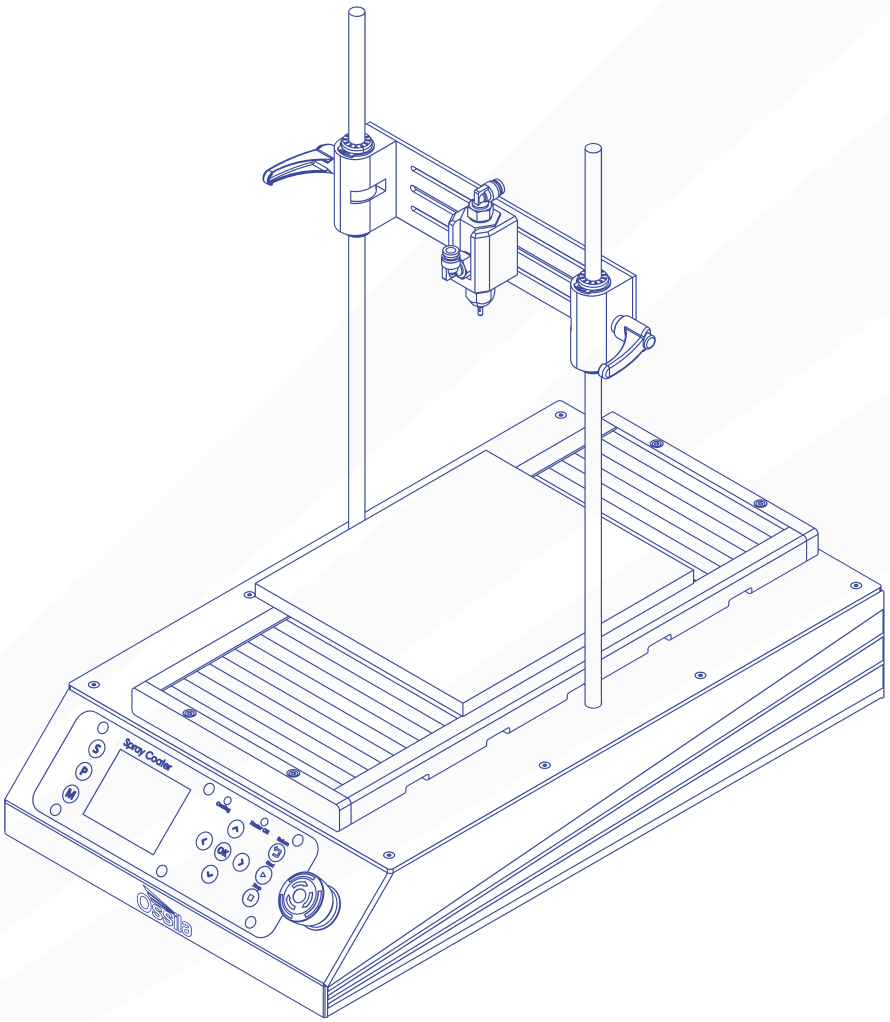
Ossila
enabling science

SPRAY COATER

USER MANUAL

Manual version: 1.0.0
Product code: L2011
Product Version: 1.0
Software version: 1.0



www.ossila.com

Contents

1. EU Declaration of Conformity

We

Company Name: Ossila BV

Postal Address: Biopartner 3 building, Galileiweg 8

Postcode: 2333 BD Leiden

Country: The Netherlands

Telephone number: +31 (0)71 3322992

Email Address: info@ossila.com

declare that the DoC is issued under our sole responsibility and belongs to the following product:

Product: Spray Coater (L2011A1)

Serial number: L2011A1- XXXX

Object of declaration:

Spray Coater (L2011A1)

The object of declaration described above is in conformity with the relevant Union harmonisation legislation:

Machinery Directive 2006/42/EC

EMC Directive 2014/30/EU

RoHS Directive 2011/65/EU

The following harmonised standards and technical specifications have been applied:

BS EN ISO 12100:2010 Safety of machinery-General principles for design-Risk assessment and risk reduction

Signed:

Name: Dr James Kingsley

Place: Leiden

Date: 01/09/2025

Декларация за съответствие на ЕС
Производител: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Декларира с цялата си отговорност, че посоченото оборудване съответства на приложимото законодателство на ЕС за хармонизиране, посочено на предходната(-ите) страница(-и) на настоящия документ.

[Čeština] Prohlášení o shodě EU
Výrobce: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Prohlašujeme na vlastní odpovědnost, že uvedené zařízeni je v souladu s příslušnými harmonizačními předpisy EU uvedenými na předchozích stranách tohoto dokumentu.

[Dansk] EU-overensstemme lseserklærin g
Producent: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Erklærer herved, at vi alene er ansvarlige for, at det nævnte udstyr er i overensstemmelse med den relevante EU-harmoniseringslovgivning, der er anført på den/de foregående side(r) i dette dokument.

[Deutsch] EU-Konformitätserklärung
Hersteller: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Wir erklären in alleiniger Verantwortung, dass das aufgeführte Gerät konform mit der relevanten EU-Harmonisierungsgesetzgebung auf den vorangegangenen Seiten dieses Dokuments ist.

