

# PRODUCT INFORMATION PACKET

Model No: 256THTNA8038

Catalog No: Y510

Blue Max® Inverter Duty Encoder Motor, 20 HP, 3 Ph, 60 Hz, 230/460 V, 1800 RPM, 256TC Frame, TENV



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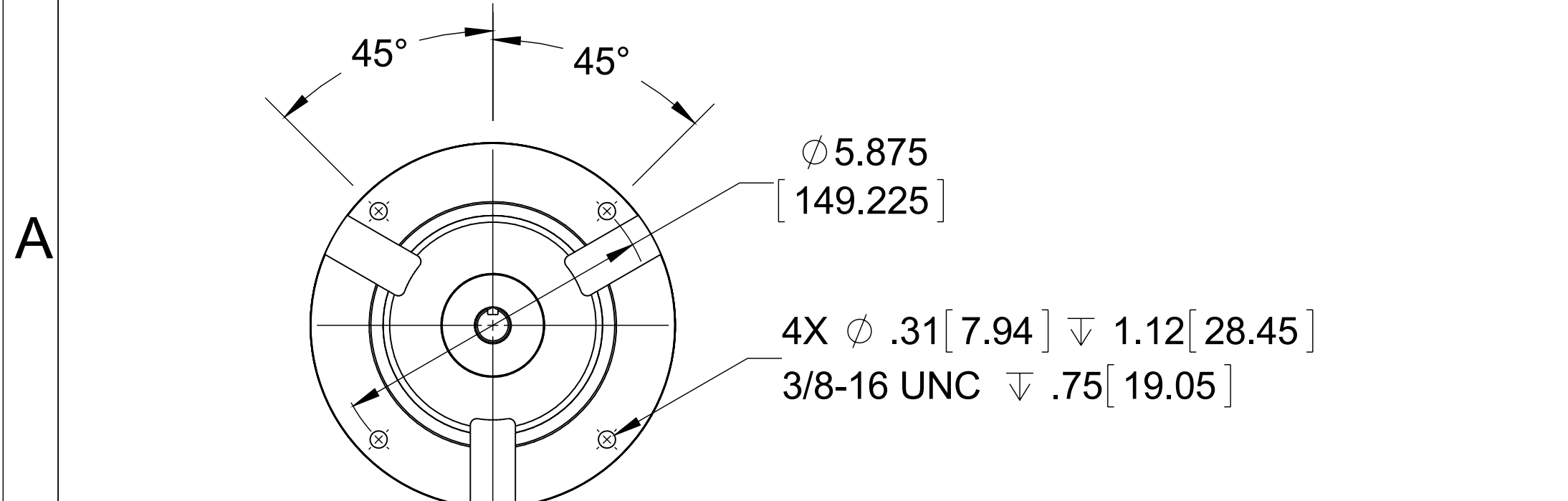
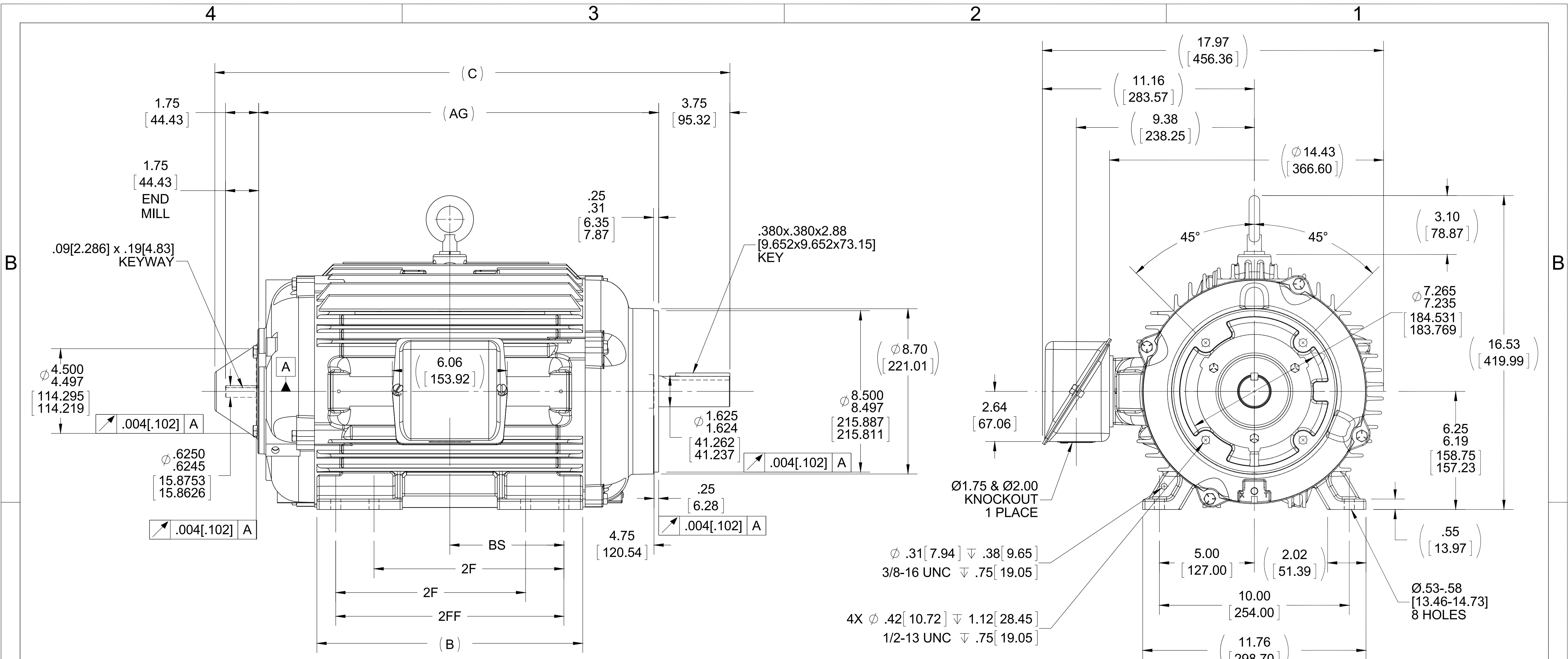
### Nameplate Specifications

