marathon®

Vertical Pump Motors

Model No: 324TTDN16101
Catalog No: M720

Vertical Pump Motor, 20 HP, 3 Ph, 60 Hz, 230/460 V, 900 RPM, 324HPV Frame, DP

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Product Information Packet: Model No: 324TTDN16101, Catalog No: M720 Vertical Pump Motor, 20 HP, 3 Ph, 60 Hz, 230/460 V, 900 RPM, 324HPV Frame, DP

Nameplate Specifications

Phase	**3**	Output HP	**20 Hp**
Output KW	**14.9 kW**	Voltage	**230/460 V**
Speed	**882 r/min**	Synchronous RPM	**900 r/min**
Service Factor	**1.15**	Frame	**324HPV**
Enclosure	**Drip Proof**	Thermal Protection	**No Protection**
Efficiency	**91 %**	Ambient Temperature	**40 °C**
Frequency	**60 Hz**	Current	**60.0/30.0 A**
Power Factor	**69**	Duty	**Continuous**
Insulation Class	**F**	Design Code	**B**
KVA Code	**F**	Drive End Bearing Size	**6311**
Opp Drive End Bearing Size	**7311**	UL	**Recognized**
CSA	**Y**	CE	**Y**
IP Code	**23**	Number of Speeds	**1**

