marathon®

Inverter (Vector) Duty Motors

Model No: 286THFCD8086
Catalog No: Y582A

Inverter (Vector) Duty Motor, 20 HP, 3 Ph, 60 Hz, 230/460 V, 1200 RPM, 286TC Frame, TEBC-AXIAL

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Product Information Packet: Model No: 286THFCD8086, Catalog No: Y582A Inverter (Vector) Duty Motor, 20 HP, 3 Ph, 60 Hz, 230/460 V, 1200 RPM, 286TC Frame, TEBC-AXIAL

Nameplate Specifications

Phase	**3**	Output HP	**20 Hp**
Output KW	**14.9 kW**	Voltage	**230/460 V**
Speed	**1180 r/min**	Synchronous RPM	**1200 r/min**
Service Factor	**1.00**	Frame	**286TC**
Enclosure	**Totally Enclosed Blower cooled - Axial**	Thermal Protection	**Thermostat**
Efficiency	**91.4 %**	Ambient Temperature	**40 °C**
Frequency	**60 Hz**	Current	**51.0/25.5 A**
Power Factor	**77**	Duty	**Continuous**
Insulation Class	**H**	Design Code	**INV**
KVA Code	**J**	Drive End Bearing Size	**6311**
Opp Drive End Bearing Size	**6211**	UL	**Recognized**
CSA	**Y**	CE	**Y**
IP Code	**55**	Number of Speeds	**1**

Technical Specifications

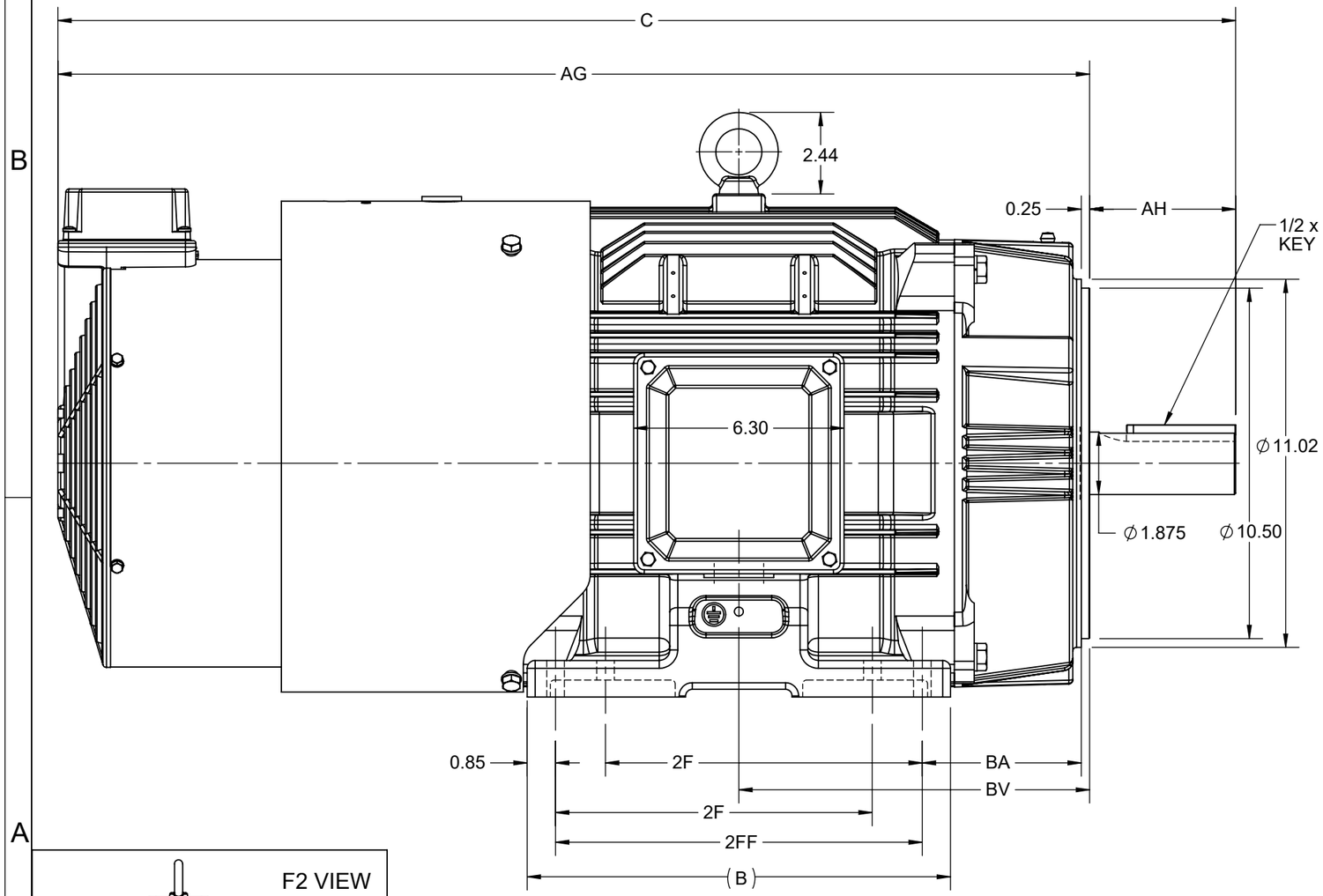
Electrical Type	**Squirrel Cage Inverter Duty**	Starting Method	**Inverter Only**
Poles	**6**	Rotation	**Reversible**
Resistance Main	**.505 O**	Mounting	**Rigid Base**
Motor Orientation	**Horizontal**	Drive End Bearing	**Ball**
Opp Drive End Bearing	**Ball**	Frame Material	**Cast Iron**
Shaft Type	**T**	Shaft Diameter	**1.875 in**
Assembly/Box Mounting	**F1/F2 Capable**	Inverter Load	**Constant 2000:1**

