PRODUCT INFORMATION PACKET

Model No: TCA0453A1121GAC010
Catalog No: TCA0453A1121GAC010
TerraMAX® Cast Iron Motor, 60 HP, 3 Ph, 50 Hz, 400 V, 1000 RPM, 280S Frame, TEFC

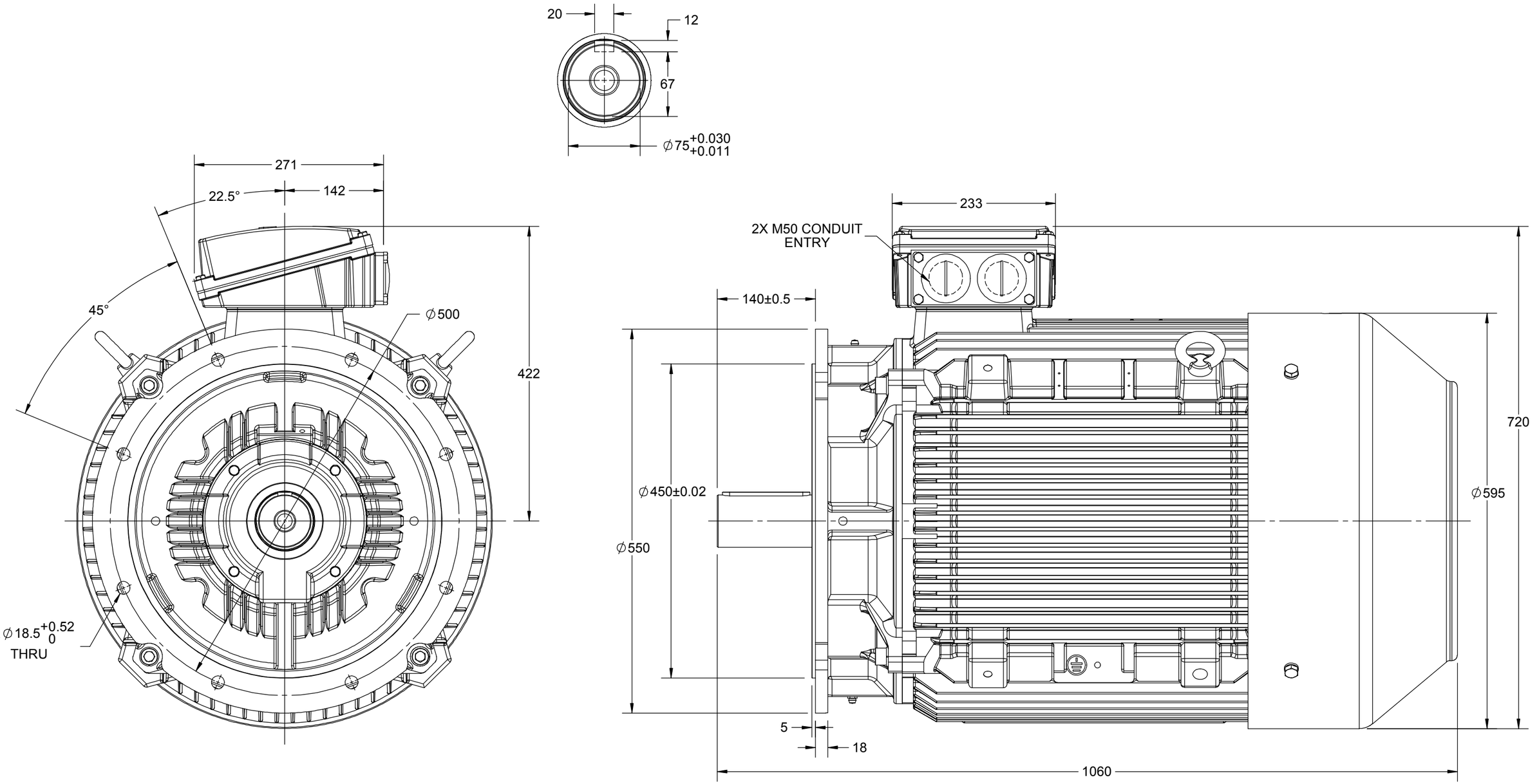
marathon®

Nameplate Specifications

Phase	3	Output HP	60 Hp
Output KW	45.0 kW	Voltage	400 V
Speed	989 r/min	Service Factor	1
Frame	280S	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Efficiency	93.7 %
Ambient Temperature	40 °C	Frequency	50 Hz
Current	85.6 A	Power Factor	0.81
Duty	S1	Insulation Class	F
Drive End Bearing Size	6317	Opp Drive End Bearing Size	6317
UL	No	CSA	No
CE	Yes	IP Code	55
Efficiency Class	IE3		

