

# LAB TREATER

## Operators Manual



**Document: TD-09-06-1032**

**Revision: B**



## **INTRODUCTION**

Thank you for choosing USC, LLC for your equipment needs. We appreciate your business and will work diligently to ensure that you are satisfied with your choice.

### **OVERVIEW**

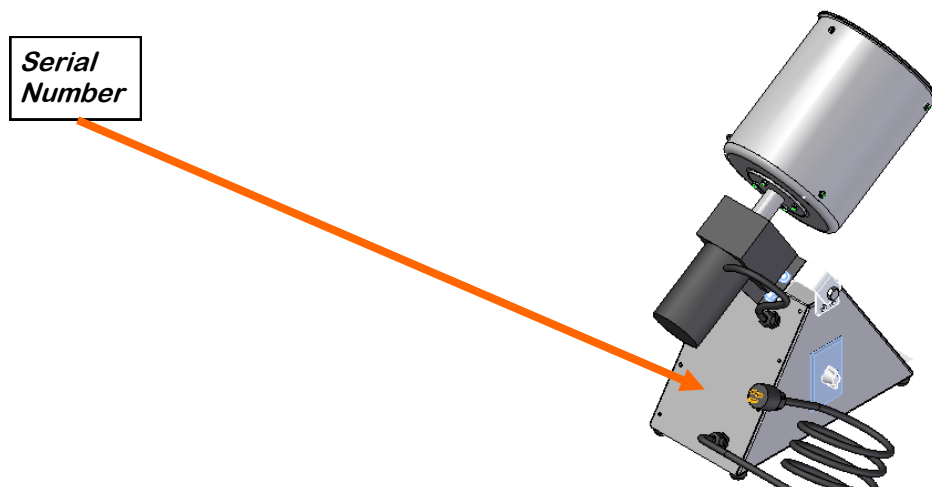
The purpose of this manual is to provide you with the basic information needed to operate and maintain the Lab Treater . It does not hold USC, LLC liable for any accidents or injuries that may occur.

The technical information provided in this document is based on extensive testing under controlled conditions at the USC research and development facility. This information is given without guarantee as the conditions of operation and storage of the equipment are beyond our control. Variables such as temperature, humidity, viscosity of chemical products and changes in seed size or variety may all effect the accuracy of application and seed coverage. Periodically check the equipment calibration while treating and make adjustments as required. This will insure the optimum seed coverage.

### **RECEIVING YOUR EQUIPMENT**

As soon as the equipment is received, it should be carefully inspected to make certain that it has sustained no damage during shipment and that all items listed on the packing list are accounted for. If there is any damage or shortages, the purchaser must immediately notify USC, LLC. Ownership passes to purchaser when the unit leaves the USC, LLC. premises. The purchaser is responsible for unloading and mounting all components of the equipment.

Document the serial number from serialization label located on the back of the unit for future reference.



**SERIAL NUMBER:** \_\_\_\_\_

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## SECTION **SAFETY INSTRUCTIONS**

### A

Every year accidents in the work place maim, kill and injure people. Although it may be impossible to prevent all accidents, with the right combination of training, operating practices, safety devices and operator vigilance, the number of accidents can be significantly reduced. The purpose of this section is to educate equipment users about hazards, unsafe practices and recommended hazard avoidance techniques.

### SAFETY WORDS AND SYMBOLS

It is very important that operators and maintenance personnel understand the words and symbols that are used to communicate safety information. Safety words, their meaning and format, have been standardized for U.S. manufacturers and published by the American National Standards Institute (ANSI). The European Community (E.C.) has adopted a different format based on the International Standards Organization (I.S.O.) and applicable machinery directives. Both formats are presented below. Graphic symbols are not standardized but most manufacturers will use some variation of the ones seen in this manual.



Indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury and/or property damage.



Provides additional information that the operator needs to be aware of to avoid a potentially hazardous situation.



**Mandatory Lockout Power Symbol.** Disconnect, lockout and tag-out electrical and other energy sources before inspecting, cleaning or performing maintenance on this panel.



