



Clean. Care. Comfort.

Introducing the first waterless mobile toilet with sanitary bag system.

Technical data sheet Clesana C1

# Clesana C1

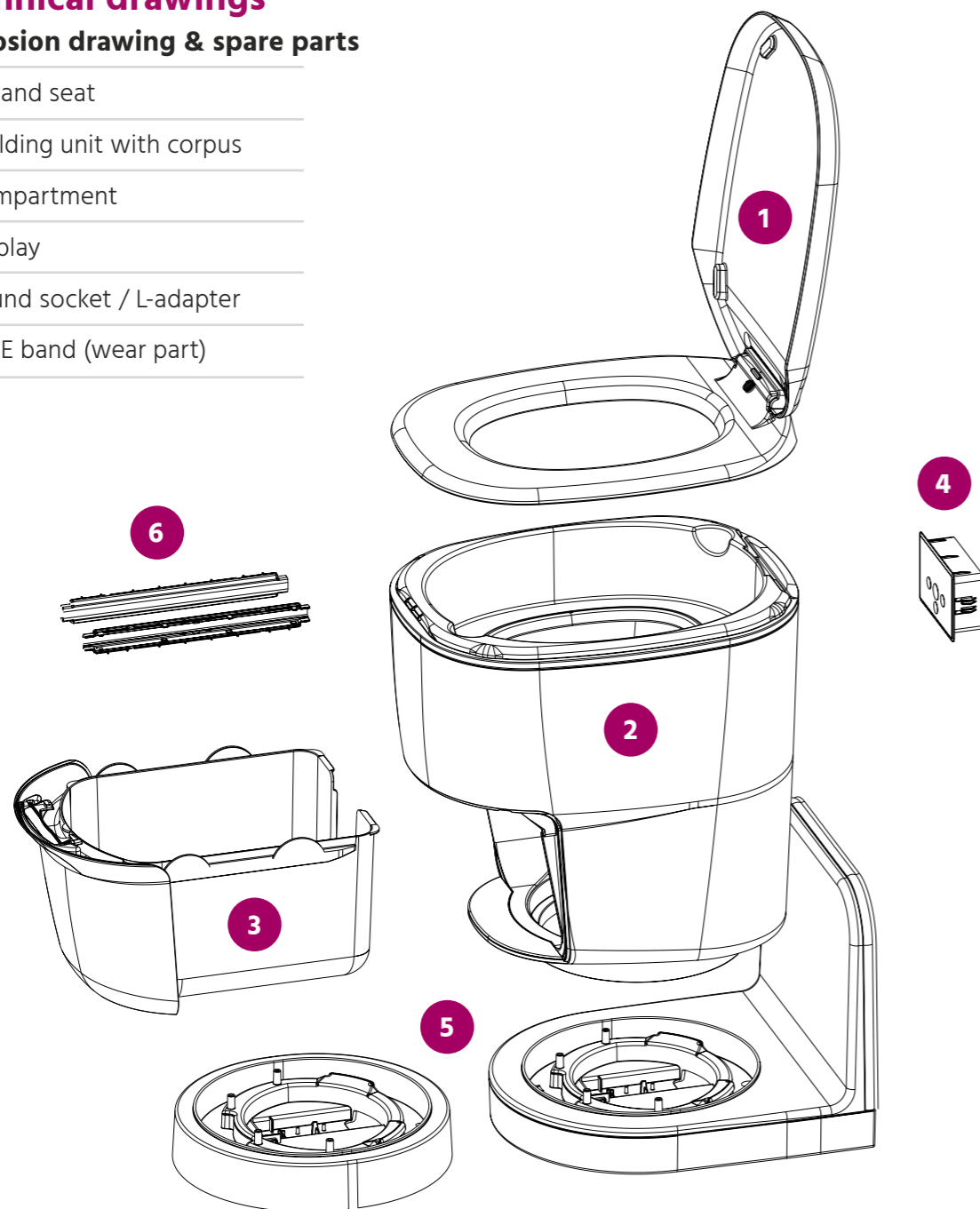
Reinventing mobile sanitary solutions: adaptable, reliable and eco-friendly.

