

Installation manual

Clesana C1

Version 4
2024-12-18

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Montageanleitung (DE)

Installation manual (EN)

Instructions d'installation (FR)

Istruzioni di montaggio (IT)

Instrucciones de montaje (ES)

Montage instructies (NL)



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1. Introduction

1.1. About this manual

This installation manual is intended for qualified persons authorised for the installation of the Clesana C1.

- ▶ Read the documents carefully before the installation and start-up.
- ▶ Observe all safety and warning instructions.

This manual is continuously improved, but it may happen that document enclosed with Clesana C1 does not correspond to the current version. We recommend that you check on our website <https://clesana.com/haendlerbereich> whether a newer version of this manual is available.

1.2. Symbols

Symbol	Meaning
	Important information, e.g. for better comprehension or for facilitating work processes
	Action steps that you must perform
1., 2.	Several action steps that you must perform in the order specified
	Result indication of an action step or several action steps
	Important details in graphics
	Motion sequences in graphics



2. Safety

This chapter contains important information on safety of the device. Read the safety instructions thoroughly before installation and start-up.

2.1. Proper use

The waterless toilet Clesana C1 is used for sanitary bagging of excrements and personal hygiene articles. The Clesana C1 is exclusively intended for use in mobile recreational vehicles in non-public areas. A different use is not allowed.

2.2. Qualification

Unqualified personnel cannot recognise the risks and can put themselves and others in danger. The Clesana C1 must be installed and put into operation exclusively by qualified persons trained and authorised for this purpose.

The fitter is responsible to ensure that the Clesana C1 is installed according to the specifications of the manufacturer and the applicable regulations.

- ▶ Comply with locally applicable regulations for safe and risk-aware working.
- ▶ Works on electrical systems must be carried out exclusively by an electrician.
- ▶ Contact the dealer in case of ambiguities.

2.3. Technical condition, modifications and spare parts

Installation of defective or faulty parts impairs the safety and function of the toilet.

- ▶ Ensure the perfect condition of the individual parts before installation.
- ▶ Do not install any additional components.
- ▶ Do not modify the toilet and its parts.
- ▶ Use only original parts and materials approved by Clesana.

2.4. Residual risks

2.4.1 Electric shock

Work on live parts of the toilet or vehicle can result in death by electrocution. As long as the base body is open, live components may be exposed.

- ▶ Before work on the electrical system perform the following measures according to the electrical engineering rules:
 - Disconnect power supply.
 - Check for no voltage.
 - Earth and short-circuit.
- ▶ Repair defective insulations on the electrical wiring immediately.



2.4.2 Fire hazard

Cables with a too small cross-section and loose or defective clamping and screw connections can lead to cable fire. Reverse-poled and incorrectly laid cable can cause fires. This can result in property damage and personal injury.

- ▶ Choose the cable cross-section according to the cable length.
 - up to 8 m: 10 mm²
 - from 8 m: 16 mm²
- ▶ Check the clamping and screw connections for correct installation before switching on the power supply.
- ▶ Do not clamp or excessively bend the cables.

2.4.3 Component damage due to short circuit

Reversing the polarity of the power cable can damage the electrical components. A short circuit can result in fire.

- ▶ Ensure the correct polarity of the power cable before switching on the power supply.

2.4.4 Moving parts

The Clesana C1 has a rotating mechanism for optimal positioning. If the area around the toilet is obstructed by objects, the rotating of the toilet may result in crushing of fingers.

- ▶ Keep the surroundings of the toilet free of objects.

2.4.5 Water damages

The water line must be shut-down professionally if a toilet with water flushing is to be dismantled. Faulty sealing of the water line can result in water damages in the vehicle.

Incorrect installation of the L-Adapter can result in water damages in the vehicle.

- ▶ Make the system pressureless before working on the water lines.
- ▶ Check the shut-down water lines for leaks.
- ▶ Ensure correct sealing of the L-Adapter.

2.4.6 Health hazards from contaminated water

Stagnant water promotes the formation of bacteria, which can penetrate into the water circulation of the vehicle and contaminate it.

- ▶ Shut-down the water line as close as possible, ideally directly at the pipe connection e.g. on a manifold or a T-piece.
- ▶ Ensure that the shut-down water line does not allow any standing water in the line.



3. Delivery scope

Qty.	Part
1	Base body Clesana C1 (incl. lid, foil cassettes, tray, rotation discs)
1	L-Adapter or round base
1	Control panel with cable
2	Crimp contact, Anderson SB50 50 Amp Contact 5952
1	Connector housing 2-pin, Anderson SB50 connector housing 992G1
1	Clesana C1 Operating Instructions
1	Label with operating instructions
1	Clesana C1 Installation manual

Barrier foil liner not included in the scope of delivery.



- ▶ Foil liner is required for functional check after installation.

4. Tools and installation material

Qty.	Tools
1	Screwdriver Torx TX20
1	Wood drill Ø 4.5 mm
1	With wall mounting of the control panel: Wood drill Ø 16 mm
1	Multimeter
1	Press tool for cable lug and connector

