

LAB TREATER

Operators Manual



Document: TD-09-06-1032

Revision: A



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.

OPERATOR RESPONSIBILITIES

As the purchaser/owner/operator of this equipment and control system, you have an obligation to install, operate, and maintain the equipment in a manner that minimizes the exposure of people in your care to any potential hazards inherent in using this equipment. It is critical that the owner of this equipment:

- Has a clear and documented understanding of the process this machine is being used in and of any resulting hazards or special requirements arising from this specific application.
- Allow only properly trained and instructed personnel to install, operate or service this equipment.
- Maintain a comprehensive safety program involving all who work with this machine and other associated process equipment.
- Establish clear areas of staff responsibility (e.g. operation, setup, sanitation, maintenance, and repairs).
- Provide all personnel with necessary safety equipment.
- Periodically inspect the equipment to insure that the doors, covers, guards, and safety devices are in place and functioning, that all safety instructions and warning labels are intact and legible, and that the equipment is in good working order.
- In addition to the operating instructions, observe and enforce the applicable legal and other binding regulations, national and local codes.

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As the person with the most to gain or lose from working safely, it is important that you work responsibly and stay alert. By following a few simple rules, you can prevent an accident that could injure or kill you or a co-worker.

- Disconnect, lockout, and tagout electrical and all other energy sources before inspecting, cleaning, servicing, repairing, or any other activity that would expose you to the hazards of electrical shock.
- Do not operate, clean, or service this equipment until you have read and understood the contents of this manual. If you do not understand the information in this manual, bring it to the attention of your supervisor, or call USC at (785) 431-7900 for assistance.
- Any operator who is known or suspected to be under the influence of alcohol or drugs should not be allowed to operate the equipment.
- Understand and follow the safety practices required by your employer and this manual.
- **PAY ATTENTION** to what you and other personnel are doing and how these activities may affect your safety.
- **Failure to follow these instructions may result in serious personal injury or death.**

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 bottom of the unit for future reference.

SERIAL NUMBER: _____



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SAFETY INSTRUCTIONS

SECTION 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 tagout 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!

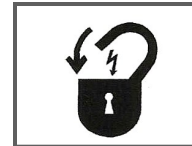
GENERAL SAFETY

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.



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. Stay away from overhead obstructions and power lines during operation and transporting. Electrocutation can occur without direct contact.
7. Do not operate machine when any guards are removed.
8. Inspect welds and repair if needed.

PLACEMENT SAFETY

1. Move only with the appropriate equipment
2. Stay away from overhead power lines when moving equipment. Electrocutation can occur without direct contact.
3. Be familiar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.
4. Operate the equipment on level ground free of debris. Anchor the equipment to prevent tipping or upending.



Before placement of the equipment , be sure that ground is reasonably level. The equipment may topple or work improperly if the ground 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.



