marathon®

Explosion Proof Motors

Model No: 405TSTGS16531
Catalog No: U082A

Explosion Proof Motor, 100 & 75 HP, 3 Ph, 60 & 50 Hz, 230/460 & 190/380 V, 1800 RPM, 405TS Frame, EPFC

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Product Information Packet: Model No: 405TSTGS16531, Catalog No: U082A Explosion Proof Motor, 100 & 75 HP, 3 Ph, 60 & 50 Hz, 230/460 & 190/380 V, 1800 RPM, 405TS Frame, EPFC

Nameplate Specifications

Phase	**3**	Output HP	**100 & 75 Hp**
Output KW	**75.0 & 56.0 kW**	Voltage	**230/460 & 190/380 V**
Speed	**1780 & 1485 r/min**	Synchronous RPM	**1800 & 1500 r/min**
Service Factor	**1.15 & 1.15**	Frame	**405TS**
Enclosure	**Explosion Proof Fan cooled**	Thermal Protection	**Thermostat**
Efficiency	**95.4 & 95.8 %**	Ambient Temperature	**40 °C**
Frequency	**60 & 50 Hz**	Current	**226/113 & 204/102 A**
Power Factor	**87**	Duty	**Continuous**
Insulation Class	**F**	Design Code	**B**
KVA Code	**G**	Drive End Bearing Size	**6316**
Opp Drive End Bearing Size	**6313**	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

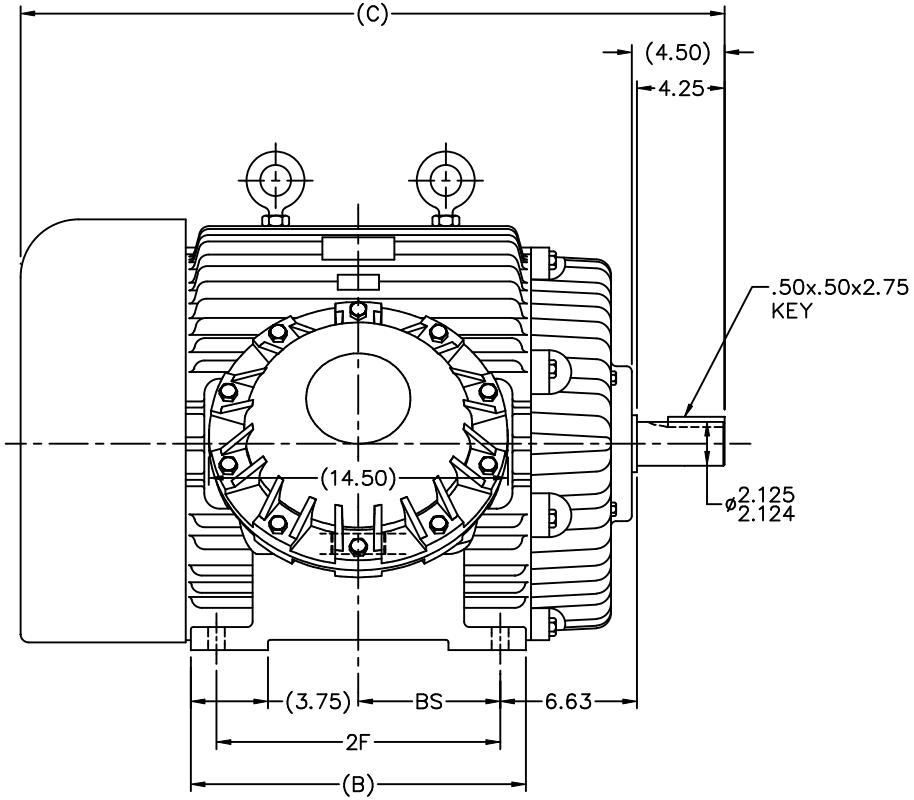
Electrical Type	**Squirrel Cage Inverter Rated**	Starting Method	**Line Or Inverter**
Poles	**4**	Rotation	**Reversible**
Resistance Main	**.054 O**	Mounting	**Rigid Base**
Motor Orientation	**Horizontal**	Drive End Bearing	**Ball**
Opp Drive End Bearing	**Ball**	Frame Material	**Cast Iron**
Shaft Type	**TS**	Overall Length	**34.12 in**
Frame Length	**16.75 in**	Shaft Diameter	**2 1/8 in**
Shaft Extension	**4.5 in**	Assembly/Box Mounting	**F1 Only**
Inverter Load	**Constant 2:1/Variable 10:1**		

