USER'S GUIDE:
OPERATIONS & MAINTENANCE

VZ-TEC
industrial equipment

VZ-TEC
EASY BUCKER© VZ1000

Project Engineer ..... Cory VanderZwaag

System Designed & Built By White's Bridge Tooling, Inc.

Tooling Project Manager (Build)……...…… Ryan Haskins
Tooling Controls Manager ……... Jason Playter
White's Bridge President.....……... Pete Odland

VZ-TEC
www.vz-tec.com
(616) 777-5271

White's Bridge Tooling, Inc.
P.O. Box 8
1395 Bowes Road
Lowell, MI 49331
(616) 897-4151

WBT Job #6735

USER'S GUIDE:
OPERATIONS & MAINTENANCE

CONTENTS:

USER'S GUIDE:
OPERATIONS & MAINTENANCE

INTRODUCTION:

This document provides the instructions, descriptions, and technical data you will need to operate the VZ-TEC East Bucker© VZ1000 properly and safely. Read this manual in its entirety before operating this machine. Be sure you understand each step and are familiar with any special instructions, CAUTIONS and WARNINGS.

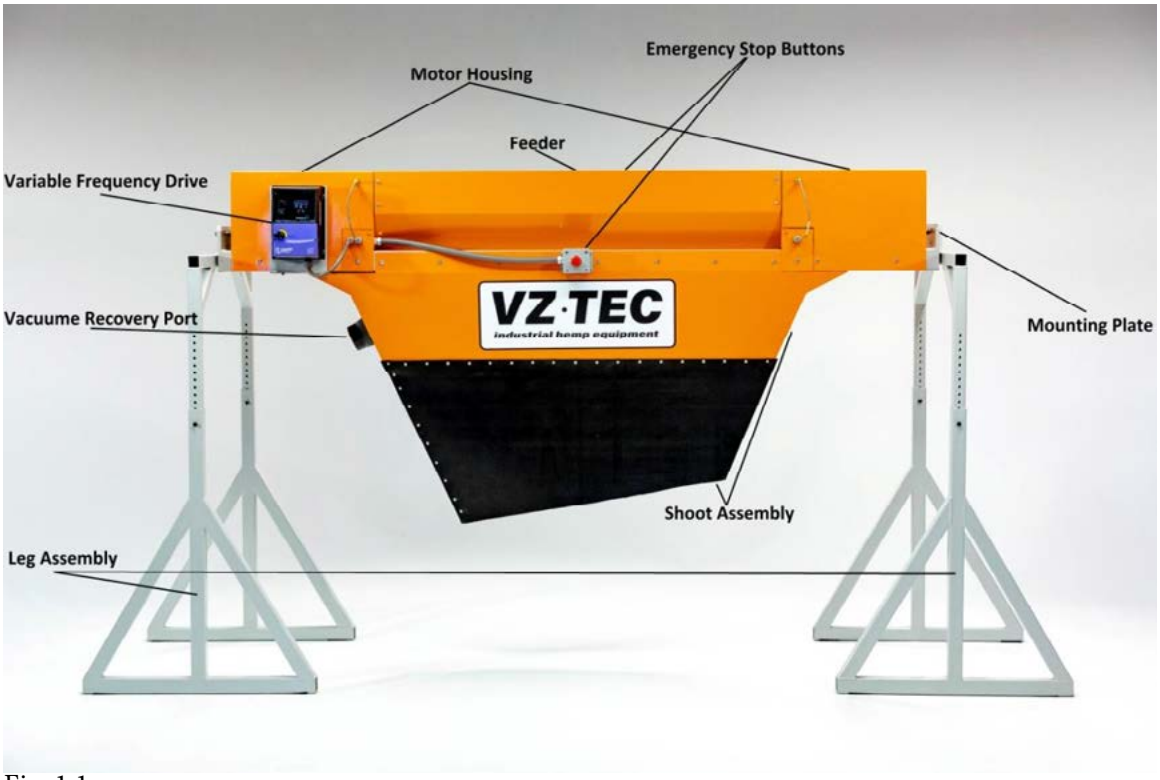


Fig. 1.1

- **Variable Frequency Drive:** Allows for adjusting the RPMs of the machine to achieve quickest bucking of material in conjunction with the humidity of the plant and minimal loss of material.
- **Emergency Stop Buttons:** Are situated to both sides of the machine in case of an emergency. NOTE: these buttons are to be used in case of an emergency. Use the VFD (variable frequency drive) for powering on and off.
- **Motor Housing:** Each motor housing contains bearings that are to be maintained by greasing the bearings at regular intervals. Also regular inspection of the spiders inside of the LoveJoy couplers is suggested.
- **Vacuum Recovery Port:** As an addition to the VFD VZ Tec's vacuum recovery system may be purchased and fitted to you Easy Bucker.
- **Mounting Plates:** Alongside the center bolts on the mounting plate are a number of angles that allow for a pitch to be secured so that a number of options are available to situate the production line to the end users needs.
- **Leg Assembly:** The legs of the Easy Bucker have an ordination that needs to be adhered to. Read on to #3 OPERATING INSTRUCTIONS for proper assembly.

USER'S GUIDE:
OPERATIONS & MAINTENANCE

The Easy Bucker is designed to be set up with an engine hoist or fork lift. It is important that you first set in place the Easy Bucker BEFORE the conveyer or platforms are set.

While using the machine, the Easy Bucker is designed to allow up to four people to load it continuously. Position the tilt of the machine at 0° and set platforms of both broad sides of the machine parallel with the sloped feeder. Now four people may load the machine all at the same time for maximum productivity.

USER'S GUIDE:
OPERATIONS & MAINTENANCE

SAFETY PRECAUTIONS
READ THIS INFORMATION CAREFULLY!

Operation of the Assembly workstations involves machinery with ELECTRICAL ENERGY and PRESSURIZED AIR LINES. Safety awareness is essential. You can help prevent accidents that may cause INJURY to others or DAMAGE to the equipment by observing all the standard shop SAFETY RULES at your workplace and taking the following additional PRECAUTIONS.

