

PRODUCT INFORMATION PACKET

Model No: TCA5P53A3171GACD01

Catalog No: TCA5P53A3171GACD01

5.5 kW General Purpose Low Voltage IEC Motor, 3 phase, 1000 RPM, 415 V, 132M Frame, TEFC
Cast Iron IE3 Efficiency Motors



Nameplate Specifications

Output HP	7.50 Hp	Output KW	5.5 kW
Frequency	50 Hz	Voltage	415 V
Current	11.4 A	Speed	975 rpm
Service Factor	1	Phase	3
Efficiency	88 %	Power Factor	0.76
Duty	S1	Insulation Class	F
Frame	132M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6308
Opp Drive End Bearing Size	6208	UL	No
CSA	No	CE	Yes
IP Code	55		

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	6	Rotation	Bi-Directional
Mounting	B14A	Motor Orientation	Horizontal
Drive End Bearing	2z-C3	Opp Drive End Bearing	2z-C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	503 mm	Frame Length	240 mm
Shaft Diameter	38 mm	Shaft Extension	80 mm
Assembly/Box Mounting	Top		
Outline Drawing	0213200590	Connection Drawing	8442000085

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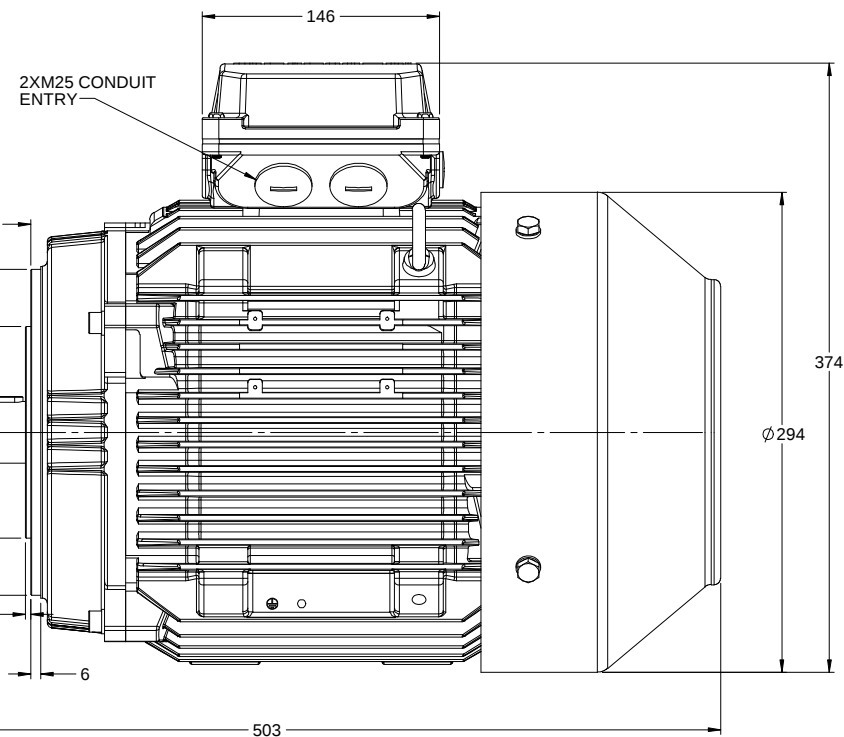
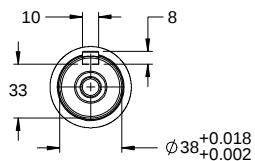
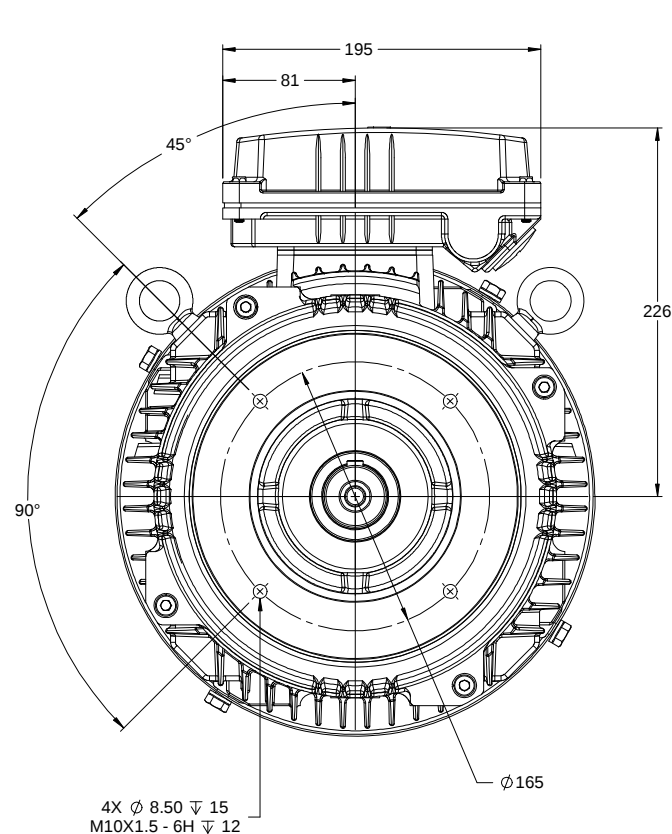
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DRAWING REVISION B	REVISION BY S.MUDDA	DATE 11/7/2018	TOLERANCES UNLESS OTHERWISE SPECIFIED:	DRAWN BY SMAR	marathon[®] Motors	
ECO ECO-0147359	APPROVED BY JAY	DATE 11/7/2018	DEC. mm INCH ANGLE .X ±.25 [±0.10] ±0.5° .XX ±0.25 [±0.010] .XXX ±0.130 [±0.0051] .XXXX ±0.130 [±0.00051] REMOVE BURRS & BREAK SHARP EDGES: .08/.38 [.003/.015] X 45° CORNER FILLETS: R.50 [.020] MACHINED SURFACES: 125/3.2 INCH SHOWN IN [BRACKETS]	DATE 05/09/13		
ECO DESCRIPTION OUTLINE UPDATED AS PER NEW 3D STRUCTURING				APPROVED BY JAY	DESCRIPTION OUTLINE	
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				REFERENCE	MATERIAL	PROCESS/FINISH
				THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0213200590
						SHEET 1 OF 1

