INDEX ENGLISH

GENERAL WARNINGS TO THE USER

WARNING: Read and understand the warnings listed in this document before installing, using, or servicing the system. Failure to comply with these warnings may cause malfunctions, injuries, damage, loss of the property, and electrocution. Any modification applied to Tecma's product may result in loss of the property, injuries, or electrocution..

WARNING: Children should not play with the equipment.This equipement can be used by children aged 8 and up if under surveillance, or if they have received the instructions regarding use of the device safely and if they understand dangers involved. Cleaning and maintenance by the user should not be performed by children unless they are older than 8 years and operate under surveillance. Keep any power cable out of reach of children under the age of 8 years.

WARNING: The equipment can be used by people with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have supervision or if they have received instructions regarding the use in safety of the device and understand dangers involved.

WARNING: Follow the legal and environmental protection in the selection and use of cleaning products.

1.0 TECMA SANITARY SYSTEM

Tecma marine sanitary systems are made in Italy. The entire production is made in the district of Civita Castellana, which is well known for manufacturing top-quality ceramic sanitary ware.

The Tecma Research and Development department has, over the years, developed a series of solutions featuring different shapes and sizes. This wide range of solutions allows you to install a Tecma toilet wherever there are space, style and weight constraints.

Tecma toilets can be requested with integrated or separate bidet with the same geometry. The Tecma system is based on the combined action of a macerator pump to discharge blackwater, and an inlet pump or solenoid valve for the clean water inlet.

All the ceramic toilets have an in-built macerator pump, which pushes blackwater to the blackwater tanks. Shredding occurs in a specific cavity equipped with steel blades positioned before the pump impeller.

The flushing cycle is activated from different models of control panels. There are specific options available according to the control panel model, such as blackwater tank monitoring, adjustment of the water used during the flushing cycle, etc.

This product is characterised by its pump power, and for its reliable and simple mechanism. A global service network is always available to provide assistance and spare parts.

1.1 Warranty

- The warranty covers all TECMA products for 2 years from boat registration date.
- The warranty covers TECMA spare parts for 2 years from the date of purchase
- The warranty does not cover damage resulting from negligence of the user and use and installation that fails to comply with the instructions provided. Moreover, accidental damage, tampering with or modifying the product will make the warranty null and void.

REQUEST OF SPARE PARTS UNDER WARRANTY

- Any request under warranty must be submitted to TECMA authorised assistance centres:
- 1) Copy of the boat registration certificate or of the product invoice.
- 2) Brief description of the failure or problem detected.
- Download the list of TECMA authorised assistance centres from our website www.thetfordmarine.com or request it from our customer services:

R.O.W.(rest of the world): info@tecma.eu / Tel. **+39 0744 70 90 71-** U.S.A.: **1-800-543-1219**

1.2 Cleaning

Ceramic is particularly suitable for toilets, as it guarantees hygiene and it is resistant against any cleaning product. Do not use acetone- or trichlorethylene-based products, or any product that may irreversibly damage the rubber components of the pump/macerator/check valves. We recommend using Thetford products, as they are specifically tested for this type of systems. Do not use aggressive products or abrasive sponges on carbon or coloured products (other than white or pergamon). We recommend applying a small amount of product to the rear of the toilet first to check its suitability.

WARNING: Comply with the environmental protection standards in force when choosing and using cleaning products.

1.3 Winterising

Completely empty all the systems to prevent the pipes from freezing, or use a specific antifreeze product. Do not use automotive antifreeze products or products used in the windscreen washer solvent tank. Comply with the environmental protection standards in force when choosing and using these products.

1.4 Toilet seat cover

The Flexi and Design range include different seat cover configurations. Respectively, Thermosetting and polyester both with and without Soft Closing. Do not accelerate the normal excursion of the hinges in the configuration with Soft Closing in order not to affect the operation.

1.5 Choosing the type of toilet paper

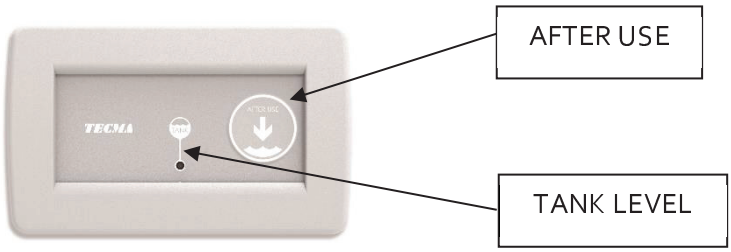
Only use toilet paper. The system is designed to dispose of toilet paper effectively. Do not use paper towels or similar products. Tecma recommends using Thetford Aqua-Soft.

2.0 OPERATING THE SYSTEM

2.1 All-in-one control panel

2.1.1 One button

Press the "AFTER USE" button to start the automatic flush cycle, after which the toilet will be refilled with a small amount of water, ready for the next use.



2.1.2 Two buttons

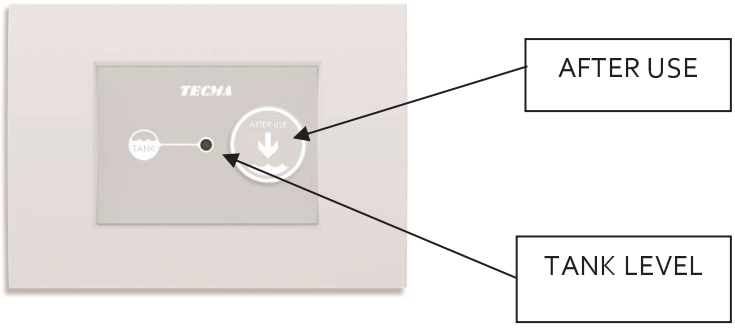
Press the "BEFORE USE" button before using the toilet. This will fill the toilet with a small amount of water. Press the "AFTER USE" button after using the toilet. This will start the automatic flush cycle, which will empty the toilet.

NOTE: The All-in-one control panel allows you to adjust the amount of water used during the flushing cycle. A regulator placed at the back of the panel increases the amount of water if turned clockwise, or decreases it if turned anticlockwise. The recommended water level is 1 cm above the ceramic outlet.

2.2 Multiframe control panel

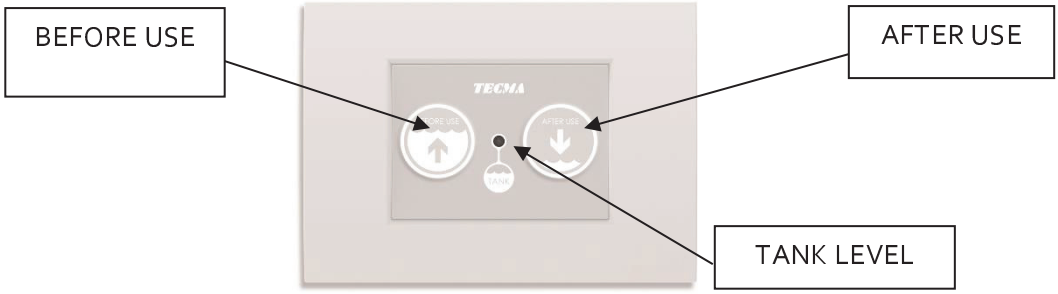
2.2.1 One button

Press the "AFTER USE" button to start the automatic flush cycle, after which the toilet will be refilled with a small amount of water, ready for the next use.



2.2.2 Two buttons

Press the "BEFORE USE" button before using the toilet. This will fill the toilet with a small amount of water. Press the "AFTER USE" button after using the toilet. This will start the automatic flush cycle, which will empty the toilet.



NOTE: It is also possible to adjust the amount of water used during every flushing cycle directly from the connected remote control unit. A specific regulator placed on its rear increases the amount of water if turned clockwise, or decreases it if turned anticlockwise. The recommended water level is 1 cm above the ceramic outlet.

WARNING: The tank level LED is only an indicator. Do not use the system if the LED is red.

2.3 Argent control panel

2.3.1 One button

Press the "FLUSH" button to start the automatic flush cycle, after which the toilet will be refilled with a small amount of water, ready for the next use.

2.3.2 Two buttons

Press the "BEFORE USE" button before using the toilet. This will fill the toilet with a small amount of water. Press the "FLUSH" button after using the toilet. This will start the automatic flush cycle, which will empty the toilet.

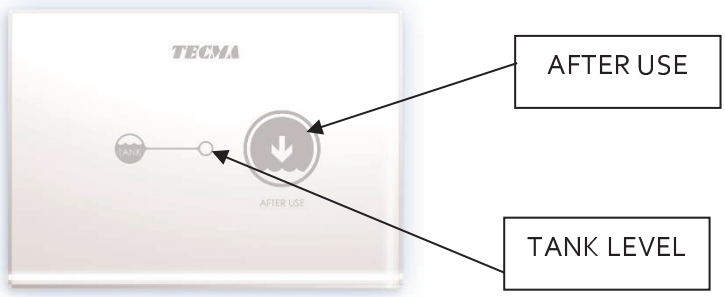
NOTE: It is also possible to adjust the amount of water used during every flushing cycle directly from the connected remote control unit. A specific regulator placed on its rear increases the amount of water if turned clockwise, or decreases it if turned anticlockwise.