Technical Specifications

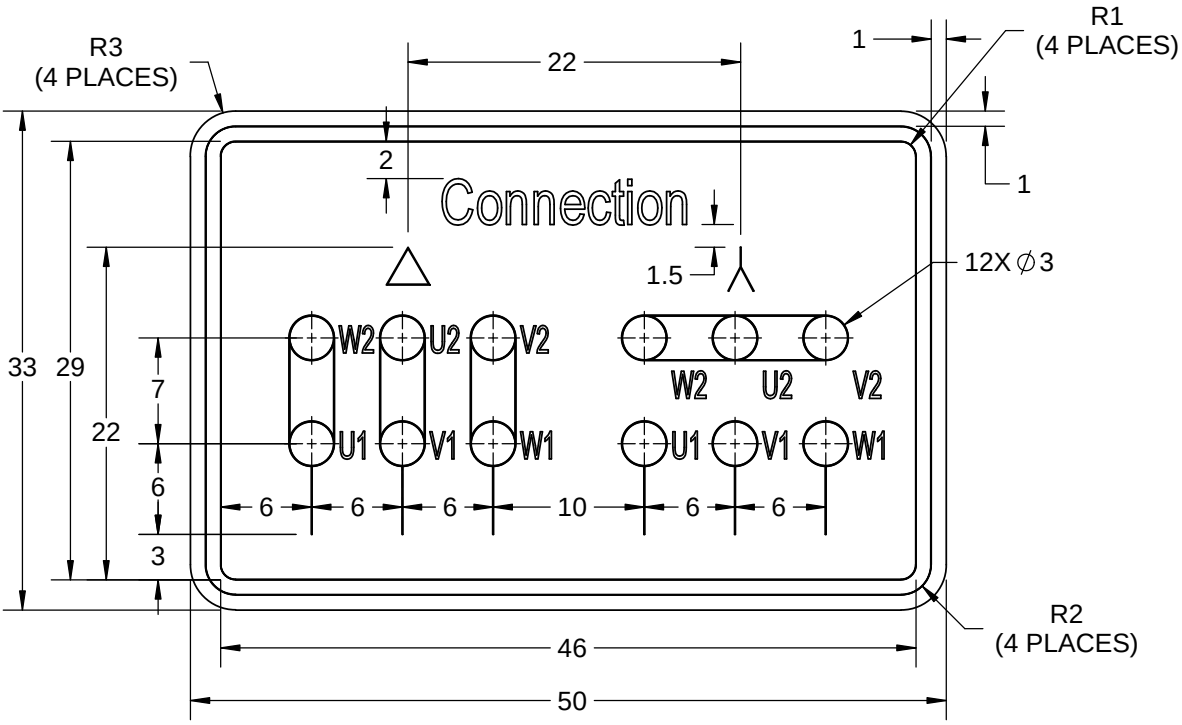
Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	6	Rotation	Bi-Directional
Mounting	B5	Motor Orientation	Horizontal
Drive End Bearing	C3	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1060 mm	Frame Length	549 mm
Shaft Diameter	75 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Top		
Outline Drawing	0228000659	Connection Drawing	8442000085



DRAWING REVISION C	REVISION BY LK	DATE 23/04/2019		DRAWN BY MR	marathon™ Motors
ECO ECO-0165600	APPROVED BY SR	DATE 23/04/2019		DATE 17/04/2015	
ECO DESCRIPTION UPDATED MODEL AS PER NEW 3D STRUCTURE				APPROVED BY SBD	DESCRIPTION OUTLINE 280-S FR-B5 MTG. MOTOR TYPE: TCA
				DATE 17/04/2015	
				REFERENCE	MATERIAL / PROCESS/FINISH
				THIRD ANGLE PROJECTION	SIZE B / DRAWING NUMBER 0228000659 / 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

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TerraMAX®

Model No. TCA0453A1121GAC010

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]
400	Δ	50	45	60	85.6	989	432.13	IE3	-	93.7	93.7	92.9	0.81	0.75	0.63	6.1	1.9	2.6

