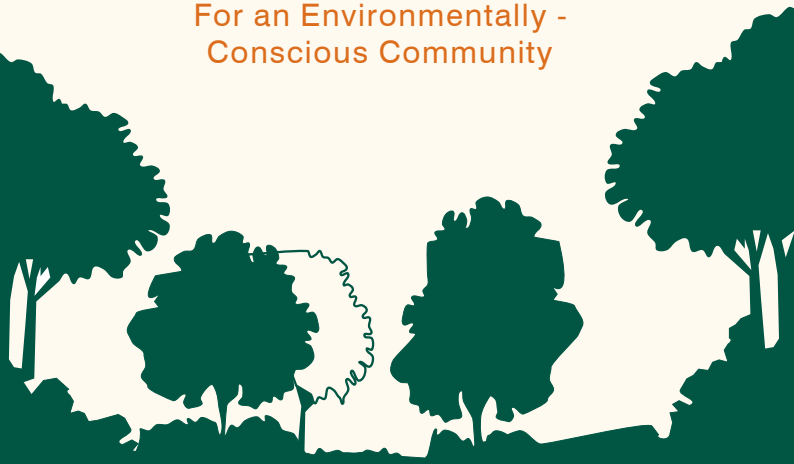

Waterless Composting Toilet Systems



CLIVUS
MULTRUM
AUSTRALIA

The BEST Choice

For an Environmentally -
Conscious Community





WHY A CLIVUS MULTRUM?



The Clivus Multrum concept was the first compost toilet in the world when developed in Sweden in the 1930's, and the name translates as "inclining compost room". Here in Australia we are a wholly Australian owned business that has been selling environmentally friendly toilet systems to people all over the country for more than 30 years.

This long history demonstrates the proven reliability of our products and means we fully understand our customers' needs.

WHAT DO YOU WANT FROM YOUR NEW TOILET?

We all want a toilet that is hygienic, odourless, requires only simple maintenance and looks good in the bathroom - Clivus delivers all this and more.

WHY CHOOSE A CLIVUS MULTRUM COMPOSTING TOILET?

- ★ You may need the most practical option for a site with limited water supply, or where rocky or poor draining soil is present, or where proximity to waterways may mean that discharge from septic systems is not permitted.
- ★ You want a cost-effective system that is easily installed and cared for .
- ★ You may be firmly committed to using ecologically sustainable ways of living, and are aware of the damage that conventional water-based systems are ultimately doing to our waterways. You wouldn't choose anything but a composting toilet.
- ★ You may need to provide a public facility that is self-contained, can cope with variable usage and requires minimal maintenance.

No matter what your reason is, you can be confident that Clivus has a system to suit you and is the **BEST CHOICE** in toilets.

This booklet describes our systems, and will help you choose and plan for the appropriate Clivus model for your individual needs. If a Clivus does not suit your plans we also have smaller types available that may.

Please contact your nearest distributor for further advice or call us direct.

Mark Skulander
Managing Director

CLIVUS MULTRUM AUSTRALIA
100% AUSTRALIAN OWNED AND MADE

CLIVUS MULTRUM THE BEST CHOICE IN TOILETS



The Clivus Multrum is a self-contained, waterless, odourless toilet treatment system. It uses no chemicals, heat or water, and has no polluting discharge. It can save over 60,000 litres of water per year in the average home and costs far less than regular treatment systems. It is based on one of the oldest principles in nature - simple organic decomposition.

HOW THE CLIVUS WORKS

The process works on the same principle as an ordinary garden compost bin. Waste is collected in the composting chamber along with carbon rich material such as wood shavings and garden clippings to obtain a good carbon/nitrogen ratio for composting. Here the materials gradually decompose in the chamber's aerated environment. Baffles and air channels in the tank control air flow and this accelerates the composting process.

THE CLIVUS

DOES NOT SMELL

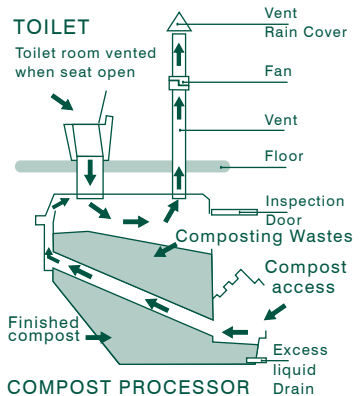
No need to worry about bathroom smells! A small electric fan in the vent pipe creates airflow into the system and ensures that any toilet room smells are drawn away - leaving less odours than even a flush

THE CLIVUS IS COMPLETELY NATURAL

The decomposition process is a totally natural one. Chemicals are not used as they would only harm the various composting organisms.

