



***Storage System***  
**Ultrasound Probe Cabinet**

**Operator's Manual**



**Manufactured by:**

**CIVCO Medical Solutions**  
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## ***General Information***

This operator's manual contains essential information regarding the proper use of this system. Before use, thoroughly review this manual. Use all equipment as instructed.

Keep this manual and all related instruction manuals in a safe and accessible location.

If you have any questions or comments regarding any information in this operator's manual, please contact CIVCO Medical Solutions.

## ***Intended Use***

The CIVCO Storage System provides for a safe and clean storage environment for your disinfected ultrasound probes (See Figures 1 and 2). A blower draws air through a replaceable HEPA filter providing a continuous flow of clean filtered air allowing safe and clean storage. The easily accessible filter is located on top of the Storage System. The Storage System's locked door provides secure and safe storage. The filter life is monitored and the indicator light will signal when a replacement filter is required.

**WARNING: Do not use this system for any purpose other than its intended use.**



Figure 1: Vaginal, Rectal and General Purpose Probe Storage System



Figure 2: TEE Probe Storage System

## ***User Qualifications***

The CIVCO Storage System is intended for use in non-sterile healthcare settings by trained, qualified healthcare personnel.

## ***Warning Symbols***

The meaning of the labels and symbols that appear on the packaging and/or the system are as follows:



Dangerous electrical voltage



Hazardous area



Protective Grounding

## ***Signal Words***

The following signal words are used throughout this manual:

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

**CAUTION:** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices or potential equipment damage.

**NOTE:** Indicates additional helpful information.

### **WARNINGS:**

**WARNING:** Do not use this system until it has been properly installed.

**WARNING:** Do not operate this device if it is not working properly or if any part of the device has been dropped or damaged.

**WARNING:** Connect the system to a hospital grade GFCI receptacle only.

**WARNING:** Follow the probe manufacturer's instructions for storage and handling.

### **CAUTIONS:**

**CAUTION:** Do not place any objects on top of the system. This will affect the airflow of the system.

---

## ***Installation and Setup***

### ***Upon Delivery***

Please check to ensure your new system arrived with the following parts:

#### **COMPONENT LIST:**

- Either:
  - Storage System for TEE probes with shelving for holding up to three (3) transesophageal ultrasound probes.
- Or:
  - Storage System for VR and general purpose probes with shelving for holding up to six (6) vaginal, rectal or general purpose ultrasound probes.
- Wall bracket with supporting wall anchors

### ***Wall Mounting Instructions***

**WARNING: Do not use this system until it has been properly installed.**

**WARNING: Do not operate this device if it is not working properly or if any part of the device has been dropped or damaged.**

**WARNING: Connect the system to a hospital grade GFCI receptacle only.**

**WARNING: To prevent electrical or wall damage, it is recommended the Storage System be installed by the facilities department.**

**CAUTION: Use two or more people to lift and position the system.**

1. You will need the following items before attempting to install this unit:

- Measuring tape
- Level
- Pencil or pen

**NOTE: The mounting assembly consists of a bracket pre-mounted to the CIVCO Storage System and a separate wall bracket to be mounted securely to the wall. The unit must be attached to the wall using the interlocking mounting bracket supplied prior to use.**

2. Locate a wall with adequate clearance for the cabinet. Ensure the wall has sufficient strength to mount the CIVCO Storage System. See "Appendix B: Site Requirements".
3. Make sure that there is a minimum of 6" clearance on the right side of the cabinet for the power cord and On/Off switch.
4. Mark the center point of the cabinet on the wall.

5. From the floor measure up 64" and make a mark on the floor.
6. From this point make a level horizontal line on the wall extending 11 ½" from this center point in both directions. The length of this horizontal line should be 23" total.
7. Hold the mounting bracket with its bottom edge on the horizontal line from step 6 and the center mounting hole aligned with the center mark of the cabinet. Mark the position of the mounting holes on the bracket.
8. Attach the bracket to the wall using the mounting hardware supplied at the points marked from step 7. Use EZ anchors (supplied) if no wall studs are available for the mounting.
9. Once the bracket has been securely mounted to the wall, lift up the device using the lift handles on the side of the device.
10. Push the device against the wall and let it down easily to engage the wall bracket.
11. Double check that the bracket is engaged.
12. Once the wall bracket is properly engaged, attach the power cord to the receptacle on the right side of the device.