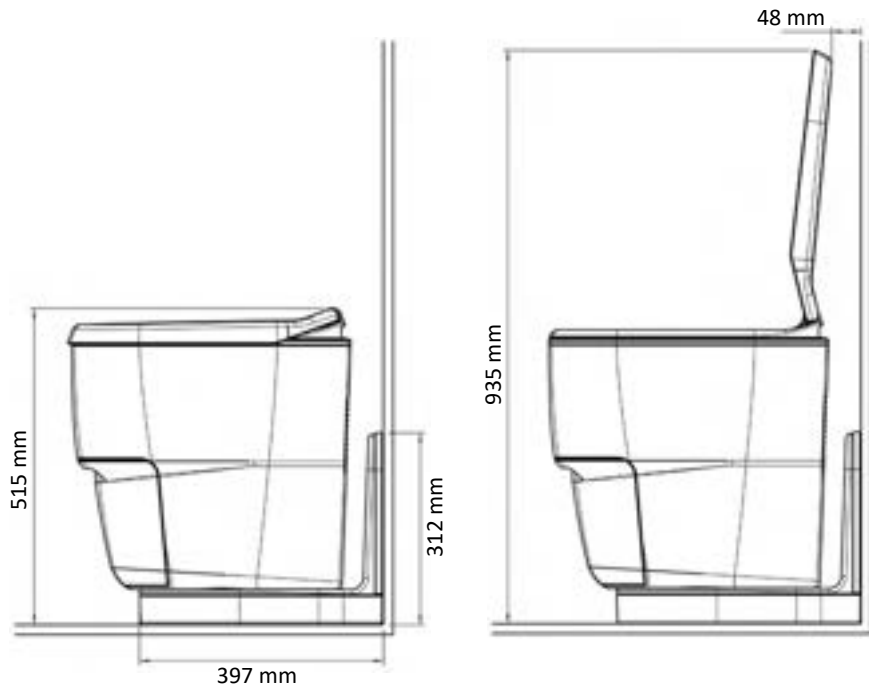
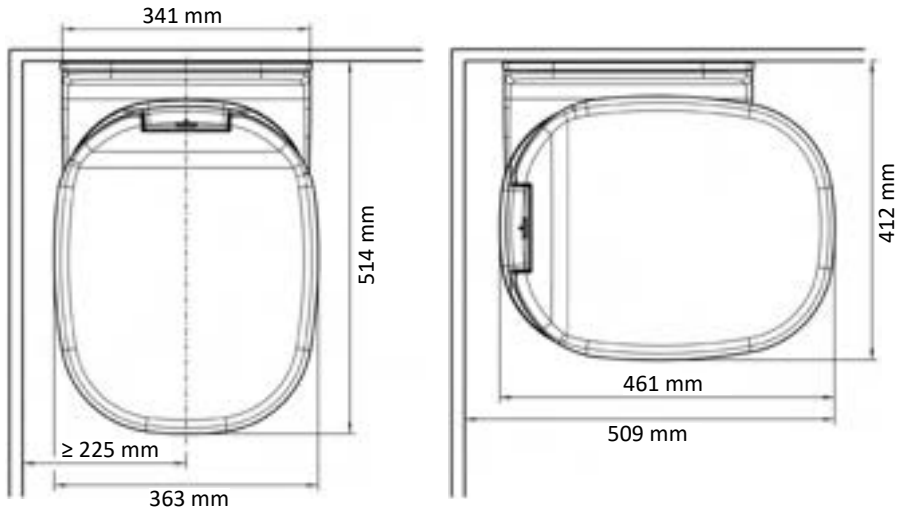
Qty.	Installation material
1	< 8 m Cable route: 10 mm ² power cable red/black > 8 m cable route: 16 mm ² power cable red/black
—	Shrinking tube
—	Ring cable lug
—	Cable strap
5	Wood screw half-round head/plate head Ø 4.5 mm Length according to installation situation
4	With wall mounting of the control panel: Wood screw half-round head/plate head Ø 4.5 mm Length according to installation situation
3	Wood screw Ø 4.5 mm Length according to installation situation (for installation L-Adapter)