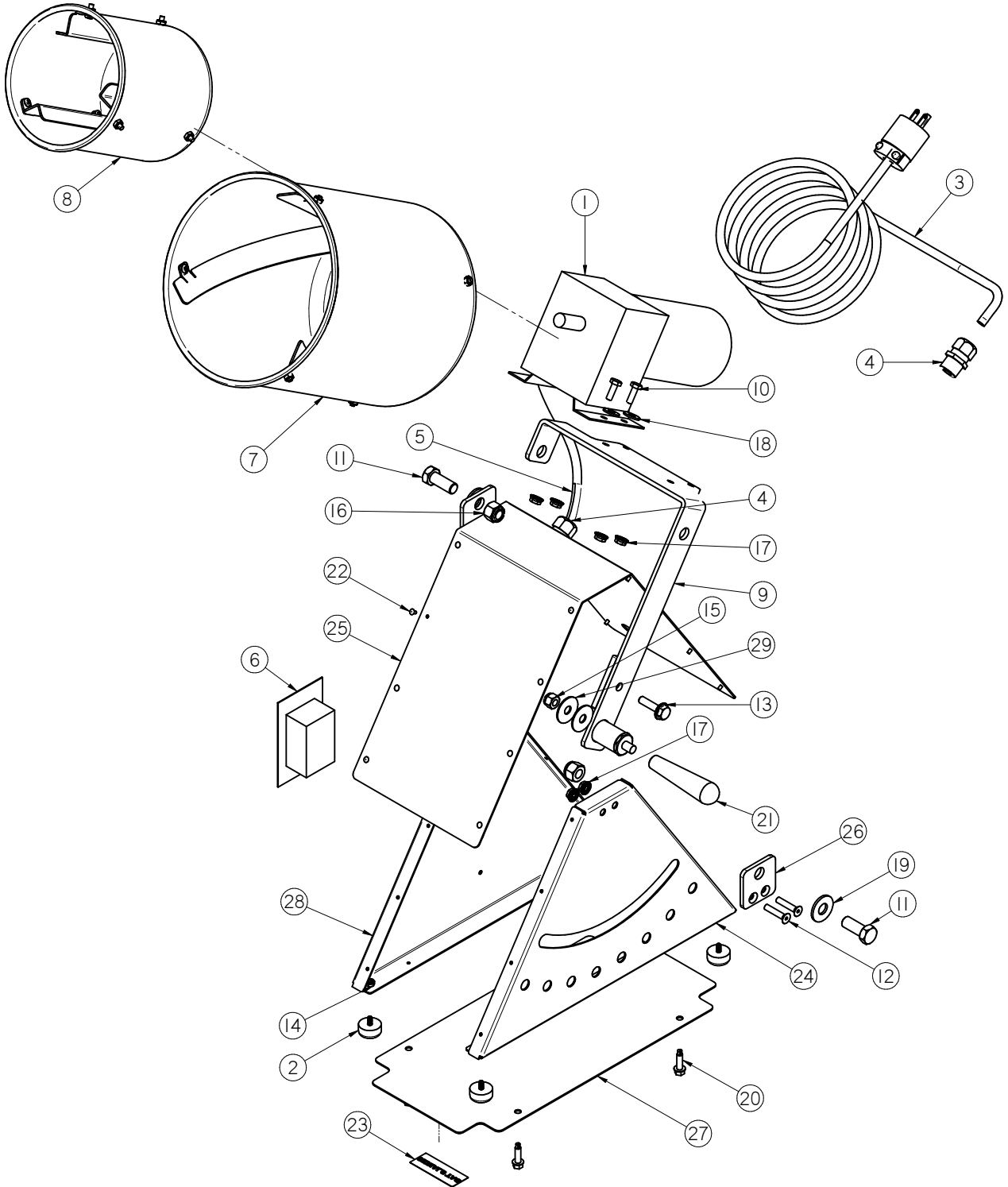
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SECTION
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MECHANICAL DRAWINGS

LAB TREATER - 110V 60HZ ASSEMBLY (13-01-0297)



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LAB TREATER - 110V 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 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 |

