marathon®

Vertical Pump Motors

Model No: 324TTDR16091
Catalog No: M823B

Vertical Pump Motor, 25 & 20 HP, 3 Ph, 60 & 50 Hz, 230/460 & 190/380 V, 1200 RPM, 324HPV Frame, DP

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Product Information Packet: Model No: 324TTDR16091, Catalog No: M823B Vertical Pump Motor, 25 & 20 HP, 3 Ph, 60 & 50 Hz, 230/460 & 190/380 V, 1200 RPM, 324HPV Frame, DP

Nameplate Specifications

Phase	**3**	Output HP	**25 & 20 Hp**
Output KW	**18.7 & 14.9 kW**	Voltage	**230/460 & 190/380 V**
Speed	**1182 & 982 r/min**	Synchronous RPM	**1200 & 1000 r/min**
Service Factor	**1.15 & 1.15**	Frame	**324HPV**
Enclosure	**Drip Proof**	Thermal Protection	**No Protection**
Efficiency	**93 & 92.4 %**	Ambient Temperature	**40 °C**
Frequency	**60 & 50 Hz**	Current	**65/32.5 & 64/32 A**
Power Factor	**78**	Duty	**Continuous**
Insulation Class	**F**	Design Code	**B**
KVA Code	**G**	Drive End Bearing Size	**6311**
Opp Drive End Bearing Size	**6311**	UL	**Recognized**
CSA	**Y**	CE	**Y**
IP Code	**22**	Number of Speeds	**1**

