

# PRODUCT INFORMATION PACKET

Model No: 256THTCD8038

Catalog No: Y510A

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

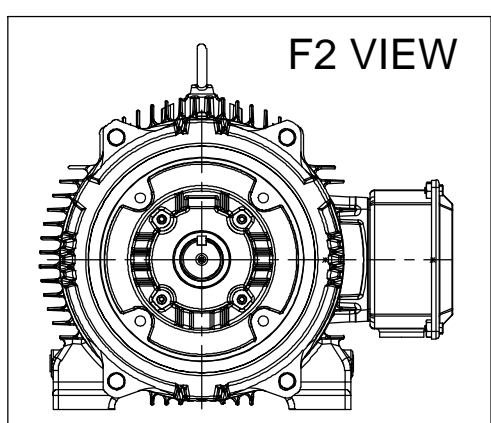
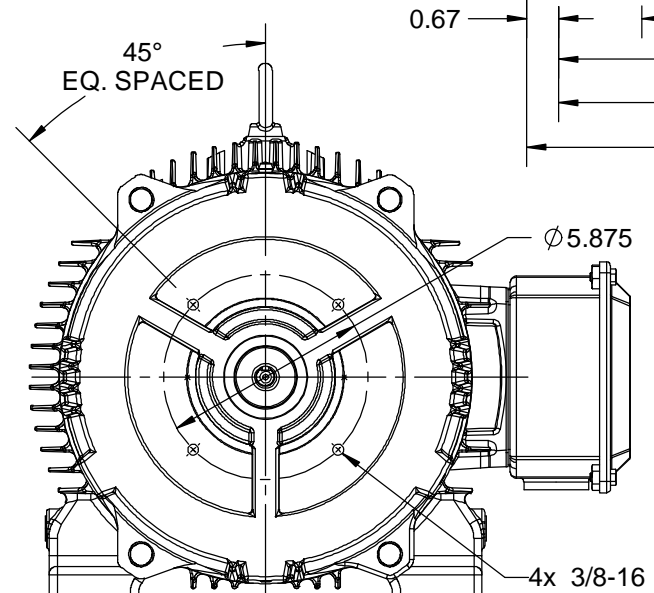
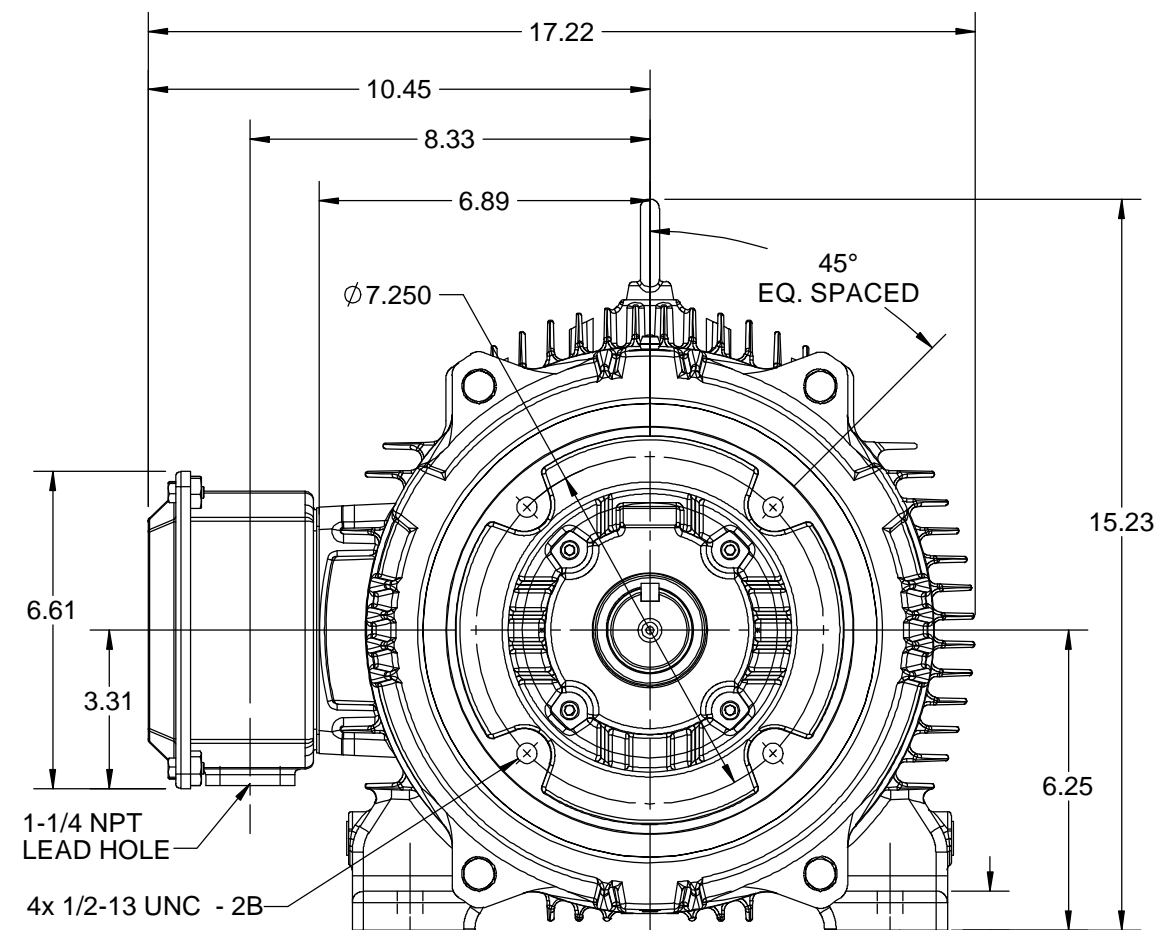
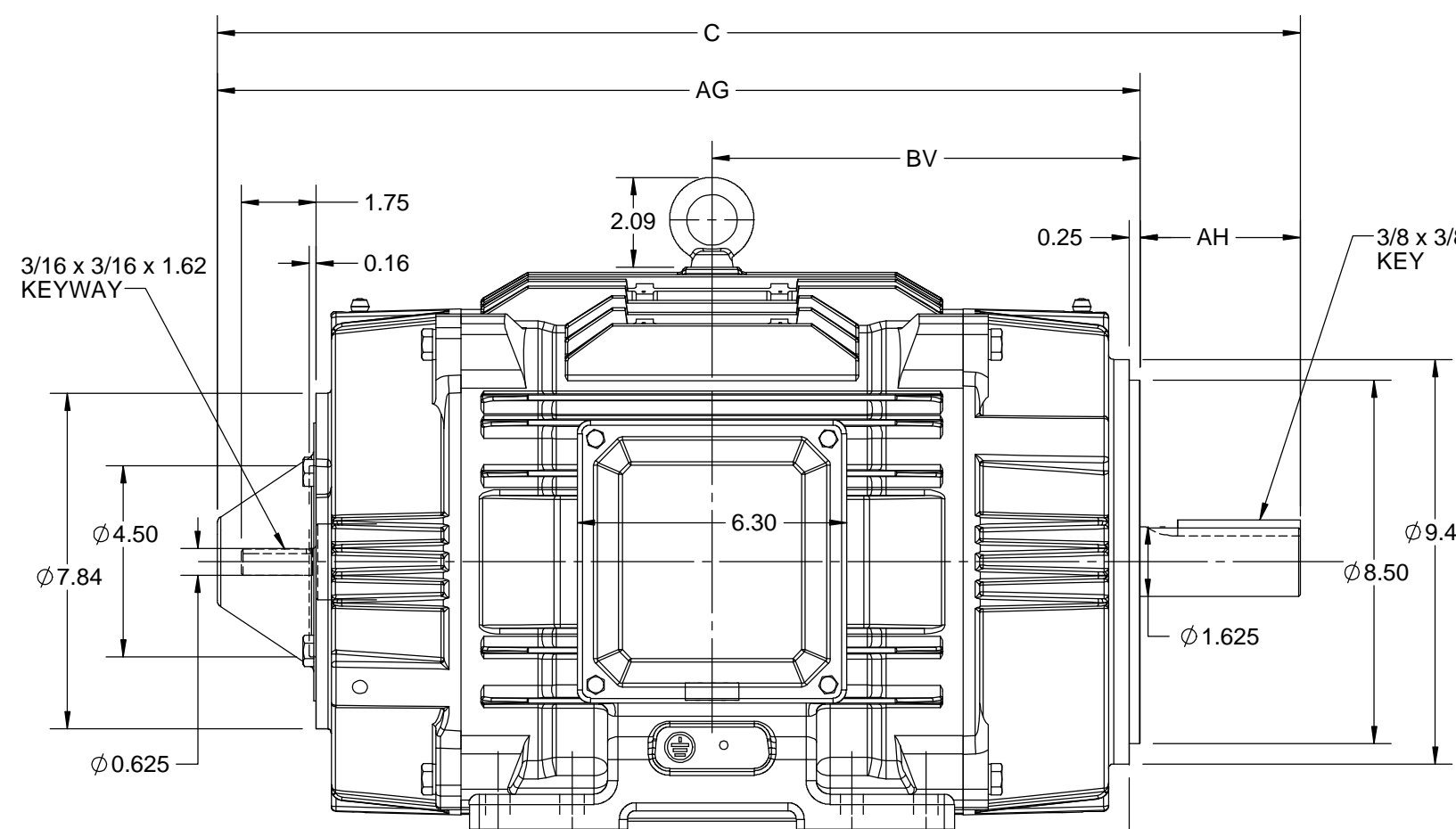
Phase	<b>3</b>	Output HP	<b>20 Hp</b>
Output KW	<b>14.9 kW</b>	Voltage	<b>230/460 V</b>
Speed	<b>1778 rpm</b>	Service Factor	<b>1.00</b>
Frame	<b>256TC</b>	Enclosure	<b>Totally Enclosed Non Ventilated</b>
Thermal Protection	<b>Thermostat</b>	Efficiency	<b>93.6 %</b>
Ambient Temperature	<b>40 °C</b>	Frequency	<b>60 Hz</b>
Current	<b>49.0/24.5 A</b>	Power Factor	<b>84</b>
Duty	<b>Continuous</b>	Insulation Class	<b>H</b>
Design Code	<b>INV</b>	KVA Code	<b>M</b>
Drive End Bearing Size	<b>6309</b>	Opp Drive End Bearing Size	<b>6209</b>
UL	<b>Recognized</b>	CSA	<b>Y</b>
CE	<b>Y</b>	IP Code	<b>55</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>.333 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>	Shaft Diameter	<b>1.625 in</b>
Assembly/Box Mounting	<b>F1/F2 CAPABLE</b>	Inverter Load	<b>CONSTANT 2000:1</b>
Outline Drawing	<b>SS209617-200</b>	Connection Drawing	<b>EE7308T</b>

