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Explosion Proof Motors

Model No: 284TSTGN16531
Catalog No: U076A

Explosion Proof Motor, 25 & 20 HP, 3 Ph, 60 & 50 Hz, 230/460 & 190/380 V, 1800 RPM, 284TS Frame, EPFC

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Product Information Packet: Model No: 284TSTGN16531, Catalog No: U076A Explosion Proof Motor, 25 & 20 HP, 3 Ph, 60 & 50 Hz, 230/460 & 190/380 V, 1800 RPM, 284TS Frame, EPFC

Nameplate Specifications

Phase	**3**	Output HP	**25 & 20 Hp**
Output KW	**18.7 & 14.9 kW**	Voltage	**230/460 & 190/380 V**
Speed	**1774 & 1470 r/min**	Synchronous RPM	**1800 & 1500 r/min**
Service Factor	**1.15 & 1.15**	Frame	**284TS**
Enclosure	**Explosion Proof Fan cooled**	Thermal Protection	**Thermostat**
Efficiency	**93.6 & 93 %**	Ambient Temperature	**40 °C**
Frequency	**60 & 50 Hz**	Current	**62/31 & 60/30 A**
Power Factor	**81**	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

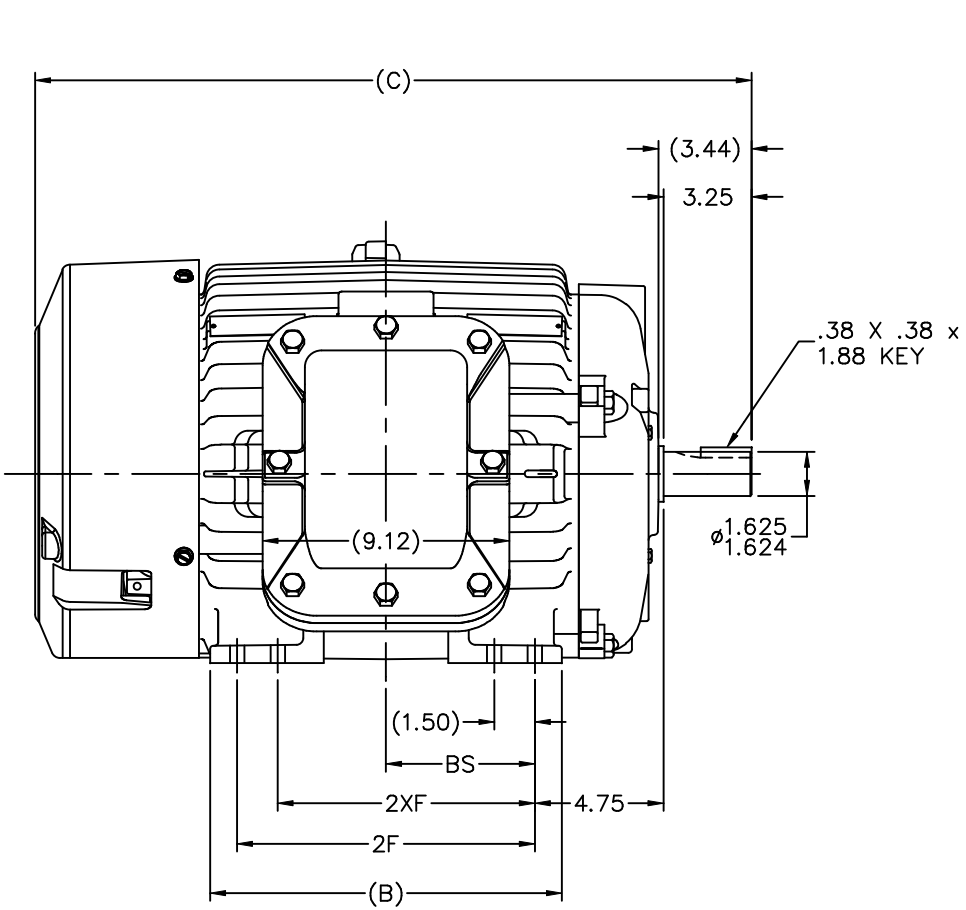
Electrical Type	**Squirrel Cage Inverter Rated**	Starting Method	**Line Or Inverter**
Poles	**4**	Rotation	**Reversible**
Resistance Main	**.251 O**	Mounting	**Rigid Base**
Motor Orientation	**Horizontal**	Drive End Bearing	**Ball**
Opp Drive End Bearing	**Ball**	Frame Material	**Cast Iron**
Shaft Type	**TS**	Overall Length	**24.97 in**
Frame Length	**12.75 in**	Shaft Diameter	**1 5/8 in**
Shaft Extension	**3.44 in**	Assembly/Box Mounting	**F1 Only**
Inverter Load	**Constant 10:1**		

