

# PRODUCT INFORMATION PACKET

Model No: TCA0222AP211GAA009

Catalog No: R443

22.0 kW General Purpose Low Voltage IEC Motor, 3 phase, 1800 RPM, 575 V, 180L Frame, TEFC  
Cast Iron IE3 Efficiency Motors





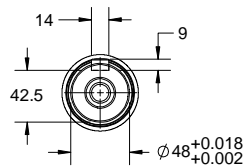
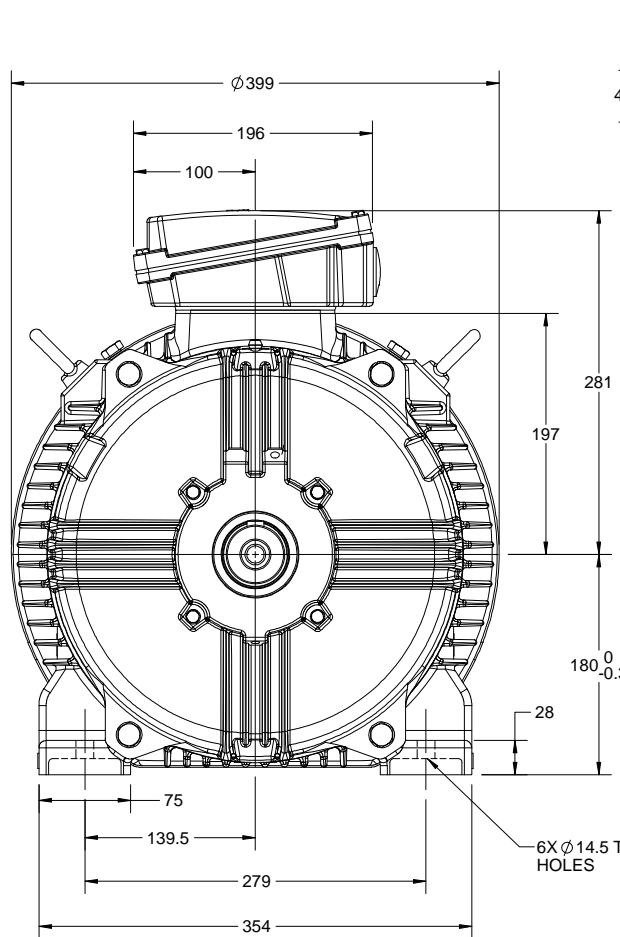
### Nameplate Specifications

Output HP	<b>30 Hp</b>	Output KW	<b>22.0 kW</b>
Frequency	<b>60 Hz</b>	Voltage	<b>575 V</b>
Current	<b>28.8 A</b>	Speed	<b>1780 rpm</b>
Service Factor	<b>1.15</b>	Phase	<b>3</b>
Efficiency	<b>93.6 %</b>	Power Factor	<b>83</b>
Duty	<b>Continuous</b>	Insulation Class	<b>F</b>
Design Code	<b>N (IEC)</b>	KVA Code	<b>H</b>
Frame	<b>180L</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Thermal Protection	<b>No</b>	Ambient Temperature	<b>40 °C</b>
Drive End Bearing Size	<b>6311</b>	Opp Drive End Bearing Size	<b>6211</b>
UL	<b>Recognized</b>	CSA	<b>N</b>
CE	<b>Y</b>	IP Code	<b>55</b>

