

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: SCA1321A4131GAA001

Catalog No: SCA1321A4131GAA001

TerraMAX® Cast Iron Motor, 175 HP, 3 Ph, 50 Hz, 380/660 V, 3000 RPM, 315M Frame, TEFC



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RegalRexnord



Nameplate Specifications

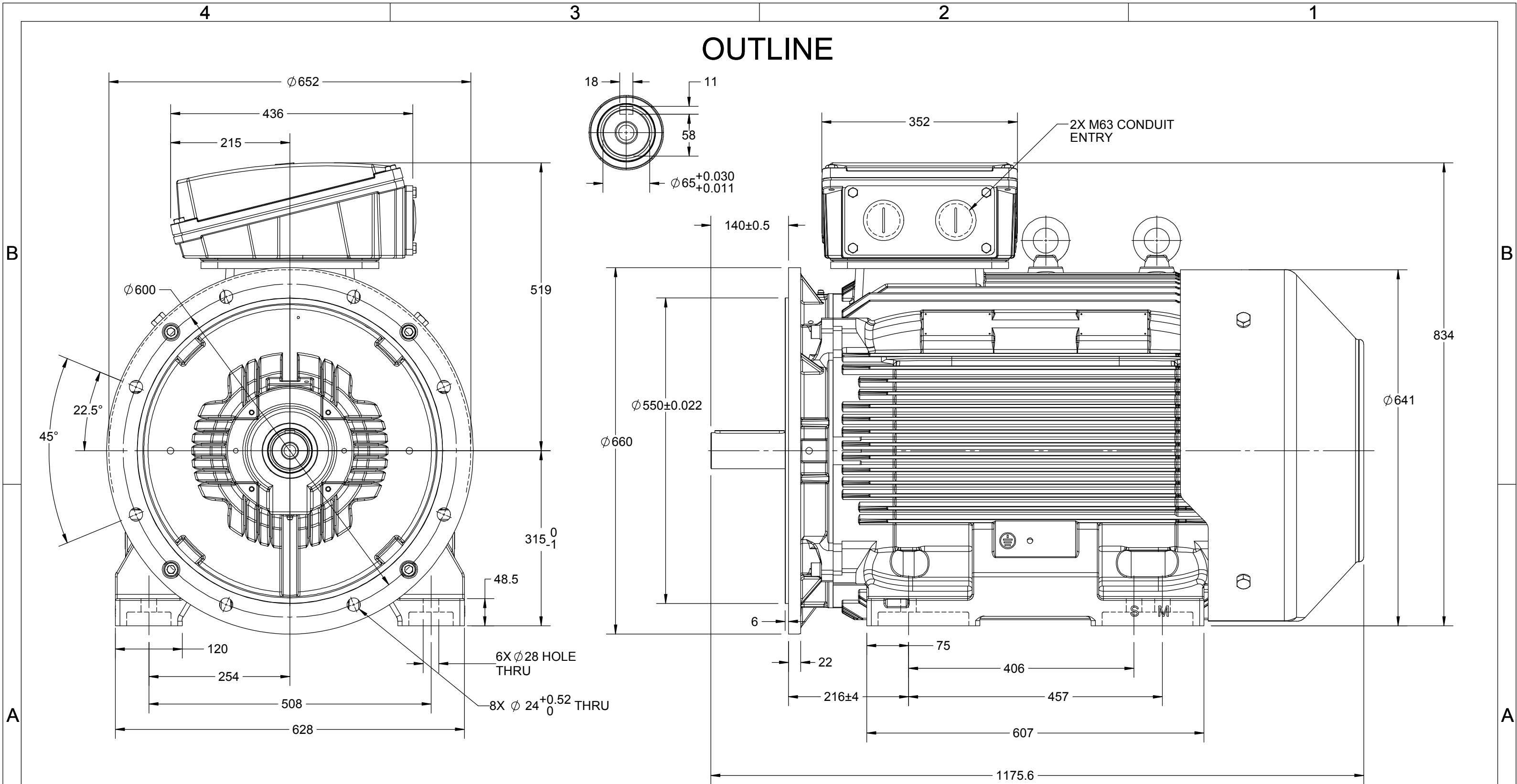
Output HP	175 Hp	Output KW	132.0 kW
Frequency	50 Hz	Voltage	380/660 V
Current	233.0 A	Speed	2980 rpm
Service Factor	1	Phase	3
Efficiency	94.6 %	Power Factor	0.91
Duty	S1	Insulation Class	F
Frame	315M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6316	Opp Drive End Bearing Size	6316
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	B35	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1176 mm	Frame Length	729 mm
Shaft Diameter	65 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Top		
Outline Drawing	0231500879	Connection Drawing	8442000085

