marathon®

Explosion Proof Motors

Model No: 286TTGN16577
Catalog No: E507

Explosion Proof Motor, 20 HP, 3 Ph, 60 Hz, 230/460 V, 1200 RPM, 286T Frame, EPFC

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Product Information Packet: Model No: 286TTGN16577, Catalog No: E507 Explosion Proof Motor, 20 HP, 3 Ph, 60 Hz, 230/460 V, 1200 RPM, 286T Frame, EPFC

Nameplate Specifications

Phase	**3**	Output HP	**20 Hp**
Output KW	**14.9 kW**	Voltage	**230/460 V**
Speed	**1175 r/min**	Synchronous RPM	**1200 r/min**
Service Factor	**1.15**	Frame	**286T**
Enclosure	**Explosion Proof Fan cooled**	Thermal Protection	**Thermostat**
Efficiency	**91.7 %**	Ambient Temperature	**40 °C**
Frequency	**60 Hz**	Current	**53.5/26.8 A**
Power Factor	**76**	Duty	**Continuous**
Insulation Class	**F**	Design Code	**B**
KVA Code	**G**	Drive End Bearing Size	**6311**
Opp Drive End Bearing Size	**6210**	UL	**UL Listed And CSA Certified**
CSA	**Y**	CE	**N**
IP Code	**54**	Number of Speeds	**1**
Hazardous Location	**DIV 1 EXP PROOF CL I GR CD CL II GR FG T3B**		