MACHINERY PRECAUTIONS:

- Know and respect the machinery. Approach moving machine parts with caution.
- DO NOT operate the machine in the automatic mode unless all guards, covers, shields or other safety devices are in place. If guards are removed for any reason, they must be replaced before restarting the machinery in the automatic mode. Do not place hands, any body parts or tools into the machine without first turning off the main power switch on the Operator Control Panel and locking out the control panel power.
- Learn the location of the EMERGENCY STOP push button on the Operator Control Panel.
- Never place your hands on or near any moving machine parts.
- Never reach inside any enclosure or guards while the machine is being cycled in the automatic or manual modes.
- While performing troubleshooting procedures for this machine, it may be necessary for maintenance personnel to remove the guards. Use extreme care to ensure that personnel keep clear of the machine or serious injury could result.
- Use warning signs when maintenance personnel are repairing the machine. Never allow anyone to operate the controls while others are working on the machine.
- KEEP THE DOORS TO THE ELECTRICAL CABINET CLOSED! Only authorized personnel may open them.
- DO NOT operate the machine if there are obstructions in the way of moving machine parts
- Always be attentive to machine malfunctions. Fault indications, improper or marginal functions, or unusual noises can indicate problems requiring immediate attention
- Keep your work area clean by removing all rags, scrap, and oil spills that could cause an accident.
- Ensure that a fire extinguisher and other appropriate fire protection gear are readily available.
- Only qualified personnel should make repairs or adjustments to the machine.
- Do not work on pneumatic devices without bleeding the system pressure to 0 PSI.
- Limit systems pressures to within specifications to prevent damage to the system.
- Never manually activate limit switches, relays, or valves unless following maintenance instructions.

REMEMBER
IF YOU SUFFER AN INJURY, SEEK FIRST AID IMMEDIATELY!

OPERATION INSTRUCTIONS

MACHINE SETUP PROCEDURES

LEG ASSEMBLY

Assemble the leg before hoisting machine, platforms, or putting in place the conveyor belt. The Easy Bucker employs two separate leg assemblies that allow the machine to set variable height and to pivot at its center point; these are the center bolt holes on the mounting plate (Fig 4.1). Bolt holes to either side of the center bolt hole on the mounting plate are to secure the machine to the desired angle.

Fig. 4.1

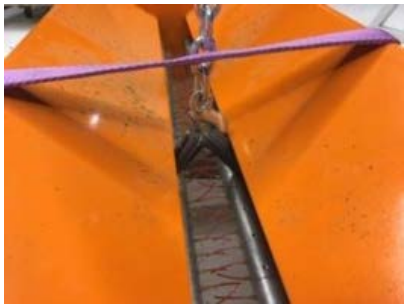


Fig. 4.2

Before trying to insert the upper leg into the lower leg makes sure that the grove on the upper leg and the inner seam on the lower leg will be on the same plane. Upper leg (Mounting Plate) inserts into the lower legs (Leg Base) locking into place with through bolts and nuts. F101.1 and N101.1. Once assembled, legs should be positioned so that the offset Mounting Plate will be in direct contact with the machine's own mounting plate, once in place.

HOISTING MACHINE

Bring the machine into place by either one of two ways:

1. Forklift: The Easy bucker's center point is at the center of the machine, position forks as wide as possible and ender under the center of the machine. Bring to desired height. Double check that the legs are at the same height and the center holes of the machine's mounting plate and the center hole of the legs' mounting plates are in line. Fasten with F102.1 and N102.1 at the center hole of both sides before fastening the pivoting adjustment hole to the desired angle. NOTE: At this point the Shoot Assembly and Emergency Stop Buttons should not be fastened to the machine
2. Engine Hoist: If using an engine hoist to bring the machine up into place first place the machine securely onto blocks or the base of an engine hoist so that fingers and arms can safely pass under the center point of the machine. At the center point of the machine use a short strap to wrap on top of the machine so that the ends of the strap come underneath the unit and into the area of the shafts inside. Pass the end of the strap over the shafts and now you bring in the engine hoist and hook eyelets of straps into the hoist arm. NOTE: Be sure to test the position of the strap in order to ensure you have strapped at the point of balance where the machine can travel parallel to the ground. *At this point the Shoot Assembly and Emergency Spot Buttons should not be fastened to the machine.

OPERATION INSTRUCTIONS CONT.

MACHINE SETUP PROCEDURES

SHOOT ASSEMBLY

Once the machine is bolted into the legs and at it is at the desired height it is now time to fasten the Shoot Assembly. Bring the angle of the machine to 0° for the Shoot Assembly.

Fig. 5.1

1. Fasten the metal panels of the Shoot together F104.1
2. Fasten the assembled panels centered onto the bottom of the machine F105.1
3. Fasten the rubber skirt to the metal shoot that was just assembled using R101.1
4. Lastly cut the rubber panels of the Shoot Assembly to the desired angle that will match to height and pitch of the conveyor that will be placed below the Easy Bucker

OPERATION INSTRUCTIONS CONT.

OPERATION PROCEDURES

NOTE: Make sure both emergency stop buttons are pulled out to allow Variable Frequency Drive (VFD) to power on.

POWERING ON

Turn the top, Variable Speed Control, dial fully counterclockwise, this is the lowest/ slowest allowance of RPMs the VFD allows. And then turn the Directional Switch to the vertical position, here the Easy Buckers Shafts are closed to power and rotation.
Now Power the VFD on using the On/Off Switch. The display screen will power on.

RUNNING THE EASY BUCKER

Once the Display Screen is powered switch the Directional Switch to the Right, Counterclockwise. This will all the inner shafts of the Easy Bucker to down and in towards each other.

It is now time to set the speed of the shafts to buck the plants at an optimal rotation. Rotate the Variable Speed Control Dial clockwise and begin feeding in full dried plants by holding the base of the stock past all branches. As an operator of the Easy Bucker© pay attention to the spent plant stocks where all biomass comes off cleanly with very little stem breakage.

