ROOTLAB

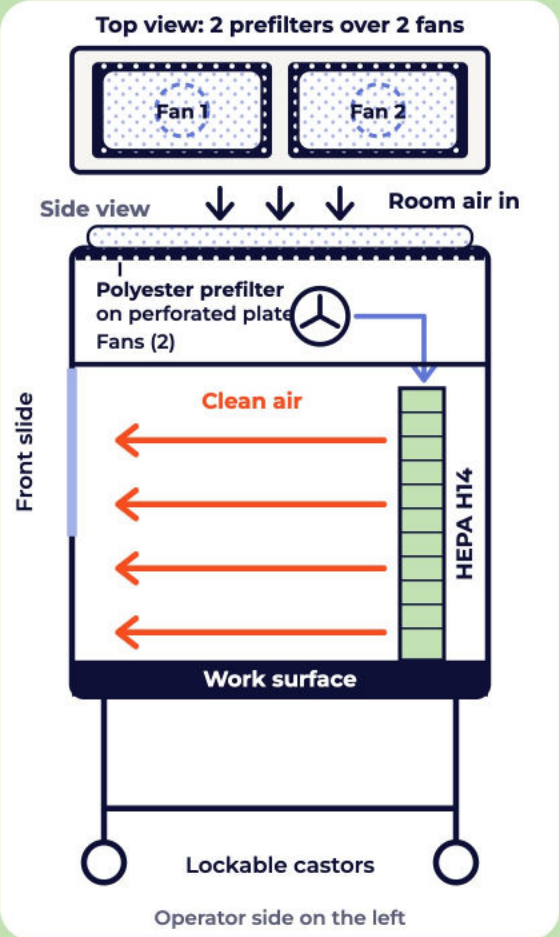
USER MANUAL

LAB EQUIPMENT

Horizontal Laminar Flow Cabinet

Clean Bench

Two person, single sided horizontal airflow cabinet. Everything you need to set up, run and look after your clean bench.



Rootlab SKU LFCSW2G

Please read this manual before you first use the unit.

rootlab.com.au

WELCOME

Thanks for choosing Rootlab

Your horizontal laminar flow cabinet gives you a clean, particle free space to pour agar, transfer cultures, inoculate grain and work with plant tissue culture. Its enclosed chamber blocks side draughts, so it holds a clean airflow even in a busy or breezy room, and the wide work area fits two people side by side.

If anything is unclear, or you need parts or service, get in touch with the Rootlab team. Our details are on the back page.

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1 Safety first

IMPORTANT CAUTION

Keep the UV lamp turned off whenever the acrylic front slide is open.

1. Only run the UV lamp with the front slide fully closed and nobody working at the cabinet. UV light can burn skin and eyes.
2. Do not leave the UV lamp on for long periods. UV light speeds up the ageing of the filter element and shortens its life.
3. This cabinet protects your work, not you. Filtered air blows out of the front towards the operator, so do not use it for toxic, hazardous or infectious materials.
4. Plug the cabinet into a properly earthed power outlet, and switch off and unplug it before cleaning or doing any maintenance.

2 What it is for

A clean bench is purification equipment that delivers a high volume of filtered air to create a very clean local working environment. It is widely used in teaching, pharmacy, electronics, bioengineering and scientific experiments, and is one of the most common pieces of equipment in microbiology, tissue culture and molecular biology labs.

For mushroom growers and tissue culture labs, it is the place for any open container work: pouring and transferring agar, cloning, inoculating grain spawn and liquid culture, and subculturing plantlets.

3 How it works

Two low noise centrifugal fans at the top of the cabinet draw room air in through two washable polyester prefilters, which sit on perforated plates on top of the cabinet, one over each fan. The fans push the air into the plenum chamber. From there the air passes through the high efficiency particulate air (HEPA) filter and is blown evenly across the work area as a curtain of high purity air. This sweeps the original room air out of the work area.

