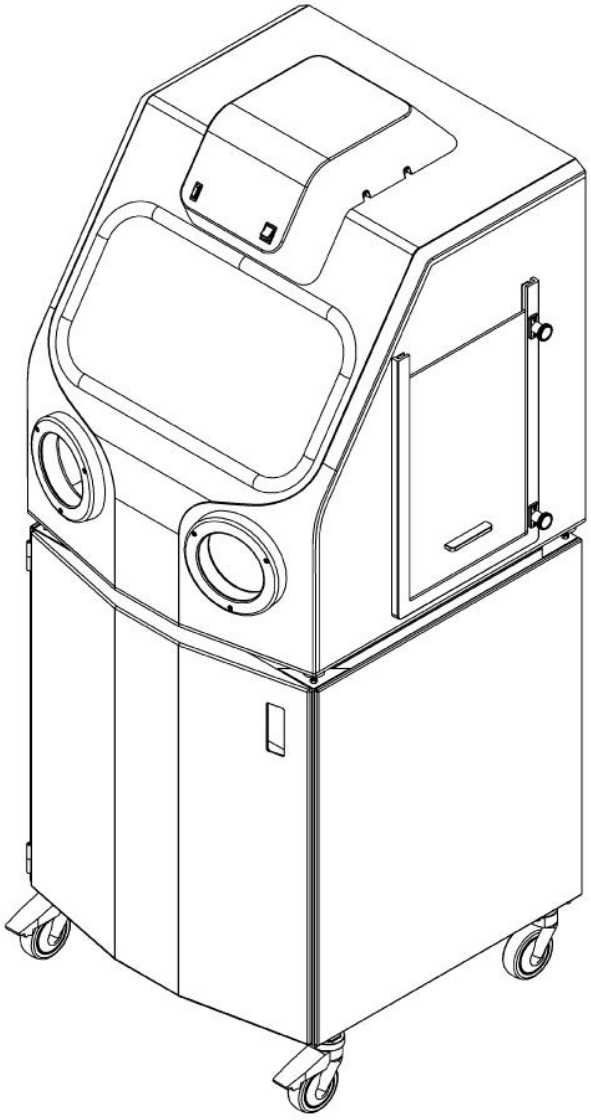
scawaterjet

USER MANUAL



ORYX

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ORYX

1 Introduction

How to Use This Guide

This User Guide is laid out in easy to follow sections that cover Setup, Operation, Maintenance, and Troubleshooting. Read each section carefully so you will get the best performance from your cleaning system.

Safety Precautions

For your own protection and to ensure proper operation of the SCA Waterjet please follow these safety precautions. Failure to use the SCA Waterjet for the intended function may result in personal injury and will void the warranty.

- Do not operate the SCA Waterjet until you have read and understood this user manual.
- Only properly trained personnel should operate the SCA Waterjet.
- Do not operate the SCA Waterjet if the cabinet side access door into the work interior is not closing or a hose or wand appears to be damaged.
- Inspect gloves before each use. If either of the gloves appear to be damaged or worn, replace before operating the SCA Waterjet.
- Never operate the SCA Waterjet with the cabinet side access door open.
- Use the power supply voltage as noted in the Specifications section of this manual. Avoid overloading the electrical outlet with multiple devices.
- Use only the power cord supplied by the manufacturer. Replace a damaged power cord with one approved by the manufacturer.
- Ensure the system is well-grounded. Plugging the SCA Waterjet into a Ground Fault Interrupt (GFI) or similar protected outlet is recommended.
- Always power off and unplug the SCA Waterjet from the power outlet when it is being cleaned, moved or serviced.
- Do not use the SCA Waterjet for any purpose other than cleaning and removing support material from 3D printed models produced using the Material Jetting (MJ) process with UV Cured Resins.
- Wear Safety Glasses when working near or operating the SCA Waterjet.
- The SCA Waterjet operates at 85-88db noise level – Ear Plugs are REQUIRED.
- Do not use any liquid other than cool clean water in the SCA Waterjet.
- Before disassembling or attempting repairs on the system, contact Technical Support as directed in the Customer Support section of this manual.

Following classifications used throughout this guide and/or marked on the SCA Waterjet:


Caution


Electrical Danger

Précautions de sécurité

Pour votre propre protection et pour assurer le bon fonctionnement du SCA Waterjet, veuillez suivre ces précautions de sécurité. Le fait de ne pas utiliser le SCA Waterjet pour la fonction prévue peut entraîner des blessures et annulera la garantie.

- N'utilisez pas le SCA Waterjet avant d'avoir lu et compris ce manuel d'utilisation.
- Seul un personnel correctement formé doit utiliser le SCA Waterjet.
- N'utilisez pas le SCA Waterjet si la porte d'accès du côté de l'armoire à l'intérieur du poste de travail ne se ferme pas ou si un tuyau ou une lance semble être endommagé.
- Inspectez les gants avant chaque utilisation. Si l'un des gants semble être endommagé ou usé, remplacez-le avant d'utiliser le SCA Waterjet.
- Ne jamais faire fonctionner le SCA Waterjet avec la porte d'accès côté armoire ouverte.
- Utilisez la tension d'alimentation comme indiqué dans la section Spécifications de ce manuel. Évitez de surcharger la prise électrique avec plusieurs appareils.
- Utilisez uniquement le cordon d'alimentation fourni par le fabricant. Remplacez un cordon d'alimentation endommagé par un autre approuvé par le fabricant.
- Assurez-vous que le système est correctement mis à la terre. Il est recommandé de brancher le SCA Waterjet sur un interrupteur de fuite à la terre (GFI) ou une prise protégée similaire.
- Éteignez et débranchez toujours le SCA Waterjet de la prise de courant lorsqu'il est nettoyé, déplacé ou réparé.
- N'utilisez pas le SCA Waterjet à d'autres fins que le nettoyage et le retrait du matériau de support des modèles imprimés en 3D produits à l'aide du processus de projection de matériau (MJ) avec des résines durcies aux UV.
- Portez des lunettes de sécurité lorsque vous travaillez à proximité ou utilisez le SCA Waterjet.
- Le SCA Waterjet fonctionne à un niveau de bruit de 85 à 88 dB - Des bouchons d'oreille sont REQUIS.
- N'utilisez pas d'autre liquide que de l'eau fraîche et propre dans le SCA Waterjet.
- Avant de démonter ou de tenter de réparer le système, contactez l'assistance technique comme indiqué dans la section Assistance clientèle de ce manuel.

Classifications suivantes utilisées tout au long de ce guide et / ou marquées sur le SCA Waterjet:

Attention

Danger électrique

Waste disposal

Consult material suppliers and your local regulations regarding handling and disposal of cured, partially cured and dissolved resins.

2 Overview

Description

The SCA Waterjet is a cool water, power cleaning system capable of removing support material from Material Jetting (MJ) 3D printed models with rapid bulk and fine detail jetting options. It is configurable for stationary direct facility hookup or as a self-contained mobile unit, for difficult to plumb situations. Its ergonomically considered design and functionality provide comfort and enhanced productivity for operators.