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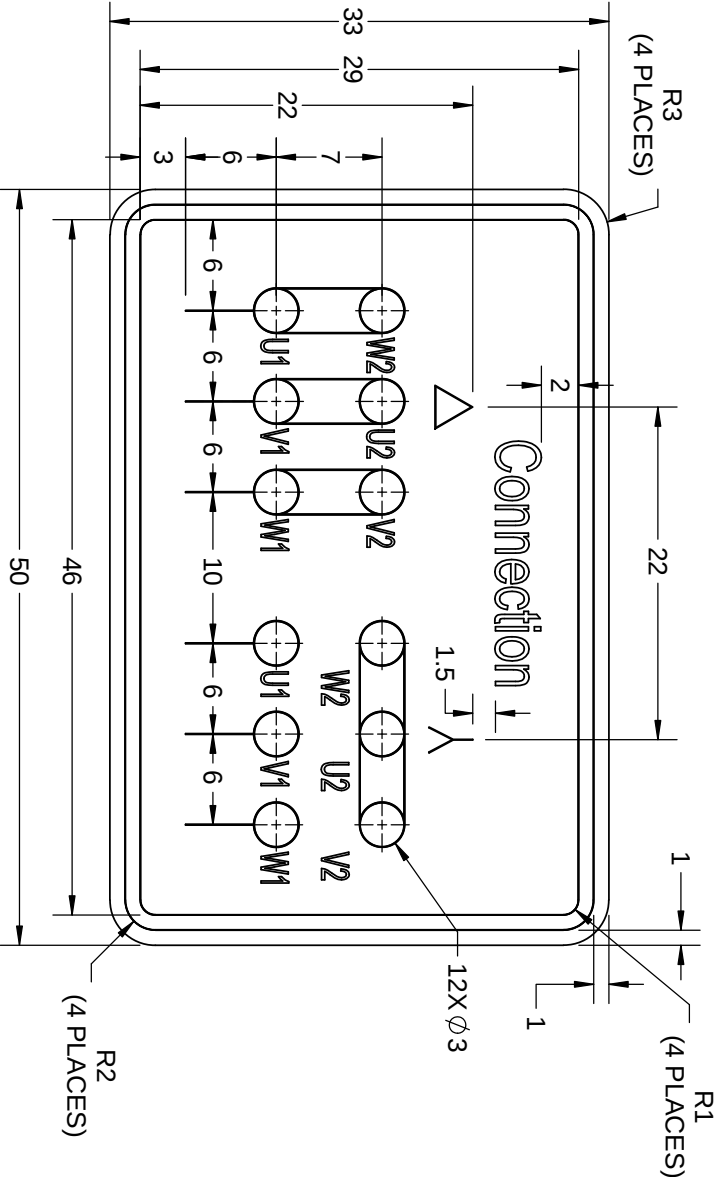
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DRAWING REVISION A	REVISION BY SN	DATE 13/01/2017
ECO ECO-0116390	APPROVED BY SBD	DATE 13/01/2017
ECO DESCRIPTION		
NEW DRAWING RELEASE		

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.