**NOTE: The inlet power module which contains the main power switch, fuses and line cord receptacle are located on the upper right side of the device. The light in the power switch will be green when the system is on. The ratings plate and serial number are located on the right side of the system below the power switch receptacle.**

## ***Instructions for Use***

### ***Operation***

**WARNING: Disinfect system prior to use. See "*Cleaning the System*" section for instructions for cleaning.**

**WARNING: Keep system door closed while in use.**

**NOTE: Keep system on while probe(s) are being stored.**

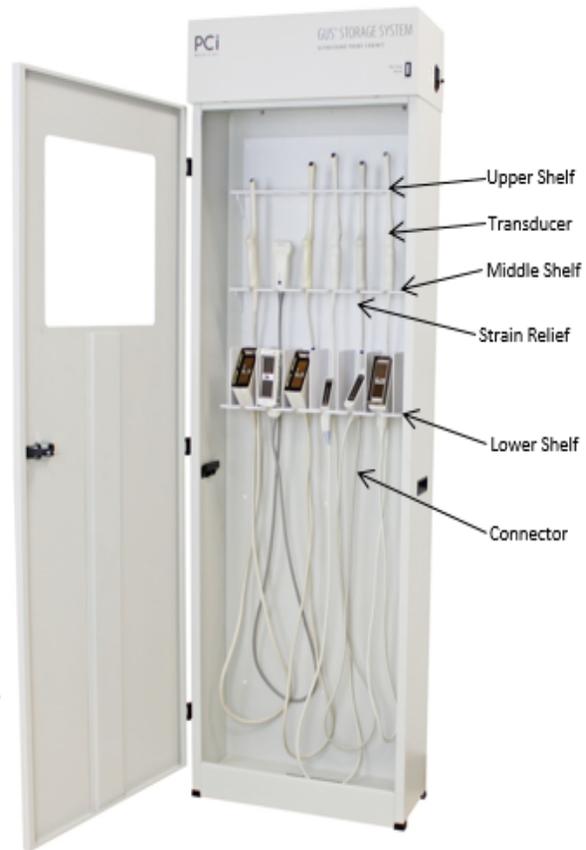
1. Ensure the power cord is attached to the receptacle on the right side of the device.
2. Plug the power cord into a Hospital Grade receptacle and switch on the power switch located in the power control module above the power cord. The light in the power switch will be green when the power is on.
3. The blower will start when the power switch is turned on.
4. Unlock the system door with the key supplied and push the key button/latch to open the door. Make sure the key is kept in a safe place.
5. On the upper right of the system is a rectangular indicator light to notify operator when it is necessary to change the HEPA filter.
6. When filter is within operating parameters (11-months) the indicator light will be green.
7. Once eleven (11) months running time has elapsed, the indicator light will flash red indicating it is time to change the filter. See "*Filter Maintenance*" section for instructions on replacing the filter.

## ***Probe Hanging: Vaginal, Rectal & General Purpose Probes Only***

**WARNING:** Follow the probe manufacturer's instructions for storage and handling.

**CAUTION:** When installing the Vaginal/Rectal/General Purpose probes, ensure at all times that the connector housing and cable are kept away from the transducer to avoid cross-contamination.

1. Open the system door by depressing the key button/latch.
2. While holding the transducer in an upright position, guide it up through the circular slot in the upper shelf. Rotate the transducer distal tip/lens so that it is facing outward.
3. Guide the cable through the slots in the middle and lower shelves. Rest the transducer securely on the middle shelf.
4. Insert the connector housing into the circular slot on the lower shelf, with the cable looped and hanging in a downward position behind the connector.
5. Repeat steps 2 through 4, as needed.
6. Close door.



**NOTE:** Probe manufacturers will have the connector housing orientated in different positions. Ensure that the connector housing is secured safely on the lower shelf before moving to the next step.

### **FOR GENERAL PURPOSE PROBES:**

1. Open the system door by depressing the key button/latch.
2. While holding the transducer, guide the cable through the slots in the middle and lower shelves. Rest the transducer securely on the middle shelf.
3. Insert the connector housing into the circular slot on the lower shelf, with the cable looped and hanging in a downward position behind the connector.