Key Features

- Mobile or Stationary Options:
  - **Mobile –** Onboard 5-gallon water holding tank for recirculation.
  - **Stationary -** Connect directly to facility water supply and drain; this requires optional installation components and instructions available from Oryx.
- 3-Stage Filter System for mobile recirculation option and 2-Stage Waste Filter System for stationary option.
- Integrated frame with locking front casters for mobility.
- Ergonomically designed gloved access to facilitate operator model handling and cleaning, and operation of internal control for jet wand selection.
- Two independent jet wand spray nozzles with easily accessed selector valve: **Coarse** for rapid bulk removal and **Fine** for fine detail and delicate support removal.
- High and low cleaning power settings.
- High visibility work area environment through viewing window with efficient LED lighting and internal-mount wiper blade assembly (automatic operation).
- Large processing environment to accommodate model sizes up to 19.5” x 15.5” x 9”.
- The SCA Waterjet can be operated while standing or seated.

How It Works

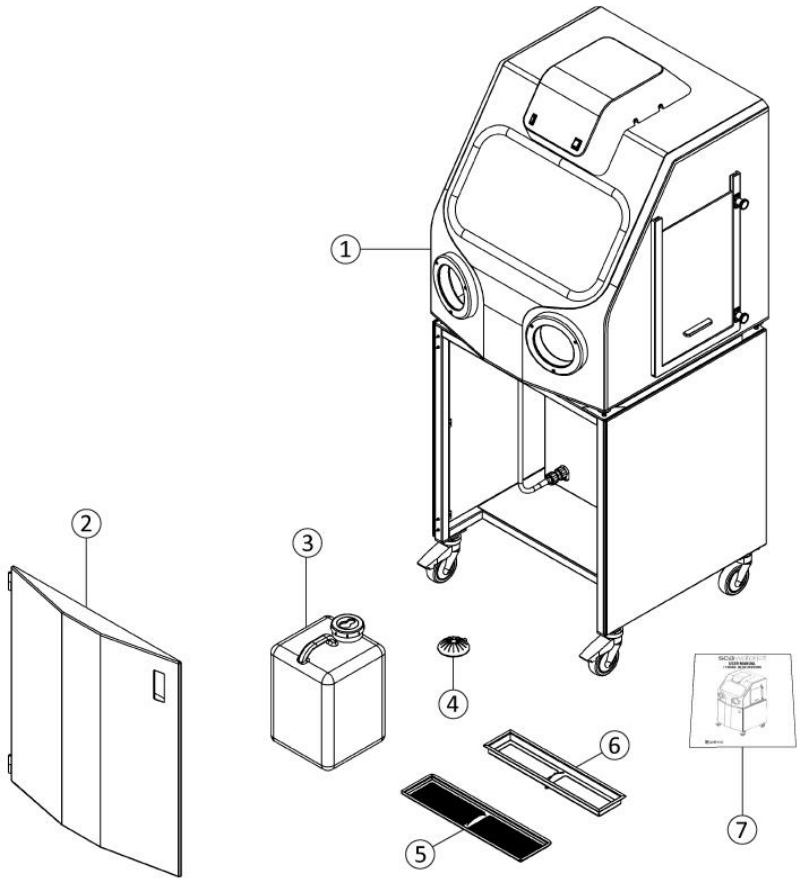
The interior work area of the SCA Waterjet is accessed via two gloved ports on machine front, allowing operators full control of models inside the work area. The integral Pump mounted on the mobile support frame delivers selectable high and low cleaning power with two handheld jet wands **(Coarse** and **Fine)**, each with a defined degree of spray directivity: **15° Coarse** for rapid bulk and **0° Fine spray** for detail removal. The sliding access door located on the right side of the machine allows entry into the interior work area for insertion of models. Machine ON-Off and integral Pump of the SCA Waterjet are operated using the control interface located above the window. An automatic inlet supply shut-off valve isolates the Waterjet from the water supply when the pump is not operating (important for units connected to facility water supply). The foot pedal switch allows full control with hands-free operation with both hands inside the work area.

SCA Waterjet System Contents

NOTE: The SCA Waterjet cleaning system as shipped **is for Mobile setup only** – please call Oryx for additional system components for the Stationary direct mode hook-up.

The items shown in the figure below are shipped standard with the SCA Waterjet.

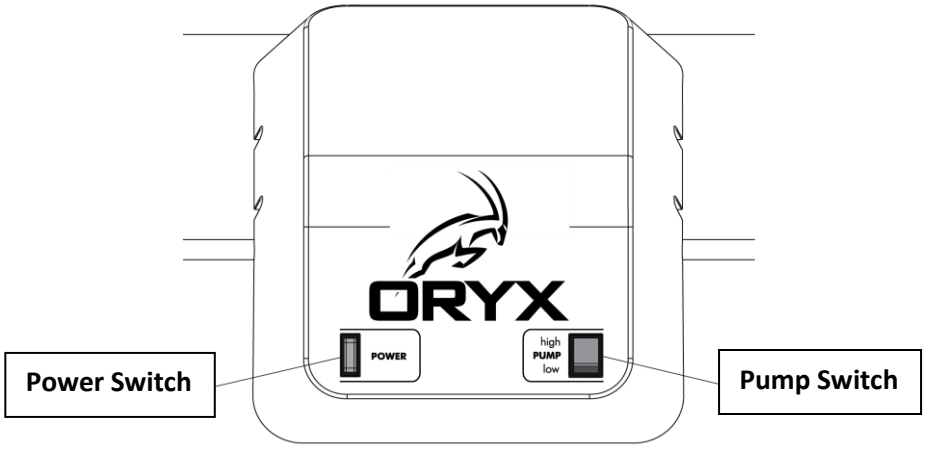
Figure 1 SCA Waterjet System Contents



1	SCA Waterjet
2	Cabinet Door and mounting hardware
3	Holding Tank
4	Foot Switch
5	Coarse Screen
6	Fine Screen
7	User Manual
8	Spare Gloves (Not Shown)

Machine Operation Features

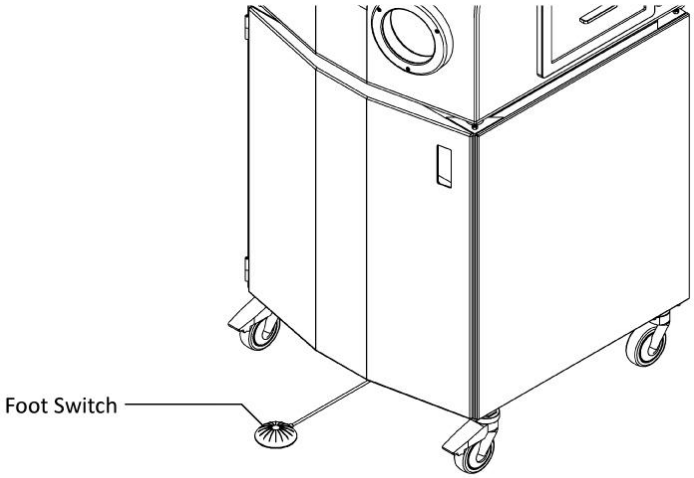
Figure 2 Control Panel at machine top



Power Switch illuminates when power is ON, turns on work area lighting and places Pump and cleaning functions in Standby Mode.

Pump Switch is used for High and Low cleaning power selections.