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DASH NO.	4		3					2		1		
	B	C	E	2E	2F	2FF	AG	AH	BA	BV	MOUNTING	FRAME
100	9.60	23.56	5.00	10.00	---	8.25	19.72	3.75	4.75	9.14	F1 OR F2	254TC
200	11.34	25.31			8.25	10.00	21.56			10.00		254/256TC

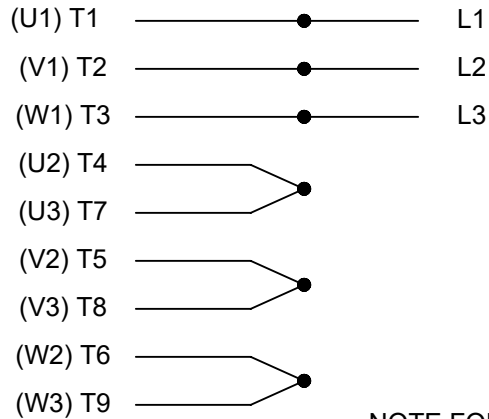


DRAWING REVISION C	REVISION BY BISWA	REV DATE/© DATE 29-10-2020
ECO ECO-0193836	APPROVED BY GNK	DATE 29-10-2020
ECO DESCRIPTION <b>DRAWING UPDATED</b>		
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PRIMARY DIMENSIONS ARE INCH  
mm DIMENSIONS IN [BRACKETS]  
ARE FOR REFERENCE ONLY

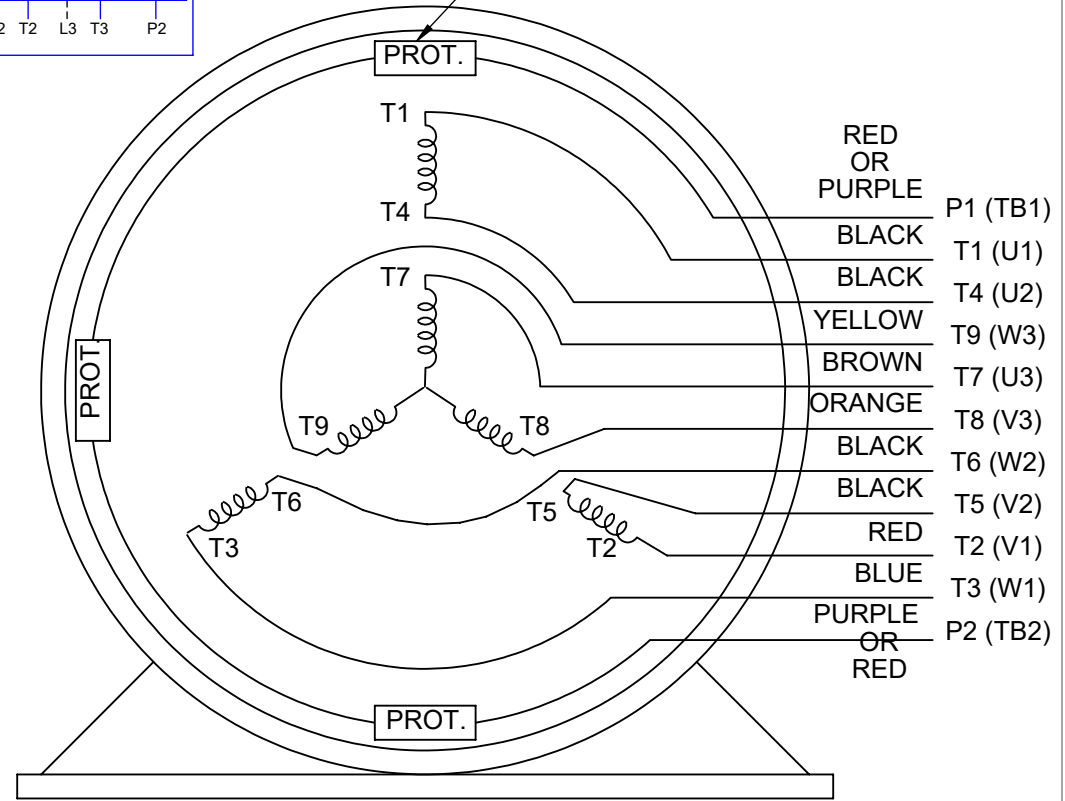
DRAWN BY VS	<b>REGAL</b> ® Regal Beloit America, Inc.
DATE 28-05-2020	
APPROVED BY SBD	DESCRIPTION <b>OUTLINE</b>
DATE 28-05-2020	254/256TC FR NEMA TENV ODE 4.5 AK BRKT
REFERENCE SS203158	MATERIAL
THIRD ANGLE PROJECTION	PROCESS/FINISH
SIZE B	DRAWING NUMBER <b>SS209617</b>
	SHEET 1 OF 1

