

SUN-MAR

www.sun-mar.com

COMPOSTING TOILETS

**Save the Environment.
Recycle Back to Nature!**



Use Anywhere You Need A Toilet!

NO SEPTIC • ODOR FREE • NO PLUMBING

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SUN-MAR Corp.
600 Main Street,
Tonawanda, NY 14150-0888 USA

5370 South Service Road,
Burlington, ON L7L 5L1 Canada

Tel: 905-332-1314 • 1-888-341-0782
Fax: 905-332-1315
Email: compost@sun-mar.com
www.sun-mar.com
www.gardencomposter.com

PROTECTING THE ENVIRONMENT FOR OVER 25 YEARS

At SUN-MAR, we are proud of the role our products play in protecting the environment.

- SUN-MAR composting toilets have saved over **3.2 billion gallons** of drinking quality water, and counting.
- SUN-MAR composting toilets evaporate liquids and compost the solids, so on most models there is absolutely **no output** and no contamination of ground water.
- SUN-MAR toilets offer the safest and most **environmentally friendly** method of waste treatment.



SUN-MAR UNITS HAVE NO EQUAL!

It is no secret why SUN-MAR is the world leader in Composting toilet technology.

- Our unique, patented **BioDrum™** design provides super fast, odor free aerobic decomposition. There is absolutely nothing like it anywhere.
- SUN-MAR toilets are sold worldwide with **over 1000 dealers** in North America alone.
- SUN-MAR toilets are the **only ones certified** by NSF to NSF/ANSI Standard #41 for residential and cottage use (most regulators require NSF certification).
- SUN-MAR **unique 3 chamber technology** guarantees simplicity of operation. Evaporation and compost removal are semi-automatic.

► For more on what makes SUN-MAR units stand out, see page 23.

► For more on how a SUN-MAR works, see pages 24 and 25.

WHAT IS COMPOSTING?

Here's a simple explanation:

- Composting converts organic matter back to its **essential minerals**.
- Aerobic Microbes do this in the presence of moisture and air, by oxidizing the carbon in the organic material to carbon dioxide gas, and converting the hydrogen atoms to water vapor.
- In this process, some **95%** of the starting material volume (largely moisture) **is evaporated**, so the residual salts are easy to handle.
- This resulting compost provides the essential food for uptake by plants. So it is **perfect for recycling**.



SUN-MAR 200 COMPOSTER

WHY USE A SUN-MAR COMPOSTING TOILET?

There are several reasons to use a SUN-MAR Composting Toilet.

Practical Reasons

- No Plumbing
- No Water
- Odor Free
- Inexpensive Solution



Environmental Reasons

- No Pollution
- Saves Water
- Recycles Nutrients
- Little or No Liquid Output



WHEN TO USE A SUN-MAR?

A SUN-MAR can be used **ANYWHERE, ANYTIME**.

- Where there is **no plumbing** a SUN-MAR provides an instant low cost toilet.
- Where there is an **outhouse**, a SUN-MAR offers a much appreciated upgrade.
- Where the toilet waste needs to be removed from an **overloaded septic** system.
- Where there is a **water shortage** a SUN-MAR substantially reduces your water needs.
- Wherever minimizing **environmental impact** is important, a SUN-MAR is the answer.

WHERE TO USE A SUN-MAR?

A few of the most common places where a SUN-MAR is found:

- A cottage, cabin, or camp, or "bunkie".
- A pool house, cabana, boat house or garden shed.
- Horse barns or other barns.
- Remote offices, classrooms, dormitories, workshops, gate houses or security posts.
- In a residence where it is important to make the minimum ecological footprint.
- Boats, RVs (anything that moves!)



IS A SUN-MAR ODORLESS?

Absolutely. In fact customers find that there is less odor than with a traditional toilet. Proof is easy — NSF only certifies composting units that produce no odor. There is no odor for two reasons:

- SUN-MAR toilets are designed so that air is constantly being drawn in and up the vent stack to create a partial vacuum
 - The Bio-Drum™, ensures a non-offensive aerobic breakdown.
- Air is drawn in by a fan on electric units which exhausts to a 2" vent stack, and on non-electric units by a 4" vent stack which acts like a chimney on a wood stove.

SUN-MAR IS THE ONLY NSF CERTIFIED PERFORMER

There is **only one performance standard** for composting toilets in North America. This is National Sanitation Foundation NSF/ANSI Standard #41-1999. Only SUN-MAR units are certified by NSF for residential and/or seasonal use. For verification, check NSF listed products at: www.nsf.org/Certified/Wastewater/Listings.asp?TradeName=&Standard=041

- This standard is a stringent one which explains why only SUN-MAR is certified by NSF. It involves testing for 6 months at a NSF recognized independent testing laboratory under a strict test protocol. To be certified the unit must operate at maximum capacity (including overload conditions) with no odors and produce clean, safe compost. As additional verification, NSF obtains and tests additional compost samples from randomly selected units in regular field operation, and conducts interviews with the users of these units..
- Our testimonials are great, but in the end, they are no substitute for certification by NSF. What they have certified you can rely on. Our conservative capacity ratings have been certified by NSF.

WINTER USE

Limited Winter Use

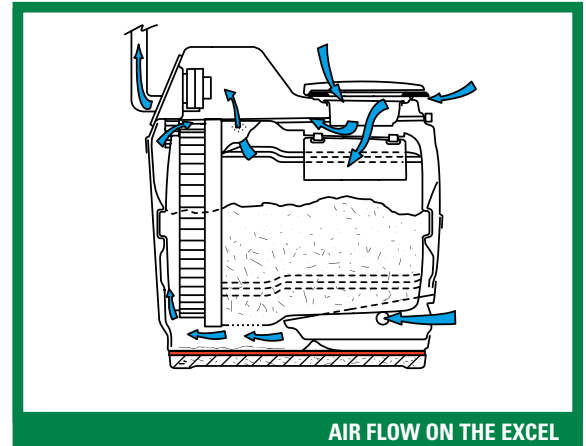
For limited use in cold temperatures you can use the unit as a **holding tank** so long as there is enough space in the Bio-drum™.

- If the compost is frozen avoid rotating the drum.
- If you have an electrical unit plug it in while in use so that the fan will **eliminate any odors**.

Extended Winter Use

For extended winter use the composting unit has to be **kept warm** for composting to continue.

- Insulate **vent piping** on all units to avoid icing.
- Where applicable insulate inlet piping and drain piping.
- If heating the space around the composter is not practical, consider insulating the area, and putting in an electric or propane space heater.
- Keep electric units plugged in to minimize the chance of freezing.
- Reduce energy costs by installing a fan speed control on electric units. This reduces cold air intake and heater operation.



AUST STANDARD
AS/NZS 1546.2
Lic #20630 SAI GLOBAL



Certified by NSF to NSF/ANSI
Standard #41-1999



Certified to comply with
applicable European Product
Safety Standards and satisfies
the provision for CE marking



SEMKO (Sweden)
Certified for 220 Volt units



WINTER USE

THREE CHAMBER TECHNOLOGY

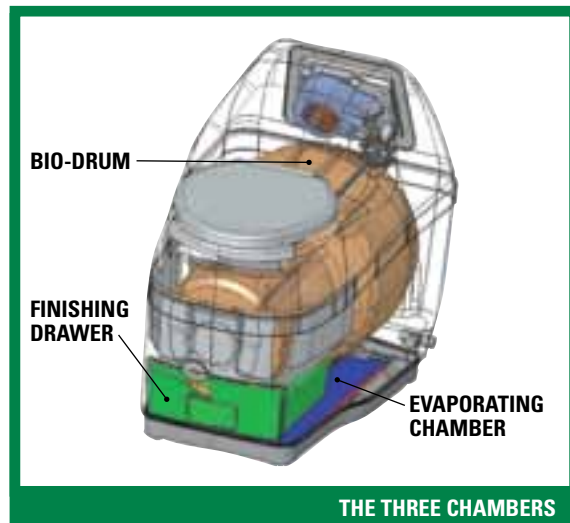
SUN-MAR's amazing 3 chamber technology is designed into **all units**.

Composting is carried out in the patented **Bio-Drum™**, which provides perfect composting conditions .

- The drum is rotated periodically to **mix and aerate** the compost.
- **Correct moisture levels** in the drum are maintained by shielding the compost from direct heat, while automatically delivering any excess liquid through a screen directly into the **evaporating chamber**.

The evaporating chamber (the second chamber) offers **ideal evaporation conditions** where air is pulled over a large warmed liquid surface and the condensate is vented to air.

Compost is extracted by releasing a drum lock and rotating the drum backwards. Compost falls **automatically** into the **finishing drawer** (the third chamber), where it is sanitized prior to removal.



THE THREE CHAMBERS

OPERATING A SUN-MAR

Start-up

Start-up is simple. Everything you need is included with the unit.

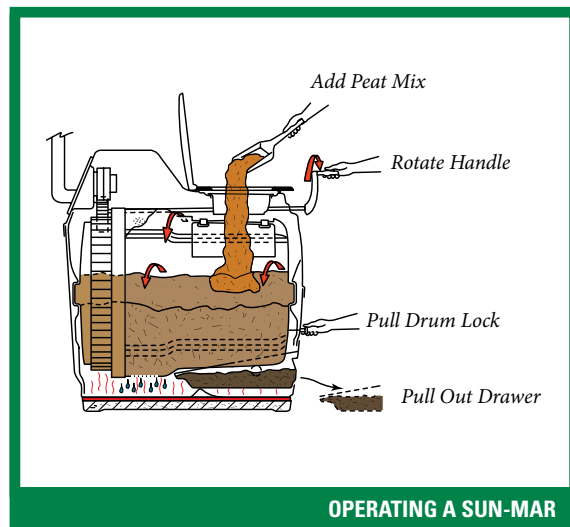
- *Add* some Peat mix bulking material (Compost Sure) into the Bio-drum™ together with some SUN-MAR Microbe Mix.

► *Use any toilet paper you want, amazingly, a SUN-MAR can readily compost this along with the waste*

Ongoing Operation

For ongoing operation **all you need to do is:**

- **Add** a cupful of Compost Sure at the rate of one cupful per person per day of use.
- **Every 2-3 days** while in use, pull out the drum handle (recessed on most self-contained units) and rotate the drum 4-6 complete revolutions. For weekend use just rotate before you leave at the end of the weekend.



OPERATING A SUN-MAR

Removing Compost

Removing Compost is Quick & Easy.












- **Release** the drum lock and **rotate the drum backwards**
- The output door remains open, and compost *drops automatically* into the **finishing drawer**.