Figure 3 Foot Switch

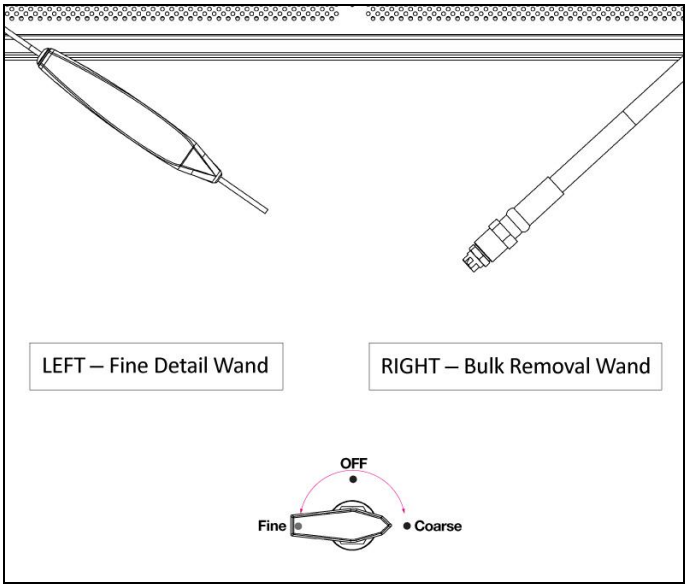


Foot Switch opens the inlet shut-off valve and activates the pump and wiper.

Never engage the Foot Switch without being properly positioned to operate the SCA Waterjet and having a firm grasp FIRST of the selected jet wand.

Ne jamais engager la pédale de commande sans être correctement positionné pour faire fonctionner le SCA Waterjet et avoir une prise ferme PREMIER de la baguette à jet sélectionnée.

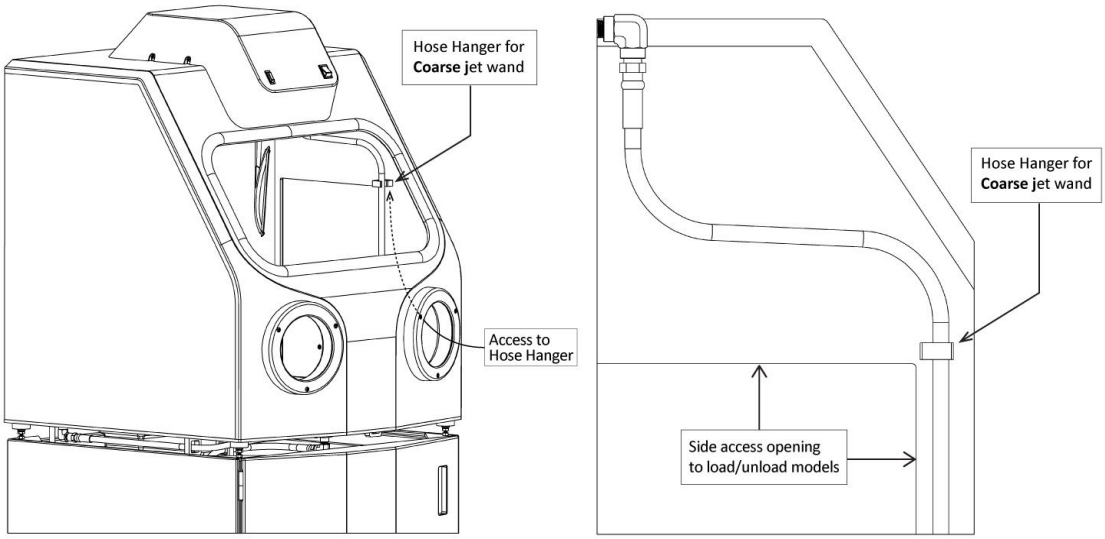
Figure 4 Wand Selector Valve & Jet Wands



Wand Selector Valve

Right – Coarse jet wand is activated.
Center OFF Position – Neither jet wand is activated, valve is closed, and Pump will not run.
Left – Fine jet wand is activated.

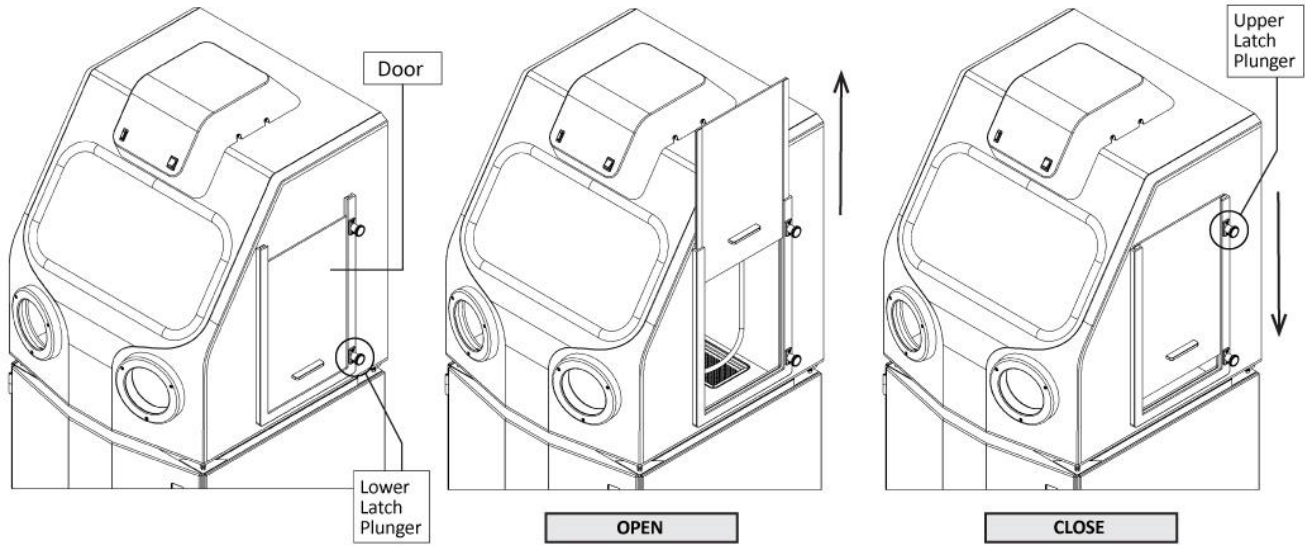
Figure 5 Coarse Jet Wand Hose Hanger



Hanger Hose through View Window **Partial View of Waterjet Interior**

Hose Hanger keeps Hose clear of Side Access Door opening when loading and unloading models into and from the work interior.

Figure 6 Side Access Door



Side Access Door allows entry into the interior work area to load and unload models, and to remove drain filters for cleaning.

Side Access Door operation

Open – Grasp door handle with left hand and retract lower latch plunger with
Slide the door up until door upper latch plunger locks into place.
Close – Grasp door handle with left hand and retract upper latch plunger with right hand.
NOTE: Lower door until the door reaches the lower latch plunger. Maintain grasp on door handle and retract the lower latch plunger. Lower door to fully closed position and release lower latch plunger.

Failure to grasp door handle and lower door by hand could result in operator injury or damage to door. Also: Only release the plunger after door has been lowered approximately one inch. Friction from plunger will prevent door from slamming shut if accidently released.