**International Safety Alert Symbol.** The exclamation point (!) surrounded by a yellow triangle indicates that an injury hazard exists. However, it does not indicate the seriousness of potential injury. The exclamation point (!) is also used with the DANGER, WARNING and CAUTION symbols so the potential injury is indicated.



**Electrocution Hazard Symbol.** This symbol indicates that an electrocution hazard exists. Serious injury or death could result from contacting high voltage.



**International Electrocution Hazard.** This symbol indicates that an electrocution hazard exists. Serious injury or death could result from contacting high voltage.



**Mandatory Read Manual Action Symbol.** (I.S.O. format) This symbol instructs personnel to read the Operators Manual before servicing or operating the equipment.



**Mandatory Read Manual Action Symbol.** This symbol instructs personnel to read the Operators Manual before servicing or operating the equipment.



Notice is used to notify people of important installation, operation or maintenance information which is not hazard related.

## **LOCKOUT / TAGOUT PROCEDURES**

Lockout/Tagout is the placement of a lock/tag on an energy isolating device in accordance with an established procedure. When taking equipment out of service to perform maintenance or repair work, always follow the lockout/tagout procedures as outlined in ANSI Z344.1 and/or OSHA Standard 1910.147. This standard “requires employers to establish a program and utilize procedures for affixing appropriate lockout devices or tagout devices to energy isolating devices and to otherwise disable machines or equipment to prevent unexpected energizing, start-up, or release of stored energy in order to prevent injury to employees.”

## **HAZARD REVIEW**



### **Electrocution Hazard**

Electrocution accidents are most likely to occur during maintenance of the electrical system or when working on or near exposed high voltage wiring. This hazard does not exist when the electrical power has been disconnected, properly locked, and tagged out.



### **Automatic Start Hazard**

This equipment may be controlled by an automated system and may start without warning. Failure to properly disconnect, lockout, and tagout all energy sources of remotely controlled equipment creates a very hazardous situation and could cause injury or even death. PLEASE STAY CLEAR AND BE ALERT.

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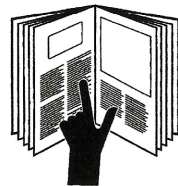
**YOU** are responsible for the **SAFE** operation and maintenance of your USC, LLC equipment . **YOU** must ensure that you and anyone else who is going to operate, maintain or work around the equipment be familiar with the operating and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alert you to good safety practices that should be adhered to while operating the equipment

Remember, **YOU** are the key to safety. Good safety practices not only protect you, but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Equipment owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter per OSHA (Occupational Safety and Health Administration) regulation 1928.57.
- The most important safety device on this equipment is a **SAFE** operator. It is the operator's responsibility to read and understand **ALL** Safety and Operating instructions in the manual and to follow them. All accidents can be avoided.
- A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Think SAFETY! Work SAFELY!

### GENERAL SAFETY

1. Read and understand the operator's manual and all safety signs before operating, maintaining, adjusting or unplugging the equipment .
2. Only trained persons shall operate the equipment . An untrained operator is not qualified to operate the machine.
3. Have a first-aid kit available for use should the need arise, and know how to use it.



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4. Provide a fire extinguisher for use in case of an accident. Store in a highly visible place.
5. Do not allow children, spectators or bystanders within hazard area of machine.
6. Wear appropriate protective gear. This includes but is not limited to:



- A hard hat
- Protective shoes with slip resistant soles
- Protective goggles
- Heavy gloves
- Hearing protection
- Respirator or filter mask



7. Place all controls in neutral or off, stop motor, and wait for all moving parts to stop. Then disable power source before servicing, adjusting, repairing, or unplugging.
8. Review safety related items annually with all personnel who will be operating or maintaining the equipment.



9. Read and understand the Material Safety Data Sheets (MSDS) which come with the chemicals being used.

### **OPERATING SAFETY:**

1. Read and understand the operator's manual and all safety signs before using.
2. Disconnect and disable electrical supply completely and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
3. Clear the area of bystanders, especially children, before starting.
4. Be familiar with the machine hazard area. If anyone enters hazard area, shut down machine immediately. Clear the area before restarting.
5. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
6. Do not operate machine when any guards are removed.