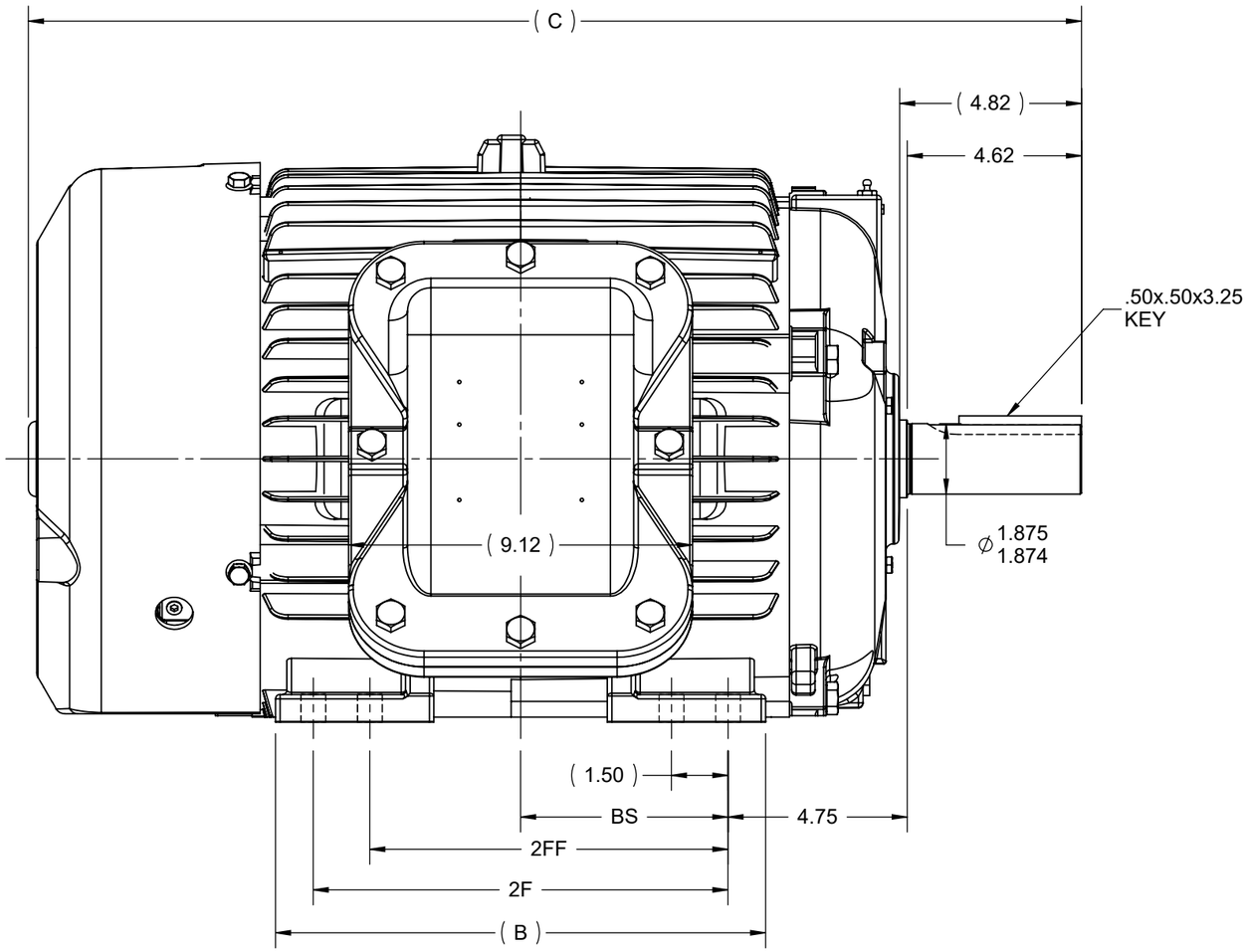
Technical Specifications

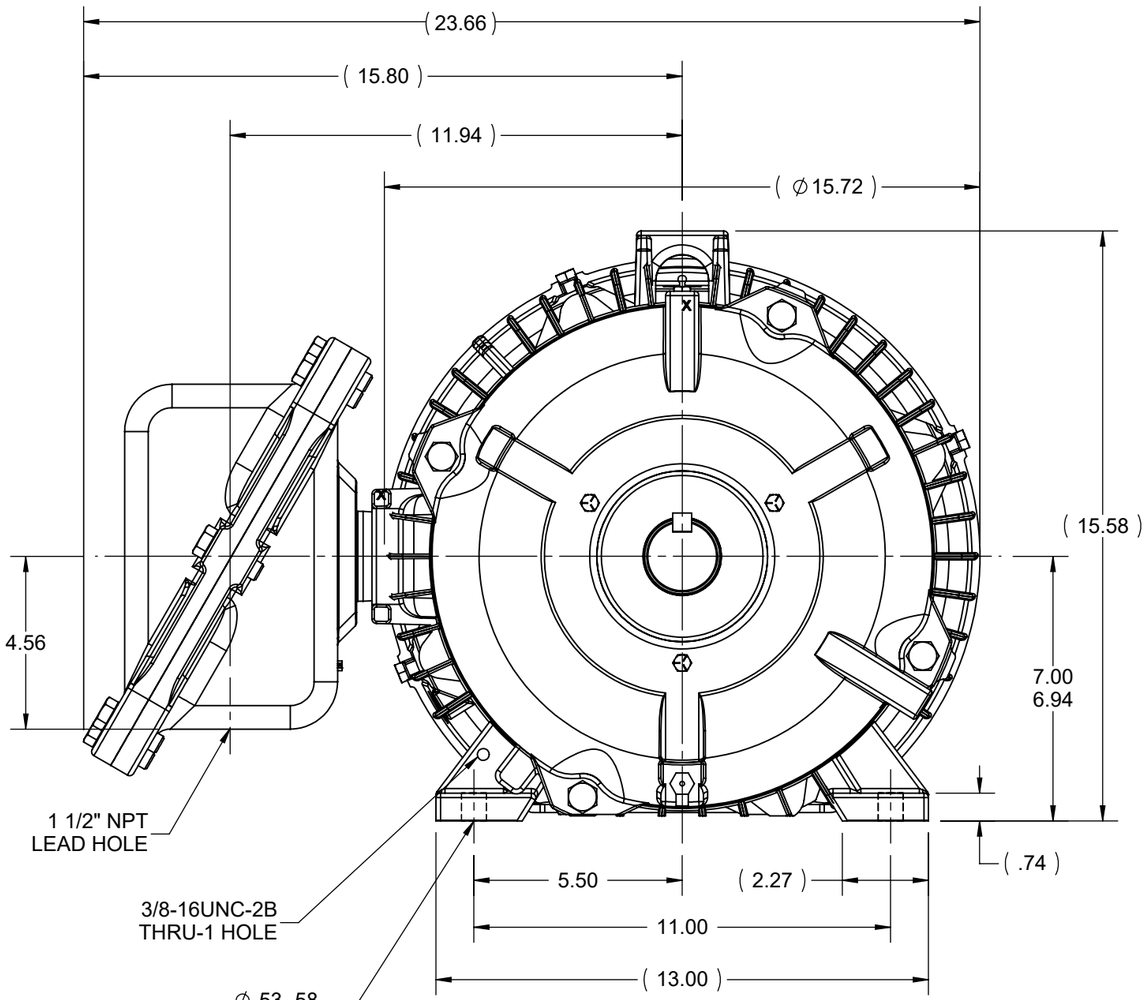
Electrical Type	**Squirrel Cage Inverter Rated**	Starting Method	**Line Or Inverter**
Poles	**6**	Rotation	**Reversible**
Resistance Main	**.385 O**	Mounting	**Rigid Base**
Motor Orientation	**Horizontal**	Drive End Bearing	**Ball**
Opp Drive End Bearing	**Ball**	Frame Material	**Cast Iron**
Shaft Type	**T**	Overall Length	**27.71 in**
Frame Length	**14.25 in**	Shaft Diameter	**1 7/8 in**
Shaft Extension	**4.82 in**	Assembly/Box Mounting	**F1 Only**
Inverter Load	**Constant 10:1**		

