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Explosion Proof Motors

Model No: 324TSTGS16531
Catalog No: U078A

Explosion Proof Motor, 40 & 30 HP, 3 Ph, 60 & 50 Hz, 230/460 & 190/380 V, 1800 RPM, 324TS Frame, EPFC

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Product Information Packet: Model No: 324TSTGS16531, Catalog No: U078A Explosion Proof Motor, 40 & 30 HP, 3 Ph, 60 & 50 Hz, 230/460 & 190/380 V, 1800 RPM, 324TS Frame, EPFC

Nameplate Specifications

Phase	**3**	Output HP	**40 & 30 Hp**
Output KW	**30.0 & 22.4 kW**	Voltage	**230/460 & 190/380 V**
Speed	**1780 & 1480 r/min**	Synchronous RPM	**1800 & 1500 r/min**
Service Factor	**1.00 & 1.00**	Frame	**324TS**
Enclosure	**Explosion Proof Fan cooled**	Thermal Protection	**Thermostat**
Efficiency	**94.1 & 94.1 %**	Ambient Temperature	**50 °C**
Frequency	**60 & 50 Hz**	Current	**95/47.5 & 87/43.5 A**
Power Factor	**83**	Duty	**Continuous**
Insulation Class	**F**	Design Code	**B**
KVA Code	**G**	Drive End Bearing Size	**6312**
Opp Drive End Bearing Size	**6311**	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 T3C**		