Le fait de ne pas saisir la poignée de porte et d'abaisser la porte à la main peut entraîner des blessures pour l'opérateur. ou endommagement de la porte. Aussi: ne relâchez le piston qu'une fois la porte abaissée approximativement un pouce. Le frottement du piston empêchera la porte de se fermer si elle est relâchée accidentellement.

3 Setup

Locating the SCA Waterjet

To maximize ease of use and operational safety, make sure the following preparations of the physical site are met:

- Shipping carton + pallet dimensions: 33.9” W x 31.5” D x 76.6” H.
- Shipping weight (gross): 229.3 lbs.
- The SCA Waterjet must be located on a level floor able to support 450 lbs., the system weight with the 5-gallon holding tank filled with water and operator.
- SCA Waterjet dimensions: 30.0 W x 29.5 D x 71.5 H in.
- The SCA Waterjet has integral casters on the frame for easy relocation to the installation site. The two front casters swivel and lock.
- The operating environmental temperature must be between 41^{o}F – 104^{o}F; and operating environmental humidity between 0% - 80% RH.
- Power Requirements: North America – 120VAC, 60Hz, 15A. Europe – 230VAC, 50Hz, 8A
- The electrical outlet must be located within 6 ft (2 m) of the SCA Waterjet. Do not use an extension cord or power strip with the system.

Mobile Setup

- Uncrate and remove all packing material.
- Install Door, **See Figure 7.**
- Install Fine Filter Screen and Coarse Filter Screen, **See Figure 8.**
- Position Waterjet at final installation location and lock front Casters, **See Figure 9.**
- Position the foot switch in the front of the Waterjet.
- Using Adjusting Screws between cabinet and frame, level cabinet from side to side and angle front to back approximately .5 to 1 degree up from level, **See Figure 10.**
- Fill the Holding Tank with fresh cool clean water, approximately 5 gallons. Insert drain tube and pick-up tube with inlet filter into the holding tank and fasten cap down tight. Be sure pick-up tube filter is resting on bottom of tank, **See Figure 11.**
- Plug power cord into the appropriate power receptacle.

Figure 7 Install the Cabinet Door (hardware included).

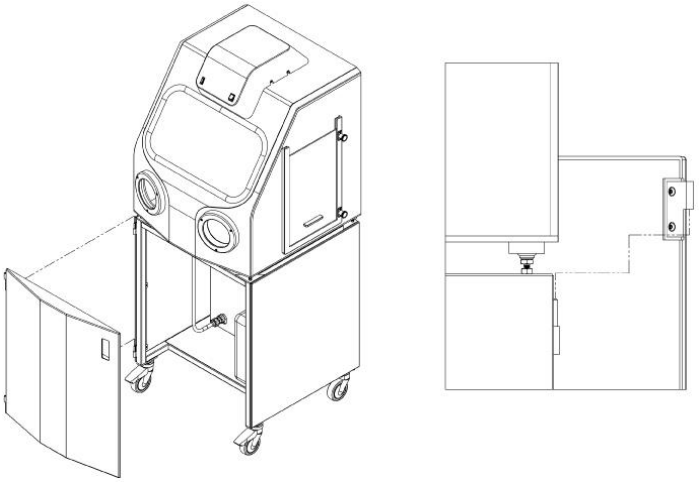


Figure 8 Install the Fine and Coarse Filter Screens (interior work area).

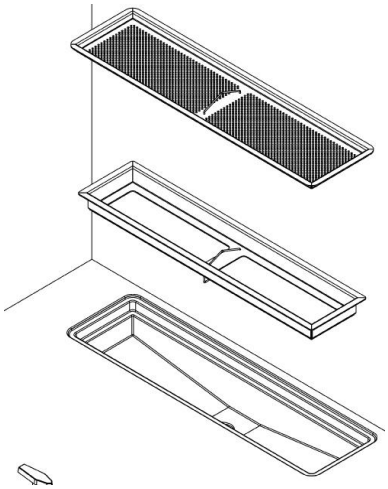


Figure 9 Lock Front Casters after locating the SCA Watejet.

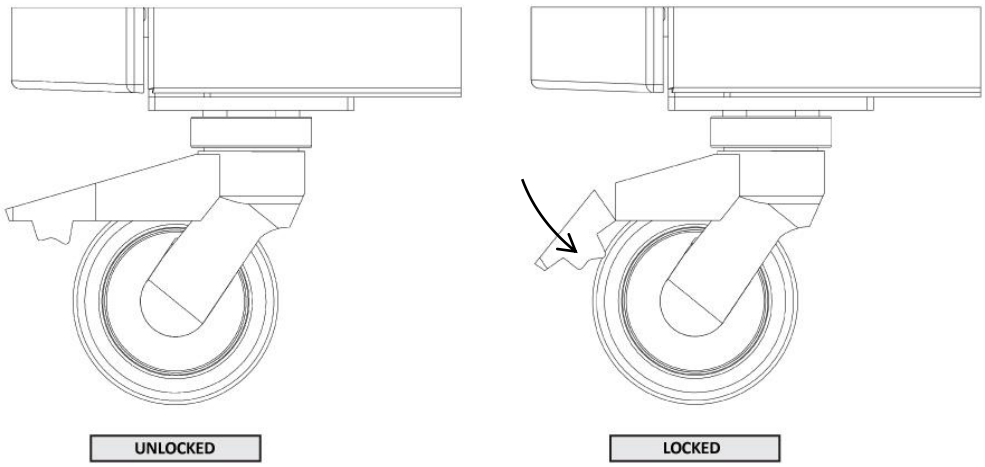


Figure 10 Level Cabinet side to side and angle front to back with Adjusting Screws (2).

