# **PRODUCT INFORMATION PACKET**

Model No: TCA3551AF141GAC010 Catalog No: TCA3551AF141GAC010 TerraMAX® Cast Iron Motor, 475 HP, 3 Ph, 50 Hz, 380 V, 3000 RPM, 355L Frame, TEFC



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Product Information Packet: Model No: TCA3551AF141GAC010, Catalog No:TCA3551AF141GAC010 TerraMAX® Cast Iron Motor, 475 HP, 3 Ph, 50 Hz, 380 V, 3000 RPM, 355L Frame, TEFC

# marathon®

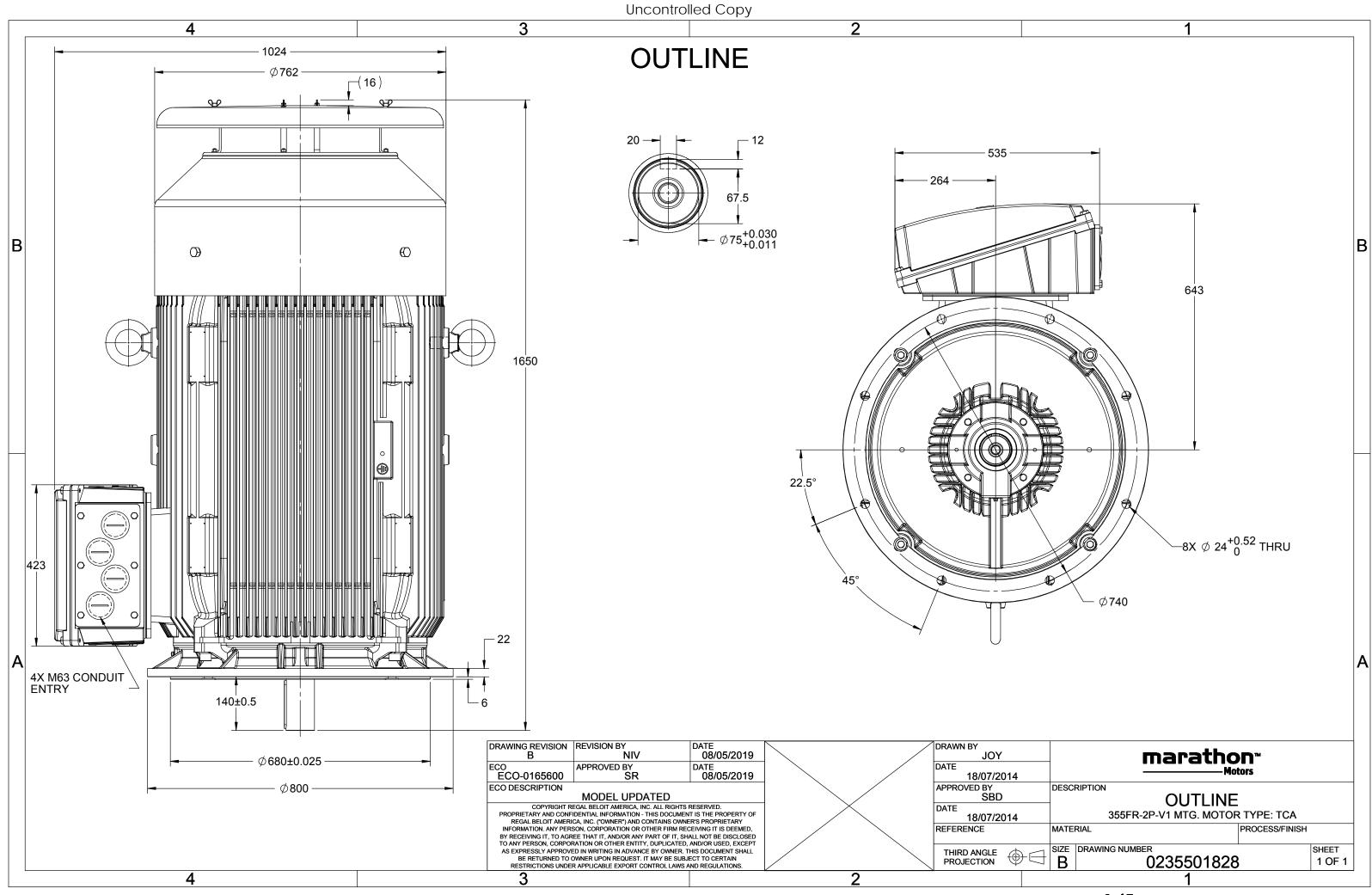
## Nameplate Specifications

Output HP	475 Hp	Output KW	355.0 kW			
Frequency	50 Hz	Voltage	380 V			
Current	632.6 A	Speed	2987 rpm			
Service Factor	1	Phase	3			
Efficiency	95.8 %	Power Factor	0.89			
Duty	S1	Insulation Class	F			
Frame	355L	Enclosure	Totally Enclosed Fan Cooled			
Frame	300L	LICIOSUIE	Totally Eliciosed Fall Cooled			
Thermal Protection	No Protection	Ambient Temperature	40 °C			
Thermal Protection	No Protection	Ambient Temperature	40 °C			
Thermal Protection Drive End Bearing Size	No Protection 6317	Ambient Temperature Opp Drive End Bearing Size	40 °C 6317			

# **Technical Specifications**

Electrical Type	Squirrel Cage	Starting Method	Direct On Line
Poles	2	Rotation	Bi-Directional
Mounting	V1	Motor Orientation	Shaftdown
Drive End Bearing	СЗ	Opp Drive End Bearing	C3
Frame Material	Cast Iron	Shaft Type	Keyed
Overall Length	1647 mm	Frame Length	1010 mm
Shaft Diameter	75 mm	Shaft Extension	140 mm
Assembly/Box Mounting	Тор		
Outline Drawing	0235501828	Connection Drawing	8442000085

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# **TerraMAX**<sup>®</sup>

#### Model No. TCA3551AF141GAC010

380     A     50     355     475     632.6     2987     1132.5     IE3     -     95.8     95.8     95     0.89     0.86     0.79     8.6     2.8     4       Motor type     TCA     Degree of protection     IP 55     III 1     <	U Δ / Υ	f	Р	Р	I	n	Т	IE		% EFF a	t load	ł	PF	at lo	bad	I <sub>A</sub> /I <sub>N</sub>	$T_A/T_N$	$T_{\rm K}/T_{\rm N}$
Motor type   TCA   Degree of protection   IP 55     Enclosure   TEFC   Mounting type   IM V1     Frame Material   Cast Iron   Cooling method   IC 411     Frame Material   Cast Iron   Cooling method   IC 411     Frame Material   Cast Iron   Cooling method   IC 411     Frame Size   355L   Motor weight - approx.   2076     Duty   S1   Gross weight - approx.   