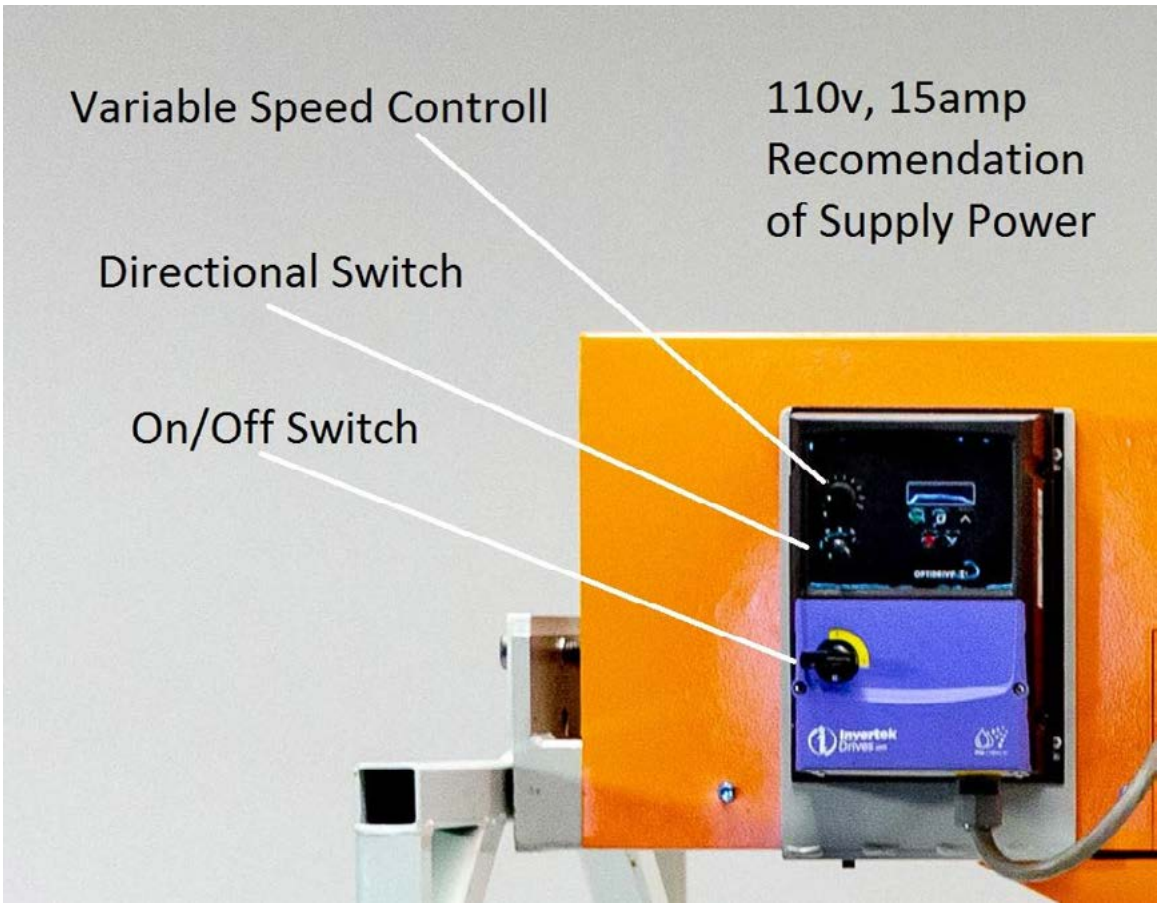


Fig. 6.1

TIPS FOR OPERATION

- VZ-TEC recommends plants to contain between 8% - 12% moisture. Machine can operate with moisture content up to 18% if needed.
- Feeding the whole plants into the Easy Bucker© should be a simple and expedient process. Be sure to hold the plant near its cut base so that all the biomass of the plant can pass through the brushes.
    - **NOTE: it is important to grasp the plant base firmly and not to hold higher on the plant where branches can trap the hands into the pulling force the shafts produce.**

Fig. 7.1

Fig. 7.2

PREVENTATIVE MAINTENANCE

NOTE: The following procedures are general automation system procedures.

LUBE OIL & GREASE

- Ensure that adequate levels of proper lube oil and grease are in their respective lube systems.

  NOTE: Power off and unplug the Easy Bucker before performing all maintenance.
- The regular greasing of Easy Bucker will ensure quality performance. Shown here as the White Circle.
- It is also recommended that when greasing the bearings set screws and the Spider spacer between Lovejoy is tightened and inspected. In the event that either ware out or become lost, immediately install new hardware for proper and continued maintenance. Represented are the White Arrows for the Set Screw locations and the White Box for the Lovejoy Spider spacer location.

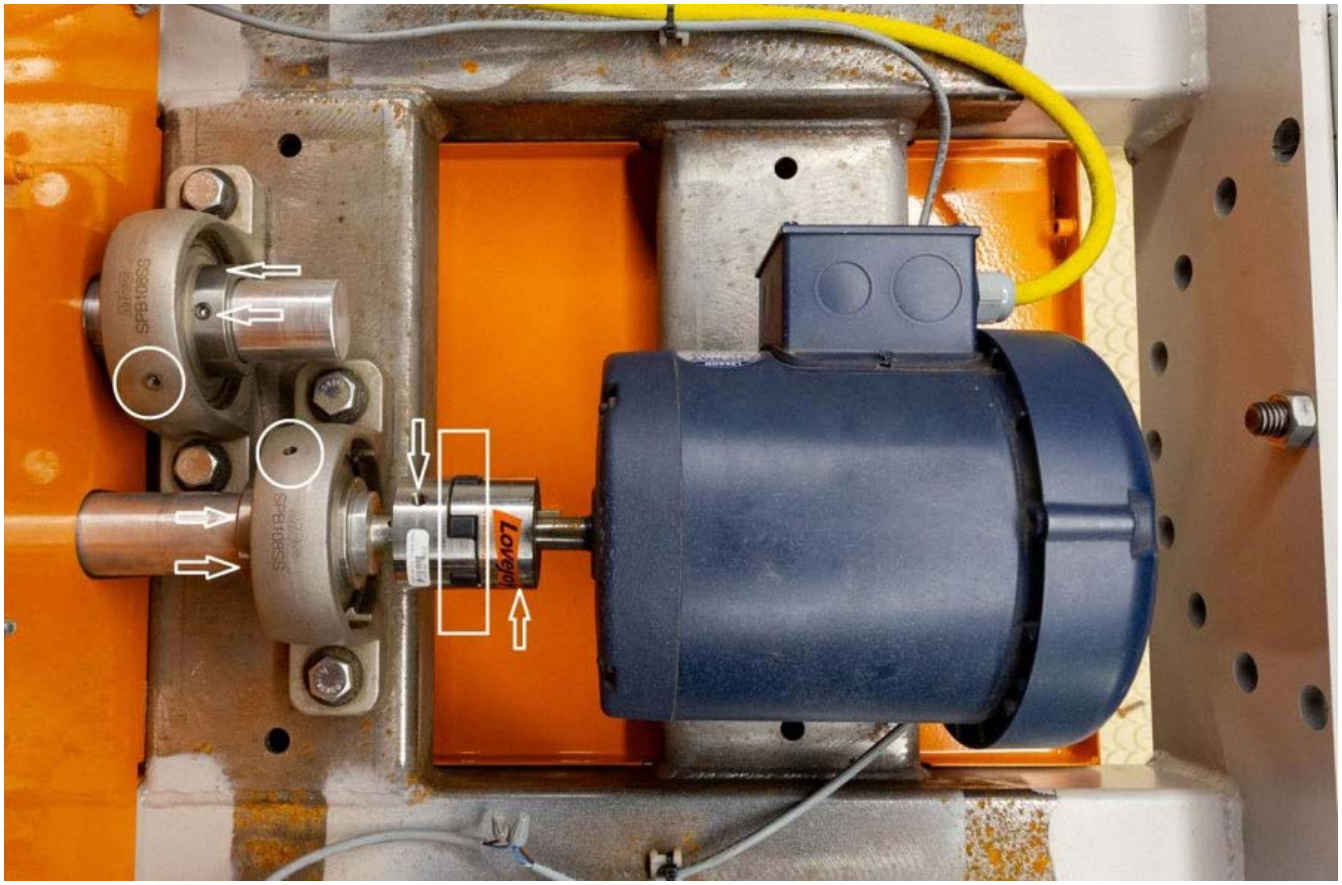


Fig. 8.1

WARNING

DO NOT OPEN THE DOORS TO THE ELECTRICAL ENCLOSURE: If you suspect an electrical malfunction, contact your supervisor.