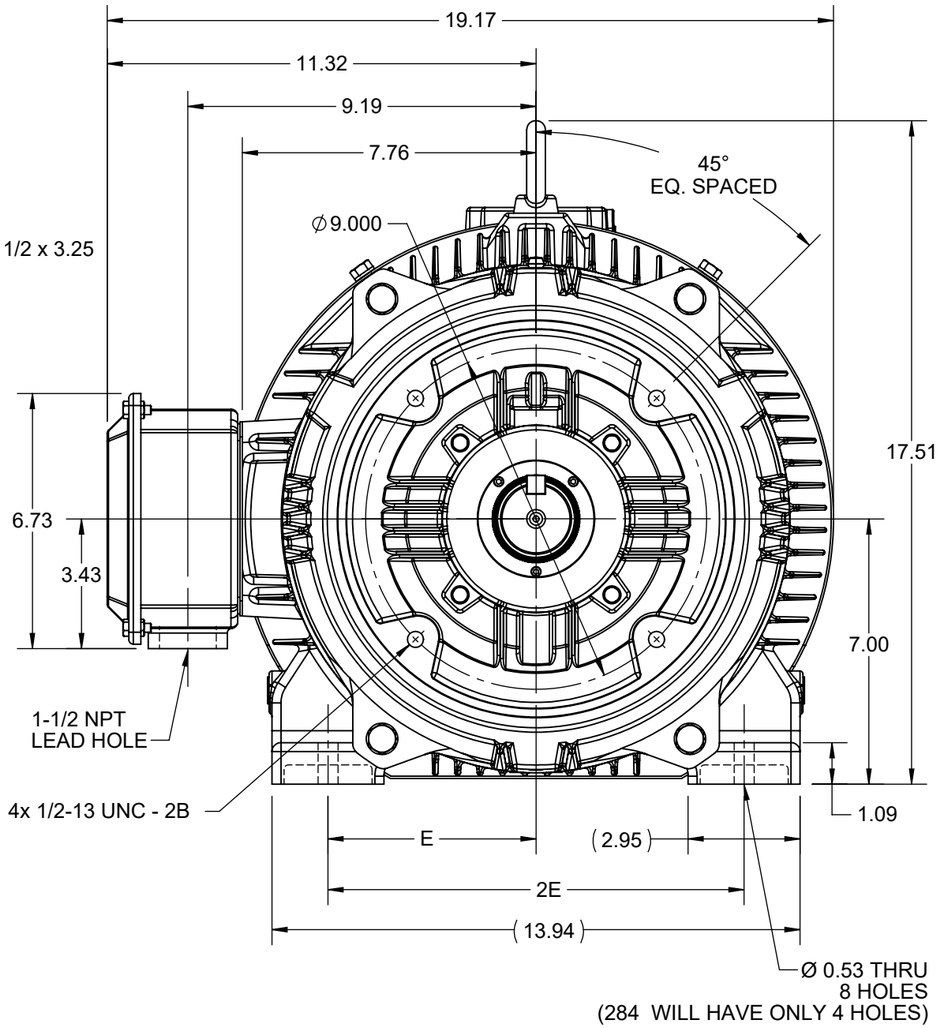
Drawings

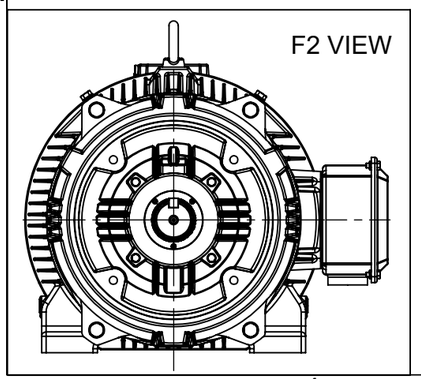
Connection Drawing	**EE7308T**	Outline Drawing	**SS621113-200**

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DASH NO.	B	C	E	2E	2F	2FF	AG	AH	BA	BV	MOUNTING	FRAME
100	10.83	33.77	5.50	11.00	---	9.50	29.40	4.38	4.75	9.76	F1 OR F2	284TC
200	12.68	35.27			9.50	11.00	30.90			10.50		284/286TC







DRAWING REVISION: B	REVISION BY: SB	REV DATE/© DATE: 07/25/2025
REQUEST NUMBER: CR-0023600	APPROVED BY: SBD	DATE: 07/25/2025
REQUEST NUMBER DESCRIPTION: DRAWING TITLE BLOCK UPDATED		

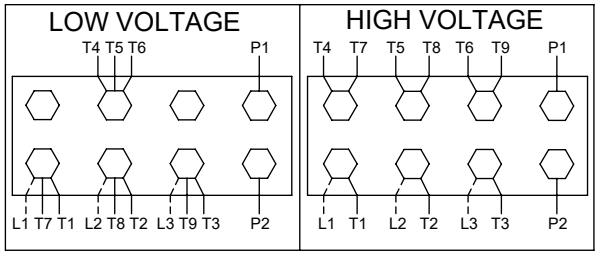
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PRIMARY DIMENSIONS ARE INCH
mm DIMENSIONS IN [BRACKETS]
ARE FOR REFERENCE ONLY

