

# PRODUCT INFORMATION PACKET

Model No: TCA2P22A3121GACD01  
Catalog No: TCA2P22A3121GACD01

2.2 kW General Purpose Low Voltage IEC Motor, 3 phase, 1500 RPM, 415 V, 100L Frame, TEFC  
Cast Iron IE3 Efficiency Motors





### Nameplate Specifications

Output HP	<b>3 Hp</b>	Output KW	<b>2.2 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>415 V</b>
Current	<b>4.3 A</b>	Speed	<b>1457 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>86.7 %</b>	Power Factor	<b>0.83</b>
Duty	<b>S1</b>	Insulation Class	<b>F</b>
Frame	<b>100L</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Ambient Temperature	<b>50 °C</b>	Drive End Bearing Size	<b>6206</b>
Opp Drive End Bearing Size	<b>6206</b>	UL	<b>No</b>
CSA	<b>No</b>	CE	<b>Yes</b>
IP Code	<b>55</b>		

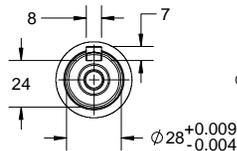
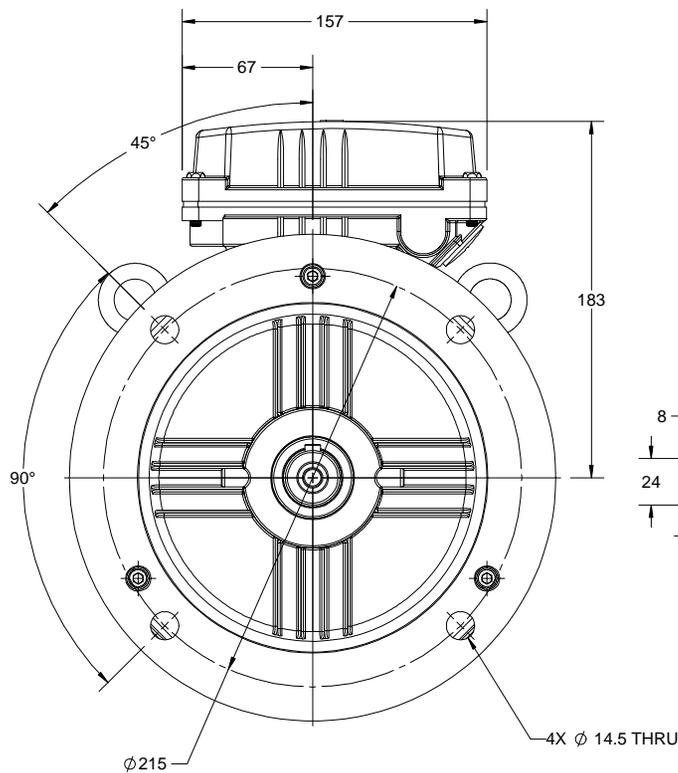
### Technical Specifications

Electrical Type	<b>Squirrel Cage</b>	Starting Method	<b>Direct On Line</b>
Poles	<b>4</b>	Rotation	<b>Bi-Directional</b>
Mounting	<b>B5</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>398 mm</b>	Frame Length	<b>200 mm</b>
Shaft Diameter	<b>28 mm</b>	Shaft Extension	<b>60 mm</b>
Assembly/Box Mounting	<b>Top</b>		
Outline Drawing	<b>0210000273</b>	Connection Drawing	<b>8442000085</b>

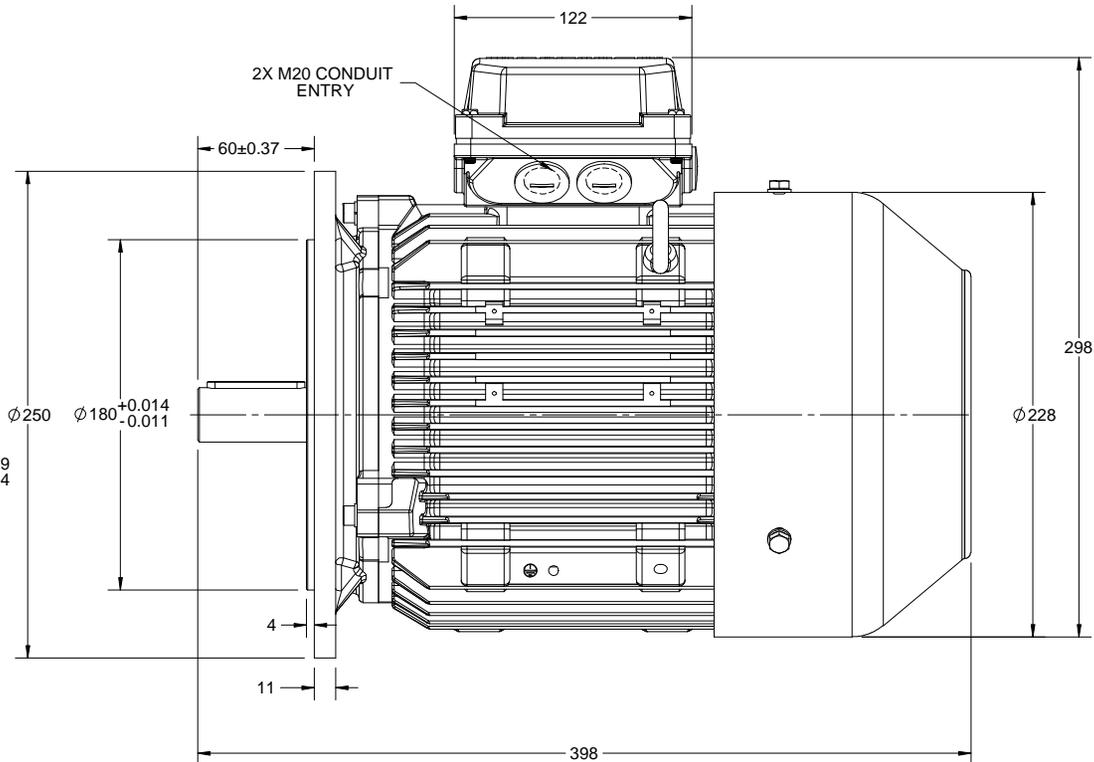
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B

