

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA0901A3141GACD01

Catalog No: TCA0901A3141GACD01

Cast Iron Motor, 120 HP, 3 Ph, 50 Hz, 415 V, 3000 RPM, 280M Frame, TEFC



Regal and Marathon are trademarks of Regal Rexnord Corporation or one of its affiliated companies.
©2022 Regal Rexnord Corporation, All Rights Reserved. MC017097E

RegalRexnord

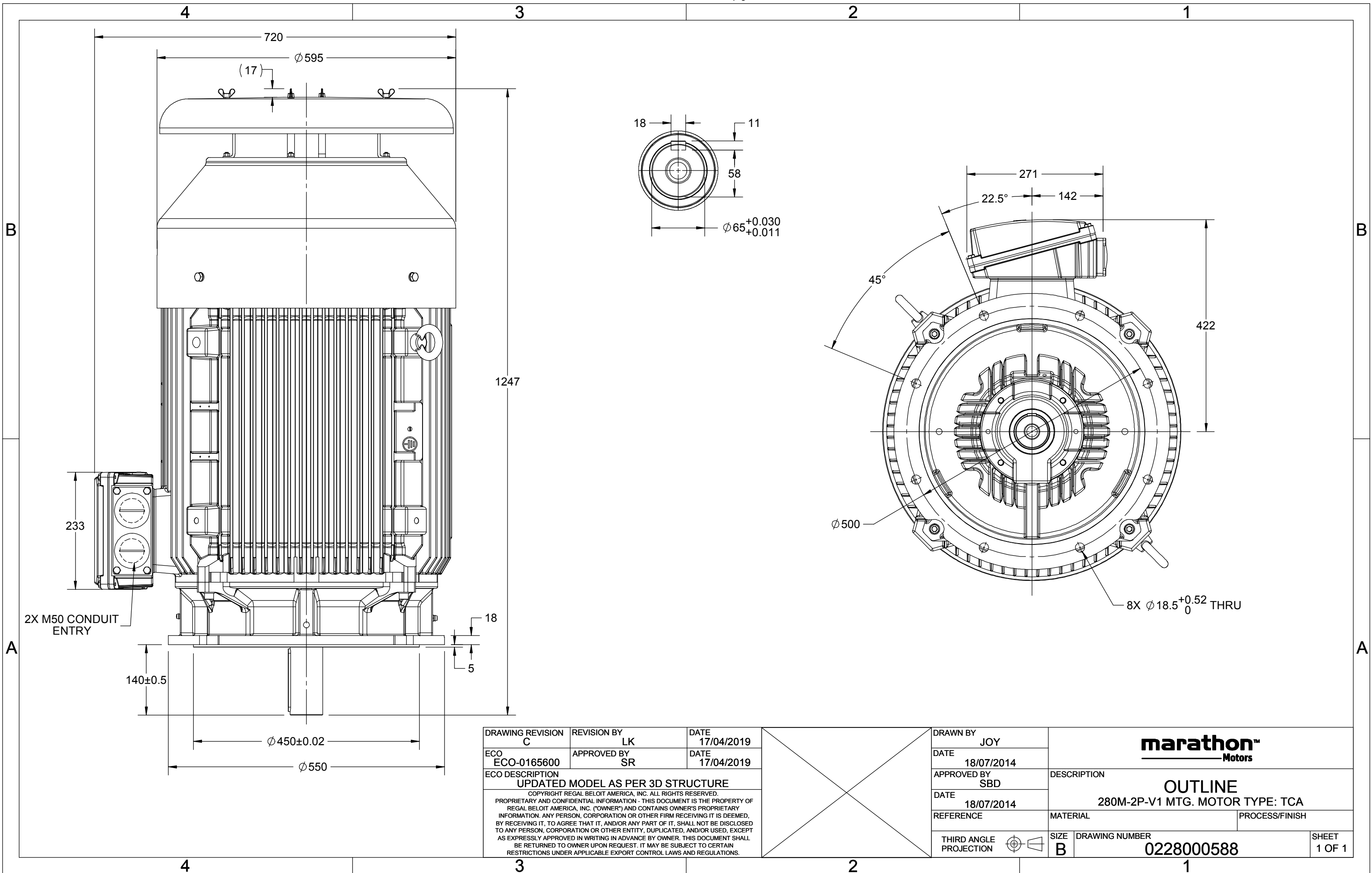
Nameplate Specifications

Output HP	120 Hp	Output KW	90.0 kW
Frequency	50 Hz	Voltage	415 V
Current	144.8 A	Speed	2981 rpm
Service Factor	1	Phase	3
Efficiency	95 %	Power Factor	0.91
Duty	S1	Insulation Class	F
Frame	280M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	50 °C
Drive End Bearing Size	6314	Opp Drive End Bearing Size	6314
UL	No	CSA	No
CE	Yes	IP Code	55
Number of Speeds	1	Efficiency Class	IE3

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	Rotation	Bi-Directional
Mounting	V1	Motor Orientation	Shaftdown
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1246 mm	Frame Length	600 mm
Shaft Diameter	65 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Top		
Outline Drawing	0228000588	Connection Drawing	8442000085

This is an uncontrolled document once printed or downloaded and is subject to change without notice. Date Created:12/01/2022



DRAWING REVISION C	REVISION BY LK	DATE 17/04/2019
ECO ECO-0165600	APPROVED BY SR	DATE 17/04/2019
ECO DESCRIPTION UPDATED MODEL AS PER 3D STRUCTURE		
COPYRIGHT REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF REGAL BELOIT AMERICA, INC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED, BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS.		

DRAWN BY JOY	marathon™ Motors		
DATE 18/07/2014			
APPROVED BY SBD	DESCRIPTION OUTLINE 280M-2P-V1 MTG. MOTOR TYPE: TCA		
DATE 18/07/2014			
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0228000588	SHEET 1 OF 1

COPYRIGHT REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. UNCONTROLLED COPY
 PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF
 REGAL BELOIT AMERICA, INC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY
 INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED,
 BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED
 TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT
 AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL
 BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN
 RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS.

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

Model No. TCA0901A3141GACD01

U	Δ / Y	f	P	P	I	n	T	IE	% EFF at __ load				PF at __ load			I _A /I _N	T _A /T _N	T _K /T _N
(V)	Conn	[Hz]	[kW]	[hp]	[A]	[RPM]	[Nm]	Class	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	[pu]	[pu]	[pu]
415	Δ	50	90	120	144.8	2981	286.70	IE3	-	95	95	94.2	0.91	0.89	0.82	7.2	2.0	3.4

Motor type	TCA
Enclosure	TEFC
Frame Material	Cast Iron
Frame size	280M
Duty	S1
Voltage variation *	± 10%
Frequency variation *	± 5%
Combined variation *	10%
Design	N
Service factor	1.0
Insulation class	F
Ambient temperature	-20 to +50 °C
Temperature rise (by resistance)	70 [Class B] K
Altitude above sea level	1000 meter
Hazardous area classification	NA
Zone classification	NA
Gas group	NA
Temperature class	NA
Rotor type	Aluminum Die cast
Bearing type	Anti-friction ball bearing
DE / NDE bearing	6314 C3 / 6314 C3
Lubrication method	Regreasable
Type of grease	Shell Gadus S5 V100 or Equivalent

Degree of protection	IP 55
Mounting type	IM V1
Cooling method	IC 411
Motor weight - approx.	829 kg
Gross weight - approx.	864 kg
Motor inertia	1.4160 kgm ²
Load inertia	Customer to Provide
Vibration level	2.2 mm/s
Noise level (1meter distance from motor)	76 dB(A)
No. of starts hot/cold/Equally spread	2/3/4
Starting method	DOL
Type of coupling	Direct
LR withstand time (hot/cold)	15/30 s
Direction of rotation	Bi-directional
Standard rotation	Clockwise form DE
Paint shade	RAL 5014
Accessories	
Accessory - 1	-
Accessory - 2	-
Accessory - 3	-
Terminal box position	TOP
Maximum cable size/conduit size	1R x 3C x 95mm ² /2 x M50 x 1.5
Auxiliary terminal box	NA

I_A/I_N - Locked Rotor Current / Rated CurrentT_K/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.

