

# PRODUCT INFORMATION PACKET

Model No: TCA0752A3113GACD01

Catalog No: TCA0752A3113GACD01

75.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 1500 RPM, 415 V, 280S Frame, TEFC  
Cast Iron IE3 Efficiency Motors





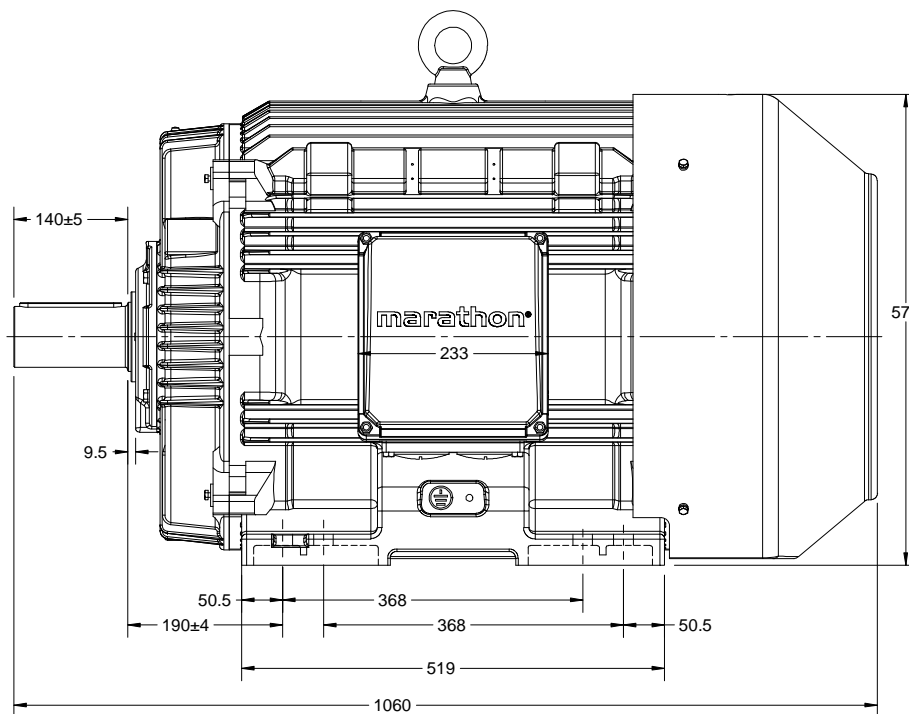
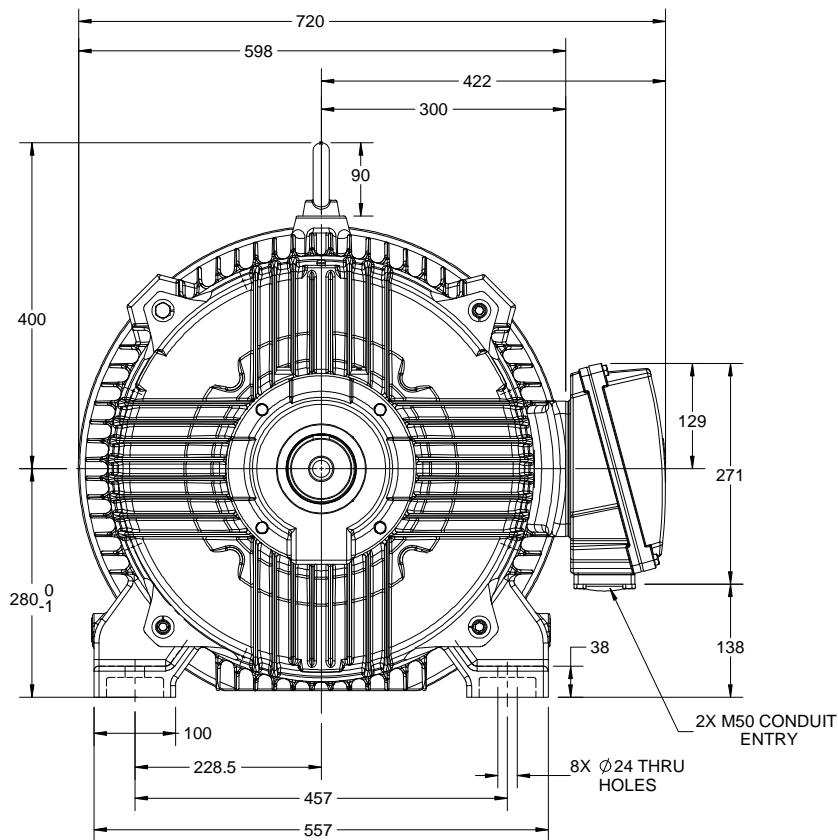
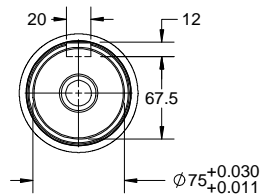
### Nameplate Specifications