The recommended water level is 1 cm above the ceramic outlet.

2.4 Touch control panel

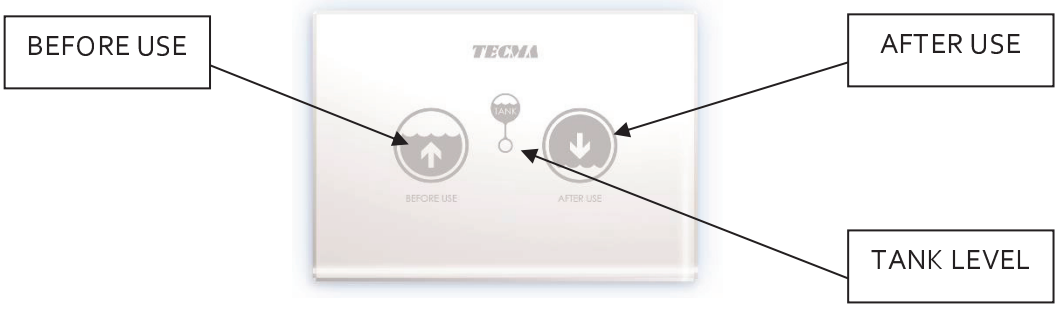
2.4.1 One button

Press the "AFTER USE" touch button to start the automatic flush cycle, after which the toilet will be refilled with a small amount of water, ready for the next use.



2.4.2 Two buttons

Press the "BEFORE USE" touch button before using the toilet. This will fill the toilet with a small amount of water. Press the "AFTER USE" touch button after using the toilet. This will start the automatic flush cycle, which will empty the toilet. The Touch Panel two buttons locks the "Before Use" button when the tank level Led turns red (tank full).



NOTE: It is also possible to adjust the amount of water used during every flushing cycle directly from the connected remote control unit. A specific regulator placed on its rear increases the amount of water if turned clockwise, or decreases it if turned anticlockwise.
The recommended water level is 1 cm above the ceramic outlet.
The one- and two-button Touch panels allow you to program the control panel backlight or to set the panel on standby before starting the cleaning procedure described in paragraph 2.5.3.2.

WARNING: The tank level LED is only an indicator. Do not use the system if the LED is red.

2.5 Control panel with "SMART FLUSH" technology

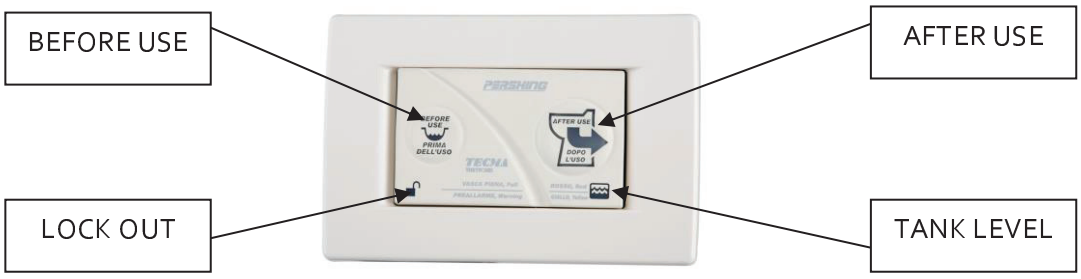
2.5.1 Premium

Press the "BEFORE USE" button before using the toilet. This will fill the toilet with a small amount of water. Press the "AFTER USE" button after using the toilet. This will start the automatic flush cycle, after which the toilet will be emptied if the "marine" mode is enabled. Alternatively, a small amount of water will remain in the toilet if the "mooring" mode is enabled.

To switch from mooring mode to marine mode, press and hold the two buttons at the same time until the "LOCK OUT" LED starts blinking. This will change the mode.

The control panel is equipped with a 3-colour LED, which indicates the blackwater tank level. (Refer to par. 3.5.

As soon as the maximum level is reached, the sensor disables the functions of the push-button panel, preventing use of the toilet.



To force this block and enable the control panel, press both buttons at the same time twice. The "LOCK OUT" LED turns on to indicate that the control unit is in *lockout* mode.

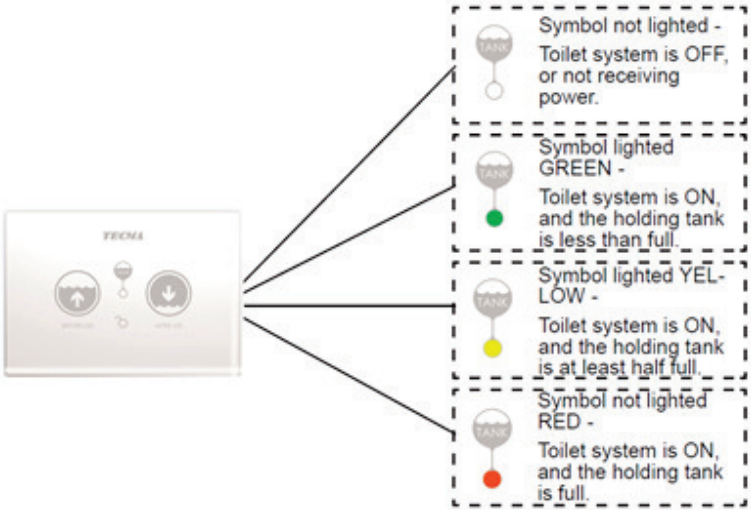
For detailed programming of the Premium control panel functions (Smartflush Technology) refer to par. 2.5.3.1.

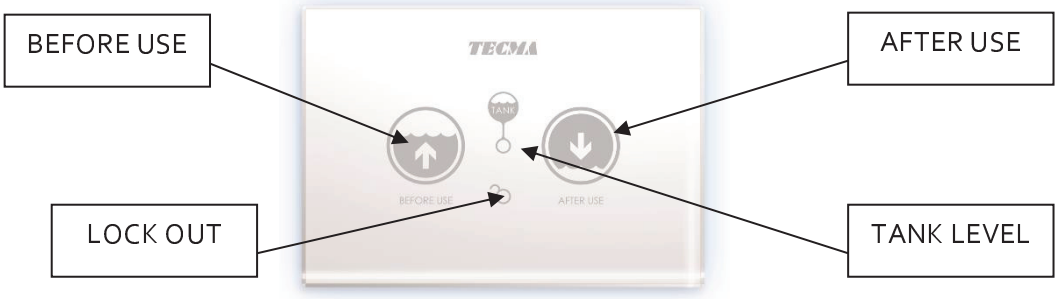
2.5.2 Premium Touch

Press the "BEFORE USE" button before using the toilet. This will fill the toilet with a small amount of water.

Press the "AFTER USE" button after using the toilet. This will start the automatic flush cycle, after which the toilet will be emptied if the "sailing" mode is enabled. Alternatively, a small amount of water will remain in the toilet if the "mooring" mode is enabled.

To switch from mooring mode to sailing mode, press and hold both buttons until the "LOCK OUT" LED starts blinking. This will change the mode.
The control panel is equipped with a 3-colour LED, which indicates the blackwater tank level. As soon as the maximum level is reached, the sensor disables the functions of the push-button panel, preventing use of the toilet.





To force this block and enable the control panel, press both buttons at the same time twice. The "LOCK OUT" LED turns on to indicate that the panel is in *lockout* mode.

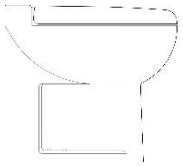
2.5.3 SMART FLUSH function programming

2.5.3.1 Sailing or Mooring mode

Set the system to **sailing mode** if you plan on sailing often. The toilet **will remain empty after use**. Only a small amount of water will be added to create a water trap. This will avoid accidental water spilling caused by motion of the vessel during navigation.

