



5900 Schooner Street – Belleville, MI 48111 – USA

*TEL (800) 422-2558 – FAX (734) 665-9099*

[www.Eberbachlabtools.com](http://www.Eberbachlabtools.com)

**E6122.00 MULTI-TUBE VORTEXER  
VARIABLE SPEED  
600-2200 rpm 115/230 V, 50/60 HZ**

## **USE AND CARE FOR CATALOG NUMBER:**

**E6122.00 MULTI-TUBE VORTEXER**

**VARIABLE SPEED 600-2200 rpm**

**115/230 V, 50/60 HZ**

## **GENERAL INFORMATION**

1. Handle this unit with care. Unpack and check that the contents coincide with the packing-list. If any part is damaged or missing, please advise the distributor immediately.
2. Do not install or use this equipment without first reading this manual.
3. This manual should always be attached to the equipment and made available to all users.
4. This is a dual voltage machine, but there is a voltage selection switch on the drive that must be set. Default is 115V. If you are using 230V then the switch must be changed to 230V. See page 9 for details.
5. This unit is equipped with a Intelligent Stepper Motor and Drive system that can display a fault message if the machine is unevenly loaded, or if there is excessive current load on the motor. The fault message can be cleared and the machine can be reset for operation by either power cycling the machine (turning the unit off and back on) or by pressing the start button
- 6.
7. If you have any doubts or inquiries, please contact your supplier or ***Eberbach Corporation*** technical service.

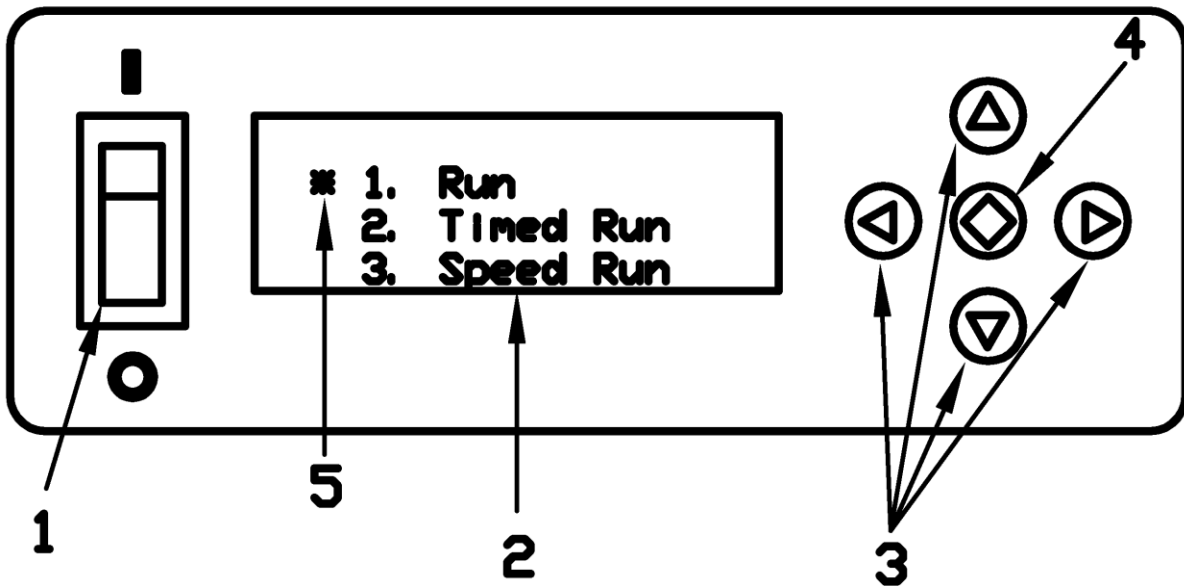
## **OPERATION**

The ***Eberbach*** Multi-tube vortexer is designed to vortex aqueous solutions in small flasks, vials, and tubes.

The ***Eberbach*** Multi-tube vortexer has as its features:

1. A continuously variable speed range to generate from gentle up to vigorous shaking, adjustable between 600 and 2200 rpm.
2. An orbit of .126" (3.2mm) for consistent shaking action.

