

**MOVOTEC<sup>®</sup>**  
**Crank Driven ATU**  
**Lift System Manual**  
by  
**SUSPA<sup>®</sup>**



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Suspa<sup>®</sup> Incorporated

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## **2.0 Introduction**

Thank you for purchasing the Movotec<sup>®</sup> Crank Driven ATU Lift System.

The Movotec<sup>®</sup> Crank Driven ATU Lift System is a single-acting fluid displacement lift system that is manually driven by a hand crank. This particular lift system was designed to be used in conjunction with the Movotec<sup>®</sup> ATU or Aluminum Telescoping Upright. The Movotec<sup>®</sup> ATU is a telescoping table leg which provides guide support for Movotec<sup>®</sup> lift cylinders throughout their extension and retraction cycle. The ATU also offers a solution for customers who want to make their own height adjustable table, but do not have the means to manufacture their own telescoping leg.

Suspa also offers a Movotec<sup>®</sup> ATU Workstation Kit. The workstation kit contains all of brackets and hardware necessary to construct a complete height adjustable workstation base and includes everything but the work-surface.

For over twenty years, Movotec<sup>®</sup> systems have been used on industrial workbenches, small machine bases, physical therapy equipment, massage tables, office furniture, biological and chemical vented hoods, autopsy and necropsy tables, sewing machine bases, home healthcare beds, packaging equipment, custom yachts, and many other applications.

Movotec<sup>®</sup> lift systems are subjected to life cycle testing on a regular basis. The tests are performed in a temperature and humidity controlled environment under full system load conditions. Movotec<sup>®</sup> lift systems perform consistently well in this controlled test environment. However, due to the wide variety of possible lift system applications and operating conditions, Suspa<sup>®</sup> does not warrant that any particular lift system is suitable for any specific application. It is the responsibility of the person who specified the system to determine its “fitness for use” in the application, through testing and analysis, to ensure safe and reliable performance. A complete statement including terms and limitations of the Movotec<sup>®</sup> Crank Driven ATU Lift System warranty can be found in Section 11.0 of this manual.

Movotec<sup>®</sup> lift systems are assembled and subjected to a full function quality test before they leave our manufacturing facility. Suspa guarantees products are free from material and manufacturing defects, but cannot support the warranty for our products if they are altered, misused, misapplied, or abused in any way. It is the responsibility of system installers, users, and service technicians to read and carry out the instructions in this manual correctly to prevent these potentially unsafe and unwarranted occurrences from happening.

Thank you again for purchasing the Movotec<sup>®</sup> Crank Driven ATU Lift System.

Suspa<sup>®</sup> Incorporated



### **3.0 Safety Instructions**

**READ THE INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO INSTALL, OPERATE, OR SERVICE THIS PRODUCT. FOLLOW THESE SAFETY INSTRUCTIONS AT ALL TIMES.**

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This manual contains safety, installation, operation, maintenance, and user service instructions for the Movotec<sup>®</sup> Crank Driven ATU Lift System. Suspa<sup>®</sup> Incorporated is not responsible for any alteration, misuse, misapplication, or abuse of this product resulting in property damage, personal injury or death.

** WARNING FAILURE TO FOLLOW THE INSTRUCTIONS IN THIS MANUAL COULD RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.**

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If you have any questions about the use of this product, the safety practices outlined in this manual or would like a printed copy of this manual, please contact:

SUSPA<sup>®</sup> Incorporated  
3970 Roger B. Chaffee Drive SE  
Grand Rapids, MI 49548-3497  
Phone: (616) 241-4200  
Fax: (616) 241-4347  
[www.suspa.com](http://www.suspa.com)

**VERIFY SYSTEM SELECTION.** Before installing or operating the system, please review the application to confirm that the correct Movotec<sup>®</sup> Lift System has been selected. Pay particular attention to the load capacity and adjustment range ratings listed on the blue product label.

**HANDLE COMPONENTS WITH CARE.** Do not handle system by the hydraulic tubing. Keep hydraulic tubing far from heat, sharp edges, and moisture. If hydraulic tubing is damaged, discontinue use and have the tubing replaced immediately. Do not ever attempt to repair a damaged hydraulic tubing line.

**VISUALLY INSPECT COMPONENTS.** Before installing and operating the system, inspect all components for any damage that may have occurred during shipping and installation. Do not attempt to disassemble system or system components for any reason. If a defective component is found, contact Suspa<sup>®</sup> Incorporated for repair or replacement.

**USE OF TRAINED AND QUALIFIED PERSONNEL.** System installation, operation, and repair should only be done by persons having sufficient knowledge of the lift system and the contents of this manual. In addition, they must have an understanding of all warnings and precautionary measures noted in these safety instructions.

**AVOID HAZARDOUS ENVIRONMENT.** Do not operate the system outside. Do not expose the system to damp or wet conditions. Avoid any chemical or corrosive environments. Do not operate the system in the presence of flammable solvents, propellants, and/or explosive materials (i.e. gas, vapor, dust, etc.) Avoid temperatures outside of the system rated operating temperature range 41° to 113°F (5° to 45°C). Do not subject lift system components to vibration and/or impact load conditions.

**INSTALLATION SAFEGUARDS.** Do not use the system for any purpose other than its intended function. Before operating system, make sure that the workstation has a minimum clearance of 2 in. (51mm) from any other object or structure to prevent pinching or crushing hazards. Do not allow wall, cabinet, electrical lines, hydraulic or pneumatic lines, or any other fixed structures to obstruct the movement of the workstation during operation.

**KEEP CHILDREN AWAY.** It is not recommended that children operate this lift device. If this device is used by or near children, close supervision is absolutely necessary.

**USE OF ACCESSORIES.** Use only spare parts and accessories authorized or supplied by Suspa<sup>®</sup> Incorporated. Do not replace or replenish lift system hydraulic fluid unless the fluid is supplied by Suspa<sup>®</sup> Incorporated.

**MAINTENANCE SAFEGUARDS.** Prior to performing any maintenance or service on the device, remove the load from all lift cylinders. The workstation or structure that the lift system is attached to should be stabilized to prevent personal injury or property damage during maintenance or service procedures.