**HIGH VOLTAGE**



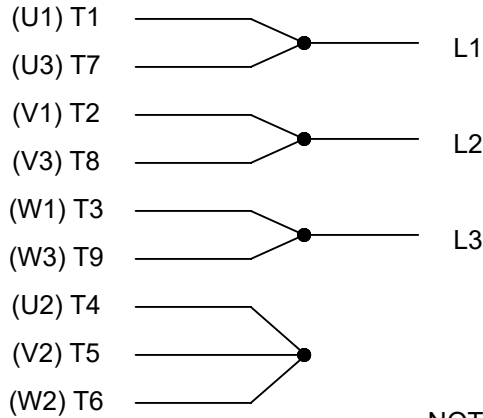
**THREE PHASE  
DUAL VOLTAGE MOTOR**

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 <b>T</b>	REVISION BY <b>ZR</b>	DATE <b>01-14-2019</b>		DRAWN BY <b>SMC</b>	Regal Beloit America, Inc.
ECO <b>ECO-0159915</b>	APPROVED BY <b>DR</b>	DATE <b>01-15-2019</b>		DATE <b>05-13-1992</b>	
ECO DESCRIPTION <b>ADDED TERMINAL CONNECTION DIAGRAM</b>				APPROVED BY <b>TB</b>	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 <b>05-13-1992</b>	MATERIAL	PROCESS/FINISH
			REFERENCE <b>EE7308/EE7300</b>	SIZE <b>A</b>	DRAWING NUMBER <b>EE7308T</b>
			THIRD ANGLE PROJECTION		



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

DATA VOLTS: 460

**CERTIFICATION DATA SHEET**

CUSTOMER:  
ORDER #: \_\_\_\_\_  
CONN. DIAGRAM: EE7308T  
OUTLINE: SS209617-200  
WINDING: HA31604035 NONE 2  
SPEED: \_\_\_\_\_

CUSTOMER P.O. #: \_\_\_\_\_  
REFERENCE MODEL #: 256THCD8038  
CAT #: Y510A  
CUSTOMER PART #: \_\_\_\_\_  
MOUNTING: F1/F2 CAPABLE

**TYPICAL MOTOR PERFORMANCE DATA**

HP	KW	SYNC RPM	FL RPM	FRAME	ENCLOSURE	TYPE	KVA CODE	DESIGN
20	14.9	1800	1778	256TC	TENV	TTC	M	INV

PH	HZ	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB	ELEV.
3	60	230/460	49/24.5	INVERTER ONLY	CONT	H	1.15	40	3300

F.L. EFF	3/4 LD EFF	1/2 LD EFF	GTD EFF	ELECT. TYPE
93.3	93.4	92.7	92.7	SQ CAGE INV DUTY
F.L. PF	3/4 LD PF	1/2 LD PF		
81.9	79.3	67.4		

F.L. TORQUE	LR AMPS @ 460 V	L.R. TORQUE	B.D. TORQUE	F.L. RISE (°C)
59.0 LB-FT	255	180 LB-FT	260 LB-FT	105
		305%	441%	

SOUND PRESSURE @ 3 FT.	POWER	ROTOR WK <sup>2</sup>	MAX. LOAD WK <sup>2</sup>	SAFE STALL TIME	STARTS/HOUR	APROX.	MOTOR WGT
62 dBA	71 dBA	0.869 LB-FT <sup>2</sup>	30 LB-FT <sup>2</sup>	18 SEC.	2	340 LB.	

