

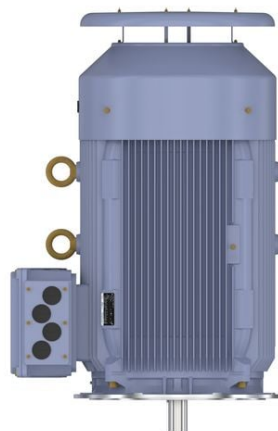
# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: TCA3552AF141GAC010

Catalog No: TCA3552AF141GAC010

TerraMAX® Cast Iron Motor, 475 HP, 3 Ph, 50 Hz, 380 V, 1500 RPM, 355L Frame, TEFC



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**RegalRexnord**

### Nameplate Specifications

Output HP	<b>475 Hp</b>	Output KW	<b>355.0 kW</b>
Frequency	<b>50 Hz</b>	Voltage	<b>380 V</b>
Current	<b>624.3 A</b>	Speed	<b>1490 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>40 °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>V1</b>	Motor Orientation	<b>Shaftdown</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>1677 mm</b>	Frame Length	<b>1010 mm</b>
Shaft Diameter	<b>95 mm</b>	Shaft Extension	<b>170 mm</b>
Assembly/Box Mounting	<b>Top</b>		
Outline Drawing	<b>0235501832</b>	Connection Drawing	<b>8442000085</b>

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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>		

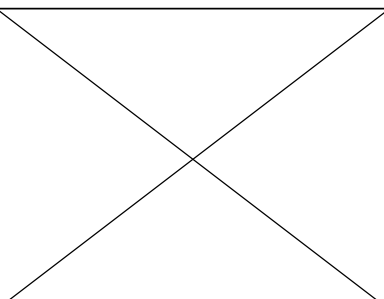


GEOMETRIC TOLERANCE		
LINEAR DIM	>0~6	±0.1
	>6~30	±0.2
	>30~120	±0.3



# 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 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		

**Model No.** TCA3552AF141GAC010

U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [Nm]	IE Class	% EFF at __ load				PF at __ load			$I_A/I_N$ [pu]	$T_A/T_N$ [pu]	$T_K/T_N$ [pu]
									5/4FL	FL	3/4FL	1/2FL	FL	3/4FL	1/2FL			
380	$\Delta$	50	355	475	624.27	1490	2269.8	IE3	-	96	96	96.2	0.9	0.88	0.83	6.9	2.1	2.5

Motor type	TCA	Degree of protection	IP 55
Enclosure	TEFC	Mounting type	IM V1
Frame Material	Cast Iron	Cooling method	IC 411
Frame size	355L	Motor weight - approx.	1973 kg
Duty	S1	Gross weight - approx.	2018 kg
Voltage variation *	± 10%	Motor inertia	10.9453 kgm <sup>2</sup>
Frequency variation *	± 5%	Load inertia	Customer to Provide
Combined variation *	10%	Vibration level	2.8 mm/s
Design	N	Noise level ( 1meter distance from motor)	82 dB(A)
Service factor	1.0	No. of starts hot/cold/Equally spread	2/3/4
Insulation class	F	Starting method	DOL
Ambient temperature	-20 to +40 °C	Type of coupling	Direct
Temperature rise (by resistance)	80 [ Class B ] K	LR withstand time (hot/cold)	15/30 s
Altitude above sea level	1000 meter	Direction of rotation	Bi-directional
Hazardous area classification	NA	Standard rotation	Clockwise form DE
Zone classification	NA	Paint shade	RAL 5014
Gas group	NA	Accessories	
Temperature class	NA	Accessory - 1	PTC 150°C
Rotor type	Aluminum Die cast	Accessory - 2	-
Bearing type	Anti-friction ball	Accessory - 3	-
DE / NDE bearing	6322 C3 / 6322 C3	Terminal box position	TOP
Lubrication method	Regreasable	Maximum cable size/conduit size	1R x 3C x 300mm <sup>2</sup> /4 x M63 x 1.5
Type of grease	CHEVRON SRI-2 or Equivalent	Auxiliary terminal box	NA

 $I_A/I_N$  - Locked Rotor Current / Rated Current

 $T_K/T_N$  - 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.

