

# PRODUCT INFORMATION PACKET

Model No: TCA3552A3133GACD01

Catalog No: TCA3552A3133GACD01

Cast Iron Motor, 475 HP, 3 Ph, 50 Hz, 415 V, 1500 RPM, 355L Frame, TEFC



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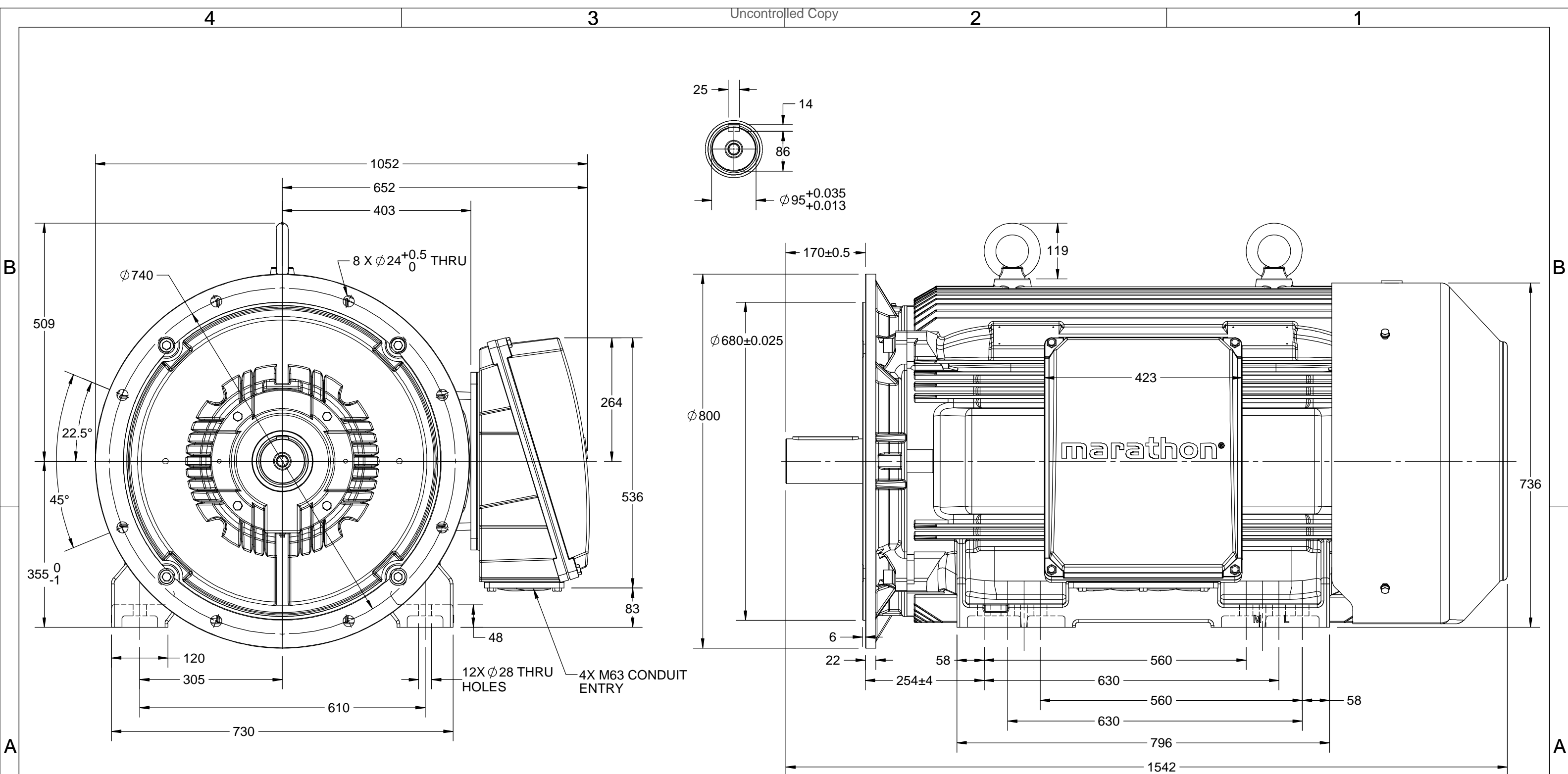
### Nameplate Specifications