**NOTE:** Probe manufacturers will have the connector housing orientated in different positions. Ensure that the connector housing is secured safely on the lower shelf.

4. Repeat Steps 2 and 3, as needed.

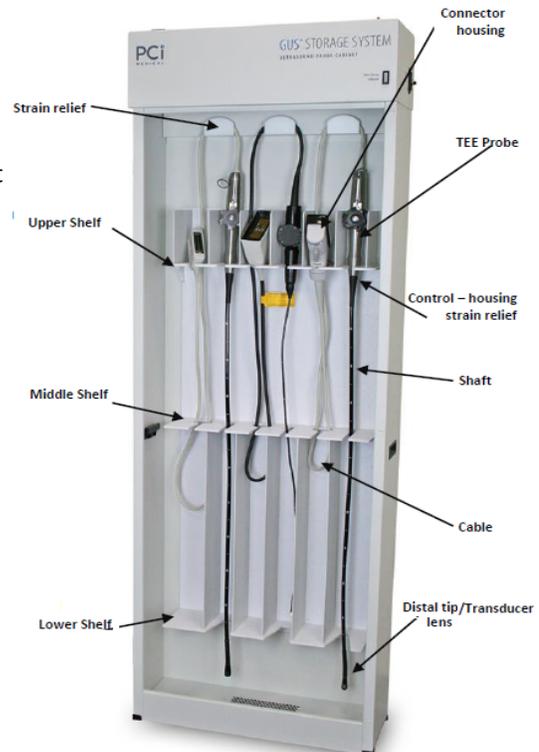
## Probe Hanging: TEE Probes Only

**WARNING:** Follow the probe manufacturer's instructions for storage and handling.

**CAUTION:** When installing the TEE probe, ensure at all times that the connector housing and cable are kept away from the shaft and transducer lens to avoid cross-contamination.

**CAUTION:** Ensure that the distal tip and transducer lens are stored securely away from the system door when closed.

1. Open the system door by depressing the key button/latch.
2. Hold the TEE Probe above the upper shelf while inserting the shaft into the slot on the middle shelf, resting the distal tip/transducer lens into the lower slot on the lower shelf.
3. Lower the control housing strain relief into the circular slot located on the upper shelf.
4. Take the cable and loop it over the strain relief located above the upper shelf.
5. Insert the cable into the circular slots located on the upper and middle shelf.
6. Guide the cable through the circular slot on the middle shelf, and place the connector housing on the upper shelf on the left side of the TEE probe.
7. Repeat Steps 2 through 6, as needed.
8. Close the door.



## Cleaning the System

**WARNING:** Users of this product have an obligation and responsibility to provide the highest degree of infection control to patients, co-workers and themselves. To avoid cross-contamination, follow infection control policies established by your facility.

**CAUTION:** Disconnect power when cleaning the system.

**CAUTION:** Do not use solvents or isopropyl alcohol to clean the acrylic door. Doing so may damage the doors. Use a mild detergent solution on a soft cleaning cloth.

**CAUTION:** Do not wipe surfaces with hard or abrasive materials. Doing so will scratch the surfaces.

1. To clean metal surfaces, use a surface disinfectant authorized by your infection control department.
2. Make sure that the device is completely dry before use.

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## ***Routine Maintenance***

This system requires minimal routine maintenance and inspection.

### ***Daily System Inspection***

1. Visually inspect electrical connections prior to operation.
2. Check area around the device to ensure safe operation.
3. Check blower operation by placing hand over the outlet on the top of the inside of the cabinet and feeling for air movement.
4. Check blower operation by monitoring for unusual or harsh noises.
5. Confirm maintenance indicator is green; this indicator is located on the upper right side of the system behind the power inlet module. If the indicator is red, the HEPA filter needs to be replaced. See "*Filter Maintenance*" section for instructions on replacing the filter.

### ***Filter Maintenance***

Filter life is monitored by a timer; replacement is signaled after the filter has been used for eleven (11) months. The timer is only active when the blower is on. Call your CIVCO Medical representative or local distributor to order replacement filters.

