marathon®

Vertical Pump Motors

Model No: 405TTDS16089
Catalog No: M743

Vertical Pump Motor, 75 HP, 3 Ph, 60 Hz, 230/460 V, 1200 RPM, 405HPV Frame, DP

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Product Information Packet: Model No: 405TTDS16089, Catalog No: M743 Vertical Pump Motor, 75 HP, 3 Ph, 60 Hz, 230/460 V, 1200 RPM, 405HPV Frame, DP

Nameplate Specifications

Phase	**3**	Output HP	**75 Hp**
Output KW	**56.0 kW**	Voltage	**230/460 V**
Speed	**1185 r/min**	Synchronous RPM	**1200 r/min**
Service Factor	**1.15**	Frame	**405HPV**
Enclosure	**Drip Proof**	Thermal Protection	**No Protection**
Efficiency	**95 %**	Ambient Temperature	**40 °C**
Frequency	**60 Hz**	Current	**180.0/90.0 A**
Power Factor	**82.5**	Duty	**Continuous**
Insulation Class	**F**	Design Code	**B**
KVA Code	**F**	Drive End Bearing Size	**6314**
Opp Drive End Bearing Size	**7314**	UL	**Recognized**
CSA	**Y**	CE	**Y**
IP Code	**22**	Number of Speeds	**1**

