

# PRODUCT INFORMATION PACKET

**marathon**<sup>®</sup>  
Motors

Model No: SCA18P2A3141GAAD01

Catalog No: SCA18P2A3141GAAD01

18.5kW, General Purpose Low Voltage IEC Motor, 3 phase, 4 Pole, 415V, B35, 50Hz, 91.2%, 180M Frame, TEFC  
Cast Iron IE2 Efficiency Motors



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**REGAL**



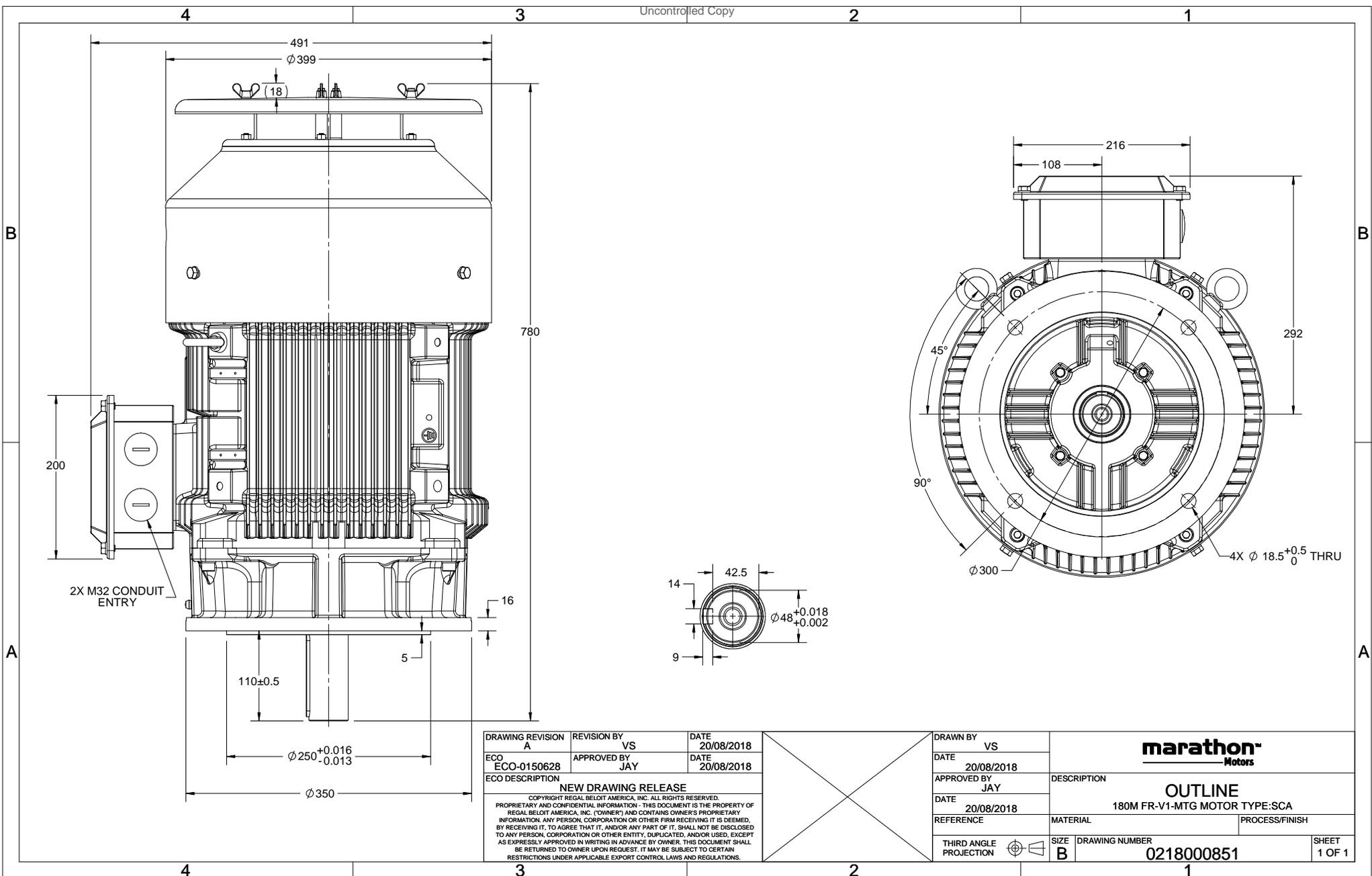
### Nameplate Specifications

Output HP	<b>25 Hp</b>	Output KW	<b>18.5 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>415 V</b>
Current	<b>32.4 A</b>	Speed	<b>1469 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>91.2 %</b>	Power Factor	<b>0.87</b>
Duty	<b>S1</b>	Insulation Class	<b>F</b>
Frame	<b>180M</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Ambient Temperature	<b>50 °C</b>	Drive End Bearing Size	<b>6311</b>
Opp Drive End Bearing Size	<b>6211</b>	UL	<b>No</b>
CSA	<b>No</b>	CE	<b>Yes</b>
IP Code	<b>55</b>		

