

THETFORD
Marine

TECMA

20/50 ft



Compact Line

COMPACT LINE

Toilette Maceratrici
Macerator Toilets
Zerhackertoilette
Toilette broyeur

MANUALE DI INSTALLAZIONE ED USO

INSTALLATION AND USE MANUAL

AUFSTELLUNGS UND GEBRAUCHSANLEITUNG

MANUEL D'INSTALLATION ET D'UTILISATION

ENGLISH INDEX

INSTALLATION AND USE MANUAL

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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 equipment 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. 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 a built-in 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.
- The warranty applies only to the product. The costs of repairs carried out by unauthorized personnel and / or express deliveries and / or collateral damage are not subject to reimbursement as a guarantee.

REQUEST OF SPARE PARTS UNDER WARRANTY

- Any request under warranty must be submitted to TECMA authorised assistance centres:
 - a) Copy of the boat registration certificate or of the product invoice.
 - b) 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). 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

TECMA products do not need special maintenance or winterisation.

It is however suggested periodically and in preparation for the winter of:

- Perform maintenance of the solenoid valve and / or intake pump filters.
- Perform rinsing cycles with clean water.
- 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

Compass line is equipped with a heavy duty thermosetting Seat & Cover with Soft Closing. The Nano toilette is equipped with a high design Thermosetting Seat & Cover without Soft Closing.

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. MARINE TOILET INSTALLATION



WARNING: Read and understand the warnings listed in this document before you install, operate, or service this system. If you do not obey these warnings, there is a risk of property loss, injury, or electrocution. Do not make any changes to this unit as this could result in property damage, injury, or electrocution.

Tecma has no responsibility or liability for damages to equipment, injury, or death that may result from the system's improper installation, service, or operation.

Tecma recommends that plumbing and electrical work be performed by a licensed tradesperson. Local permit and code compliance is required.



WARNING: Danger of Electric Shock, Fire and Flooding. Failure to heed these warnings can result in loss of property, injury and death.



WARNING: Do not leave children unattended to use the toilet. Do not put body parts inside the toilet.



HAZARD WARNING: Contact with moving part

ALWAYS disconnect power to the toilet before servicing. There is a serious injury risk by placing hands/fingers in the bowl discharge because of the high-speed macerating impeller located directly below the bowl discharge. NEVER attempt to dis-lodge an obstruction in the pump by placing your hands/fingers in harm's way while it is running.

- Always use ABYC-RECOMMENDED CIRCUIT BREAKER/FUSE AND WIRE GAUGE.
- Always be sure unit's ELECTRICAL POWER is TURNED OFF and that SEACOCKS are CLOSED or in the "OFF" position before beginning work.
- If Toilet is connected to any through-hull fittings, ALWAYS CLOSE or TURN OFF ALL SEACOCKS when BOAT IS UNATTENDED – even if only for a minimal time.
- For units using fresh water that are (at any time) connected to shore side municipal water supply systems, SHORE SIDE SYSTEM must be DISCONNECTED IF BOAT IS LEFT UNATTENDED – even if only for a minimal time.
- If unit is connected to any through-hull fittings, ALL flexible tubing connected directly or indirectly between toilet and ANY through-hull fitting must be of marine quality and must be connected to each fitting with TWO (2) STAINLESS STEEL WORM DRIVE HOSE CLAMPS. These HOSE CLAMPS must be INSPECTED FREQUENTLY TO ENSURE TIGHTNESS, thereby preventing leaks.
- If unit is connected to any through-hull fittings, PROPERLY INSTALLED SEACOCKS MUST BE INSTALLED to these lines. All seacocks (or secondary valves fitted in connecting, intermediate tubing) MUST BE FULL-BORE VALVES and READILY ACCESSIBLE to all toilet users. Use lever-actuated, full-bore, marine quality seacocks and valves. Screw-down gate valves are not recommended.