THE CLIVUS IS EASILY CLEANED

The toilet bowl is easily cleaned with biodegradable cleaner and a toilet brush. Because of its straight-through design and unique shape it usually needs no more cleaning than a regular toilet bowl. The seat and the outside of the toilet can simply be wiped with some disinfectant applied to a damp cloth.



THE CLIVUS WILL SAVE YOU MONEY

The Clivus uses absolutely no water, as against a conventional flush system which can consume over 30% of your household's total water usage. With more and more councils imposing charges on water consumption, this saving converts to dollars!

If you rely on rainwater, either less storage is needed or you will have more water available for more important uses. The costs and land area needed for disposal of greywater from kitchen and bathroom are also reduced.

THE CLIVUS HAS EASY ACCESS

This of course is essential should anything of value inadvertently fall down the toilet. The Clivus provides easy access via the inspection door. With some other systems the only access is via the toilet chute making retrieval extremely difficult if not impossible.



THE END RESULT... SAFE, CLEAN COMPOST

The end product is simply removed via a large hatch at the front of the composting tank and can be dug into the garden. In domestic circumstances this is usually necessary only once or twice a year; some households have found it unnecessary to remove any compost for up to two years. After a year or more in the processor the compost is safe to handle, has a fresh earthy smell, and feels and looks much like regular garden compost.



WHY CLIVUS IS THE BEST: WE DESIGNED IT THAT WAY!



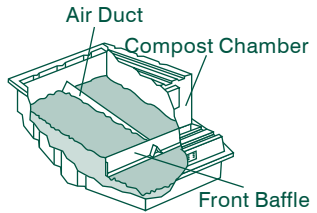
UNIQUE DESIGN FOR BETTER PERFORMANCE

The Clivus is the most reliable and efficient composting toilet because of its superior design.

An aerated micro-environment is crucial to any composting process and is maintained through the drawing effect of the ventilation fan and air channels through the compost pile. This unique system ensures complete decomposition of the waste during its long residence time.

A large inspection door is also unique to the Clivus and allows the user to easily check that the system is functioning efficiently.

Another design feature of the Clivus composting chamber is that access to the old and new compost are kept separate. The older, fully composted material settles to the bottom of the chamber where it is easily removed via the front access hatch.



A CONTINUOUS COMPOSTING PROCESS

The Clivus system is based on a “continuous” composting process in one large chamber, as against multiple smaller chambers that require a restart of the process after emptying. As the organic material decomposes it will reduce in volume by up to 90%. The compost pile is therefore always “shrinking in the middle” whilst new material is being added to the top, and finished compost is removed from the bottom of the pile when appropriate.

ADVANTAGES OF THE CONTINUOUS PROCESS

- ★ As only one large composting chamber is used, the contents are in a more stable environment and are kept moist through normal use. In “batch” systems where the full chamber must be moved away while the next chamber is being filled, the first chamber often dries out and does not fully decompose. This problem does not arise with a Clivus!
- ★ There is little risk of overfilling the composting chamber due to the Clivus' greater capacity, which makes it very tolerant to extremes in the rate of usage.
- ★ Only a relatively small amount of finished compost is removed at any one time. This means there is no heavy lifting nor moving of smelly bins.
- ★ A larger area of compost bed means there will be greater liquid evaporation without the use of heaters. Urine is well-treated by filtering through the larger compost bed and is converted to an innocuous liquid.
- ★ The simple design of the Clivus renders it far less susceptible to mechanical problems than other composting systems.

WHAT YOU GET WITH A CLIVUS MULTRUM SYSTEM



When you buy a Clivus system you get the complete system that includes a Tank Package and one or more toilet Pedestal Packages. The Vent & Drain Kit is available as an optional extra, as these necessary items can also be readily provided by the installer.

