

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: 405THFS8378

Catalog No: Y588

Blue Max® Inverter Duty Encoder Motor, 75 HP, 3 Ph, 60 Hz, 230/460 V, 1200 RPM, 405TC Frame,
TEBC-AXIAL



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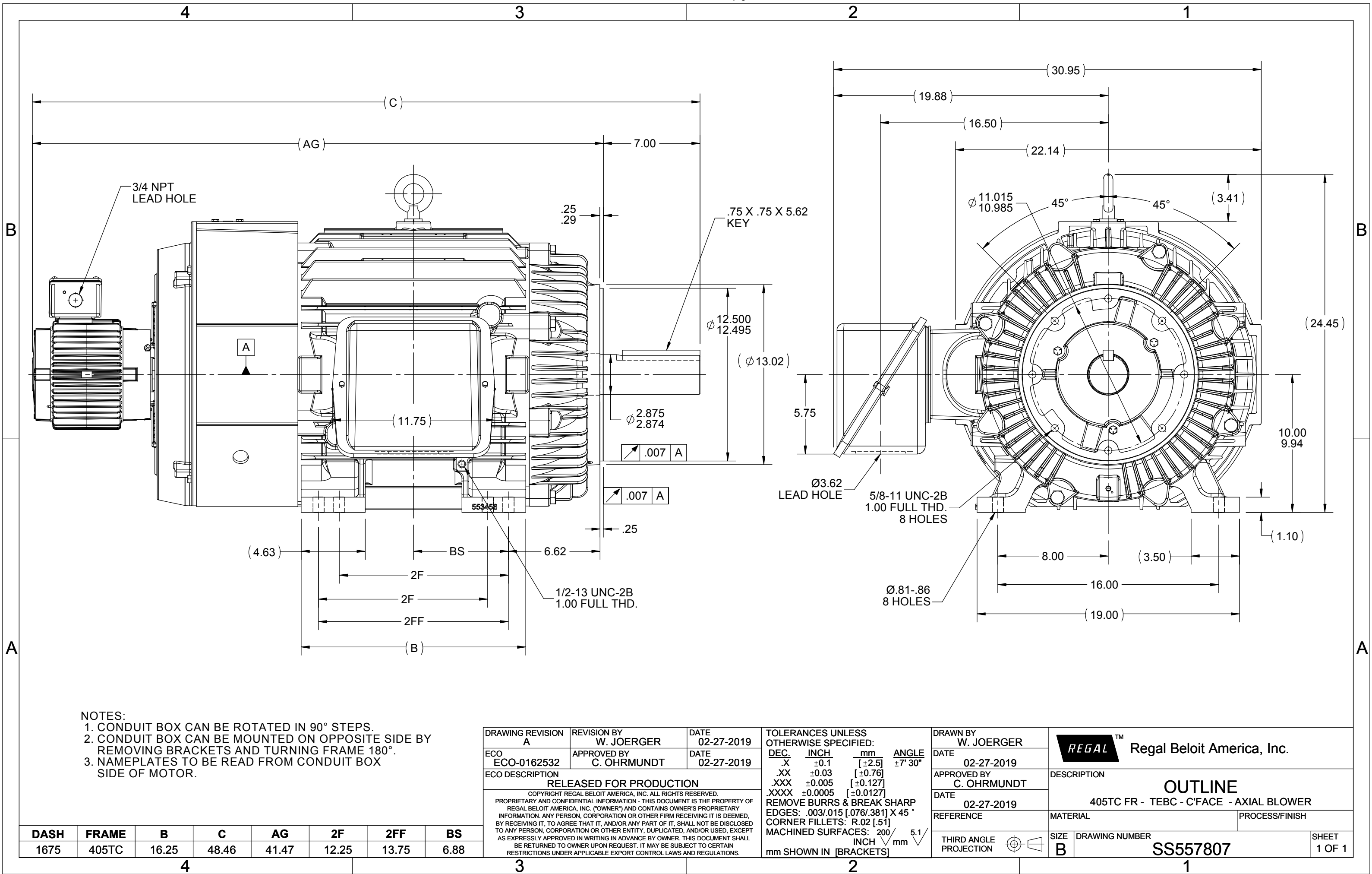
RegalRexnord