- IF WATER DOES NOT FLOW INTO TOILET DURING THE FIRST TWO OR THREE FLUSH CYCLES, it has been improperly installed or has malfunctioned. Discontinue use of toilet until installation has been corrected or repairs are made. Please review this manual's Installation section or refer to the Troubleshooting section.
- Use ONLY STAINLESS STEEL mounting hardware. DO NOT INSTALL WITHOUT PLASTIC MOUNTING HOLE INSERTS IN PLACE. Failure to properly mount toilet may result in toilet becoming loose or damaged.
- Only human waste and toilet paper should be put into the toilet. Never flush FOREIGN MATERIALS (e.g., paper towels, pre-moistened wipes, condoms, feminine hygiene products, dental floss, household garbage, etc.).

2.1 Discharge hoses

This toilet is designed to discharge waste into a 1.5" ID marine-grade sanitation hose/pipe.



IMPORTANT: Use only marine-quality reinforced hoses for installation. Rigid PVC pipe may also be used for the discharge line. If using flexible hoses, avoid sharp bends that may cause the hose to kink and restrict flow, and secure the hoses to prevent abrasion. Always inspect the final installation for leaks.

2.2 Parts list

Please begin by checking to see that all parts/accessories were included in your Compass package:

- 1 – Tecma Toilette with built-in macerator (white, 12V/24V)
- 1 – Wall switch and controller
- 2 – 1/4 10 x 2.5" stainless steel lag screws
- 2 – 1/4" stainless steel washers
- 2 – Plastic washers
- 2 – Bolt caps
- 2 – Hose clamps – 1 1/4" - 2", stainless
- 1 – Hose clamps (water supply)
- 1 – Lower Discharge Check Valve (with straight and elbow fittings)
- 1 – Installation/Owner's Manual

2.3 Supplies & materials

Needed to complete toilet installation:

Water Supply Kits (one kit required)

- 12V or 24V Raw Water Pump Kit
- 12V or 24V Solenoid Valve
- Raw Water Fitting Kit

Plumbing Components

- In-line Strainer
- 3/4"-diameter minimum Vented Loop – if required
- 1-1/2"-diameter minimum Vented Loop – if required
- 3/4"-diameter Marine Water Supply Hose
- 1-1/2"-diameter Marine Discharge Hose
- 1-1/2" straight coupling (as needed)
- 1-1/2" 90° coupling (as needed)

Electrical Components

- Wiring to toilet system power
- Wiring to Full Tank Sensor
- Wiring to Optional Tank Mid-Level Sensor
- Wiring from electronic controller to water pump (raw water installations)
- Wiring Harness Connectors (Model Dependant)

Supplies

- Silicone caulk (white or clear)



NOTE: To install the Tecma toilet, it is necessary to have a toilet, a control panel and a water inlet system (see appendix).

3. INSTALLATION



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.

