

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA0551A3133GACD01

Catalog No: TCA0551A3133GACD01

55.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 3000 RPM, 415 V, 250M Frame, TEFC
Cast Iron IE3 Efficiency Motors



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Nameplate Specifications

Output HP	75 Hp	Output KW	55.0 kW
Frequency	50 Hz	Voltage	415 V
Current	90.2 A	Speed	2979 rpm
Service Factor	1	Phase	3
Efficiency	94.3 %	Power Factor	0.9
Duty	S1	Insulation Class	F
Frame	250M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6314
Opp Drive End Bearing Size	6314	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	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	941 mm	Frame Length	460 mm
Shaft Diameter	60 mm	Shaft Extension	140 mm
Assembly/Box Mounting	R Side		
Outline Drawing	0225000729	Connection Drawing	8442000085

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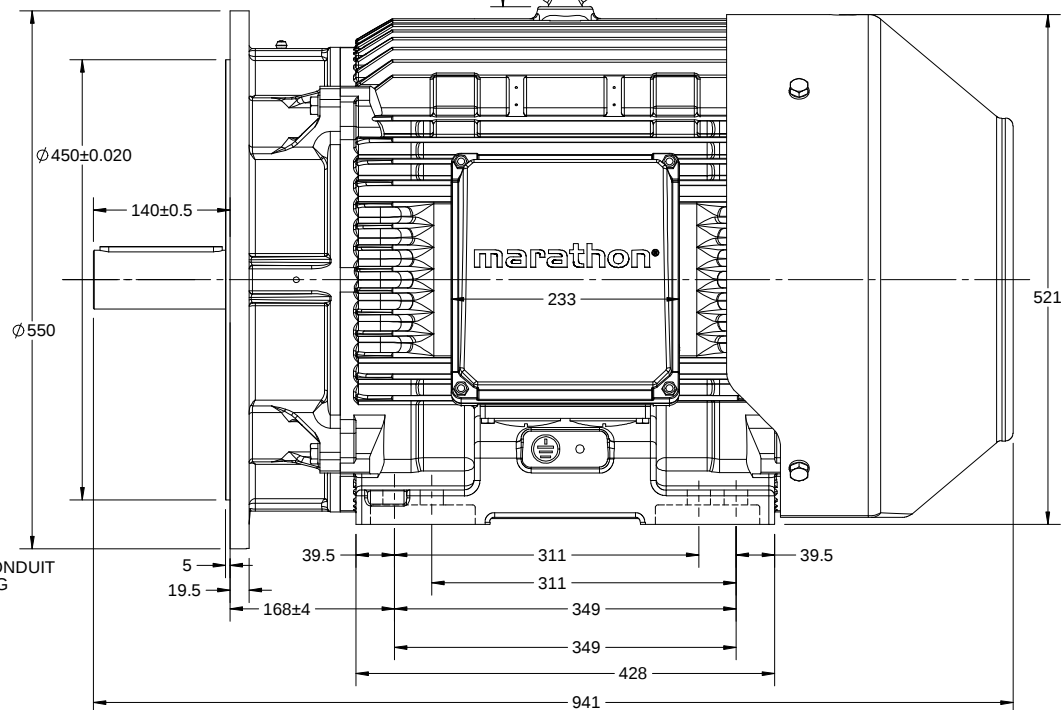
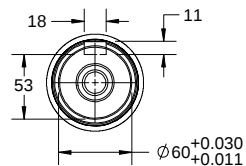
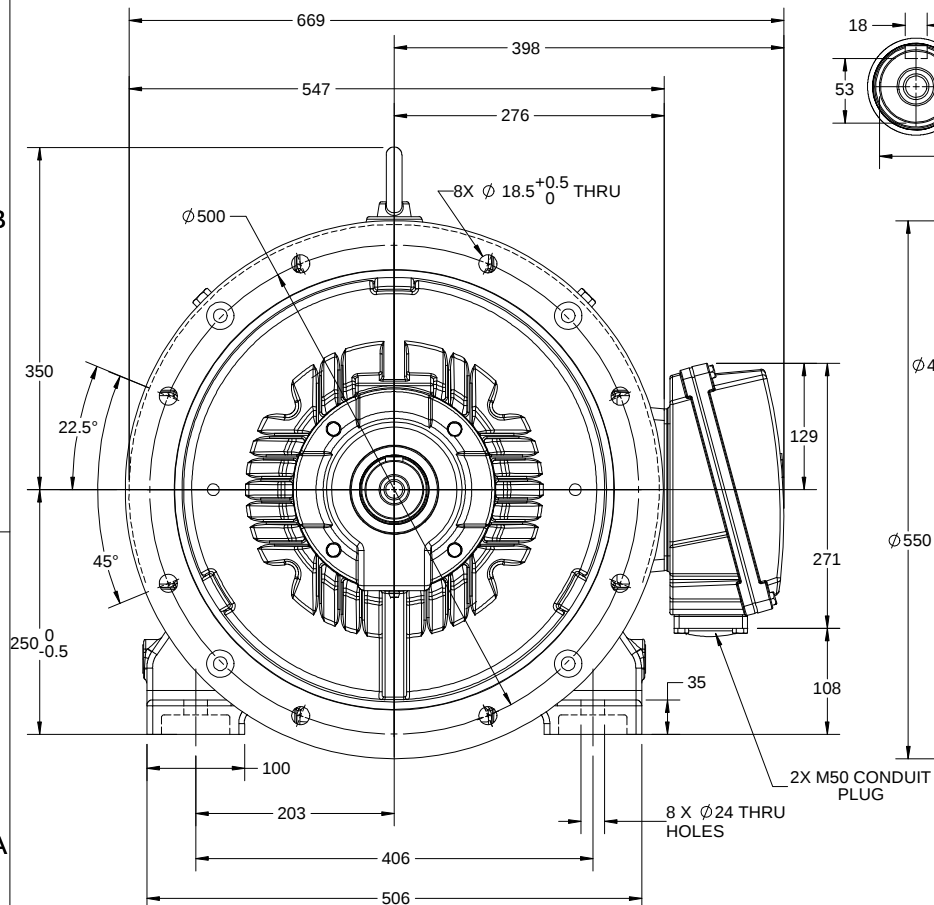
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DRAWING REVISION A	REVISION BY VS	DATE 08/08/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 08/08/2018
ECO DESCRIPTION NEW DRAWING RELEASE		
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DRAWN BY VS	marathon[™] Motors	
DATE 08/08/2018		
APPROVED BY SBD	OUTLINE 250M FR-2P-B35-TCA/QCA-RHS TB	
DATE 08/08/2018		
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0225000729
		SHEET 1 OF 1