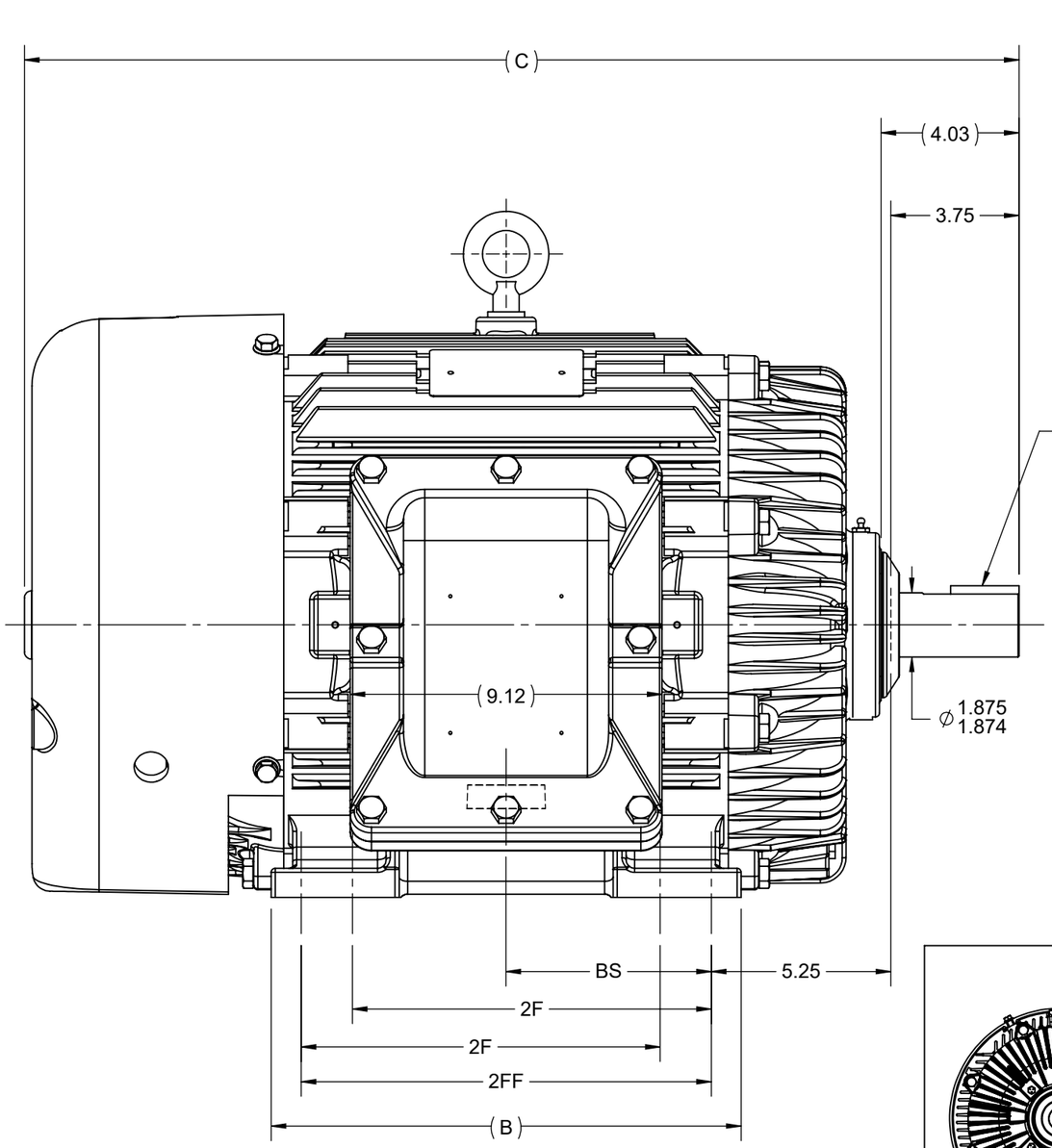
Technical Specifications

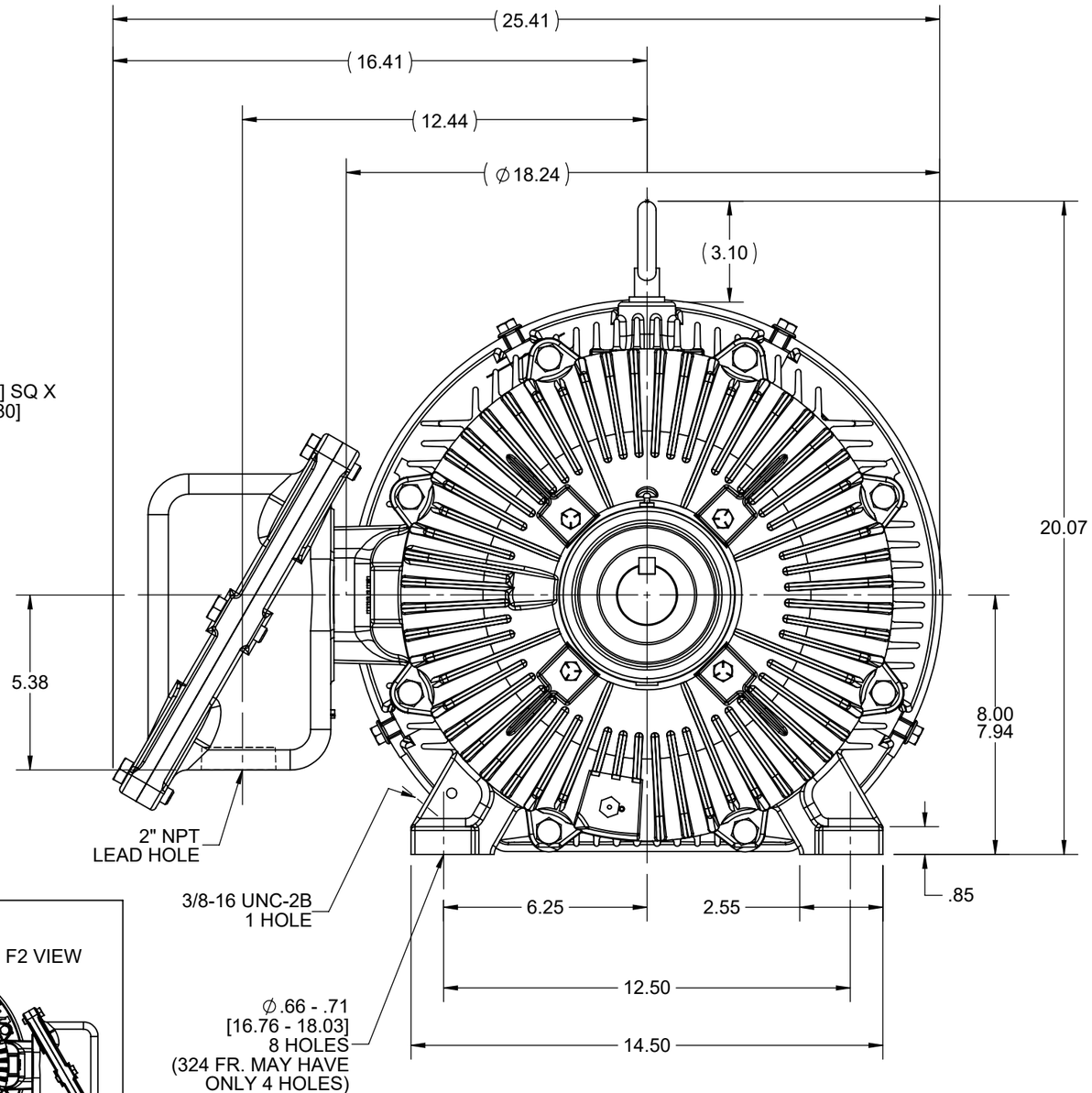
Electrical Type	**Squirrel Cage Inverter Rated**	Starting Method	**Line Or Inverter**
Poles	**4**	Rotation	**Reversible**
Resistance Main	**.135 O**	Mounting	**Rigid Base**
Motor Orientation	**Horizontal**	Drive End Bearing	**Ball**
Opp Drive End Bearing	**Ball**	Frame Material	**Cast Iron**
Shaft Type	**TS**	Overall Length	**28.87 in**
Frame Length	**13.0 in**	Shaft Diameter	**1 7/8 in**
Shaft Extension	**4 in**	Assembly/Box Mounting	**F1 Only**
Inverter Load	**Constant 10:1**		

