



**Custom Ultrasonics, Inc.**

**Endoscope Storage Cabinet  
Model 20000  
Operator's Manual**



**Custom Ultrasonics, Inc.**

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## WARNING / CAUTIONS

A **WARNING** is a statement that alerts the user to the possibility of injury, death, or other serious adverse reactions associated with the use or misuse of the Storage Cabinet.

A **CAUTION** is a statement that alerts the user to the possibility of a problem with the Storage Cabinet associated with its use or misuse. Such problems include product malfunction, product failure, damage to the product or damage to other property.

**WARNING:** For installation of the Storage Cabinet, make certain to have a minimum of two (2) persons to support and mount the device, otherwise, bodily injury and physical damage to the Storage Cabinet and surrounding area may occur.

**WARNING:** The Storage Cabinet will tip over if not properly secured.

**WARNING:** Ensure the Storage Cabinet's electrical plug is inserted into a properly grounded and dedicated, 120 VAC, 15-20A, 60 Hz, 1 $\phi$  receptacle. Receptacle must be accessible to the operator for quick disconnect.

**CAUTION:** Follow all Automated Endoscope Washer/Disinfector and endoscope manufactures instruction for thorough drying of the endoscopes prior to placing into the Storage Cabinet.





**CAUTION:** Follow endoscope manufactures instruction for handling and storage of an endoscope.



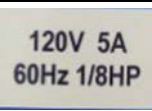


**CAUTION:** The Storage Cabinet is designed to store up to eight (8) endoscopes maximum. Do not attempt to store more than the Storage Cabinet's intended capacity.

**CAUTION:** One adapter must remain in the adapter manifold at all times to prevent damage to the air pump.

**CAUTION:** Make certain the endoscopes are not hanging out of the Storage Cabinet. This could result in damage to the endoscope and/or Storage Cabinet when closing the door.

## Labels and Label Indications

Label	Indication
	<p><b>Graphical Label:</b> Indicates the Air Purge Set Time (0 to 30 minutes).</p>
	<p><b>CAUTION:</b> The label indicates to disconnect from power source prior to removing or opening door. French version of the label is above.</p>
	<p><b>WARNING Symbol:</b> Attention: Potential shock hazard.</p>
	<p><b>CAUTION Label:</b> Ground reliability can only be achieved when the device is connected to an equivalent receptacle mark hospital grade.</p>

Label	Indication
	<p><b>Graphical Symbol:</b> Indicates protective earth ground.</p>
	<p><b>Graphical Symbol:</b> Indicates an earth ground.</p>
	<p><b>Graphical Label:</b> Indicates the device AC power connection rating.</p>
	<p><b>Graphical Label:</b> Indicates the device has been tested and conforms to UL STD 61010-1 Certified to CAN/CSA STD C22.2 NO.61010-1.</p>
	<p><b>UDI Device Label:</b> Indicates the device and production information that corresponds to the specific device through plain-text and barcode formats. This label is applied directly to the device.</p>

### Technical Specifications

- Weight: 175 lbs.
- Overall height: 93"
- Overall width: 36"
- Depth: 9¾"
- Electrical Rating: 120 VAC, 5A, 60 Hz, 1/8 HP
- Hospital grade plug: The Storage Cabinet is supplied with 15A, 125 VAC, NEMA 5-15 Type
- Power cord: 13/3, 600V, 90°C, SJTO

### Environmental Operating Conditions

- a. Intended for indoor use.
- b. Temperatures 41°F to 104°F (5°C to 40°C).
- c. Relative Humidity of 20% to 80%.
- d. Mains supply voltage fluctuations up to ±10% of the nominal voltage.