[Eesti keel] ELi vastavusavaldus
Tootja: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Kinnitame oma ainuvastutusel, et loetletud seadmed on kooskõlas antud dokumendi eelmisel lehelküljel / eelmistel lehekülgedel ära toodud asjaomaste ELi ühtlustamise õigusaktidega.

[Ελληνικά] Δήλωση πιστότητας ΕΕ
Κατασκευαστής: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Δηλώνουμε υπεύθυνα ότι ο αναφερόμενος εξοπλισμός συμμορφώνεται με τη σχετική νομοθεσία εναρμόνισης της ΕΕ που υπάρχει στις προηγούμενες σελίδες του παρόντος εγγράφου.

[Español] Declaración de conformidad UE
Fabricante: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Declaramos bajo nuestra única responsabilidad que el siguiente producto se ajusta a la pertinente legislación de armonización de la UE enumerada en las páginas anteriores de este documento.

[Français] Déclaration de conformité UE
Fabricant: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Déclarons sous notre seule responsabilité que le matériel mentionné est conforme à la législation en vigueur de l'UE présentée sur la/les page(s) précédente(s) de ce document.

[Hrvatski] E.U izjava o sukladnosti
Proizvođač: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Izjavljujemo na vlastitu odgovornost da je navedena oprema sukladna s mjerodavnim zakonodavstvom EU-a o usklađivanju koje je navedeno na prethodnoj(nim) stranici(ama) ovoga dokumenta.

[Italiano] Dichiarazione di conformità UE
Produttore: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Si dichiara sotto la propria personale responsabilità che l'apparecchiatura in elenco è conforme alla normativa di armonizzazione UE rilevante indicata nelle pagine precedenti del presente documento.

[Latviešu] ES atbils tības deklarācija
Ražotājs: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Ar pilnu atbilclību paziņojam, ka uzskaitītais aprīkojums atbilst attiecīgajiem ES saskaņošanas tiesību aktiem, kas minēti iepriekšējās šī dokumenta lapās.

[Lietuvių k.] ES atitikties deklaracija
Gamintojas: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL,
atsakingai pareiškia, kad išvardinta įranga atitinka aktualius ES harmonizavimo teisės aktus, nurodytus ankstesniuose šio dokumento

[Magyar] EU-s megfelelőségi nyilatkozat
Gyártó: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Kizárólagos felelősségünk mellett kijelentjük, hogy a felsorolt eszköz megfelel az ezen dokumentum előző oldalán/oldalain található EU-s összehangolt jogszabályok vonatkozó rendelkezéseinek.

[Nederlands] EU-Conformiteitsverklaring
Fabrikant: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Verklaart onder onze uitsluitende verantwoordelijkheid dat de vermelde apparatuur in overeenstemming is met de relevante harmonisatiewetgeving van de EU op de vorige pagina('s) van dit document.

[Norsk] EU-samsvarserklæ ring
Produsent: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Erklærer under vårt eneansvar at utstyret oppført er i overholdelse med relevant EU-harmoniseringslavverk som står på de(n) forrige siden(e) i dette dokumentet.

[Polski] Deklaracja zgodności Unii Europejskiej
Producent: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Oświadczamy na własną odpowiedzialność, że podane urządzenie jest zgodne ze stosownymi przepisami harmonizacyjnymi Unii Europejskiej, które przedstawiono na poprzednich stronach niniejszego dokumentu.

[Por tuguês] Declaração de Conformidade UE
Fabricante: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Declara sob sua exclusiva responsabilidade que o equipamento indicado está em conformidade com a legislação de harmonização relevante da UE mencionada na(s) página(s) anterior(es) deste documento.

[Română] Declaraţie de conformitate UE
Producător: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Declară pe proprie răspundere că echipamentul prezentat este în conformitate cu prevederile legislaţiei UE de armonizare aplicabile prezentate la pagina/paginile anterioare a/ale acestui document.

[Slovensky] Vyhlásenie o zhode pre EÚ
Výrobca: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Na vlastnú zodpovednosť prehlasuje, že uvedené zariadenie je v súlade s príslušnými právnymi predpismi EÚ o harmonizácii uvedenými na predchádzajúcich stranách tohto dokumentu.

[Slovenščina] Izjava EU o skladnosti
Proizvajalec: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
s polno odgovornostjo izjavlja, da je navedena oprema skladna z veljavno uskladitveno zakonodajo EU, navedeno na prejšnji strani/prejšnjih straneh tega dokumenta.

[Suomi] EU-vaatimustenm ukaisuusvakuutus
Valmistaja: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Vakuutamme täten olevamme yksin vastuussa siitä, että tässä asiakirjassa luetellut laitteet ovat tämän asiakirjan sivuilla edellisillä sivuilla kuvattujen olennaisten yhdenmukaistamista koskevien EU-säädösten vaatimusten mukaisia.