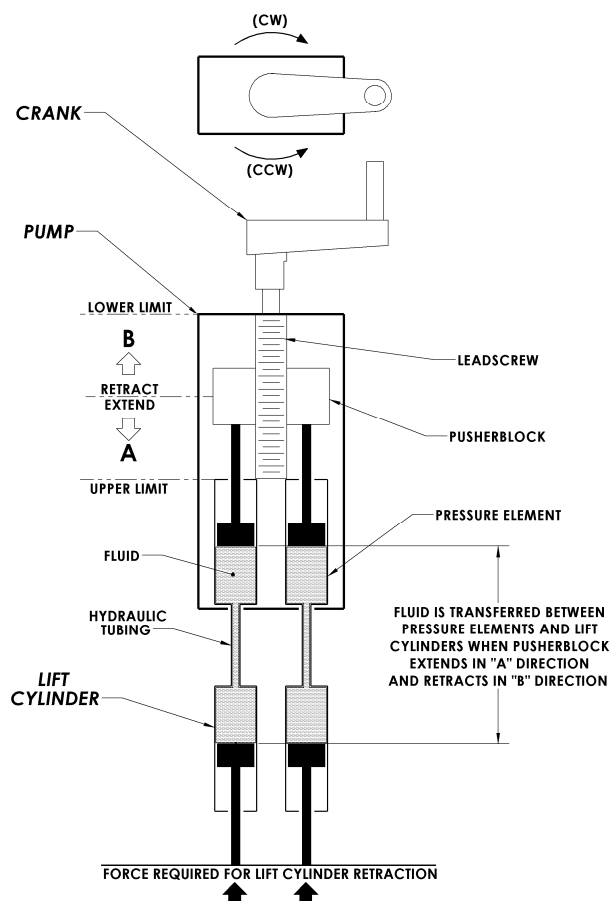
**RETRACT SYSTEM BEFORE MOVING.** To reduce the risk of property damage and personal injury, always retract the lift system fully before moving the equipment.

**UNPLUG BEFORE CLEANING.** Retract the lift system before cleaning components. Clean system components with a mild soap and water-damped cloth. Do not use corrosive cleaning agents or high pressure wash systems to clean lift system components. Make sure system is clean and dry before operating the system.

**SAVE THIS MANUAL FOR FUTURE REFERENCE.**

## **4.0 How it Works**

Movotec<sup>®</sup> Crank Driven “ATU” Lift Systems are comprised of three major component subsystems; the crank, the pump, and the lift cylinders. This section will explain how each subsystem works together to make the lift system extend and retract.



**Movotec<sup>®</sup> Crank Driven Schematic**

### **4.1 Extension Cycle:**

The crank is mechanically coupled to the pump leadscrew shaft. When the crank is rotated in a clockwise (CW) direction, the leadscrew shaft rotates in the same (CW) direction. As the crank continues to rotate in a (CW) direction, the threaded pusherblock moves up the leadscrew in the direction of arrow “A”. This action drives fluid from the pressure elements, through the hydraulic tubing, and into the lift cylinders causing them to extend. As the cylinder load increases, the force required to rotate the crank increases. Generally speaking, the crank force required to extend the system will always be greater than the crank force required to retract the system. It is also important to note that when

the pump has reached its upper limit, the user will feel increased resistance at the crank handle.

#### **4.2 Retraction Cycle:** (Refer to Movotec® Crank Driven Schematic on page 6)

The crank is mechanically coupled to the pump leadscrew shaft. When the crank is rotated in a counter-clockwise (CCW) direction, the leadscrew shaft rotates in the same (CCW) direction. As the crank continues to rotate in a (CCW) direction, the threaded pusherblock moves down the leadscrew in the direction of arrow “B”. As long as there is sufficient load on the lift cylinder piston rods, the fluid in the lift cylinders flows back through the hydraulic tubing and into the pressure elements. It is important to note that the user will feel increased resistance at the crank handle when the pump has reached its lower limit.

### **5.0 Unpacking Instructions**

The system comes packaged in a cardboard carton. To unpack the system:

- Check the carton label to confirm that you have received the correct system; open the carton and remove packaging material.
- Carefully remove the system from the carton, and verify all components are present (reference chart below), and that the correct lift system was received.

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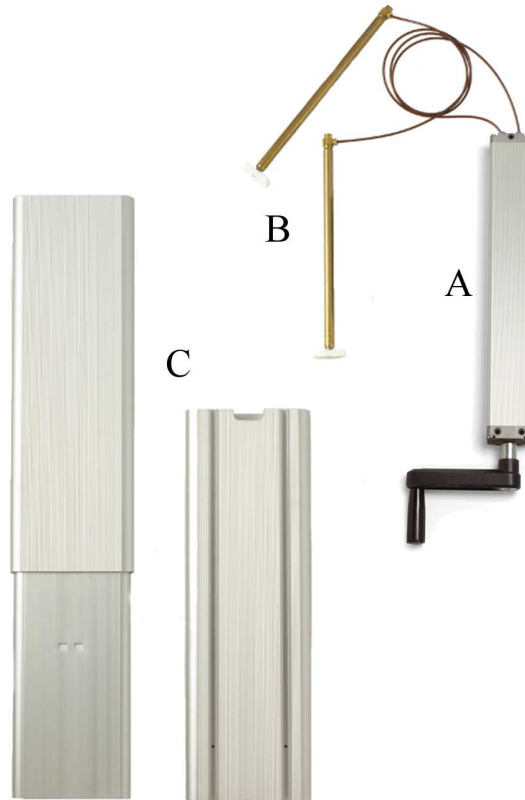
Do not handle the lift cylinders and motorized pump by the hydraulic tubing. Incorrect handling of hydraulic tubing could weaken the tubing material and system tubing connections.



**DAMAGE TO TUBING OR TUBING CONNECTIONS  
COULD CAUSE FLUID LOSS AND UNCONTROLLED  
DESCENT OF THE WORK-SURFACE.**

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- Verify that all of the listed components are present; carton should contain:



System Component	Quantity
<b>(A) Crank Driven Pump</b>	1
<b>(B) Lift Cylinders (Connected to Pump)</b>	2
<b>(C) Aluminum Telescoping Uprights</b>	2
<b>(D) 13mm Retaining Rings (Attached to Lift Cylinders)</b>	2
<b>(E) Mounting Clips (Not Shown)</b>	4
<b>(F) Cable Ties (Not Shown)</b>	4

- If the lift system is damaged or any component is missing, please contact Suspa<sup>®</sup> Incorporated to resolve the issue.
- Dispose of the all packaging materials in an ecologically sound manner.



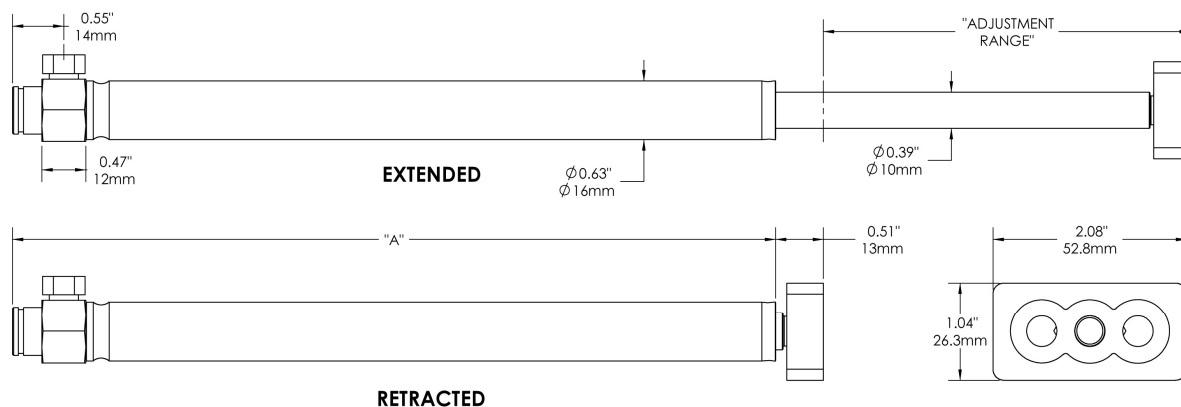
## 6.0 Lift System Specifications

The “A”, “B”, “X”, and “Y” dimensions shown in the table and drawings below vary depending on the system lift capacity and the adjustment range of the selected system.

