

# PRODUCT INFORMATION PACKET

Model No: TCA18P1AE271GAA009

Catalog No: R639

18.5 kW General Purpose Low Voltage IEC Motor, 3 phase, 3600 RPM, 230/460 V, 160M Frame, TEFC  
Cast Iron IE3 Efficiency Motors



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**REGAL**



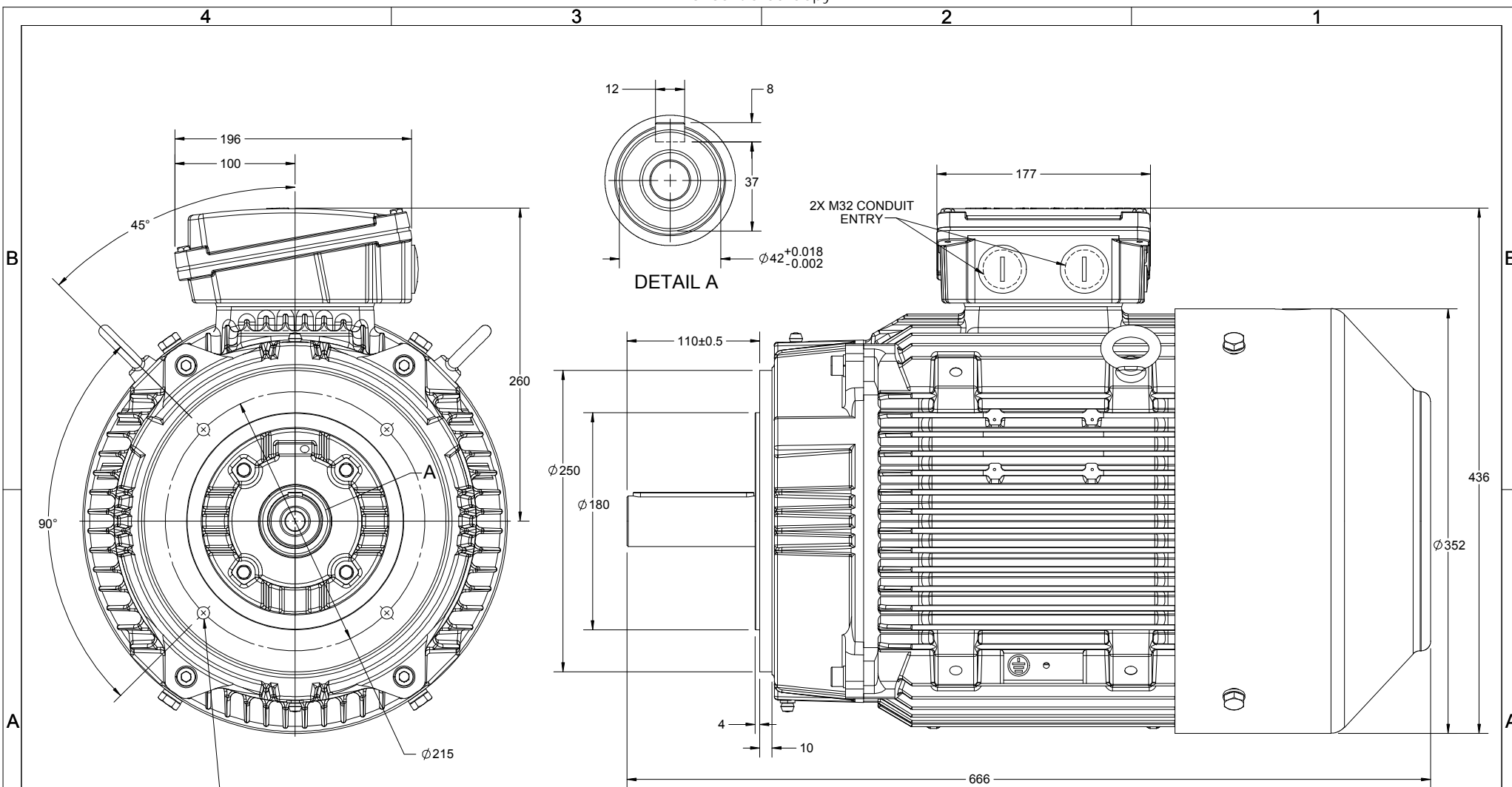
### Nameplate Specifications

Output HP	25 Hp	Output KW	18.5 kW
Frequency	60 Hz	Voltage	230/460 V
Current	56.0/28.1 A	Speed	3550 rpm
Service Factor	1.15	Phase	3
Efficiency	91.7 %	Power Factor	90
Duty	Continuous	Insulation Class	F
Design Code	N (IEC)	KVA Code	H
Frame	160M	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No	Ambient Temperature	40 °C
Drive End Bearing Size	6309	Opp Drive End Bearing Size	6209
UL	Recognized	CSA	N
CE	Y	IP Code	55