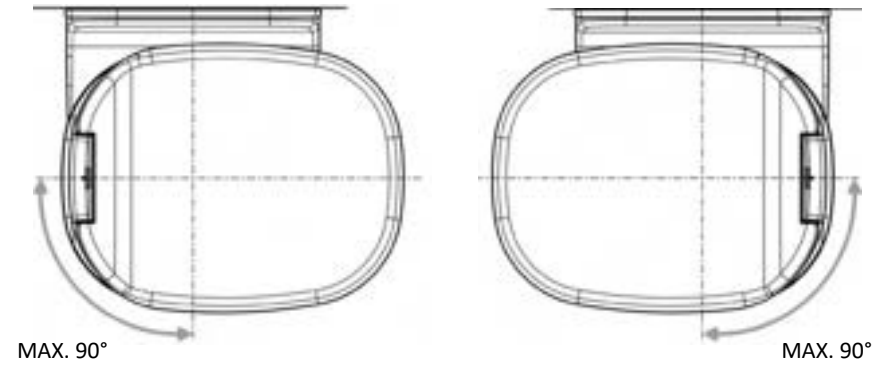
5. Overview

5.1. Measurements Clesana C1 with L-Adapter

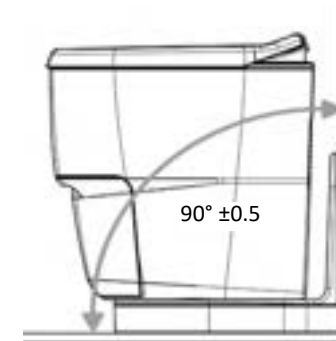
Main dimensions



Rotating the toilet



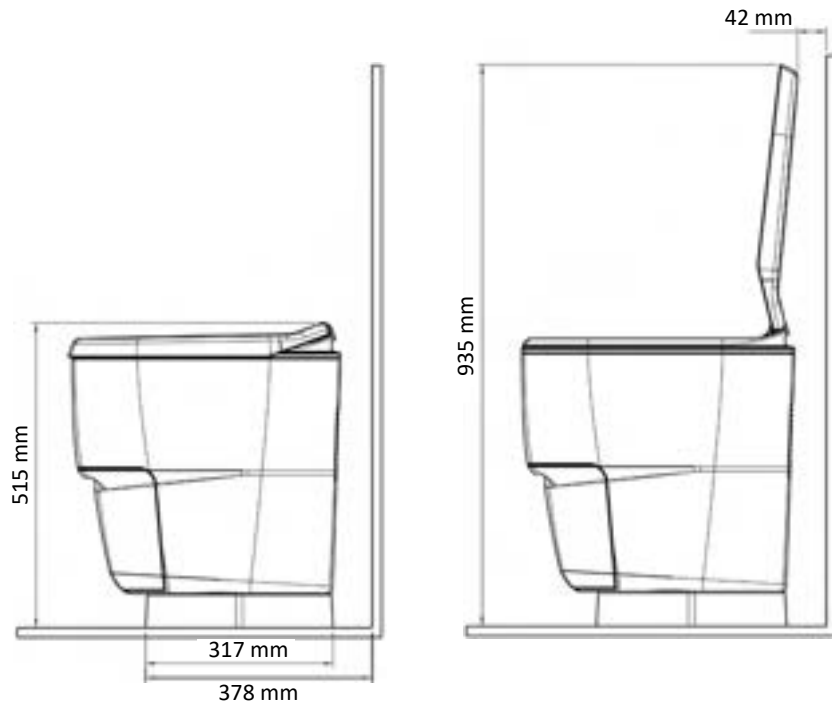
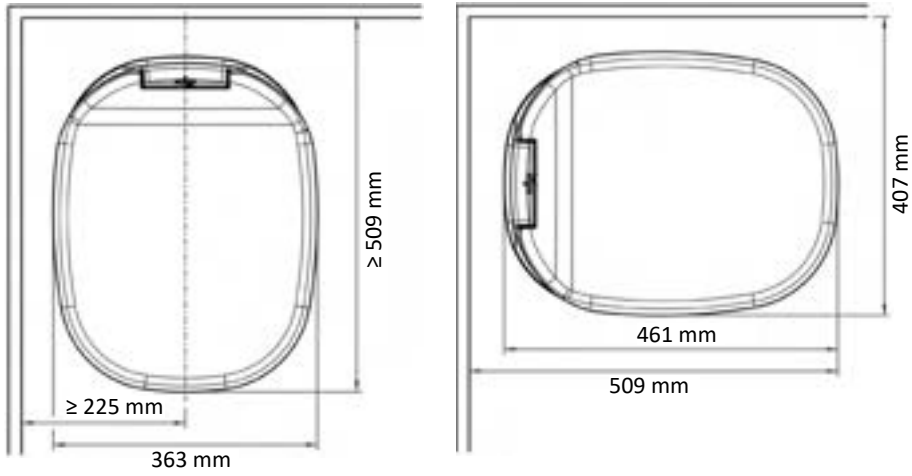
Bracket: Floor - wall



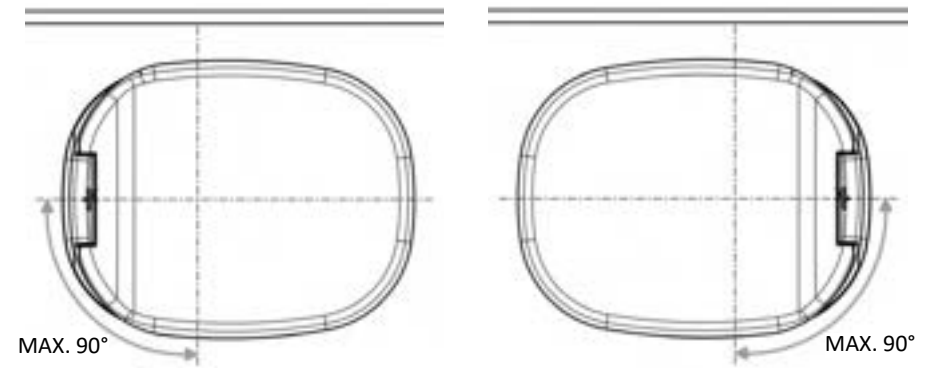


5.2. Measurements Clesana C1 with round base

Main dimensions



Rotating the toilet





6. Preparation

6.1. First steps

- ▶ Check scope of delivery.
- ▶ Have tools and consumables ready.

6.2. Choose the installation location

The Clesana C1 can be installed both with the supplied round base and with the L-Adapter. The L-Adapter is used to cover existing openings in the wall, e.g. due to a previously installed toilet. The toilet is positioned freely in the room with the round base.



The retrofit matrix on clesana.com/infobereich contains further information on installation situation and installation of the Clesana C1 when retrofitting and existing toilet.

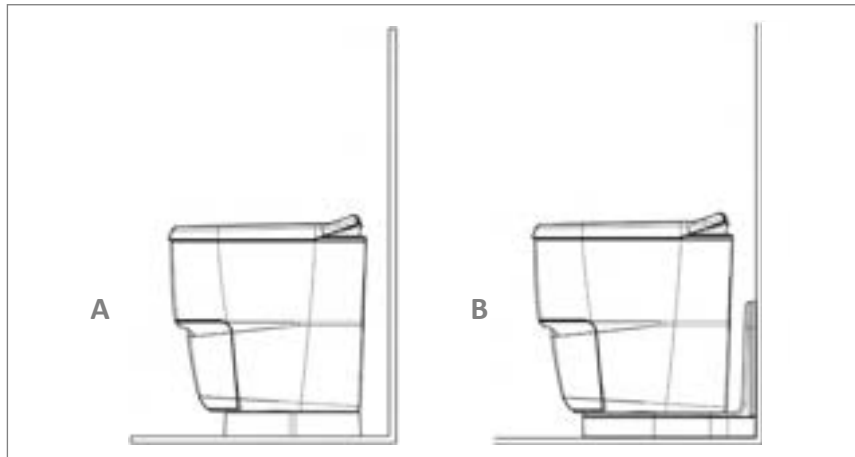


Fig. 1: Choose the installation location

A Installation with round base

B Installation with L-Adapter

- ▶ Using the measurements of the Clesana C1 ensure the following points on the installation location:
 - The toilet lid can be fully opened in the use position, without falling down under its own weight.
 - The toilet can be turned in the use position.
 - The toilet can be turned in the stow position.