A standard Tank Package includes:

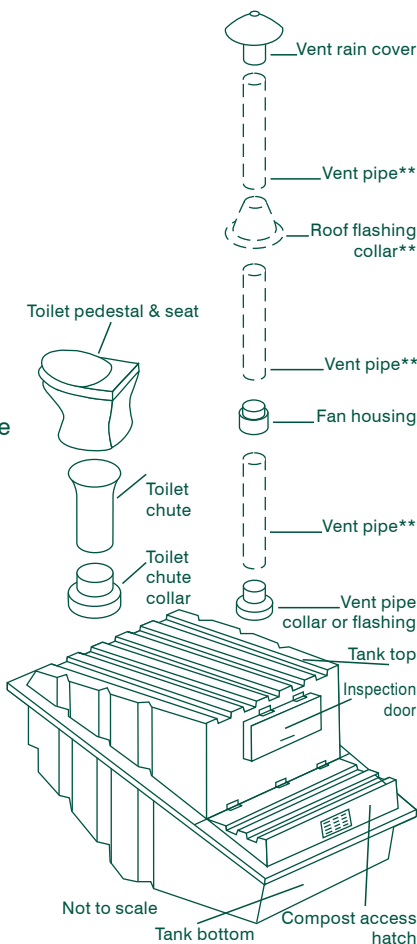
- ★ Fully assembled composting tank
- ★ Heavy duty 12 volt fan and 240V transformer.
- ★ Vent pipe flashing, fan housing and vent rain cover. (150mm)
- ★ Maintenance tool.
- ★ Starter bacteria.
- ★ Sealant and screws.
- ★ Installation Manual.
- ★ Operation & Maintenance Manual.

A Pedestal Package includes:

- ★ Toilet pedestal and seat.
- ★ Hold down bolts/screws.
- ★ Signs and stickers.
- ★ Toilet chute (0.7m) and collar.

Vent & Drain Kit (optional extra, shown ** in diagram)

- ★ Liquid drain pipe (1 m)
- ★ Absorption trench arch.
- ★ PVC Ventilation pipes (4.5m) and brackets.
- ★ Roof flashing collar.



Bulking agent to start the process (e.g. finely chopped garden clippings, coarse sawdust and/or wood shavings) is usually sourced locally, however we will also supply this if requested.

PLANNING FOR YOUR CLIVUS MULTRUM SYSTEM



1. CHOOSING THE RIGHT SIZED SYSTEM

The larger the compost tank is, the greater is its usage capacity. However selection of the most appropriate Clivus Multrum model is dependent on several factors:

- ★ average and peak usage rates
- ★ the number of pedestals required
- ★ climate and site installation characteristics

For **domestic use** the smallest and most popular model is the CM8, suitable for households of up to 5 persons. The slightly wider CM10 will readily accommodate 2 pedestals, as do the larger CM14 and CM20. Where the available height under the floor is limited, the CM14 offers the lowest profile if the tank can be partially buried. Local government regulations in your area may determine the model acceptable for your requirements.

In **public use** facilities, all models have proven successful when generously sized for the projected use. This approach allows for high peak loadings and for future growth in patronage, and reduces the frequency of required servicing.

2. TAKING CLIMATE INTO ACCOUNT

The capacity of any composting toilet is affected by temperature. The compost heap will generate its own heat, and if this heat can be retained in the tank the process will be more efficient. The cooler the temperature of the air around and entering the composting chamber, the slower the rate of decomposition will be and this in turn may lower the number of users a system can serve.

In regions where the annual mean temperature is below 18°C, we may recommend that a larger Clivus unit be installed or that special installation provisions are made for warming the tank.

Warming the compost tank or the air flowing into it can be done in several ways:

- ★ Facing the building basement toward the sun so the air in the basement is heated naturally;
- ★ Piping warm air from inside the building to the air intake of the tank;
- ★ Insulating the tank or basement; or
- ★ In extremely cold locations, heating of the basement by solar air heaters or other means may be warranted.

