



Composting toilets since 1939



Clivus Multrum

- Invented in Sweden in 1939 by Rikard Lindström
- Established distribution in 15 countries
 - Europe
 - North America
 - South Korea
 - Australia & New Zealand
- >20,000 units installed



The Bio-Cycle



Some Basics

Average person

- 5x/day to the bathroom
- Every 2.7 hours
- 2 litres/day



Main Benefits

- No / Low water consumption
- No smell
- No discharge
- No chemicals
- Low maintenance
- Low cost
- Use of end products
 - Compost
 - Fertiliser

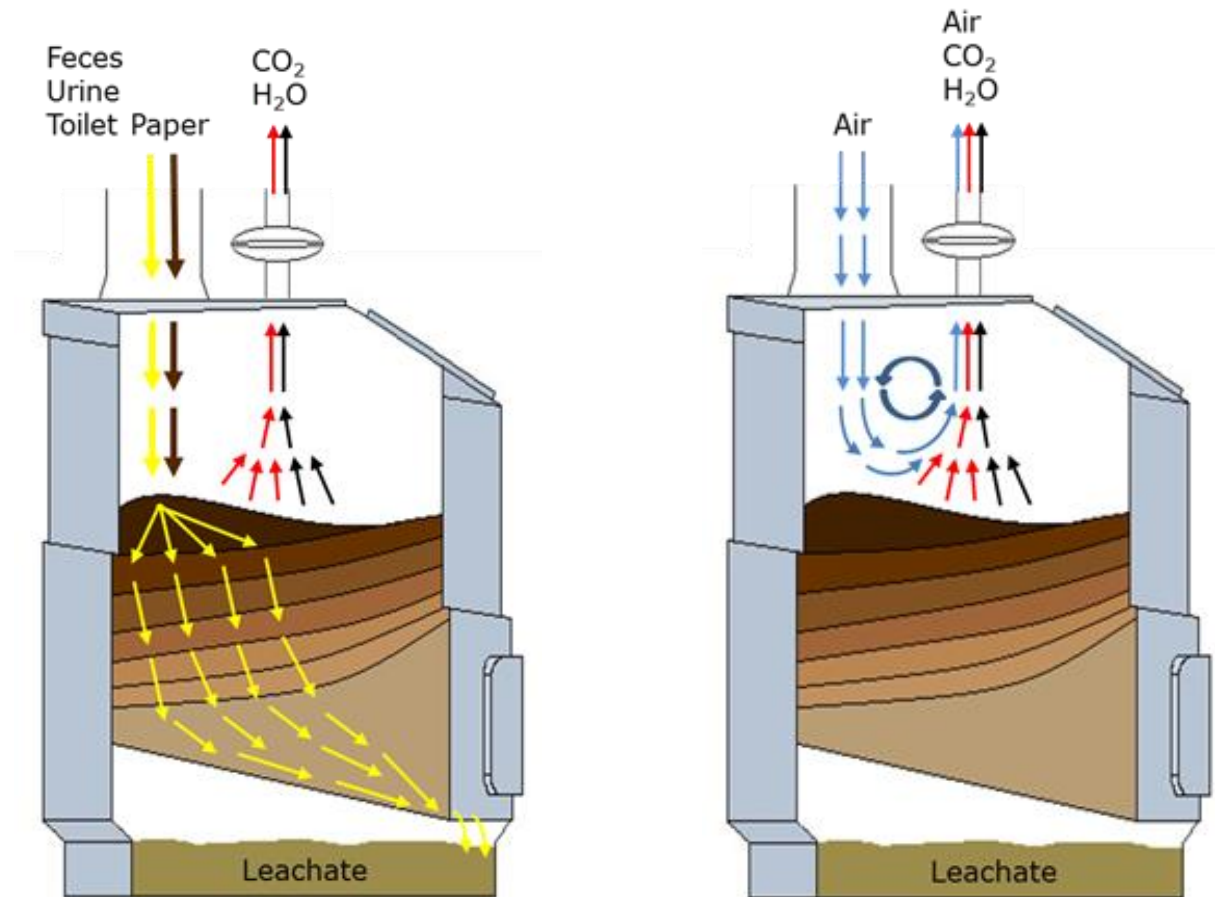


Why & When?