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>52.0/26.0 A</b>	Speed	<b>1770 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>93.6 %</b>	Power Factor	<b>77</b>
Duty	<b>Continuous</b>	Insulation Class	<b>H</b>
Design Code	<b>INV</b>	KVA Code	<b>N</b>
Frame	<b>256TC</b>	Enclosure	<b>Totally Enclosed Non Ventilated</b>
Thermal Protection	<b>Thermostat</b>	Ambient Temperature	<b>40 °C</b>
Drive End Bearing Size	<b>6309</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>4</b>	Rotation	<b>Reversible</b>
Resistance Main	<b>.29 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>27.13 in</b>
Frame Length	<b>14.25 in</b>	Shaft Diameter	<b>1.625 in</b>
Shaft Extension	<b>3.75 in</b>	Assembly/Box Mounting	<b>F1/F2 CAPABLE</b>
Inverter Load	<b>CONSTANT 2000:1</b>		
Outline Drawing	<b>B-SS203839-1425</b>	Connection Drawing	<b>A-EE7308T</b>





- NOTES:  
 1. CONDUIT BOX CAN BE ROTATED IN 90° STEPS.  
 2. NAMEPLATE TO BE READ FROM CONDUIT BOX SIDE OF MOTOR.  
 3. MOTOR HAS F2 CAPABILITY.

DRAWING REVISION J	REVISION BY W. JOERGER	DATE 08-01-2015
ECO ECO-0082432	APPROVED BY E. HEIL	DATE 08-01-2015
ECO DESCRIPTION CORRECTED 'BS' DIM- WAS 4.75		
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TOLERANCES UNLESS OTHERWISE SPECIFIED:			
DEC.	INCH	mm	ANGLE
.X	±0.1	[±2.5]	±7° 30"
.XX	±0.03	[±0.76]	
.XXX	±0.005	[±0.127]	
.XXXX	±0.0005	[±0.0127]	
REMOVE BURRS & BREAK SHARP EDGES: .003/.015 [0.076/.381] X 45°			
CORNER FILLETS: R.02 [0.51]			
MACHINED SURFACES: 200 INCH/5.1 mm			
mm SHOWN IN [BRACKETS]			

DRAWN BY CTO
DATE 01-02-2004
APPROVED BY TB
DATE 01-06-2004
REFERENCE
THIRD ANGLE PROJECTION

<b>REGAL</b> ™ Regal Beloit America, Inc.	
DESCRIPTION <b>OUTLINE</b>	
250TC FR. - TENV - C'FACE - STL. C'BOX - BB	
MATERIAL	PROCESS/FINISH
SIZE <b>B</b>	DRAWING NUMBER <b>SS203839</b>
	SHEET 1 OF 1

DASH	FRAME	C	AG	B	2F	2FF	BS
1425	256TC	27.13 [689.10]	21.07 [535.18]	14.00 [355.60]	10.00 [254.00]	---	6.01 [152.65]