DRAWN BY		SN	Regal Beloit America, Inc.	
DATE		16/12/2016	DESCRIPTION	
APPROVED BY		SBD	CONN DIAGRAM-NAMEPLATE	
DATE		16/12/2016	MATERIAL	
REFERENCE			PROCESS/FINISH	
THIRD ANGLE PROJECTION		A	SIZE	
			DRAWING NUMBER	
			8442000085	
			SHEET	
			1 OF 1	

8WD.442.2017

Model No. TCA5P53A3171GACD01

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 _a /I _N [pu]	T _a /T _N [pu]	T _b /T _N [pu]
415	Δ	50	5.5	7.5	11.4	975	54.87	IE3	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	6.2	2.3	2.7

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B14A
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	132M	Motor weight - approx.	92 kg
Duty	S1	Gross weight - approx.	95 kg
Voltage variation *	± 10%	Motor inertia	0.0744 kgm ²
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)	59 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)	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 bearing	Accessory - 3	-
DE / NDE bearing	6308-22 / 6208-22	Terminal box position	TOP
Lubrication method	Greased for life	Maximum cable size/conduit size	1R x 3C x 16mm ² /2 x M25 x 1.5
Type of grease	NA	Auxiliary terminal box	NA

I_a/I_N - Locked Rotor Current / Rated CurrentT_b/T_N - Breakdown Torque / Rated TorqueT_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
	-	-	IS 12615 : 2018	-	-	-

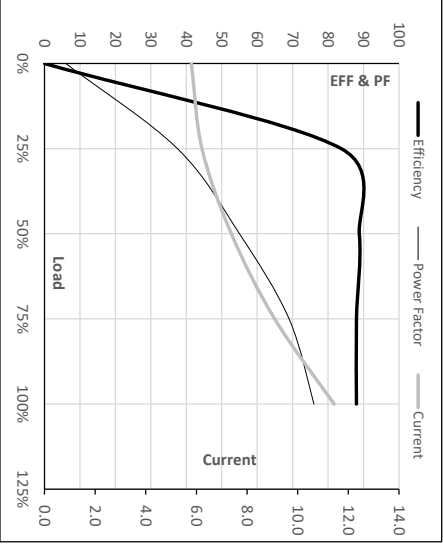
Model No. TCASP53A3171GACD01

Enclosure	U	Δ / Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
(V)	Com	[Hz]	[kW]	[hp]	[A]	[RPM]	[kgm]	[Nm]	Class	[°C]			[m]	[kg·m ²]	[kg]
TFC	415	Δ	50	5.5	7.5	11.4	975	5.60	54.87	IE3	50	S1	1000	0.0744	92

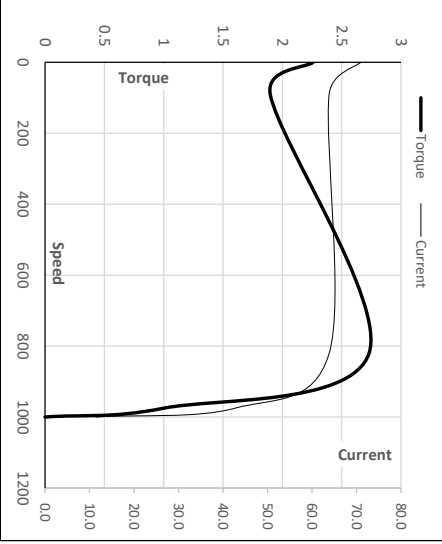
Motor Load Data

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	5.8	6.2	7.4	9.1	11.4
Torque	Nm	0.0	13.5	27.1	40.9	54.9
Speed	r/min	1000	994	988	982	975
Efficiency	%	0.0	83.7	88.8	88.0	88.0
Power Factor	%	6.0	37.5	55.0	69.0	76.0

Performance vs Load Chart



Starting Characteristics Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	91	821	975	1000
Current	A	70.9	63.8	42.7	11.4	5.8
Torque	pu	2.3	1.9	2.7	1	0

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

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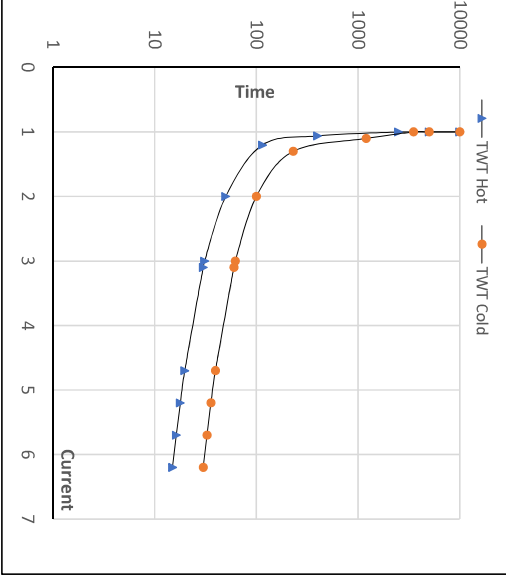
Model No. TCASP53A3171GACD01

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	415	Δ	50	5.5	7.5	11.4	975	5.59	54.87	IE3	50	S1	1000	0.0744	92

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s	10000	50	31	25	19	17	15
TWT Cold	s	10000	100	62	55	37	34	30
Current	pu	1	2	3	4	5	5.5	6.2

Thermal Characteristics Chart



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

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