### Technical Specifications

Electrical Type	<b>Squirrel Cage</b>	Starting Method	<b>Direct On Line</b>
Poles	<b>4</b>	Rotation	<b>Bi-Directional</b>
Mounting	<b>V1</b>	Motor Orientation	<b>Horizontal</b>
Drive End Bearing	<b>2z-C3</b>	Opp Drive End Bearing	<b>2z-C3</b>
Frame Material	<b>Cast Iron</b>	Shaft Type	<b>Keyed</b>
Overall Length	<b>780 mm</b>	Frame Length	<b>328 mm</b>
Shaft Diameter	<b>48 mm</b>	Shaft Extension	<b>110 mm</b>
Assembly/Box Mounting	<b>TOP</b>		
Connection Drawing	<b>8442000085</b>	Outline Drawing	<b>0218000851</b>

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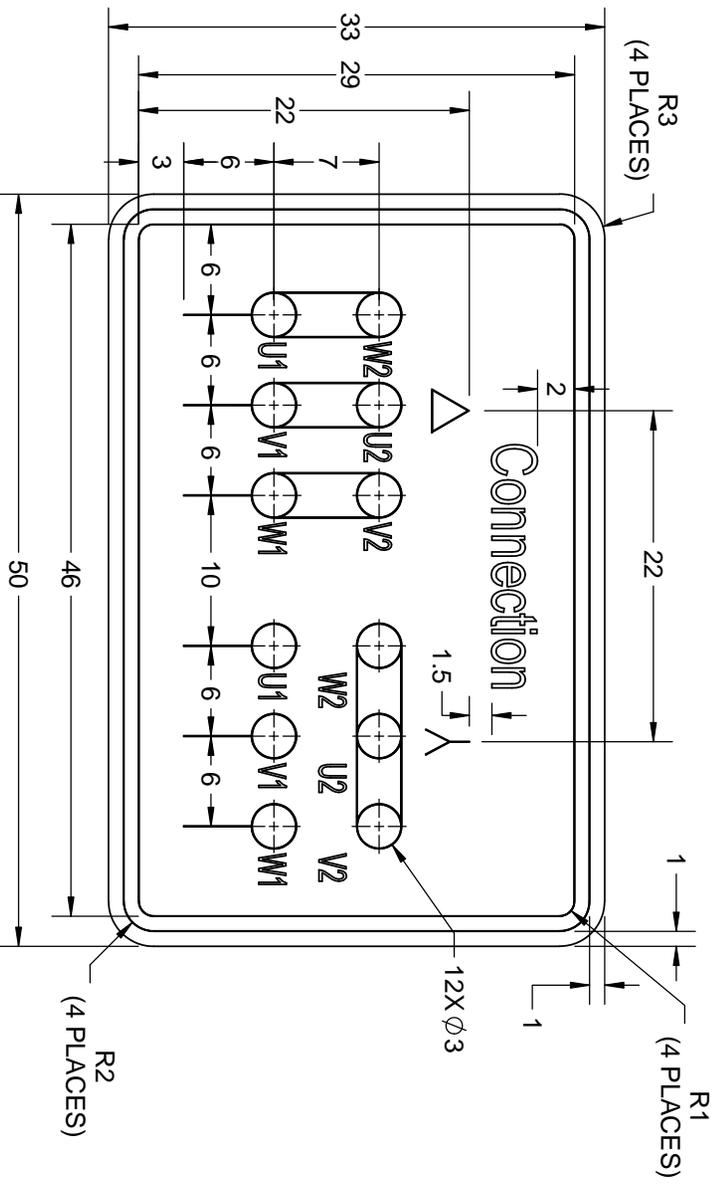
DRAWING REVISION A	REVISION BY VS	DATE 20/08/2018
ECO ECO-0150628	APPROVED BY JAY	DATE 20/08/2018
ECO DESCRIPTION NEW DRAWING RELEASE		
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DRAWN BY VS		
DATE 20/08/2018		
APPROVED BY JAY	DESCRIPTION OUTLINE	
DATE 20/08/2018	180M FR-V1-MTG MOTOR TYPE:SCA	
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0218000851
		SHEET 1 OF 1

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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.