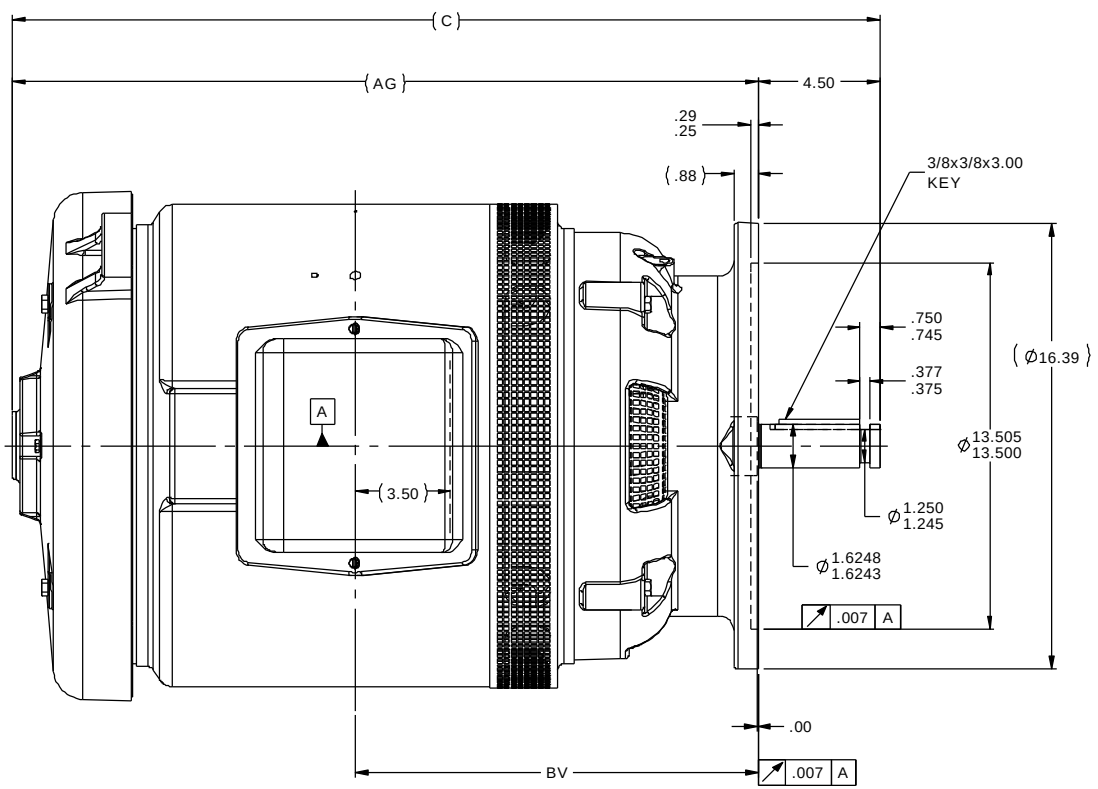
Technical Specifications

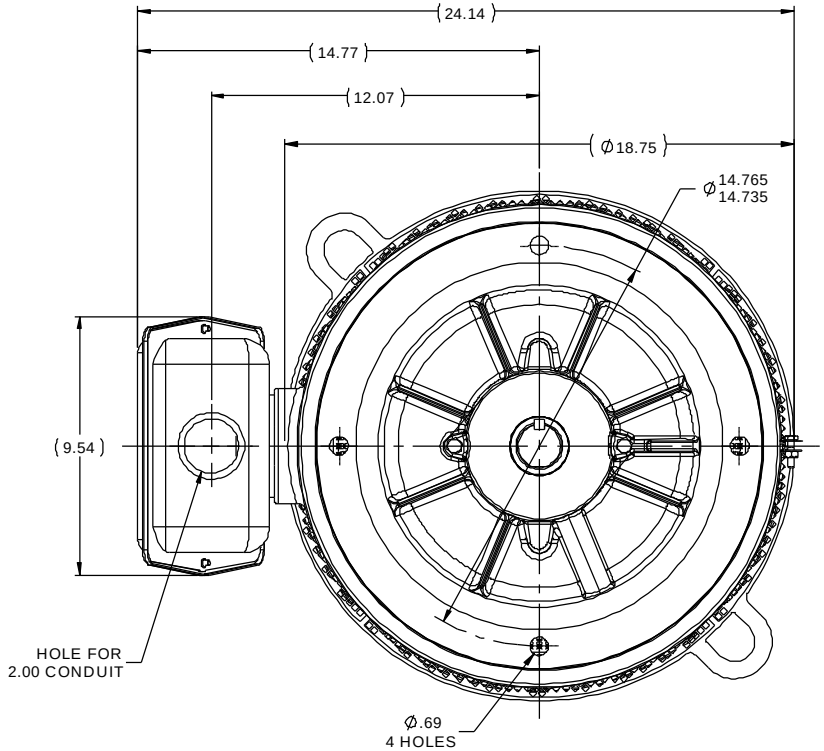
Electrical Type	**Squirrel Cage Induction Run**	Starting Method	**Across The Line**
Poles	**8**	Rotation	**Reversible**
Resistance Main	**.378 O**	Mounting	**Round**
Motor Orientation	**Shaft Down**	Drive End Bearing	**Ball**
Opp Drive End Bearing	**Ball**	Frame Material	**Cast Iron**
Shaft Type	**HP**	Overall Length	**31.93 in**
Frame Length	**16.12 in**	Shaft Diameter	**1 5/8 in**
Shaft Extension	**4.50 in**	Assembly/Box Mounting	**F1/F2 Capable**

Drawings

Connection Drawing	**EE7308**	Outline Drawing	**B-SS312503-1612**

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

DASH	FRAME	C	AG	BV			
1612	284/6HP	31.93	27.43	14.81			

NO	REVISION	BY & DATE	CHK

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

THIRD ANGLE PROJECTION

marathon electric

TITLE OUTLINE
320HP FR. - P'BASE - VERT. DR.PR.
MAT'L
FINISH
RFP 5/1/2013
PREV
NETWORK FILE NAME SS312503

DRAWN	TJW 4/22/2013
CHK	CTO 5/1/2013
APPR	LMC 5/1/2013
SCALE	7:32
REF	SS28314
FMF	MU112462
PAGE	OF

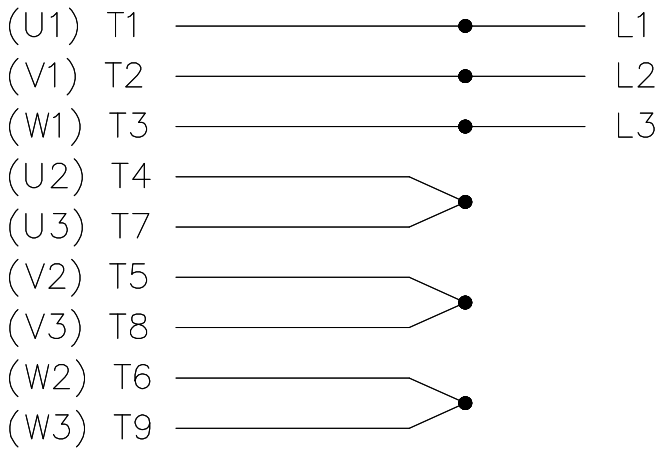
SIZE B
DRAWING NO SS312503
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5/2/2013 8:23:18 AM - Converted by Comnexus
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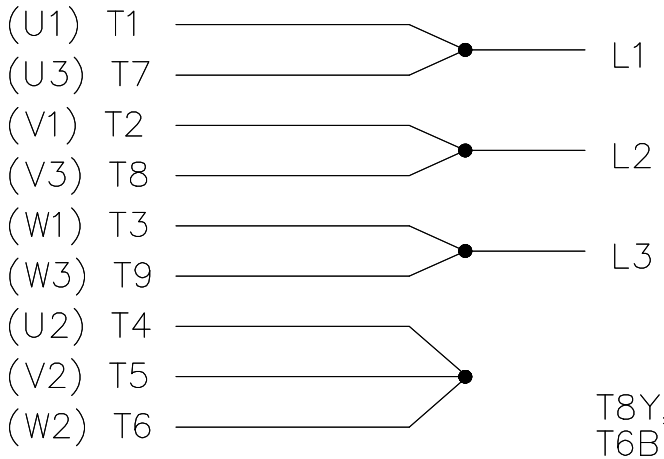
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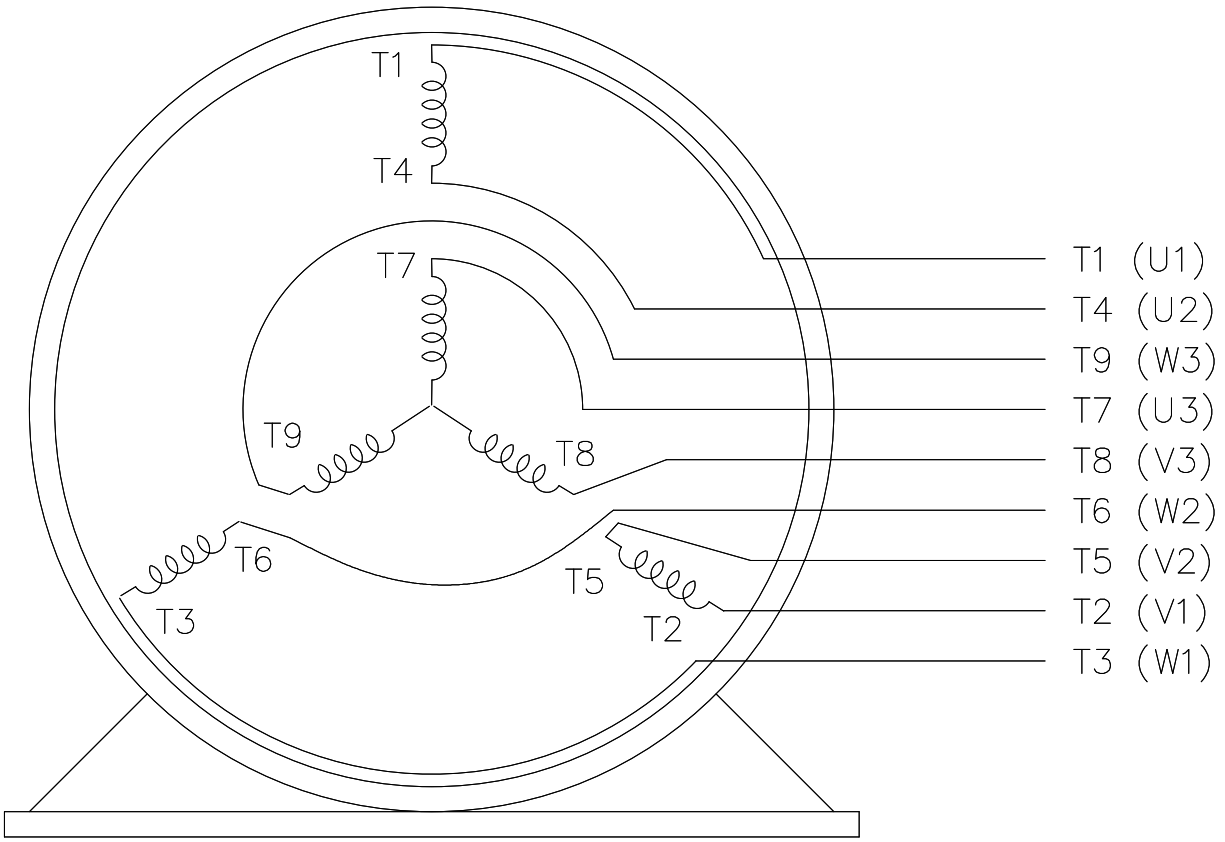
THREE PHASE
DUAL VOLTAGE MOTOR

