

PRODUCT INFORMATION PACKET

Model No: 284TPFSA10112

Catalog No: SY012

SyMAX® Fan & Blower Motor, 25 HP, 3 Ph, 120 Hz, 460 V, 1800 RPM, 284TC Frame, TEFC



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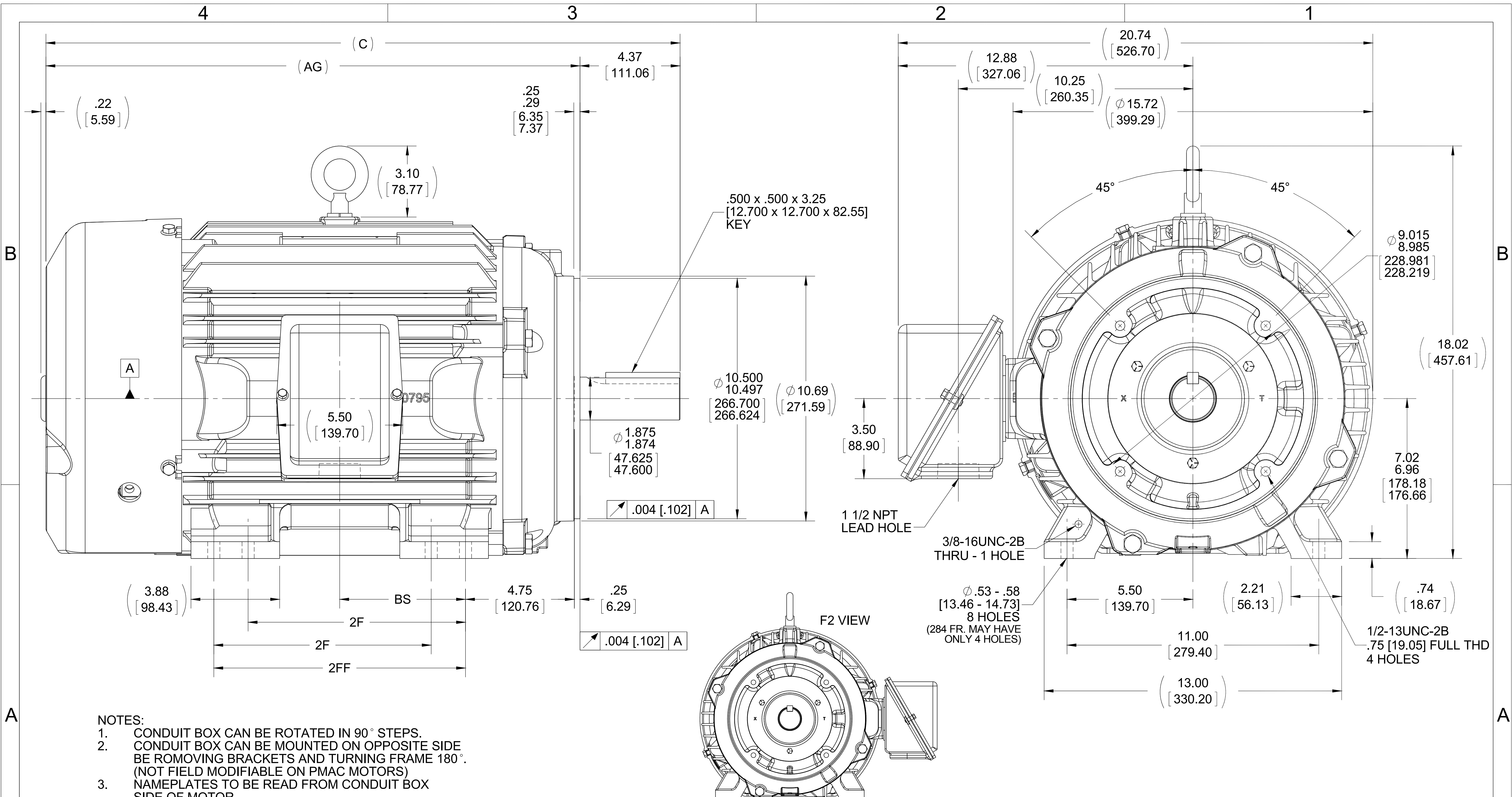
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Nameplate Specifications

Phase	3	Output HP	25 Hp
Output KW	18.7 kW	Voltage	460 V
Speed	1800 rpm	Service Factor	1
Frame	284TC	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	Thermostat	Efficiency	94.5 %
Ambient Temperature	40 °C	Frequency	120 Hz
Current	30.0 A	Power Factor	80
Duty	Continuous	Insulation Class	H
Design Code	No Design Code	KVA Code	N/A
Drive End Bearing Size	6311	Opp Drive End Bearing Size	6210
UL	Recognized	CSA	Y
CE	Y	IP Code	54
Number of Speeds	1		