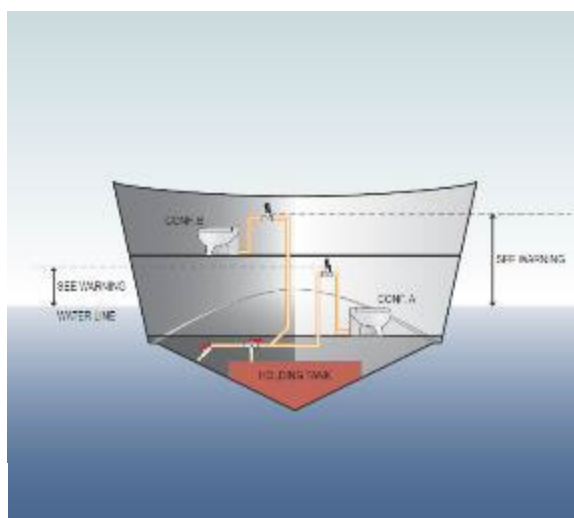


Fig. 1



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

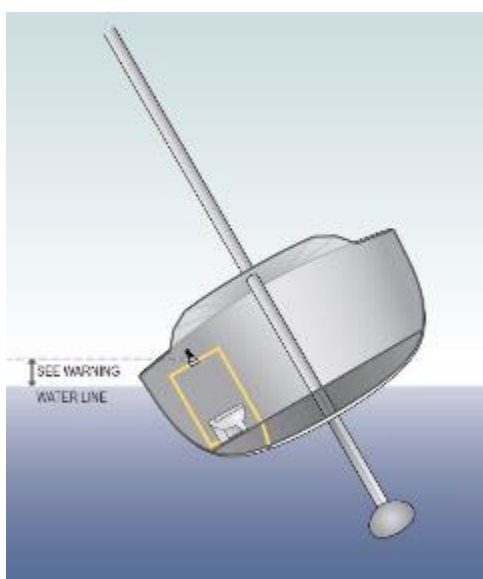


Fig. 2



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

Before beginning the installation, consider and program the following:

3.1 Mounting location

- Ideally, the toilet should be installed in a location that is higher than the holding tank. A (maximum) 6' rise between the toilet and holding tank will not impact performance.
- Using toilet and supplied template, verify that the installation site has:
 - sufficient clearance between toilet and nearby wall so that water supply hose and discharge hose are not kinked
 - room for maintenance and accessibility
- The floor supporting the toilet is level and strong enough to support toilet and weight of any potential user.
- The floor structure is strong enough to securely anchor toilet using supplied screws; 3/4" minimum.
- The flooring is water-resistant so structure and anchoring integrity are maintained.

3.2 Raw water considerations

- The Raw Water pump must be securely mounted in a dry, well-ventilated area. It should be mounted not more than 6' at any time above the heeled waterline.



DANGER: The Raw Water pump must be powered by the toilet relay module. Use of any pump that draws more than 15 amps requires installation of a pump contactor relay. Do not wire pump directly to a D.C. power source so that it is controlled by its pressure-activated switch. If a leak were to occur when wired directly, the pump would run continuously and create risk of sinking of the boat and loss of life.

- An in-line strainer **MUST** be installed to protect the system. Failure to use an in-line strainer may void product warranty.
- A Vented Loop of proper diameter **MUST** be installed if – **UNDER ANY CIRCUMSTANCE or CONDITION** (including heel trim or load):
 - Toilet is connected to a through-the-hull fitting and rim of toilet could **EVER** be in a position below the waterline.

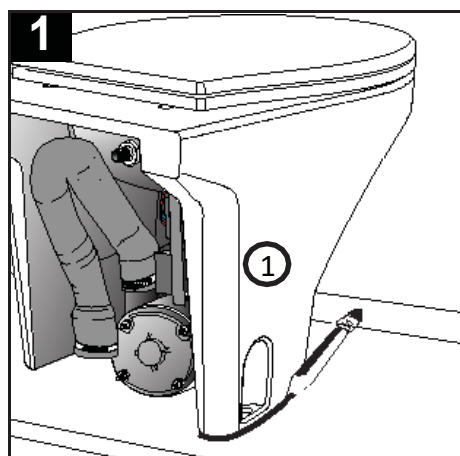


DANGER: Failure to use a Vented Loop in raw water pump installation sites can lead to water flowing into the toilet from the outside (siphoning) which can cause loss of property and life!

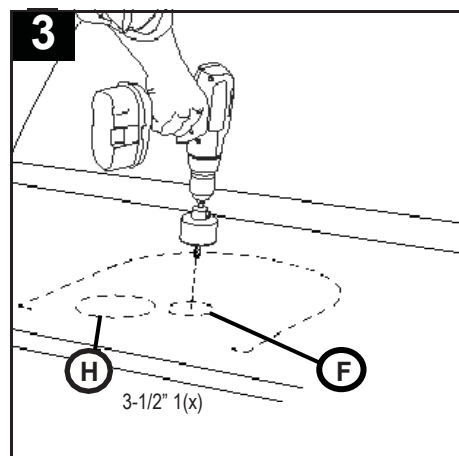
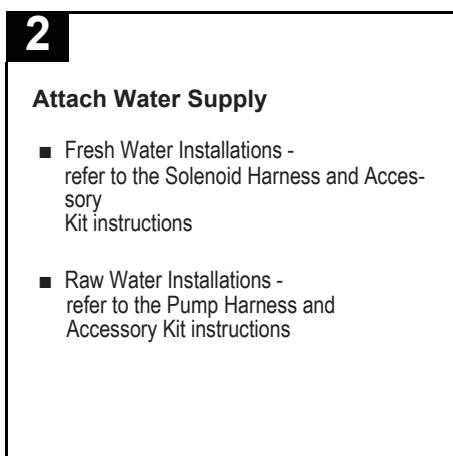
3.3 Required tools