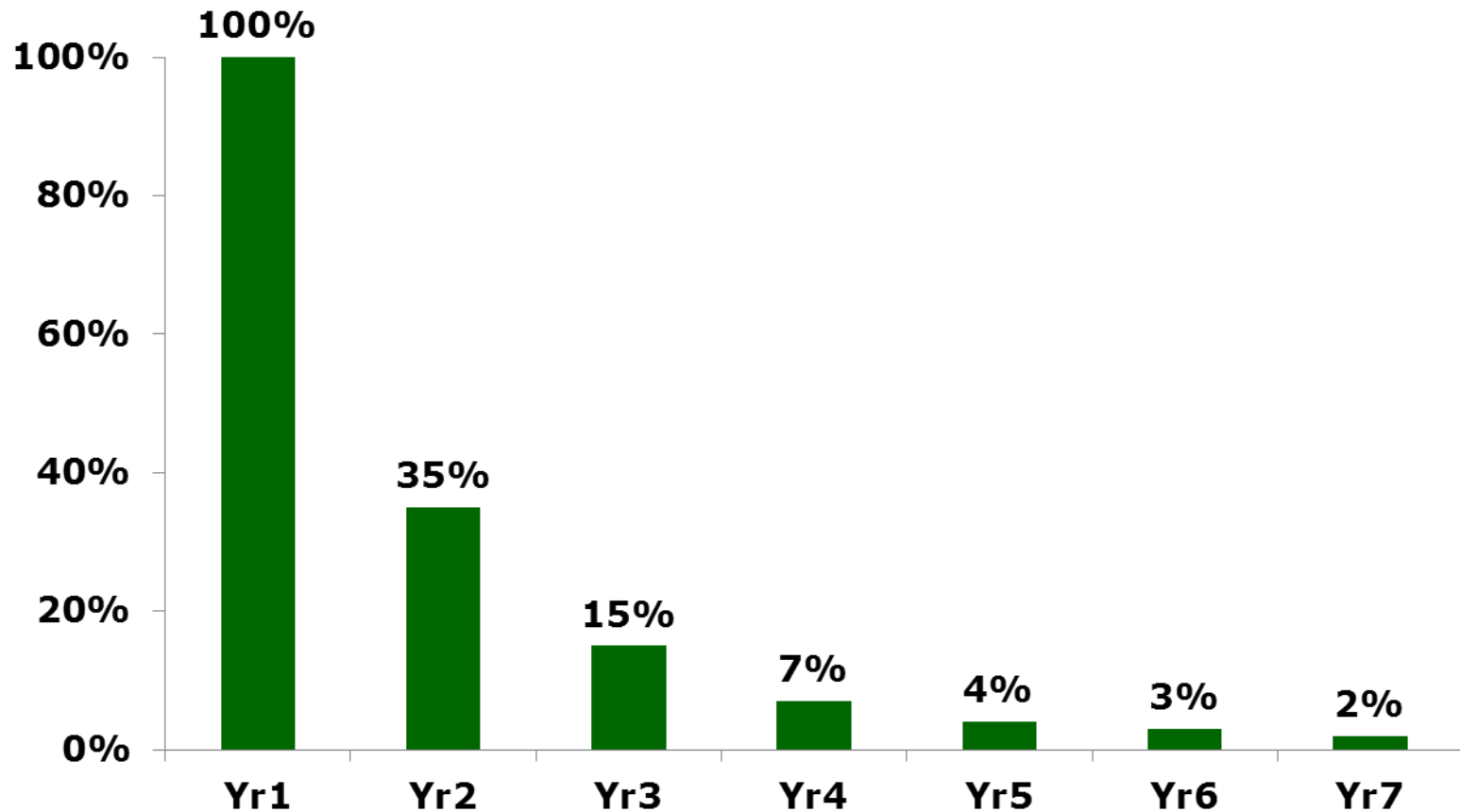
- No access to sewage
- Limited or no access to water
- Re-use of end-products
 - Fertilizer
 - Compost



How does it work?



Compost Volume Reduction



Test Results

Analysrapport



+ Lindström Torbjörn
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Journalnr	EB004558-11	Sida 1 (1)
Kundnr	8491776-1796245	
Provtyp	Egenkontroll av livsmedel	
Anledning till provtagning	Egenkontroll	Provet ankom
Produkt/Varuslag	Urin	Analyserna påbörjades
		Analysrapport klar
Provets märkning	Clivus-Susedalen	

Analysnamn	Resultat	Enhet	Mäto.	Num	Metod/ref.	Ort
pH	8.7					
Koliforma bakterier 37°C	<1.0	log cfu/g	<10		NMKL 44, 2004	
Koliforma bakterier 44°C	<1.0	log cfu/g	<10		NMKL 125 2005	
Escherichia coli	<1.0	log cfu/g	<10		3M Petrifilm	
Enterokocker	<1.0	log cfu/g	<10		NMKL 68, 2004	
Clostridium perfringens	<1.0	log cfu/g	<10		NMKL 95, 2009	


Katrin Peterson
Mikrobiologisk undersökare

No pathogens !