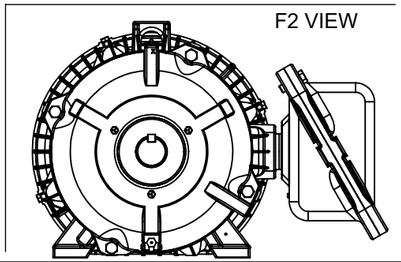
Drawings

Connection Drawing	**A-EE7308AD**	Outline Drawing	**B-SS311106-1425**

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NOTES:
1. CONDUIT BOX CAN ONLY BE ROTATED CLOCKWISE UP TO 270° FROM ITS ORIGINAL POSITION.
2. CONDUIT BOX CAN BE MOUNTED ON OPPOSITE SIDE BY REMOVING BRACKETS AND TURNING FRAME 180°. THIS MODIFICATION CAN BE PERFORMED ONLY BY THE ORIGINAL EQUIPMENT MANUFACTURER OR BY A FACILITY THAT IS COVERED UNDER UNDERWRITERS LABORATORIES INC. CATEGORY PTKQ, TITLED "MOTORS AND GENERATORS, REBUILT FOR USE IN HAZARDOUS LOCATIONS".
3. NAMEPLATES TO BE READ FROM CONDUIT BOX SIDE OF MOTOR.

DASH	FRAME	B	C	BS	2F	2FF	
1275	284T	12.50	26.43	4.75	9.50	---	
1425	284/6T	13.00	27.93	5.50	11.00	9.50	

DRAWING REVISION	REVISION BY	REV DATE/© DATE
D	SB	07/24/2025
REQUEST NUMBER	APPROVED BY	DATE
CR-0023556	SBD	07/24/2025

REQUEST NUMBER DESCRIPTION
DRAWING TITLE BLOCK UPDATED

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TOLERANCES (EXCEPT AS NOTED):

DEC.	INCH	mm	ANGLE
.X	±0.1	[±3]	±7' 30"
.XX	±0.03	[±0.8]	
.XXX	±0.005	[±0.13]	
.XXXX	±0.0005	[±0.013]	

