

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA0303A3133GACD01

Catalog No: TCA0303A3133GACD01

30.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 1000 RPM, 415 V, 225M Frame, TEFC
Cast Iron IE3 Efficiency Motors



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REGAL

Nameplate Specifications

Output HP	40 Hp	Output KW	30.0 kW
Frequency	50 Hz	Voltage	415 V
Current	54.8 A	Speed	988 rpm
Service Factor	1	Phase	3
Efficiency	92.9 %	Power Factor	0.82
Duty	S1	Insulation Class	F
Frame	225M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6313
Opp Drive End Bearing Size	6213	UL	No
CSA	No	CE	Yes
IP Code	55		

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	6	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	862 mm	Frame Length	425 mm
Shaft Diameter	60 mm	Shaft Extension	140 mm
Assembly/Box Mounting	R Side		
Outline Drawing	0222500784	Connection Drawing	8442000085

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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	30	40	54.8	988	288.40	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	7.3	2.4	3.1

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	225M	Motor weight - approx.	411 kg
Duty	S1	Gross weight - approx.	441 kg
Voltage variation *	± 10%	Motor inertia	1.0246 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)	63 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)	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 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	6313 C3 / 6213 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 50mm ² /2 x M40 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	Auxiliary terminal box	NA

 I_a/I_N - Locked Rotor Current / Rated Current

 T_b/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 discrepancies between calculated and name plate values.

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



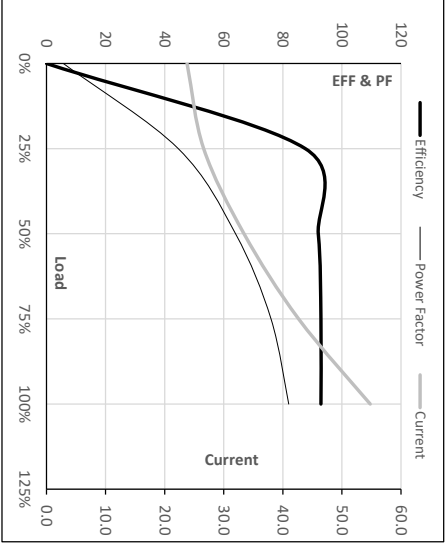
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Enclosure	U	Δ / Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
(V)	Com	[Hz]	[kW]	[hp]	[A]	[RPM]	[kgm]	[Nm]	Class	[°C]			[m]	[kg·m ²]	[kg]
TFC	415	Δ	50	30	40	54.8	988	29.41	288.40	IE3	50	S1	1000	1.0246	41.1

Motor Speed Data

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	23.8	26.6	33.4	42.7	54.8
Torque	Nm	0.0	71.4	143.3	215.6	288.4
Speed	r/min	1000	997	994	991	988
Efficiency	%	0.0	87.6	92.0	92.9	92.9
Power Factor	%	5.7	44.6	64.0	76.0	82.0

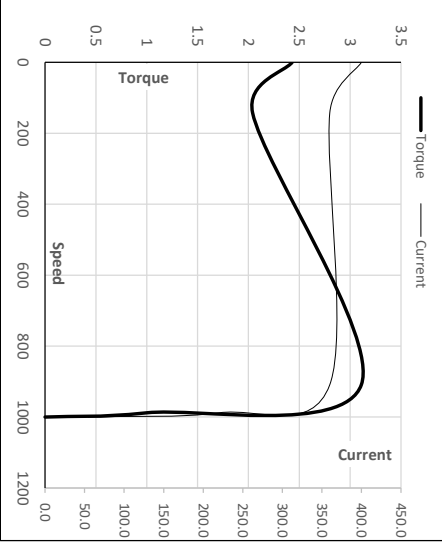
Performance vs Load Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	143	909	988	1000
Current	A	400.0	360.0	219.9	54.8	23.8
Torque	pu	2.4	2.0	3.1	1	0

Starting Characteristics Chart



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

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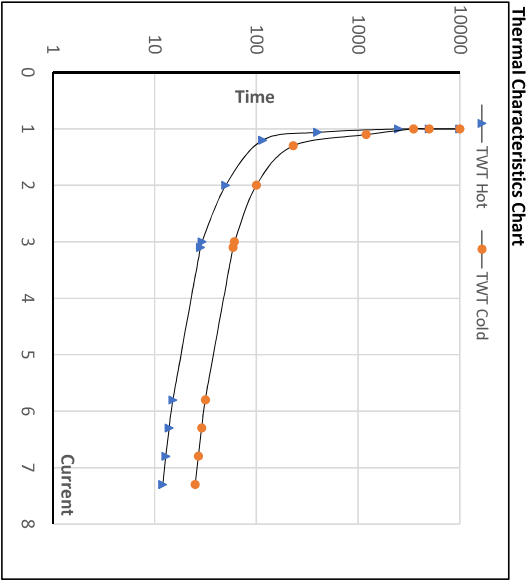


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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg·m ²]	Weight [kg]
TEFC	415	Δ	50	30	40	54.8	988	29.39	288.40	IE3	50	S1	1000	1.0246	411

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s	10000	50	29	25	20	17	12
TWT Cold	s	10000	100	61	55	40	35	25
Current	pu	1	2	3	4	5	5.5	7.3



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

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