2121     Voltage variation *   ± 10%   Motor inertia   5.7956   kgg     Frequency variation *   ± 5%   Load inertia   Customer to Provide     Combined variation *   10%   Vibration level   2.8   mm     Design   N   Nose level (1meter distance from motor)   90   dBi     Insulation class   F   Starting method   DOL   Type of coupling   Direct     Insulation class   F   Direct to foration   Bi-directional   Endertonal     Altitude above sea level   1000   meter   Direct to rotation   Endertonal     Zone classification   NA   Accessory - 1   PTC 150°C	(V) Conn	[Hz]	[kW]	[hp	] [A]	[RPM]	[Nm]	Class	5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL	[pu]	[pu]	[pu]
Index typeTEFCMounting typeIM CFrame MaterialCast IronCooling methodIC 411Frame MaterialCast IronCooling methodIC 411Frame size355LMotor weight - approx.2076DutyS1Gross weight - approx.2121Voltage variation *± 10%Motor inertia5.7956kgFrequency variation *± 5%Load inertiaCustomer to ProvideCombined variation *10%Noise level (1meter distance from motor)90dBService factor1.0No. of starts hot/cold/Equally spread2/3/4dBInsulation classFStarting methodDOLdBAmbient temperature-20 to +40°CType of couplingDirectdBAditude above sea level1000meterDirection of rotationBi-directionaldBHazardous area classificationNAStandard rotationClockwise form DEdCZone classificationNAAccessoriesAccessoriesdCdCTemperature classNAAccessory - 2-dCRotor typeAluminum Die castAccessory - 3-dCdCDE / NDE bearing6317 C3 / 6317 C3Terminal box positionTOPdC	380 Δ	50	355	47	5 632.6	2987	1132.5	IE3	-	95.8	95.8	95	0.89	0.86	0.79	8.6	2.8	4
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DE / NDE bearing 6317 C3 / 6317 C3 Terminal box position TOP	Rotor type	Aluminum Die cast						Accessory - 2						-				
	Bearing type				Anti-frictio	on ball				Acc	essory -	3				-		
Lubrication mathed Regressable Maximum cable size (conduit size 1P x 2C x 200mm <sup>2</sup> /4 x M62 x 1 5	DE / NDE bea	ring			6317 C3/6	317 C3			Ter	minal b	ox posit	ion						
Lubrication method regreasable Maximum cable size/conduit size IK X SC X Southin /4 X MoS X 1.5	Lubrication m	brication method Regreasable					Ma	Maximum cable size/conduit size 1R x					x 3C x 300mm²/4 x M63 x 1.5					
Type of grease CHEVRON SRI-2 or Equivalent Auxiliary terminal box NA	Type of greas	e		CHE	/RON SRI-2 (	or Equiva	lent		Aux	kiliary te	erminal	хоо				NA		