**CAUTION: Filter life is dependent upon frequency and conditions of use. As a result, the filter may need to be replaced prior to the 11 month guideline.**

**CAUTION: Disconnect power when replacing the filter.**

1. Turn the main power switch off and disconnect the power cord from the electrical outlet.
2. Due to the height of the device, a stool or ladder is recommended to access the filter.
3. There are two latches on the top panel of the device. To open the top and access the filter, turn the latches 90 degrees. Use the latches on the top panel to lift the top panel to a vertical position.
4. Remove the used filter by pulling it up.
5. Put the used filter into a plastic bag and dispose of it with other non-hazardous waste. **This does not need to be red tagged.**
6. Install the new HEPA filter with the gasket and arrow pointing down.

**NOTE: HEPA filters are very fragile. When handling the HEPA filter, use the outer metal frame to grip the filter when changing or installing. Do not damage the filter material. Handle the filter on the outer metal frame.**

7. Once the filter is in place, swing the top panel down, push down and secure by closing the left and right latches previously opened.
8. Pull up on the latches on the top of the device to make sure latches are secure.

9. Plug the device back into the wall outlet and turn on the power switch.

**NOTE: The filter change indicator light will still be flashing red at this point and will need to be reset.**

10. To reset the filter change indicator light, located on the upper side of the system behind the power inlet module, hold the button down for 5 seconds until the maintenance indicator light turns green. This will reset the filter change indicator light for another 11 months.

### ***Limited Warranty***

CIVCO Medical Solutions warrants the CIVCO Storage System to be free of defects in materials and workmanship under normal use, for a period of one year from the date of delivery. This warranty does not include filters or acrylic door, unless it can be determined that the failure is due to defects in material or workmanship.

If the system is not working correctly or is defective, contact CIVCO Medical Solutions and we will repair or replace the device at our option during the warranty period.

CIVCO Medical Solutions assumes no liability for consequential damages of any kind as a result of the use or misuse of the system by the purchaser, the purchaser's employees, or any others.

**THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, OBLIGATIONS OR OTHER LIABILITIES EXPRESSED OR IMPLIED, AND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE ARISING FROM A COURSE OF DEALING OR USAGE ARE SPECIFICALLY EXCLUDED.**

This warranty does not cover conditions and damages resulting from any of the following:

- Improper installation, delivery within the facility, or maintenance.
- Any repair, modification, alteration or adjustment not authorized by the manufacturer.
- Misuse, abuse, accidents or unreasonable use.
- Incorrect electric current, voltage or supply.
- Failure to follow proper procedures for use outlined in this manual.
- Consequential or incidental damages sustained by any person as a result of any breach of this warranty.
- Some states do not allow the exclusion or limitation of consequential or incidental damages, so the above exclusion may not apply.

### ***Technical Support***

CIVCO Medical Solutions, 750 Lois Lane, Coralville, IA 52241 USA  
Tel: 319.248.6757 / 800.445.6741  
WWW.CIVCO.COM

### ***Registration Card***

Please complete and return the attached Warranty Card to CIVCO Medical Solutions. Call 1-800-445-6741 to purchase additional filters.

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## ***Appendix A: Troubleshooting***

If the CIVCO Storage System blower is not running, check the following.

1. Ensure that the device is plugged into a live wall outlet.
2. Make sure the On/Off switch is on. The switch will be illuminated when on.
3. In the event that the system is still not working, you will need to check the fuses, which are externally mounted in the power entry module with the On/Off switch and power cord receptacle.
4. The fuses are located in a rectangular receptacle between the switch and the power cord. Remove the fuse receptacle by squeezing the two tabs on the fuse receptacle and pulling outward. If fuses are blown, replace fuse.
5. If the system is still not working, call CIVCO Medical Solutions at 800.445.6741 or call your local distributor.

