



Installation and Operating Guide

Syclone™ Amalgam Separator | Installation and operating guide

For your safety, please read all instructions prior to installing, operating and servicing the Syclone™ Amalgam Separator.

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Warning

The waste stream treated by the Syclone Amalgam Separator is generated by a dental vacuum system and as such, may contain concentrations of solid and soluble mercury and silver. Full collection canisters should be handled, stored and disposed of according to regulations applying to waste containing mercury.

Remember to wear safety protective gear such as gloves and safety glasses or face shield when handling full Syclone™ Containers and dispose of per local codes and regulations. All spills should be considered as hazardous and handled in accordance with standard hazardous materials (HAZMAT) handling procedures.

Contents of the Syclone Amalgam Separator system:

- Installation and operating guide
- (1) Canister
- (1) Amalgam separator top chamber
- (1) Mounting Bracket
- Plumbing adapters, screws and washers
- (2) Retaining Pins

Where to install:

Instructions

- Choose an appropriate location for the installation of your Syclone Amalgam Separator near your vacuum unit. Place in an easily accessible location for replacement of collection canister, somewhere between the treatment rooms and the vacuum source.
- Do not connect to outlet of separating tank or water ring pump.
- To reduce the chance of backflow into the amalgam separator, **please ensure that the amalgam separator outlet connection is installed 4-6 inches above the inlet of the pump or tank.**

Syclone Amalgam Separator components:

- a** Inlet (Chair)
- b** Chamber
- c** Retaining Pins
- d** Drain Outlet (Pump)
- e** Canister
- f** Flow in from treatment rooms
- g** Flow out to pump inlet (wet vacuum unit) OR to tank inlet (dry vacuum unit)



Easy set-up and installation

Instructions:



IMPORTANT: The unit should be installed so that the outlet is 4-6 inches higher than the tank or pump inlet.

• **NOTE:** Before installation, ensure that lines are thoroughly flushed with evacuation line cleaner, and once complete, then the vacuum is turned off.

- Use provided inlet and outlet couplings.
- Do not glue plumbing to the Syclone™ Amalgam Separator inlet and outlet.
- Securely mount or support the bracket.

- If mounting to a wall, use studs or wall anchors for secure installation. Do not mount directly into drywall.
- Write the installation date on the collection container.
- Complete the product registration form online at Crosstex.com/Syclone.

It is recommended to keep these tools within arm's reach during the installation:

- Stud finder
- Level
- Heavy-duty wall anchors
- Screws
- Drill
- Phillips-head screwdriver
- Slotted screwdriver
- Measuring tape
- Pipe cutter
- Adapters and additional pipe (as necessary)
- All items from the Syclone Amalgam Separator box

1 Find an appropriate location for the Syclone Amalgam Separator



Before installation, ensure that lines are thoroughly flushed with evacuation line cleaner, and once complete, then the vacuum is turned off.

- Generally installed close to the vacuum pump
- **The Syclone Amalgam Separator outlet should at least 4-6 inches higher than the vacuum inlet**



2 Secure the mounting bracket

- Check for studs and mark one of the top corners
- If a stud is not available, wall anchors, plastic standoffs, or similar fittings should be used

NOTE: Do not mount directly into drywall

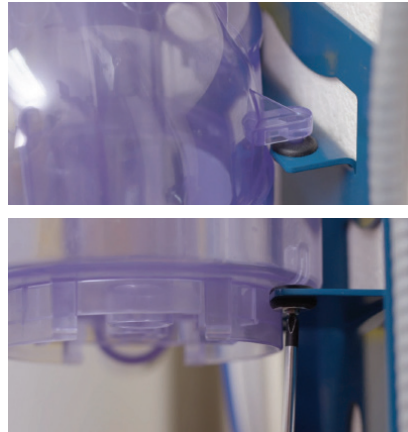
- Attach the top corner of the mounting bracket
- Use level to confirm alignment
- Mark the rest of the pilot holes
- Drill pilot holes, install wall anchors if necessary and use appropriate screws to secure the mounting bracket