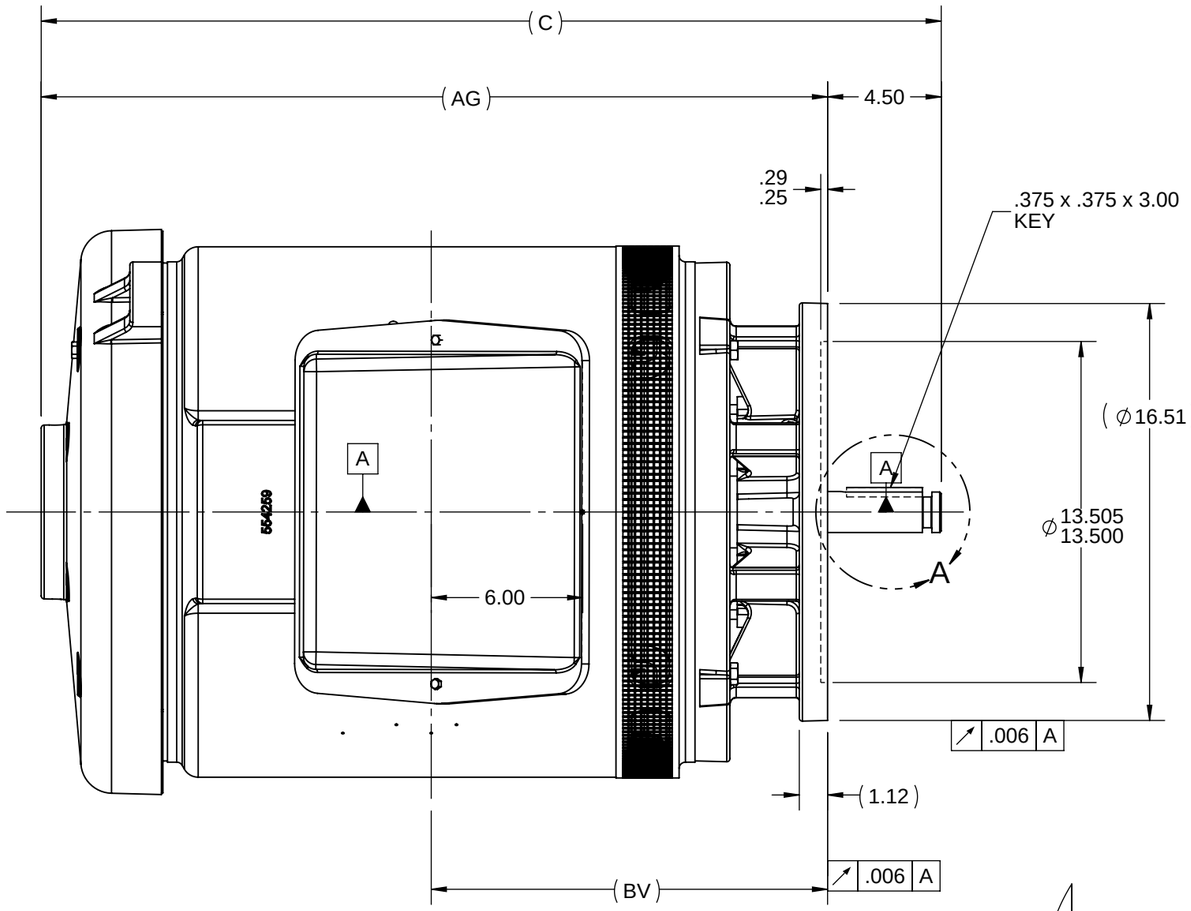
Technical Specifications

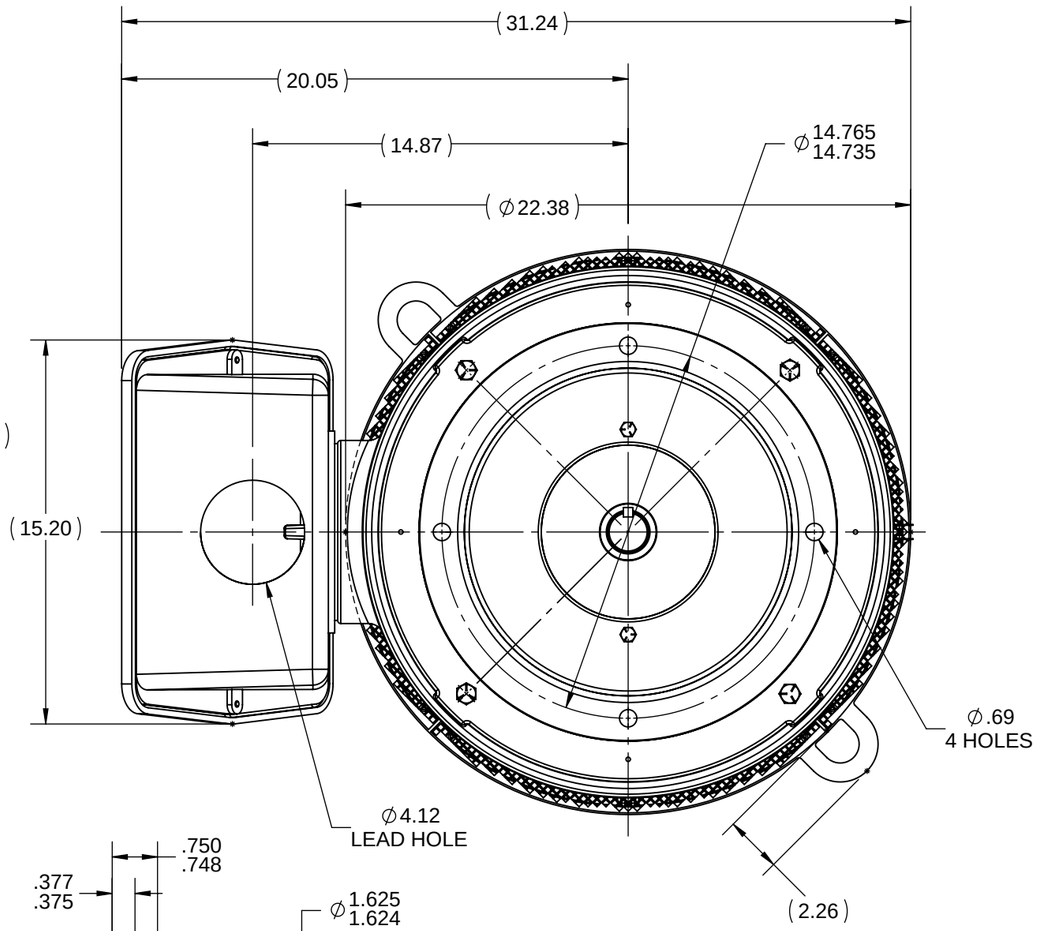
Electrical Type	**Squirrel Cage Induction Run**	Starting Method	**Across The Line**
Poles	**6**	Rotation	**Reversible**
Resistance Main	**.096 O**	Mounting	**Round**
Motor Orientation	**Shaft Down**	Drive End Bearing	**Ball**
Opp Drive End Bearing	**Duplex Tandem Angular Contact**	Frame Material	**Cast Iron**
Shaft Type	**HP**	Overall Length	**35.64 in**
Frame Length	**20.88 in**	Shaft Diameter	**1 5/8 in**
Shaft Extension	**4.5 in**	Assembly/Box Mounting	**F1/F2 Capable**