### **PLACEMENT SAFETY**

1. Move only with the appropriate equipment. Due to weight, this is a two person lift.
2. Be familiar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.
3. Operate the equipment on level surface free of debris.



### **WARNING**

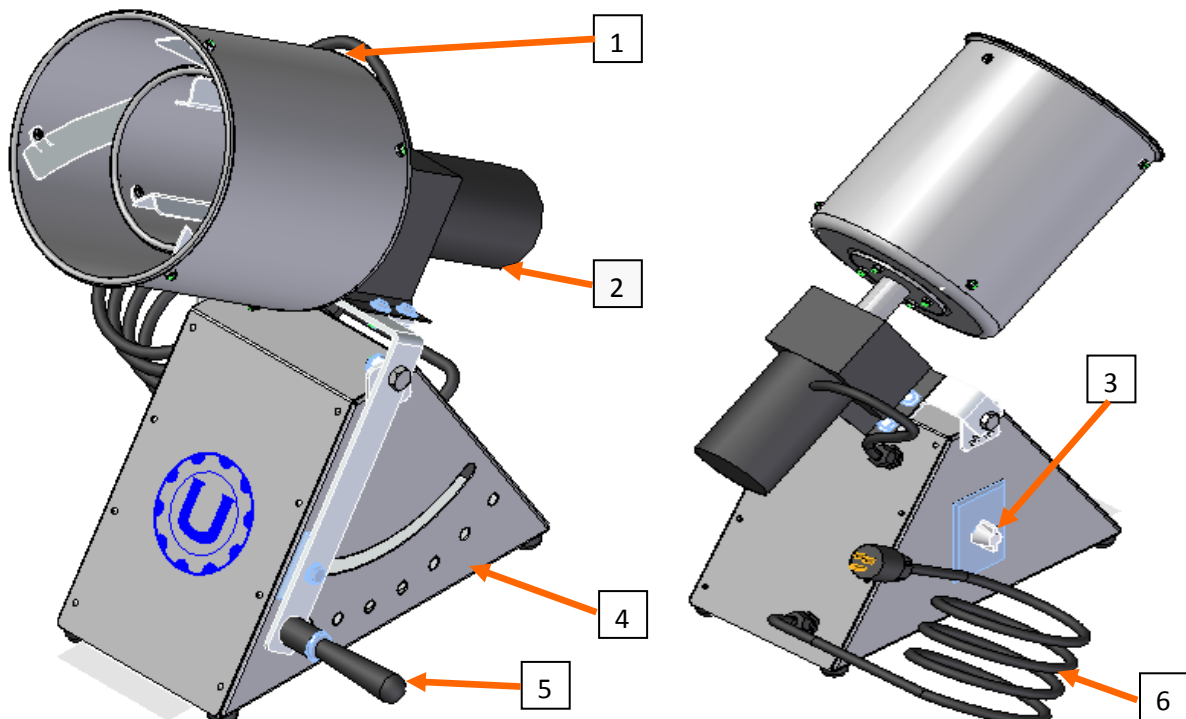
Before placement of the equipment , be sure that surface is reasonably level. The equipment may topple or work improperly if the surface is too uneven, damaging the equipment and/or causing personal injury.

### **MAINTENANCE SAFETY**

1. Review the operator's manual and all safety items before working with, maintaining or operating the equipment .
2. Place all controls in neutral or off, stop motors, disable power source, and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
3. Follow good shop practices:
  - Keep service area clean and dry.
  - Be sure electrical outlets and tools are properly grounded.
  - Use adequate light for the job at hand.
4. Keep hands, feet, hair and clothing away from all moving and/ or rotating parts.
5. Clear the area of bystanders, especially children, when carrying out any maintenance and repairs or making any adjustments.
6. Before resuming work, install and secure all guards when maintenance work is completed.
7. Keep safety signs clean. Replace any sign that is damaged or not clearly visible.



