

PRODUCT INFORMATION PACKET

Model No: SCA0453A3113GAAD01

Catalog No: SCA0453A3113GAAD01

45kW, General Purpose Low Voltage IEC Motor, 3 phase, 6 Pole, 415V, B3, 50Hz, 92.7%, 280S Frame, TEFC
Cast Iron IE2 Efficiency Motors



Nameplate Specifications

Output HP	60 Hp	Output KW	45.0 kW
Frequency	50 Hz	Voltage	415 V
Current	80.8 A	Speed	986 rpm
Service Factor	1	Phase	3
Efficiency	92.7 %	Power Factor	0.84
Duty	S1	Insulation Class	F
Frame	280S	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6317
Opp Drive End Bearing Size	6317	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	B3	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1010 mm	Frame Length	499 mm
Shaft Diameter	75 mm	Shaft Extension	140 mm
Assembly/Box Mounting	SIDE		
Connection Drawing	8442000085	Outline Drawing	0228001212

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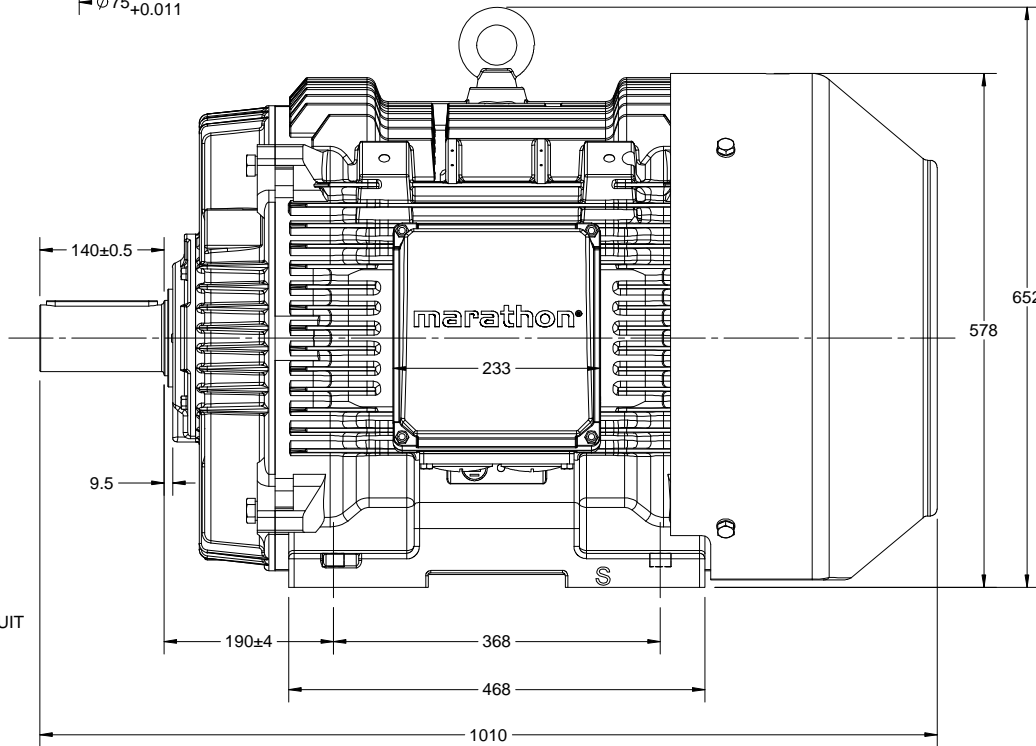
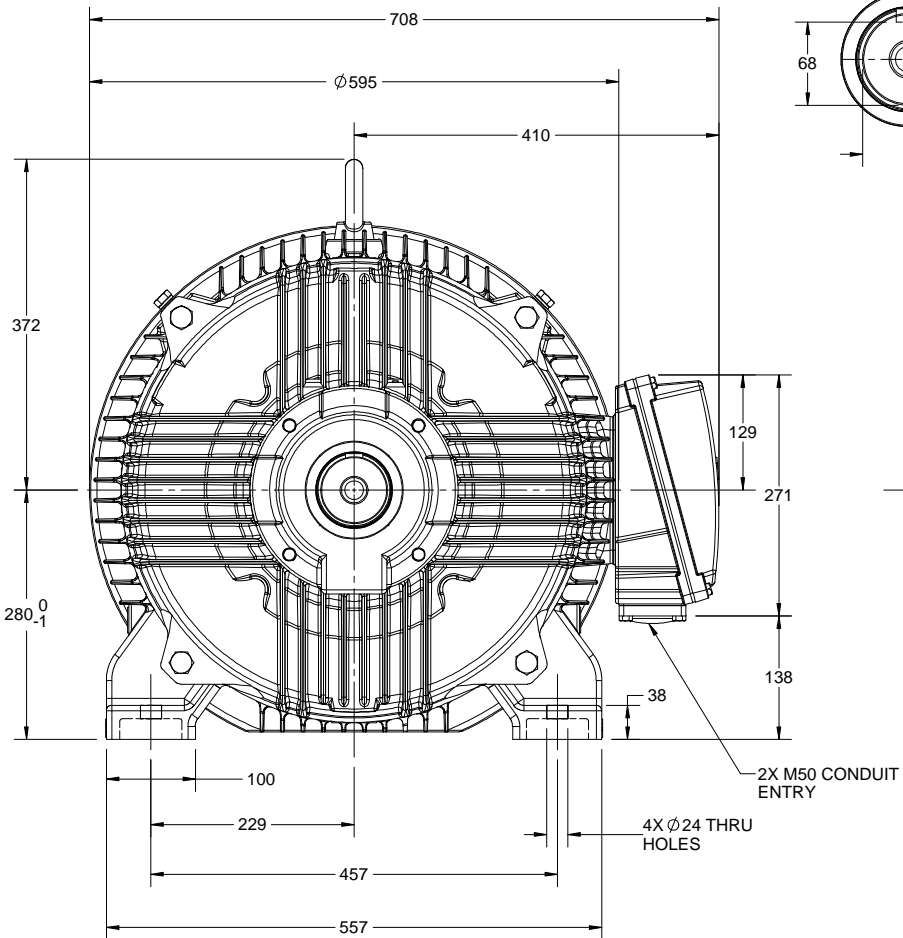
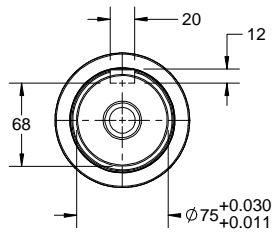
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DRAWING REVISION A	REVISION BY A. KEETHA	DATE 13/11/2018
ECO ECO-0153779	APPROVED BY JAY	DATE 13/11/2018
ECO DESCRIPTION NEW DRAWING RELEASE		
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DRAWN BY A. KEETHA
DATE 13/11/2018
APPROVED BY JAY
DATE 13/11/2018
REFERENCE