## FRONT PANEL DISPLAY



- 1) Power Switch
- 2) Liquid Crystal Display (LCD)
- 3) Directional Pad (D-Pad)
- 4) Enter Button
- 5) Cursor

**Operation:** Press the **Power Switch** down into the ON position. The **LCD** should light up and show the main menu. There are three different run modes to choose from. Select a run mode by moving the **Cursor** (using the **D-PAD**) and press the **Enter Button**.

**Run Mode:** The shaker will begin the run mode at its lowest speed. The speed shown in parenthesis (xxxx) is the set speed controlled by the user. The speed listed to the right is the tachometer read out or the actual speed of the shaker in real time. The speed can be increased/decreased by pressing and holding the up/down arrows on the **D-PAD**. The longer the button is held down the faster the speed will increase/decrease. Once engaged the timer will begin counting all the way up to 999 hours before the timer overflows back to zero. To pause the shaker move the **Cursor** to the PAUSE item by pressing the left arrow on the **D-PAD** and press the **Enter Button**. The clock will pause at its current time and the shaker will gradually come to a complete stop. The clock and shaker can be resumed at its current time and speed by selecting RESUME and pressing the Enter Button. To go back to the main menu move the **Cursor** to the EXIT item by pressing the right arrow on the **D-PAD** and then press the **Enter Button**.

RUN TIME	00: 00: 00
RPM	( 100) 100
* PAUSE	EXIT

RUN MENU

**Timed Run Mode:** The timed run mode features a count down timer that automatically shuts the shaker off when the time runs out. When selected the user will be taken to the Timed Run Setup Menu and will need to input the run time in hours, minutes, seconds and select the speed for the run. The left/right arrows on the **D-PAD** can be used to move the cursor between hours, minutes or seconds and the up and down arrows can be used to set the time. The longest run time allowed is 999:59:59. Once the time is set move the **Cursor** down by pressing the right arrow on the **D-PAD** until the **Cursor** is next to the RPM line item. The speed can be set using the up and down arrows on the **D-PAD**. Now that the data is set navigate the **Cursor** to the START line item using the left/right arrows on the **D-PAD** and press the **Enter Button**.

```
TIMED RUN SETUP
RUN TIME HR: MN: SC
* RPM          100
START          EXIT
```

TIMED RUN SETUP MENU

After selecting START the shaker will begin at the selected speed and the timer will begin counting down. The speed can be adjusted in real time using the up/down arrows on the **D-PAD**. The speed shown in parenthesis is the target speed controlled by the user and the speed listed to the right is the actual speed as read by the tachometer. The shaker and countdown timer can be paused and resumed. Move the **Cursor** to the line item PAUSE by pressing the left arrow on the **D-PAD** and then press the **Enter Button**. Exiting the Timed Run Menu will bring the user back to the Timed Run Setup Menu.

RUN TIME	999: 59: 59
RPM	( 100) 100
* PAUSE	EXIT

## TIMED RUN MENU

**Speed Run Mode:** The speed run allows the user to program in a set run speed. Once engaged the timer will begin counting all the way up to 999 hours before the timer overflows back to zero. Select the speed run mode from the main menu and press the **Enter Button**. The user will be prompted with the speed run setup menu. Set the desired speed using the up/down arrows on the **D-PAD**. The left/right arrows can be used to move the **Cursor** between START and EXIT. EXIT will take the user back to the main menu. Keep the **Cursor** next to the START line item and press the **Enter Button**.

```

SPEED RUN SETUP
RPM                               100
* START                           EXIT
SPEED RUN SETUP MENU

```

The user will now be taken to the speed run menu. The shaker will begin at the speed selected in the setup menu. The speed run menu behaves in the same way as the run menu with one exception. Pressing EXIT will not take the user back to the main menu instead pressing EXIT will take the user back to the speed run setup menu.

```

      RUN TIME 00: 00: 00
      RPM    (< 100)    100
*PAUSE                                EXIT

```

## SPEED RUN MENU

**Note:** All run menus will have two speeds listed. The leftmost speed will be displayed inside parenthesis. This is the target speed controlled by the user. The shaker will attempt to match this speed and should do so within ten seconds after making an adjustment. The rightmost speed is the tachometer reading, which shows the user what the shaker is actually running at. The tachometer reading will not necessarily match the target speed at all times, but is guaranteed to be within +/- 10% RPM.