### Physical Description

- The Endoscope Storage Cabinet, Model 20000, is fabricated of powder coated steel to provide an environment for endoscope storage that is free of water-absorbent materials.
- A gasket surrounds the door opening. When the door is closed (by the adjustable and lockable handle), the gasket is compressed providing a secured enclosure.
- At the top of the Storage Cabinet are two compartments.
  - One is an enclosure containing an air pump for the circulation of air through the channels of the endoscopes.
  - Next to the air pump, on the other side of the upper enclosed area, is a chamber for desiccant bags that are used to decrease the level of moisture from the re-circulated air.
    - Two re-sealable plastic containers, each containing 6 desiccant bags, are provided with the initial Storage Cabinet purchase.
    - Two packages of (3) Humidity Indicator Cards are also provided.



- A series of perforated holes, located on the bottom of the desiccant chamber, allows for air movement through the desiccant and into the air pump for re-circulation of air through the endoscopes' internal channels.
- By opening the desiccant chamber door, the six (6) bags of desiccant and (3) humidity indicator cards can be monitored and replaced with six (6) new bags of desiccant and (3) new humidity indicator cards.
- Below the desiccant bags and air pump chambers, at the top of and inside the main chamber of the cabinet, is a manifold containing four (4) bulkhead fittings to accommodate eight (8) endoscopes total.
  - Adapters are used to connect the endoscope(s) to these four (4) dual bulkhead fittings. The adapters are provided by Custom Ultrasonics and require using OEM parts from endoscope manufacturer when applicable.
  - Circulation of air through the endoscopes' internal channels occurs through these adapters. Although a relief valve protects the air pump in the absence of adapters plugged into the bulkhead fittings.

**CAUTION:** One adapter must remain in the adapter manifold at all times to prevent damage to the air pump.

- Accessory trays for the endoscopes' operating buttons are located inside the door of the Storage Cabinet.
- The Storage Cabinet's On/Off switch and the Adjustable Programmable Timer Dial are located outside of the Storage Cabinet on the right front wall.
- Each Endoscope Storage Cabinet, Model 20000, is equipped with a lock. Routinely locking the Storage Cabinet may reduce the incidence of endoscope exposure and theft.

**Note:** For proper operation of this Storage Cabinet, read and understand all instructions before using the device. If the Storage Cabinet is used in a manner not specified by Custom Ultrasonics, the protection provided by the device may be impaired.

## Installation Requirements

**WARNING:** For installation of the Storage Cabinet, make certain to have a minimum of two (2) persons to support and mount the device, otherwise, bodily injury and physical damage to the Storage Cabinet and surrounding area may occur.

**WARNING:** The Storage Cabinet will tip over if not properly secured.

## Installation

Make certain that when bolting the Storage Cabinet to the wall:

- To review Illustration 1 below, for Storage Cabinet dimensions and component identification.
- The Storage Cabinet is located flush to desired wall.
- The provided mounting holes are used.
- The mounting materials (bolts, etc.) are suitable to facility's structure and building codes are reviewed for compliance.
- There is a 1 inch (2.54 cm) minimum clearance above the exhaust vent output on the top of the unit.