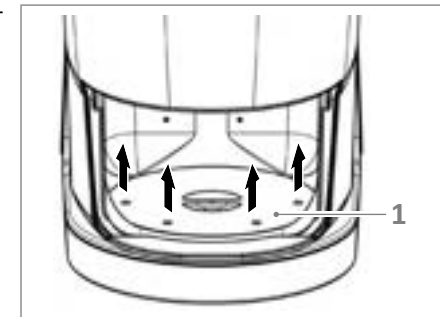
6.3. Dismantle the existing toilet

1. If needed, dismantle the existing toilet.
- When shutting down a water line a T-piece can be replaced with a straight hose connector. A plug specially provided for this purpose can be used for a distributor.
2. Shut down the water line as close as possible at the pipe connection.
 3. Ensure that the shut-down water line does not allow any standing water in the line.
 4. Check the shut-down water lines for leaks.

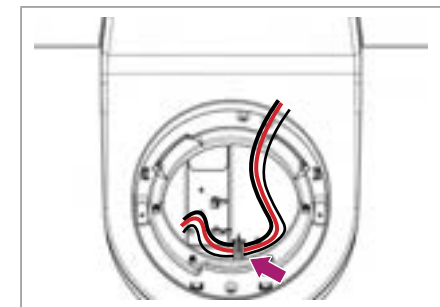
6.4. Prepare L-Adapter or round base

Qty.	Tools and consumables
1	Screwdriver Torx TX20

1. Take off the lid unit, remove foil cassette and tray.
2. 4 × Loosen the screws with screwdriver Torx TX20 and remove the rotation discs (1).



3. Loosen the exposed cable from the cable duct of the L-Adapter or the round base.
4. Push back the base body approx. 1 cm and remove from the L-Adapter or round base.





- If the toilet is installed in a shower tray, remove the aperture (2) of the L-Adapter.



7. Electrical installation

7.1. Overview Variant 1 - Electrical installation using body battery

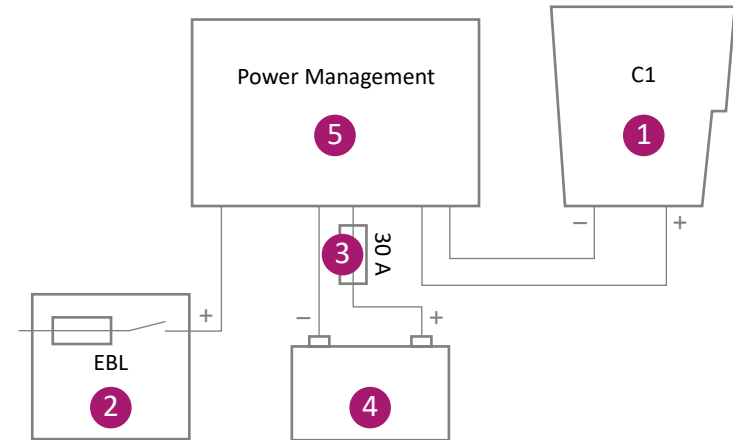
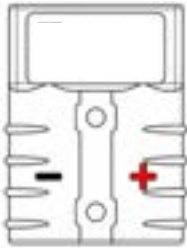


Fig. 2.1: Connection diagram Clesana C1 using a body battery

Qty.	Description	Function
1	Clesana C1	User
2	Electro-block (EBL)	<ul style="list-style-type: none"> Central unit for power distribution in the electrical system Controls the relay.
3	Fuse 30A	Interrupts the circuit in case of overload or short circuit
4	Body battery	Living space power supply
5	Clesana Power Management	Switches off the toilet, if the wiring system is switched off via the electro-block.



Specifications

Specification	Value
Operating voltage	11.8–15 V (the power supply must ensure 22A at rated voltage)
Connection	2-pin connector housing
Position of the electrical lines in the connector housing	
2-pin connection plug on the toilet	Anderson SB50 connector housing 992G1
Crimp contact	Anderson SB50 50 Amp Contact 5952
Cable diameter	Up to 8 m: 10 mm ² From 8 m: 16 mm ²
Relay	12VDC, >30A with screw contacts Clesana Power-Management without cable Art. No. EU-10050010



7.2. Perform the electrical installation using a body battery

Qty.	Tools and consumables
1	Multimeter
1	Press tool for cable lug and connector
—	Shrinking tube
—	Cable strap
—	< 8 m Cable route: 10 mm ² power cable red/black > 8 m cable route: 16 mm ² power cable red/black
—	Ring cable lug
1	Clesana Power Management



The existing cable for the water flushing of the cassette toilet does not automatically act as a continuous positive cable switched via the EBL.

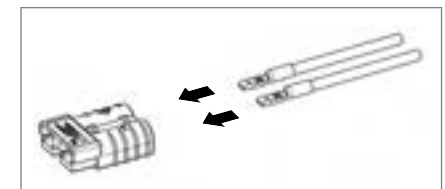
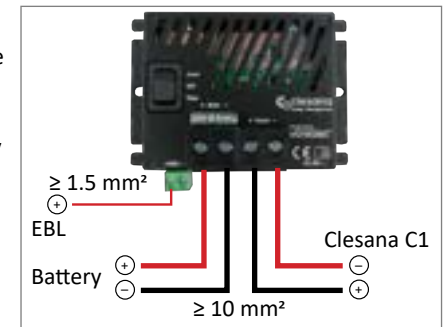
1. Locate the 12 V supply voltage (continuous positive) for the relay control switched via the EBL.
2. Lay the power cable from the body battery to the Clesana C1.
3. Install and secure the 30-A fuse as close as possible behind the body battery, such as to ensure subsequent access to the fuse.
4. Crimp the end of the power cable for the connection to the body battery with the ring cable lug.
5. Position and secure the relay near the Clesana C1, so as to ensure subsequent access to the relay.
6. Connect the relay with the power cable ($\geq 10 \text{ mm}^2$) and the control cable ($\geq 1.5 \text{ mm}^2$) as shown in the image. Clesana Power Management

Note: The control cable requires a 12 V continuous voltage switched via EBL.