SAILING MODE: the toilet bowl remains **empty** at the end of the flush cycle

1. The bowl is empty

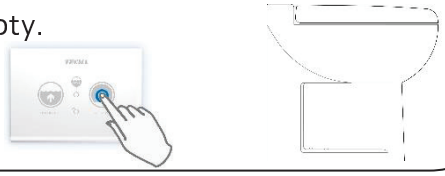


2. Press the BEFORE USE button before using the toilet.

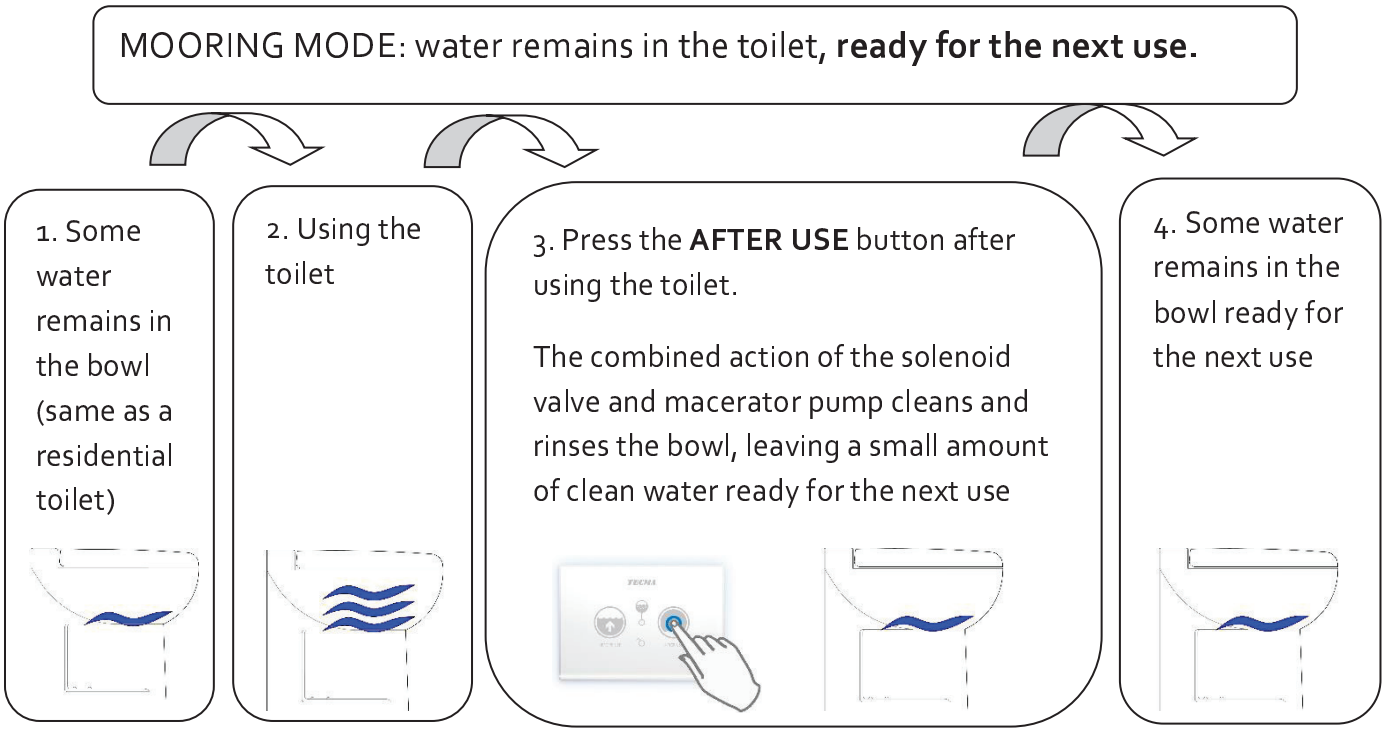
The solenoid valve will let in the desired amount of water for max 12 seconds.

3. Press the AFTER USE button after using the toilet.

A combined action of the solenoid valve and macerator pump will clean and rinse the bowl. A small water trap is created and the toilet bowl will remain empty.



Set the system to **mooring mode** if you plan on docking for a long period of time. Water **will remain in the toilet after use** allowing you to flush by pressing a single button.



Change flushing mode – from sailing mode to mooring mode (Fig.1)

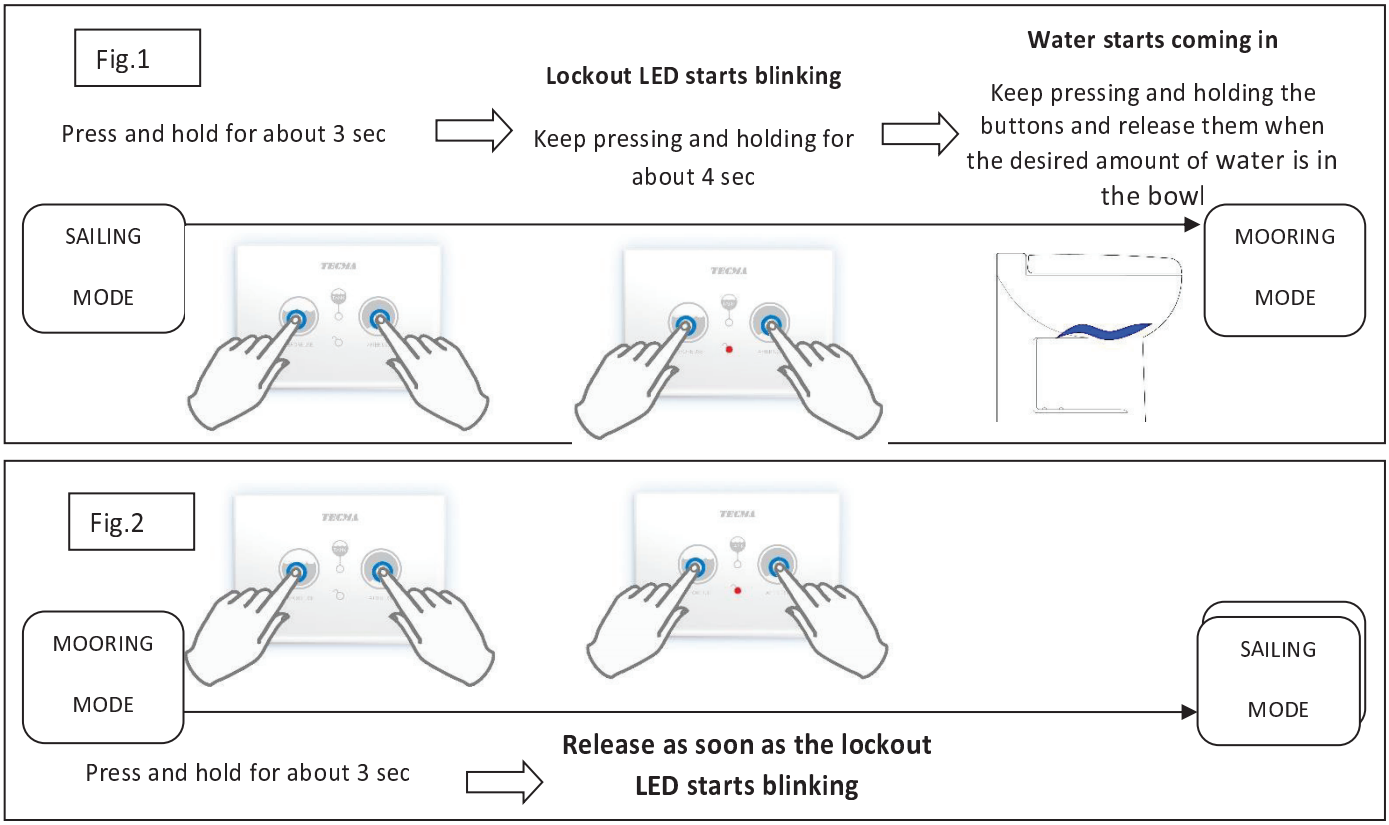
The system is set on sailing mode by default. To switch from sailing mode to mooring mode

1) Press and hold the BEFORE USE and AFTER USE buttons simultaneously for approximately 3 seconds. The lock LED will flash, indicating that the programming mode is enabled.
2) Keep pressing and holding both buttons for at least 4 seconds after the lock LED starts flashing
3) Release both buttons when the desired water level has been reached
4) This way, the amount of water to be used the next time is set and the system is set in mooring mode
5) Refer to the next paragraph to return to sailing mode

Change flushing mode – from mooring mode to sailing mode (Fig.2)

If you have already adjusted the amount of water and now want to go back to sailing mode:

1) Press and hold the BEFORE USE and AFTER USE buttons for approximately 3 seconds.
2) Release both buttons as thelock LED will flash
3) The system is now set to sailing mode

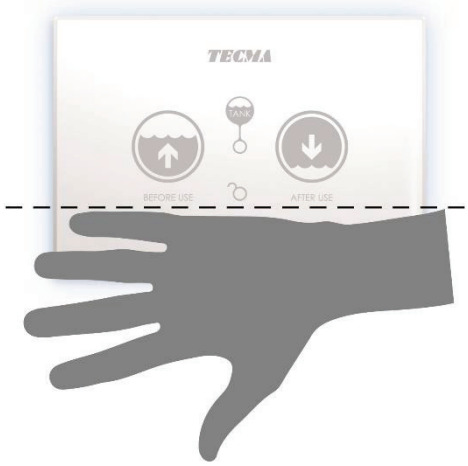


NOTE: at the end of the cycle, the toilet remains empty if the system is set in "*sailing mode*". Alternatively, a small amount of water remains in the toilet if the system is set in "*mooring mode*".