Technical Specifications

Electrical Type	AC Permanent Magnet	Starting Method	Inverter Only
Poles	8	Rotation	Reversible
Mounting	Rigid Base	Motor Orientation	Horizontal
Drive End Bearing	Ball	Opp Drive End Bearing	Ball
Frame Material	Cast Iron	Shaft Type	T
Overall Length	26.21 in	Frame Length	12.75 in
Shaft Diameter	1.875 in	Shaft Extension	4.37 in
Assembly/Box Mounting	F1 ONLY	Inverter Load	CONSTANT 20:1
Connection Drawing	A-EE7300T	Outline Drawing	B-SS311211-1275



- NOTES:
1. CONDUIT BOX CAN BE ROTATED IN 90° STEPS.
 2. CONDUIT BOX CAN BE MOUNTED ON OPPOSITE SIDE BE REMOVING BRACKETS AND TURNING FRAME 180°. (NOT FIELD MODIFIABLE ON PMAC MOTORS)
 3. NAMEPLATES TO BE READ FROM CONDUIT BOX SIDE OF MOTOR.

DASH	FRAME	B	C	AG	2F	2FF	BS
1275	284TC	12.50 [317.50]	26.21 [665.73]	21.83 [554.48]	---	9.50 [241.30]	4.75 [120.65]
1425	284/286TC	13.00 [330.20]	27.71 [703.83]	23.33 [592.58]	9.50 [241.30]	11.00 [279.40]	5.50 [139.70]

DRAWING REVISION E	REVISION BY JHA	DATE 10-22-2015
ECO ECO-0087127	APPROVED BY TDB	DATE 10-23-2015
ECO DESCRIPTION UPDATED TO CURRENT STANDARDS		
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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 [51]
MACHINED SURFACES: 200 INCH 5.1 mm SHOWN IN [BRACKETS]

DRAWN BY DAH
DATE 08-06-2001
APPROVED BY DD
DATE 08-07-2001
REFERENCE
THIRD ANGLE PROJECTION

REGAL™ Regal Beloit America, Inc.

