PRODUCT INFORMATION PACKET

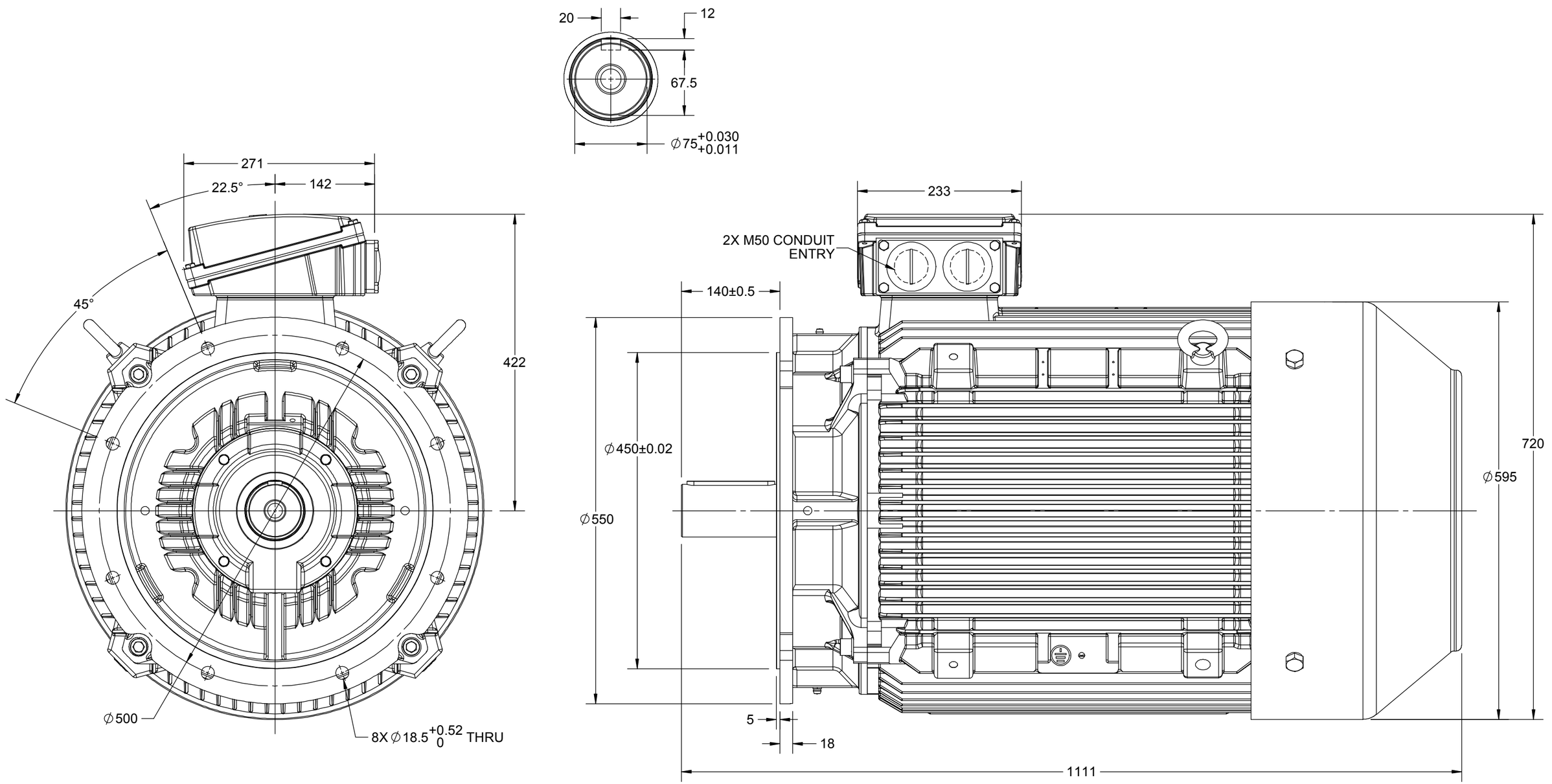
Model No: TCA0902AF121GAC010
Catalog No: TCA0902AF121GAC010
TerraMAX® Cast Iron Motor, 120 HP, 3 Ph, 50 Hz, 380 V, 1500 RPM, 280M Frame, TEFC

Nameplate Specifications

Output HP	120 Hp	Output KW	90.0 kW
Frequency	50 Hz	Voltage	380 V
Current	165.1 A	Speed	1489 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	40 °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