► *This entire process takes less than a minute, and most importantly you don't come into contact with fresh material.*

► *In cottage use some composted material (fertilizer) is normally removed in the spring to make room for the next seasons operation. In continuous use, compost will have to be dropped into the finishing drawer more often. Here it is sanitized before the next cycle when the drawer is removed, emptied and the empty drawer replaced.*



REMOVING COMPOST

SELF-CONTAINED	Model	Description	Composting Capacity		Voltage	Page #
			Weekend/ Vacation	Residential/ Continuous		
 EXCEL	 EXCEL	High Capacity Electric Unit	6 Adults or Families of 8	3 Adults or Family of 5	115V	11
 COMPACT	 COMPACT	Medium Capacity Electric Unit	3 Adults or Family of 4	1 Adult	115V	12
 SPACESAVER	 SPACESAVER	Medium Capacity Electric Unit	3 Adults or Family of 4	1 Adult	115V	12
 EXCEL NE	 EXCEL NE	Non-electric Unit	5 Adults or Family of 7	2 Adults or Family of 3	12V Fan Optional	11
 MOBILE	An AC/DC version of the EXCEL is also available. This is a dual voltage unit, (12 Volt and 115 Volt), which has both 2" and 4" vent stacks, and can operate either as a standard electric unit or with a 12 Volt 1.4 Watt DC fan. See page 11.					
	  MOBILE	Dual Voltage Unit	3 Adults or Family of 4	1 Adult	12V & 115V (115V Optional)	13

CENTRAL	Model	Description	Toilet	Composting Capacity		Voltage	Page #
				Weekend/ Vacation	Residential/ Continuous		
	 CENTREX 1000	Reg. Capacity Electric Unit	One Pint Flush Toilet	5 Adults or Families of 7	N/A	115V	15
	 CENTREX 1000 NE	Reg. Capacity Non-electric Unit	One Pint Flush Toilet	4 Adults or Families of 6	N/A	12V 1.4W Fan Optional	15
CENTREX 1000							
	 CENTREX 2000	High Capacity Electric Unit	One Pint Flush Toilet	7 Adults or Families of 9	4 Adults or Family of 6	115V	16
	 CENTREX 2000 NE	High Capacity Non-electric Unit	One Pint Flush Toilet	6 Adults or Families of 8	3 Adults or Family of 5	12V 1.4W Fan Optional	16
CENTREX 2000 NE							
	 CENTREX 2000 A/F	High Capacity Electric Unit	Dry Toilet	6 Adults or Families of 8	4 Adults or Family of 6	115V	17
	 CENTREX 2000 A/F NE	High Capacity Non-electric Unit	Dry Toilet	5 Adults or Families of 7	3 Adults or Family of 5	12V 2.4W Fan	17
CENTREX 2000 A/F							
AC/DC versions of all central units (One Pint Flush and Water Free types) are also available. These are dual vented units with both 2" and 4" vent stacks and can operate either as a standard electric unit or with a 12 Volt 1.4 or 2.4 Watt DC fan. See page 27.							
	 CENTREX 3000	Extra High Capacity Electric Unit	One Pint Flush Toilet	9 Adults or families of 11	6 Adults or Families of 8	115V	18
	 CENTREX 3000 NE	Extra High Capacity Non-electric Unit	One Pint Flush Toilet	8 Adults or Families of 10	5 Adults or Families of 7	12V 2.4W Fan Optional	18
CENTREX 3000							
	 CENTREX 3000 A/F	Extra High Capacity Electric Unit	Dry Toilet	8 Adults or Families of 10	5 Adults or Families of 7	115V	19
	 CENTREX 3000 A/F NE	Extra High Capacity Non-electric Unit	Dry Toilet	7 Adults or Families of 9	5 Adults or Families of 7	12V 2.4W DC Fan	19
CENTREX 3000 A/F							

SELECTING A SUN-MAR



At SUN-MAR we know that because we have so many different models, it is important to make the model selection process as straight forward as possible. SUN-MAR has six product families. **Three are self-contained** product families which are installed directly in **the bathroom**. **Three are central** product families where a toilet is installed in the bathroom with the composting unit **below**.

Follow these **THREE** steps to determine the right model for you:

1 SELF-CONTAINED OR CENTRAL UNITS

Self-contained Units

These units are installed directly in the bathroom. On electric units, 2" vents exit **top rear** so the vent can be installed **invisibly** by running through the bathroom wall and up the outside.

Main Features

- **Water Free.**
- Quick and **easy to install.**
- **Easy to winterize.**
- **Economical** because they are one piece systems.
- Electrical units can normally **evaporate all liquids.**
- **Easy to clean** having a durable shiny finish.



Self-contained Units

Central Units

These units are placed **below the toilet**, and are available either as a **Water Flush** unit with an extra low flush toilet, or as a **Water Free** (AF) unit with a SUN-MAR Dry Toilet

Water Free Central Units

- Feature a "traditional looking" toilet in the bathroom.
- Must be **directly below** the toilet.
- **Evaporate all or most** of the liquid.
- Require no flushing liquid.

Water Flush Central Units

- Feature a "**traditional looking**" toilet in the bathroom with waterseal.
- Need only be within **15-20 feet** of the toilet.
- Require a drain connection.
- Can handle multiple toilets.



Water Free Unit



Water Flush Unit

2 ELECTRIC, NON-ELECTRIC OR AC/DC

Electric Units

If you have a **standard electricity supply**, a regular electrical unit would be the choice. These units feature high quality squirrel cage blower fans, thermostatically controlled heaters and 2" vent stacks. Mobile units have 12 Volt fans and 115 Volt heaters.

AC/DC Units

If you are expecting 115 Volt power in the future, have frequent power outages or are running a generator for 12 or more hours per day; select a dual vented AC/DC unit.

- This unit is a regular electric unit with 2" vent which uses a 12 Volt fan in a separate 4" vent stack when regular 115 Volt power is not available. A 12 Volt DC fan is included with all AC/DC units.

Non-Electric Units

If you have **no power** or are using alternative energy, select an NE (non-electric) unit.

- These units feature a 4" vent stack. A 12 Volt fan is not needed unless the unit is used residentially or if there are special circumstances. See installing a 12 Volt fan on page 27.

3 CAPACITY AND COLOR

Capacity

Finally, pick a unit with the right capacity for your needs. Keep in mind that although advertised capacities **can be doubled** for short periods, SUN-MAR has found that wherever possible it is always better to have a good margin of safety. So, pick a unit with **more capacity** than you really need.



Extra High Capacity



Regular Capacity

Color

Self-contained units other than Mobile units are available in **white**, as well as the standard **bone** color.



White



Bone

HIGH CAPACITY – SELF-CONTAINED UNITS

Canada's former Governor General recently described herself as "totally and utterly an **evangelist**" for her 11 year old Excel NE toilet. Certainly the Excel family is impressive and distinctive, but that's what you would expect from the best selling composting toilet in North America.

All three versions of the Excel (electric non-electric and AC/DC) have the same **large composting drum**, which is what gives this family its distinctive look and its outstanding performance. The product of constant improvement over the years, the Excel is precision engineered with elegant rounded contours.

The Excel family is the highest capacity self-contained toilet with **ratings conservatively established** by the National Sanitation Foundation following long term testing in their facilities. All units can be operated for short periods at double rated capacities.

The patented Bio-Drum™ in the Excel and other SUN-MAR units provides ideal conditions for composting. This allows for **evaporation** and **compost finishing** to be optimized in their own **dedicated chambers**.

Excel family units can be installed quickly. As waterless units they require no plumbing hook-up. The only thing to be done is to **assemble the vent stack** which comes with the unit.

All Excels feature a detachable footrest which can be put aside whenever you need to access the finishing drawer. The durable, smooth shiny finish make the Excel family and all other Sun Mar units easy to clean.

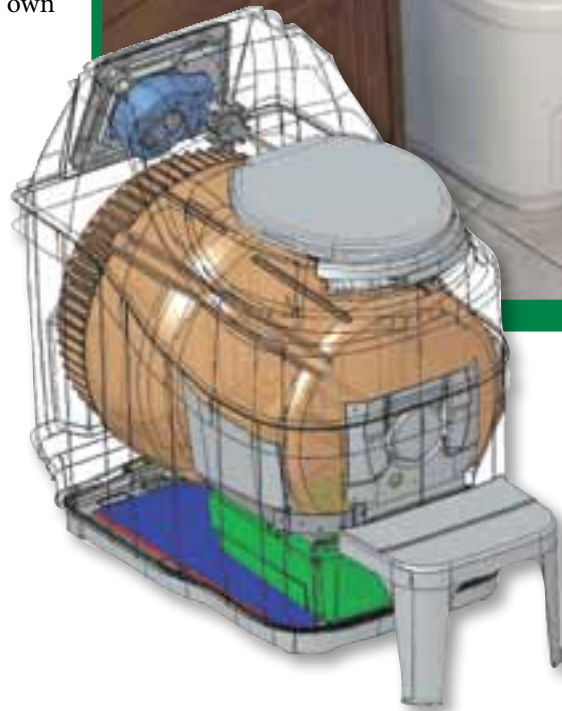
All Excels are available in white or bone.

► For installation considerations see pages 26-29.

► For detailed specifications see page 20.



EXCEL



“ We look forward to 15 more years of happy composting with our ecologically sound Excel toilet system. ”

– Nancy Steiger, SK
Excel (Residential)

Excel

COMPOSTING CAPACITY

Weekend & Vacation: 6 adults or families of 8
Residential & Continuous: 3 adults or families of 5

The Excel is the electric version for those with a constant electric supply. Long considered the standard in composting toilet performance, it is the preferred self-contained model for **heavy cottage** or for **residential use**.

The Excel has been tested and certified by the National Sanitation Foundation for a continuous 6 months at maximum rated capacity. It is the **world's only** self contained unit **certified** to evaporate all liquids while operating odorlessly and producing a clean dry compost.

The electrical features on the Excel are a thermostatically controlled heater located in a sealed compartment in the base of the Excel and a fan assembly in the top rear of the unit. The 260 Watt heater warms the liquid (if any) in the evaporating chamber, while the fan draws in air over the evaporating surface and up the vent stack, **evaporating up to 6.5 liters** per day. The fan also keeps the Excel under a partial vacuum at all times to ensure there can be **no odor**.

- The fan assembly is newly designed and features a control to adjust the ratio of recirculating to evacuated air. A 2" vent stack is attached directly to the fan assembly, and if desired can be installed invisibly by running it through the wall and up the outside wall.
- Although the Excel can normally evaporate all liquids, a 3/4" OD emergency drain is fitted at the rear and this should be connected if heavy use or prolonged power outages are expected.
- For installation considerations see pages 26-29. For detailed specifications see page 20.



EXCEL

Excel NE (non-electric)

COMPOSTING CAPACITY

Weekend & Vacation: 5 adults or families of 7
Residential & Continuous: 2 adults or families of 3

The success of the Excel meant that a three chamber Bio-Drum™ unit could be specifically designed for those with no continuous 110 Volt supply. Constantly improved since it was first launched in 1981, the Excel NE has long been the **standard toilet** for those living **off the grid**.

The Excel NE has no fan or heater. **Odorless operation** is achieved by a 4" vent mounted at the top rear of the unit which acts like a chimney on a woodstove to draw air into the toilet and so produce a partial vacuum within the unit.

- If the Excel NE is used residentially or heavily, or is in a place which is subject to downdraft, an optional 12 Volt fan should be installed in the vent stack. This fan draws 1.4 watts and can be powered by a solar panel and/or 12 Volt battery.
- Evaporating capacity on the Excel NE is variable, so the 1" drain at the rear should be connected.
- For installation considerations see pages 26-29. For detailed specifications see page 20.



EXCEL NE

Excel AC/DC (not shown)

COMPOSTING CAPACITY

As Excel when operating with 115 Volt power
As Excel NE when no 115 Volt power

This unit is designed for those who have no 115 Volt power now, but expect to in the future. Other typical users would be those with generators running over 8 hours a day, or who experience frequent power outages.