[Svenska] EU-försäkran om överensstämmelse
Tillverkare: Ossila BV, Biopartner 3 building, Galileiweg 8, 2333 BD Leiden, NL.
Vi intygar härmed att den utrustning som förtecknas överensstämmer med relevanta förordningar gällande EU-harmonisering som fmns på föregående sidor i detta dokument.

2. Overview

Spray coating involves the application of a liquid to a substrate using an atomizing spray head which directs a jet of liquid droplets towards the surface of the substrate. The size, velocity of the droplets as well as the volatility of the solvent, concentration of the solution, and temperature of the substrate all impact on the quality of the deposited film. Most spray coating systems distinguish themselves by the method by which droplets are formed and by how the droplets are dried.

The method by which droplets are formed is known as atomization. Most spray coating involves the use of gasses to break up the liquid via sheer forces, here the difference between the velocity of the air flow and the liquid cause the breakup of the liquid into small droplets which are then carried by the gas as it leaves an orifice within the spray head. There are two distinct types of atomization in spray coaters, these are known as internal mixing and external mixing nozzle designs. As the name suggests the gas and liquid are either mixed inside the spray head or outside of it. Gas driven spray heads can also have some variation in fluid delivery, this can either by siphon fed caused by the drop in pressure of the gas drawing fluid from a reservoir, or they can be pressure driven where the solution reservoir is kept under pressure.

There are alternative methods for atomization, the first of these is through liquid pressure only. Here liquid is driven out of a small orifice at high pressures. The pressure drop, and sudden expansion of the fluid results in the breakdown of the liquid. Here droplet size is determined by the pressure of the liquid and the fluid properties. Another method is through ultrasonic vibration; this involves vibrating a tip at ultrasonic frequencies this results in droplets being emitted from standing waves within the fluid and the size of the droplets are based on the frequency of vibration.

There is also some distinction in spray coating systems based upon how droplets dry, standard spray coating involves droplets drying after impact with the substrate. It typically involves lower temperatures in the range of room temperature to 100°C. Another method of spray coating, known as spray pyrolysis, involves holding the substrate at a temperature significantly above the boiling point of the solvent. This results in the droplets either drying just before impact or as it impacts the substrate. This method encourages conversion of precursor materials and is often used in the deposition of ceramics and metal oxides. A final method of spray coating known as flame pyrolysis involves the use of a high temperature flame placed within the spray itself, here temperatures can go as high as 1200°C. Here droplets dry instantly resulting in the rapid nucleation of solids within the droplet. These materials can then undergo thermal annealing and decomposition of organic components resulting in small inorganic particulates. This process is often used in the synthesis of nanoparticles as the size can be finely controlled by the droplet size and concentration.

Figure 2.1 Ossila Spray Coater

The Ossila Spray Coater works on the principle of standard spray coating where the substrate can be heated between room temperature and 100°C to assist in the drying of wet films. The system uses interchangeable heads; these heads operate on the principle of gas assisted atomization. Users can select different head types for internal, or external mixing and are able to either connect a syringe for pressure driven fluids or use a reservoir for syphon fed only. In addition, the system comes with an ultrasonic assisted spray head, here a tip is vibrated due to air flowing pass a cavity. This helps to further break down fluids within the stream of atomized droplets.

Users can adjust the pressure of the carrier gas and fluid, as well as change the height and y-position of the spray head, temperature of the substrate, and the rate of travel of the stage under the head. This gives researchers flexibility in controlling the morphology of the dried film.

3. Safety

3.1 Warning

- Only use the 24V power adapter and power cord supplied with the unit
- If using flammable or hazardous solvents, users are expected to be trained in their usage and carry out a risk assessment
- Keep the area around the machine clear, 1 m clearance above and 30 cm to the sides
- Keep clear of the machine while it is in operation
- If using hazardous solvents always use within a fume hood or controlled environment
- There are pinch points when in operation, keep hands clear of moving parts
- Do not use in an explosive atmosphere

3.2 Use of Equipment

The Ossila Spray Coater is designed to be used as instructed. It is intended for use under the following conditions:

- Indoors in a laboratory environment (pollution degree 2)
- At altitudes up to 2000 m
- At temperatures between 5 °C and 40 °C; and a maximum relative humidity of 80% at 31 °C

The Spray Coater is supplied with a 24 V DC / 6.25 A power adapter with a power cord for the country of purchase. This is in accordance with European Commission regulations and British Standards. Use of any other electrical power cables, adapters, or transformers is not recommended.

3.3 Hazard Icons

The following symbols can be found at points throughout the rest of the manual. Note and read each warning before attempting any associated operations associated with it:

Table 3.1. Hazard warning labels used in this manual

Symbol	Associated Hazard
	General warning or caution, explained within the accompanying text
	Electrical shock
	Pinch point, or entanglement hazard

3.4 General Hazards

When installing or operating the Spray Coater, there are several health and safety precautions that must be considered.

WARNING: Improper handling when operating or servicing this equipment can result in serious injury. Pay attention to the following hazards when operating this equipment.