### Technical Specifications

Electrical Type	Squirrel Cage Inverter Rated	Starting Method	Line Or Inverter
Poles	2	Rotation	Reversible
Resistance Main	.5 Ohms	Mounting	Round
Motor Orientation	Horizontal	Drive End Bearing	Ball
Opp Drive End Bearing	Ball	Frame Material	Cast Iron
Shaft Type	IEC	Overall Length	26.22 in
Frame Length	11.73 in	Shaft Diameter	1.654 in
Shaft Extension	4.33 in	Assembly/Box Mounting	F3

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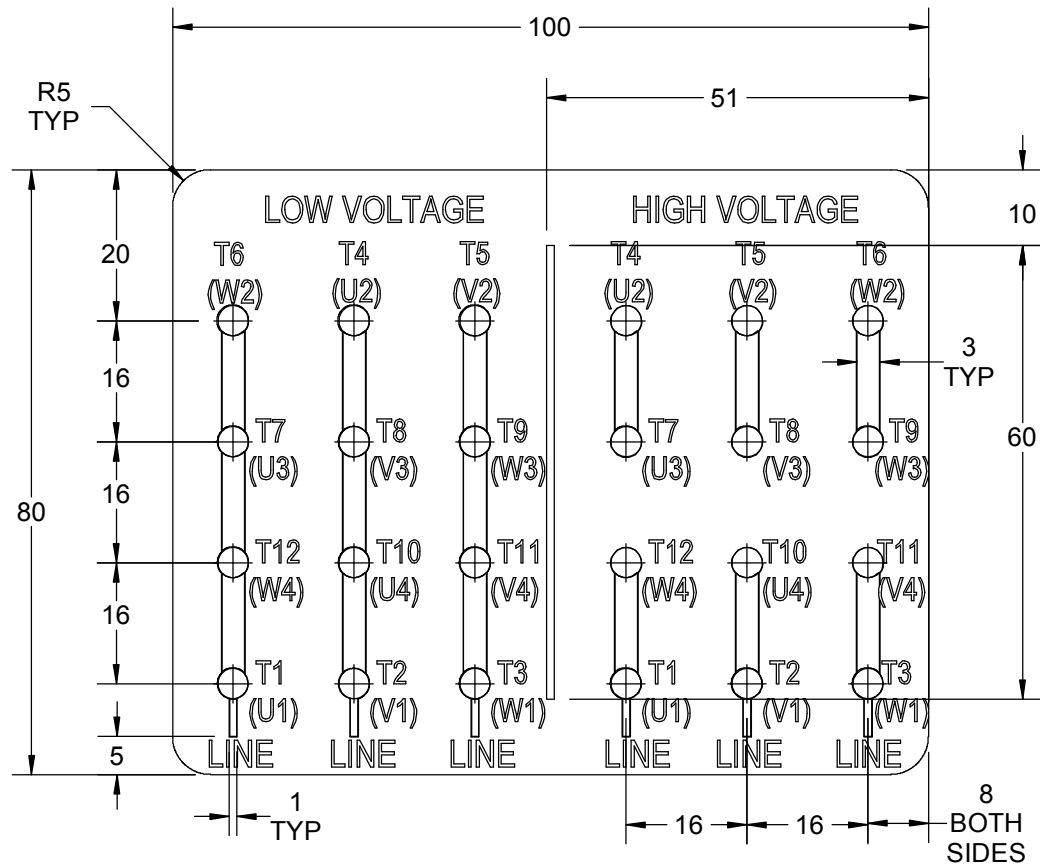


DRAWING REVISION A	REVISION BY MSH	DATE 11/02/2019
ECO ECO-0161495	APPROVED BY JAY	DATE 11/02/2019
ECO DESCRIPTION <b>NEW DRAWING RELEASE</b> <small>COPYRIGHT REGAL BELLOIT AMERICA, INC. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF REGAL BELLOIT AMERICA, INC. (OWNER) AND CONTAINS OWNER'S PROPRIETARY INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED, BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS.</small>		

DRAWN BY MSH
DATE 11/02/2019
APPROVED BY JAY
DATE 11/02/2019
REFERENCE
THIRD ANGLE PROJECTION

<b>marathon</b> Motors	
<b>OUTLINE</b>	
IEC-160L-B14A, MOTOR TYPE: NA-TEFC-CAST IRON	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER SS620906
	SHEET 1 OF 1

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



**NOTES:**

1. PRESSURE-SENSITIVE ADHESIVE TAPE COATED WITH ANTI-ADHESIVE.
2. YELLOW COLOR BACK GROUND LETTERS WILL BE BLACK.
3. THE TOLERANCE OF THE LINEAR SIZE OF THE TOLERANCE WITHOUT THE TOLERANCE BY THE TABLE.
4. LEAD TERMINAL MARKINGS FONT SIZE : T1-T12 & U1-U4,V1-V4& W1-W4 OF ARIAL WITH 3mm SIZE
5. OTHER LETTER FONT SIZE SHOULD BE 3.5mm.