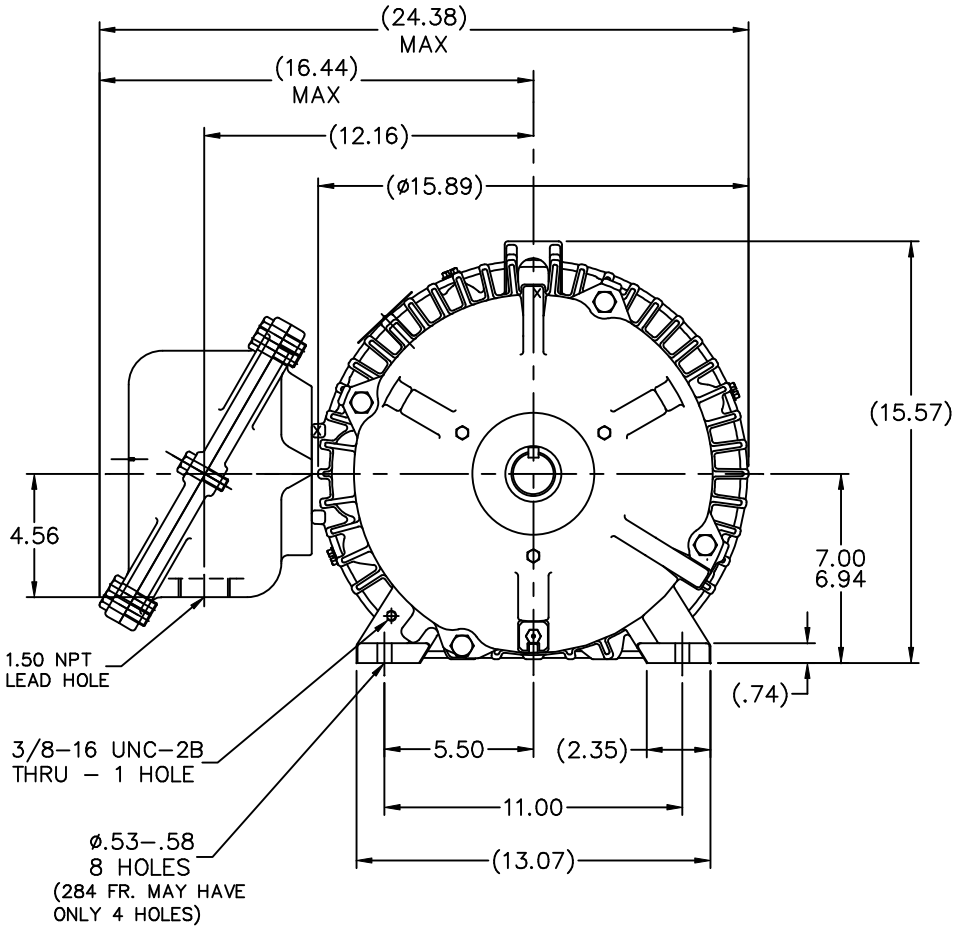
Drawings

Connection Drawing	**A-EE7308T**	Outline Drawing	**B-SS311004-1275**

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SS311004





NOTES:
1. BOX CAN ONLY BE ROTATED CLOCKWISE UP TO 270° FROM ITS ORIGINAL POSITION.
2. NAMEPLATE TO BE READ FROM CONDUIT BOX SIDE OF MOTOR.

DASH	FRAME	B	C	2F	2XF	BS
1275	284TS	12.50	24.97	9.50		4.75
1425	286TS	13.00	26.47	11.00	9.50	5.50

NO.	REVISION	BY & DATE	CHK
4	REDRAWN IN AUTOCAD	TAT 07-06-2004	ML
3	REV'D C' BOX GEOMETRY PER CAST. CHANGE CN 29010	DRS 01-31-2000	
2	REVISED 'C' DIMENSION FOR C.I. FAN GUARD	DA 07-12-1999	
	REVISED CONDUIT BOX CN 2400-235		
1	NEW DRAWING – DES/DEV	DA 04-14-1999	

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

MARATHON ELECTRIC

TITLE OUTLINE – EXP.PR. – TGN
280TS FR. – BB – STD – 12.50 LAM.

