

# PRODUCT INFORMATION PACKET

**marathon**<sup>®</sup>  
Motors

Model No: 284TPFSA10112  
Catalog No: SY012  
25,1800,TEFC,284TC,3/120/460  
SyMAX - Permanent Magnet AC Motors



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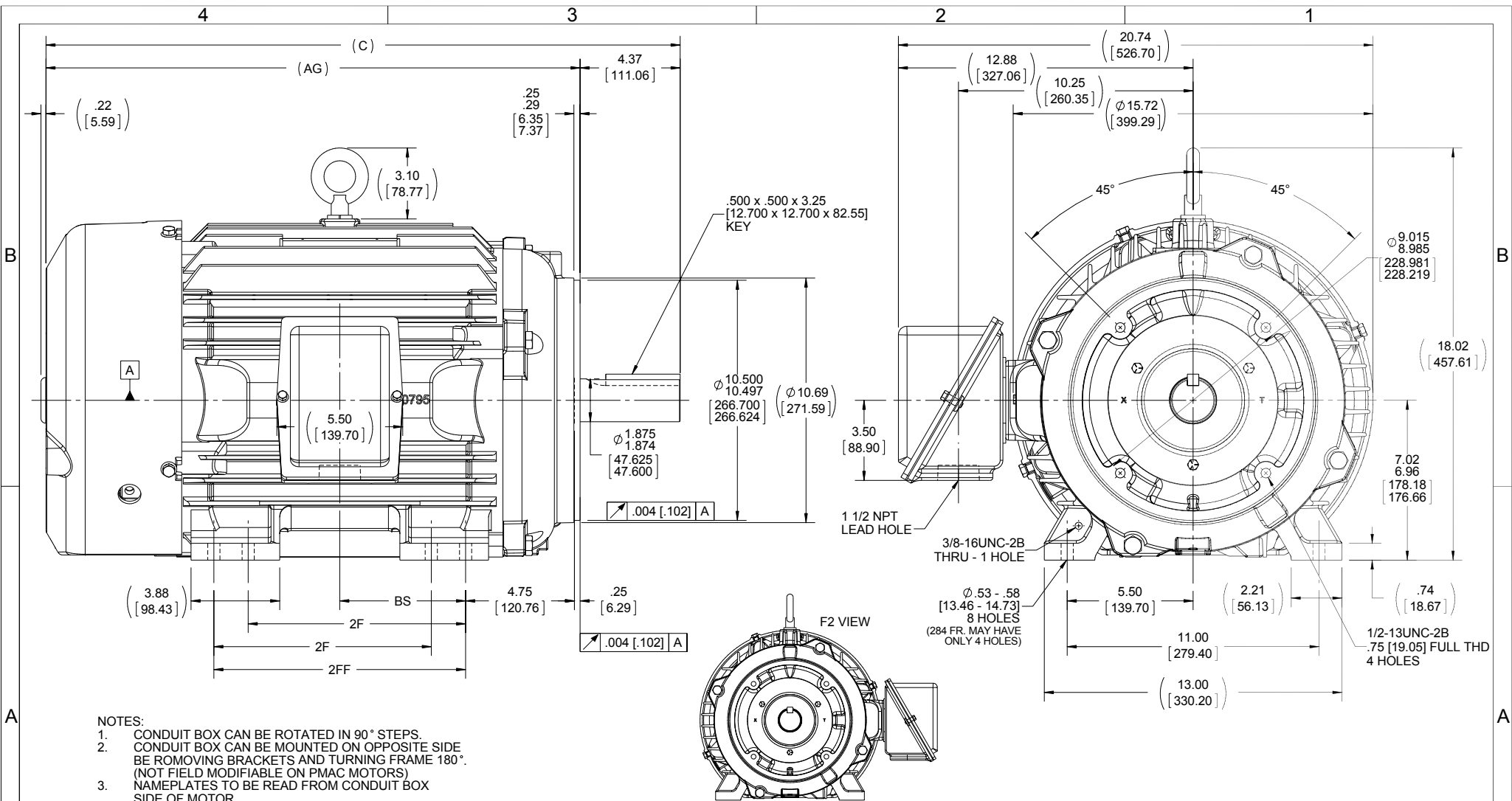
**Nameplate Specifications**