Analysrapport



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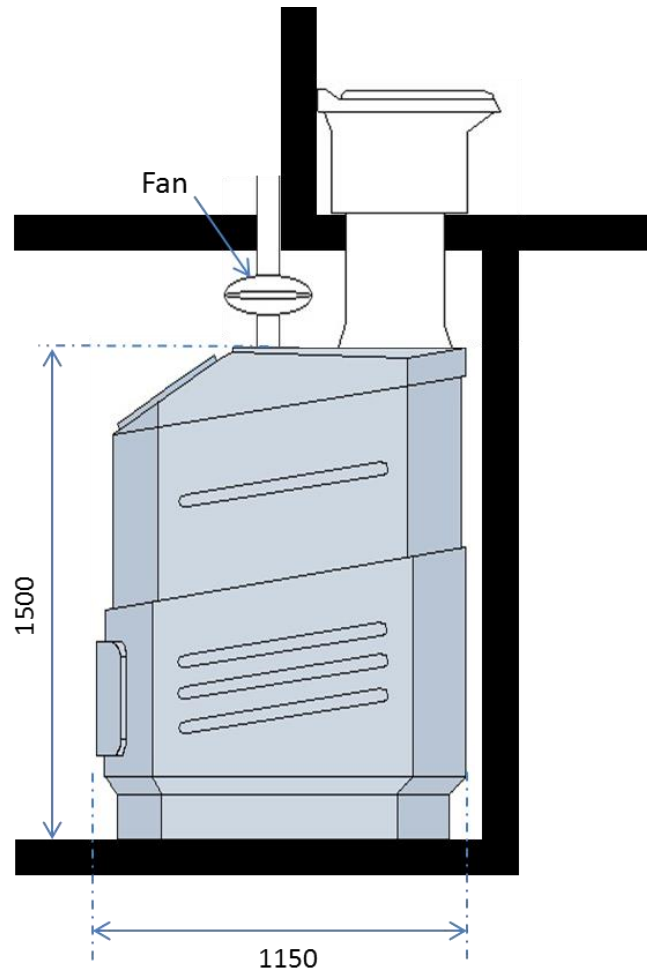
Journalnr	KSY000821-10	Sida 1 (1)
Kundnr	8491776-1775034	
Provtyp	Naturgödsel	
		Provet ankom
		Analysrapport klar
Provets märkning	Clivus Susedalen	

Analysnamn	Resultat	Enhet	Mäto.	Metod/ref	Ort
Torrsubstans	1.3	%		SS 028113	KFA
Totalkväve (Kjeldahl)	4.6	kg/ton	± 10 %	mod NMKL nr 6. Kjeltec	KFA
Ammoniumkväve (Kjeldahl)	4.3	kg/ton		KLK 65:1	KFA
Fosfor P	0.35	kg/ton		SS028150-2	KFA
Kalium K	2.1	kg/ton		SS028150-2	KFA
Magnesium Mg	<0.04	kg/ton		SS028150-2	KFA


Elke Brorström
Rapportansvarig

Fertiliser Nutrients

Installation - Waterless



Waterless Installation

Required Equipment

- M150
- CL200 or CL400
- Fan
- Wood shavings
- ø250mm discharge pipe
- ø100mm ventilation Pipe



Vacuum Flush Installation

Required Equipment

- M150
- CL700
- Vacuum Pump
- Fan
- Fluid Storage Tank
- Submersible Pump
- Wood Shavings
- ø38mm Discharge Pipe
- ø100mm Ventilation Pipe