marathon
Motors

DESCRIPTION
OUTLINE
280S FRAME 4P&6P B3 MTG. MOTOR TYPE:SCA RHS TB

THIRD ANGLE
PROJECTION

MATERIAL
PROCESS/FINISH
SIZE
B
DRAWING NUMBER
0228001212
SHEET
1 OF 1

4

3

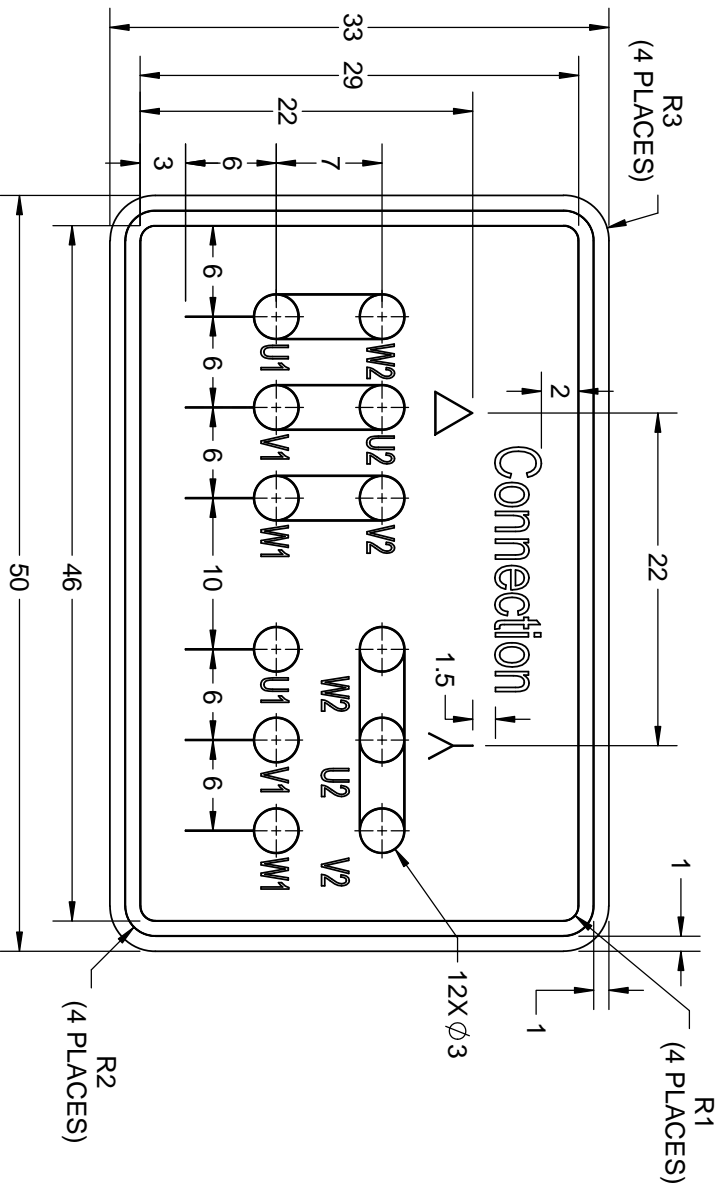
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DRAWING REVISION	REVISION BY	DATE
A	SN	13/01/2017
ECO-0116390	APPROVED BY SBD	DATE 13/01/2017
ECO DESCRIPTION NEW DRAWING RELEASE		

