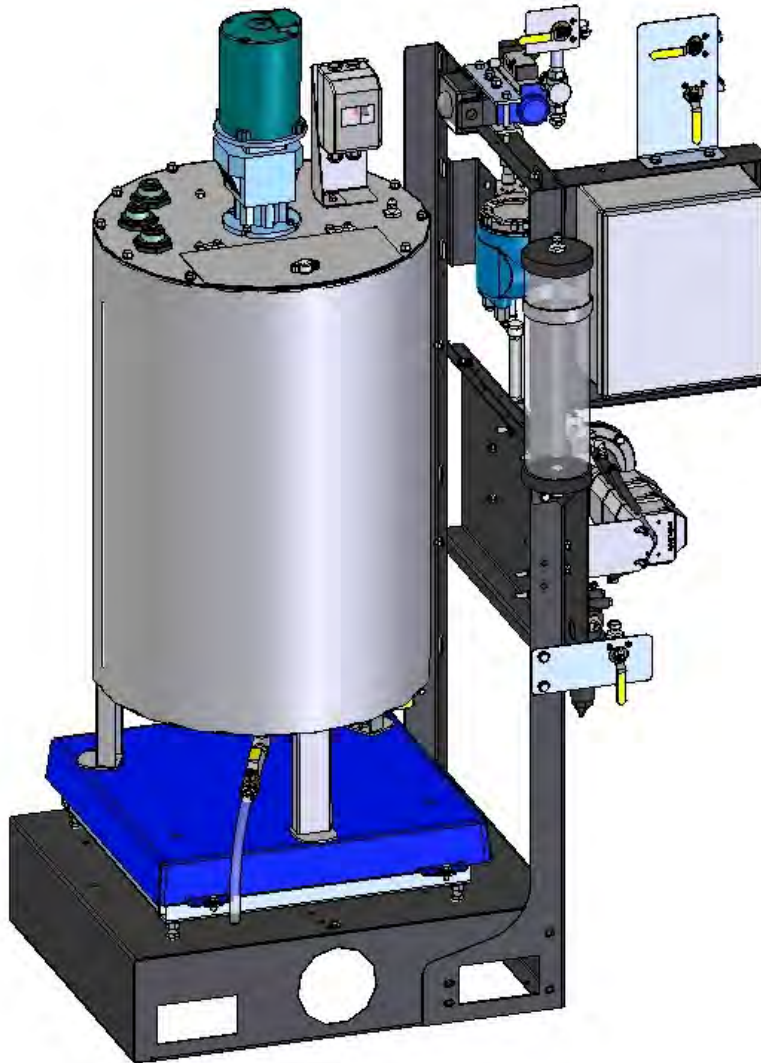


PUMP STANDS

Operators Manual



Document: TD-09-06-1048

Revision: D



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 Pump Stands. 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.

PUMP STANDS

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 of the machine for future reference. The serial number is located on the back of the control panel mounting bracket.



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.

If any of the required regularly scheduled maintenance is located above the reach of the operator, they should follow the companies normal safe practices of reaching that particular height, utilizing the companies specified equipment and following normal safety precautions.

When working with treatment chemicals, operators should always wear protective gloves, safety glasses, and follow the companies safety precautions in the case of any spillage or operator contamination.

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.

MOTS ET SYMBOLES SÉCURITÉ

Il est très important que les opérateurs et le personnel d'entretien à comprendre les mots et les symboles qui sont utilisés pour communiquer des informations de sécurité. Mots de sécurité, de leur signification et le format, ont été normalisés pour les fabricants américains et publié par l' American National Standards Institute (ANSI). La Communauté européenne (CE) a adopté un format différent sur la base de l'Organisation internationale de normalisation (ISO) et des directives de machines applicables. Les deux formats sont présentés ci-dessous. Les symboles graphiques ne sont pas standardisés, mais la plupart des fabricants utilisent une variante de ceux observés dans ce manuel.

PUMP STANDS



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



Indique une situation extrêmement dangereuse qui, si pas évitée, entraînera la mort ou des blessures graves.



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



Indique une situation potentiellement dangereuse qui, si pas évitée, pourrait entraîner la mort ou des blessures graves.



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



Indique une situation potentiellement dangereuse qui, si pas évitée, peut entraîner des blessures mineures ou modérées et / ou des dommages.



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



Fournit des informations supplémentaires que l'opérateur doit être conscient de d'éviter une situation potentiellement dangereuse.



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



Avis est utilisé pour informer les gens des informations de maintenance qui ne est pas danger lié importante installation, l'exploitation ou.



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

Symbole de puissance verrouillage obligatoire. Débranchez, de verrouillage et de déconsignation énergie électrique et d'autres sources avant d'inspecter, de nettoyage ou de la maintenance de ce panneau.



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.

Sécurité Symbole International Alert . Le point d'exclamation (!) Entouré par un triangle jaune indique que un risque de blessure existe . Cependant, il ne indique pas la gravité des blessures potentielles. Le point d'exclamation (!) Est également utilisé avec les symboles DANGER, AVERTISSEMENT et ATTENTION de sorte que le risque de blessure est indiqué.



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

Symbole de danger d'électrocution . Ce symbole indique qu'un danger d'électrocution existe. Des blessures graves ou la mort pourraient résulter de contact haute tension.



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

Danger d'électrocution international. Ce symbole indique qu'un danger d'électrocution existe. Des blessures graves ou la mort pourraient résulter de contact haute tension.



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

Obligatoire Lire Symbole d'action Manuel. (Format ISO)
Ce symbole indique le personnel de lire le manuel de l'opérateur avant de réparer ou d'utiliser l'équipement.



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

Obligatoire Lire Symbole d'action Manuel . Ce symbole indique le personnel de lire le manuel de l'opérateur avant de réparer ou d'utiliser l'équipement.

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.”

LES PROCEDURES DE VERROUILLAGE / ETIQUETAGE

Verrouillage / étiquetage est le placement d'un verrouillage / tag sur un dispositif d'isolement de l'énergie conformément à une procédure établie. Lors de la prise hors service des équipements pour effectuer la maintenance ou de réparation, toujours suivre les procédures de verrouillage / débranchement comme indiqué dans la norme ANSI Z344.1 et / ou la norme OSHA 1910.147. Cette norme "oblige les employeurs à établir un programme et appliquer des procédures pour la fixation des dispositifs de verrouillage appropriés ou des dispositifs déconsignation à l'énergie dispositifs d'isolement et d' autre machines ou équipements désactiver pour éviter énergisant inattendu, start-up, ou la libération de l'énergie stockée dans le but de prévenir les blessures aux employés."

HAZARD REVIEW

RISQUE EXAMEN

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.

Risque d'électrocution

Les accidents d'électrocution sont les plus susceptibles de se produire lors de la maintenance du système électrique ou pour travailler sur ou à proximité du câblage haute tension exposé. Ne existe pas ce danger lorsque l'alimentation électrique a été déconnecté, bien verrouillé et étiquetés sur.

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.

Démarrer danger automatique



Cet équipement peut être contrôlé par un système automatisé et peut démarrer sans avertissement. Sources de l'équipement contrôlé à distance non débranché correctement, lock-out, et tous déconsignation énergie crée une situation très dangereuse et pourrait causer des blessures ou même la mort. Se IL VOUS PLAÎT rester à l'écart et d'être vigilant.

PUMP STANDS

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 treater 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 treater.

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!

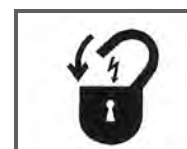
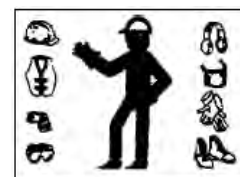
GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety labels before operating, maintaining, adjusting or unplugging the seed treater .
2. Only trained persons shall operate the seed treater. 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.



PUMP STANDS

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 labels 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.



Avant de placement de l'équipement, assurez-vous que sol est relativement plat. L'équipement peut tomber ou mal fonctionner si le sol est trop inégale, endommager l'équipement et / ou causer des blessures.

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 labels clean. Replace any sign that is damaged or not clearly visible.



SAFETY LABELS

1. Keep safety labels clean and legible at all times.
2. Replace safety labels that are missing or have become illegible.
3. Replaced parts that displayed a safety label should also display the current label.
4. Replacement safety labels are available. Contact USC at (785) 431-7900 .

How to Install Safety Labels:

- Be sure that the installation area is clean and dry.
- Be sure temperature is above 50°F (10°C).
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.



Located on the USC equipment you will find safety labels. Always be sure to read and follow all directions on the labels.



Situé sur l'équipement USC vous trouverez des étiquettes de sécurité. Veuillez à toujours lire et suivre toutes les instructions sur les étiquettes.



Guards provided with USC equipment are to remain in place during operation.



Gardes fournis avec des équipements USC doivent rester en place pendant le fonctionnement.

PUMP STANDS

Think **SAFETY!** Work **SAFELY!**

REMEMBER—If Safety Labels have been damaged, removed, become illegible, or parts replaced without safety labels, new labels must be applied. New safety labels are available from USC at (785) 431-7900.



Part # 09-02-0001



Part # 09-02-0010




PUMP STANDS

C2D2 SPECIFICATIONS AND LABELS

If any of the panels are located in the hazardous area described in the installation section (see page 19), the following criteria must be met.

1. All 120VAC connections must be hard wired to a listed IP65 rated enclosure in accordance with local electrical codes.
2. The C2D2 certifications are only valid for equipment operating at 60 HZ.
3. The approved operating temperature for this equipment is between 0°C (32°F) and 40°C (104°F).
4. All RJ45 and USB pass-through connector caps must remain closed to achieve a C2D2 rating. Hard wire these connections in accordance with local electrical codes.

The following labels and certification plates must be mounted to the outside of the control panel so that they are in plain view.

MFG. By:  USC
Max Voltage: 120V, 1PH, 60Hz
Total FLA: 5.2
Largest Motor: 5.2 Amps
Equipment Model: PS41-5121-0100
Suitable to be used in Class II, Div 2, Group G, T4A Hazardous Locations

!!WARNING!!
DISCONNECT POWER BEFORE REMOVING COVERS. KEEP COVERS/
CONNECTIONS CLOSED WHILE CIRCUITS ARE LIVE. SEE INSTRUCTION MANUAL
!!AVERTISSEMENT!!
DÉBRANCHER L'ALIMENTATION AVANT DE RETIRER LES COUVERCLES. GARDEZ
LES COUVERCLES / CONNEXIONS FERMÉS PENDANT QUE LES CIRCUITS SONT EN
CIRCUIT. VOIR LE MANUEL D'INSTRUCTIONS

!!WARNING!!
EXPLOSION HAZARD. DO NOT REMOVE OR REPLACE CONNECT OR DISCONNECT
WHILE CIRCUIT IS LIVE UNLESS THE AREA IS FREE OF IGNITIBLE
CONCENTRATIONS.
!!AVERTISSEMENT!!
RISQUE D'EXPLOSION. NE PAS ENLEVER OU REMPLACER LA CONNEXION OU LA
DÉCONNEXION TANT QUE LE CIRCUIT EST EN CIRCUIT SAUF SI LA ZONE EST
EXEMPTÉ DE CONCENTRATIONS IGNITIABLES.



SECTION
B**INSTALLATION****DANGER**

HIGH VOLTAGE ~ Always disconnect the power source before working on or near the control panel or lead wires.

**! DANGER**

HAUTE TENSION ~ Toujours débrancher la source d'alimentation avant de travailler sur ou près du panneau de commande ou les câbles.

**DANGER**

HIGH VOLTAGE ~ Use insulated tools when making adjustments while the controls are under power.

**! DANGER**

HAUTE TENSION ~ Utilisez des outils isolés lors des réglages, tandis que les commandes sont sous tension.

**NOTICE**

Permanent installation may require additional electrical cords, chemical tubing, and air lines, since each installation is unique.

**AVIS**

Installation permanente peut exiger cordons électriques, des tubes supplémentaires chimique, et les conduites d'air, puisque chaque installation est.

USC equipment may operate within a Group II, Division 2, Class G hazardous area which contains seed dust. If so, the equipment must be certified for use in this area. To avoid the possibility of an explosion ignited by static electricity, all USC equipment should be grounded by attaching a bonding strip to the metal frame and securing that strip to the factory ground point.

If labeled accordingly, USC products are designed to comply with CSA 22.1 for use in a Class II, Division 2, Group G environment. When connecting the USC system power cord into a power supply, first determine if the supply is also within the hazardous area where the USC system is located. If so, we recommend that the power be hard wired into the source. Do not use a standard electrical plug for this purpose. For other acceptable methods of connecting to a power source, or any other additional miscellaneous equipment to the USC system within a hazardous location, please consult CSA 22.1, Section 18-200 and 18-274. Review the appropriate section and ensure compliance with one of the options given.

When connecting to USC equipment from a remote location, and the USC equipment is in a hazardous Class II, Group G environment, customers are advised to follow the requirements within CSA 22.2 no. 25. More details may also be found in CSA 22.1 18-252 (wiring methods). There are various options covered within this section for wiring in a Class II, Group G (dust) environment. Select the best method suited for your specific location.

PUMP STANDS

équipements USC peut fonctionner dans un Groupe II, Division 2, Classe G zone dangereuse qui contient la poussière des semences. Si oui, l'équipement doit être certifié pour une utilisation dans ce domaine. Pour éviter la possibilité d'une explosion enflammé par l'électricité statique, tous les équipements USC doit être mis à la terre en attachant une bande de liaison à la structure métallique et la sécurisation cette bande au point de masse du fabricant.

Si étiquetés en conséquence, les produits USC sont conçus pour être conformes à la norme CSA 22.1 pour une utilisation dans une Classe II, Division 2, Groupe G environnement. Lors du raccordement du USC alimentation du système cordon dans une alimentation, d'abord déterminer si l'offre est également dans la zone dangereuse où se trouve le système USC. Si oui, nous recommandons que le pouvoir soit câblé dans la source. Ne pas utiliser une prise électrique standard à cet effet. Pour les autres méthodes acceptables de se connecter à une source d'alimentation, ou tout autre matériel divers supplémentaire au système USC dans un endroit dangereux, se il vous plaît consulter la norme CSA 22.1, Section 18-200 et 18-274. Consultez la section appropriée et assurer la conformité avec l'une des options proposées.

Lors de la connexion à l'équipement USC depuis un emplacement distant et l'équipement USC est dans une classe dangereuse II, Groupe G environnement, les clients sont invités à suivre les exigences dans CSA 22.2 no. 25. Plus de détails peuvent également être trouvés dans 22,1 CSA 18-252 (Les méthodes de câblage). Il existe diverses options couvertes dans cette section pour le câblage dans une Classe II, Groupe G (poussière) environnement. Sélectionnez la meilleure méthode adaptée pour votre emplacement spécifique.

PUMP STAND SET - UP

The following steps outline the initial set-up of your Universal Pump Stand:

1. Clear the area of bystanders, especially small children, before moving.
2. Be sure there is enough clearance from overhead obstructions and power lines or other equipment to move the pump stand(s) into its working position.
3. Using a forklift, place the pump stand in the desired position on a level surface.

NOTICE

USC highly recommends that the pump stand be set up inside a building or any covered structure to protect the machine from weathering.

AVIS

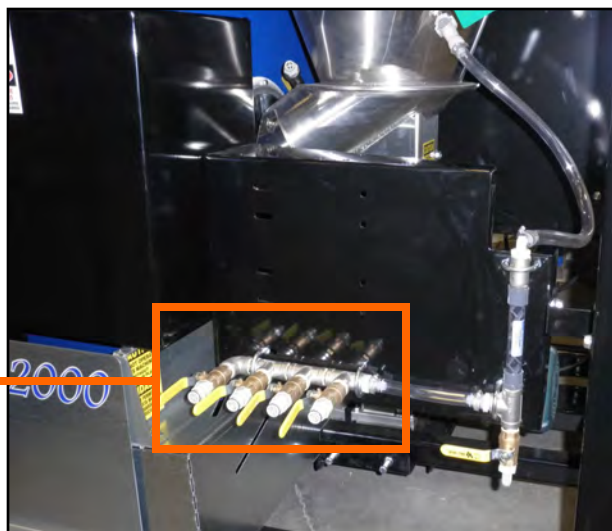
USC recommande fortement que le support de pompe sera installée à l'intérieur d'un bâtiment ou d'une structure couverte pour protéger la machine des intempéries.

PUMP STANDS

PUMP STAND SET - UP

4. Inspect machine thoroughly for screws, bolts, fittings, etc. which may have come loose during shipping.
5. The pump stand(s) should be placed on level ground close to the seed treater.

6. Attach the chemical tubing from the pump stand(s) to the atomizer plumbing on the seed treater (right). Additional tubing can be added or removed to accommodate your set-up.



PUMP STAND CABLE CONNECTIONS

VERSION 3 TREATER CONTROL PANEL

When connecting a version 3 pump stand control panel to a version 3 treater, attach the communication cable from the pump stand control panels to one of the auxiliary ports (PJ2602 - PJ2605) on the Treater Control Panel (below).



PUMP STANDS

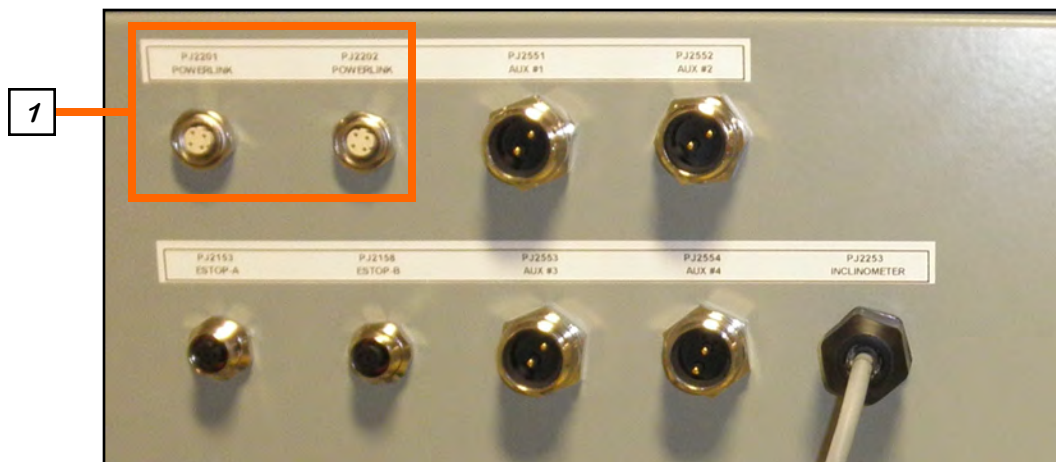
VERSION 4 CONTROL PANEL CONNECTIONS

1. Connect a cable with four pin connector to one of the three Powerlink connectors on the MCP. Connect the other end to the Powerlink connector on the closest control panel. Repeat this process until all control panels are connected. It may be MCP to Treater to Tri-Flo® to Bin Site panel. The order or number of devices is not important. It is important that all panel are connected. All pump stand control panels will need to be connected in a similar configuration.

VERSION 4 MAIN CONTROL PANEL



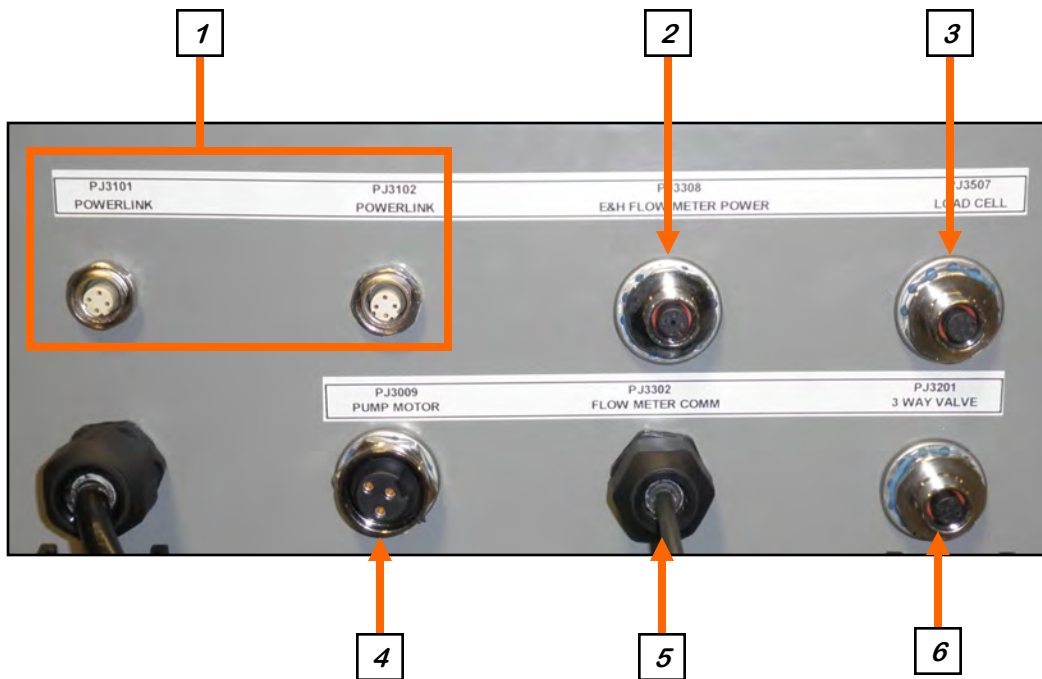
VERSION 4 TREATER PANEL



PUMP STANDS

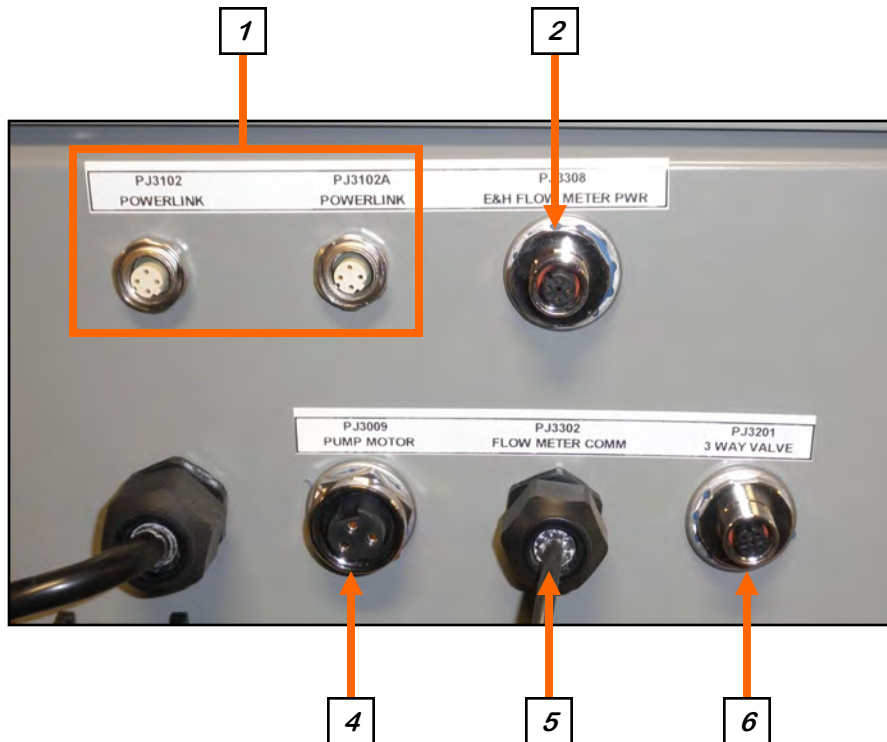
2. If equipped with a mass flow meter, plug the cable from the flow meter in the PJ3308 connector.
3. For loss in weight pump stands, plug the cable from the load cell in the scale base unit to the PJ3507 connector.
4. Connect the cable from the peristaltic pump motor to the PJ3009 connector.
5. If equipped with a volumetric flow meter, plug the cable from the PJ3302 connector into the flow meter.
6. If the pump stand is equipped with an automated 3-Way recirculation valve, plug the cable from the valve in the PJ3201 connector.

VERSION 4 LOSS IN WEIGHT AUTOMATED PUMP STAND PANEL

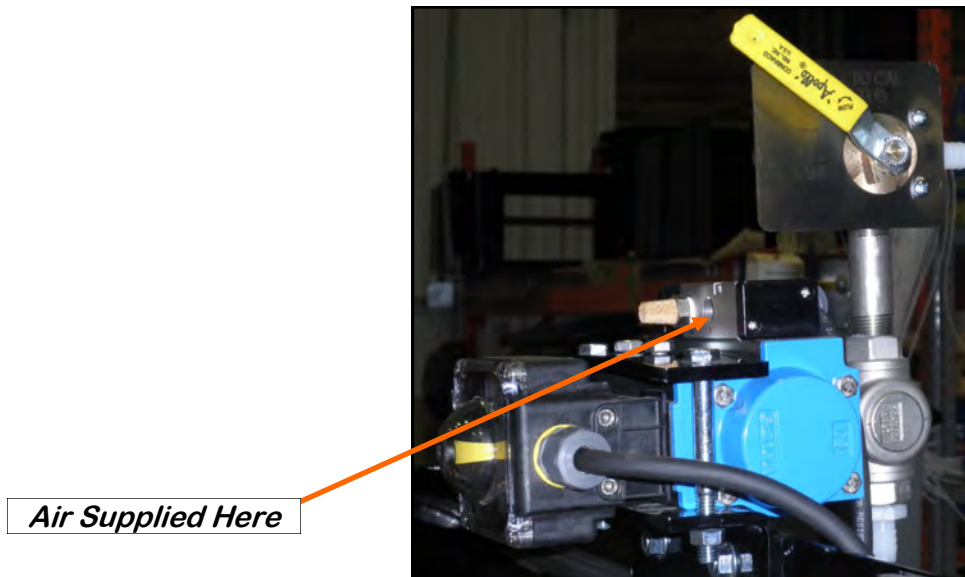


PUMP STANDS

VERSION 4 AUTOMATED PUMP STAND PANEL

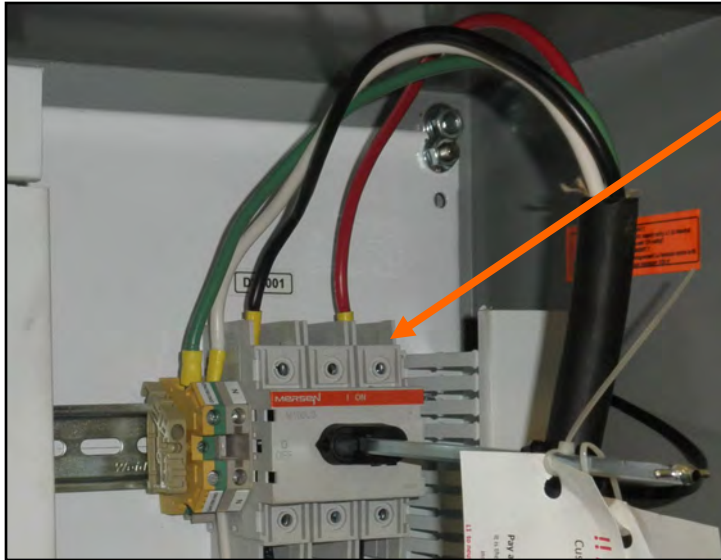


7. For automated pump stands with an automated recirculation valve, an air supply with an in-line customer supplied air dryer to protect the air system from contamination is required. Supply approximately 100 - 110 pounds of air pressure from the dryer to the port on the air actuated 3-way valve located on the pump stand frame behind the electric control panel.



PUMP STANDS

- Have a certified electrician provide power to the seed treating system. Provide convenient shutdown switches, comply with local electrical codes and ensure that the system is properly grounded and bonded. The USC system must be connected to the same electrical requirements as specified in the main control panel on the power requirement tag, or the electrical schematic shipped with the piece of equipment.



Incoming power connected to these terminals in the 12 Pump Control Panel

VERSION 4 CONTROL PANEL NAMEPLATES

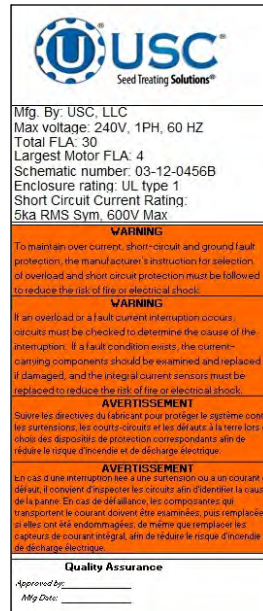
AUTOMATED PUMP STAND CONTROL PANEL



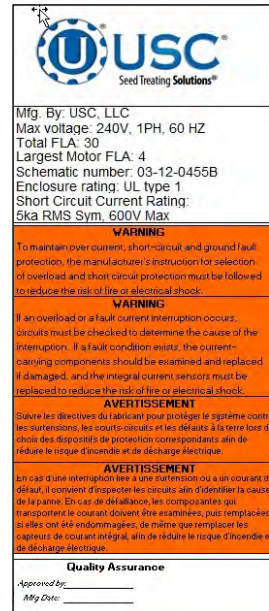
LOSS IN WEIGHT PUMP STAND CONTROL PANEL



12 PUMP CONTROL PANEL



12 PUMP WITH FLOW METERS CONTROL PANEL



PUMP STANDS

LOSS-IN-WEIGHT 12 PUMP CONTROL PANEL

Connect the 8 pin connector on the cable coming from the scale to the appropriate connector on the bottom left side of the control panel (bottom, left). They are numbered 1 - 12. Make sure you plug in the cable from pump stand to the number you want to assign to each pump stand.

Connect the 3 pin connector on the cable coming from the pump motor to the appropriate connector on the bottom right side of the control panel (bottom, right). They are numbered 1 - 12. Make sure you plug in the cable for each pump stand to the same number you used for the scale cable for each pump stand.

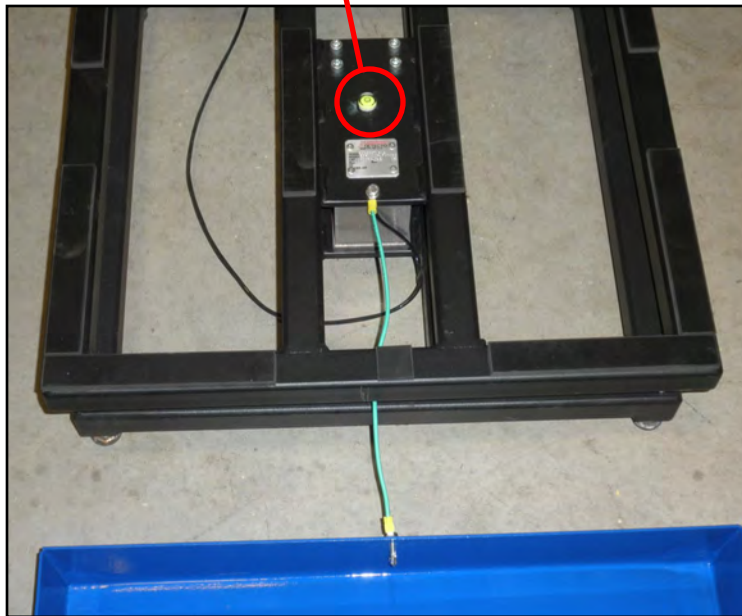
Plug the 50 foot Ethernet cable into the PJ_ENET connector on the left side next to the scale connectors. Then plug the other end into any available Ethernet port on the main control panel.



PUMP STANDS

LOSS-IN-WEIGHT SCALE

When setting up a Loss In Weight pump stand, the scale must be balanced. Set the Cardinal scale on the floor in the location it will be operating from. The center of the scale has a leveling bubble on it. Use a 3/4" open end wrench to raise or lower the feet in the corners of the scale until the bubble is in the center ring. Lock down jam nuts on the feet for all four corners. The example shown below is not balanced.



The scale ground wire is shipped attached to the scale but not the cover. One side of the cover has a screw inserted. Set the cover on the balanced scale with that side on the same side as the ground wire. Remove the fastener, run it through the ground wire eyelet and re-attach it to the cover.

MECHANICAL OPERATION

SECTION C

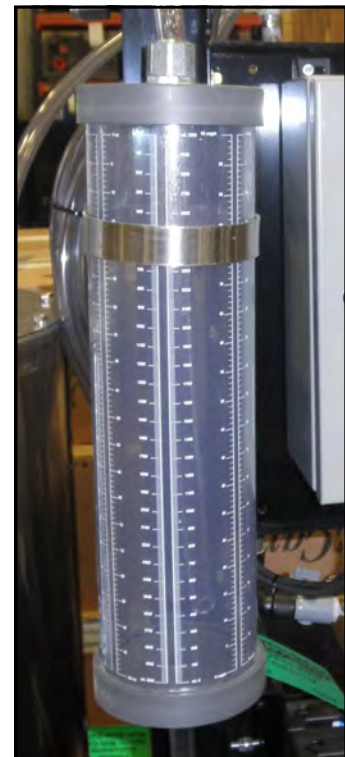
MIX TANKS

The pump stand includes a choice of 15, 30, 55 gallon poly or 30, 60 gallon stainless steel chemical mix tank. The chemical mix tank will have electric drive agitation that is turned on or off at the pump stand with a manual switch. The agitator should be running at all times when treatment is present in the tank to keep the chemical mixed and in a suspended state. The tank is equipped with a shut-off, drain plug, and drain valve located on the bottom. The top of the tank also includes 3 extra ports which the operator may use to direct fill into the tank.



CALIBRATION TUBES

The pump stand may be equipped with an optional calibration tube which is used to check the liquid flow rate. The calibration tubes are available in 100 OZ and 340 OZ ounce sizes. The system valves direct liquid from different areas to keep all liquid contained. This creates a closed chemical system so that the operator may manually check the calibration of the chemical flow rate without handling any of the chemical.



PERISTALTIC PUMP HEADS AND MOTOR

The pump stand utilizes a variable speed pump motor and special norprene pump tubing for liquid metering. The pump comes equipped with 1, 2 or 3 peristaltic pump heads. A Low Volume and High Volume configuration are also available. Liquid will only come into contact with the inside diameter of the pump tubing and not the pump. This allows for easy cleanup and less maintenance of the pump.

To open the pump head, lift the lever upward. Place the pump tubing inside the pump head so it fits inside the notches and above the rollers. Lower the lever back down to close the pump head, clamping the hose inside the head. Wear or fatiguing of the tubing within the pump head due to compression is normal. When tubing becomes worn or chemical rates begin to slow down, open the pump head and move the tubing to a different position. If the entire piece of tubing becomes worn, simply replace with a new section. When not using the pump stand for several days or when storing, open the pump head and remove the tubing to prevent any extra compression.



Pump Head Open



Pump Head Closed

PUMP STANDS

PUMP STAND VALVES

SEED TREATMENT SOURCE VALVE: This valve controls where the pump is drawing liquid from. It allows liquid to be pulled from either the bottom of the mix tank or the calibration tube. This valve is only present when a Calibration tube is mounted on the pump stand.



Drawing chemical from the bottom of the Mix Tank



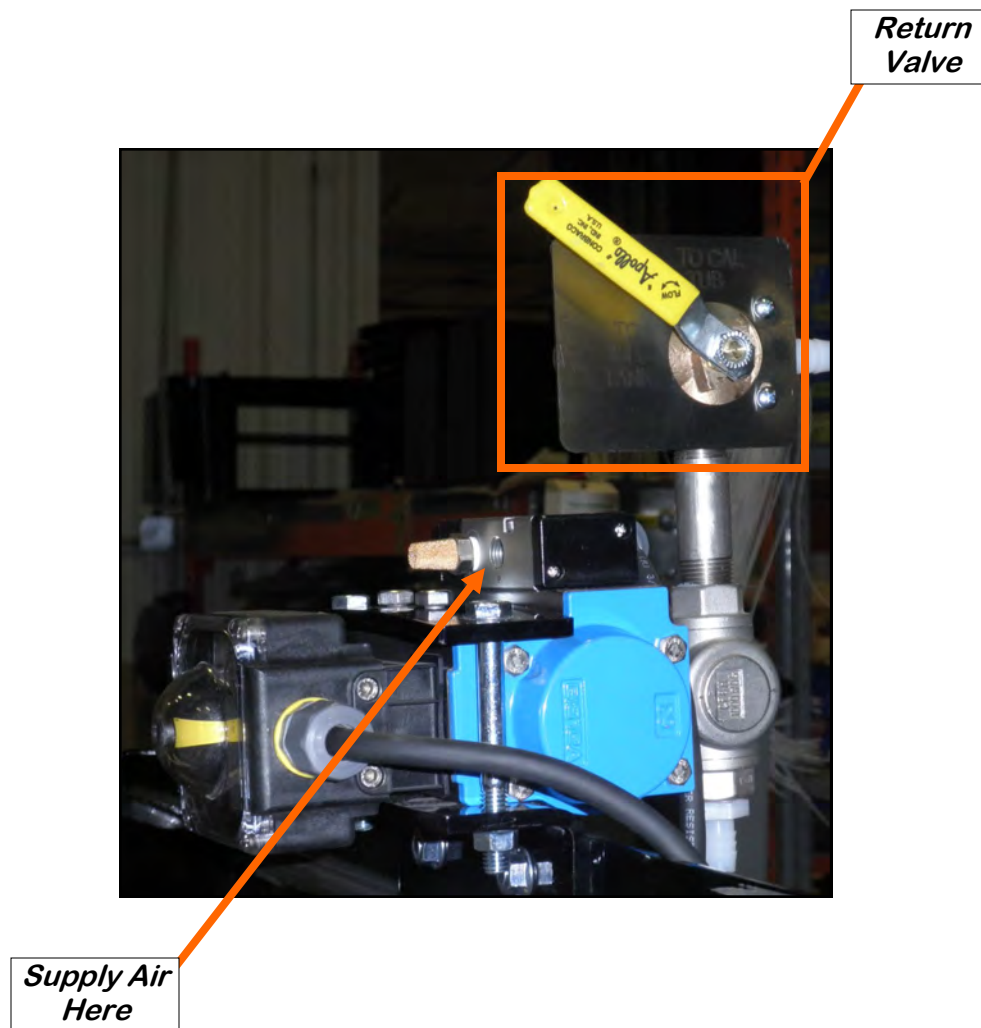
Drawing chemical from the bottom of the Calibration Tube

MANUAL SEED TREATMENT RETURN VALVE: The bottom valve directs the liquid to the top valve or to the seed treater. The top valve directs the liquid coming from the mix tank or calibration tube or back to the calibration tube or mix tank for re-circulation.



PUMP STAND VALVES

AUTOMATED SEED TREATMENT RETURN VALVE: This valve directs the liquid coming from the recirculation side of the Air Actuated 3-Way Valve to either fill the Calibration Tube or return to the Mix Tank.



AIR ACTUATED 3-WAY VALVE: This valve is controlled from the touch screen and will automatically actuate during normal operation. An internal spring holds the valve in the recirculation position so that when the valve is not actuated, the chemical will be directed to flow back to the Mix Tank. When the valve is actuated, the supplied air pressure will override the spring and move the valve to the PROCESS position. Chemical flow will then be directed towards the treater's atomizer chamber.

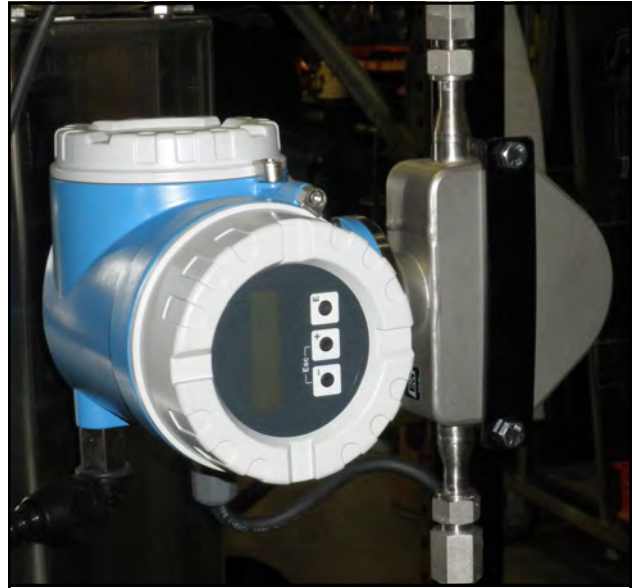
PUMP STANDS

FLOW METERS

The pump stand may be equipped with an optional volumetric or mass flow meter. A flow meter is used to perform real - time chemical flow adjustments and monitoring without the operator having to handle the chemical. The flow meter reading will be displayed on the HMI touch screen and can be set to read in oz / min or ml / min.



Volumetric Flow Meter



Mass Flow Meter

Proper calibration of the liquid system is critical to achieve a proper granular / chemical mixture. For information on pump calibration and flow meter calibration to determine liquid flow rate, see the appropriate U-Treat Automation manual.

Emptying the remaining liquid may be done by using the reverse function on the control panel. This will pump liquid back into the mix tank. Then drain the remaining liquid into a suitable container. Clean water should be pumped through the calibration tube and mix tank when finished.

⚠ WARNING

Always dispose of chemical or diluted chemical according to your local, state, and federal regulations.

! AVERTISSEMENT

Toujours disposer chimique ou diluée selon votre local, étatique et règlements fédéraux.

NOTICE

Only you, the operator, can determine the length of time required to completely rinse all chemical residue from the tank and plumbing system.

AVIS

Seulement vous, l'opérateur, permet de déterminer la longueur du temps nécessaire pour rincer complètement tous les résidus de produits chimiques du système de réservoir et la plomberie.

SECTION
D**ELECTRICAL OPERATION**

HIGH VOLTAGE ~ Always disconnect the power source before working on or near the control panel or lead wires.