DRAWING REVISION <b>C</b>	REVISION BY <b>NIV</b>	DATE <b>05/03/2019</b>		DRAWN BY <b>NIV</b>	Regal Beloit America, Inc.
ECO <b>ECO-0162986</b>	APPROVED BY <b>JAY</b>	DATE <b>05/03/2019</b>		DATE <b>29/01/2019</b>	
ECO DESCRIPTION <b>UPDATED DRAWING</b>				APPROVED BY <b>JAY</b>	DESCRIPTION <b>CONNECTION DIAGRAM</b> 12 LEAD -DELTA CONNECTION
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			THIRD ANGLE PROJECTION	SIZE <b>A</b>	DRAWING NUMBER <b>8442000677</b>

P.O. BOX 8003  
WAUSAU, WI 54401-8003  
PH. 715-675-3311

DATA VOLTS: 460

**CERTIFICATION DATA SHEET**

<b>CUSTOMER:</b>		<b>CUSTOMER P.O. #:</b>	
<b>ORDER #:</b>	8442000677	<b>REFERENCE MODEL #:</b>	TCA18P1AE271GAA009
<b>CONN. DIAGRAM:</b>	SS620906	<b>CAT #:</b>	R639
<b>OUTLINE:</b>	IE3L1602203	<b>CUSTOMER PART #:</b>	
<b>WINDING:</b>	NONE	<b>MOUNTING:</b>	F3
<b>SPEED:</b>	1		

**TYPICAL MOTOR PERFORMANCE DATA**

<b>HP</b>	<b>KW</b>	<b>SYNC RPM</b>	<b>FL RPM</b>	<b>FRAME</b>	<b>ENCLOSURE</b>	<b>TYPE</b>	<b>KVA CODE</b>	<b>DESIGN</b>	
25	18.7	3600	3550	160M	TEFC	TCA 160L A02	H	N	
<b>PH</b>	<b>HZ</b>	<b>VOLTS</b>	<b>AMPS</b>	<b>START TYPE</b>	<b>DUTY</b>	<b>INSL</b>	<b>S.F.</b>	<b>AMB</b>	<b>ELEV.</b>
3	60/50	230/460#200/400	56/28 1&53 5/26.7	LINE OR INVERTER	CONT	F	1.15	40	3300
	<b>F.L. EFF</b>	<b>F.L. PF</b>	<b>3/4 LD EFF</b>	<b>91.7</b>	<b>1/2 LD EFF</b>	<b>91.8</b>	<b>GTD EFF</b>	<b>ELECT. TYPE</b>	
	91.7	90.0	3/4 LD PF	87.0	1/2 LD PF	80.0	90.5	SQ CAGE INV RATED	
	<b>F.L. TORQUE</b>	<b>LR AMPS @ 460 V</b>	<b>L.R. TORQUE</b>	<b>B.D. TORQUE</b>	<b>F.L. RISE (°C)</b>				
	37.0 LB-FT	217	77.1 LB-FT	208%	114 LB-FT	80			
	<b>@ 3 FT. DBA</b>	<b>POWER</b>	<b>ROTOR WK²</b>	<b>MAX. LOAD WK²</b>	<b>SAFE STALL TIME</b>	<b>STARTS/HOUR</b>	<b>MOTOR WGT</b>		
	75 DBA	84 DBA	1.90 LB-FT²	1.9 LB-FT²	7 SEC.	2	166 LB.		

\*\*\* SUPPLEMENTAL INFORMATION \*\*\*

<b>DE BRACKET TYPE</b>	<b>ODE BRACKET TYPE</b>	<b>MOUNT TYPE</b>	<b>MOTOR ORIENTATION</b>	<b>SEVERE DUTY</b>	<b>HAZARDOUS LOCATION</b>	<b>DRIP COVER</b>	<b>SCREENS</b>	<b>PAINT</b>
FT-FLANGE-215	STANDARD	ROUND	HORIZONTAL	NO	NONE	NO	NONE	BLUE - RAL 5014
<b>BEARINGS</b>	<b>GREASE</b>	<b>SHAFT TYPE</b>	<b>SPECIAL DE</b>	<b>SPECIAL ODE</b>	<b>SHAFT MATERIAL</b>	<b>FRAME MATERIAL</b>		
DE ODE BALL 6309	POLYREX EM	STANDARD IEC	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON		