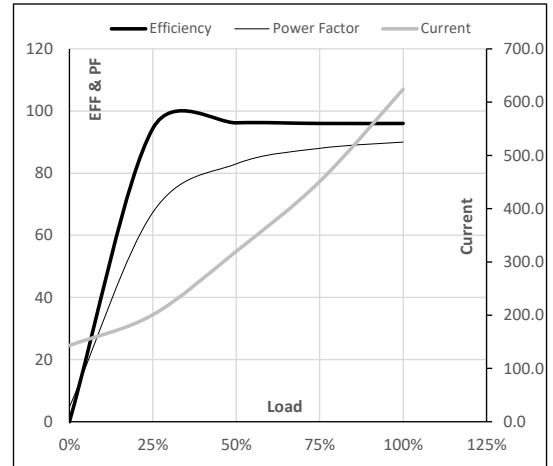
Efficiency	Europe	China	India	Aus/Nz	Brazil	Global IEC
Standards	-	GB 18613-2012 Grade 2	-	-	-	IEC: 60034-30

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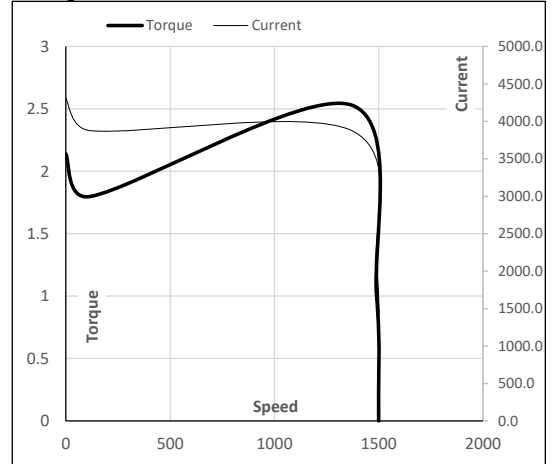
Enclosure	U (V)	$\Delta$ / Y Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [RPM]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	380	$\Delta$	50	355	475.0	624.3	1490	231.46	2269.81	IE3	40	S1	1000	10.9453	1973

**Motor Load Data**

Load Point		NL	1/4FL	1/2FL	3/4FL	FL	5/4FL
Current	A	143.1	200.9	319.9	450.9	624.3	
Torque	Nm	0.0	564.6	1131.0	1699.3	2269.8	
Speed	r/min	1500	1498	1495	1493	1490	
Efficiency	%	0.0	94.4	96.2	96.0	96.0	
Power Factor	%	4.7	67.4	83.0	88.0	90.0	

**Performance vs Load Chart**

**Motor Speed Torque Data**

Load Point		LR	P-Up	BD	Rated	NL
Speed	r/min	0	115	1371	1490	1500
Current	A	4307.4	3876.7	2050.9	624.3	143.1
Torque	pu	2.1	1.8	2.5	1	0

**Starting Characteristics Chart**

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

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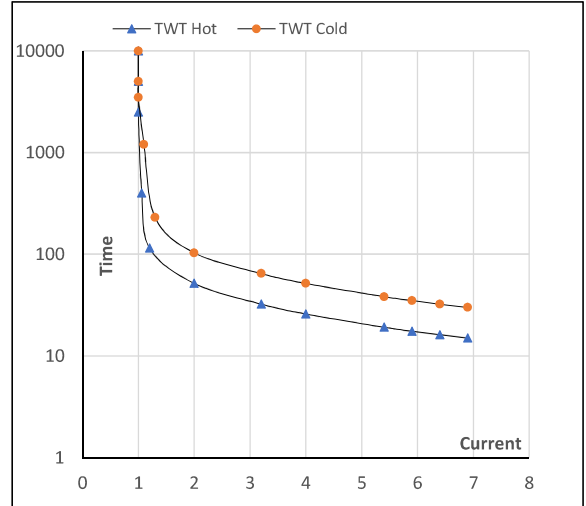
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Enclosure	U (V)	$\Delta / Y$ Conn	f [Hz]	P [kW]	P [hp]	I [A]	n [rpm]	T [kgm]	T [Nm]	IE Class	Amb [°C]	Duty	Elevation [m]	Inertia [kg-m <sup>2</sup> ]	Weight [kg]
TEFC	380	$\Delta$	50	355	475.0	624.3	1490	231.46	2269.81	IE3	40	S1	1000	10.9453	1973

**Motor Speed Torque Data**

Load	FL	$I_1$	$I_2$	$I_3$	$I_4$	$I_5$	LR
TWT Hot	s	10000	52	34	26	22	18
TWT Cold	s	10000	104	67	52	41	37
Current	pu	1	2	3	4	5	5.5

**Thermal Characteristics Chart**

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

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