HAUTE TENSION ~ Toujours débrancher la source d'alimentation avant de travailler sur ou près du panneau de commande ou les câbles.



HIGH VOLTAGE ~ Use insulated tools when making adjustments while the controls are under power.



HAUTE TENSION ~ Utilisez des outils isolés lors des réglages, tandis que les commandes sont sous tension.



AUTHORIZED PERSONNEL only shall work on the control panel. Never allow anyone who has not read and familiarized themselves with the owner's manual to open or work on the control panels.



Seules personnes autorisées doivent travailler sur le panneau de commande. Ne jamais laisser quelqu'un qui n'a pas lu et se sont familiarisés avec le manuel d'ouvrir ou de travail du propriétaire sur les panneaux de contrôle.

This section provides a general overview and description of the operator controls for the pump stands.

For information on pump calibration, flow meter calibration and all other HMI screen functions, see the appropriate U-Treat Automation manual.

General Panel Descriptions

The pump stand control panels are plug connected enclosures that are located on each pump stand frame. This panel connects the pump stand electrical components to the treater or automated main control panel. Each pump stand has two standard 110V plugs. One for the manual ON/OFF switch controlling the mix tank motor and one for the pump stand control panel.

MANUAL PUMP STAND CONTROL PANEL

1. CHEMICAL PUMP SWITCH: When this switch is turned to HAND, the chemical pump will run. When the switch is turned to AUTO, the chemical pump will only run when the main control panel H-O-A screen button is set to HAND or AUTO. The yellow, 2-Wire auxiliary cable must be connected to the auxiliary port on the treater control panel for this feature will work. When the PUMP / AUX CONTROL module on the touch screen is placed in HAND, the chemical pump will run at any time. When placed to AUTO, it will only run when the proximity switch located in the bottom of the seed treater supply hopper detects seed and the atomizer is running. The proximity switch determines when seed is present in the hopper. When the proximity switch no longer detects seed, a time delay defined on the touch screen will automatically shut off the chemical pump at a pre-determined amount of time after the hopper has emptied. The time delay allows all seed in the hopper to receive equal coverage.

2. PUMP VOLTMETER / FLOW METER DISPLAY: If the pump stand does not have a flow meter, the DC voltage the pump is receiving will be displayed. If pump stand is equipped with a flow meter, the current flow rate of the flow meter will be displayed. As the pumps speed is increased or decreased, these numbers will increase or decrease accordingly. Press the SEL button to switch between the rate and totalizer displays. Press the RST button to reset the totalizer display

3. CHEMICAL PUMP DIRECTION: This switch allows the operator to change the pump direction between forward and reverse. It has a safety feature that will not allow the operator to switch from forward to reverse or vice-versa without momentarily stopping and releasing the switch in the center position.

4. LIQUID ADJ. DIAL: This dial allows the operator to increase or decrease the speed of pump. The setting should be chosen in relation to the desired application rate for the treatment being applied to the seed.

MANUAL PUMP STAND PUMP CALIBRATION

The following steps illustrate how to calibrate the peristaltic pump motor. A stop watch will be needed in the calibration process.

1. Lock down the pump tubing on all peristaltic pump heads (see page 26).
2. Premix enough liquid for the amount of seed you will be treating and pour into the mix tank. It's always a good practice to mix up 20% extra slurry to help fill all the lines. Turn on the mix tank and allow liquid to mix.
3. Place the seed treatment source valve to the FROM MIX TANK position. Place the bottom return valve to TO CALIBRATE /TO MIX TANK position. Place the top return valve to TO MIX TANK . The return valves are located on top of the pump stand (right, top).
4. Turn the pump direction switch to FORWARD.
5. Turn the HAND / OFF / AUTO switch to the HAND position and set the pump LIQUID ADJ. dial (right, bottom) to about 500 or half speed. The liquid should begin re-circulating from the bottom of the mix tank, through the pump, and back into the top of the mix tank.
6. Allow pump to re-circulate liquid for approximately 15 minutes to ensure all air has been removed from the liquid lines. This will also help break-in the pump tubing, which is critical before checking pump calibration.
7. After you have allowed the liquid to re-circulate you are ready to calibrate the pump. Determine the number of ounces needed in one minute. You will need to know the seed flow rate from the seed treater.



EXAMPLE: The seed treatment slurry rate is 4 ounces per cwt.

Seed Flow Rate = 6.41 cwt/min. x 4 oz./cwt. = 25.6 oz./min.
 25.6 oz. is the rate the pump should be pumping in one minute

MANUAL PUMP STAND PUMP CALIBRATION

8. Set the Liquid Adjustment Dial. You can use the chart on page 34 to find a starting point.

EXAMPLE: The ounces needed in one minute = 25.6 oz/min. Assume we are using a 6-600 Masterflex pump. An approximate starting point is 31.8 volts.

9. While the pump is still running, place the top return valve to the TO CALIBRATE position. Once the liquid in the calibration tube reaches zero press HAND or OFF to stop the pump, see figure 1 below.

10. Press the HAND button and start the stopwatch simultaneously. Stop the pump when the stopwatch reaches one minute. Note the total ounces of chemical that is in the calibration tube, see figure 2 below. This number should equal the number of ounces needed to flow through the pump in one minute. If the ounces needed per minute have not been met, re-adjust the pump speed up or down accordingly and repeat steps 9 and 10 until the liquid flow rate has been matched.



Figure 1
Liquid at 0 oz.

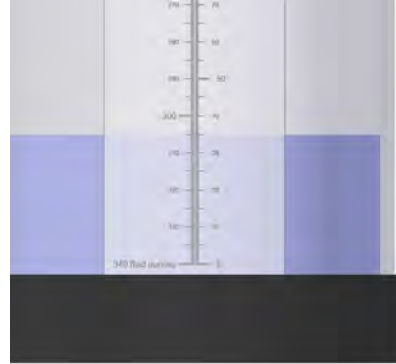


Figure 2
Liquid at 35 oz.
after 1 minute

PUMP STANDS

MANUAL PUMP STAND PUMP CALIBRATION

Below are two charts that show the potential volts and oz / min at different dial settings.

NOTICE

All calibrations were done using water. These numbers were obtained using one peristaltic pump head. Numbers are not exact, only use these numbers as a starting point or for troubleshooting.

AVIS

Tous les étalonnages ont été effectués à l'aide de l'eau. Ces chiffres ont été obtenus en utilisant une tête de pompe péristaltique. Nombres ne sont pas exacte, seulement utilisent ces chiffres comme un point de départ ou de dépannage.

Standard Data

**6-600 RPM Motor and
L / S Pump Head with
Masterflex L / S 35 Pump Tubing**

<u>Volts</u>	<u>OZ./Min.</u>
10.5	7.4
14.6	10.5
18.8	14.1
22.9	17.7
27.0	21.3
31.2	24.9
35.3	28.5
39.4	32.1
43.6	35.7
47.7	39.3
51.8	42.9
55.9	46.5
60.1	50.1
64.2	53.7
68.3	57.3
72.5	60.9
76.6	64.5
80.7	68.1
84.9	71.7
89.0	75.3

Metric Data

**6-600 RPM Motor and
L/S Pump Head with
Masterflex L / S 35 Pump Tubing**

<u>Volts</u>	<u>ml./Min.</u>
10.5	219
14.6	302
18.8	417
22.9	524
27.0	630
31.2	737
35.3	843
39.4	950
43.6	1,056
47.7	1,162
51.8	1,268
55.9	1,375
60.1	1,482
64.2	1,588
68.3	1,695
72.5	1,800
76.6	1,908
80.7	2,014
84.9	2,121
89.0	2,227

MANUAL PUMP STAND FLOW METER CALIBRATION

You will need a stopwatch for this calibration.

1. Determine a desired flow rate

EXAMPLE: The seed treatment slurry rate is 5 ounces per cwt.

Seed Flow Rate = 10.8 cwt/min. x 5 oz./cwt. = 54 oz./min.

54 oz. is the rate the pump should be pumping in one minute.

2. Set the Liquid Flow Rate. Make sure the chemical is diverted back into the mix tank, then using the Liquid Adj. dial, increase or decrease the pump speed until the liquid flow rate has been matched.
3. Begin the calibration process by pumping chemical into the calibration tube or a measuring cup and using the stop watch to start timing once the liquid reaches the zero mark on the calibration tube.
4. Note the rate that the flow meter display on the pump stand is currently reading.

EXAMPLE: Flow meter reading = 54 Oz./min

5. After approximately one minute, simultaneously stop timing and shut down the flow of liquid to the calibration tube or measuring cup.
6. Note the total ounces of liquid in the calibration tube or measuring cup and the total amount of time that it took to fill the tube to that level in seconds. Divide those two numbers to find the ounces per second (Oz./Sec) of liquid application rate. Now multiply the ounces per second of liquid application rate by 60 to get the ounces per minute (Oz./Min) liquid application rate. This number is the actual amount of ounces per minute that the pump is currently pumping.

EXAMPLE: Total ounces of liquid in the calibration tube = 57 ounces.

Total amount of time to fill calibration tube = 62 seconds.

Oz./Sec liquid application rate = 57 ounces / 62 seconds = 0.9194

Oz./Min liquid application rate = 0.9194 x 60 seconds = 55.16

The actual liquid application rate is 55.16 Oz./min

MANUAL PUMP STAND FLOW METER CALIBRATION

7. Take the flow meter reading that was previously noted and divide it by the actual liquid application rate. This number will give you the calibration factor that the flow meter reading will need to be adjusted by.

EXAMPLE: Flow meter reading = 54 Oz./min
Actual liquid application rate = 55.16 Oz./min
Calibration factor = $54 / 55.16 = 0.9790$

The calibration factor is 0.9790

8. In order to find the flow meter reading that is needed for accurate application of the liquid, you must now multiply the calibration factor by the desired application rate.

EXAMPLE: Calibration factor = 0.9790
Desired flow rate = 54 Oz./min
Flow meter reading for accurate application = $0.9790 \times 54 = 52.87$

52.87 Oz./min is the rate that the flow meter should read to ensure proper flow is being achieved.

9. Now you can set the pump dial so that the flow meter will read the rate that is needed to ensure the accurate flow of liquid is being applied to the seed.

TROUBLESHOOTING**SECTION
E**

Below is a table describing the most frequent problems and solutions with the Manual Pump Stand. For further assistance, contact the USC Service department at (785) 431-7900.

Problem	Possible Cause	Solution
Pump is fluctuating.	<ol style="list-style-type: none"> 1. Restriction in tubing 2. Filter is plugged or missing gasket. 3. Hoses are worn out. 	<ol style="list-style-type: none"> 1. Flush tubing and check filter for any restrictions. 2. Clean filter and check for gasket. 3. Replace hoses.
Pump will not turn off in AUTO when seed runs out.	<ol style="list-style-type: none"> 1. Proximity switch is dirty. 2. Proximity switch is set too sensitive. 	<ol style="list-style-type: none"> 1. Clean proximity switch. 2. Adjust the pump proximity switch sensitivity by turning adjustment screw counter-clockwise.
Pump will not turn on in AUTO.	<ol style="list-style-type: none"> 1. Proximity switch is not staying covered. 2. Proximity switch is not sensitive enough. 3. HMI screen not set to AUTO. 4. Auxiliary cable not connected. 	<ol style="list-style-type: none"> 1. Make sure proximity switch is staying covered with seed. 2. Adjust pump proximity switch sensitivity by turning the adjustment screw clockwise. 3. Set HMI screen to AUTO. 4. Attach Auxiliary cable from control panel to treater control panel.
Mix Motor will not start	<ol style="list-style-type: none"> 1. Power cord not plugged in. 	<ol style="list-style-type: none"> 1. Plug in power cord.

SECTION
F**MAINTENANCE**

Proper maintenance of the pump stand is critical for peak performance, reliability and accuracy of this system. The following is a guideline for the type of maintenance and servicing that should be performed on this unit. Your environment and uses may require additional maintenance and service beyond this list to assure a reliable and safe unit. The operator of this unit has ultimate responsibility to identify areas of concern and rectify them before they become a hazard or safety issue. There is no substitute for a trained, alert operator.



Do not put this unit into operation with any questionably maintained parts. Poor performance or a hazard may occur.



Ne pas mettre cet appareil en service avec des pièces douteuse entretenus. La mauvaise performance ou un danger peut survenir.



Do not use compressed air or water under pressure to clean any of the components of the USC equipment.



Ne pas utiliser d'air comprimé ou de l'eau sous pression pour nettoyer l'un des composants de l'équipement USC.

MIX TANK

- Check motor.
- Check motor for any play in the mix tank shaft.
- Check valves, fittings, and plug on bottom of tank for leaks.
- Check chemical line tubing for abnormal wear.
- Wipe down the motor casing with a damp cloth making sure to remove all dust that may have collected since the last maintenance date. Record the cleaning on the company required documents. If operating in a CSA 22.1, Class II, Division 2, Group G hazardous area, USC recommends this step be performed on a daily basis.
- Essuyez le carter moteur avec un chiffon humide en veillant à éliminer toutes les poussières qui peuvent avoir perçu depuis la dernière date de maintenance. Enregistrez le nettoyage sur la société les documents requis. Si opérant dans un CSA 22.1, Classe II, Division 2, Groupe G zone dangereuse, USC recommande cette étape être effectuée sur une base quotidienne.

PUMP STANDS WITH STANDARD MIX TANKS
PUMPS - PLUMBING - FLOW METER

1. Check pump in forward and reverse.
2. Make sure pump heads open and close smoothly.
3. Inspect tubing for uneven wear. Replace pump tubing often to ensure high flow rates can be achieved.
4. Make certain the inside of the mix tank is completely drained of chemical. Use clean water to rinse out all chemical residue, then fill the tank with clean water.
5. Disconnect the discharge process lines from the treater static mixer assembly and direct them to a receptacle large enough to hold all of the water from the mix tank.
6. Pump clean water through all areas of the plumbing including the calibration tube and flow meter if applicable. Opening and closing the valves during this process helps to remove residue from the ball valves.
7. Remove and clean the filter.
8. Open all drain points, valves, and filter to let as much of the water drain as possible.
9. Disconnect power to the flow meter.
10. If your pump stand is equipped with a volumetric flow meter, remove it from the machine for additional cleaning.
 - A. Pre - Mix a solution of 90% water and 10% distilled white vinegar.

NOTICE

Only use the vinegar and water solution mixed in these proportions to clean the flow meter. Use of any other cleaners, especially cleaners containing harsh chemicals may permanently damage the sensors and seals inside the flow meter.

AVIS

Utilisez uniquement la solution de vinaigre et d'eau mélangés dans ces proportions pour nettoyer le débitmètre. L'utilisation d'autres produits de nettoyage, en particulier les produits nettoyants contenant des produits chimiques agressifs peuvent endommager de façon permanente les capteurs et les phoques à l'intérieur du débitmètre.

PUMP STANDS WITH STANDARD MIX TANKS
PUMPS - PLUMBING - FLOW METER

- B. Use a size - matched circular brush with soft plastic bristles. Dip the brush in the solution and gently move it up and down in the measuring pipe to avoid damaging the measuring pipe and sensor electrodes.
- C. Re-repeat brushing with fresh fluid until measuring pipe is visually clean.
- D. Flush the flow meter inside and out with clean water to remove any of the cleaning solution residue.



- Wipe down the motor casing with a damp cloth making sure to remove all dust that may have collected since the last maintenance date. Record the cleaning on the company required documents. If operating in a CSA 22.1, Class II, Division 2, Group G hazardous area, USC recommends this step be performed on a daily basis.
- Essuyez le carter moteur avec un chiffon humide en veillant à éliminer toutes les poussières qui peuvent avoir perçu depuis la dernière date de maintenance. Enregistrez le nettoyage sur la société les documents requis. Si opérant dans un CSA 22.1, Classe II, Division 2, Groupe G zone dangereuse, USC recommande cette étape être effectuée sur une base quotidienne.

ELECTRICAL PANEL

1. Check and tighten wire connections.
2. Check quick connects on bottom of control panel.
3. Check to see if starters and/or overloads are tripped.
4. Check to see if relays, timers and/or breakers are tripped.
5. Check quick connects on end of Auxiliary cord.
6. Check and tighten wire connections.
7. Check relay and fuse holder.
8. Check power cords for cuts or frays and ensure ground is present.

PUMP STANDS

PUMP STANDS WITH CHEMICAL TOTES **PUMPS - PLUMBING - LIW SCALES**

1. Run the pumps in reverse until all chemical has been drained from the process lines and the calibration tube back into the tote.
 2. Make sure pump heads open and close smoothly.
 3. Inspect tubing for uneven wear. Replace pump tubing often to ensure high flow rates can be achieved.
 4. Fill two five gallon buckets with clean water. Disconnect the return line from Micro Matic valve and place it in one of the buckets. Place the Micro Matic valve in the other bucket of water.
 5. Disconnect the discharge process lines from the treater static mixer assembly and direct them to a receptacle large enough to hold all of the water from the buckets.
 6. Pump clean water through all areas of the plumbing including the calibration tube. Opening and closing the valves during this process helps to remove residue from the ball valves.
 7. Remove and clean the filter.
 8. Open all drain points, valves, and filter to let as much of the water drain as possible.
-
- Wipe down the motor casing with a damp cloth making sure to remove all dust that may have collected since the last maintenance date. Record the cleaning on the company required documents. If operating in a CSA 22.1, Class II, Division 2, Group G hazardous area, USC recommends this step be performed on a daily basis.
 - Essuyez le carter moteur avec un chiffon humide en veillant à éliminer toutes les poussières qui peuvent avoir perçu depuis la dernière date de maintenance. Enregistrez le nettoyage sur la société les documents requis. Si opérant dans un CSA 22.1, Classe II, Division 2, Groupe G zone dangereuse, USC recommande cette étape être effectuée sur une base quotidienne.

SECTION
G**STORAGE**

Proper Storage of the the pump stand for long periods of time is critical to reduce the chance of rust, corrosion and fatigue of the equipment. This is especially true when storing the pump stand in below freezing temperatures.

The following is a guideline for the type of cleaning and maintenance that should be performed on this unit prior to storage. Your environment and uses may require additional cleaning and preparation to assure that when the equipment is returned to production, it performs in a safe, accurate and reliable manor.



A dust mask and protective rubber gloves shall be used when cleaning the machine.

LIQUID SYSTEMS WITH STANDARD MIX TANKS
PUMPS - PLUMBING - FLOW METERS

1. Perform steps 1 through 7 on page 39 in the maintenance section to clean the chemical residue from each individual pumps stand in the system.

NOTICE

If the pump stand(s) will be exposed to possible freezing temperatures, the final flush of the system should be made with a non freezable liquid like recreational vehicle antifreeze.

AVIS

Si le stand (s) de la pompe sera exposé à des températures de congélation possibles, le rinçage final du système doit être faite avec un liquide non congelable comme antigél récréatif du véhicule.

2. Open all drain points, valves, and filter to let as much of the water drain as possible.
3. Release pump heads and remove tubing to prevent any unnecessary wear (see page 26).
4. If the pump stand is equipped with a volumetric flow meter, disconnect power and perform steps 10A through 10D in the maintenance section. If equipped with a mass flow meter, remove the flow meter from the pump stand and rinse with clean water.
5. Stand the flow meter upright allowing enough time for measuring pipe to air dry. After it is dry, cover both openings.

PUMP STANDS

6. Store flow meters in a location with the following conditions:
 - Ambient temperature of 50 to 80 degrees Fahrenheit.
 - Protection from direct sunlight to avoid unacceptable high surface temperatures.
 - Where moisture does not collect in or on the flow meter. This will help prevent fungus or bacteria infestation which can damage the liner.
 - Store in a manner so that the inlet and outlet are as much in an up and down position as possible.
-

PUMP STANDS WITH CHEMICAL TOTES **PUMPS - PLUMBING - LIW SCALES**

1. Perform steps 1 through 7 on page 41 in the maintenance section to clean the chemical residue from each individual pumps stand in the system.

NOTICE

If the pump stand(s) will be exposed to possible freezing temperatures, the final flush of the system should be made with a non freezable liquid like recreational vehicle antifreeze.

AVIS

Si le stand (s) de la pompe sera exposé à des températures de congélation possibles, le rinçage final du système doit être faite avec un liquide non congelable comme antigel récréatif du véhicule.

2. Open all drain points, valves, and filter to let as much of the water drain as possible.
3. Release pump heads and remove tubing to prevent any unnecessary wear (see page 26).

PUMP STANDS

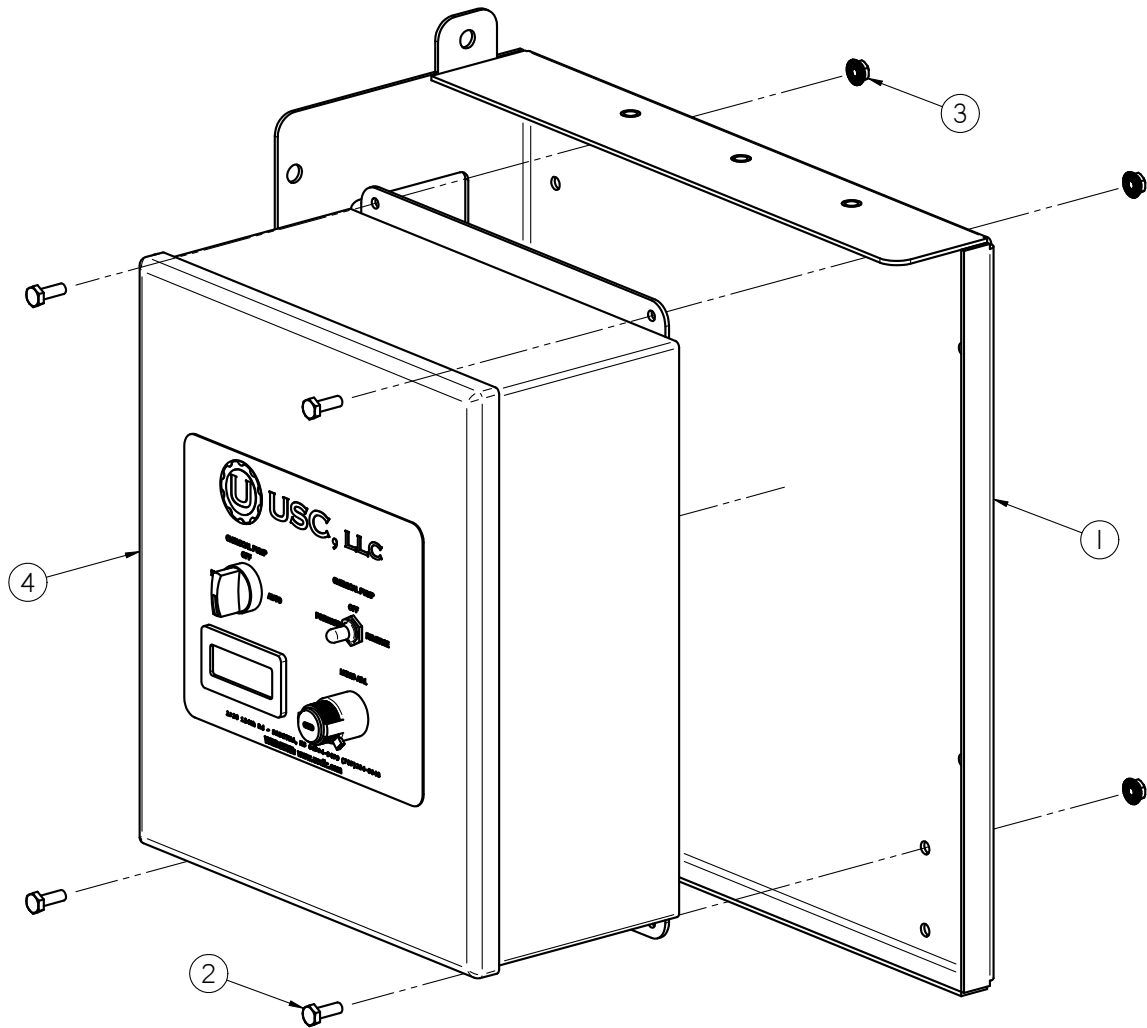
NOTES:

MECHANICAL DRAWINGS SECTION H

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Mounting Frames	104
Calibration Tubes	106
Tank & Tote Scales	110
Tank & Tote Connections	114
Process Valves	124

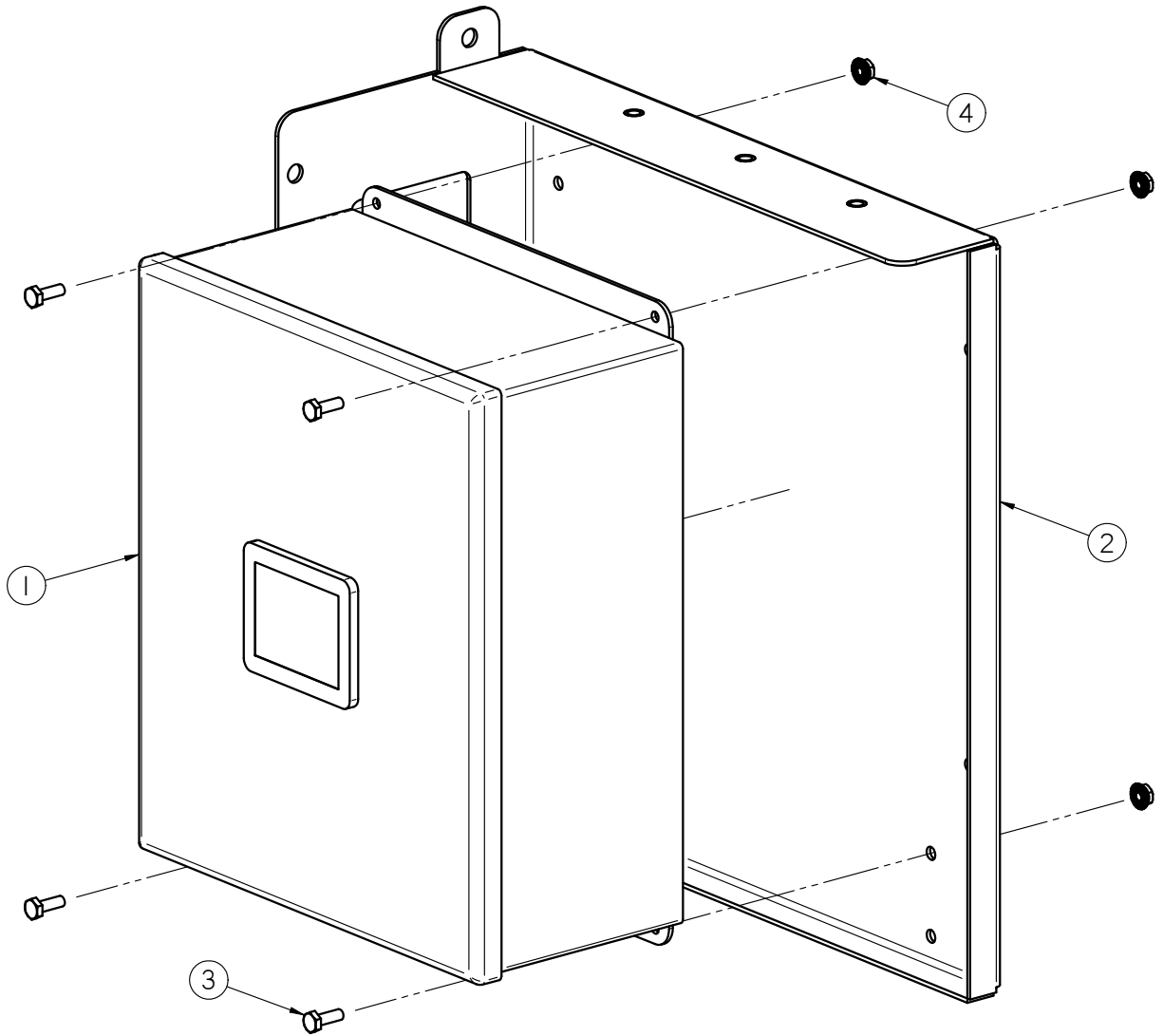
PUMP STANDS
MANUAL CONTROLS



Item #	Part #	Description	Qty
1	05-03-1064	WDMT PANEL MNT PUMPSTD	B
2	06-01-0006	BOLT .250-20 X .750 ZP GR5	A
3	06-03-0013	NUT,LOCK, FLG .250-20 ZP SERRATED	A
4	SEE TABLE 1	MAN PS CNTL PNL	A

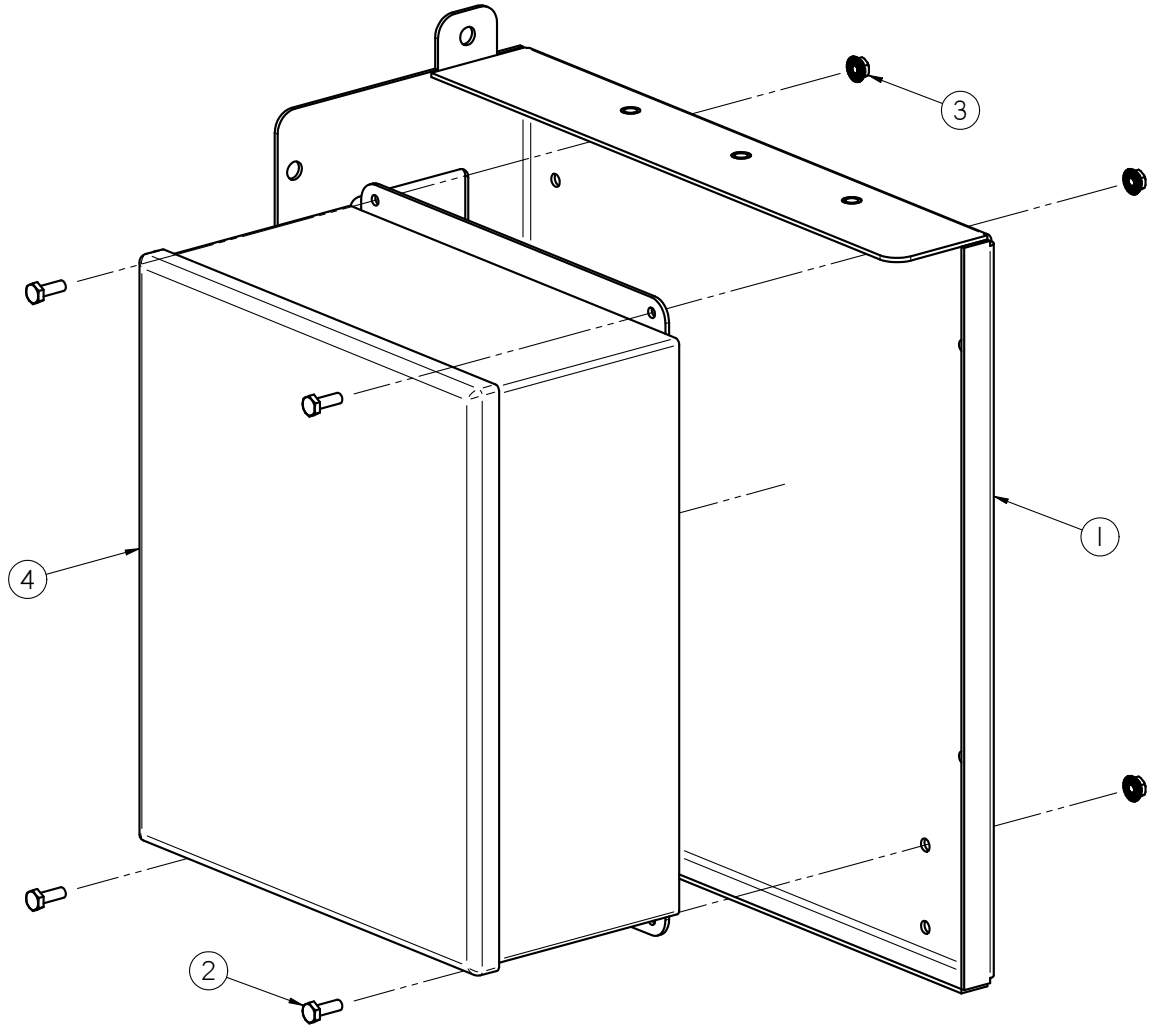
TABLE 1	
Part #	Description
03-12-0488	MAN PS CNTRL PNL WITH FLOW METER
03-12-0489	MAN PS CNTRL PNL NO FLOW METER

PUMP STANDS
SEMI - AUTOMATED 1 PUMP CONTROLS



Item #	Part #	Description	Qty
1	03-12-0363	SEMI-AUTO 1 PUMP CONTROL PANEL	1
2	05-03-1064	WDMT PANEL MNT PUMPSTD	1
3	06-01-0006	BOLT .250-20 X .750 ZP GR5	4
4	06-03-0013	NUT,LOCK, FLG .250-20 ZP SERRATED	4

PUMP STANDS
AUTOMATED 1 PUMP CONTROLS

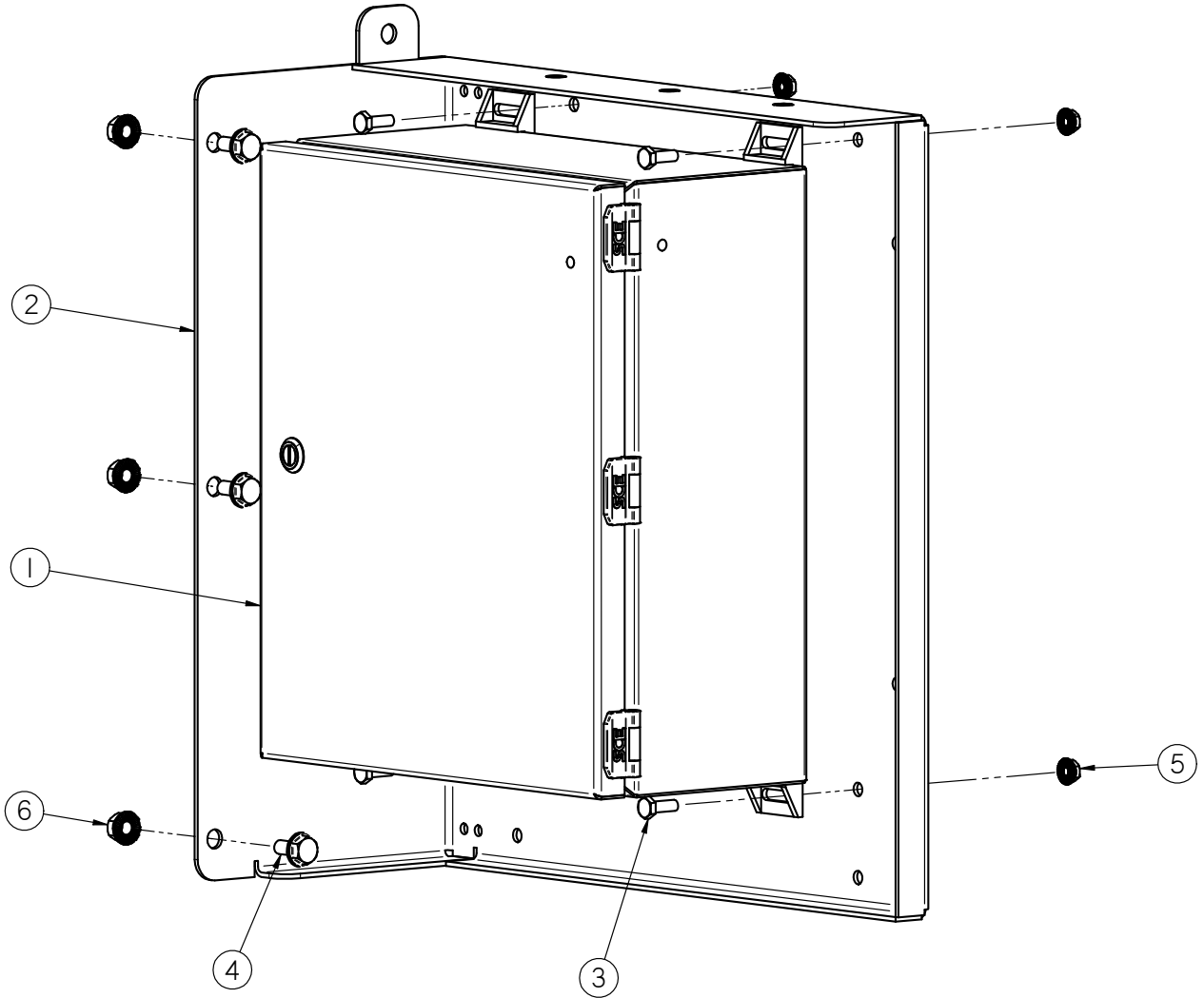


Item #	Part #	Description	Qty
1	05-03-1064	WDMT PANEL MNT PUMPSTD	1
2	06-01-0006	BOLT .250-20 X .750 ZP GR5	4
3	06-03-0013	NUT,LOCK, FLG .250-20 ZP SERRATTED	4
4	SEE TABLE 1	AUTO 1 PUMP CONTROL PANEL	1

TABLE 1	
Part #	Description
03-12-0365	AUTO 1 PUMP CNTRL PNL - REV B
03-12-0487	AUTO 1 PUMP CNTRL PNL - REV A

PUMP STANDS

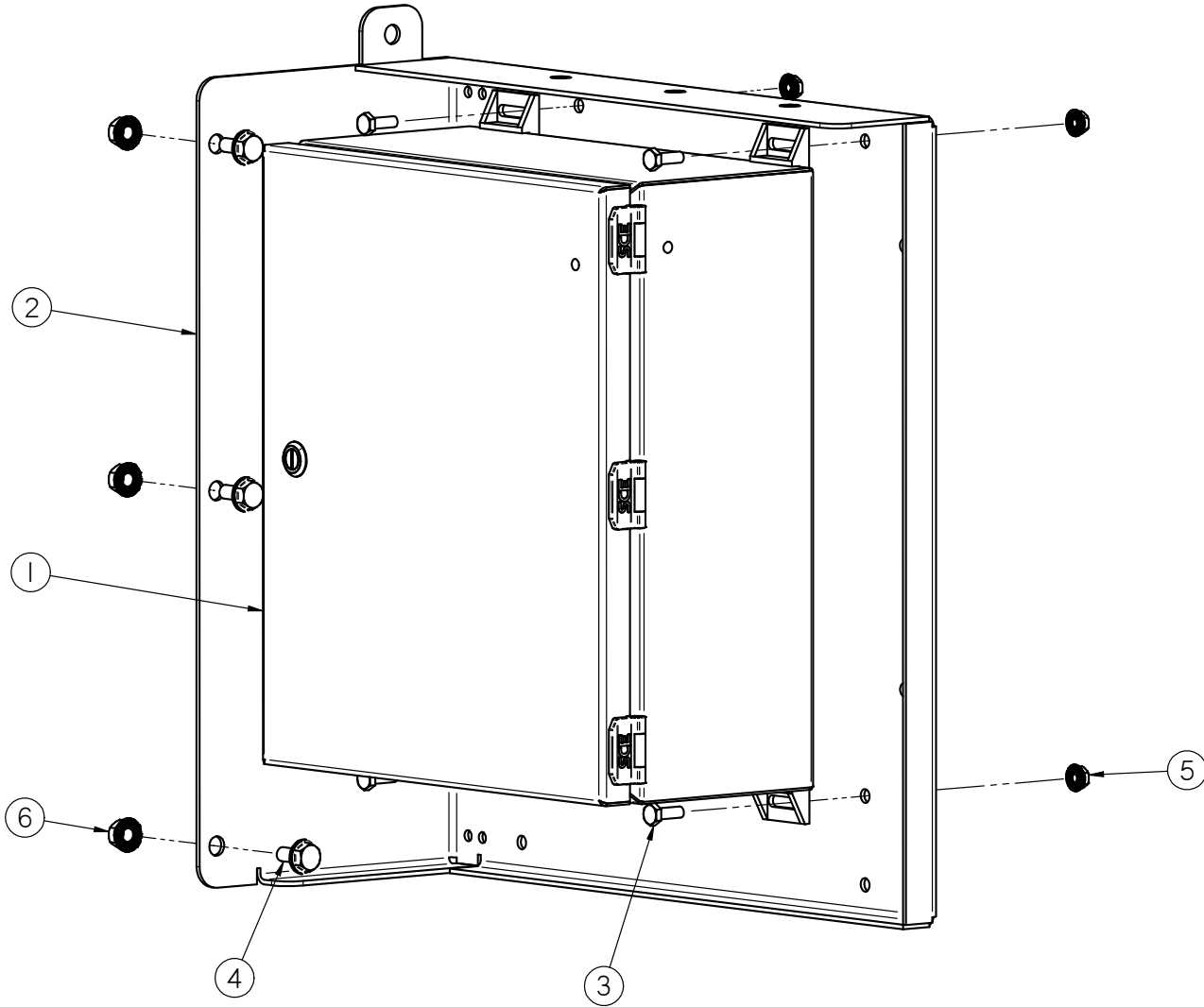
V4 FLOWMETER 1 PUMP CONTROL PANEL (13-12-0160)



Item #	Part #	Description	Qty
1	03-12-0532	CONTROL PANEL 1 PUMP FM V4	1
2	05-03-1064	WDMT PANEL MNT PUMPSTD	1
3	06-01-0006	BOLT .250-20 X .750 ZP GR5	4
4	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	3
5	06-03-0013	NUT,LOCK, FLG .250-20 ZP SERRATED	4
6	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	3