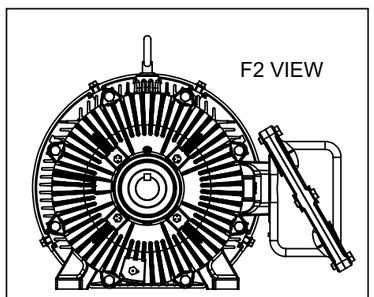
Drawings

Connection Drawing	**A-EE7308T**	Outline Drawing	**B-SS28118-1300**

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NOTES:
1. CONDUIT BOX CAN BE ROTATED IN 90° STEPS.
2. NAMEPLATE TO BE READ FROM CONDUIT BOX SIDE OF MOTOR.

DASH	FRAME	C	B	2F	2FF	BS
1150	324TS	27.60 [701.04]	13.00 [330.20]	- - -	10.50 [266.70]	5.25 [133.35]
1300	324/326TS	29.10 [739.06]	14.50 [368.30	10.50 [266.70]	12.00 304.80]	6.00 152.40]
1450	326TS	30.60 [777.25]	15.00 [381.00]	12.00 304.80]	13.50 [342.90]	6.75 [171.45]

DRAWING REVISION	REVISION BY	REV DATE/© DATE
M	SB	08/12/2025
REQUEST NUMBER	APPROVED BY	DATE
CR-0023600	SBD	08/12/2025

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	MRB
DATE	09-06-1995
APPROVED BY	GK
DATE	09-06-1995
REFERENCE	

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DESCRIPTION
OUTLINE
320TS FR. - EPFC - BB

