

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: SCA0151A4141GAA001

Catalog No: SCA0151A4141GAA001

TerraMAX® Cast Iron Motor, 20 HP, 3 Ph, 50 Hz, 380/660 V, 3000 RPM, 160M Frame, TEFC



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**RegalRexnord**

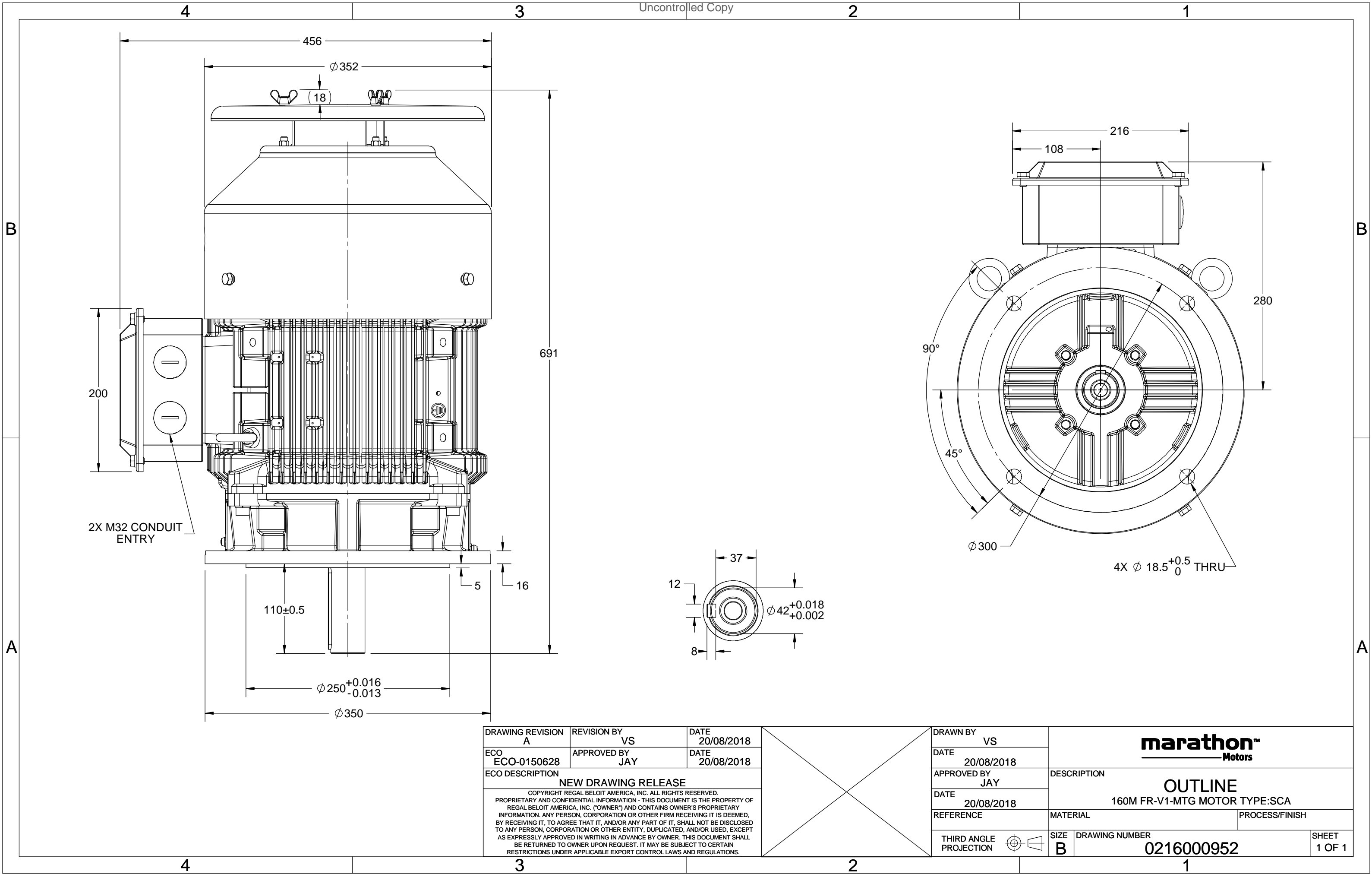
### Nameplate Specifications

Output HP	20 Hp	Output KW	15.0 kW
Frequency	50 Hz	Voltage	380/660 V
Current	28.3 A	Speed	2940 rpm
Service Factor	1	Phase	3
Efficiency	90.3 %	Power Factor	0.89
Duty	S1	Insulation Class	F
Frame	160M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6309	Opp Drive End Bearing Size	6209
UL	No	CSA	No
CE	Yes	IP Code	55
Number of Speeds	1	Efficiency Class	IE2

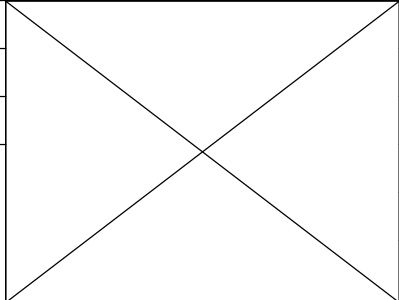
### Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	Rotation	Bi-Directional
Mounting	V1	Motor Orientation	Shaftdown
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	691 mm	Frame Length	254 mm
Shaft Diameter	42 mm	Shaft Extension	110 mm
Assembly/Box Mounting	Top		
Connection Drawing	8442000085	Outline Drawing	0216000952

