

Severe Duty Motors

Model No: 405TTFCD6538

Catalog No: E681A

Severe Duty Motor, 100 HP, 3 Ph, 60 Hz, 575 V, 1800 RPM, 405T Frame, TEFC

Product Information Packet: Model No: 405TTFCD6538, Catalog No: E681A Severe Duty Motor, 100 HP, 3 Ph, 60 Hz, 575 V, 1800 RPM, 405T Frame, TEFC

Nameplate Specifications

Phase	3	Output HP	100 Hp
Output KW	75.0 kW	Voltage	575 V
Speed	1785 r/min	Synchronous RPM	1800 r/min
Service Factor	1.15	Frame	405T
Enclosure	Totally Enclosed Fan Cooled	Thermal Protection	No Protection
Efficiency	95.4 %	Ambient Temperature	40 °C
Frequency	60 Hz	Current	90.5 A
Power Factor	87	Duty	Continuous
Insulation Class	H	Design Code	B
KVA Code	G	Drive End Bearing Size	6316
Opp Drive End Bearing Size	6314	UL	Listed
CSA	Y	CE	Y
IP Code	55	Number of Speeds	1
Hazardous Location	DIVISION 2 T2B		

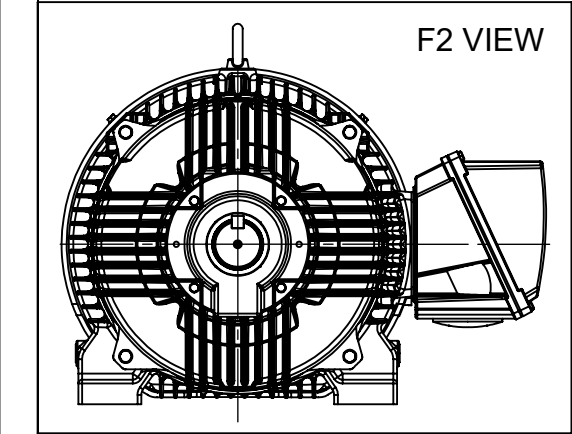
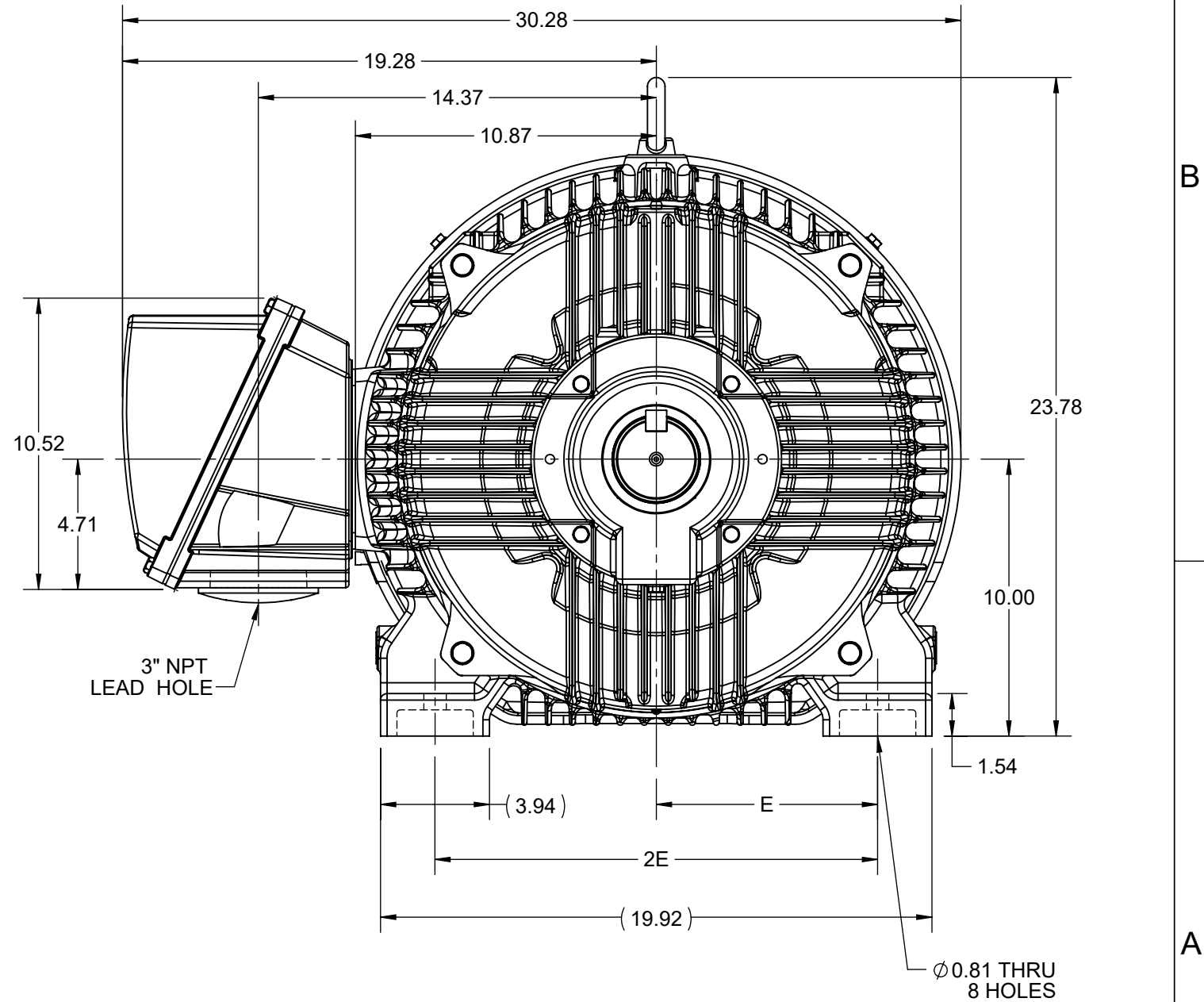
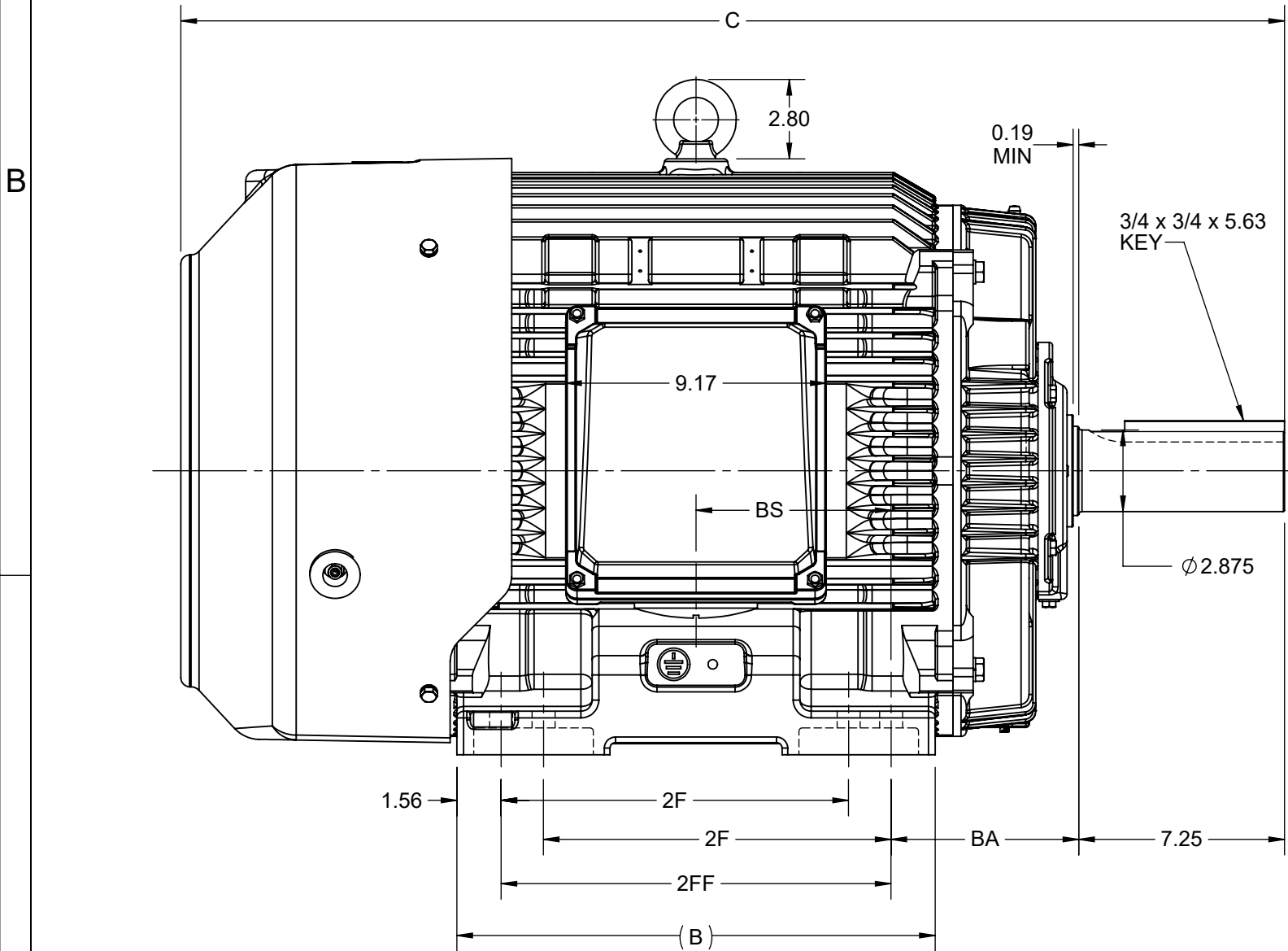
Technical Specifications

