

# PRODUCT INFORMATION PACKET

Model No: 405TSTGS16531

Catalog No: U082A

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



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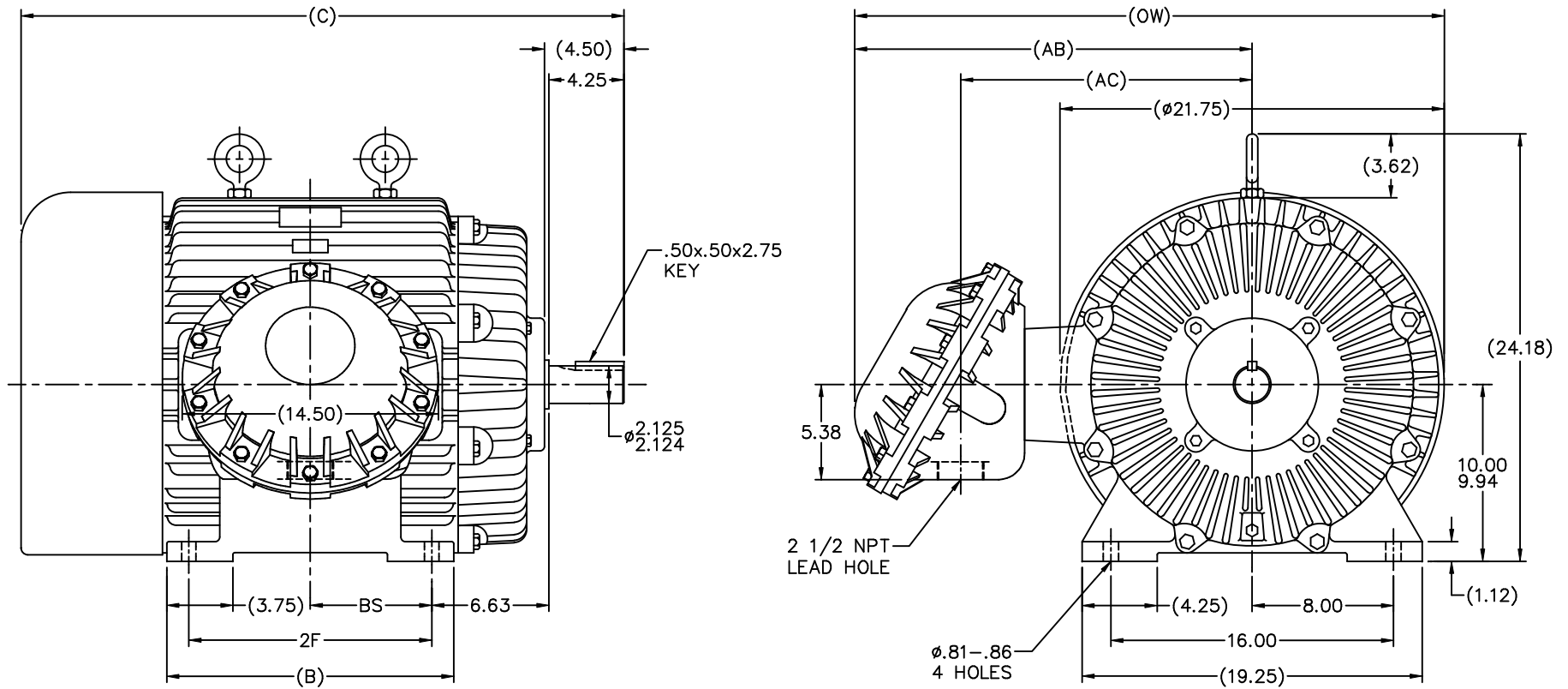
**Nameplate Specifications**