IN ADDITION TO THE ABOVE PROCEDURES:
Maintenance procedures specific to the automations standard components are located in the appropriate factory supplied manuals and literature at the rear of this manual.

BRUSH INSERTS

Installing brush inserts can be done from the top of the machine. Properly align brushes so they are off set from each other on each shaft.

When installing the brush inserts ensure the brush fingers are in an interlocking orientation as depicted in Fig. 9.1.

It is a manufacture recommendation to use Loctite on all hardware.

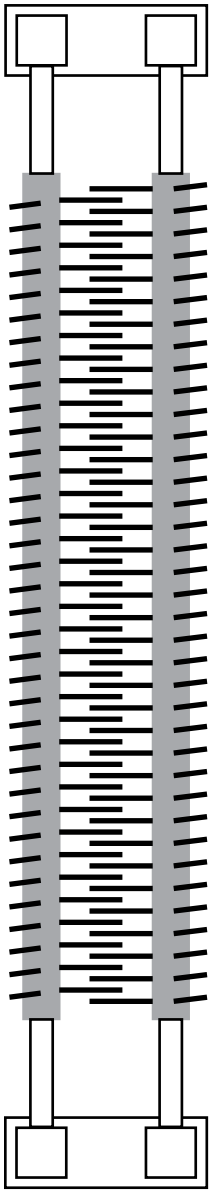


Fig. 9 .1

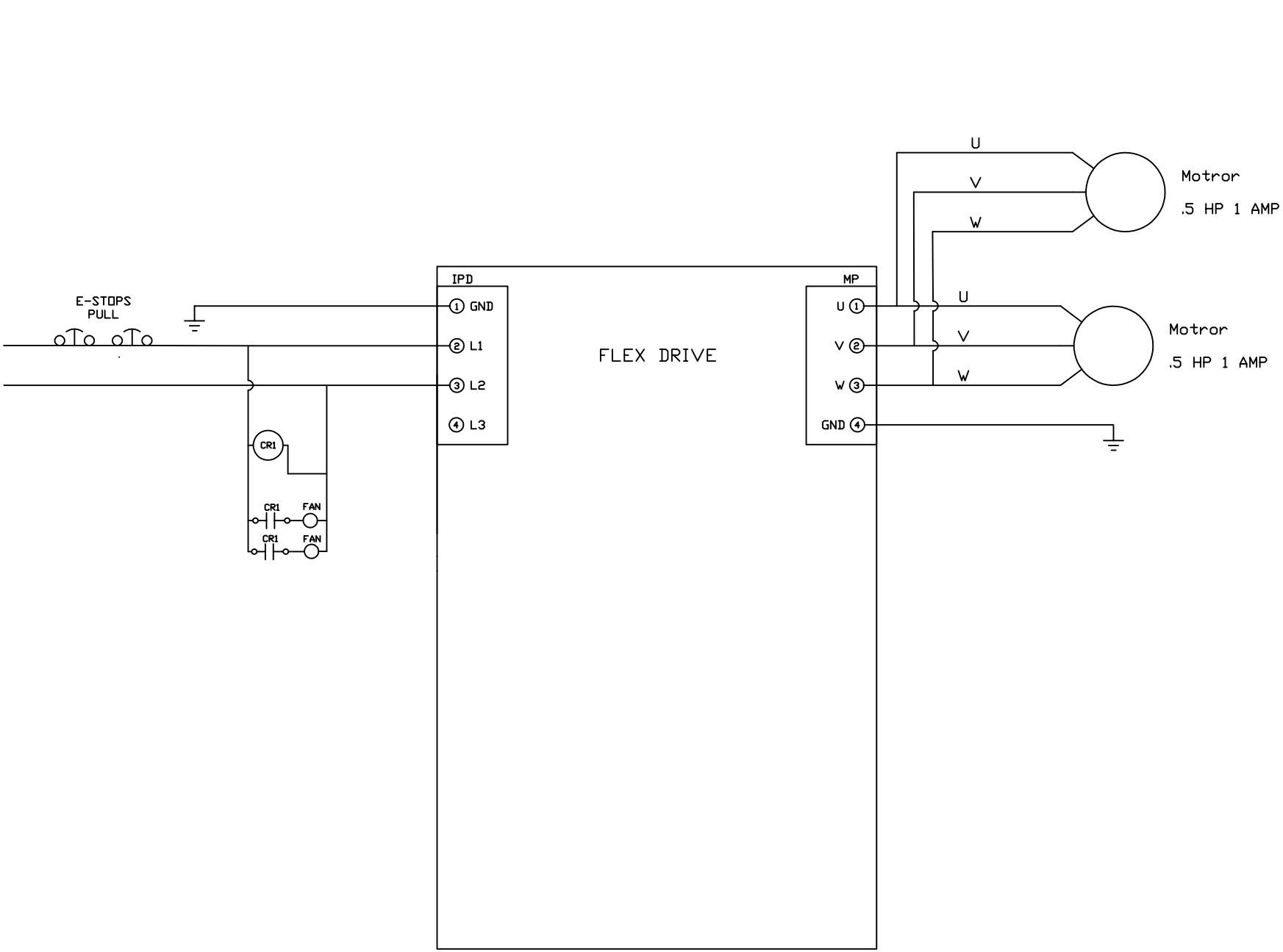
Fig. 9 .2

RECOMMENDED SPARE PARTS LIST:

VZ1000.01P	Set screws
VZ1000.02P	Bearings
VZ1000.03P	Lovejoy Coupler
VZ1000.04P	Coupler Insert
VZ1000.05P	Motor
VZ1000.06P	VFD (Variable Frequency Drive)
F101.1	Leg Assembly Bolt
F101.1N	Assembly Nut
F102.1	Machine Mounting Plate Bolt
F102.1N	Machine Mounting Plate Nut
F102.1N	Machine Mounting Plate Nut
F104.1	Shoot Panel Bolts
F105.1	Self-Tapping Shoot Screws
R101.1	Rubber Skirt Bolts

VZ1000.07B	Replacement Brush Inserts
VZ1000.08B	Brush Insert Retainer
VZ1000.09B	Brush Insert Hardware