Electrical Type	Squirrel Cage Inverter Rated	Starting Method	Line Or Inverter
Poles	4	Rotation	Reversible
Resistance Main	.0555 O	Mounting	Rigid Base
Motor Orientation	Horizontal	Drive End Bearing	Ball
Opp Drive End Bearing	Ball	Frame Material	Cast Iron
Shaft Type	T	Shaft Diameter	2.875 in
Assembly/Box Mounting	F1/F2 Capable	Inverter Load	Constant 2:1/Variable 10:1

Drawings

Connection Drawing	EE7300	Outline Drawing	SS557665
--------------------	---------------	-----------------	-----------------

4					3				2		1	
B	C	E	2E	2F	2FF	BA	BS	MOUNTING				
16.85	38.88	8.00	16.00	12.25	13.75	6.62	6.87	F1 OR F2				



DRAWING REVISION D	REVISION BY SB	REV DATE/© DATE 07/23/2025
REQUEST NUMBER CR-0023556	APPROVED BY SBD	DATE 07/23/2025
REQUEST NUMBER DESCRIPTION DRAWING TITLE BLOCK UPDATED		
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PRIMARY DIMENSIONS ARE INCH
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ARE FOR REFERENCE ONLY

DRAWN BY BISWA		marathon™			
DATE 12/24/2018					
APPROVED BY SBD		DESCRIPTION OUTLINE 404/405T FR-SD & IEEE841			
DATE 12/24/2018					
REFERENCE		MATERIAL	PROCESS/FINISH		
THIRD ANGLE PROJECTION		SIZE		DRAWING NUMBER	SHEET
		B			

THREE PHASE - SINGLE VOLTAGE
MOTOR - CONDUIT BOX @ 'A'