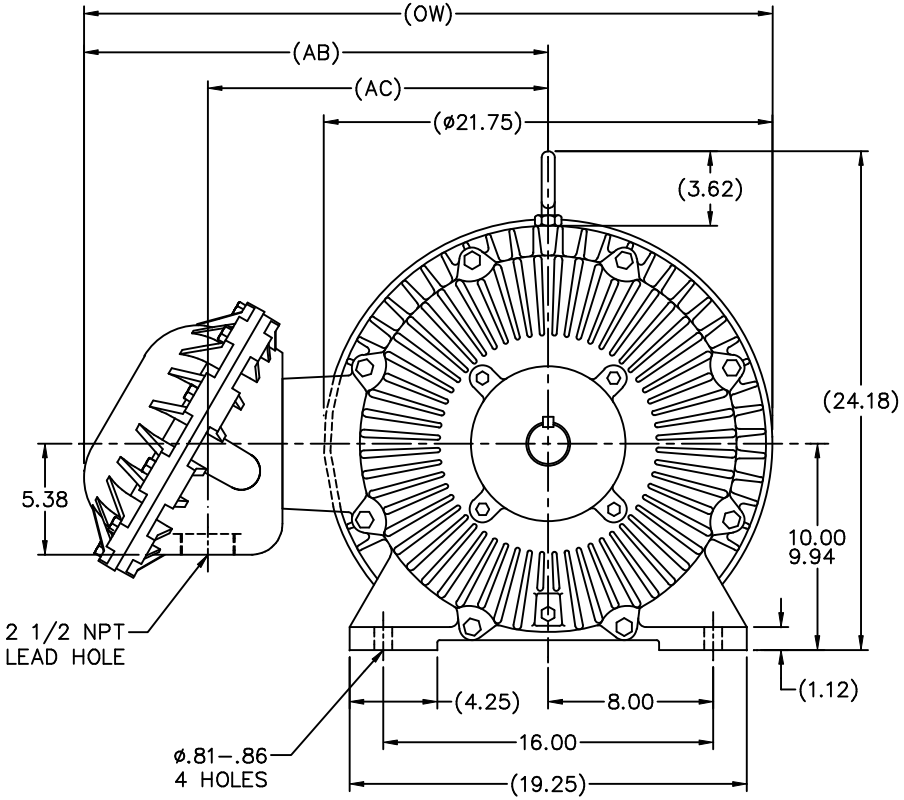
Drawings

Connection Drawing	**A-EE7308AD**	Outline Drawing	**B-SS518935-1675**

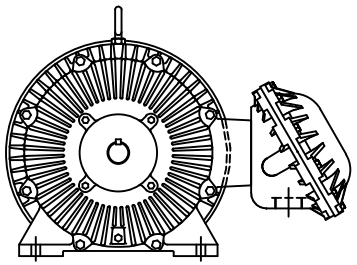
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SS518935





F2 VIEW



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

DASH	FRAME	B	C	2F	AB	AC	BS	OW
1525	404TS	14.75	32.62	12.25	21.50	15.50	6.12	32.38
1675	405TS	16.25	34.12	13.75	22.50	16.50	6.88	33.38

NO.	REVISION	BY & DATE	CHK
3	ADDED F2 VIEW	RWR 08-07-2007	ML
2	UPPDATED DRAWING	RJW 05-08-2007	ML
1	NEW DRAWING CN34593	MSG 03-20-2002	JHL

TOLERANCES UNLESS SPECIFIED
DEC. INCHES
.X ±.1
.XX ±.03
.XXX ±.005
.XXXX ±.0005
ANG ±7'30"