2.5.3.2 Disabling the toilet for cleaning operations and Programming the backlight.

Temporarily disable the buttons in order to clean the Touch control panel.

1. Place your hand on the panel for 15 seconds (as shown in the figure) until the backlight starts blinking.



2. Clean the panel with a cloth.

3. The buttons will be automatically enabled again after 15 seconds.

You can program the Touch panel to have the backlight:

a. Always on

b. Always off

c. Activated with a proximity sensor (default)

<u>Instructions to switch from one program to another:</u>

1. Press and hold the LED at the centre (Tank level LED)

2. While you hold the centre LED down, simultaneously press and release the BEFORE USE and AFTER USE buttons. This way, you will switch from one program to another simultaneously → ALWAYS ON → ALWAYS OFF → PROXIMITY

WARNING: do not to exceed the tank maximum level when this LED is red (lockout mode).

WARNING: If the toilet is connected to a seacock, make sure that its safety ball valve is always closed when the boat is unattended, even for a short time.

WARNING: For toilets that use fresh water systems connected (even temporarily) to the port water mains, make sure that the valve in the quay connection point is always closed when the boat is unattended, even for a short time.

WARNING: do not force the cover to close if the toilet is equipped with a soft closing system. The system is designed to close automatically and applying external force may irreversibly damage the mechanism.

WARNING: if the toilet is equipped with a bidet function, make sure not to exceed the toilet maximum level, as there is no overflow drain. Enable the macerator pump (after use) to empty the toilet.

WARNING: In case of accidental overflow (bidet), the Safety Function, enabled by pressing BEFORE USE and AFTER USE simultaneously for less than 3 seconds, allows you to flush.

2.6 PRESTIGE

The models of the Prestige line (Prestige 45 and Prestige 50) are equipped with an individual round manual button placed on the rear side (Prestige 45) or on the rear shoulder (Prestige 50) of the ceramic body. The manual activation button starts a complete flushing cycle (equal to mooring mode), which leaves clean residual water inside the toilet.

3.0 INSTALLATION AND SERVICE

WARNING: Read and understand the warnings listed in this document before installing, using, or servicing the system. Failure to comply with these warnings may cause injuries, damage, loss of the property, and electrocution.

Any modification applied to Tecma's product may result in loss of the property, injuries, or electrocution.

TECMA SRL is not liable for damage, injuries, or death resulting from improper installation, operations, or interventions.

TECMA SRL recommends entrusting qualified personnel with installing the hydraulic and electrical systems.

Comply with the system standards in force.

WARNING: Danger of electric shock, fire, or flooding. Failure to comply with these warnings may result in loss of property, injury, or death. Recommendations:

- Always use a fuse sized according to the electric circuits.
- Before starting any maintenance operation, make sure that the power supply is disconnected and that the seacocks are in the OFF position (closed).
- If the toilet is connected to a seacock, make sure that its safety valve is always closed when the boat is unattended, even for a short time.
- For toilets that use fresh water systems connected (even temporarily) to the port water mains, make sure that the valve in the quay connection point is always closed when the boat is unattended, even for a short time.
- If the Toilet is connected to a seacock, only use marine-type fittings, which must be secured to every connection with two (2) stainless steel straps. Inspect these straps frequently to check the seal and, thus, prevent any leaks.
- If the Toilet is connected to a seacock, install a marine ball safety valve (activated by a lever) in correspondence of the sea cock.
- If water fails to flow after the first two/three flushes, there may be an assembly problem or malfunction. In this case, do not use the toilet and refer to the "Troubleshooting" section.

- Only use stainless steel hardware. Always use the supplied ceramic-protection rubber inserts. Any toilet assembly errors may result in improper movements, which may damage objects or injure persons.
- The toilet is designed to dispose of human waste and toilet paper. Never flush other materials types (e.g. paper towel, wet wipes, condoms, sanitary pads, dental floss, etc.)
- Always use the screw caps, ceramic-protection rubber inserts, and connectors supplied with the toilet.
- If in doubt, please refer to your TECMA distributor.

WARNING: Flush toilet paper only.

3.1 Installation site

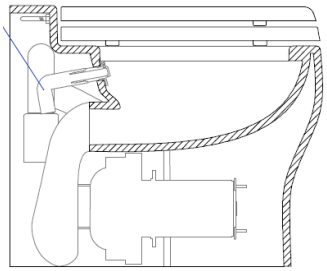
Tecma toilets are designed for installation against the wall. This is to ensure the toilet stability, optimize space and bathroom design . For hygiene purposes, it is recommended to use sealant around the toilet base.

Before starting installation:

- make sure that the blackwater tank is in a suitable position and can be reached from the toilet installation site
- make sure that the toilet configuration corresponds to the hydraulic and electric system of the boat.
- make sure that the chosen model is suitable for the installation into, taking into consideration:
  - the foot overall dimensions
  - correct seat cover opening
  - there is sufficient space to fit all the pipes without damaging or bending them inappropriately.
  - the floor plate can withstand the weight of the toilet and of a potential user, even during sailing, when these loads may be greater due to the pitching and rolling of the boat.
  - If recommended, there is any space to install a separate ventilated siphon sufficiently above the toilet. This installation is recommended in the cases described in section 3.8 "System" The Flexi 2G line integrates an air admittance valve already in the discharge internal hose.

- In the case of non-centralized systems (sea water) with toilet installed below the waterline, make sure the space to install the safety valve ventilation necessary authorization and discharge at a sufficiently higher proportion to it.

- all the FLEXI LINE 2G SHORT versions self-contain all components internally. It is no longer required to verify the space under the usual installation step.



- The **EVOLUTION** model installation requires to install a vertical fixing plate (not provided) or to suitably secure the load on the bulkhead.

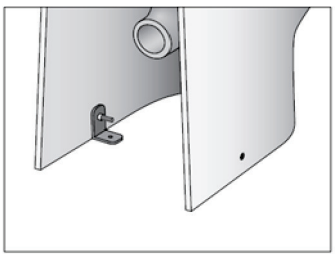
3.2 Floor fixation

The floor fixation of each head of Flexi Line and Design is using nylon brackets with side screws and floor anchors (excluding Xlight and Evolution with special mounting kit).

Each toilet is provided with a template with the measures for drilling to the floor. In the specific case of the new Flexi 2G line (excluding Elegance CUT), the template reverse side is a scaled template to easily locate the exact location for drilling to the floor.

The installation of the Flexi 2G line is completed in a few steps as described below:

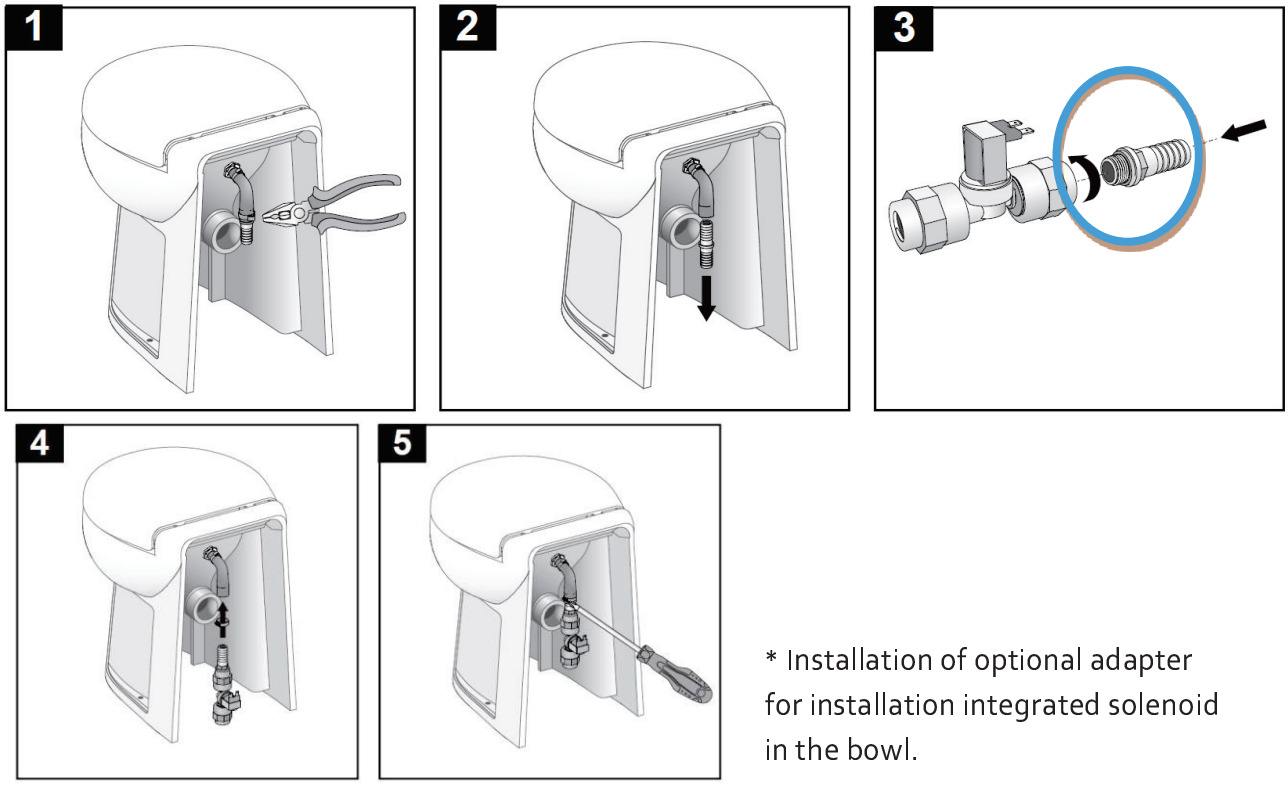
• Place the template against the wall in a central position to the final position of the WC
• Drill the floor in the drilling points scored in scale on the template for all Flexi 2G models (except Elegance CUT)
• Fasten the screws to the brackets and place the toilet.
• Secure with the side fastening screws. Horizontal screw tightening must be made with a maximum torque of 2.5 Nm.



