

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA1321A3133GACD01

Catalog No: TCA1321A3133GACD01

132.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 3000 RPM, 415 V, 315M Frame, TEFC
Cast Iron IE3 Efficiency Motors



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REGAL

Nameplate Specifications

Output HP	175 Hp	Output KW	132.0 kW
Frequency	50 Hz	Voltage	415 V
Current	216.3 A	Speed	2984 rpm
Service Factor	1	Phase	3
Efficiency	95.4 %	Power Factor	0.89
Duty	S1	Insulation Class	F
Frame	315M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6316
Opp Drive End Bearing Size	6316	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	1176 mm	Frame Length	729 mm
Shaft Diameter	65 mm	Shaft Extension	140 mm
Assembly/Box Mounting	R Side		
Connection Drawing	8442000085	Outline Drawing	0231501397

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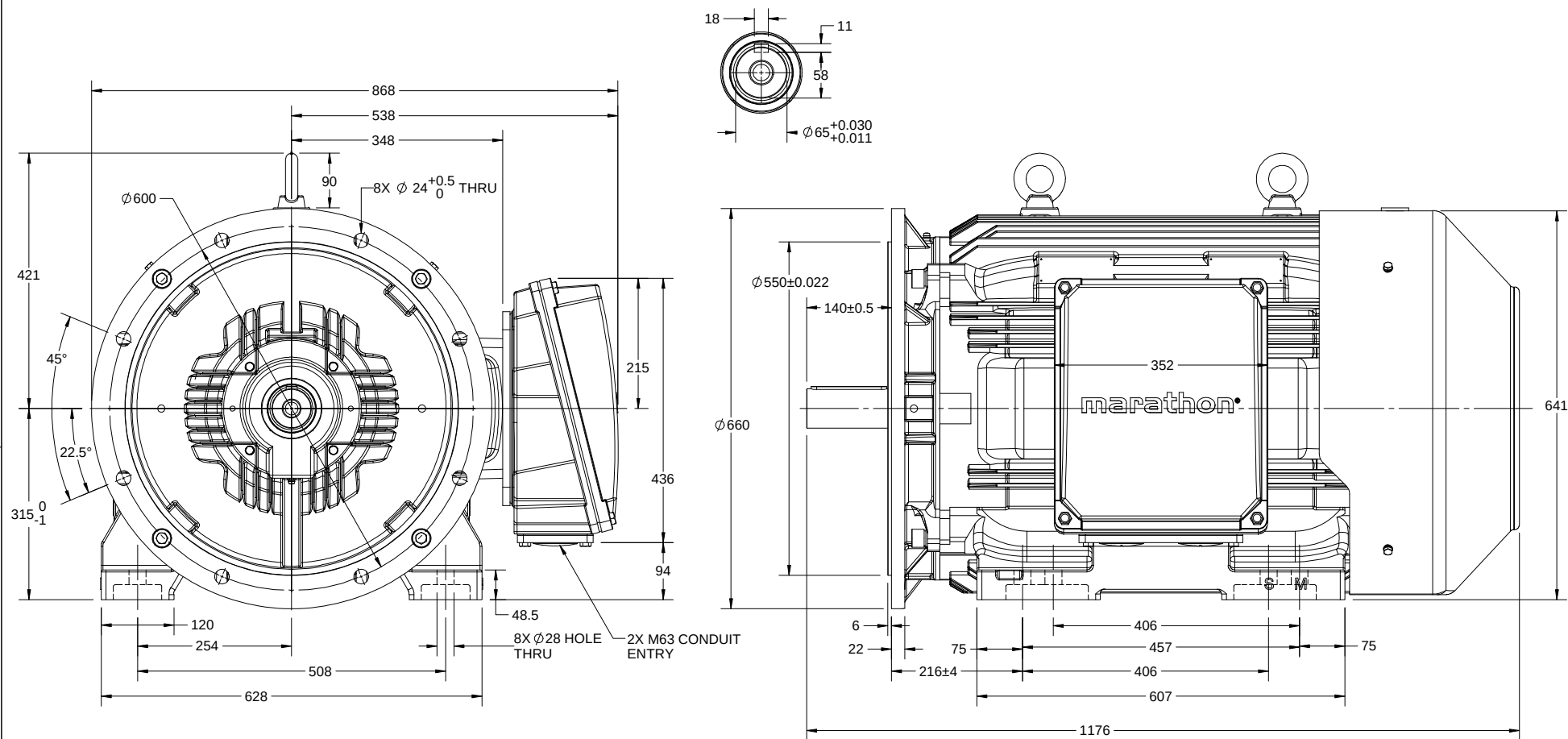