 $I_{\text{A}}/I_{\text{N}}$  - Locked Rotor Current / Rated Current

 $T_{\rm K}/T_{\rm N}$  - Breakdown Torque / Rated Torque

 $\rm T_A/\rm T_N$  - 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. Aus/Nz Brazil India Global IEC Efficiency Europe China GB 18613-2012 Grade 2 -IEC: 60034-30 Standards --\_

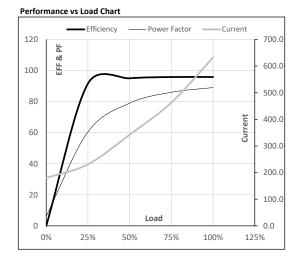




Model No. TCA3551AF141GAC010

Enclosure	U	$\Delta / Y$	f	Р	Р	I	n	Т	Т	IE	Amb	Duty	Elevation	Inertia	Weight
	(V)	Conn	[Hz]	[kW]	[hp]	[A]	[RPM]	[kgm]	[Nm]	Class	[°C]		[m]	[kg-m <sup>2</sup> ]	[kg]
TEFC	380	Δ	50	355	475.0	632.6	2987	115.48	1132.50	IE3	40	S1	1000	5.7956	2076

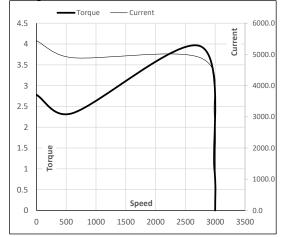
Motor Load Data												
Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL					
Current	А	180.1	230.9	342.1	462.9	632.6						
Torque	Nm	0.0	282.2	565.0	848.4	1132.5						
Speed	r/min	3000	2997	2993	2990	2987						
Efficiency	%	0.0	91.6	95.0	95.8	95.8						
Power Factor	%	6.2	60.5	79.0	86.0	89.0						



### Motor Speed Torque Data

Load Point		LR	P-Up	BD	Rated	NL	
Speed	r/min	0	600	2748	2987	3000	
Current	А	5440.4	4896.3	3023.2	632.6	180.1	
Torque	pu	2.8	2.3	4.0	1	0	

### Starting Characteristics Chart



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

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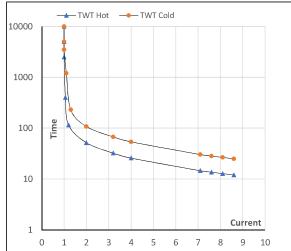
Model No. TCA3551AF141GAC010

Enclosure	U	$\Delta / Y$	f	Р	Р	I	n	Т	Т	IE	Amb	Duty	Elevation	Inertia	Weight
	(∨)	Conn	[Hz]	[kW]	[hp]	[A]	[rpm]	[kgm]	[Nm]	Class	[°C]		[m]	[kg-m <sup>2</sup> ]	[kg]
TEFC	380	Δ	50	355	475.0	632.6	2987	115.48	1132.50	IE3	40	S1	1000	5.7956	2076

## Motor Speed Torque Data

Motor Speed Torque Data												
Load		FL	$I_1$	l <sub>2</sub>	l <sub>3</sub>	$I_4$	l <sub>5</sub>	LR				
TWT Hot	S	10000	52	43	26	23	20	12				
TWT Cold	s	10000	107	75	54	50	45	25				
Current	pu	1	2	3	4	5	5.5	8.6				

Thermal Characteristics Chart



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

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