

PRODUCT INFORMATION PACKET

Model No: TCA2502A3113GACD01

Catalog No: TCA2502A3113GACD01

250.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 1500 RPM, 415 V, 355M Frame, TEFC
Cast Iron IE3 Efficiency Motors





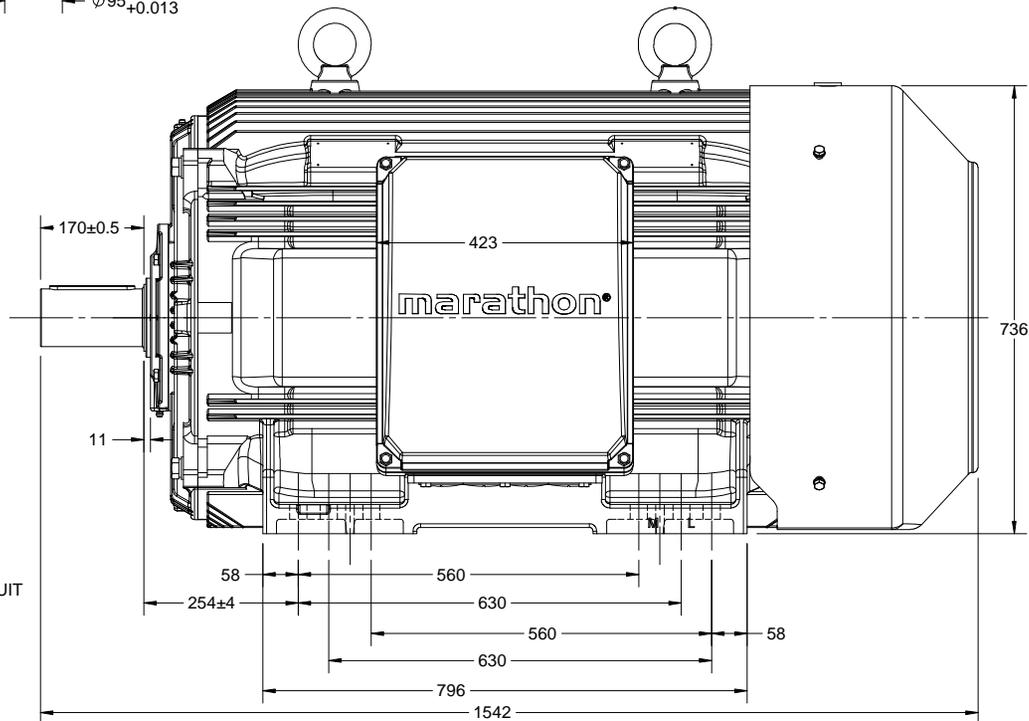
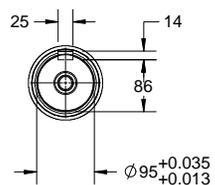
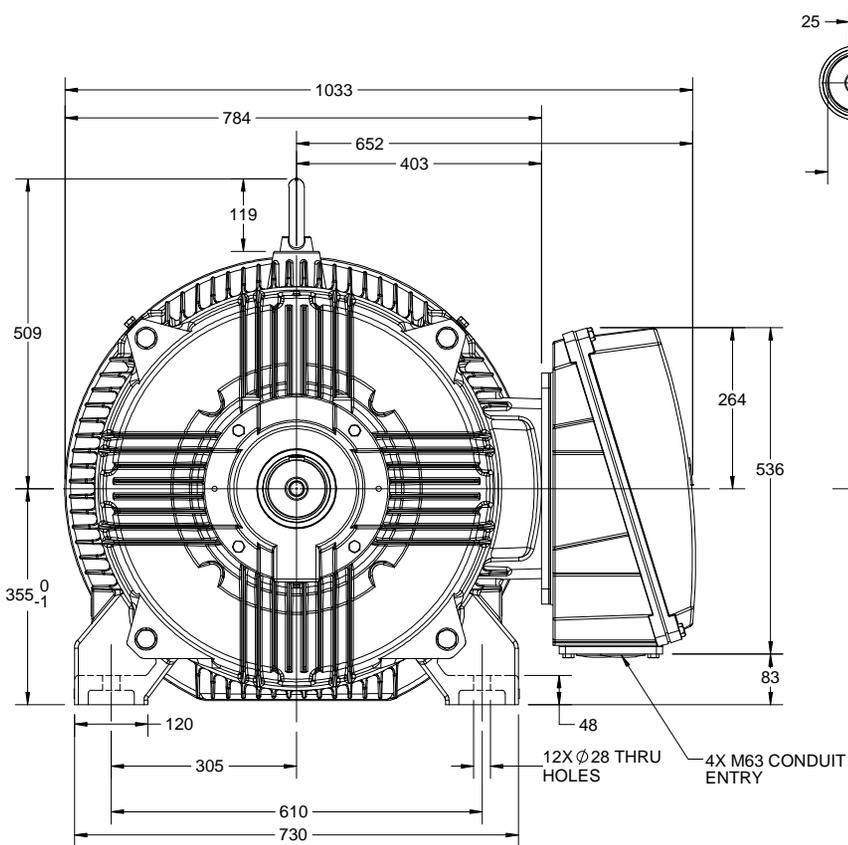
Nameplate Specifications