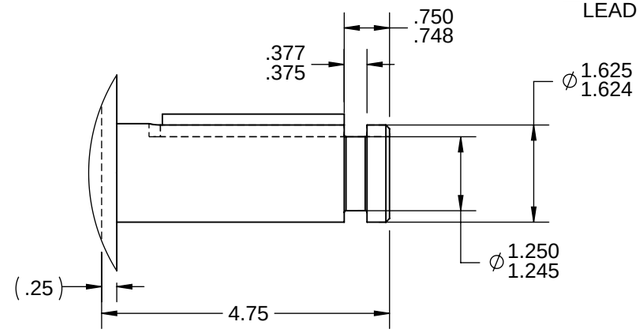
Drawings

Connection Drawing	**EE7308**	Outline Drawing	**B-SS555070-2088**

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DETAIL OF SHAFT EXT.

NOTE:
1. CONDUIT BOX CAN BE ROTATED IN 90° STEPS.
2. NAMEPLATES TO BE READ FROM CONDUIT BOX SIDE OF THE MOTOR.

DASH	FRAME	C	AG	BV
2088	400PV	35.64	31.14	15.70

DRAWING REVISION: E	REVISION BY: SB	REV DATE/© DATE: 05/28/2026
REQUEST NUMBER: CR-0026424	APPROVED BY: RMS	DATE: 05/28/2026
REQUEST NUMBER DESCRIPTION: DRAWING TITLE BLOCK UPDATED		

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TOLERANCES (EXCEPT AS NOTED):

DEC.	INCH	mm	ANGLE
.X	±0.1	[±3]	±0.5°
.XX	±0.01	[±0.3]	
.XXX	±0.005	[±0.13]	
.XXXX	±0.0005	[±0.013]	

REMOVE BURRS & BREAK SHARP EDGES: .003/.015 [.08/.38] X 45°
CORNER FILLETS: R.02 [.5]
MACHINED SURFACES: 125 INCH / 3.2 mm
mm DIMENSIONS IN [BRACKETS] ARE FOR REFERENCE ONLY

DRAWN BY: CJR	marathon™
DATE: 03-01-2012	
APPROVED BY: DJK	DESCRIPTION: OUTLINE 400PV FR. - DR. PR. - VERTICAL
DATE: 03-01-2012	
REFERENCE	MATERIAL / PROCESS/FINISH
THIRD ANGLE PROJECTION	SIZE: B / DRAWING NUMBER: SS555070 / SHEET: 1 OF 1