Output HP	<b>25 Hp</b>	Output KW	<b>18.7 kW</b>
Frequency	<b>120 Hz</b>	Voltage	<b>460 V</b>
Current	<b>30.0 A</b>	Speed	<b>1800 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>94.5 %</b>	Duty	<b>Continuous</b>
Insulation Class	<b>H</b>	Design Code	<b>No Design Code</b>
KVA Code	<b>NO KVA CODE</b>	Frame	<b>284TC</b>
Enclosure	<b>Totally Enclosed Fan Cooled</b>	Overload Protector	<b>No</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>54</b>		

**Technical Specifications**

Electrical Type	<b>AC Permanent Magnet</b>	Starting Method	<b>Inverter Only</b>
Poles	<b>8</b>	Rotation	<b>Reversible</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>26.21 in</b>	Frame Length	<b>12.75 in</b>
Shaft Diameter	<b>1.7 in</b>	Shaft Extension	<b>4.37 in</b>
Assembly/Box Mounting	<b>F1/F2 Capable</b>		
Outline Drawing	<b>B-SS311211-1275</b>	Connection Diagram	<b>A-EE7300T</b>

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- 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
.X	+0.1	[+2.5]
.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 5.1 INCH/mm		

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

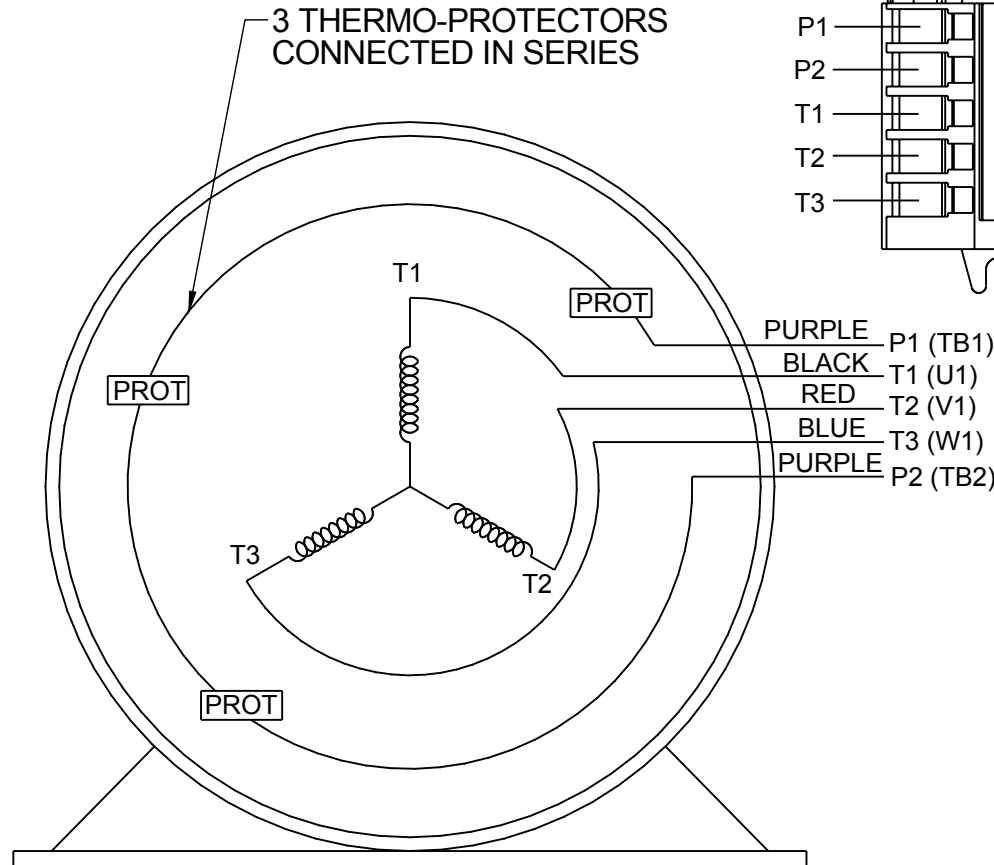
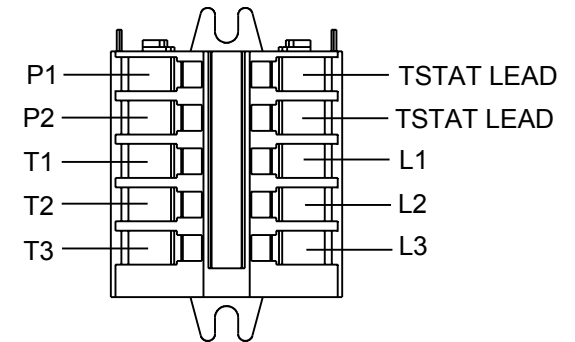
Regal Beloit America, Inc.	
DESCRIPTION <b>OUTLINE</b> 280TC FR - TEFC - BB - STD - 12.50 LAM	
MATERIAL	PROCESS/FINISH
SIZE B	DRAWING NUMBER SS311211
SHEET 1 OF 1	