- The Excel AC/DC is a standard Excel unit which is also equipped with a 4" vent stack and with 1" safety drains. A 12 Volt 1.4 watt fan is included for use in the 4" vent stack. The AC/DC uses the regular 2" vent when 115 Volt power is available and defaults to the 4" NE vent when it is not.
- For installation considerations see pages 26-29. For detailed specifications see page 20.

MEDIUM CAPACITY – SELF-CONTAINED UNITS

The Bio-drums™ on these medium capacity units are smaller and so have less capacity than Excel units. Compact and Spacesaver models come in white or bone. They can be operated for short periods at **double rated capacities**.

Compact

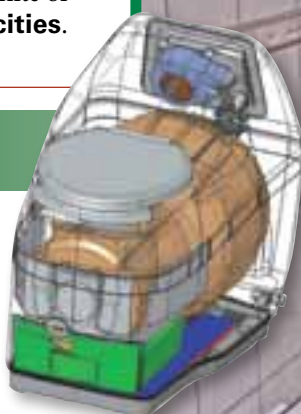
COMPOSTING CAPACITY

Weekend & Vacation: 3 adults or families of 4
Residential & Continuous: 1 adult or families of 2

This unit is ideal for light residential or **light to medium cottage** use. It is especially popular for use in cabanas, guest houses, or any remote place where there is an electrical connection but no plumbing.

The Compact is an **elegant low profile**, 3 chamber unit with the looks to complement any bathroom. SUN-MAR engineers achieved this break-through by developing and patenting a variable diameter Bio-Drum™ which is small at the front and large at the rear. This allows seat height to be only slightly higher than a regular toilet, a feature that makes the Compact ideal for the elderly or handicapped.

- ▶ As with the Excel, the Compact can normally evaporate all liquids. However, a $\frac{3}{4}$ " OD emergency drain is fitted at the rear and this should be connected if heavy use or prolonged power outages are expected.
- ▶ The Compact has the standard new SUN-MAR fan assembly with a 2" vent stack which can be installed vertically or invisibly with the vent going through the wall. The 200 Watt thermostatically controlled heater in the sealed compartment in the base keeps the evaporating chamber warm. In turn, the fan draws air in over this warm evaporating surface and up the vent stack, evaporating up to 5 litres a day. The fan keeps the Compact under a partial vacuum at all times to ensure there can be no odor.
- ▶ For installation considerations see pages 26-29. For detailed specifications see page 20.



COMPACT

Spacesaver

COMPOSTING CAPACITY

Weekend & Vacation : 3 adults or families of 4
Residential & Continuous: 1 adult or families of 2

The Spacesaver is the dry land version of the SUN-MAR Mobile. Although it looks similar, this is a brand new product re-engineered from top to bottom.

This three chamber unit is specifically designed for places **where space is extremely limited**. With a width of only 19 ½" and depth of 23" the unit is only slightly bigger than a toilet seat. Now, even a closet or small corner can be turned into a bathroom.

- ▶ The Spacesaver has a 160 Watt thermostatically controlled heater in the sealed base compartment which together with the 35 Watt fan now combine to evaporate 3.5 litres per day. If used heavily or continuously the 1" drain at the rear which should be connected.
- ▶ The Spacesaver now has the same powerful fan motor that other electric units have, built into a special fan assembly. This allows for the unit to have a 2" vent stack which exits vertically.
- ▶ For installation considerations see pages 26-29. For detailed specifications see page 20.



SPACESAVER

SUN-MAR Mobile

COMPOSTING CAPACITY

Weekend & Vacation: 3 adults or families of 4
Residential & Continuous: 1 adult or families of 2

The US Coast Guard certified SUN-MAR Mobile was originally designed for use on **boats and RVs**. It was only slightly wider and longer than a regular toilet seat so that it could fit anywhere. It ushered in a new era where for the first time people could go wherever they wanted without having to worry about “pump outs”. Travelers could **recycle their waste** without polluting the waters.

Today’s mobile is a completely redesigned 3 chamber unit with many improvements but, at 19 ½" wide by 23" deep, it remains true to the original concept.

The new mobile is marinated to accommodate violent motion, with mounting brackets, a finishing drawer that is gasketed in, and a fold up footrest which can be easily removed to access the finishing drawer.

Mobile units have a 1" drain at the rear, and this should be hooked up so that any liquid which is not evaporated may be drained periodically into a holding tank, small removable container or other approved facility.

- ▶ A 12 Volt 5.4 watt fan is incorporated into an external fan/filter box in the 3" vent stack. This fan is on a separate circuit and should be on when the unit is in use to ensure there is no odor. If the vent exits at deck level, it may be necessary to “polish” the vented air by passing it through filter material supplied for possible use in the fan/filter box. For installation considerations see pages 26-29.
- ▶ A 160 Watt 115 Volt heater is incorporated in the sealed heater compartment in the base of the unit for use where 115 Volt power is available. The fan and heater combine to evaporate 2.5 litres per day when no filter material is in the fan/filter box. For detailed specifications see page 20.



SUN-MAR MOBILE

THE ELECTRICAL SYSTEM ON SUN-MAR UNITS



CENTRAL UNITS

A SUN-MAR central composting toilet is ideal for those who want to have a **traditional looking toilet** in the bathroom, and can place the composting unit below the toilet.

SUN-MAR has three different sized families of Central Units; the regular capacity **1000**, the high capacity **2000**, and the extra high capacity **3000**. All are available in **electric, non-electric** and in **AC/DC versions**. Bone is the standard color for all units.

Either 1 pint water flush toilets or SUN-MAR Dry (water free) Toilets are available for use with CENTREX 2000 and CENTREX 3000 units, but water free toilets are not an option with the CENTREX 1000 series.

Central Units with 1 Pint Toilets

Central units using a 1 pint flush toilet should be **within 15-20 ft** of the bathroom. Installation involves hooking up the water supply to the 1 pint toilet, connecting the 3" plumbing pipe from toilet to composter, and erecting the vent stack supplied with the unit. These units use Compost Sure (blue) bulking material which is 100% hemp chips.

Central Units with SUN-MAR Dry Toilet

Central units with Dry Toilets (AF units) should be positioned **directly under** the toilet. Everything necessary for installation including the vent stack is included with the AF unit

These units use regular Compost Sure (green) bulking material

Operation of Central Units

All SUN-MAR central units have two ports in the Bio-Drum™, an input port on the left and an output port on the right. Waste enters through the input port on the left of the unit. This port is open when vertical, but has double doors which ensure that the port is closed whenever the drum is rotated.

Bulking material is added **every 2-3 days** or, for weekend use, at the **end of the weekend**, by opening the access port, and rotating the Bio-Drum™ until the input port is accessible from the access port. Bulking material should be added at the rate of one cup per day per person using the unit.

After adding the bulking material the drum should be rotated 4-6 complete revolutions of the drum to **mix and aerate** the compost. When rotated in this direction, doors on both input and output ports are shut.

To remove compost, the drum lock is pulled to allow the Bio-Drum™ to be turned backwards. As it rotates, the door on the output port is open, and **compost** exits through the output port on the right and **falls automatically** into the finishing drawer.

Select the right sized CENTREX, and you will only have to **remove some compost annually**, -normally in the spring.

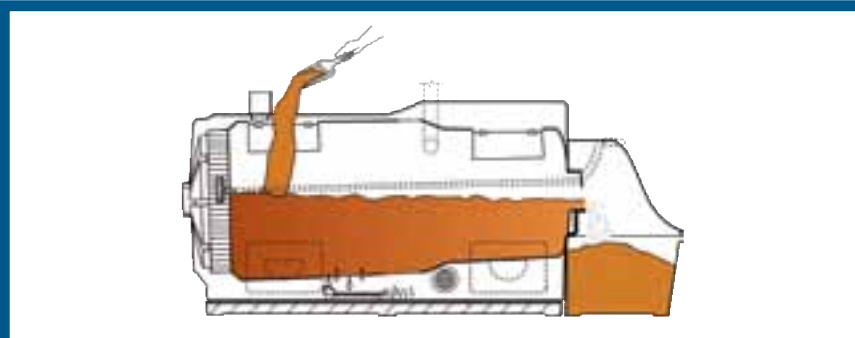


1 PINT TOILET – MODEL 510+



DRY TOILET

- ▶ On CENTREX 1000 units, the input port is in the rear and the output and finishing drawer is at the front.
- ▶ It is not necessary to remove compost on the CENTREX 3000 via the finishing drawer. For how the "Autoflow" feature works on 3000 units see page 18.
- ▶ All CENTREX units can be operated for short periods at double rated capacities
- ▶ For installation considerations see pages 26-29. For detailed specifications see page 21.



CENTREX 3000-AUTOFLOW®

“The performance of the Centrex is excellent, it works even better than I had expected.”

Larry Oldfield, ON
Centrex 1000

CENTREX 1000 FAMILY

The CENTREX 1000 is the ideal unit for **light to medium seasonal use**. It is specially designed for **narrow spaces**, being only 22 1/2" wide. The 1000 comes in electric, non electric and in dual vented AC/DC versions. It is available only for use with a 1 pint toilet (purchased separately), there being no water free (AF) version. The 1" safety drain on all CENTREX 1000 units should be connected.

CENTREX 1000

COMPOSTING CAPACITY

Weekend & Vacation : 5 adults or families of 7

The CENTREX 1000 is the **electric version** for those with a constant electric supply. The electrical features on the CENTREX 1000 are a thermostatically controlled heater located in a sealed compartment in the base of the unit and a fan assembly at the front left side. The fan also keeps the CENTREX 1000 under a partial vacuum at all times to ensure there can be no odor.

- The fan assembly is newly designed and features a control to adjust the ratio of recirculating to evacuated air. A 2" vent stack exits immediately behind the fan assembly.
- The 260 Watt heater warms the liquid (if any) in the evaporating chamber, while the fan draws in air over the evaporating surface and up the 2" vent stack, evaporating up to 6 liters a day.
- For installation considerations see pages 26-29. For detailed specifications see page 21.



CENTREX 1000

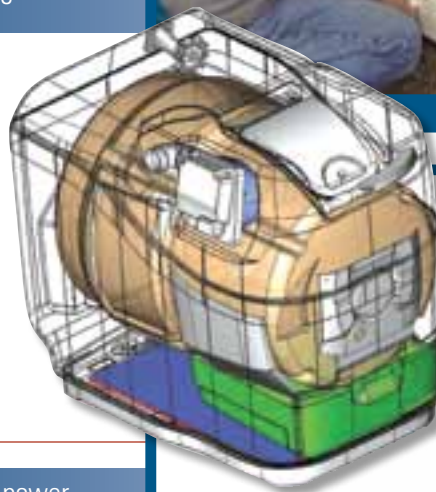
CENTREX 1000 NE (non-electric)

COMPOSTING CAPACITY

Weekend & Vacation use: 4 adults or families of 6

The CENTREX 1000 NE is designed for those with **no continuous 110 Volt supply**. The 1000 NE has no fan or heater. Odorless operation is achieved by a 4" vent mounted at the top left of the unit which acts like a chimney to draw air into the toilet and produce a partial vacuum within the unit.

- If the CENTREX 1000 NE is used heavily, the vent stack has 45° angles, or is in a place which is subject to downdraft, an optional 12 Volt fan should be installed in the vent stack. This fan draws 1.4 watts and can be powered by a solar panel and/or 12 Volt battery.
- For installation considerations see pages 26-29. For detailed specifications see page 21.