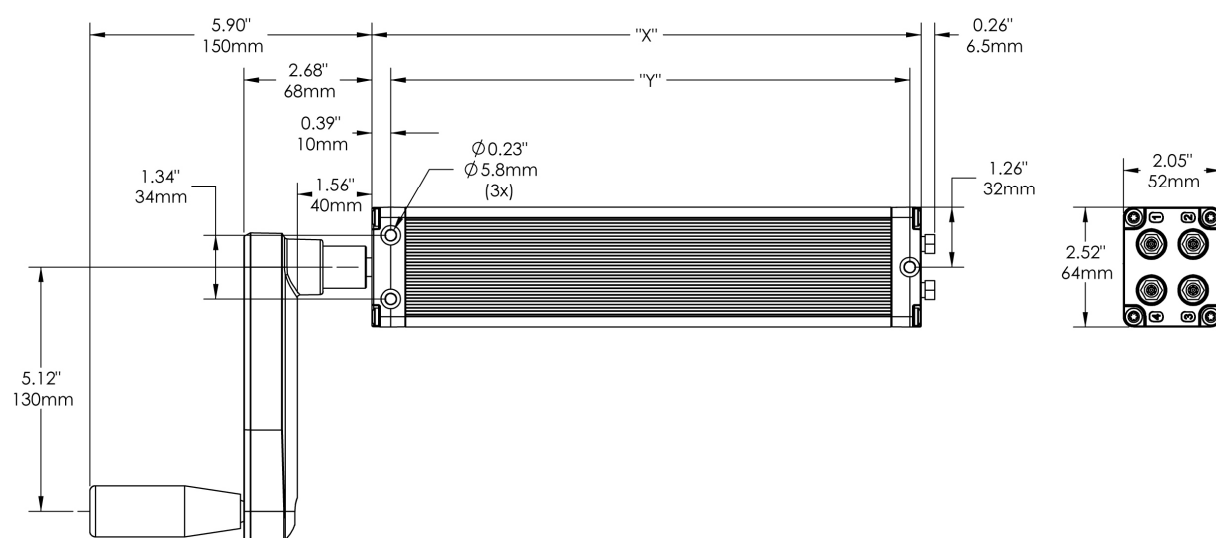
Lift System Part Number	Adjustment Range (in/mm)	System Lift Capacity (lb/kg)	CE Cylinder	Crank Driven Pump		ATU Assembly	
			"A" (in/mm)	"X" (in/mm)	"Y" (in/mm)	"B" (in/mm)	"L" (in/mm)
MLS-00060	7.9 / 200	500 / 227	9.84 / 250	13.86 / 352	13.23 / 336	19.69 / 500	7.87 / 200
MLS-00061	11.8 / 300	500 / 227	13.78 / 350	18.58 / 472	17.95 / 456	23.62 / 600	11.81 / 300

### 6.1 Lift Cylinder Specifications

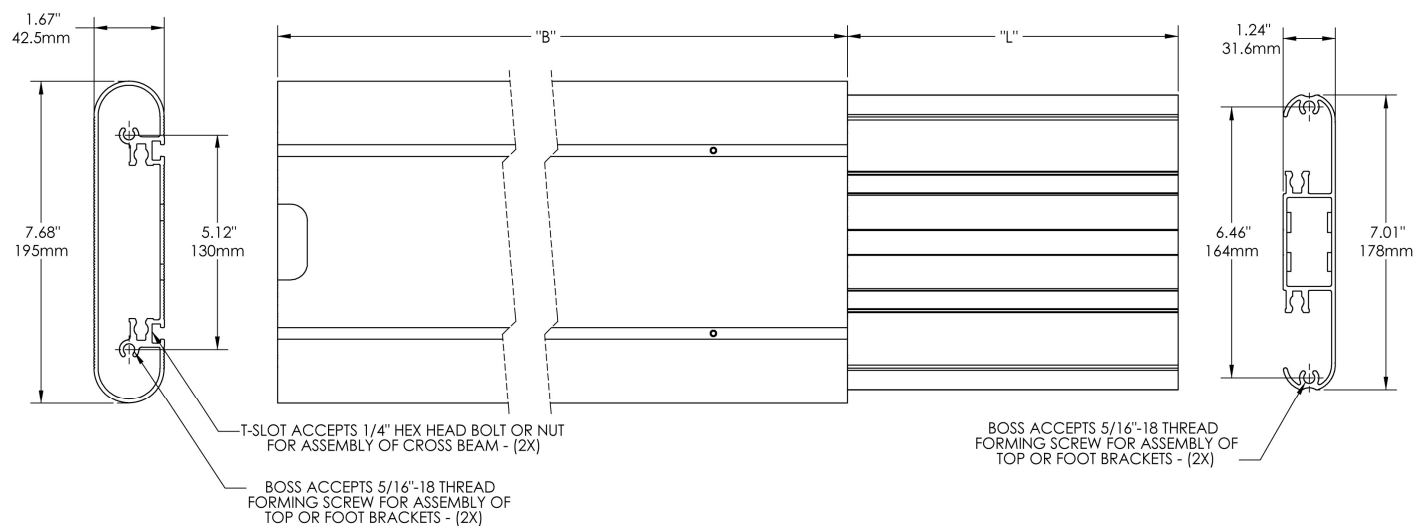
CE4xx cylinders are rated for a maximum load of 250lb (113.4kg) each.



### 6.2 Crank Driven Pump Specifications



### 6.3 ATU Specifications



### 6.4 Regulatory Information

#### RoHS Directive (2002/95/EC)

Suspa<sup>®</sup> Incorporated has examined all of the materials and processes utilized in the production of Movotec<sup>®</sup> lift systems and has determined that this product is in compliance with the European Union RoHS Directive 2002/95/EC.

## **7.0 Installation Instructions**

The Movotec<sup>®</sup> Crank Driven ATU Lift System can be used with a variety of brackets, hardware, and other structural components to construct a height adjustable workstation. **IT IS THE RESPONSIBILITY OF THE WORKSTATION COMPONENT PURCHASER AND USER TO ENSURE THE TABLE COMPONENTS AND CONFIGURATION ARE APPROPRIATE FOR THE APPLICATION.**

This section contains installation instructions for the Movotec<sup>®</sup> Crank Driven ATU Lift System when used with a Movotec<sup>®</sup> ATU Workstation Kit. The installation procedure may vary slightly when using customer designed brackets, hardware, and/or other structural components. Please also note that the Movotec<sup>®</sup> ATU Workstation Kit is not included with Movotec<sup>®</sup> Crank Driven ATU lift system. Contact Suspa<sup>®</sup> Incorporated for Movotec<sup>®</sup> ATU Workstation Kit ordering information.