**NOTE: If the filter change indicator light is flashing red, this indicates it is time to change the HEPA filter. Refer to "Filter Maintenance" section for instructions on replacing the filter.**

---

## ***Appendix B: Site Requirements***

### ***Actual Size***

- Width: 24.0" 60.96 cm
- Depth: 10.0" 25.40 cm
- Height: 74.0" 187.96 cm
- Weight: 100 lbs 45.36 kg

### ***Minimum Space Required***

- Width: 30.0" 76.20 cm
- Depth: 36.0" 91.44 cm
- Height: 84.0" 213.36 cm

### ***Electrical Requirements***

- Service: 110-120 VAC 60Hz, 15A Hospital Grade GFCI receptacle
- Fuse: 1.0 Amp 250V 5mm x 20mm FSF Panel Mounted
- Current Draw: 0.5 Amp

### ***Environmental Conditions***

- Indoor use only
- Altitude up to 2,000 meters
- Temperature range: 5°C to 40°C
- Maximum relative humidity: 80% for temperatures up to 31°C, decreasing linearly to 50% relative humidity at 40°C
- Main supply voltage fluctuations not to exceed +/- 10% of the nominal voltage
- Insulation over voltage category II
- Pollution degree 2

---

## ***Appendix C: Product Specifications***

### ***Product Consumables***

<b>CIVCO Part #</b>	<b>Description</b>
610-1328	Replacement Filter



**USA and Canadian Standards Approved.**

UL 61010-1  
CSA C22.2 No.61010-1  
E112640



# 储存系统 超声波探头柜

(中国注册备案名称：医用清洗器)

# 操作手册



Manufactured by:

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## 一般信息

本《操作手册》包含有关正确使用本系统的基本信息。使用前，请仔细阅读本手册。请按照指示使用所有设备。

将本手册和所有相关的说明书存放在安全且可拿取的位置。

如果您对本《操作手册》中的任何信息有任何疑问或意见，请与 CIVCO Medical Solutions 联系。

## 预期用途

CIVCO 储存系统为您消毒的超声波探头提供安全、清洁的储存环境（参见图 1 和图 2）。鼓风机吸入空气穿过可更换的 HEPA 过滤器，提供连续的清洁过滤空气流，实现安全清洁的储存。易于接近的过滤器位于储存系统的顶部。储存系统的门锁确保安全可靠地储存。过滤器寿命受到监控，当需要更换过滤器时，指示灯将发出信号。

**警告：**本系统仅可用于既定用途。



图1：经阴道、直肠和通用探头储存系统



图2：TEE 探头储存系统

## 用户资格

CIVCO 储存系统设计供训练有素、符合资格的医疗保健人员在非无菌医疗保健环境中使用。

## 警告符号

包装和/或系统上出现的标签和符号的含义如下：



危险电压



危险区域



保护接地

## 警示语

本手册中使用以下警示语：

**警告：**表示潜在的危險情况，如果不加避免，可能导致死亡或重伤。

**注意：**表示潜在的危險情况，如果不加避免，可能导致轻微或中度伤害。其也可用于警告不安全的做法或潜在的设备损坏。

**注释：**表示其他有用信息。

### **警告：**

**警告：**在正确安装之后，方可使用本系统。

**警告：**如果设备工作不正常，或者设备的任何部分掉落或损坏，请勿操作该设备。

**警告：**仅可将系统连接至医院级 GFCI 插座。

**警告：**按照探头制造商的说明进行储存和处理。

### **注意：**

**注意：**请勿在系统顶部放置任何物体。这将影响系统的气流。

## 安装和设置

### 交货时

请检查和确保新系统带有以下部件：

#### 组件列表：

- 以下两者之一：
  - TEE 探头的储存系统，带搁架，最多可容纳三 (3) 个经食道的超声探头。
- 或者：
  - VR 和通用探头的储存系统，带搁架，最多可容纳六 (6) 个经阴道、直肠或通用超声波探头。
- 墙壁托架及支撑墙壁固定器

### 墙壁安装说明

**警告：**在正确安装之后，方可使用本系统。

**警告：**如果设备工作不正常，或者设备的任何部分掉落或损坏，请勿操作该设备。

**警告：**仅可将系统连接至医院级 GFCI 插座。

**警告：**为防止电气或墙壁损坏，建议由设施部门安装储存系统。

**注意：**提升和定位系统需要两个或更多人员。

1. 在尝试安装此设备之前，您需要以下物品：

- 卷尺
- 水平
- 铅笔或钢笔

**注释：**安装组件由预先安装在 CIVCO 储存系统上的支架和固定安装在墙壁上的独立墙壁支架组成。本设备必须通过使用前提提供的联锁安装支架连接到墙壁上。

2. 为储存柜找到一面有足够间隙的墙壁。确保墙壁有足够的强度安装 CIVCO 储存系统。参见“附录 B：现场要求”。
3. 确保储存柜右侧至少为 6 英寸间隙，用于电源线和 On/Off 开关。
4. 在墙壁上标出储存柜的中心点。

