PRODUCT INFORMATION PACKET

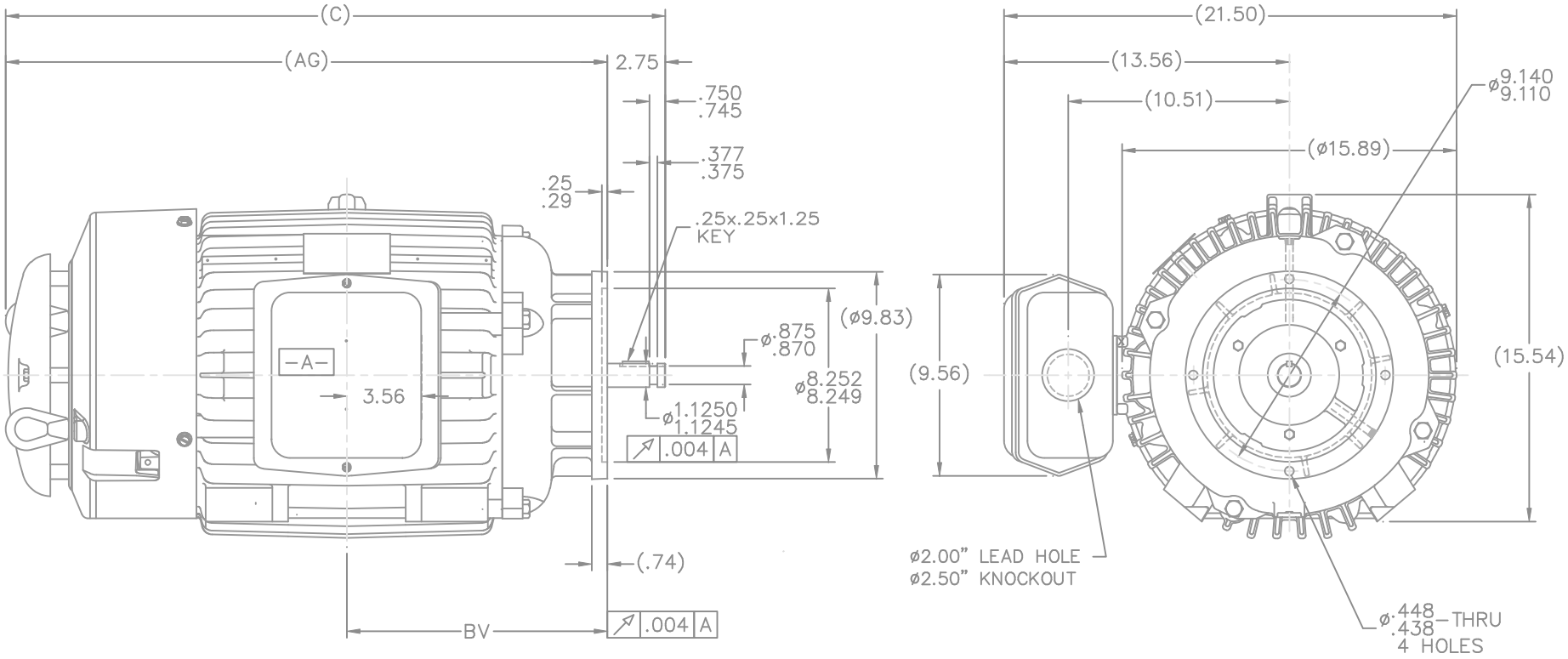
Model No: 286TTFNA16096
Catalog No: M894B
Vertical Pump Motor, 20 HP, 3 Ph, 60 Hz, 230/460 V, 1200 RPM, 286HPV Frame, TEFC

Nameplate Specifications

Phase	3	Output HP	20 Hp
Output KW	14.9 kW	Voltage	230/460 V
Speed	1175 rpm	Service Factor	1.15
Frame	286HPV	Enclosure	Totally Enclosed Fan Cooled
Thermal Protection	No Protection	Efficiency	92.1 %
Ambient Temperature	40 °C	Frequency	60 Hz
Current	53.5/26.7 A	Power Factor	76.5
Duty	Continuous	Insulation Class	F
Design Code	B	KVA Code	G
Drive End Bearing Size	6311	Opp Drive End Bearing Size	6210
UL	Recognized	CSA	Y
CE	Y	IP Code	43
Number of Speeds	1		

Technical Specifications

Electrical Type	Squirrel Cage Induction Run	Starting Method	Across The Line
Poles	6	Rotation	Reversible
Resistance Main	.408 Ohms	Mounting	Round
Motor Orientation	Shaft Down	Drive End Bearing	Ball
Opp Drive End Bearing	Ball	Frame Material	Cast Iron
Shaft Type	HP	Overall Length	30.84 in
Frame Length	14.25 in	Shaft Diameter	1.125 in
Shaft Extension	2.75 in	Assembly/Box Mounting	F1/F2 CAPABLE
Connection Drawing	A-EE7308	Outline Drawing	B-SS311022-1425



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		AG	C			BV
1425	284/286HP		28.09	30.84			12.13
1475	284/286HP		28.59	31.34			12.38

NO.	REVISION	BY & DATE	CHK
			ANG

TOLERANCES UNLESS SPECIFIED

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

LEESON — ELECTRIC MOTORS GEARMOTORS AND DRIVES

TITLE OUTLINE – TEFC – TGN
280HP FR. – BB – STD – 12.50 LAM

MAT'L.
FINISH
RFP
DIST LB
CAD FILE ss311022le

DRAWN	HLB 09-03-2004
CHK	ML 08-07-2004
APPD	BW 09-07-2004
SCALE	1=5
REF	MU61657
FMF	
PREV	

SIZE B | DRAWING NO. SS311022LE | PAGE OF | REV.