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

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	MOTOR ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
C-FACE	BRAKE OR ENCODER	RIGID	HORIZONTAL	NO	NONE	NO	NONE	BLUE (ENAMEL)

DE	ODE	GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT MATERIAL	FRAME MATERIAL
BALL	BALL	POLYREX EM	T	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON
6309	6209						

THERMOSTATS	PROTECTORS	WDG RTD's	BRG RTD's	THERMISTORS	CONTROL	SPACE HEATERS
TSTATS (NIC)	NOT	NONE	NONE	NONE	FALSE	NA

R1 (ohms/ph)	R2 (ohms/ph)	X1 (ohms/ph)	X2 (ohms/ph)	Xm (ohms/ph)	VIBRATION (in/sec)	FLOAT
0.208	0.135	0.729	0.681	21.043	0.150	ODE

NOTES	INVERTER TORQUE: CONSTANT 2000:1	
	INV. HP SPEED RANGE: 2.0 X BASE SPEED	
	ENCODER: NORTHSTAR	
	ST56 NONE PPR	

PREPARED BY: _____	BRAKE: NONE
DATE: 9/27/2021	NONE NONE
	FT-LB: NA
	VOLTAGE: NONE
FORM: 3531 REV. 4 2/27/06	UL: V-INS, CONST, OVERHEAT PRT DEV UL REC

Data Sheet

Date: 9/27/2021  
 Customer: \_\_\_\_\_  
 Attention: \_\_\_\_\_  
 Submitted by: \_\_\_\_\_



256THTCD8038

Submittal

Data @ 460 V

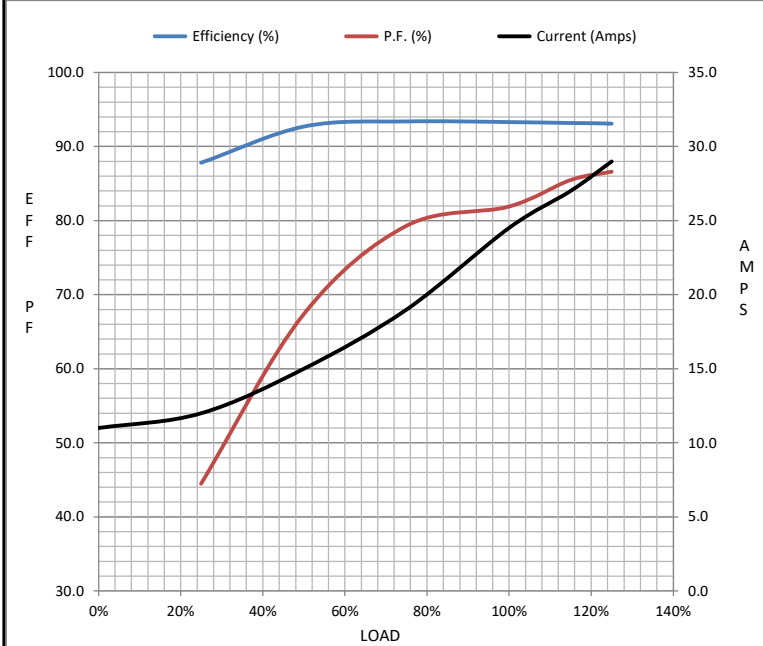
Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR
Current (Amps)	11.0	12.0	15.0	19.0	24.5	27.0	29.0	255
Torque (ft-lb)	0.00	14.6	29.4	44.2	59.0	68.0	74.0	180
RPM	1800	1795	1790	1785	1778	1,776	1774	0
Efficiency (%)		87.8	92.7	93.4	93.3	93.2	93.1	
P.F. (%)	5.7	44.5	67.4	79.3	81.9	85.5	86.6	40.0