REMOVE BURRS & BREAK SHARP EDGES: .003/.015 [.08/.38] X 45°
CORNER FILLETS: R.02 [.5]
MACHINED SURFACES: 200 / 5.1 INCH / mm
mm DIMENSIONS IN [BRACKETS] ARE FOR REFERENCE ONLY

DRAWN BY	HLB
DATE	10/10/2002
APPROVED BY	DD
DATE	10/10/2002
REFERENCE	
THIRD ANGLE PROJECTION	

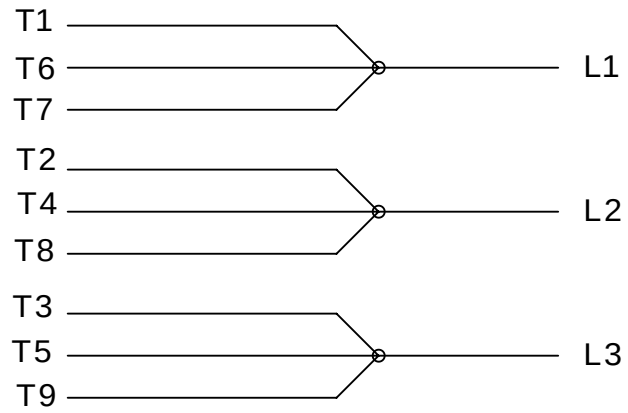
marathon™

DESCRIPTION
OUTLINE
280T FR. - BB - STD - 12.50 LAM

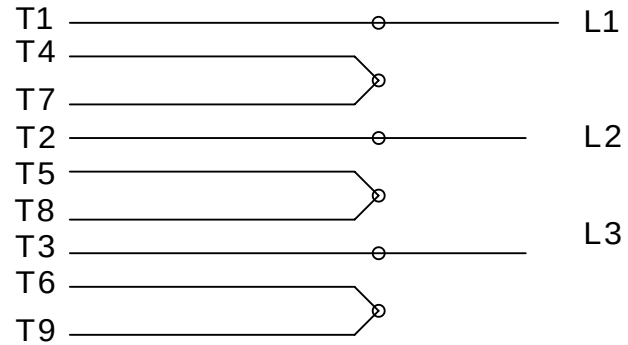
MATERIAL | PROCESS/FINISH

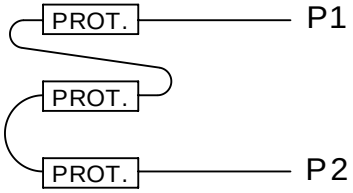
SIZE B | DRAWING NUMBER SS311106 | SHEET 1 OF 1