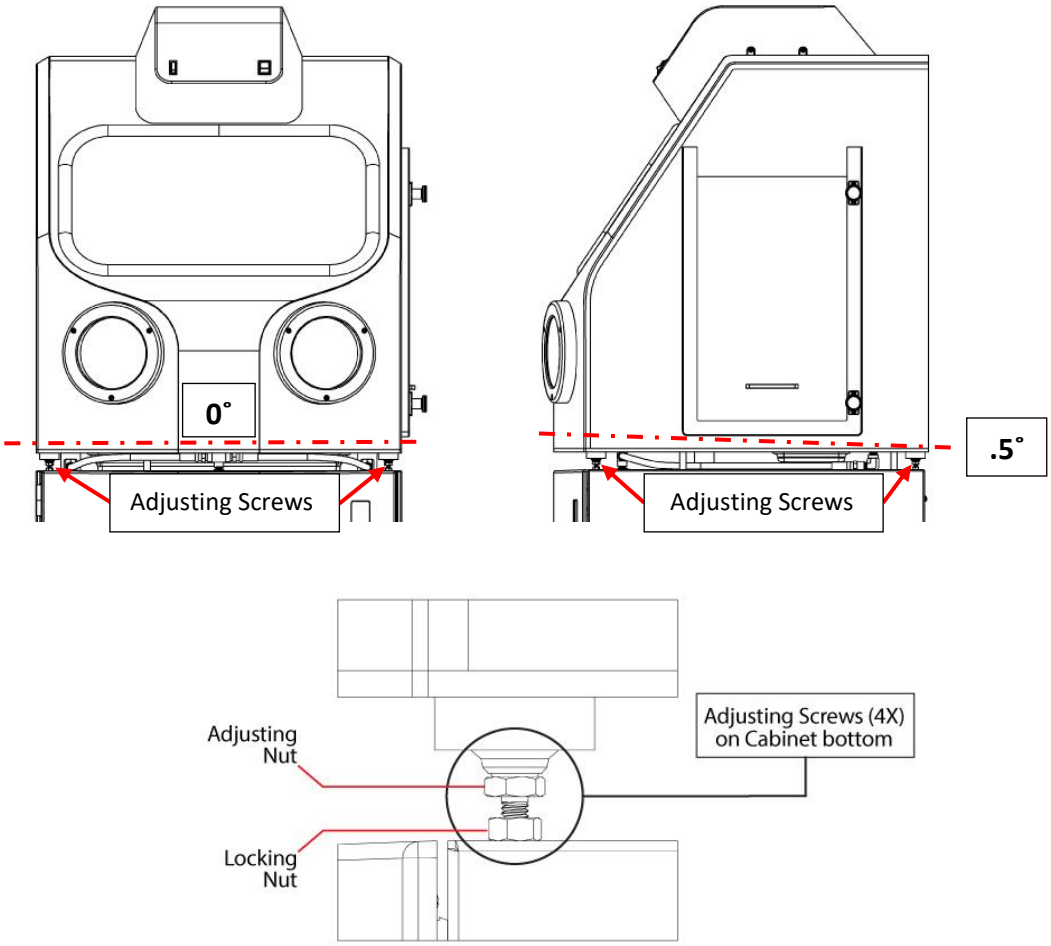
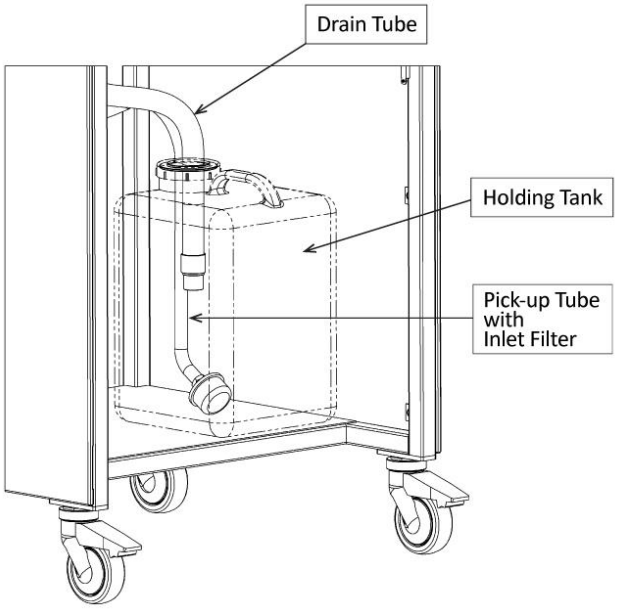


Figure 11 Holding Tank, Drain Tube and Pick-up Tube with Inlet Filter



Stationary Setup

To connect the Waterjet directly to facility water supply and drain, additional components and instructions are required: contact Oryx Support.

Pour connecter le Waterjet directement à l'alimentation en eau et au drain de l'installation, des composants supplémentaires et des instructions sont nécessaires: contactez le support Oryx.

4 Operation

For your Vision and Hearing Protection, Safety Glasses and Ear Protection are REQUIRED.

Pour votre protection visuelle et auditive, des lunettes de sécurité et une protection auditive sont NÉCESSAIRES.

System Priming

The system needs to be primed on initial startup and when the holding tank water is changed out.

Le système doit être amorcé lors du démarrage initial et lorsque l'eau du réservoir de stockage est remplacée.

1. Verify holding tank is FULL (mobile) or facility inlet supply is ON (stationary).
2. Power on the unit, Position the wand selector valve to the right (Coarse Wand) and set the pump switch to High.
3. Be sure filter screens are in place and the cabinet access door is fully closed and then place hands in gloves and position them inside the cabinet.
4. Firmly grasp the Coarse Wand and point it toward lower left rear corner of the interior work area.
5. Depress the foot switch and let the pump run until a full stream is achieved at the wand.
6. Once the pump is primed the Waterjet is ready for use.

   TIP: On initial startup, after the system is primed, run the pump using the coarse and fine detail wand for 2 to 3 minutes each and then change out the water in the holding tank. This will ensure that the system is properly flushed and ready for use.

DO NOT use hot water. The SCA Waterjet is designed for cool (room temperature) water supply. Hot water may damage the pump.

Never change the pump cleaning power when the pump is running

Never switch between wands when the pump is running

For delicate models switch the pump to "Low" for low power cleaning and use caution not to damage the model

N'utilisez PAS d'eau chaude. Le SCA Waterjet est conçu pour une alimentation en eau froide (température ambiante). L'eau chaude peut endommager la pompe.

Ne modifiez jamais la puissance de nettoyage de la pompe lorsque la pompe est en marche

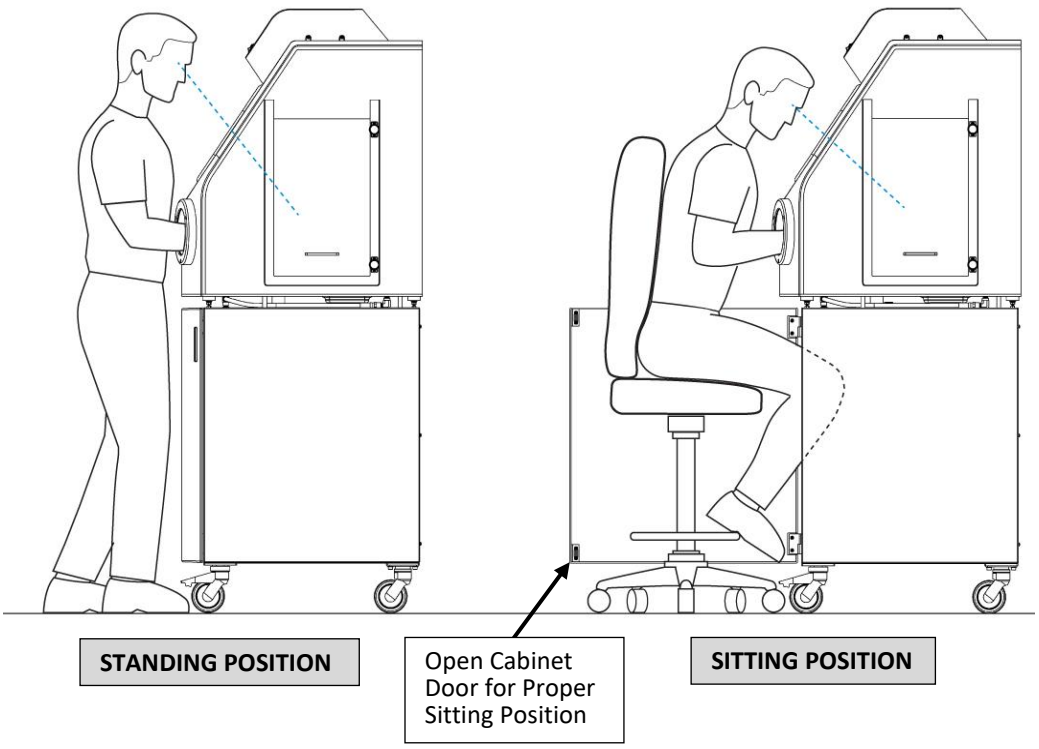
Ne jamais basculer entre les baguettes lorsque la pompe est en marche

Pour les modèles délicats, mettez la pompe sur «Faible» pour un nettoyage à faible puissance et faites attention de ne pas endommager le modèle

Operator Position

The SCA Waterjet cleaning system can be operated from the standing position with the front door closed or from a sitting position with the front door open **– See Figure 12 (2) Illustrations.**

Figure 12 STANDING and SITTING POSITIONS for the SCA Waterjet Operator.