PUMP STANDS

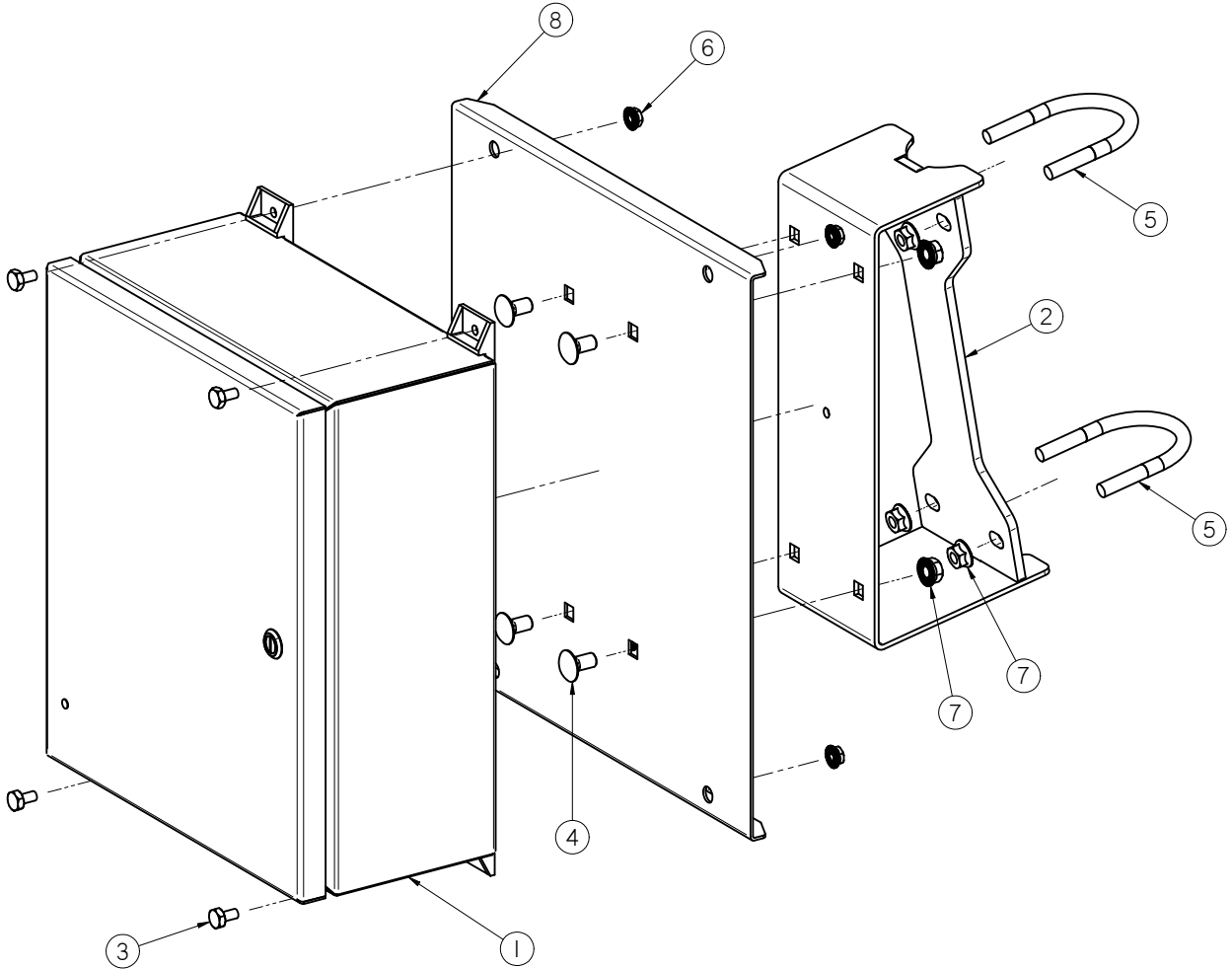
V4 LOSS-IN-WEIGHT 1 PUMP CONTROL PANEL (13-12-0161)



Item #	Part #	Description	Qty
1	03-12-0533	CONTROL PANEL 1 PUMP LIW V4	1
2	05-03-1064	WDMT PANEL MNT PUMPSTD	1
3	06-01-0006	BOLT .250-20 X .750 ZP GR5	4
4	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	3
5	06-03-0013	NUT,LOCK, FLG .250-20 ZP SERRATTED	4
6	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	3

PUMP STANDS

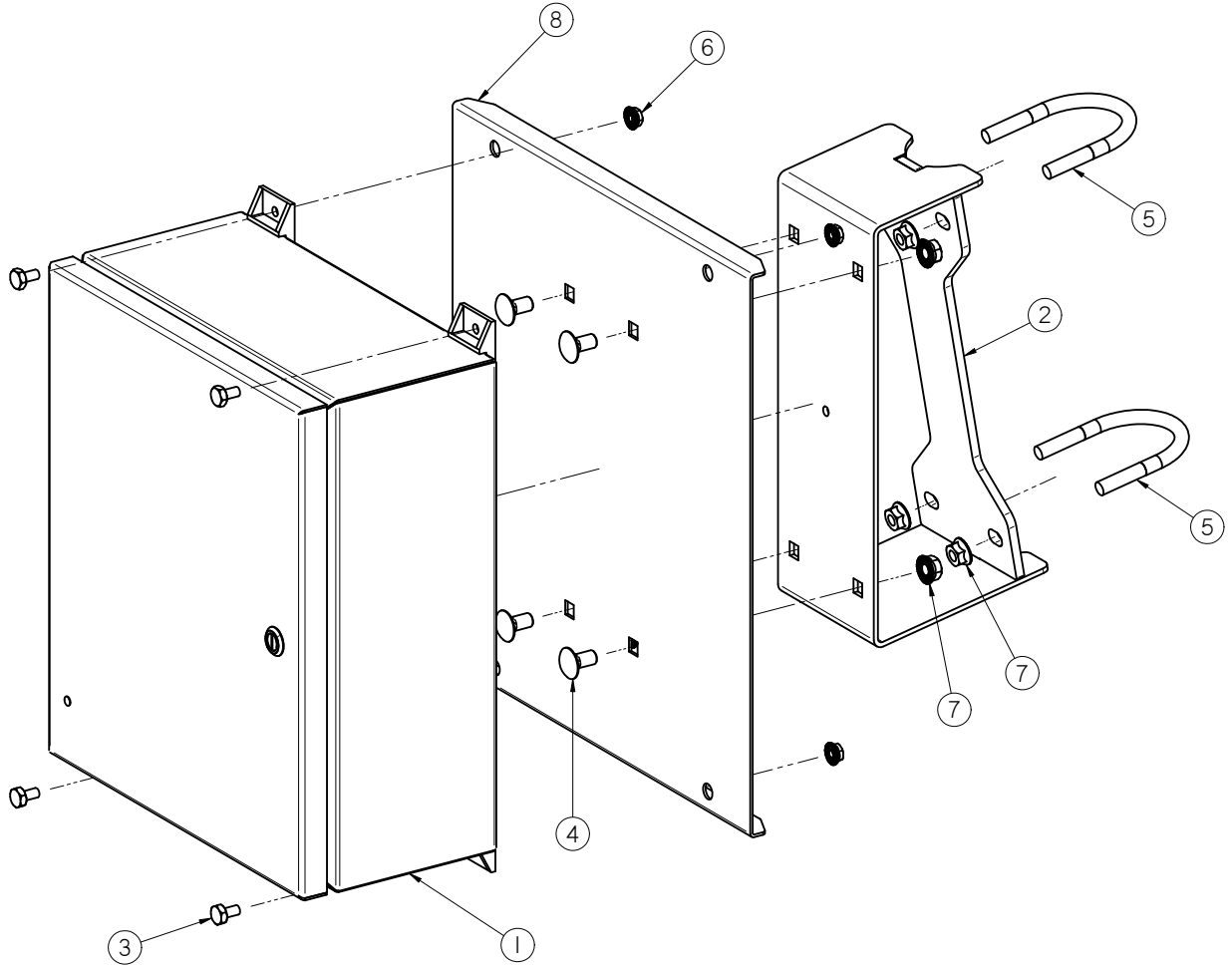
LOSS-IN-WEIGHT 4 PUMP ADD ON CONTROL PANEL (13-12-0138)



Item #	Part #	Description	Qty
1	03-12-0459	PNL CNTL LIW ADD-ON UA4PC 4 PUMP	1
2	05-03-1479	WDMT PNL ADJ	1
3	06-01-0082	BOLT, .250-20 X .50 UNC 18-8 SS	4
4	06-01-0153	BOLT CRG .375-16X.750 ZP SHORT NECK	4
5	06-01-0287	BOLT U .375-16 X 2.50 X 3.125 ZP	2
6	06-03-0013	NUT,LOCK, FLG .250-20 ZP SERRATTED	4
7	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	8
8	10423E	PLT 4PUMP ADD ON PNL MNT	1

PUMP STANDS

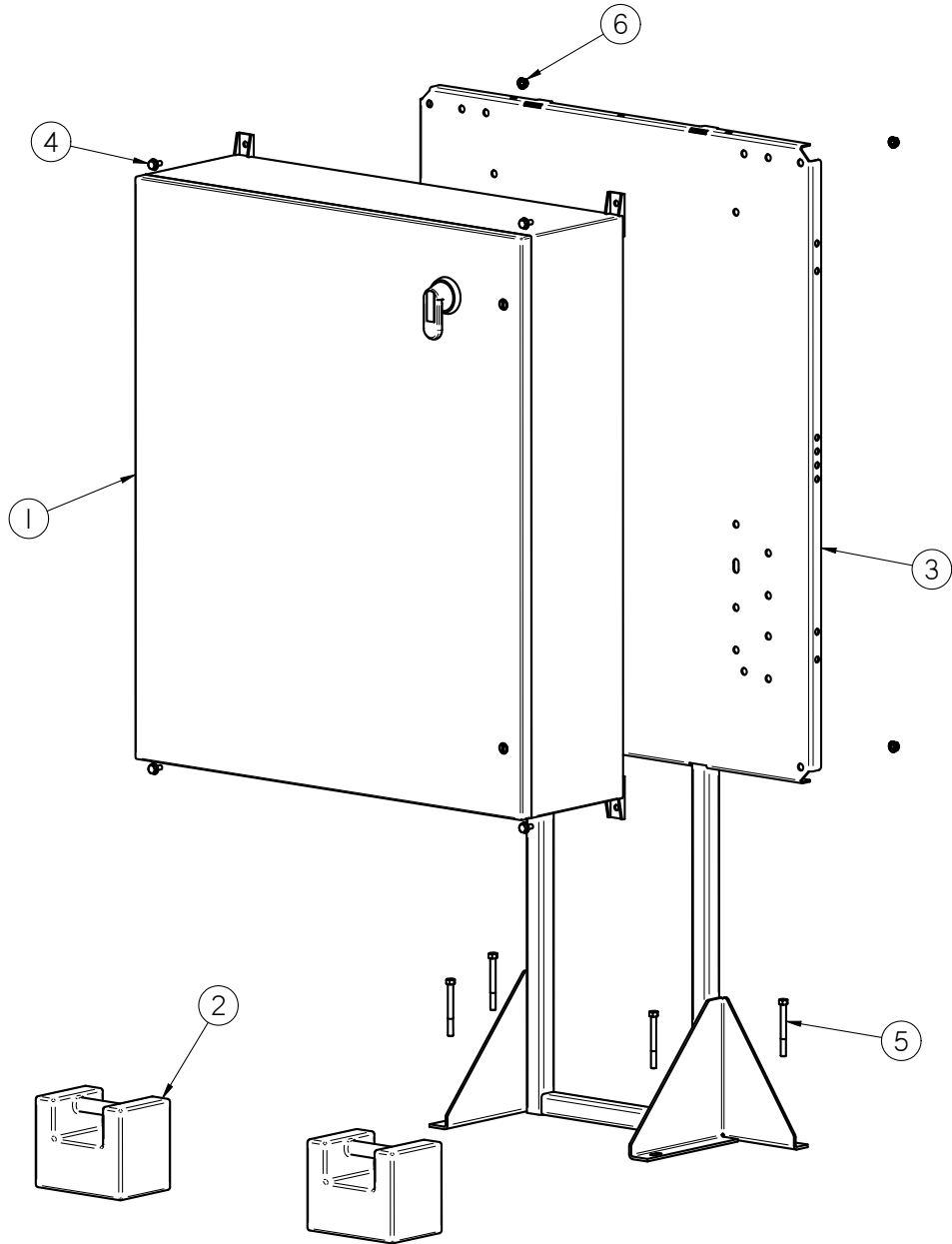
LOSS-IN-WEIGHT 2 PUMP ADD ON CONTROL PANEL (13-12-0140)



Item #	Part #	Description	Qty
1	03-12-0461	PNL CNTL LIW ADD-ON UA4PC 2 PUMP	1
2	05-03-1479	WDMT PNL ADJ	1
3	06-01-0082	BOLT, .250-20 X .50 UNC 18-8 SS	4
4	06-01-0153	BOLT CRG .375-16X.750 ZP SHORT NECK	4
5	06-01-0287	BOLT U .375-16 X 2.50 X 3.125 ZP	2
6	06-03-0013	NUT,LOCK, FLG .250-20 ZP SERRATED	4
7	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	8
8	10423E	PLT 4PUMP ADD ON PNL MNT	1

PUMP STANDS

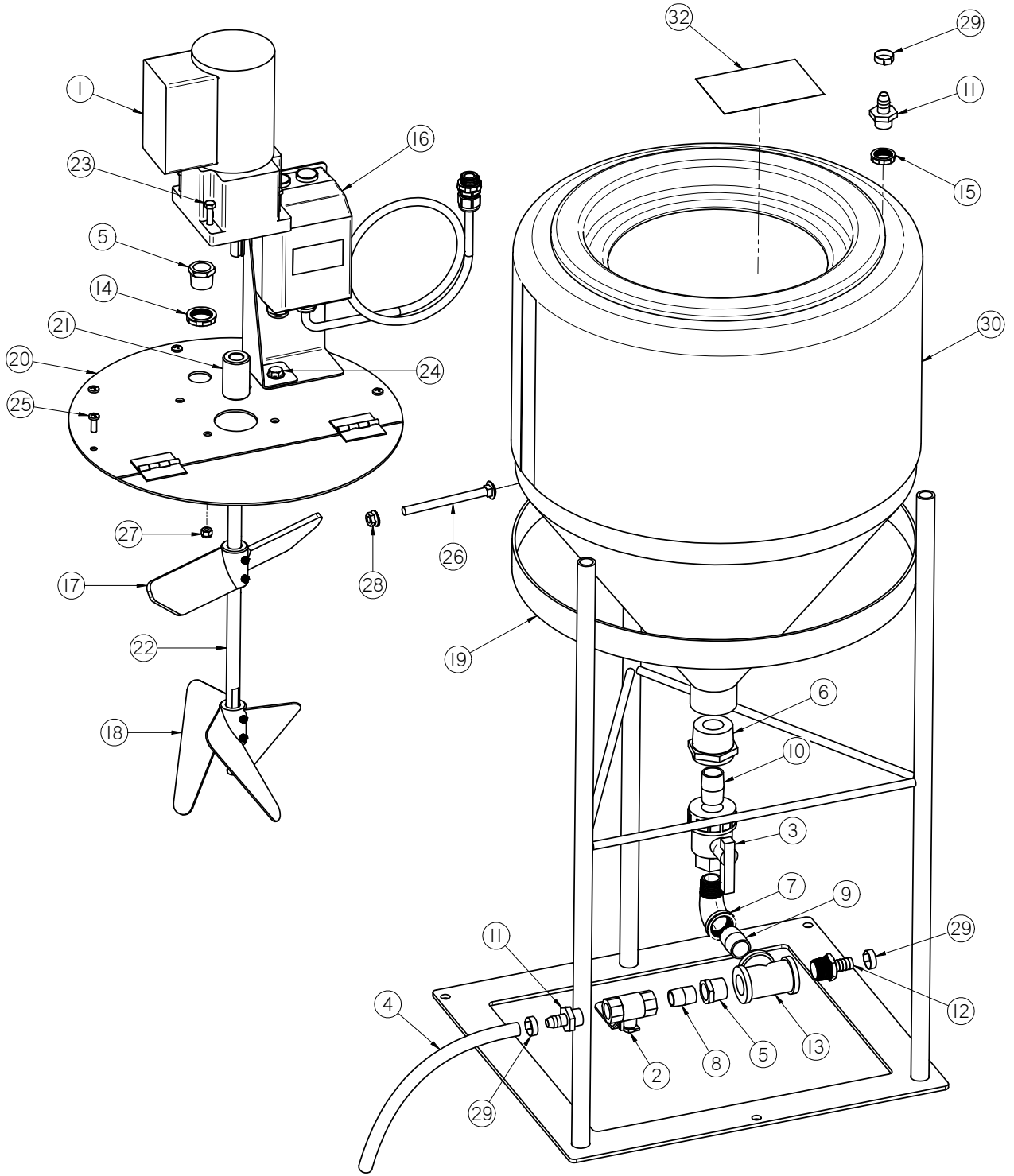
LOSS-IN-WEIGHT 12 PUMP CONTROLLER PACKAGE (13-12-0152)



Item #	Part #	Description	Qty
1	03-12-0531	CNTL PNL 12 LIW PUMPS	1
2	03-19-0084	50lb TEST WEIGHT	2
3	05-03-1342	WDMT MAIN CNTL PNL FR 36X42 ENCL	1
4	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	4
5	06-01-0220	BOLT 3/8-16 CONC ANCHOR ZP 3.75	4
6	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	4

PUMP STANDS

15 GALLON POLY TANK WITH AGITATION ASSEMBLY (04-03-0245)



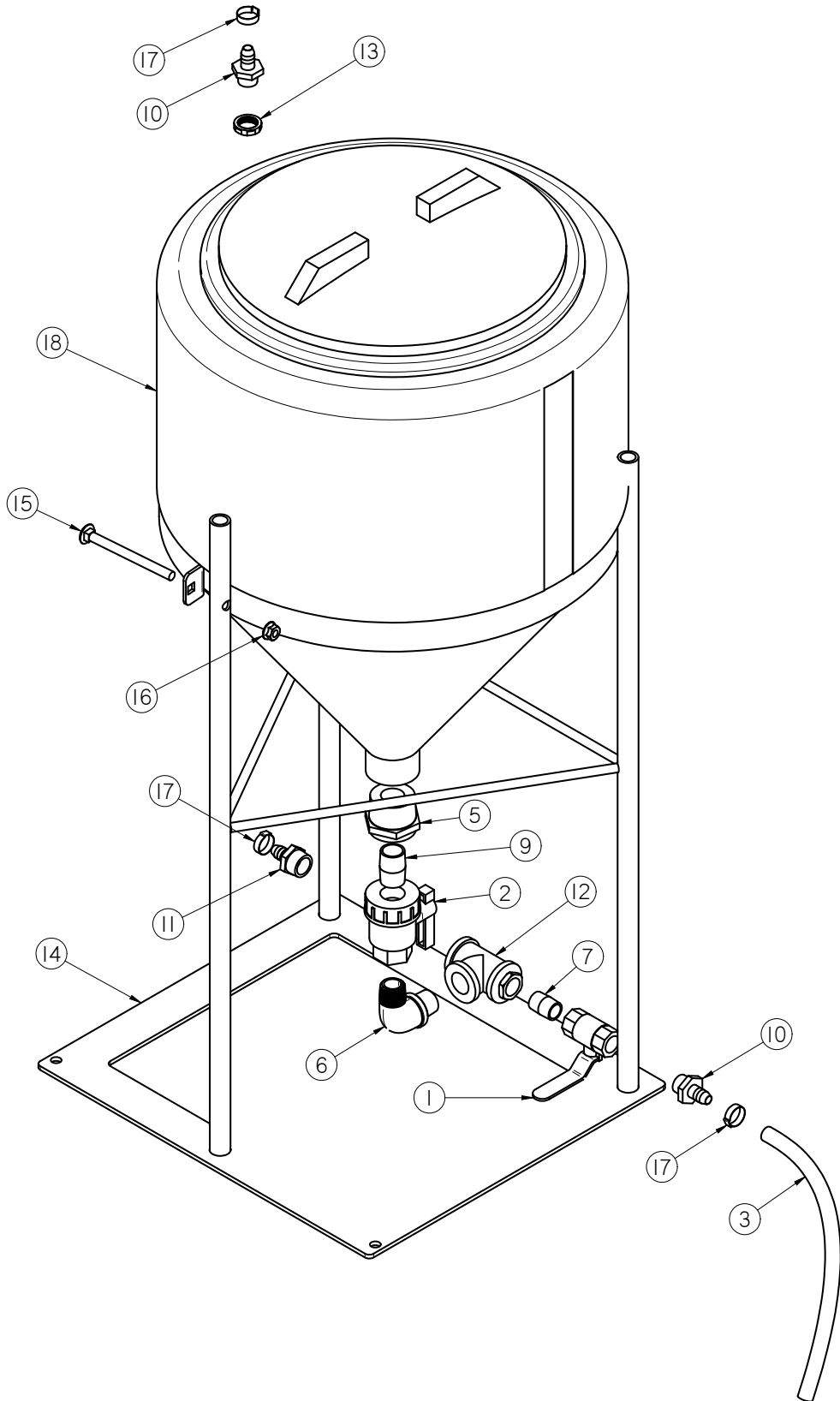
PUMP STANDS

15 GALLON POLY TANK WITH AGITATION ASSEMBLY (04-03-0245)

Item #	Part #	Description	Qty
1	01-01-0182	MOTOR .16HP 9075 RPM 1PH	1
2	02-02-0006	.500-14 NPT X 2-WAY VALVE	1
3	02-02-0056	VLV BALL .750 NPT FM PLAS	1
4	02-03-0005	DRAIN HOSE PUMP STAND .50	1
5	02-04-0008	FTTG BUSH .750NPT X .500NPT SS	2
6	02-04-0034	FTTG BUSH 1.50NPT X .750NPT PPE	1
7	02-06-0068	FTTG 90 DEG STRT .75NPT PPE BLK	1
8	02-07-0008	FTTG NIP .500 NPT X 1.125 TBE BLK	1
9	02-07-0025	FTTG NIP .750 NPT X 1.375 TBE SS	1
10	02-07-0070	FTTG NIP .750 NPT X 1.50 TBE SS	1
11	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	2
12	02-08-0021	FTTG STGHT .500 HB X .750NPT WP	1
13	02-09-0008	FTTG TEE .750 NPT FM SS	1
14	03-08-0197	NUT NYLOC .750 NPT 8466	1
15	03-08-0308	NUT NYLOC .500 NPT 8464	1
16	03-13-0030	KIT SW MNL MP .07 HP MIX MTR 1-1.6A	1
17	05-03-1135	WDMT STIR ARM 30GAL POLY	1
18	05-03-1136	WDMT LOWER STIR ARM 30GAL POLY	1
19	05-03-1614	WDMT 15 GAL TANK STAND	1
20	05-03-1739	WDMT POLY TANK LID W FTTG	1
21	05-11-0416	CPLG SS .625 SS NO KWY	1
22	05-11-0420	ROD 15GAL DRV	1
23	06-01-0008	BOLT, .250-20 X 1 1/4" UNC ZP GRADE 5	4
24	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	1
25	06-01-0215	SCRW MACH #14 X .750 SS PLASTITE	5
26	06-01-0262	BOLT CRG .375-16 X 4.50 FTH ZP GR5	1
27	06-03-0001	NUT,LOCK, .250-20 ZP G5 NYLON INSERT	4
28	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	2
29	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	3
30	07-02-0038	TANK, 15GAL FULL DRAIN 1.5 FNPT OUTLET	1
31	09-01-0139	ATWK LBL USC 11.50 X 3.00 PRO-CUT	1
32	09-02-0001	ATWK LBL DANGER FINGERS	1

PUMP STANDS

15 GALLON POLY TANK WITHOUT AGITATION ASSEMBLY (04-03-0246)



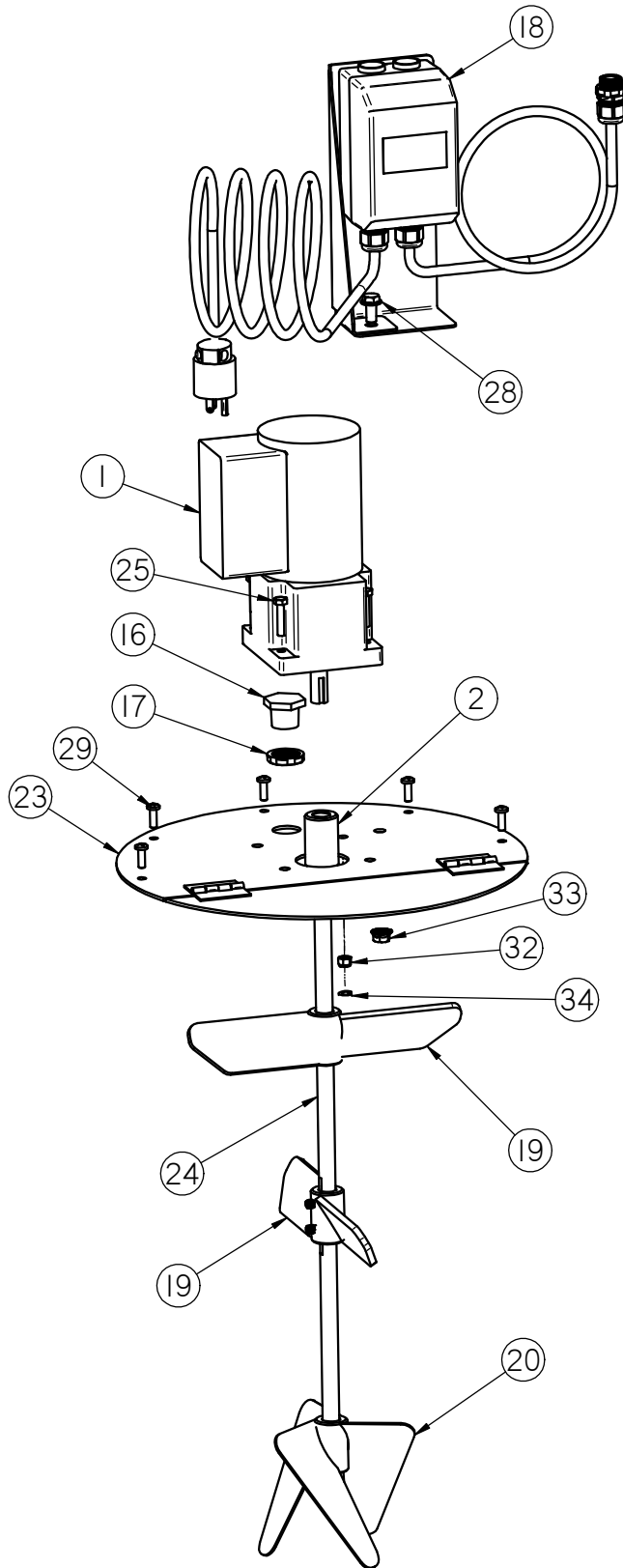
PUMP STANDS

15 GALLON POLY TANK WITHOUT AGITATION ASSEMBLY (04-03-0246)

Item #	Part #	Description	Qty
1	02-02-0006	.500-14 NPT X 2-WAY VALVE	1
2	02-02-0056	VLV BALL .750 NPT FM PLAS	1
3	02-03-0005	DRAIN HOSE PUMP STAND .50	1
4	02-04-0008	FTTG BUSH .750NPT X .500NPT SS	1
5	02-04-0034	FTTG BUSH 1.50NPT X .750NPT PPE	1
6	02-06-0068	FTTG 90 DEG STRT .75NPT PPE BLK	1
7	02-07-0008	FTTG NIP .500 NPT X 1.125 TBE BLK	1
8	02-07-0025	FTTG NIP .750 NPT X 1.375 TBE SS	1
9	02-07-0070	FTTG NIP .750 NPT X 1.50 TBE SS	1
10	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	2
11	02-08-0008	FTTG STGHT .500HB X .75NPT ML NYL	1
12	02-09-0008	FTTG TEE .750 NPT FM SS	1
13	03-08-0308	NUT NYLOC .500 NPT 8464	1
14	05-03-1614	WDMT 15 GAL TANK STAND	1
15	06-01-0262	BOLT CRG .375-16 X 4.50 FTH ZP GR5	1
16	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	1
17	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	3
18	07-02-0038	TANK, 15GAL FULL DRAIN 1.5 FNPT OUTLET	1
19	09-01-0139	ATWK LBL USC 11.50 X 3.00 PRO-CUT	1

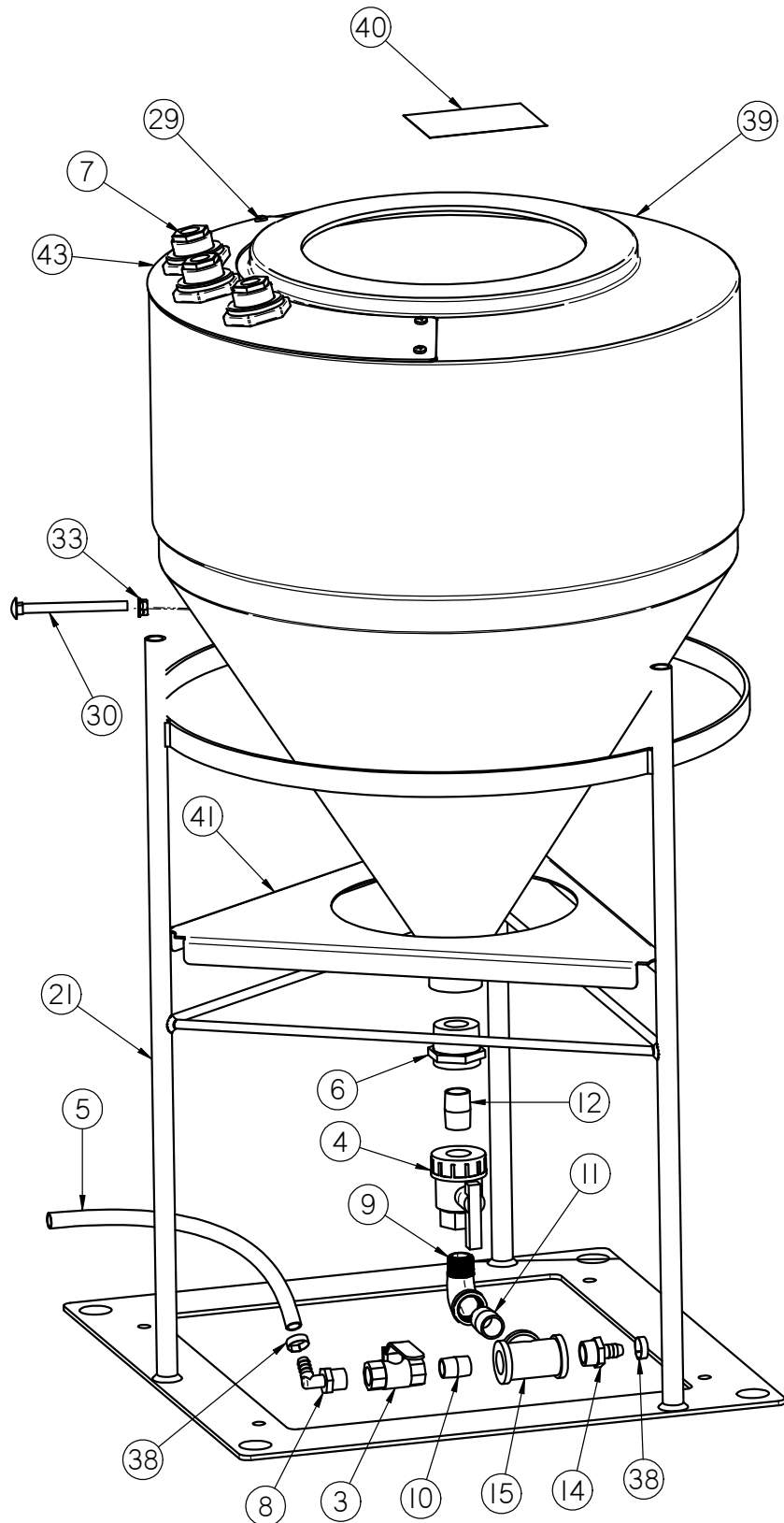
PUMP STANDS

30 GALLON POLY TANK ASSEMBLY (04-03-0247)



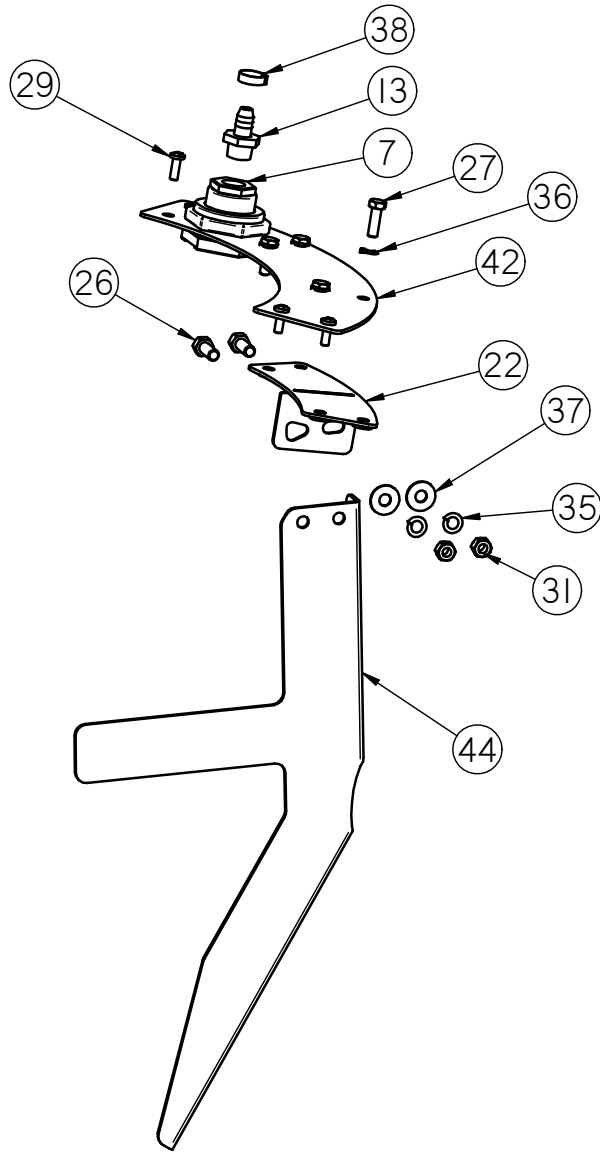
PUMP STANDS

30 GALLON POLY TANK ASSEMBLY (04-03-0247)



PUMP STANDS

30 GALLON POLY TANK ASSEMBLY (04-03-0247)



Item #	Part #	Description	Qty
1	01-01-0182	MOTOR .16HP 9075 RPM 1PH	1
2	01-07-0013	CPLG SS .625 SS NO KWY W/ SETSCREWS	1
3	02-02-0006	.500-14 NPT X 2-WAY VALVE	1
4	02-02-0056	VLV BALL .750 NPT FM PLAS	1
5	02-03-0005	DRAIN HOSE PUMP STAND	1
6	02-04-0034	FTTG BUSH 1.50NPT X .750NPT PPE	1
7	02-05-0028	FTTG .500 NPT DBL THD PPE BLKHD	4
8	02-06-0010	FTTG 90 DEG .500HB X .500NPT ML NYL	1
9	02-06-0068	FTTG 90 DEG STRT .75NPT PPE BLK	1

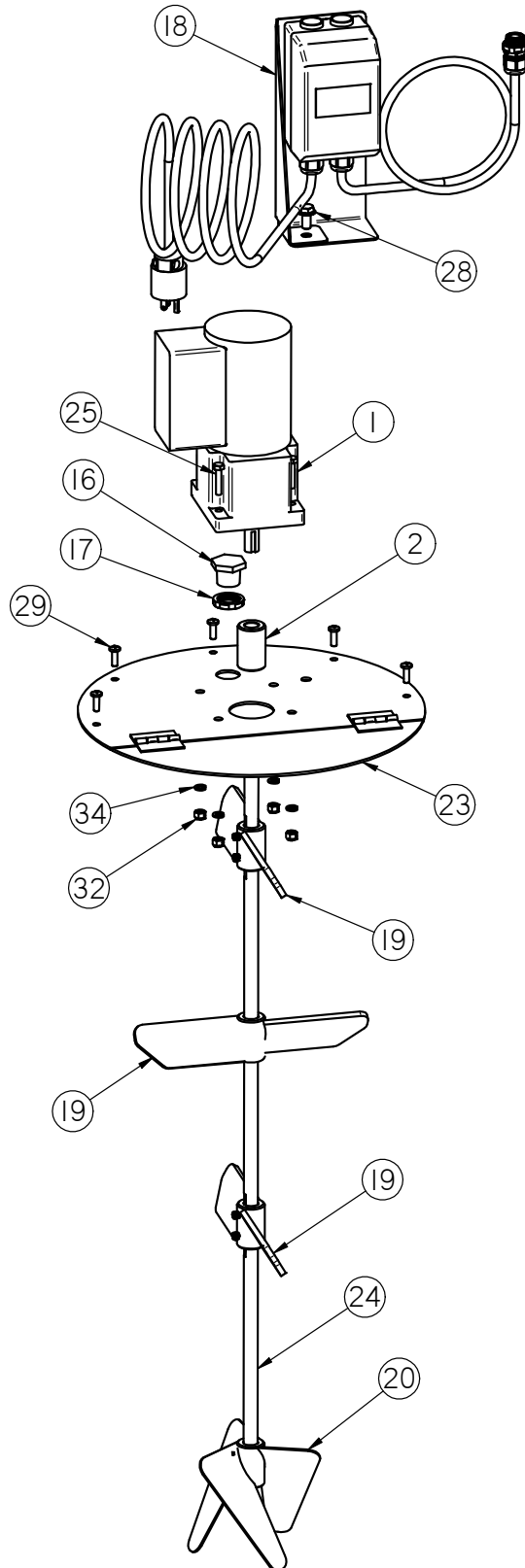
PUMP STANDS

30 GALLON POLY TANK ASSEMBLY (04-03-0247)

Item #	Part #	Description	Qty
10	02-07-0008	FTTG NIP .500 NPT X 1.125 TBE BLK	1
11	02-07-0025	FTTG NIP .750 NPT X 1.375 TBE SS	1
12	02-07-0070	FTTG NIP .750 NPT X 1.50 TBE SS	1
13	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	1
14	02-08-0008	FTTG STGHT .500HB X .75NPT ML NYL	1
15	02-09-0008	FTTG TEE .750 NPT FM SS	1
16	02-14-0014	FTTG PLUG .750-14 NPT PLUG BP	1
17	03-08-0197	NUT NYLOC .750 NPT 8466	1
18	03-13-0030	KIT SW MNL MP .07 HP MIX MTR 1-1.6A	1
19	05-03-1135	WDMT STIR ARM 30GAL POLY	2
20	05-03-1136	WDMT LOWER STIR ARM 30GAL POLY	1
21	05-03-1298	WDMT TANKSTD 30GAL PUMPSTD	1
22	05-03-1481	WDMT ADJ BAFFLE MNT	1
23	05-03-1739	WDMT POLY TANK LID W FTTG	1
24	05-11-0357	ROD 30GAL DRV	1
25	06-01-0008	BOLT, .250-20 X 1 1/4" UNC ZP GRADE 5	4
26	06-01-0017	BOLT .375-16 X 1.00 SS 18-8	2
27	06-01-0083	BOLT .313-18 X 1.00 SS 18-8	4
28	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	1
29	06-01-0215	SCRW MACH #14 X .750 SS PLASTITE	13
30	06-01-0262	BOLT CRG .375-16 X 4.50 FTH ZP GR5	1
31	06-02-0010	NUT FULL .375-16 SS 18-8	2
32	06-03-0001	NUT,LOCK, .250-20 ZP G5 NYLON INSERT	4
33	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	2
34	06-04-0001	WSHR LOCK SPLT .250 ZP	4
35	06-04-0008	WSHR LOCK SPLT .375 SS 18-8	2
36	06-04-0010	WSHR LOCK SPLT .313 SS 18-8	4
37	06-05-0009	WSHR FLAT .375 X .875OD SS 18-8	2
38	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	3
39	07-02-0020	TNK 30GAL CONE 1.5 FPT OUTLET FD	1
40	09-02-0001	ATWK LBL DANGER FINGERS	1
41	1029BC	BRKT TNK CRADLE 30GAL	1
42	103055	TANK MNT PLT 30GAL POLY	1
43	103056	BULKHEAD MNT PLT POLY TANK	1
44	103670	PLT ADJ BAFFLE 30GAL POLY	1