LOW VOLTAGE

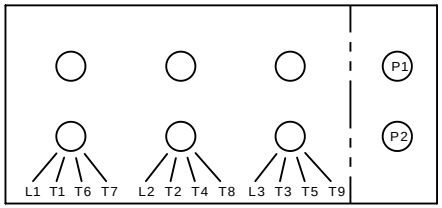


HIGH VOLTAGE

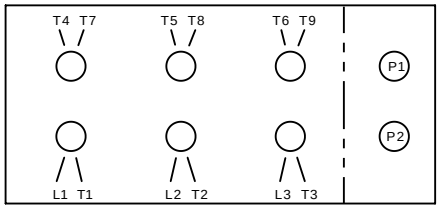


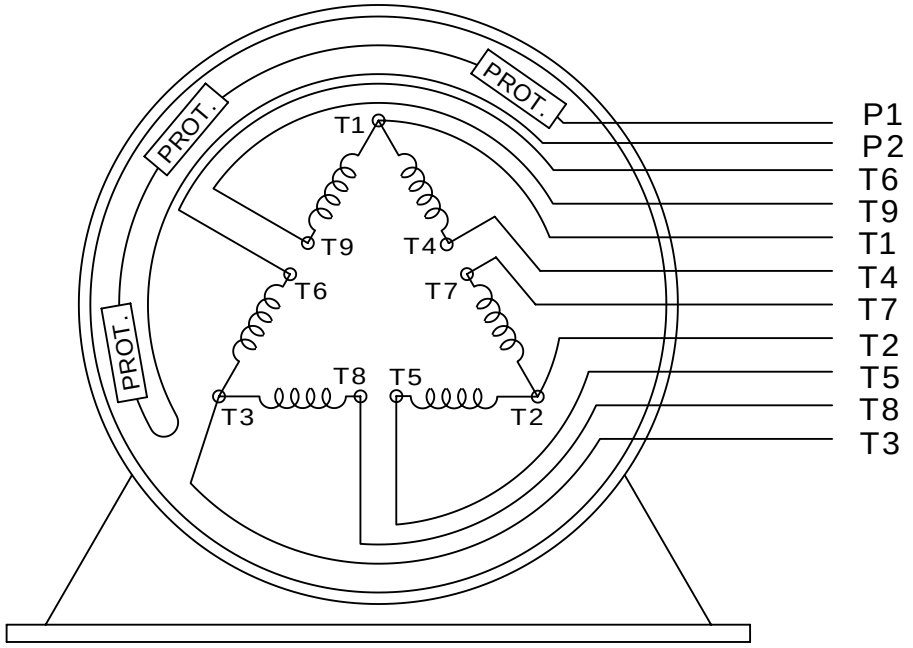


LOW VOLTAGE



HIGH VOLTAGE





VIEW OF TERMINAL END

WHEN MORE THAN ONE PROT. IS USED; PROT. ARE CONNECTED IN SERIES

DRAWING REVISION M	REVISION BY SB	REV DATE/© DATE 06/03/2026	PRIMARY DIMENSIONS ARE INCH mm DIMENSIONS IN [BRACKETS] ARE FOR REFERENCE ONLY	DRAWN BY MJD	marathon™
REQUEST NUMBER CR-0026504	APPROVED BY RMS	DATE 06/03/2026		DATE 12-19-1997	
REQUEST NUMBER DESCRIPTION DRAWING TITLE BLOCK UPDATED				APPROVED BY GK	DESCRIPTION CONN DIAGRAM-EXTERNAL
				DATE 01-07-1998	
				REFERENCE	MATERIAL / PROCESS/FINISH
				THIRD ANGLE PROJECTION	SIZE A / DRAWING NUMBER ee7308ad / SHEET 1 OF 1

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Data Sheet

Date: 19-06-2017
Customer:
Attention:
Submitted by: FAREEDA DUDEKULA

marathon® electric

286TTGN16577

Submittal

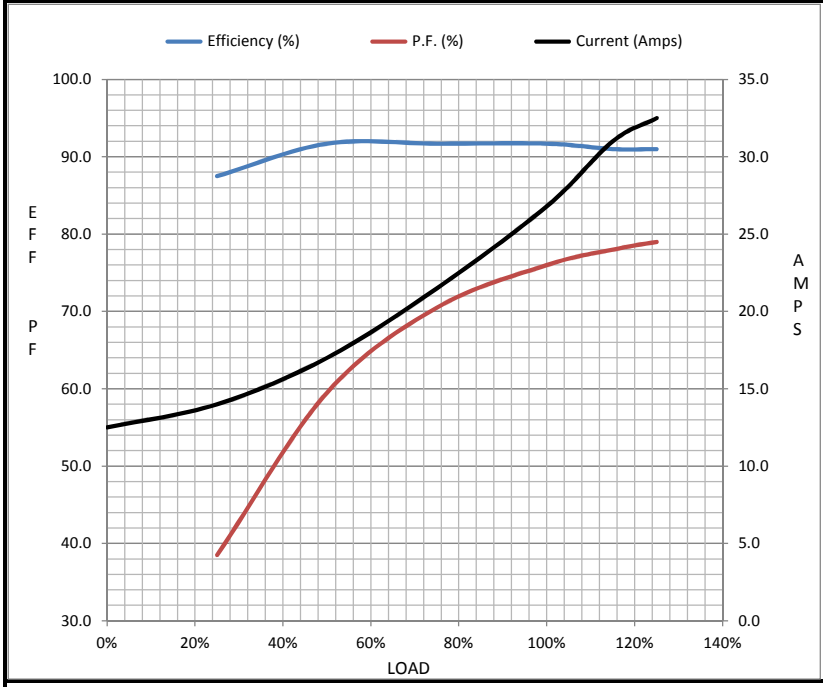
Data @ 460 V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	12.5	14.0	17.0	21.5	26.8	31.0	32.5	145	
Torque (ft-lb)	0.00	22.0	44.0	66.5	89.0	103	112	157	
RPM	1200	1195	1190	1180	1175	1,170	1167	0	
Efficiency (%)		87.5	91.7	91.7	91.7	91.0	91.0		
P.F. (%)	20.5	38.5	59.5	70.5	76.0	78.0	79.0	36.0	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	600	1070	1175	1200
Current (Amps)	145	135	93.5	26.8	12.5
Torque (ft-lb)	157	152	238	89.0	0.00