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DRAWING REVISION B	REVISION BY VS	DATE 11/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 11/07/2017
ECO DESCRIPTION MODEL UPDATED		
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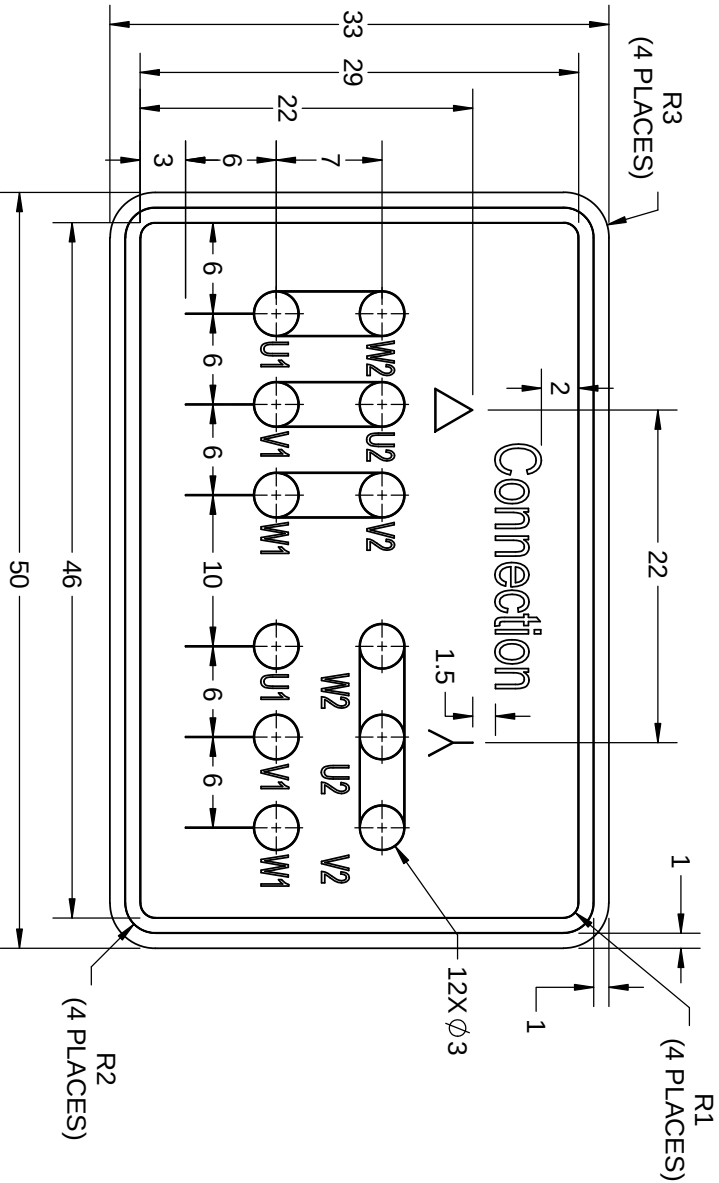
DRAWN BY GSR
DATE 11/15/2017
APPROVED BY JAY
DATE 11/15/2017
REFERENCE

THIRD ANGLE
PROJECTION

marathon[®] Motors	
DESCRIPTION OUTLINE 315S/M-2P-B35 MTG. TCA/QCA-RHS TB	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER 0231501397
SHEET 1 OF 1	

DRAWING REVISION		REVISION BY	DATE
A		SN	13/01/2017
ECO	ECO-0116390	APPROVED BY	DATE
ECO DESCRIPTION		SBD	13/01/2017
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

DRAWN BY		SN
DATE		16/12/2016
APPROVED BY		SBD
DATE		16/12/2016
REFERENCE		
THIRD ANGLE PROJECTION		
SIZE		A
DRAWING NUMBER		8442000085
SHEET		1 OF 1