Output HP	<b>100 Hp</b>	Output KW	<b>75.0 kW</b>
Frequency	<b>60 Hz</b>	Voltage	<b>230/460 V</b>
Current	<b>226.0/113.0 A</b>	Speed	<b>1780 rpm</b>
Service Factor	<b>1.15</b>	Phase	<b>3</b>
Efficiency	<b>95.4 %</b>	Power Factor	<b>87</b>
Duty	<b>Continuous</b>	Insulation Class	<b>F</b>
Design Code	<b>B</b>	KVA Code	<b>G</b>
Frame	<b>405TS</b>	Enclosure	<b>Explosion Proof Fan cooled</b>
Thermal Protection	<b>Thermostat</b>	Ambient Temperature	<b>40 °C</b>
Drive End Bearing Size	<b>6316</b>	Opp Drive End Bearing Size	<b>6313</b>
UL	<b>UL Listed And CSA Certified</b>	CSA	<b>Y</b>
CE	<b>N</b>	IP Code	<b>54</b>
Hazardous Location	<b>EXP PROOF CL I GR C&amp;D CL II GR F&amp;G T3B</b>	Number of Speeds	<b>1</b>

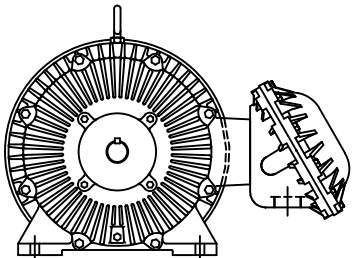
**Technical Specifications**

Electrical Type	<b>Squirrel Cage Inverter Rated</b>	Starting Method	<b>Line Or Inverter</b>
Poles	<b>4</b>	Rotation	<b>Reversible</b>
Resistance Main	<b>.054 Ohms</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>TS</b>	Overall Length	<b>34.12 in</b>
Frame Length	<b>16.75 in</b>	Shaft Diameter	<b>2.125 in</b>
Shaft Extension	<b>4.5 in</b>	Assembly/Box Mounting	<b>F1 ONLY</b>
Inverter Load	<b>CONSTANT 2:1</b>		
Outline Drawing	<b>B-SS518935-1675</b>	Connection Drawing	<b>A-EE7308AD</b>





F2 VIEW

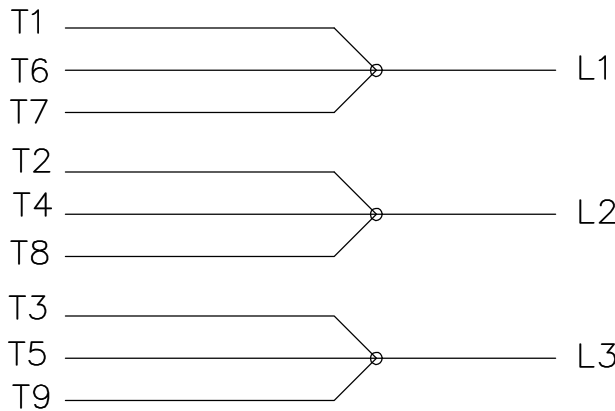


- NOTES:  
 1. BOX CAN BE ROTATED IN 90° STEPS.  
 2. NAMEPLATES TO BE READ FROM CONDUIT BOX SIDE OF MOTOR.

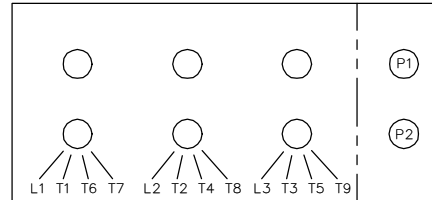
DASH	FRAME	B	C	2F	AB	AC	BS	OW
1525	404TS	14.75	32.62	12.25	21.50	15.50	6.12	32.38
1675	405TS	16.25	34.12	13.75	22.50	16.50	6.88	33.38

		TOLERANCES UNLESS SPECIFIED		MARATHON ELECTRIC		DRAWN MSG 03-08-2002	
		DEC.	INCHES			CHK	JHL 03-19-2002
		.X	±.1			APPD	JES 03-20-2002
3	ADDED F2 VIEW	RWR	08-07-2007	ML	.XX ±.03	TITLE OUTLINE	
2	UPPDATED DRAWING	RJW	05-08-2007	ML	.XXX ±.005	400TS FR. - EXP. PROOF - (STD)	
1	NEW DRAWING CN34593	MSG	03-20-2002	JHL	.XXXX ±.0005	MATL	
NO.	REVISION	BY & DATE		CHK	ANG	FINISH	
THIS DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED THIS IS AN ELECTRONICALLY GENERATED DOCUMENT - DO NOT SCALE THIS PRINT				RFP	±7'30"	CAD FILE SS518935	
						SIZE	DRAWING NO. PAGE OF REV.
						B	SS518935 3