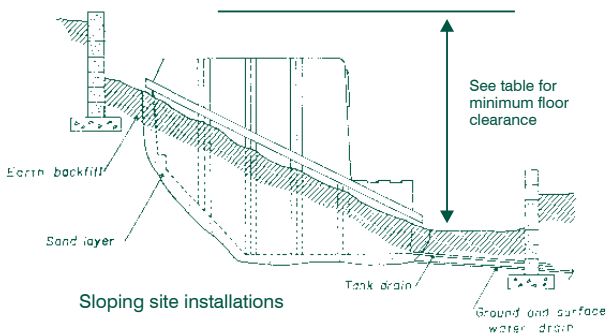
3. INSTALLATION CONSIDERATIONS

When planning to install a Clivus into a dwelling there are a few things to take into account.

Is there access beneath the toilet room?

Because the compost tank must be positioned under the toilet room, there needs to be access to this area. For a slab-on-ground floor, a cellar or retaining walls can be built as shown on page 8.

On a sloping site, partial excavation as shown below can be used to obtain the clearances needed to install and service the tank (see table). Locating the tank adjacent to an exterior wall can make access easier for servicing it.



Model	Uses/Year	Applications	Dimensions mm	Other
CM8	8000	Small homes, holiday houses, walking trails, remote work stations.	Height = 1100 Length = 1550 Width = 1250	Min. clearance under floor = 1000 Max. buried in ground at front = 200 Max. fixtures - 1 pedestal
CM10	10000	Family homes with more than one toilet, small public facilities.	Height = 1100 Length = 1550 Width = 1560	Min. clearance under floor = 1000 Max. buried in ground at front = 200 Max. fixtures - 2 pedestal
CM14	14000	Large sized family homes with more than one toilet, small public facilities.	Height = 1100 Length = 2050 Width = 1500	Min. clearance under floor = 750 Max. buried in ground at front = 450 Max. fixtures - 2 pedestal
CM20	20000	Larger homes with more than one toilet, small to medium sized public facilities.	Height = 1630 Length = 2390 Width = 1200	Min. clearance under floor = 1400 Max. buried in ground at front = 300 Max. fixtures - 2 pedestal & 1 urinal
CM40	40000	Larger public and commercial facilities, e.g. Roadside stops and National Parks.	Height = 1780 Length = 2430 Width = 1890	Min. clearance under floor = 1700 Max. buried in ground at front = 300 Max. fixtures - 4 pedestal & 2 urinals
CM60	60000	High public usage areas, e.g. Tourist stops, camping areas.	Height = 2480 Length = 2430 Width = 1890	Min. clearance under floor = 2400 Max. buried in ground at front = 300 Max. fixtures - 4 pedestal & 2 urinals

(Minimum clearance are front of tank when buried to maximum)

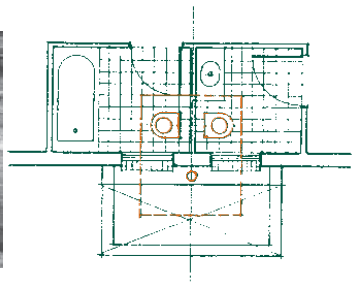
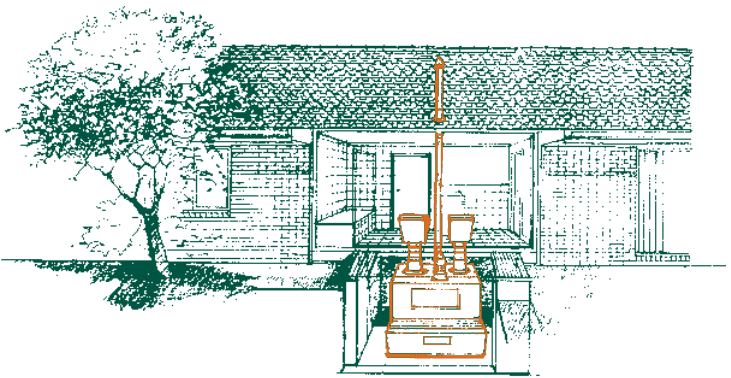
Does the ground slope so the excess liquid can drain?

It is important that the tank always has good drainage and does not flood from surface water or with rising ground water. The drain pipe for excess liquid from the tank must slope down to its discharge point into a soakage trench or other disposal method.

The volume of excess liquid will depend on several factors, but should not exceed 1 litre per person per day. In domestic installations there is frequently no excess liquid at all. Clivus Multrum can also provide reliable pump-out or even zero-discharge systems if natural drainage cannot be achieved.

