

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA0041A3181GACD01

Catalog No: TCA0041A3181GACD01

4.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 3000 RPM, 415 V, 112M Frame, TEFC
Cast Iron IE3 Efficiency Motors



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REGAL

Nameplate Specifications

Output HP	5.50 Hp	Output KW	4.0 kW
Frequency	50 Hz	Voltage	415 V
Current	6.8 A	Speed	2908 rpm
Service Factor	1	Phase	3
Efficiency	88.1 %	Power Factor	0.93
Duty	S1	Insulation Class	F
Frame	112M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6306
Opp Drive End Bearing Size	6206	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	B14B	Motor Orientation	Shaftdown
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	399 mm	Frame Length	174 mm
Shaft Diameter	28 mm	Shaft Extension	60 mm
Assembly/Box Mounting	Top		
Outline Drawing	0211200266	Connection Drawing	8442000085

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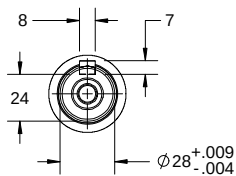
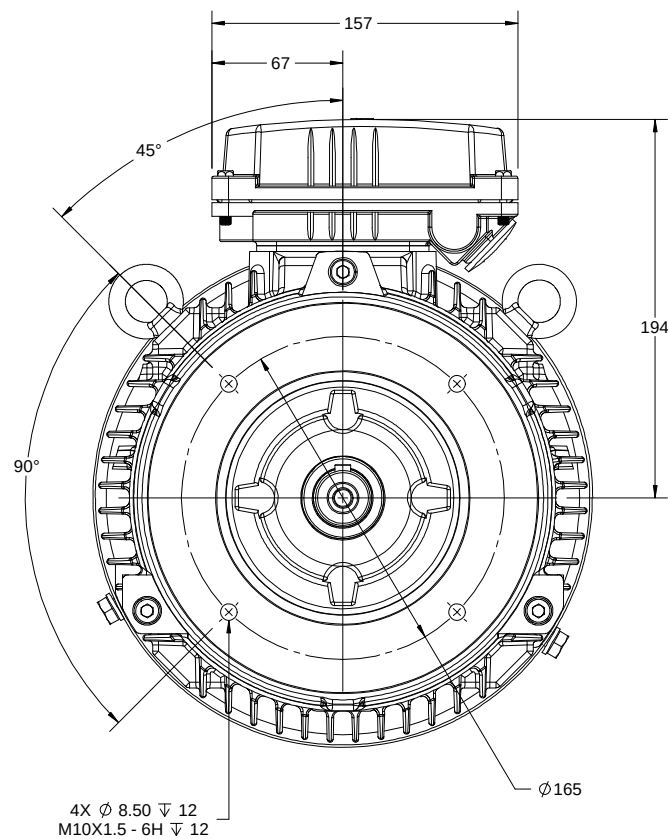
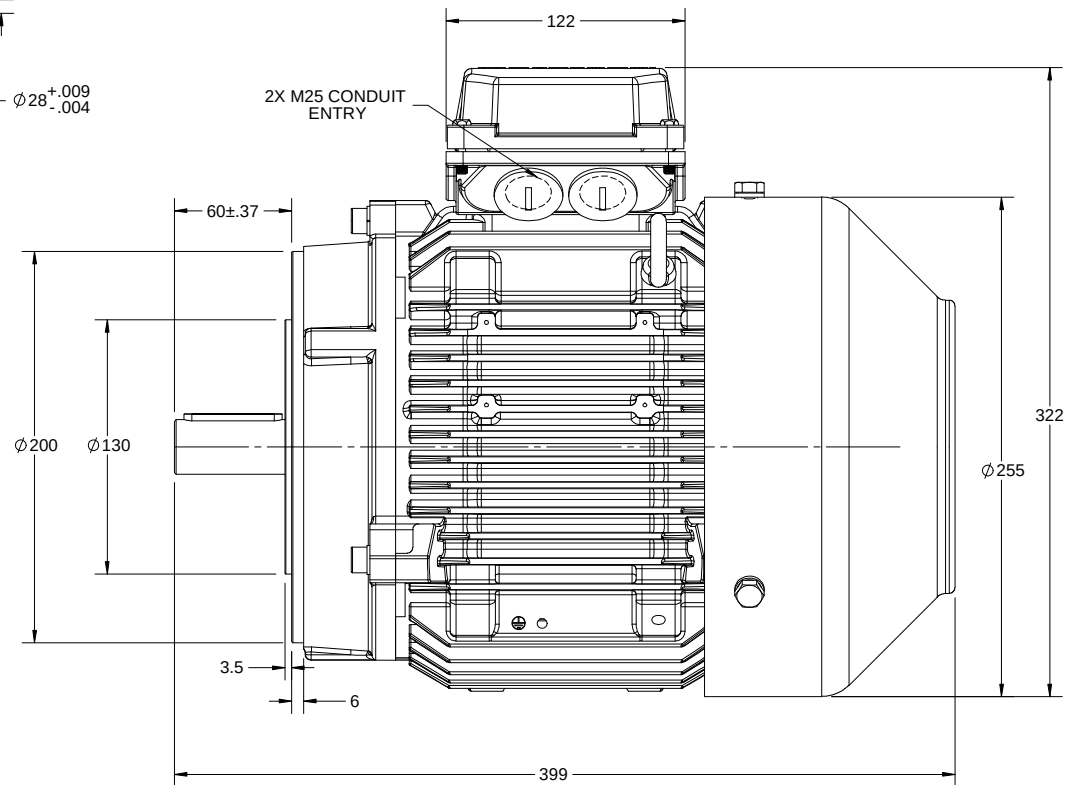
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B