Pinch point and entanglement hazards are present during operation . As a precaution, users should avoid handling or leaning over the equipment during operation to avoid possible crushing or entanglement of hair and/or clothing. The unit weighs approximately 6.45 kg. Care should be taken when handling or moving the unit

In the event of an emergency, the unit can be disabled by disconnecting the power cord from the power supply. Make sure that the power outlet for this cord is readily accessible to the operator.

Servicing should only be performed by an Ossila engineer. Any modification or alteration may damage the equipment, cause injury, or death. It will also void your equipment's warranty.

3.5 Emergency Stop

The Spray Coater is fitted with an emergency stop button that can be pressed in the event of emergencies e.g. the trapping of objects within pinch points. When pressed, the emergency stop button cuts off the power to the system and a buzzer will turn on to indicate that the button has been pressed. The emergency stop button will remain pressed until the button is rotated clockwise and released. Once released, the system can be restarted by turning the unit off and on again using the on/off switch at the back of the unit. The emergency stop button should not

be used for powering down the system after use and should only be used in emergency situations.

Figure 6.1 The emergency stop button mounted to the front of the Spray Coater.

3.6 Operational Safety

Any procedure involving the Spray Coater should have a suitable operating procedure, risk assessment and COSHH form(s) to ensure that the user is aaware of the potential hazards inherent to the work they are undertaking. The following are safety points that should be noted by the user before any procedure is undertaken with the Spray Coater.

3.7 Pinch Points

The moving stage presents the risk of pinch points to the user. It is recommended that any loose articles of clothing and hair are tied back and secured before using the system. In addition, we recommend that users do not place their hands near the moving sections when programs are running or when there is manual movement of the stage is under way.

3.8 Sources of Ignition

Volatile solvents can present a risk of fire due to the evaporation and formation of solvent vapours, where a source of ignition may ignite the solvent. To minimize this risk users should ensure that no sources of ignition are placed close to the Spray Coater.

4. Warranty

The Spray Coater is covered by Ossila's two-year warranty. There are no user-serviceable parts in this unit other than the fuse (which is accessible externally). Any modification or alteration may damage the equipment, cause injury, or death. It will also void your equipment's warranty. If servicing or repair is needed, please contact Ossila to organise a return. Our service department will also quote for any repairs to faults that occur outside the 2-year warranty period.

For further information on the terms and conditions of our 2-year warranty please visit our website at https://www.ossila.com/pages/warranty-information.

5. Unpacking

5.1 Packing List

The standard items included with the Ossila Spray Coater are:

- Spray Coater
- AC/DC Desktop Power Adapter (24V, 6.25A)
- IEC C13 Mains Lead (UK/EU/AU/US)
- 2 Fluid Input Spray Head
- Ultrasonic Spray Head
- Pressure Regulators and Pneumatic Connectors
- 6mm Tubing
- Amber Syringe and Inlet Cap

5.2 Damage Inspection

Upon receiving the unit, examine the components for evidence of shipping damage. If damage has occurred, please contact Ossila directly for further action at support@ossila.com.

6. Specifications

The Ossila Spray Coater specifications are shown in Table 6.1.

Table 6.1. Ossila Spray Coater specifications.

Maximum Coating Width	180 mm
Maximum Travel Length	290 mm
Travel Length Resolution	0.1 mm
Minimum Stage Speed	0.5 $mm.s^{-1}$
Maximum Stage Speed	250 $mm.s^{-1}$
Stage Speed Resolution	0.1 $mm.s^{-1}$
Stage Surface	10mm Thick Hard Anodized Brushed Aluminium
Maximum Stage Temperature	100°C
Temperature Increments	1°C
Spray Heads	2 Input Spray Head; Ultrasonic Spray Head
Atomizing Gas Gauge Range	0.15 to 7 bar Gauge
Solution Feed Gas Gauge Range	0.1 to 3.5 bar Gauge
Syringe Type	10 ml Amber Syringe (Polypropylene)
Power Supply	Input: 90-264 VAC 50/60Hz Output: 24 VDC, 6.25 A
Dimensions (Depth x Width x Height)	360 mm x 280 mm x 190 mm (14.2" x 11" x 7.5")
Weight	6.45 kg

7. Maintenance

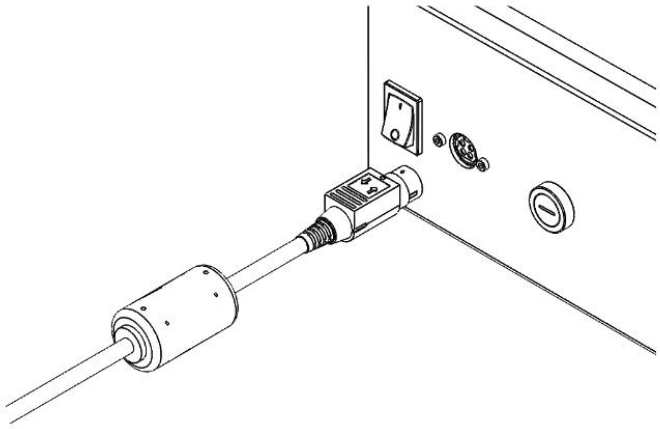
7.1 Cleaning

Maintenance consists of periodic cleaning. The exterior of the instrument can be wiped with a clean, dry cloth to remove any oil, grease or dirt. Small amounts of solvent can be used to clean the stage once it has cooled to room temperature. The spray nozzle, tubing, and syringe should all be flushed with the solvent used in the spray process to ensure efficient removal of any contaminants. Users can then flush the head and tubing with isopropyl alcohol or other solvent before drying.