DESCRIPTION
OUTLINE
280TC FR - TEFC - BB - STD - 12.50 LAM

MATERIAL PROCESS/FINISH

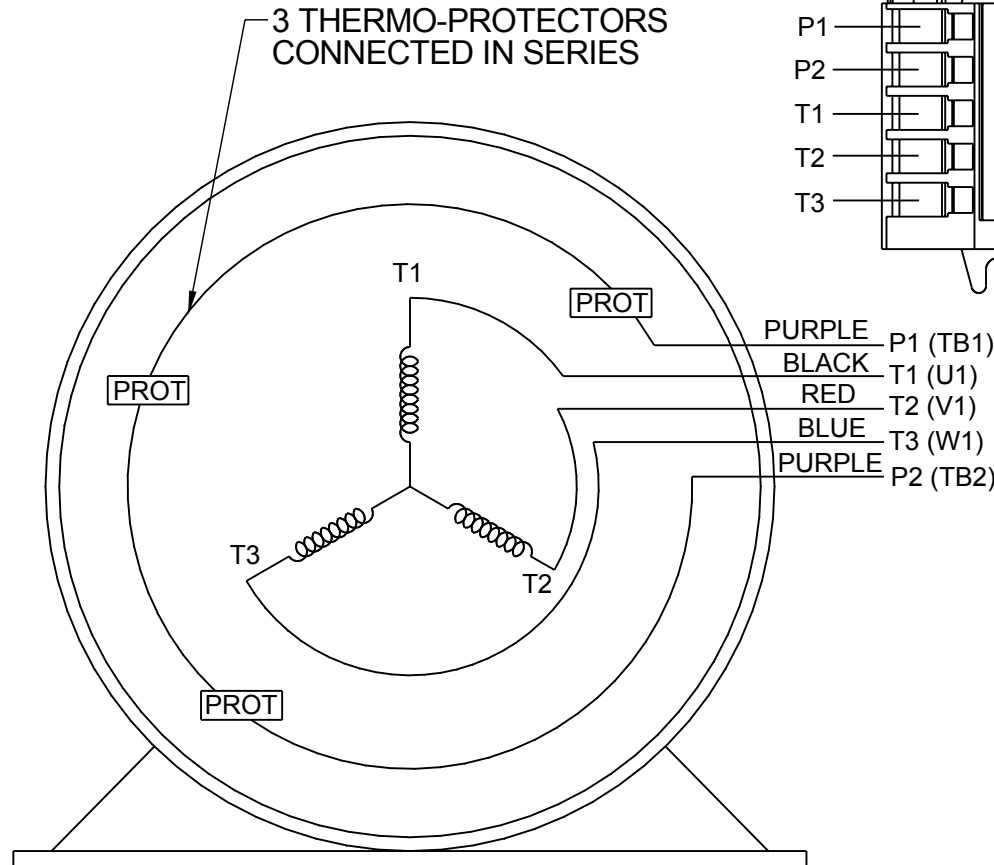
SIZE **B** DRAWING NUMBER **SS311211** SHEET 1 OF 1

**THREE PHASE - SINGLE VOLTAGE
MOTOR - CONDUIT BOX @ 'A'**

**TO REVERSE ROTATION:
INTERCHANGE ANY TWO LINE
LEAD CONNECTIONS**

**NOTE FOR FACTORY USE ONLY:
TO SURGE TEST:
FOR 3 LEAD COMMON CONNECT:
CONNECT P1 TO T1 THEN P2 TO L1
FOR 6 LEAD COMMON CONNECT:
CONNECT P1 TO BOTH T1
THEN P2 TO L1**

TERMINAL BLOCK WHEN SPECIFIED

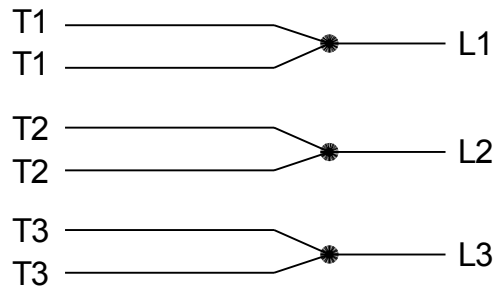


- PURPLE P1 (TB1)
- BLACK T1 (U1)
- RED T2 (V1)
- BLUE T3 (W1)
- PURPLE P2 (TB2)

- T2BM
- T6AW
- T6AL
- T6Z
- T4EG
- T4BF
- T8A
- T6H
- T6A
- T4AX
- T4A
- T2A
- T2F

VIEW OF TERMINAL END

**IF MOTOR HAS MULTIPLE
T'S PER LEAD CONNECT
TOGETHER LIKE T'S**



A-9806 DECAL

DRAWING REVISION AB	REVISION BY AJW	DATE 07-17-2015		DRAWN BY LZ	Regal Beloit America, Inc.
ECO ECO-0081632	APPROVED BY T.VUE	DATE 07-17-2015		DATE 01-04-1994	
ECO DESCRIPTION REV'D IEC MARKINGS PER IEC-60034-8				APPROVED BY GK	DESCRIPTION CONN DIAGRAM-EXTERNAL 3Ø-SINGLE VOLT-MOTOR WITH PROTECTOR
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			THIRD ANGLE PROJECTION	SIZE A	DRAWING NUMBER EE7300T

CERTIFICATION DATA SHEET

Model#: 284THTNA7036 BB
CONN. DIAGRAM: A-EE7300T
OUTLINE: B-SS311154-1275

WINDING#: K2844139 R2.3
ASSEMBLY: F1/F2 CAPABLE

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
25	18.7	1800	1770	284TC	TENV	K	INV

PH	Hz	VOLTS	FL AMPS	START TYPE	DUTY	INSL	S.F	AMB°C	ELEVATION
3	60	575	24.8	INVERTER ONLY	CONTINUOUS	F3	1.0	40	3300

FULL LOAD EFF: 93.6	3/4 LOAD EFF: 94.1	1/2 LOAD EFF: 93	GTD. EFF	ELEC. TYPE	NO LOAD AMPS
FULL LOAD PF: 80	3/4 LOAD PF: 74	1/2 LOAD PF: 62	92.4	SQ CAGE INV DUTY	11.2

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
74.2 LB-FT	224	163 LB-FT 220	330 LB-FT 445	96

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS /HOUR	APPROX. MOTOR WGT
62 dBA	72 dBA	4.4 LB-FT^2	- LB-FT^2	- SEC.	-	475 LBS.

EQUIVALENT WYE CKT.PARAMETERS (OHMS PER PHASE)

R1	R2	X1	X2	XM
0.1425	0.1596	0.7239	0.6783	13.965

RM	ZREF	XR	TD	TD0
1413.6	11.4	5.5	0.012	0.24

***** SUPPLEMENTAL INFORMATION *****

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

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

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 1000:1 INV. HP SPEED RANGE: 2.0 X BASE SPEED
ENCODER: PROVISIONS ONLY NORTHSTAR ST56 NONE NONE PPR
BRAKE: PROVISIONS ONLY NONE NONE P/N NONE

*
N
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NONE	NONE		
NONE FT-LB	NONE V	NONE Hz	

DATE: 06/23/2017 07:36:56 AM
FORM 3531 REV.3 02/07/99
** Subject to change without notice.