Nameplate Specifications

Phase	3	Output HP	75 Hp
Output KW	56.0 kW	Voltage	230/460 V
Speed	1185 rpm	Service Factor	1
Frame	405TC	Enclosure	Totally Enclosed Blower cooled - Axial
Thermal Protection	Thermostat	Efficiency	94.1 %
Ambient Temperature	40 °C	Frequency	60 Hz
Current	180.0/90.0 A	Power Factor	83
Duty	Continuous	Insulation Class	H
Design Code	INV	KVA Code	G
Drive End Bearing Size	6316	Opp Drive End Bearing Size	6313
UL	Recognized	CSA	Y
CE	Y	IP Code	43
Number of Speeds	1		

Technical Specifications

Electrical Type	Squirrel Cage Inverter Duty	Starting Method	Inverter Only
Poles	6	Rotation	Reversible
Resistance Main	.086 Ohms	Mounting	Rigid Base
Motor Orientation	Horizontal	Drive End Bearing	Ball
Opp Drive End Bearing	Ball	Frame Material	Cast Iron
Shaft Type	T	Overall Length	49.72 in
Frame Length	16.75 in	Shaft Diameter	2.875 in
Shaft Extension	7 in	Assembly/Box Mounting	F1/F2 CAPABLE
Inverter Load	CONSTANT 2000:1		
Connection Drawing	A-EE7308T	Outline Drawing	SS557807-1675



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

DRAWING REVISION A	REVISION BY W. JOERGER	DATE 02-27-2019
ECO ECO-0162532	APPROVED BY C. OHRMUNDT	DATE 02-27-2019
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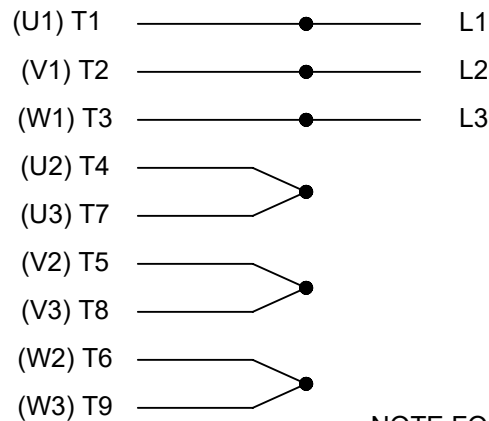
TOLERANCES UNLESS OTHERWISE SPECIFIED:			
DEC.	INCH	mm	ANGLE
.X	±0.1	[±2.5]	±7° 30"
.XX	±0.03	[±0.76]	
.XXX	±0.005	[±0.127]	
.XXXX	±0.0005	[±0.0127]	
REMOVE BURRS & BREAK SHARP EDGES: .003/.015 [.076/.381] X 45°			
CORNER FILLETS: R.02 [.51]			
MACHINED SURFACES: 200 INCH/mm 5.1			
mm SHOWN IN [BRACKETS]			

DRAWN BY W. JOERGER	DATE 02-27-2019
APPROVED BY C. OHRMUNDT	DATE 02-27-2019
REFERENCE	THIRD ANGLE PROJECTION

<div><div>REGAL™</div><div>Regal Beloit America, Inc.</div></div>		
DESCRIPTION		
OUTLINE		
405TC FR - TEBC - C'FACE - AXIAL BLOWER		
MATERIAL		PROCESS/FINISH
SIZE	DRAWING NUMBER	SHEET
B	SS557807	1 OF 1

DASH	FRAME	B	C	AG	2F	2FF	BS
1675	405TC	16.25	48.46	41.47	12.25	13.75	6.88

HIGH VOLTAGE



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

THREE PHASE
DUAL VOLTAGE MOTOR

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
ECO ECO-0159915	APPROVED BY DR	DATE 01-15-2019

ECO DESCRIPTION
ADDED TERMINAL CONNECTION DIAGRAM

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DRAWN BY
SMC

DATE
05-13-1992

APPROVED BY
TB

DATE
05-13-1992

REFERENCE
EE7308/EE7300

THIRD ANGLE
PROJECTION



Regal Beloit America, Inc.