Clesana's innovative toilet system is as uncompromisingly hygienic as it is eco-friendly. By applying thermal pressure and barrier foil (liner) excretions and toilet waste are safely sealed in sanitary bags. These can be easily discarded, without any use of water or sanitary additives.

## Technical drawings

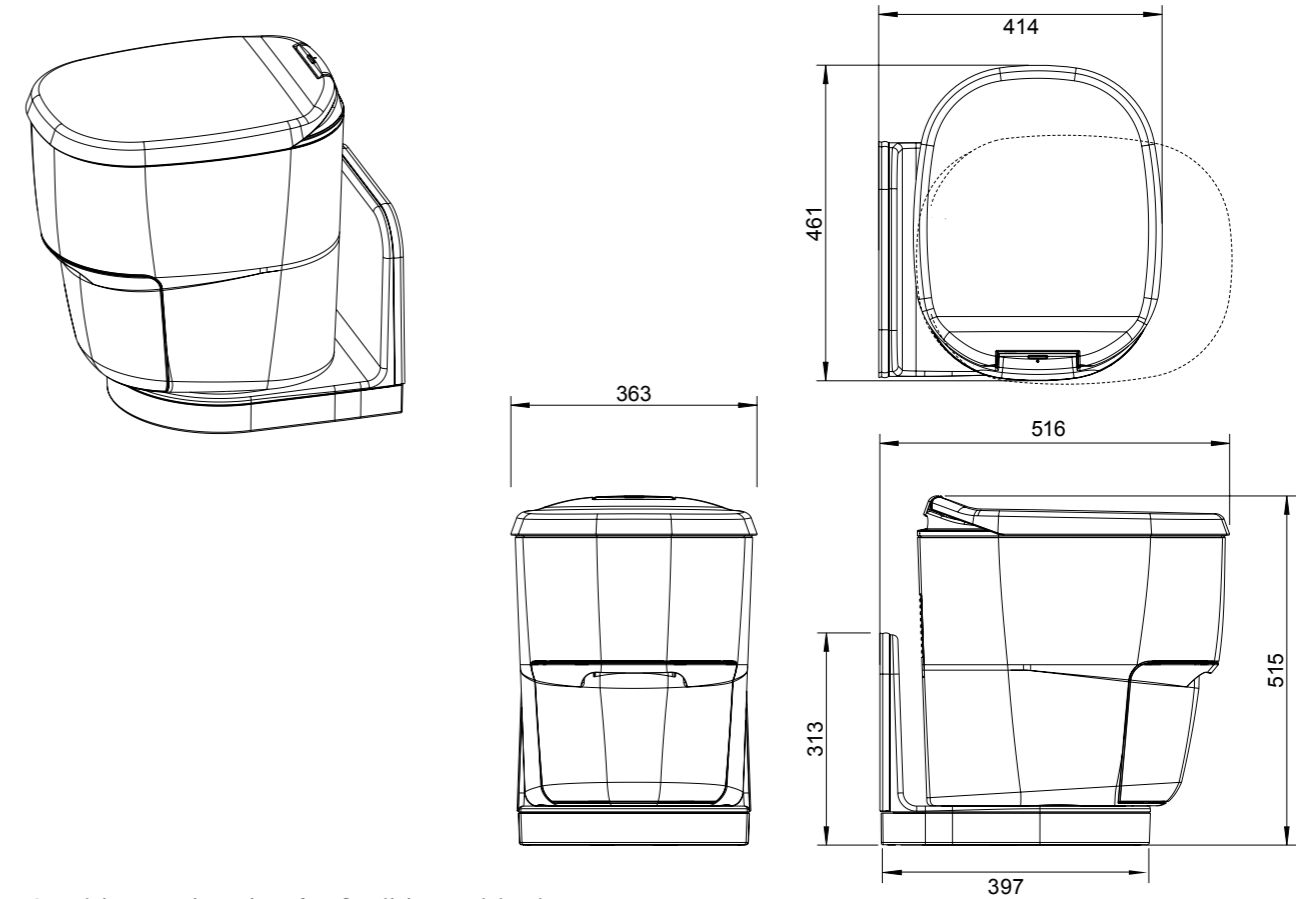
### Explosion drawing & spare parts

- 1. Lid and seat
- 2. Welding unit with corpus
- 3. Compartment
- 4. Display
- 5. Round socket / L-adapter
- 6. PTFE band (wear part)