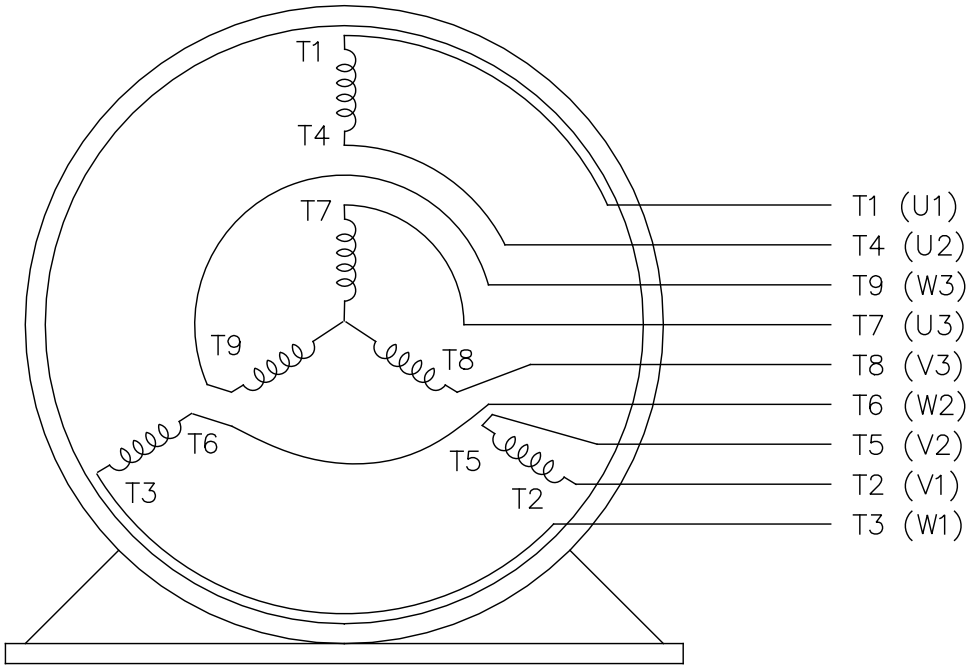
HIGH VOLTAGE

(U1) T1 — L1
(V1) T2 — L2
(W1) T3 — L3
(U2) T4
(U3) T7
(V2) T5
(V3) T8
(W2) T6
(W3) T9

LOW VOLTAGE

(U1) T1
(U3) T7 — L1
(V1) T2
(V3) T8 — L2
(W1) T3
(W3) T9 — L3
(U2) T4
(V2) T5
(W2) T6

THREE PHASE DUAL VOLTAGE MOTOR



VIEW OF TERMINAL END

REF.
WINDING DIAGRAM

T8Y, T2Y, T2BL, T4BX, T2EC, T2G
T6BZ, T2B, T6BL, T4AV, T6B, T4B

OPTIONAL CORD CONNECTION

L1 — WHITE
L2 — RED
L3 — BLACK

DRAWING REVISION	REVISION BY	DATE
ECO	APPROVED BY	DATE
ECO DESCRIPTION: NEW DRAWING		

TOLERANCES UNLESS OTHERWISE SPECIFIED

DEC.	mm	INCH	ANGLE
.X	±2.5	[±0.1]	±0.5°
.XX	±0.51	[±0.02]	
.XXX	±0.127	[±0.005]	
.XXXX	±0.0127	[±0.0005]	

REMOVE BURRS & BREAK SHARP EDGES .08/.38 [.003/.015] X 45°
CORNER FILLETS R.51 [.02]
MACHINED SURFACES INCH 125 / mm 3.2
INCH SHOWN IN [BRACKETS]

DRAWN BY:	AS
DATE:	02/20/2017
APPROVED BY:	ST
DATE:	02/20/2017
REFERENCE	EE7308
THIRD ANGLE PROJECTION	

Trans-Power

DESCRIPTION: CONNECTION DIAGRA
3 PHASE – UAL VOLTAGE

MATERIAL | PROCESS/FINISH

SIZE	DWG NO	SHEET
A	EE7308TP	1

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

DATA VOLTS: 460

CERTIFICATION DATA SHEET

CUSTOMER:
ORDER #:
CONN. DIAGRAM: A-EE7308
OUTLINE: B-SS311022-1425
WINDING: 2866129 NONE 6
SPEED:

CUSTOMER P.O. #:
REFERENCE MODEL #: 286TTFNA16096
CAT #: M894B
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	1175	286HPV	TEFC	TFN	G	B

PH	HZ	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB	ELEV.
3	60	230/460	53.5/26.7	ACROSS THE LINE	CONT	F	1.15	40	3300

F.L. EFF	92.1	3/4 LD EFF	92.4	1/2 LD EFF	92.1	GTD EFF	ELECT. TYPE
F.L. PF	76.5	3/4 LD PF	70.5	1/2 LD PF	58.5	91.0	SQ CAGE IND RUN

F.L. TORQUE	LR AMPS @ 460 V	L.R. TORQUE	B.D. TORQUE	F.L. RISE (°C)	
89.0 LB-FT	145	162 LB-FT 182%	220 LB-FT 247%	65	

@ 3 FT.	POWER	ROTOR WK²	MAX. LOAD WK²	SAFE STALL TIME	STARTS/HOUR	MOTOR WGT
56 dBA	65 dBA	4.8 LB-FT²	350 LB-FT²	20 SEC.	2	550 LB.

*** SUPPLEMENTAL INFORMATION ***

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	MOTOR ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
P-BASE	STANDARD	ROUND	SHAFT DOWN	NO	NONE	YES	NONE	BLUE (ENAMEL)

BEARINGS DE	BEARINGS ODE	GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT MATERIAL	FRAME MATERIAL
BALL 6311	BALL 6210	POLYREX EM	HP	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON

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
0.275	0.241	1.249	1.277	19.724	0.150	ODE

*
NOTES
*

INVERTER TORQUE: NONE
INV. HP SPEED RANGE: NONE

ENCODER: NONE
NONE
NONE NONE PPR

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

UL: V-INS, CONST UL REC

PREPARED BY: FAREEDA DUDEKULA
DATE: 9/11/2018

FORM: 3531 REV_4 2/27/06

Data Sheet

Date: 11/30/2018
Customer:
Attention:
Submitted by: FAREEDA DUDEKULA

marathon® electric

286TTFNA16096

Submittal

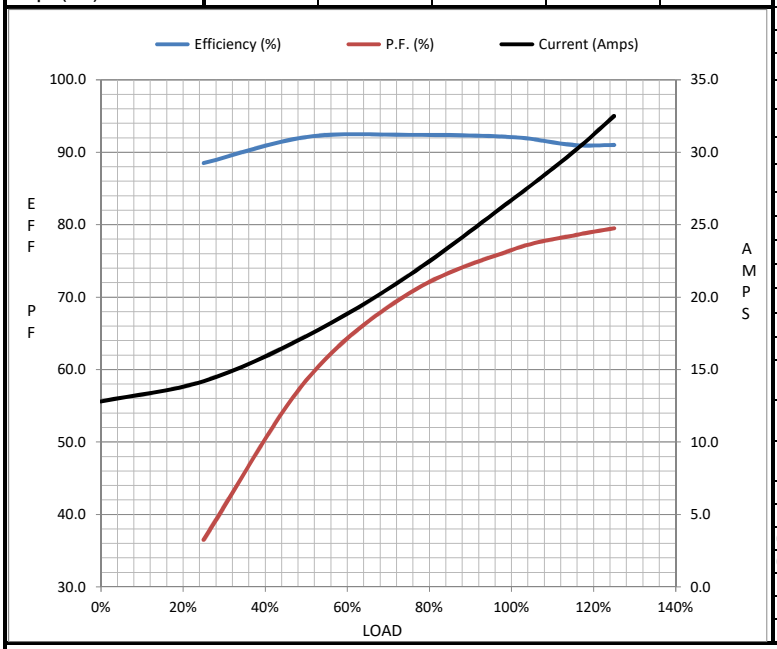
Data @ **460** V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	12.8	14.2	17.3	21.5	26.7	30.0	32.5	145	
Torque (ft-lb)	0.00	22.0	44.0	66.5	89.0	103	112	162	
RPM	1200	1195	1188	1180	1175	1,170	1165	0	
Efficiency (%)		88.5	92.1	92.4	92.1	91.0	91.0		
P.F. (%)	3.0	36.5	58.5	70.5	76.5	78.5	79.5	35.0	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	600	1100	1175	1200
Current (Amps)	145	132	89.0	26.7	12.8
Torque (ft-lb)	162	140	220	89.0	0.00



Information Block

HP	20.0	
Sync. RPM	1200	
Frame	286	
Enclosure	TEFC	
Construction	TFS	
Voltage	230/460	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	1,000	feet
Rotor/Shaft wk²	4.8	Lb-Ft²
Ref Wdg	2866129 NONE	
Sound Pressure @ 1M	56	dBA
VFD Rating	NONE	
Outline Dwg	B-SS311022-1425	
Conn. Diag	A-EE7308	
Additional Specifications:		
0		
0		

EQUIV CKT (OHMS / PHASE)

R1	R2	X1	X2	Xm
0.2750	0.2410	1.2490	1.2770	19.7240

Speed -Torque Curve