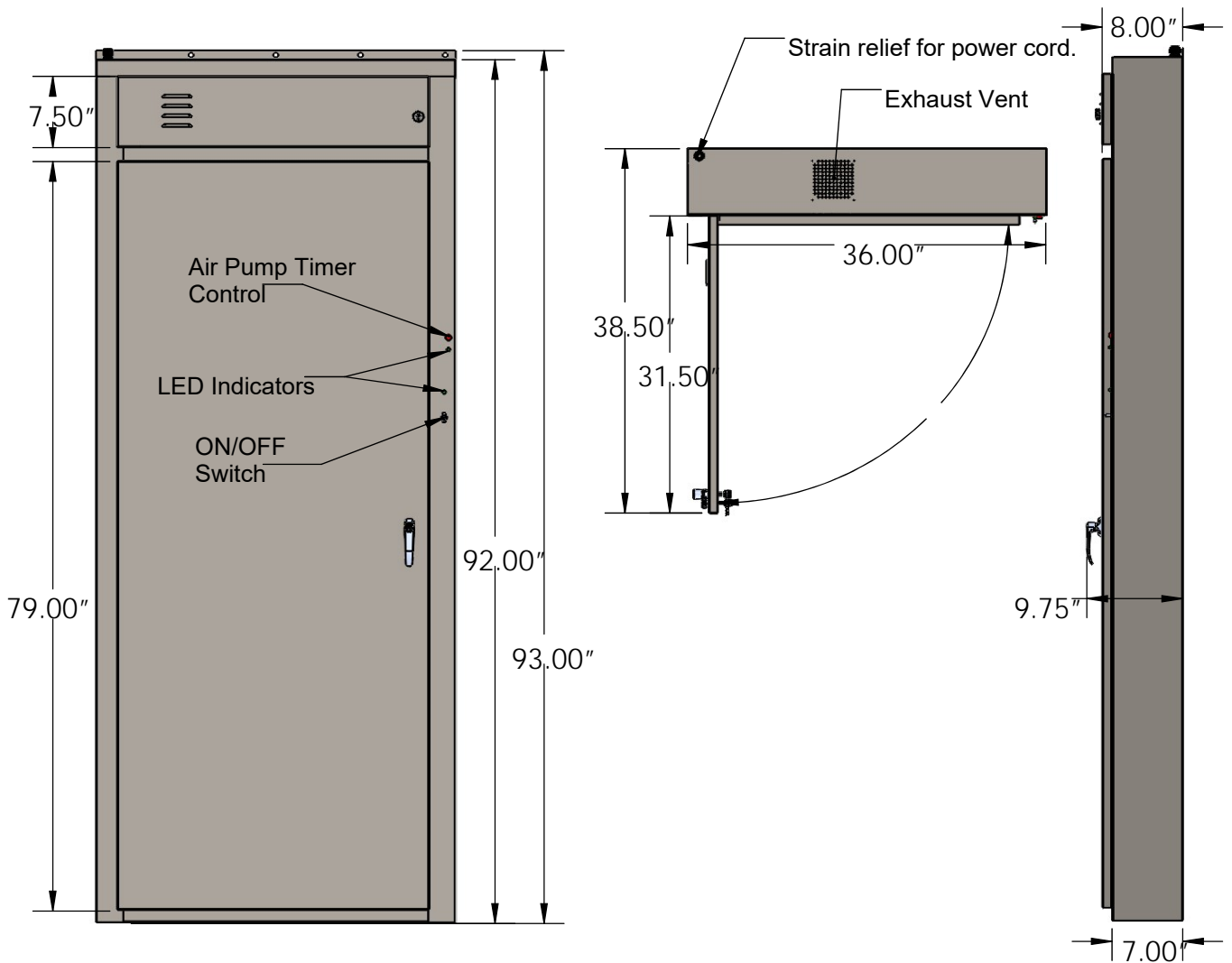


Illustration 1: Storage Cabinet Dimensions and component identification

1. The Storage Cabinet is shipped in a shipping crate. Remove the retaining screws from the lid of the crate. Remove packaging materials and then the device.

**WARNING:** For installation of the Storage Cabinet, make certain to have a minimum of two (2) persons to support and mount the device, otherwise, bodily injury and physical damage to the Storage Cabinet and surrounding area may occur.

**WARNING:** The Storage Cabinet will tip over if not properly secured.

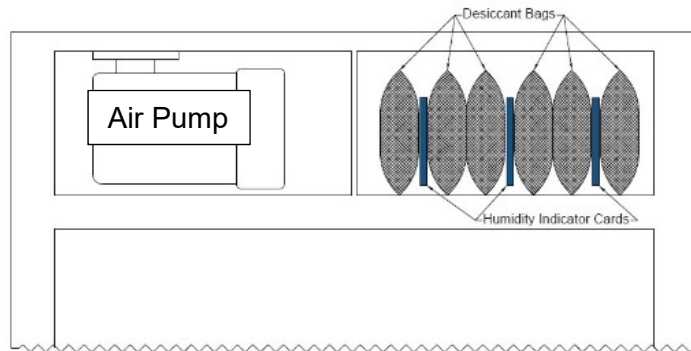
2. Secure the Storage Cabinet to the wall using the bracket located along the top of the rear wall of the device. The weight of the Storage Cabinet should bear entirely on the facilities level floor.
  - a. There are a series of pre-drilled holes that may be used if needed for this purpose.