TO REVERSE ROTATION:
INTERCHANGE ANY TWO LINE
LEAD CONNECTIONS

TERMINAL BLOCK WHEN SPECIFIED

IF MOTOR HAS 9 LEADS

T1(U1) T1(U1) T1(U1) → L1

T2(V1) T2(V1) T2(V1) → L2

T3(W1) T3(W1) T3(W1) → L3

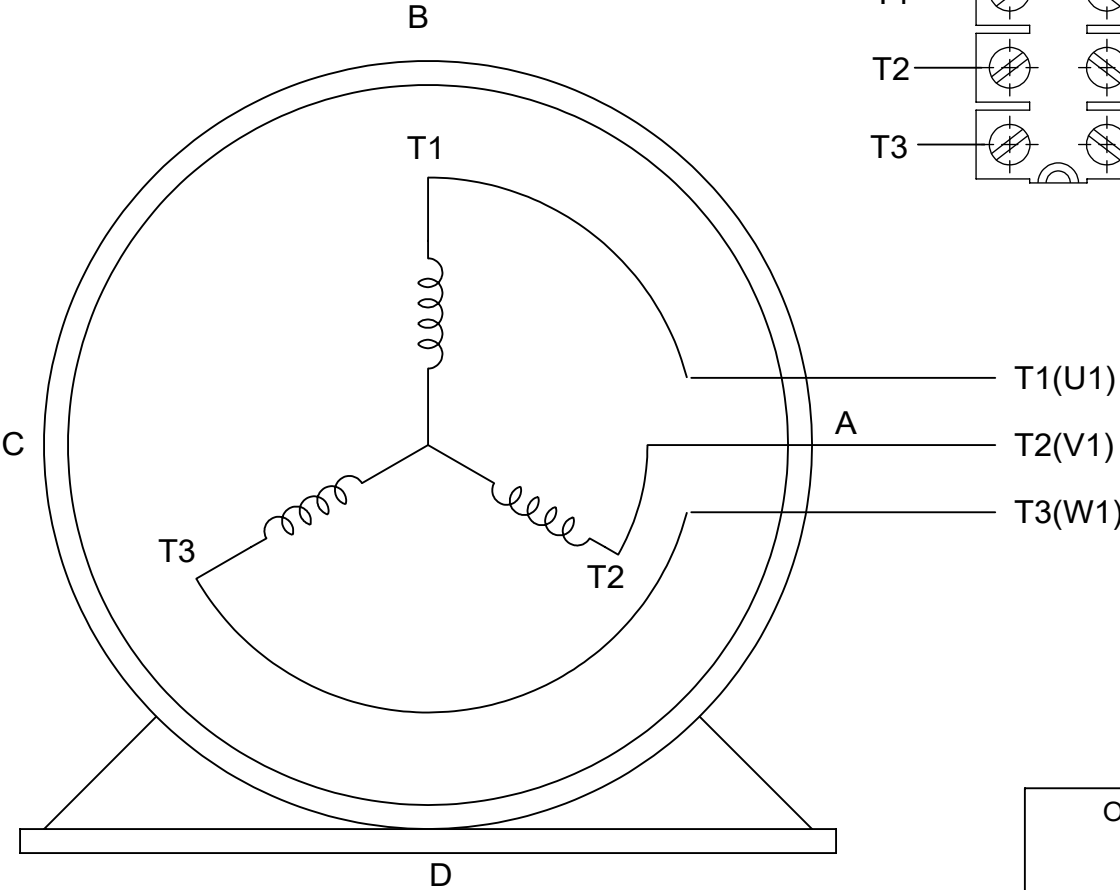
IF MOTOR HAS 6 LEADS

T1(U1) T1(U1) → L1

T2(V1) T2(V1) → L2

T3(W1) T3(W1) → L3

A-9806 DECAL



VIEW OF TERMINAL END

OPTIONAL CORD CONNECTION	
L1	WHITE
L2	RED
L3	BLACK

DRAWING REVISION AD	REVISION BY SB	REV DATE/© DATE 08/01/2025
REQUEST NUMBER CR-0023654	APPROVED BY SBD	DATE 08/01/2025
REQUEST NUMBER DESCRIPTION DRAWING TITLE BLOCK UPDATED		
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DRAWN BY DA
DATE 03-26-1993
APPROVED BY TB
DATE 03-26-1993
REFERENCE
THIRD ANGLE PROJECTION

marathon™		
DESCRIPTION CONNECTION DIAGRAM EXTERNAL - SINGLE VOLTAGE - 3Ø MOTOR		
MATERIAL	PROCESS/FINISH	
SIZE A	DRAWING NUMBER EE7300	SHEET 1 OF 1

