



*Clearing The Airway Is Our #1 Priority*

## Operating Instructions & Maintenance Manual

# SSCOR Quickdraw

## Model 2400 Series



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## Caution-Notice

Revision M (02/17)

1. SSCOR suction units are not designed or intended for use in extended procedures that require prolonged high vacuum/low airflow applications, as is the case in wound drainage or endoscopic use or in any other procedure that produces high vacuum levels within an occluded system for an extended period of time. Turn the suction unit off when it is not in use.
2. Federal law restricts this device to sale, distribution, and use by, or on the order of a physician, emergency medical technician, or other medical practitioner. For use by medical personnel trained in suctioning techniques and in the use of medical suction equipment.
3. Operator should be thoroughly familiar with these operating instructions before this device is used.
4. Do not use in the presence of flammable agents or anesthetics.
5. External equipment intended for connection to signal input, signal output or other connectors, shall comply with relevant IEC standard (e.g. IEC 60950 for IT equipment and the IEC 60601 series for medical electrical equipment). In addition, all such combinations –systems – shall comply with the standard IEC 60601-1-1, safety requirements for medical electrical systems. Equipment not complying with IEC 60601 shall be kept outside the patient environment, as defined in the standard. Any person who connects external equipment to signal input, signal output or other connectors has formed a system and is therefore responsible for the system to comply with the requirements of IEC 60601-1-1. If in doubt, contact a qualified technician or your local representative. For further information, reference the SSCOR Technical Manual.
6. This device is not intended for suctioning neonates.
7. To prevent fire or injury when batteries are not in the device or charger, always place the batteries in a protective pack to cover the terminals.
8. The hydrophobic filter in the non-sterile, single use, canister will close the system when fluids contact the filter. **ONCE THE FILTER COMES INTO CONTACT WITH FLUIDS, THE UNIT WILL NOT SUCTION UNTIL A NEW CANISTER IS INSTALLED. CHANGE CANISTER IMMEDIATELY AFTER MOISTURE SHUTS DOWN THE UNIT.**
9. Do not point the catheter directly upward when fluids are present in the canister. Pointing the catheter upward will allow fluids to reach and occlude the shut-off filter in the canister.
10. Do not remove the battery from the suction unit while the suction unit is connected to the charging source. This may result in a false reading from the battery condition indicator.
11. Grounding reliability can only be achieved when connected to an equivalent receptacle marked “Hospital Only” or “Hospital Grade”.

### Caution-Notice Model 2402

SSCOR Quickdraw®

US Patents 7,063,688 B2 - D564,654 S - 7,938,794 B2

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## General Description

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The SSCOR Quickdraw is a non-sterile hand held 12V DC battery powered portable suction device to be used by professional personnel trained in Emergency Care techniques of constant suctioning to clear the airway by removing bodily fluids and particulate matter. Suction power can be regulated when full power may be considered harmful to the patient. A fully charged sealed lead acid battery will power the unit for 30 minutes ( $\pm 10\%$ ). The battery is charged by an internal, dual mode battery charger. Battery condition is automatically monitored and is indicated by LED's on the side of the chassis. The charging system will fully charge the battery in 3 to 4 hours when connected to an electrical power source. SSCOR suction units are powered by sealed lead acid batteries. A sealed lead acid battery is a very stable and reliable battery. Many factors can affect the life of a battery:

- Failing to charge a battery for an extended period of time will cause the battery to go into deep discharge. A battery should be charged within 6 months of storage.
- Low temperatures (below 0°F or 32°C) may reduce the available battery capacity.
- High temperatures above 140°F or 60°C may cause deformation of the battery case and damage the battery. Sealed lead acid batteries can easily be maintained to permit proper operation of the equipment. To protect the battery, after each procedure turn the unit off, put the unit on charge and always store the suction device at room temperature. The only way to assure the battery has functional capacity, even if it is indicated the battery is fully charged, is to perform the battery test suggested on page 6 of this operations manual.

### **Battery Warning**

The 80613 alkaline battery will power the sealed lead acid version of the Quickdraw (Models 2400, 2401, and 2402) for 180 minutes ( $\pm 10\%$ ), however, the battery condition LEDs will not accurately display the condition of the battery and the alkaline battery cannot be charged.