5. 从地板向上测量 64”，并在地板上作出标记。
6. 从这个点开始，在墙壁上画一条水平线，向两个方向延伸 11 ½”。这条水平线的总长度应为 23”。
7. 握住安装支架，使其底边位于第 6 步的水平线上，中心安装孔与储存柜的中心标记对齐。标记支架上安装孔的位置。
8. 使用提供的五金件，在第 7 步标记的点处，将支架连接到墙上。如果没有壁柱可用于安装，则使用 EZ 固定器（附带）。
9. 支架牢固安装到墙壁上后，使用设备侧面的提手，提起设备。
10. 将设备推向墙壁，并轻松放下，以接合墙壁托架。
11. 再次检查托架是否接合。
12. 一旦墙壁托架正确接合，将电源线连接到设备右侧的插座上。

**注释：**包含主电源开关、保险丝和电源线插座的入口电源模块位于设备的右上侧。在系统接通电源时，电源开关中的灯亮起绿色。铭牌和序列号位于系统右侧电源开关插座下方。

## 使用说明

### 操作

**警告：**在使用前，对系统消毒。有关清洁说明，请参见“*清洁系统*”部分。

**警告：**使用期间，系统门保持关闭。

**注释：**在储存探头时，系统保持开启。

1. 确保电源线连接到设备右侧的插座上。
2. 将电源线插入医院级插座，并开启电源控制模块中电源线上方的电源开关。通电时，电源开关中的灯将呈绿色。
3. 当电源开关开启时，鼓风机将启动。
4. 用提供的钥匙解锁系统门，并按下钥匙按钮/锁闩打开门。确保钥匙存放在安全的位置。
5. 系统右上角是一个矩形指示灯，在需要更换 HEPA 过滤器时，将通知操作员。
6. 当过滤器在运行参数（11 个月）内时，指示灯将为绿色。
7. 一旦运行时间过去了十一 (11) 个月，指示灯将闪烁红色，表示需要更换过滤器。有关更换过滤器的说明，请参见“*过滤器维护*”部分。

## 探头悬挂：仅限经阴道、直肠和通用探头

**警告：**按照探头制造商的说明进行储存和处理。

**注意：**安装经阴道/直肠/通用探头时，确保连接器外壳和电缆始终远离传感器，以避免交叉污染。

1. 按下钥匙按钮/锁闩，打开系统门。
2. 将传感器保持在直立位置时，引导其向上穿过上层搁板上的圆形槽。旋转传感器末端/镜头，使其面向外。
3. 引导电缆穿过中间和下部搁板上的插槽。将传感器牢固地放在中间搁板上。
4. 将连接器外壳插入下层搁板上的圆形槽中，电缆卷成环，并悬挂在连接器后面的向下位置。
5. 根据需要，重复步骤 2 至 4。
6. 关门。

**注释：**不同探头制造商的连接器外壳位置有所不同。在进行下一步之前，确保连接器外壳安全地固定在下层搁板上。



### 对于通用探头：

1. 按下钥匙按钮/锁闩，打开系统门。
2. 握住传感器的同时，引导电缆穿过中间和下部搁板上的插槽。将传感器牢固地放在中间搁板上。
3. 将连接器外壳插入下层搁板上的圆形槽中，电缆卷成环，并悬挂在连接器后面的向下位置。