8. Installation

The following procedure should be followed when setting up the unit for the first time.

1. Place the unit on a solid, level surface. If necessary, the feet can be rotated to adjust their height and level the unit. Ensure the area is free from vibrations, temperature extremes and highly flammable or explosive materials. Keep the area surrounding the machine clear, with approximately 1 m clearance above the machine and around 30 cm clearance on the sides.
2. Before plugging in the Spray Coater, ensure the power switch on the unit is switched to the '0' position (off).
3. Connect the power supply connector to the Spray Coater (shown in



4. Figure 8.1).

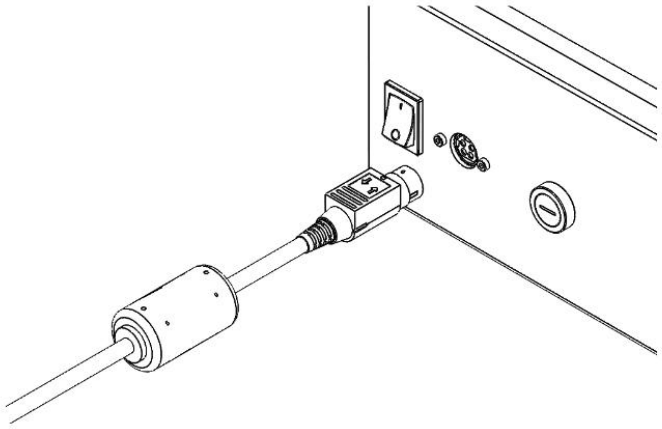


Figure 8.1. Installation of the power supply cable

5. Place the desired nozzle mount onto the gantry placing the alignment pins within the top and bottom slots. Partially screw in the thumb screw and spring washer through the rear

of the gantry. This will allow you to adjust the y-position of your head. Fully tightening the thumb screw will lock it in place.

6. The height of the nozzle can be adjusted by loosening the shaft clamps on either side. The gantry will then be free to move. Once the desired height is set, fully tighten the clamp.
7. Select an appropriate place to mount the pressure regulators, this can either be mounted onto the side of the unit by aligning the magnets on the regulator mount with the case screws or can be secured onto another surface by the user.
8. Connect with the 6 mm tubing provided the 7 Bar regulator to the air inlet of the head. If using the pressure driven syringe connect the 3.5 Bar regulator to the syringe cap.
9. Connect the syringe mount to the spray head input using the 4 mm tubing provided. Alternatively, if using a syphon fed arrangement connect the 4mm tubing to the spray head and place the other end in the fluid reservoir.
10. Connect the input of the regulators to a pressurised gas source.

9. Operating the Spray Coater

9.1 User Interface

The control panel of the Spray Coater is shown in Figure 9.1. It consists of an LCD display, 11 control buttons and an indicator. The functions of the buttons are described in Table 9.1.

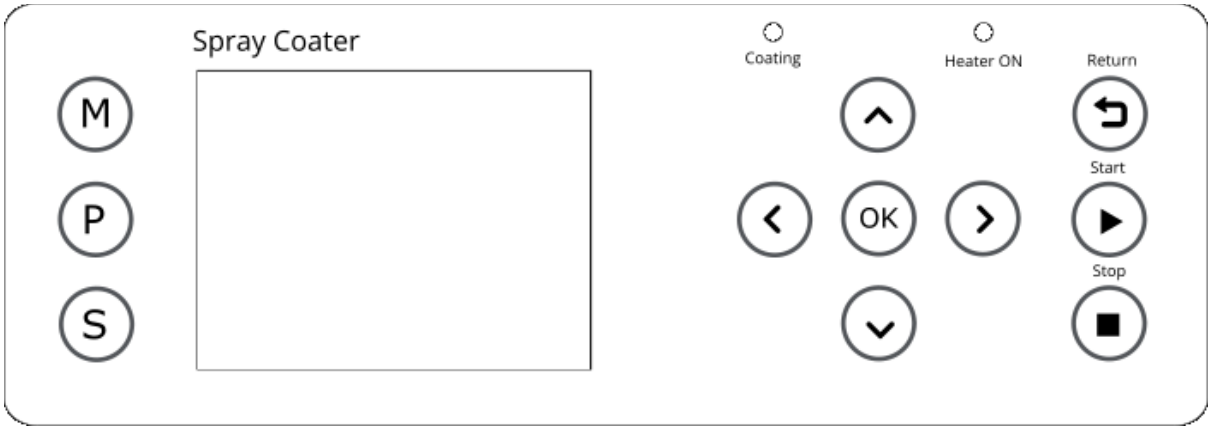


Figure 9.1 Spray Coater LCD display and keypad.

