

Looking For a Nursery Hygeine Solution?

NGIA



SOIL PASTEURISATION & STERILISATION UNIT

750 LITRE 1000 LITRE

- Return Air Cowling to efficiently recycle hot air.
- Reaches the desired temperature quickly.
- Holds a consistent temperature easier.
- Saves on heating costs.
- Environmentally Friendly.
- Additional functions such as pasteurisation/sterilisation of pots and tools etc.



Why Pasteurise?

The ever-increasing competitiveness and drive for excellence within the horticultural industry dictates that all production systems must deliver efficient and effective processes. **At the end of the day rapid growing healthy plants deliver the biggest profit.**

C-Mac offers a wide variety of horticultural solutions. In particular *C-Mac* manufactures high quality pasteurisation/sterilisation trailers.

Pasteurisation is **fast, effective, safe** and importantly **environmentally friendly**. Pasteurise **Potting Media, Tools, Pots and Propagating Trays** etc.

Benefits of pasteurisation include:

- elimination of **pathogens** including Phytophthora, Pythium, Chalara etc.
- elimination of majority of **weed seeds**
- provides a **safeguard against crop losses**
- higher crop yields potentially **increasing profits**
- ability to **recycle pots & sterilise tools**
- elimination of chemical usage such as Methyl Bromide and their disposal
- become **environmentally friendly** and satisfy industry regulations

How it works!

C-Mac's Pasteurisation/Sterilisation trailers use a mixture of steam and air along with an energy efficient air recycling system. For pasteurisation the required temperature of between 60°C and 70°C is achieved with a standard boiler (30 – 50kW). For higher temperatures please consult *C-Mac*. Generally the time needed to raise the media to temperature is half an hour but this can vary depending on the media and the boiler size. Treatment time then takes an additional half an hour depending on the application.

Steam generated by an electric boiler is injected into a fan unit which delivers a steam/air mixture to the under carriage of the trailer. This steam/air mixture is then distributed to the contents of the trailer through a stainless steel perforated sheet. The air within the trailer is then recycled back to the fan unit.

The cool down process is achieved by running the fan with the canopy left on and generally takes between fifteen minutes and half an hour.

Once this process is completed the trailer can be disconnected from the boiler and easily manoeuvred into position (for example a potting shed) and then potted from by lowering the fold-down sides. Alternatively if the trailer has a tipping mechanism, the trailer can be manoeuvred to a hopper and conveyor system.

The best way to reduce lag time is to run multiple trailers in tandem so that as one is being potted from another is being treated. Only the one boiler and fan is required!

What trailers are available?

C-Mac endeavors to provide its customers with utmost flexibility and as such offers two different pasteurisation/sterilisation trailers. A number of separate options are available which can be customised to any finite detail to suit any possible application.

The two models offered are:

- 1) 1800mm Long, **750Litre Model**
- 2) 2400mm Long, **1000Litre Model**

Options available include 12V hydraulic lift packs, drop down sides, insulation, a larger fan, temperature probes, data loggers, closed loop temperature control systems and everything up to and including alloy wheels. Talk to *C-Mac* and let us help you determine what options best suit your needs.

Choosing the correct boiler for you!

C-Mac recommends four specific electric boilers, with two boilers being recommended for each of the two trailer models. The list below gives twelve good reasons **why an electric boiler appeals**.

- Licensed operator NOT required by the Department of Industrial Relations where an Electric boiler of 8 boiler HP or less is used in New South Wales.
- There are no exhaust gases! Therefore flues, heating exchangers and 'clean air equipment' are NOT necessary. Be 'Pollution Free'.
- No Boiler Room required.
- No Fuel Storage space required.
- 99% Efficiency.
- Fast response to demand.
- Less space required than a fuel boiler of the same capacity.
- Lower CAPITAL Cost.
- Low cost of installation. (No flue, boiler room or oil storage tank required)
- Minimum Maintenance.
- No Fire risk.

The two boilers recommended for the **750L Model** are the **S.B.3.s/125 30kW** and the **VS 300-30 30kW** boilers.

The boilers that are recommended for the **1000L Model** are the **S.B.3.s/175 42kW** and the **VS 300-50 50kW** boiler.

The main difference between the SB series and the VS series is the quality and the price. The VS series boilers are far superior to the SB series in quality. However the SB series boilers are significantly cheaper. The VS series boilers are recommended for commercial applications and the SB series boilers are recommended for lower usage levels.

Upon request a list of advantages of the VS series over the SB series for medium to heavy duty applications and a specifications list for all boilers can be supplied.