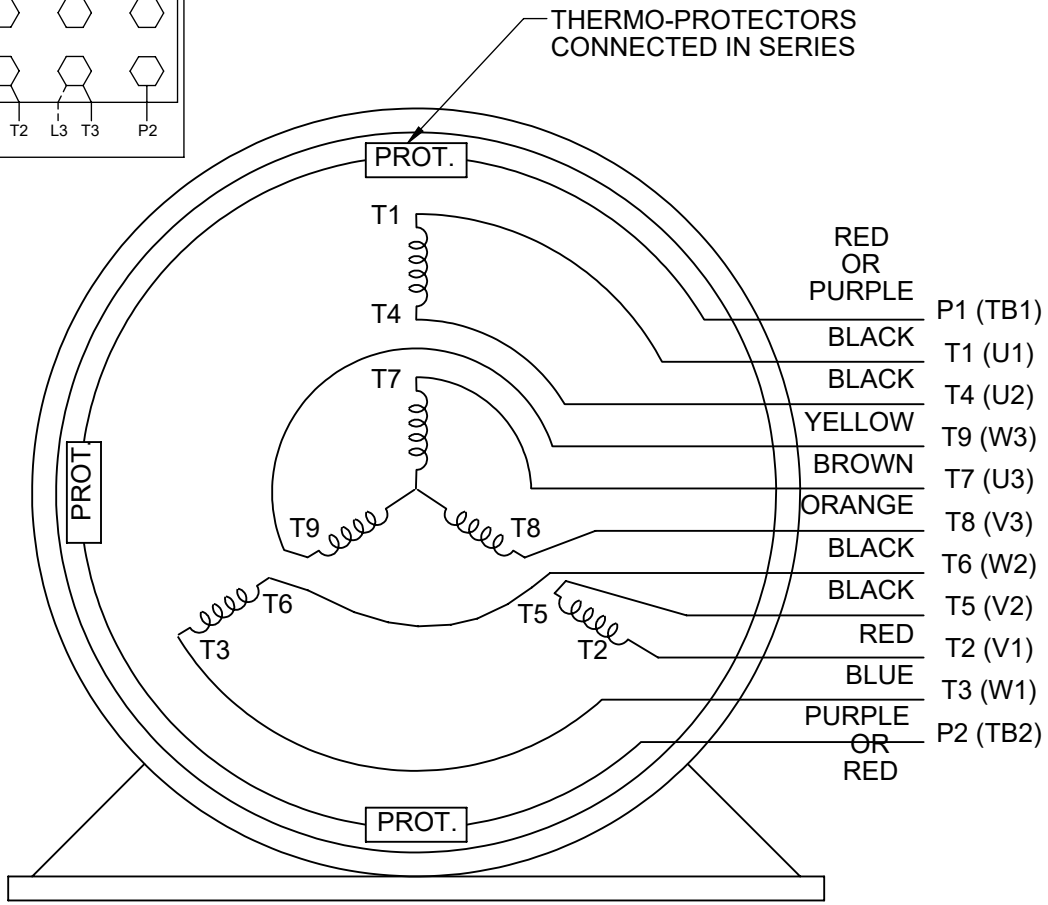
DRAWN BY: BISWA	marathon™	
DATE: 15/12/2020	DESCRIPTION: OUTLINE 284/286TC FR-NEMA-TEBC AXIAL BLOWER	
APPROVED BY: SBD		
DATE: 15/12/2020		
REFERENCE	MATERIAL	PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE: B / DRAWING NUMBER: SS621113	SHEET: 1 OF 1

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: 9/27/2021
Customer:
Attention:
Submitted by:

marathon® Motors

286THFCD8086

Submittal

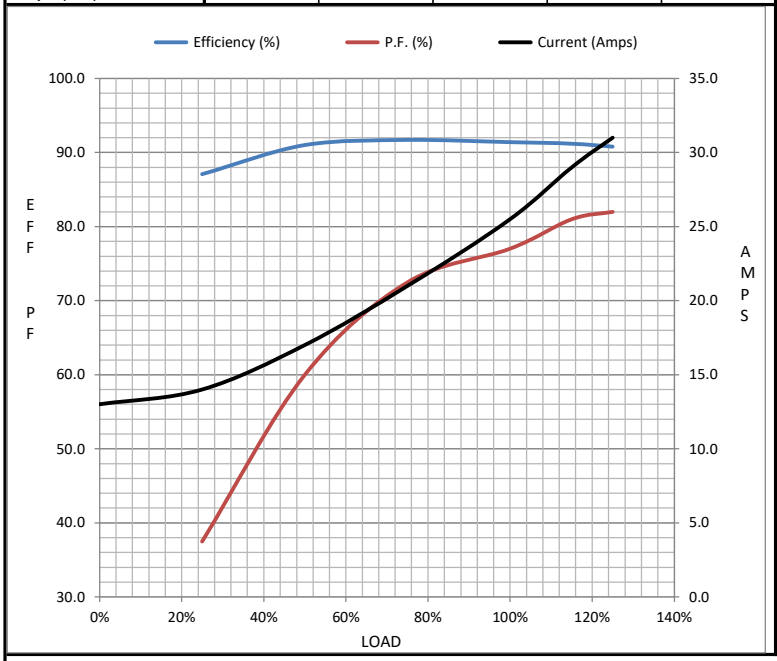
Data @ 460 V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	13.0	14.0	17.0	21.0	25.5	29.0	31.0	204	
Torque (ft-lb)	0.00	22.0	44.0	66.5	89.0	103	112	152	
RPM	1200	1195	1190	1185	1180	1,178	1175	0	
Efficiency (%)		87.1	91.0	91.7	91.4	91.2	90.8		
P.F. (%)	4.5	37.5	60.0	72.5	77.0	81.0	82.0	41.0	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	590	1055	1180	1200
Current (Amps)	204	184	114	25.5	13.0
Torque (ft-lb)	152	129	295	89.0	0.00