Toilet Cabins



Commercial Facility

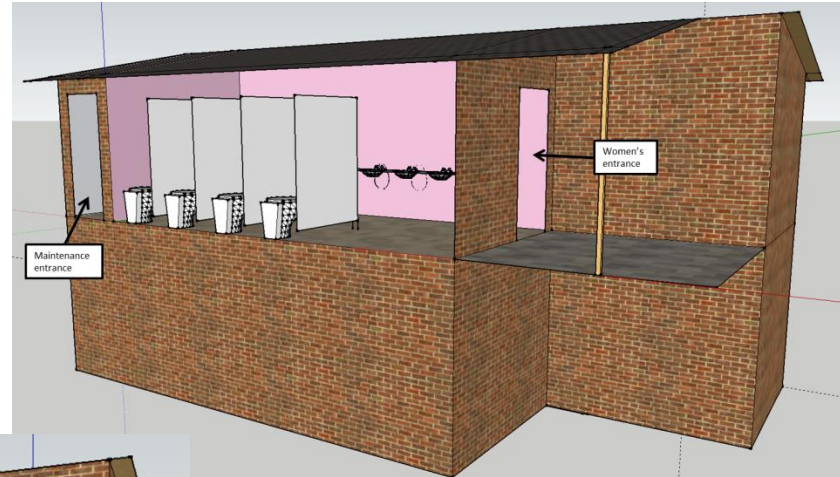
2 toilets – 65,000 visitors per year



Commercial Facility

Large

- 9 toilets fixtures
- 3 composters
- 200,000 visitors per year



Bronx Zoo – New York

- 15 toilets fixtures
- 10 composters
- 500,000 visitors per year



Composting Tanks (1)

M150

H x D x W = 150 cm x 115 cm x 79 cm

Capacity:

- 1000 liters total
- Max. 700 liters compost
- Max. 100 liters leachate
- Starter bed is ~150 liters
- 6,000 visits/year

M100

H x D x W = 100 cm x 115 cm x 79 cm

Capacity:

- 650 liters total
- Max. 350 liters compost
- Max. 100 liters leachate
- Starter bed is ~150 liters
- 3,000 visits/year



Made of durable black recycled (and recyclable) polyethylene. The walls have a 6 mm thickness.

Composting Tanks (2)

M300-M350

- H x D x W = 176 cm x 200 cm x 167 cm
- Total volume: 4.2 m³
- Up to 4 toilets fixtures

M300 Capacity:

- Max. 2.3 m³ compost
- Max. 1.1 m³ leachate
- 25,000 visits/year

M350 Capacity:

- Max. 3.6 m³ compost
- Max. 335 liters leachate
- 38,000 visits/year



Made of durable black recycled (and recyclable) polyethylene. The walls have a 9 mm thickness.

Toilet Fixtures (1)

CL300

H x D x W = 16 cm x 53 cm x 40 cm

Color: White (glossy)

- Glass fiber and polyester resin base
- Gelcoat finishing
- Stainless steel inside
- Standard toilet seat



CL310

H x D x W = 16 cm x 50 cm x 36 cm

Color: White

- Vitreous china base
- Standard toilet seat



These waterless toilet fixture are mounted on a bench, right above the composting tank. They connect to a 250mm discharge pipe.

Toilet Fixtures (2)

CL200

H x D x W = 46 cm x 50 cm x 36 cm

Color: White

- Vitreous china base
- Standard toilet seat



CL400

H x D x W = 46 cm x 53 cm x 40 cm

Color: White (glossy)

- Glass fiber and polyester resin base
- Gelcoat finishing
- Stainless steel inside
- Standard toilet seat



These waterless toilet fixture are mounted on the floor, right above the composting tank. They connect to a 250mm discharge pipe.

Toilet Fixtures (3)

CL500

H x D x W = 46 cm x 52 cm x 39 cm

Color: White

- Micro-flush (~0.5 liter/flush)
- Up to 70 cm displacement from composting tank
- Discharge pipe with max. 45°
- Connects to 76mm/3 inch discharge pipe
- Water through standard 0.5 inch NPT connection.
- Bowl made of porcelain
- Foot-operated mechanical flush mechanism which seals the discharge pipe

CL510

Same as CL500, and:

- Vacuum flush (~0.5 liter/flush) toilet
- Up to 15m displacement from the composting tank, and 1.8m up
- Connects to 38mm/1.5 inch discharge pipe
- Requires vacuum pump



Toilet Fixtures (4)

CL700

H x D x W = 46 cm x 47 cm x 38 cm

Color: White

- Vacuum flush (~0.5 liter/flush)
- Up to 15m displacement from the composting tank, and 1.8m up
- Connects to 38 mm/2 inch discharge pipe
- Water through standard 0.5 inch NPT connection.
- Bowl made of porcelain
- Requires vacuum pump
- Electronic control panel



Dry Urinal

CL100

H x D x W = 71 cm x 41 cm x 39 cm

Color: White

- Does not use water
- No foul odours entering the bathroom
- Easy to install and clean
- Made of vitreous china

CL140 Urinal Trap

- Traps foul odours coming from pipe
- Opens with a liquid flow and closes with its own gravity
- Installed under the drain
- Available as spare part



Thank You!