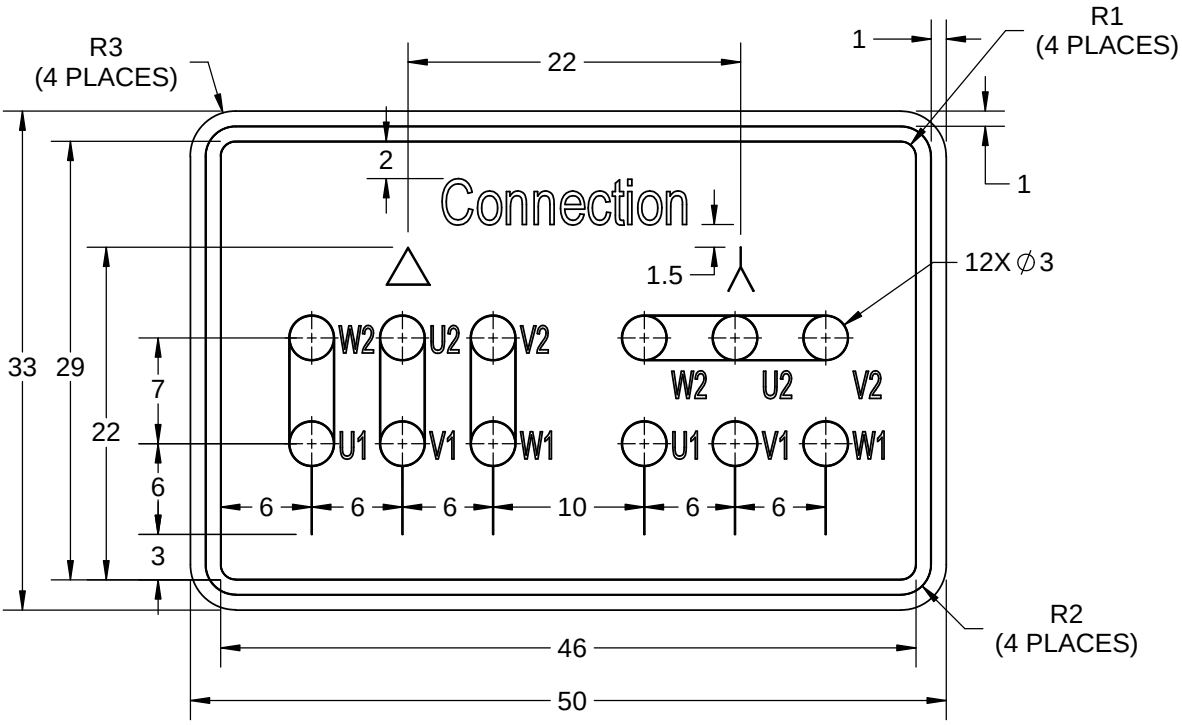
Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	4	Rotation	Bi-Directional
Mounting	B5	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1111 mm	Frame Length	600 mm
Shaft Diameter	75 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Top		
Connection Drawing	8442000085	Outline Drawing	0228000591



DRAWING REVISION C	REVISION BY LK	DATE 18/04/2019		DRAWN BY JOY	marathon™ Motors
ECO ECO-0165600	APPROVED BY SR	DATE 18/04/2019		DATE 18/07/2014	
ECO DESCRIPTION UPDATED MODEL AS PER NEW 3D STRUCTURE				APPROVED BY SBD	DESCRIPTION OUTLINE 280M-4P-B5 MTG. MOTOR TYPE: TCA
				DATE 18/07/2014	
				REFERENCE	MATERIAL / PROCESS/FINISH
				THIRD ANGLE PROJECTION	SIZE B / DRAWING NUMBER 0228000591 / SHEET 1 OF 1

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

GEOMENTRIC 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™ 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

marathon® Motors

TerraMAX®

Model No. TCA0902AF121GAC010

U (V)	Δ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load 5/4FL	FL	3/4FL	1/2FL	PF at __ load FL	3/4FL	1/2FL	I_A/I_N [pu]	T_A/T_N [pu]	T_K/T_N [pu]
380	Δ	50	90	120	165.1	1489	573.92	IE3	-	95.2	95.2	94.5	0.87	0.84	0.75	6.4	2.4	2.7

Motor type	TCA	
Enclosure	TEFC	
Frame Material	Cast Iron	
Frame size	280M	
Duty	S1	
Voltage variation *	± 10%	
Frequency variation *	± 5%	
Combined variation *	10%	
Design	N	
Service factor	1.0	
Insulation class	F	
Ambient temperature	-20 to +40	°C
Temperature rise (by resistance)	80 [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	
DE / NDE bearing	6317 C3 / 6317 C3	
Lubrication method	Regreasable	
Type of grease	CHEVRON SRI-2 or Equivalent	