**Note:** Use slowest speed necessary to produce required shaking action.

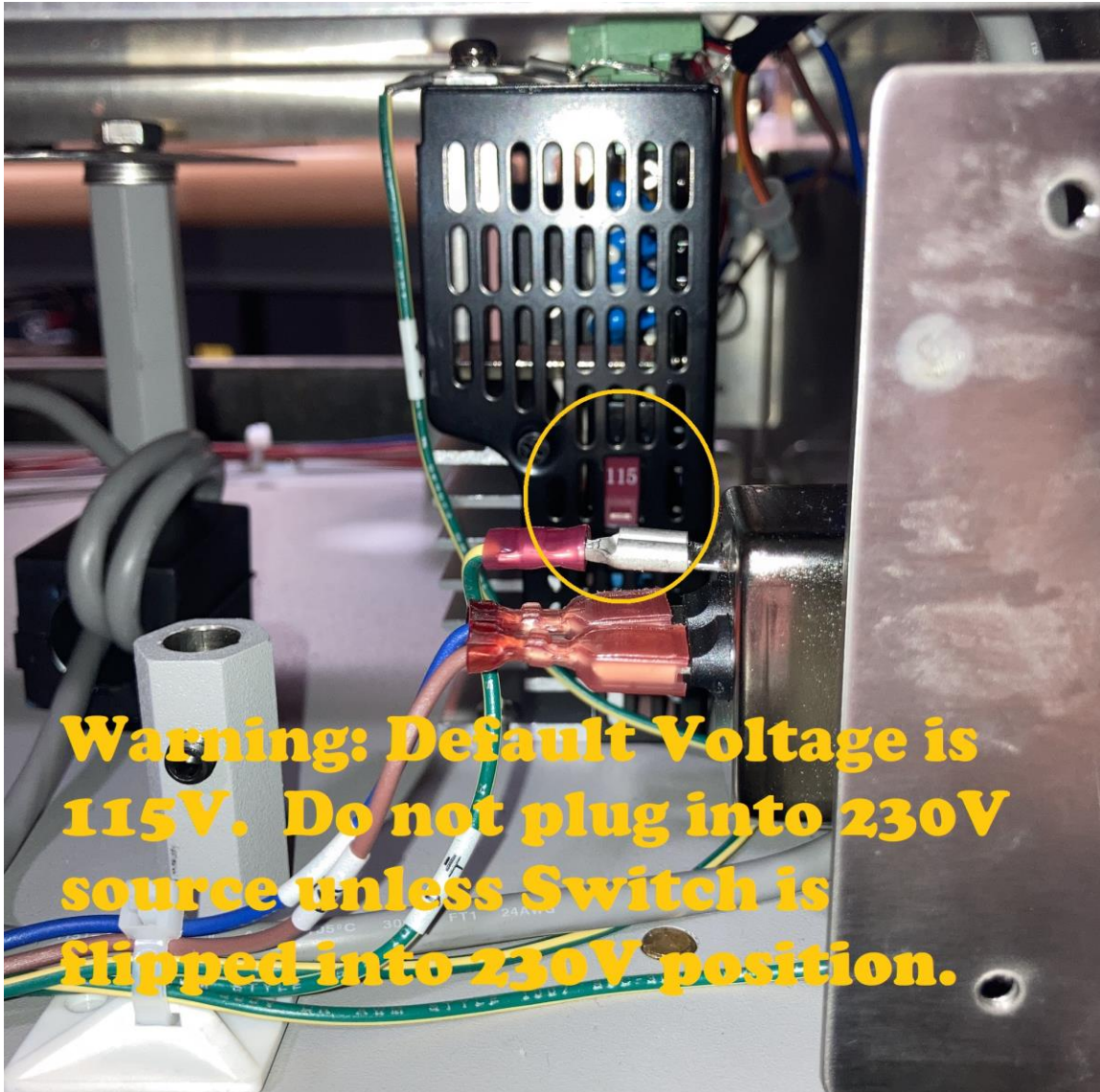
***If you have any doubts or inquiries concerning operation contact your supplier or Eberbach Corporation technical service.***



## CHANGING THE VOLTAGE

Remove the right side panel to access selection switch. Make sure you move the switch to the desired operation voltage. See picture below.