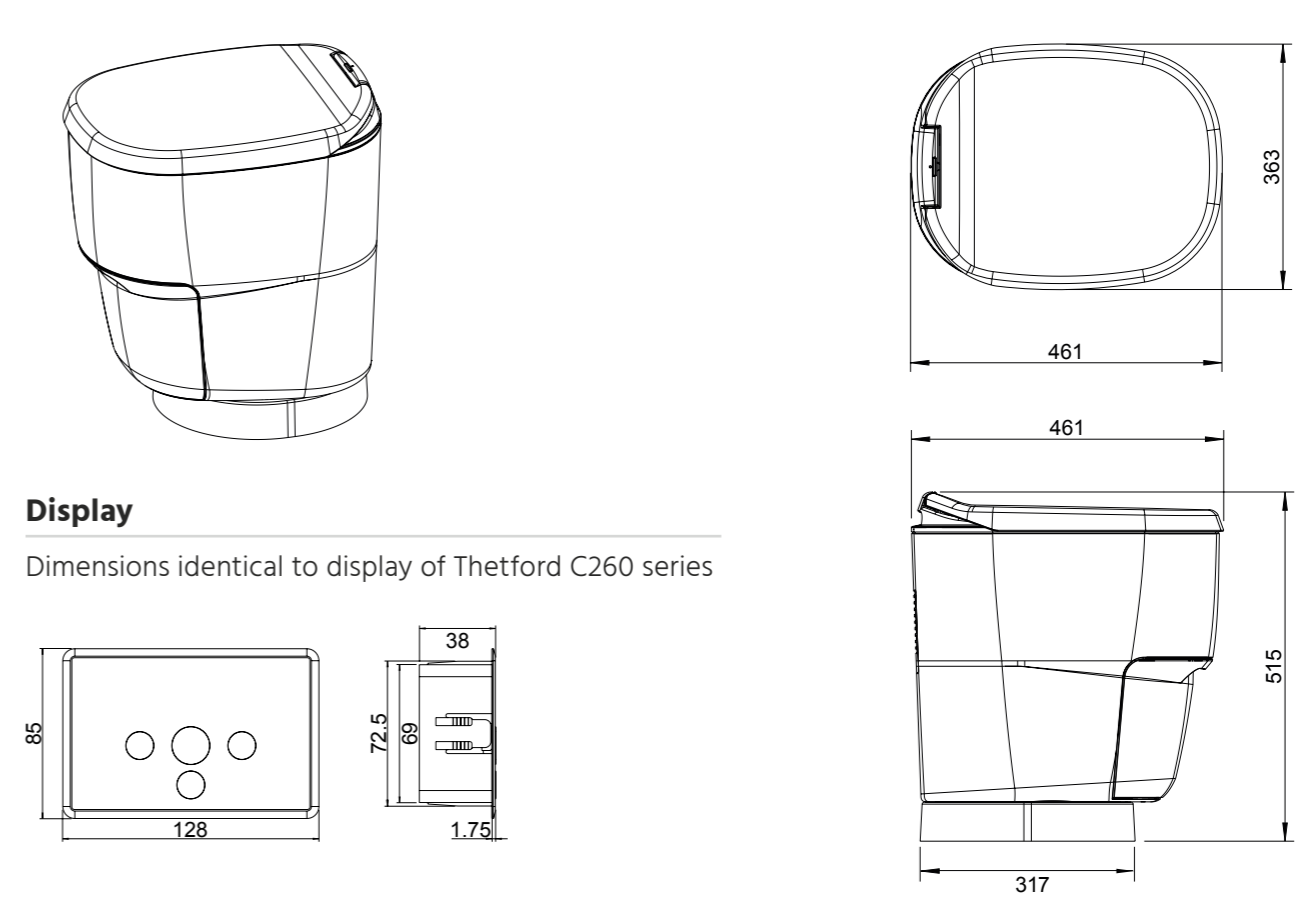


## Dimensions

C1 with L-adapter for retrofitting a Thetford C260



C1 with round socket for flexible positioning



## Display

Dimensions identical to display of Thetford C260 series

## Clesana C1 - Specifications

### Technical data

Dimensions L-adapter (H x W x D)	515 x 363 x 516 mm
Dimensions round socket (H x W x D)	515 x 363 x 461 mm
Sitting height	478 mm
Outer dimensions display (H x W x D)	85 x 128 x 38
Gross weight	14 kg
Load capacity (corpus & lid)	150 kg
Toilet usage BIG per liner	25
Toilet usage SMALL per liner	36

### Power data

Nominal voltage	12 V
Supply voltage	10 - 15 V
Power input (max.)	27 A
Power consumption in standby mode	0,36 W
Power consumption (max.)	325 W
Energy consumption welding process	0,32 Wh
Energy consumption separation process	1,31 Wh

### Cycle times under use

Bag chain (welding)	± 1 min
Single bag (welding and separating)	± 3 min

### Other

Lifetime PTFE band	1.500 welding processes
Operating temperature	5 - 40°C
Capacity compartment (SMALL/BIG)	8 / 4, in sum 4-6
Protection class	IPX4
Machine directive	CE
EMC	EN 50498
	2004/104/EG
	2011/65/EU

## Clesana C1 - Consumables



All excretions and toilet waste are hygienically sealed in barrier foil. A fresh barrier liner allows for 36 uses. The PTFE-band used for welding the sanitary bags has a lifetime of approximately 1500 cycles.