You will find the details for the electrical installation of the relay in the installation manual for the Clesana Power Management.

7. Crimp the ends of the power cable to the Clesana C1 with crimp contacts Anderson SB50 and route in the connector housing Anderson SB50.





7.3. Overview Variant 2 - Electrical installation using a backup battery

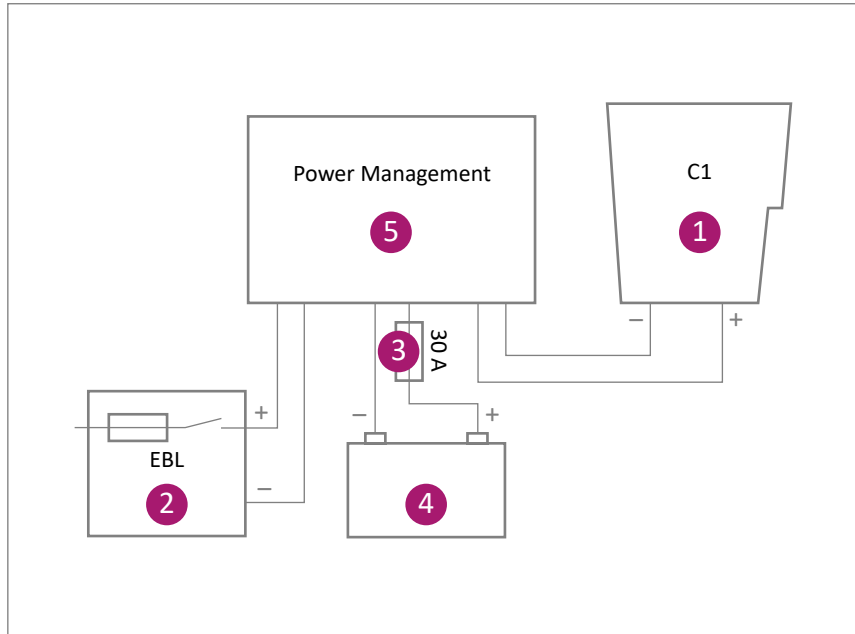


Fig. 2.2 Connection diagram Clesana C1 using a backup battery

Qty.	Description	Function
1	Clesana C1	User
2	Electro-block (EBL)	<ul style="list-style-type: none"> Central unit for power distribution in the electrical system Controls the Relay
3	Fuse 30A	Interrupts the circuit in case of overload or short circuit
4	Backup battery	Power supply only for the Clesana C1
5	Clesana Power Management	<ul style="list-style-type: none"> Switches the toilet on/off if the wiring system is switched on/off via the electro-block. (Relay Function). Charges the backup battery via the electro-block if the latter is switched on.

Specifications

Specification	Value
Operating voltage	11.8–15 V (the power supply must ensure 22A at rated voltage)



Specification	Value								
Clesana Power-Management incl. cable	Art. No. EU-10050030 Incl. pre-assembled, crimped, installed cable sets for connecting the backup battery and Clesana C1 to the Power Management								
Backup battery	<table border="0"> <tr> <td>Battery rated voltage</td> <td>12 V</td> </tr> <tr> <td>Input voltage range</td> <td>10.5...14.8 V</td> </tr> <tr> <td>Current consumption in standby</td> <td>3 mA</td> </tr> <tr> <td>Max. current consumption</td> <td>2.2 A</td> </tr> </table> Recommended backup batteries <ul style="list-style-type: none"> Voltic Sportivo LI-02 3AH LTM9 	Battery rated voltage	12 V	Input voltage range	10.5...14.8 V	Current consumption in standby	3 mA	Max. current consumption	2.2 A
Battery rated voltage	12 V								
Input voltage range	10.5...14.8 V								
Current consumption in standby	3 mA								
Max. current consumption	2.2 A								

7.4. Perform electrical installation using a backup battery

Qty.	Tools and consumables
1	Multimeter
1	Clesana Power-Management incl. cable
1	Backup battery

! The existing cable for the water flushing of the cassette toilet does not automatically act as a continuous positive cable switched via the EBL.

1. Locate the 12 V supply voltage (continuous positive) for the relay control switched via the EBL.
2. Set the Dip Switch according to type combination of the body and backup battery.
3. Connect the battery cable to the Power Management and the battery
4. Connect the toilet cable to the Power Management and connect the plug to the mating connector of the Clesana C1.
5. Pull out the green EBL screw block and connect the continuous positive cable located in Step 1 switched via the EBL
6. Plug in the green EBL screw block.
7. Set the switch on the Power Management to setting "Auto".

! You will find the details for the electrical installation of the relay in the installation manual for the Clesana Power Management.