MAT'L.

FINISH

CAD FILE ss311004

RFP

DIST LB–BR

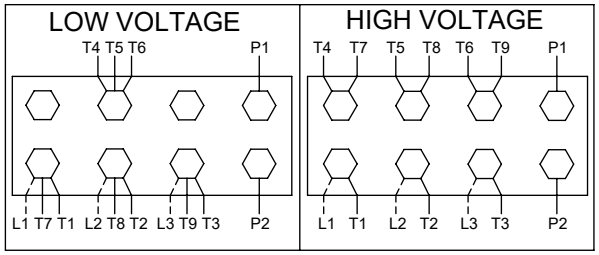
DRAWN	DA 03-12-1999
CHK	ML 04-14-1999
APPD	SW 04-14-1999
SCALE	7=32
REF	
FMF	
PREV	

SIZE B | DRAWING NO. SS311004 | PAGE OF | REV. 4

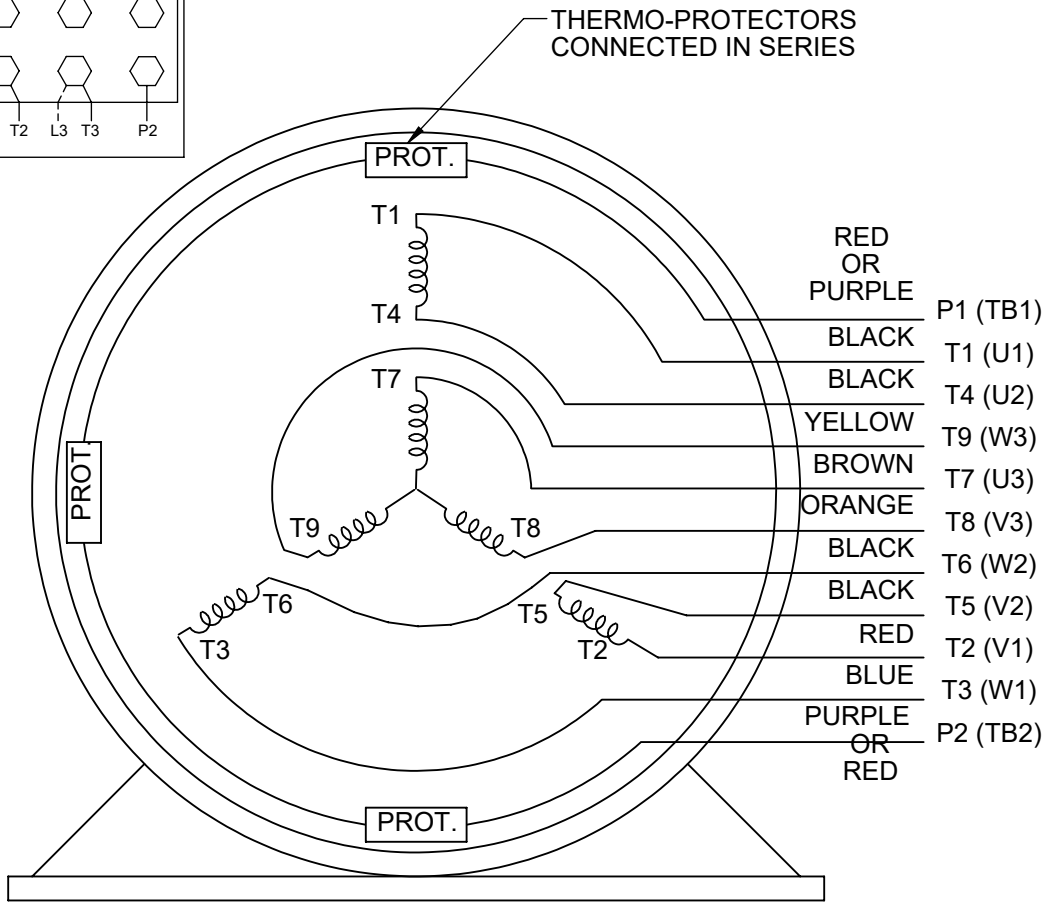
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HIGH VOLTAGE

