

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA18P3A3121GACD01

Catalog No: TCA18P3A3121GACD01

18.5 kW General Purpose Low Voltage IEC Motor, 3 phase, 1000 RPM, 415 V, 200L Frame, TEFC
Cast Iron IE3 Efficiency Motors



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Nameplate Specifications

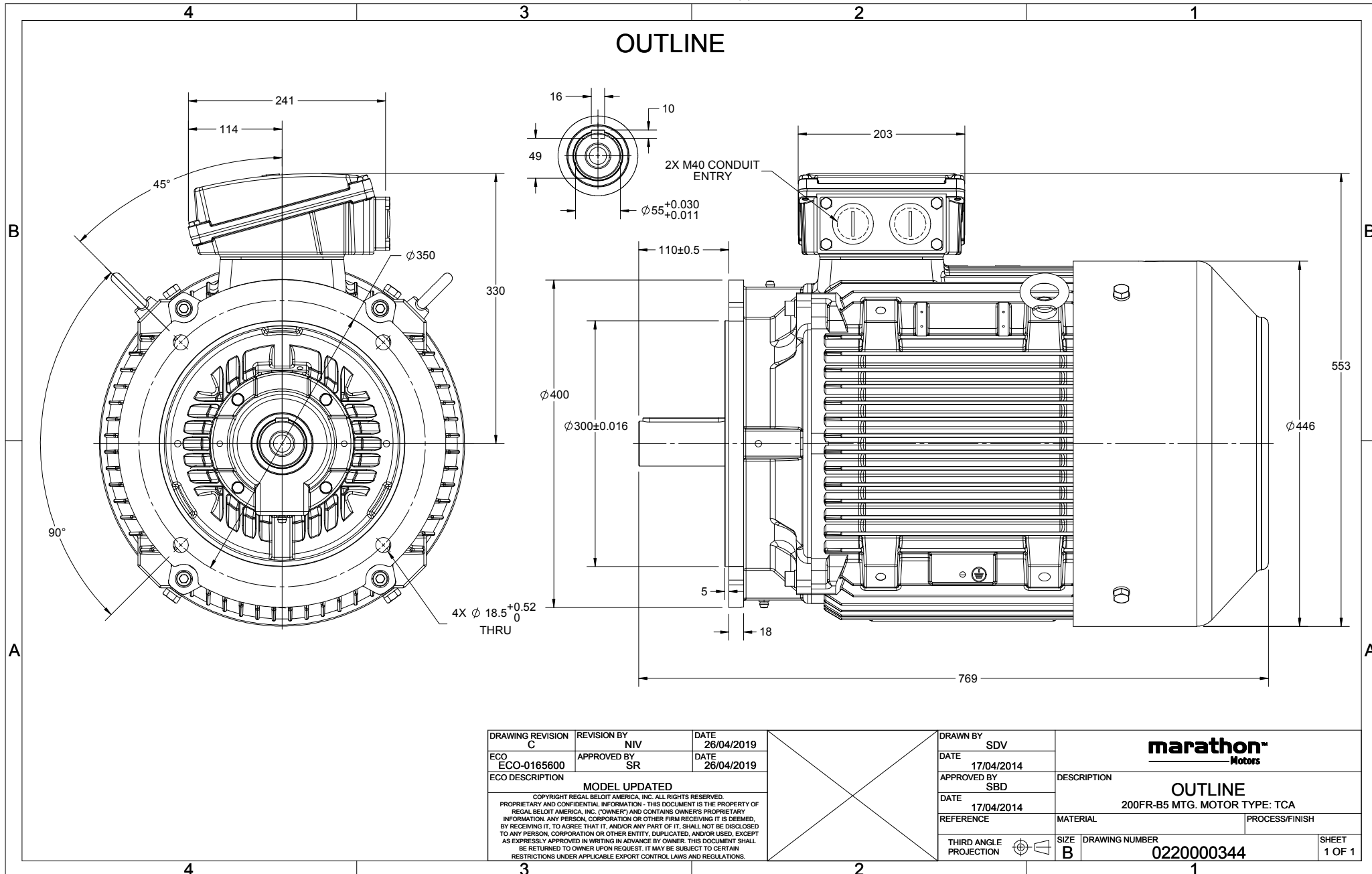
Output HP	25 Hp	Output KW	18.5 kW
Frequency	50 Hz	Voltage	415 V
Current	35.1 A	Speed	986 rpm
Service Factor	1	Phase	3
Efficiency	91.7 %	Power Factor	0.8
Duty	S1	Insulation Class	F
Frame	200L	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6312
Opp Drive End Bearing Size	6212	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	B5	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	769 mm	Frame Length	370 mm
Shaft Diameter	55 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Outline Drawing	0220000344	Connection Drawing	8442000085