## SECTION B MANUAL OPERATION



1. **MIXING DRUMS:** Two mixing drums come with the unit. These provide for better mixing with small samples. They can be changed by un-bolting them from the motor shaft.
2. **DRIVE MOTOR AND GEARBOX:** This part provides both support and rotation for the mixing drum selected (1).
3. **ON-OFF SWITCH AND TIMER:** This controls the mixing time and turns the unit off at the end of the time.
4. **BASE UNIT:** Provides support for the mixing drum and houses the electrical controls.

**⚠ DANGER**




The base unit is not water resistant. Do not wash, spray, or immerse in liquid. Electric shock **will** result if liquid gets into the base unit. Only wipe down with a slightly damp rag in the event of spillage.

5. **DRUM ANGLE SELECTOR:** This lever controls the angle of the drum. It is controlled by pulling out on the handle to move the lever from one position to another.
6. **POWER CORD:** Prior to operation, attach the power cord into the appropriate wall connector (120v or 240 v). Prior to cleaning the unit, unplug the cord from the wall socket or lockout power.

## **GENERAL OPERATION**

1. Set unit on flat, solid surface. Preferably one that is impervious to the chemicals to be used in the treatment.
2. Spill containment is recommended.
3. Assemble unit with the desired mixing drum size.
4. Supply power to unit.
5. Adjust the drum angle to desired angle.
6. Add a measured volume of seed to the drum. Note: seed should be no closer than 1 inch from the end of the drum to ensure that it stays in the drum.
7. Set timer and add measured volume of desired chemical treatment. Note: syringes are provided for measuring the chemicals. Replacements / additional syringes may be ordered from USC. Clean the syringe between chemical treatments to prevent cross contamination. Refer to Material Safety Data Sheet (MSDS) for chemicals to ensure proper handling and disposal.

 **WARNING** Keep body parts away from drum during operation. Injury may occur from moving parts.

8. At the end of the mixing time, place receptacle under the end of mixing drum.
9. Pull the handle (4) and dump the treated seed into the waiting receptacle.
10. Repeat as needed until desired volume of seed has been treated
11. Clean the unit.

 **DANGER**



The base unit is not water resistant. Do not wash, spray, or immerse in liquid. Electric shock **will** result if liquid gets into the base unit. Only wipe down with a slightly damp rag in the event of spillage.

## CLEANING

1. Disconnect power.
2. Remove the mixing drum (1) from the drive unit (2).
3. Wash as required to remove all chemical residue.
4. Dispose of contaminated water in accordance with local, state, and federal regulations. Refer to the Material Safety Data Sheet (MSDS) for the chemicals used for hazards and proper disposal.
5. Dry and reassemble parts for the next treating cycle.

### NOTICE

Clean every day after use.  
Do not leave chemicals in the drum.

### DANGER



The base unit is not water resistant. Do not wash, spray, or immerse in liquid. Electric shock **will** result if liquid gets into the base unit. Only wipe down with a slightly damp rag in the event of spillage.