The 80615 10xAAA battery holder is to be used exclusively with the Model 2403 Series alkaline battery version of the SSCOR Quickdraw. The 80615 10xAAA Battery Holder is not intended to be used with the Model 2400 Series, 2401 and 2402 sealed lead acid version of the SSCOR Quickdraw.



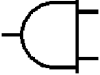

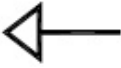


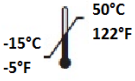





## Warranty

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SSCOR warrants that each new product is free from defects in material and workmanship under normal use and service for a period of one year from date of purchase. This warranty gives you specific legal rights and you may also have other rights that vary from jurisdiction to jurisdiction. For countries where minimum warranty terms are determined by statute, the warranty term is the longer of the statutory period or the term listed above. Batteries, disposable items including collection canisters, patient tubing and catheters are excluded from this warranty.

See the SSCOR Warranty for terms and conditions, available on [www.sscor.com](http://www.sscor.com)

## Description of Symbols

SYMBOL	LOCATION	MEANING
	Side of chassis	Low Battery
	Side of chassis	Battery Fully Charged
	Side of chassis	Device Connected to External Power Source
	On/Off Switch	Push On / Push Off
	Single Use Non-Sterile Canister	Direction of flow
	Single Use Non-Sterile Canister	Single Use Only
	Serialized Label	Attention—Consult Accompanying Documents
	Serialized Label	Temperature Limitations
	Serialized Label	Separate collection for electronic equipment
	Serialized Label	Type BF Equipment
	Shipping Carton	Manufacturer
	Shipping Carton	Date of Manufacture
	Shipping Carton	Authorized Representative in the European Community



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## Operating Instructions

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### **Operation of Unit for Portable Use:**

Disconnect the unit from the charging source and turn the unit on (3). Make sure the canister is in the operating position. Check battery condition indicators when operating the device. A fully charged sealed lead acid battery will power the unit for 30 minutes ( $\pm 10\%$ ). Battery condition is automatically monitored and is indicated by LED's on the side of the chassis.

### **Significance of LED Indicators (2) on the Chassis:**

When the unit is first plugged into a power source, the yellow LED will blink. The LED will stop blinking and remain lit while the battery is charging. If the yellow LED does not stop blinking, confirm the battery is properly installed in the device. If the yellow LED does not stop blinking, you may have a bad battery. It may be time to replace the battery. When the battery has reached a full charge, the green LED will light. When the Quickdraw is running and there is approximately one-third battery life remaining, the red LED will light. When the battery is virtually depleted and only a few minutes run time remain, the red LED will begin blinking. In order to protect the battery from a deep discharge condition, the PC Board will automatically turn the device off when there is not enough power to effectively run the device. Put the device back on charge or install a fully charged battery into the Quickdraw suction device. The charging system will fully charge the battery in 3 to 4 hours when connected to an electrical power source. To protect the battery, after each procedure turn the unit off, put the unit on charge and always store the pump at room temperature.

### **Two Position Regulator**

If full power (-500+mmHg) is not required, the units low setting is available by removing the regulator vent cap from the regulator vent (4). Be sure to replace the cap on the vent when full power is required or to dispose of the canister.

### **DC Battery Charging from Vehicle**

To charge the Quickdraw from the vehicle's DC electrical system, connect the DC power cable to the cigarette lighter receptacle in the vehicle or hard wire the DC power cable to a properly fused DC vehicle circuit (in front of the master switch) or plug the cord into the cigarette lighter adapter. Connect the DC power cable to the Quickdraw by securely attaching the charging plug (1.1A) into the receptacle (1A). This charging method is designed to keep the battery charged at all times. If the suction unit is operated while it is hooked up to the vehicle it will utilize the vehicle power and save its own battery for emergency use. All SSCOR, Inc. suction units have a diode to prevent draw-down from the pump to the vehicle electrical system and a fuse to protect the pump from vehicle electrical surges. If your suction unit is wired to the vehicle battery via an automatic load switch power supply, be sure to use a filter in order to eliminate any voltage spikes.

### **DC Battery Charging from AC Power**

The 80521-100 and 80522-100 AC power converters only charge the Quickdraw battery, they will not run the pump. The Quickdraw must be disconnected from the converter to operate. The 80529 charger will charge the batteries and run the Quickdraw suction device from an AC power source.