<b>THERMOSTATS</b>	<b>PROTECTORS</b>	<b>WDG RTD's</b>	<b>BRG RTD's</b>	<b>THERMISTORS</b>	<b>CONTROL</b>	<b>SPACE HEATERS</b>
NONE	NOT	NONE	NONE	NONE	FALSE	NA
<b>R1 (ohms/ph)</b>	<b>R2 (ohms/ph)</b>	<b>X1 (ohms/ph)</b>	<b>X2 (ohms/ph)</b>	<b>Xm (ohms/ph)</b>	<b>VIBRATION (in/sec)</b>	<b>FLOAT ODE</b>
0.318	0.125	0.635	0.703	29.783	0.090	ODE

<b>* N O T E S *</b>	<b>INVERTER TORQUE: CONSTANT 2:1/VARIABLE 10:1</b>	
	<b>INV. HP SPEED RANGE: NONE</b>	
	<b>ENCODER: NONE</b>	<b>NONE PPR</b>
	<b>BRAKE: NONE</b>	<b>NONE</b>
	<b>FT-LB: NONE</b>	<b>NA</b>
	<b>VOLTAGE: NONE</b>	<b>NONE</b>

**PREPARED BY:** Fareeda Dudekula  
**DATE:** 5/30/2019  
**UL: V-LI-ME-INS CONST UL REC**

**Data Sheet**

Date: 5/30/2019

TCA18P1AE271GA009

Customer: \_\_\_\_\_  
Attention: \_\_\_\_\_

**Submital**

Submitted by: Fareeda Dudekula

Data @ 460 V

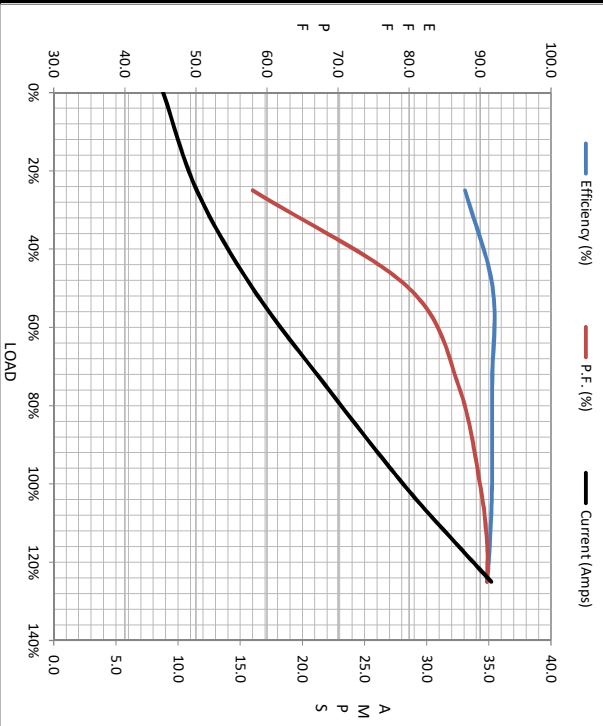
		Motor Load Data							
Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	8.8	11.5	16.0	21.9	28.1	32.3	35.2	217	
Torque (ft-lb)	0.00	9.2	18.4	27.6	37.0	42.6	46.4	77.1	
RPM	3600	3588	3577	3565	3550	3544	3538	0	
Efficiency (%)		87.9	91.8	91.7	91.7	91.4	91.0	91.0	
P.F. (%)	8.0	58.0	80.0	87.0	90.0	91.0	91.0	63.4	

**Motor Speed Data**

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	1200	3243	3550	3600
Current (Amps)	217	206	128	28.1	8.8
Torque (ft-lb)	77.1	73.2	114	37.0	0.00

**Information Block**

HP	25.0			
Sync. RPM	3600			
Frame	180			
Enclosure	TEFC			
Construction	TCA 160LQA2			
Voltage	230/460#200/400 V			
Frequency	60 Hz			
Design	N			
LR Code letter	H			
Service Factor	1.15			
Temp Rise @ FL	80 °C			
Duty	CONT			
Ambient	40 °C			
Elevation	3,300 feet			
Rotor/Shaft wk <sup>2</sup>	1.90 Lb-Ft <sup>2</sup>			
Ref Wdg	IE3L1602203 NONE			
Sound Pressure @ 1M	75 dBA			
VFD Rating	CONSTANT 2:1-VARIABLE 10:1			
Outline Dwg	SS620906			
Conn. Diag	8442000677			
Additional Specifications:				
0				
EQUIV CKT (OHMS / PHASE)				
R1	R2	X1	X2	Xm
0.3180	0.1290	0.6350	0.7030	29.7830



**Speed - Torque Curve**