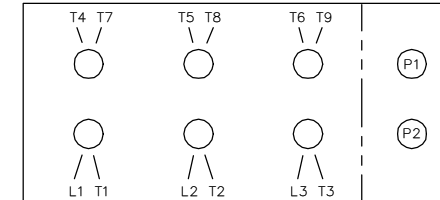
LOW VOLTAGE



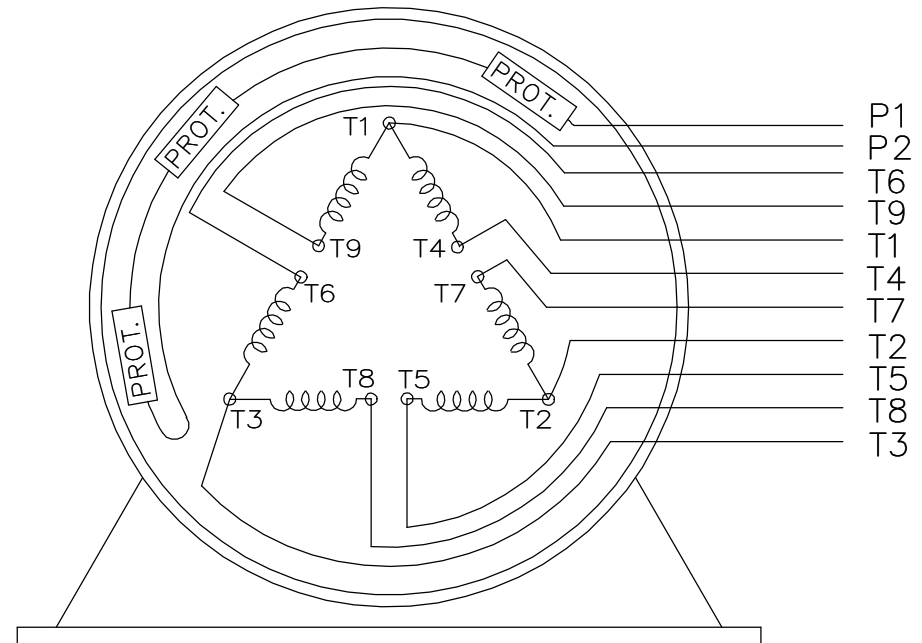
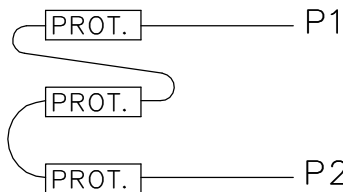
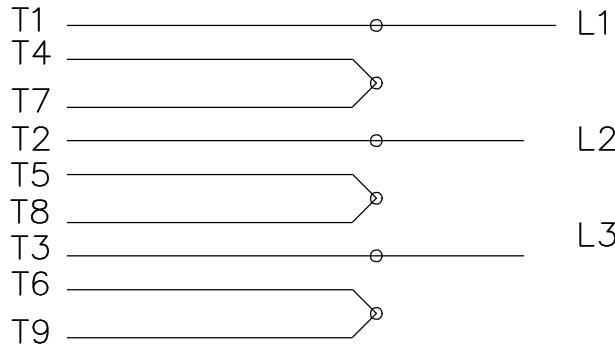
LOW VOLTAGE