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## Operating Instructions

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### **Canister Automatic Shut-Off:**

When the hydrophobic filter comes into contact with fluids, it will occlude the system and the unit will not suction. When the canister capacity limit of 300cc/ml is exceeded or when a canister containing liquid is held upside down or vertically with the catheter pointed upward, the airflow will be shut off when liquids contact the hydrophobic filter (5). **ONCE THE FILTER COMES INTO CONTACT WITH FLUIDS, THE UNIT WILL NOT SUCTION UNTIL A NEW CANISTER IS INSTALLED. CHANGE CANISTER IMMEDIATELY AFTER MOISTURE SHUTS DOWN THE UNIT.**

### **Canister Disposal After Use:**

The canister is for single use only. Replace the cap to the tip of the catheter (6) while the pump is still running to trap fluids before they spill. Dispose of the canister according to local / regional / national requirements for the disposal of hazardous waste. Install a new non-sterile single use canister on the unit. Return the device to the charging source as soon as possible.

### **Canister Installation and Storage:**

Slide the canister into the front rails of the chassis until the canister is locked in place:



### **Storing Canisters on the Chassis for Space Saving Portability:**

Reverse the position of the canister and slide the body of the canister into the rails and the catheter tip through the retention ring. Push the canister toward the chassis until the canister latch on top of the unit snaps into the detent on the canister. To release the canister, pull the canister latch up and slide the body of the canister out.



### **For Optimal Performance:**

The suction device is to remain plugged in whenever the device is not in use. If for any reason poor battery quality is suspected, perform a battery test.

#### **BATTERY TEST:**

Run the following test whenever poor battery quality is suspected.

- Confirm the power cord is supplying power to the device. Check the power indicator light on the control panel.
- Remove the power cord.
- Turn the device on and check for vacuum by occluding the canister.
- Allow the unit to run for 15 minutes on DC power. If the unit stops or slows during the 15 minutes, or if the battery condition indicators begin to blink, it is possible the battery capacity has been depleted. It is time to replace the battery.
- If the unit is still running at full power after 15 minutes, turn the device off and put it back on charge.
- Reconnect the device to the charging source.

**SSCOR recommends replacing the battery after 3 years**



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## General Specifications

CHARACTERISTICS	SPECIFICATIONS
Size	12-1/2"L x 4"H x 4"W (32cm L x 11cm H x 11cm W)
Weight	2.6 lbs (1.18 kg)
Vacuum Pump	12V DC, 0.7 A. Exceeds 500mmHg. Lower levels of negative pressure will be observed at altitude.
Regulator	Reduces vacuum from -500+mmHg (High Vacuum / Low Flow) to approximately -85mmHg (Low Vacuum / Low Flow). Typically -70mmHg to -100mmHg but the range can be larger due to conditions such as variances in battery charge and condition.
Battery	12V DC Sealed Lead Acid replacement part #80611-100 Alkaline battery replacement part #80613-100 Please read page 6 for battery care suggestions
Collection Canister (13)	300cc/ml capacity. Non Sterile, Single Use Model 2480: Standard replacement Quickdraw canister (shown on page 6) Model 2488: Barbed Quickdraw canister (shown on front cover)
Patient tubing	Vinyl tubing 9/32"ID x 36" L (7.1mm ID x 91.44 cm L) SSCOR part #43203
Suction Tip	HI-D® "Big Stick®" SSCOR part #44241C SSCOR S3 SSCOR Part #44305C