VZ1000.10S	Rubber Feed Skirt
VZ1000.11S	Housing Fasteners



TOLERANCES	WHITE'S BRIDGE TOOLING CORP.			
(2)pl. = ±.010 (3)pl. = ±.005 (4)pl. = ±.0005 ANGLES = ±0°30'	P.O. BOX 8, 1395 BOWES RD., LOWELL MICHIGAN 49331			
NOTE: BREAK SHARP EDGES .03 x 45° MARK ALL DETAILS WITH DETAIL NUMBER.	TITLE: VZTEC WHIP MACH.			
	DETAIL NO.: CONTROLS (FLEX DRIVE)		PART NAME: XXX	
	DWN. DATE: NHB 1-20	SCALE: NONE	PART NO.: XXX	
	CK'D. DATE: XX XX-XX	SHT. NO.: 1 of 1	DWG. NO.: WBT6735	

WBT # 6735

BALDOR • RELIANCE

Product Information Packet

STATE SUPPLY COMPANY

EM3546

1HP,1760RPM,3PH,60HZ,56,3520M,TEFC,F1,N

Part Detail

Revision:	U	**Status:**	PRD/A	**Change #:**		**Proprietary:**	No
Type:	AC	**Elec. Spec:**	35WGM492	**CD Diagram:**	CD0005	**Mfg Plant:**	
Mech. Spec:	35A011	**Layout:**	35LYA011	**Poles:**	04	**Created Date:**	08-04-2010
Base:	RG	**Eff. Date:**	05-22-2018	**Leads:**	9#18	Y	

Specs

Catalog Number:	EM3546	**Insulation Class:**	F
Enclosure:	TEFC	**Inverter Code:**	Inverter Ready
Frame:	56	**KVA Code:**	L
Frame Material:	Steel	**Lifting Lugs:**	No Lifting Lugs
Output @ Frequency:	1.000 HP @ 60 HZ	**Locked Bearing Indicator:**	No Locked Bearing
Synchronous Speed @ Frequency:	1800 RPM @ 60 HZ	**Motor Lead Quantity/Wire Size:**	9 @ 18 AWG
Voltage @ Frequency:	460.0 V @ 60 HZ	**Motor Lead Exit:**	Ko Box
	230.0 V @ 60 HZ	**Motor Lead Termination:**	Flying Leads
XP Class and Group:	None	**Motor Type:**	3520M
XP Division:	Not Applicable	**Mounting Arrangement:**	F1
Agency Approvals:	UR	**Power Factor:**	71
	CSA EEV	**Product Family:**	General Purpose
	CSA	**Pulley End Bearing Type:**	Ball
Auxillary Box:	No Auxillary Box	**Pulley Face Code:**	Standard
Auxillary Box Lead Termination:	None	**Pulley Shaft Indicator:**	Standard
Base Indicator:	Rigid	**Rodent Screen:**	None
Bearing Grease Type:	Polyrex EM (-20F +300F)	**RoHS Status:**	ROHS COMPLIANT
Blower:	None	**Shaft Extension Location:**	Pulley End

Current @ Voltage:	1.500 A @ 460.0 V	**Shaft Ground Indicator:**	No Shaft Grounding
	3.000 A @ 230.0 V	**Shaft Rotation:**	Reversible
	3.100 A @ 208.0 V	**Shaft Slinger Indicator:**	No Slinger
Design Code:	B	**Speed Code:**	Single Speed
Drip Cover:	No Drip Cover	**Motor Standards:**	NEMA
Duty Rating:	CONT	**Starting Method:**	Direct on line
Electrically Isolated Bearing:	Not Electrically Isolated	**Thermal Device - Bearing:**	None
Feedback Device:	NO FEEDBACK	**Thermal Device - Winding:**	None
Front Face Code:	Standard	**Vibration Sensor Indicator:**	No Vibration Sensor
Front Shaft Indicator:	None	**Winding Thermal 1:**	None
Heater Indicator:	No Heater	**Winding Thermal 2:**	None

Nameplate NP3441LUA

CAT.NO.	EM3546						
SPEC	35A011M492G1						
HP	1						
VOLTS	230/460						
AMPS	3/1.5						
RPM	1760						
FRAME	56	**HZ**	60			**PH**	3
SF	1.15	**CODE**	L	**DES**	B	**CLASS**	F
NEMA NOM. EFF	85.5	**PF**	71				
RATING	40C AMB-CONT						
CC	010A			**USABLE AT 208V**	3.1		
ENCL	TEFC	**SER**					
DE	6205	**ODE**	6203				
VPWM INVERTER READY							
CT6-60H(10:1)VT3-60H(20:1							
	50Hz 1HP 190/380V 3.6/1.8A						SF1.0

Parts List

Part Number	Description	Quantity
SA200992	SA 35A011M492G1	1.000 EA
RA188297	RA 35A011M492G1	1.000 EA
34FN3002B01	EXTERNAL FAN, PLASTIC, .637/.639 HUB W/	1.000 EA
NS2512A01	INSULATOR, CONDUIT BOX X	1.000 EA
35CB3007	35 CB CASTING W/.88 DIA. LEAD HOLE	1.000 EA
36GS1000SP	GASKET-CONDUIT BOX, .06 THICK #SV-330 LE	1.000 EA
51XB1016A07	10-16 X 7/16 HXWSSLD SERTYB	2.000 EA
11XW1032G06	10-32 X .38, TAPTITE II, HEX WSHR SLTD U	1.000 EA
35EP3122K00	MASTER ODE,203 BRG,.683SH,#26 DRN,FH MTG	1.000 EA
HW5100A03	WAVY WASHER (W1543-017)	1.000 EA
35EP3123A00	MASTER DE,205 BRG,.998SH,#26 DRN	1.000 EA
XY1032A02	10-32 HEX NUT DIRECTIONAL SERRATION	4.000 EA
51XB1214A16	12-14X1.00 HXWSSLD SERTYB	1.000 EA
35FH4005A32SP	IEC FH NO GRSR W/3 HOLES - PRIMED	1.000 EA
51XW1032A06	10-32 X .38, TAPTITE II, HEX WSHR SLTD S	3.000 EA
35CB4521GX	CONDUIT BOX LID KIT **ORDER INDIV PARTS	1.000 EA
51XW0832A07	8-32 X .44, TAPTITE II, HEX WSHR SLTD SE	4.000 EA
HW2501D13	KEY, 3/16 SQ X 1.375	1.000 EA
HA7000A04	KEY RETAINER 0.625 DIA SHAFTS	1.000 EA
85XU0407S04	4X1/4 U DRIVE PIN STAINLESS	2.000 EA
MJ1000A02	GREASE, MOBIL POLYREX EM - 124047	0.050 LB
MG1000Y03	MUNSELL 2.53Y 6.70/ 4.60, GLOSS 20,	0.017 GA
HA3100A15	THRUBOLT 10-32 X 8.375	4.000 EA
LC0005E01	CONN.DIA./WARNING LABEL (LC0005/LB1119N)	1.000 EA