Button	Name	Function
M	**Manual**	Enter Manual Mode where the spray coater stage can be moved
P	Program	Enter Program Mode where saved programs can be selected and/or edited
S	Settings	Enter Settings Mode, where direction can be set, and stopping method.
^	Up	Navigating Up through menus; increasing selected values by 1; increasing unit size
v	Down	Navigating Down through menus; decreasing selected values by 1; decreasing unit size
>	Right	Navigating Right through menus, changing current program or step
<	Left	Navigating Left through menus, changing current program or step
OK	OK	Press to select, edit, or accept changes
■	Stop	Stop current running program

▶	Start	Run currently selected program
↩	Return	Return the stage to the home position

Table 9.1 Operational buttons and their associated functions.

9.2 Program Operation

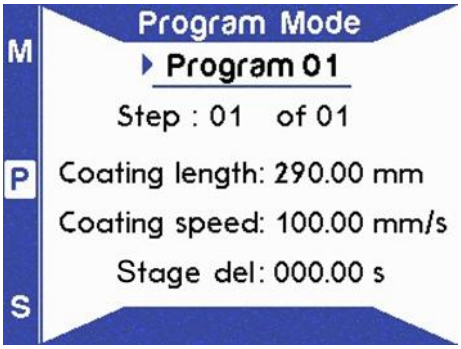
9.2.1 Turning the unit on

1. Turn the Ossila Spray Coater power switch **ON** (position ‘1’). Th e bootup screen will show.

2. After the bootup, reset the stage to its ‘home’ position by pressing (OK). This will move the stage to the furthest back point.

3. Whilst the stage is moving to the ‘home’ position, the following message will be shown.

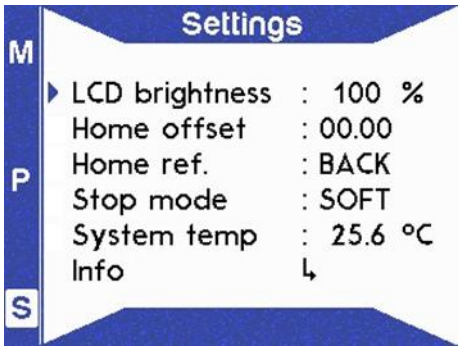
4. Once the system is at the 'home' position, the **Program Mode** page will be prompted.



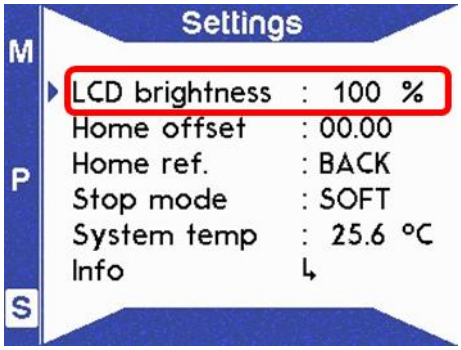
9.2.2 Settings Mode

The Settings Mode allows the user to input parameters related to the hotplate operation, syringe properties and stage homing. Edit mode can be entered by pressing (OK) on the required line. Entering edit mode on any parameter will turn the text of the parameter red.

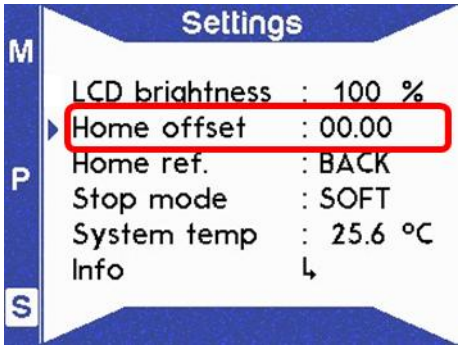
1. Press (S) to enter **Settings Mode**.



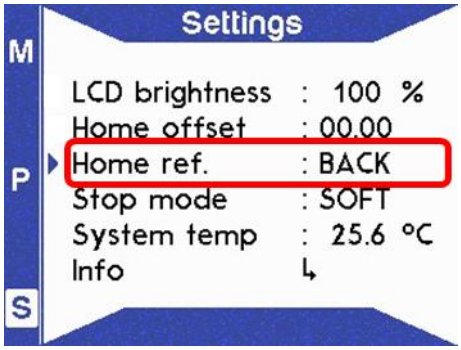
2. The first option in settings allows the users to adjust the LCD brightness. To edit press (OK), to change the value press the (^) or (v) buttons. This will change the value by 5% each time.



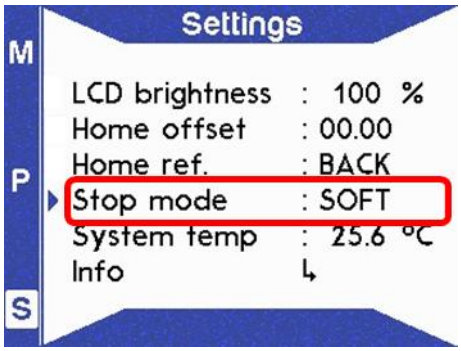
3. Home offset shows the current home position offset. This can be adjusted from the manual mode by holding the home button. This will then set the home offset to the current location.