Easy set-up and installation (cont'd)

3 Attach the top chamber

- Choose either left- or right-facing installation based on layout
- Seat the prongs of the top chamber into the corresponding slots on the mounting bracket
- Ensure that all the top and bottom fittings are fully seated
- Use a Phillips-head screwdriver to tighten the screws and washers provided for the bottom prongs of the top chamber until snug



4 Attach the top chamber to pipes

- The outlet from the operatories should be installed to the **top inlet** of the Syclone™ Amalgam Separator
- Measure the piping and cut
- Use one of the two couplings provided along with adapters and additional pipe as necessary
- Connect to the vacuum via the **system outlet on the bottom** using the other coupling provided
- Install adapters and additional pipe as necessary
- Be sure to tighten all connections to prevent leaking

NOTE: Depending on the configuration of the pipes, you may need PVC adaptors to connect the plumbing to the system (not provided with Syclone Amalgam Separator)



5 Install the canister

- Fill the new canister with water to help increase longevity of the product
- Align the canister to the top chamber and push up
- Secure the canister using the retaining pins provided



6 Final checks

- Turn on the vacuum and run water through the system; check for leaks
- Write the installation date as well as the maximum change date of 12 months on the canister label
- Attach the visual inspection log
- The unit is now ready for use



Maintenance and troubleshooting

Maintenance

Line rinsing and vacuum line cleaners: Cleaners should have these qualities: Low-foaming, deodorizing, sanitizing and pH between 6 and 8. <i>Use of line cleaners outside of this pH range will void the warranty.</i>	Dental vacuum systems: Follow manufacturer's instructions. Note: It is recommended to rinse no more than 5 rooms every 10 minutes. Limit the total maximum flow to the Syclone™ Amalgam Separator system during rinsing to 1 liter per minute. Rinsing too much or too rapidly can overflow the unit and could affect efficiency.	Canister replacement: Follow instructions included with the replacement canister. Check the sediment level of the canister monthly. Please see the Visual Inspection Log located on page 12. Optional email reminders are available when registering the system for warranty at Crosstex.com/ Syclone .
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Service & troubleshooting

The Syclone Amalgam Separator is designed to provide trouble-free service, with minimal attention. In the unlikely event of a system-related problem please consult the troubleshooting and maintenance guide below.

Problem: Little or no vacuum at the handpiece.

- Check the sediment level of the container. Replace if full.
- Check the vacuum gauge.

If the vacuum gauge reads normally but there is little or no vacuum to the handpiece, there is probably a clog or a leak between the handpiece and the Syclone Amalgam Separator. Further troubleshooting of the whole vacuum system may be required. Please contact your preferred service technician or Crosstex Customer Support.

If the vacuum gauge reads lower than normal and you have a solid collection cup, check, clean or replace element/screen if necessary. Check operation of the vacuum pump and listen for vacuum leaks. Check connections for breaks, cracks, kinks, or loose clamps.

If the vacuum gauge reads lower than normal and you just replaced the canister, check the installation of the new canister. If the vacuum is low there is a possibility that the O-rings on the canister did not seal into the receivers. Check the O-rings and re-install per the installation procedure.

Problem: Water in the upper chamber of the system.

- Check the sediment level of the canister. Replace if full.
- Check the pH of the evacuation line cleaner; if below 6 or above 8, change canister and line cleaner.
- The transition from the upper chamber to the canister could be clogged.

Problem: Solids are at or above Full Line of canister.

- Change the canister. Inspect the top chamber for solids.

Problem: Top chamber contains some solids which has caused the system to back up.

- Turn on the vacuum.
- Remove the pins.
- Tilt the canister towards the outlet pipe to allow air into the top chamber.
- Place the canister back on and insert the pins.

Problem: Top chamber is full with solids which has caused the system to be in bypass.

There may be a reduction in suction and solids may be released into the waste stream.

- Replace top chamber.
- Do not discard the chamber; it must be recycled. Contact Crosstex Customer Service for additional support.

Replacement canister installation

✓ Don't forget!