3.3 Solenoid valve

Before installing the solenoid valve, clean the pipes (brazing or welding residues, metal chips, seal material). A filter inside the solenoid valve prevents failures resulting from water impurities. We recommend cleaning the solenoid valve filter regularly. After service, screw both fitting back with the respective gaskets to the solenoid valve and tighten with a torque of 2 N/m. Do not force the solenoid valve when tightening it. Do not obstruct the pilot hole at the valve outlet. The entire piping section must be free from bottlenecks. Comply with the recommended pressure range (refer to section 7.0).

The solenoid can be regularly installed on the fresh water supply line, or - alternatively - integrated in the WC through an optional hose connection that connects directly the water inlet tube as shown in the following sequence.



* Installation of optional adapter for installation integrated solenoid in the bowl.

3.4 Inlet pump

Install the inlet pump in a dry, ventilated place. The pump can't be submerged or exposed to sprays.

Install a fuse in the power supply circuit.

The pump can be assembled horizontally as well as vertically (in this case, the pumping unit must face downwards).

Install the filter before the pump.

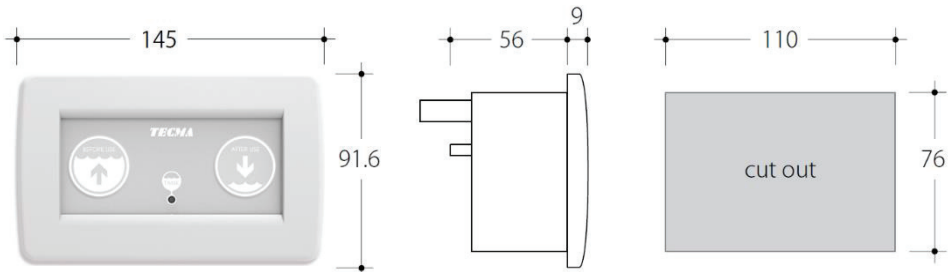
Install a vent valve to prevent siphoning phenomena, especially if the toilet is installed below the floating line

WARNING: The inlet pump must not be used as a check valve. Failure to use a vent valve may result in flooding, loss of the property, injuries, or even death.

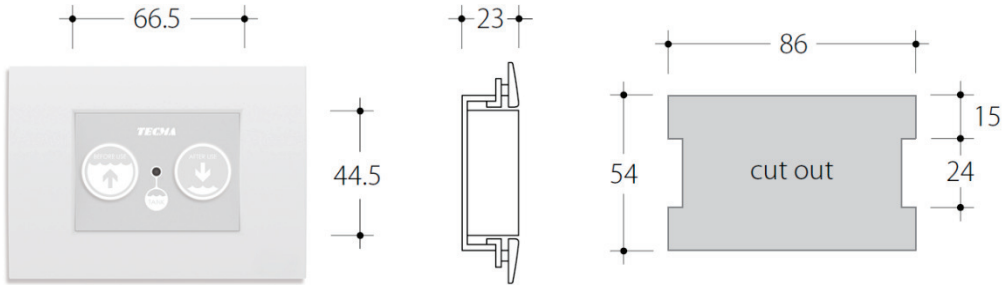
3.5 CUT-OUT control panels

Apart from the control panel "All in One" which integrates the controller in the wall interface, all panels are equipped with a control unit that can be installed either directly in the toilet or in a recess outside if more convenient. All control panels are fitted with specific electric connectors.

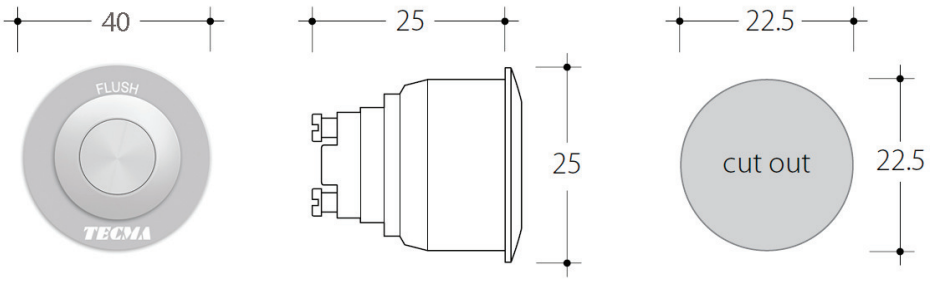
3.5.1 Cut out for All-in-one control panel:



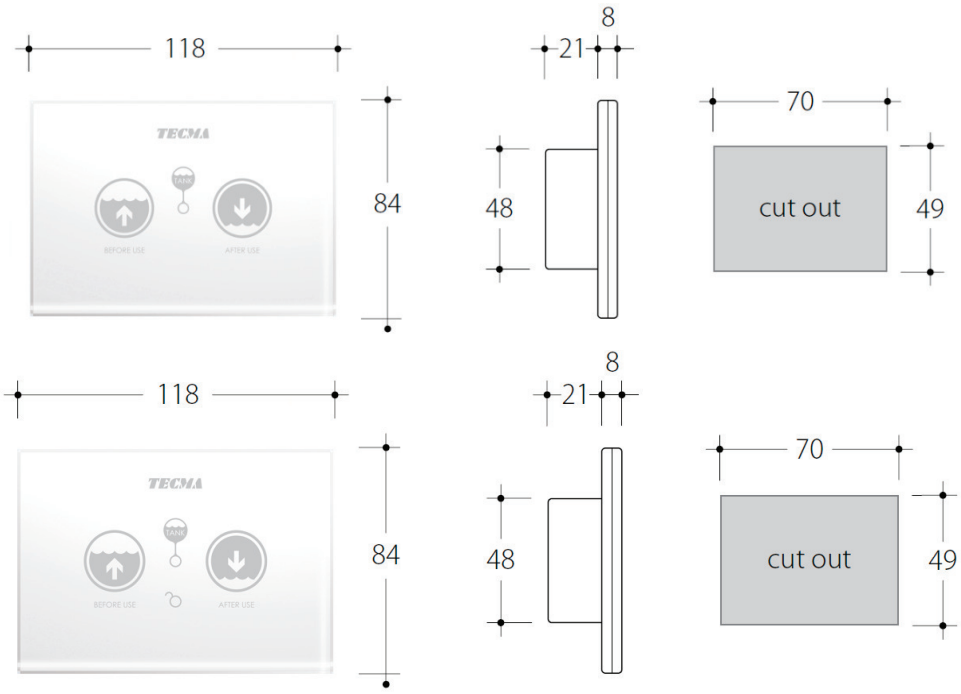
3.5.2 Cut out for Multiframe control panel:



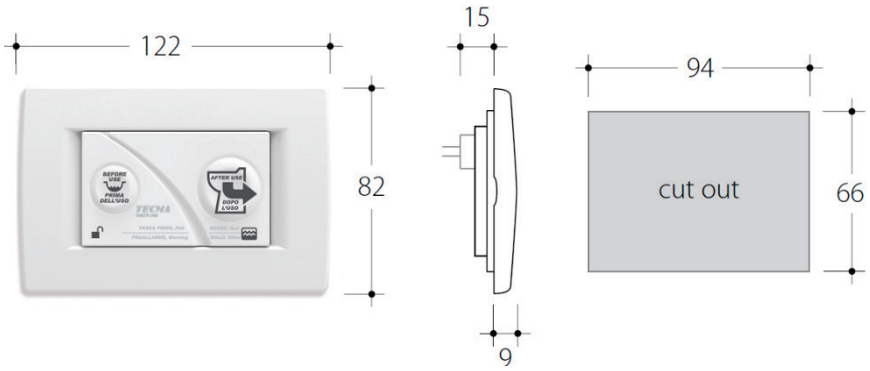
3.5.3 Cut out for Argent control panel:



3.5.4 Cut out for Touch/Premium Touch control panel:



3.5.5 Cut out for Premium control panel:

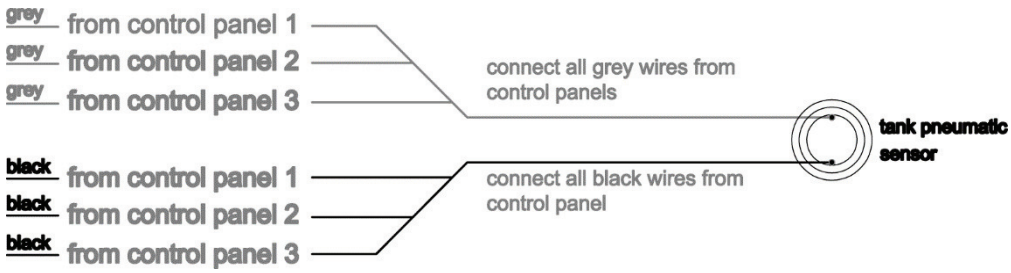


3.6 Tank sensors

Tecma sensors can be of two types: - Pressure switch
- Field-effect (Mirus cel

3.6.1 Pressure switch

The pressure switch sensors can run with any panel. They are connected to the control unit with the grey/black wire. In the presence of several control units on board, you must wire all the control units together before connecting the sensor.



If a sensor with a pressure switch and premium control panel is used, each toilet must be equipped with an STA (Single Toilet Adapter).

All STA wires are 16awg (1.55mm), length equal to 25 cm

The voltage of the cables coming from the sensor (A, B, C) should range between 6-24 V dc

A+B blackwater tank full (4/4) contact

A+C blackwater tank almost full (¾)contact

A – BLACK - this is shared by the full and almost full level

B – RED - this is the contact from the sensor (full)

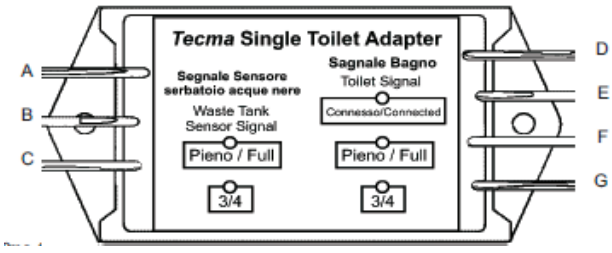
C – WHITE - this is the contact from the sensor (almost full)

D + E full signal for the control panel

D – RED E – BLACK

F + G almost full signal for the control panel

F – WHITE G – GREEN



STA installation recommendations:

- Do not connect it if the almost full (¾) level is not required.

- Protect all connections from corrosion

-A, B, and C is the input voltage (from the collection tank)

-D, E, F, and G is the output voltage (towards the control unit)

- If no sensors are installed, only connect D+E to the control unit

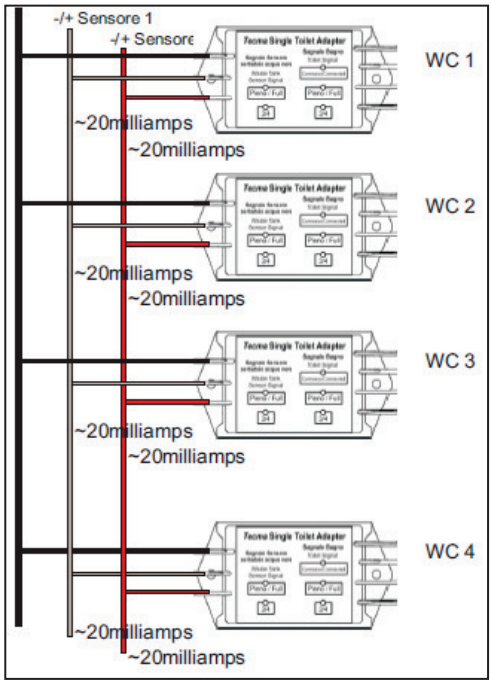
- If STA is near the tank, it is possible to extend wires D, E, F, and G up to 40 m *

- If STA is near the toilet, it is possible to extend wires A, B, and C up to 100 m *

- When properly connected, the LED light "CONNECTED" will flash

* It always depends on the type of electrical system configuration

Multiple STA installation



WARNING: In order to run properly, the control unit of the premium control panel must always have a level sensor connected for 4/4 or STA (D+E wire).

3.6.2 Field-Effect

These sensors only run with the premium control unit. They can be attached outside of the blackwater tanks (max thickness of 10 mm).

- Full Tank Sensor
- Mid Tank Sensor – Optional

- Use isopropyl alcohol (not included) to clean the side of the tank at the top - approximately on the left-right centreline where the sensor will be mounted. When thoroughly clean and dry, firmly press the sensor into place. (Note: Wires can face any direction. The direction of the sensors does not affect its operation).

- If available follow the same procedure for the Mid-Tank sensor. However, keep in mind that it should be assembled on the left-right centreline, approximately half way up the side of the tank.

The Full Tank Sensorhas to attached at the highest point on the tank for the tank's capacity, or where the installer wants the Tank Full level to be.

The sensor has a removable cover over the pressure-sensitive adhesive pad.
In case of installation with premium control units, it is not necessary the use of the STA.

3.7 Equipment required

- Electric drill with insert or screwdriver for the stainless steel straps.

- Electric drill or screwdriver to tighten the assembly screws

- Jig saw to make the control panel housing

- Adjustable wrench to tighten the solenoid valve

3.8 SYSTEM

Power supply: *On the rear side of the product there is a label that specifies the power voltage value: 12v /24 v/110 v/230 v (refer to section 8 for electric wiring)*

Clean water supply*:* TECMA toilets can be used with water coming from a single pump/autoclave (centralised systems) or from a single inlet pump connected to a sea cock (single systems).

WARNING: DO NOT USE the solenoid valve with sea water

Blackwater discharge: TECMA toilets have powerful macerator pumps, which push blackwater to the collection tanks.

WARNING: Toilet configuration (A). The toilet is installed below the floating line. Install a VENT VALVE at a height greater than the line. See fig. 1.

WARNING: Toilet configuration (B). Toilet installed above the floating level. Install a VENT VALVE to prevent siphoning phenomena that may cause unpleasant odours. See fig. 1.

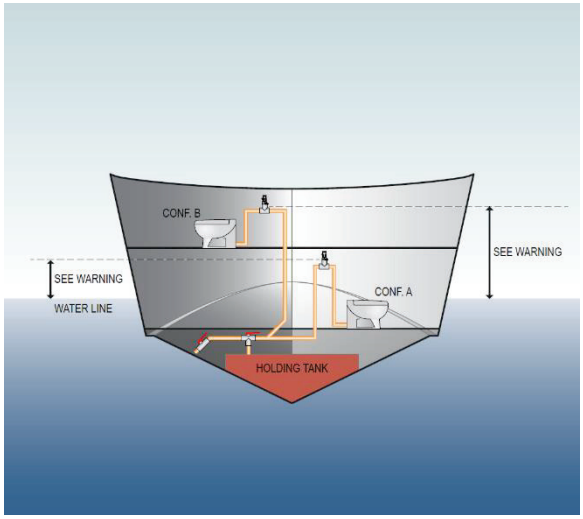


Fig.1

WARNING: The floating line must be calculated taking into consideration the various sailing trims. See fig. 2.

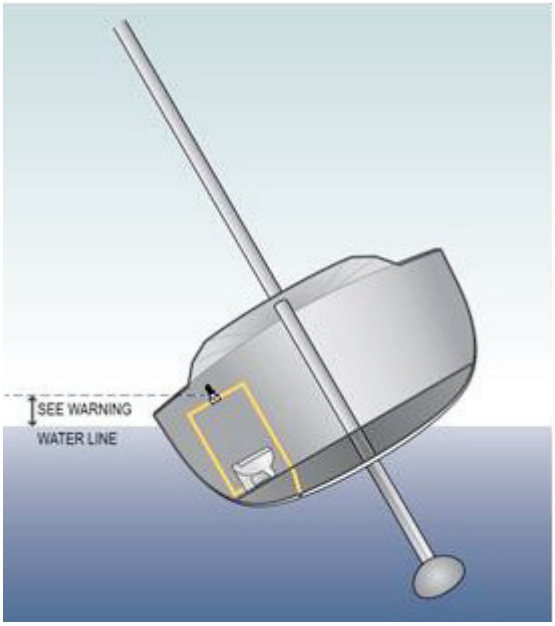


Fig.2

WARNING: Comply with the standards in force when designing and installing the blackwater systems and during the flushing procedures.