8. Install the L-Adapter

8.1. Screw the L-Adapter on the floor

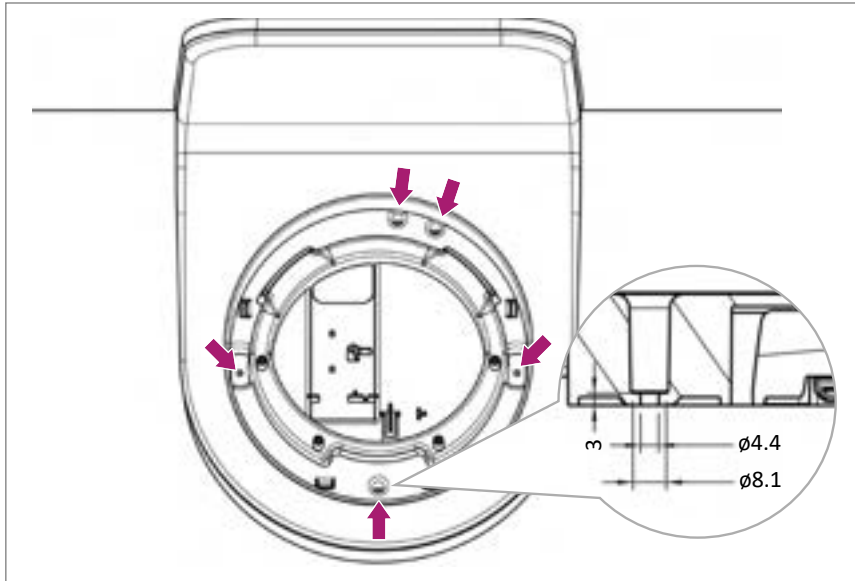


Fig. 2: Installation bores for screwing on the floor

Qty.	Tools and consumables
1	Screwdriver
5	Wood screw half-round head/plate head \varnothing 4,5 mm Length according to installation situation

1. Align the L-Adapter to the wall.
2. Mount the L-Adapter hand-tight with 5 screws.



8.2. Screw the L-Adapter to the wall

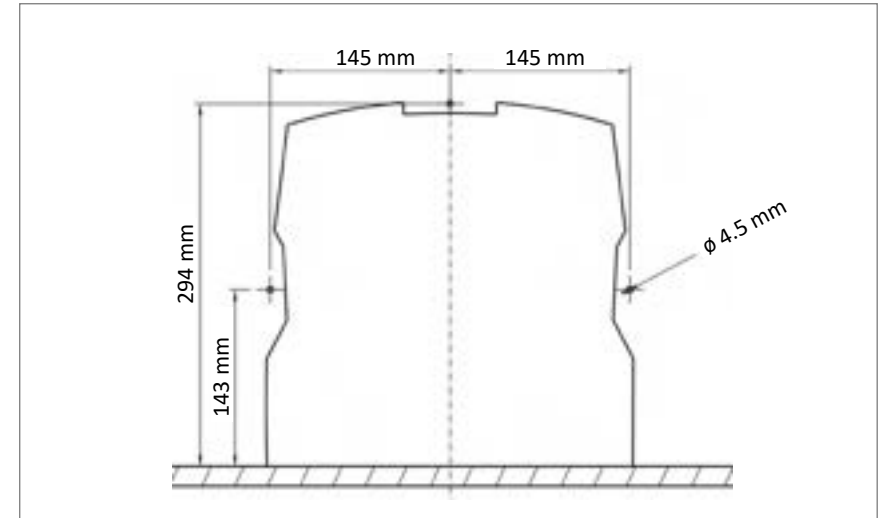


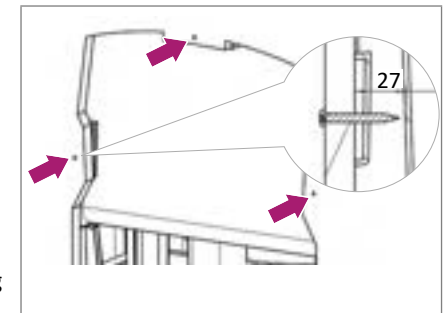
Fig. 3: Bores for screwing on the wall



If C263-S or C223-S Thetford toilettes have been previously installed, you can use the same bores for mounting on the wall.

Qty.	Tools and consumables
1	Wood drill \varnothing 4.5 mm
1	Screwdriver
3	Wood screw \varnothing 4.5 mm Length according to installation situation

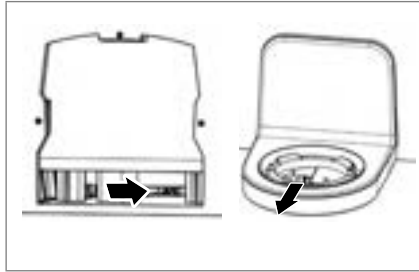
1. Bore 3 holes in the wall according to the template.
2. Choose the length of the wood screws according to the wall thickness + 25 mm.
3. Position the L-Adapter in front of the bore holes.
4. Screw 3 wood screws from behind through the wall in the flange of the backpiece of the L-Adapter.
5. Check the correct sealing of the sealing lip of the L-Adapter with the wall.



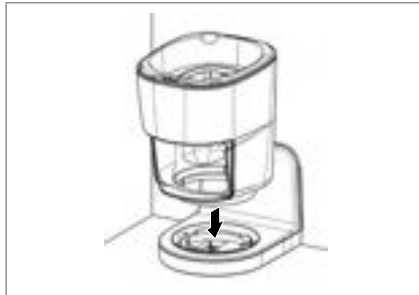


8.3. Finishing works

1. Pull the power cable and the control cable for the control panel into the L-Adapter from behind.



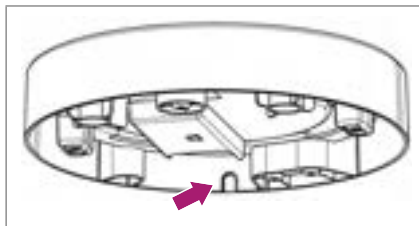
2. Place the base body on the L-Adapter.