Output HP	335 Hp	Output KW	250.0 kW
Frequency	50 Hz	Voltage	415 V
Current	407.1 A	Speed	1490 rpm
Service Factor	1	Phase	3
Efficiency	96 %	Power Factor	0.89
Duty	S1	Insulation Class	F
Frame	355M	Enclosure	Totally Enclosed Fan Cooled
Ambient Temperature	50 °C	Drive End Bearing Size	6322
Opp Drive End Bearing Size	6322	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	1542 mm	Frame Length	1010 mm
Shaft Diameter	95 mm	Shaft Extension	170 mm
Assembly/Box Mounting	R Side		
Connection Drawing	8442000085	Outline Drawing	0235502296

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DRAWING REVISION B	REVISION BY VS	DATE 09/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 09/07/2018
ECO DESCRIPTION MODEL UPDATED		
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DRAWN BY SKM
DATE 11/08/2017
APPROVED BY JAY
DATE 11/08/2017
REFERENCE

marathon
Motors

DESCRIPTION
OUTLINE
355L FR-4-8P-B3 MTG. TCA/QCA-RHS TB

MATERIAL PROCESS/FINISH

THIRD ANGLE
PROJECTION

SIZE
B

DRAWING NUMBER
0235502296

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:
- PRESSURE-SENSITIVE ADHESIVE COATED PAPER ON THE BACK OF SELF-ADHESIVE.
 - AT THE END OF YELLOW, WORDS, SYMBOLS, LETTERS ARE BLACK, BORDER IS BLACK.
 - 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 CONN DIAGRAM-NAMEPLATE		MATERIAL	
DATE 16/12/2016	REFERENCE	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE A	DRAWING NUMBER 8442000085	SHEET 1 OF 1

Model No. TCA2502A3113GACD01

U (V)	Δ / Y Conn	f (Hz)	P		I			T (Nm)	IE Class	% EFF at __ load				PF at __ load			I _L /I _N [pu]	T _M /T _N [pu]	T _L /T _N [pu]
			[kW]	[hp]	[A]	[RPM]	5/4FL			FL	3/4FL	1/2FL	FL	3/4FL	1/2FL				
415	Δ	50	250	335	407.1	1490	1601.16		IE3	-	96	96	95.8	0.89	0.88	0.82	6.6	1.9	2.5

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM B3
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	355M	Motor weight - approx.	1742 kg
Duty	S1	Gross weight - approx.	1787 kg
Voltage variation *	± 10%	Motor inertia	8.4434 kgm ²
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.8 mm/s
Design	N	Noise level (1meter distance from motor)	82 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	6322 C3 / 6322 C3	Terminal box position	RHS
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 300mm ² /4 x M63 x 1.5
Type of grease	Shell Gadus S5 V100 or Equivalent	Auxiliary terminal box	NA