(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

284TSTGN16531

Submittal

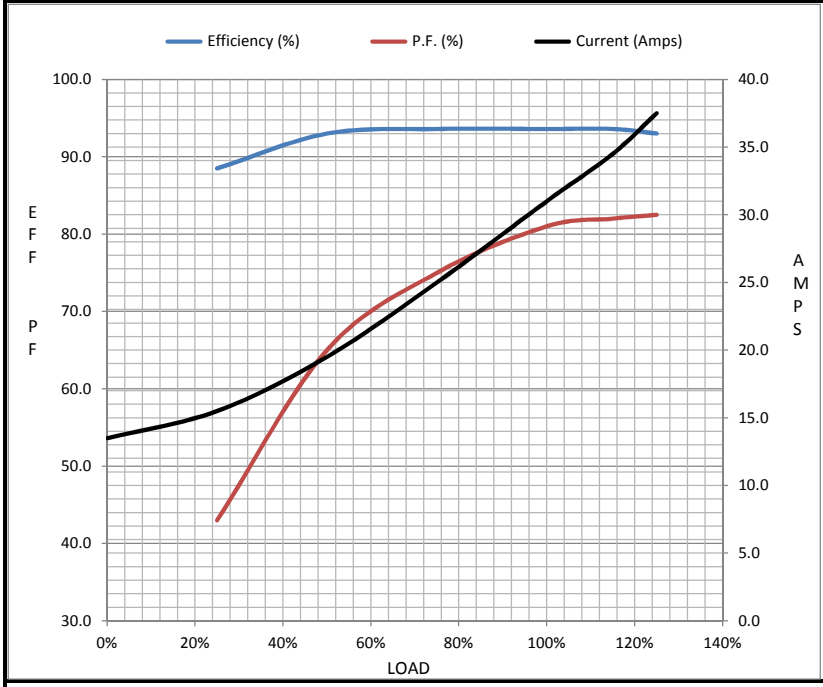
Data @ 460 V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	13.5	15.5	19.5	25.0	31.0	34.5	37.5	181	
Torque (ft-lb)	0.00	18.5	37.0	55.5	74.0	85.5	93.0	140	
RPM	1800	1795	1785	1780	1774	1,765	1760	0	
Efficiency (%)		88.5	93.0	93.6	93.6	93.6	93.0		
P.F. (%)	5.5	43.0	65.0	75.0	81.0	82.0	82.5	33.0	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	900	1675	1774	1800
Current (Amps)	181	165	125	31.0	13.5
Torque (ft-lb)	140	130	215	74.0	0.00



Information Block

HP	25.0
Sync. RPM	1800
Frame	284
Enclosure	TEFC
Construction	TFN
Voltage	230/460#190/380 V
Frequency	60 Hz
Design	B
LR Code letter	G
Service Factor	1.15
Temp Rise @ FL	55 ° C
Duty	CONT
Ambient	40 ° C
Elevation	1,000 feet
Rotor/Shaft wk²	4.2 Lb-Ft²
Ref Wdg	K2844120 NONE
Sound Pressure @ 1M	65 dBA
VFD Rating	CONSTANT 10:1
Outline Dwg	B-SS311004-1275
Conn. Diag	A-EE7308T

Additional Specifications:

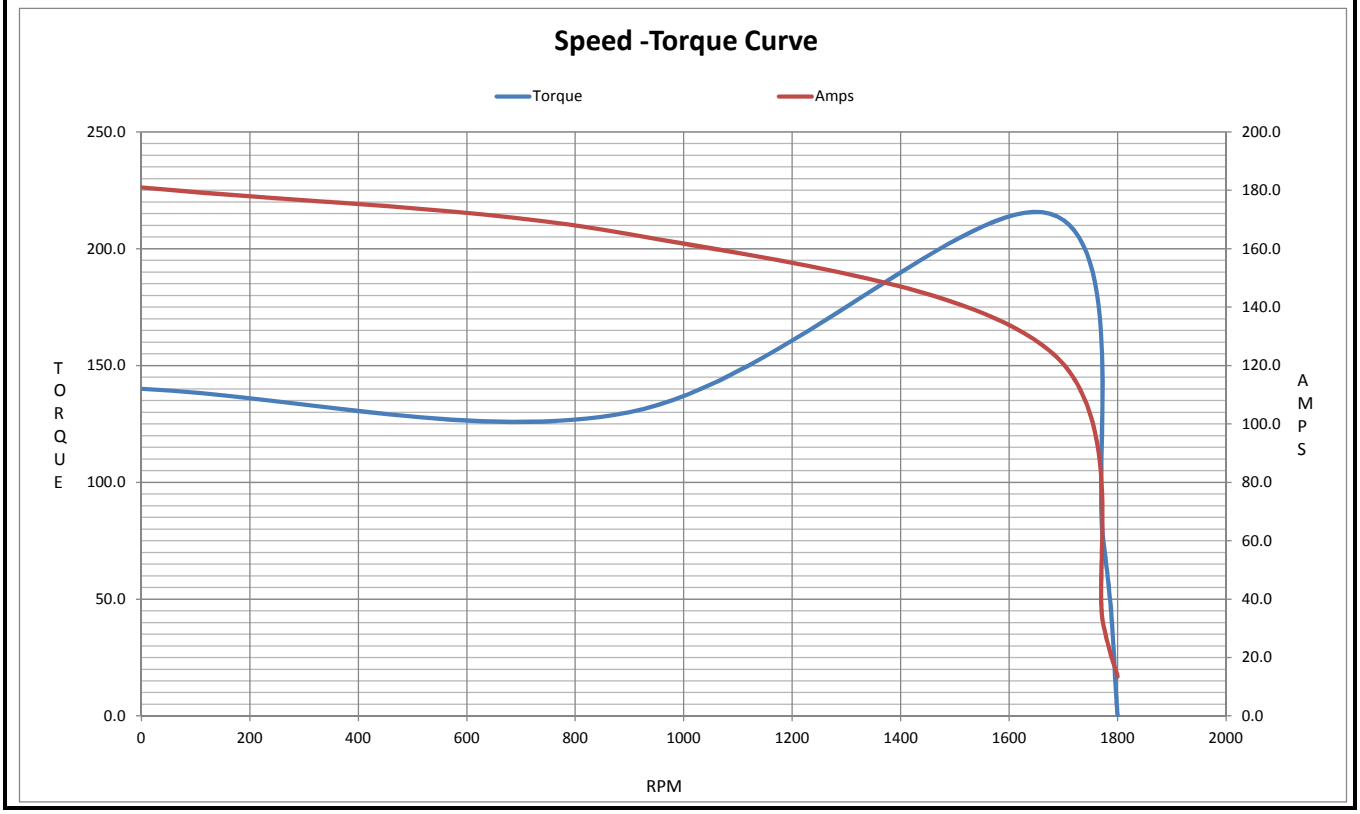
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EQUIV CKT (OHMS / PHASE)

R1	R2	X1	X2	Xm
0.1500	0.1540	0.8520	1.0660	20.0640

Speed -Torque Curve



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CERTIFICATION DATA SHEET

Model#:	284TSTGN16531 AA	**WINDING#:**	K2844120 NONE 6
CONN. DIAGRAM:	A-EE7308T	**ASSEMBLY:**	F1 ONLY
OUTLINE:	B-SS311004-1275		

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
25&20	18.7&14.9	1800	1774&1470	284TS	EPFC	G	B

PH	Hz	VOLTS	FL AMPS	START TYPE	DUTY	INSL	S.F	AMB°C	ELEVATION
3	60/50	230/460#190/380	62/31&60/30	LINE OR INVERTER	CONTINUOUS	F3	1.15/1.15	40	3300

FULL LOAD EFF: 93.6&93	3/4 LOAD EFF: 93.6	1/2 LOAD EFF: 93	GTD. EFF	ELEC. TYPE	NO LOAD AMPS
FULL LOAD PF: 81&81	**3/4 LOAD PF: 75**	**1/2 LOAD PF: 65**	92.4	SQ CAGE INV RATED	27 / 13.5

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
74 LB-FT	362 / 181	140 LB-FT 189	215 LB-FT 291	60

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS /HOUR	APPROX. MOTOR WGT
65 dBA	75 dBA	4.2 LB-FT^2	175 LB-FT^2	25 SEC.	2	475 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	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 *

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