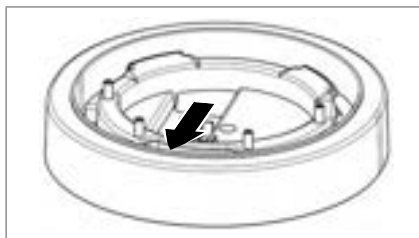
9. Install the round base

9.1. Prepare the round base

1. Break out the covering at the specified breaking point.



2. Pull the ends of the power cable and the control cable for the control panel through the opening into the round base.



9.2. Mount the round base

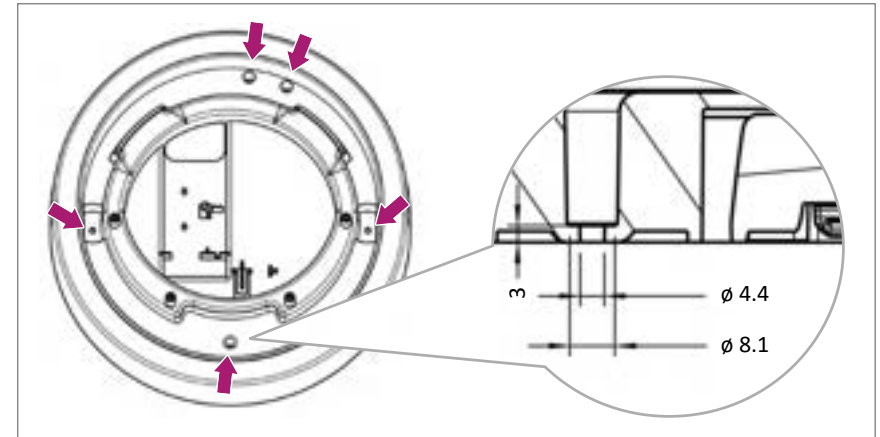


Fig. 4: Installation bores for screwing on the floor

Qty.	Tools and consumables
1	Screwdriver
5	Wood screw half-round head/plate head \varnothing 4,5 mm Length according to installation situation

1. Place the round base on the floor.
2. Mount the round base hand-tight with 5 screws.
3. Place the round base on the L-Adapter.





10. Install the control panel

10.1. Flush mounting

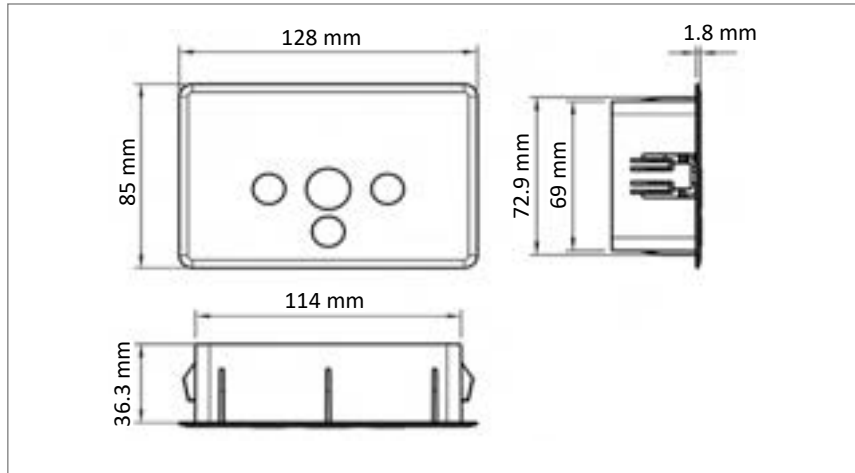


Fig. 5: Control panel measurements



If a Thetford toilette has been previously installed, you can use the same opening in the wall to install the control panel.

1. Choose a suitable installation location for the control panel, ensure the following points:
 - The display is clearly legible.
 - The control panel can be easily operated.
 - The wall thickness on the installation location is 10–16 mm.
 - The distances between the control panel and the L-Adapter is smaller than the length of the connection cable (useful length approx. 1.77 m).

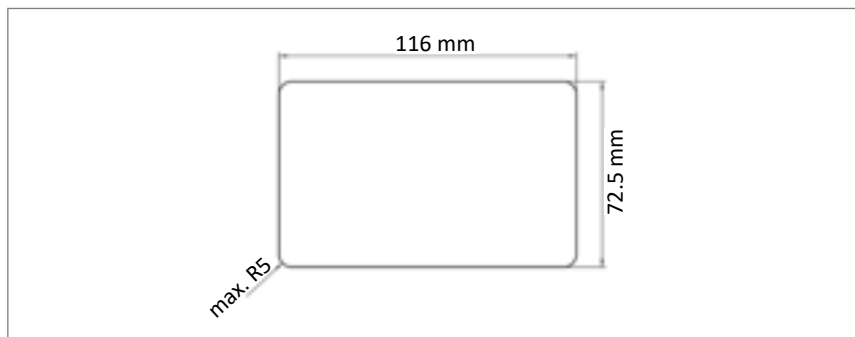


Fig. 6: Required dimension of the wall opening

2. Create the wall opening according to the dimensions in the Fig. 7.



3. Lay the cable ends from L-Adapter or round base to the control panel.
4. Connection the cable to the control panel.
5. Push the control panel into the wall opening until it fully snaps into place and is flush.