Model No. TCA1321A3133GACD01

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	132	175	216.3	2984	417.55	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	7.7	2.3	3.9

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	315M	Motor weight - approx.	1087 kg
Duty	S1	Gross weight - approx.	1132 kg
Voltage variation *	± 10%	Motor inertia	2.5544 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)	83 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	6316 C3 / 6316 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 240mm ² /2 x M63 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	-	-	-



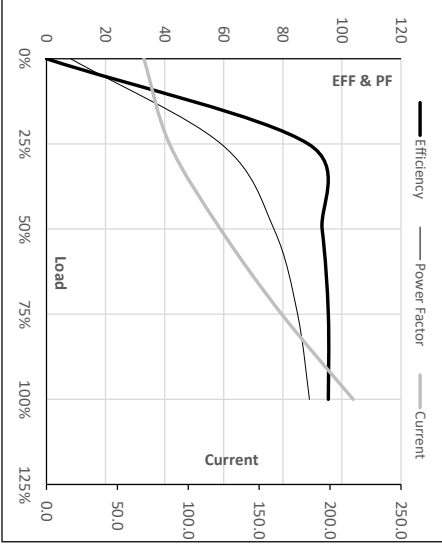
Model No. TCA1321A3133GACD01

Enclosure	U [V]	Δ / Y Com	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	132	175	216.3	2984	42.58	417.55	IE3	50	S1	1000	2.5544	1087

Motor Speed Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	68.7	86.7	122.7	165.9	216.3	
Torque	Nm	0.0	104.0	208.2	312.7	417.6	
Speed	r/min	3000	2996	2992	2988	2984	
Efficiency	%	0.0	88.6	93.3	95.4	95.4	
Power Factor	%	8.2	59.1	77.0	85.0	89.0	

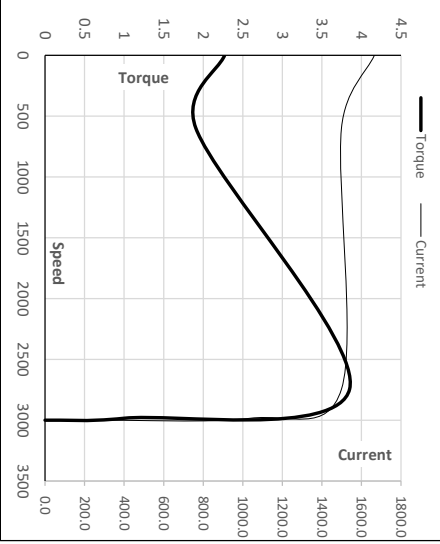
Performance vs Load Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	600	2745	2984	3000
Current	A	1665.4	1498.9	1037.9	216.3	68.7
Torque	pu	2.3	1.9	3.9	1	0

Starting Characteristics Chart



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

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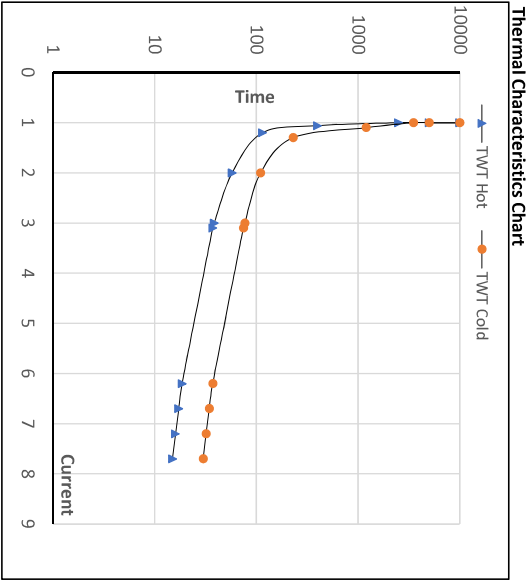


Model No. TCA1321A3133GACD01

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	132	175	216.3	2984	42.55	417.55	IE3	50	S1	1000	2.5544	1087

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s	10000	58	39	35	25	20	15
TWT Cold	s	10000	110	77	60	45	40	30
Current	pu	1	2	3	4	5	5.5	7.7



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

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