**HIGH VOLTAGE**



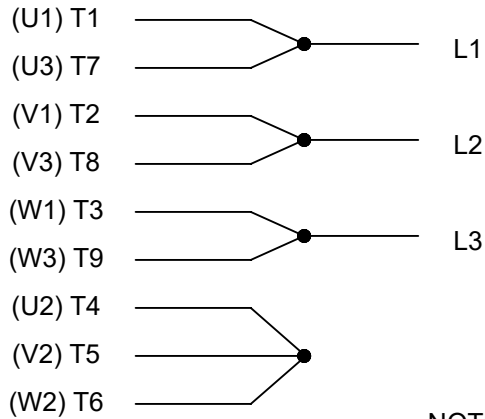
**THREE PHASE  
DUAL VOLTAGE MOTOR**

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
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			REFERENCE EE7308/EE7300	SIZE A	DRAWING NUMBER EE7308T
			THIRD ANGLE PROJECTION		

CERTIFICATION DATA SHEET

Model#: 256THTNA8038 FD WINDING#: K2564267 NONE 1  
 CONN. DIAGRAM: A-EE7308T ASSEMBLY: F1/F2 CAPABLE  
 OUTLINE: B-SS203839-1425

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN		
20	14.9	1800	1770	256TC	TENV	N	INV		
PH	Hz	VOLTS	FL AMPS	START TYPE	DUTY	INSL	S.F	AMB°C	ELEVATION
3	60	230/460	52/26	INVERTER ONLY	CONTINUOUS	H4	1.0	40	3300
FULL LOAD EFF: 93.6	3/4 LOAD EFF: 93.6	1/2 LOAD EFF: 93	GTD. EFF		ELEC. TYPE		NO LOAD AMPS		
FULL LOAD PF: 77	3/4 LOAD PF: 70	1/2 LOAD PF: 57	93		SQ CAGE INV DUTY		29 / 14.5		
F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE		F.L. RISE°C				
59.5 LB-FT	600 / 300	200 LB-FT 336	325 LB-FT 546		90				
SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS /HOUR	APPROX. MOTOR WGT			
62 dBA	72 dBA	3.7 LB-FT^2	- LB-FT^2	- SEC.	-	425 LBS.			

EQUIVALENT WYE CKT.PARAMETERS (OHMS PER PHASE)

R1	R2	X1	X2	XM
0.2201	0.1917	0.6745	0.68444	18.2044
RM	ZREF	XR	TD	TD0
1689.8	14.2	3.4	0.01	0.26

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

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
C-FACE	BRAKE OR 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						
6309	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: 2.0 X BASE SPEED
ENCODER: PROVISIONS ONLY NORTHSTAR ST56 NONE NONE PPR
BRAKE: PROVISIONS ONLY NONE STEARNS P/N NONE

\*  
N  
O  
T  
E  
S  
\*

56,000	NONE	
10 FT-LB	NONE V	NONE Hz

DATE: 06/23/2017 04:59:14 AM  
FORM 3531 REV.3 02/07/99  
\*\* Subject to change without notice.

Data Sheet

Date: 6/20/2017

256THTNA8038

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



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

**Submittal**

Submitted by: FAREEDA DUDEKULA

Data @ 460 V

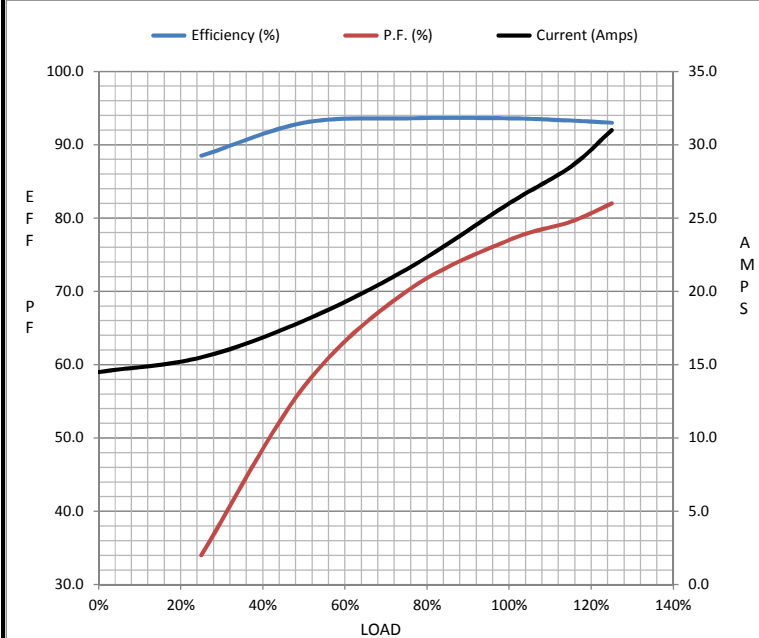
Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR
Current (Amps)	14.5	15.5	18.0	21.5	26.0	28.5	31.0	300
Torque (ft-lb)	0.00	14.6	29.5	44.5	59.5	67.0	74.5	200
RPM	1800	1792	1785	1778	1770	1,766	1760	0
Efficiency (%)		88.5	93.0	93.6	93.6	93.3	93.0	
P.F. (%)	3.5	34.0	57.0	70.0	77.0	79.5	82.0	41.0