- 1-1/4" hole saw
- 3-1/2" hole saw
- saber saw
- 7/16" socket and ratchet or 7/16" wrench
- Electric drill
- 1/8" drill bit

3.4 Installation



Place ① in permanent position; trace outline.



Locate ⑥ and ⑦; cut hole

Materials not provided:

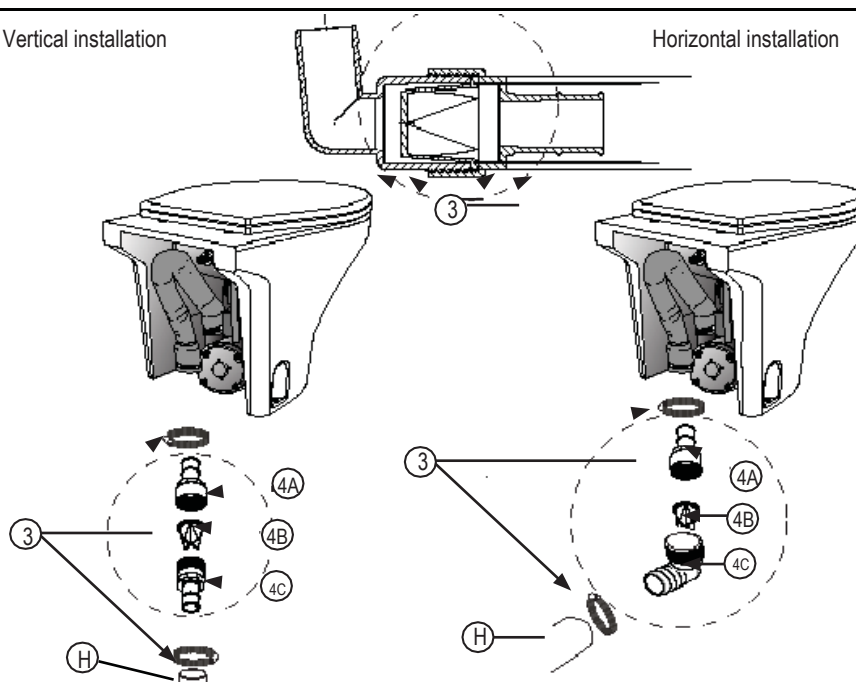
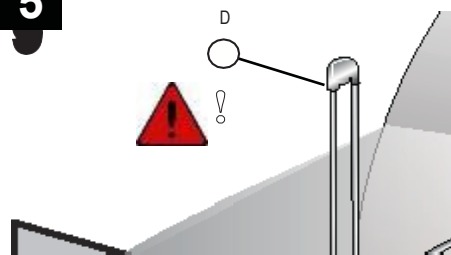
- In-line Strainer (if applicable)
- 3/4" - diameter water supply line (Raw Water installation)
- 3/4" - diameter minimum Vented Loop – if required (Raw Water installation)
- 1/2" - diameter water supply line (Fresh Water installation)
- 1-1/2" - diameter minimum Vented Loop – if required
- 1-1/2" - diameter Marine Discharge Hose
- 1-1/2" - straight or 90° coupling (as needed)
- Silicone caulk (white or clear)
- Various Electrical Connectors