**WARNING!!!** Applying incorrect voltage can damage the drive.



## **MAINTENANCE**

The *Eberbach* Multi-tube vortexer has been designed with minimal moving parts so lubrication should not be necessary.

## **CLEANING**

**When cleaning the shaker always turn the power off and disconnect the power cord from the power source!**

The unit may be cleaned using a damp cloth or any standard household or laboratory cleaner to wipe down its outer surface. Do not use abrasive or corrosive compounds to clean the shaker, as they may damage the unit.

## **FUSE REPLACEMENT:**

Replacement fuses are 3 Amp Slow Blow (Time Delay). They are located inside the AC Inlet fuse tray. Replace fuses only once

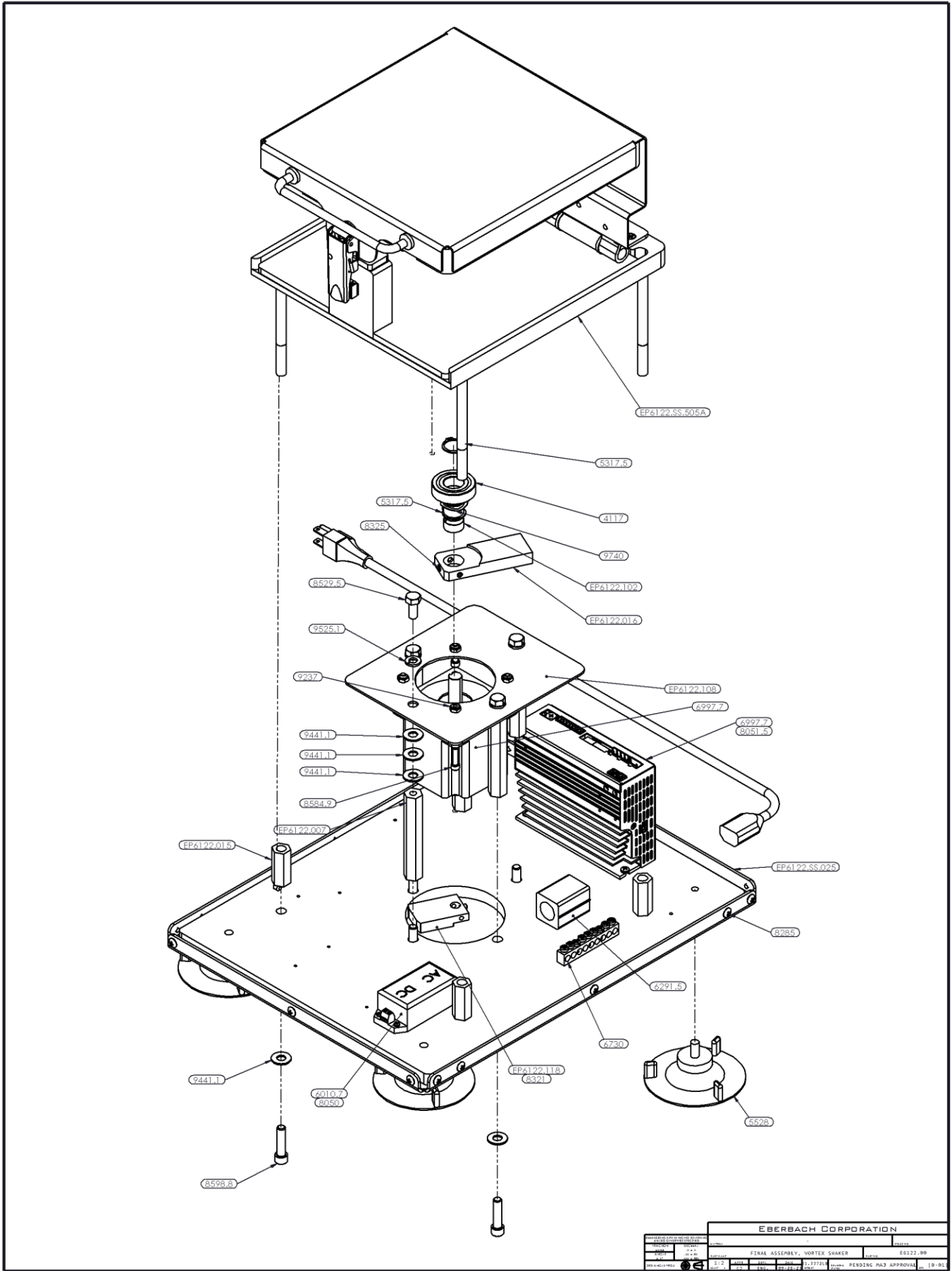
**NOTE: If fuse blows immediately after replacement, repairs may be needed.**