Model Cleaning

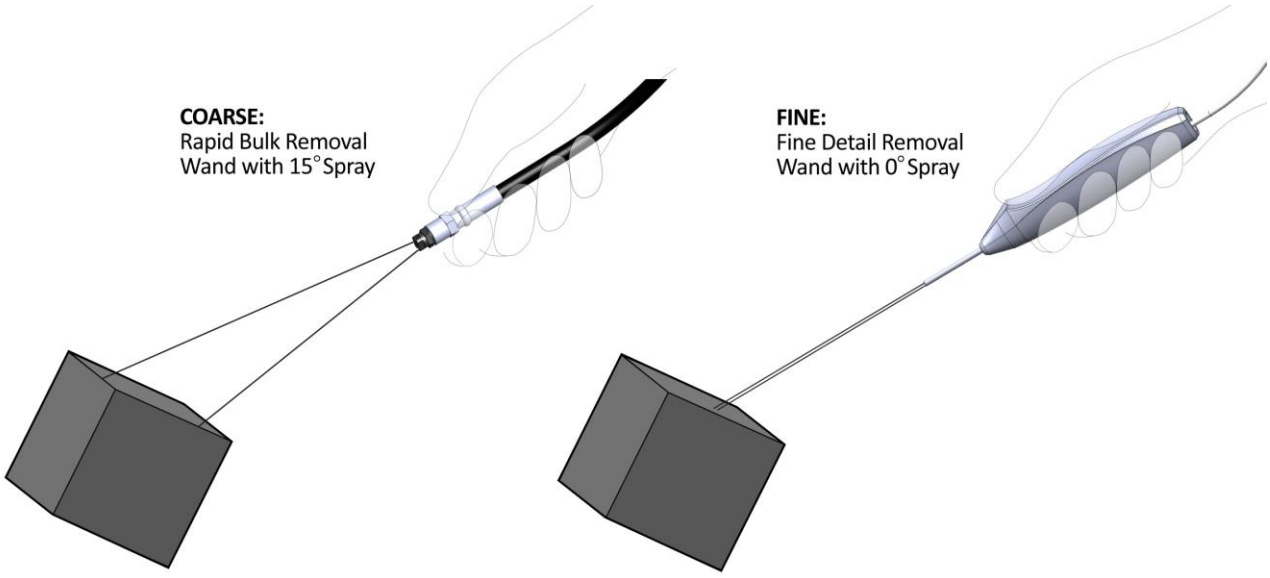
Wearing protective gloves, remove excess support material by hand – break away excess support material from the outside of the 3D printed model.

Wand Overview, See Figure 13

Coarse Jet Wand with 15° Spray
Use for rapid bulk removal of support material.

Fine Detail Removal Wand with 0° Spray
Use for close detail support removal from blind holes, slots, delicate and hard to reach features.

Figure 13 COARSE and FINE Spray Jet Wands – Direct at model 6 to 8 inches away from it.



Cleaning Power Overview:

High
Use the High-Power setting for rigid and thick-walled models.

Low
Use the Low Power setting for delicate and thin-walled models.

Cleaning process

- Power on the SCA Waterjet and switch pump to appropriate cleaning power.
- Select the appropriate wand for the application.

- Place model in the SCA waterjet interior work area and close cabinet side access door.
- Place arms in protective gloves.
- Hold model in left hand and firmly grasp selected wand in right hand, **See Figure 13** above.
- Point wand at the model, positioned 6 to 8 inches away from the part.
- Activate the pump with the foot switch.
- Manipulate the model and wand to remove support material.
- When the support material is satisfactorily removed from the model, place the coarse jet wand hose on the hanger, open the cabinet access door and lock it open with the latch plunger, then remove the model.
- Remove and empty the coarse and fine filter screens. Rinse and clean both screens and reinstall.

TIP: When not in use, leave the cabinet door open to allow the cabinet to dry out. This will help reduce or eliminate mildew and/or mold forming inside the work area.

5 Maintenance

Even though SCA Waterjet cleaning system is designed for low maintenance, daily and long-term inspections and maintenance are required.

Daily Maintenance and Inspection

1. **CAUTION:** Inspect Gloves for wear or damage. Replace if there is any sign of wear or damage, as unprotected hands can be injured by contact with high water pressure.

   ATTENTION: Inspectez les gants pour détecter toute trace d'usure ou de dommage. Remplacez-le s'il y a des signes d'usure ou de dommages, car les mains non protégées peuvent être blessées par contact avec une pression d'eau élevée.

2. Empty, rinse and refill holding tank.
3. Clean pick-up tube inlet filter.
4. Clean cabinet interior.
5. Clean fine filter screen and coarse filter screen.

Long Term Maintenance and Inspection – See Figure 14 (3) Illustrations

1. Wiper Blade – Check for wear or damage every 6 months. Best to replace blade every 6 months if machine is used daily, replacement part #100413

2. High Pressure Hoses – Check for damage, wear or cracking every 6 months, see figure.
    a. 100288, HP Outlet Hose 1
    b. 100172, HP Outlet Hose 2
    c. 100378, 15 Degree nozzle HP Hose Assy
    d. 100358, Fine Detail Wand Assy

3. Low Pressure Hoses – Check for damage, wear or cracking every 6 months.

    a. 100247, Pump Inlet Hose 1
    b. 100289, Pump Inlet Hose 2
    c. 100285, Drain Hose Assy.