Save the shipping carton for storage of your full collection canister!

Contents of the Syclone™ Replacement Canister and Recycle Kit:

- Shipping box and cushions
- Instruction and recycling sheet
- (1) Replacement canister
- (2) O-rings (additional, added fitting option)
- (3) Plugs
- (2) Cap seal
- (1) Zip-style disposal bag
- (1) Return shipping label sleeve

Shipping dimensions

Replacement canister:

Length: 10 ½"
Width: 9 ½"
Height: 12"
Weight: 4 lbs.

Full system:

Length: 28"
Width: 19"
Height: 10"
Weight: 26 lbs.



Product specifications

- System dimensions: 12.7" W x 9.1" L x 28.4" H
- Replacement canister capacity: 1.5 Liters
- One Syclone™ Amalgam Separator will serve up to 10 chairs.
- Classification: Type 2, Sedimentation System
- Maximum temperature: 120° F (52° C)
- Maximum vacuum: 15" Hg (51 kPa)
- Maximum flow rate: 1 liter per minute

⚠ Hazardous Waste Warning

The waste stream treated by the Syclone™ Amalgam Separator is generated by a dental vacuum system and as such, may contain concentrations of solid and soluble mercury and silver. All spills should be considered as hazardous and handled in accordance with standard hazardous materials (HAZMAT) handling procedures.

Note: Crosstex offers a recycling program for the safe disposal/recycle of full canisters. Contact your dental distributor to purchase a Syclone Amalgam Separator Recycle Kit and replacement canister for the safe, eco-friendly disposal of your full canister.

Purchase of the recycle kit also includes processing of the used canister for recycling. Please visit the product webpage at Crosstex.com for information on Syclone™ Canister Recycling. The used canister may never be shipped to Crosstex International headquarters and must be sent to a qualifying recycling facility.

Before you begin: Examine the upper chamber of your Syclone Amalgam Separator. If liquid is present, wait until it has drained into the collection canister before proceeding.

This procedure should be performed only when no patients are being worked on, as loss of chairside vacuum may occur.

Leave the vacuum system running during the entire canister change-out procedure.

- Full canisters should be handled and disposed of according to applicable local, state, and federal regulations.
- **Remember to wear safety protective gear such as gloves and safety glasses or face shield when handling full Crosstex Syclone™ Canisters.**

NOTE: If the system needs to be replaced, it should be handled, sanitized, stored and disposed of according to regulations applying to hazardous waste containing mercury. Remember to wear safety protective gear such as gloves and safety glasses or face shield and dispose of per local codes and regulations.

Replacement canister installation (cont'd)



PPE information

Remember to wear safety protective gear such as gloves and safety glasses or face shield when handling full Syclone™ Canisters.

Installing the replacement canister

1. Sanitize the vacuum system using the sanitization procedure established at your facility.

It is good practice to leave the vacuum pump running for 5 to 10 minutes every time the system is sanitized in order to allow excess liquid time to evacuate the lines. Please note: record the vacuum gauge reading before removing the canister. Its should be the same once the canister has been replaced.

2. With the vacuum system still running, remove the full canister from the unit as follows:

- Open the zip-style bag (provided), remove all fittings from inside and slip the bag over the canister to be removed.
- Support the canister with one hand while removing the retaining pins with the other hand. Tilt the canister to release the element-side receiver first (slotted pipe side – RIGHT side for right-handed installation or LEFT side for left-handed installation) and then pull down to release the entire canister.



WARNING: Hold the bag securely in the unlikely event that the upper chamber may contain some residual liquid that may drain during removal of the canister.

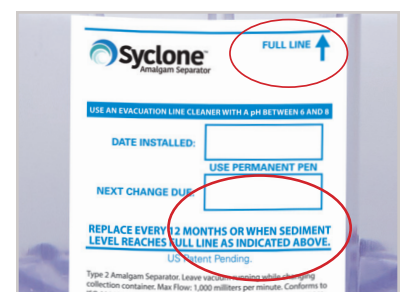
- Decontaminate the contents of the collection canister by pouring 1:100 bleach solution into the canister (this is done to stay compliant with DOT regulations on amalgam waste shipping).
- Place the appropriate plugs into the inlet and outlet fittings of the full canister.
- Place the plastic caps on top of the plugged inlet and outlet fittings of the full canister.
- Squeeze out all excess air and zip the disposal bag closed.