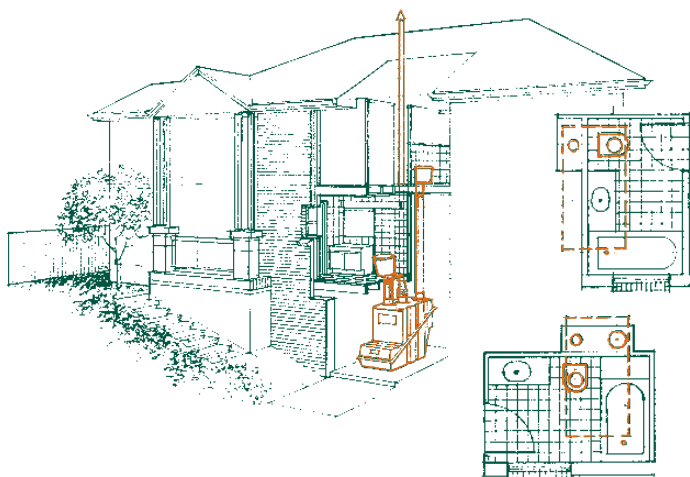
Is more than one toilet required?

Toilet rooms that are side by side can usually be served by the one compost chamber, although with the CM8 there is less flexibility. As the toilet pedestals are connected by vertical chutes to the compost tank, pedestals that are some distance apart will need a separate tank each.



Can toilets on the first and second story of my house connect into the one compost chamber?

Yes, but the chutes must be vertical. Extra lengths of chute will be necessary for the second floor toilet and a longer ventilation pipe will be needed.



What if there is no power at my site?

Some units are run successfully with no power and just a turbo ventilator. In these instances Clivus Multrum cannot guarantee continual odourless operation.

If mains power is not available a solar power package can be supplied to run the fan either 24 hours a day or just during daylight hours. Clivus Multrum can also provide solar kits for basic lighting and remote public buildings.

4. THE VENTILATION SYSTEM

The Clivus Multrum is designed so that the ventilation system draws air in through the compost tank and also down the toilet chute whenever the seat is lifted. This keeps odours out of the toilet room and makes the use of a separate room exhaust fan unnecessary. A small, heavy duty electric fan fits into the vent pipe in a special housing for easy access.

An optional wind driven turbo-ventilator can be supplied instead of the standard rain cover. This provides back-up to the vent fan especially when choosing the Daytime Solar option. The PVC vent piping can be provided by your installer to suit your particular installation, or as an optional item from Clivus Multrum.

There are three fan options normally available:

- ① Standard 12V (5 Watt) heavy duty fan.
- ② A 12V (2.5 Watt) fan for low-budget solar installations.
- ③ A 240V fan for high use commercial installations.

For the standard installation, a normal 240V power point is required in a weatherproof location near the fan housing. The 12V transformer may then be simply plugged in and connected to the fan without need for an electrician.

5. THE TOILET PEDESTAL AND CHUTE

The standard Clivus toilet pedestal is made of a tough high-gloss polymarble in white, ivory or grey. In appearance it is much the same as a regular toilet – without the cistern of course.

The seat and lid are high gloss plastic, with a premium quality wooden seat available on request. The toilet chute connects the pedestal to the tank, and the specially shaped toilet chute comes in one metre long sections. Depending on the height of your floor from the tank extra chute lengths may be required.

6. TREATING HOUSEHOLD GREYWATER

There are many effective ways to deal with greywater from the kitchen, bathroom and laundry. These vary depending on the local government regulations and the area you live in, so we recommend you check on requirements firstly with your local Council. Clivus Multrum can advise on various methods available, and our Greywater Pre-filter is available for use as a part of various disposal methods.

7. WORMS ARE AN OPTION

Whilst the Clivus process is based on microbial decomposition, it is also well suited to the use of worms. Use of compost worms will also increase the effective capacity of the compost tank, particularly useful in colder climates.

Being a higher life form, worms need more care; for instance ensuring correct carbon/nitrogen rations and pH are maintained, that they have adequate moisture at all times and plenty of food. As our aim is to provide our customers with the most trouble free system we can, we do not actively promote the use of worms. However, if this care is given then worms are a valid addition.