MARATHON ELECTRIC

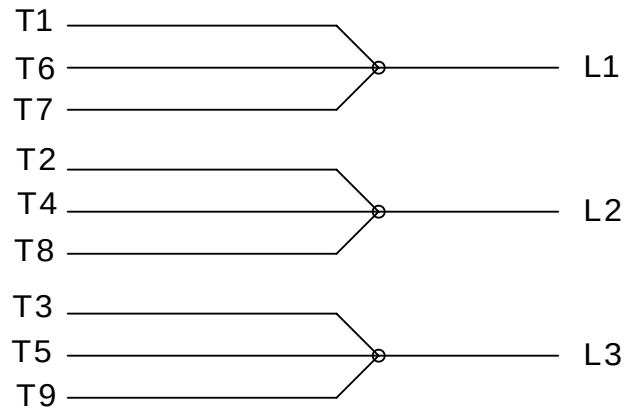
TITLE OUTLINE
400TS FR. – EXP. PROOF – (STD)
MAT'L.
FINISH
CAD FILE SS518935
RFP
DIST WA

DRAWN MSG 03-06-2002
CHK JHL 03-19-2002
APPD JES 03-20-2002
SCALE 1=6.0
REF
FMF
PREV

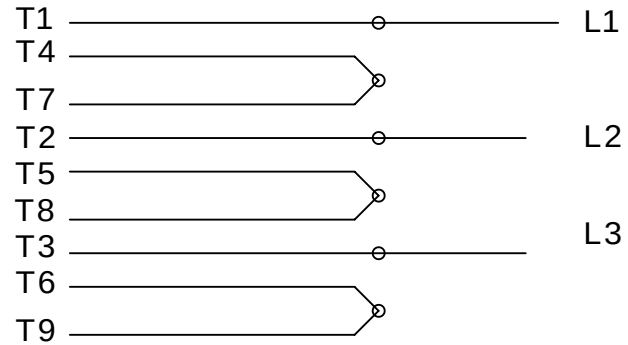
SIZE B | DRAWING NO. SS518935 | PAGE OF | REV. 3

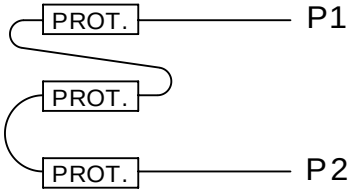
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LOW VOLTAGE