Output HP	100 Hp	Output KW	75.0 kW
Frequency	50 Hz	Voltage	415 V
Current	126.3 A	Speed	1489 rpm
Service Factor	1	Phase	3
Efficiency	95 %	Power Factor	0.87
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	4	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	1060 mm	Frame Length	549 mm
Shaft Diameter	75 mm	Shaft Extension	140 mm
Assembly/Box Mounting	R Side		
Outline Drawing	0228001135	Connection Drawing	8442000085

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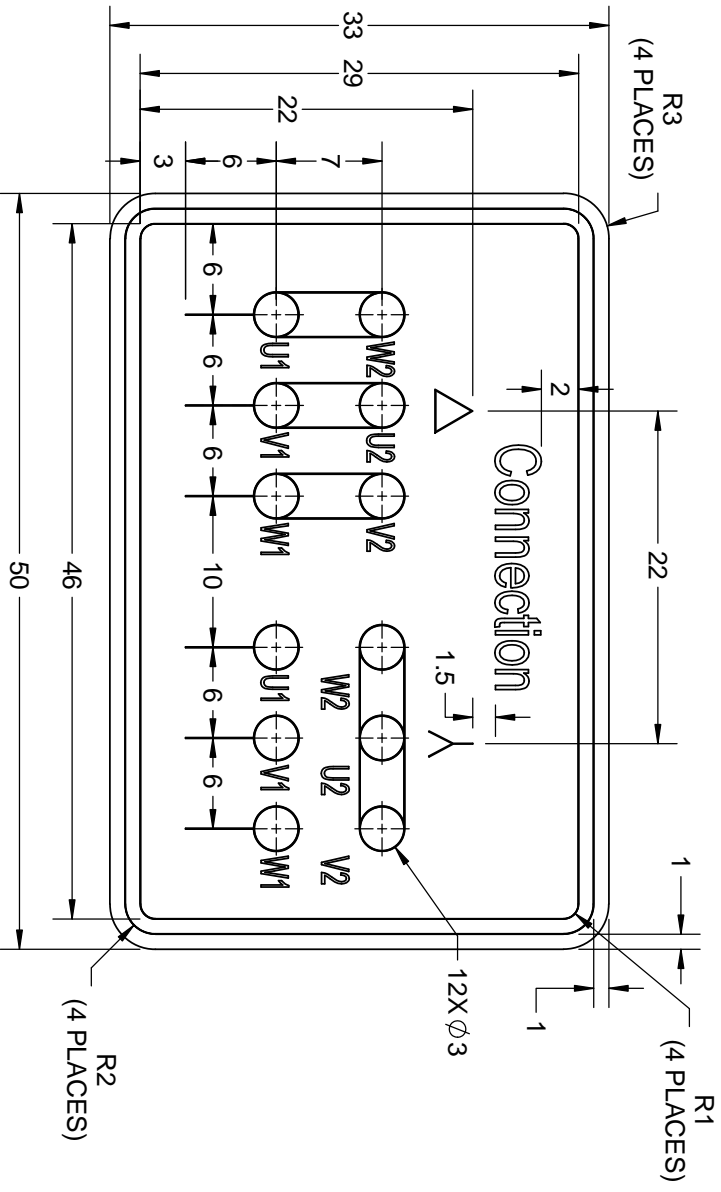
DRAWING REVISION B	REVISION BY VS	DATE 27/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 27/07/2018
ECO DESCRIPTION DRAWING UPDATED		
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DRAWN BY GSR	<b>marathon</b> Motors
DATE 09/01/2018	
APPROVED BY JAY	DESCRIPTION <b>OUTLINE</b> 280S FR-4P/6P-B3 TCA/QCA-RHS-TB
DATE 09/01/2018	MATERIAL
REFERENCE	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B
	DRAWING NUMBER <b>0228001135</b>
	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		 Regal Beloit America, Inc.	
DATE 16/12/2016			
APPROVED BY SBD		DESCRIPTION <b>CONN DIAGRAM-NAMEPLATE</b>	
DATE 16/12/2016			
REFERENCE	MATERIAL	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE A	DRAWING NUMBER 8442000085	SHEET 1 OF 1