3. With the vacuum system still running, install your new canister:

- Fill the new canister with water before installation to help increase longevity of the product. The canister can be installed only one way. Note the alignment of the fittings on the canister with the receiver holes in the upper unit.
- Gently insert the fittings into the receiver holes. This can be accomplished by rocking the canister slightly. The O-rings on the fittings should seat easily into the upper unit receivers. (If the O-rings appear loose, exchange them for the large-gauge O-rings included in the kit for a tighter fit.)
- Continue to push the canister into the top chamber until it is fully seated.
- Insert the retaining pins into their holes until seated as per the figure on page 1.
- The canister is now locked into place.

4. Fill out the information label:

- Enter "Date Installed" on the new canister.
- Enter the "Next Change Due" on the new canister, which should be 12 months from the installation date.
- Note the vacuum gauge reading. The reading should be the same as before the canister change.



Your canister must be changed every twelve (12) months or when sediment level reaches the Full Line; whichever occurs first. Check the sediment level of the canister monthly. If you would like to keep a written record of the visual inspection, please refer to the chart on page 12.

Canister recycling instructions

New users to Crosstex DocHub

1 Set up account

Set up a Crosstex DocHub account by accessing the portal via the Syclone™ Amalgam Separator page under “Product Warranty Registration.”

Enter the office details on the first step, ensuring that all information is valid as this will be replicated on the recycling certificates.

Crosstex DocHub account set up page

2 Check email

Check the email account entered in Step 1 for a temporary password. Enter the temporary password. You will be prompted to change the password to a more memorable one that can be used for future logins.

3 Verify address

Enter the business address of the office. Ensure that all information is valid as this will be replicated on the recycling certificates. Verify the address and select the UPS address that is pertinent to the office. You may override this feature if needed.

4 Enter serial number

Enter the valid serial number of your Syclone Amalgam Separator. The serial number of the Syclone™ Canister associated with the system should populate automatically. Select the date installed and complete any pertinent information on your preferred dealer. Opt-in to receive email reminders to help stay compliant.

If you do not have a Syclone Amalgam Separator, check “No” on the first question. Enter the serial number of your amalgam separator and the valid serial number of the Syclone™ Replacement Canister. Select the date installed and complete any pertinent information on your preferred dealer. Opt-in to receive email reminders to help stay compliant. **If you have a canister from your current system that needs to be recycled**, check yes for “Do you have a canister to return from your original system?”. Enter the serial number of your current canister in the field provided. A UPS shipping label for the current canister will be sent to the email associated with the account.

Final step for Crosstex DocHub account setup

5 Complete registration

Select “Complete Registration.” The processing may take a few minutes. Once completed, you will be automatically redirected to the dashboard. Use the dashboard to recycle canisters, track returned canisters and view any recycling certificates that have been generated.

STATUS	ACTION
Installed	Recycle Canister
Certificate Issued	
Returned	

The Crosstex DocHub dashboard Status and Action columns

Canister recycling instructions

Returning users with Crosstex DocHub access

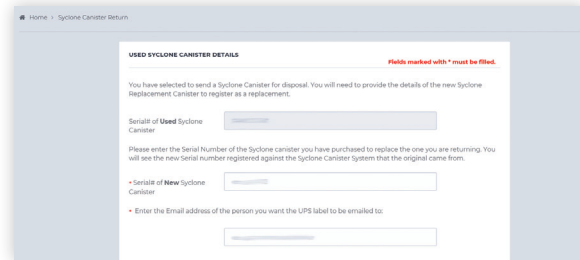
1 Sign in

Use the Crosstex DocHub portal on the Syclone™ Canister Replacement Program page to generate your label.

Sign in using the email and password associated with the account. On the dashboard, select “Recycle Canister” for the used canister you would like to recycle.