B



2X M20 CONDUIT ENTRY



A

A

DRAWING REVISION B	REVISION BY S.MUDDA	DATE 29/06/2018
ECO ECO-0147359	APPROVED BY JAY	DATE 29/06/2018
ECO DESCRIPTION OUTLINE UPDATED AS PER NEW 3D STRUCTURE		
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DRAWN BY SMAR
DATE 02/09/13
APPROVED BY JAY
DATE 02/09/13
REFERENCE

**marathon**  
Motors

DESCRIPTION  
**OUTLINE**  
100 FR. - B5 MTG. MOTOR TYPE: TCA

MATERIAL PROCESS/FINISH

THIRD ANGLE  
PROJECTION

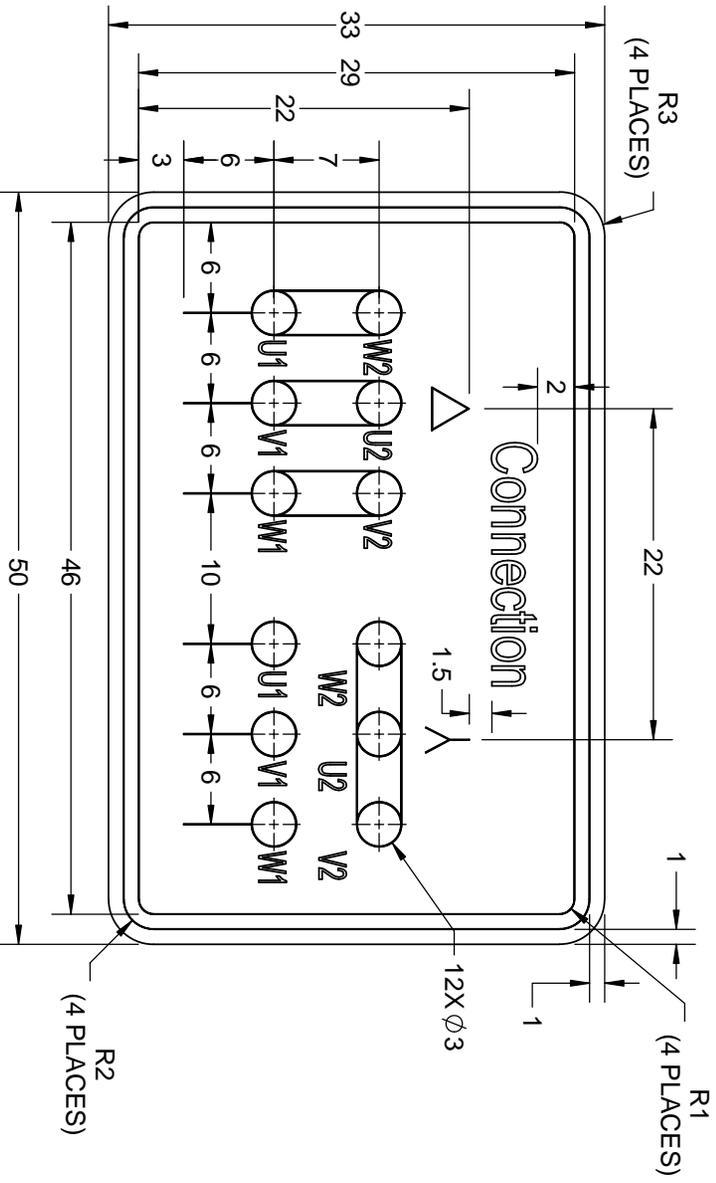
SIZE  
B DRAWING NUMBER  
**0210000273**

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> <sup>TM</sup> Regal Beloit America, Inc. CONN DIAGRAM-NAMEPLATE	
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. TCA2P22A3121GACD01