**FOLLOW ALL SAFETY INSTRUCTIONS CONTAINED IN SECTION 3.0 OF THIS MANUAL BEFORE INSTALLING THIS PRODUCT. FAILURE TO FOLLOW THE INSTRUCTIONS IN THIS MANUAL COULD RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.**

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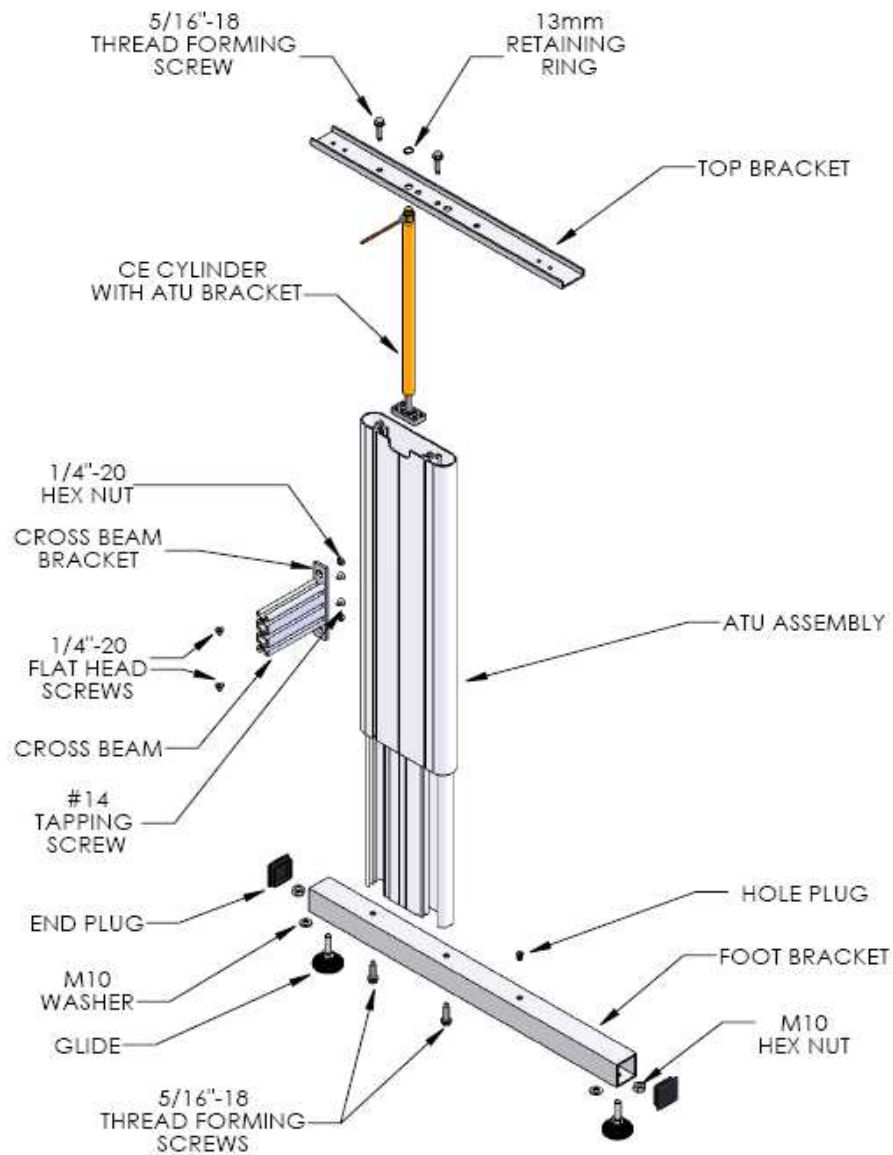
## **7.1 Workstation Kit Component List**

The Movotec<sup>®</sup> ATU Workstation Kit includes:

- (2) - Foot brackets
- (2) - Top brackets
- (2) - Cross beam brackets
- (1) - Cross beam
- (8) - 5/16"-18 forming screws
- (4) - Glides
- (4) - M10 hex nuts
- (8) - M10 washers
- (4) - End plugs
- (2) - Hole plugs
- (4) - 1/4"-20 flat head screws
- (4) - 1/4"-20 hex nuts
- (4) - #14 tapping screws
- (3) - 13mm retaining rings

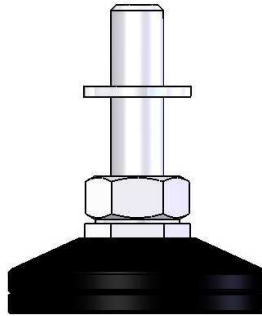
## 7.2 Typical Installation

The typical installation for the Movotec® ATU Workstation Kit is shown below. The installation configuration may vary slightly when using customer designed brackets, hardware, and/or other structural components.

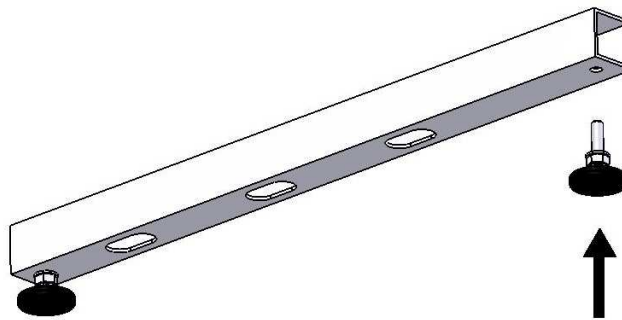


### **7.3 Foot Bracket Installation**

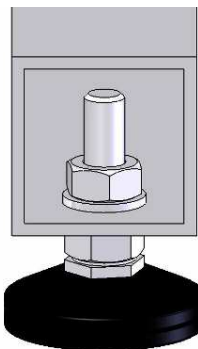
- Install M10 washer onto glide thread.



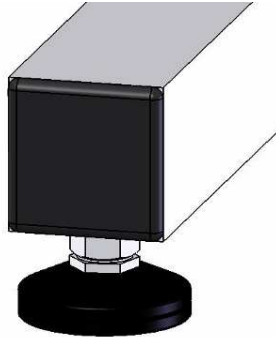
- Insert glide thread into hole at end of foot bracket. .



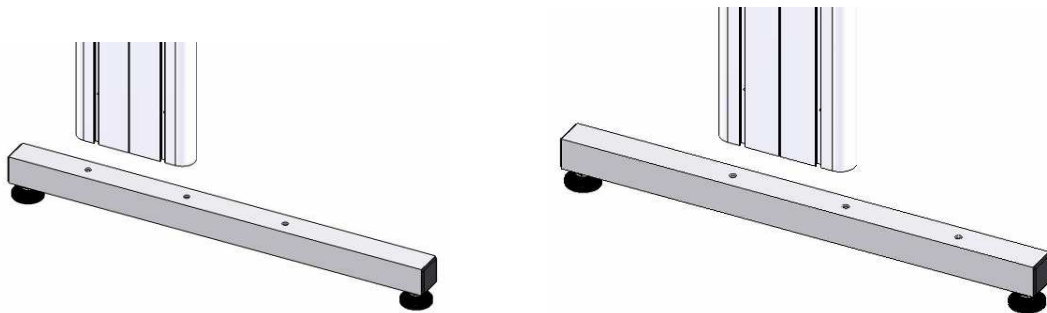
- Fasten glide to foot bracket using M10 washer and M10 hex nut. Repeat for each glide and foot bracket.