Liner from bio-based and recycled Polyethylen (eco-friendly PE & rPE) currently under development.

Optional: the Clesana superabsorber can be applied for liquid absorption (foil made from biopolymer Polylactid (PLA)).

## Clesana C1 Retail prices

### Recommended retail price (RRP) end customer

RRP Clesana C1 - Toilet (with round socket or L-adapter)		€ 1.249,00
RRP Barrier foil liner	(PU* 2)	€ 25,00
RRP Superabsorber	(PU* 20)	€ 3,50
RRP PTFE band	(PU* 2)	€ 30,00

\* Packing unit

## Clesana C1 - Use & Operation

### Operation

#### Insert/Change foil liner

1. Remove lid
2. Put liner onto foil cassette
3. Reinsert foil cassette into toilet
4. Place lid back on



### Usage

#### Preparation

If necessary, add liquid absorbant prior to "flushing".

#### Flushing

1. Initiate "flushing" at press of button (choose "big" oder "small").
2. Excretions and toilet waste are automatically sealed in foil bags and collected in special compartment beneath the toilet seat.
3. System automatically lines toilet bowl with fresh foil for subsequent use.

#### Emptying / Discarding

1. Fill level indicator integrated in display shows need for emptying bag compartment.
2. To empty simply pull out bag compartment and discard sanitary bags as household waste.