Data Sheet

Date: 5/6/2020

405TTFC6538

Customer: _____

Attention: _____

Submitted by: _____



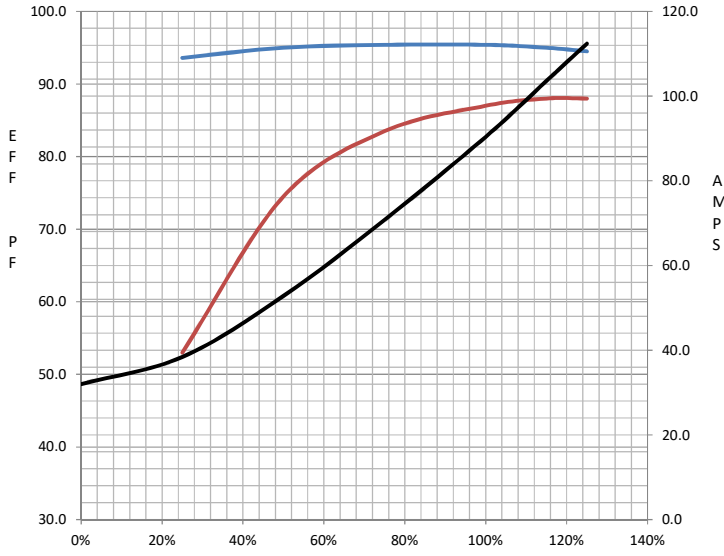
Submittal

Data @ 575 V

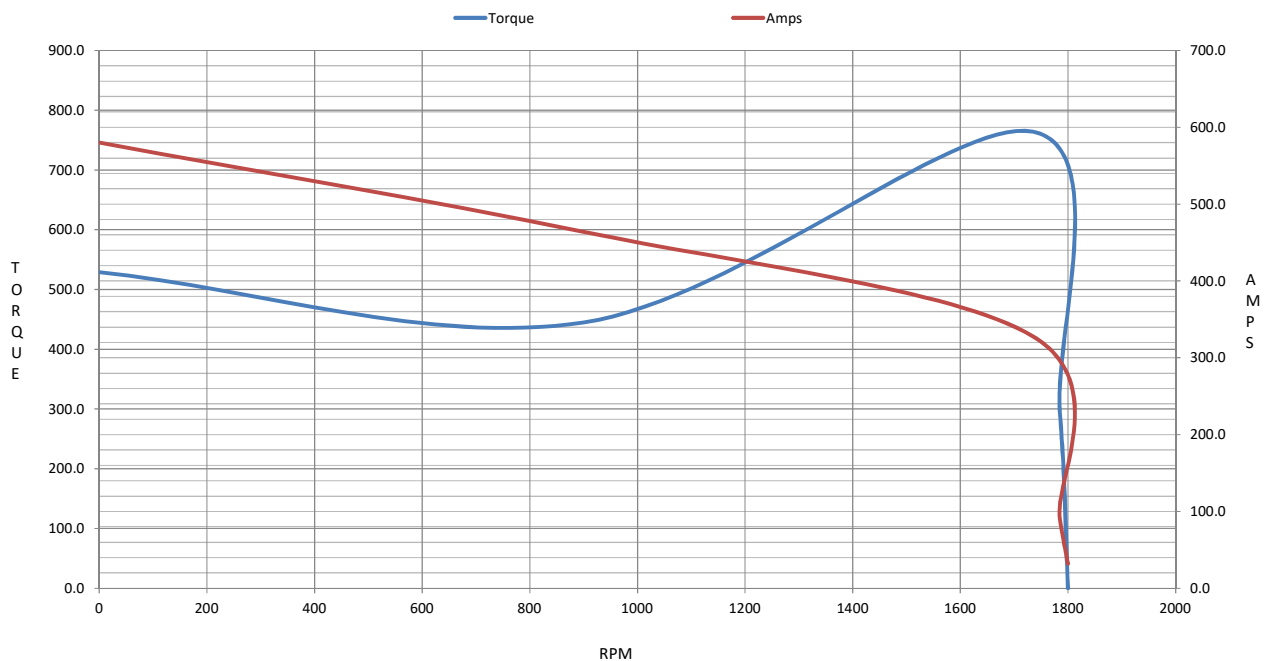
Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	32.0	38.4	52.8	70.8	90.4	104	112	580	
Torque (ft-lb)	0.00	73.0	147	220	294	339	370	529	
RPM	1800	1796	1792	1790	1785	1,782	1780	0	
Efficiency (%)		93.6	95.0	95.4	95.4	95.0	94.5		
P.F. (%)	4.5	53.0	74.5	83.5	87.0	88.0	88.0	32.0	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle																																																												
Speed (RPM)	0	900	1735	1785	1800																																																												
Current (Amps)	580	464	328	90.4	32.0																																																												
Torque (ft-lb)	529	445	764	294	0.00																																																												
— Efficiency (%) — P.F. (%) — Current (Amps)  <table><tr><td colspan="2">Information Block</td></tr><tr><td>HP</td><td>100.0</td></tr><tr><td>Sync. RPM</td><td>1800</td></tr><tr><td>Frame</td><td>405</td></tr><tr><td>Enclosure</td><td>TEFC</td></tr><tr><td>Construction</td><td>TFC</td></tr><tr><td>Voltage</td><td>575 V</td></tr><tr><td>Frequency</td><td>60 Hz</td></tr><tr><td>Design</td><td>B</td></tr><tr><td>LR Code letter</td><td>G</td></tr><tr><td>Service Factor</td><td>1.15</td></tr><tr><td>Temp Rise @ FL</td><td>65 ° C</td></tr><tr><td>Duty</td><td>CONT</td></tr><tr><td>Ambient</td><td>40 ° C</td></tr><tr><td>Elevation</td><td>3,300 feet</td></tr><tr><td>Rotor/Shaft wk²</td><td>35.0 Lb-Ft²</td></tr><tr><td>Ref Wdg</td><td>HE32504006 NONE</td></tr><tr><td>Sound Pressure @ 1M</td><td>75 dBA</td></tr><tr><td>VFD Rating</td><td>CONSTANT 2:1/VARIABLE 10:1</td></tr><tr><td>Outline Dwg</td><td>SS557665-405T</td></tr><tr><td>Conn. Diag</td><td>EE7300</td></tr><tr><td colspan="2">Additional Specifications:</td></tr><tr><td colspan="2">0</td></tr><tr><td colspan="2">0</td></tr><tr><td colspan="2">EQUIV CKT (OHMS / PHASE)</td></tr><tr><td>R1</td><td>R2</td><td>X1</td><td>X2</td><td>Xm</td></tr><tr><td>0.0510</td><td>0.0310</td><td>0.2660</td><td>0.4440</td><td>10.2060</td></tr></table>						Information Block		HP	100.0	Sync. RPM	1800	Frame	405	Enclosure	TEFC	Construction	TFC	Voltage	575 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	3,300 feet	Rotor/Shaft wk²	35.0 Lb-Ft²	Ref Wdg	HE32504006 NONE	Sound Pressure @ 1M	75 dBA	VFD Rating	CONSTANT 2:1/VARIABLE 10:1	Outline Dwg	SS557665-405T	Conn. Diag	EE7300	Additional Specifications:		0		0		EQUIV CKT (OHMS / PHASE)		R1	R2	X1	X2	Xm	0.0510	0.0310	0.2660	0.4440	10.2060
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Speed -Torque Curve