Information Block

HP	20.0
Sync. RPM	1200
Frame	286
Enclosure	TEFC
Construction	TFN
Voltage	230/460 V
Frequency	60 Hz
Design	B
LR Code letter	G
Service Factor	1.15
Temp Rise @ FL	60 ° C
Duty	CONT
Ambient	40 ° C
Elevation	1,000 feet
Rotor/Shaft wk²	4.8 Lb-Ft²
Ref Wdg	286654 NONE
Sound Pressure @ 1M	56 dBA
VFD Rating	CONSTANT 10:1
Outline Dwg	B-SS311106-1425
Conn. Diag	A-EE7308AD

Additional Specifications:

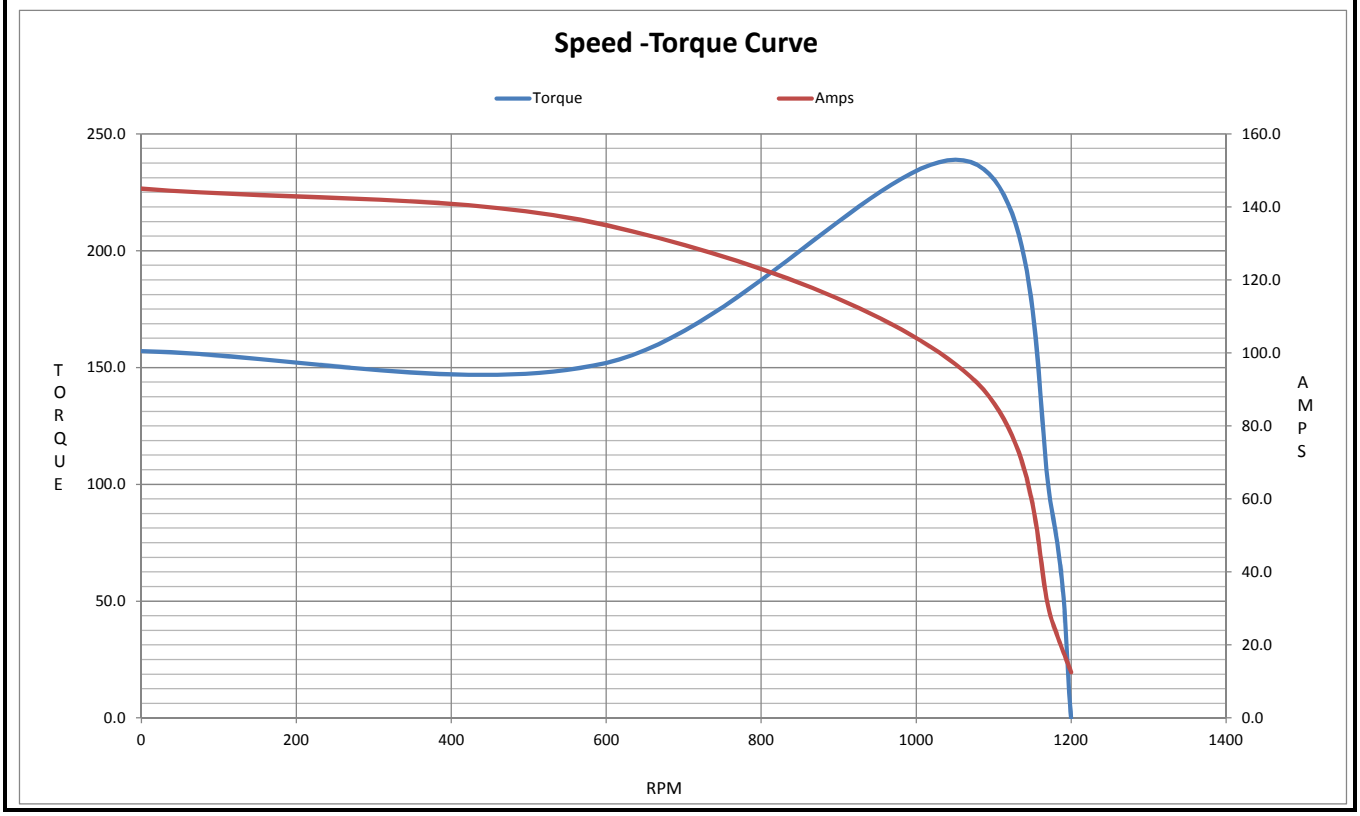
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EQUIV CKT (OHMS / PHASE)