**CAUTION:** When mounting your Storage Cabinet to the wall, do not drill holes through the interior walls of the cabinet.

- b. Secure the Storage Cabinet flush to the wall with the weight of the Storage Cabinet resting on the floor using the mounting holes provided.
  - c. Allow a minimum 1" clearance above the exhaust vent output on top of the unit.
3. Insert the hospital grade grounded plug into a dedicated 120 VAC, 15 – 20 AMP, 60 Hz, 1 $\phi$  receptacle. The power cord is located on the top of the Storage Cabinet and is approximately 10 feet in length.

**Note:** The receptacle plug must be within reach and accessible to the operator for quick disconnection.

4. Place the six (6) bags of desiccant into this chamber in an upright manner (As shown below).



**Note:** Humidity indicator cards, which are placed between the desiccant bags, are used to assist in measuring the humidity level of the desiccant. Drier climates and less frequent opening of the door will reduce pump usage. Conversely, more humid climates and/or more frequent opening of the cabinet's door will require increasing the pump operating time by adjusting the timer.

5. Place one humidity indicator card in between two desiccant bags, using all three cards.
6. Close the Storage Cabinet door. The door of the Storage Cabinet must remain closed during use.

## Intended Use

The intended use of the Storage Cabinet is to store up to eight (8) flexible endoscopes in a safe and secure environment.

## Operator Qualifications

The operator using this device must be appropriately trained on the operation of the Storage Cabinet and have a thorough understanding in the handling and storage of an endoscope. Thoroughly review the following before use:

- Read this Operator's Manual before use of the Storage Cabinet.
- Current guidelines for disinfection and sterilization of an endoscope and endoscope accessories.
- Proper handling of endoscopic equipment.
- Endoscope manufacturer's storage and handling instructions.
- Professional health and safety standards and proper use of personal protective equipment (PPE).

## Operation of the Storage Cabinet

1. The Storage Cabinet's On/Off switch is located outside of the Storage Cabinet on the right front wall.
2. Once the baseline pump timing is established, the humidity level of the desiccant bags within the Storage Cabinet should be monitored on a daily basis using the humidity indicator cards available from Custom Ultrasonics. Inspect the desiccant bags and humidity indicator cards upon receiving them and prior to installing.

**Note:** Failure to do so could result in desiccant bags becoming too moist, compromising the effectiveness of the desiccant bags or could result in the desiccant bags failing prematurely.

- a. When the indicator cards indicate that the desiccant bags need to be changed, remove the six (6) bags of desiccant from their holding compartment. Discard the desiccant bags using the proper facility handling protocols. Replace the desiccant bags and humidity indicator cards or contact Custom Ultrasonics for further information to order new bags and humidity indicator cards.
  - b. To maintain the function of the Storage Cabinet, an extra set of desiccant bags and humidity indicator cards should be held in reserve in a sealed container. The Storage Cabinet can then be operated continuously without interruption.
3. Plug all four (4) dual port male bulkhead adapters into the four (4) dual port female bulkheads located on the manifold inside the main compartment of the cabinet.
    - a. These adapters are provided by Custom Ultrasonics.
    - b. If eight (8) endoscopes are not stored, the operator may remove any adapters that are not attached to an endoscope, but it is not necessary. Make sure to always leave at least one adapter plugged into the manifold at all times.

**CAUTION:** Make sure to always leave at least one adapter plugged into the manifold at all times or the air pump may be damaged.

**CAUTION:** Follow all Automated Endoscope Washer/Disinfector manufacturer's instruction for thorough drying of the endoscopes prior to placing into the Storage Cabinet.