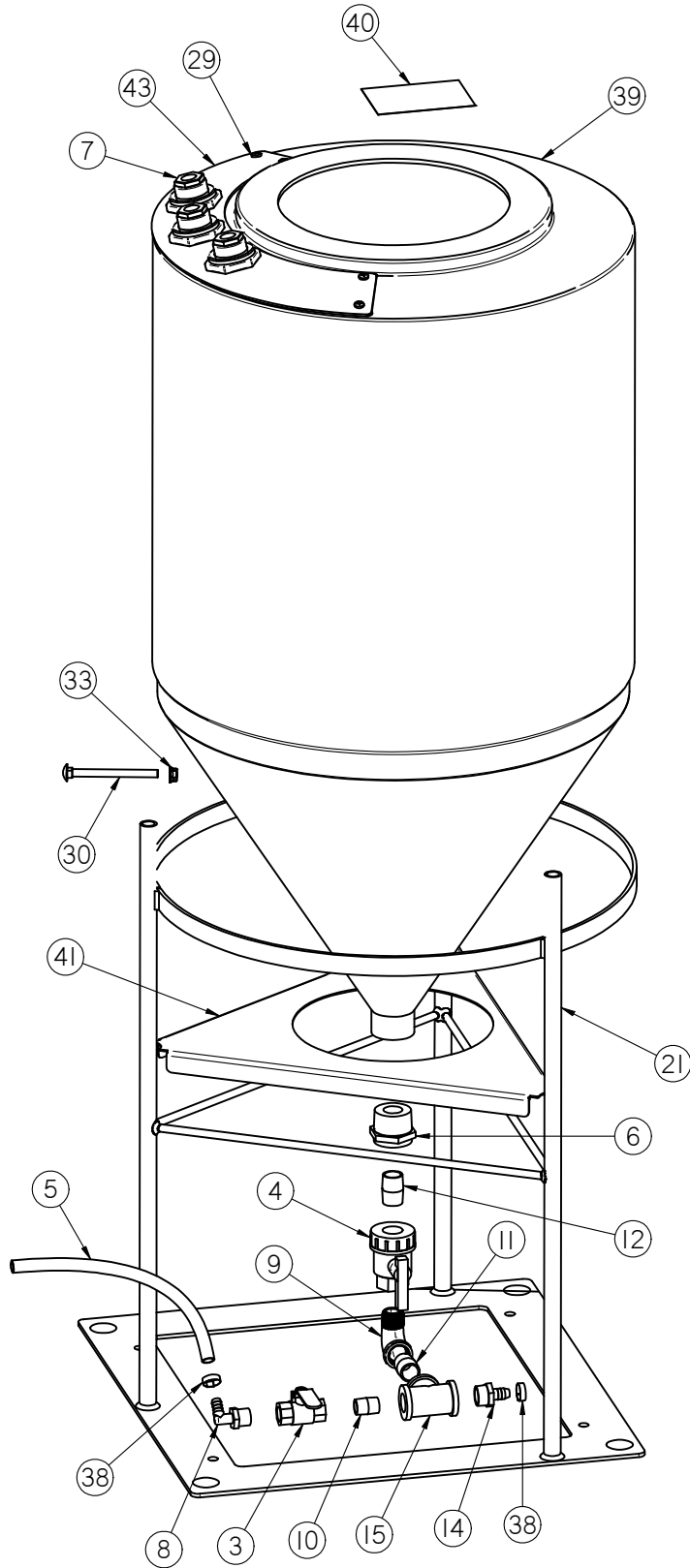
PUMP STANDS

55 GALLON POLY TANK ASSEMBLY (04-03-0248)



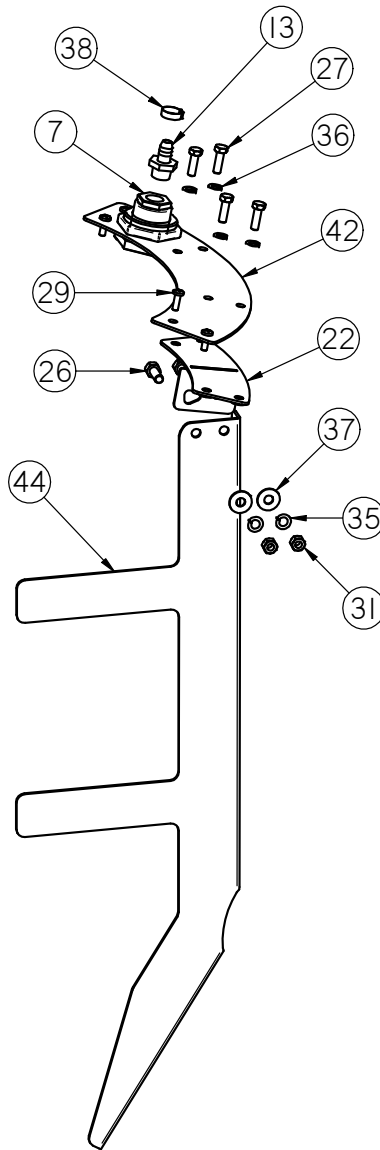
PUMP STANDS

55 GALLON POLY TANK ASSEMBLY (04-03-0248)



PUMP STANDS

55 GALLON POLY TANK ASSEMBLY (04-03-0248)



Item #	Part #	Description	Qty
1	01-01-0182	MOTOR .16HP 9075 RPM 1PH	1
2	01-07-0013	CPLG SS .625 SS NO KQY W/ SETSCREWS	1
3	02-02-0006	.500-14 NPT X 2-WAY VALVE	1
4	02-02-0056	VLV BALL .750 NPT FM PLAS	1
5	02-03-0005	DRAIN HOSE PUMP STAND	1
6	02-04-0034	FTTG BUSH 1.50NPT X .750NPT PPE	1
7	02-05-0028	FTTG .500 NPT DBL THD PPE BLKHD	4
8	02-06-0010	FTTG 90 DEG .500HB X .500NPT ML NYL	1
9	02-06-0068	FTTG 90 DEG STRT .75NPT PPE BLK	1

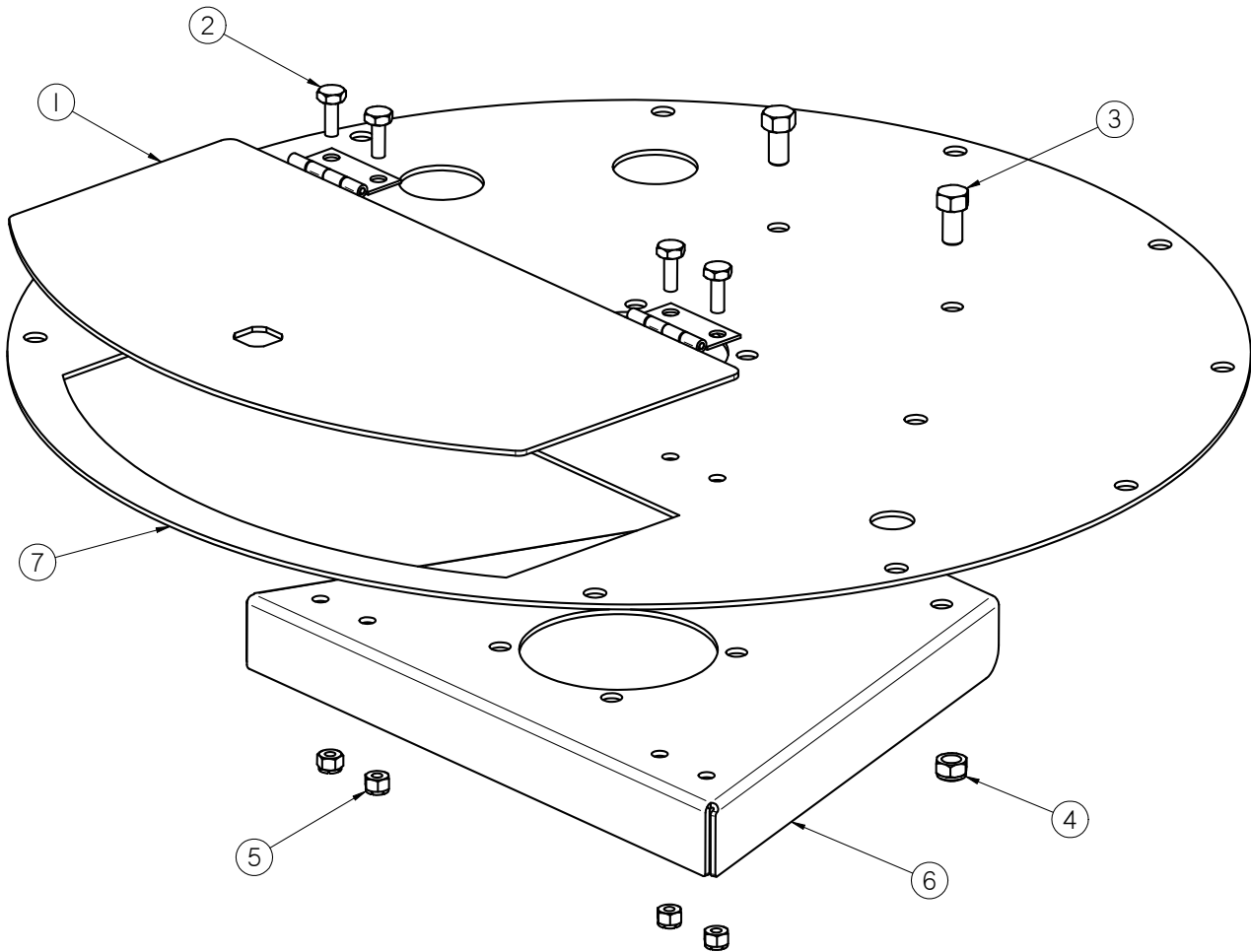
PUMP STANDS

55 GALLON POLY TANK ASSEMBLY (04-03-0248)

Item #	Part #	Description	Qty
10	02-07-0008	FTTG NIP .500 NPT X 1.125 TBE BLK	1
11	02-07-0025	FTTG NIP .750 NPT X 1.375 TBE SS	1
12	02-07-0070	FTTG NIP .750 NPT X 1.50 TBE SS	1
13	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	1
14	02-08-0008	FTTG STGHT .500HB X .75NPT ML NYL	1
15	02-09-0008	FTTG TEE .750 NPT FM SS	1
16	02-14-0014	FTTG PLUG .750-14 NPT PLUG BP	1
17	03-08-0197	NUT NYLOC .750 NPT 8466	1
18	03-13-0030	KIT SW MNL MP .07 HP MIX MTR 1-1.6A	1
19	05-03-1135	WDMT STIR ARM 30GAL POLY	3
20	05-03-1136	WDMT LOWER STIR ARM 30GAL POLY	1
21	05-03-1298	WDMT TANKSTD 30GAL PUMPSTD	1
22	05-03-1481	WDMT ADJ BAFFLE MNT	1
23	05-03-1739	WDMT POLY TANK LID W FTTG	1
24	05-11-0361	ROD 60GAL DRV	1
25	06-01-0008	BOLT, .250-20 X 1 1/4" UNC ZP GRADE 5	4
26	06-01-0017	BOLT .375-16 X 1.00 SS 18-8	2
27	06-01-0083	BOLT .313-18 X 1.00 SS 18-8	4
28	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	1
29	06-01-0215	SCRW MACH #14 X .750 SS PLASTITE	13
30	06-01-0262	BOLT CRG .375-16 X 4.50 FTH ZP GR5	1
31	06-02-0010	NUT FULL .375-16 SS 18-8	2
32	06-03-0001	NUT,LOCK, .250-20 ZP G5 NYLON INSERT	4
33	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	2
34	06-04-0001	WSHR LOCK SPLT .250 ZP	4
35	06-04-0008	WSHR LOCK SPLT .375 SS 18-8	2
36	06-04-0010	WSHR LOCK SPLT .313 SS 18-8	4
37	06-05-0009	WSHR FLAT .375 X .875OD SS 18-8	2
38	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	3
39	07-02-0021	TNK 60GAL CONE 1.5 FPT OUTLET FD	1
40	09-02-0001	ATWK LBL DANGER FINGERS	1
41	1029BC	BRKT TNK CRADLE 30GAL	1
42	103055	TANK MNT PLT 30GAL POLY	1
43	103056	BULKHEAD MNT PLT POLY TANK	1
44	1036D1	SIDE BAFFLE ADJ 60GAL POLY	1

PUMP STANDS

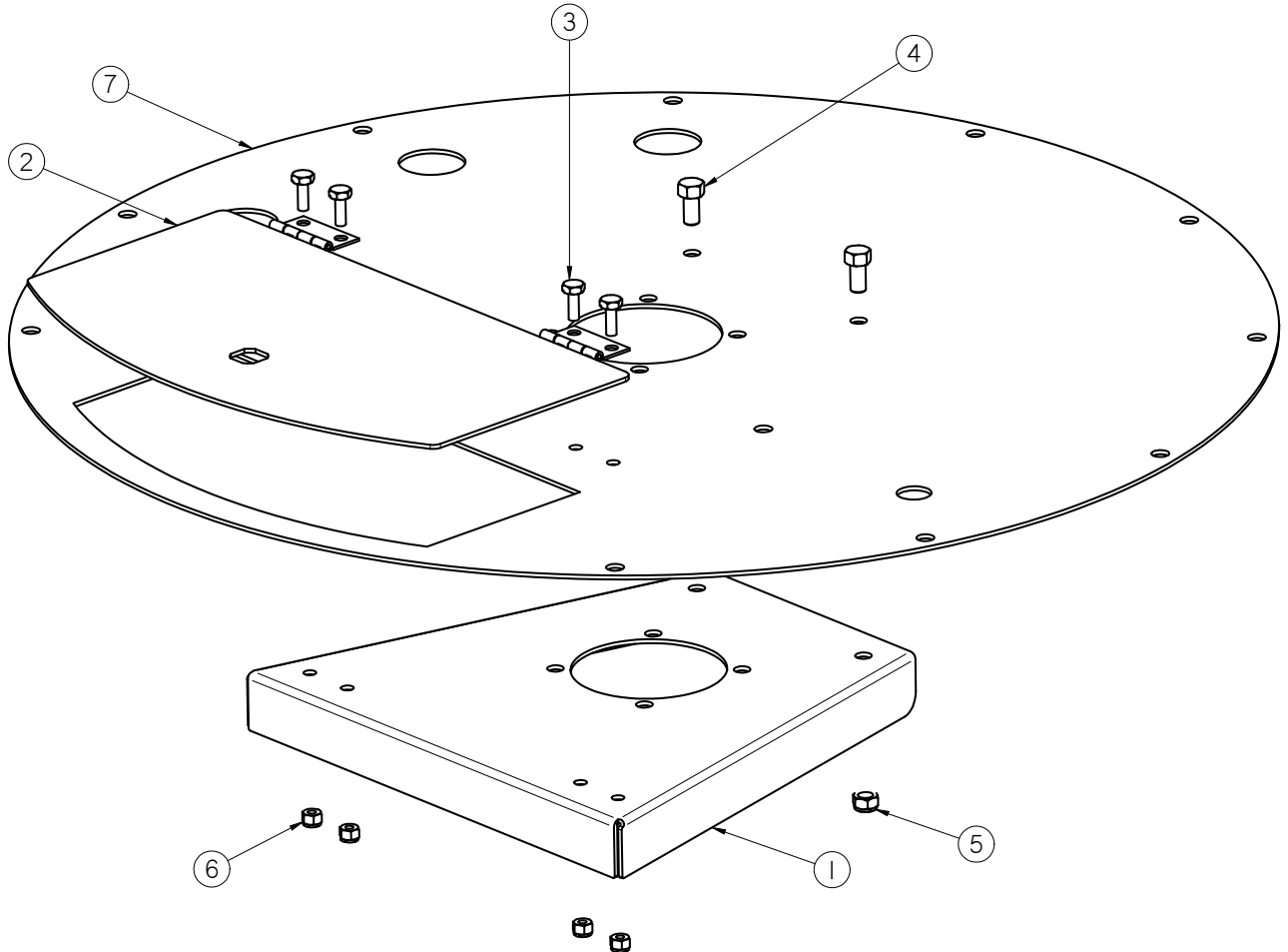
30 - 60 GALLON STAINLESS STEEL TANK LID ASSEMBLY (05-03-1610)



Item #	Part #	Description	Qty
1	05-03-1506	WDMT SS CHEM TANK LID 30-60 GAL	1
2	06-01-0003	BOLT, .250-20 X .750 UNC 18-8 SS	4
3	06-01-0042	BOLT .375-16 X .750 SS 18-8	2
4	06-02-0024	NUT NYL LOCK .375-16 SS	2
5	06-03-0007	NUT,LOCK, .250-20 316 SS NYLON INSERT	4
6	103751	CHNNL TANK LID REINF.	1
7	1043EF	PLT CHEM TANK TOP	1

PUMP STANDS

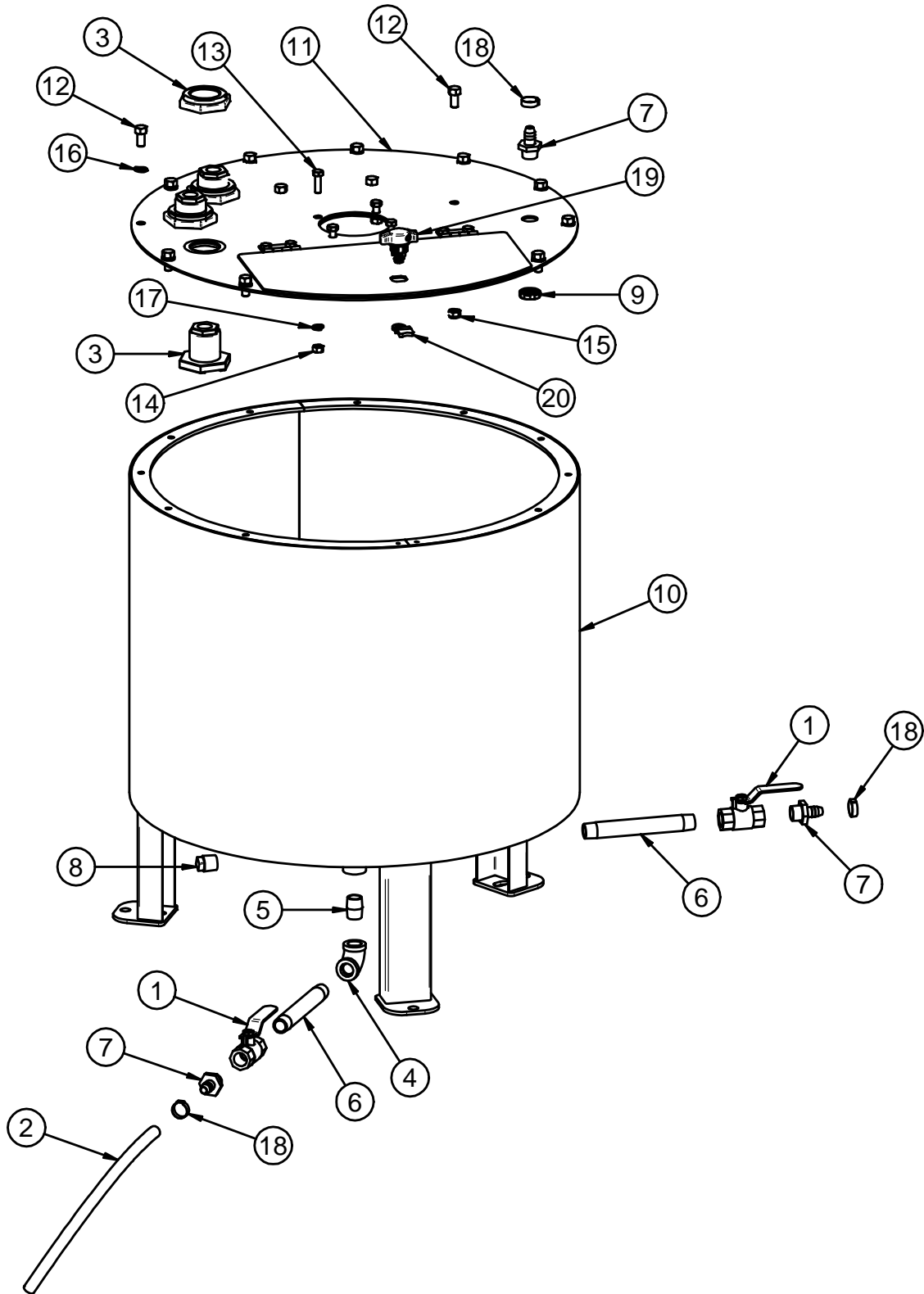
100 GALLON STAINLESS STEEL TANK LID ASSEMBLY (05-03-1611)



Item #	Part #	Description	Qty
1	103759	CHNNL TANK LID REINF. 100GAL	1
2	05-03-1507	WDMT SS CHEM TANK LID 100 GAL	1
3	06-01-0003	BOLT, .250-20 X .750 UNC 18-8 SS	4
4	06-01-0042	BOLT .375-16 X .750 SS 18-8	2
5	06-02-0024	NUT NYL LOCK .375-16 SS	2
6	06-03-0007	NUT,LOCK, .250-20 316 SS NYLON INSERT	4
7	1043F3	CHEMTANK. 100-GAL TOP	1

PUMP STANDS

30 GALLON STAINLESS STEEL BASE TANK ASSEMBLY (04-03-0270)



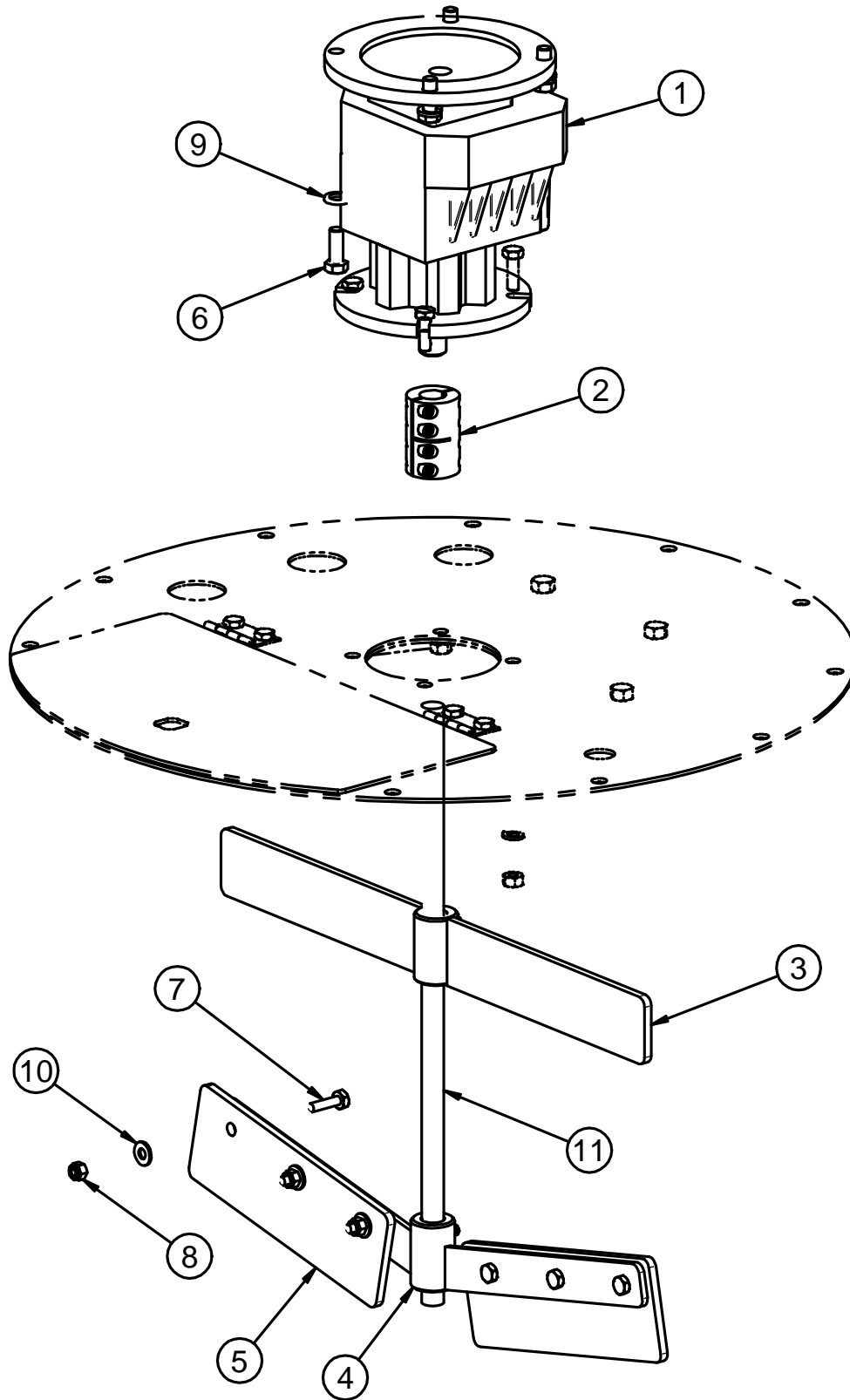
PUMP STANDS

30 GALLON STAINLESS STEEL BASE TANK ASSEMBLY (04-03-0270)

Item #	Part #	Description	Qty
1	02-02-0006	VLV BALL .500 NPT 2WAY BRSS	2
2	02-03-0005	DRAIN HOSE PUMP STAND	1
3	02-05-0028	FTTG .500 NPT DBL THD PPE BLKHD	3
4	02-06-0012	FTTG 90 DEG .500NPT FM SS	1
5	02-07-0007	FTTG NIP .500NPTX1.125 TBE SS CLOSE	1
6	02-07-0015	FTTG NIP .500 NPT X 6.00 TBE SS	2
7	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	3
8	02-14-0001	FTTG PLUG SQHD .500 NPT SS	1
9	03-08-0308	NUT NYLOC .500 NPT 8464	1
10	05-03-1384	WDMT BASE 30GAL TANK	1
11	05-03-1610	ASSY SS TANK LID 30-60 GAL	1
12	06-01-0042	BOLT .375-16 X .750 SS 18-8	11
13	06-01-0083	BOLT .313-18 X 1.00 SS 18-8	4
14	06-02-0017	NUT FULL .313-18 SS 18-8	4
15	06-02-0024	NUT NYL LOCK .375-16 SS	1
16	06-04-0008	WSHR LOCK SPLT .375 SS 18-8	10
17	06-04-0010	WSHR LOCK SPLT .313 SS 18-8	4
18	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	3
19	06-09-0075	KNOB WING LATCH	1
20	06-09-0076	KNOB WING CAM	1
21	09-01-0003	ATWK LBL MADE IN USA YEL 2.50X2.50	1
22	09-01-0043	ATWL LBL USC, LLC 6" X 19" PRO-CUT	1
23	09-02-0001	ATWK LBL DANGER FINGERS	1

PUMP STANDS

30 GALLON STAINLESS STEEL AGITATION ASSEMBLY (04-03-0273)



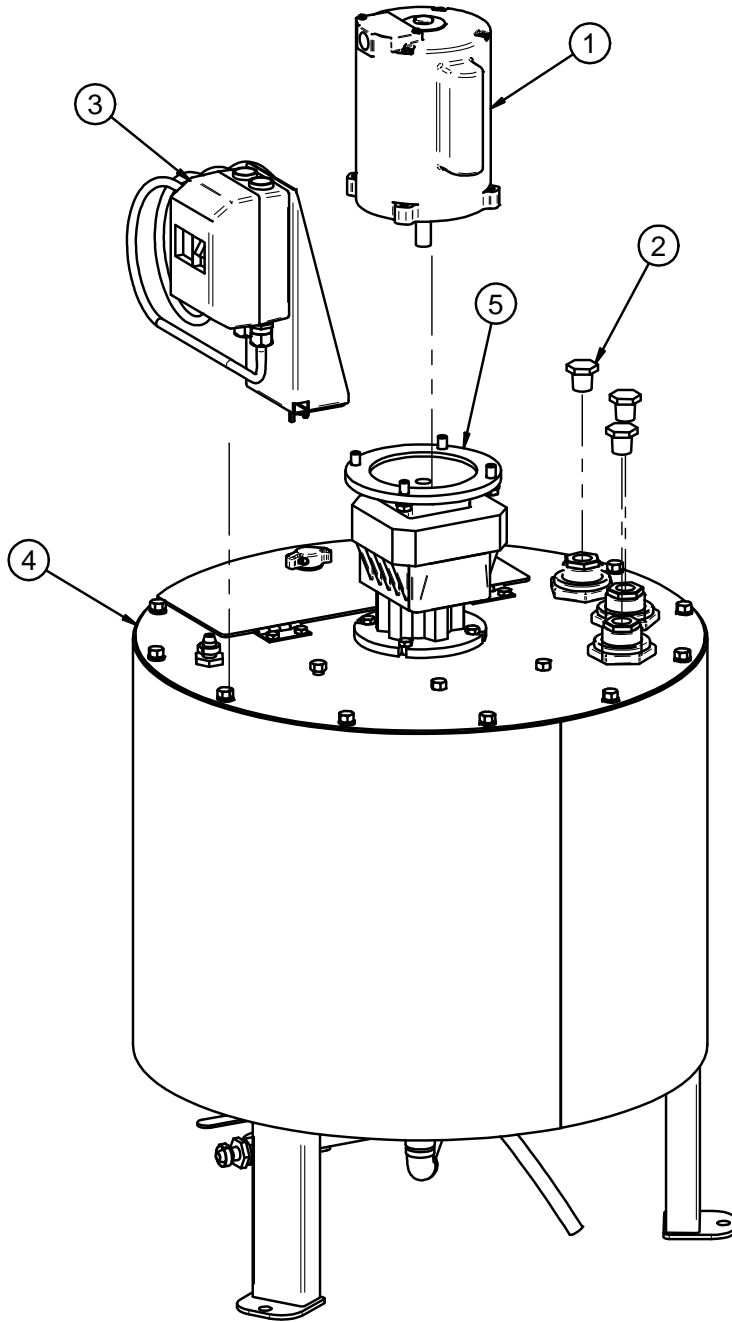
PUMP STANDS

30 GALLON STAINLESS STEEL AGITATION ASSEMBLY (04-03-0273)

Item #	Part #	Description	Qty
1	01-01-0039	GBOX IL 61.8:1 56C OTP 56C INP	1
2	01-07-0015	CPLG CLPN .625 X .750 X 1.50OD SS	1
3	05-03-0069	WDMT 50GAL MIDDLE STIR ARM	1
4	05-03-0070	WDMT 50GAL LOWER STIR ARM	1
5	05-10-0878	PDL 50GAL WIPER	2
6	06-01-0016	BOLT .375-16 X 1.00 ZP GR5	4
7	06-01-0051	BOLT, .250-20 X 1.00 UNC 316 SS	6
8	06-03-0007	NUT NYL LOCK .250-20 SS 18-8	6
9	06-04-0003	WSHR LOCK SPLT .375 ZP	4
10	06-05-0002	WSHR FLAT .250 X .625OD SS 18-8	6
11	102EAC	ROD 30GAL DRV	1

PUMP STANDS

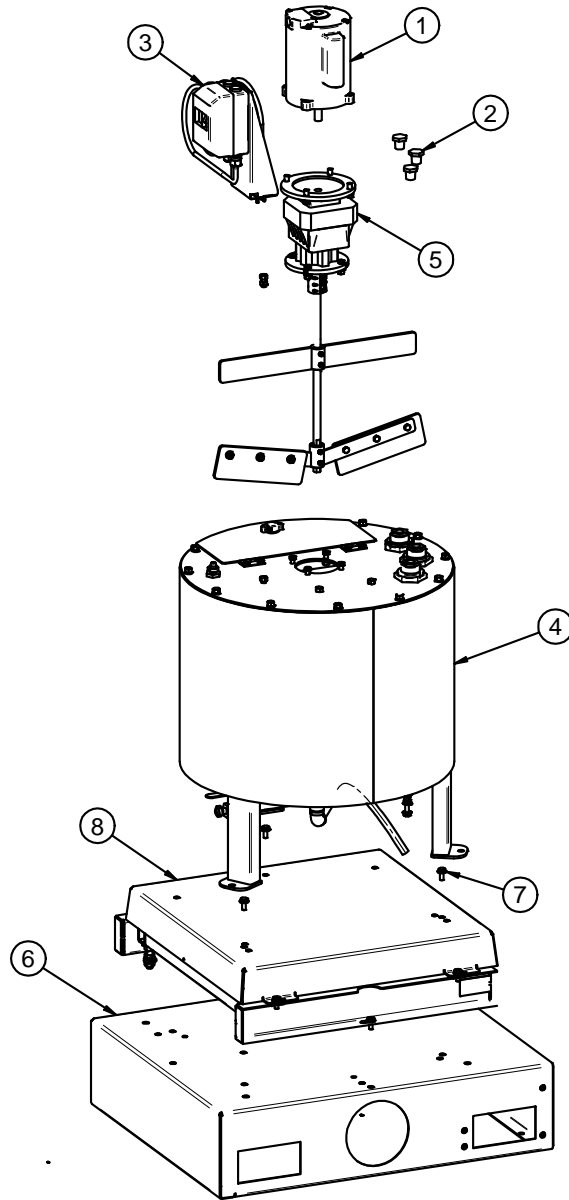
30 GALLON STAINLESS STEEL TANK ASSEMBLY (04-03-0249)



Item #	Part #	Description	Qty
1	01-01-0104	MTR .33HP 1725RPM 56C 1PH TENV	1
2	02-14-0002	FTTG PLUG HH .500 NPT PPE BLK*	3
3	03-13-0027	KIT SW MNL MP .33 HP MTR CHEM TNK	1
4	04-03-0270	ASSY MIX TANK BASE SS 30GAL	1
5	04-03-0273	ASSY AGT 30SS	1

PUMP STANDS

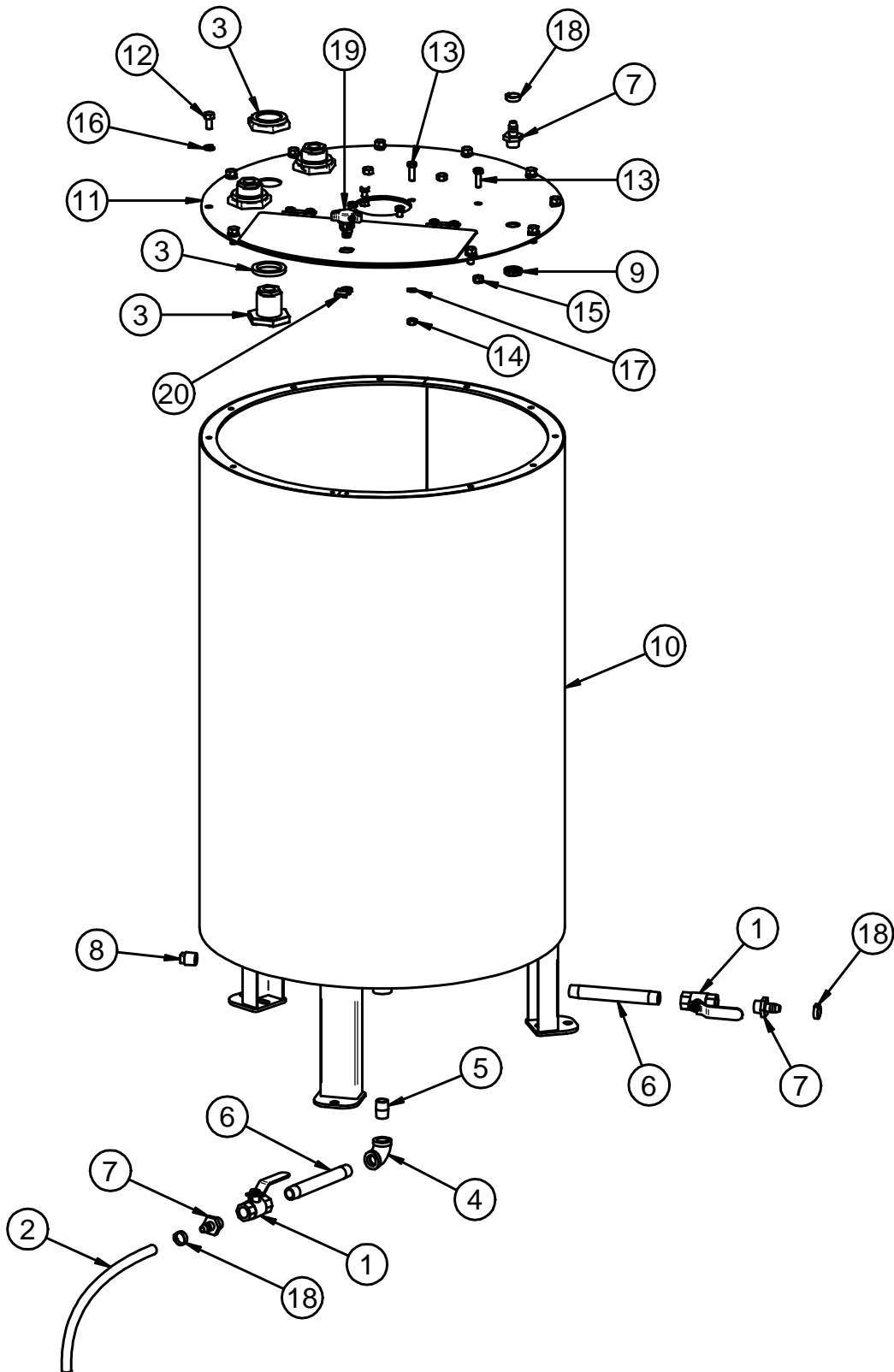
30 GALLON STAINLESS STEEL TANK WITH SCALE ASSEMBLY (04-03-0287)



Item #	Part #	Description	Qty
1	01-01-0104	MTR .33HP 1725RPM 56C 1PH TENV	1
2	02-14-0002	FTTG PLUG HH .500 NPT PPE BLK*	3
3	03-13-0027	KIT SW MNL MP .33 HP MTR CHEM TNK	1
4	04-03-0270	ASSY MIX TANK BASE SS 30GAL	1
5	04-03-0273	ASSY AGT 30SS	1
6	05-03-1053	WDMT SMALL PUMPSTAND BASE BOX	1
7	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	3
8	13-05-0439	ASSY SCL KIT BOX MNT PMPSTD	1

PUMP STANDS

60 GALLON STAINLESS STEEL BASE TANK ASSEMBLY (04-03-0271)



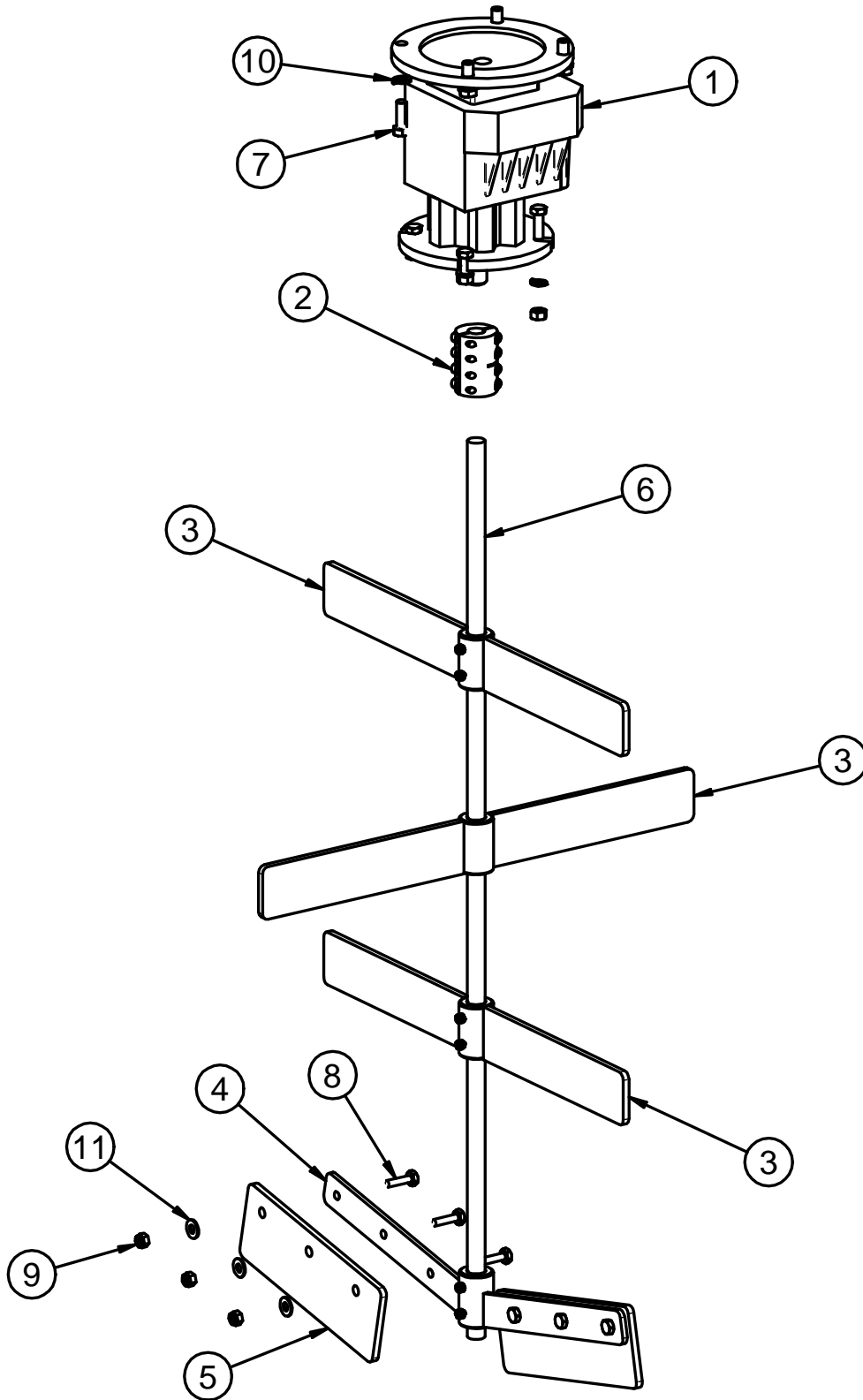
PUMP STANDS

60 GALLON STAINLESS STEEL BASE TANK ASSEMBLY (04-03-0271)

Item #	Part #	Description	Qty
1	02-02-0006	VLV BALL .500 NPT 2WAY BRSS	2
2	02-03-0005	DRAIN HOSE PUMP STAND	1
3	02-05-0028	FTTG .500 NPT DBL THD PPE BLKHD	3
4	02-06-0012	FTTG 90 DEG .500NPT FM SS	1
5	02-07-0007	FTTG NIP .500NPTX1.125 TBE SS CLOSE	1
6	02-07-0015	FTTG NIP .500 NPT X 6.00 TBE SS	2
7	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	3
8	02-14-0001	FTTG PLUG SQHD .500 NPT SS	1
9	03-08-0308	NUT NYLOC .500 NPT 8464	1
10	05-03-1078	WDMT BASE 60GAL TANK	1
11	05-03-1610	ASSY SS TANK LID 30-60 GAL	1
12	06-01-0042	BOLT .375-16 X .750 SS 18-8	11
13	06-01-0083	BOLT .313-18 X 1.00 SS 18-8	5
14	06-02-0017	NUT FULL .313-18 SS 18-8	4
15	06-02-0024	NUT NYL LOCK .375-16 SS	1
16	06-04-0008	WSHR LOCK SPLT .375 SS 18-8	11
17	06-04-0010	WSHR LOCK SPLT .313 SS 18-8	4
18	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	3
19	06-09-0075	KNOB WING LATCH	1
20	06-09-0076	KNOB WING CAM	1
21	09-01-0003	ATWK LBL MADE IN USA YEL 2.50X2.50	1
22	09-01-0043	ATWL LBL USC, LLC 6" X 19" PRO-CUT	1
23	09-02-0001	ATWK LBL DANGER FINGERS	1

