

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCT18P4A1131GAA001

Catalog No: TCT18P4A1131GAA001

IE3, 18.5kW, DUST IGNITION PROOF MOTORS, 3 phase, 8 Pole, 400V, 738RPM, 50Hz, 90.1%, 225S Frame,  
TEFC



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**RegalRexnord**

### Nameplate Specifications

Output HP	25 Hp	Output KW	18.5 kW
Frequency	50 Hz	Voltage	400 V
Current	38.5 A	Speed	738 rpm
Service Factor	1	Phase	3
Efficiency	90.1 %	Power Factor	0.77
Duty	S1	Insulation Class	F
Frame	225S	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	40 °C
Drive End Bearing Size	6313	Opp Drive End Bearing Size	6213
UL	No	CSA	No
CE	Yes	IP Code	66
Number of Speeds	1	Efficiency Class	IE3

### Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	8	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	837 mm	Frame Length	400 mm
Shaft Diameter	60 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Top		
Outline Drawing	0222500474	Connection Drawing	8442000085

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DRAWING REVISION <b>A</b>	REVISION BY <b>SN</b>	DATE <b>13/01/2017</b>
ECO <b>ECO-0116390</b>	APPROVED BY <b>SBD</b>	DATE <b>13/01/2017</b>

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

SHEET  
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**Model No.** TCT18P4A1131GAA001

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 <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			
400	Δ	50	18.5	25.0	38.5	738	241.24	IE3	-	90.1	90.1	90.5	0.77	0.72	0.59	5.2	1.7	2.3

Motor type	TCT	Degree of protection	IP 66
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	225S	Motor weight - approx.	385 kg
Duty	S1	Gross weight - approx.	415 kg
Voltage variation *	± 10%	Motor inertia	0.8781 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)	61 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	Ex tb	Standard rotation	Clockwise form DE
Zone classification	Zone 21	Paint shade	RAL 5014
Gas group	Group III	Accessories	
Temperature class	T135	Accessory - 1	PTC 150°C
Rotor type	Aluminum die cast	Accessory - 2	-
Bearing type	Anti-friction ball	Accessory - 3	-
DE / NDE bearing	6313 C3 / 6213 C3	Terminal box position	TOP
Lubrication method	Regreaseable	Maximum cable size/conduit size	1R x 3C x 50mm <sup>2</sup> /2 x M40 x 1.5
Type of grease	CHEVRON SRI-2 or Equivalent	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>A</sub>/T<sub>N</sub> - Locked Rotor Torque / Rated Torque

#### NOTE

ATEX/IEC Ex certified as per IEC/EN 60079-0; IEC/EN 60079-31

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

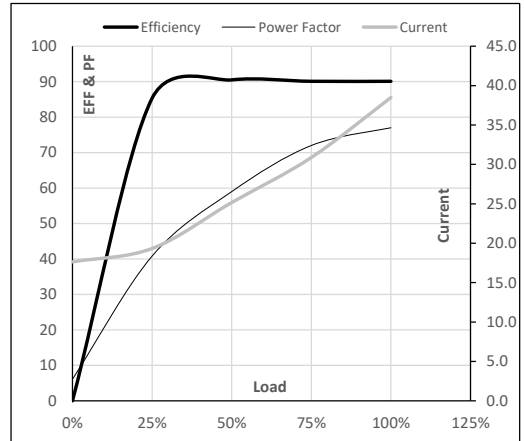
**Model No.** TCT18P4A1131GAA001

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	400	Δ	50	18.5	25.0	38.5	738	24.60	241.24	IE3	40	S1	1000	0.8781	385

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	17.6	19.3	25.2	30.9	38.5	
Torque	Nm	0.0	59.6	119.6	180.1	241.2	
Speed	r/min	750	747	744	742	738	
Efficiency	%	0.0	85.3	90.5	90.1	90.1	
Power Factor	%	6.1	40.8	59.0	72.0	77.0	

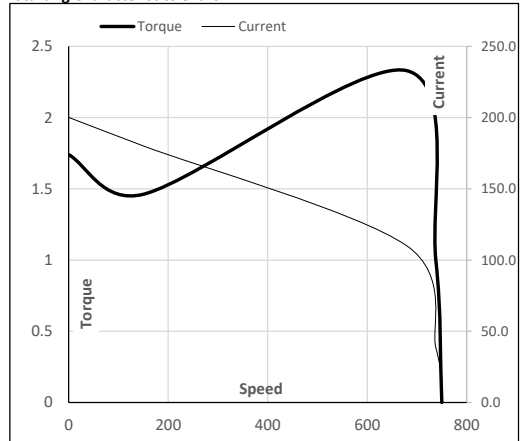
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	150	679	738	750
Current	A	200.1	180.1	110.2	38.5	17.6
Torque	pu	1.7	1.5	2.3	1	0

**Starting Characteristics Chart**



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

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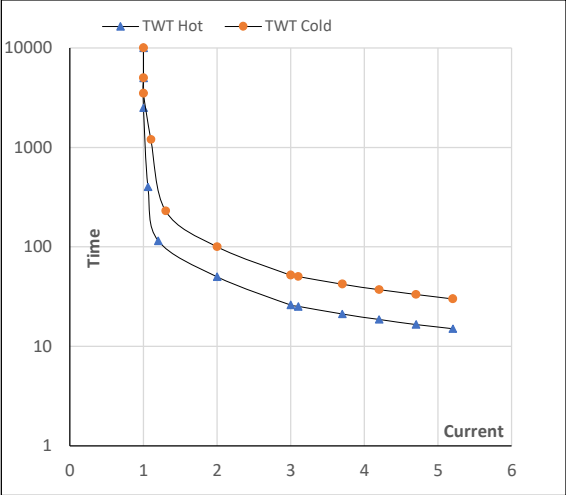
Model No. TCT18P4A1131GAA001

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]
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Motor Speed Torque Data

Load		FL	$I_1$	$I_2$	$I_3$	$I_4$	$I_5$	LR
TWT Hot	s	10000	50	26	20	18	16	15
TWT Cold	s	10000	100	52	40	35	32	30
Current	pu	1	2	3	4	4.5	5	5.2

Thermal Characteristics Chart



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

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