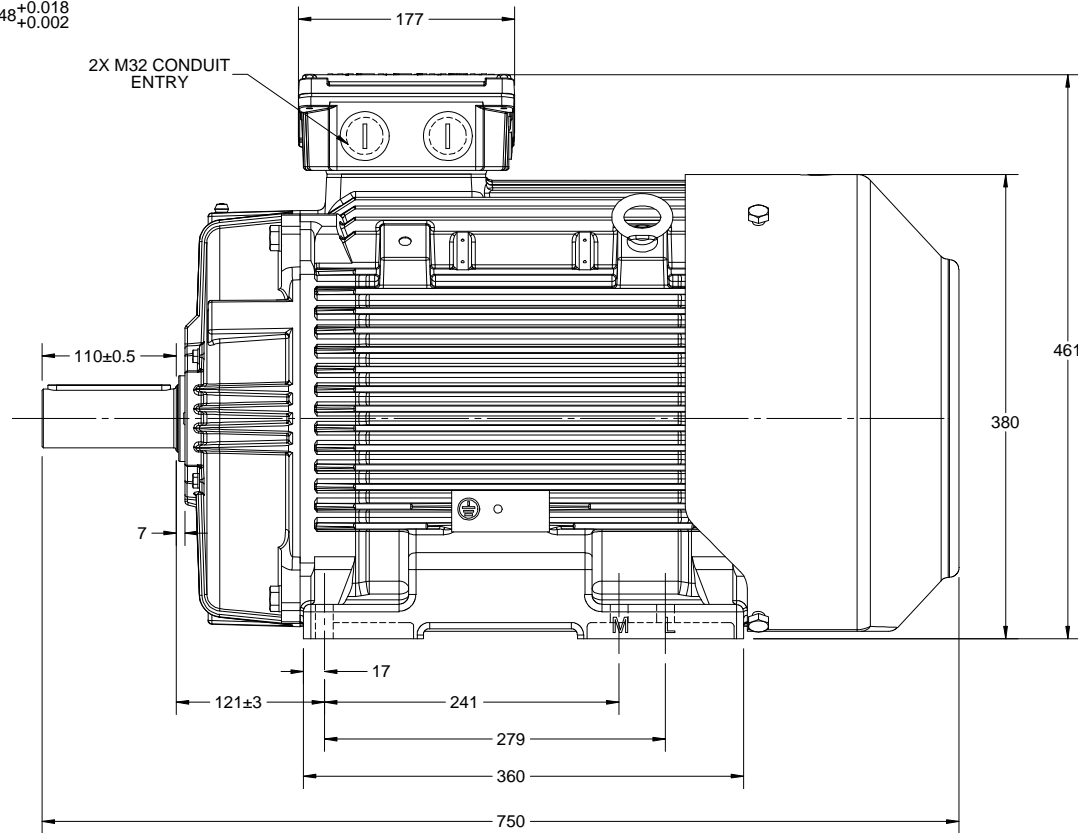
### Technical Specifications

Electrical Type	<b>Squirrel Cage Inverter Rated</b>	Starting Method	<b>Line Or Inverter</b>
Poles	<b>4</b>	Rotation	<b>Reversible</b>
Resistance Main	<b>.3 Ohms</b>	Mounting	<b>B3</b>
Motor Orientation	<b>Horizontal</b>	Drive End Bearing	<b>Ball</b>
Opp Drive End Bearing	<b>Ball</b>	Frame Material	<b>Cast Iron</b>
Shaft Type	<b>IEC</b>	Overall Length	<b>29.53 in</b>
Frame Length	<b>14.41 in</b>	Shaft Diameter	<b>1.89 in</b>
Shaft Extension	<b>4.33 in</b>	Assembly/Box Mounting	<b>F3</b>

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2X M32 CONDUIT ENTRY



DRAWING REVISION A	REVISION BY LK	DATE 05/12/2018
ECO ECO-0157830	APPROVED BY JAY	DATE 05/12/2018
ECO DESCRIPTION <b>NEW DRAWING RELEASE</b> <small>COPYRIGHT REGAL BELDOT AMERICA, INC. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF REGAL BELDOT 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 LK
DATE 05/12/2018
APPROVED BY JAY
DATE 05/12/2018
REFERENCE

**marathon**  
Motors

DESCRIPTION  
**OUTLINE**  
IEC-180L-B3 MOTOR TYPE: TEFC-CAST IRON

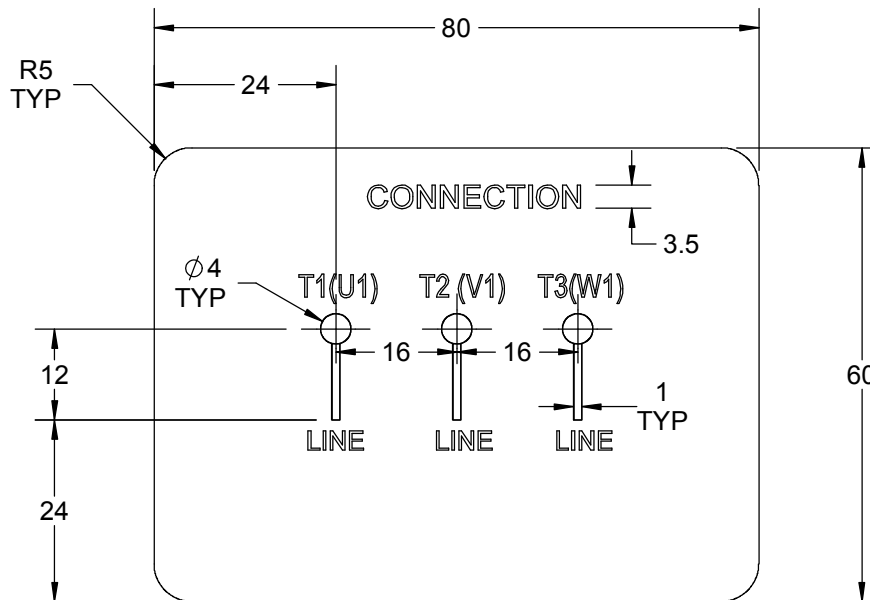
MATERIAL  
PROCESS/FINISH

THIRD ANGLE PROJECTION

SIZE  
**B**  
DRAWING NUMBER  
**SS312998**

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-T2 - T3 & U1-V1-W1 OF ARIAL WITH 3mm SIZE
5. OTHER LETTER FONT SIZE SHOULD BE 3.5mm.