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

Model No. SCA0453A3113GAAD01

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 _L /I _N [pu]	T _L /T _N [pu]	T _δ /T _N [pu]	
									5/4FL	FL	3/4FL 1/2FL	FL	3/4FL	1/2FL				
415	Δ	50	45	60	80.8	986	433.4	IE2	-	92.7	92.7	93.3	0.84	0.79	0.68	5.8	2.2	2.6

Motor type	SCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	280S	Motor weight - approx.	609 kg
Duty	S1	Gross weight - approx.	644 kg
Voltage variation *	± 10%	Motor inertia	1.9034 kgm ²
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)	77 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	Accessory - 3	-
DE / NDE bearing	6317 C3 / 6317 C3	Terminal box position	RHS
Lubrication method	Regreaseable	Maximum cable size/conduit size	1R x 3C x 95mm ² /2 x M50 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	Auxiliary terminal box	Available on Request

I_L/I_N - Locked Rotor Current / Rated Current

T_L/T_N - Breakdown Torque / Rated Torque

T_δ/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	-	-	-



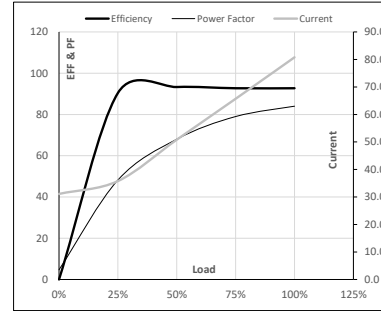
Model No. SCA0453A3113GAAD01

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	45	60	80.8	986	44.19	433.40	IE2	50	S1	1000	1.9034	609

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	31.1	35.8	50.8	65.7	80.8	
Torque	Nm	0.0	107.2	215.1	323.8	433.4	
Speed	r/min	1000	997	993	990	986	
Efficiency	%	0.0	90.4	93.3	92.7	92.7	
Power Factor	%	4.7	48.2	68.0	79.0	84.0	

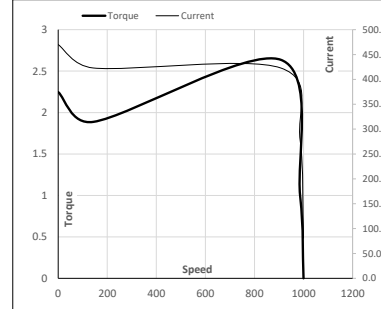
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	143	907	986	1000
Current	A	470.0	423.0	278.3	80.8	31.1
Torque	pu	2.2	1.9	2.6	1	0

Starting Characteristics Chart



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

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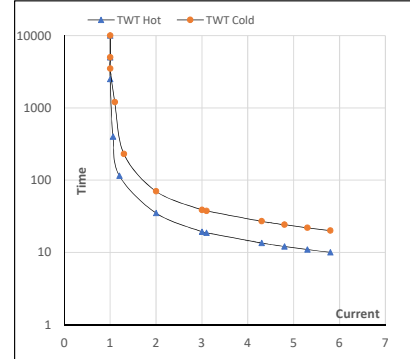
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Enclosure	U (V)	Δ / Y Conn	f (Hz)	P (kW)	P (hp)	I (A)	n (rpm)	T (kgm)	T (Nm)	IE Class	Amb (°C)	Duty	Elevation (m)	Inertia (kg·m ²)	Weight (kg)
TEFC	415	Δ	50	45	60	80.8	986	44.19	433.40	IE2	50	S1	1000	1.9034	609

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	35	19	17	13	11	10	
TWT Cold	s 10000	70	39	34	25	21	20	
Current	pu	1	2	3	4	4.5	5	5.8

Thermal Characteristics Chart



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

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