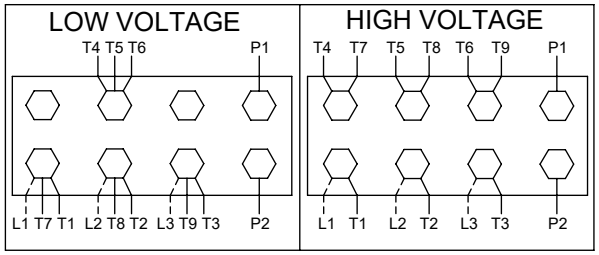
MATERIAL | PROCESS/FINISH

THIRD ANGLE PROJECTION

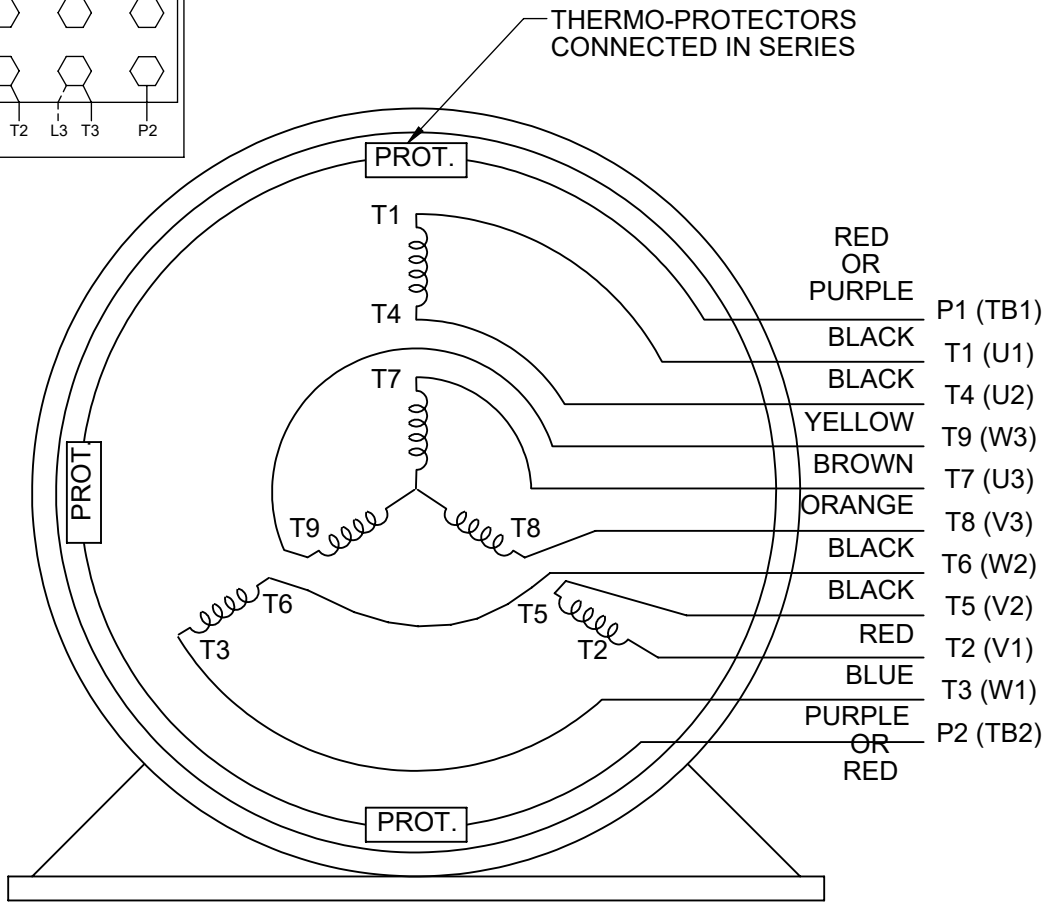
SIZE	DRAWING NUMBER	SHEET
B	SS28118	1 OF 1

HIGH VOLTAGE

(U1) T1 — L1
(V1) T2 — L2
(W1) T3 — L3
(U2) T4
(U3) T7
(V2) T5
(V3) T8
(W2) T6
(W3) T9



THREE PHASE
DUAL VOLTAGE MOTOR



VIEW OF TERMINAL END

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

(U1) T1 — L1
(U3) T7 — L1
(V1) T2 — L2
(V3) T8 — L2
(W1) T3 — L3
(W3) T9 — L3
(U2) T4
(V2) T5
(W2) T6

NOTE: LEAD'S COLOR CAN BE YELLOW OR WHITE FOR IMG PLANT

DRAWING REVISION: U	REVISION BY: SB	REV DATE/© DATE: 08/01/2025	PRIMARY DIMENSIONS ARE INCH mm DIMENSIONS IN [BRACKETS] ARE FOR REFERENCE ONLY	DRAWN BY: SMC	marathon™
REQUEST NUMBER: CR-0023654	APPROVED BY: SBD	DATE: 08/01/2025		DATE: 05-13-1992	
REQUEST NUMBER DESCRIPTION: DRAWING TITLE BLOCK UPDATED				APPROVED BY: TB	DESCRIPTION: CONN DIAGRAM-EXTERNAL
				DATE: 05-13-1992	3 PHASE - DUAL VOLTAGE MOTOR
				REFERENCE: EE7308/EE7300	MATERIAL / PROCESS/FINISH
				THIRD ANGLE PROJECTION	SIZE: A — DRAWING NUMBER: EE7308T — SHEET: 1 OF 1