3.8.1 CENTRALISED SYSTEM - FRESH WATER

3.8.1.1 - Hydraulic system

The TECMA's toilet flushing cycles use the tank fresh water.

The solenoid valve can be integrated in the toilet, directly connected to the inlet/nozzle via the supplied black rubber pipe. Alternatively, it can be mounted in the fresh water system (the one that serves sinks, showers, and other utilities). When the toilet is used, the control panel opens the solenoid valve through the control unit. The water is supplied via the autoclave, which pressurises the entire hydraulic system on board. Diagram in section 8.5.

WARNING: The recommended system operating pressure is equal to 3 bar

WARNING: Keep the filters of every solenoid valve clean.

3.8.1.2 – 12V/24V Electrical system

Diagrams in section 8.6/8.7/8.8/8.9. Every control unit is wired by connecting

Black/brown	bowl motor
Black/Blue	solenoid valve
Black/Grey	Tank sensor
Black/Red	Power supply (with fuse on positive)

The autoclave is always live regardless of the sanitary system used. The "before use" button opens the solenoid valve, whilst the "after use" button starts a program that opens the solenoid valve, then it activates the pump and lastly activates the solenoid valve again for the final rinse.

3.8.1.3 – 110V/230V Electrical system

Tecma products with a 110V/230V motor have a plug, which must be connected to the power supply. Diagrams in section 8.10/8.11

Plug	Main power supply (motor and solenoid valve) - Shuko CEE/ US-Canada
Black/Brown	transformer/control unit

Black/Blue	transformer/control unit
Black/Grey	Tank sensor/control unit
Black/Red	transformer/control unit

WARNING: electrical systems must be connected by qualified personnel. To choose the wire section, consider the length and power consumption. (see section 7.0). Use the connectors provided with the TECMA sanitary system.

3.8.2 SINGLE AND MULTIPLE SYSTEM - SALT WATER

3.8.2.1 – Hydraulic system

The flushing cycle of the TECMA marine toilet uses external water via a sea cock. Diagrams in section 8.1/8.2.

When the flushing cycle is started, the control panel starts an inlet pump, which pushes the water by means of a specific system.

WARNING: The inlet pump is not used as a check valve. This way, water can flow even when the inlet pump is not running

WARNING: If the toilet is below the floating line, install a vent valve on the inlet and flushing system. Consider the heeling in case of sailing boats.

WARNING: The inlet pump is not available for models with 110 V/230 Vac motors

3.8.2.2 – Electrical system

Diagram in section 8.3/8.4. Every control unit is wired by connecting

Black/brown	toilet motor
Black/Blue	Inlet pump
Black/Grey	Tank sensor
Black/Red	Power supply (with fuse on the red wire)

The "before use" button starts the pump, whilst the "after use" pump starts a program, which activates the pump before starting the toilet motor and then activates the pump again for the final rinse.

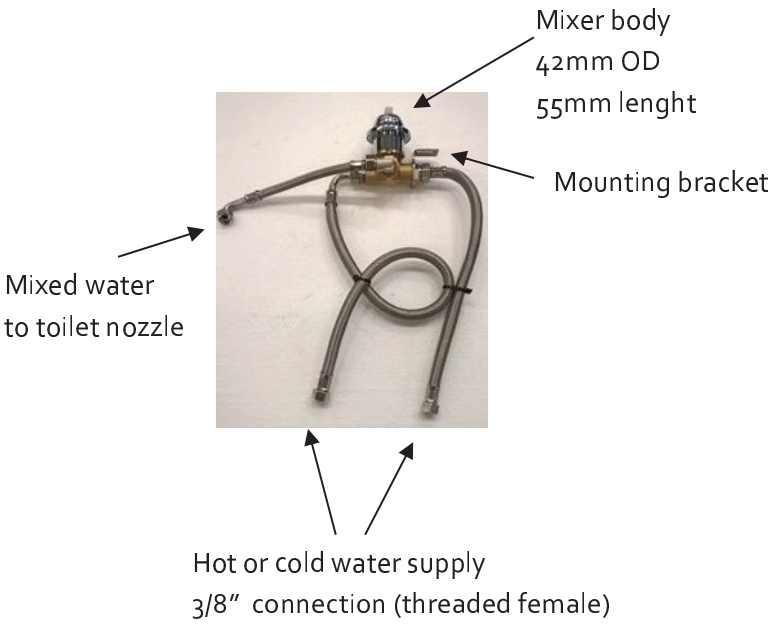
3.8.3 - System with integrated Bidet

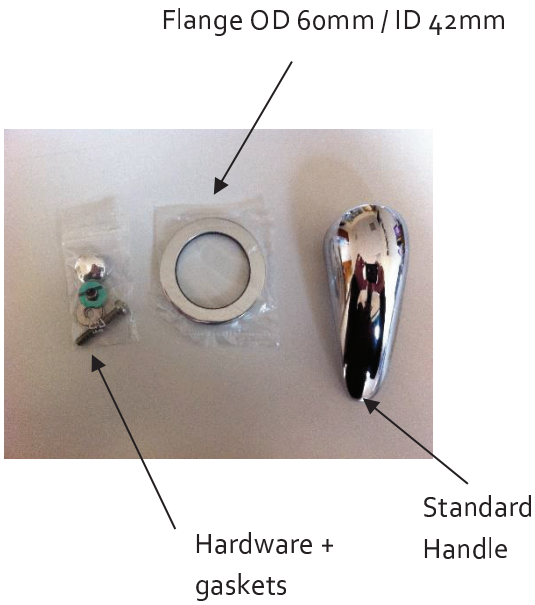
The integrated bidet option offers the possibility to use the toilet in a dual mode: toilet and bidet. The special spray nozzle has been designed to connect separately the fresh water for the toilet flush and the water for the bidet function mixed and controlled with an elegant handle also provided.

On most configurations, the mixer and the handle are integrated in the ceramic toilet body , while on the toilet design Privilege and Evolution they are installed remotely wall mounted.
(see technical sheets to verify the type of integration possible for each model - integrated or wall mounted)

Connect hot and cold water from the fresh water system to the mixer.
Use the handle to adjust the flow and the temperature of the water.
Whereas integrated in the ceramic the mixer/handle is always positioned on the right hand side.
Whereas wall mounted (Privilege/Evolution) the default length of the hose is 60cm, while this can be elongated by the shipyard according to the specific needs
<u>Mixer and handle technical specifications:</u>

Hot water connection	3/8"
Cold water connection	3/8"
Mixed water to toilet nozzle	3/8"
Mixer body diameter	O.D. 42mm
Flange	O.D. 60mm
Handle	Standard
Hadware	gaskets + mounting screws

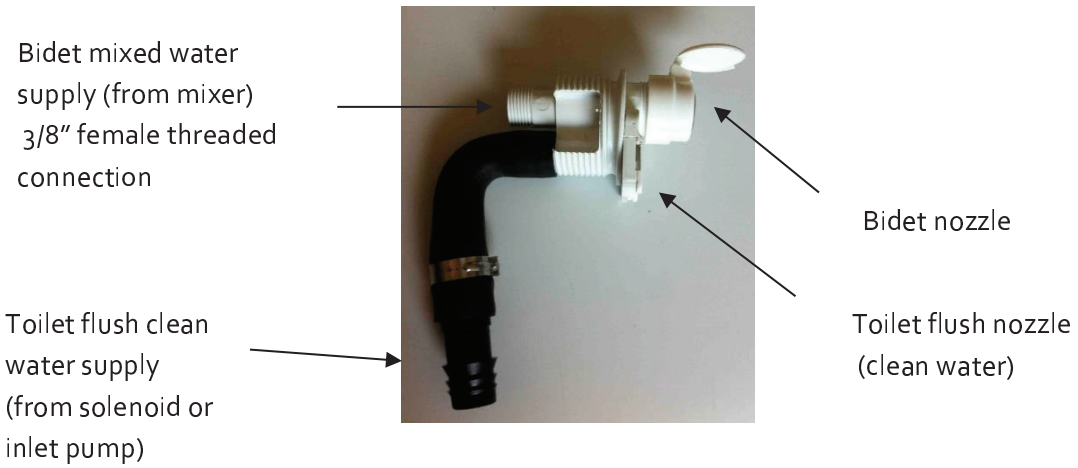




The nozzle

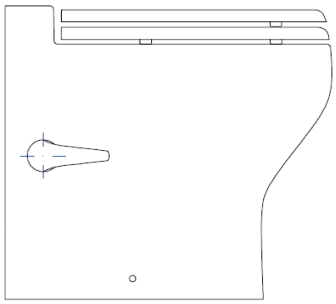
The nozzle is mounted directly on the toilet ceramic body.

Plug the hoses and the installation is done!