10.2. Wall mounting

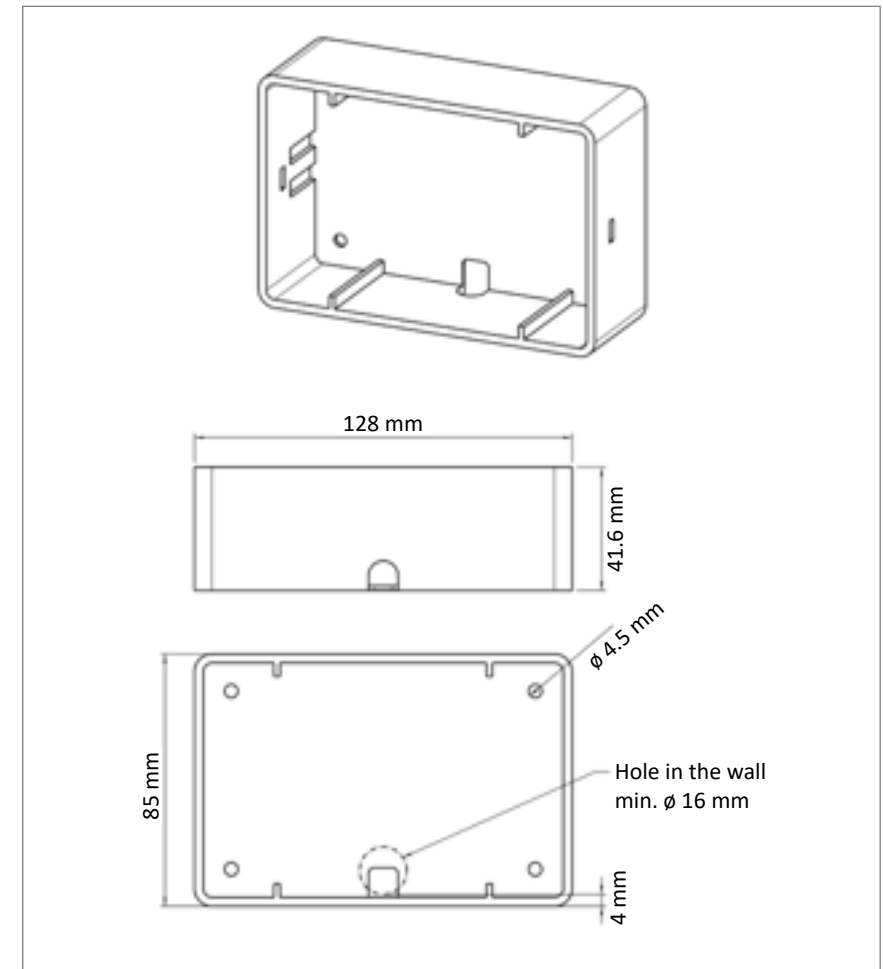


Fig. 7: Measurements of the wall-mounted housing



We do not carry out the wall-mounted housing as component. If needed, you can make the housing yourself. The design data (CAD and design drawings) are available in the dealer area <https://clesana.com/haendlerbereich>.



The 3D file does not correspond to the requirements of protection class IPX4.



Qty.	Tools and consumables
1	Wood drill Ø 16 mm
1	Screwdriver
4	Wood screw half-round head/plate head Ø 4.5 mm Length according to installation situation

- Choose a suitable installation location for the wall-mounted housing, ensure the following points:
 - The display is clearly legible.
 - The control panel can be easily operated.
 - The distances between the control panel and the L-Adapter is smaller than the length of the connection cable (useful length approx. 1.77 m).
- Bore hole (Ø 16 mm) for cable routing according the dimensions in Fig. 8.
- Lay the cable ends from L-Adapter or round base to the control panel.
- Mount the wall-mounted housing hand-tight with 4 screws.
- Connection the cable to the control panel.
- Push the control panel on the housing until it fully snaps into place and is flush.

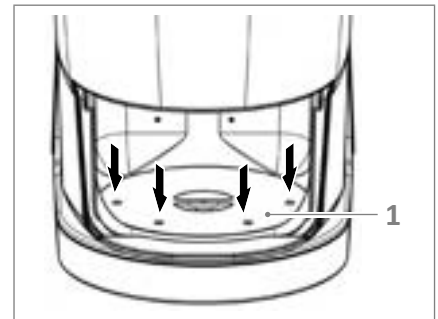
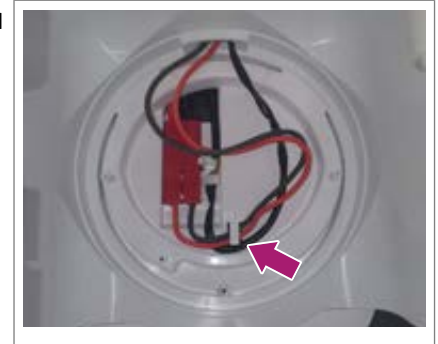


11. Connection and functional test

11.1. Connect the Clesana C1

Qty.	Tools and consumables
1	Screwdriver Torx TX20

- Connect the control cable of the control panel with the control cable from the base body.
- Connect the power cable coming from the body battery with the power cable of the base body.
- Snap the housing plug (red) into the mounting.
- Lay the power and control cable in the cable mounting.
- Mount the rotation disc (1) hand tight with 4 x screws and screwdriver Torx TX20.
- Insert the tray and the foil cassette.
- Put on the lid unit.



11.2. Check the function

- Check the following points:
 - Clesana C1 can be rotated.
 - The lid of the Clesana C1 can be opened in the use position.
 - The tray snaps into place upon closing.
 - The lid unit can be locked and unlocked.
- Switch on the voltage.
 - Start the Clesana C1.
- Insert the Clesana barrier film liner and carry out the test welding, see the Operating Instructions.
- Check whether the Clesana C1 correctly welds and separates.



12. Technical specifications

Characteristic	Value	Unit
Height	515	mm
Width	363	mm
L-Adapter/round base length	516/461	mm
Seat height	478	mm
Weight of C1 with L-Adapter/with round base	13.8/13.1	kg
Supply voltage	11.8–15	V
Rated voltage	12	V
Current consumption (max.)	22	A
Power consumption in standby	0.28	W
Power consumption (max.)	265	W
Energy consumption in separation process	1.7 ±0.17	Wh
Energy consumption in welding process	0.55 ±0.06	Wh
Usage temperature	5–40	°C
IP protection class	X4 (splash water protection)	—



Declaration of conformity

Manufacturer: Clesana AG
Werdenstrasse 72
9472 Grabs
Switzerland

hereby declares that the following product

Waterless toilet
Clesana C1 Series

based on the following applied standard:

- EN 50498-2010 EMC Aftermarket Electronic Equipments in Vehicles
Version: 2011-05-01

meets the basic requirements of the following directives:

- 2011/65/EU RoHS 2 in the current version at the time of the creation.
- Motor Vehicle EMC Directive 2004/104/EC in the current version at the time of the creation.

The product in question does not have any disruptive functions in accordance with Vehicle EMC Directive 2004/104/EG.

Signature
Markus Erb
Executive Director

Grabs, 20 December 2021

Place, date