DESCRIPTION

CONN DIAGRAM-INTERNAL
 3 PHASE - DUAL VOLTAGE MOTOR

MATERIAL

PROCESS/FINISH

SIZE
A

DRAWING NUMBER

EE7308T

SHEET
1 OF 1

CERTIFICATION DATA SHEET

Model#: 405THFS8378 BR
CONN. DIAGRAM: A-EE7308T
OUTLINE: B-SS518552-1675

WINDING#: T405642 R2 1
ASSEMBLY: F1/F2 CAPABLE

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
75	56	1200	1185	405TC	TEBC-AXIAL	G	INV

PH	Hz	VOLTS	FL AMPS	START TYPE	DUTY	INSL	S.F	AMB°C	ELEVATION
3	60	230/460	180/90	INVERTER ONLY	CONTINUOUS	H1	1.0	40	3300

FULL LOAD EFF: 94.1	3/4 LOAD EFF: 94.1	1/2 LOAD EFF: 93.6	GTD. EFF	ELEC. TYPE	NO LOAD AMPS
FULL LOAD PF: 83	3/4 LOAD PF: 79	1/2 LOAD PF: 70.5	93	SQ CAGE INV DUTY	62 / 31

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
332 LB-FT	1070 / 535	650 LB-FT 196	715 LB-FT 215	65

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS /HOUR	APPROX. MOTOR WGT
88 dBA	98 dBA	38 LB-FT^2	- LB-FT^2	- SEC.	-	1387 LBS.

EQUIVALENT WYE CKT.PARAMETERS (OHMS PER PHASE)

R1	R2	X1	X2	XM
0.055796	0.035815	0.321204	0.4524	8.3317

RM	ZREF	XR	TD	TD0
493.87	3.77	6.9	0.0355	0.645

*** 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						
BALL	BALL						
6316	6313	POLYREX EM	T	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON

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

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 NORTHSTAR ST56 NONE NONE PPR
BRAKE: NONE NONE NONE P/N NONE

*
N
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*

NONE	NONE	
NONE FT-LB	NONE V	NONE Hz

DATE: 06/21/2017 08:13:53 AM
FORM 3531 REV.3 02/07/99
** Subject to change without notice.