Output HP	<b>475 Hp</b>	Output KW	<b>355.0 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>415 V</b>
Current	<b>571.6 A</b>	Speed	<b>1491 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>96 %</b>	Power Factor	<b>0.9</b>
Duty	<b>S1</b>	Insulation Class	<b>F</b>
Frame	<b>355L</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Thermal Protection	<b>No Protection</b>	Ambient Temperature	<b>50 °C</b>
Drive End Bearing Size	<b>6322</b>	Opp Drive End Bearing Size	<b>6322</b>
UL	<b>No</b>	CSA	<b>No</b>
CE	<b>Yes</b>	IP Code	<b>55</b>
Number of Speeds	<b>1</b>	Efficiency Class	<b>IE3</b>

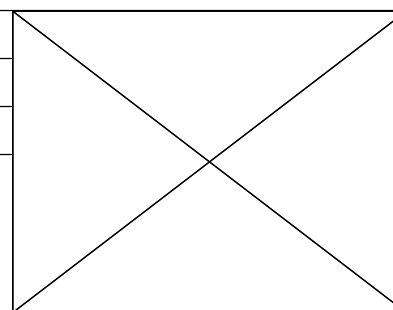
### Technical Specifications

Electrical Type	<b>Squirrel Cage</b>	Starting Method	<b>Direct On Line</b>
Poles	<b>4</b>	Rotation	<b>Bi-Directional</b>
Mounting	<b>B35</b>	Motor Orientation	<b>Horizontal</b>
Drive End Bearing	<b>C3</b>	Opp Drive End Bearing	<b>C3</b>
Frame Material	<b>Cast Iron</b>	Shaft Type	<b>Keyed</b>
Overall Length	<b>1542 mm</b>	Frame Length	<b>1010 mm</b>
Shaft Diameter	<b>95 mm</b>	Shaft Extension	<b>170 mm</b>
Assembly/Box Mounting	<b>R Side</b>		
Outline Drawing	<b>0235502333</b>	Connection Drawing	<b>8442000085</b>

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DRAWING REVISION B	REVISION BY VS	DATE 05/07/2018
ECO ECO-0148344	APPROVED BY SBD	DATE 05/07/2018
ECO DESCRIPTION <b>MODEL UPDATED</b>		
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DRAWN BY GSR	<b>marathon™</b> Motors	
DATE 15/011/2017		
APPROVED BY JAY	DESCRIPTION <b>OUTLINE</b>	
DATE 15/011/2017	355L FR-4~8P-B35 MTG. TCA/QCA-RHS TB	
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE B	DRAWING NUMBER 0235502333
		SHEET 1 OF 1

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

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

Model No. TCA3552A3133GACD01

U (V)	Δ / Y Conn	f [Hz]	P		I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load				PF at __ load			I <sub>A</sub> /I <sub>N</sub> [pu]	T <sub>A</sub> /T <sub>N</sub> [pu]	T <sub>R</sub> /T <sub>N</sub> [pu]
			[kW]	[hp]					5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
415	Δ	50	355	475	571.6	1491	2269.02	IE3	-	96.0	96.0	96.3	0.90	0.87	0.80	7.7	2.3	2.7

Motor type	TCA
Enclosure	TEFC
Frame Material	Cast Iron
Frame size	355L
Duty	S1
Voltage variation *	± 10%
Frequency variation *	± 5%
Combined variation *	10%
Design	N
Service factor	1.0
Insulation class	F
Ambient temperature	-20 to +50 °C
Temperature rise (by resistance)	70 [ Class B ] K
Altitude above sea level	1000 meter
Hazardous area classification	NA
Zone classification	NA
Gas group	NA
Temperature class	NA
Rotor type	Aluminum Die cast
Bearing type	Anti-friction ball bearing
DE / NDE bearing	6322 C3 / 6322 C3
Lubrication method	Regreasable
Type of grease	Shell Gadus S5 V100 or Equivalent

Degree of protection	IP 55
Mounting type	IM B35
Cooling method	IC 411
Motor weight - approx.	2060 kg
Gross weight - approx.	2105 kg
Motor inertia	11.3302 kgm <sup>2</sup>
Load inertia	Customer to Provide
Vibration level	2.8 mm/s
Noise level ( 1meter distance from motor)	82 dB(A)
No. of starts hot/cold/Equally spread	2/3/4
Starting method	DOL
Type of coupling	Direct
LR withstand time (hot/cold)	15/30 s
Direction of rotation	Bi-directional
Standard rotation	Clockwise form DE
Paint shade	RAL 5014
Accessories	
Accessory - 1	-
Accessory - 2	-
Accessory - 3	-
Terminal box position	RHS
Maximum cable size/conduit size	1R x 3C x 300mm <sup>2</sup> /4 x M63 x 1.5
Auxiliary terminal box	NA

I<sub>A</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

T<sub>R</sub>/T<sub>N</sub> - Breakdown Torque / Rated Torque

T<sub>A</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 combined 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	-	-	-



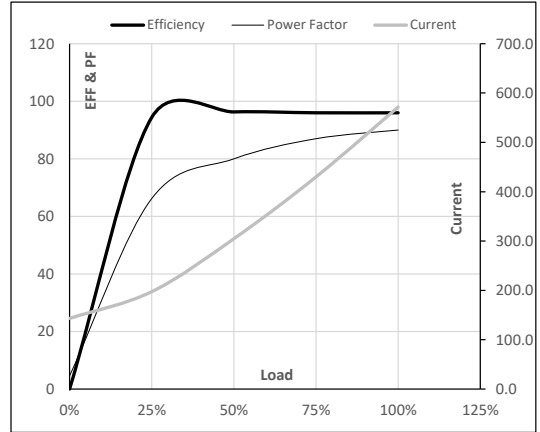
**Model No.** TCA3552A3133GACD01

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 <sup>2</sup> ]	Weight [kg]
TEFC	415	Δ	50	355	475	571.6	1491	231.38	2269.02	IE3	50	S1	1000	11.3302	2060

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	143.1	197.4	304.7	430.0	571.6	
Torque	Nm	0.0	564.6	1130.8	1698.9	2269.0	
Speed	r/min	1500	1498	1496	1493	1491	
Efficiency	%	0.0	94.4	96.3	96.0	96.0	
Power Factor	%	4.6	66.2	80.0	87.0	90.0	

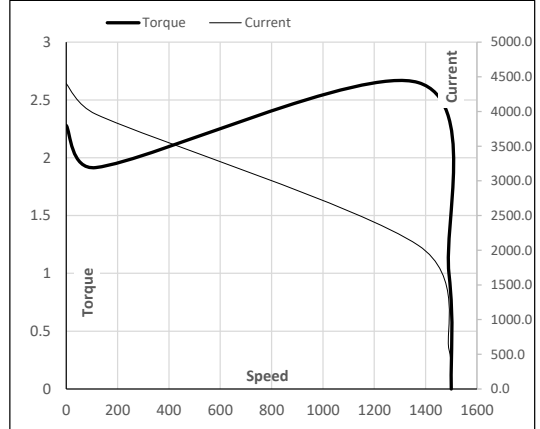
**Performance vs Load Chart**



**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	115	1372	1491	1500
Current	A	4401.6	3961.4	2070.3	571.6	143.1
Torque	pu	2.3	1.9	2.7	1	0

**Starting Characteristics Chart**



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

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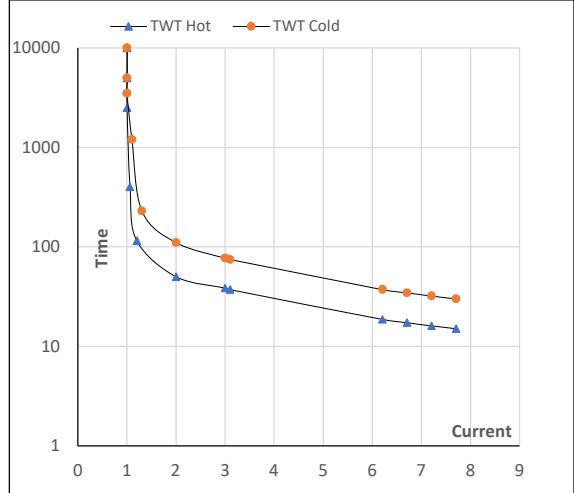
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Enclosure	U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	415	Δ	50	355	475	571.6	1491	231.38	2269.02	IE3	50	S1	1000	11.3302	2060

**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	50	39	30	26	22	15	
TWT Cold	s 10000	110	77	60	50	40	30	
Current	pu	1	2	3	4	5	6	7.7

**Thermal Characteristics Chart**



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

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