Motor type	TCA	
Enclosure	TEFC	
Frame Material	Cast Iron	
Frame size	280S	
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.	616	kg
Gross weight - approx.	651	kg
Motor inertia	2.2380	kgm^2
Load inertia	Customer to Provide	
Vibration level	2.2	mm/s
Noise level (1meter distance from motor)	66	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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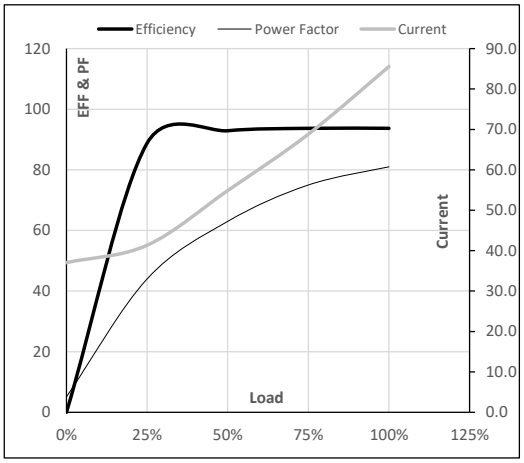
Model No. TCA0453A1121GAC010

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	400	Δ	50	45	60.0	85.6	989	44.06	432.13	IE3	40	S1	1000	2.238	616

Motor Load Data

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	37.0	41.3	54.9	68.8	85.6	
Torque	Nm	0.0	107.1	214.8	323.1	432.1	
Speed	r/min	1000	997	995	992	989	
Efficiency	%	0.0	88.8	92.9	93.7	93.7	
Power Factor	%	5.1	44.0	63.0	75.0	81.0	

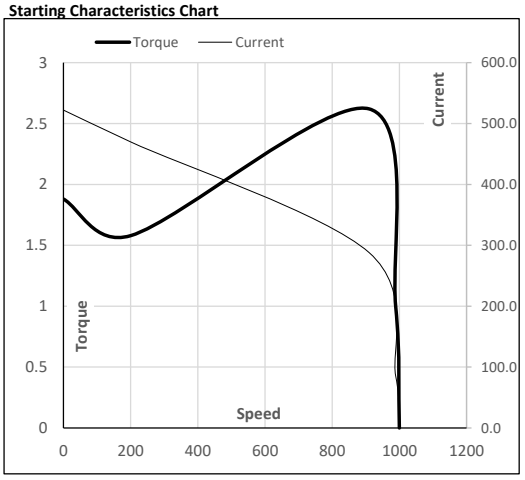
Performance vs Load Chart



Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	200	910	989	1000
Current	A	522.0	469.8	288.1	85.6	37.0
Torque	pu	1.9	1.6	2.6	1	0

Starting Characteristics Chart



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

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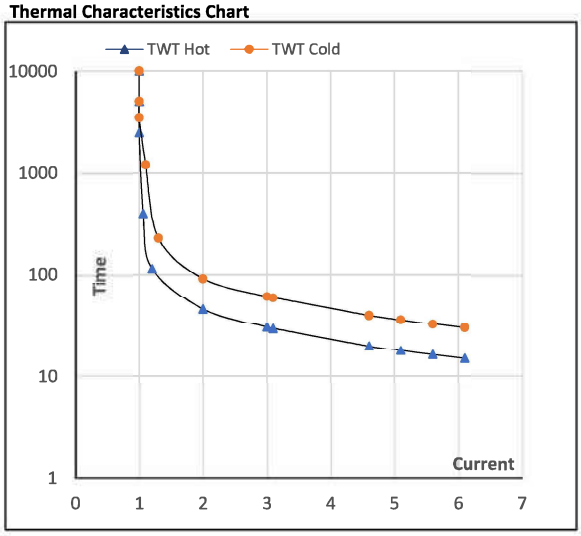
Model No. TCA0453A1121GAC010

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	400	Δ	50	45	60.0	**85.6**	989	44.06	432.13	IE3	40	S1	1000	2.238	616

Motor Speed Torque Data

Load		FL	I_1	I_2	I_3	I_4	I_5	LR
TWT Hot	s	10000	46	31	23	18	17	15
TWT Cold	s	10000	92	59	44	37	34	30
Current	pu	1	2	3	4	5	5.5	6.1

Thermal Characteristics Chart



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