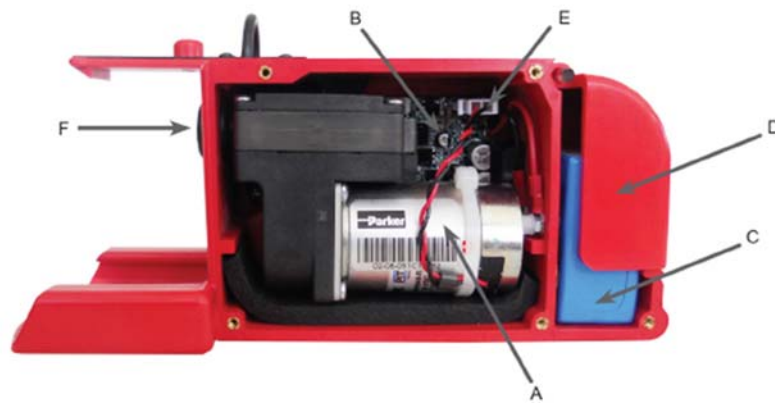
## Trouble Shooting

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Does not function when switch is turned on (DC Power)	Battery discharged	Reconnect to charging source to activate charger or install a new fully charged battery
	Molex connections disconnected	Open unit and re-connect Molex connections
Battery Condition indicator lights not lit	Damaged PC Board	Replace PC Board
	Power cord disconnected	Reconnect cord
No suction when pump is running	Damaged PC Board	Replace PC Board
	Canister not secure to chassis	Latch canister to chassis
	Regulator vent is open	Replace cap on vent
	Tip cover is on the catheter	Remove tip cover from catheter
	Fluids have shut down the filter in the canister	Replace canister

## Internal Access

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Remove the five 4-40 screws using a Phillips head screwdriver and lift off the chassis cover exposing the internal components.



- (A) Vacuum Pump: Do not attempt to service
- (B) PC Board (behind the pump) - Electrical Circuits; Do not attempt to service
- (C) Battery - 12V DC nominal voltage
- (D) Battery door
- (E) Pump connection to PC Board
- (F) Vacuum Barb and O-Ring

### To Replace Battery

Open battery door and remove the depleted battery. Install a new battery as shown. Make sure the contacts on the battery mate to the terminals on the chassis. Close the battery door and turn the unit on to verify performance.







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## Maintenance

Observe the following maintenance routine to ensure readiness at any time:

1. When the SSCOR aspirator is not in use, keep batteries on continuous charge.
2. Test the SSCOR aspirator at regular intervals; See page 6.
3. Make sure the SSCOR aspirator is always clean and ready for use.

Note : No part requires lubrication and lubricants should not be used.

### Sanitation

As soon as possible after use, the single use disposable canister, patient tubing and catheter should be discarded according to local / regional / national requirements for the disposal of hazardous waste materials. Clean using a mild detergent and if necessary disinfect with a mild disinfectant such as 10 to 1 bleach and rinse using clear water to remove any residue.

NOTE: The hydrophobic filter in the canister helps to ensure that no moisture or particulate matter reaches the inside of the device. In the unlikely event that fluids may have reached the vacuum pump, read the disinfection section. Do not reuse any single use disposable parts; do not submerge the device into any liquid, this will void the warranty and cause the device to malfunction.

### Disinfection

Use personal protective equipment such as gloves, a smock, and face and eye protection when handling units that are suspected to be contaminated.

**Caution:** Disconnect the unit from any power source prior to cleaning the unit. When cleaning the interior of the chassis, disconnect the battery from the PC Board to prevent damaging the PC Board.

Part	Cleaning and Disinfecting
Collection Canister	Disposable item, re-use not permitted. Use new canister for each patient.
Patient Tubing	Disposable item, re-use not permitted. Use new patient tubing for each patient.
HI-D® Stick	Disposable item, re-use not permitted. Use new HI-D Stick for each patient.
Vacuum Pump	Wipe with damp cloth or disinfectant wipe. Sterilization not permitted. Vacuum pump should be replaced if contaminated
PC Board	Sterilization not permitted. PC Board should be replaced if contaminated
Plastic Chassis	Wipe with damp cloth or disinfectant wipe. Sterilization not permitted.

Disinfect the unit using a mild surface disinfectant, such as a 10:1 mixture of water and bleach. The unit is designed to suction contaminated fluids, which should be removed from the system immediately after use. In the unlikely event that fluids may have reached the vacuum pump, your engineering department will have to open the unit to check the condition of the pump. When cleaning the interior of the chassis, disconnect the battery from the PC Board to prevent damaging the PC Board. The only foreseeable way fluids may reach the vacuum pump is that the filter in the canister has been compromised or bypassed.

If the PC Board appears defective, return the unit to the factory for repair. Do not attempt to repair the PC Board. If the vacuum pump appears defective, return the unit to the factory for repair. Do not attempt to repair the vacuum pump. For technical assistance, call (800) 434-5211 or +1 (818) 504-4054.

### WARNING:

To avoid any contaminants reaching the interior of the device, always remove the canister per the instructions in the sanitation section. Only use SSCOR, Inc. canisters affixed with hydrophobic filters.