Parts List (continued)

Part Number	Description	Quantity
NP3441LUA	ALUM SUPER-E VPWM INV READY UL CSA-EEV C	1.000 EA
35PA1066	PKG GRP, PRINT PK1008A06	1.000 EA
MN416A01	TAG-INSTAL-MAINT no wire (1200/bx) 3/19	1.000 EA
PE-0000001	ZRTG PE ASSEMBLY	1.000 EA
FE-0000001	ZRTG FE ASSEMBLY	1.000 EA

Accessories

Part Number	Description	Multiplier
35-8762	C FACE KIT	A8
35EP1506A01SP	D-FLANGE KIT	A8

AC Induction Motor Performance Data
Record # 53095 - Typical performance - not guaranteed values

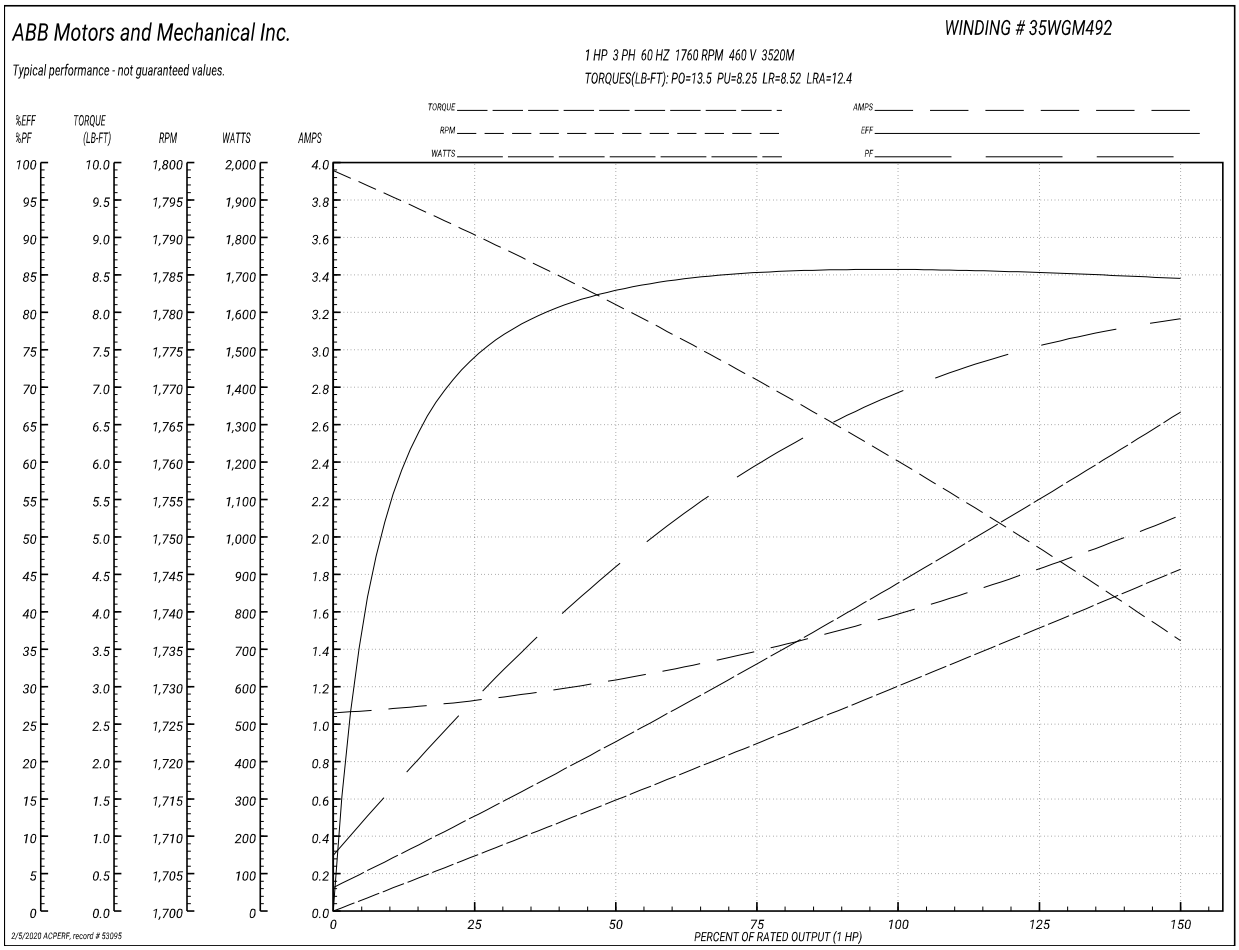
Winding: 35WGM492-R050	**Type:** 3520M	**Enclosure:** TEFC

Nameplate Data				460 V, 60 Hz: High Voltage Connection	
Rated Output (HP)	1			Full Load Torque	2.99 LB-FT
Volts	230/460			Start Configuration	direct on line
Full Load Amps	3/1.5			Breakdown Torque	13.5 LB-FT
R.P.M.	1760			Pull-up Torque	8.25 LB-FT
Hz	60	Phase	3	Locked-rotor Torque	8.52 LB-FT
NEMA Design Code	B	KVA Code	L	Starting Current	12.4 A
Service Factor (S.F.)	1.15			No-load Current	1.07 A
NEMA Nom. Eff.	85.5	Power Factor	71	Line-line Res. @ 25ºC	15 Ω
Rating - Duty	40C AMB-CONT			Temp. Rise @ Rated Load	36°C
S.F. Amps				Temp. Rise @ S.F. Load	42°C
				Locked-rotor Power Factor	53.8
				Rotor inertia	0.118 LB-FT2

Load Characteristics 460 V, 60 Hz, 1 HP

% of Rated Load	25	50	75	100	125	150	S.F.
Power Factor	29	46	60	69	75	79	75
Efficiency	74.2	82.9	85.4	85.8	85.4	84.5	85.4
Speed	1790	1781	1771	1760	1749	1736	1754
Line amperes	1.11	1.24	1.39	1.59	1.83	2.11	1.69

Performance Graph at 460V, 60Hz, 1.0HP Typical performance - Not guaranteed values



AC Induction Motor Performance Data
Record # 57707 - Typical performance - not guaranteed values