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Model No. TCA0551A3133GACD01

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 _a /I _N [pu]	T _a /T _N [pu]	T _b /T _N [pu]
415	Δ	50	55	75	90.2	2979	179.27	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	7.6	2.1	3.6

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	250M	Motor weight - approx.	560 kg
Duty	S1	Gross weight - approx.	595 kg
Voltage variation *	± 10%	Motor inertia	0.7574 kgm ²
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)	75 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)	15/30 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	6314 C3 / 6314 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 95mm ² /2 x M50 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	Auxiliary terminal box	NA

I_a/I_N - Locked Rotor Current / Rated CurrentT_b/T_N - Breakdown Torque / Rated TorqueT_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 discrepancies between calculated and name plate values.

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

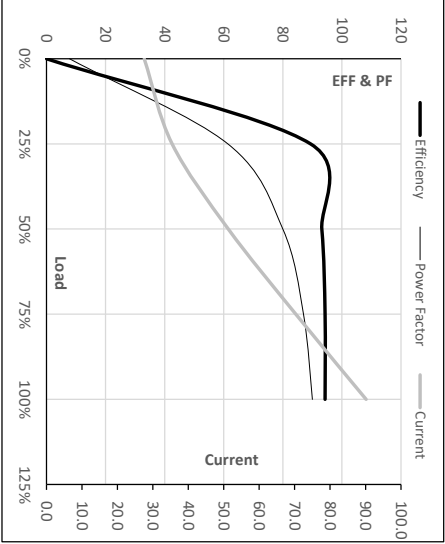
Model No. TCA0551A3133GACD01

Enclosure	U	Δ / Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
	(V)	Com	[Hz]	[kW]	[hp]	[A]	[RPM]	[kgm]	[Nm]	Class	[°C]		[m]	[kg·m ²]	[kg]
TEFC	415	Δ	50	55	75	90.2	2979	18.28	179.27	IE3	50	S1	1000	0.7574	560

Motor Load Data

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	27.6	35.4	51.3	70.3	90.2
Torque	Nm	0.0	44.6	89.3	134.2	179.3
Speed	r/min	3000	2995	2990	2985	2979
Efficiency	%	0.0	89.4	93.2	94.3	94.3
Power Factor	%	7.8	61.4	80.0	87.0	90.0

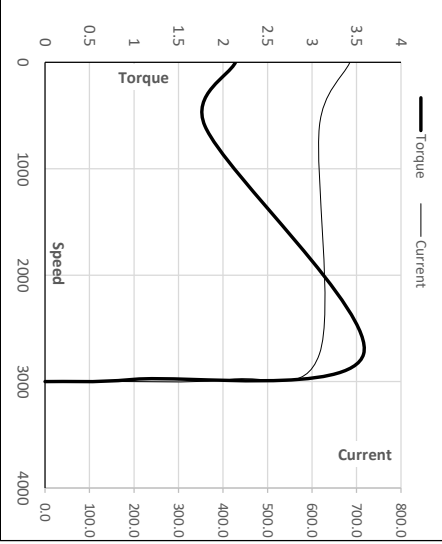
Performance vs Load Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	600	2741	2979	3000
Current	A	685.2	616.7	417.7	90.2	27.6
Torque	pu	2.1	1.8	3.6	1	0

Starting Characteristics Chart



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

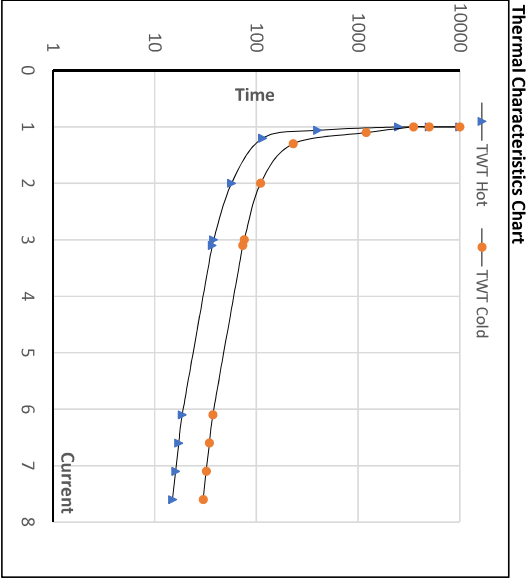
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg·m ²]	Weight [kg]
TEFC	415	Δ	50	55	75	90.2	2979	18.27	179.27	IE3	50	S1	1000	0.7574	560

Motor Speed Torque Data

Load	FL	I_1	I_2	I_3	I_4	I_5	LR	
TWT Hot	s	10000	57	38	30	25	20	15
TWT Cold	s	10000	110	76	60	45	40	30
Current	pu	1	2	3	4	5	5.5	7.6



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

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