N.B. Larger Boilers are available upon request.

Installation Requirements

1) Power

Power is required for both the boiler and the fan units. The power required is in the form of 415V 3-phase power with a neutral being required for the 240V boiler water pump. The boiler should be hard wired. Power to the fan should be supplied through the addition of 415V 3-phase cable.

Boiler connection should follow the instructions and recommendations of the boiler manufacturer. *C-Mac* recommends that a licensed electrician perform the wiring requirements of the boiler and fan units as any wiring faults may result in damage to electrical components and/or persons, voiding any manufacturers warranty and risking personal safety.

2) Boiler Installation

Boiler installation should follow the instructions and recommendations of the boiler manufacturer. *C-Mac* recommends the services of a Steam Engineer be employed for the boiler installation to ensure that the boiler is installed in accordance with the SAA Code No. A.S. 1797 and amendments thereto. Failure to have the boiler unit installed by a qualified professional may forfeit the manufacturers warranty provided by the Boiler Company. Once complete the installation is then required by law to be inspected by a qualified Boiler Inspector.

3) Feed-Water Tank (Supplied by C-Mac)

The feed-water tank requires clean water with a minimum flow rate of 100ltrs/hr. The services of a plumber **may** be required for installation.

4) Location

A clean clear area is required for installation. When selecting a location for installation, remember to take into account that the feed-water tank will require water and a wall or similar structure on which to be permanently mounted to. The boiler and fan unit should be installed under cover to protect the equipment against the weather. The area must also allow easy access for the trailer.

Additional *C-Mac* Products

The horticultural industry continues to automate and *C-Mac* can provide numerous products to aid customers in achieving their goals.

Another product in the pasteurisation/sterilisation area is the *C-Mac* pasteuriser/steriliser **mixer**, which can mix and treat your media in the one process. **Ask us more!!!!**

Additional products include self-tracking trailers, soil mixers, conveyors, automatic bagging machines and a range of other horticultural products. **See www.cmac.com.au!!**

The Next Step!

Now you've seen that a *C-Mac* pasteurisation/sterilisation trailer is the best option to pasteurise/sterilise your potting media, growing containers and tools all you have to do is decide on the options you require and let us arrange a quote.

The following table has been set up to make the selection and quotation process easy for everybody. The table details the specifications of the two trailers and the available options. Additionally the required boiler can be selected below.

Simply place a tick in the appropriate boxes () next to the options you require and feel free to add whatever comments you feel necessary. Simply fill out this page and fax back to *C-Mac* on **(02) 9688 4679**.

Trailer Model	750L <input type="checkbox"/>	1000L <input type="checkbox"/>
Length (mm)	2000	2600
Height (mm)	1600	1600
Width (mm) including canopy	1030	1030
Weight (kgs)	240	250
Turning Circle (mm)	4500	5500
Canopy (Air re-cycling)	Folded Galvanised	Folded Galvanised
Wheels	Holden 14', 5 stud	Holden 14', 5 stud
Perforated Plate	Stainless Steel	Stainless Steel
General Construction	Galvanised Sheetmetal	Galvanised Sheetmetal
Steam/Air Inlet	150mm Male "Camlock"	150mm Male "Camlock"
Steam/Air Outlet	100mm Male	100mm Male
MPAR 380 Fan Unit	2800 max RPM 1.5 kW	1200 (m ³ /hr)
Boiler Model	Place Tick in box	Comments
SB3s/125 30kW	<input type="checkbox"/>	
VS 300-30 30kW	<input type="checkbox"/>	
SB3s/175 42kW	<input type="checkbox"/>	
VS 300-50 50kW	<input type="checkbox"/>	
Other (Please Specify)		
Options		Comments
Single Fold Down Side	<input type="checkbox"/>	Removable Side
Double Fold Down Sides	<input type="checkbox"/>	Removable Sides
12V Hydraulic Lift Pack	<input type="checkbox"/>	Connection to production line
Alloy Wheels 10"	<input type="checkbox"/>	
Temperature Probes(Data Loggers)	<input type="checkbox"/>	Accurate recording of process
Closed Loop Temp Control	<input type="checkbox"/>	Automates process
Insulation	<input type="checkbox"/>	For higher temperatures
100mm "Camlock" outlet	<input type="checkbox"/>	
MPAR 440 larger fan	<input type="checkbox"/>	

Company Name _____

Contact _____

Phone (_____) _____ Fax(_____) _____

Comments: