

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: TCA0902A3133GACD01

Catalog No: TCA0902A3133GACD01

Cast Iron Motor, 120 HP, 3 Ph, 50 Hz, 415 V, 1500 RPM, 280M Frame, TEFC



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RegalRexnord

Nameplate Specifications

Output HP	120 Hp	Output KW	90.0 kW
Frequency	50 Hz	Voltage	415 V
Current	151.2 A	Speed	1490 rpm
Service Factor	1	Phase	3
Efficiency	95.2 %	Power Factor	0.87
Duty	S1	Insulation Class	F
Frame	280M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Ambient Temperature	50 °C
Drive End Bearing Size	6317	Opp Drive End Bearing Size	6317
UL	No	CSA	No
CE	Yes	IP Code	55
Number of Speeds	1	Efficiency Class	IE3

Technical Specifications

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	4	Rotation	Bi-Directional
Mounting	B35	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1111 mm	Frame Length	600 mm
Shaft Diameter	75 mm	Shaft Extension	140 mm
Assembly/Box Mounting	R Side		
Outline Drawing	0228000973	Connection Drawing	8442000085

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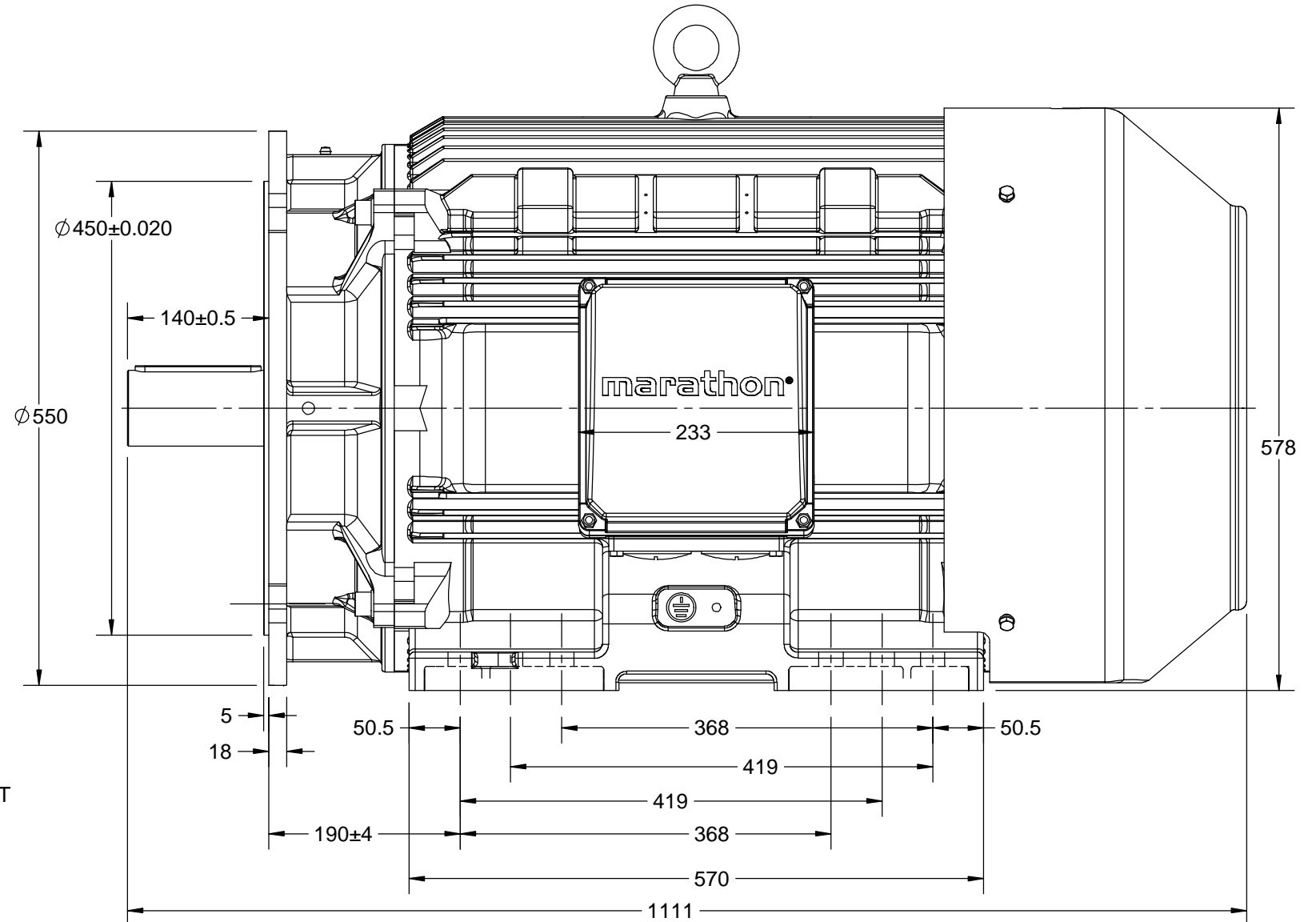
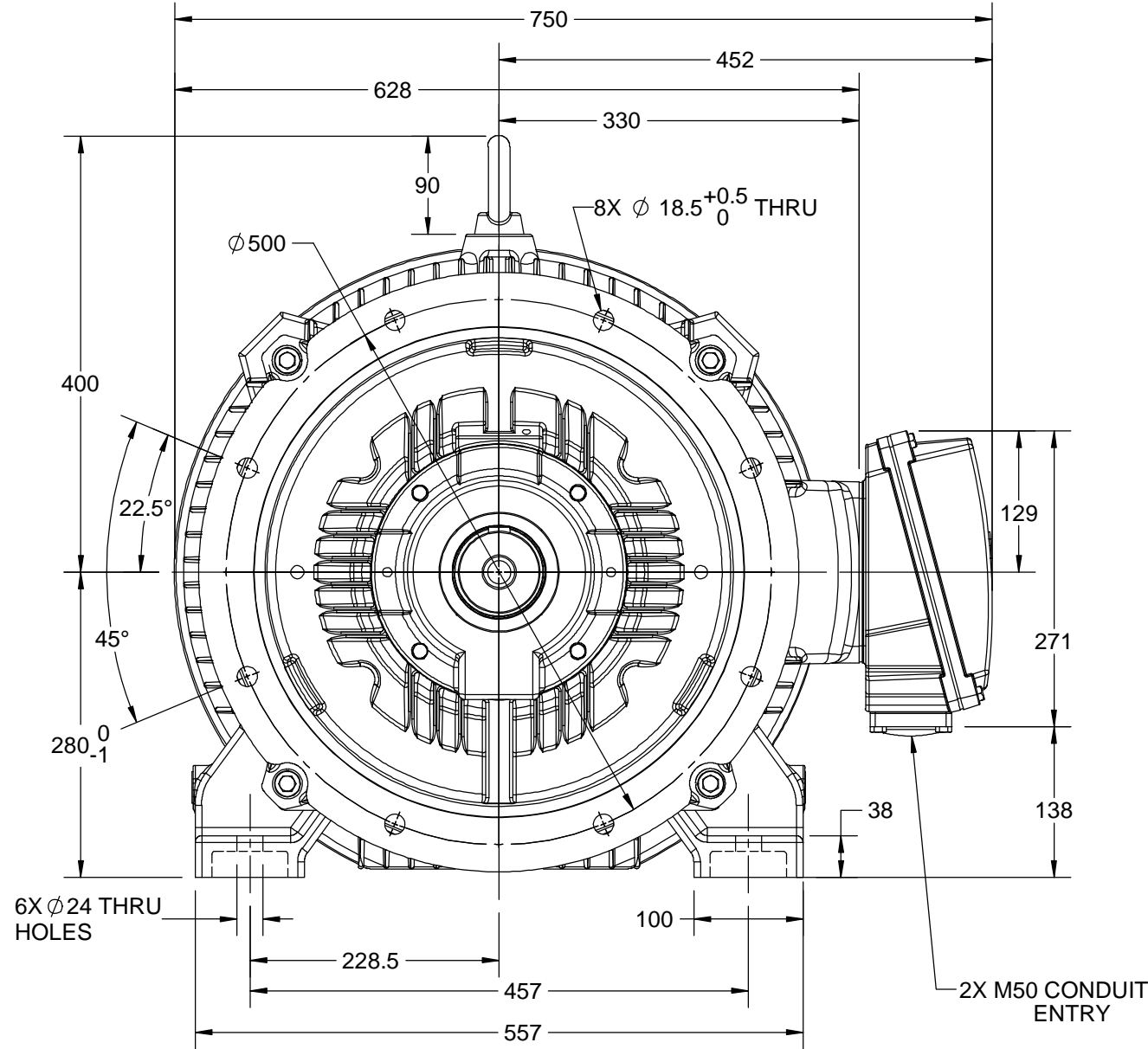
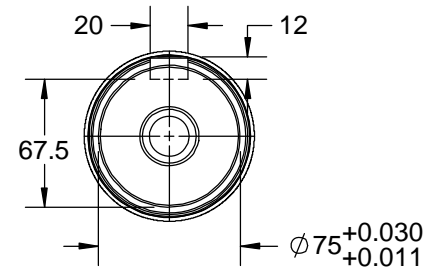
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DRAWN BY UDAY
DATE 17/08/2016
APPROVED BY SBD
DATE 17/08/2016
REFERENCE
THIRD ANGLE PROJECTION

marathon™ Motors	
DESCRIPTION OUTLINE	
280M FR-B35- 4~8P MTG. TYPE: TCA/QCA-RHS TB	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER 0228000973
SHEET 1 OF 1	

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DRAWING REVISION A	REVISION BY SN	DATE 13/01/2017
ECO 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 CONN DIAGRAM-NAMEPLATE
	DATE 16/12/2016		
	REFERENCE		
	MATERIAL		PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE A	DRAWING NUMBER 8442000085	SHEET 1 OF 1