PUMP STANDS

60 GALLON STAINLESS STEEL AGITATION ASSEMBLY (04-03-0275)



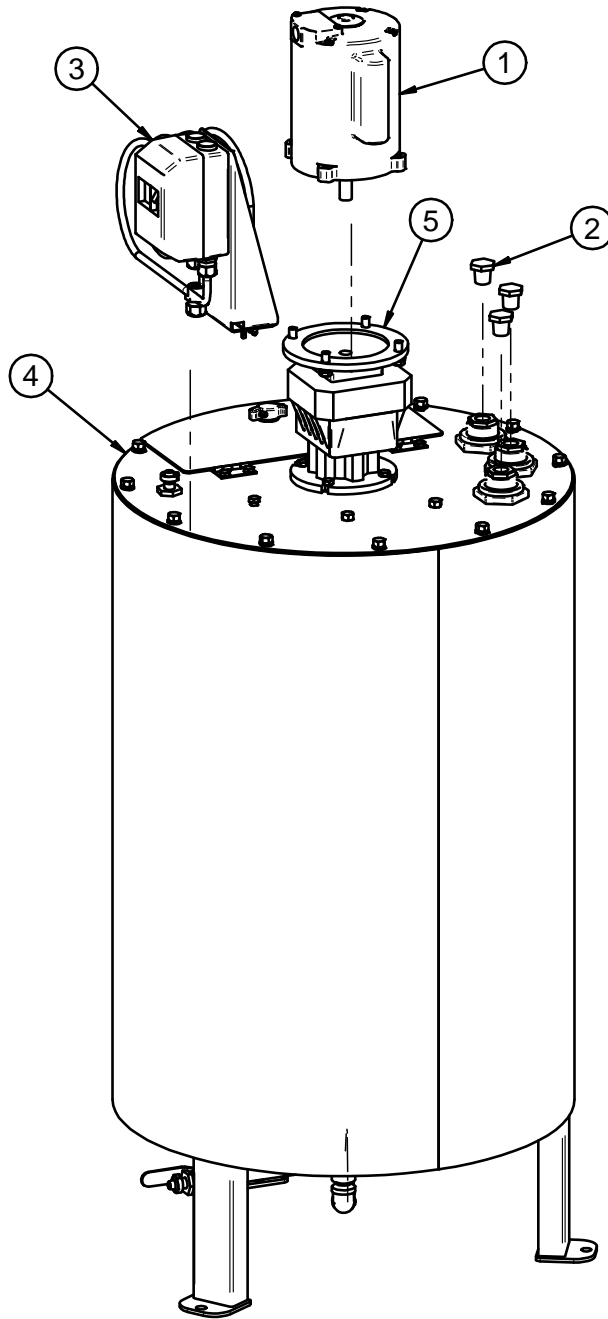
PUMP STANDS

60 GALLON STAINLESS STEEL AGITATION ASSEMBLY (04-03-0275)

Item #	Part #	Description	Qty
1	01-01-0039	GBOX IL 61.8:1 56C OTP 56C INP	1
2	01-07-0015	CPLG CLPN .625 X .750 X 1.50OD SS	1
3	05-03-0069	WDMT 50GAL MIDDLE STIR ARM	3
4	05-03-0070	WDMT 50GAL LOWER STIR ARM	1
5	05-10-0878	PDL 50GAL WIPER	2
6	05-11-0341	ROD 60GAL DRV	1
7	06-01-0016	BOLT .375-16 X 1.00 ZP GR5	4
8	06-01-0051	BOLT, .250-20 X 1.00 UNC 316 SS	6
9	06-03-0007	NUT NYL LOCK .250-20 SS 18-8	6
10	06-04-0003	WSHR LOCK SPLT .375 ZP	4
11	06-05-0002	WSHR FLAT .250 X .625OD SS 18-8	6

PUMP STANDS

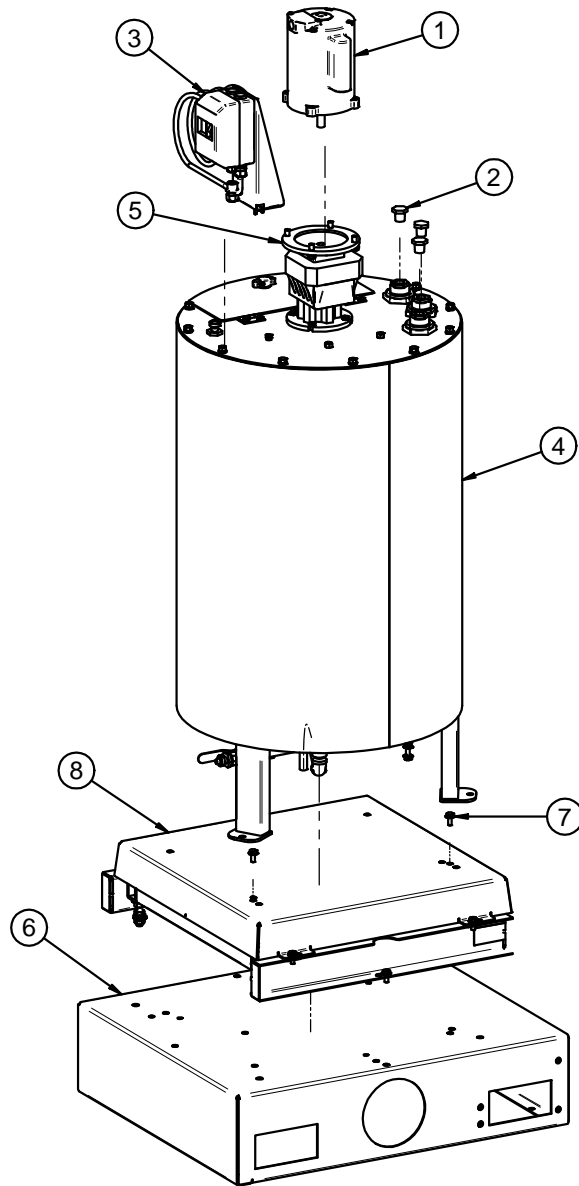
60 GALLON STAINLESS STEEL TANK ASSEMBLY (04-03-0250)



Item #	Part #	Description	Qty
1	01-01-0104	MTR .33HP 1725RPM 56C 1PH TENV	1
2	02-14-0002	FTTG PLUG HH .500 NPT PPE BLK*	3
3	03-13-0027	KIT SW MNL MP .33 HP MTR CHEM TNK	1
4	04-03-0271	ASSY MIX TANK BASE SS 60GAL	1
5	04-03-0275	ASSY AGT 60SS	1

PUMP STANDS

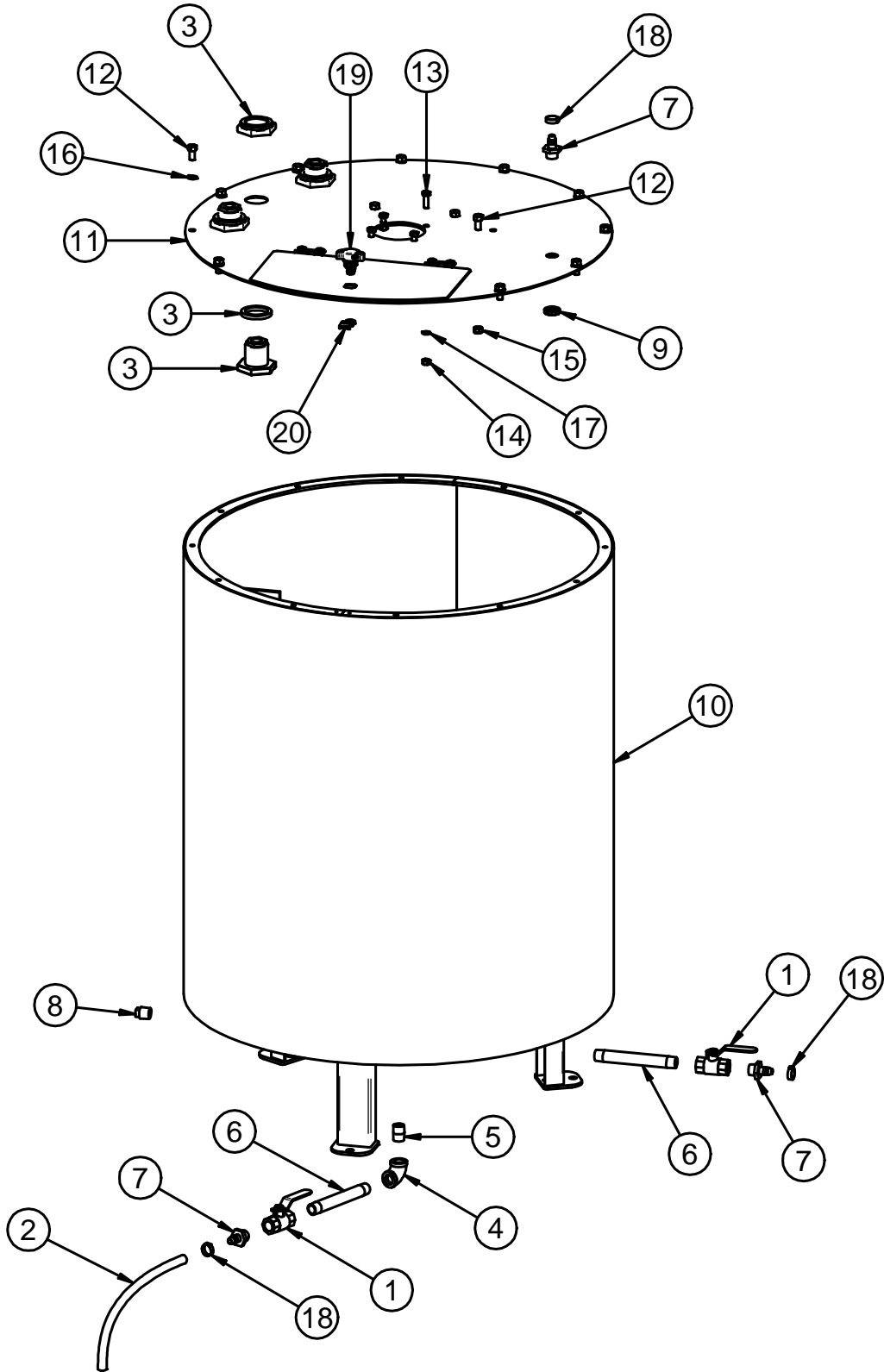
60 GALLON STAINLESS STEEL TANK WITH SCALE ASSEMBLY (04-03-0288)



Item #	Part #	Description	Qty
1	01-01-0104	MTR .33HP 1725RPM 56C 1PH TENV	1
2	02-14-0002	FTTG PLUG HH .500 NPT PPE BLK*	3
3	03-13-0027	KIT SW MNL MP .33 HP MTR CHEM TNK	1
4	04-03-0271	ASSY MIX TANK BASE SS 60GAL	1
5	04-03-0275	ASSY AGT 60SS	1
6	05-03-1053	WDMT SMALL PUMPSTAND BASE BOX	1
7	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	3
8	13-05-0439	ASSY SCL KIT BOX MNT PMPSTD	1

PUMP STANDS

100 GALLON STAINLESS STEEL BASE TANK ASSEMBLY (04-03-0272)



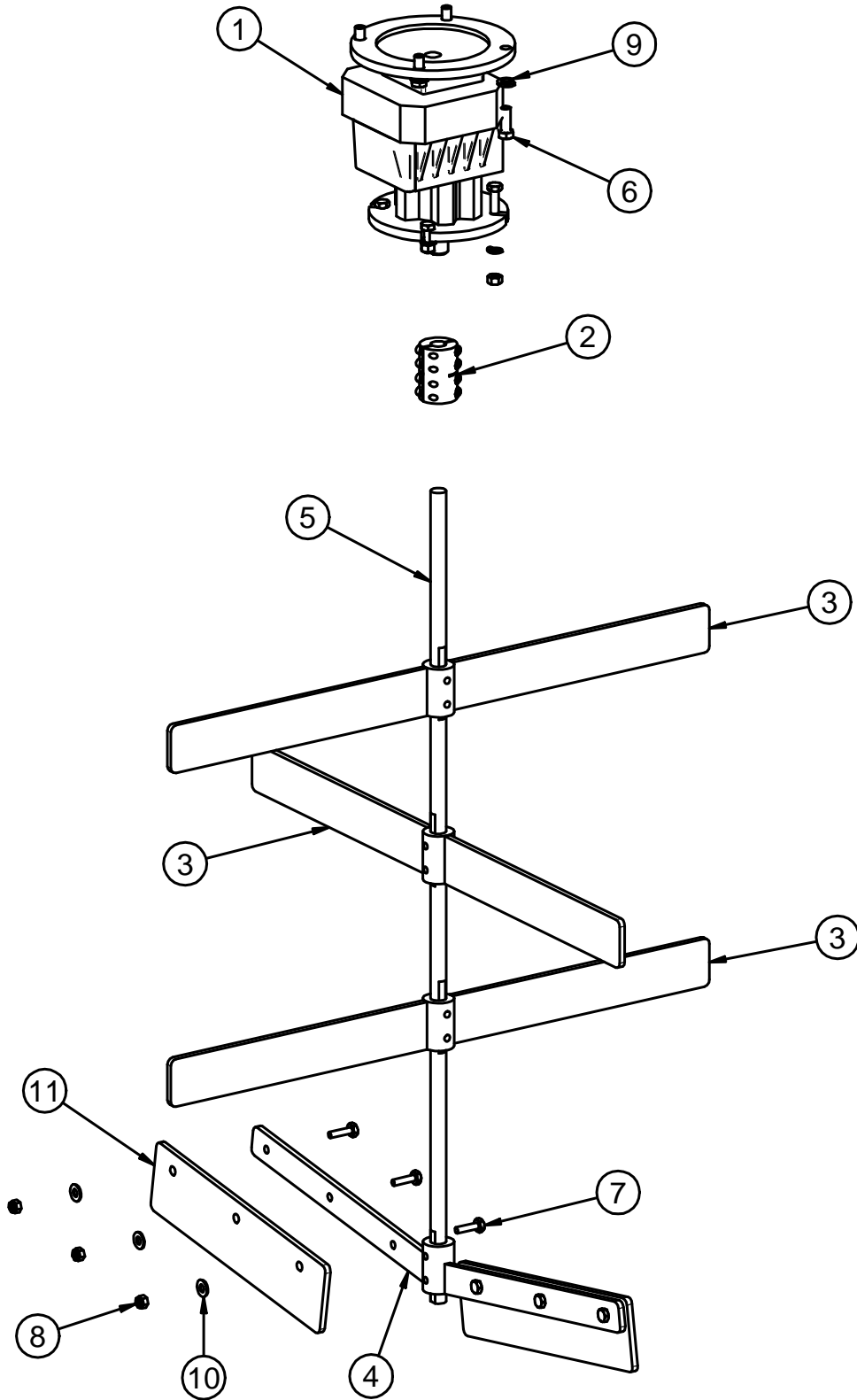
PUMP STANDS

100 GALLON STAINLESS STEEL BASE TANK ASSEMBLY (04-03-0272)

Item #	Part #	Description	Qty
1	02-02-0006	VLV BALL .500 NPT 2WAY BRSS	2
2	02-03-0005	DRAIN HOSE PUMP STAND	1
3	02-05-0028	FTTG .500 NPT DBL THD PPE BLKHD	3
4	02-06-0012	FTTG 90 DEG .500NPT FM SS	1
5	02-07-0007	FTTG NIP .500NPTX1.125 TBE SS CLOSE	1
6	02-07-0015	FTTG NIP .500 NPT X 6.00 TBE SS	2
7	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	3
8	02-14-0001	FTTG PLUG SQHD .500 NPT SS	1
9	03-08-0308	NUT NYLOC .500 NPT 8464	1
10	05-03-1244	WDMT BASE 100GAL TANK	1
11	05-03-1611	ASSY SS TANK LID 100 GAL	1
12	06-01-0042	BOLT .375-16 X .750 SS 18-8	11
13	06-01-0083	BOLT .313-18 X 1.00 SS 18-8	4
14	06-02-0017	NUT FULL .313-18 SS 18-8	4
15	06-02-0024	NUT NYL LOCK .375-16 SS	1
16	06-04-0008	WSHR LOCK SPLT .375 SS 18-8	10
17	06-04-0010	WSHR LOCK SPLT .313 SS 18-8	4
18	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	3
19	06-09-0075	KNOB WING LATCH	1
20	06-09-0076	KNOB WING CAM	1
21	09-01-0003	ATWK LBL MADE IN USA YEL 2.50X2.50	1
22	09-01-0043	ATWL LBL USC, LLC 6" X 19" PRO-CUT	1
23	09-02-0001	ATWK LBL DANGER FINGERS	1

PUMP STANDS

100 GALLON STAINLESS STEEL AGITATION ASSEMBLY (04-03-0277)



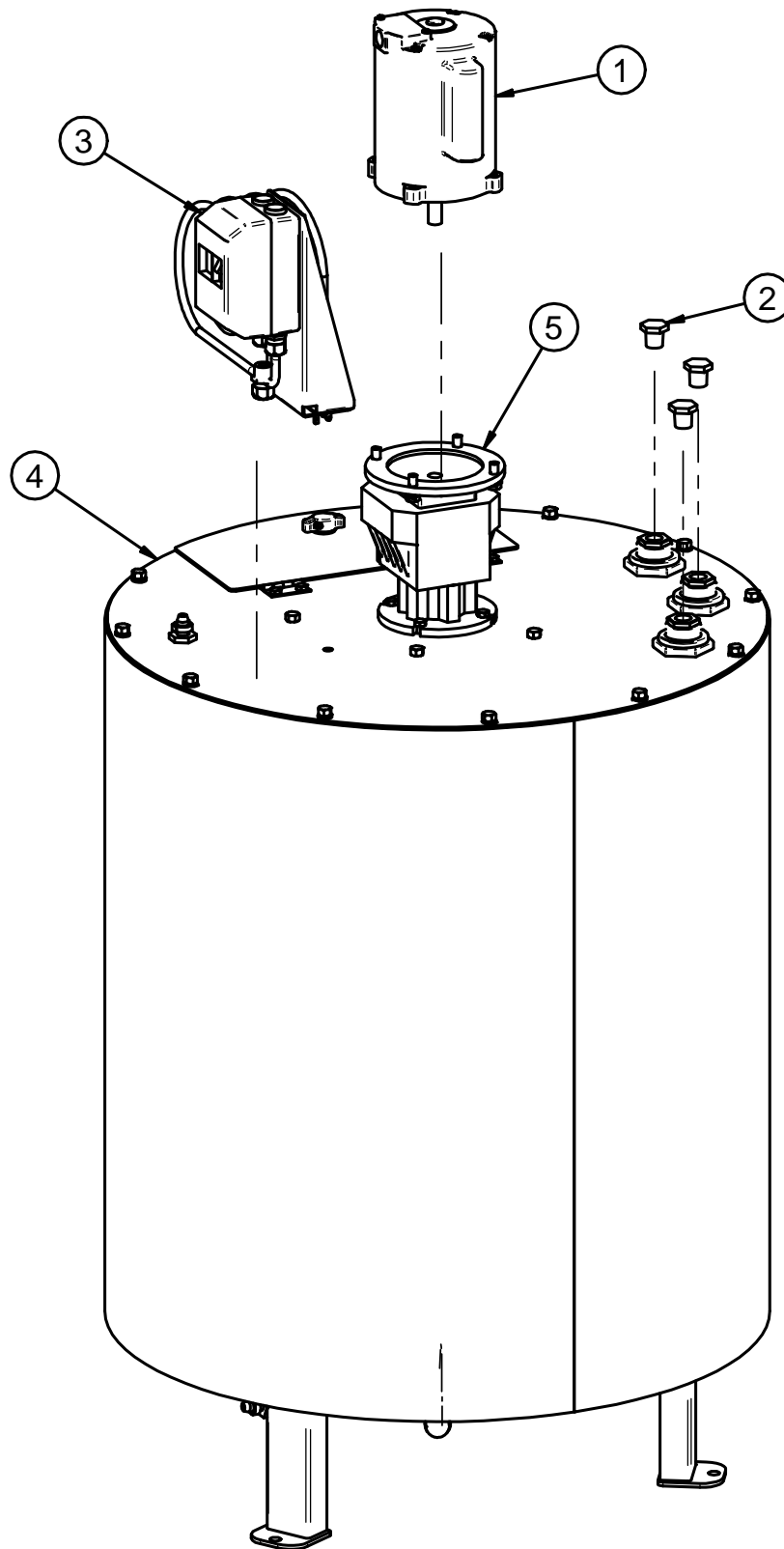
PUMP STANDS

100 GALLON STAINLESS STEEL AGITATION ASSEMBLY (04-03-0277)

Item #	Part #	Description	Qty
1	01-01-0039	GBOX IL 61.8:1 56C OTP 56C INP	1
2	01-07-0015	CPLG CLPN .625 X .750 X 1.50OD SS	1
3	05-03-1246	WDMT 100GAL MIDDLE STIR ARM	3
4	05-03-1247	WDMT 100GAL LOWER STIR ARM	1
5	05-11-0341	ROD 60GAL DRV	1
6	06-01-0016	BOLT .375-16 X 1.00 ZP GR5	4
7	06-01-0051	BOLT, .250-20 X 1.00 UNC 316 SS	6
8	06-03-0007	NUT NYL LOCK .250-20 SS 18-8	6
9	06-04-0003	WSHR LOCK SPLT .375 ZP	4
10	06-05-0002	WSHR FLAT .250 X .625OD SS 18-8	6
11	102818	PDL 100 GAL WIPER	2

PUMP STANDS

100 GALLON STAINLESS STEEL TANK ASSEMBLY (04-03-0251)



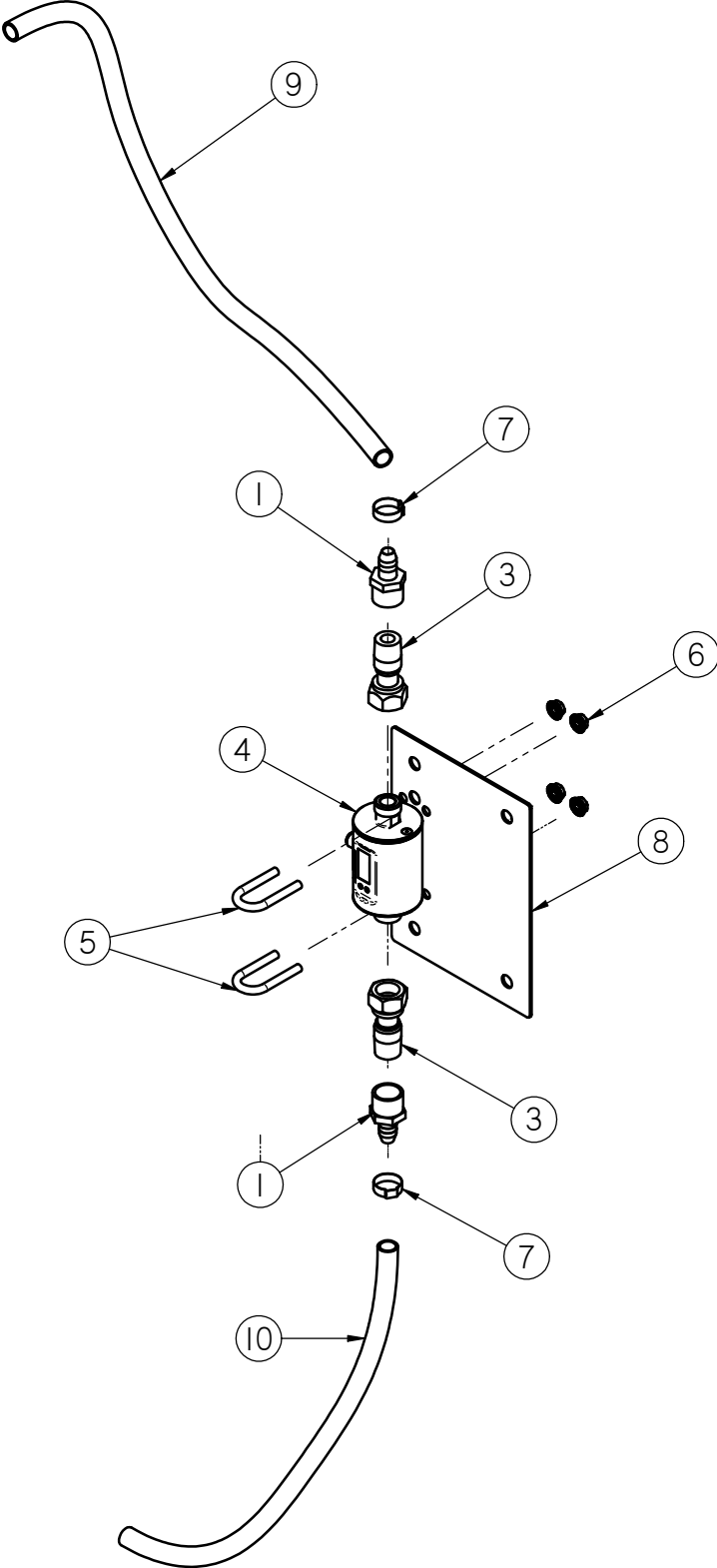
PUMP STANDS

100 GALLON STAINLESS STEEL TANK ASSEMBLY (04-03-0251)

Item #	Part #	Description	Qty
1	01-01-0104	MTR .33HP 1725RPM 56C 1PH TENV	1
2	02-14-0002	FTTG PLUG HH .500 NPT PPE BLK*	3
3	03-13-0027	KIT SW MNL MP .33 HP MTR CHEM TNK	1
4	04-03-0272	ASSY MIX TANK BASE SS 100GAL	1
5	04-03-0277	ASSY AGT 100SS	1

PUMP STANDS

SM6001 - VOLUMETRIC FLOW METER ASSEMBLY (05-03-1068)



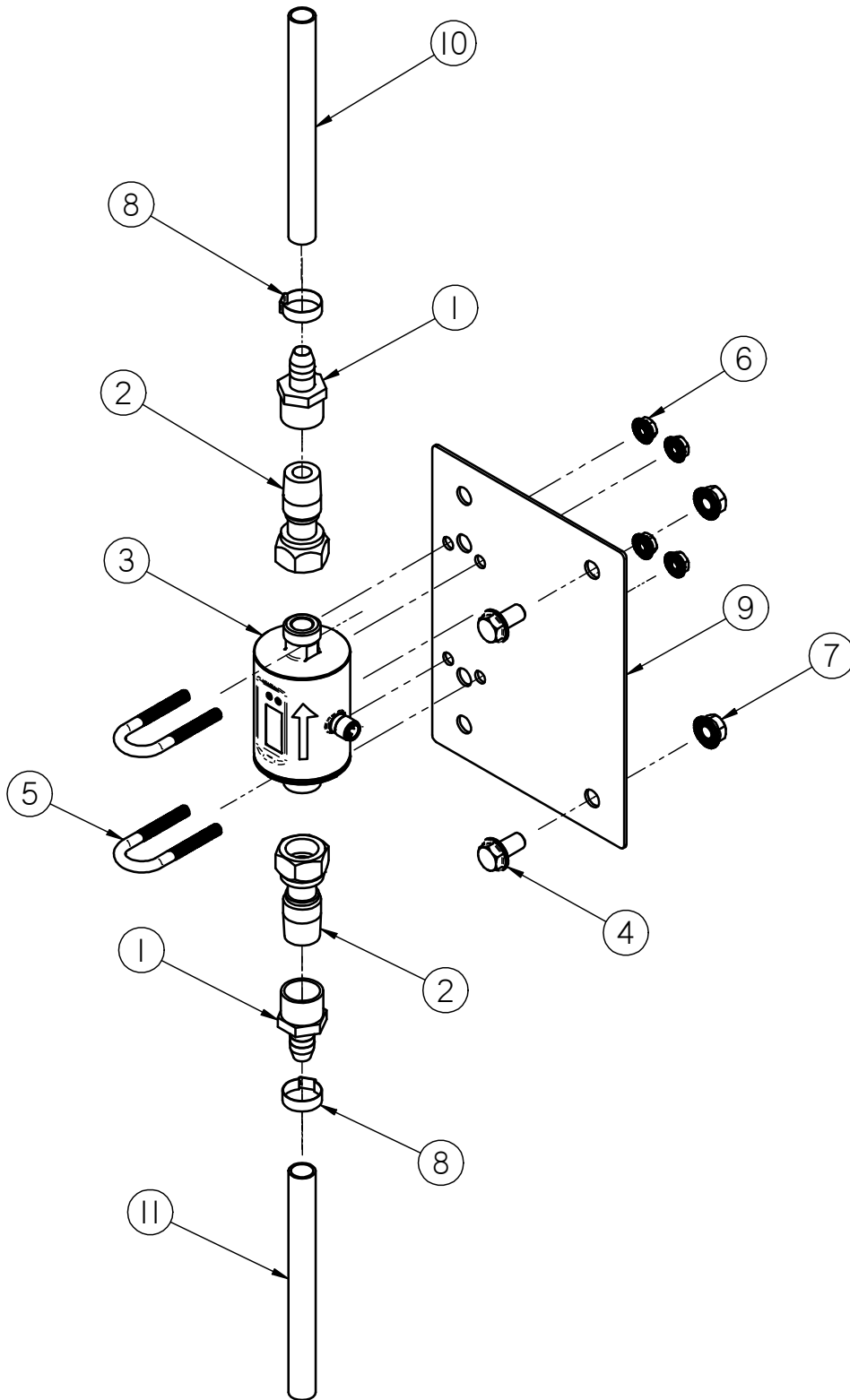
PUMP STANDS

SM6001 - VOLUMETRIC FLOW METER ASSEMBLY (05-03-1068)

Item #	Part #	Description	Qty
1	02-08-0026	FTTG STGHT .500HB X .500NPT FM NYL	2
2	03-07-0115	CORD MOLDED M12 IFM EVC001	1
3	03-18-0020	FTTG ADPTR G1/2 TO 1/2NPT ML IFM	2
4	03-18-0026	FLMT IFM EFECTOR SM6001 NO NEG FLO	1
5	06-01-0199	BOLT U .250-20 X 0.75 X 2.25 ZP	2
6	06-03-0013	NUT,LOCK, FLG .250-20 ZP SERRATED	4
7	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	2
8	1029CF	BRKT MNT	1
9	102A3B	TUBE FLOWMETER TO AUTO VLV	1
10	102A3C	TUBE MANIFOLD TO FLOWMETER	1

PUMP STANDS

SM6000 - IFM VOLUMETRIC FLOW METER ASSEMBLY (05-03-1615)



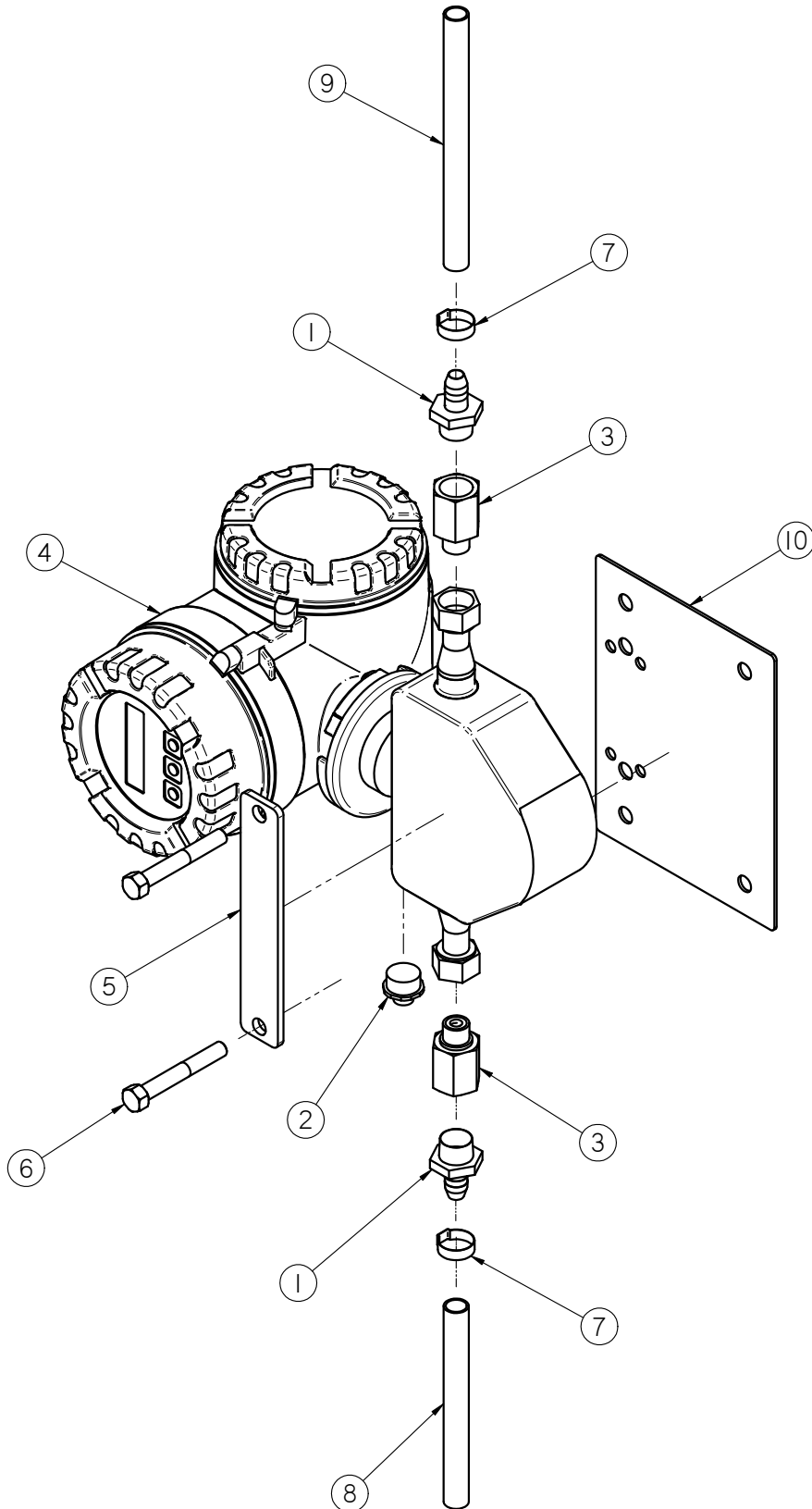
PUMP STANDS

SM6000 - IFM VOLUMETRIC FLOW METER ASSEMBLY (05-03-1615)

Item #	Part #	Description	Qty
1	02-08-0026	FTTG STGHT .500HB X .500NPT FM NYL	2
2	03-18-0020	FTTG ADPTR G1/2 TO 1/2NPT ML IFM	2
3	03-18-0025	FLMT IFM EFECTOR SM6000 NO NEG FLO	1
4	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	2
5	06-01-0199	BOLT U .250-20 X 0.75 X 2.25 ZP	2
6	06-03-0013	NUT,LOCK, FLG .250-20 ZP SERRATED	4
7	06-03-0014	NUT,LOCK, FLG .375-16 ZP GR5	2
8	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	2
9	1029CF	BRKT MNT	1
10	102A3B	VOL FLMT TO CNTLS	1
11	102A3C	VOL FLMT TO PUMPS	1

PUMP STANDS

24V MASS FLOW METER ASSEMBLY (05-03-1536)



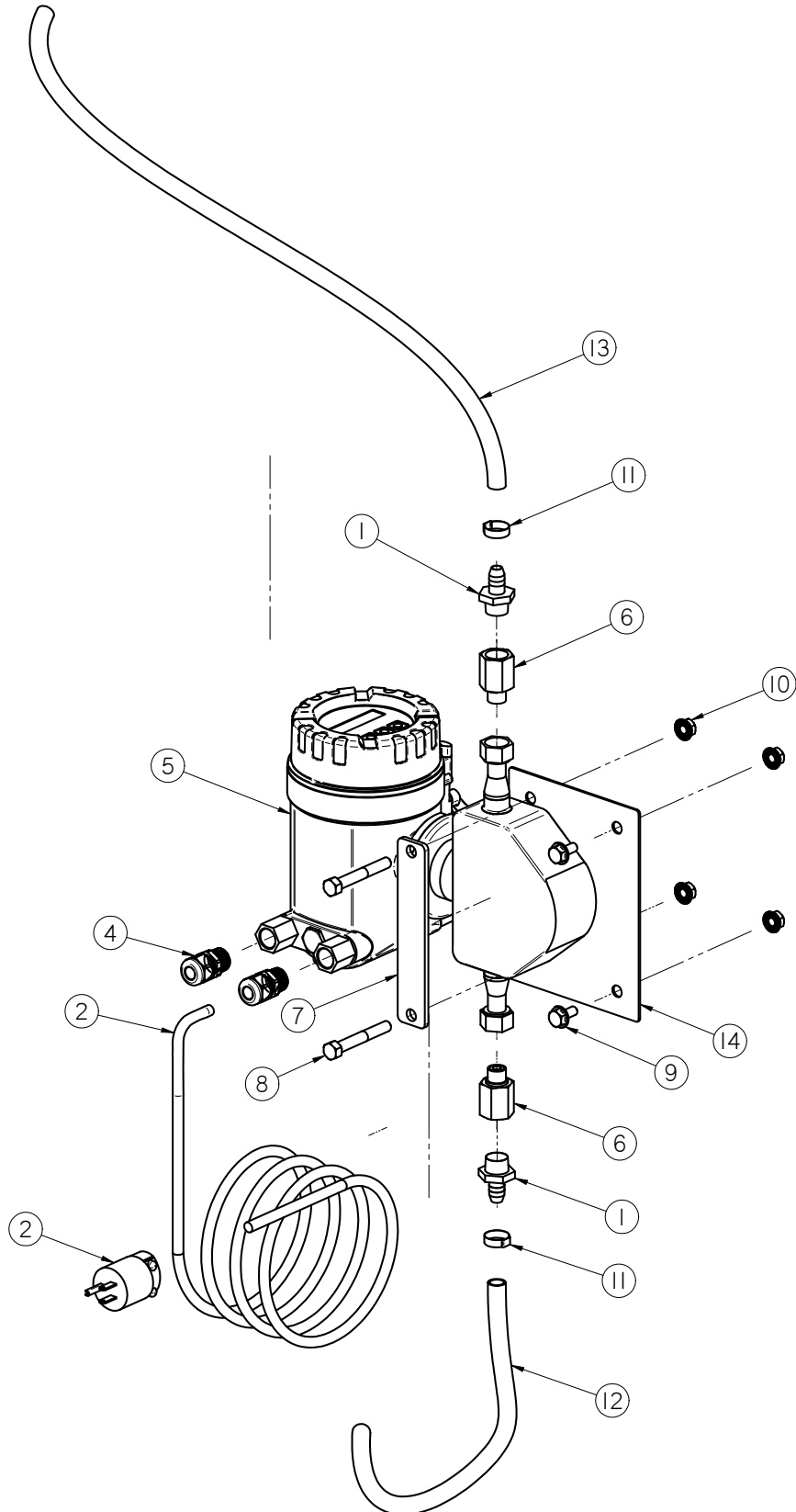
PUMP STANDS

24V MASS FLOW METER ASSEMBLY (05-03-1536)

Item #	Part #	Description	Qty
1	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	2
2	03-06-0109	CONN TRCK FS 4.4-0.6/14.5/NPT	1
3	03-18-0021	FTTG ADPTR 1/2" VC0 X 1/2" FPT E+H	2
4	03-18-0030	FLMT PROMASS 80E08 DN8 3/8IN 24VDC	1
5	05-10-3413	BRACKET FLMT CLAMP E&H 83E	1
6	06-01-0116	BOLT .375-16 X 2.75 ZP GR5	2
7	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	2
8	1022AE	MASS FLMT TO PUMPS	1
9	102342	MASS FLMT TO CNTLS	1
10	1029CF	BRKT MNT	1

PUMP STANDS

115V MASS FLOW METER ASSEMBLY (05-03-1620)