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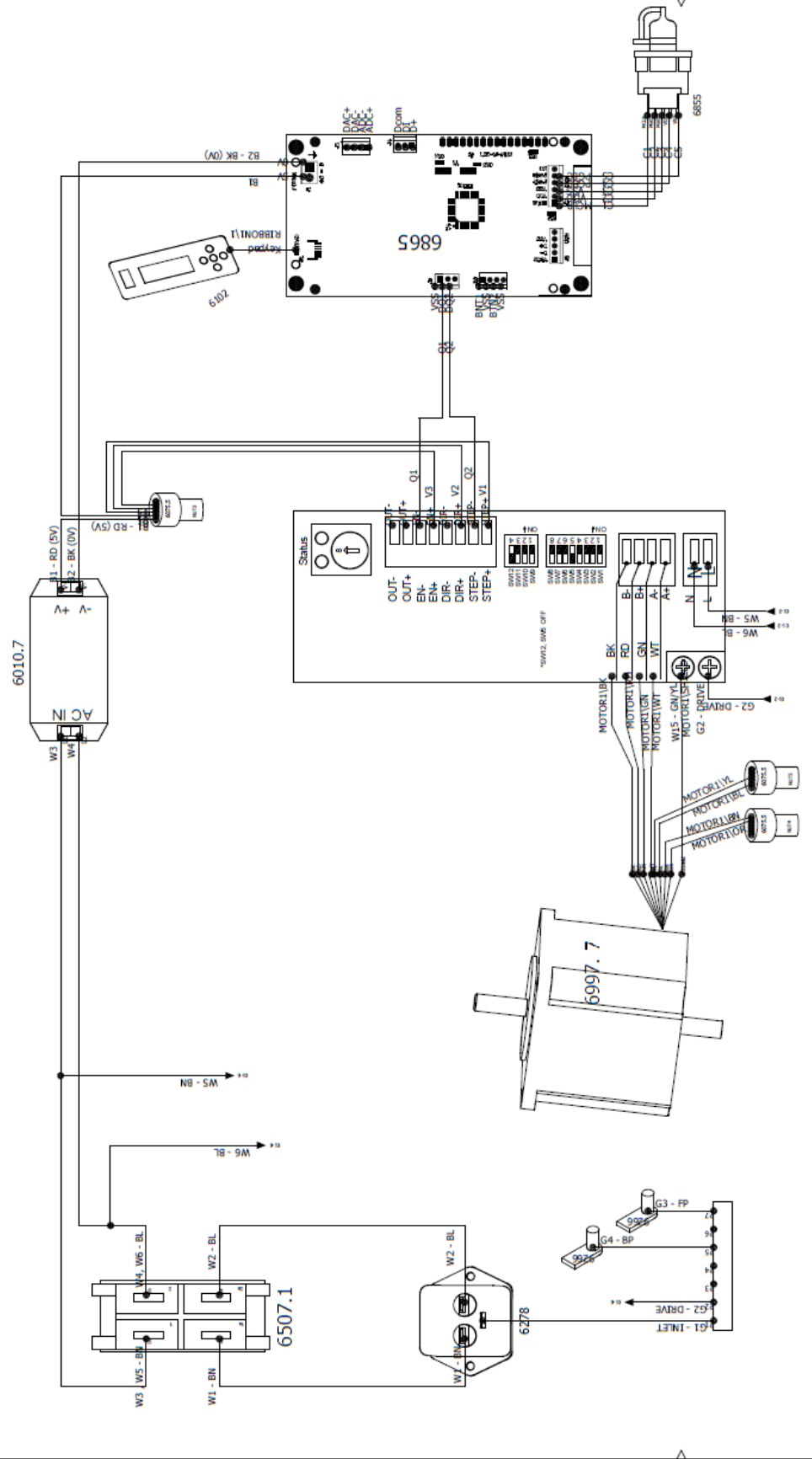
## **E6122.00 REPLACEMENT PARTS LIST**