DATA VOLTS: 575

CERTIFICATION DATA SHEET

CONN. DIAGRAM: EE7300
 REFERENCE MODEL #: 405TTFC6538
 CAT #: E681A
 OUTLINE: SS557665-405T
 WINDING: HE32504006 NONE 3
 MOUNTING: F1/F2 CAPABLE

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC RPM	FL RPM	FRAME	ENCLOSURE	TYPE	KVA CODE	DESIGN
100	75	1800	1785	405T	TEFC	TFC	G	B

PH	HZ	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB (° C)	ELEV. (Ft)
3	60	575	90.5	LINE OR INVERTER	CONT	H	1.15	40	3300

F.L. EFF	95.4	3/4 LD EFF	95.4	1/2 LD EFF	95.0	GTD EFF	ELECT. TYPE
F.L. PF	87.0	3/4 LD PF	83.5	1/2 LD PF	74.5	95.0	SQ CAGE INV RATED

F.L. TORQUE	LR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE (° C)
294 LB-FT	580	529 LB-FT 180%	764 LB-FT 260%	65

SOUND PRESSURE	SOUND	ROTOR WK²	MAX. LOAD WK²	SAFE STALL TIME	STARTS/HOUR	APROX.
75 dBA	84 dBA	35.0 LB-FT²	575 LB-FT²	25 SEC.	2	1295 LB.

*** SUPPLEMENTAL INFORMATION ***

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	MOTOR ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
STANDARD	STANDARD	RIGID	HORIZONTAL	PREMIUM SEVERE DUTY	DIVISION 2 T2B	NO	NONE	BLUE (EPOXY)

BEARINGS		GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT MATERIAL	FRAME MATERIAL
DE	ODE	POLYREX EM	T	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON
BALL	BALL						
6316	6314						

THERMOSTATS	PROTECTORS	WDG RTD's	BRG RTD's	THERMISTORS	CONTROL	SPACE HEATERS
NONE	NOT	NONE	NONE	NONE	FALSE	NA

R1 (ohms/ph)	R2 (ohms/ph)	X1 (ohms/ph)	X2 (ohms/ph)	Xm (ohms/ph)	VIBRATION (in/sec)	FLOAT
0.0796875	0.0484375	0.415625	0.69375	15.946875	0.080	ODE

* N O T E S *	If Inverter equals NONE, contact factory for further information	
	INVERTER TORQUE: CONSTANT 2:1/VARIABLE 10:1	
	INV. HP SPEED RANGE: NONE	
	ENCODER: NONE	
	NONE PPR	
PREPARED BY: _____ DATE: 5/13/2020		BRAKE: NONE NONE FT-LB: NA VOLTAGE: NONE HZ:

FORM: 3531 REV_4 2/27/06
 ** Subject to change without notice.