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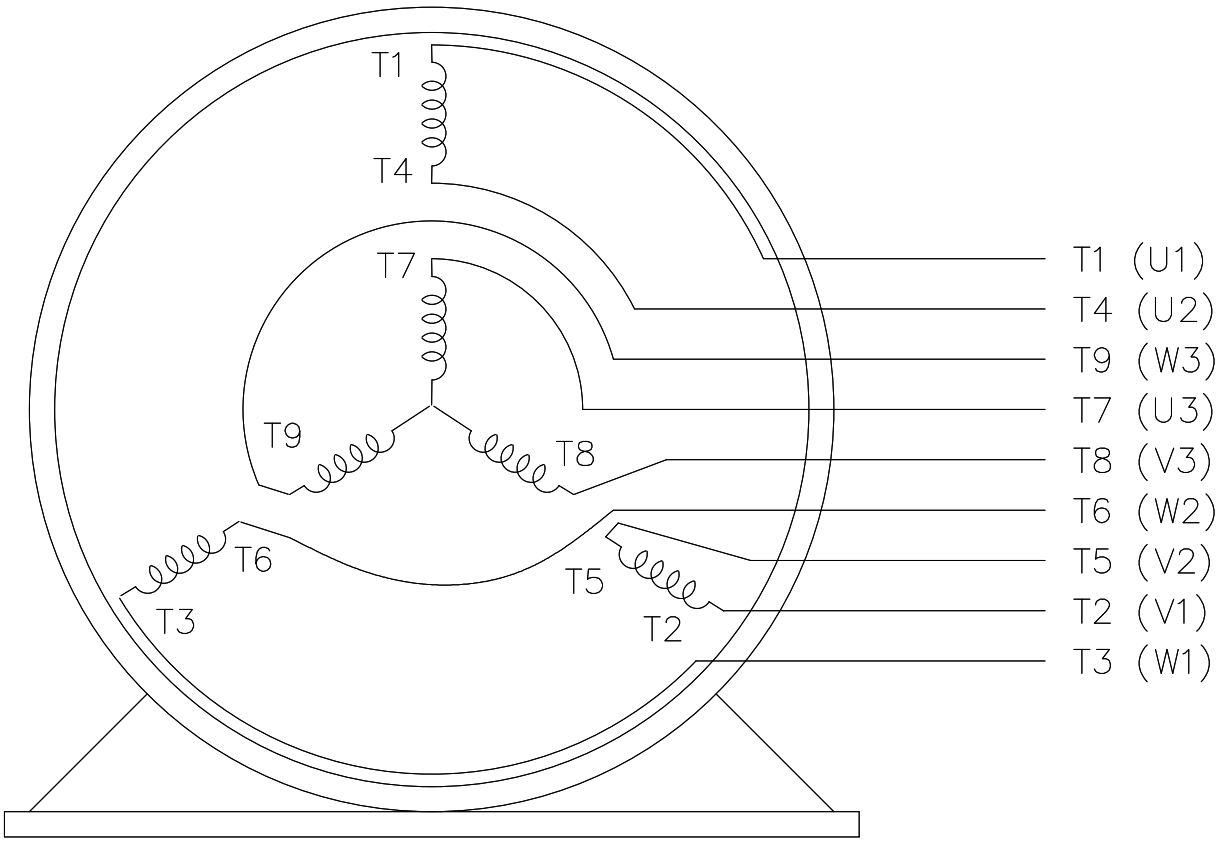
THREE PHASE
DUAL VOLTAGE MOTOR