- Insert end plugs into open ends of both foot brackets using soft-face hammer, if necessary.



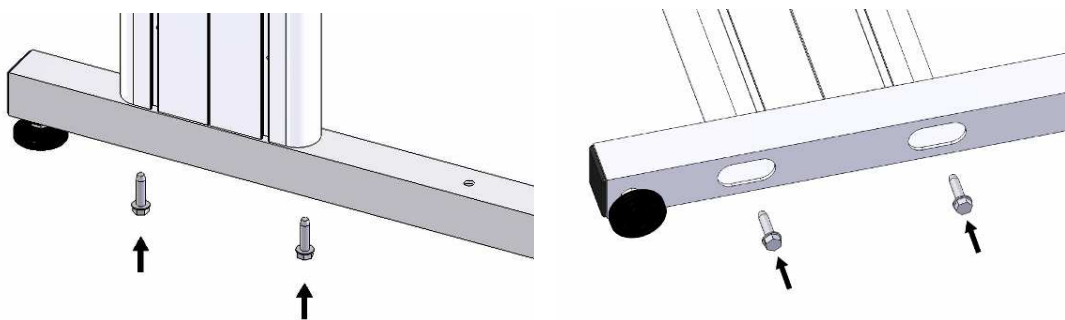
- Align foot bracket with ATU bottom in the desired mounting configuration (cantilever or centered).



**Cantilever Configuration**

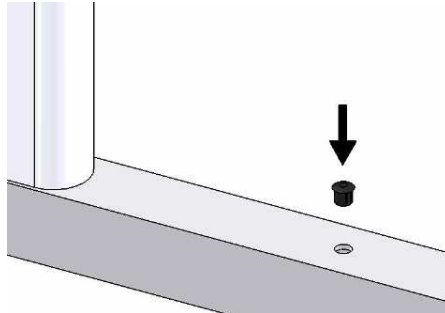
**Centered Configuration**

- Fasten foot bracket to bottom of ATU using (2) 5/16"-18 thread forming screws. Please note that the function of the thread forming screw is to cut threads into the ATU as the screw is driven into the material.

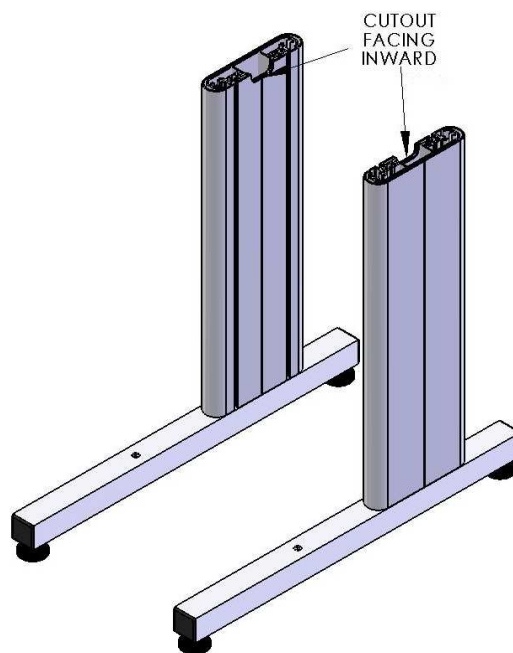


**Cantilever Configuration Shown**

- Insert hole plug into unused mounting hole.



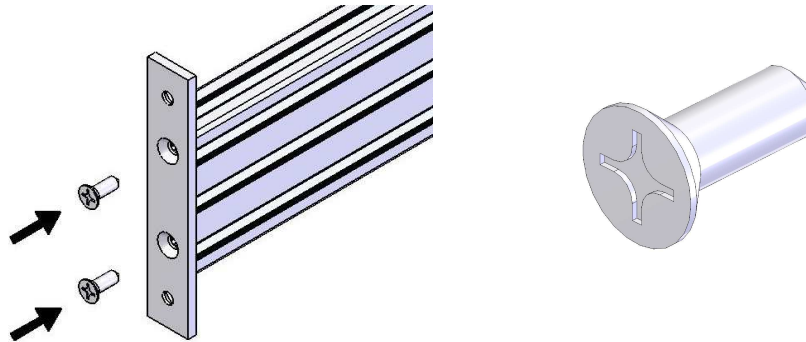
- Repeat foot bracket assembly procedure for second ATU. When fastening second foot bracket to ATU, make sure that the tubing cutout is facing inwards in relation to the other ATU.



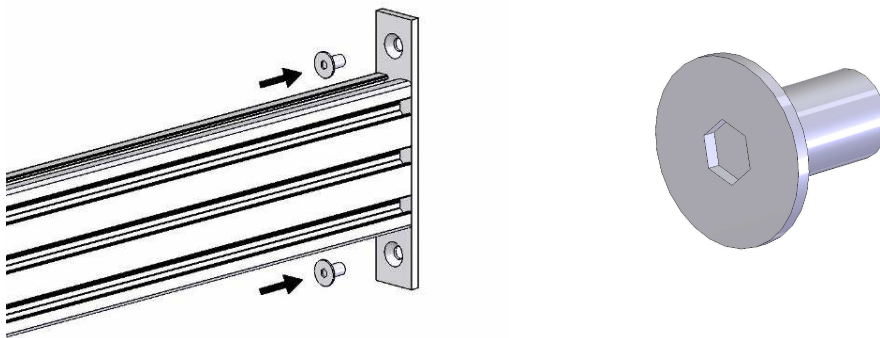
**Cantilever Configuration Shown**

### **7.4 Cross Beam Installation**

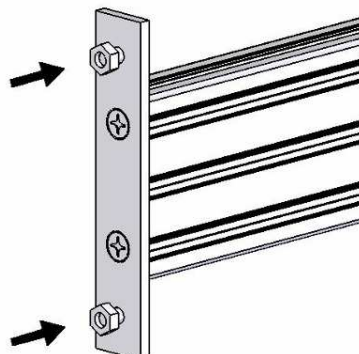
- Fasten cross beam bracket to cross beam using (2) #14 tapping screws. The tapping screws require a #3 Phillips drive style for installation. Please note that the function of the tapping screw is to cut threads into the cross beam as the screw is driven into the material.



- Repeat second cross beam bracket installation on opposite end of cross beam.
- Insert 1/4"-20 flat head cap screws into outer cross beam bracket holes. The flat head cap screws require a 5/32" hex socket driver for installation.