On the next page, enter the serial number of the new Syclone™ Replacement Canister. Check all the information and hit “Request UPS Label.” No payment information is required.

Note: Please use one UPS label per Syclone Replacement Canister box.



Recycle canister page on Crosstex DocHub

2 Print label

Print the prepaid shipping label with tracking information.

Check the email associated with the Crosstex DocHub account for the UPS label. Print the shipping label.



Example of shipping label



Sample email from Crosstex DocHub with attachment to print shipping label

3 Prepare shipment

Prepare the used canister for shipment and attach the label to box using the return shipment label sleeve.

Additional details on packaging the used canister can be found in the Syclone Replacement Canister Installation Guide.

4 Deliver shipment

Deliver shipment within ten days to your UPS driver, local UPS Store, UPS Drop Box or UPS Alliance (Office Depot or Staples).

Note: Purchase of the recycle kit includes processing of the used canister for recycling. Please follow the directions listed to ship the canister. Do not ship used canisters to Crosstex. All used canisters must be sent to a qualified recycling facility listed on the label.

5 Track shipment

After shipment, follow your package on Crosstex DocHub or with the tracking number provided from UPS. You will receive your certificate once the canister has been received for recycling. Certificates may take up to 30 days to process from date shipped to the recycler.

Warranty

Warranty

Syclone™ Amalgam Separators are warrantied against defects in material and workmanship for two (2) years from the date of purchase. Syclone™ Replacement Canisters are warrantied for one (1) year from the date of purchase. During warranty period Crosstex will at its sole discretion repair and/or replace products that prove to be defective at the original install point with established proof of purchase.

Labor, transportation and recycling service charges are specifically not included.

The Syclone Replacement Canister is warrantied for one (1) year when utilized on a compatible/compliant amalgam air/water separator. Crosstex will honor all compatible/compliant amalgam air/water separator warranties.

Limitations of warranty

The warranty shall not apply to defects resulting from improper installation, maintenance, abuse, unauthorized modification, or operation outside of the environmental specifications for the product or damages that occur in shipping due to improper repackaging of equipment for return to Crosstex. Crosstex specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

Use of evacuation line cleaners having a pH less than 6 or greater than 8 will void these warranties.

Crosstex recommends the use of Sani Vac™ Evacuation System Cleaner, but other evacuation line cleaners with a pH between 6 and 8 can also be used. The remedies provided herein are the buyer's sole and exclusive remedies. Crosstex shall not be liable for any direct, indirect, incidental or consequential damages, whether based on contract, tort or any other legal theory. No other warranty is expressed or implied.

Note: If the Syclone Amalgam Separator is installed remotely from the dental center, a warning signal alarm should be installed for monitoring capability.

System and Replacement Parts

Product ordering information:

Ref. #	Description
AMLSYS	Syclone™ Amalgam Separator System
AMLSYRC	Syclone™ Replacement Canister and Recycle Kit

Sani Vac™ Evacuation System Cleaner

According to the American Dental Association (ADA) and regulators requiring amalgam separators, oxidizing line cleaners should not be used with a functioning amalgam separator because they can break down and release amalgam particles into the wastewater*.

Cleaners containing bleach (chlorine bleach, sodium hypochlorite) should never be used, as chlorine is known to cause mercury to be released from amalgam. Regulators have also become aware of pH related to evacuation line cleaners. New amalgam separator regulations now require the use of evacuation line cleaners with a pH between 6 and 8.

Acidic (low pH) evacuation line cleaners have been known to hinder the operation of amalgam separators. Basic (high pH) cleaners can cause premature wear on materials used in amalgam separators. The use of Sani Vac™ Evacuation System Cleaner with the Syclone™ Amalgam Separator system is recommended.

Although the 2003 CDC Dental Guidelines do not specify how often to clean evacuation lines, they do suggest in the Saliva Ejector & Backflow FAQ's** to refer to the manufacturer's procedure for the appropriate cleaning and disinfection methods of suction tubing. To maintain optimal performance, Crosstex recommends routine use of Sani Vac Evacuation System Cleaner (daily or after each patient) to prevent sluggish lines, unnecessary downtime and/or costly line repairs.