**注释：**不同探头制造商的连接器外壳位置有所不同。确保连接器外壳安全地固定在下层搁板上。

4. 根据需要，重复第 2 步和第 3 步。

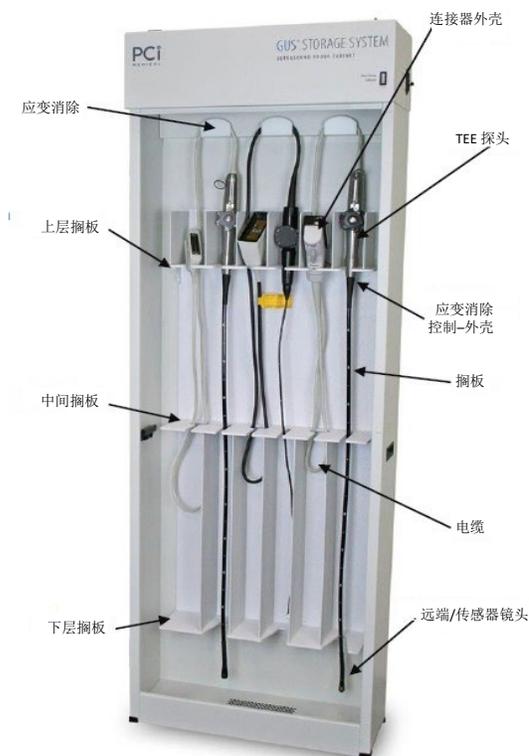
## 探头悬挂：仅限 TEE 探头

**警告：**按照探头制造商的说明进行储存和处理。

**注意：**安装 TEE 探头时，确保连接器外壳和电缆始终远离轴和传感器镜头，以免交叉污染。

**注意：**确保末端和传感器镜头安全存放，远离关闭的系统门。

1. 按下钥匙按钮/锁门，打开系统门。
2. 将 TEE 探头固定在上层搁板上，同时，将轴插入中间搁板的插槽中，将远端/传感器镜头放入下方搁板的下部插槽中。
3. 将控制外壳应变消除装置放入位于上层搁板上的圆形槽中。
4. 拿起电缆，将其绕在上层搁板上方的应力消除装置上。
5. 将电缆插入位于上部和中部搁板上的圆形插槽中。
6. 将电缆穿过中间搁板上的圆形槽，并将连接器外壳放在 TEE 探头左侧的上层搁板上。
7. 根据需要，重复第 2 至 6 步。
8. 关门。



## 清洁系统

**警告：**本产品的用户有义务和责任采取最严格的感染控制措施，避免患者、同事和本人遭到感染。为避免交叉感染，请遵循您所在机构制订的感染控制策略。

**注意：**清洁系统时，请断开电源。

**注意：**清洁亚克力门时，请勿使用溶剂或异丙醇。否则，可能导致门受损。在柔软的清洁抹布上使用中性的洗涤剂溶液。

**注意：**请勿用坚硬或磨蚀性材料擦拭表面。否则，可能会划伤表面。

1. 若要清洁金属表面，请使用感染控制部门批准的表面消毒剂。
2. 使用前，确保设备完全干燥。

## 日常保养

该系统仅需极少的日常维护和检查。

## 日常系统检查

1. 操作前，目视检查电气连接。
2. 检查设备周围的区域，确保安全操作。
3. 将手放在储存柜内部顶部的出口上，并感受空气流动，检查鼓风机的运行情况。
4. 通过监控异常或刺耳的噪音检查鼓风机的运行情况。
5. 确认维护指示器为绿色；该指示灯位于系统右上方电源入口模块后面。如果指示器为红色，则需要更换 HEPA 过滤器。有关更换过滤器的说明，请参见“[过滤器维护](#)”部分。

## 过滤器维护

过滤器寿命由计时器监控；过滤器使用十一 (11) 个月 after，发出更换信号。计时器仅在鼓风机开启时启用。如需订购替换用过滤器，请与 CIVCO Medical 代表或当地经销商联系。

**注意：**过滤器寿命取决于使用频率和条件。因此，可能需要在 11 个月的指导期间之前更换过滤器。

**注意：**更换过滤器时，请断开电源。

1. 关闭主电源开关，并从电源插座上断开电源线。
2. 由于设备较高，建议使用凳子或梯子接近过滤器。
3. 设备的顶部面板上有两个门锁。若要打开顶部并接近过滤器，请将门锁转动 90 度。使用顶板上的门锁，将顶板提升至垂直位置。
4. 向上拉，取下用过的过滤器。
5. 将用过的过滤器放入塑料袋中，与其他无害废物一起处置。**这不需要红色标签。**
6. 安装新的 HEPA 过滤器及垫圈，且箭头朝下。