8WD.442.2017

DRAWN BY SN		DESCRIPTION <b>REGAL</b> ™ Regal Beloit America, Inc.	
DATE 16/12/2016		DATE 16/12/2016	
APPROVED BY SBD		MATERIAL	
DATE 16/12/2016		PROCESS/FINISH	
REFERENCE		SIZE A	
THIRD ANGLE PROJECTION		DRAWING NUMBER 8442000085	
		SHEET 1 OF 1	



**Model No.** SCA18P2A3141GAAD01

U (V)	Δ / Y Conn	f (Hz)	P		I		n		T [Nm]	IE Class	% EFF at __ load				PF at __ load			I <sub>a</sub> /I <sub>N</sub> [pu]	T <sub>k</sub> /T <sub>N</sub> [pu]	T <sub>k</sub> /T <sub>N</sub> [pu]
			[kW]	[hp]	[A]	[RPM]	S/4FL	FL			3/4FL	1/2FL	FL	3/4FL	1/2FL					
415	Δ	50	18.5	25	32.4	1469	121.22		IE2	-	91.2	91.2	92.2	0.87	0.84	0.74	5.7	2.2	2.8	

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM V1
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	180M	Motor weight - approx.	213 kg
Duty	S1	Gross weight - approx.	233 kg
Voltage variation *	± 10%	Motor inertia	0.1527 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)	72 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)	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	6311-2Z / 6211-2Z	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	NA

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>k</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
	-	-	IS 12615 : 2018	-	-	-



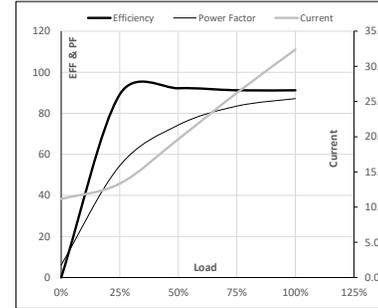
Model No. SCA18P2A3141GAAD01

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	415	Δ	50	18.5	25	32.4	1469	12.36	121.22	IE2	50	S1	1000	0.1527	213

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	11.2	13.3	19.7	26.2	32.4	
Torque	Nm	0.0	29.8	59.9	90.4	121.2	
Speed	r/min	1500	1493	1485	1477	1469	
Efficiency	%	0.0	89.2	92.2	91.2	91.2	
Power Factor	%	6.1	54.5	74.3	83.5	87.1	

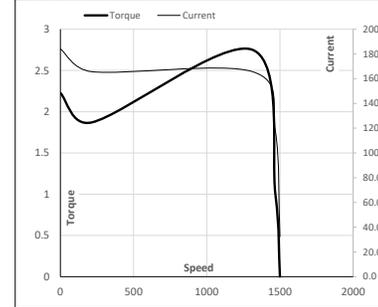
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	214	1313	1469	1500
Current	A	184.1	165.7	117.6	32.4	11.2
Torque	pu	2.2	1.9	2.8	1	0

**Starting Characteristics Chart**



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

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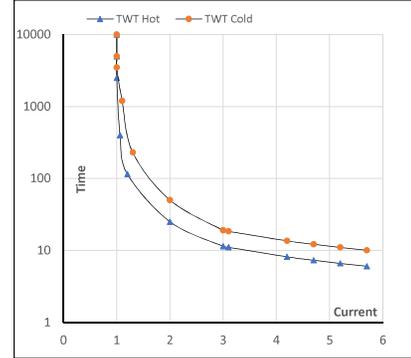
Model No. SCA18P2A3141GAAD01

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	415	Δ	50	18.5	25	32.4	1469	12.36	121.22	IE2	50	S1	1000	0.1527	213

**Motor Speed Torque Data**

Load	FL	I <sub>1</sub>	I <sub>2</sub>	I <sub>3</sub>	I <sub>4</sub>	I <sub>5</sub>	LR
TWT Hot	s 10000	25	11	9	8	7	6
TWT Cold	s 10000	50	19	13	12	11	10
Current	pu	1	2	3	4	5	5,5

**Thermal Characteristics Chart**



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

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