

PRODUCT INFORMATION PACKET

marathon[®]
Motors

Model No: SCA3P73A3131GAAD01

Catalog No: SCA3P73A3131GAAD01

3.7kW, General Purpose Low Voltage IEC Motor, 3 phase, 6 Pole, 415V, B5, 50Hz, 84.3%, 132S Frame, TEFC
Cast Iron IE2 Efficiency Motors



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Nameplate Specifications

Output HP	5 Hp	Output KW	3.7 kW
Frequency	50 Hz	Voltage	415 V
Current	8.2 A	Speed	960 rpm
Service Factor	1	Phase	3
Efficiency	84.3 %	Power Factor	0.74
Duty	S1	Insulation Class	F
Frame	132S	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	B35	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	0213201111	Connection Drawing	8442000085

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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 _k /T _N [pu]	T _k /T _N [pu]
415	Δ	50	3.7	5.0	8.2	960	37.35	IE2	S/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	6.1	2.9	3.1

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B35
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	132S	Motor weight - approx.	83 kg
Duty	S1	Gross weight - approx.	86 kg
Voltage variation *	± 10%	Motor inertia	0.0256 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)	65 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	Accessory - 3	-
DE / NDE bearing	6308-2Z / 6208-2Z	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 Current

T_k/T_N - Breakdown Torque / Rated Torque

T_k/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	-	-	-



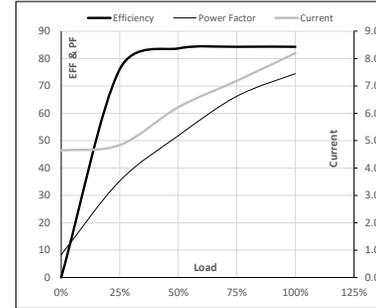
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Enclosure	U [V]	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg·m ²]	Weight [kg]
TEFC	415	Δ	50	3.7	5.0	8.2	960	3.81	37.35	IE2	50	S1	1000	0.0256	83

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	4.6	4.8	6.2	7.2	8.2	
Torque	Nm	0.0	9.0	18.2	27.5	37.4	
Speed	r/min	1000	990	981	971	960	
Efficiency	%	0.0	76.1	83.7	84.3	84.3	
Power Factor	%	8.3	35.3	51.8	66.2	74.5	

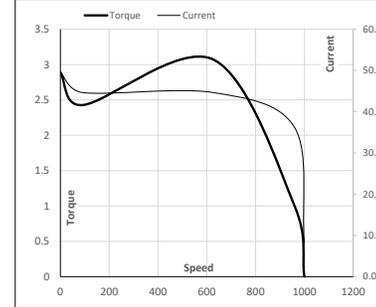
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	91	627	960	1000
Current	A	49.6	44.6	36.2	8.2	4.6
Torque	pu	2.9	2.4	3.1	1	0

Starting Characteristics Chart



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

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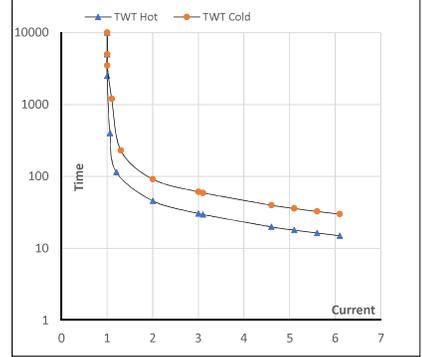
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Enclosure	U (V)	Δ / Y Conn	f (Hz)	P (kW)	P (hp)	I (A)	n (rpm)	T (kgm)	T (Nm)	IE Class	Amb (°C)	Duty	Elevation (m)	Inertia (kg·m ²)	Weight (kg)
TEFC	415	Δ	50	3.7	5.0	8.2	960	3.81	37.35	IE2	50	S1	1000	0.0256	83

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	46	31	25	18	17	15	
TWT Cold	s 10000	92	61	45	36	34	30	
Current	pu	1	2	3	4	5	5.5	6.1

Thermal Characteristics Chart



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

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