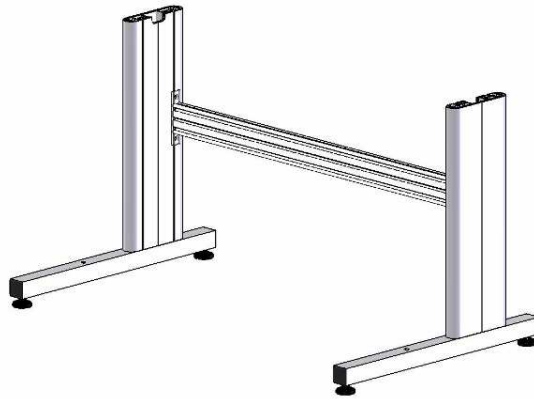


- Thread 1/4"-20 hex nut onto each flat head screw, leaving approximately 4mm of the screw thread exposed. Repeat procedure on opposite end of cross beam.

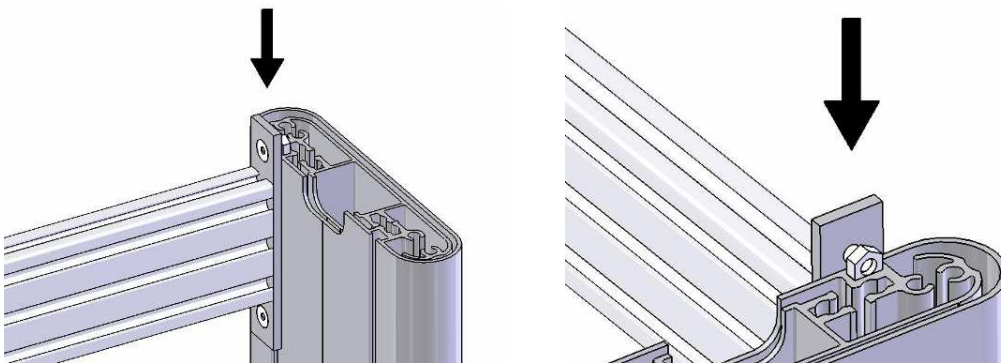




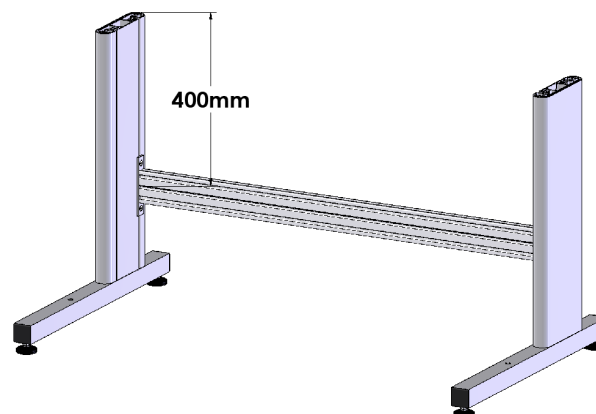
- Position ATU legs as shown below.



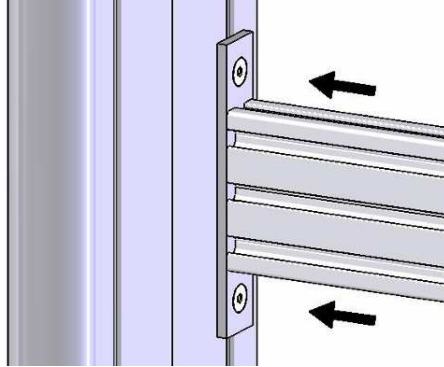
- Align and insert the cross beam bracket hex nuts into ATU T-slot. Repeat cross beam installation on second ATU.



- Position cross beam assembly at desired mounting height. The recommended position is 400mm (15.7 in.) from the top of the ATU to the centerline of the cross beam.

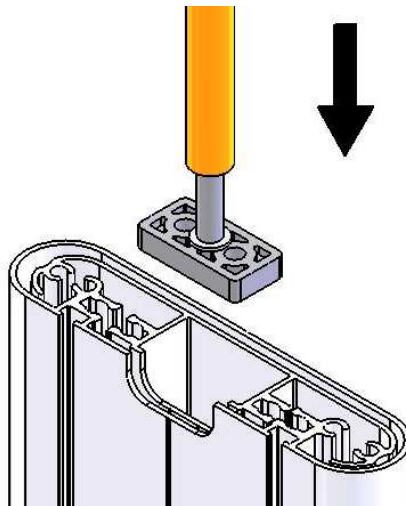


- Fasten cross beam to ATU legs by tightening the (4) flat head screws on the cross beam brackets.

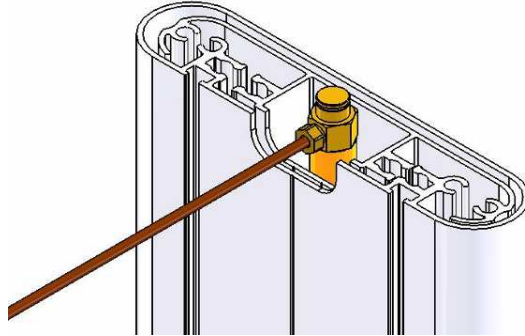


### **7.5 Cylinder & Top Bracket Installation**

- Before installing the top brackets, the pump should be placed in between the ATU legs in a secured position. This will allow each cylinder to be inserted into the ATU without damaging the hydraulic tubing.
- Insert cylinder into ATU as shown. The plastic cylinder block will rest on structural tabs inside the ATU leg.



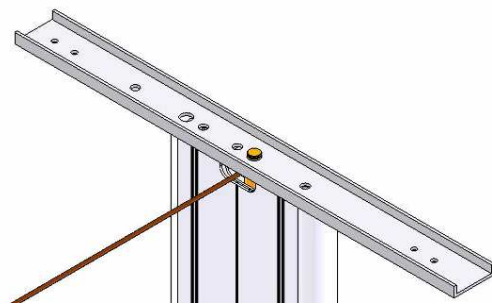
- Orient cylinder head so that tubing exits the ATU tubing cutout as shown.



- Align top bracket with top of the ATU in the desired mounting configuration, cantilever or centered. Insert cylinder head into top bracket mounting hole as shown.

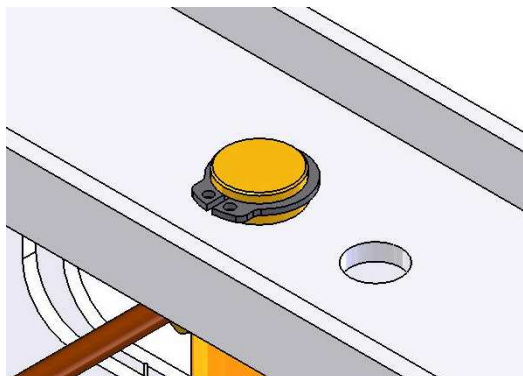


**Cantilever Configuration**

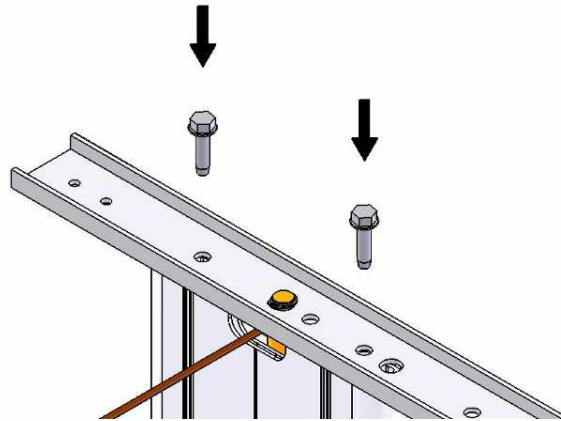


**Centered Configuration**

- Install 13mm retaining ring to cylinder head retaining ring groove using retaining ring pliers.