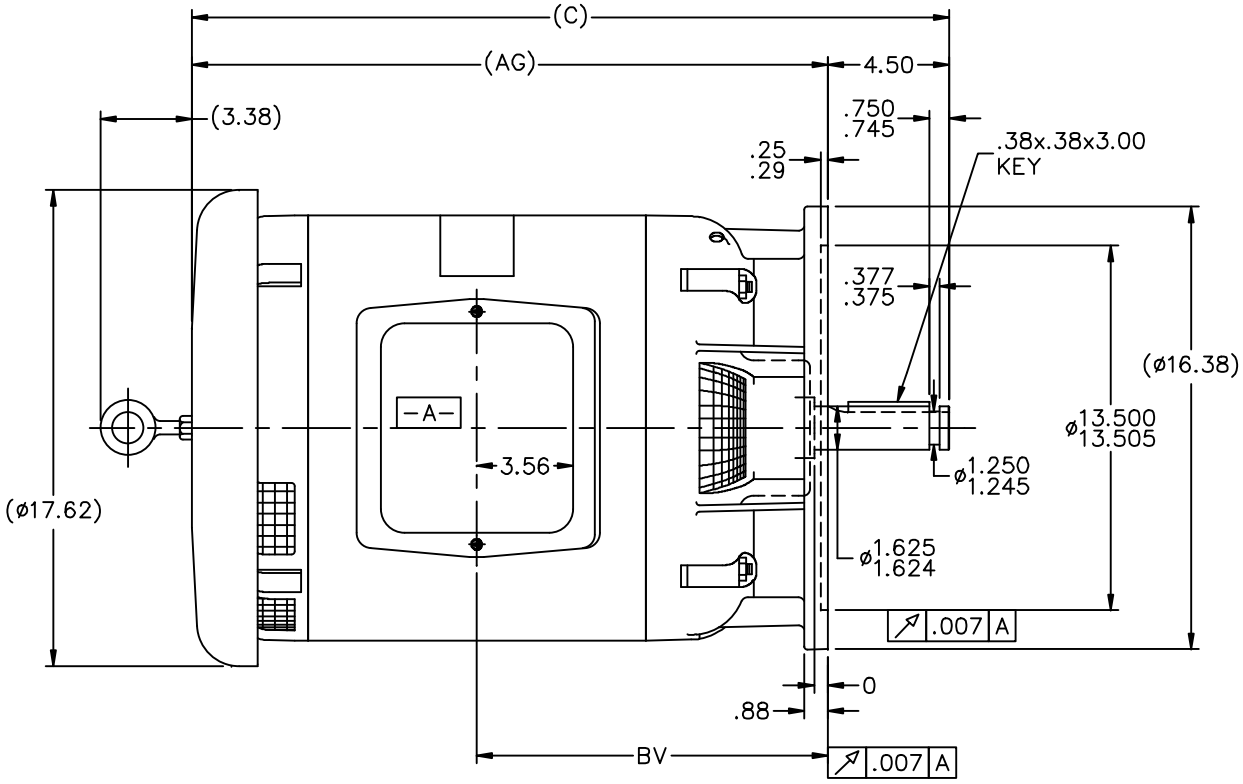
Technical Specifications

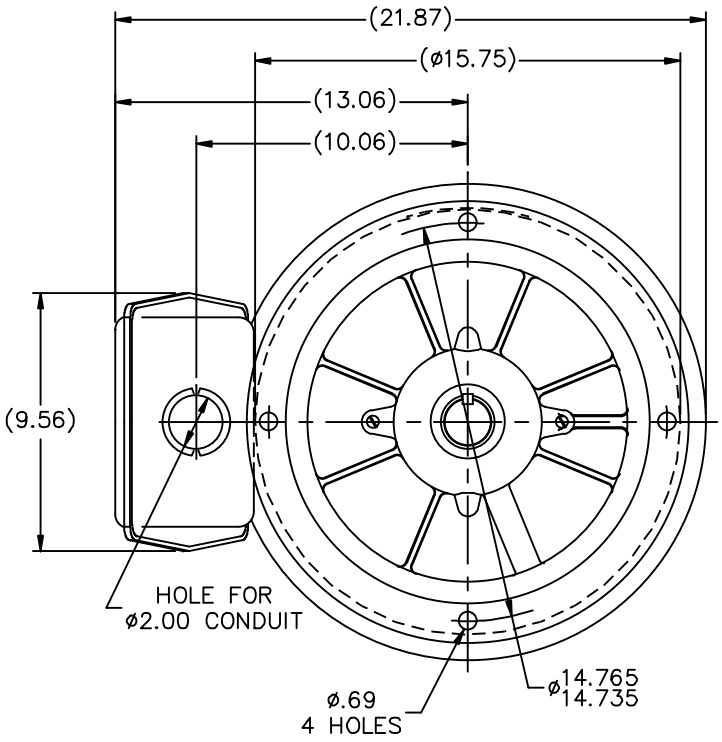
Electrical Type	**Squirrel Cage Induction Run**	Starting Method	**Across The Line**
Poles	**6**	Rotation	**Reversible**
Resistance Main	**.255 O**	Mounting	**Round**
Motor Orientation	**Shaft Down**	Drive End Bearing	**Ball**
Opp Drive End Bearing	**Ball**	Frame Material	**Rolled Steel**
Shaft Type	**HP**	Overall Length	**30.06 in**
Frame Length	**14.5 in**	Shaft Diameter	**1 5/8 in**
Shaft Extension	**4.5 in**	Assembly/Box Mounting	**F1/F2 Capable**

Drawings

Connection Drawing	**A-EE7308**	Outline Drawing	**B-SS28314-1450**

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NOTES:
1. C'BOX CAN BE ROTATED IN 90° STEP.
2. NAMEPLATE TO BE READ FROM SHAFT END OF MOTOR
3. MAX. SHAFT RUNOUT .002

DASH	FRAME	C	AG	BV
1250	320	28.06	23.56	13.00
1400	320	29.56	25.06	13.75
1450	320	30.06	25.56	14.00
1500	320	30.56	26.06	14.12

NO.	REVISION	BY & DATE	CHK
16	REVISED NOTE # 2 (ECN 23047)	REP 01-16-2012	BW
15	ECN 16735	NJS 6/21/2010	BW
14	REVISED NAMEPLATE LOCATION 09-3901	MSG 9/22/2009	DR
13	REDRAWN IN AUTOCAD	TAT 07-22-2004	ML
12	REVISED TO NEC CONDUIT BOX CN 28428	BJW 02-04-2000	
11	FRAME TYPES NOW 320 CN 27400-327	DRS 08-23-1999	