COMPOSTING CAPACITY

As CENTREX 1000 when operating with 115 Volt power
As CENTREX 1000 NE when no 115 Volt power

CENTREX 1000 AC/DC (not shown)

This unit is designed for those who have no 115 Volt power now, but expect to in the future. They would use the CENTREX 1000 AC/DC as a non-electric unit until ready to convert to 115 Volt. Other typical users would be those subject to frequent power failures or with power running over 8 hours a day.

- The 1000 AC/DC is a standard CENTREX 1000 with fan, heater, and 2" vent stack. In addition it is a dual vented unit. A 12 Volt 1.4 watt fan is included for use in the 4" vent stack. The unit uses the regular 2" vent stack when 115 Volt power is available and defaults to the 4" NE vent when it is not.
- For installation considerations see pages 26-29. For detailed specifications see page 21.



CENTREX 1000 NE

CENTREX 2000 SERIES

Designed for **medium to heavy cottage** or **light residential use**, the CENTREX 2000 family has a Bio-drum™ 50% larger than the 1000 series units. In a typical cottage season, no compost will need to be extracted until the following spring. All 2000 units have a 1" drain which should be connected, except for the 2000 AF where no liquid output is expected.

WATER FLUSH SYSTEMS

CENTREX 2000

COMPOSTING CAPACITY	Weekend & Vacation: 7 adults or families of 9 Residential & Continuous: 4 adults or families of 6
----------------------------	--

The CENTREX 2000 is the **standard electrical unit** for use with a 1 pint toilet (purchased separately). It features a thermostatically controlled 370 Watt heating element in a sealed compartment beneath the unit. Odor free operation is maintained by the standard SUN-MAR 35 Watt fan directing air up the 2" vent.

- *Evaporating capacity on this unit is 8 Liters per day.*
- *For installation considerations see pages 26-29. For detailed specifications see page 21.*

CENTREX 2000 NE (non-electric)

COMPOSTING CAPACITY	Weekend & Vacation: 6 adults or families of 8 Residential & Continuous: 3 adults or families of 5
----------------------------	--

The CENTREX 2000 NE is for those with **no continuous 115 Volt electricity** who wish to have a 1 pint toilet in the bathroom (purchased separately). It comes with a 4" vent stack which allows the NE to operate odorlessly by drawing air into the unit and up the vent stack. The vent should be vertical if it all possible.

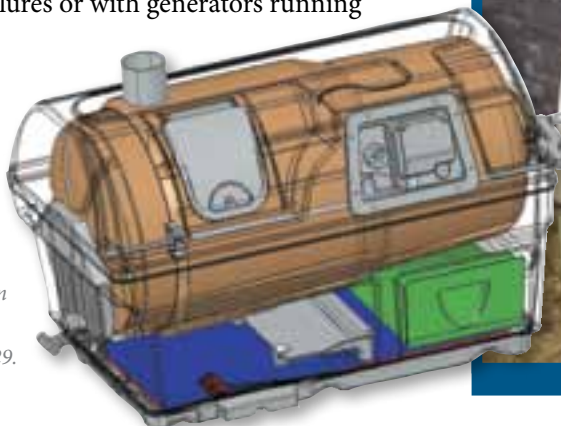
- *Venting can be improved if necessary by an optional 1.4 or 2.4 watt 12 Volt fan fitted in the vent stack and powered by a solar panel and/or 12V battery.*
- *For installation considerations see pages 26-29. For detailed specifications see page 21.*

CENTREX 2000 AC/DC (not shown)

COMPOSTING CAPACITY	As CENTREX 2000 when operating with 115 Volt power As CENTREX 2000NE when there is no 115 Volt power
----------------------------	---

This unit is designed for those who have no 115 Volt power now, but expect to in the future. They would use the CENTREX 2000 A/DC as a non-electric unit until ready to convert to a CENTREX 2000. Other typical uses would be those subject to frequent power failures or with generators running over 8 hours per day.

- *The CENTREX 2000 AC/DC is a standard 2000 unit with fan, heater, and 2" vent stack. In addition it is equipped with a 4" vent stack. A 12 Volt 1.4 watt fan is included for use in the 4" vent stack. The unit uses the regular 2" vent when 115 Volt power is available and defaults to the 4" NE vent when it is not.*
- *For installation considerations see pages 26-29. For detailed specifications see page 21.*



CENTREX 2000



CENTREX 2000 NE

WATER FREE SYSTEMS

CENTREX 2000 AF

COMPOSTING CAPACITY

Weekend & Vacation: 6 adults or families of 8
Residential & Continuous: 5 adults or families of 6

This standard electrical model is the perfect unit for those who want to **save water** and ensure that by evaporating all liquid they **produce zero output**.

The CENTREX 2000 AF is designed for use with a SUN-MAR Dry Toilet (purchased separately). It features a thermostatically controlled 370 Watt heating element in a sealed compartment beneath the unit.

Odor free operation is maintained by the standard SUN-MAR 35 Watt fan which pulls air down through the toilet seat and directs it up the 2" vent. Evaporating capacity on this unit is 7.5 Liters, so this 1" drain **need not be connected** unless the unit is to be used heavily.

► For installation considerations see pages 26-29. For detailed specifications see page 21.

CENTREX 2000 AF NE (non-electric)

COMPOSTING CAPACITY

Weekend & Vacation: 5 adults or families of 7
Residential & Continuous: 3 adults or families of 5

This is the standard **non-electric unit** for those with no continuous 115 Volt electricity who wish to save water. The 2000 AF NE is designed for use with a SUN-MAR Dry Toilet (purchased separately).

NSF (National Sanitation Foundation) found in a recent 6 month test at maximum rated capacity that there was **virtually no liquid output**, and no need to remove any compost during the complete 6 month period.

It comes complete with a 4" vent stack with 12 Volt 2.4 Watt fan, which allows the 2000 AF NE to operate odorlessly by drawing air down the toilet seat, and up the vent stack. The 1" drain should be connected.

► For installation considerations see pages 26-29. For detailed specifications see page 21.

CENTREX 2000 AF AC/DC (not shown)

COMPOSTING CAPACITY

As CENTREX 2000 AF when operating with 115 Volt power
As CENTREX 2000 AF NE when there is no 115 Volt power

This unit is designed for those who have no 115 Volt power now, but expect to in the future. They would use the CENTREX 2000 AF AC/DC as a non-electric unit until ready to convert to a CENTREX 2000 AF. Other typical users would be those expecting frequent power failures or with generators running over 8 hours a day.

► The CENTREX 2000 AF AC/DC is a 2000 AF with fan, heater, and 2" vent stack. In addition it is equipped with a 4" vent stack. A 12 Volt 2.4 watt fan is included for use in the 4" vent stack. The unit uses the regular 2" vent when 115 Volt power is available and defaults to the 4" NE vent when it is not.

► For installation considerations see pages 26-29. For detailed specifications see page 21.



CENTREX 2000 AF



CENTREX 2000 AF NE

“The Centrex 2000 works great...
We have absolutely no regrets!”

– The Arasons, MB
Centrex 2000

CENTREX 3000 FAMILY

The CENTREX 3000 family are **extra-high capacity** units designed for **very heavy cottage use** or **medium heavy residential use**. CENTREX 3000 family units incorporate SUN-MAR's unique **Autoflow® technology**. As the drum rotates, compost moves **automatically** through the drum and into a separate collection chamber at the end of the unit. This means that under normal circumstances it is not necessary to pull the drum lock, rotate backwards, and drop compost into the finishing drawer at the right. The left hand drawer is used only as an access port.

All 3000 units have a 1" drain which should be connected, except for the 3000 AF where no liquid output is expected.

WATER FLUSH SYSTEMS

CENTREX 3000

COMPOSTING CAPACITY

Weekend & Vacation: 9 adults or families of 11
Residential & Continuous: 6 adults or families of 8

The CENTREX 3000 is the **standard electrical unit** for use with a 1 pint toilet (purchased separately). It features a thermostatically controlled 370 Watt heating element in a sealed compartment beneath the unit. Odor free operation is maintained by the standard SUN-MAR 35 Watt fan directing air up the 2" vent. Evaporation capacity on this unit is 9 Liters.

► For installation considerations see pages 26-29. For detailed specifications see page 21.

CENTREX 3000 NE (non-electric)

COMPOSTING CAPACITY

Weekend & Vacation: 8 adults or families of 10
Residential & Continuous: 5 adults or families of 7

The CENTREX 3000 NE is for those with **no continuous 115 Volt electricity** who wish to have an attractive 1 pint toilet in the bathroom (purchased separately). It comes complete with a 4" vent stack which allows the NE to operate odorlessly by drawing air into the unit and up the vent stack. The vent should be vertical if it all possible.

► Venting can be improved if necessary by an optional 1.4 or 2.4 Watt 12 Volt fan fitted in the vent stack and powered by a solar panel and/or 12 Volt battery.

► For installation considerations see pages 26-29. For detailed specifications see page 21.

CENTREX 3000 AC/DC (not shown)

COMPOSTING CAPACITY

As CENTREX 3000 when operating with 115 Volt power
As CENTREX 3000 NE when there is no 115 Volt power

This unit is designed for those who have no 115 Volt power now, but expect to in the future. They would use the CENTREX 3000 AC/DC as a non-electric unit until ready to convert to a CENTREX 3000. Other typical users would be those expecting frequent power failures or with generators running over 8 hours a day.

► The CENTREX 3000 AC/DC is a standard 3000 unit with fan, heater, and 2" vent stack. In addition it is equipped with a 4" vent stack. A 12 Volt 2.4 Watt fan is included for use in the 4" vent stack.

► For installation considerations see pages 26-29. For detailed specifications see page 21.



CENTREX 3000



CENTREX 3000 NE

WATER FREE (AF) SYSTEMS

CENTREX 3000 AF

COMPOSTING CAPACITY	Weekend & Vacation: 8 adults or families of 10 Residential & Continuous: 5 adults or families of 7
----------------------------	---

This **standard electrical model** is the perfect unit for those who want to **save water** and ensure that by evaporating all liquid they **produce zero output**.

The CENTREX 3000 AF is designed for use with a SUN-MAR Dry Toilet (purchased separately). It features a thermostatically controlled 370 Watt heating element in a sealed compartment beneath the unit.

Odor free operation is maintained by the standard SUN-MAR 35 Watt fan which pulls air down through the toilet seat and directs it up the 2" vent. Evaporating capacity on this unit is 9 Liters per day, so this **1" drain need not be connected** unless the unit is to be used heavily.

► For installation considerations see pages 26-29. For detailed specifications see page 21.

CENTREX 3000 AF NE (non-electric)

COMPOSTING CAPACITY	Weekend & Vacation: 7 adults or families of 9 Residential & Continuous: 5 adults or families of 7
----------------------------	--

This is the standard **non-electric unit** for those with no continuous 115 Volt electricity who wish to save water, and have virtually no output. The 3000 AF NE is designed for use with a SUN-MAR Dry Toilet (purchased separately).

It comes complete with a 4" vent stack with 12 Volt 2.4 Watt fan, which allows the 3000 AF NE to operate odorlessly by drawing air down the toilet seat, and up the vent stack. The drain should be connected although **output is minimal**.

► For installation considerations see pages 26-29. For detailed specifications see page 21.