4. Attach the Storage Cabinet connector properly to the endoscope. If either end is not connected, the internal channels of the endoscope(s) will not have the proper air flow.



5. Place the control head of each endoscope into the holding bracket and hang it vertically.
  - a. Take caution when reaching up to load an endoscope into the cabinet. When loading endoscope(s) into the Storage Cabinet, moisture may make the floor in front of the Storage Cabinet slippery.
    - i. Make certain the area in front of the Storage Cabinet is dry.
    - ii. Make certain the area in front of the Storage Cabinet is free of obstructions.
  - b. Each of the four brackets is designed to hold one or two endoscopes (endoscope model dependent).

**Note:** Never attempt to place more than two flexible endoscopes into any one holding bracket.

**Note:** The Storage Cabinet is designed for up to eight scopes maximum. Do not attempt to store more than the Storage Cabinet's intended capacity.

- c. Make certain the endoscope is properly and securely placed in the holding bracket.

**CAUTION:** Failure to confirm this could cause the endoscope to fall within the Storage Cabinet and it could be damaged.

- d. To avoid damage to an endoscope, make certain that no parts of the endoscope are hanging outside of the door.

**CAUTION:** Closing the door on the endoscope may cause significant damage to the endoscope.

- e. To avoid damage to an endoscope, use caution when placing the endoscope into the cabinet.

**CAUTION:** Rough handling or allowing the endoscope's tip to hit the wall of the Storage Cabinet may cause endoscope damage.

- f. Always follow the endoscope manufacturer's recommendation for endoscope storage. Consult the endoscope manufacturer for proper techniques.

**CAUTION:** Make certain the endoscopes are not hanging out of the cabinet. This could result in damage to the endoscope and/or Storage Cabinet when closing the door.

6. Attach the endoscope channels to the air purge manifold by an adapter.
  - a. The manufacturer and model type of the endoscope determines the type of adapters that are necessary to use.
  - b. The majority of the adapters are provided by Custom Ultrasonics, but at times, model dependent, require OEM parts in conjunction with adapters from Custom Ultrasonics. For the Endoscope Storage Cabinet, Model 20000, manifold attachments, contact Custom Ultrasonics Customer Training department for assistance.

**CAUTION:** One adapter must remain in the adapter manifold at all times to prevent damage to the air pump.

7. Place the operating buttons for the endoscopes into the accessory trays located on the interior left side of the Storage Cabinet.
8. Turn on the Storage Cabinet and the green LED should illuminate to indicate the device is powered on. The Storage Cabinet's On/Off switch and green LED are located outside of the device on the right front wall (See Illustration 1).

9. Close the Storage Cabinet door. The Storage Cabinet is equipped with a lock. Routinely locking the Storage Cabinet may reduce the incidence of unintended endoscope exposure or theft.
10. The Storage Cabinet's Adjustable Programmable Timer Dial is located outside of the Storage Cabinet on the right front wall. Adjust the programmable timer to operate the air pump for the desired amount of time (Up to thirty (30) minutes every hour). The Green LED is illuminated during air pump activation.

- a. The timer is factory pre-set to operate for ten (10) minutes per hour and will remain off for the balance of one hour.
- b. If set otherwise, the air pump will activate for the set time on the timer and shut off for the balance of one hour.

**Note:** The air pump will only activate if the On/Off switch is in the On position.

**Note:** The air pump will activate every hour, 24 hours a day as long as the On/Off switch is in the ON position.

**Note:** Inside the Storage Cabinet on its right side is an electrical box. Located on the rear of this box is a black momentary switch. When the black momentary switch is engaged, the air pump will function. This switch is used for testing the operation of the pump.



**Image:** Timer Dial

11. Endoscope removal.
  - a. Open the Storage Cabinet door.
  - b. Remove the Storage Cabinet connectors from the applicable endoscope connections.
  - c. Remove the endoscope from the Storage Cabinet.