CARING FOR YOUR CLIVUS SYSTEM



With some simple common sense attention your Clivus system will perform the way it should year after year.

A handful of woodshavings or similar added via the toilet after each use will ensure the adequate amount of carbon rich material that composting toilets need. Apart from this all that is required is to visually check the system from time to time to ensure everything is in order. Except where a system has been severely neglected, raking of the composting pile is only necessary to occasionally level the pile and some compost is removed yearly

For public facilities obtain advice from us on suitable care.

Any composting toilet may occasionally be neglected or abused. In these circumstances the ability to inspect and access the composting chamber is crucial, and in the Clivus Multrum any such problems can be rectified with minimal fuss.

MATERIALS AND SPECIFICATIONS



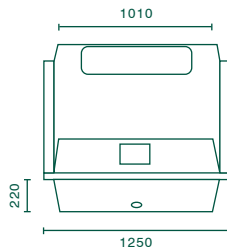
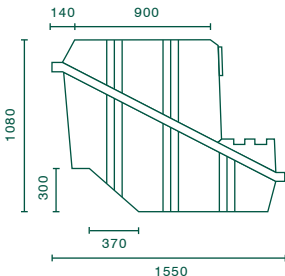
- ★ The Clivus Multrum™ composting tank is formed in UV-resistant rotomoulded polyethylene and the tank is internally divided into a waste chamber and finished compost chamber.
- ★ The waste chamber is supplied with stainless steel front baffle & air ducts and a polyethylene rear air baffle.
- ★ An inspection door at the front of the chamber also facilitates maintenance of the compost pile.
- ★ The finished compost chamber at the front of the tank is fitted with a full-width access lid to permit easy removal of compost.
- ★ A drain fitting is provided in the finished compost chamber to permit draining of any excess liquid end product. An air inlet vent with insect screen is also provided in this compartment.
- ★ All fasteners are of stainless steel. Other minor fittings are of corrosion resistant materials.
- ★ All tank models may be partially buried to a depth not greater than the access door flange at the front of the tank.
- ★ The nominal daily and annual capacities assume an annual mean temperature of 18°C or above. Actual capacity reduces with temperature and below an annual mean of 13°C the use of natural heating and/or worms may be required.

NOTE: For domestic installations, regulatory authorities in the various Australian states have applied differing approval criteria on the capacities of some models.

SPECIFICATIONS: CM8

The Clivus CM8 is ideal for typical domestic applications.

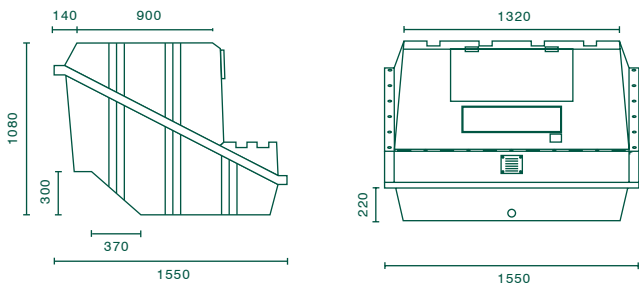
Nominal Capacity - daily : 20 visits (average)
- annual : 8000 visits



SPECIFICATIONS: CM10

The Clivus CM10 is ideal for domestic applications, especially where two pedestals are required.

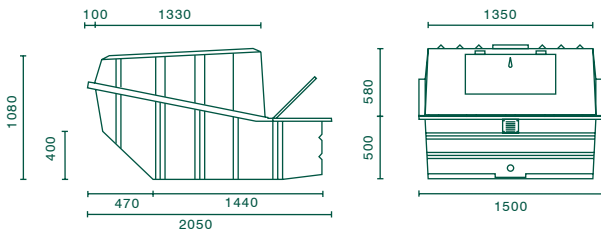
Nominal Capacity - daily : 25 visits (average)
 - annual : 10000 visits



SPECIFICATIONS: CM14

The Clivus CM14 is ideal for larger households and small public facilities. The CM 14 has the lowest profile of all the CM models when partially buried.