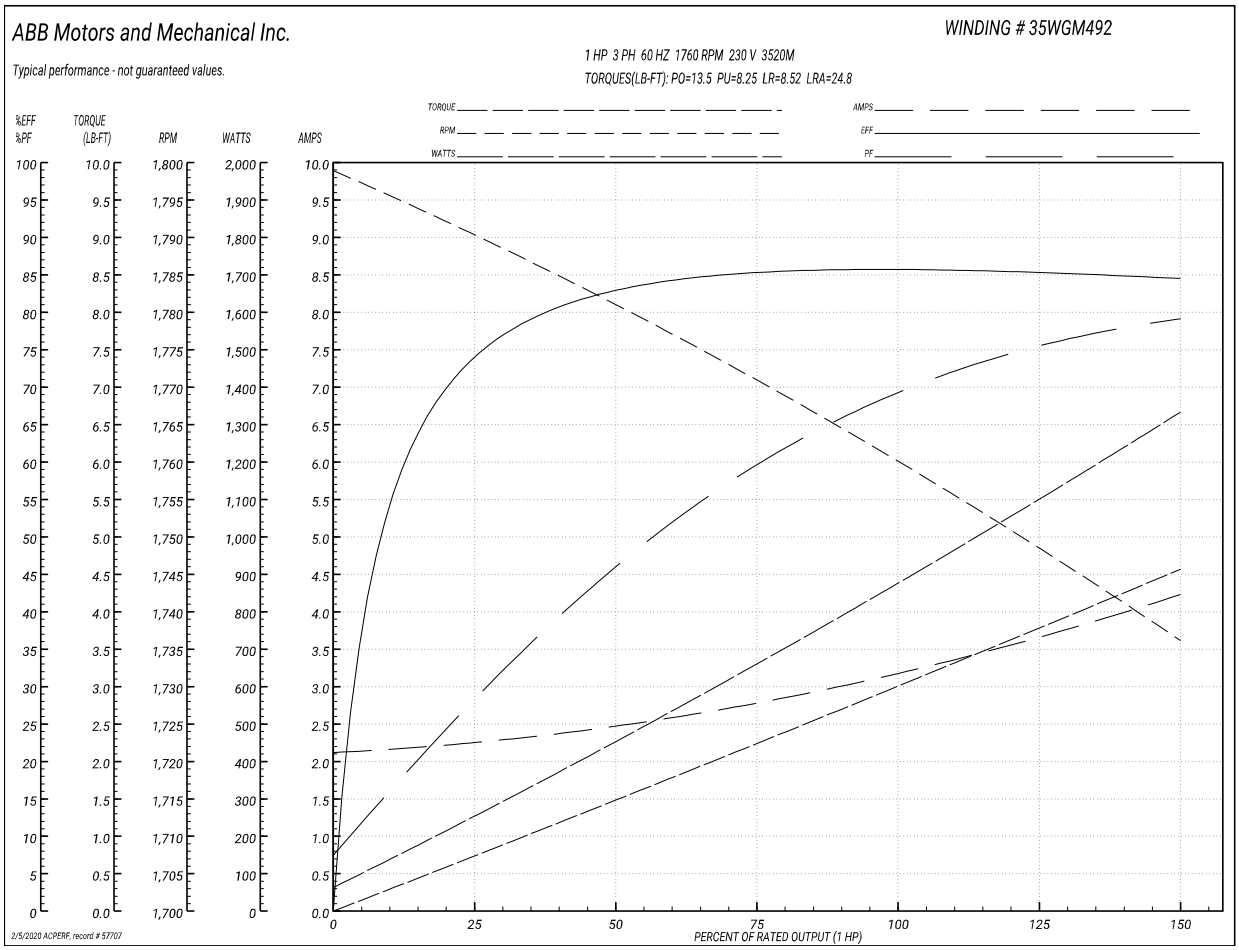
Winding: 35WGM492-R050	**Type:** 3520M	**Enclosure:** TEFC

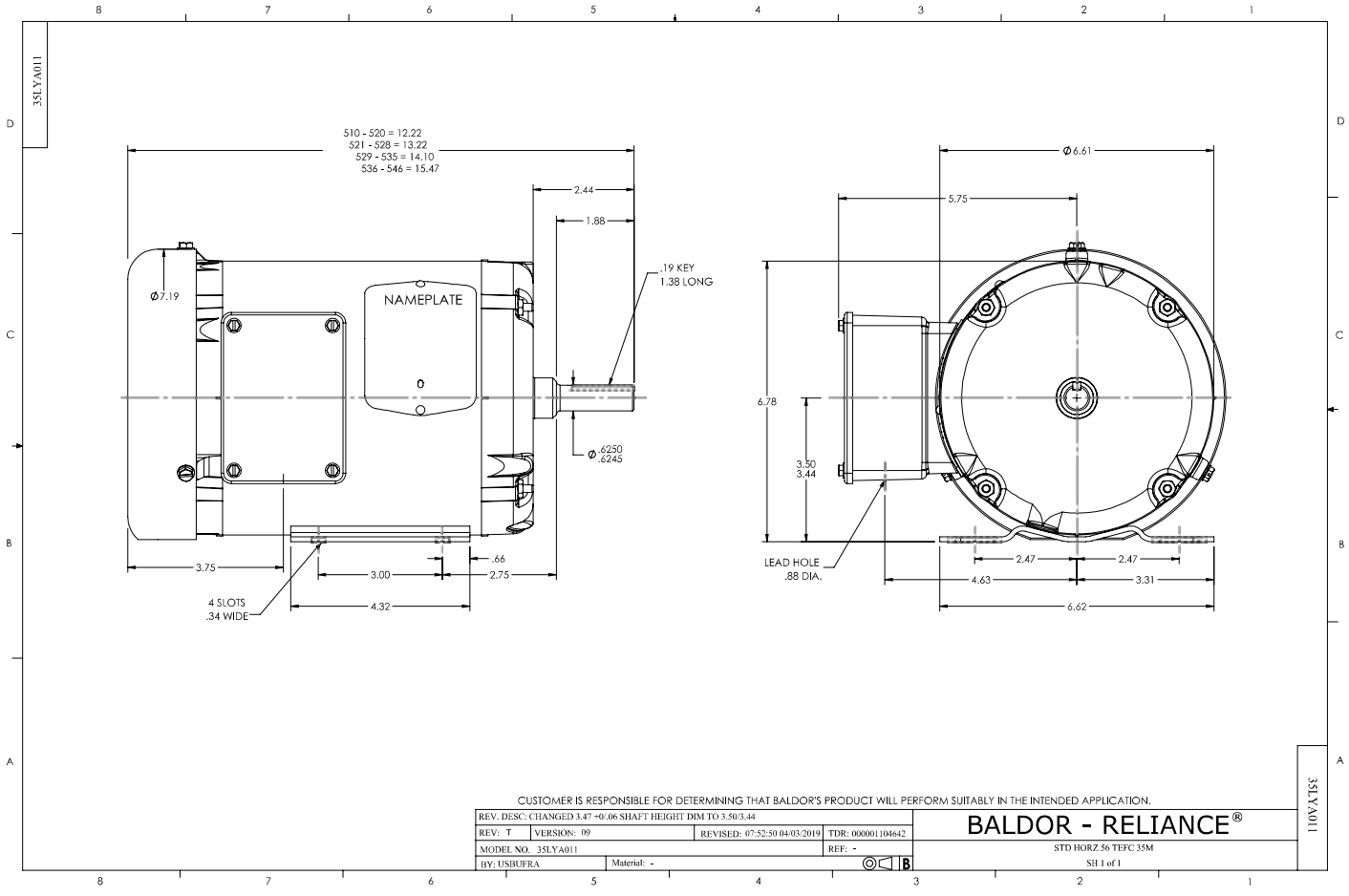
Nameplate Data				230 V, 60 Hz: High Voltage Connection	
Rated Output (HP)	1			Full Load Torque	2.99 LB-FT
Volts	230/460			Start Configuration	direct on line
Full Load Amps	3/1.5			Breakdown Torque	13.5 LB-FT
R.P.M.	1760			Pull-up Torque	8.25 LB-FT
Hz	60	Phase	3	Locked-rotor Torque	8.52 LB-FT
NEMA Design Code	B	KVA Code	L	Starting Current	24.8 A
Service Factor (S.F.)	1.15			No-load Current	2.14 A
NEMA Nom. Eff.	85.5	Power Factor	71	Line-line Res. @ 25ºC	3.75 Ω
Rating - Duty	40C AMB-CONT			Temp. Rise @ Rated Load	36°C
S.F. Amps				Temp. Rise @ S.F. Load	42°C
				Locked-rotor Power Factor	53.8
				Rotor inertia	0.118 LB-FT2