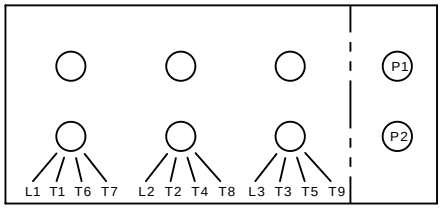


HIGH VOLTAGE

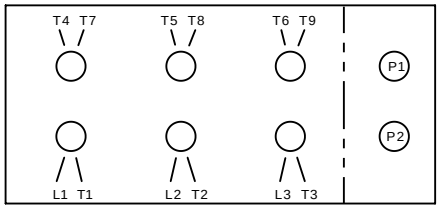


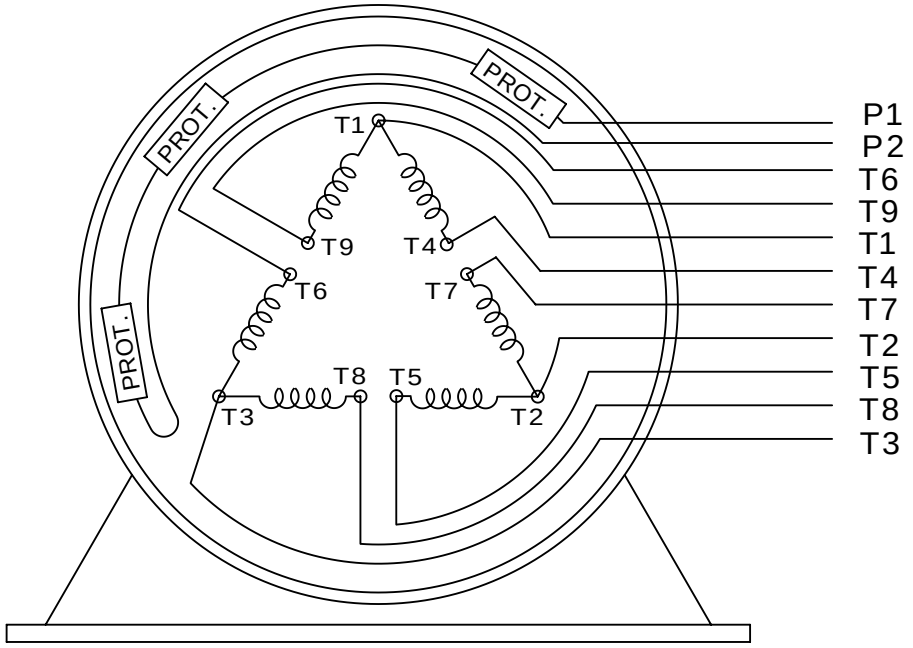


LOW VOLTAGE



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: 6/19/2017
Customer:
Attention:
Submitted by: FAREEDA DUDEKULA

marathon® electric

405TSTGS16531

Submittal

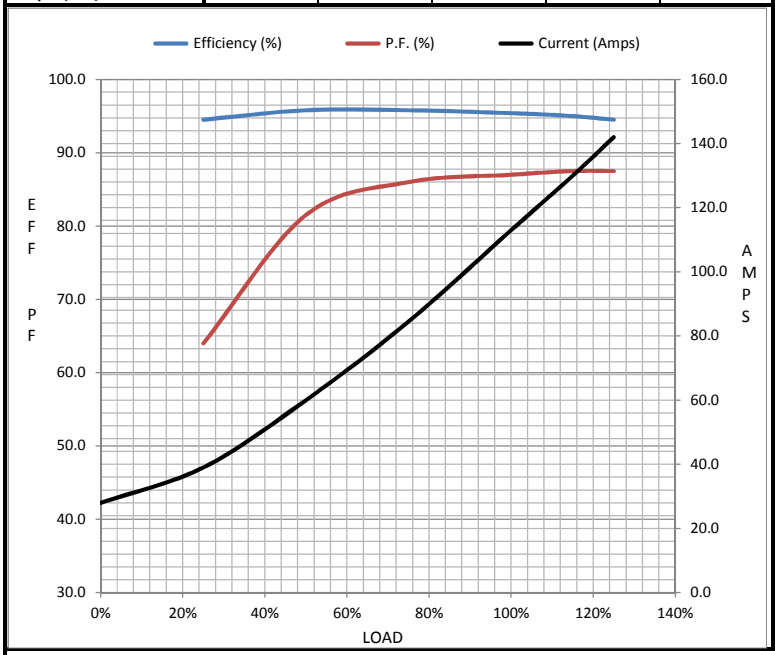
Data @ 460 V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	28.0	39.0	60.0	84.5	113	130	142	675	
Torque (ft-lb)	0.00	73.0	147	221	295	341	370	445	
RPM	1800	1795	1790	1785	1780	1,775	1770	0	
Efficiency (%)		94.5	95.8	95.8	95.4	95.0	94.5		
P.F. (%)	4.5	64.0	81.5	86.0	87.0	87.5	87.5	28.0	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	900	1675	1780	1800
Current (Amps)	675	610	370	113	28.0
Torque (ft-lb)	445	400	715	295	0.00