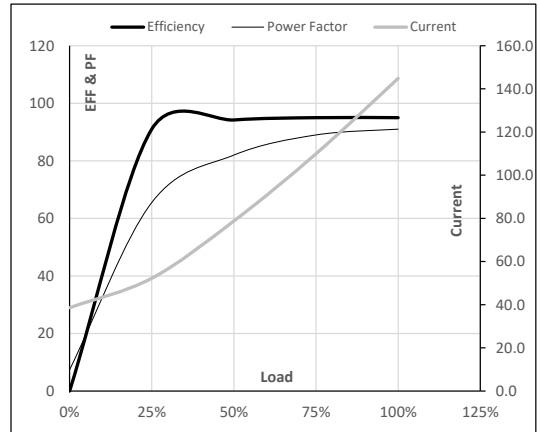
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	-	IS 12615 : 2018	-	-	-

Model No. TCA0901A3141GACD01

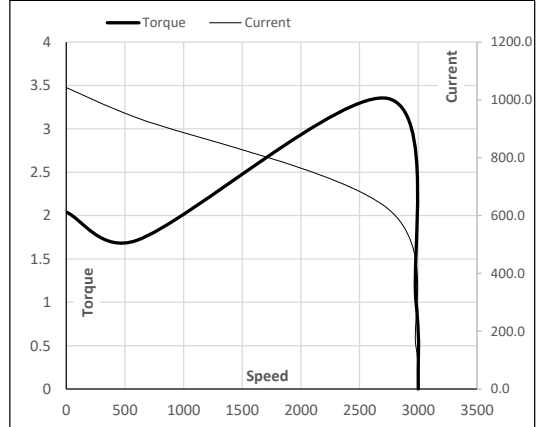
Enclosure	U (V)	Δ / Y Conn	f (Hz)	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m ²]	Weight [kg]
TEFC	415	Δ	50	90	120.0	144.8	2981	29.24	286.70	IE3	50	S1	1000	1.416	829

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	38.6	52.3	78.8	109.9	144.8	
Torque	Nm	0.0	71.3	142.9	214.7	286.7	
Speed	r/min	3000	2995	2991	2986	2981	
Efficiency	%	0.0	91.0	94.2	95.0	95.0	
Power Factor	%	7.4	65.5	82.0	89.0	91.0	

Performance vs Load Chart

Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2743	2981	3000
Current	A	1042.8	938.5	623.3	144.8	38.6
Torque	pu	2.0	1.7	3.4	1	0

Starting Characteristics Chart

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

 Issued By
Issued Date



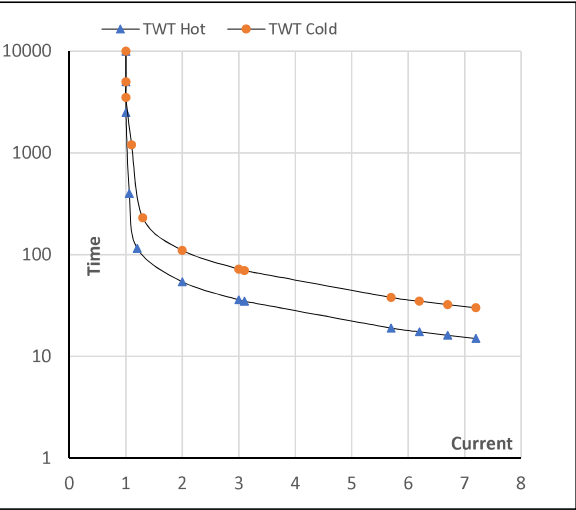
Model No. TCA0901A3141GACD01

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	90	120	144.8	2981	29.21	286.70	IE3	50	S1	1000	1.4160	829

Motor Speed Torque Data

Load		FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR
TWT Hot	s	10000	54	36	30	25	20	15
TWT Cold	s	10000	110	72	60	45	40	30
Current	pu	1	2	3	4	5	5.5	7.2

Thermal Characteristics Chart



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

Issued By
Issued Date