## STORAGE

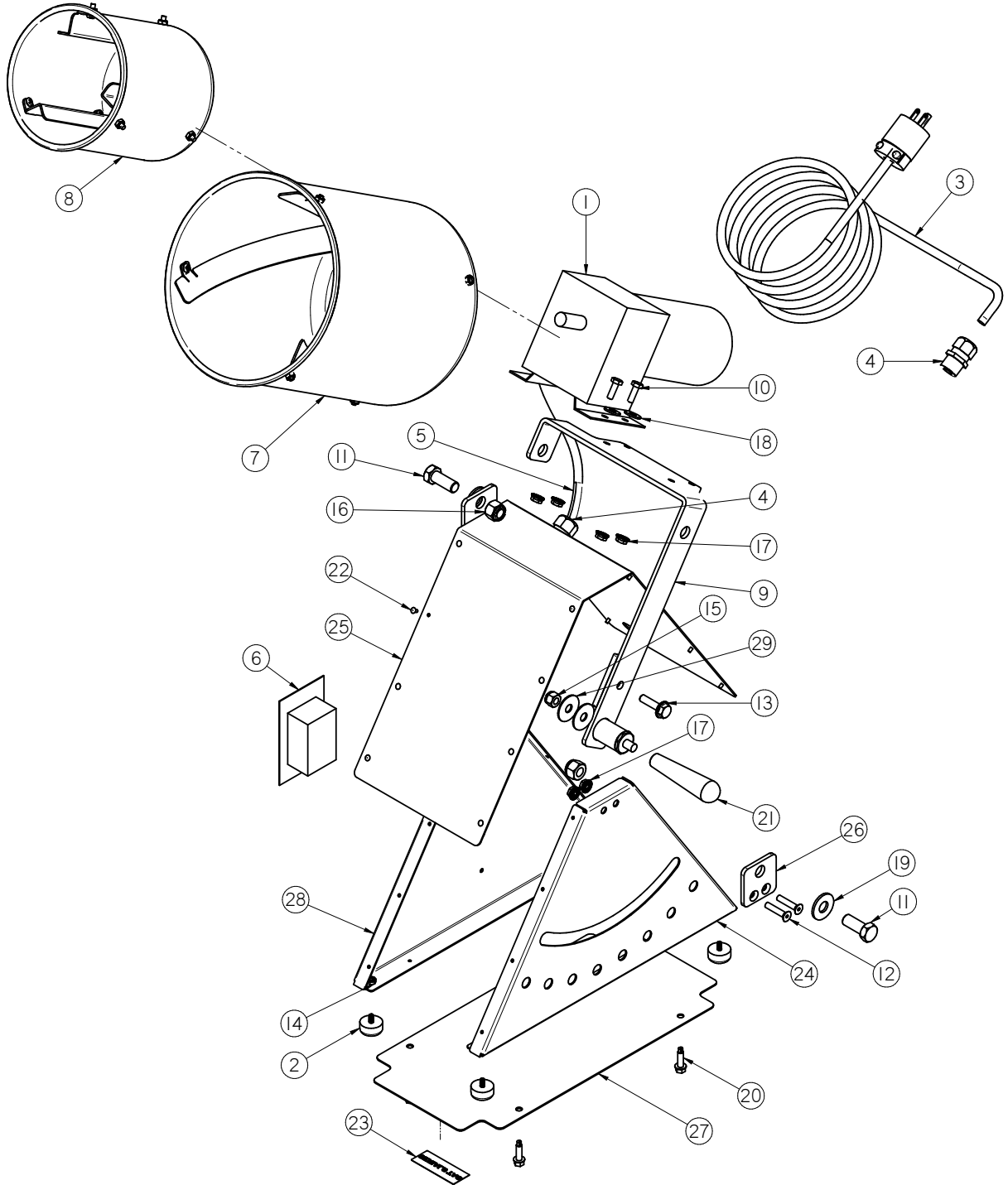
For long term storage:

1. Ensure that the unit is clean and dry.
2. Store the small drum inside the large drum.
3. Cover unit with plastic bag or plastic sheet.
4. Place on shelf ready for the next treating cycle.

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**NOTES:**

**LAB TREATER - 120V 60HZ ASSEMBLY (13-01-0297)**



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**LAB TREATER - 120V 60HZ ASSEMBLY (13-01-0297)**