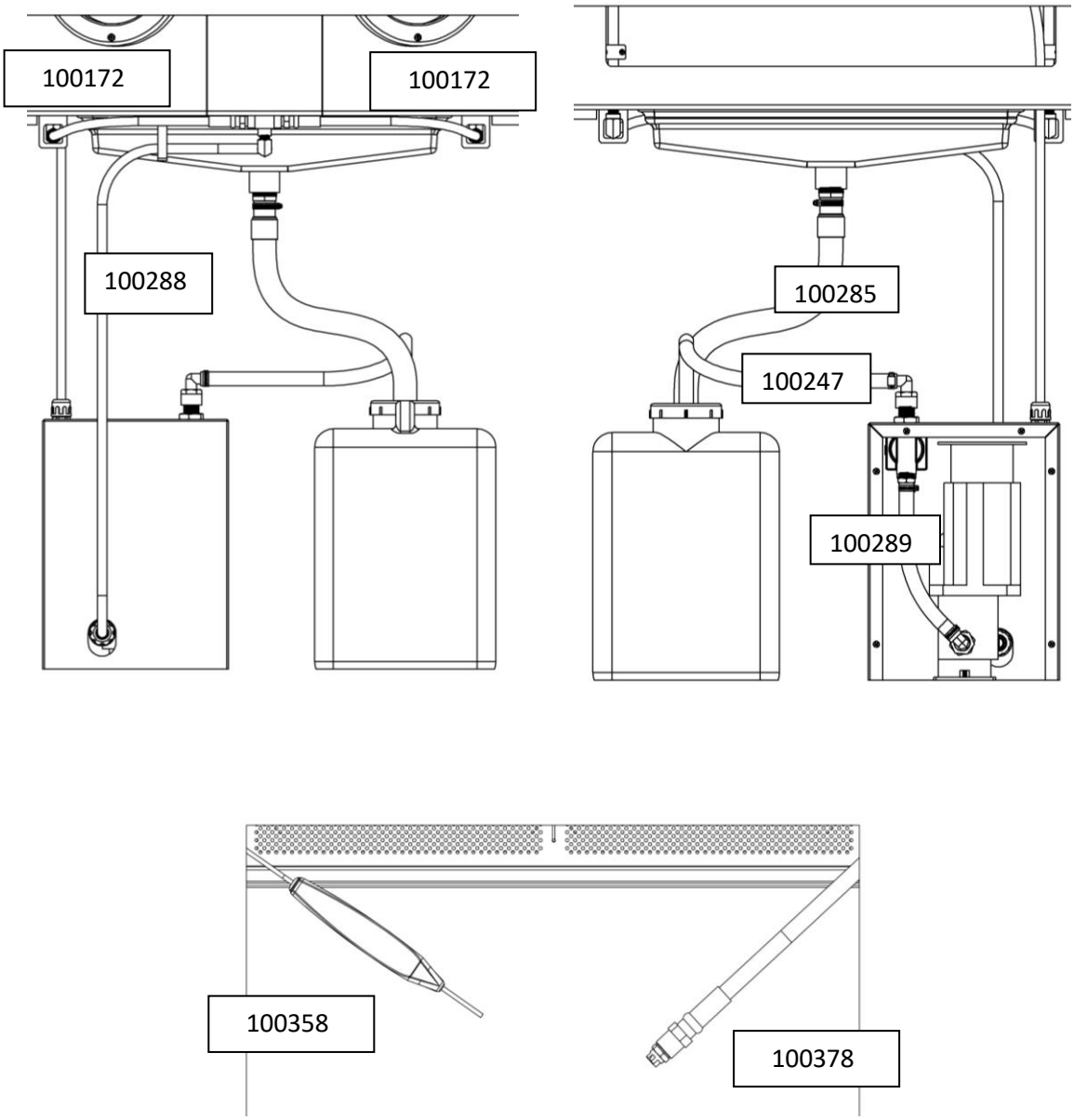
4. Gloves – Replace gloves every 6 months, replacement part #100407.

5. Pick-up Tube and Inlet Filter – Inspect every 6 months and replace if damaged, replacement part #100414.

6. Wands – Inspect every 6 months, or if Wands leak or Spray Patterns change.

    a. 100358, FINE Jet Wand and Hose Feed
    b. 100378, COARSE Jet Wand and Hose Feed

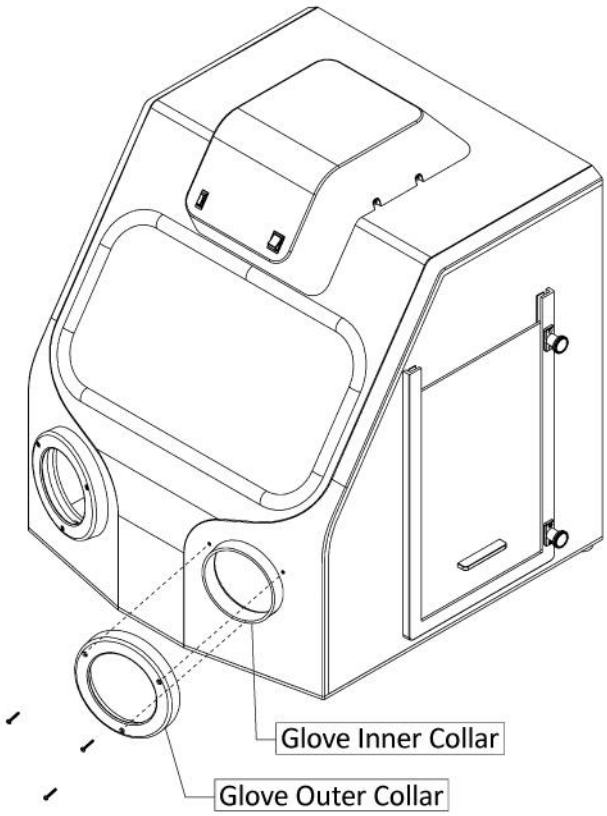
Figure 14 Maintenance and Inspection Illustrations:

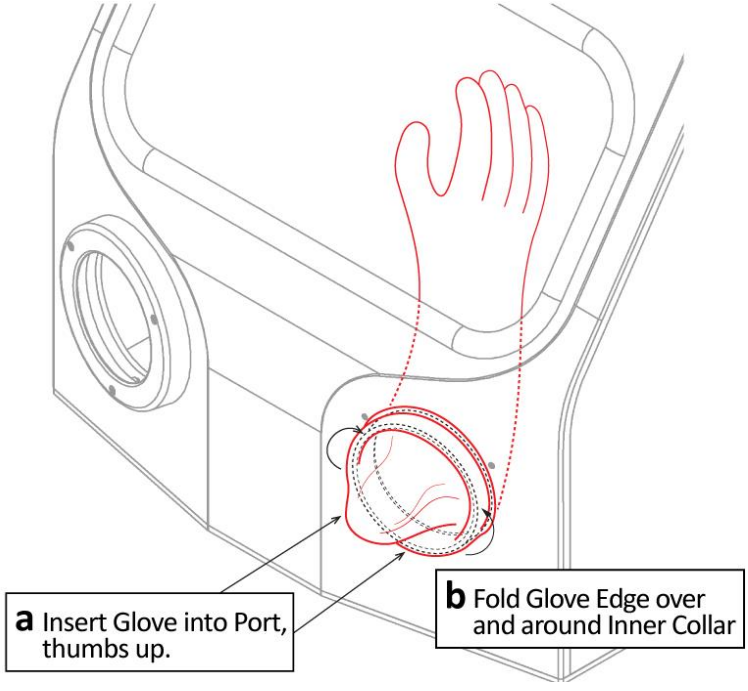


Glove Replacement Procedure - See Figure 15 (2) Illustrations

1. Remove left and right Glove Outer Collar.
2. Remove old Gloves from Glove Inner Collar.
3. Position new Gloves with thumbs up, insert through arm holes **(a)** and fold edge of arm sleeve over and around Inner Glove Collar **(b).**
4. Reinstall Glove Outer Collar over fitted Glove.
   CAUTION: Tighten screws by hand to avoid overtightening them.
   ATTENTION: Serrez les vis à la main pour éviter de trop les serrer.

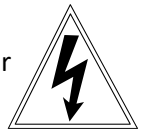
Figure 15 Glove Removal and Replacement Procedure.





6 Troubleshooting

High Risk of Electrical Shock
Always disconnect the unit from power
Before removing the back panel!