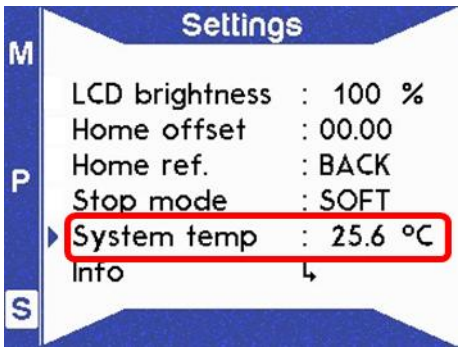
4. Home refences allows you to set whether the front or the back of the unit are set as the home position. This will also change the direction of travel from the home position to the opposing side. This will reset the current home offset.



5. Stop mode allows you to set how the motor comes to a stop. This is either HARD where the motor immediately stops, or SOFT where the stage decelerates to a stop over a short period.



6. System Temperature tells you the current board temperature.



7. System Info displays contact information and firmware version of the system.

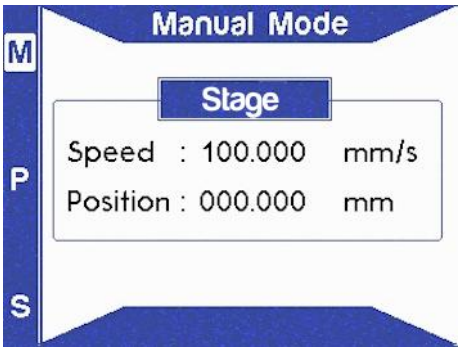
9.2.3 Manual Mode

Manual Mode allows direct control the stage positions. Entering edit mode on the speed parameter will turn the text of the parameter red.

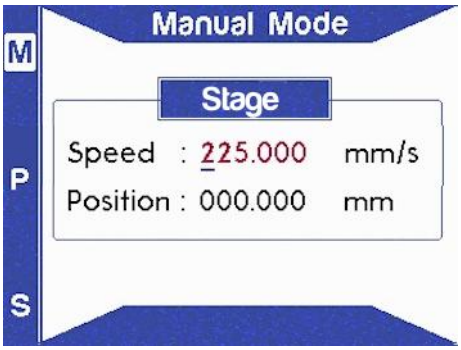
WARNING: Pinch points and entanglement

The movement of the stage could present pinch hazards. Care should be taken when the system is running.

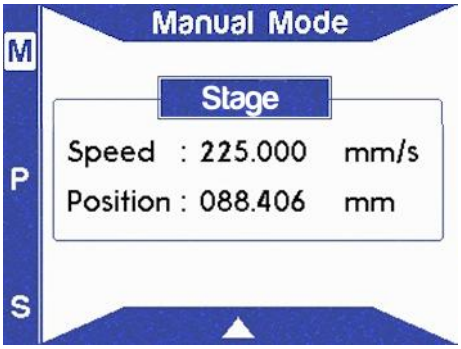
1. To enter **Manual Mode**, press (M) located at the top left-hand side of the screen.



2. The stage speed can be adjusted. To change the speed, press (OK) to enter edit mode and use the (<) or (>) to navigate to the digit to edit and (^) or (v) to change the value.



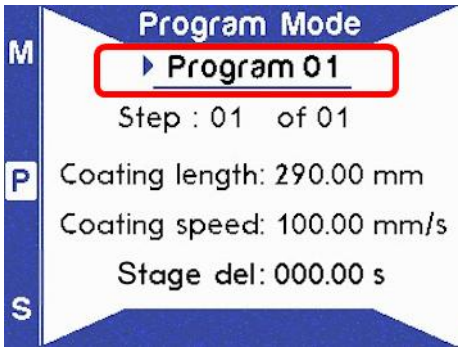
3. To move the stage position manually, press ⟨ or ⟩ while not in edit mode. The current position display will be updated automatically.



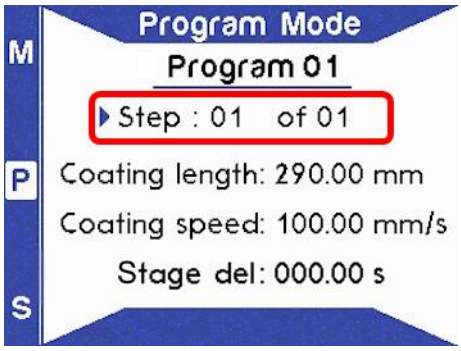
9.2.4 Program Mode

Program Mode allows the user to set up a coating process by defining multiple steps with travel length and speed. Press the P button to enter Program Mode. Entering edit mode on any parameter will turn the text of the parameter red.