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

MARATHON ELECTRIC

TITLE OUTLINE - 320HP FR. DR. PR. - STEEL C' BOX - 'P' BASE

MAT'L. | FINISH | CAD FILE ss28314

DRAWN MJD 01-27-1999 | CHK ML 02-01-1999 | APPD DD 02-01-1999 | SCALE 7=32 | REF | FMF | PREV

RFP | DIST LB

SIZE B | DRAWING NO. SS28314 | PAGE OF | REV. 16

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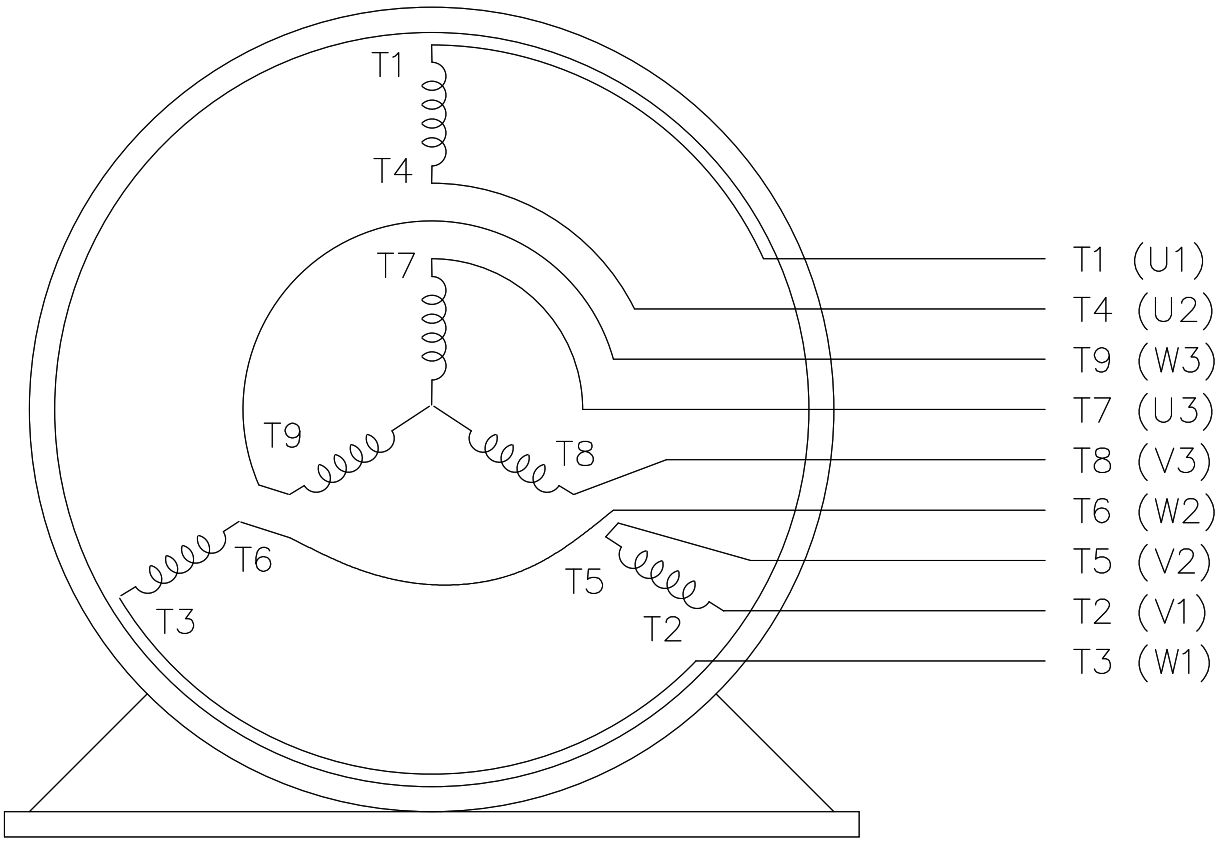
THREE PHASE
DUAL VOLTAGE MOTOR

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



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	REV DATE/ © DATE
J	SB	08/01/2025
REQUEST NUMBER	APPROVED BY	DATE
CR-0023654	SBD	08/01/2025

REQUEST NUMBER DESCRIPTION
DRAWING TITLE BLOCK UPDATED

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DRAWN BY	RM
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 6 EE7308	1 OF 1