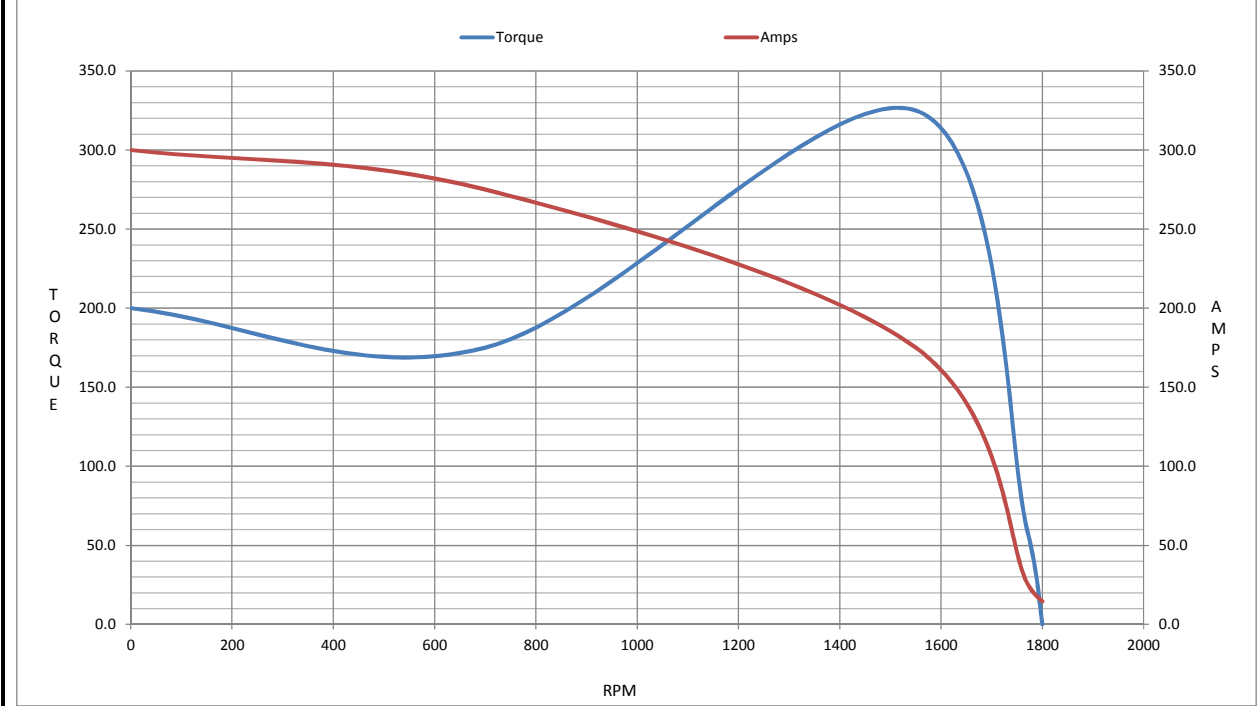
Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	700	1550	1770	1800
Current (Amps)	300	275	175	26.0	14.5
Torque (ft-lb)	200	175	325	59.5	0.00

Information Block				
HP	20.0			
Sync. RPM	1800			
Frame	256			
Enclosure	TENV			
Construction	TTN			
Voltage	230/460 V			
Frequency	60 Hz			
Design	A			
LR Code letter	N			
Service Factor	1.0			
Temp Rise @ FL	95 °C			
Duty	CONT			
Ambient	40 °C			
Elevation	1,000 feet			
Rotor/Shaft wk <sup>2</sup>	3.7 Lb-Ft <sup>2</sup>			
Ref Wdg	K2564267 NONE			
Sound Pressure @ 1M	62 dBA			
VFD Rating	CONSTANT 2000:1			
Outline Dwg	B-SS203839-1425			
Conn. Diag	A-EE7308T			
Additional Specifications:				
0				
0				
EQUIV CKT (OHMS / PHASE)				
R1	R2	X1	X2	Xm
0.2200	0.1920	0.6750	0.6840	18.2040



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 : 256THTNA8038

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

Catalog No : Y510

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**