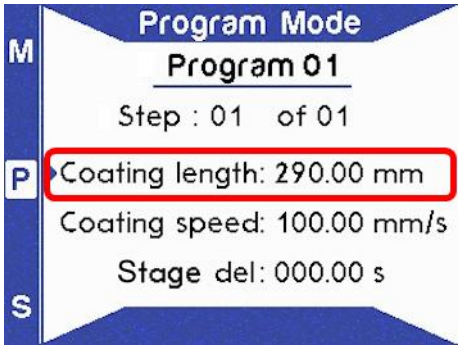
1. The unit can store up to 20 programs in memory with up to 100 steps in each. The current program can be changed by navigating to 'Program' with the ^ button. Press OK to enter edit mode and press ^ or v to change the program number. Press OK to exit edit mode. Program number can also be changed using ⟨ or ⟩ without entering edit mode.



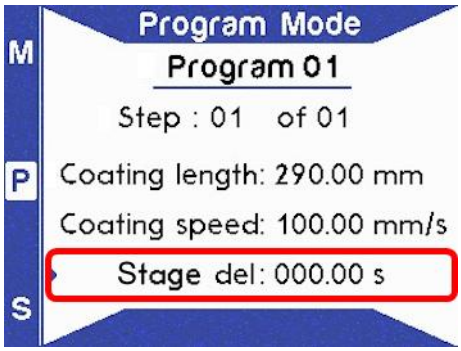
2. To change the number of steps in the program, navigate to steps line and press OK to edit the value. Press ^ or v to change the value. Press OK to exit edit mode.



3. To change the coating length or the coating speed in the program, navigate to parameter and press (OK) to edit the value. Press (^) or (v) to change the values and (<) or (>) to navigate digits. Press (OK) to exit edit mode.



4. If desired a delay step can be added to the program. This will set the length and speed to zero for this step. Press (OK) to edit the value. Press (^) or (v) to change the values and (<) or (>) to navigate digits. Press (OK) to exit edit mode.



9.3 Changing Spray Heads and Fluids

For quickly changing between spray heads of the same type you should follow these steps:

1. Turn off the supply of gas to the spray head and fluid.
2. Disconnect the air inlet tubing from the head.
3. Slide the head out of the mount.
4. Slide the replacement head into the mount.
5. Reconnect the air inlet tubing to the head.
6. Turn on the gas supply.

For changing between different spray head types, you should follow these steps:

1. Turn off the supply of gas to the spray head and fluid.
2. Disconnect the air inlet tubing from the head.
3. Unscrew and remove the knob at the back of the gantry.
4. Pull the head mount forward freeing the pins from the grooves.
5. Take the new head mount and place the pins within the top and bottom grooves of the gantry.
6. Partially screw the knob and spring washer into the head mount from the rear of the gantry.
7. Place the head mount into the desired y-position and fully screw in the knob to lock it in place.
8. Slide your spray head into the mount.
9. Connect the air inlet tubing to the head.
10. Turn on the supply of gas to the spray head and fluid.

For changing the fluid being used in the spray coater head, you should follow these steps:

1. Turn the gas supply off to the air atomizing inlet only
2. Place a vial under the spray head and turn on the gas inlet to the fluid until the solution has been fully purged from the head.
3. Turn off the gas inlet to the spray head and remove the syringe inlet cap.
4. Fill up the syringe with fresh solvent that has been used in your solution.
5. Put the inlet cap back on the syringe, place a vial under the spray head, and turn on the gas until the solvent has been fully purged from the head.
6. Repeat steps 3 to 5 until the solvent runs clear.
7. If the solvent used in the new solution is different repeat steps 3 to 5 with the new solvent.
8. Turn off the gas inlet to the spray head and remove the syringe inlet cap, pipette in new solution and place the cap back on.

10. Troubleshooting

Most of the issues that may arise will be detailed here. However, if you encounter any issues that are not detailed here, then contact us by email at info@ossila.com. We will respond as soon as possible.

Problem	Possible Cause	Action
No power / display	The power switch on the unit is in the OFF position	Check the connection and ensure the power is turned ON
	The power supply may not be connected properly	Ensure the unit is firmly plugged in to the power supply and the plug is firmly connected to both the adapter and the working power socket
	The fuse on the rear panel has blown	Ensure the unit is unplugged. Check the fuse on the rear panel. If it has blown, replace with a suitably rated 2A slow blow fuse
	The power supply adapter has a fault	Contact Ossila for a replacement power supply adapter
	No obvious cause	If all the above causes have been considered, there may be a fault on the control board. Please contact Ossila for information
Crash Warning	The secondary safety switch has accidentally been triggered	Switch the unit off and on again
	Internal fault in the secondary safety switch	If all the above has been considered there may be a fault with the secondary safety switch; contact Ossila for more information
Loud Buzzing Noise/ No Power	The emergency stop switch has been triggered	Pull the switch towards you and rotate to release the switch
	Internal fault in the emergency stop switch	If all the above has been considered there may be a fault with the emergency stop switch; contact Ossila for more information

11. Revision History

Rev	Date	Description
1.0.0	01/09/2025	Initial release version