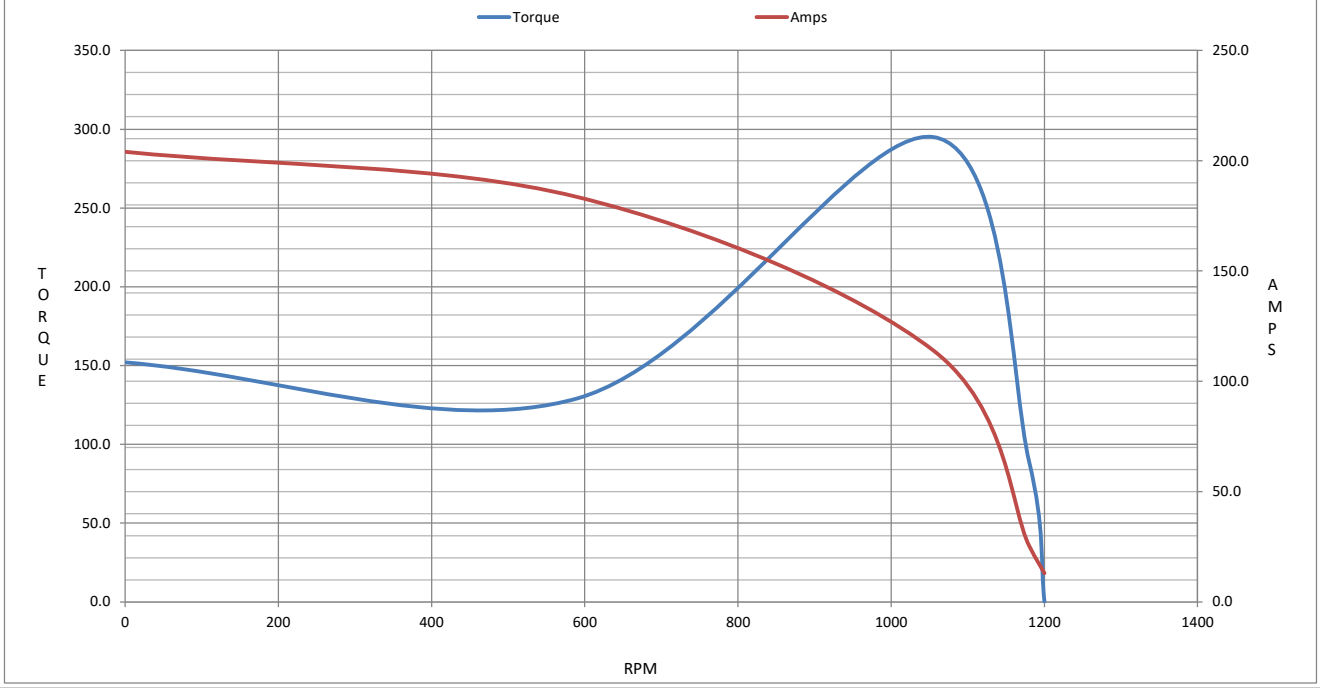
Information Block

HP	20.0	
Sync. RPM	1200	
Frame	286	
Enclosure	TEBC-AXIAL	
Construction	TBC	
Voltage	230/460	V
Frequency	60	Hz
Design	INV	
LR Code letter	J	
Service Factor	1.15	
Temp Rise @ FL	68	° C
Duty	CONT	
Ambient	40	° C
Elevation	3,300	feet
Rotor/Shaft wk²	1.539	Lb-Ft²
Ref Wdg	HA31806012 NONE	
Sound Pressure @ 1M	65	dBA
VFD Rating	CONSTANT 2000:1	
Outline Dwg	SS621113-200	
Conn. Diag	EE7308T	
Additional Specifications:		
0		
0		

EQUIV CKT (OHMS / PHASE)

R1	R2	X1	X2	Xm
0.3150	0.1740	0.9640	1.0780	19.4120

Speed -Torque Curve



P.O. BOX 8003
WAUSAU, WI 54401-8003
PH. 715-675-3311

marathon® Motors

DATA VOLTS: 460

CERTIFICATION DATA SHEET

CUSTOMER:
ORDER #:
CONN. DIAGRAM: EE7308T
OUTLINE: SS621113-200
WINDING: HA31806012 NONE 2
SPEED:

CUSTOMER P.O. #:
REFERENCE MODEL #: 286THFCD8086
CAT #: Y582A
CUSTOMER PART #:
MOUNTING: F1/F2 CAPABLE

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC RPM	FL RPM	FRAME	ENCLOSURE	TYPE	KVA CODE	DESIGN
20	14.9	1200	1180	286TC	TEBC-AXIAL	TBC	J	INV

PH	HZ	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB	ELEV.
3	60	230/460	51/25.5	INVERTER ONLY	CONT	H	1.15	40	3300

F.L. EFF	91.4	3/4 LD EFF	91.7	1/2 LD EFF	91.0	GTD EFF	ELECT. TYPE