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OUTLINE



DRAWING REVISION B	REVISION BY NIV	DATE 10/05/2019
ECO ECO-0165600	APPROVED BY SR	DATE 10/05/2019
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DRAWN BY JOY
DATE 18/07/2014
APPROVED BY SBD
DATE 18/07/2014
REFERENCE
THIRD ANGLE PROJECTION

marathon™ Motors	
OUTLINE	
315M-2P-B35 MTG. MOTOR TYPE: TCA	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER 0231500879
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	DATE 16/12/2016			 Regal Beloit America, Inc.		
	APPROVED BY SBD	DESCRIPTION CONN DIAGRAM-NAMEPLATE				
		DATE 16/12/2016	MATERIAL		PROCESS/FINISH	
	REFERENCE	SIZE A			DRAWING NUMBER 8442000085	SHEET 1 OF 1
	THIRD ANGLE PROJECTION 					

Model No. SCA1321A4131GAA001

U (V)	Δ / Y Conn	f [Hz]	P		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 _K /T _N [pu]
			[kW]	[hp]					5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
380/660	Δ	50	132	175	233.0	2980	418.13	IE2	-	94.6	94.6	93	0.91	0.89	0.84	6.3	1.8	3.0

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	315M	Motor weight - approx.	983 kg
Duty	S1	Gross weight - approx.	1028 kg
Voltage variation *	± 10%	Motor inertia	2.1620 kgm ²
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.8 mm/s
Design	N	Noise level (1meter distance from motor)	87 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)	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	Accessory - 3	-
DE / NDE bearing	6316 C3 / 6316 C3	Terminal box position	TOP
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 240mm ² /2 x M63 x 1.5
Type of grease	CHEVRON SRI-2 or Equivalent	Auxiliary terminal box	Available on Request

I_A/I_N - Locked Rotor Current / Rated Current

T_K/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
	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30



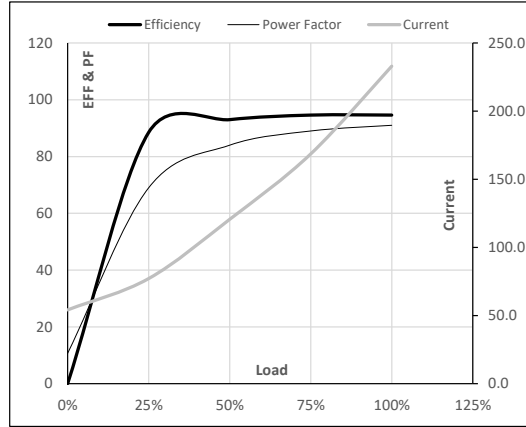
Model No. SCA1321A4131GAA001

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	380/660	Δ	50	132	175	233.0	2980	42.64	418.13	IE2	40	S1	1000	2.1620	983

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	54.1	77.1	120.6	168.6	233.0	
Torque	Nm	0.0	104.0	208.4	313.1	418.1	
Speed	r/min	3000	2995	2990	2986	2980	
Efficiency	%	0.0	88.5	93.0	94.6	94.6	
Power Factor	%	10.7	69.0	84.0	89.0	91.0	

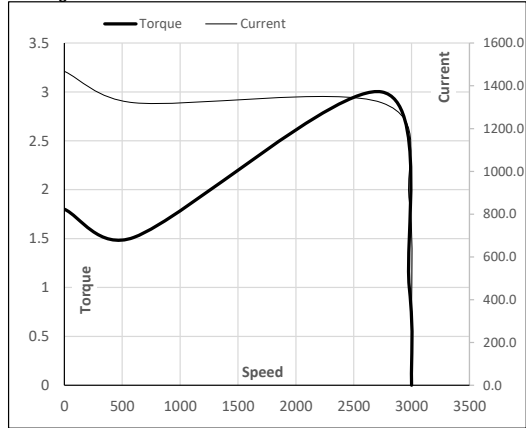
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	600	2742	2980	3000
Current	A	1467.7	1320.9	861.5	233.0	54.1
Torque	pu	1.8	1.5	3.0	1	0

Starting Characteristics Chart



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

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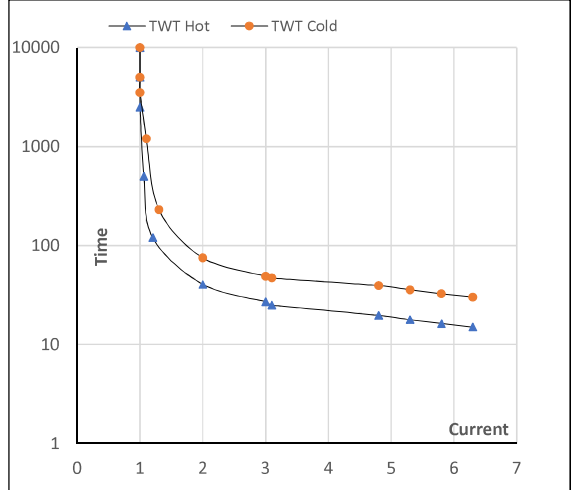
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg·m ²]	Weight [kg]
TEFC	380/660	Δ	50	132	175	233.0	2980	42.64	418.13	IE2	40	S1	1000	2.1620	983

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	41	27	22	19	18	15	
TWT Cold	s 10000	75	49	42	39	35	30	
Current	pu	1	2	3	4	5	5.5	6.3

Thermal Characteristics Chart



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

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