Degree of protection	IP 55
Mounting type	IM B5
Cooling method	IC 411
Motor weight - approx.	775 kg
Gross weight - approx.	810 kg
Motor inertia	2.3841 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	PTC 150°C
Accessory - 2	-
Accessory - 3	-
Terminal box position	TOP
Maximum cable size/conduit size	1R x 3C x 95mm²/2 x M50 x 1.5
Auxiliary terminal box	NA

I_A/I_N - Locked Rotor Current / Rated Current

T_A/T_N - Locked Rotor Torque / Rated Torque

T_K/T_N - Breakdown 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
	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30

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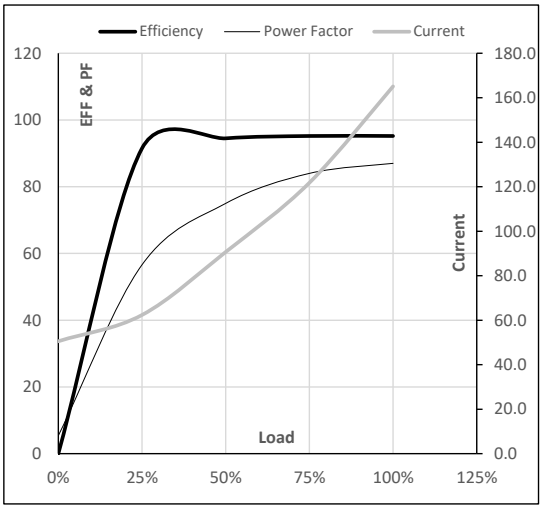
Model No. TCA0902AF121GAC010

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	380	Δ	50	90	120.0	165.1	1489	58.52	573.92	IE3	40	S1	1000	2.3841	775

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	50.5	62.3	90.7	121.8	165.1	
Torque	Nm	0.0	142.7	285.9	429.6	573.9	
Speed	r/min	1500	1497	1495	1492	1489	
Efficiency	%	0.0	91.5	94.5	95.2	95.2	
Power Factor	%	5.4	56.6	75.0	84.0	87.0	

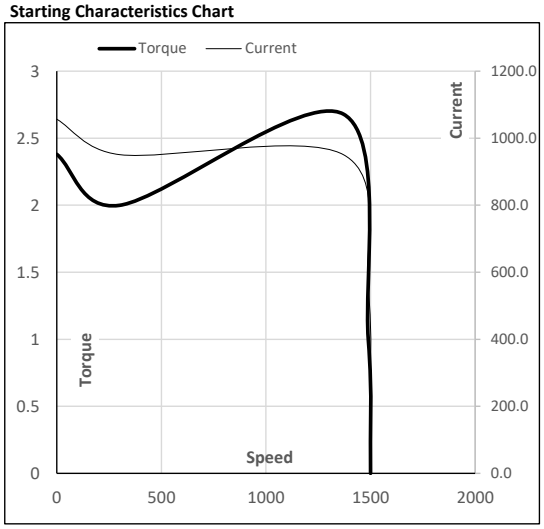
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	300	1370	1489	1500
Current	A	1056.6	951.0	546.7	165.1	50.5
Torque	pu	2.4	2.0	2.7	1	0

Starting Characteristics Chart



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

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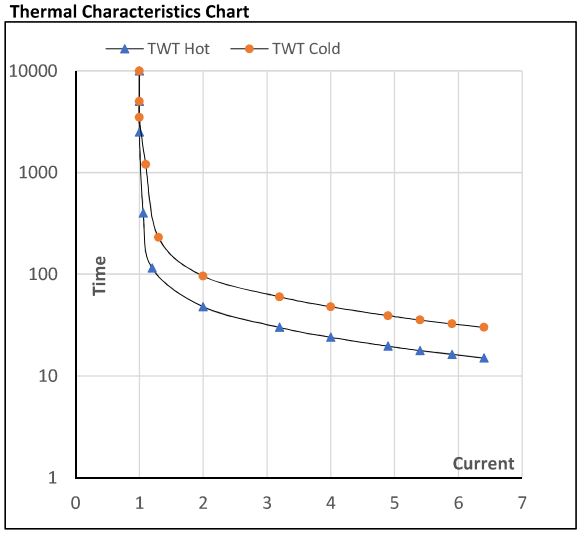
Model No. TCA0902AF121GAC010

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	380	Δ	50	90	120.0	165.1	1489	58.52	573.92	IE3	40	S1	1000	2.3841	775

Motor Speed Torque Data

Load		FL	I_1	I_2	I_3	I_4	I_5	LR
TWT Hot	s	10000	48	33	24	18	16	15
TWT Cold	s	10000	96	70	48	38	34	30
Current	pu	1	2	3	4	5	5.5	6.4

Thermal Characteristics Chart



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