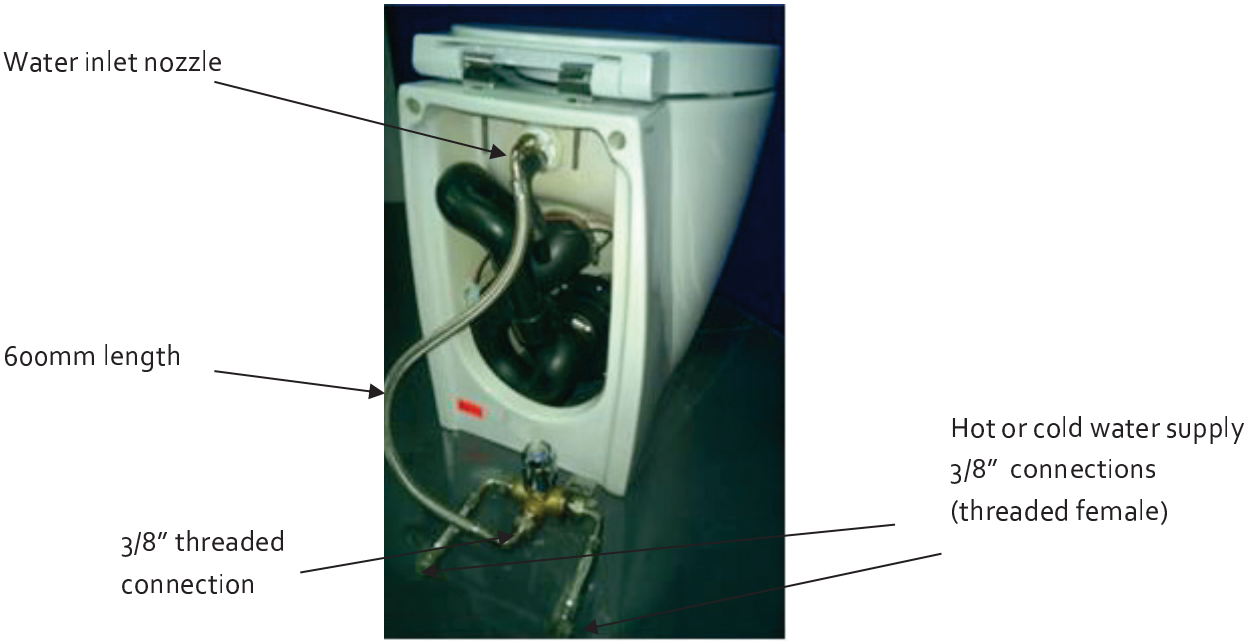
Option 1: Mixer and handle integrated to the ceramic toilet *

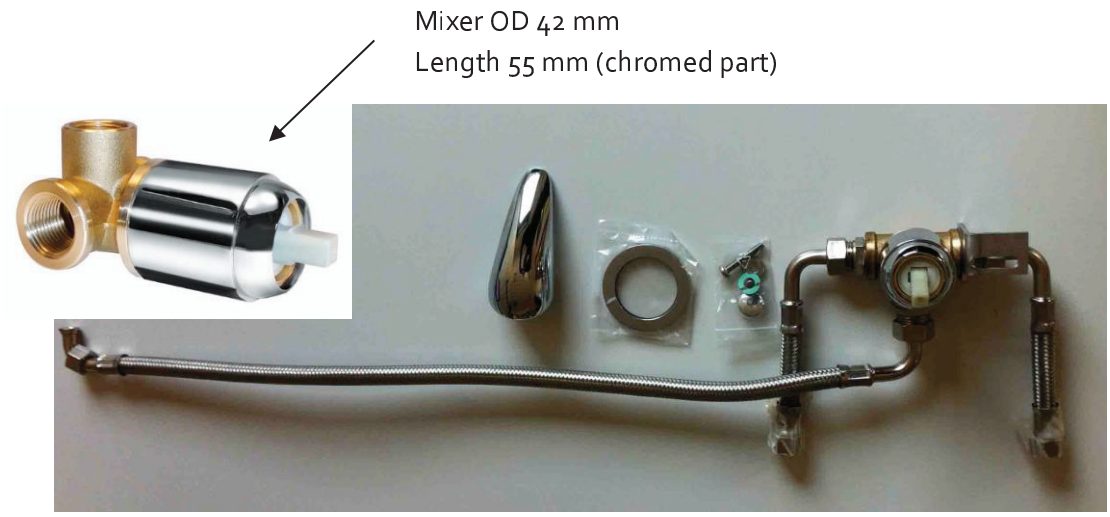
profile view - bidet function



*refer to each model PIS to check if the bidet function is available with integrated or wall mounted mixer. Refer to each model technical drawing to check the exact position of the handle (always on the right hand side)

Option 2: Mixer and handle wall mounted (Privilege / Evolution) **





**refer to each model PIS to check if the bidet function is available with integrated or wall mounted mixer

Any other commercial handle/mixer can alternatively be used to mix the water
The customer is free to select a wall mounted mixer from the same collection of the bathroom, and use it to control the bidet integrated in the toilet. In this case do not use the mixer provided and install the mixer/handle that you prefer. Make sure to do the plumbing right. In case of any doubt contact Tecma technicians.

4.0 Troubleshooting

4.1 Toilet is noisy

The pump may be partially blocked if a solid object or paper other than toilet paper has been flushed. Flush repeatedly. If the problem persists, open and inspect the macerator pump. Contact a TECMA service centre, which will provide qualified assistance. Check the position of the sleeves if the water flow generates excessive noise, especially at the end of flushing.

4.2 Water is added but the pump fails to flush

There might be a problem with the motor or control panel. Use a tester to check whether the panel provides current to the motor or not.

If both the panel and motor run correctly, make sure that the sleeves are mounted correctly and are not obstructed.

4.3 The pump flushes but water is not added

There might be a problem with the solenoid valve/inlet pump or control unit. Use a tester to check whether the control panel provides current or not. Make sure that the operating pressure of the system is within the parameters indicated in section 7.0.

4.4 The pump flushes slowly

Partial obstruction of the rubber sleeves may affect pump performance.

4.5 There is water left in the toilet

The check valves require a water column measuring at least 20 cm to obtain a good closing pressure. Make sure that the system is equipped with vent valves. Make sure that the solenoid valve closes properly. This is normal when you use an All-in-One control panel with one button. This is normal when you use a premium control panel in mooring mode.

4.6 The control panel LED is always red

Make sure that the sensor is installed and wired properly.

In case are used TECMA pneumatic sensors, if ventilation of the blackwater tank is not sized properly, the pressure inside the tank will increase triggering the sensor at every flush.

If the LED remains on after having removed the grey/black connector, which connects the sensor to the control unit, there might be a problem with the control panel.

4.7 Gurgling

Make sure that the system is equipped with specific vent valves.

4.8 Leaks

Remove the toilet for an accurate inspection. Make sure that there are no cracks on the ceramic, detect the presence of leaks in the system connections, and replace the part that leaks.

4.9 Unpleasant odours

Make sure that the unpleasant odour is actually coming from the toilet. Often, showers, bidets, and sinks have siphons that dry quickly causing unpleasant odours.

If the unpleasant odour comes from the toilet, make sure that the system is equipped with vent valves.

5.0 F.A.Q.

5.1 Is it possible to connect several toilets to the same line?

Yes. In this case use "Y" connections instead of "T" connections. Always use vent valves. Fit a proper pipe system based on the number of toilets used.

5.2 What kind of maintenance is required?

TECMA products do not need special maintenance or winterisation. We recommend cleaning the tanks and pipes with Thetford Tank Freshener.

5.3 Is it possible to use acid or aggressive products?

Plastic components of the TECMA toilet have been tested with several marketed cleaning products. Avoid using products such as vinegar, acetone, trichlorethylene. Avoid using solvents so as not to affect the rubber components. Moreover, avoid using gel and foams in order not to obstruct the vent valves. Do not dispose of harmful substances into the sea.

5.4 What kind of tube must be used?

The TECMA macerator pump uses any type of pipes (armovin, PVC, safeodor) to discharge. We always recommend using a DN 40 pipe.

5.5 Which spare parts should I keep on board?

Besides a control panel, a motor, and the solenoid valve, we recommend keeping a sleeve kit to completely regenerate the toilet.

5.6 Do I have to install a ventilated siphon behind the toilet bulkhead?

In case of non-centralized systems (sea water) with toilet installed below the waterline it is mandatory to install a ventilated siphon sufficiently higher than that. The exact height must be determined according to the maximum boat heeling angle.

For any sytem with long discharge pipes and risk of siphoning, it is always recommended to install a ventilated siphon on the line.The Flexi 2G line is equipped with a ventilation valve - integrated in the internal discharge hose- which , in most cases, replaces the siphon behind the bulkhead.