

# PRODUCT INFORMATION PACKET

Model No: 286THFPA8086

Catalog No: Y582

Blue Max® Inverter Duty Encoder Motor, 20 HP, 3 Ph, 60 Hz, 230/460 V, 1200 RPM, 286TC Frame,  
TEBC-AXIAL



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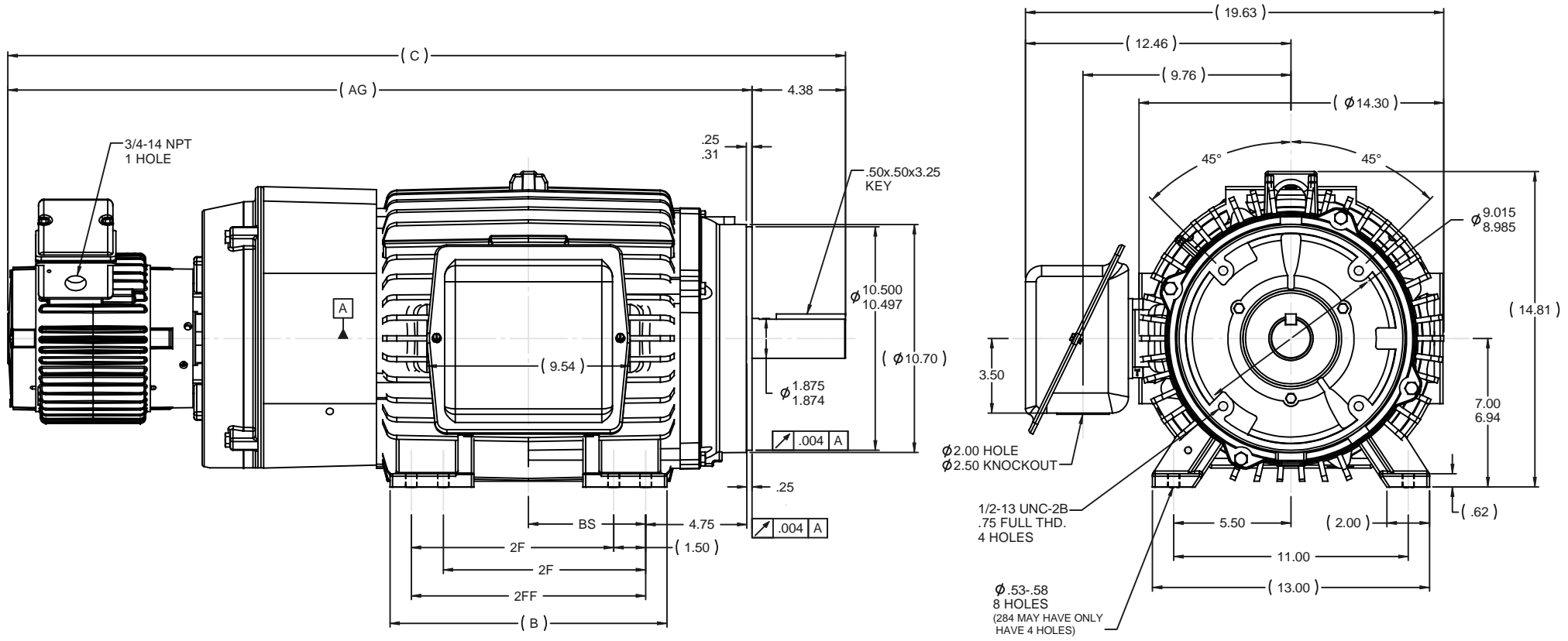
### Nameplate Specifications

Output HP	<b>20 Hp</b>	Output KW	<b>14.9 kW</b>
Frequency	<b>60 Hz</b>	Voltage	<b>230/460 V</b>
Current	<b>52.5/26.2 A</b>	Speed	<b>1160 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>87.5 %</b>	Power Factor	<b>82</b>
Duty	<b>Continuous</b>	Insulation Class	<b>H</b>
Design Code	<b>INV</b>	KVA Code	<b>F</b>
Frame	<b>286TC</b>	Enclosure	<b>Totally Enclosed Blower cooled - Axial</b>
Thermal Protection	<b>Thermostat</b>	Ambient Temperature	<b>40 °C</b>
Drive End Bearing Size	<b>6311</b>	Opp Drive End Bearing Size	<b>6210</b>
UL	<b>Recognized</b>	CSA	<b>Y</b>
CE	<b>Y</b>	IP Code	<b>43</b>
Number of Speeds	<b>1</b>		