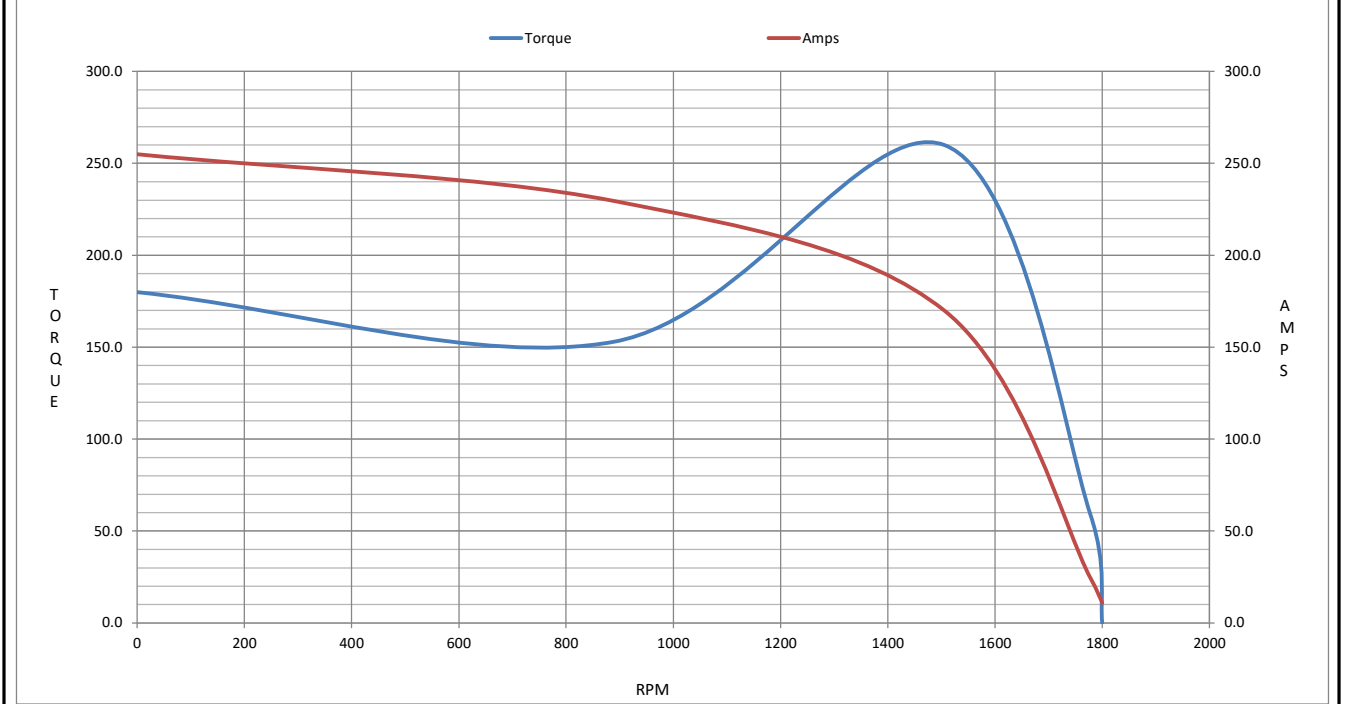
Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	889	1505	1778	1800
Current (Amps)	255	230	170	24.5	11.0
Torque (ft-lb)	180	153	260	59.0	0.00

Information Block				
HP	20.0			
Sync. RPM	1800			
Frame	256			
Enclosure	TENV			
Construction	TTC			
Voltage	230/460 V			
Frequency	60 Hz			
Design	INV			
LR Code letter	M			
Service Factor	1.0			
Temp Rise @ FL	105 ° C			
Duty	CONT			
Ambient	40 ° C			
Elevation	3,300 feet			
Rotor/Shaft wk <sup>2</sup>	0.869 Lb-F <sup>2</sup>			
Ref Wdg	HA31604035 NONE			
Sound Pressure @ 1M	62 dBA			
VFD Rating	CONSTANT 2000:1			
Outline Dwg	SS209617-200			
Conn. Diag	EE7308T			
Additional Specifications:				
0				
0				
EQUIV CKT (OHMS / PHASE)				
R1	R2	X1	X2	Xm
0.2080	0.1350	0.7290	0.6810	21.0430



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 : 256THTCD8038

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

Catalog No : Y510A

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**