DRAWING REVISION A	REVISION BY A. KEETHA	DATE 25/07/2019		DRAWN BY A. KEETHA	Regal Beloit America, Inc.
ECO ECO-0171114	APPROVED BY SN	DATE 25/07/2019		DATE 24/07/2019	
ECO DESCRIPTION NEW DRAWING RELEASE				APPROVED BY SN	DESCRIPTION CONNECTION DIAGRAM 3 LEAD CONNECTION
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			THIRD ANGLE PROJECTION		SIZE A

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>	TCA0222AP21TGA009
<b>CONN. DIAGRAM:</b>	SS312998	<b>CAT #:</b>	R443
<b>OUTLINE:</b>	IE3L1804202	<b>CUSTOMER PART #:</b>	
<b>WINDING:</b>	NONE	<b>MOUNTING:</b>	F3
<b>SPEED:</b>	3		

**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>	
30	22.4	1800	1780	180L	TEFC	TCA 180L A04	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	575	28.8	LINE OR INVERTER	CONT	F	1.15	40	3300
<b>F.L. EFF</b>		93.6	<b>3/4 LD EFF</b>	93.6	<b>1/2 LD EFF</b>	93.0	<b>GTD EFF</b>	<b>ELECT. TYPE</b>	
<b>F.L. PF</b>		83.0	<b>3/4 LD PF</b>	77.0	<b>1/2 LD PF</b>	66.0	92.6	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>	
88.6	<b>LB-FT</b>	209	201	<b>LB-FT</b>	227%	269	<b>LB-FT</b>	304%	80
<b>@ 3 FT. DBA</b>		<b>POWER</b>	<b>ROTOR WK²</b>	<b>MAX. LOAD WK²</b>	<b>SAFE STALL TIME</b>	<b>START/SHOUR</b>	<b>MOTOR WGT</b>		
68	77	DBA	5.9	5.9	12	2	250	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>
STANDARD	STANDARD	B3	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</b>	<b>MATERIAL</b>	<b>FRAME MATERIAL</b>	
DE BALL 6311	BALL 6211	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</b>
0.295	0.148	0.783	1.182	25.913	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:** 5/29/2019  
**UL: V - LIME-INS CONST UL REC**

**Data Sheet**

?

Date: 5/29/2019

TCA0222AP211GAA009

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

**Submittal**

Submitted by: Fareeda Dudekula

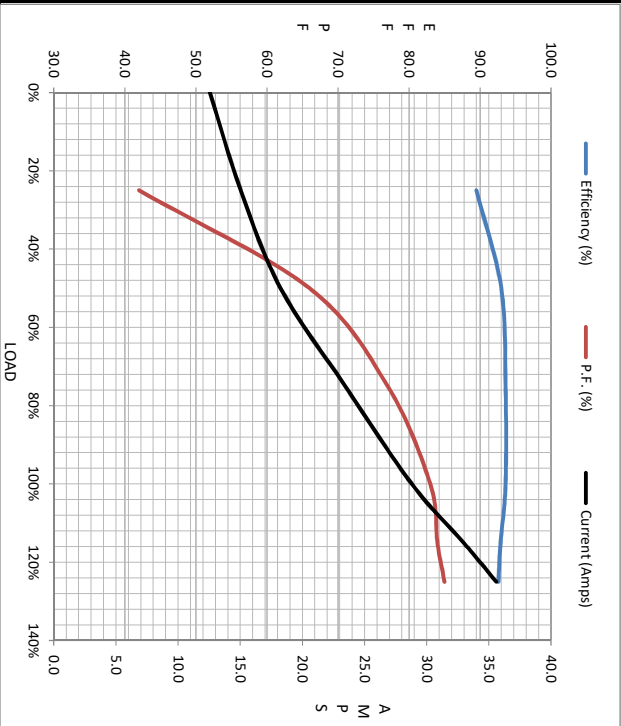
Data @ 575 V

Load	Motor Load Data					
	0%	25%	50%	75%	100%	LR
Current (Amps)	12.6	15.0	18.2	23.4	28.8	209
Torque (ft-lb)	0.00	22.0	44.0	66.2	88.6	201
RPM	1800	1795	1790	1784	1780	0
Efficiency (%)		89.5	93.0	93.6	93.6	
P.F. (%)	5.0	42.0	66.0	77.0	83.0	63.4

**Motor Speed Data**

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	600	1642	1780	1800
Current (Amps)	209	199	122	28.8	12.6
Torque (ft-lb)	201	191	289	88.6	0.00

IEC



Information Block				
HP	30.0			
Sync. RPM	1800			
Frame	180			
Enclosure	TEFC			
Construction	TCA 180L0A04			
Voltage	575 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>	5.9 Lb-Ft <sup>2</sup>			
Ref Wdg	IE3L1804202 NONE			
Sound Pressure @ 1M	68 dBA			
VFD Rating	CONSTANT 2:1-VARIABLE 10:1			
Outline Dwg	SS312998			
Conn. Diag	8442000677			
Additional Specifications:				
EQUIV CKT (OHMS / PHASE)				
R1	R2	X1	X2	Xm
0.2950	0.1480	0.7830	1.1820	25.9130

**Speed - Torque Curve**