## Clesana C1 - Ecological footprint

Objective of study: comparing eco-balance of C1 with that of conventional chemical toilets (assuming use of "green sanitary additives")

#### Basis of calculation

150 uses per person in the course of a year (corresponds to 5 uses of toilet – 4x small, 1x big – for 30 days of travel)

#### Method

Impact assessment in accordance with "ecoinvent" (database for ecological life cycle analysis) and assessment of sustainability following " ReCiPe (H)" procedures

#### Results

The C1 toilet is superior in all effect categories

#### Reduced environmental impact of C1 compared to chemical toilets (according to comparative study):

- ✓ Terrestrial Acidification [kg SO<sub>2</sub>e]: up to 124% lower
- ✓ Fresh water ecotoxicity [kg 1,4-DCBe]: up to 63% lower
- ✓ Human toxicity [kg 1,4-DCBe]: up to 115% lower
- ✓ Climate change / CO<sub>2</sub> footprint [kg CO<sub>2</sub>e]: up to 10% smaller

#### Further advantages of Clesana compared to conventional chemical toilets\*

- ✓ Fresh water savings compared to chemical toilets: 170l per year and person
- ✓ Eliminating all care products as used with chemical toilets
- ✓ C1 barrier foil on basis of eco-friendly PE & rPE (recycled) currently under development

\* not considered in comparative study

#### By comparison: 5 uses\* with multi-layer foil equal the CO<sub>2</sub>-footprint of just...

the production of 1 glas of wine (0,2l) or 2 bottles of beer (0,33l)

a driving distance of 1,4 km in a camper van (Fiat Ducato 130 Multijet, Diesel, Euro 6\*\*)

\* 5 uses correspond to the average number of uses per person and day

\*\* Ø 0,263 kgCO<sub>2</sub>/km, measured by Deutsche Umwelthilfe e.V., April 2021

## Clesana C1 - Benefits

### For campers

- + Hygiene in accordance with medical standards
- + Completely odor-free
- + Multi-purpose (diapers, leftovers, hygiene products etc.)
- + Easy handling and cleaning
- + More environmentally friendly than chemical toilets
- + Increased freedom through independence from disposal stations and water supply
- + Instantly ready to use, even after long periods of non-use
- + No winter shut down needed
- + Always operational even for just one single use
- + Close to no need for maintenance
- + Simple and secure disposal of sanitary bags