PartNo	DESCRIPTION	Default/QTY.
4117	BEARING MCMMASTER #60355K603	1
5317.5	RETAINING RING, 7/8"	2
5505.7	RUBBER FOOT	2
5528	3.75" SUCTION CUP W/ 5/16-18 THREADED POST	4
6010.7	POWER SUPPLY, 5V 30W	1
6100	OVERLAY, NO ENCODER	1
6113	FUSE, TIME DELAY 3A	2
6278	AC INLET	1
6291.5	CLAMP ON SHIELD BEAD ASSEMBLY	1
6507.1	ROCKER SWITCH	1
6649	CORD AND PLUG	1
6730	7 TERMINAL GROUNDING BLOCK	1
6855	USB BOARD	1
6865	DISPLAY BOARD	1
6997.7	STEPPER MOTOR AND DRIVE	1
7397	#2-56 X 1/4" S/S PAN HD. MACHINE SCREW	1
7398	#2-56 X 5/16" S/S PAN HD. MACHINE SCREW	1
7568	#4-40 X 1/4" S/S PAN HD. MACHINE SCREW	4
7954	#5-40 X 3/8" S/S FLAT HEAD MACHINE SCREW	2
8050	#4-40 x 3/8" S/S PAN HD. MACHINE SCREW	4
8051.5	#8-32 X 1/4" S/S PAN HD. MACHINE SCREW	2
8285	#8-32 X 1/4" S/S TRUST HD. SCREW	34
8321	#10-32 X 3/16" SET SCREW	1
8325	1/4"-20 X 1/4" SET SCREW	7
8529.5	5/16"-18 X 3/4" S/S HEX HEAD SCREW	4
8584.9	#10-32 X 3/4" S/S SOCKET HD. STEEL SCREW	4
8598.8	5/16"-18 X 1-1/4" S/S SOCKET HD. SCREW	8
9207.5	#5-40 SS NYLON-INSERT HEX LOCKNUT	2
9237	#10-32 THIN S/S NYLON-INSERT LOCKNUT	4
9441.1	5/16" 316 S/S WASHER	20
9525.1	5/16" 316 S/S SPLIT LOCK WASHER	4
9740	WAVE SPRING	2
EP6122.007	MOTOR POST	4
EP6122.015	LEG SUPPORT	4
EP6122.016	UPPER COUNTER BALANCE	1
EP6122.102	ECCENTRIC	1
EP6122.108	MOTOR BRACKET	1
EP6122.118	LOWER COUNTER BALANCE	1
EP6122.124	BASE WEIGHT	1
EP6122.652A	WIRING HARNESS	1
EP6122.SS.022	LEFT SIDE PANEL	1
EP6122.SS.023	RIGHT SIDE PANEL	1
EP6122.SS.025	BASE	1
EP6122.SS.501A	REAR PANEL ASSEMBLY	1
EP6122.SS.505A	CARRIER ASSEMBLY	1
EP6122.SS.510A	FRONT PANEL ASSEMBLY	1

If you have any doubts or inquiries concerning operation contact your supplier or **Eberbach Corporation** technical service.



1 2 3 4 5 6 7 8 9 10



Eberbach Corp. 5900 Schmeer Street Belleville, MT 48111 U.S.A.		Main electrical closet		REVISION	
CONTRACT:	LOCATION: L1	E6122.605A		REV. 0	DATE 10/11/2021
				NAME eberjb	CHANGES
				SCHEME	01
				12/2/2021	

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