CENTREX 3000 AF AC/DC (not shown)

COMPOSTING CAPACITY	As CENTREX 3000 AF when operating with 115 Volt power As CENTREX 3000 AF NE when there is no 115 Volt power
----------------------------	--

This unit is designed for those who have no 115 Volt power now, but expect to in the future. They would use the CENTREX 3000 AF AC/DC as a non-electric unit until ready to convert to a CENTREX 3000 AF. Other typical users are those who expect frequent power failures or have generators running over 8 hours a day.

The CENTREX 3000 AF AC/DC is a 3000 AF with fan, heater, and 2" vent stack. In addition it is equipped with a 4" vent stack. A 12 Volt 2.4 Watt fan is included for use in the 4" vent stack.

► The unit uses the regular 2" vent when 115 Volt power is available and defaults to the 4" NE vent when it is not.

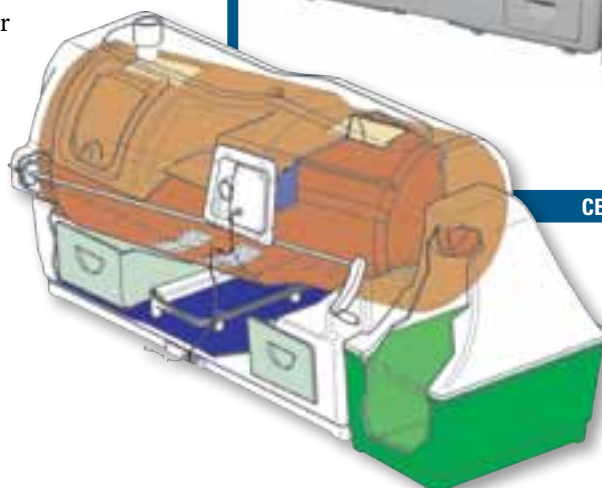
► For installation considerations see pages 26-29. For detailed specifications see page 21.



CENTREX 3000 AF



CENTREX 3000 AF NE



Self-Contained Units	Excel	Compact	Space Saver	Excel AC/DC	Excel NE	Mobile
Composting Capacity						
Residential & Continuous Use (Adults – Families*)	3 – 4	1 – 2	1 – 2	3 – 4 or 2 – 3	2 – 3	1 – 2
Weekend & Vacation Use (Adults – Families*)	6 – 8	3 – 4	3 – 4	6 – 8 or 5 – 7	5 – 7	3 – 4
Electrical						
Max. Amps (with heater on)	2.4	2.0	1.2	2.4	NA	1.0
Fan Watts (required or optional hook-up)	35 req.	35 req.	35 req.	35 or 1.4 opt.	1.4 (12V) opt.	5.4 (12V) req.
Heater Watts (when thermostat switches it on)	260	200	160	260	NA	160**
Average Power Use in Watts (heater on 1/2 time)	150	125	110	150	NA	80
Unit Dimensions (inches)						
Height (unit only)	33 ¹ / ₄	28 ¹ / ₂	30	33 ¹ / ₄	31 ¹ / ₂	30
Depth (unit only)	33	33	23	33	32 ¹ / ₂	23
Width (unit only)	22 ¹ / ₂	21 ¹ / ₂	19 ¹ / ₂	22 ¹ / ₂	22 ¹ / ₂	19 ¹ / ₂
Height Footrest (when in use)	10 ¹ / ₂	NA	10 ¹ / ₂	10 ¹ / ₂	10 ¹ / ₂	11 ¹ / ₄
Height (footrest to seat)	18	NA	17	18	17	17
Footprint (width x depth)	—	—	—	—	—	17 ¹ / ₄ x 19 ⁵ / ₈
Vent & Drains						
Vent Pipe (2" cent. vac. tubing; 3" & 4" sewer)	2"	2"	2"	2" & 4"	4"	3"
Drains (required or optional hook-up)	³ / ₄ " O.D. opt.	³ / ₄ " O.D. opt.	1" req.	1" req.	1" req.	1" req.
Weights (lbs.)						
Product Weight – Shipping Weight	60 – 100	50 – 90	40 – 75	60 – 110	50 – 95	45 – 80
Shipping Carton Dimensions (inches)						
Width	28	28	22	28	28	22
Length	35	35 ¹ / ₂	29	35 ¹ / ₂	35 ¹ / ₂	29
Height	36	30 ¹ / ₂	37	36	36	37
Rough-in Measurements (inches)						
Depth required to remove drawer	46	45	38	46	46	38
Vent outlet center distance from left side (looking at back of unit)	8 ¹ / ₂	7 ¹ / ₂	7	11 ¹ / ₄ & 8 ¹ / ₂	11 ¹ / ₄	7
Height to center of vent	28 ³ / ₈	23 ¹ / ₂	27 ³ / ₄	28 ³ / ₈	NA	NA
Height to top of vent outlet assembly	NA	NA	31 ³ / ₄	36	35	33
Depth with footrest on applicable units	41 ¹ / ₄	NA	31	41 ¹ / ₄	41 ¹ / ₄	30

* Family numbers include adults and small children. **Additional 12V 120 Watt heater available as option.

Specifications of Composting Units – Central Units

Central Units – CENTREX 1000 & 2000	1000	1000 NE	1000 AC/DC	2000	2000 NE	2000 AC/DC	2000 A/F	2000 A/F NE	2000 A/F AC/DC
Composting Capacity									
Residential & Continuous Use (Adults – Families*)	NA	NA	NA	4 – 6	3 – 5	4 – 6 or 3 – 5	4 – 6	3 – 5	4 – 6 or 3 – 5
Weekend & Vacation Use (Adults – Families*)	5 – 7	4 – 6	5 – 7 or 4 – 6	7 – 9	6 – 8	7 – 9 or 6 – 8	6 – 8	5 – 7	6 – 8 or 5 – 7
Electrical									
Maximum Amps	2.5	NA	2.5/NA	3.6	NA	3.6/NA	3.6	NA	3.3/0.28
Fan Watts (required or optional hook-up)	35 req.	1.4 opt.	35 req./1.4 opt.	35 req.	1.4 opt.	35 req./2.4 opt.	35 req.	2.4 req.	35 req./2.4 opt.
Heater Watts (when thermostat switches it on)	260	NA	260	370	NA	370	370	NA	350
Average Power Use in Watts (heater on ½ time)	150	NA	150	200	NA	200	200	NA	200
Unit Dimensions (inches)									
Height & Depth	28½ x 32½	27½ x 32½	28½ x 32½	28 x 27	26½ x 26½	28 x 27	28 x 27	26½ x 26 ½	28 x 27
Unit Width, and Width Required to Turn Handle	22½ x 24½	22½ x 24½	22½ x 24½	45½ x 49	45½ x 49	45½ x 49	45½ x 49	45½ x 49	45½ x 49
Vent & Drains									
Vent Pipe (2" cent. vac. tubing; 4" sewer)	2"	4"	2" & 4"	2"	4"	2" & 4"	2"	4"	2" & 4"
1" Drains (required or optional hook-up)	req.	req.	req.	req.	req.	req.	opt.	req.	req.
Weights (lbs.)									
Product Weight – Shipping Weight	50 – 95	45 – 90	50 – 100	97 – 118	87 – 108	103 – 124	103 – 124	93 – 114	108 – 129
Shipping Carton Dimensions (inches)									
Width – Length – Height (inches)	28–35–36	28–35–36	28–35–36	28½–47–36	28½–47–36	28½–47–36	28½–47–36	28½–47–36	28½–47–36
Rough-in Measurements (inches)									
Depth Required to Remove Drawer	46¼	46¼	46¼	45	45	45	45	45	45
Height to Bottom – Top of Waste Inlet Assembly	26½–29¼	25½–28¼	26½–29¼	27¼–31	26¼–29½	27¼–31	27¼–33	26¼–31½	27¼–33
Vent Inlet Center Distance From Rear – Left Side	17½–1½	17–4½	Both	11–12	11–12	11–12	11–12	11–12	11–12
Waste Inlet Diameter (including flange)	3" DWV	3" DWV	3" DWV	3" DWV	3" DWV	3" DWV	10¾	10¾	10¾
Height to Center or Top of Vent Outlet Assembly	26½	30½ (top)	Both	23¾	32 (top)	Both	23½	32 (top)	Both
Central Units – CENTREX 3000**	3000	3000 NE	3000 AC/DC	3000 A/F	3000 A/F NE	3000 A/F AC/DC			
Composting Capacity									
Residential & Continuous Use (Adults – Families*)	6 – 8	5 – 7	5-6 – 7-8	5 – 7	5 – 7	5-6 – 7-8			
Weekend & Vacation Use (Adults – Families*)	9 – 11	8 – 10	9 – 11 or 8 – 10	8 – 10	7 – 9	8 – 10 or 7 – 9			
Electrical									
Max. Amps	3.6	NA	3.6	3.6	NA	3.6			
Fan Watts (required or optional hook-up)	35 req.	2.4 opt.	35 req./2.4 opt.	35 req.	2.4 req.	35 req./2.4 opt.			
Heater Watts (when thermostat switches it on)	370	NA	370/NA	370	NA	370/NA			
Average Power Use in Watts (heater on ½ time)	215	2.4 opt.	215/2.4 opt.	215	2.4 req.	2.4 opt.			
Unit Dimensions (inches)									
Height – Depth – Width (including collection housing 13½)	30¾ x 27½ x 71	29¾ x 27½ x 71	30¾ x 27½ x 71	30¾ x 27½ x 71	29¾ x 27½ x 71	30¾ x 27½ x 71			
Vent & Drains									
Vent Pipe (2" cent. vac. tubing; 4" sewer)	2"	4"	2" & 4"	2"	4"	2" & 4"			
1" Drains (required or optional hook-up)	req.	req.	req.	opt.	req.	req.			
Weights (lbs.)									
Product Weight – Shipping Weight	102 – 172	88 – 164	107 – 194	108 – 178	94 – 170	113 – 200			
Shipping Carton Dimensions (excluding skid)									
Width – Length – Height (inches)**	28 – 60½ – 33	28 – 60½ – 33	28 – 60½ – 36½	28 – 60½ – 36	28 – 60½ – 36	28 – 60½ – 36½			
Rough-in Measurements (inches)									
Depth Required to Remove Drawer	45½	45½	45½	45½	45½	45½			
Height to Top of Waste Inlet Assembly	32½	31½	32½	35½	34¼	35½			
Vent Inlet Center Distance From Rear – Left Side	24 – 37¼	19¾ – 37¼	Both	24 – 37¼	19¾ – 37¼	Both			
Waste Inlet Diameter (including flange)	3" DWV	3" DWV	3" DWV	10¾	10¾	10¾			
Height to Center or Top of Vent Outlet Assembly	24¼	33 (top)	Both	24¼	33 (top)	Both			

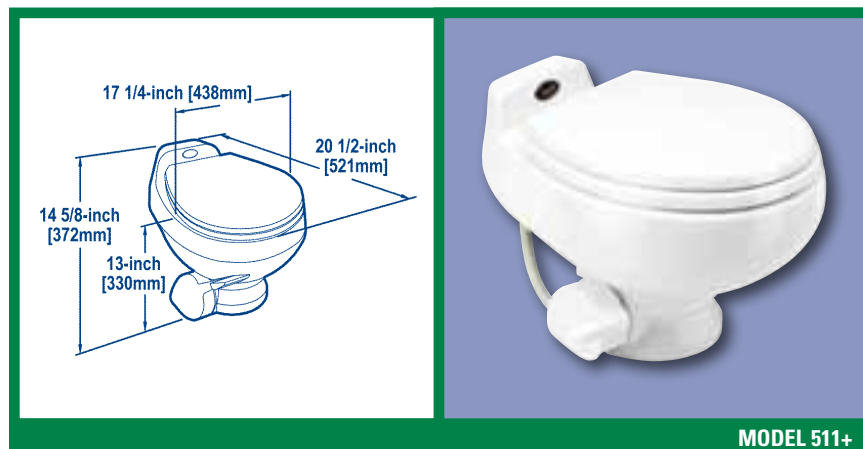
* Family numbers include adults and small children. **All 3000 units come with collection chamber in a second box approximately 16"x24"x23".