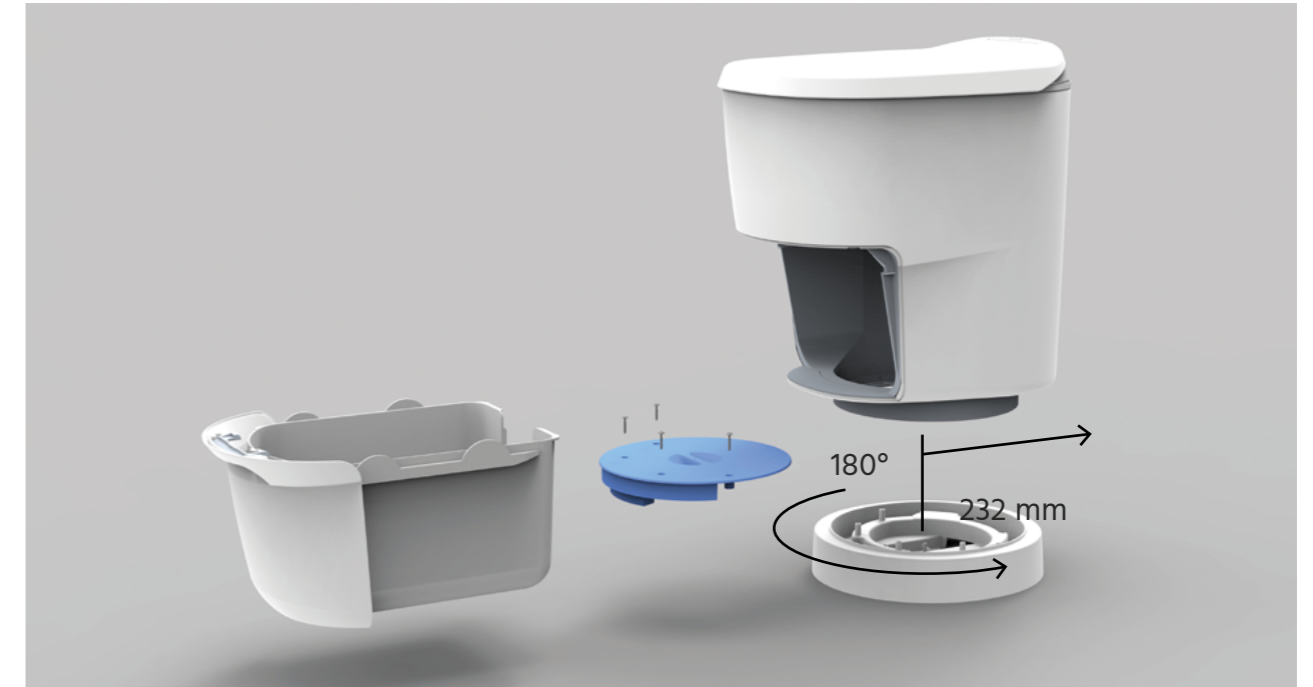
### For manufacturers

- + New possibilities for layout and spatial planning in vehicle design & development
- + Meeting the growing demand for more flexibility and spontaneity on camping trips (independent from camping sites with disposal stations)
- + High potential for new customer acquisition, especially among first timers and young campers
- + Getting ahead of the competition by offering innovative sanitary technologies
- + Clesana C1 can be installed in any vehicle designed with the Thetford C260 series, without major changes to existing part lists
- + Reduced expenses for maintenance and cleaning of rentals
- + Easy retrofitting via local dealerships
- + Great business potential from growing demand for retrofitting registered vehicles equipped with conventional chemical toilets (model series other than C260 can be retrofitted by specialist retailers)
- + Improving camping infrastructures, as sites no longer require central sanitary facilities (paving the way for care-free farm holidays, camping in vineyards, etc.)

## Clesana C1 - Installation options

### Installation

Floor-mounting of the Clesana toilet via socket (rounded socket or L-adapter). For easy integration into bathroom fittings the control panel is exchangeable. With its integrated rotation disc the Clesana C1 can be turned up to 180°.



To allow for the opening of the lid in any rotational position, a minimum distance towards side walls and other installations must be kept. When using the round socket leave 232 mm between the rotational axis and the back wall. When installing the L-adapter leave 225 mm from the toilet's centre to any spatial limitations left or right.



### Retrofitting

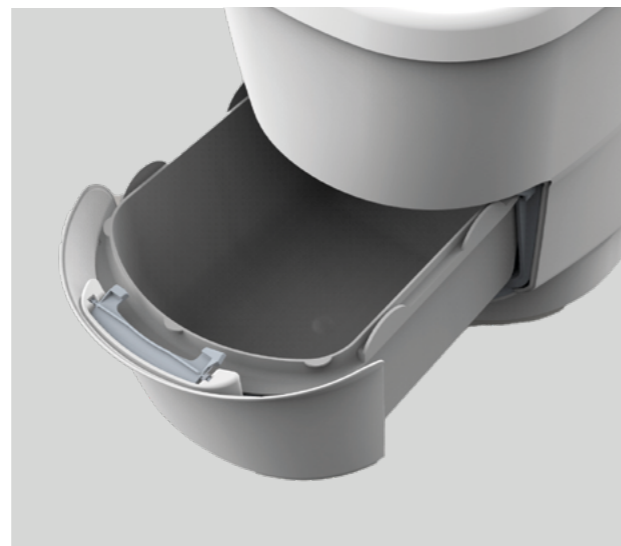
Retrofitting of a Thetford C260 / C220 series cassette toilet to a C1 via L-adapter (service opening in toilet room is sealed by rubber lid on the back piece of the L-adapter). Important: Water hose for flushing has to be plugged.

### Power supply

Installation requires 12V power supply and a 30A fuse central electronic block. For fuses <30A a relay can be used alternatively.

### Deinstallation

For deinstallation within minutes simply remove the rotation disk.



Excited?

## Product demonstration & further details

Want to know more about Clesana or book a test demonstration with us? Simply get in touch via telephone or e-mail. For straight-forward inquiries you may also use the contact form on our website. Our team of experts is looking forward to supporting you!

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