Load Characteristics 230 V, 60 Hz, 1 HP

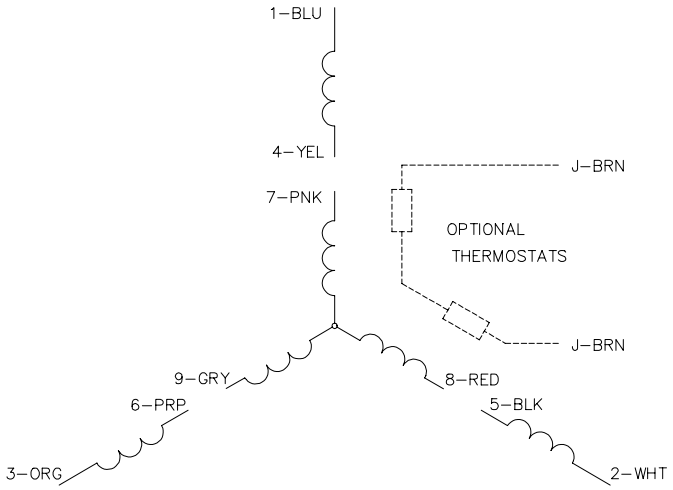
% of Rated Load	25	50	75	100	125	150	S.F.
Power Factor	29	46	60	69	75	79	74
Efficiency	74.2	82.9	85.4	85.8	85.4	84.5	85.6
Speed	1790	1781	1771	1760	1749	1736	1754
Line amperes	2.22	2.48	2.78	3.18	3.66	4.22	1.69

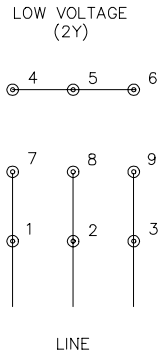
Performance Graph at 230V, 60Hz, 1.0HP Typical performance - Not guaranteed values

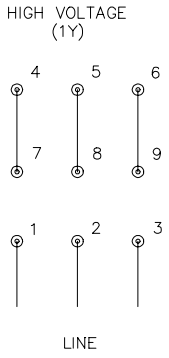



35LYA011
510 - 520 = 12.22
521 - 528 = 13.22
529 - 535 = 14.10
536 - 546 = 15.47
2.44
1.88
.19 KEY
1.38 LONG
Ø7.19
NAMEPLATE
Ø .6250
.6245
3.75
3.00
.66
2.75
4 SLOTS
.34 WIDE
4.32
Ø6.61
5.75
6.78
3.50
3.44
LEAD HOLE
.88 DIA.
2.47
2.47
4.63
3.31
6.62
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION.
REV. DESC: CHANGED 3.47 +0/.06 SHAFT HEIGHT DIM TO 3.50/3.44
REV: T
VERSION: 09
REVISED: 07:52:50 04/03/2019
TDR: 000001104642
MODEL NO. 35LYA011
REF: -
BY: USBUFRA
Material: -
BALDOR - RELIANCE®
STD HORZ 56 TEFC 35M
SH 1 of 1
35LYA011

CD0005







NOTES:

1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
2. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
3. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY BE A MULTIPLE OF THOSE SHOWN ABOVE.
4. LEAD COLORS ARE OPTIONAL. LEADS MUST ALWAYS BE NUMBERED AS SHOWN.

CD0005

REV. DESC: REVISE TO SHOW OPTIONAL COLORS			BALDOR ELECTRIC Co.
REV. LTR: E	BY: JLP	REVISED: 01/19/99 10:15	TDR: 0171435
CD0005		FILE: AAA00005140	MDL: –
		MTL: –	3PH, DV, 9 LEADS

ODE-3-210058-104B

Optidrive E3 VFD Datasheet

1.1 kW, 5.8 A, 110-115 V, 1-3PH,
IP66 Outdoor Switched Variable Frequency Drive

Input Ratings

Supply Voltage	110-115 V
Input Phases	1
Supply Current Continuous	21.9 A
Supply Fuse or MCB (Type B)	32 A

Output Ratings

Motor Output Rating	1.1 kW
Output Voltage	0 – 2 x Supply Voltage
Output Current	5.8 A

Cable Information

Max Supply Cable Size	8 mm^2
Max Motor Cable Size	8 mm^2
Max motor cable length	100 m

Factory Build Options

EMC Filter	No Internal EMC Filter
Brake Transistor	Internal Brake Transistor
Enclosure	IP66 Outdoor Switched

Installation Options & Peripherals

- Braking Resistors
- Communication Interfaces
- EMC Filters
- I/O Options
- Input Chokes
- Optistick Smart
- Output Filters
- Remote Keypads
- RJ45 Accessories
- USB PC Connection Kit

Dimensions

Size	2
Height	257 mm
Width	188 mm
Depth	187 mm
Weight	4.1 kg
Packaged Weight	4.6 kg
Fixings	4 x M4