TOILET SELECTION

One Pint Flush Toilets

Using about one pint of water per flush, our ceramic One Pint Flush Toilets provide all the advantages of a regular flush toilet while **minimizing water usage**. Available in white or bone, and having a regular sized toilet seat, more than one toilet can be installed with CENTREX water flush systems. The limitation is with the number of people using the toilet rather than the number of toilets.

► For the way a One pint Toilet works see page 27-28



“This unit has been trouble free.
I highly recommend your product.”

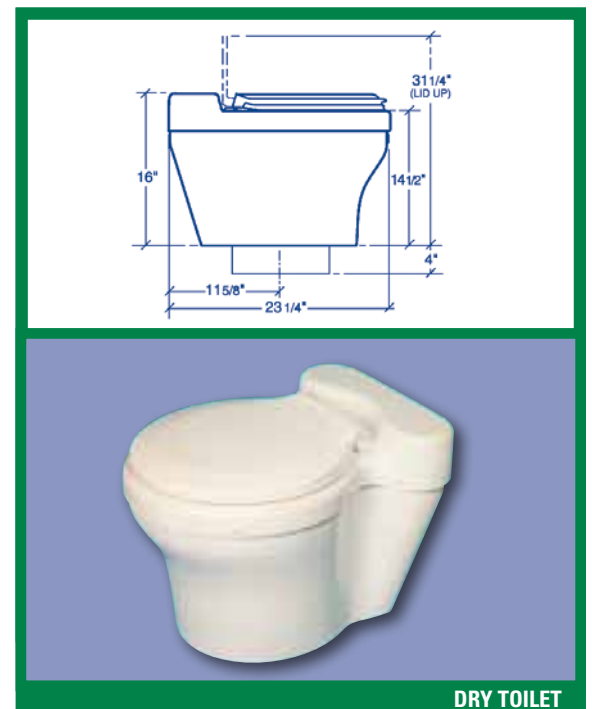
- J Zanotti, PA
Centrex 1000

Water Free Dry Toilets

The elegant and sturdy SUN-MAR Dry Toilet is designed for use with all **CENTREX AF (Water Free) systems**. Available in white or bone, the Dry Toilet has a seat height of 15" and a regular sized toilet seat. Dry Toilets include a bowl liner that fits beneath the seat and can be removed for cleaning as required.

CENTREX AF (Air Flow) units use **no flushing liquid**, and are connected by a straight 10" diameter pipe piece to the CENTREX AF unit **directly beneath the toilet**.

► On these units, odorless operation is ensured by creating a partial vacuum in the composter, and drawing air continuously down through the toilet seat. See page 28.



WHAT MAKES A SUN-MAR STAND OUT?

Overall

- With its patented Bio-Drum™, SUN-MAR is the only Company that is certified and listed by the National Sanitation Foundation (NSF) as having passed North America's composting toilet performance standard for residential and cottage use.
- Our capacity figures are realistic and are certified by NSF.
- Our units can handle up to 8 people in continuous residential use and occasional cottage loads of up to 22 people.
- SUN-MAR technology features separate optimized chambers for composting, for evaporation, and for compost finishing.
- We feature over 150 testimonials on our web site, and outstanding after sales customer service.
- We have displaying dealers throughout North America, chances are there is one close to you.
- SUN-MAR features 23 standard models, to ensure you have the right model for your situation.
- Our continuous flow and 3 chamber technologies are unique, and all models are covered by one or more of our international patents.

Composting

- SUN-MAR incorporates a composting drum (the Bio-Drum™) into all units.
- Five different sized drums are needed for different capacities.
- Our Bio-Drum™ ensures the compost is kept moist, mixed, and oxygenated.
- Operation is simple, the drum is rotated only at the end of the weekend (for cottage use) and every two or three days in continuous use.
- Our units compost toilet paper easily.
- Bio-Drums™ are easy to operate, there are no mechanical parts to get stuck.
- Extracting compost is as easy as releasing the drum lock and rotating the drum backwards.

Compost Finishing

- SUN-MAR technology features a compost finishing drawer which isolates the compost from contamination.
- This separation ensures that removing compost is as simple as pulling out a drawer. No tools are needed.

Evaporation

- Our evaporation system works automatically.
- The engineered air flow on our units evaporate the liquids without drying out the compost.
- This is done by pulling air over a large, warmed evaporating surface.
- SUN-MAR's superior evaporation uses little power per liter evaporated.
- Our turbo-blower fan is resettable, and features adjustable re-circulation, stainless shaft and ball bearings for long life.

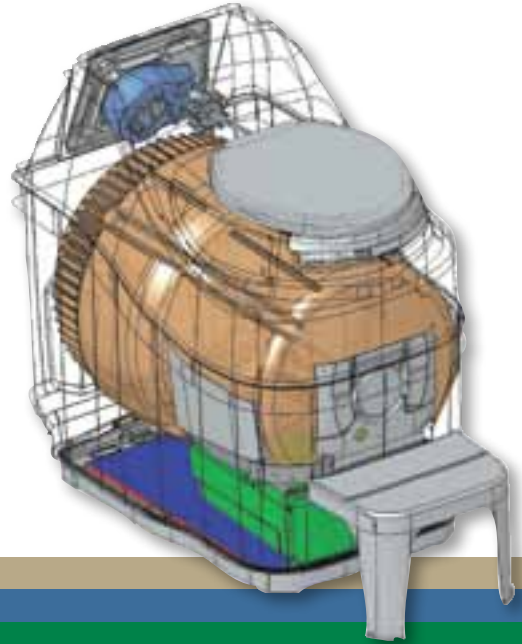
“We are really pleased with our compost toilet. The township inspector gave it the "thumbs up" as well. We would recommend it to anyone.”

– Pat & Mary Madaleno, ON
Centrex 2000



THREE CHAMBER TECHNOLOGY

Composting toilets must **compost** the waste, **evaporate** the liquid, and provide for safe and **easy handling** of the finished compost. Not surprisingly the conditions needed for each task are different. In the past SUN-MAR found that failure to separate these functions in different chambers led to potential disaster with floods, to compost with brick-like consistency, and contamination by fresh waste. SUN-MAR avoids these problems with its **three chamber system** where conditions are optimized for each chamber.



1

The Advantages of the SUN-MAR Bio-drum™

Common sense suggests that a drum would offer the ideal environment for composting, and indeed the patented SUN-MAR Bio-drum™ has a unique set of advantages.

The Bio-drum™ Composting Chamber

- Tumbling the Bio-drum™ optimizes **mixing and aeration** and allows for moisture to be evenly distributed.
- The Bio-drum™ ensures there is **no excess moisture** by removing it automatically directly into the evaporating chamber through a screen. The Bio-drum™ is separated from direct heat in the evaporation chamber, so the compost is kept moist.
- The Bio-drum™ offers unmatched **simplicity of operation**. To mix and aerate merely turn the Bio-drum™ handle periodically. To extract compost a drum lock is released and the Bio-drum™ rotates backwards, automatically dropping compost into a separate finishing drawer.
- By providing perfect mixing, oxygenation, and moisture control, the Bio-drum™ offers an **ideal environment** for **aerobic bacteria** to flourish and quickly break down organic material.



- 1 Waste Inlet Port
- 2 Waste Inlet Door
- 3 Screen
- 4 Front Support Bearing
- 5 Drum Lock Catch
- 6 Direct Drive Gear
- 7 Top Air Vent

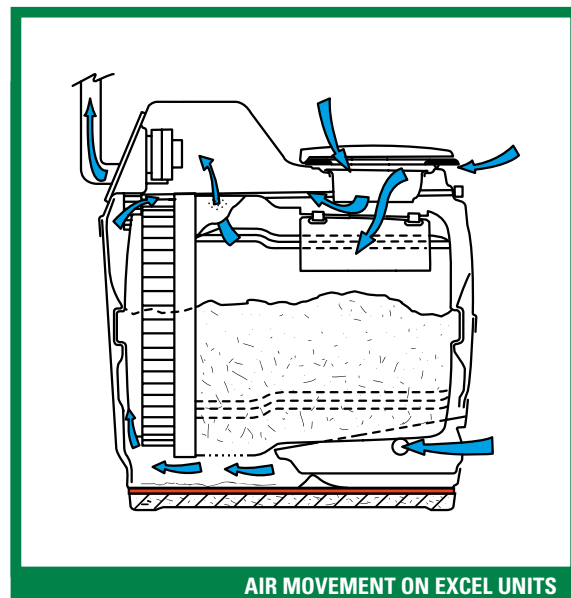
THE EXCEL BIO-DRUM™

2 The Advantages of the SUN-MAR Automatic Evaporating System

The SUN-MAR evaporation chamber offers the ideal environment for evaporation. It has a large evaporating surface with thermostatically controlled heat and lots of air movement.

The Evaporating Chamber

- **The floor of the unit** below the drawer is the **evaporating chamber**. The large evaporating surface is accessed simply by pulling out the drawer.
- Electric units have a **thermostatically controlled heater** in a sealed compartment below the evaporating chamber. This heater is on continuously **only** when there is liquid to evaporate in the chamber.
- On electric units a long lasting squirrel cage **turbo fan** pulls air into the unit to ensure odorless operation, and over the evaporating surface to **optimize evaporation**.
- The fan setting can be adjusted to optimize the mix between recirculated and vented air for every installation.
- **Non-electric units** rely on their **4" vent stack** to provide some evaporation from passive venting, but overflow drains must always be connected on these units. Evaporation and air movement on non-electric units can be enhanced by installing a **12 Volt DC fan** in the vent stack **if required**.



3 The Advantages of the Unique SUN-MAR Finishing Drawer

The SUN-MAR finishing drawer (or collection chamber on CENTREX 3000 family units) is an **isolated container**, into which finished compost drops **automatically** when the Bio-drum™ is rotated backwards. Here the compost can be left to complete the composting and sanitation process, protected from exposure to contaminating waste.

The Collection Chamber/Finishing Drawer

- While in the drawer the compost is surrounded by a stream of drying air, and gradually dries out prior to removal.
- The finishing drawer is **pulled out by hand**, with no tools needed and no screws to undo. The sanitized compost can be removed, emptied and the empty drawer replaced whenever more compost needs to be extracted from the Bio-drum™.
- For seasonally used units, several drawers of compost are removed in the spring so as to make room in the drum for that year's operation.





EXCEL, COMPACT & CENTREX ELECTRIC UNITS CARTONS.

WHAT'S IN THE BOX?

SUN-MAR units are designed for easy Do-It-Yourself installation, and there are no “extras or options” you will need to buy to get your unit going.

Everything you will need **is included** in the box.

The only exception is that those buying a water flush Central unit will need to buy the 3" plumbing pipe and fittings needed to connect the One Pint Flush Toilet to the Composting unit.