Model No. TCA0902A3133GACD01

U (V)	Δ / Y Conn	f [Hz]	P		I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load				PF at __ load			I_A/I_N [pu]	T_A/T_N [pu]	T_R/T_N [pu]
			[kW]	[hp]					5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
415	Δ	50	90	120	151.2	1490	573.57	IE3	-	95.2	95.2	94.7	0.87	0.84	0.76	6.8	2.6	2.8

Motor type	TCA
Enclosure	TEFC
Frame Material	Cast Iron
Frame size	280M
Duty	S1
Voltage variation *	$\pm 10\%$
Frequency variation *	$\pm 5\%$
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	6317 C3 / 6317 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.	847 kg
Gross weight - approx.	882 kg
Motor inertia	2.7914 kgm ²
Load inertia	Customer to Provide
Vibration level	2.2 mm/s
Noise level (1meter distance from motor)	68 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 95mm ² /2 x M50 x 1.5
Auxiliary terminal box	NA

 I_A/I_N - Locked Rotor Current / Rated Current T_R/T_N - Breakdown Torque / Rated Torque T_A/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	-	-	-

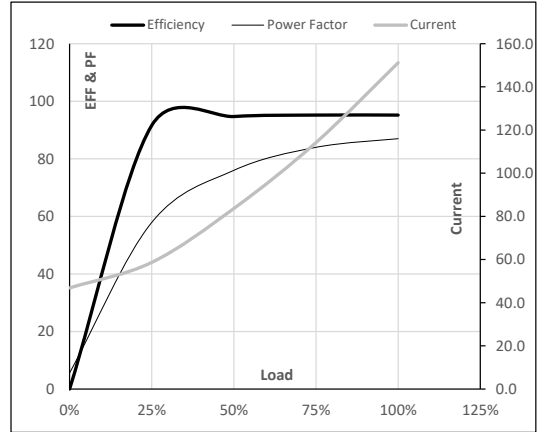
Model No. TCA0902A3133GACD01

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	90	120.0	151.2	1490	58.49	573.57	IE3	50	S1	1000	2.7914	847

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	46.9	58.7	83.7	114.2	151.2	
Torque	Nm	0.0	142.7	285.8	429.4	573.6	
Speed	r/min	1500	1498	1495	1493	1490	
Efficiency	%	0.0	91.6	94.7	95.2	95.2	
Power Factor	%	5.6	57.9	76.0	84.0	87.0	

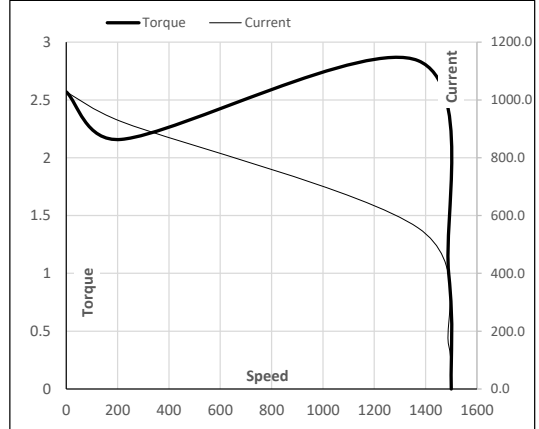
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	214	1371	1490	1500
Current	A	1028.0	925.2	557.3	151.2	46.9
Torque	pu	2.6	2.2	2.8	1	0

Starting Characteristics Chart



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

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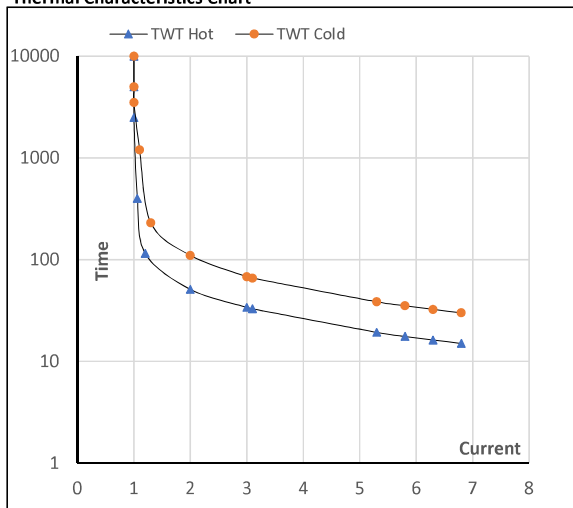
Model No. TCA0902A3133GACD01

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	90	120	151.2	1490	58.45	573.57	IE3	50	S1	1000	2.7914	847

Motor Speed Torque Data

Load	FL	I ₁	I ₂	I ₃	I ₄	I ₅	LR	
TWT Hot	s 10000	51	34	30	22	18	15	
TWT Cold	s 10000	110	68	60	40	37	30	
Current	pu	1	2	3	4	5	5.5	6.8

Thermal Characteristics Chart



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

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