R1	R2	X1	X2	Xm
0.2340	0.2470	1.2520	1.2730	19.2130

Speed -Torque Curve



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CERTIFICATION DATA SHEET

Model#:	286TTGN16577 AA	**WINDING#:**	286654 NONE 6
CONN. DIAGRAM:	A-EE7308AD	**ASSEMBLY:**	F1 ONLY
OUTLINE:	B-SS311106-1425		

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
20	14.9	1200	1175	286T	EPFC	G	B

PH	Hz	VOLTS	FL AMPS	START TYPE	DUTY	INSL	S.F	AMB°C	ELEVATION
3	60	230/460	53.5/26.8	LINE OR INVERTER	CONTINUOUS	F3	1.15	40	3300

FULL LOAD EFF: 91.7	3/4 LOAD EFF: 91.7	1/2 LOAD EFF: 91.7	GTD. EFF	ELEC. TYPE	NO LOAD AMPS
FULL LOAD PF: 76	3/4 LOAD PF: 70.5	1/2 LOAD PF: 59.5	91	SQ CAGE INV RATED	25 / 12.5

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
89 LB-FT	290 / 145	157 LB-FT 176	238 LB-FT 267	60

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS /HOUR	APPROX. MOTOR WGT
56 dBA	66 dBA	4.8 LB-FT^2	350 LB-FT^2	20 SEC.	2	550 LBS.

*** SUPPLEMENTAL INFORMATION ***

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
STANDARD	STANDARD	RIGID	HORIZONTAL	PREMIUM SEVERE DUTY	EXP PROOF CL I GR C&D CL II GR F&G T3B	FALSE	NONE	BLUE (EPOXY)

BEARINGS		GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT MATERIAL	FRAME MATERIAL
DE	OPE						
BALL 6311	BALL 6210	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 10:1
INV. HP SPEED RANGE: NONE

ENCODER: NONE
NONE NONE
NONE NONE PPR

BRAKE: NONE NONE
NONE P/N NONE
NONE NONE
- FT-LB NONE V NONE Hz

* NOTES *

DATE: 06/21/2017 10:37:46 AM
FORM 3531 REV.3 02/07/99
** Subject to change without notice.