Risque élevé de choc électrique
Débranchez toujours l'appareil de l'alimentation
Avant de retirer le panneau arrière!

Problem	Probable Causes	What to Do
Power switch Indicator is not Lit	Power switch is not switched on	Press power switch on control panel of the unit to the "I" position.
	Power cord is not connected to electrical receptacle	Check the power cord and make sure it is pushed all the way into the grounded electrical receptacle.
	Fuse is blown	Contact technical support.
	Power circuit has tripped	Check your building circuit breakers, and any power circuit that the unit is plugged into for a tripped circuit breaker or blown fuse. Reset or replace the breaker or fuse as required.
	Power indicator has failed	If the interior lights are on and the power switch is ON, the power indicator has probably failed. Contact technical support.
Pump will not start	Power is not on	Check the power switch indicator on the control panel. Ifnot Lit, see "Power switch indicator is not lit"
	Wand selector valve in "off" position	The pump will only run when the wand selector valve is either in the "Fine" or "Coarse" positions
	Fuse is blown	Contact technical support.
	Pump has failed	Contact technical support.

Problem	Probable Causes	What to Do
Pump runs but water discharge at the nozzles is low or intermittent	Holding tank water level is low	Fill holding tank with a minimum of 4 gallons of clean cool water.
	Pick-up tube inlet filter is clogged	Remove filter and inspect • If damaged, contact technical support for a replacement. Note do not operate SCA Waterjet without the proper inlet filter. Pump damage may result. • If dirty, clean filter before reinstalling.
	Nozzle on the wand is clogged	Contact technical support.
	Inlet supply lines are damaged or kinked	Contact technical support.
	Pump has failed	Contact technical support.
	Inlet shut-off valve has failed	Contact technical support.
Water leaks	Hose or fitting failure	Contact technical support.
Interior light(s) not working	Burned out lamp	Contact technical support.

7 Specifications

Physical Specifications

Height	181.6 cm (71.5 in)
Width	76.2 cm (30.0 in)
Depth	75 cm (29.5 in)
Maximum 3D model Size	49.5 x 39.4 x 28 cm (19.5 x 15.5 x 11 in)
Holding tank	18.9 Liters (5 gallons)
Weight (net / gross shipping)	82 kg (181.4 lbs) / 104 kg (229.3 lbs)
Shipping carton dimensions	86W x 80D x 194.5H cm (33.9 W x 31.5 D x 76.6 H in)

Power Specifications

North America	120VAC +/- 10%, 60 Hz, 15A
Europe	230VAC +/-10%, 50 Hz, 8A

Facility Specifications

Installation location	Level floor able to support 450 lbs
Power requirements	A grounded electrical outlet (North America: 110VAC, 20A, 60Hz, single phase. Europe: 220VAC, 16A, 50Hz) within 2 m (6 ft) of the SCA Waterjet

Environmental & Operation Specifications

Operating temperature	5°C – 40°C (41°F – 104°F)
Operating relative humidity	0% - 80% RH
Operating altitude	0 M (0 ft) – 2000 M (6561 ft)
Max pump operation (Mobile)	On 30 minutes, Off 30 minutes
Maximum pump pressure	1700 psi (Protective gloves required)
Inlet water maximum temperature	40°C (104°F)
Noise level	80-90 dB (Ear protection required)

Safety and Regulatory Specifications

Regulatory compliance	CE, cTUVus, RoHS, WEEE
Pollution degree	2
Installation category	II
Equipment class	Class I
IEC Marked degree of protection	For Indoor Use Only, IP20

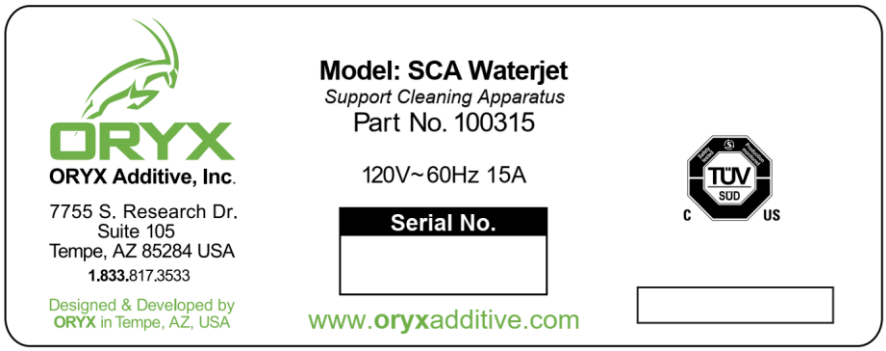
8 Customer Support

Contact ORYX Support

Technical support for this product is provided by ORYX Additive, Inc.

Before contacting technical support please do the following:

1. Try the Troubleshooting table in this manual or at **www.oryxadditive.com/support**
2. Note the SCA Waterjet model number, part number and serial number (found on the back of the unit, 120V version shown as an example)



If the unit is covered by an extended warranty, contact the Authorized Reseller from whom the unit was purchased.

Otherwise, to receive technical support:

www.oryxadditive.com/support, proceed to the "Request Technical Support" page and fill out the support request form.

Send e-mail to: support@oryxadditive.com

Please include:

- full name
- company name
- phone number
- serial number

Call **1-833-817-3533** and ask for SCA technical support.

Replacement and accessory parts

Send email to **support**@oryxadditive.com call 1-833-817-3533 for information on obtaining replacement parts or accessories.

9 Supplemental Information

SCA Waterjet Cleaning System Limited Warranty

Product	Limited Warranty Period
SCA Waterjet Cleaning System	**1 year**

All new SCA Waterjet Cleaning Systems are warranted exclusively by **Oryx Additive, Inc.'s** ("Manufacturer") limited warranty as follows:

Each SCA Waterjet Cleaning System ("System") and its components ("Components"), except those listed below under limits and exclusions, is warranted against defects in the materials and workmanship for a period of one (1) year from the date of installation at the end user's ("Customer") facility.

Repair or replacement only: manufacturer's liability under this agreement shall be limited to repairing or replacing, at the discretion of manufacturer, parts, or components sufficient to return the system to conform to the marketing specifications of the system.

Components subject to wear during normal use and over time such as paint, finish, light bulbs, seals, etc., are excluded from this warranty.

This warranty is void if the system is subjected to mishandling, misuse, neglect, accident, improper installation, improper maintenance, or improper operation or application, or if the machine was improperly repaired or serviced by the customer. This warranty is void if the system is not installed by a certified distributor and the proper installation documentation provided by the manufacturer has not been submitted.

Liability, whether based on warranty, negligence or other cause, arising out of and/or incidental to sale, use or operation of the system, or any part thereof, shall not in any case exceed the cost of repair or replacement of the defective equipment, and such repair or replacement shall be the exclusive remedy of the purchaser, and in no case will manufacturer be responsible for any and/or all consequential or incidental damages including without limitation, and/or all consequential damages arising out of commercial losses.

This warranty is transferrable from the original end user to another party if the machine is sold via private sale before the end of the warranty period.

The foregoing is a limited warranty and it is the only warranty by manufacturer. MANUFACTURER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Declaration of Conformity

Visit **www.oryxadditive.com** to download Regulatory Compliance Certificates.