HIGH VOLTAGE



HIGH VOLTAGE



VIEW OF TERMINAL END

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

DRAWING REVISION <b>L</b>		REVISION BY <b>JP</b>	REV DATE/© DATE <b>06-21-2019</b>	TOLERANCES (EXCEPT AS NOTED): DEC. INCH mm ANGLE		DRAWN BY <b>MJD</b>		Regal Beloit America, Inc.			
ECO <b>ECO-0168744</b>		APPROVED BY <b>MH</b>	DATE <b>06-21-2019</b>	.X ±0.1 [±3]	±7' 30"	DATE <b>12-19-1997</b>	DESCRIPTION <b>CONN DIAGRAM-EXTERNAL</b>				
ECO DESCRIPTION <b>UPDATED TO CURRENT STANDARDS</b>				.XX ±0.02 [±0.5]		APPROVED BY <b>GK</b>		MATERIAL			
COPYRIGHT (PER REVISION DATE) REGAL BELOIT AMERICA, INC. ALL RIGHTS RESERVED. PROPRIETARY AND CONFIDENTIAL INFORMATION - THIS DOCUMENT IS THE PROPERTY OF REGAL BELOIT AMERICA, INC. ("OWNER") AND CONTAINS OWNER'S PROPRIETARY INFORMATION. ANY PERSON, CORPORATION OR OTHER FIRM RECEIVING IT IS DEEMED, BY RECEIVING IT, TO AGREE THAT IT, AND/OR ANY PART OF IT, SHALL NOT BE DISCLOSED TO ANY PERSON, CORPORATION OR OTHER ENTITY, DUPLICATED, AND/OR USED, EXCEPT AS EXPRESSLY APPROVED IN WRITING IN ADVANCE BY OWNER. THIS DOCUMENT SHALL BE RETURNED TO OWNER UPON REQUEST. IT MAY BE SUBJECT TO CERTAIN RESTRICTIONS UNDER APPLICABLE EXPORT CONTROL LAWS AND REGULATIONS.				.XXX ±0.005 [±0.13]		DATE <b>01-07-1998</b>		PROCESS/FINISH			
				.XXXX ±0.0005 [±0.013]		REFERENCE		SIZE		DRAWING NUMBER	
				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		THIRD ANGLE PROJECTION		<b>A</b>		<b>EE7308AD</b>	

**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	CONTINUOU S	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	BALL	POLYREX EM	TS	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON
6316	6313						

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

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\*

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

DATE: 06/22/2017 12:12:20 AM  
 FORM 3531 REV.3 02/07/99  
 \*\* Subject to change without notice.

Data Sheet

Date: 6/19/2017

Customer: \_\_\_\_\_

Attention: \_\_\_\_\_

Submitted by: FAREEDA DUDEKULA



405TSTGS16531

Submittal

Data @ 460 V

Motor Load Data

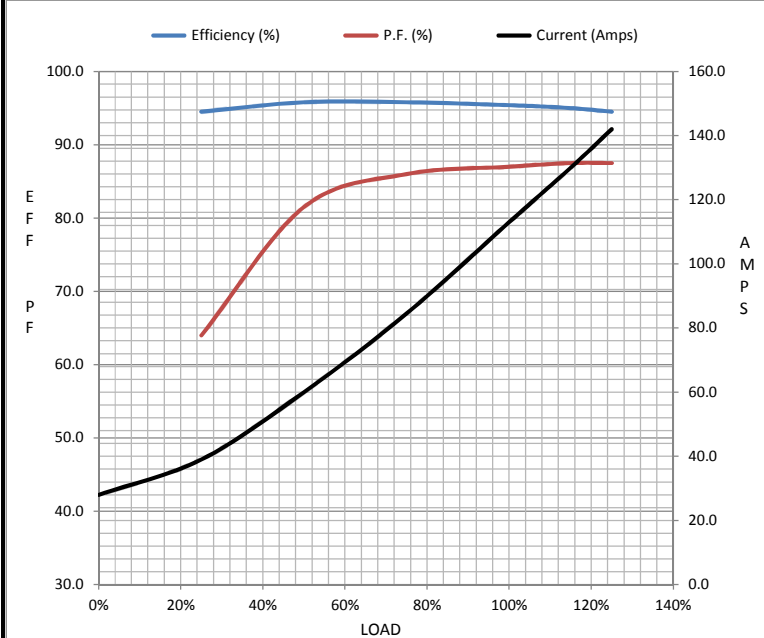
Load	0%	25%	50%	75%	100%	115%	125%	LR
Current (Amps)	28.0	39.0	60.0	84.5	113	130	142	675
Torque (ft-lb)	0.00	73.0	147	221	295	341	370	445
RPM	1800	1795	1790	1785	1780	1,775	1770	0
Efficiency (%)		94.5	95.8	95.8	95.4	95.0	94.5	
P.F. (%)	4.5	64.0	81.5	86.0	87.0	87.5	87.5	28.0

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	30/460#190/381V			
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 wk <sup>2</sup>	27.0 Lb-Ft <sup>2</sup>			
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