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

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

Data Sheet

Date: 29-06-2017
Customer:
Attention:
Submitted by: FAREEDA DUDEKULA

405TTDS16089

Submittal

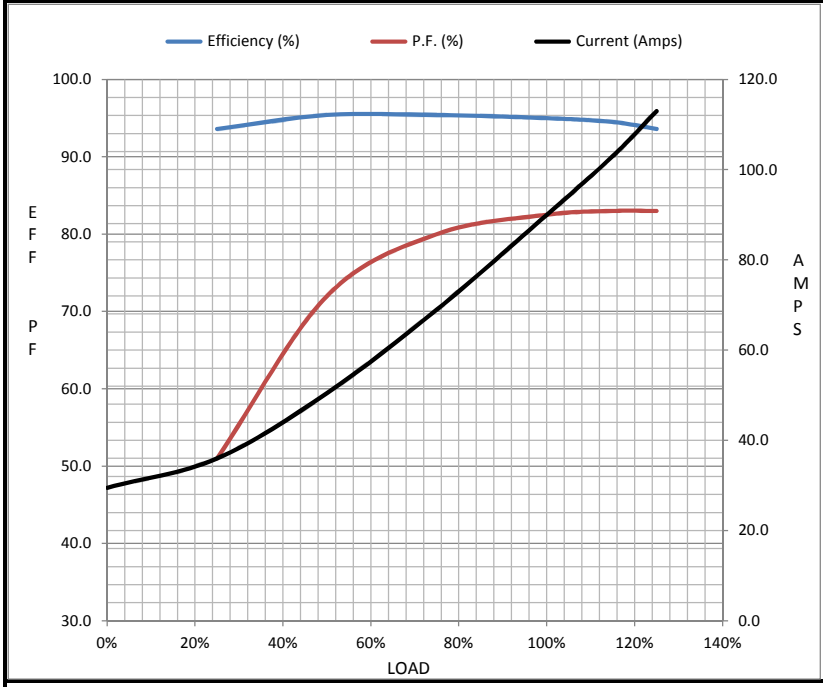
Data @ 460 V

Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR	
Current (Amps)	29.5	36.0	50.5	69.0	90.0	103	113	500	
Torque (ft-lb)	0.00	83.0	165	250	332	382	418	550	
RPM	1200	1197	1194	1190	1185	1,182	1180	0	
Efficiency (%)		93.6	95.4	95.4	95.0	94.5	93.6		
P.F. (%)	4.0	51.0	72.0	80.0	82.5	83.0	83.0	34.5	

Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	700	1125	1185	1200
Current (Amps)	500	400	275	90.0	29.5
Torque (ft-lb)	550	500	725	332	0.00



Information Block

HP	75.0
Sync. RPM	1200
Frame	405
Enclosure	DP
Construction	TDS
Voltage	230/460 V
Frequency	60 Hz
Design	B
LR Code letter	F
Service Factor	1.15
Temp Rise @ FL	40 ° C
Duty	CONT
Ambient	40 ° C
Elevation	1,000 feet
Rotor/Shaft wk²	38.0 Lb-Ft²
Ref Wdg	T405646 NONE
Sound Pressure @ 1M	73 dBA
VFD Rating	NONE
Outline Dwg	B-SS555070-2088
Conn. Diag	A-EE7308

Additional Specifications:

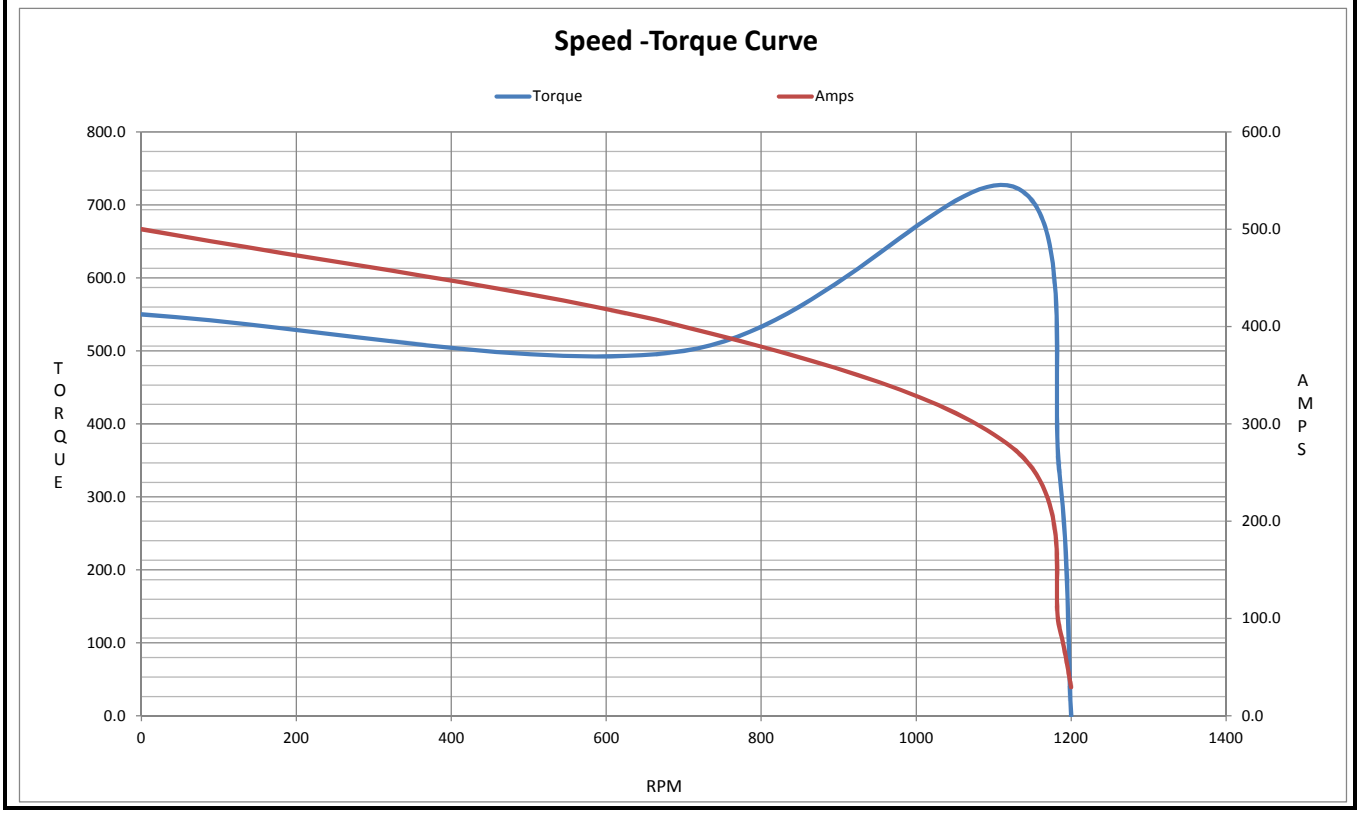
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EQUIV CKT (OHMS / PHASE)

R1	R2	X1	X2	Xm
0.0640	0.0340	0.0330	0.0470	8.6180

Speed -Torque Curve



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CERTIFICATION DATA SHEET

Model#:	405TTDS16089 AN	**WINDING#:**	T405646 NONE 1
CONN. DIAGRAM:	A-EE7308	**ASSEMBLY:**	F1/F2 CAPABLE
OUTLINE:	B-SS555070-2088		

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
75	56	1200	1185	405HPV	DP	F	B

PH	Hz	VOLTS	FL AMPS	START TYPE	DUTY	INSL	S.F	AMB°C	ELEVATION
3	60	230/460	180/90	ACROSS THE LINE	CONTINUOUS	F1	1.15	40	3300

FULL LOAD EFF: 95	3/4 LOAD EFF: 95.4	1/2 LOAD EFF: 95.4	GTD. EFF	ELEC. TYPE	NO LOAD AMPS
FULL LOAD PF: 82.5	3/4 LOAD PF: 80	1/2 LOAD PF: 72	94.5	SQ CAGE IND RUN	59 / 29.5

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
332 LB-FT	1000 / 500	550 LB-FT 166	725 LB-FT 218	40

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS /HOUR	APPROX. MOTOR WGT
73 dBA	83 dBA	38 LB-FT^2	1100 LB-FT^2	20 SEC.	2	1150 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 6314	BALL 6314	POLYREX EM	HP	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON

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

*
NOTES
*

DATE: 06/22/2017 12:19:55 AM
FORM 3531 REV.3 02/07/99
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