An ideal high purity working space is reached about 5 minutes after the cabinet starts running. The two speed fan lets you adjust the air volume so the airflow across the work area stays at the right level.

THE AIRFLOW PATH

01
2 prefilters
Washable polyester pads catch coarse dust from the room air.

02
2 fans
Push air into the plenum at two speeds.

03
HEPA H14
Removes over 99.99% of fine particles.

04
Work area
Clean air sweeps across to the front.

Because clean air flows from the back of the chamber to the front, keep your cultures and open containers closer to the filter than your hands and tools.

4 Specifications

Item	Two person horizontal laminar flow cabinet
Rootlab SKU	LFCSW2G
Airflow	Horizontal, single sided
Working area (W × D × H)	1140 × 450 × 560 mm
Overall size (W × D × H)	1260 × 500 × 1600 mm
Control	Remote control and control panel
Cleanliness grade	Class 100 (US Federal Standard 209E): no more than 3.5 particles of 0.5 µm or larger per litre of air
HEPA filter	H14 grade, over 99.99% efficiency
Prefilters	2 washable polyester pads on perforated plates on top of the cabinet
Fans	2 low noise centrifugal fans
Average air velocity	0.25 to 0.45 m/s, two adjustable speeds
Vibration (half peak amplitude)	≤ 5 µm
Power supply	AC 220 V, 50 Hz
Maximum power	0.6 kW
Lighting	LED 30 W, 300 lx or more at the work surface
UV lamp	UVC 30 W, 254 nm
Built in power outlet	Australian outlet inside the chamber for a bacticinerator or other equipment
Mobility	Four lockable castors
Weight	About 85 kg

Dimensions are measured by hand, so allow for small differences. Always refer to the actual unit.

5 Setting up and using it

Where to put it

Place the cabinet in a relatively clean room, ideally a primary clean room of Class 100,000 or Class 300,000. Roll it into position on its castors, then lock the castors so it cannot move while you work.

Starting up

1. Before switching on, carefully clean the work area and the outer shell of the cabinet to remove surface dust.
2. Plug the cabinet into the AC power supply.
3. Switch it on using the functions shown on the control panel, or with the remote control, and choose the fan speed.
4. Let the cabinet run before you start work. The work area reaches high purity in about 5 minutes, and you can begin normal work within 10 minutes of starting up.

Using the UV lamp

Use the UV lamp to disinfect the empty chamber before or after a session. Close the acrylic front slide first, step away while it runs, and switch it off before you open the slide again. Keep UV sessions short to protect the filter.

IMPORTANT CAUTION

Keep the UV lamp turned off whenever the acrylic front slide is open.

6 Care and maintenance

Part	How often	What to do
Prefilters (2)	Whenever needed, usually every few months, depending on how clean your work area is	Lift both polyester pads off the perforated plates on top of the cabinet. Wash them in mild soapy water, rinse well and let them dry fully, then refit them. If they are not cleaned for a long time, dust builds up, the air intake drops and the cabinet cleans less effectively.
HEPA filter	Usually every 12 months	After about twelve months of use, if the fan cannot reach the right air speed even at its highest setting, the HEPA filter is clogged with dust and needs replacing. The typical HEPA filter life is twelve months.
UV lamp	Every use	Do not leave it on for long periods. UV light speeds up ageing of the filter element.
Work area and shell	Before every start up	Wipe down to remove surface dust.

Need a replacement HEPA filter or prefilter? Contact Rootlab with your SKU (LFCSW2G) and we will help you find the right part.

QUICK START

Clean air in five steps

1. Lock the castors and wipe down the work area and shell.
2. Plug in and switch on from the control panel or remote, then pick a fan speed.
3. Wait about 5 to 10 minutes for the work area to reach full purity.
4. Work in the clean airflow, keeping your cultures closer to the filter than your hands and tools.
5. When finished, close the front slide before running the UV lamp, and keep UV sessions short.

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Need a hand?

For filters, parts, servicing or questions about your clean bench, the Rootlab team is here to help.

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