**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**

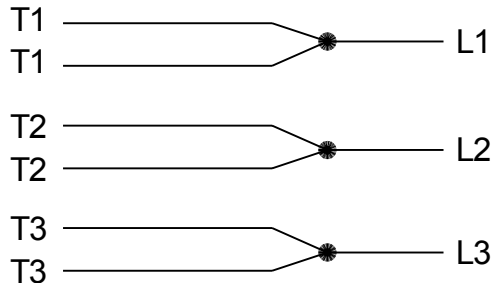
TERMINAL BLOCK WHEN SPECIFIED



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

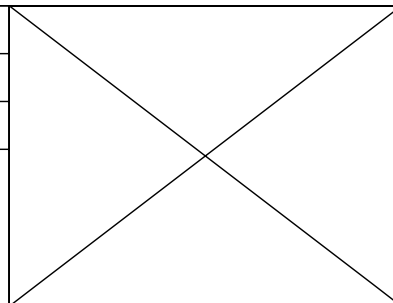
T2BM  
T6AW  
T6AL  
T6Z  
T4EG  
T4BF  
T8A  
T6H  
T6A  
T4AX  
T4A  
T2A  
T2F

**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
ECO ECO-0081632	APPROVED BY T.VUE	DATE 07-17-2015
ECO DESCRIPTION REV'D IEC MARKINGS PER IEC-60034-8		
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DRAWN BY LZ	<b>Regal Beloit America, Inc.</b>	
DATE 01-04-1994		
APPROVED BY GK	DESCRIPTION <b>CONN DIAGRAM-EXTERNAL</b> 3Ø-SINGLE VOLT-MOTOR WITH PROTECTOR	
DATE 01-20-1994	MATERIAL	
REFERENCE	PROCESS/FINISH	
THIRD ANGLE PROJECTION	SIZE <b>A</b>	DRAWING NUMBER <b>EE7300T</b>
		SHEET 1 OF 1

**CERTIFICATION DATA SHEET**

**Model#:** 284THNA7036 BB      **WINDING#:** K2844139 R2 3  
**CONN. DIAGRAM:** A-EE7300T      **ASSEMBLY:** F1/F2 CAPABLE  
**OUTLINE:** B-SS311154-1275

**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  
O  
T  
E  
S  
\*

NONE	NONE		
NONE FT-LB	NONE V	NONE Hz	

DATE: 06/23/2017 07:36:56 AM  
FORM 3531 REV.3 02/07/99  
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