### Daily Observations

1. Once a day, press the black momentary switch located on the back of the electrical box containing the On/Off switch and timer.
  - a. When activating this switch, check to ensure that the air pump and exhaust vent fan are turned on and are operational.
2. Once a day, listen for the operation of the air pump to confirm that it is coming on by the air purge timer.
  - a. The pump should operate for 10 minutes or the pre-set time noted on the label on the front of the cabinet.
  - b. The pump is factory set at 10 minutes, but can be changed according to hospital/facility requirements.

### Daily Cleaning

1. The stainless steel drip plate [located on the inside of the Storage Cabinet base] must be cleaned and sanitized daily using a damp lint free cloth and a standard hospital grade, non-abrasive, surface disinfectant/cleaner.

## Maintenance

Clean both the interior and exterior of the Storage Cabinet on a routine basis using a damp lint free cloth and a standard, hospital grade, non-abrasive surface cleaner/disinfectant. The surface of the Storage Cabinet should be dried using a soft, clean, dry, lint-free cloth.

## Filter Replacement

1. The air pump pre-filter (P/N 20010, 1/4" NPT Intake Filter (Black)) should be replaced once a year. This filter is located on the intake of the air pump.
2. If equipped with a HEPA filter option, the HEPA post filter (P/N 13075, HEPA Air Filter Replacement Element) should be changed every **three** months. This HEPA Air Filter (if equipped) is located on the output of the air pump.

## Maintain the Integrity of the Air Pump

Activate the momentary switch daily to confirm proper operation of the air pump. If the air pump does not activate, contact Custom Ultrasonics. If air is heard being released through the relief valve when the endoscopes are connected to the purge manifold, contact Custom Ultrasonics.

## Service

Custom Ultrasonics technicians, Authorized Service Providers, and Biomedical personnel that are appropriately trained should perform service of the Storage Cabinet. Product surfaces may become hot during operation. Allow product surfaces to cool before servicing.

**CAUTION:** Power off the Storage Cabinet and disconnect the power cord from the device prior to servicing.

## Re-Ordering Endoscope Storage Cabinet Supplies

- **P/N 20001:** String Sewn Desiccant Bags 16 Unit Size (Six/Case)
- **P/N 20003:** Humidity Indicator Cards (3/Pack)
- **P/N 20015:** Storage Cabinet Manual
- **P/N 13075:** HEPA Air Filter Replacement Element
- **P/N 20008:** Dual Port Male Bulkhead adapters.
- **P/N 20009:** Dual Port Female Bulkhead ¼ adapters
- **P/N 20010:** ¼ NPT Intake Filter (Black)
- **P/N 15004DC:** Control Valve Cover for Fujifilm (Storage Cabinet)
- **P/N 15015:** Storage Cabinet Bronch Adapter for Fujifilm
- **P/N 15017DC:** Adapter Fujifilm G7 Series Valve Cover (Storage Cabinet)
- **P/N 16005DC:** Control Valve Cover for Olympus (Storage Cabinet)
- **P/N 16010DC:** Ultrasound Control Valve Cover for Olympus (Storage Cabinet)
- **P/N 16017:** Storage Cabinet Bronch Adapter for Olympus
- **P/N 16026DC:** Control Valve Cover for Olympus (Storage Cabinet)
- **P/N 17000DC:** Control Valve Cover for Pentax (Storage Cabinet)
- **P/N 17014:** Storage Cabinet Bronch Adapter for Pentax

## Re-Ordering Section and Part List:

Custom Ultrasonics, Inc.  
Hours of Operation  
Monday-Friday 8:00 a.m. to 5:00 p.m. EST  
Main Number (215) 364-1477

## Part Ordering:

Email: [Shipping@customultrasonics.com](mailto:Shipping@customultrasonics.com)  
Online: [www.customultrasonics.com](http://www.customultrasonics.com)  
Fax: (215) 364-7674

Visit [www.customultrasonics.com](http://www.customultrasonics.com) for current pricing.

Mailing Address: 144 Railroad Drive  
Ivyland, PA 18974.

All pricing is subject to change without notice.