Visit Crosstex.com for further details.



Product ordering information:

Ref. #	Description	Quantity
JVAC	Sani Vac™ Evacuation System Cleaner	1 gallon

* www.epa.gov/eg/dental-effluent-guidelines

** www.cdc.gov/oralhealth/infectioncontrol/faqs/saliva.html

Solid Amalgam Waste Disposal

As part of the EPA Dental Amalgam Rule, the Best Management Practices (BMPs) outlines include recommendations to collect and recycle solid amalgam waste. This includes contact and non-contact amalgam, used amalgam capsules, extracted teeth with amalgam, chairside traps and vacuum pump filters.

Be compliant with the recommended BMP with the Amalgam Buckets from Crosstex. These can be used for safe and efficient recycling of solid amalgam waste in the forms listed above. They are UN certified and available in multiple sizes to best suit the needs of the practice.

All Amalgam Buckets from Crosstex include pre-paid returns for recycling and certificates of compliance, making it easy to stay compliant.

Visit Crosstex.com/amalgambuckets for further details.



Product ordering information:

Ref. #	Description	Quantity
AMLB1	Amalgam Bucket 1.25 gallon	1 Each
AMLB2	Amalgam Bucket 2.5 gallon	1 Each
AMLB5	Amalgam Bucket 5 gallon	1 Each

Visual inspection log

For your convenience, we have provided a Visual Inspection Log for monthly reporting, which can be cut out and affixed to the system. Use this log to ensure proper operation and maintenance. Visually inspect the canister monthly to determine the level of solid waste. Canister is replaced when solids reach the Full Line or once a year, whichever comes first.

SYCLONE INSPECTION LOG		
Office Name:		
Serial Number of Syclone System:		
Date of System Installation:		
Date (MM/DD/YYYY)	Print Name	Signature

A pair of scissors icon pointing towards the vertical dashed line on the left side of the form.

Technical Installation Checklist for Syclone™ Amalgam Separator

It is recommended to keep these tools within arm's reach during the installation:

- ☐ Stud finder
- ☐ Level
- ☐ Heavy-duty wall anchors
- ☐ Screws
- ☐ Drill
- ☐ Phillips screwdriver
- ☐ Slotted screwdriver
- ☐ Measuring tape
- ☐ Pipe cutter
- ☐ Adapters and additional pipe (as necessary)
- ☐ All items from the Syclone Amalgam Separator box



Please read all instructions in the Syclone Amalgam Separator Installation and Operating Guide prior to installation.



Step 1:

Locate the vacuum pump and map out plan for installation

- a. Check that vacuum is turned off
- b. Syclone™ System should be installed with the outlet higher than the vacuum inlet by at least 4-6 inches



Step 2:

Unpack the Syclone Amalgam Separator box and check that all components are present



Step 3:

Install the blue mounting bracket

- a. Ensure that the bracket is level and mark pilot holes' locations
- b. If stud is available, use screws to secure bracket to stud
- c. If no stud is present, use wall anchors and appropriate screws to secure bracket to wall



Step 4:

Secure the Syclone Amalgam Separator top chamber

- a. Bottom fittings should be secured to the mounting bracket with provided screws and washers



Step 5:

Attach top chamber to pipes

- a. Measure where to cut piping and make the cut
- b. Install coupling to inlet and add adaptors and additional piping as necessary
- c. Ensure that all joints are tightened or glued
- d. Repeat steps a-c for amalgam separator outlet



Step 6:

Install replacement canister

- a. Push into top chamber and insert provided retaining pins



Step 7:

Check system

- a. Turn on vacuum and run water through the system, checking for leaks
- b. Write installation date and next change due date on canister

Notes

[illegible]



For over 65 years, Crosstex has remained dedicated to innovative, high-quality solutions, services and education that ensure maximum compliance and improve outcomes for healthcare professionals and patients.



Certified to ISO 11143



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