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DRAWING REVISION A	REVISION BY VS	DATE 20/08/2018
ECO ECO-0150628	APPROVED BY JAY	DATE 20/08/2018
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DRAWN BY VS	<b>marathon™</b> Motors		
DATE 20/08/2018			
APPROVED BY JAY	DESCRIPTION OUTLINE 160M FR-V1-MTG MOTOR TYPE:SCA		
DATE 20/08/2018			
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0216000952	SHEET 1 OF 1

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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 <b>CONN DIAGRAM-NAMEPLATE</b>		
	DATE 16/12/2016				
	REFERENCE		MATERIAL		PROCESS/FINISH
	THIRD ANGLE PROJECTION		SIZE A	DRAWING NUMBER 8442000085	SHEET 1 OF 1

**Model No.** SCA0151A4141GAA001

U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load				PF at __ load			I <sub>A</sub> /I <sub>N</sub> [pu]	T <sub>A</sub> /T <sub>N</sub> [pu]	T <sub>K</sub> /T <sub>N</sub> [pu]
									5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
380/660	$\Delta$	50	15	20	28.4	2940	48.7	IE2	-	90.3	90.3	89.1	0.89	0.89	0.85	7.5	2.6	3.0

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM V1
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	160M	Motor weight - approx.	132 kg
Duty	S1	Gross weight - approx.	152 kg
Voltage variation *	± 10%	Motor inertia	0.0520 kgm <sup>2</sup>
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)	74 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 +40 °C	Type of coupling	Direct
Temperature rise (by resistance)	80 [ Class B ] K	LR withstand time (hot/cold)	6/10 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	Accessory - 3	-
DE / NDE bearing	6309-2Z / 6209-2Z	Terminal box position	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 35mm <sup>2</sup> /2 X M32 x 1.5
Type of grease	NA	Auxiliary terminal box	Available on Request

I<sub>A</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

T<sub>K</sub>/T<sub>N</sub> - Breakdown Torque / Rated Torque

T<sub>A</sub>/T<sub>N</sub> - 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.

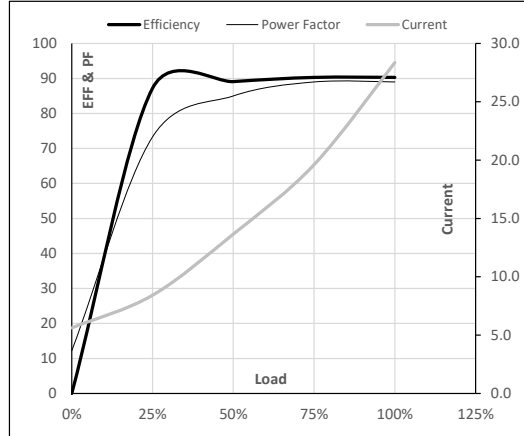
Efficiency Standards	Europe	China	India	Aus/Nz	Brazil	Global IEC
	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30

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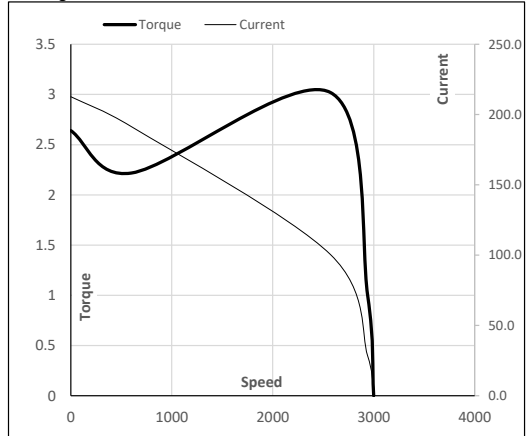
Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	380/660	Δ	50	15	20	28.4	2940	4.97	48.70	IE2	40	S1	1000	0.0520	132

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	5.6	8.4	13.7	19.6	28.4	
Torque	Nm	0.0	11.9	24.0	36.2	48.7	
Speed	r/min	3000	2983	2967	2949	2940	
Efficiency	%	0.0	87.2	89.1	90.3	90.3	
Power Factor	%	12.2	73.3	85.0	89.0	89.0	

**Performance vs Load Chart**

**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2571	2940	3000
Current	A	212.7	191.4	100.5	28.4	5.6
Torque	pu	2.6	2.2	3.0	1	0

**Starting Characteristics Chart**

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

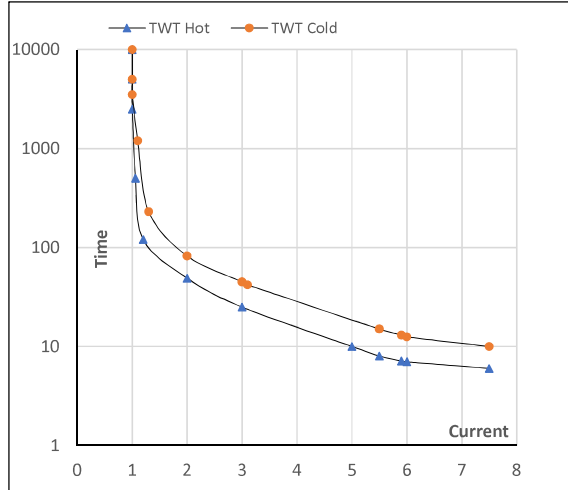
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Enclosure	U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg·m <sup>2</sup> ]	Weight [kg]
TEFC	380/660	$\Delta$	50	15	20	28.4	2940	4.97	48.70	IE2	40	S1	1000	0.0520	132

**Motor Speed Torque Data**

Load	FL	$I_1$	$I_2$	$I_3$	$I_4$	$I_5$	LR
TWT Hot	s 10000	49	25	15	10	8	6
TWT Cold	s 10000	82	45	44	42	15	10
Current	pu 1	2	3	4	5	5.5	7.5

**Thermal Characteristics Chart**

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

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