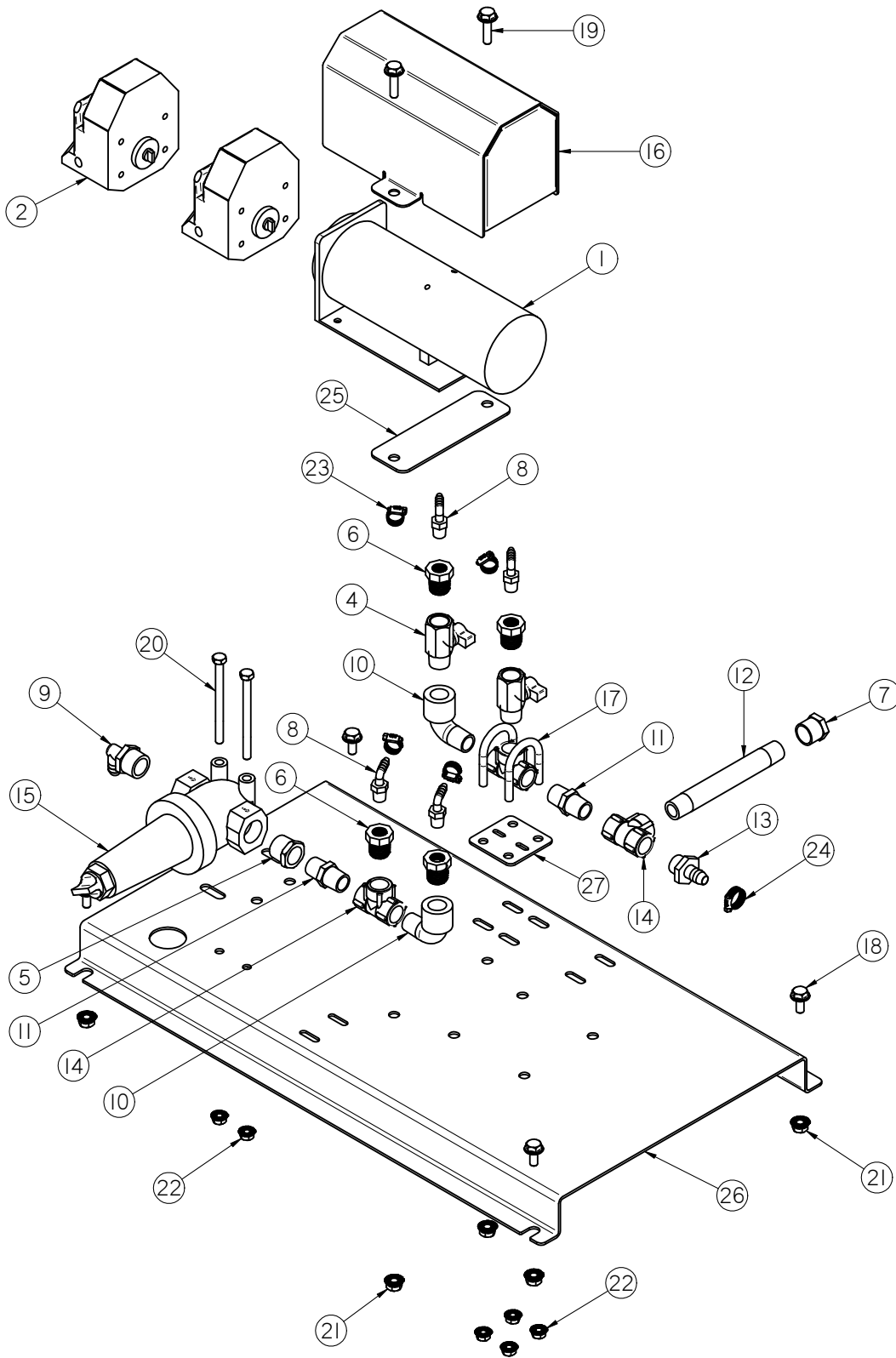
PUMP STANDS

115V MASS FLOW METER ASSEMBLY (05-03-1620)

Item #	Part #	Description	Qty
1	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	2
2	03-07-0124	CORD POWER MOLDED 14/3 10FT	1
3	03-08-0215	CONN TRCK RS 4.5T-4	1
4	03-08-0299	CONN CG 0.5NPT .170-.450 3232LTF	2
5	03-18-0019	FLMT PROMASS 80E08 DN8 3/8IN	1
6	03-18-0021	FTTG ADPTR 1/2" VC0 X 1/2" FPT E+H	2
7	05-10-3413	BRACKET FLMT CLAMP E&H 83E	1
8	06-01-0116	BOLT .375-16 X 2.75 ZP GR5	2
9	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	2
10	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	4
11	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	2
12	1022AE	TUBE MANIFOLD TO FLOWMETER	1
13	102342	TUBE FLOWMETER TO SOLENOID VALVE	1
14	1029CF	BRKT MNT	1

PUMP STANDS

LOW VOLUME PERISTALTIC PUMP HEAD & MOTOR ASSEMBLY (13-04-0210)



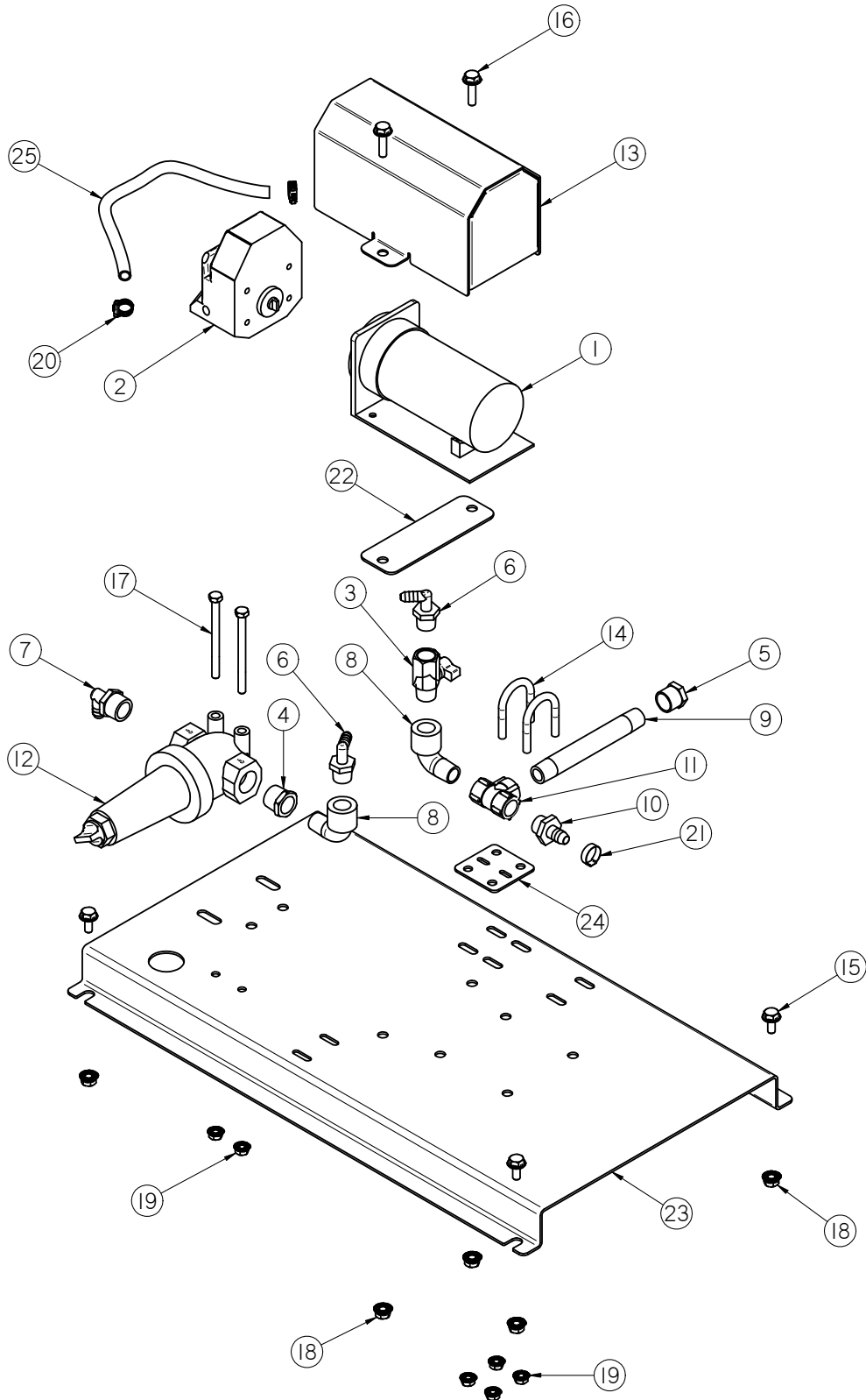
PUMP STANDS

LOW VOLUME PERISTALTIC PUMP HEAD & MOTOR ASSEMBLY (13-04-0210)

Item #	Part #	Description	Qty
1	01-01-0207	MOTOR MASTERFLEX 1-100 RPM 90VDC	1
2	02-01-0005	PUMP HEAD PRST MF LS 115V 600RPM	2
3	02-01-0013	PUMP DUAL MF HARDWARE SS - LS HEAD	2
4	02-02-0127	VLV BALL 2WAY .5 FNPT X .5 MNPT	2
5	02-04-0008	FTTG BUSH .750NPT X .500NPT SS	1
6	02-04-0044	FTTG BUSH .50NPT X .25NPT PVC	4
7	02-05-0086	FTTG END CAP .500 NPT BP	1
8	02-06-0002	FTTG 90 DEG .250HB X .250NPT ML NYL	4
9	02-06-0011	FTTG 90 DEG .500HB X .750NPT ML NYL	1
10	02-06-0017	FTTG 90 DEG STRT .500NPT PPE BLK	2
11	02-07-0009	FTTG NIP .500 NPT X 1.75 TBE BP	2
12	02-07-0060	FTTG NIP .500 NPT X 6.00 TBE PVC	1
13	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	1
14	02-09-0005	FTTG TEE .500 NPT PPE	3
15	02-12-0011	FLTR TEE PPE .750 NPT 16 MESH BANJO	1
16	05-06-0101	WDMT PUMP MTR COVER	1
17	06-01-0037	BOLT U .313-18 X 1.38 X 2.188 ZP	2
18	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	4
19	06-01-0189	BOLT FLG .375-16 X 1.250 ZP GR5	2
20	06-01-0248	BOLT, .3125-18 UNC ZP G5; 4.00" LG	2
21	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	6
22	06-03-0019	NUT LOCK FLG .3125-18 ZP GR5	6
23	06-07-0005	CLMP HOSE .219 TO .625 X .313W ZP	4
24	06-07-0006	CLMP HOSE .500 TO .906 X .313W ZP	1
25	102276	BRKT PUMP MOUNT PUMPSTD	1
26	1043BE	BRKT PUMP ALL HEADS PUMPSTD	1
27	105970	PLT TEE LOCATOR	1
28	13-05-0453	HOSE MF .250 NPRN BLK - LS24 28IN	5

PUMP STANDS

1 PERISTALTIC PUMP HEAD & MOTOR ASSEMBLY (13-04-0211)



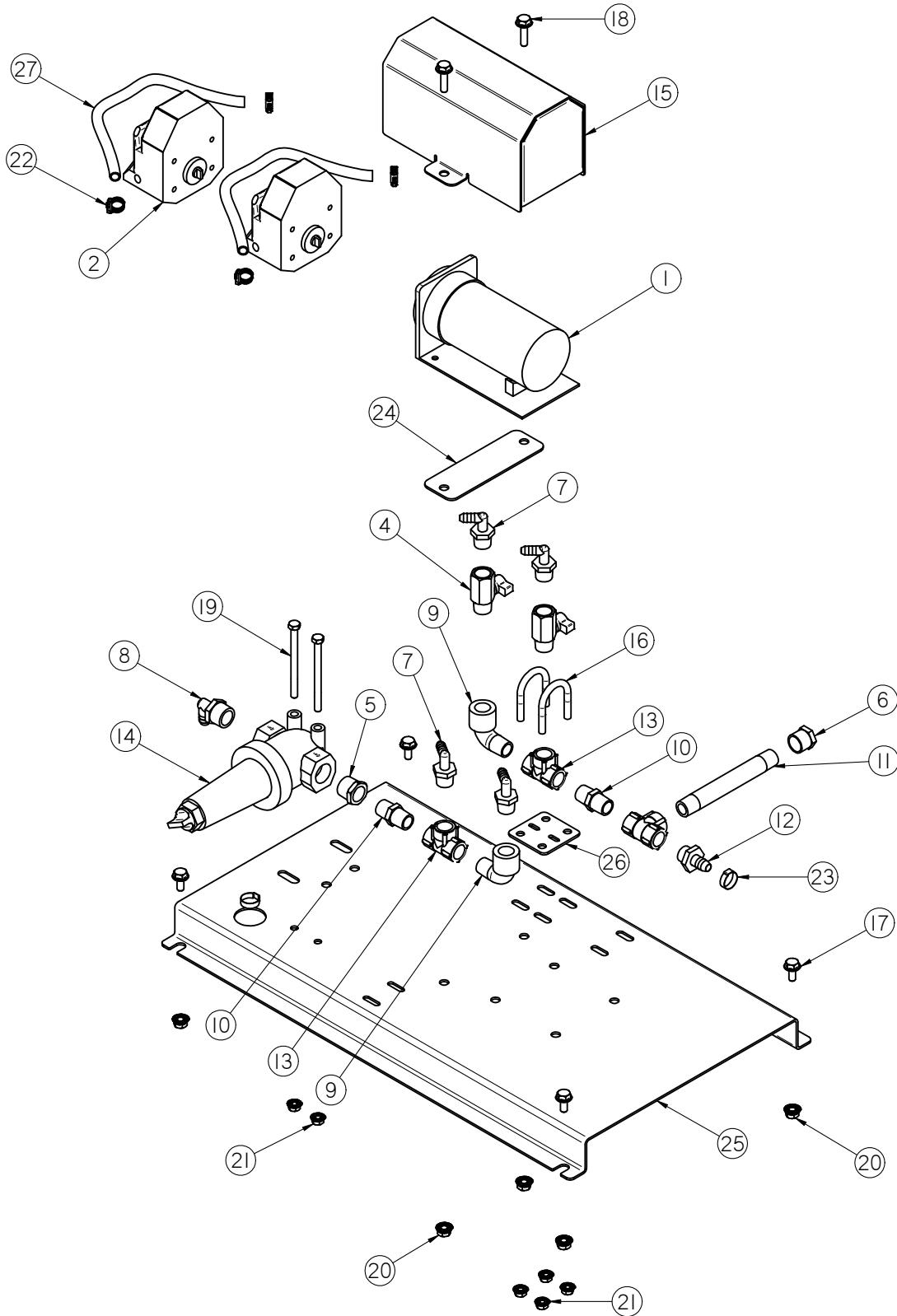
PUMP STANDS

1 PERISTALTIC PUMP HEAD & MOTOR ASSEMBLY (13-04-0211)

Item #	Part #	Description	Qty
1	01-01-0010	MTR .1HP 6-600RPM 90VDC	1
2	02-01-0005	PUMP HEAD PRST MF LS 115V 600RPM	1
3	02-02-0127	VLV BALL 2WAY .5 FNPT X .5 MNPT	1
4	02-04-0008	FTTG BUSH .750NPT X .500NPT SS	1
5	02-05-0086	FTTG END CAP .500 NPT BP	1
6	02-06-0006	FTTG 90 DEG .375HB X .500NPT ML NYL	2
7	02-06-0011	FTTG 90 DEG .500HB X .750NPT ML NYL	1
8	02-06-0017	FTTG 90 DEG STRT .500NPT PPE BLK	2
9	02-07-0060	FTTG NIP .500 NPT X 6.00 TBE PVC	1
10	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	1
11	02-09-0005	FTTG TEE .500 NPT PPE	1
12	02-12-0011	FLTR TEE PPE .750 NPT 16 MESH BANJO	1
13	05-06-0101	WDMT PUMP MTR COVER	1
14	06-01-0037	BOLT U .313-18 X 1.38 X 2.188 ZP	2
15	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	4
16	06-01-0189	BOLT FLG .375-16 X 1.250 ZP GR5	2
17	06-01-0248	BOLT, .3125-18 UNC ZP G5; 4.00" LG	2
18	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	6
19	06-03-0019	NUT LOCK FLG .3125-18 ZP GR5	6
20	06-07-0005	CLMP HOSE .219 TO .625 X .313W ZP	2
21	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	1
22	102276	BRKT PUMP MOUNT PUMPSTD	1
23	1043BE	BRKT PUMP ALL HEADS PUMPSTD	1
24	105970	PLT TEE LOCATOR	1
25	13-05-0224	HOSE MF .375 NPRN BLK - LS35 .31 ID	3

PUMP STANDS

2 PERISTALTIC PUMP HEAD & MOTOR ASSEMBLY (13-04-0212)



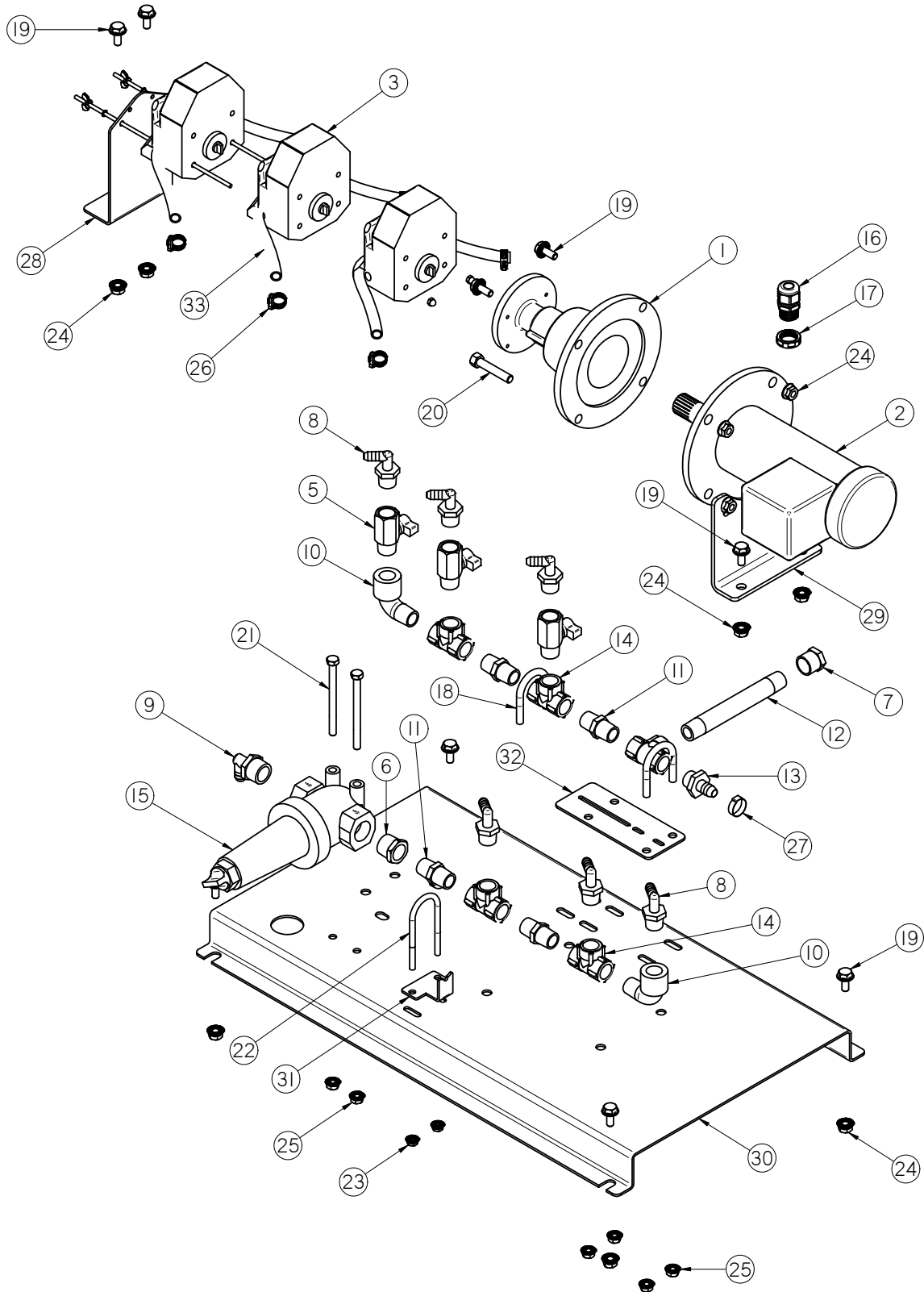
PUMP STANDS

2 PERISTALTIC PUMP HEAD & MOTOR ASSEMBLY (13-04-0212)

Item #	Part #	Description	Qty
1	01-01-0010	MTR .1HP 6-600RPM 90VDC	1
2	02-01-0005	PUMP HEAD PRST MF LS 115V 600RPM	2
3	02-01-0013	PUMP DUAL MF HARDWARE SS - LS HEAD	1
4	02-02-0127	VLV BALL 2WAY .5 FNPT X .5 MNPT	2
5	02-04-0008	FTTG BUSH .750NPT X .500NPT SS	1
6	02-05-0086	FTTG END CAP .500 NPT BP	1
7	02-06-0006	FTTG 90 DEG .375HB X .500NPT ML NYL	4
8	02-06-0011	FTTG 90 DEG .500HB X .750NPT ML NYL	1
9	02-06-0017	FTTG 90 DEG STRT .500NPT PPE BLK	2
10	02-07-0009	FTTG NIP .500 NPT X 1.75 TBE BP	2
11	02-07-0060	FTTG NIP .500 NPT X 6.00 TBE PVC	1
12	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	1
13	02-09-0005	FTTG TEE .500 NPT PPE	3
14	02-12-0011	FLTR TEE PPE .750 NPT 16 MESH BANJO	1
15	05-06-0101	WDMT PUMP MTR COVER	1
16	06-01-0037	BOLT U .313-18 X 1.38 X 2.188 ZP	2
17	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	4
18	06-01-0189	BOLT FLG .375-16 X 1.250 ZP GR5	2
19	06-01-0248	BOLT, .3125-18 UNC ZP G5; 4.00" LG	2
20	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	6
21	06-03-0019	NUT LOCK FLG .3125-18 ZP GR5	6
22	06-07-0005	CLMP HOSE .219 TO .625 X .313W ZP	4
23	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	2
24	102276	BRKT PUMP MOUNT PUMPSTD	1
25	1043BE	BRKT PUMP ALL HEADS PUMPSTD	1
26	105970	PLT TEE LOCATOR	1
27	13-05-0224	HOSE MF .375 NPRN BLK - LS35 .31 ID	6

PUMP STANDS

3 PERISTALTIC PUMP HEAD & MOTOR ASSEMBLY (13-04-0213)



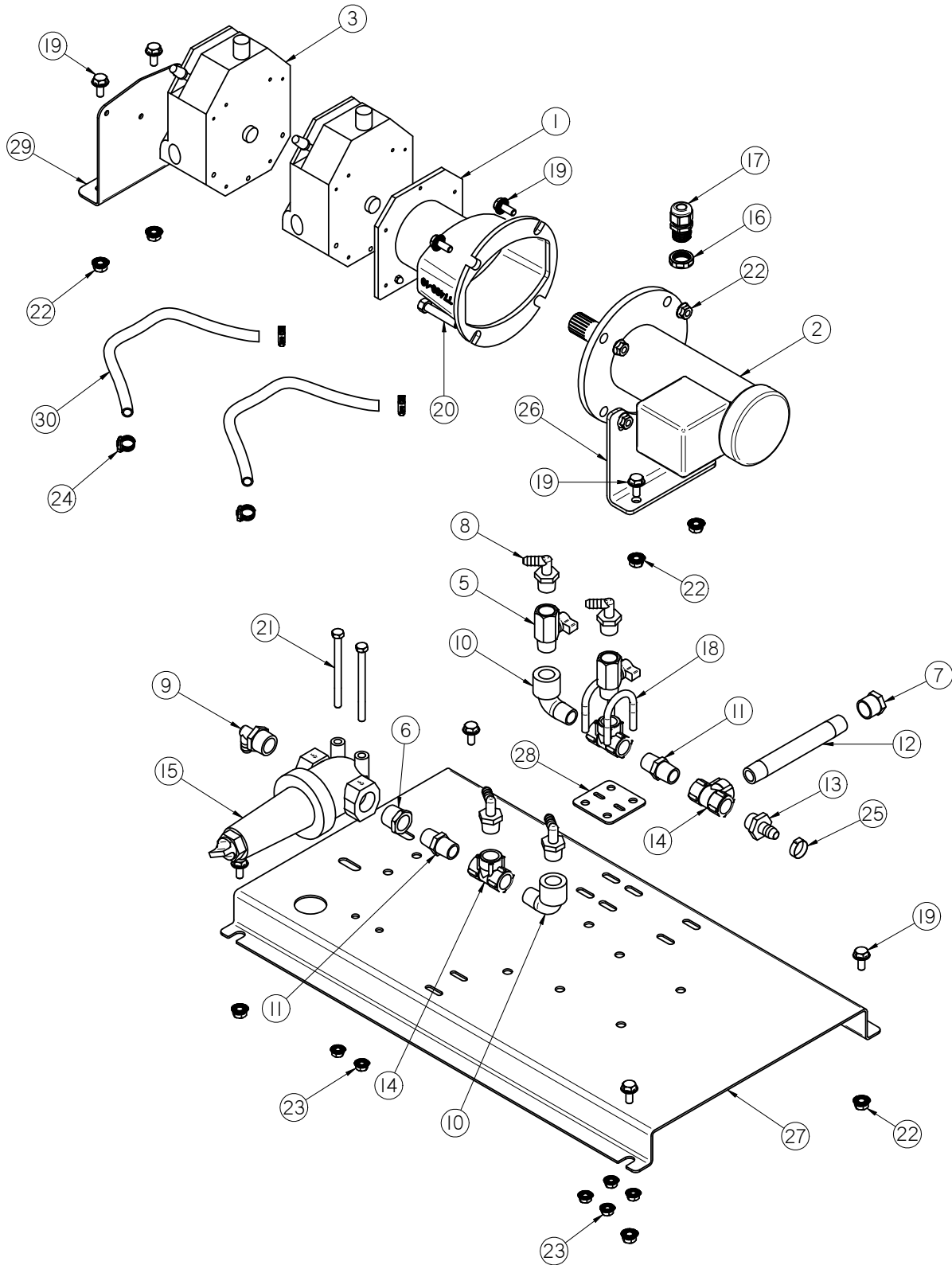
PUMP STANDS

3 PERISTALTIC PUMP HEAD & MOTOR ASSEMBLY (13-04-0213)

Item #	Part #	Description	Qty
1	01-01-0066	SPEED REDUCER, 3.7 TO 1	1
2	01-01-0160	MTR .25HP 2500 RPM 34 90VDC	1
3	02-01-0005	PUMP HEAD PRST MF LS 115V 600RPM	3
4	02-01-0033	PUMP 3 MF HARDWARE SS - LS HEAD	1
5	02-02-0127	VLV BALL 2WAY .5 FNPT X .5 MNPT	3
6	02-04-0008	FTTG BUSH .750NPT X .500NPT SS	1
7	02-05-0086	FTTG END CAP .500 NPT BP	1
8	02-06-0006	FTTG 90 DEG .375HB X .500NPT ML NYL	6
9	02-06-0011	FTTG 90 DEG .500HB X .750NPT ML NYL	1
10	02-06-0017	FTTG 90 DEG STRT .500NPT PPE BLK	2
11	02-07-0009	FTTG NIP .500 NPT X 1.75 TBE BP	4
12	02-07-0060	FTTG NIP .500 NPT X 6.00 TBE PVC	1
13	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	1
14	02-09-0005	FTTG TEE .500 NPT PPE	5
15	02-12-0011	FLTR TEE PPE .750 NPT 16 MESH BANJO	1
16	03-08-0299	CONN CG 0.5NPT .170-.450 3232LTF	1
17	03-08-0308	NUT NYLOC .500 NPT 8464	1
18	06-01-0037	BOLT U .313-18 X 1.38 X 2.188 ZP	2
19	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	10
20	06-01-0137	BOLT .375-16 X 2.00 ZP GR5 FTH	2
21	06-01-0248	BOLT, .3125-18 UNC ZP G5; 4.00" LG	2
22	06-01-0298	U BOLT 1/4-20 1-3/8 INSIDE 2-7/16" LG	1
23	06-03-0013	NUT,LOCK, FLG .250-20 ZP SERRATED	2
24	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	12
25	06-03-0019	NUT LOCK FLG .3125-18 ZP GR5	6
26	06-07-0005	CLMP HOSE .219 TO .625 X .313W ZP	6
27	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	1
28	102213	BRKT 3PUMPHEAD MNT PUMPSTD	1
29	102214	BRKT 3HEAD MOTOR MNT PUMPSTD	1
30	1043BE	BRKT PUMP ALL HEADS PUMPSTD	1
31	1043C1	BRKT SUPP MNFD	1
32	105971	PLT TEE LOCATOR 3-HD	1
33	13-05-0224	HOSE MF .375 NPRN BLK - LS35 .31 ID	9

PUMP STANDS

HIGH VOLUME PERISTALTIC PUMP HEAD & MOTOR ASSEMBLY (13-04-0214)



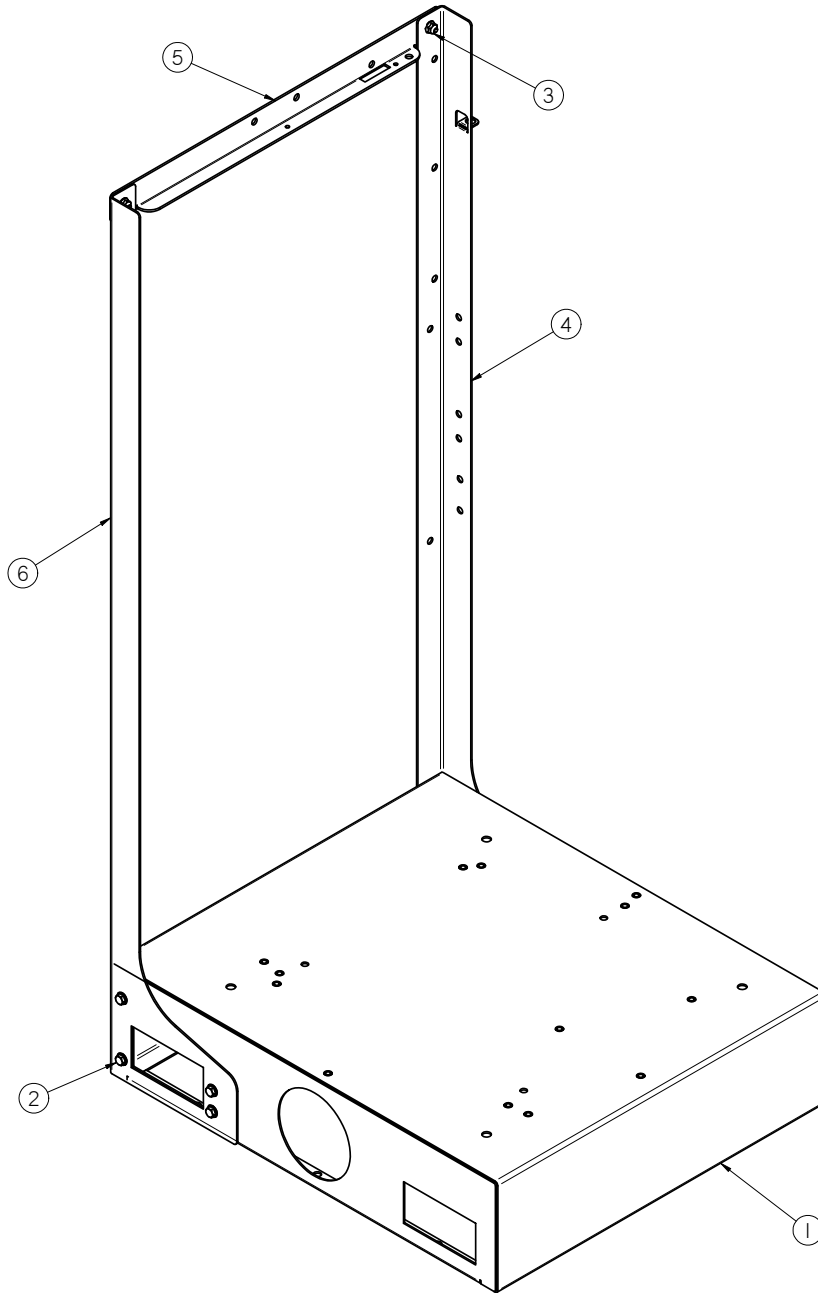
PUMP STANDS

HIGH VOLUME PERISTALTIC PUMP HEAD & MOTOR ASSEMBLY (13-04-0214)

Item #	Part #	Description	Qty
1	01-01-0016	GBOX 56C FR 4.8:1 GR	1
2	01-01-0160	MTR .25HP 2500 RPM 34 90VDC	1
3	02-01-0004	PUMP HEAD PRST MF IP 200RPM	2
4	02-01-0026	PUMP DUAL MF IP HARDWARE SS	1
5	02-02-0127	VLV BALL 2WAY .5 FNPT X .5 MNPT	2
6	02-04-0008	FTTG BUSH .750NPT X .500NPT SS	1
7	02-05-0086	FTTG END CAP .500 NPT BP	1
8	02-06-0006	FTTG 90 DEG .375HB X .500NPT ML NYL	4
9	02-06-0011	FTTG 90 DEG .500HB X .750NPT ML NYL	1
10	02-06-0017	FTTG 90 DEG STRT .500NPT PPE BLK	2
11	02-07-0009	FTTG NIP .500 NPT X 1.75 TBE BP	2
12	02-07-0060	FTTG NIP .500 NPT X 6.00 TBE PVC	1
13	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	1
14	02-09-0005	FTTG TEE .500 NPT PPE	3
15	02-12-0011	FLTR TEE PPE .750 NPT 16 MESH BANJO	1
16	03-08-0308	NUT NYLOC .500 NPT 8464	1
17	03-08-0381	CONN CG HEYCO M3200 LTCG 1/2 NPT	1
18	06-01-0037	BOLT U .313-18 X 1.38 X 2.188 ZP	2
19	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	10
20	06-01-0137	BOLT .375-16 X 2.00 ZP GR5 FTH	2
21	06-01-0248	BOLT, .3125-18 UNC ZP G5; 4.00" LG	2
22	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	12
23	06-03-0019	NUT LOCK FLG .3125-18 ZP GR5	6
24	06-07-0005	CLMP HOSE .219 TO .625 X .313W ZP	4
25	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	1
26	102214	BRKT 3HEAD MOTOR MNT PUMPSTD	1
27	1043BE	BRKT PUMP ALL HEADS PUMPSTD	1
28	105970	PLT TEE LOCATOR	1
29	105979	BRKT HV PUMPHEAD MNT PUMPSTD	1
30	13-05-0454	HOSE MF .375 NPRN BLK - IP73	5

PUMP STANDS

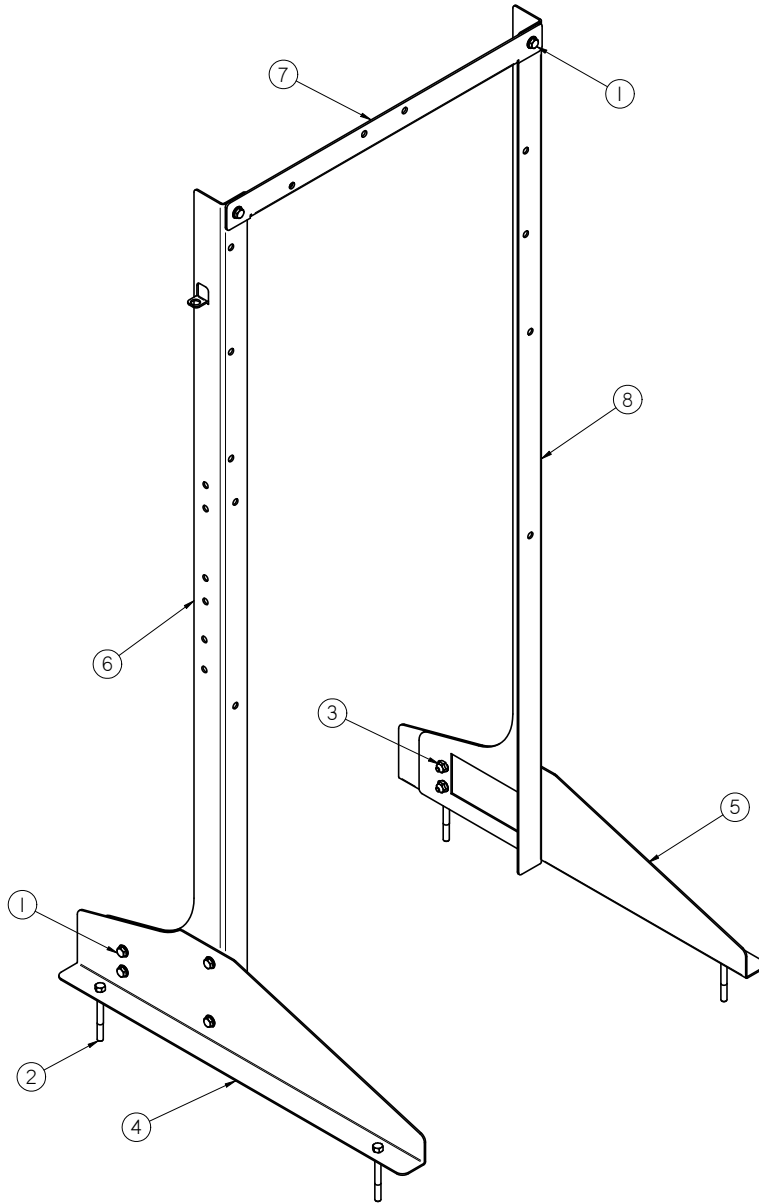
BOX MOUNT FRAME ASSEMBLY (13-05-0445)



Item #	Part #	Description	Qty
1	05-03-1053	WDMT SMALL PUMPSTAND BASE BOX	1
2	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	10
3	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	2
4	1043DA	PLT PUMPSTAND LH UPRIGHT	1
5	1043E0	PLT XBEAM SUPP VLV PUMPSTD	1
6	104426	PLT PUMPSTAND RH UPRIGHT	1

PUMP STANDS

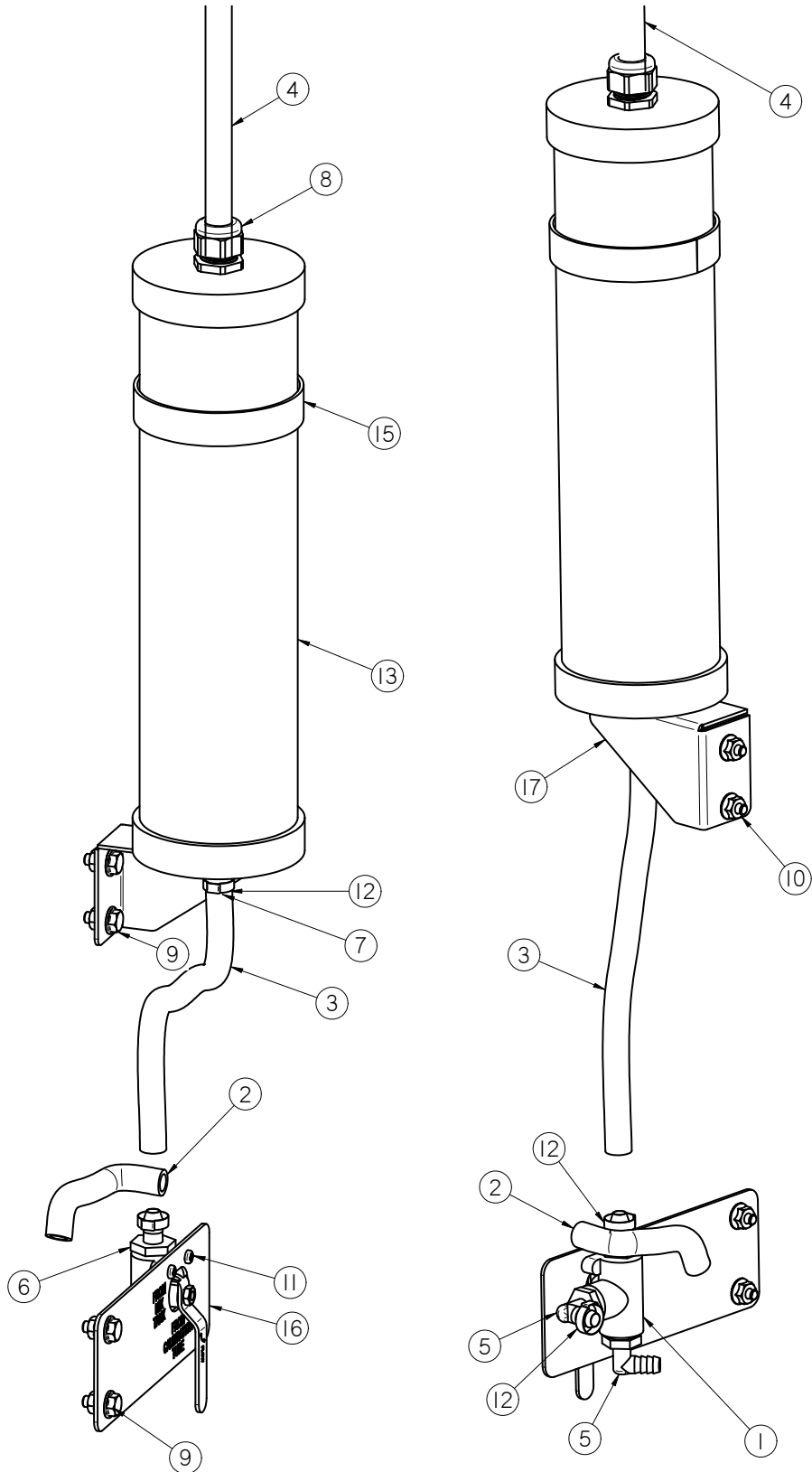
FLOOR MOUNT FRAME ASSEMBLY (13-05-0446)