**注释：**HEPA 过滤器极易损坏。当操作 HEPA 过滤器时，使用外部金属框架夹住过滤器进行安装和更换。请勿损坏过滤器材料。在外部金属框架上处理过滤器。

7. 过滤器就位后，向下摆动顶板，向下推动并通过关闭之前打开的左右门锁进行固定。
8. 拉起设备顶部的门锁，确保门锁牢固。

9. 将设备插回墙上插座，然后，开启电源开关。

**注释：此时过滤器更换指示灯仍将闪烁红色，需要重置。**

10. 若要重置位于系统上侧电源入口模块后面的过滤器更换指示灯，按住按钮 5 秒钟，直到维护指示灯变为绿色。这将重置过滤器更换指示灯，再次运行 11 个月。

## 有限担保

CIVCO Medical Solutions 保证，在正常使用下，GUS 储存系统自交付之日起一年内没有材料和工艺上的缺陷。本担保不包括过滤器或亚克力门，除非可以确定故障是由于材料或工艺缺陷造成的。

如果系统工作异常或有缺陷，请与 CIVCO Medical Solutions 联系，我们将在保修期内自行酌情修理或更换该设备。

对于因买方、买方员工或任何其他人员使用或误用系统而导致的任何类型的间接损害，CIVCO Medical Solutions 不承担任何责任。

本担保明确取代所有其他明示或暗示的担保、保证，义务或其他责任，且不存在超出此处描述的任何担保。明确排除在交易或使用过程中有关适销性和对特定用途适用性的保证。

本担保不包括以下任何情况导致的条件和损坏：

- 设施内安装、交付或维护不当。
- 未经制造商授权的任何修理、改装、改动或调整。
- 误用、滥用、事故或不合理使用。
- 电流、电压或电源不正确。
- 未遵循本手册中概括的正确使用程序。
- 任何人因违反本保证而遭受的间接或附带损害。
- 一些州不允许排除或限制间接或附带损害，因此上述排除条款可能不适用。

## 技术支持

CIVCO Medical Solutions, 750 Lois Lane, Coralville, IA 52241 USA  
电话：319.248.6757 / 800.445.6741  
WWW.CIVCO.COM

## 注册卡

请填写附带的保修卡，并返回 CIVCO Medical Solutions。如需购买额外的过滤器，请致电 1-800-445-6741。

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## 附录 A：故障检修

如果 CIVCO 储存系统鼓风机没有运行，请检查以下内容。

1. 确保设备已插入带电墙壁插座。
2. 确保 On/Off 开关已开启。开关开启时将会亮起。
3. 如果系统仍然不工作，需要检查保险丝，其与 On/Off 开关和电源线插座一起，安装在电源输入模块的外部。
4. 保险丝位于开关和电源线之间的矩形插座中。通过挤压保险丝插座上的两个凸耳并向外拉动，拆下保险丝插座。如果保险丝熔断，需要更换。
5. 如果系统仍然不工作，请致电 800.445.6741，与 CIVCO Medical Solutions 联系，或致电当地经销商。

**注释：**如果滤光器更换指示灯闪烁红色，表示需要更换 HEPA 过滤器。有关更换过滤器的说明，请参考“**过滤器维护**”部分。

## 附录 B：现场要求

### 实际尺寸

- 宽度： 24.0" 60.96 cm
- 深度： 10.0" 25.40 cm
- 高度： 74.0" 187.96 cm
- 重量： 100 磅 45.36 kg

### 所需的最小空间

- 宽度： 30.0" 76.20 cm
- 深度： 36.0" 91.44 cm
- 高度： 84.0" 213.36 cm

### 电气要求

- 服务： 110-120 VAC 60Hz, 15A 医院级 GFCI 插座
- 保险丝： 1.0A 250V 5mm x 20mm FSF 板式安装
- 电流消耗： 0.5A

### 环境条件

- 仅限室内使用
- 海拔高度最高 2,000 米
- 温度范围： 5°C 至 40°C
- 最大相对湿度： 31°C 以内为 80%，在 40°C 时，线性降至 50%
- 主电源电压波动不超过标称电压的 +/- 10%
- 绝缘过电压二类
- 污染程度 2

## 附录 C: 产品规格

### 产品耗材

CIVCO 零件 #	描述
610-1328	替换用过滤器



已通过美国和加拿大标准认证。

UL 61010-1  
CSA C22.2 第 61010-1 号  
E112640