### Technical Specifications

Electrical Type	<b>Squirrel Cage Inverter Duty</b>	Starting Method	<b>Inverter Only</b>
Poles	<b>6</b>	Rotation	<b>Reversible</b>
Resistance Main	<b>.58 Ohms</b>	Mounting	<b>Rigid Base</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>T</b>	Overall Length	<b>39.31 in</b>
Frame Length	<b>14.25 in</b>	Shaft Diameter	<b>1.875 in</b>
Shaft Extension	<b>4.37 in</b>	Assembly/Box Mounting	<b>F1/F2 CAPABLE</b>
Inverter Load	<b>CONSTANT 2000:1</b>		
Outline Drawing	<b>B-SS311263-1425</b>	Connection Drawing	<b>A-EE7308T</b>





NOTES:  
 1- C'BOX CAN BE ROTATED IN 90° STEPS.  
 2- C'BOX CAN BE MOUNTED ON OPPOSITE SIDE  
 BY REMOVING BRACKETS AND TURNING FRAME 180°  
 3- NAMEPLATE TO BE READ FROM C'BOX SIDE OF MOTOR.

DASH	FRAME	C	AG	B	2F	2FF	BS
1275	284TC	37.81	33.43	11.50	9.50		4.75
1425	286TC	39.31	34.93	13.00	9.50	11.00	5.50

		TOLERANCES UNLESS SPECIFIED		MARATHON ELECTRIC		DRAWN CAV 12-26-2001	
		DEC	INCHES			CHK	ML 01-04-2002
3	REVISED MOUNTING HOLE QUANTITY CN 40694	DRS 10-25-2008	ML .XX ±.03	TITLE OUTLINE - TFPA SERIES		APPR	DD 01-04-2002
2	REDRAWN IN AUTOCAD	TAT 06-24-2008	XXX ±.005	280TC FR. - TEBC			SCALE 1:4.5
1	NEW DRAWING MU39842	CAV 01-02-2002	XXX ±.0005	MATL			REF
NO	REVISION	BY & DATE	CHK ANG ±7'30"	FINISH			PREV
THIS DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK. ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED. THIS IS AN ELECTRONICALLY GENERATED DOCUMENT - DO NOT SCALE THIS PRINT		RFP	CAD FILE SS311263	SIZE	DRAWING NO	REV	
		DIST LB		<b>B</b>	<b>SS311263</b>	<b>3</b>	

**HIGH VOLTAGE**



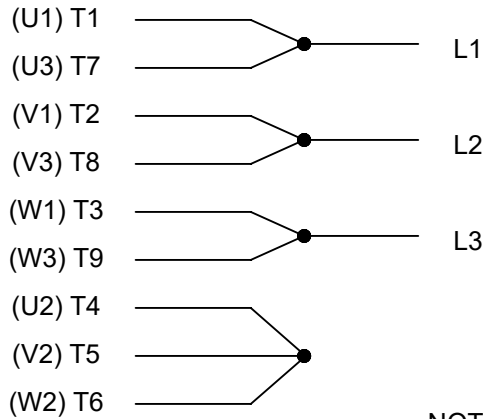
**THREE PHASE  
DUAL VOLTAGE MOTOR**

THERMO-PROTECTORS  
CONNECTED IN SERIES



NOTE FOR FACTORY USE ONLY:  
TO SURGE TEST FOR COMMON CONNECT:  
HIGH VOLT: CONNECT P1 TO T1  
THEN P2 TO L1  
LOW VOLT: CONNECT P1 TO T1 & T7,  
THEN P2 TO L1