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Data Sheet

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

marathon® electric

324TSTGS16531

Submittal

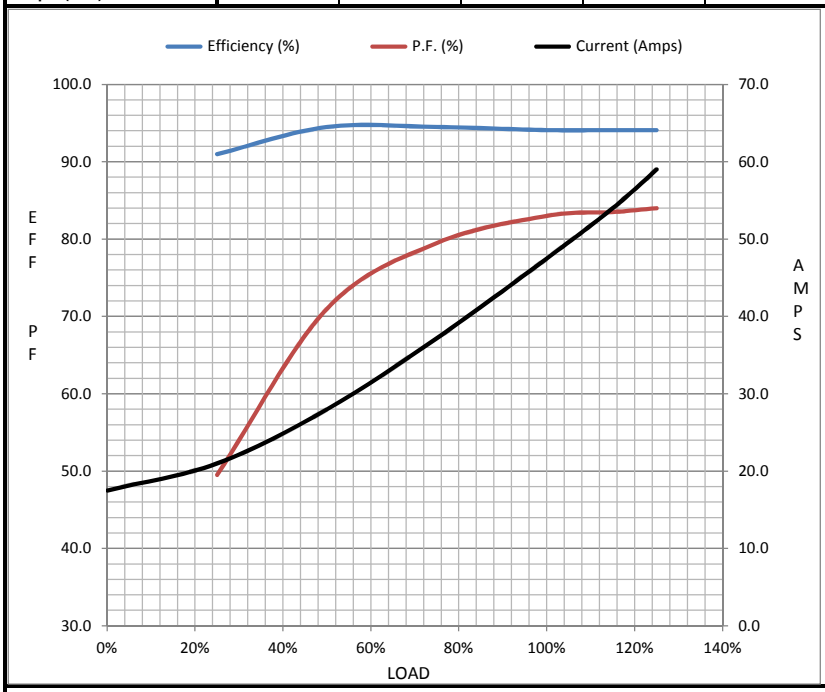
Data @ 460 V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	17.5	21.0	28.0	37.2	47.5	54.0	59.0	290	
Torque (ft-lb)	0.00	29.5	58.5	88.5	118	136	148	218	
RPM	1800	1795	1790	1785	1780	1,775	1772	0	
Efficiency (%)		91.0	94.5	94.5	94.1	94.1	94.1		
P.F. (%)	4.5	49.5	71.0	79.5	83.0	83.5	84.0	34.0	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	900	1685	1780	1800
Current (Amps)	290	255	165	47.5	17.5
Torque (ft-lb)	218	190	305	118	0.00



Information Block

HP	40.0
Sync. RPM	1800
Frame	324
Enclosure	TEFC
Construction	TFN
Voltage	230/460#190/38(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	8.8 Lb-Ft²
Ref Wdg	K3244127 NONE
Sound Pressure @ 1M	65 dBA
VFD Rating	CONSTANT 10:1
Outline Dwg	B-SS28118-1300
Conn. Diag	A-EE7308T

Additional Specifications:

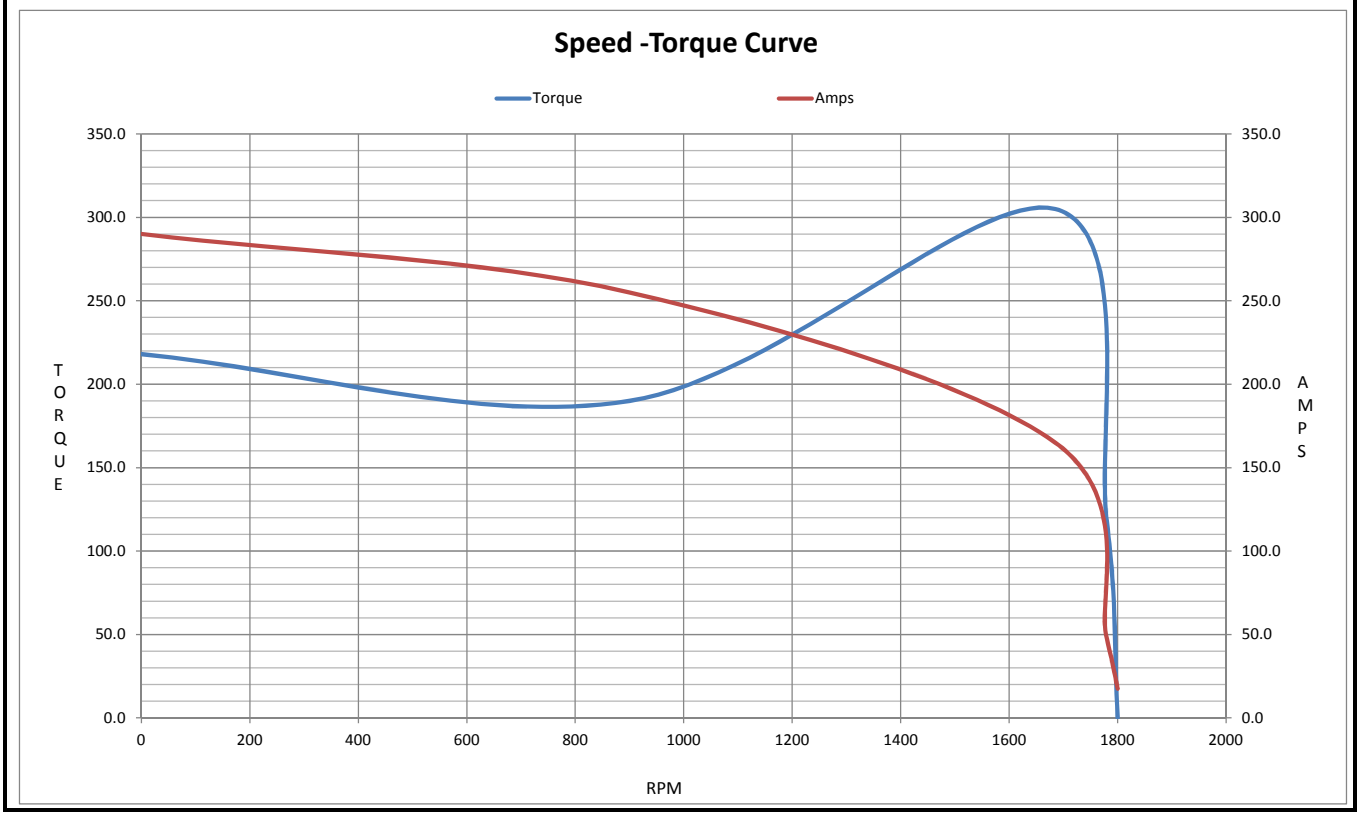
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365THFS8036

EQUIV CKT (OHMS / PHASE)

R1	R2	X1	X2	Xm
0.0820	0.0660	0.5790	0.7980	13.5140

Speed -Torque Curve



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CERTIFICATION DATA SHEET

Model#:	324TSTGS16531 BN	**WINDING#:**	K3244127 NONE 1
CONN. DIAGRAM:	A-EE7308T	**ASSEMBLY:**	F1 ONLY
OUTLINE:	B-SS28118-1300		

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
40&30	30&22.4	1800	1780&1480	324TS	EPFC	G	B

PH	Hz	VOLTS	FL AMPS	START TYPE	DUTY	INSL	S.F	AMB°C	ELEVATION
3	60/50	230/460#190/380	95/47.5&87/43.5	LINE OR INVERTER	CONTINUOUS	F3	1.0/1.0	40	3300

FULL LOAD EFF: 94.1&94.1	3/4 LOAD EFF: 94.5	1/2 LOAD EFF: 94.5	GTD. EFF	ELEC. TYPE	NO LOAD AMPS
FULL LOAD PF: 83&82	**3/4 LOAD PF: 79.5**	**1/2 LOAD PF: 71**	93.6	SQ CAGE INV RATED	35 / 17.5

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
118 LB-FT	580 / 290	218 LB-FT 185	305 LB-FT 258	65

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS /HOUR	APPROX. MOTOR WGT
65 dBA	75 dBA	8.8 LB-FT^2	275 LB-FT^2	25 SEC.	2	700 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 6312	BALL 6311	POLYREX EM	TS	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 03:52:36 AM
FORM 3531 REV.3 02/07/99
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