HIGH VOLTAGE



LOW VOLTAGE





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: J	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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DATE: 11/20/1990	
APPROVED BY: SAS	
DATE: 04/24/2003	
REFERENCE	
THIRD ANGLE PROJECTION	

marathon™

DESCRIPTION
CONN DIAGRAM-EXTERNAL
3Ø - DUAL VOLTAGE MOTOR

MATERIAL	PROCESS/FINISH

SIZE	DRAWING NUMBER	SHEET
A	4 of 5 EE7308	1 OF 1

Data Sheet

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

marathon® electric

324TTDN16101

Submittal

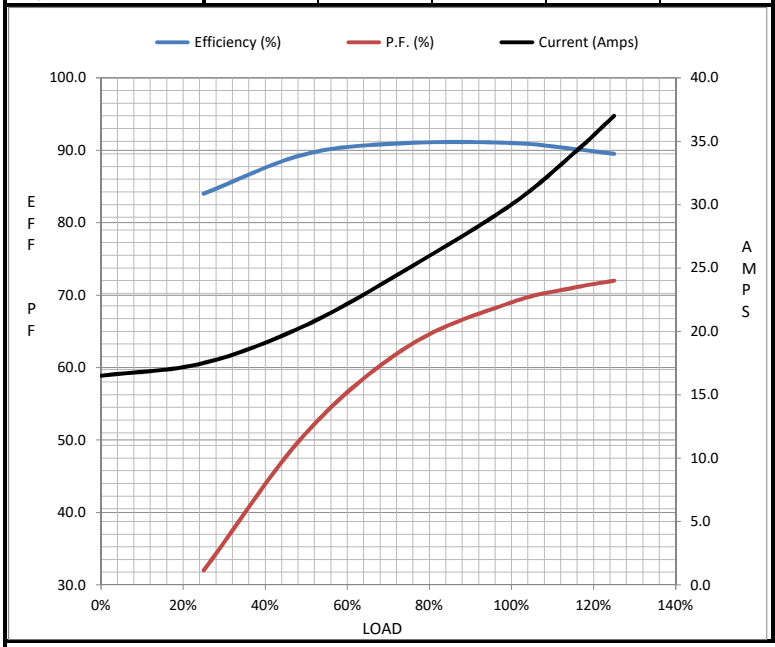
Data @ 460 V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	16.5	17.5	20.5	25.0	30.0	34.0	37.0	126	
Torque (ft-lb)	0.00	29.5	59.0	89.0	119	138	150	158	
RPM	900	895	892	888	882	880	878	0	
Efficiency (%)		84.0	89.5	91.0	91.0	90.2	89.5		
P.F. (%)	4.5	32.0	51.0	63.0	69.0	71.0	72.0	28.0	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	450	825	882	900
Current (Amps)	126	110	78.0	30.0	16.5
Torque (ft-lb)	158	130	245	119	0.00



Information Block

HP	20.0	
Sync. RPM	900	
Frame	324	
Enclosure	DP	
Construction	TDS	
Voltage	230/460	V
Frequency	60	Hz
Design	B	
LR Code letter	F	
Service Factor	1.15	
Temp Rise @ FL	45	° C
Duty	CONT	
Ambient	40	° C
Elevation	1,000	feet
Rotor/Shaft wk²	8.2	Lb-Ft²
Ref Wdg	324832 NONE	
Sound Pressure @ 1M	67	dBA
VFD Rating	NONE	
Outline Dwg	B-SS312503-1612	
Conn. Diag	A-EE7308	
Additional Specifications:		
0		
0		

EQUIV CKT (OHMS / PHASE)

R1	R2	X1	X2	Xm
0.2200	0.1850	1.6470	1.4060	15.3360

Speed -Torque Curve