**LOW VOLTAGE**



**VIEW OF TERMINAL END**

NOTE: LEAD'S COLOR CAN BE YELLOW OR WHITE FOR MT2 PLANT

DRAWING REVISION T	REVISION BY ZR	DATE 01-14-2019		DRAWN BY SMC	Regal Beloit America, Inc.
ECO ECO-0159915	APPROVED BY DR	DATE 01-15-2019		DATE 05-13-1992	
ECO DESCRIPTION <b>ADDED TERMINAL CONNECTION DIAGRAM</b>				APPROVED BY TB	DESCRIPTION <b>CONN DIAGRAM-INTERNAL</b> 3 PHASE - DUAL VOLTAGE MOTOR
<small>COPYRIGHT REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF REGAL BELOIT 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>				DATE 05-13-1992	MATERIAL
			REFERENCE EE7308/EE7300	SIZE A	DRAWING NUMBER EE7308T

**CERTIFICATION DATA SHEET**

**Model#:** 286THFPA8086 AC      **WINDING#:** 256667 R6 6  
**CONN. DIAGRAM:** A-EE7308T      **ASSEMBLY:** F1/F2 CAPABLE  
**OUTLINE:** B-SS311263-1425

**TYPICAL MOTOR PERFORMANCE DATA**

HP	KW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
20	14.9	1200	1160	286TC	TEBC-AXIAL	F	INV

PH	Hz	VOLTS	FL AMPS	START TYPE	DUTY	INSL	S.F	AMB°C	ELEVATION
3	60	230/460	52.5/26.2	INVERTER ONLY	CONTINUOUS	H4	1.0	40	3300

FULL LOAD EFF: 87.5	3/4 LOAD EFF: 88.5	1/2 LOAD EFF: 87.5	GTD. EFF	ELEC. TYPE	NO LOAD AMPS
FULL LOAD PF: 82	3/4 LOAD PF: 78	1/2 LOAD PF: 69	85.5	SQ CAGE INV DUTY	22 / 11

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
90 LB-FT	280 / 140	150 LB-FT 167	215 LB-FT 239	88

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS /HOUR	APPROX. MOTOR WGT
75 dBA	85 dBA	3.1 LB-FT^2	- LB-FT^2	- SEC.	-	525 LBS.

**EQUIVALENT WYE CKT.PARAMETERS (OHMS PER PHASE)**

R1	R2	X1	X2	XM
0.38198	0.33938	1.3419	1.27374	24.85

RM	ZREF	XR	TD	TD0
1391.6	14.2	3.3	0.0108	0.204

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

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
C-FACE	ENCODER	RIGID	HORIZONTAL	FALSE	NONE	FALSE	NONE	BLUE (ENAMEL)

BEARINGS		GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT MATERIAL	FRAME MATERIAL
DE	OPE	POLYREX EM	T	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON
BALL	BALL						
6311	6210						

THERMO-PROTECTORS				THERMISTORS	CONTROL	SPACE /n HEATERS
THERMOSTATS	PROTECTORS	WDG RTDs	BRG RTDs	NONE	FALSE	NONE VOLTS
TSTATS (N/C)	NOT	NONE	NONE			

If Inverter equals NONE, contact factory for further information

INVERTER TORQUE: CONSTANT 2000:1 INV. HP SPEED RANGE: 1.5 X BASE SPEED
ENCODER: PROVISIONS ONLY NONE NONE NONE NONE PPR
BRAKE: NONE NONE NONE P/N NONE

\*  
N  
O  
T  
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S  
\*

NONE	NONE		
NONE FT-LB	NONE V	NONE Hz	

DATE: 06/27/2017 01:43:47 AM  
FORM 3531 REV.3 02/07/99  
\*\* Subject to change without notice.