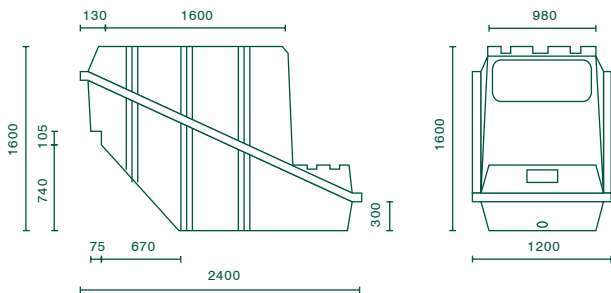
Nominal Capacity - daily : 38 visits (average)
 - annual : 14000 visits



SPECIFICATIONS: CM20

The Clivus CM20 is ideal for large houses or small public facilities.

Nominal Capacity - daily : 55 visits (average)
 - annual : 20000 visits



SPECIFICATIONS: CM40 & CM60

Please contact Clivus Multrum for details on these large commercial units.

A USEFUL CHECKLIST FOR CHOOSING THE RIGHT COMPOSTING TOILET SYSTEM.



- Is the manufacturer widely recognized, and the system proven?
- Will the system be acceptable to the Local Authority for building approvals?
- Can I get a system that is sized to suit my requirements?
- Does the total price include all hardware such as screws and sealant and all installation components.
- Is the system easy for the owner to maintain?
- Is installation straightforward and can it be done at minimal or no cost by the owner?
- Does the toilet have the advantages of being a 'continuous' composting system?
- Is there easy access to the compost pile?
- Can the owner easily check that good composting conditions are being maintained?
- Can the system handle unusually high usage over short periods of time?
- Can the system tolerate user abuse or maintenance neglect?
- Is the final compost safe and agreeable to handle and easily removed, without heavy lifting?
- Does the manufacturer provide top quality after-sales service and advice?

WITH CLIVUS MULTRUM THE ANSWER TO ALL THE ABOVE IS A RESOUNDING "YES"!

AND THERE'S MORE...

In addition to the Clivus composting toilet system, we also have a range of all-in-one units that are ideal for small families, holiday homes, sheds or caravans. The Ecolet range of toilets is particularly suitable where the building you wish to install your toilet in is on a concrete slab, as they don't require a compost chamber below the toilet room floor, (see separate brochure).

We also have a compact, low budget alternative for intermittent use in that shed or weekender.

So wherever you need to put your toilet, Clivus Multrum Australia can help you choose the one that is best for you.

THE CLIVUS MULTRUM SYSTEM USED ALL OVER AUSTRALIA ... AND BEYOND!



The following are just some of the places where you are likely to find a Clivus Multrum Composting Toilet System:

- ★ Domestic Households in all climates
- ★ Tourist Cabins, Lodges and Resorts
- ★ Environmental Education Centres
- ★ Permaculture Centres
- ★ Scout Associations
- ★ Camping Grounds
- ★ Local Sporting Groups
- ★ National Parks & Wildlife Services
- ★ Alpine Regions of NSW, Victoria and Tasmania
- ★ Aboriginal Communities
- ★ Local Councils/Amenities
- ★ Schools and Universities
- ★ Tourist Attractions

SOME COMMENTS FROM A FEW OF OUR SATISFIED CUSTOMERS:

"We don't need much prompting to sing the praises of Clivus Multrum, we are very happy with Clive's efforts, considering he has been neglected for weeks on end, flooded by a storm...and continued uncomplainingly through temperatures of up to 46°C... my only grumble is that there is not enough end product to feed the whole garden."

Mrs S Cottam, Longreach, Qld.

"I would like to reinforce to you our satisfaction with the Clivus Multrum toilet system we have installed in our home... I was surprised to find that the waste we removed from the tank had no odour at all and in fact the whole system seems to emit only the odour of the sawdust we add regularly..."

Ms C Lowe, St Andrews, Vic.

"after checking the pros and cons of all systems available we decided on a Clivus - it has easy access and we are able to recycle all organic household waste. After 15 years operation we have had no problems whatsoever. It's all so unbelievably natural!"

Geoff Tonkin, Esperance, WA

Your Distributor

Head Office
3/14 Hinkler Court, Brendale, Qld 4500.
www.clivusmultrum.com.au
Sales - Tel: 1300 13 81 82 Fax: (07) 3889 6149
Email: info@clivusmultrum.com.au