- Fasten top bracket to ATU using (2) 5/16"-18 thread forming screws. Please note that the function of the thread forming screw is to cut threads into the ATU as the screw is driven into the material.

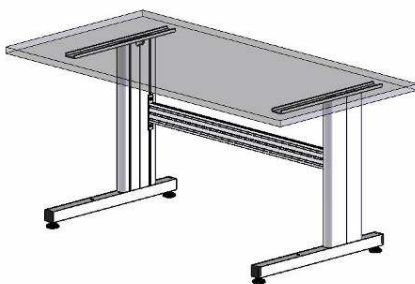


**Cantilever Configuration Shown**

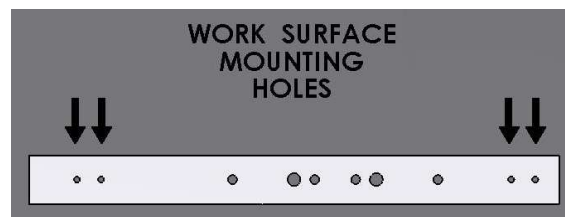
- Repeat top bracket installation procedure for second top bracket.

## **7.6 Work Surface Installation**

- Position work surface in desired mounting position. Please note that work surface is not included with system or workstation kit. Mark and prepare mounting holes in the locations provided by the top brackets.



**(Pump and Tubing Not Shown)**



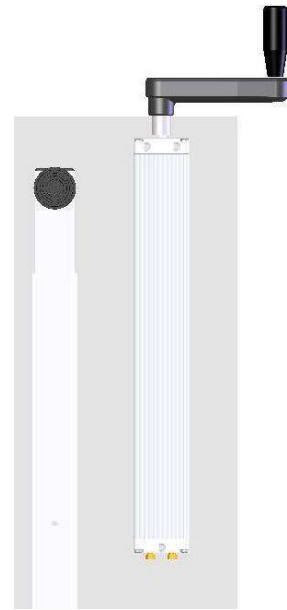
**Under Work Surface View  
(ATU and Foot Bracket Not Shown)**

- Using appropriate screws, mount work surface to top brackets. Please note that mounting screws are not included with system or workstation kit.
- Check mounting screws to ensure that the work surface is secured.

### **7.7 Crank Driven Pump Installation**

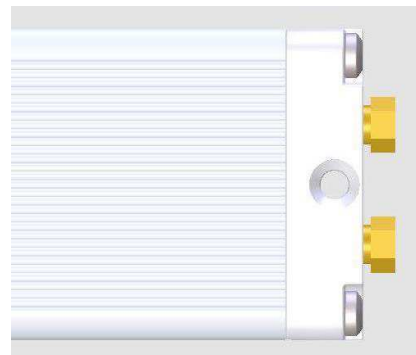
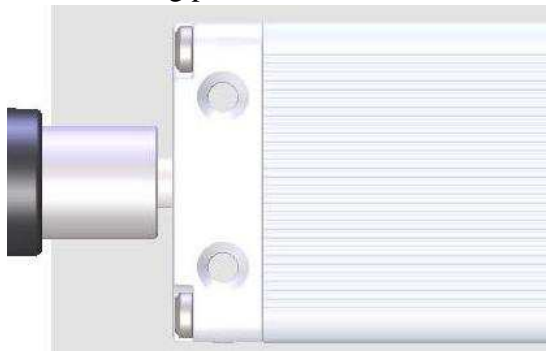
The crank driven pump can be installed in any orientation, however it is recommended to install the unit horizontally. The pump should be installed so that there is enough hydraulic tubing to reach each lift cylinder and enough clearance for the minimum hydraulic tubing bend radius of 2 in. (51mm) to be maintained.

- Place crank driven pump in the desired location, making sure sufficient clearance exists for the crank to rotate freely beyond the work-surface.



**Bottom View  
(Tubing not shown)**

- Mark and prepare three holes in the locations provided in the pump front and rear mounting plates.



- Using appropriate screws, mount the crank driven pump to the work surface. Please note that mounting screws are not provided with system or workstation kit.
- Check mounting screws to ensure that the unit is secured.

### **7.8 Hydraulic Tubing Management**

- Coil up excess hydraulic flexible tubing into approximately 6 in. (150mm) diameter coil(s) and attach to the workstation using the mounting clips and/or cable ties. Take special care not to damage flexible tubing during this operation.



- While it is recommended to coil up excess tubing when hydraulic tubing lengths are too long, the lines can be shortened. Contact Suspa<sup>®</sup> Incorporated for detailed Movotec<sup>®</sup> Tube Shortening Instructions.
- If hydraulic tubing lengths are too short, it is only possible to make the tubing lengths longer by replacing the line, using a Movotec<sup>®</sup> Refill Kit. Contact Suspa<sup>®</sup> Incorporated for a more information and instructions.
- Check flexible tubing to ensure it is secured to the workstation and that no damage has been sustained during this operation.

## **8.0 Operation Instructions**

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**FOLLOW ALL SAFETY INSTRUCTIONS CONTAINED IN SECTION 3.0 OF THIS MANUAL BEFORE OPERATING THIS PRODUCT. FAILURE TO FOLLOW THE INSTRUCTIONS IN THIS MANUAL COULD RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.**

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Movotec<sup>®</sup> systems can lift relatively large loads, lasting for many years, as long as they are installed and used correctly. The Movotec<sup>®</sup> Crank Driven “ATU” Lift System is not intended for continuous cycling or for applications requiring precision height adjustment.

The Movotec<sup>®</sup> lift system is single-acting and will require a minimum load of 35 lb (15.9 kg) per cylinder for even lift system retraction.

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### **8.1 Before Loading the Workstation**

- Check all hydraulic connections.
- Check for damage to flexible hydraulic tubing that may have occurred while unpacking or installing the system.
- Check all system components to ensure that they are tightly secured to the work station.
- Confirm that a minimum load of 35 lb (15.9 kg) per cylinder is present for even lift system retraction.
- Confirm the maximum system load is not being exceeded. The maximum system load is the total load including the workstation being lifted and anything on top of the work-surface.

## **⚠ WARNING**

If the lift system does not operate as explained in Section 4.0 of this manual, remove the load from the system immediately and contact Suspa<sup>®</sup> Incorporated technical support.

If technical support is needed, or any questions exist before operation, system information can be found using the product labels located on the side of the pump (reference photographs below).



## **NOTICE**

Do not dismantle the system unless authorized by Suspa<sup>®</sup> Incorporated. Attempting to repair the system or system components without authorization from Suspa<sup>®</sup> Incorporated voids the warranty.



### **8.2 System Extension Cycle**

Rotate crank in the clockwise (CW) direction. Continue rotating the crank in the (CW) direction until the workstation has reached the desired height or the upper limit is reached.



### **8.3 System Retraction Cycle**

Rotate crank in the counter-clockwise (CCW) direction. Continue rotating the crank in the (CCW) direction until the workstation has reached the desired height or the lower limit is reached



#### **8.4 Stowing the Crank**

When not in use, the folding handle can easily be stowed inside the crank body.

Pull crank grip outward until crank mechanism begins to fold.



## **9.0 Troubleshooting**

Many system problems can be attributed to system load conditions or incorrect mounting hardware usage. In most cases, problems can be solved by reviewing the following possible system problems, possible causes, and implementing the recommended solutions.

**Problem:** Crank turns but does not extend or retract system.

<b>Possible Causes</b>	<b>Recommended Solutions</b>
Crank not fully engaged	Ensure crank handle is fully installed on to pump shaft.
Broken Pusher Block	Contact Suspa <sup>®</sup> Incorporated for replacement pump.

**Problem:** Crank is difficult to turn.

<b>Possible Causes</b>	<b>Recommended Solutions</b>
Upper or Lower Limit Reached	Stop rotating crank.
Workstation movement is obstructed by fixed object(s)	Provide clearance between workstation and obstruction.
System Load is High or Load Rating is exceeded	Verify system load does not exceed rating and remove weight as needed.

**Problem:** Uneven lift cylinder retraction.

<b>Possible Causes</b>	<b>Recommended Solutions</b>
Insufficient Lift Cylinder Load	Add load to system. Contact Suspa <sup>®</sup> Incorporated for tube shortening instructions.
Flexible Tubing Lengths Too Long	Contact Suspa <sup>®</sup> Incorporated for tube shortening instructions.

## **10.0 Inspection and Maintenance**



**FOLLOW ALL SAFETY INSTRUCTIONS CONTAINED IN SECTION 3.0 OF THIS MANUAL BEFORE PERFORMING INSPECTION AND MAINTENANCE PROCEDURES ON THIS PRODUCT. FAILURE TO FOLLOW THE INSTRUCTIONS IN THIS MANUAL COULD RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.**

The Movotec<sup>®</sup> Crank Driven ATU Lift System should be inspected regularly to detect any condition which has or may lead to excessive component wear or premature failure. Special attention should be given to the following possible causes of system failure.

### **10.1 Changing Load Conditions**

Overload conditions should be promptly corrected to prevent premature wear of mechanical components. This will also prevent overheating and premature failure of electrical components.

### **10.2 Contamination**

Although surgical cleanliness is not required, ordinary cleaning practices will pay off in increased service life of the lift system. Dust and dirt can restrict ventilation for electrical components and cause wear in moving components such as shafts and bearings. An attempt should be made to keep the system components reasonably clean throughout their useable service life.

### **10.3 Hydraulic Tubing Damage**

Check the hydraulic tubing for visible signs of aging and wear. Replacement of damaged hydraulic tubing will prevent future breakdowns and possible injury to personnel.

## **11.0 Warranty**

Suspa<sup>®</sup> Incorporated warrants that if the Movotec<sup>®</sup> Crank Driven ATU Lift System has been properly installed and not subject to abuse or misuse and proves to be defective (as defined below) within the Applicable Warranty Period after the date of manufacture of the item by Suspa<sup>®</sup> Incorporated or, if applicable, by Suspa<sup>®</sup> Incorporated's supplier and if the Buyer returns the item to Seller within that period, F.O.B. Suspa<sup>®</sup> Incorporated's plant in Grand Rapids, Michigan, then Suspa<sup>®</sup> Incorporated shall, at Suspa<sup>®</sup> Incorporated's option, either repair or replace the defective item, at Suspa<sup>®</sup> Incorporated's expense. If Suspa<sup>®</sup> Incorporated fails to repair or replace a defective item within a reasonable time, then Suspa<sup>®</sup> Incorporated shall be liable to the Buyer for the lesser of (1) the reasonable costs of repair or replacement by a third party or (2) that part of the purchase price of the defective goods that the Buyer shall have paid, but the Buyer shall not obtain repair or replacement by a third party without giving Suspa<sup>®</sup> Incorporated at least fifteen (15) days prior written notice, during which time Suspa<sup>®</sup> Incorporated may repair or replace the defective item. An item shall be considered "defective" if Suspa<sup>®</sup> Incorporated finds that it is defective in materials or workmanship and if the defect materially impairs the value of the goods to the Buyer, except that if the Buyer shall have approved drawings of, or specifications for, or production samples of the goods, then the goods shall not be defective to the extent that they conform to the drawings, specifications, or samples. This paragraph sets forth the Buyer's sole and exclusive remedies for any defect in the goods. The Applicable Warranty Period for the Movotec<sup>®</sup> Crank Driven ATU Lift System is two years.

**EXCEPT AS STATED IN THE PREVIOUS PARAGRAPH, SUSPA<sup>®</sup> INCORPORATED DOES NOT MAKE ANY WARRANTY AS TO THE GOODS AND, IN PARTICULAR, DOES NOT MAKE ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, AND THE BUYER IS SOLELY RESPONSIBLE FOR DETERMINING THE PROPER APPLICATION AND USE OF THE GOODS.** Suspa<sup>®</sup> Incorporated shall not have any tort liability to the Buyer with respect to any of the goods and shall not be liable for consequential or incidental damages that arise from any product defect, delay, nondelivery, or other breach. The Buyer shall not have any right of rejection or of revocation of acceptance of Movotec<sup>®</sup> Crank Driven ATU Lift System products.

If you have any questions regarding the warranty or believe that you have received a defective component, please contact Suspa<sup>®</sup> Incorporated.

## **12.0 Replacement Parts**

Contact Suspa<sup>®</sup> Incorporated if the system has sustained any damage during shipping or installation. Suspa<sup>®</sup> Incorporated can help determine whether the system can be serviced with replacement parts or if the entire system should be replaced. Before contacting Suspa<sup>®</sup> Incorporated, please have the system part number, system model number, and date code ready, which can be found on the blue product label affixed to the side of the pump (as shown below):



## **13.0 Optional Accessories**

Suspa<sup>®</sup> Incorporated offers many optional accessories for customizing Movotec<sup>®</sup> Crank Driven ATU Lift Systems which include:

- ATU Workstation Kits
- Special folding cranks
- Hydraulic tube shortening instructions
- System refill kits

Please contact Suspa<sup>®</sup> Incorporated or view our website for more detailed information.

## **14.0 Disposal**

Dispose of the lift system components in an ecologically sound manner, separating plastic, mechanical components, and hydraulic fluid. Fluid disposal instructions for Movotec<sup>®</sup> NT15 hydraulic fluid can be found on our Material Safety Data Sheet (MSDS) document which is available upon request.

## **15.0 Contact Information**

SUSPA Incorporated  
 3970 Roger B. Chaffee Drive SE  
 Grand Rapids, MI 49548-3497  
 Phone: (616) 241-4200  
 Fax: (616) 241-4347  
[www.suspa-inc.com](http://www.suspa-inc.com)