F.L. PF	77.0	3/4 LD PF	72.5	1/2 LD PF	60.0	90.2	SQ CAGE INV DUTY

F.L. TORQUE	LR AMPS @ 460 V	L.R. TORQUE	B.D. TORQUE	F.L. RISE (° C)	
89.0 LB-FT	204	152 LB-FT 171%	295 LB-FT 331%	68	

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK²	MAX. LOAD WK²	SAFE STALL TIME	STARTS/HOUR	APROX. MOTOR WGT
65 dBA	74 dBA	1.539 LB-FT²	50 LB-FT²	20 SEC.	2	435 LB.

*** SUPPLEMENTAL INFORMATION ***

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	MOTOR ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
C-FACE	ENCODER	RIGID	HORIZONTAL	NO	NONE	NO	NONE	BLUE (ENAMEL)

BEARINGS DE	BEARINGS ODE	GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT MATERIAL	FRAME MATERIAL
BALL	BALL	POLYREX EM	T	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON
6311	6211						

THERMOSTATS	PROTECTORS	WDG RTD's	BRG RTD's	THERMISTORS	CONTROL	SPACE HEATERS
TSTATS (N/C)	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
0.315	0.174	0.964	1.078	19.412	0.150	ODE

* NOTES *

INVERTER TORQUE: CONSTANT 2000:1
INV. HP SPEED RANGE: 1.5 X BASE SPEED

ENCODER: NONE
NONE
NONE NONE **PPR**

BRAKE: NONE
NONE NONE
FT-LB: NA
VOLTAGE: NONE **HZ:**

UL: V-INS, CONST, OVERHEAT PRT DEV UL REC

PREPARED BY:
DATE: 9/27/2021

FORM: 3531 REV_4 2/27/06