All Units Include:

- An owner's manual.
- Warranty card.
- Peat mix (30L bag) for starting off the unit.
- Rake for periodic clearing of the evaporating chamber.
- “Compost Quick” enzyme for speeding up composting.
- “Microbe Mix” bacteria for inoculating waste.

Some Units Include:

- 10' of 1" diameter drain hose and clamp for all units.
(*Excel and Compact units N/A*)
- Roof flashing and diffuser for 2", 3" or 4" pipe as appropriate.
(*Mobile units N/A*)
- 6' of 2" pipe insulation. (*Excel and Compact units*)
- Removable evaporating tray for placing in the evaporating chamber below the drum screen. (*Central units*)
- 45" long pipe piece and waste inlet transition assembly to connect toilet to composter. (*Central AF – water free units*)
- 3" waste inlet assembly. (*All Central – water flush units*)

The Vent Stack

Electric self-contained and Central units have **2" vent stacks** of 10ft and 15ft respectively (central vacuum pipe). All have the necessary connectors, two 45° fittings and one 90° elbow.

Non-electric self-contained and central units have 8ft and 13ft respectively of **4" vent stacks** (sewer pipe) along with necessary connectors. AF (water free) central non-electric units have two 45° elbows.

All AC/DC units have a complete 4" vent kit in addition to a 2" vent stack, and a 1.4 Watt 12 Volt fan except for the 2000 and 3000 AC/DC which have a 2.4 Watt 12 Volt fan.

► For more on Mobile units, see page 28.



EXCEL NE CARTON



CENTREX 2000 A/F NE AND CENTREX 3000 A/F NE CARTON

“Installation was a ‘Snap’, I installed it myself in less than 2 hours. I have nothing but praise for the SUN-MAR.”

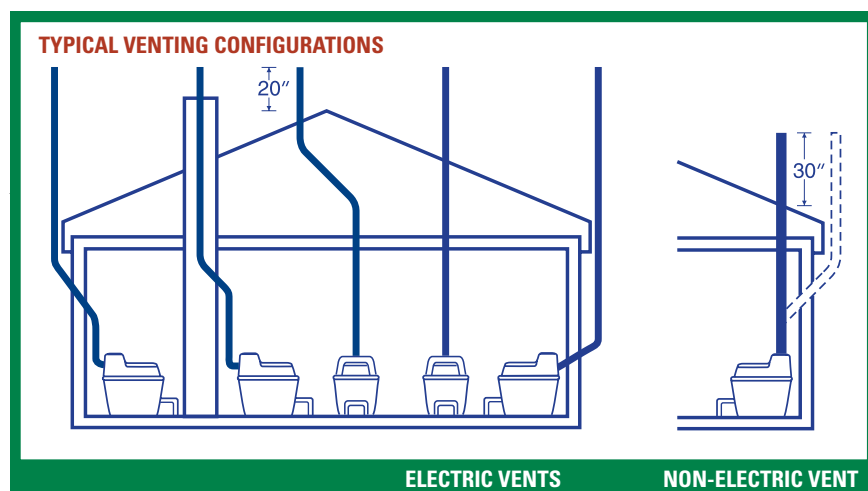
– Mr. Weidner, KS.
Spacesaver

INSTALLING THE VENT STACK

All composting units need to have the vent stack **connected to the unit** and erected as straight as possible to the roof with no horizontal runs. All electrical units use a 2" vent pipe, non-electric units use a 4" pipe, and Mobile units use 3" pipe (sewer pipe).

► For details on possible vent configurations, see drawing on this page.

The vent kits included in the shipping carton are sufficient for installation in most single storey buildings. If more is needed, they are normally easy to find in Canada. In the USA, purchase a rubberized coupling to connect to the SUN-MAR supplied pipe if necessary.



With a non-electric vent, where two 45° angles are used (as shown with dotted line), a 12 Volt fan will normally be required to assist air movement.

- Electric units with 2" vents should have the minimum number of bends which should not exceed 360° in total. 45° elbows should be used wherever possible. No pipe run should be horizontal however short.
- 3" and 4" vents should be installed as straight as possible. If a 4" vent requires 45° elbows, then a 12 Volt fan should be included in the vent stack.
- Merging a SUN-MAR vent with other existing vents risks interference and is not advised.
- The diffuser included with all but mobile units is a simple but effective device originally patented by SUN-MAR to aid updraft, avoid winter freeze up, and protect the vent from downdraft and weather.
- As shown in the drawings they should be installed 2-3 feet above the peak of the roof.

When a 12 Volt fan is needed

A 12 Volt fan is not normally needed with the Excel NE, CENTREX 1000 NE and CENTREX 2000 NE. With a vertical 4" vent stack, the chimney effect ensures there will be no odor in the bathroom. An optional 12 Volt 1.4 Watt fan is available should it ever be needed.

SUN-MAR recommends installation of a 12 Volt fan in the 4" vent stack under the following circumstances:



- If the unit is to be used residentially or heavily.
- If the vent stack has one or more 45o angles.
- If the installation is subject to downdraft being in a valley and/or surrounded by tall trees.

A 12 Volt 1.4 Watt fan is included with Excel AC/DC and CENTREX 1000 AC/DC units. A 12 Volt 2.4 Watt fan is included with all A/F and AC/DC units. 12 Volt fans can be powered by a solar panel and/or battery.

ELECTRICAL INSTALLATION

All electric units are supplied with a power cord, which plugs into a standard three pin 115 Volt outlet and powers both the fan and heating element. The only exception to this is the SUN-MAR Mobile, which includes separate plugs for 12 Volt and 115 Volt components.

OPERATION OF ONE PINT FLUSH TOILETS



ONE PINT FLUSH TOILET

The most popular type of CENTREX is a **water flush unit** which uses a One Pint Flush Toilet. The water flush and water seal of the One Pint Flush Toilet ensures **odorless operation**, and makes this unit most similar to a traditional toilet.

A handsome ceramic One Pint Flush Toilet in the bathroom (available in white or bone) is connected using regular 3" plumbing pipe to the CENTREX composter which should be placed below and within **15-20 feet of the toilet**.

The toilet has no water tank. It is flushed by a foot pedal which opens a water valve, discharging waste while pushed down, and filling the bowl when lifted. After flushing, a small amount of water

is held in the toilet bowl, which is sealed by a teflon and rubber seal.

Even gravity fed water from a roof tank is sufficient to flush this toilet, and in winter they can be **flushed manually** using a container.

More than one toilet can be installed with CENTREX units. The limitation is the number of people using the toilet rather than the number of toilets.

The regular choice is the Model 510+ which offers a regularly sized bowl and toilet seat with a 17 $\frac{1}{8}$ " height.

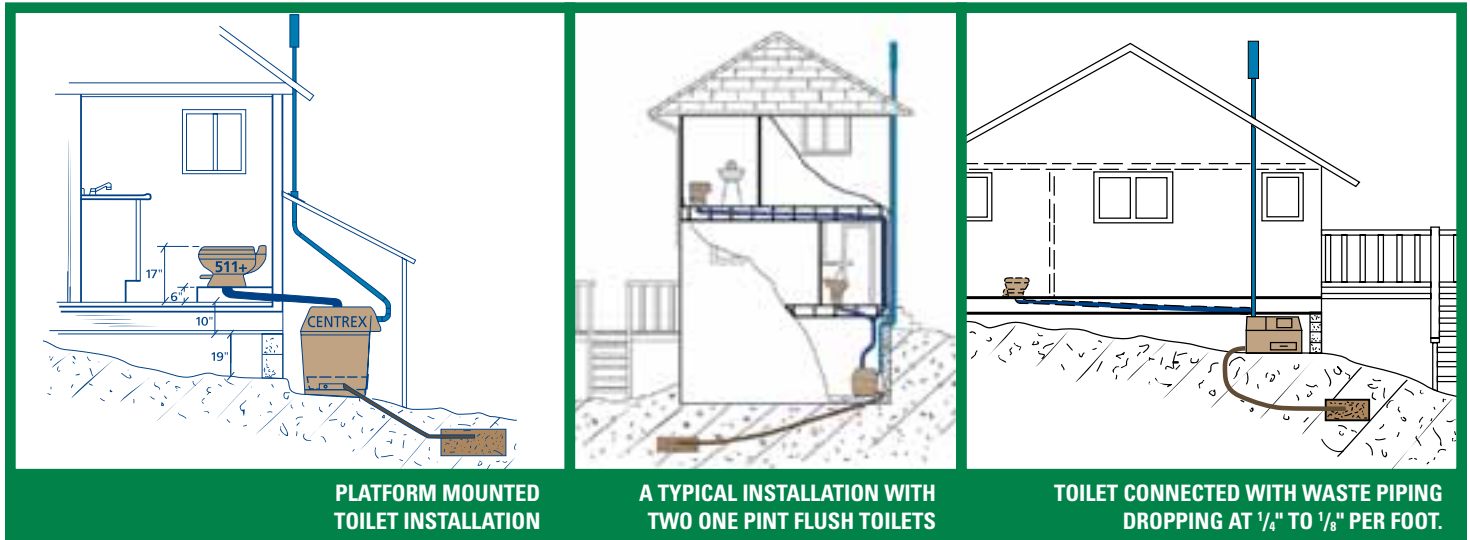
In some instances **extra height is needed** to allow the toilet to gravity feed to the composting unit. Where this is the case, the Model 511+ (low profile model) with a 13" seat height can be **mounted on a platform**, and the waste pipe can then go out above the floor, which reduces the installation height needed.

TOILET INSTALLATION FOR CENTRAL UNITS

All Central units require a toilet in the bathroom to be connected to the composting unit.

Units Using One Pint Flush Toilets

- *Mount flush toilets* to the floor with a 3" diameter four bolt flange (not supplied), and connect your water supply to the $\frac{1}{2}$ " MPT fitting at the rear of the toilet. You will require a $\frac{1}{2}$ " FPT fitting to mate your water supply with this fitting on the toilet (not supplied).
- *Connect the 3" DWV plumbing pipe* (not supplied) from the toilet to the composting unit. The waste pipe should be installed 45° or more to the vertical, and/or a 2° to 3° angle (that is a drop of $\frac{1}{8}$ "- $\frac{1}{4}$ " per ft.) so that the waste travels with the liquid.
- *Install multiple toilets* using a "Y" fitting above the waste inlet of the composter.
- Limit horizontal distances to 15-20ft where possible. Although we do not recommend it, units have been placed up to 40ft away. In such cases clean-out fittings and extra flush throughs will be needed, and difficulties may occur.



“We produce an average of two five gallon pails of compost per season. Its great, easy, inexpensive and an excellent system.”

Gary O'Brien, MA
Centrex 3000

Units Using a Dry Toilet

- *Bolt the Dry Toilet* to the floor immediately above the waste inlet of the AF (water free) unit. The toilet chute extends 4" below the toilet base so that it can sleeve into the 45" long waste pipe piece, or directly into the waste inlet transition piece. The 45" long 10" diameter pipe piece supplied can be cut to size, so the toilet mounting surface can be anywhere from 36 $\frac{1}{2}$ " to 81 $\frac{1}{2}$ " above the surface the composter is placed on.
- The maximum recommended height of the waste inlet pipe assembly, is the length of the pipe piece (45") plus the waste inlet transition piece (5"). Adding additional pipe lengths, while possible, may make it more difficult to ensure there is a downdraft at the toilet seat.