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OUTLINE



DRAWING REVISION C	REVISION BY NIV	DATE 26/04/2019
ECO ECO-0165600	APPROVED BY SR	DATE 26/04/2019
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY SDV	marathon[™] Motors	
DATE 17/04/2014		
APPROVED BY SBD	DESCRIPTION OUTLINE 200FR-B5 MTG. MOTOR TYPE: TCA	
DATE 17/04/2014		
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0220000344
		SHEET 1 OF 1

DRAWING REVISION	REVISION BY	DATE
A	SN	13/01/2017
ECO-0116390	APPROVED BY SBD	DATE 13/01/2017
ECO DESCRIPTION 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		 Regal Beloit America, Inc.	
		DESCRIPTION CONN DIAGRAM-NAMEPLATE	
DATE 16/12/2016	APPROVED BY SBD	DATE 16/12/2016	REFERENCE
THIRD ANGLE PROJECTION		SIZE A	DRAWING NUMBER 8442000085
		MATERIAL	PROCESS/FINISH
		SHEET 1 OF 1	

Model No. TCA18P3A3121GACD01

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	18.5	25	35.1	986	180.68	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	6.4	2.2	2.7

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	200L	Motor weight - approx.	292 kg
Duty	S1	Gross weight - approx.	322 kg
Voltage variation *	± 10%	Motor inertia	0.6218 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)	62 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	6312 C3 / 6212 C3	Terminal box position	TOP
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 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	-	-	-



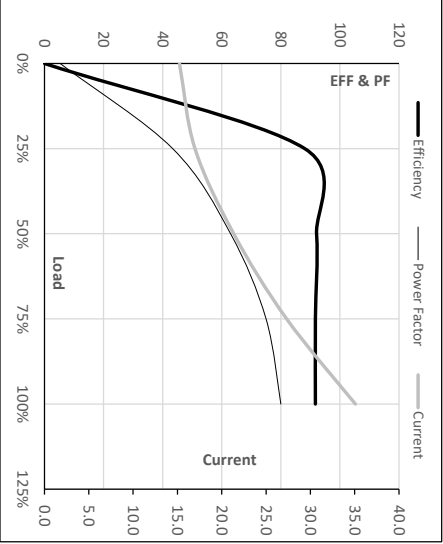
Model No. TCA18P3A3121GACD01

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	18.5	25	35.1	986	18.42	180.68	IE3	50	S1	1000	0.6218	292

Motor Load Data

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	15.2	17.0	21.4	27.3	35.1
Torque	Nm	0.0	44.7	89.7	135.0	180.7
Speed	r/min	1000	997	993	990	986
Efficiency	%	0.0	88.1	92.1	91.7	91.7
Power Factor	%	5.3	43.4	63.0	75.0	80.0

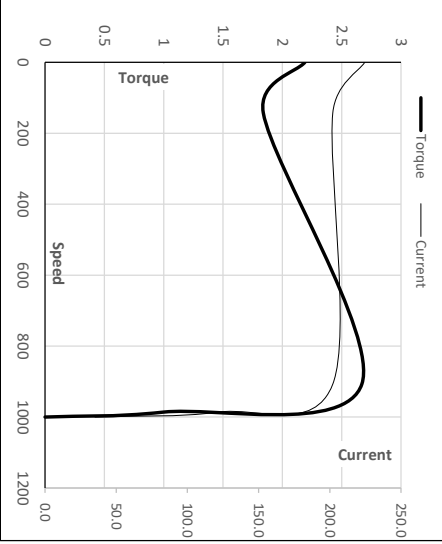
Performance vs Load Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	143	907	986	1000
Current	A	224.5	202.1	121.7	35.1	15.2
Torque	pu	2.2	1.8	2.7	1	0

Starting Characteristics Chart



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

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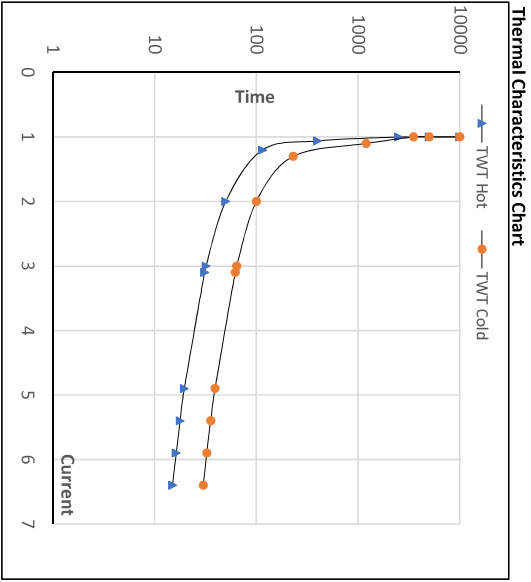


Model No. TCA18P3A312IGACD01

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	18.5	25	35.1	986	18.41	180.68	IE3	50	S1	1000	0.6218	292

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s	10000	50	32	27	19	17	15
TWT Cold	s	10000	100	64	55	37	35	30
Current	pu	1	2	3	4	5	5.5	6.4



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

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