**Data Sheet**

**Date:** 19-06-2017  
**Customer:** \_\_\_\_\_  
**Attention:** \_\_\_\_\_  
**Submitted by:** FAREEDA DUDEKULA



286THFA8086

**Submittal**

Data @ **460 V**

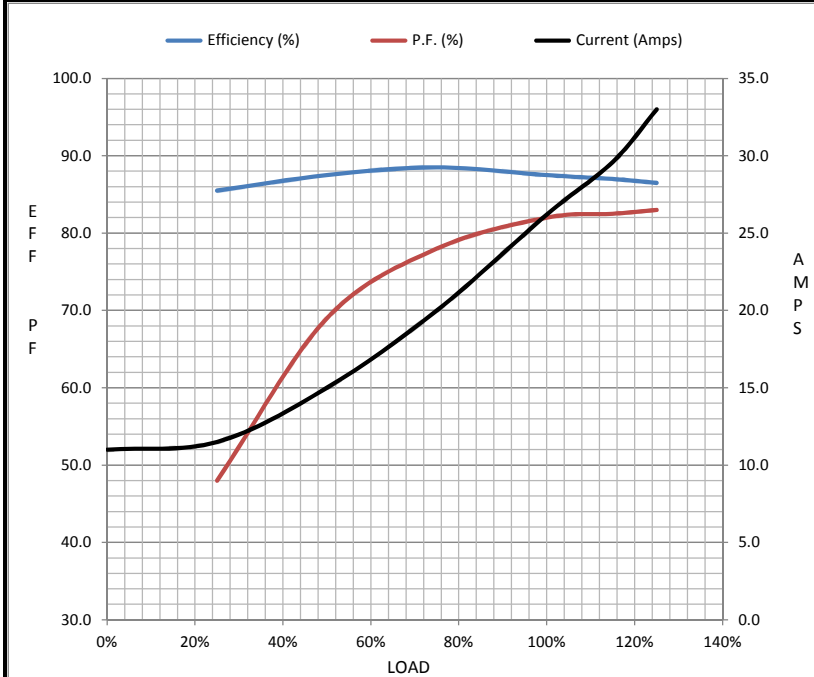
**Motor Load Data**

Load	0%	25%	50%	75%	100%	115%	125%	LR
Current (Amps)	11.0	11.5	15.0	20.0	26.2	29.6	33.0	140
Torque (ft-lb)	0.00	22.0	44.0	67.0	90.0	102	114	150
RPM	1200	1190	1180	1170	1160	1,156	1150	0
Efficiency (%)		85.5	87.5	88.5	87.5	87.0	86.5	
P.F. (%)	6.5	48.0	69.0	78.0	82.0	82.5	83.0	41.0