A second toilet is not possible when using a Dry Toilet.

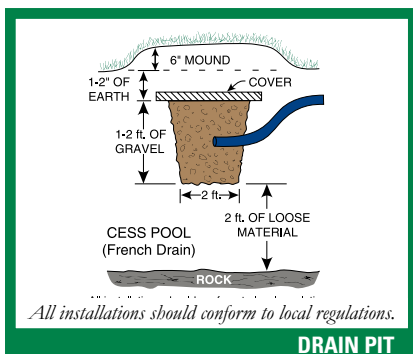
HANDLING EXCESS LIQUID

Electric self contained units (Excel, Compact and Spacesaver) and all electric Central units with a Dry Toilet **will evaporate all liquids** under normal operation. Even so, as a safety measure SUN-MAR recommends that safety drains be connected. A 10 ft 1" drain hose and clamp is included on all Central units and on the Excel NE and Spacesaver and this should be connected.



1" DRAIN EXITS EITHER LEFT OR RIGHT

- Collect and/or treat excess liquid in an approved facility such as a recycling bed, old septic system, holding tank or drain pit.
- To make a closed loop system that does not touch the environment in any way, simply dig a **recycling bed** 18" deep and line it with plastic sheet. Fill it with 6" gravel, 12" of sand, and plant with grass or shrubs. Depending on the model chosen and the local climate, the bed will normally be from 3 – 25sq ft. Contact SUN-MAR for more information.
- **Drain pits** for excess liquid should be installed in accordance with local regulations. In many areas, this is about 1ft deep and 2ft in diameter. Place a sturdy cover (plastic, tin or wood) and a 6" mound of earth over the drain to prevent soil and surface water from settling into the gravel.



“Thanks, SUN-MAR, for helping us save water, and giving us a sense of helping the environment.”

– Peter & Carol Radcliff, CO
Centrex 3000

THE HISTORY OF SUN-MAR

For over a quarter century, SUN-MAR has been the world leader in home composting technology. Here are some of the milestones.

- ▶ **1971**
 - The first self contained composting toilet is developed by the father of one of the SUN-MAR partners.
- ▶ **1977**
 - The first Central composting unit, (forerunner of all CENTREX units) is designed and launched.
- ▶ **1979**
 - The first three chamber composting system with Bio-drum™ is introduced.
- ▶ **1981**
 - The first non-electric self-contained unit is introduced by SUN-MAR.
- ▶ **1989**
 - The Excel becomes the first self-contained composting toilet to pass the National Sanitation Foundation (NSF) long term composting tests. Today the Excel remains the only such unit listed.
- ▶ **1991**
 - The first dual vented unit is introduced for use with a non-continuous 115 Volt power supply.
- ▶ **1994**
 - SUN-MAR awarded US patent for Bio-drum™ design.
 - SUN-MAR introduces the SUN-MAR Mobile, the first self-contained composting toilet designed for marine and RV markets.
- ▶ **1997**
 - The first continuous flow composting unit is introduced by SUN-MAR. This high capacity unit automatically moves the compost through the unit and into a collection chamber as the drum rotates.
- ▶ **2000**
 - SUN-MAR awarded US patent for double drum.
 - SUN-MAR awarded US patent for continuous flow design for self-contained units.
- ▶ **2006**
 - Double drum technology used to produce SUN-MAR 200 and 400 Garden Composters.

WARRANTY

All units carry a full 5 year replacement warranty on the fibreglass tank, and a comprehensive 3 year replacement warranty on all other parts



▲ EXCEL — Installed 2002

The McWilliams Family Cottage — Tweed, Ontario

The McWilliams have been happy with their SUN-MAR EXCEL for a number of years. "Our SUN-MAR Excel was installed in our new cottage bathroom in July of 2002. We love it! Our cottage is near a river and so a septic was not an option. I tell everyone about how great this toilet is. I even told our local Rotary Club! We have never had a smell or a problem." And we will be there for them if they ever do!

▼ EXCEL AC/DC — Installed 2002

Birch Pond Lodge — Willow, AK - www.birchpondlodge.com

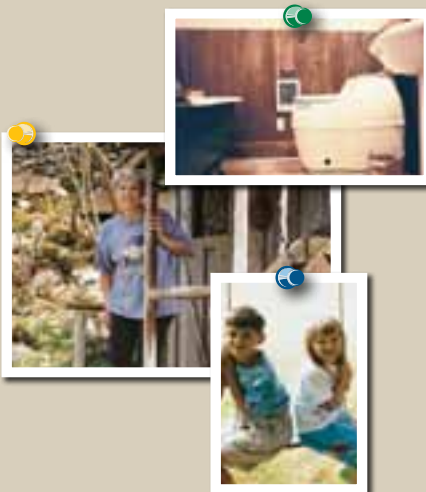
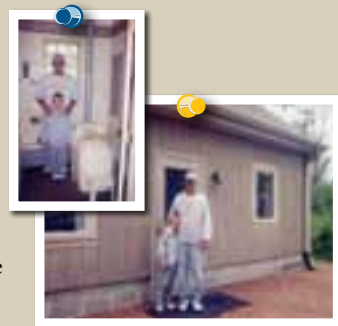


Birch Pond Lodge was named one of the Top 10 Eco-Resorts in the world by Outside Magazine, and has appeared in a book called "Wilderness Lodge Vacations", also by Outside magazine. Additionally, they have been named one of the Top 25 Eco-Resorts in the world by Travel and Leisure Magazine. After receiving these honors, the proprietor wrote to SUN-MAR to share the good news with us. According to him, "Using **SUN-MAR** composting toilets has **solved the problem** of disturbing the ground for a septic tank and drain field and eliminated the possibility of contamination of our lakes and ponds". SUN-MAR is very proud to have been chosen by Birch Pond Lodge to meet their sanitation needs for their guests, and protect a little slice of pristine Alaskan wilderness.

EXCEL NE — Installed 2000 ►

Susan and Patrick Radtke — Cabin in Saxeville, WI

In 2000, the Radtkes installed their EXCEL NE in their cabin in Wisconsin. They have been thrilled with it. "The SUN-MAR EXCEL NE has been the perfect choice for our cabin in the woods. The electricity often goes off so this was a great worry-free solution. **We have had no problems** and absolutely no odors! We even trained our son to use it from the time that he was a toddler." We hope that SUN-MAR will be part of the Radtkes cabin experience for many years to come.



◀ COMPACT — Installed 1996

Julie Wyatt — Pacific North West

When Julie had the opportunity to install the environmentally sound system of her choice, she said she "did a lot of research before choosing a SUN-MAR." She advises, "I've used your composting toilet on a daily basis for the past five years. It has served me well, and especially now because our well, like so many around here, has all but dried up. I might also add that your product and your service are absolutely TOPS. I've enjoyed every contact I've had with your company!"

MOBILE (Hull Shape) — Installed 1996 ▼

Captain Magic, Ketch Inca — Somewhere on the High Seas

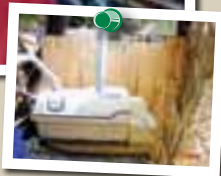
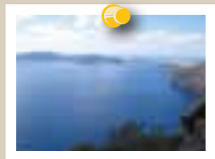
Andrew Yellen (Capt. Magic) must be one of the most colorful characters around. He bought and installed his MOBILE when he was visiting Key West. He reports, "I am thrilled and delighted with our SUN-MAR Marine Sanitation Device (MSD). The MOBILE operates cleanly, efficiently, and absolutely without the odor and messiness of standard holding tanks." He also likes the fact that he can do without two through-the-hull fittings. Because of the possibility that the MOBILE will vent at deck level, there is a place for a zeolite and carbon filter in the fan box if needed. In Capt. Magic's case it wasn't. He feels that "filters in the stack are over-kill".



CENTREX 3000 NE — Installed 2004 ▼

Paul Billinge — Greece

'We live on an olive grove covering four terraces overlooking the Bay of Messinia in South West Greece. We have a Sun Mar CENTREX 3000 NE which has proved to be excellent and we can only say **how pleased we are** with its performance. Further it is far more economic to install than conventional sewage systems and is undoubtedly much more efficient and ecological. Thank you SUN-MAR! " Paul was so enthused about our product that he now sells them throughout Europe."



▲ CENTREX 2000 NE and EXCEL NE — Installed 2003

Eco-Lodge Rendez Vous Saba — West Indies
www.ecolodge-saba.com

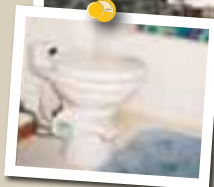
The staff of Eco-Lodge Rendez Vous SABA were looking for a **waste solution** that would "**leave no trace**" on their exotic Caribbean eco-resort. They found it in SUN-MAR as excerpts from their letter to us attest: "The Ecolodge Rendez-Vous is located in a moist tropical climate at almost 1,700 ft elevation. It consists of a restaurant and 12 guest cottages that each sleeps up to 4 persons. We have equipped 2 cottages with the EXCEL NE composting toilets and the remaining 10 with CENTREX 2000 NE systems and a Sealand 1-pint flush toilet (visible at bottom right in the photograph of the bedroom). Both systems work beautifully and require very little maintenance. So far, we have had no problems with non-biodegradable objects in the toilets and our guests are entirely happy with the product. As we are totally dependent upon rainwater collected in cisterns for all our water supply, the water saving aspect is extremely important to us."

◀ CENTREX 1000 — Installed 1995

Barbara Kinner — Redwood, NY

When Barbara built her beautiful home on the Lake, she had to work out how to deal with the problem of building on solid rock. Luckily, a friend suggested what she describes as

"the perfect answer", a CENTREX. When Barbara's family visits there are as many as 12-15 people. She is "very satisfied with the unit cost wise and maintenance wise", and has recommended the unit to several people. We are really pleased about that!



CENTREX 1000 and TROPIC — Installed 1997 and 1979 ▼

Mr. and Mrs. G.K. Caldwell and family — Caldwell Island, ON

Mr. and Mrs. Caldwell have the earliest known North American produced SUN-MAR (a 1979 TROPIC) in continuous operation on their Island in the St. Lawrence River between Canada and the U.S. The Caldwells shown here in front of their cottage in a picture taken some years ago, recently upgraded to a CENTREX 1000 and put their old TROPIC into their children's cottage on the Island. Eleanor, their grand-daughter, and the third generation of composters, is shown posing with the raised and very colorful toilet installation for the new Caldwell CENTREX 1000. Meanwhile Mr. Caldwell is showing his tomato plants which he feeds with compost extracted each spring from the TROPIC. The Caldwell's use their toilet continuously from early spring to late fall, "when I get frozen out", says Mr. Caldwell.



SUN-MAR GARDEN COMPOSTERS

Finally Composting Made Easy!

Sun-Mar's new range of garden composters incorporate our patented, double drum, Autoflow® designs. In these units material goes in the top and compost exits out the end as the drum rotates.

UNIQUE AUTOFLOW® FEATURES

- Compost Discharges Automatically
- Pest Resistant
- No Waiting For Batches To Finish
- Loads And Turns Easily



SUN-MAR 200



SUN-MAR 400



SUN-MAR 200

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SUN-MAR US Office

600 Main St.
Tonawanda, NY
14150-0888

SUN-MAR Canadian Office

5370 South Service Rd.
Burlington, ON
L7L 5L1