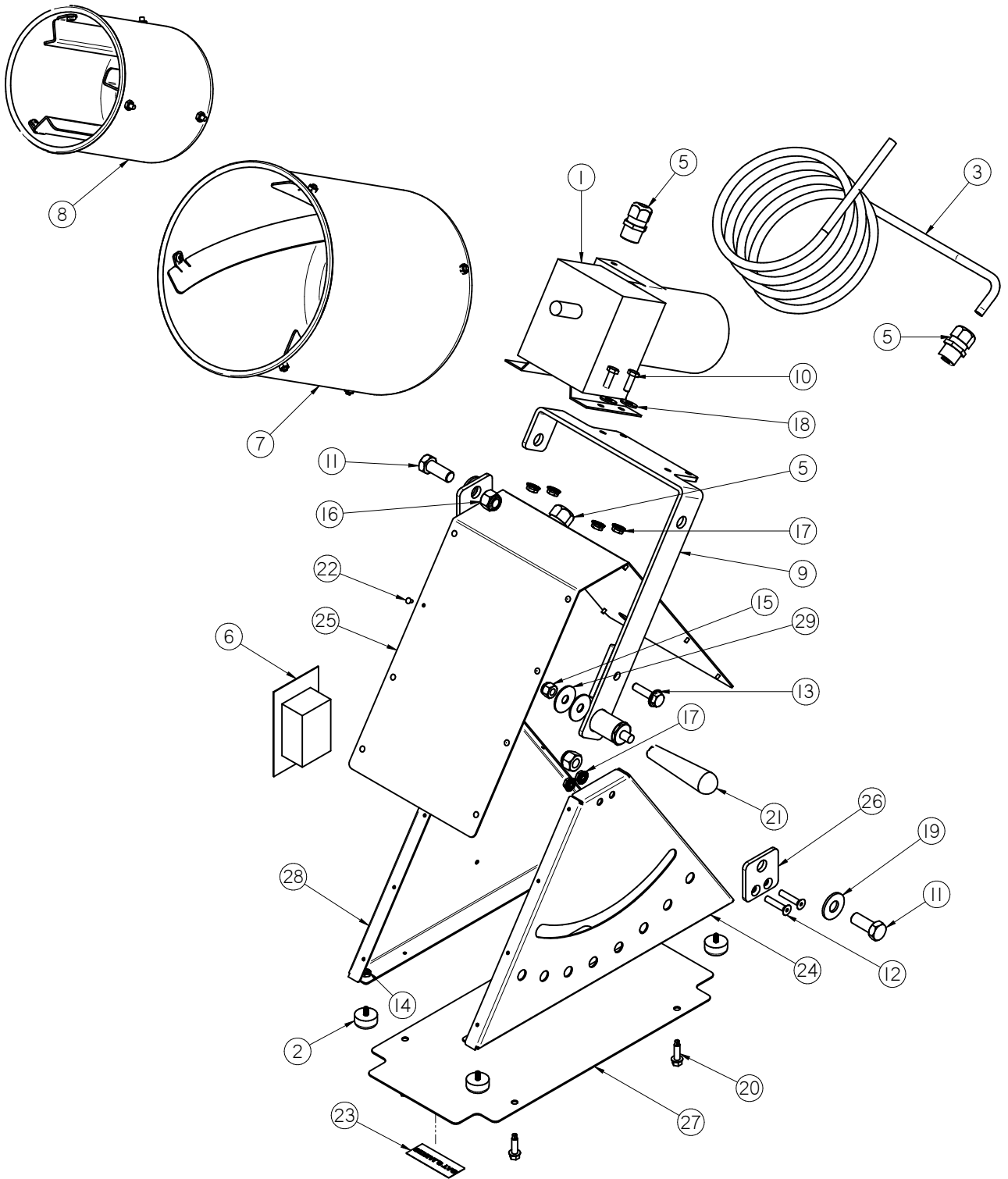
PARTS INCLUDED BUT NOT SHOWN ON DRAWING

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



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LAB TREATER - 230V 50HZ ASSEMBLY (13-01-0305)



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LAB TREATER - 230V 50HZ ASSEMBLY (13-01-0305)

| Item # | Part # | Description | Qty |
|--------|------------|---|-----|
| 1 | 01-01-0202 | DAYTON GEARMOTOR 1/15HP 230v 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 |
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| 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 |



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NOTES:

USC LIMITED WARRANTY**SECTION
C**

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.

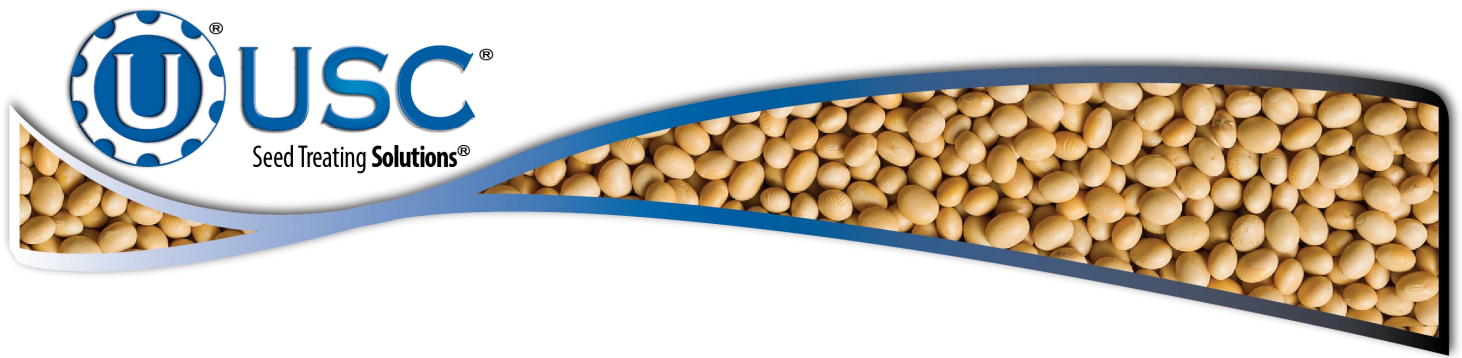
4. **Other Statements:** Manufacturer's employees or representatives' oral or other written statements do not constitute warranties, shall not be relied upon by Buyer, and are not a part of the contract for sale or this limited warranty.

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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