Data Sheet



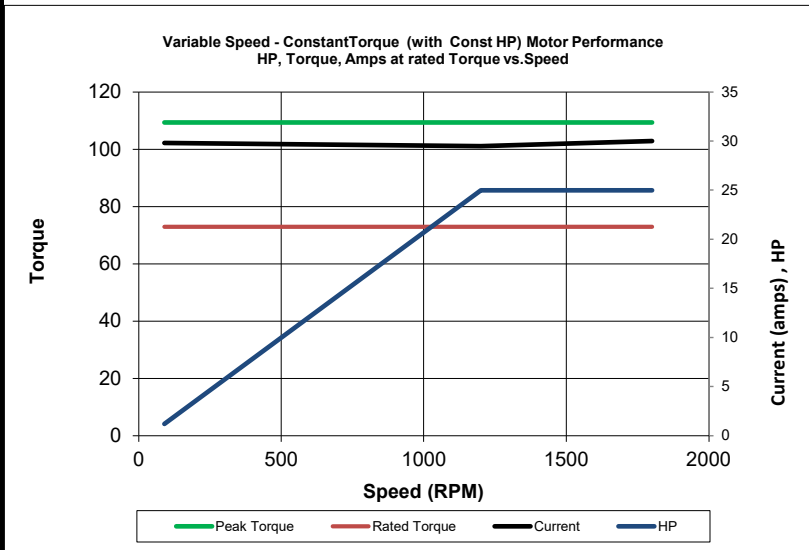
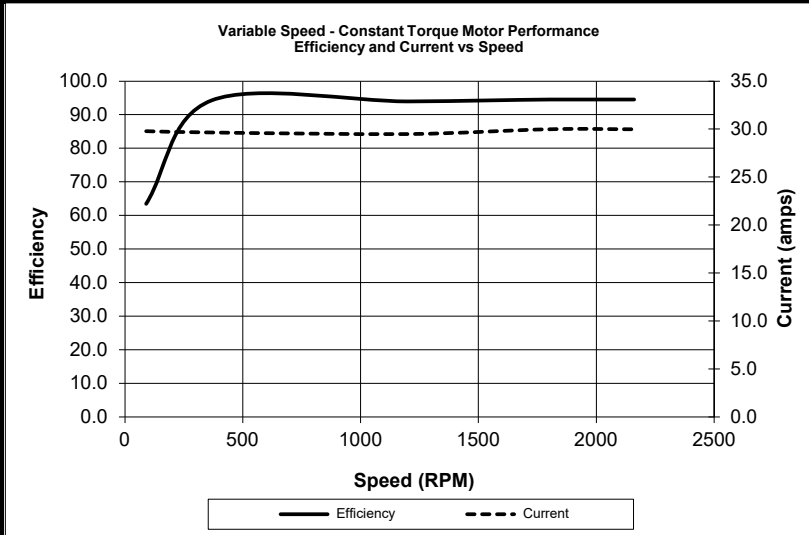
Date: 10/19/2022
 Customer: _____
 Attention: _____
 Submitted by: _____

Model: 284TPFSA10112
 Catalog: SY012
 Winding: PM28608008
 Submittal Data @ 460 V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	150%
Current (Amps)	3	7.9	15.0	22.2	30	34.9	38.2	47.4
Torque (ft-lb)	0.0	18.2	36.5	54.7	72.9	83.9	91.1	109.4
Efficiency (%)		90.3	93.9	94.7	94.5	94.3	94.1	93.2

Motor Speed Data



Motor Characteristics

HP	25.00		
Sync. RPM	1800		
Frame	284		
Enclosure	TEFC		
Construction Type	TFN		
Voltage	460 V		
Frequency	120 Hz		
Motor P.F. (%)	80.0		
Reserve Tq Capability	150 %		
Temp Rise @ FL	60 °C		
Insulation Class	H		
Duty	CONT		
Ambient	40 °C		
Elevation	3,300 feet		
Ref Wdg	PM28608008 R1		
Sound Pressure @ 1m	68 dBA		
Motor Wgt	400 Lb		
Rotor/Shaft wk ²	3.07 Lb-Ft ²		
CT Speed Range	20 :1		
VT Speed Range	2000 :1		
Outline Dwg	SS311211-1275		
Conn. Diag	EE7300T		
DE Bearing	6311		
ODE Bearing	6210		
Additional Specifications:			
PWM variable frequency electronic drive that is permanent magnet motor capable required for operation. Motor efficiency reflects operation on a VFD			
R / phase (ohms)	Ld (mH)	Lq (mH)	BEMF (V/krpm)
0.123	4.6	6.5	220

Constant Torque (Constant Power) Load Points

Hz	RPM	HP	ft-lb	Amps	Eff	Pk Tq
6	90	1.20	72.9	29.8	63.5	109.35
80	1200	25.0	72.9	29.5	94	109.35
120	1800	25.0	72.9	30	94.5	109.35

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 : 284TPFSA10112

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

Catalog No : SY012

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