Item #	Part #	Description	Qty
1	01-01-0179	DAYTON GEARMOTOR 1/15HP 30RPM	1
2	01-06-0144	RUBBER FOOT PAD 10-24 STUD	4
3	03-07-0124	CORD POWER MOLDED 14/3 10FT	1
4	03-08-0134	CONN CG PLAS 0.5NPT .100-.300	2
5	03-08-0147	CNDT .25 CLT X 10"	1
6	03-10-0139	TIMER SWITCH 0-5 MIN 120V	1
7	05-02-0042	ASSY DRUM LAB TRTR	1
8	05-02-0045	ASSY DRUM LAB TRTR	1
9	05-07-0716	WDMT PIVOT TABLE TOP TREATER	1
10	06-01-0006	BOLT .250-20 X .750 ZP GR5	4
11	06-01-0080	BOLT .500-13 X 1.25 ZP GR5	2
12	06-01-0155	SCRW MACH .250-20 X 1.25 SH FLHD	4
13	06-01-0189	BOLT, FLG .375-16 UNC ZP GRADE 5; 1-1/4" LG	1
14	06-02-0043	NUT,LOCK, #10-24 ZP NYLON INSERT	4
15	06-03-0003	NUT NYL LOCK .375-16 ZP GR5	1
16	06-03-0004	NUT NYL LOCK .500-13 ZP GR5	2
17	06-03-0013	NUT,LOCK, FLG .250-20 ZP SERRATTED	8
18	06-05-0001	WASHER, FLAT .250	4
19	06-05-0005	WSHR FLAT .500 ZP	2
20	06-06-0005	1/4" SCREW SDST	4
21	06-09-0103	TAPERED HANDLE .375-16	1
22	06-12-0025	POP RIVET CLOSED END .124 X .1875 GRIP	16
23	09-01-0119	LBL SERIAL NUMBER	1
24	1032A6	BASE SIDE	1
25	1032A9	BASE COVER	1
26	1032AB	PIVOT MNT	2
27	1032BD	BASE BOTTOM COVER	1
28	1032BF	BASE SIDE	1
29	1032C2	WASHER	2