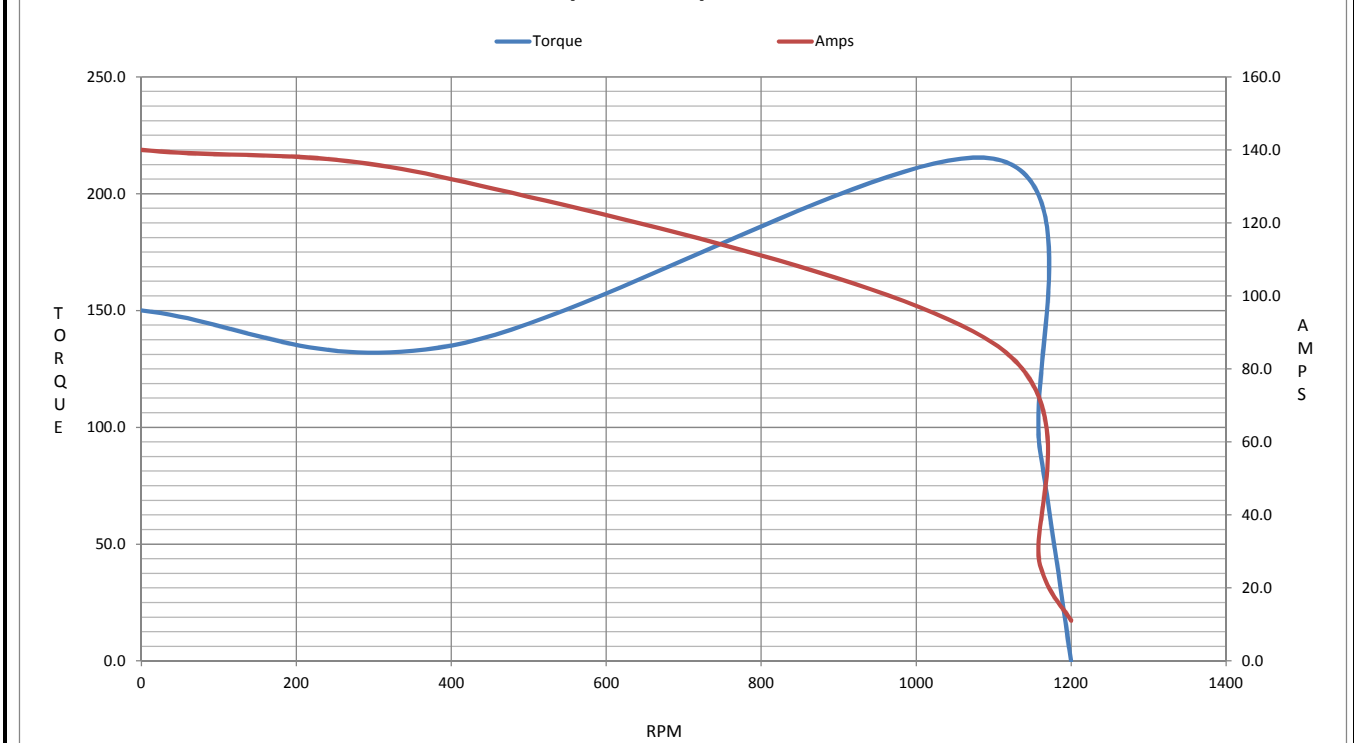
**Motor Speed Data**

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	400	1100	1160	1200
Current (Amps)	140	132	87.0	26.2	11.0
Torque (ft-lb)	150	135	215	90.0	0.00

Information Block				
HP	20.0			
Sync. RPM	1200			
Frame	284			
Enclosure	TEBC			
Construction	TBP			
Voltage	230/460 V			
Frequency	60 Hz			
Design	B			
LR Code letter	F			
Service Factor	1.0			
Temp Rise @ FL	88 ° C			
Duty	CONT			
Ambient	40 ° C			
Elevation	1,000 feet			
Rotor/Shaft wk <sup>2</sup>	3.1 Lb-Ft <sup>2</sup>			
Ref Wdg	256667 R6			
Sound Pressure @ 1M	75 dBA			
VFD Rating	CONSTANT 2000:1			
Outline Dwg	B-SS311263-1425			
Conn. Diag	A-EE7308T			
Additional Specifications:				
0				
365THFS8036				
EQUIV CKT (OHMS / PHASE)				
R1	R2	X1	X2	Xm
0.3820	0.3390	1.3420	1.2740	24.8500



**Speed - Torque Curve**





## EC Declaration of Conformity

The undersigned representing  
the manufacturer:

Regal Beloit America  
100 East Randolph St.  
Wausau, WI 54401

and the authorized representative  
established within the Community:

Marathon Electric UK  
6F Thistleton Road Ind. Estate  
Market Overton  
Oakham, Rutland LE15 7PP UK

are committed to providing customers with products that comply with applicable regulations and international protocols to which they are subject, including the requirements of the European Parliament Directive on the Harmonization of the laws relating to electrical equipment designed for use within certain voltage limits (2014/35/EU).

Regal Beloit America declares that the following product(s), to which this declaration relates, are in conformity with the relevant sections of the EC standards listed below.

This statement supersedes any statements previously issued pertaining to the product(s) listed below and is subject to change without notice.

Model No : 286THFPA8086

(Model No. may contain prefix and/or suffix characters)

Catalog No : Y582

Rework No : N/A

Directives :

Low Voltage Directive 2014/35/EU

Harmonized Standards Used :

EN 60034-1: 2010 (IEC 60034-1: 2010)

EN 60034-5: 2001/A1:2007 (IEC 60034-5: 2000/A1:2006)

Authorized Representative:



Michael A. Logsdon  
Vice President, Technology

Authorized Representative in the Community:



Julian Clark  
Marketing Engineer

Created on 09/01/2022

**CE 22**