I_L/I_N - Locked Rotor Current / Rated Current

T_M/T_N - Breakdown Torque / Rated Torque

T_L/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	-	-	-

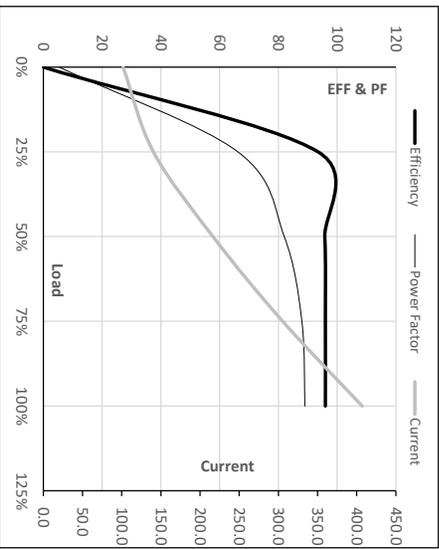
Model No. TCA2502A3113GACD01

Enclosure	U (V)	Δ /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 ²)	Weight (kg)
TFC	415	Δ	50	250	335	407.1	1490	163.27	1601.16	IE3	50	S1	1000	8.4434	1742

Motor Load Data

Load Point	NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	101.7	140.5	216.5	305.5	407.1
Torque	Nm	0.0	398.2	797.8	1198.7	1601.2
Speed	r/min	1500	1498	1495	1493	1490
Efficiency	%	0.0	93.5	95.8	96.0	96.0
Power Factor	%	5.4	66.2	82.0	88.0	89.0

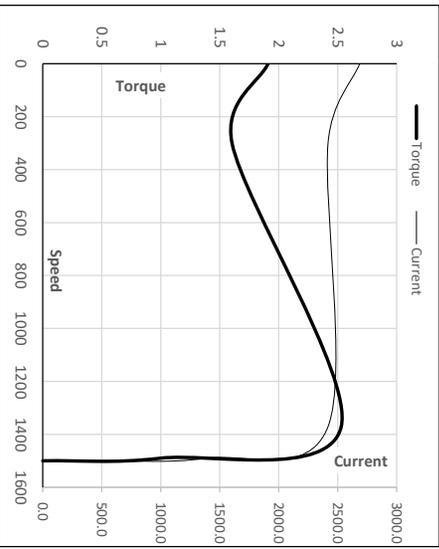
Performance vs Load Chart



Motor Speed Torque Data

Load Point	LR	P-Up	BD	Rated	NL	
Speed	r/min	0	300	1371	1490	1500
Current	A	2686.7	2418.1	1388.3	407.1	101.7
Torque	pu	1.9	1.6	2.5	1	0

Starting Characteristics Chart



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

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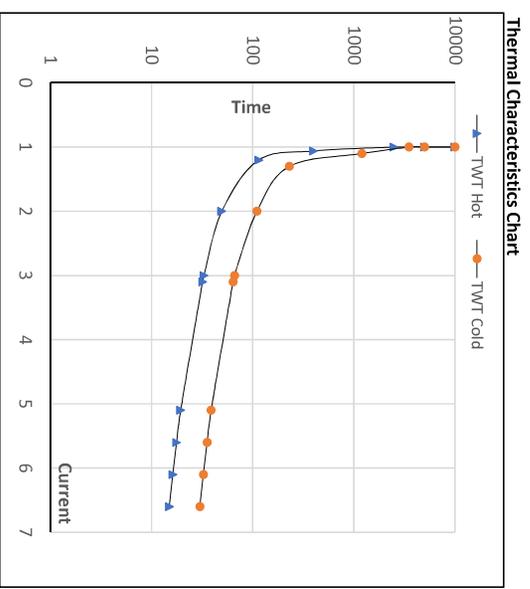


Model No. TCA2502A3113GACD01

Enclosure	U	Δ/Y	f	P	P	I	n	T	T	IE	Amb	Duty	Elevation	Inertia	Weight
(V)	415	Δ	50	[kW]	[hp]	[A]	[rpm]	[kgm]	[Nm]	Class	[°C]	S1	[m]	[kg·m ²]	[kg]
TEFC				250	335	407.1	1490	163.16	1601.16	IE3	50	S1	1000	8.4434	1742

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s	10000	50	33	30	19	18	15
TWT Cold	s	10000	110	66	60	39	37	30
Current	pu	1	2	3	4	5	5.5	6.6



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

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