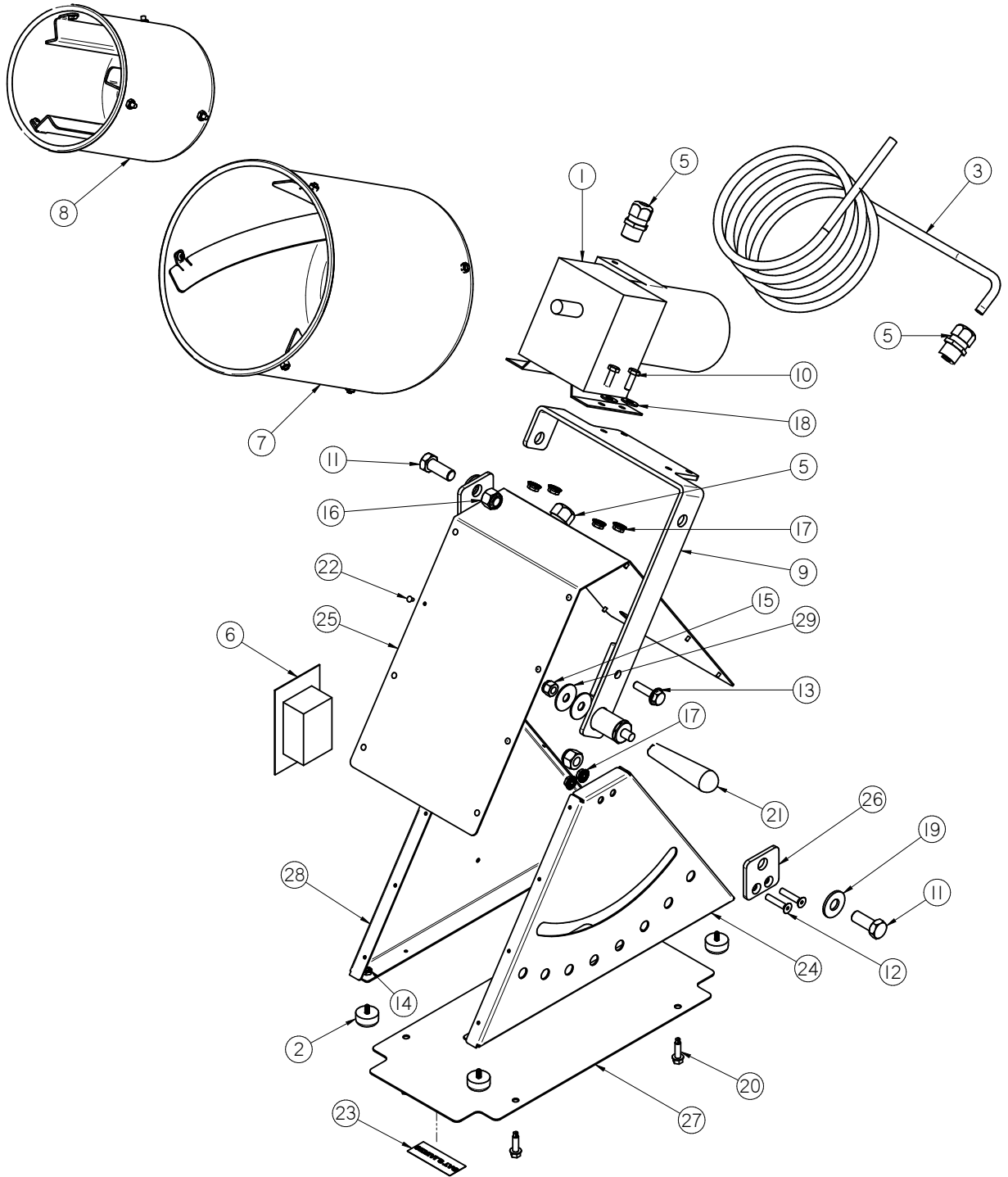
**PARTS INCLUDED BUT NOT SHOWN ON DRAWING**

Item #	Part #	Description	Qty
1	07-02-0029	SYRINGE, POLY 50ML	1
2	07-02-0030	SYRINGE, POLY 10ML	2



LAB TREATER

**LAB TREATER - 240V 50HZ ASSEMBLY (13-01-0305)**





LAB TREATER

**LAB TREATER - 240V 50HZ ASSEMBLY (13-01-0305)**

Item #	Part #	Description	Qty
1	01-01-0202	DAYTON GEARMOTOR 1/15HP 240v 50hz	1
2	01-06-0144	RUBBER FOOT PAD 10-24 STUD	4
3	03-07-0013	CORD 3COND 14AWG 120"	1
4	03-07-0013	CORD 3COND 14AWG 18"	1
5	03-08-0134	CONN CG PLAS 0.5NPT .100-.300	3
6	03-10-0166	TIMER SWITCH 0-15 MIN 220V	1
7	05-02-0042	ASSY DRUM LAB TRTR	1
8	05-02-0045	ASSY DRUM LAB TRTR	1
9	05-07-0716	WDMT PIVOT TABLE TOP TREATER	1
10	06-01-0006	BOLT .250-20 X .750 ZP GR5	4
11	06-01-0080	BOLT .500-13 X 1.25 ZP GR5	2
12	06-01-0155	SCRW MACH .250-20 X 1.25 SH FLHD	4
13	06-01-0189	BOLT, FLG .375-16 UNC ZP GRADE 5; 1-1/4" LG	1
14	06-02-0043	NUT,LOCK, #10-24 ZP NYLON INSERT	4
15	06-03-0003	NUT NYL LOCK .375-16 ZP GR5	1
16	06-03-0004	NUT NYL LOCK .500-13 ZP GR5	2
17	06-03-0013	NUT,LOCK, FLG .250-20 ZP SERRATED	8
18	06-05-0001	WASHER, FLAT .250	4
19	06-05-0005	WSHR FLAT .500 ZP	2
20	06-06-0005	1/4" SCREW SDST	4
21	06-09-0103	TAPERED HANDLE .375-16	1
22	06-12-0025	POP RIVET CLOSED END .124 X .1875 GRIP	16
23	09-01-0119	LBL SERIAL NUMBER	1
24	1032A6	BASE SIDE	1
25	1032A9	BASE COVER	1
26	1032AB	PIVOT MNT	2
27	1032BD	BASE BOTTOM COVER	1
28	1032BF	BASE SIDE	1
29	1032C2	WASHER	2

**PARTS INCLUDED BUT NOT SHOWN ON DRAWING**

Item #	Part #	Description	Qty
1	07-02-0029	SYRINGE, POLY 50ML	1
2	07-02-0030	SYRINGE, POLY 10ML	2

