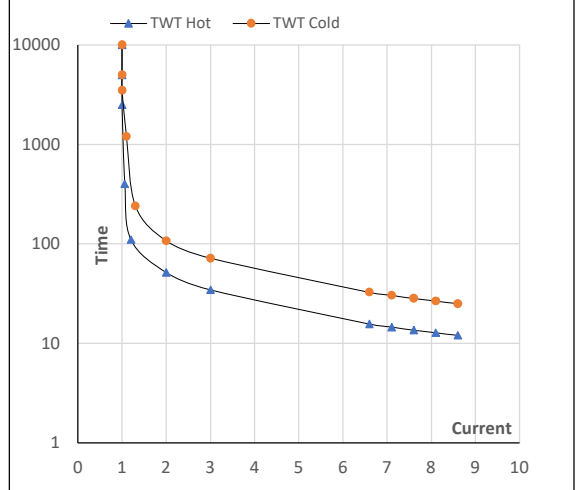
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	400	Δ	50	355	475	601.0	2987	115.48	1132.50	IE3	40	S1	1000	5.7956	2107

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	52	34	30	25	20	12	
TWT Cold	s 10000	108	72	60	50	40	25	
Current	pu	1	2	3	4	5	6	8.6

Thermal Characteristics Chart



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

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