Item #	Part #	Description	Qty
1	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	10
2	06-01-0220	BOLT 3/8-16 CONC ANCHOR ZP 3.75	4
3	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	10
4	1043D0	PLT FOOT PAD FLR MNT BASE LH	1
5	1043D1	PLT FOOT PAD FLR MNT BASE RH	1
6	1043DA	PLT PUMPSTAND LH UPRIGHT	1
7	1043E0	PLT XBEAM SUPP VLV PUMPSTD	1
8	104426	PLT PUMPSTAND RH UPRIGHT	1

PUMP STANDS

100 OZ CALIBRATION TUBE ASSEMBLY (13-04-0215)



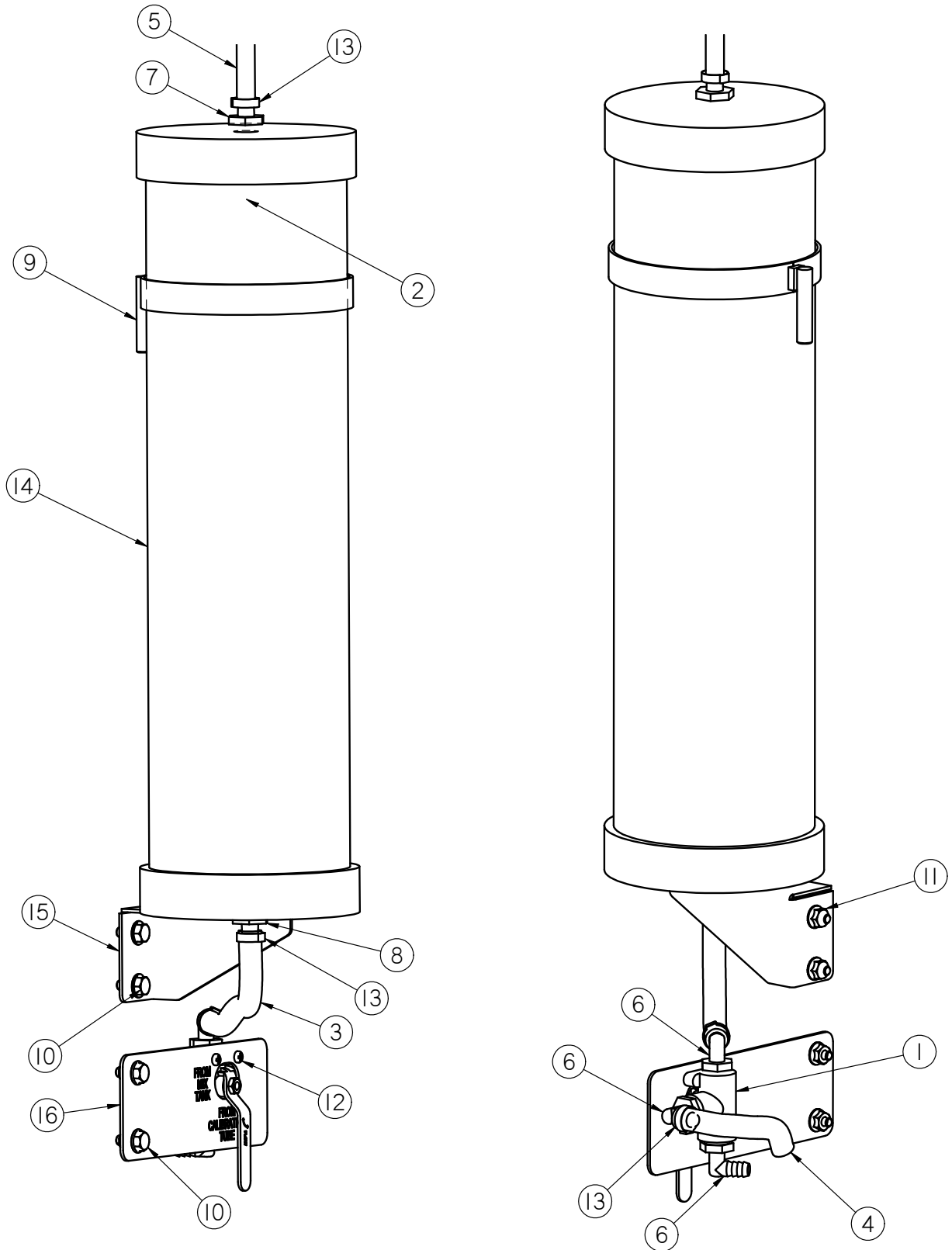
PUMP STANDS

100 OZ CALIBRATION TUBE ASSEMBLY (13-04-0215)

Item #	Part #	Description	Qty
1	02-02-0007	VLV BALL .500 NPT 3WAY BRSS	1
2	02-03-0005	.5 RNT TUBE	1
3	02-03-0005	.5 RNT TUBE	1
4	02-03-0005	.50 RNT TUBE	1
5	02-06-0010	FTTG 90 DEG .500HB X .500NPT ML NYL	2
6	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	1
7	02-08-0008	FTTG STGHT .500HB X .75NPT ML NYL	1
8	03-08-0192	CONN CG ZINC 0.75NPT .375-.750	1
9	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	4
10	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	4
11	06-06-0008	SCRW MACH 10-24 X .250 PHLP PHD ZP	2
12	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	3
13	07-02-0033	CYL CALB LOOSE TOP 3000ML	1
14	09-03-0015	CAL TUBE LABEL 3000 ML	1
15	1043AC	WDMT CAL TUBE BRKT 100 OZ	1
16	1043D7	PLT LABEL SOURCE PUMPSTD	1
17	1043DB	PLT CAL TUBE MNT BRKT 100 OZ	1

PUMP STANDS

340 OZ CALIBRATION TUBE ASSEMBLY (13-04-0216)



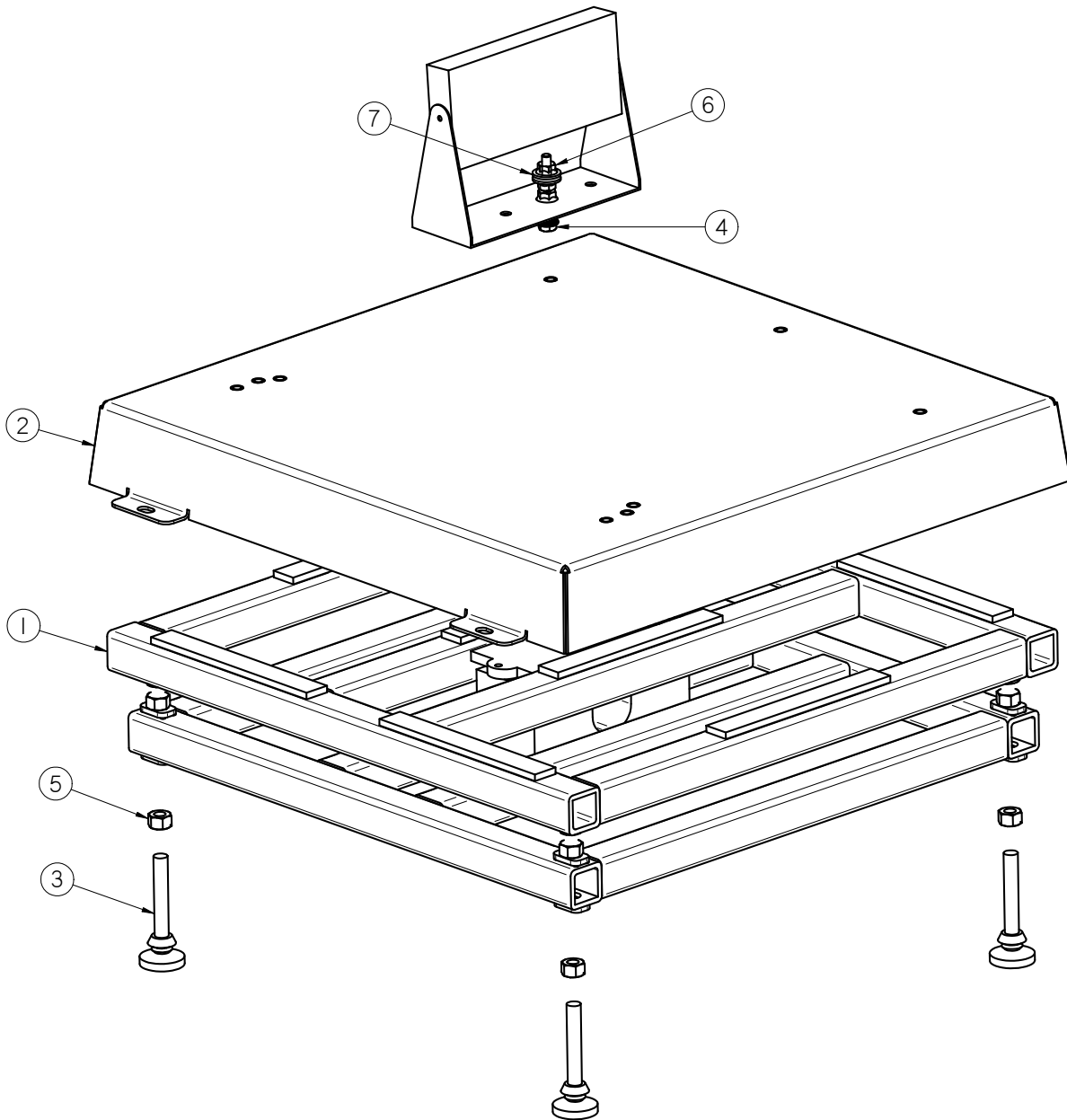
PUMP STANDS

340 OZ CALIBRATION TUBE ASSEMBLY (13-04-0216)

Item #	Part #	Description	Qty
1	02-02-0007	VLV BALL .500 NPT 3WAY BRSS	1
2	02-03-0005	.5 RNT TUBE	1
3	02-03-0005	.5 RNT TUBE	1
4	02-03-0005	.5 RNT TUBE	1
5	02-03-0005	.5 RNT TUBE	1
6	02-06-0010	FTTG 90 DEG .500HB X .500NPT ML NYL	3
7	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	2
8	02-08-0008	FTTG STGHT .500HB X .75NPT ML NYL	1
9	05-08-0006	WDMT,INOC.BRK,SM	1
10	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	4
11	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	4
12	06-06-0008	SCRW MACH 10-24 X .250 PHLP PHD ZP	2
13	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	5
14	07-02-0006	CALIBRATION TUBE,10K ML - 2005	1
15	1043D6	BRKT CAL TUBE MNT 340 OZ	1
16	1043D7	PLT LABEL SOURCE PUMPSTD	1

PUMP STANDS

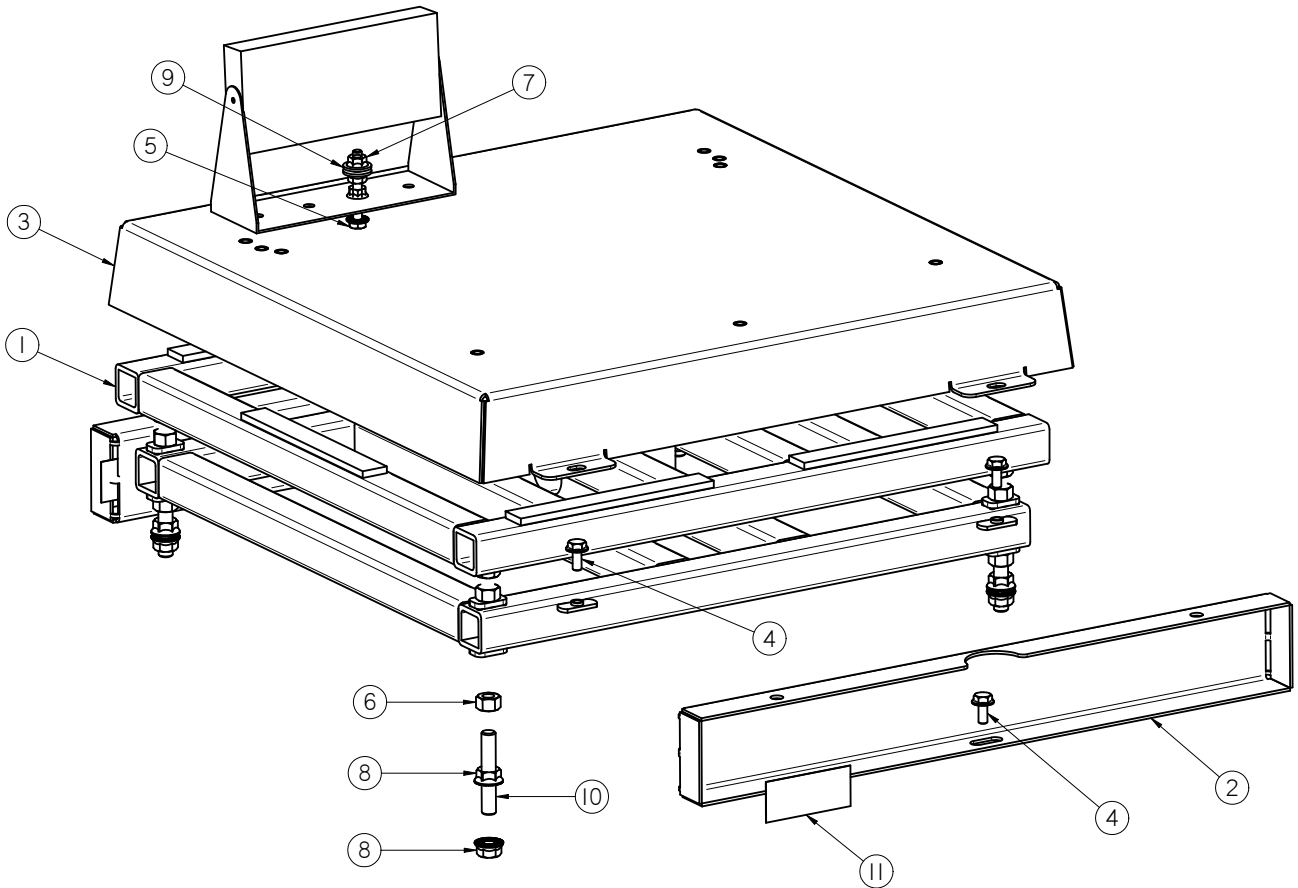
FLOOR MOUNT SCALE WITH INDICATOR ASSEMBLY (13-05-0438)



Item #	Part #	Description	Qty
1	03-19-0055	SCL CARDINAL EB-1024 24 X 24 X 1000	1
2	05-03-1073	WDMT SCALE LID PUMPSTD	1
3	06-01-0176	LEVELING MNT CUSHION .500-13 200LB	4
4	06-01-0204	BOLT FLG .375-16 X 2.50 ZP GR5 FTH	1
5	06-02-0004	NUT FULL .500-13 ZP GR5	4
6	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	3
7	06-05-0004	WSHR FLAT .375 ZP	2

PUMP STANDS

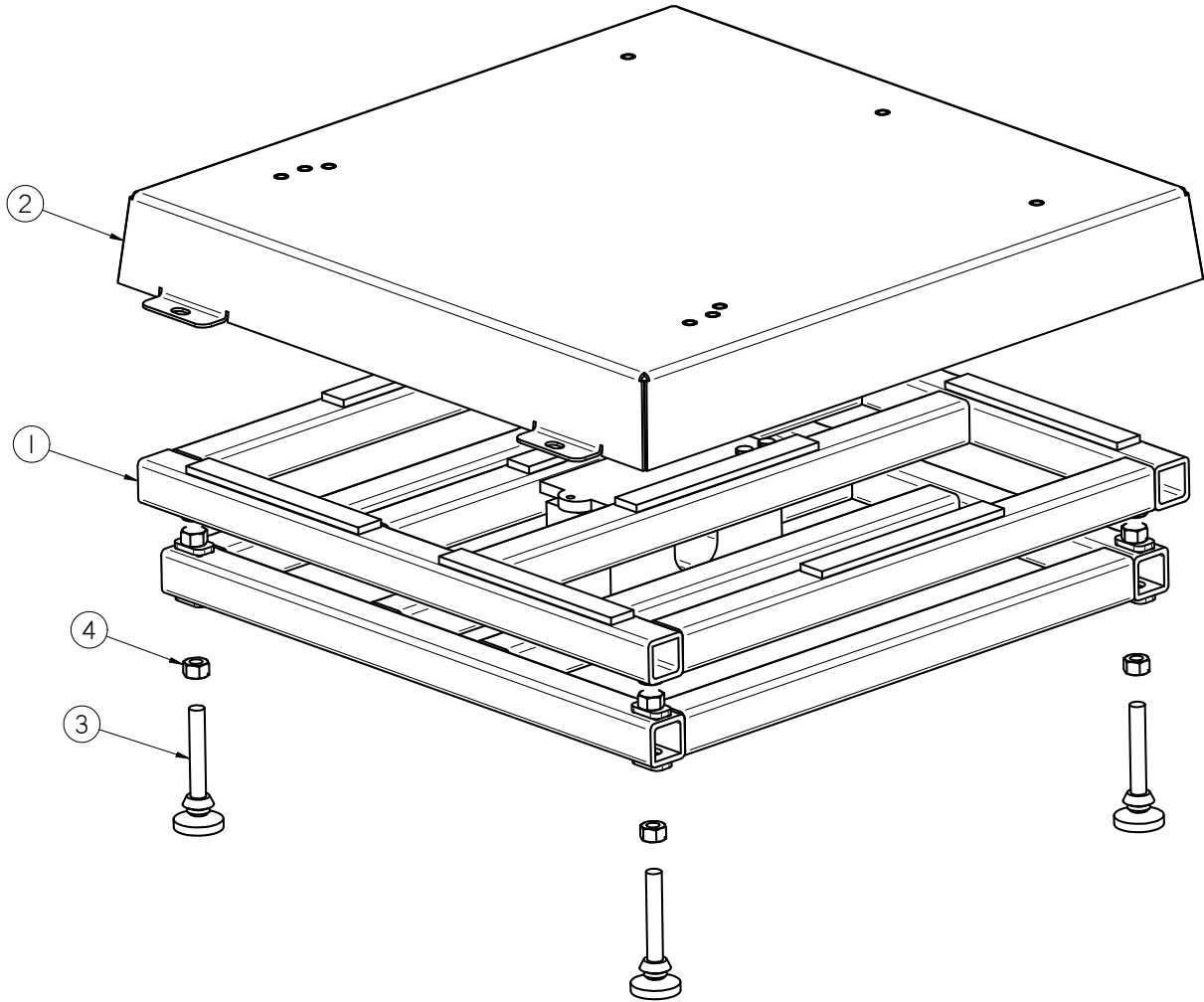
BOX MOUNT SCALE WITH INDICATOR ASSEMBLY (13-05-0439)



Item #	Part #	Description	Qty
1	03-19-0055	SCL CARDINAL EB-1024 24 X 24 X 1000	1
2	05-03-1072	ASSY SPACER PUMPSTD	1
3	05-03-1073	WDMT SCALE LID PUMPSTD	1
4	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	6
5	06-01-0204	BOLT FLG .375-16 X 2.50 ZP GR5 FTH	1
6	06-02-0004	NUT FULL .500-13 ZP GR5	4
7	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	3
8	06-03-0015	NUT LOCK FLG .500-13 ZP GR5	8
9	06-05-0004	WSHR FLAT .375 ZP	2
10	06-14-0018	STUD .500-13 ZP X 3.00	4
11	09-02-0020	LBL ATWRK ATT SCALE BRKT	2

PUMP STANDS

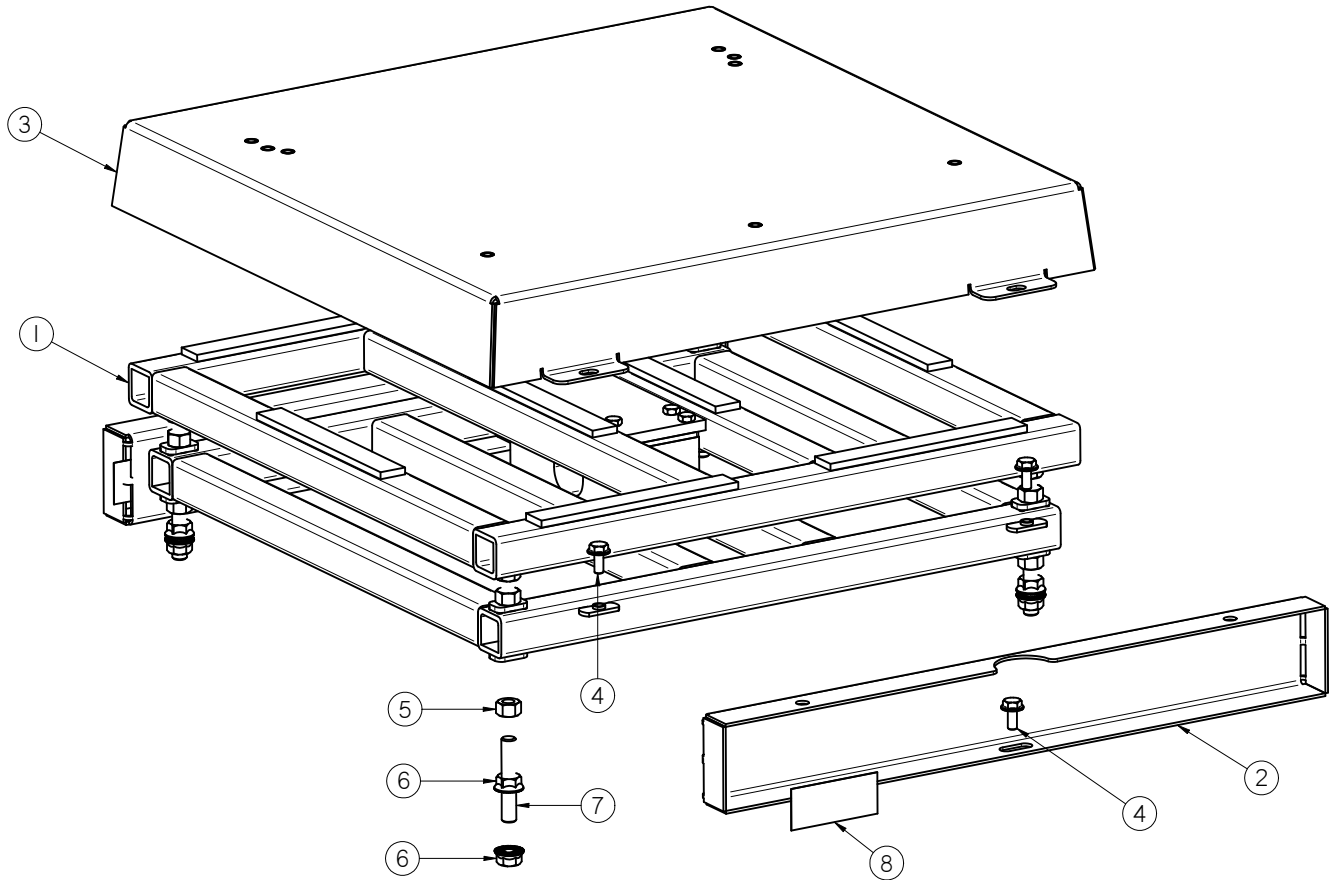
LOSS-IN-WEIGHT FLOOR MOUNT SCALE ASSEMBLY (13-05-0436)



Item #	Part #	Description	Qty
1	03-19-0083	SCL CARDINAL EB-1024 24 X 24 X 1500	1
2	05-03-1073	WDMT SCALE LID PUMPSTD	1
3	06-01-0176	LEVELING MNT CUSHION .500-13 200LB	4
4	06-02-0004	NUT FULL .500-13 ZP GR5	4

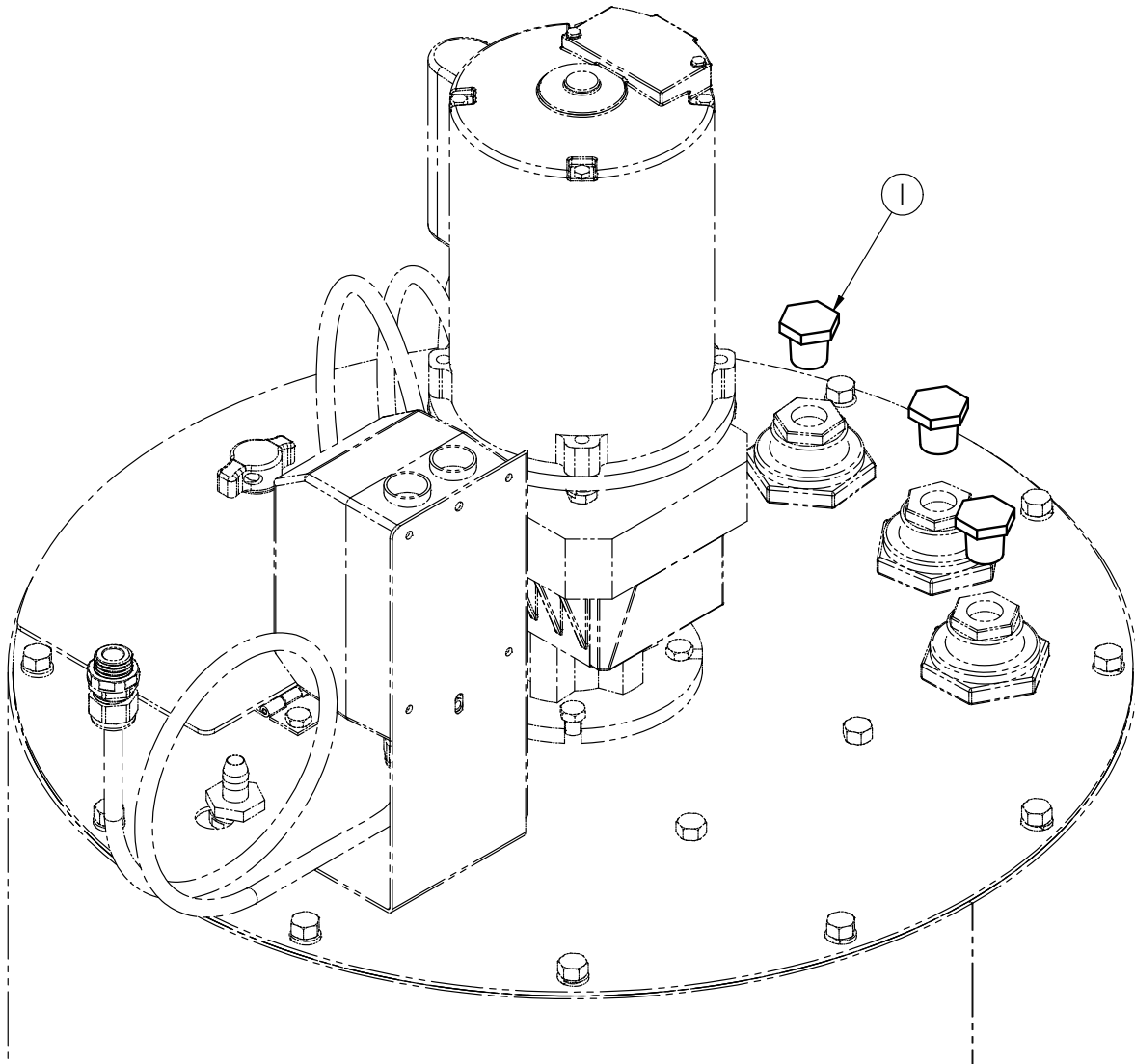
PUMP STANDS

LOSS-IN-WEIGHT BOX MOUNT SCALE ASSEMBLY (13-05-0437)



Item #	Part #	Description	Qty
1	03-19-0083	SCL CARDINAL EB-1024 24 X 24 X 1500	1
2	05-03-1072	ASSY SPACER PUMPSTD	1
3	05-03-1073	WDMT SCALE LID PUMPSTD	1
4	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	6
5	06-02-0004	NUT FULL .500-13 ZP GR5	4
6	06-03-0015	NUT LOCK FLG .500-13 ZP GR5	8
7	06-14-0018	STUD .500-13 ZP X 3.00	4
8	09-02-0020	LBL ATWRK ATT SCALE BRKT	2

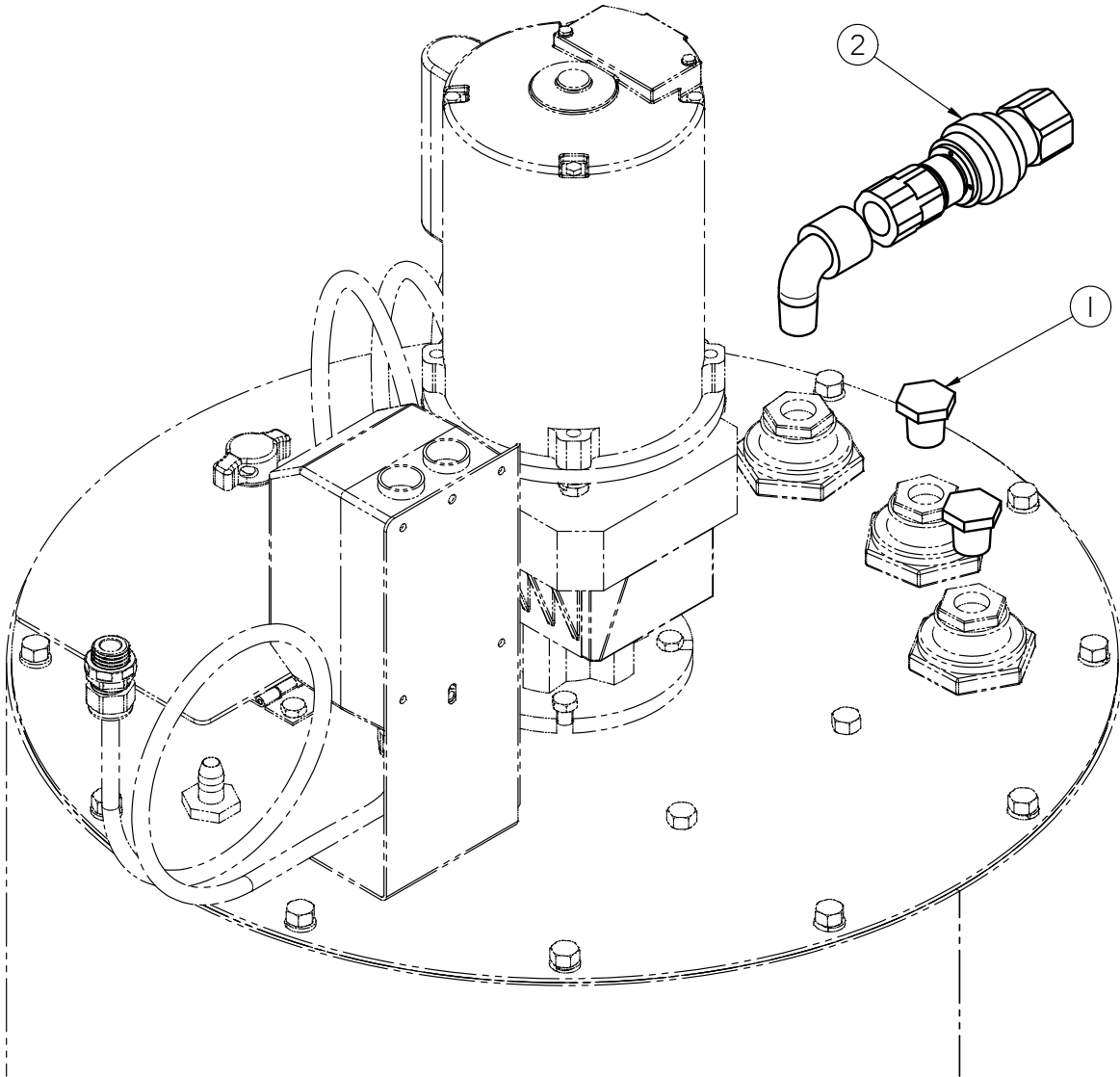
PUMP STANDS
NO FITTINGS KIT (13-05-0449)



Item #	Part #	Description	Qty
1	02-14-0002	FTTG PLUG HH .500 NPT PPE BLK	3

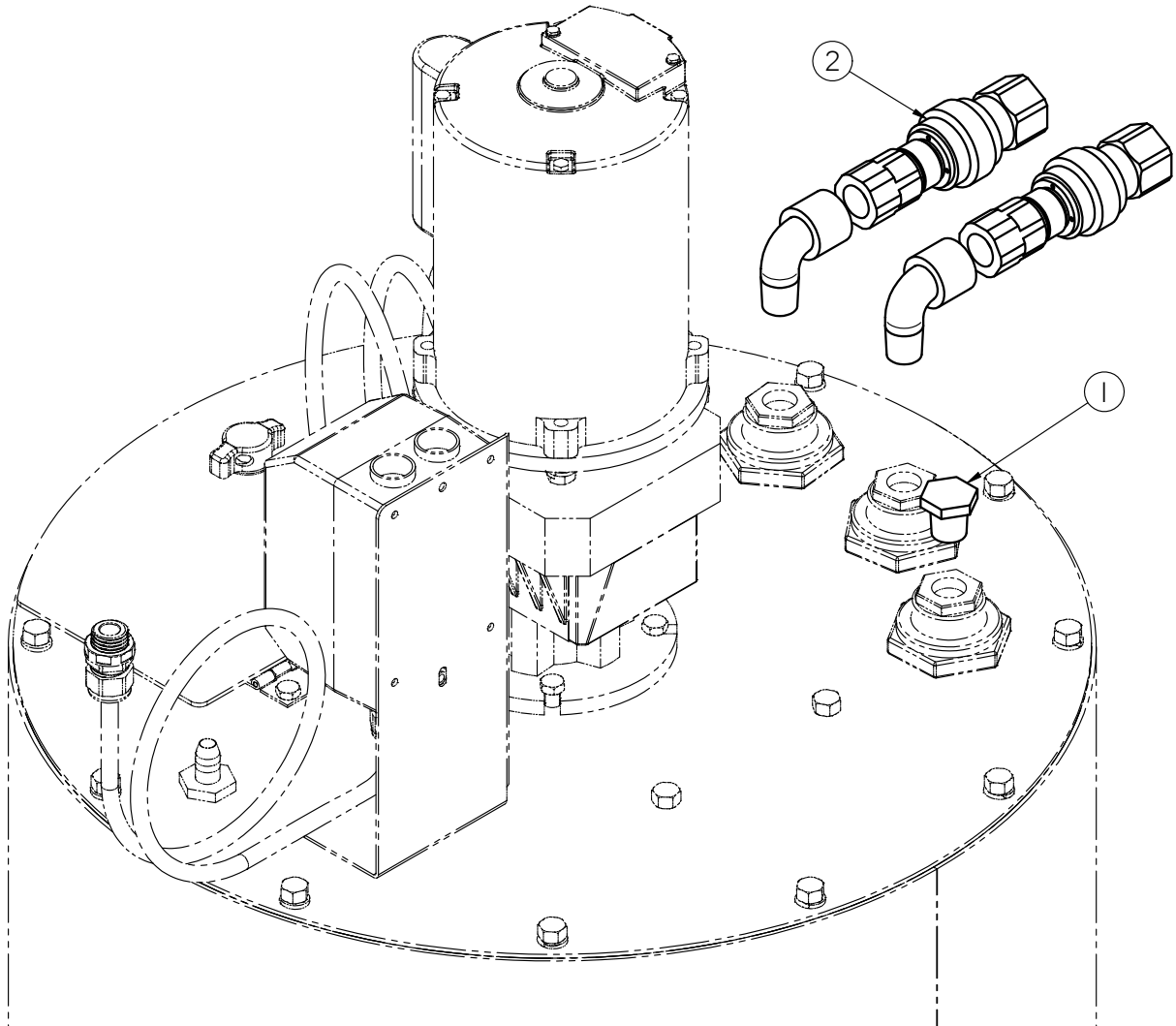
PUMP STANDS

1 DRY LOCK FITTING KIT (13-05-0450)



Item #	Part #	Description	Qty
1	02-14-0002	FTTG PLUG HH .500 NPT PPE BLK*	2
2	13-10-0017	KIT FTTG CHEM TNK .5NPT PARKER	1

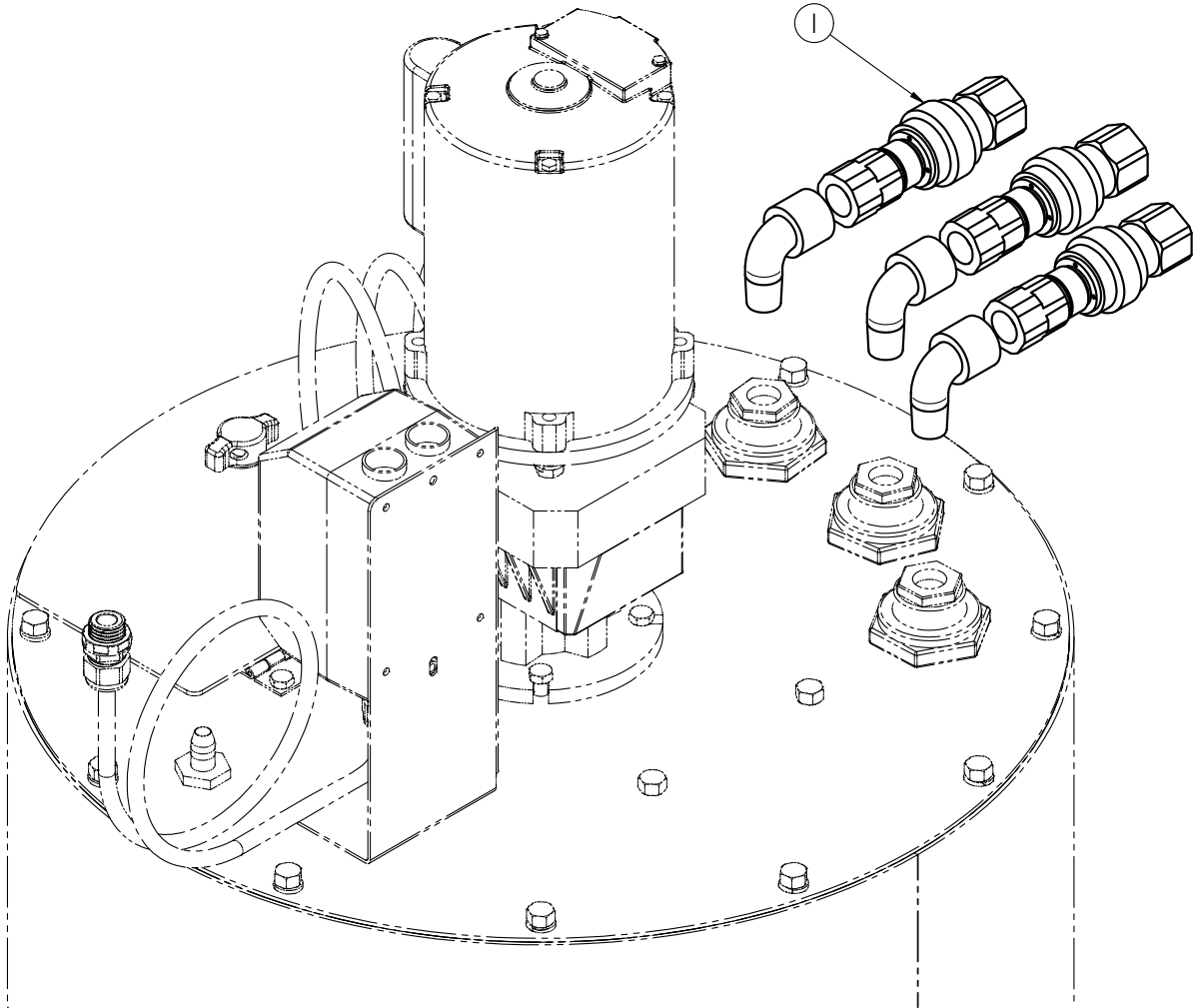
PUMP STANDS
2 DRY LOCK FITTING KIT (13-05-0451)



Item #	Part #	Description	Qty
1	02-14-0002	FTTG PLUG HH .500 NPT PPE BLK*	1
2	13-10-0017	KIT FTTG CHEM TNK .5NPT PARKER	2

PUMP STANDS

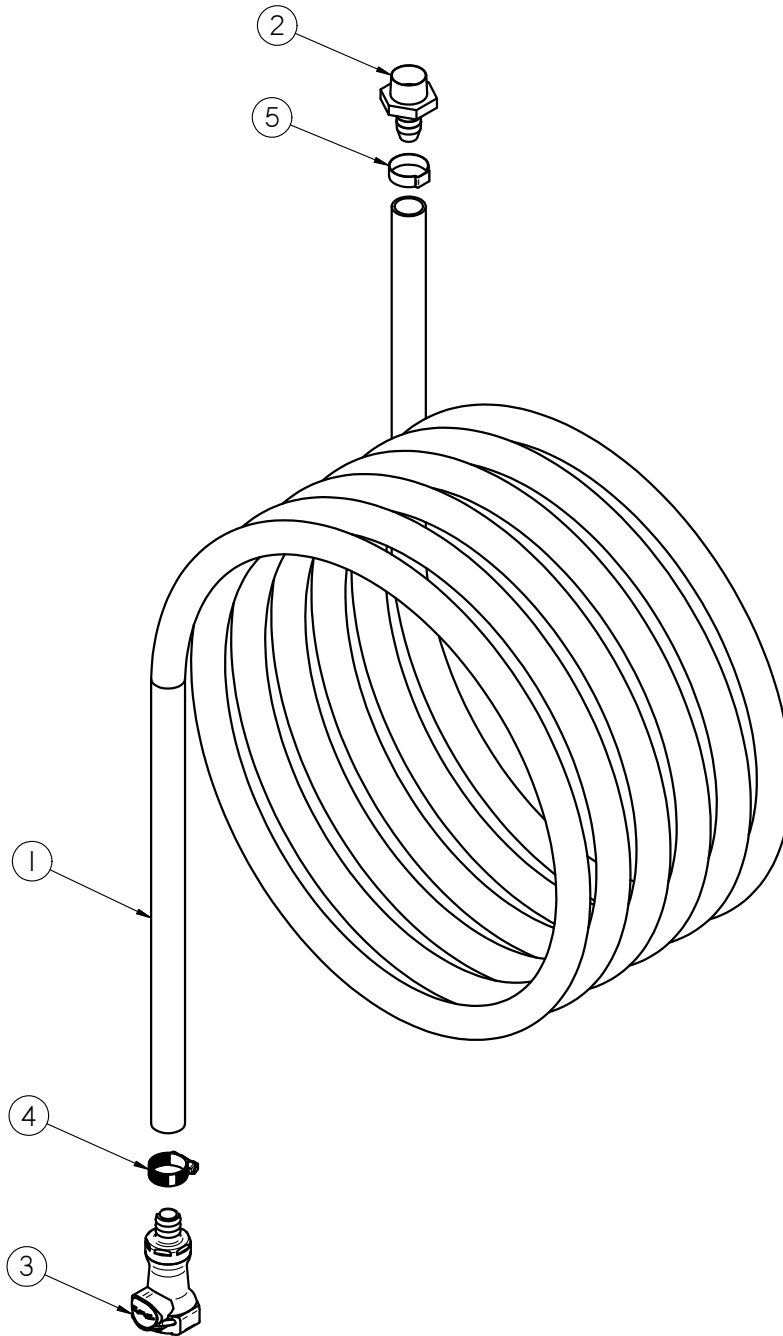
3 DRY LOCK FITTING KIT (13-05-0452)



Item #	Part #	Description	Qty
1	13-10-0017	KIT FTTG CHEM TNK .5NPT PARKER	3

PUMP STANDS

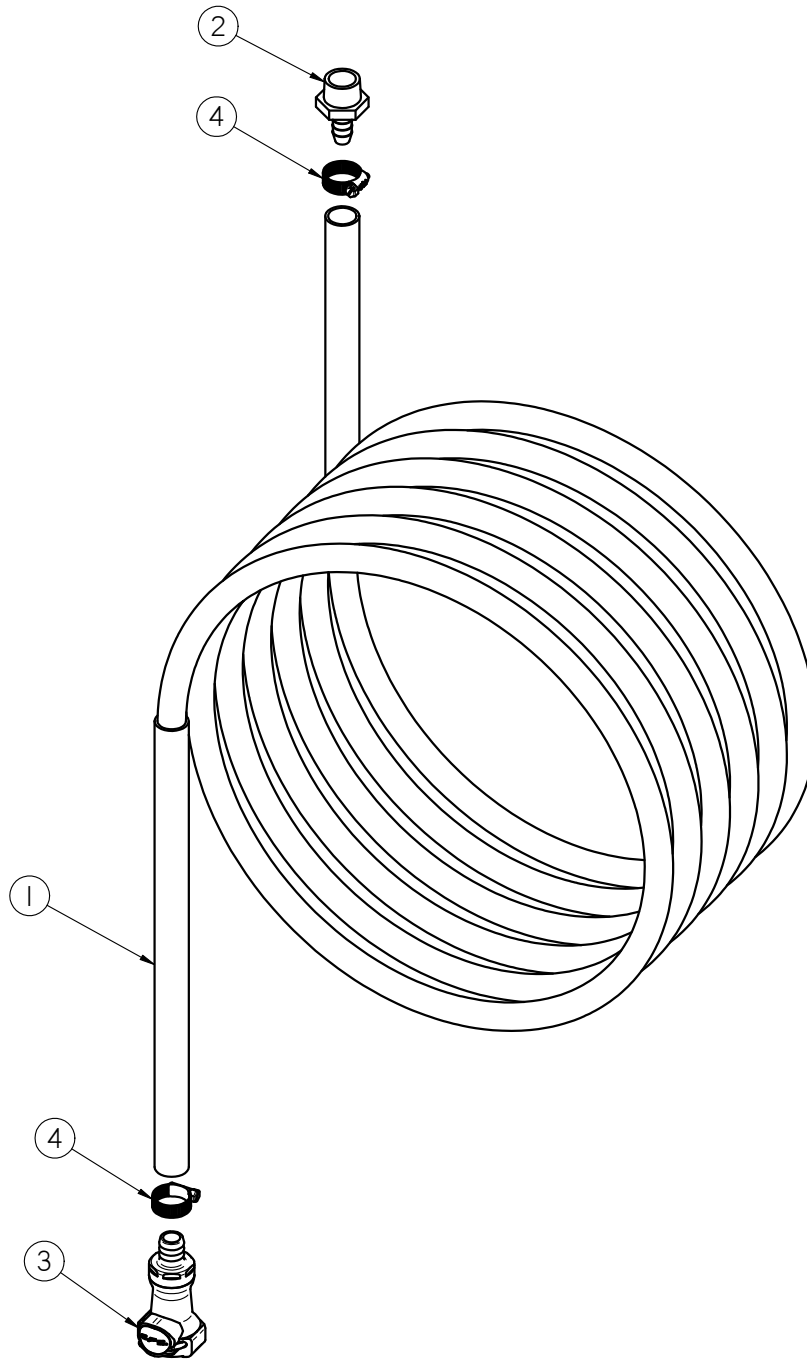
.50 INCH TREATER HOSE ASSEMBLY (13-04-0220)



Item #	Part #	Description	Qty
1	02-03-0005	TUBE .50 RNT	1
2	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	1
3	02-15-0013	FTTG CPLG .500 HB QCK DISC BODY	1
4	06-07-0006	CLMP HOSE .500 TO .906 X .313W ZP	1
5	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	1

PUMP STANDS

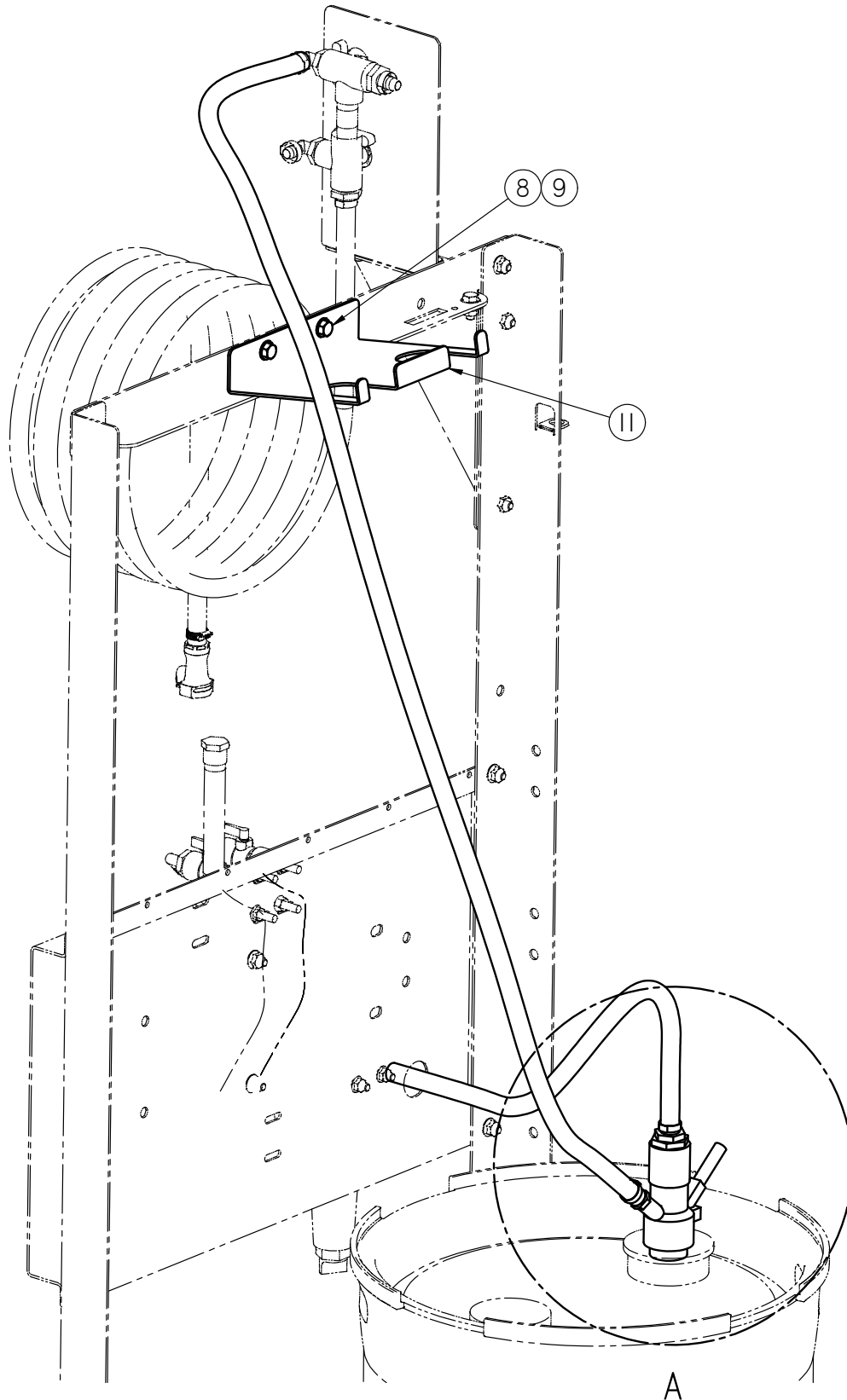
.375 INCH TREATER HOSE ASSEMBLY (13-04-0221)



Item #	Part #	Description	Qty
1	02-03-0004	TUBE .375 RNT	1
2	02-08-0005	FTTG STGHT .375HB X .500NPT ML NYL	1
3	02-15-0025	FTTG CPLG .375 HB QCK DISC BODY	1
4	06-07-0006	CLMP HOSE .500 TO .906 X .313W ZP	2

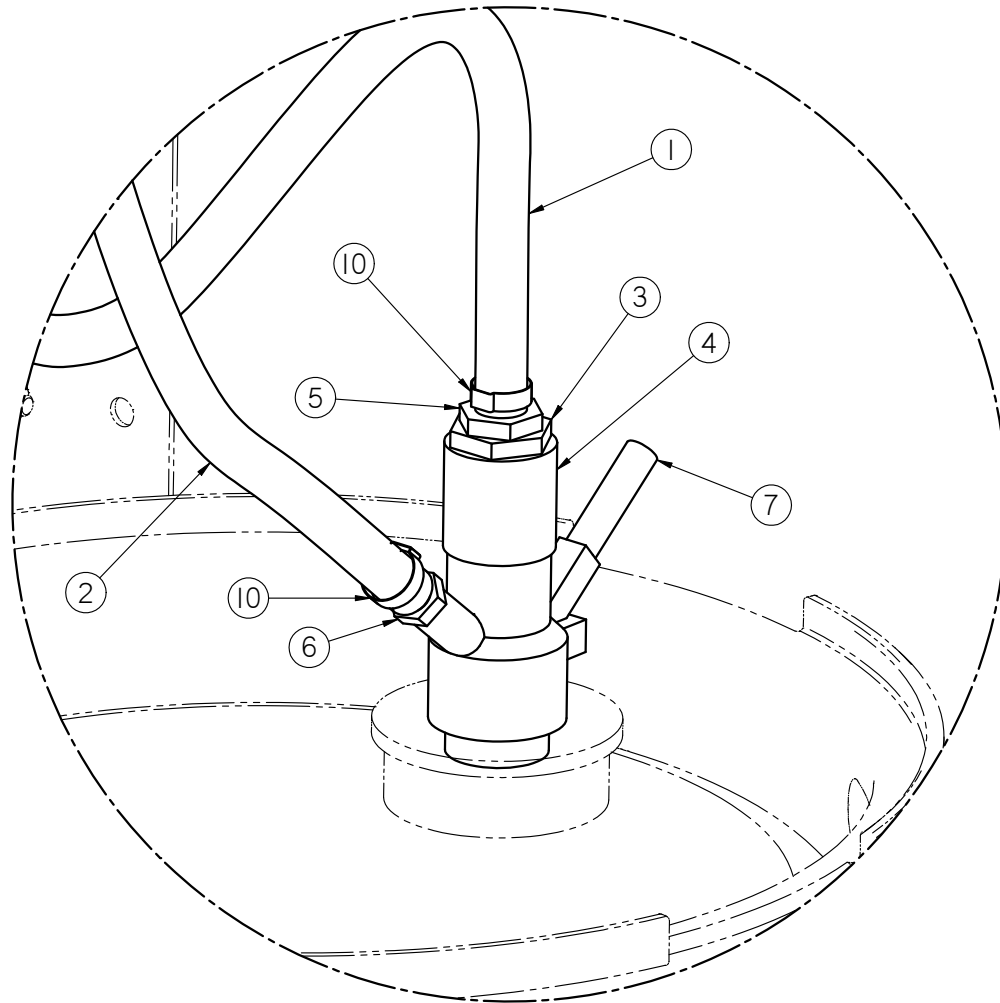
PUMP STANDS

1 PORT TOTE CONNECTION ASSEMBLY (04-03-0253)



PUMP STANDS

1 PORT TOTE CONNECTION ASSEMBLY (04-03-0253)

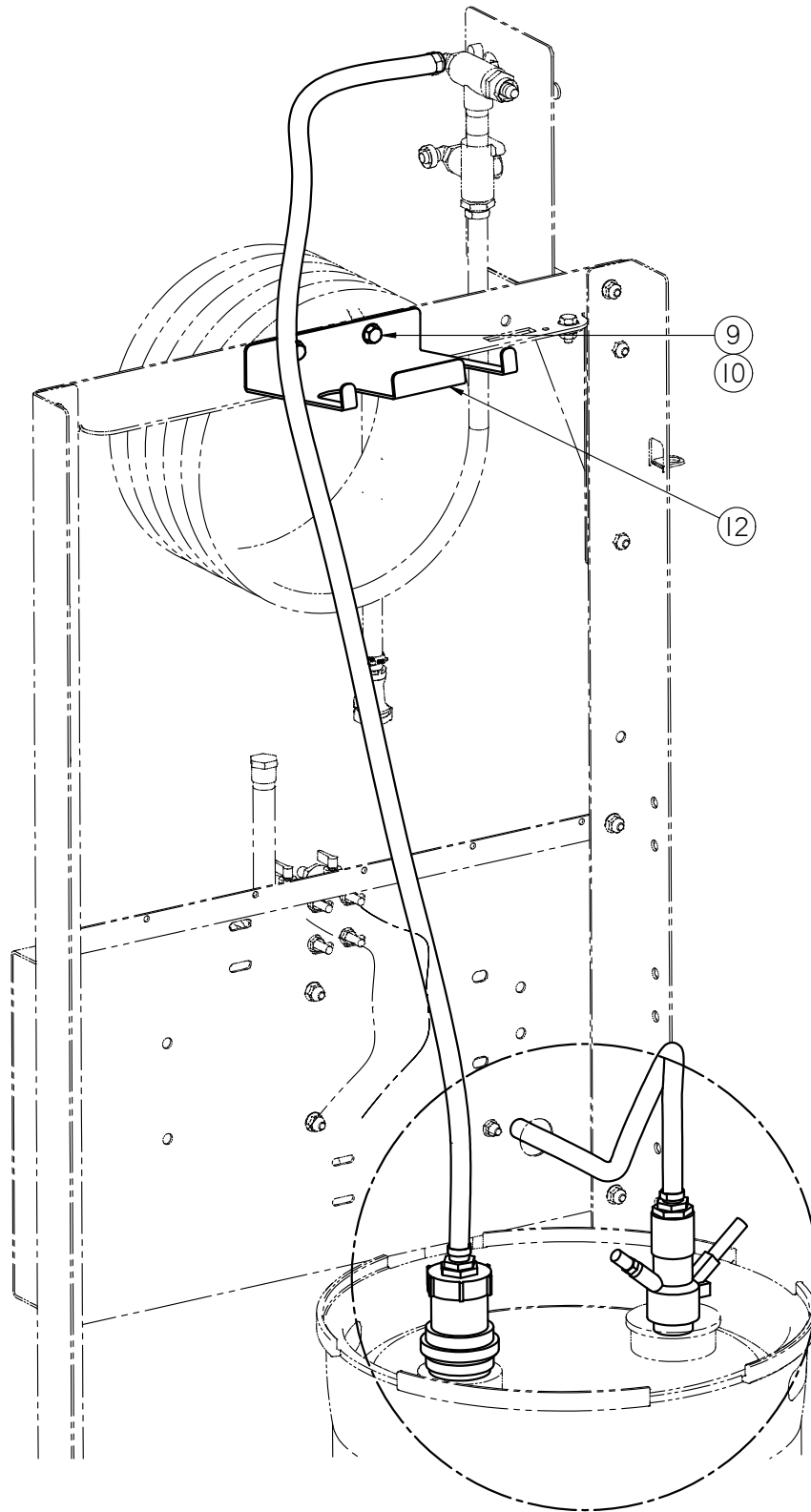


DETAIL A

Item #	Part #	Description	Qty
1	02-03-0005	.5 RNT TUBE	1
2	02-03-0005	.5 RNT TUBE	1
3	02-04-0007	FTTG BUSH 1.00NPT x .750NPT PPE	1
4	02-05-0026	FTTG CPLG 1.00 NPT FM 150PSI SS	1
5	02-08-0008	FTTG STGHT .500HB X .75NPT ML NYL	1
6	02-08-0015	FTTG STGHT .500HB X .250NPT ML NYL	1
7	02-15-0045	FTTG CPLG DRM FILL HD SS MICROMATIC	1
8	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	2
9	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	2
10	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	2
11	102DB2	HOSE HNGR UTOTE	1

PUMP STANDS

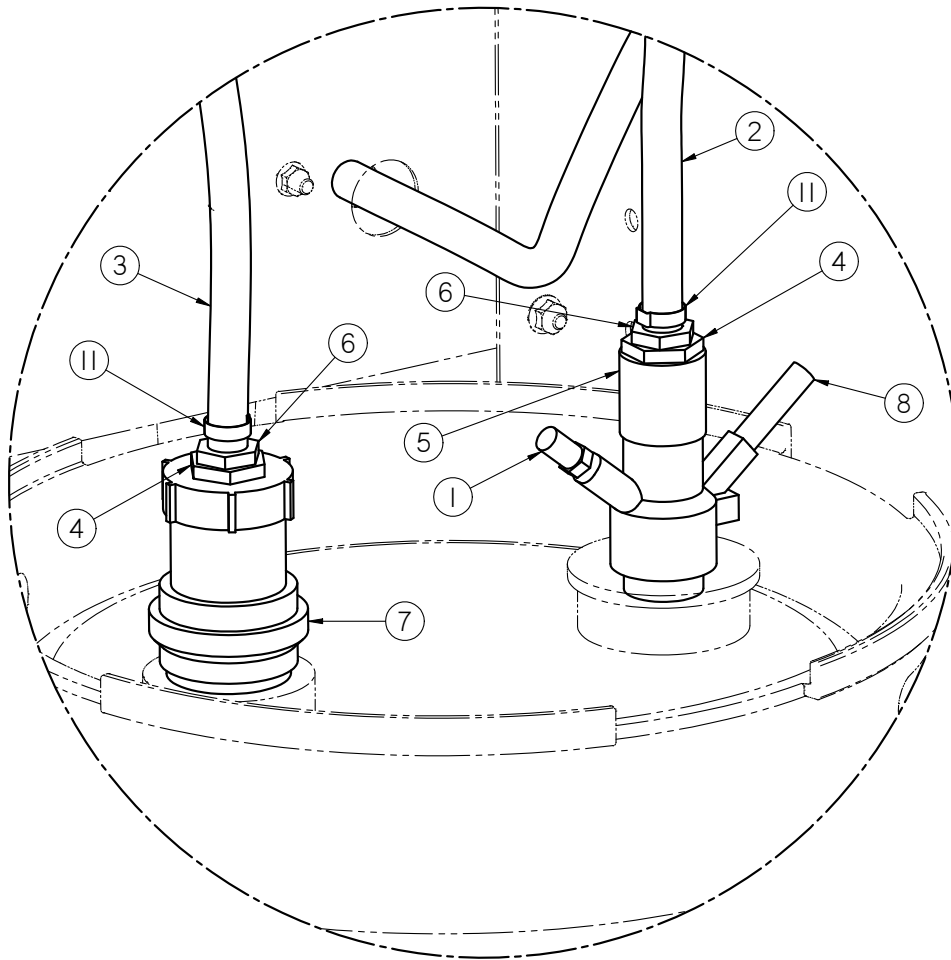
2 PORT TOTE CONNECTION ASSEMBLY (04-03-0252)



A

PUMP STANDS

2 PORT TOTE CONNECTION ASSEMBLY (04-03-0252)

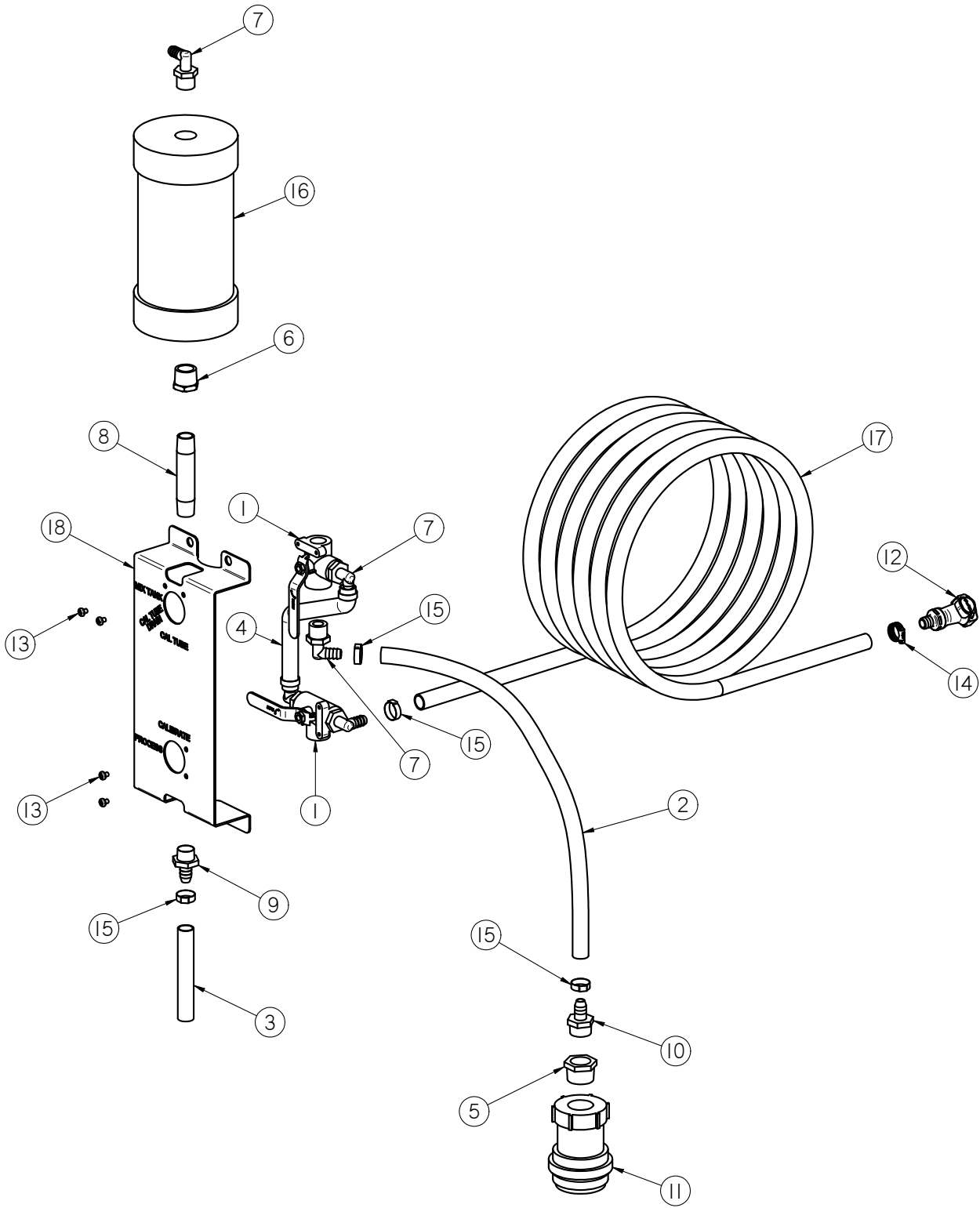


DETAIL A

Item #	Part #	Description	Qty
1	02-02-0050	FLTR EXHAUST BRZ .250 NPT ML	1
2	02-03-0005	.5 RNT TUBE	1
3	02-03-0005	.5 RNT TUBE	1
4	02-04-0007	FTTG BUSH 1.00NPT x .750NPT PPE	2
5	02-05-0026	FTTG CPLG 1.00 NPT FM 150PSI SS	1
6	02-08-0008	FTTG STGHT .500HB X .75NPT ML NYL	2
7	02-15-0005	FTTG CPLG 1.00 NPT FM PARKER POLY	1
8	02-15-0045	FTTG CPLG DRM FILL HD SS MICROMATIC	1
9	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	2
10	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	2
11	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	2
12	102DB2	HOSE HNGR UTOTE	1

PUMP STANDS

TOTE UNIVERSAL VALVE ASSEMBLY (13-05-0364)



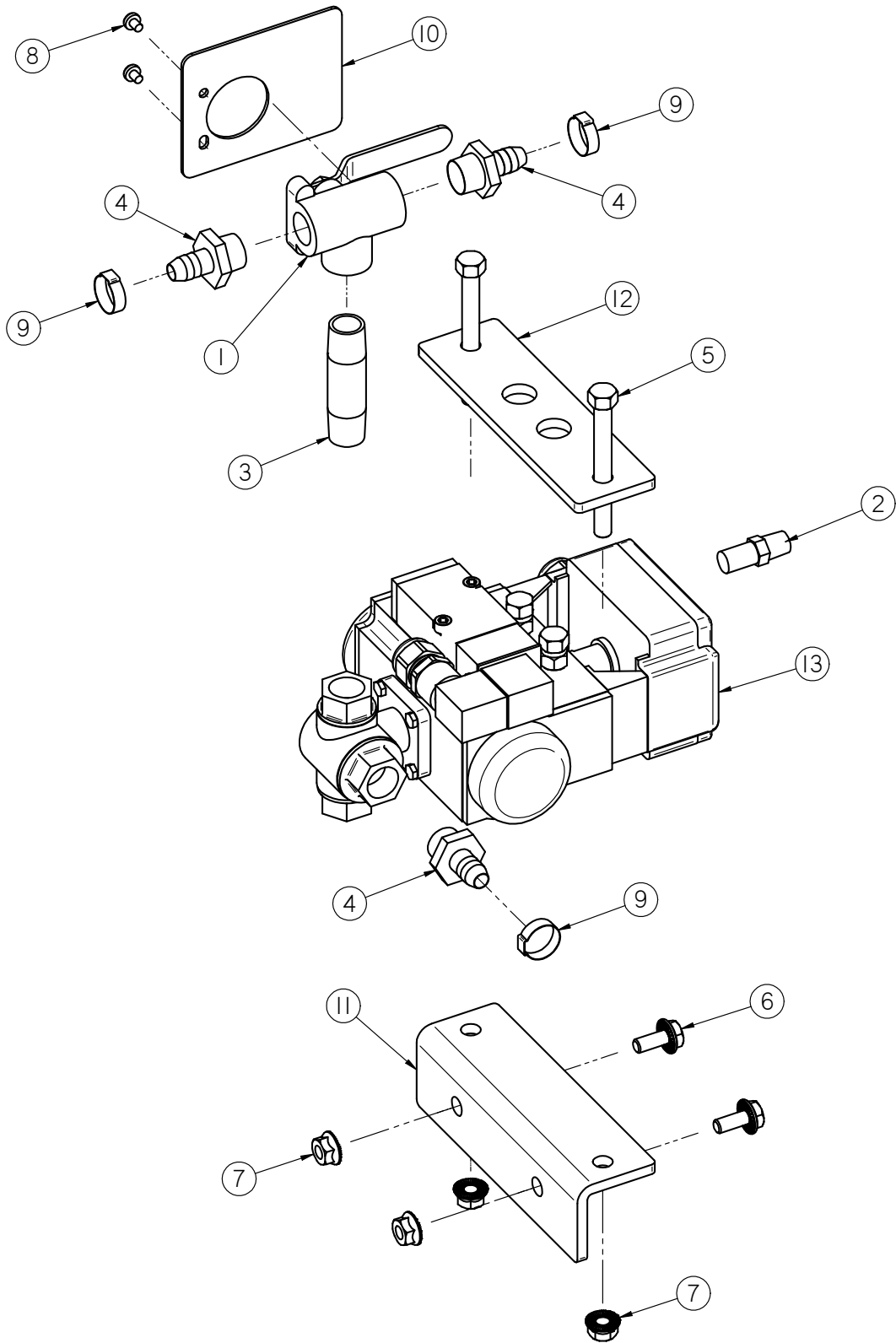
PUMP STANDS

TOTE UNIVERSAL VALVE ASSEMBLY (13-05-0364)

Item #	Part #	Description	Qty
1	02-02-0007	VLV BALL .500 NPT 3WAY BRSS	2
2	02-03-0005	TBG .50 RNT	1
3	02-03-0005	TBG .50 RNT	1
4	02-03-0005	TBG .50 RNT	1
5	02-04-0007	FTTG BUSH 1.00NPT x .750NPT PPE	1
6	02-04-0008	FTTG BUSH .750NPT X .500NPT SS	1
7	02-06-0010	FTTG 90 DEG .500HB X .500NPT ML NYL	5
8	02-07-0013	FTTG NIP .500 NPT X 4.00 TBE SS	1
9	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	1
10	02-08-0008	FTTG STGHT .500HB X .75NPT ML NYL	1
11	02-15-0005	FTTG CPLG 1.00 NPT FM PARKER POLY	1
12	02-15-0013	FTTG CPLG .500 HB QCK DISC BODY	1
13	06-06-0008	SCRW MACH 10-24 X .250 PHLP PHD ZP	4
14	06-07-0006	CLMP HOSE .500 TO .906 X .313W ZP	1
15	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	6
16	07-02-0018	CYL CALB LOOSE TOP 1300ML W/OZ LABEL	1
17	102A89	TUBE	1
18	103D03	VLV MNT UNIV TOTE	1

PUMP STANDS

AUTOMATIC PUMP STAND VALVE CONTROL ASSEMBLY (13-04-0219)



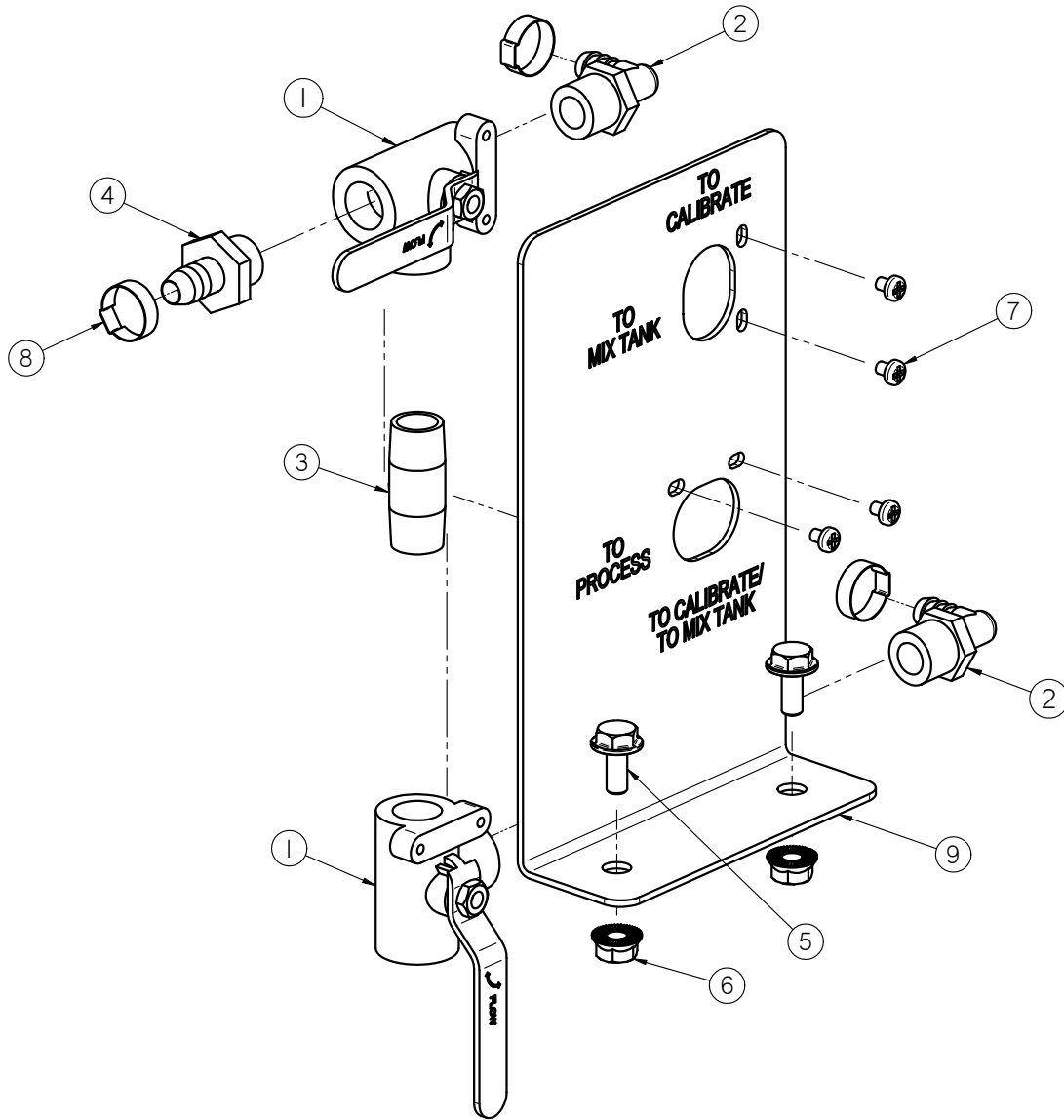
PUMP STANDS

AUTOMATIC PUMP STAND VALVE CONTROL ASSEMBLY (13-04-0219)

Item #	Part #	Description	Qty
1	02-02-0007	VLV BALL .500 NPT 3WAY BRSS	1
2	02-02-0050	FLTR EXHAUST BRZ .250 NPT ML	1
3	02-07-0019	FTTG NIP .500 NPT X 3.00 TBE SS	1
4	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	3
5	06-01-0022	BOLT .375-16 X 3.50 ZP GR5	2
6	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	2
7	06-03-0014	NUT LOCK FLG .375-16 ZP GR5	4
8	06-06-0008	SCRW MACH 10-24 X .250 PHLP PHD ZP	2
9	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	3
10	102231	PLT SOL VLV LABEL PUMPSTD	1
11	1029EA	BRKT MNT CLMP	1
12	1029EB	PLT CLMP	1
13	13-04-0247	ASSY AUTO CONTROL PUMPSTAND	1

PUMP STANDS

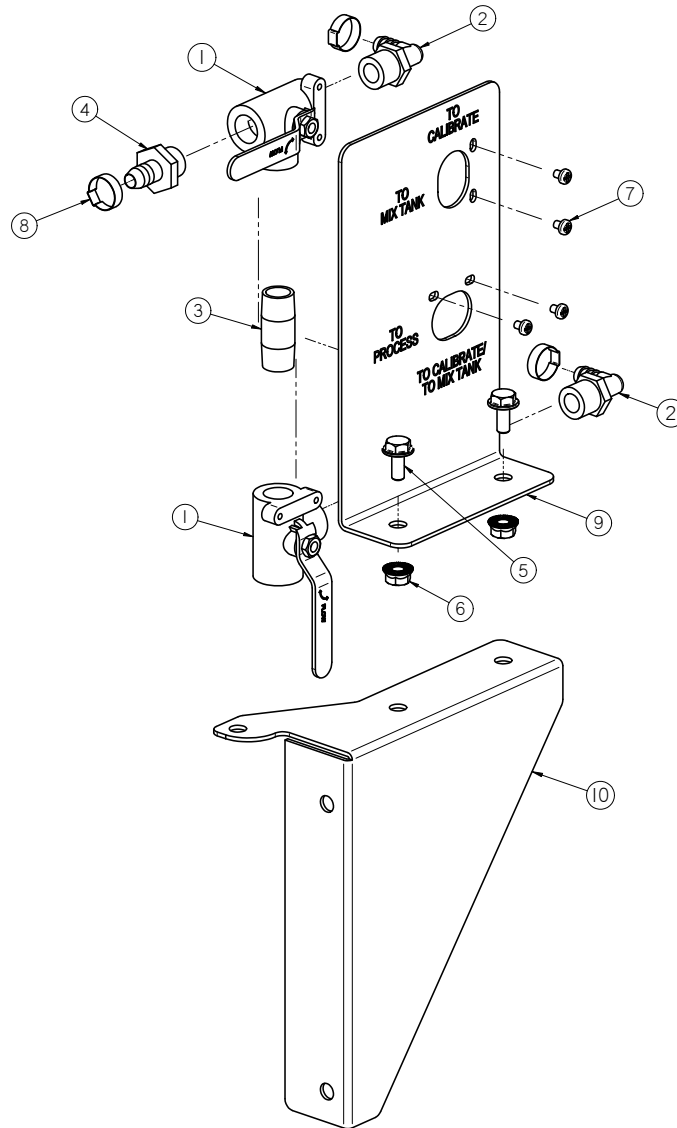
MANUAL PUMP STAND VALVE CONTROLS ASSEMBLY (13-04-0217)



Item #	Part #	Description	Qty
1	02-02-0007	VLV BALL .500 NPT 3WAY BRSS	2
2	02-06-0010	FTTG 90 DEG .500HB X .500NPT ML NYL	2
3	02-07-0010	FTTG NIP .500 NPT X 2.00 TBE SS	1
4	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	1
5	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	2
6	06-03-0033	NUT LOCK FLG .375-16 GR8	2
7	06-06-0008	SCRW MACH 10-24 X .250 PHLP PHD ZP	4
8	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	3
9	10221C	BRKT MAN ASSY VLV	1

PUMP STANDS

MANUAL PUMP STAND VALVE CONTROLS - NO PANEL ASSEMBLY (13-04-0218)



Item #	Part #	Description	Qty
1	02-02-0007	VLV BALL .500 NPT 3WAY BRSS	2
2	02-06-0010	FTTG 90 DEG .500HB X .500NPT ML NYL	2
3	02-07-0010	FTTG NIP .500 NPT X 2.00 TBE SS	1
4	02-08-0007	FTTG STGHT .500HB X .500NPT ML NYL	1
5	06-01-0124	BOLT FLG .375-16 X .750 ZP GR5	2
6	06-03-0033	NUT LOCK FLG .375-16 GR8	2
7	06-06-0008	SCRW MACH 10-24 X .250 PHLP PHD ZP	4
8	06-07-0029	HOSE CLAMP ONE EAR, .716-.827	3
9	10221C	BRKT MAN ASSY VLV	1
10	1043E1	BRKT MNL CNTRL	1

PUMP STANDS

NOTES:

USC LIMITED WARRANTY

SECTION I

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.

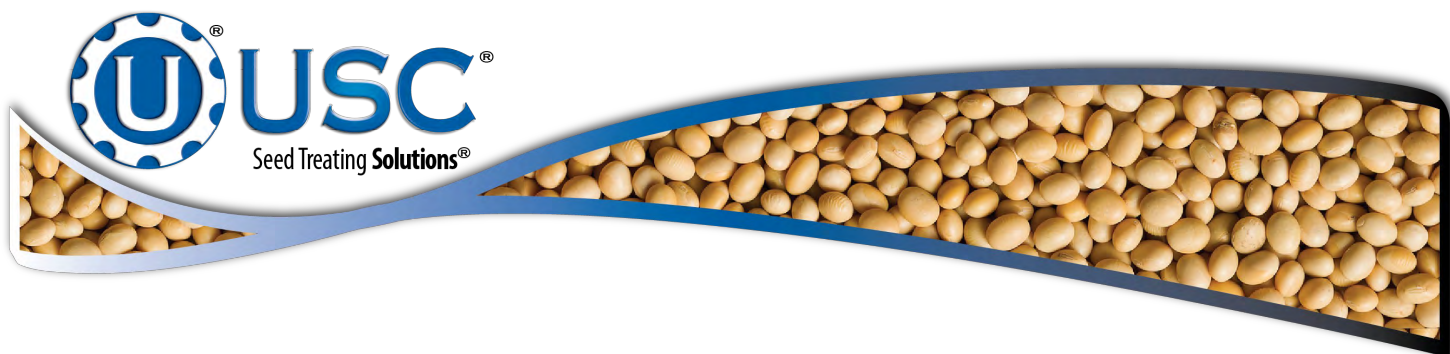
4. **Other Statements:** Manufacturer's employees or representatives' oral or other written statements do not constitute warranties, shall not be relied upon by Buyer, and are not a part of the contract for sale or this limited warranty.

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.

US / Canada Non-Exclusive 2016





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