B

2X M25 CONDUIT
ENTRY

A

DRAWING REVISION B	REVISION BY S.MUDDA	DATE 9/7/2018
ECO ECO-0147359	APPROVED BY JAY	DATE 9/7/2018
ECO DESCRIPTION OUTLINE UPDATED AS PER NEW 3D STRUCTURING		
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DATE 02/09/13
APPROVED BY JAY
DATE 02/09/13
REFERENCE

marathon
Motors

 DESCRIPTION
OUTLINE
 112 FR.- B14B MTG. MOTOR TYPE: TCA

 MATERIAL
 PROCESS/FINISH

 THIRD ANGLE
 PROJECTION

 SIZE
B

 DRAWING NUMBER
0211200266

 SHEET
1 OF 1

4

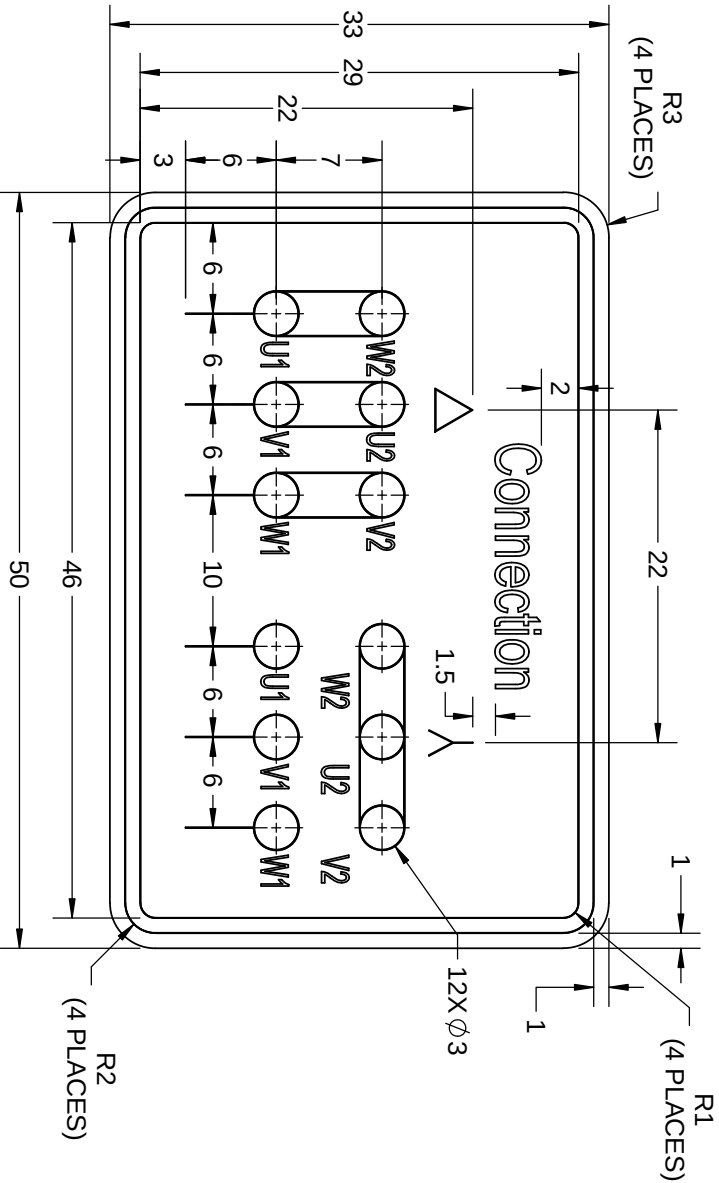
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DRAWING REVISION	REVISION BY	DATE
A	SN	13/01/2017
ECO-0116390	APPROVED BY SBD	DATE 13/01/2017
ECO DESCRIPTION NEW DRAWING RELEASE		

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.