Data Sheet

Date: 6/20/2017

Customer: _____

Attention: _____

Submitted by: FAREEDA DUDEKULA



405THFS8378

Submittal

Data @ 460 V

Motor Load Data

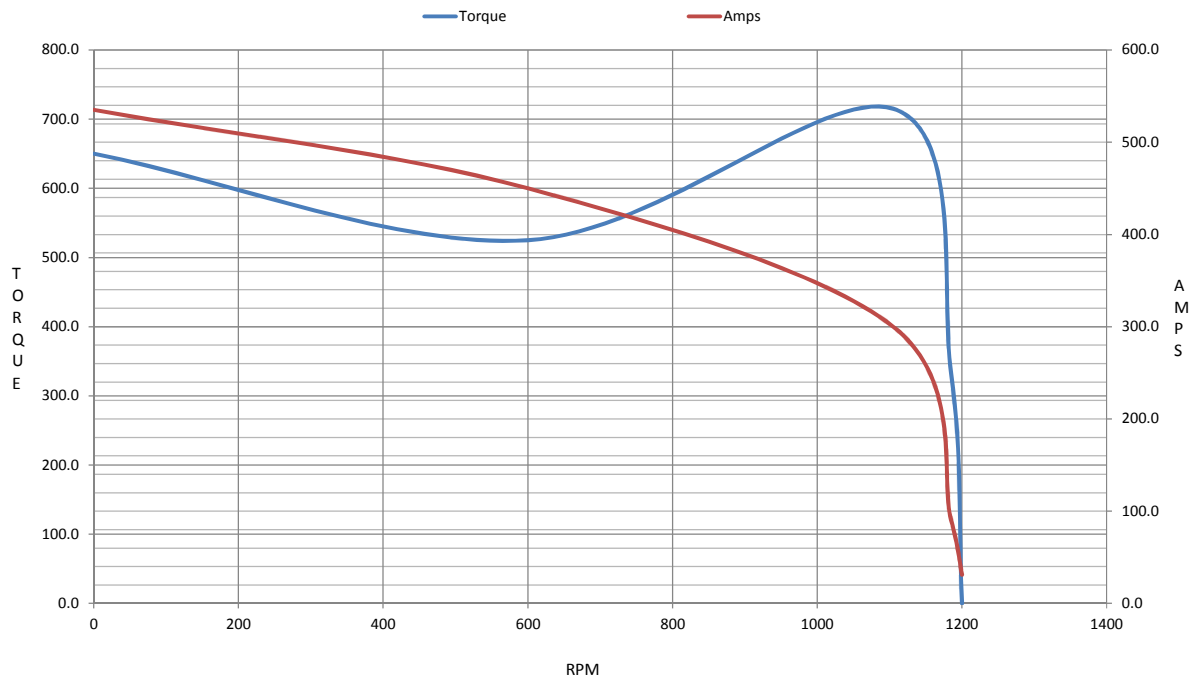
Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	31.0	38.5	52.5	71.0	90.0	103	115	535	
Torque (ft-lb)	0.00	92.5	165	248	332	374	415	650	
RPM	1200	1195	1192	1188	1185	1,181	1175	0	
Efficiency (%)		93.0	93.6	94.1	94.1	93.9	93.6		
P.F. (%)	3.0	50.0	70.5	79.0	83.0	83.5	84.0	37.0	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle																				
Speed (RPM)	0	600	1105	1185	1200																				
Current (Amps)	535	450	300	90.0	31.0																				
Torque (ft-lb)	650	525	715	332	0.00																				
<div><div><div>Efficiency (%)</div><div>P.F. (%)</div><div>Current (Amps)</div></div><div>LOAD</div></div> <table><tr><td colspan="5">EQUIV CKT (OHMS / PHASE)</td></tr><tr><td>R1</td><td>R2</td><td>X1</td><td>X2</td><td>Xm</td></tr><tr><td>0.0560</td><td>0.0360</td><td>0.3210</td><td>0.4520</td><td>8.3320</td></tr></table>						EQUIV CKT (OHMS / PHASE)					R1	R2	X1	X2	Xm	0.0560	0.0360	0.3210	0.4520	8.3320	Information Block				
						EQUIV CKT (OHMS / PHASE)																			
						R1	R2	X1	X2	Xm															
						0.0560	0.0360	0.3210	0.4520	8.3320															
						HP		75.0																	
						Sync. RPM		1200																	
						Frame		405																	
						Enclosure		TEBC																	
						Construction		TBS																	
						Voltage		230/460 V																	
						Frequency		60 Hz																	
						Design		B																	
						LR Code letter		G																	
						Service Factor		1.15																	
						Temp Rise @ FL		65 ° C																	
						Duty		CONT																	
						Ambient		40 ° C																	
Elevation		1,000 feet																							
Rotor/Shaft wk²		38.0 Lb-Ft²																							
Ref Wdg		T405642 R2																							
Sound Pressure @ 1M		88 dBA																							
VFD Rating		CONSTANT 2000:1																							
Outline Dwg		B-SS518552-1675																							
Conn. Diag		A-EE7308T																							
Additional Specifications:																									
0																									
0																									

 | | | | |

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 : 405THFS8378

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

Catalog No : Y588

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