Model No. TCA0752A3113GACD01

U (V)	Δ / Y Conn	f (Hz)	P		I			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]	[RPM]	5/4FL			FL	3/4FL	1/2FL	FL	3/4FL	1/2FL				
415	Δ	50	75	100	126.2	1489	478.12		IE3	-	95	95	94.1	0.87	0.83	0.75	6.5	2.4	2.8

Motor type	TCA	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.	715 kg
Duty	S1	Gross weight - approx.	750 kg
Voltage variation *	± 10%	Motor inertia	2.2302 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)	68 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	6317 C3 / 6317 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 95mm <sup>2</sup> /2 x M50 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	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	-	-	-

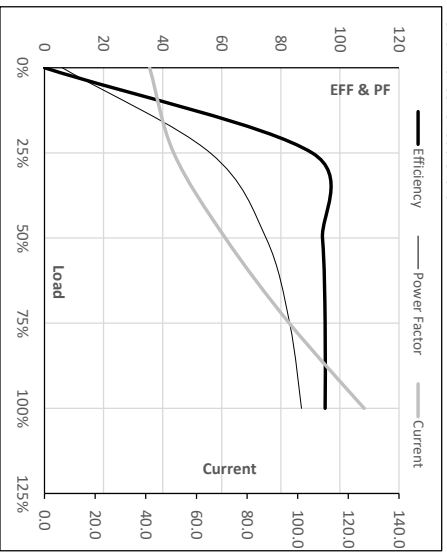
Model No. TCA0752A3113GACD01

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	$\Delta$	50	75	100	126.2	1489	48.75	478.12	IE3	50	S1	1000	2.2302	715

**Motor Load Data**

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	41.5	51.0	71.4	96.7	126.2
Torque	Nm	0.0	118.9	238.2	357.9	478.1
Speed	r/min	1500	1497	1495	1492	1489
Efficiency	%	0.0	90.6	94.1	95.0	95.0
Power Factor	%	6.0	56.1	75.0	83.0	87.0

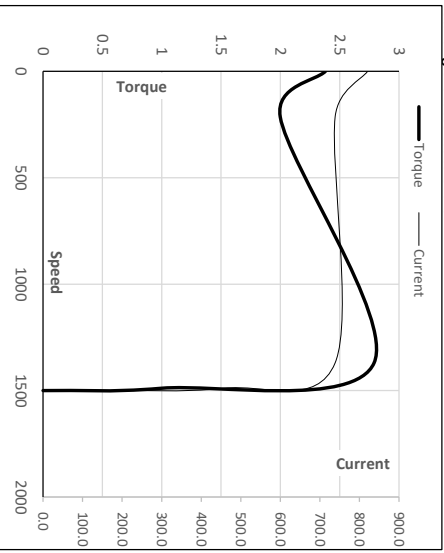
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	214	1370	1489	1500
Current	A	820.6	738.5	457.4	126.2	41.5
Torque	pu	2.4	2.0	2.8	1	0

**Starting Characteristics Chart**



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

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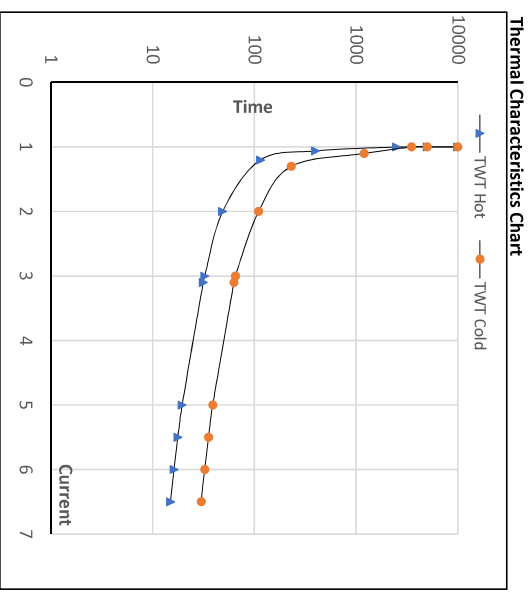


Model No. TCA0752A3113GACD01

Enclosure	U	$\Delta$ /Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
(V)	415	Conn	[Hz]	[kW]	[hp]	[A]	[rpm]	[kgm]	[Nm]	Class	[°C]	S1	[m]	[kg·m <sup>2</sup> ]	[kg]
TEFC		$\Delta$	50	75	100	126.2	1489	48.72	478.12	IE3	50	S1	1000	2.2302	715

**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	49	33	30	20	18	15
TWT Cold	s	10000	110	65	55	39	36	30
Current	pu	1	2	3	4	5	5.5	6.5



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

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