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

8WD.442.2017

Model No. TCA0041A3181GACD01

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	4	5.5	6.8	2908	13.46	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	7.7	2.4	3.3

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B14B
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	112M	Motor weight - approx.	51 kg
Duty	S1	Gross weight - approx.	54 kg
Voltage variation *	± 10%	Motor inertia	0.0117 kgm ²
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	1.6 mm/s
Design	N	Noise level (1meter distance from motor)	64 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)	7/15 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	6306-2Z / 6206-2Z	Terminal box position	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 16mm ² /2 x M25 x 1.5
Type of grease	NA	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	-	-	-

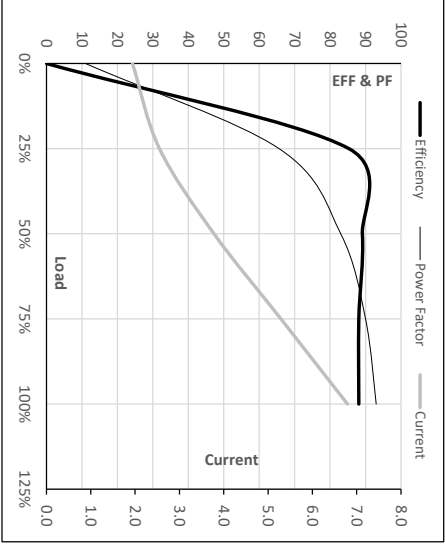
Model No. TCA0041A3181GACD01

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]	S0	S1	[m]	[kg·m ²]	[kg]
TEFC	415	Δ	50	4	5.5	6.8	2908	1.37	13.46	IE3	50	S1	1000	0.0117	51

Motor Load Data

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	1.9	2.6	3.8	5.3	6.8
Torque	Nm	0.0	3.3	6.6	10.0	13.5
Speed	r/min	3000	2978	2957	2934	2908
Efficiency	%	0.0	85.3	89.1	88.1	88.1
Power Factor	%	11.0	65.6	83.0	90.0	93.0

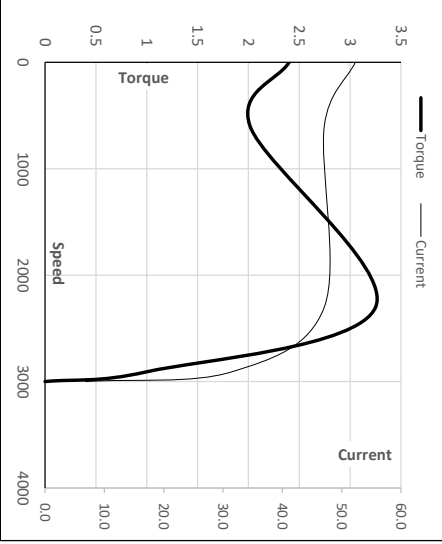
Performance vs Load Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	600	2301	2908	3000
Current	A	52.3	47.1	31.5	6.8	1.9
Torque	pu	2.4	2.0	3.3	1	0

Starting Characteristics Chart



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

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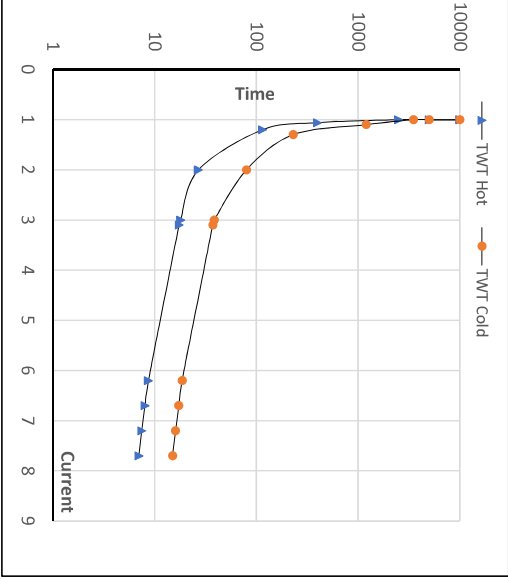
Model No. TCA0041A3181GACD01

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	4	5.5	6.8	2908	1.37	13.46	IE3	50	S1	1000	0.0117	51

Motor Speed Torque Data

Load	FL	I_1	I_2	I_3	I_4	I_5	LR	
TWT Hot	s	10000	27	18	16	13	10	7
TWT Cold	s	10000	80	39	35	30	22	15
Current	pu	1	2	3	4	5	5.5	7.7

Thermal Characteristics Chart



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

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