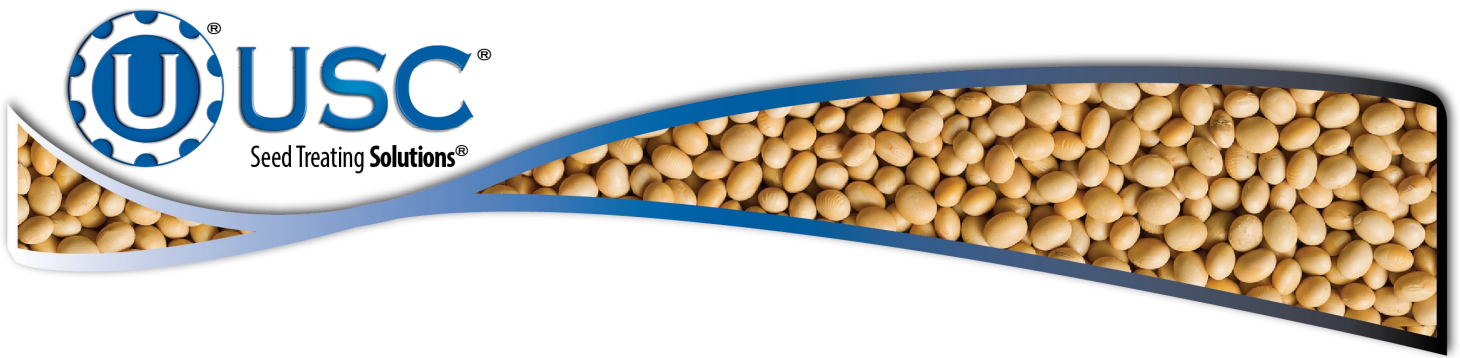


## SECTION **USC LIMITED WARRANTY** D

USC, LLC, (Manufacturer) warrants its seed treating equipment as follows:

1. **Limited Warranty:** Manufacturer warrants that the Products sold hereunder will be free from defects in material and workmanship for a period of 18 months from date of shipment. If the Products do not conform to this Limited Warranty during the warranty period, Buyer shall notify Manufacturer in writing of the claimed defects and demonstrate to Manufacturer satisfaction that said defects are covered by this Limited Warranty. If the defects are properly reported to Manufacturer within the warranty period, and the defects are of such type and nature as to be covered by this warranty, Manufacturer shall, at its expense, furnish replacement Products or, at Manufacturer's option, replacement parts for the defective products. Shipping and installation of the replacement Products or replacement parts shall be at the Buyer's expense.
2. **Other Limits:** THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Manufacturer does not warrant against damages or defects arising from improper installation (where installation is by persons other than Manufacturer), against defects in products or components not manufactured by Manufacturer, or against damages resulting from such non-Manufacturer made products or components. Manufacturer passes on to the Buyer the warranty it received (if any) from the maker of such non-Manufacturer made products or components. This warranty also does not apply to Products upon which repairs and / or modifications have been effected or attempted by persons other than pursuant to written authorization by Manufacturer. This includes any welding on equipment which could damage electrical components. Manufacturer does not warrant against casualties or damages resulting from misuse and / or abuse of Products, improper storage or handling, acts of nature, effects of weather, including effects of weather due to outside storage, accidents, or damages incurred during transportation by common carrier.
3. **Exclusive Obligation:** THIS WARRANTY IS EXCLUSIVE. The sole and exclusive obligation of Manufacturer shall be to repair or replace the defective Products in the manner and for the period provided above. Manufacturer shall not have any other obligation with respect to the Products or any part thereof, whether based on contract, tort, strict liability or otherwise. Under no circumstances, whether based on this Limited Warranty or otherwise, shall Manufacturer be liable for lost profits, lost revenue, lost sales (whether direct or indirect damages), incidental, special, punitive, indirect or consequential damages.
4. **Other Statements:** Manufacturer's employees or representatives' oral or other written statements do not constitute warranties, shall not be relied upon by Buyer, and are not a part of the contract for sale or this limited warranty.
5. **Return Policy:** Approval is required prior to returning goods to Manufacturer. A restocking fee will apply.
6. **Entire Obligation:** This Limited Warranty states the entire obligation of Manufacturer with respect to the Products. If any part of this Limited Warranty is determined to be void or illegal, the remainder shall remain in full force and effect.

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