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Data Sheet

Date: 15-06-2017
Customer:
Attention:
Submitted by: FAREEDA DUDEKULA

marathon® electric

324TTDR16091

Submittal

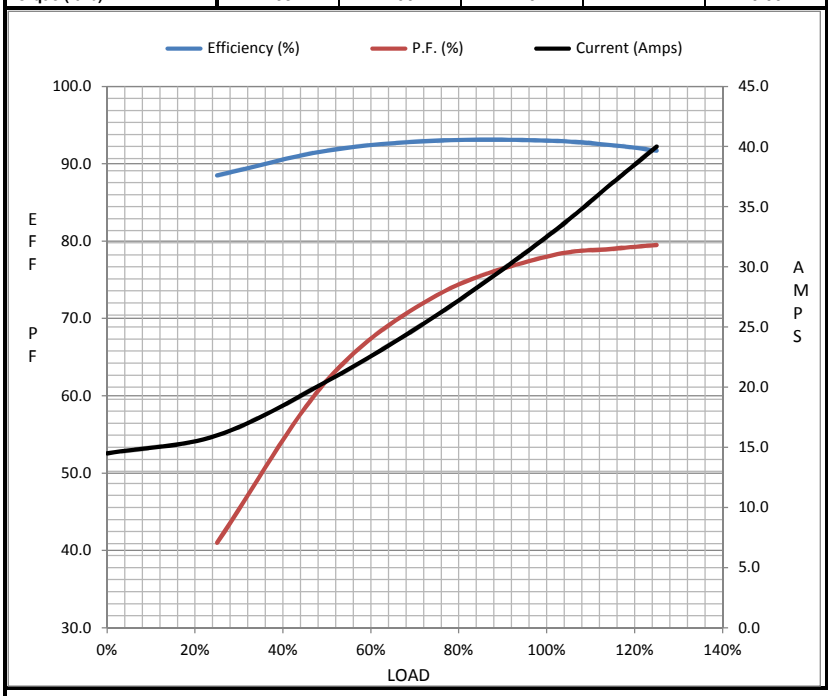
Data @ 460 V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	14.5	16.0	20.5	26.0	32.5	37.0	40.0	182	
Torque (ft-lb)	0.00	27.5	55.0	83.5	112	128	140	165	
RPM	1200	1195	1190	1188	1182	1,178	1175	0	
Efficiency (%)		88.5	91.7	93.0	93.0	92.4	91.7		
P.F. (%)	4.5	41.0	62.0	73.0	78.0	79.0	79.5	28.0	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	600	1100	1182	1200
Current (Amps)	182	168	110	32.5	14.5
Torque (ft-lb)	165	190	270	112	0.00



Information Block

HP	25.0
Sync. RPM	1200
Frame	324
Enclosure	DP
Construction	TDR
Voltage	230/460#190/38(V
Frequency	60 Hz
Design	B
LR Code letter	G
Service Factor	1.15
Temp Rise @ FL	45 ° C
Duty	CONT
Ambient	40 ° C
Elevation	1,000 feet
Rotor/Shaft wk²	8.5 Lb-Ft²
Ref Wdg	324680 NONE
Sound Pressure @ 1M	69 dBA
VFD Rating	NONE
Outline Dwg	B-SS28314-1450
Conn. Diag	A-EE7308

Additional Specifications:

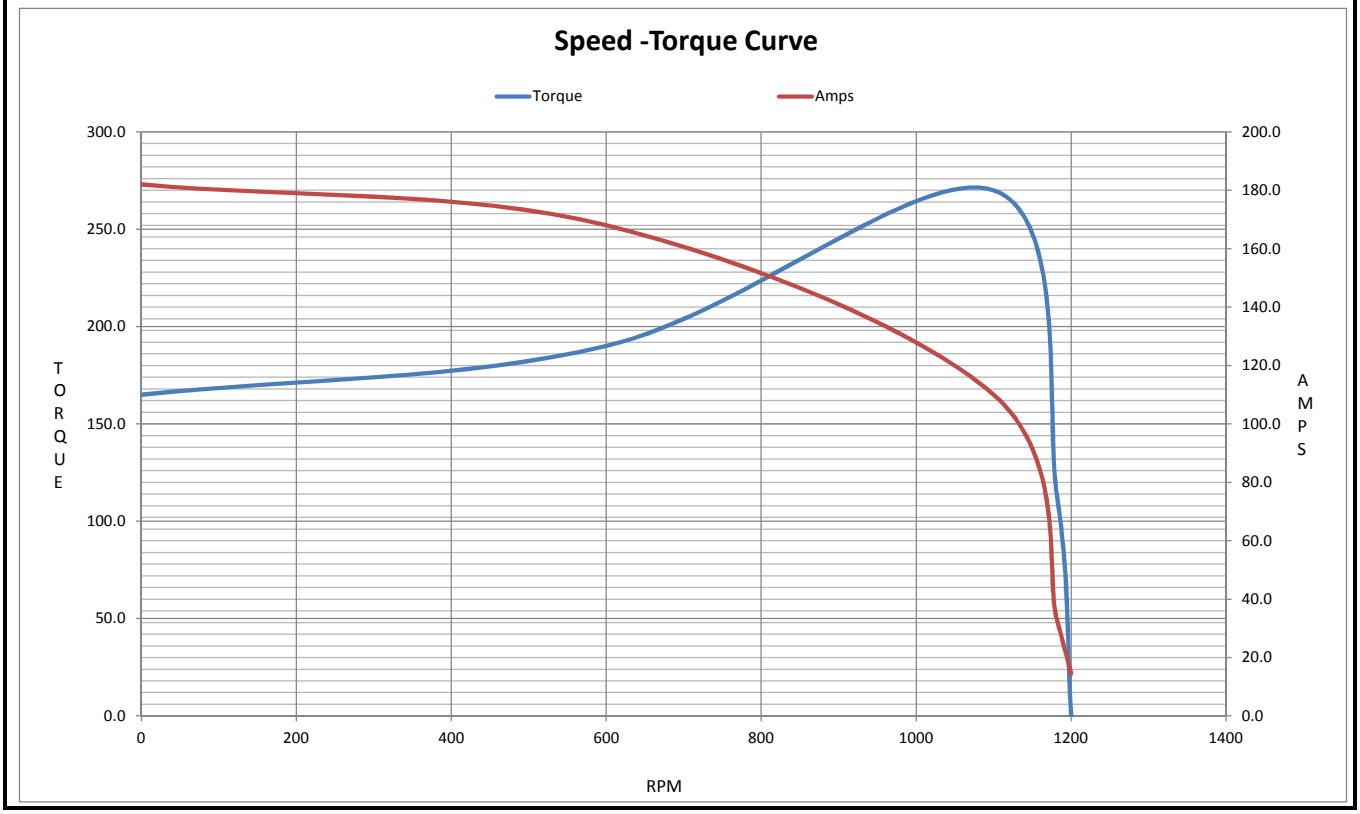
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365THFS8036

EQUIV CKT (OHMS / PHASE)

R1	R2	X1	X2	Xm
0.1760	0.1360	1.0460	1.3050	18.1150

Speed -Torque Curve



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CERTIFICATION DATA SHEET

Model#:	324TTDR16091 AN	**WINDING#:**	324680 NONE 2
CONN. DIAGRAM:	A-EE7308	**ASSEMBLY:**	F1/F2 CAPABLE
OUTLINE:	B-SS28314-1450		

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
25&20	18.7&14.9	1200	1182&982	324HPV	DP	G	B

PH	Hz	VOLTS	FL AMPS	START TYPE	DUTY	INSL	S.F	AMB°C	ELEVATION
3	60/50	230/460#190/380	65/32.5&64/32	ACROSS THE LINE	CONTINUOUS	F3	1.15/1.15	40	3300

FULL LOAD EFF: 93&92.4	3/4 LOAD EFF: 93	1/2 LOAD EFF: 91.7	GTD. EFF	ELEC. TYPE	NO LOAD AMPS
FULL LOAD PF: 78&78	3/4 LOAD PF: 73	1/2 LOAD PF: 62	92.4	SQ CAGE IND RUN	29 / 14.5

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
112 LB-FT	364 / 182	165 LB-FT 147	270 LB-FT 241	45

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS /HOUR	APPROX. MOTOR WGT
69 dBA	79 dBA	8.5 LB-FT^2	425 LB-FT^2	20 SEC.	2	540 LBS.

*** SUPPLEMENTAL INFORMATION ***

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
P-BASE	STANDARD	ROUND	SHAFT DOWN	FALSE	NONE	TRUE	RODENT	BLUE (ENAMEL)

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

THERMO-PROTECTORS				THERMISTORS	CONTROL	SPACE /n HEATERS
THERMOSTATS	PROTECTORS	WDG RTDs	BRG RTDs			
NONE	NOT	NONE	NONE	NONE	FALSE	NONE VOLTS

If Inverter equals NONE, contact factory for further information

INVERTER TORQUE: NONE
INV. HP SPEED RANGE: NONE

ENCODER: NONE
NONE NONE
NONE NONE PPR

BRAKE: NONE NONE
NONE P/N NONE
NONE NONE
NONE FT-LB NONE V NONE Hz

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