U (V)	Δ / Y Conn	f (Hz)	P		I		n (RPM)	T (Nm)	IE Class	% EFF at __ load				PF at __ load			I <sub>L</sub> /I <sub>N</sub> [pu]	T <sub>M</sub> /T <sub>N</sub> [pu]	T <sub>L</sub> /T <sub>N</sub> [pu]
			[kW]	[hp]	[A]	[hp]				5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
415	Y	50	2.2	3.0	4.3	1457	14.66		IE3	-	86.7	86.7	85.2	0.83	0.77	0.64	7.2	2.4	3.0

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B5
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	100L	Motor weight - approx.	41 kg
Duty	S1	Gross weight - approx.	44 kg
Voltage variation *	± 10%	Motor inertia	0.0115 kgm <sup>2</sup>
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	1.6 mm/s
Design	N	Noise level ( 1meter distance from motor)	55 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)	10/20 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 bearing	Accessory - 3	-
DE / NDE bearing	6206-2Z / 6206-2Z	Terminal box position	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 10mm <sup>2</sup> /2 x M20 x 1.5
Type of grease	NA	Auxiliary terminal box	NA

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

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

T<sub>L</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	-	-	-



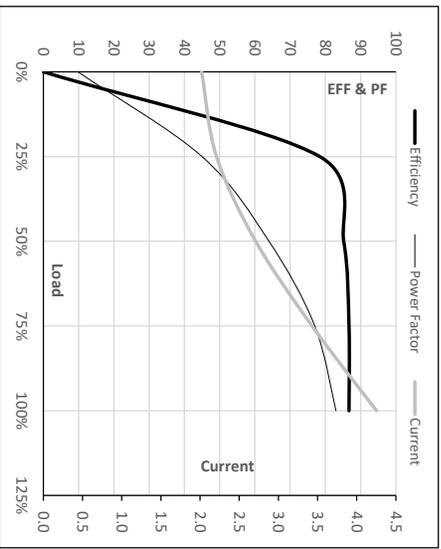
Model No. TCA2P22A3121GACD01

Enclosure	U [V]	$\Delta$ /Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb Temp [°C]	Duty	Elevation [m]	Inertia [kg·m <sup>2</sup> ]	Weight [kg]
TFC	415	Y	50	2.2	3.0	4.3	1457	1.49	14.66	IE3	50	S1	1000	0.0115	41

**Motor Load Data**

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	2.0	2.2	2.7	3.4	4.3
Torque	Nm	0.0	3.6	7.2	10.9	14.7
Speed	r/min	1500	1490	1480	1469	1457
Efficiency	%	0.0	78.4	85.2	86.7	86.7
Power Factor	%	9.8	45.0	64.0	77.0	83.0

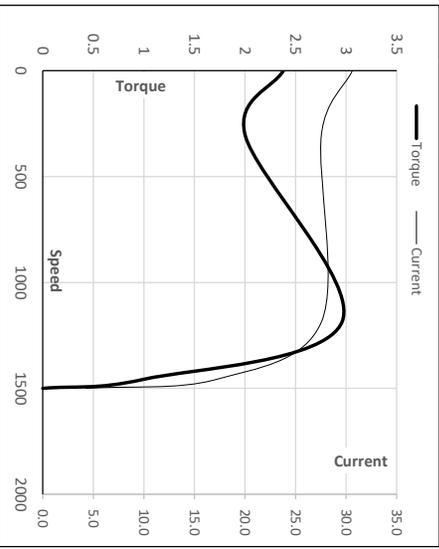
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	300	1186	1457	1500
Current	A	30.6	27.6	17.2	4.3	2.0
Torque	pu	2.4	2.0	3.0	1	0

**Starting Characteristics Chart**



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

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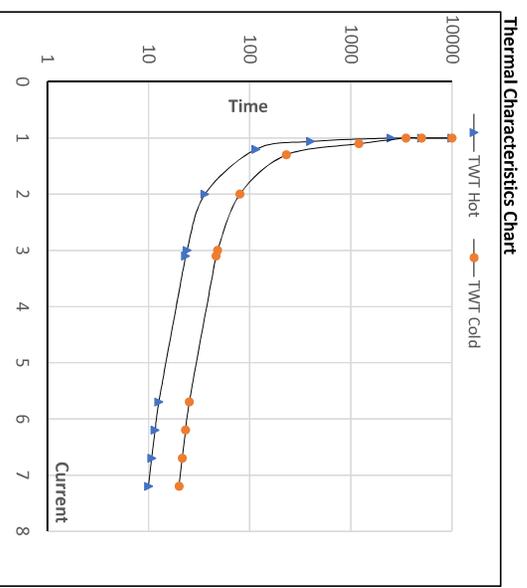


Model No. TCA2P22A3121GACD01

Enclosure	U	$\Delta$ /Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
(V)	415	Y	50	[kW]	[hp]	[A]	[rpm]	[kgm]	[Nm]	Class	[°C]	S1	[m]	[kg·m <sup>2</sup> ]	[kg]
TEFC				2.2	3.0	4.3	1457	1.49	14.66	IE3	50	S1	1000	0.0115	41

**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	36	24	20	15	13	10
TWT Cold	s	10000	80	48	40	30	27	20
Current	pu	1	2	3	4	5	5.5	7.2



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

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