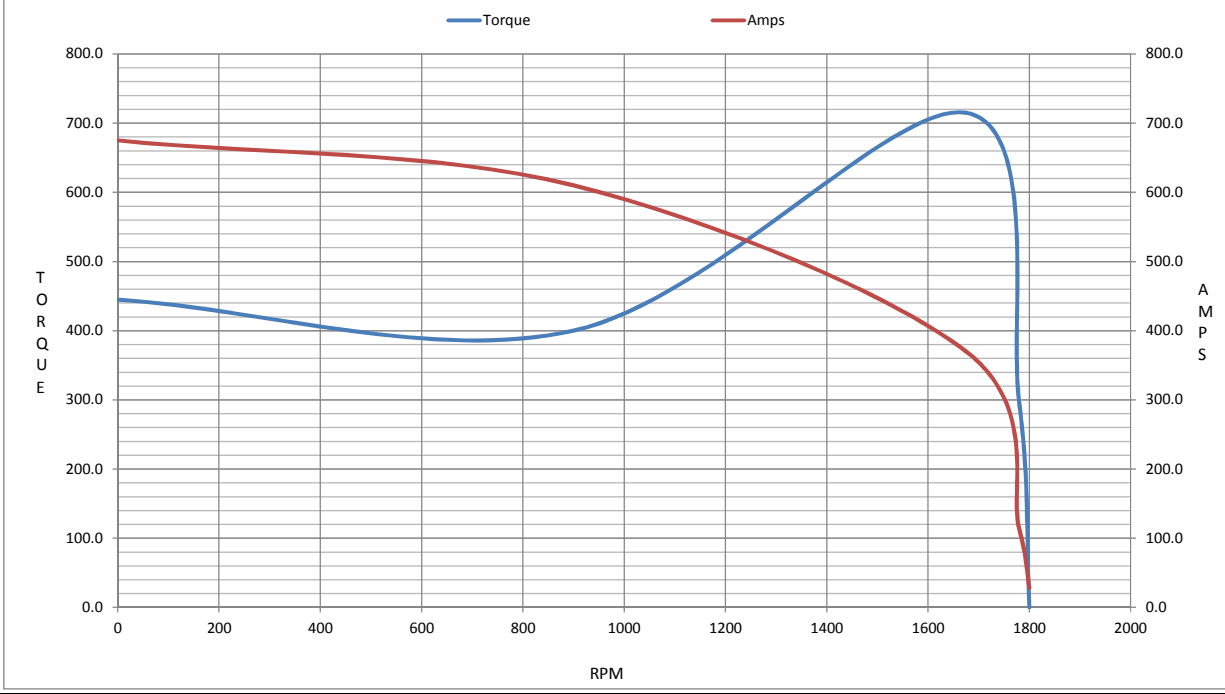
Information Block

HP	100.0
Sync. RPM	1800
Frame	405
Enclosure	TEFC
Construction	TFS
Voltage	230/460#190/380 V
Frequency	60 Hz
Design	B
LR Code letter	F
Service Factor	1.15
Temp Rise @ FL	75 ° C
Duty	CONT
Ambient	40 ° C
Elevation	1,000 feet
Rotor/Shaft wk²	27.0 Lb-Ft²
Ref Wdg	T405472 NONE
Sound Pressure @ 1M	72 dBA
VFD Rating	CONSTANT 2:1
Outline Dwg	B-SS518935-1675
Conn. Diag	A-EE7308AD
Additional Specifications:	
0	
0	

EQUIV CKT (OHMS / PHASE)

R1	R2	X1	X2	Xm
0.0430	0.0280	0.2980	0.2780	9.2020

Speed -Torque Curve



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CERTIFICATION DATA SHEET

Model#:	405TSTGS16531 AN	**WINDING#:**	T405472 NONE 1
CONN. DIAGRAM:	A-EE7308AD	**ASSEMBLY:**	F1 ONLY
OUTLINE:	B-SS518935-1675		

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
100&75	75&56	1800	1780&1485	405TS	EPFC	F	B

PH	Hz	VOLTS	FL AMPS	START TYPE	DUTY	INSL	S.F	AMB°C	ELEVATION
3	60/50	230/460#190/380	226/113&204/102	LINE OR INVERTER	CONTINUOUS	F1	1.15/1.15	40	3300

FULL LOAD EFF: 95.4&95.8	3/4 LOAD EFF: 95.8	1/2 LOAD EFF: 95.8	GTD. EFF	ELEC. TYPE	NO LOAD AMPS
FULL LOAD PF: 87&87	3/4 LOAD PF: 86	1/2 LOAD PF: 81.5	95	SQ CAGE INV RATED	56 / 28

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
295 LB-FT	1350 / 675	445 LB-FT 151	715 LB-FT 242	75

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS /HOUR	APPROX. MOTOR WGT
72 dBA	82 dBA	27 LB-FT^2	550 LB-FT^2	25 SEC.	2	1400 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 6316	BALL 6313	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 2:1
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
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