4

1. Choose installation method.
2. Run H ; assemble parts as shown.
3. Tighten 2-1/2" 3 to secure in place.

Vertical installation

Horizontal installation


5


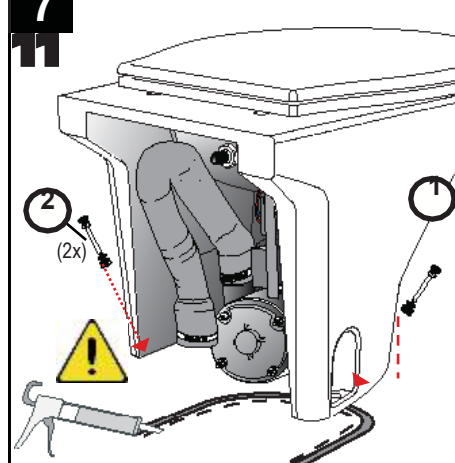
DANGER: Failure to use a Vented Loop in raw water pump installation sites can lead to water flowing into the toilet from the outside (siphoning) which can cause loss of property and life! Refer to Installation Planning - "Raw Water Considerations" to determine if a Vented Loop is needed!

6

Test Toilet:

BEFORE permanently attaching the toilet:

- Flush the toilet to check toilet operation.
 - Verify no leaks; correct as needed.
- Permanently insert K⁴ and K⁵ into wall

7


1. Caulk along inside of trace line.
2. Place 1 ; insert 2 into floor; secure.
3. Caulk around 1 base.



WARNING! Use silicon or other sealing product. Do not use Polysulfide base product which may damage plastic parts.

4. TECMA COMPACT LINE ELECTRICAL SYSTEM

4.1 Electrical requirements

Installation requirements:

- All circuits must follow ABYC/ISO standards.
- Wire gauge sizes must follow Wire Gauge Size Chart.
- Every toilet must have its own circuit breaker or fuse.
- Always use crimp-style connectors with Sealing provisions to avoid corrosion.

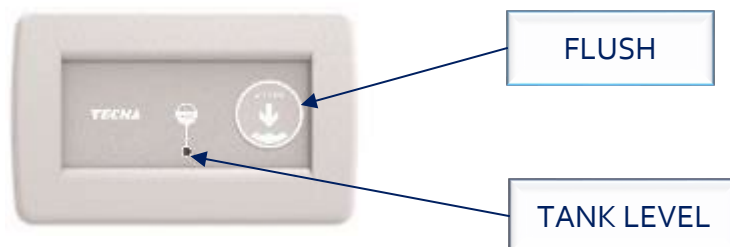


DANGER – HAZARD OF FIRE: use recommended circuit breakers or fuses. Failure to follow the recommendations can result in fire.

4.2 All-in-one SFT control panel

4.2.1 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.



4.2.2 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.



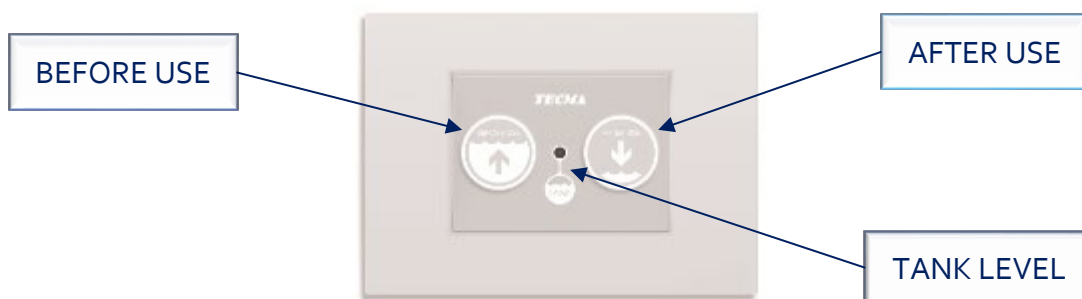


NOTE: The All-in-one control panel allows you to adjust the amount of water used during the flushing cycle. A regulator placed at the back of the panel increases the amount of water if turned clockwise or decreases it if turned anticlockwise. The recommended water level is 1 cm above the ceramic outlet.

4.3 Multiframe SFT control panel

4.3.1 Function

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 Multiframe SFT wall switch. 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.

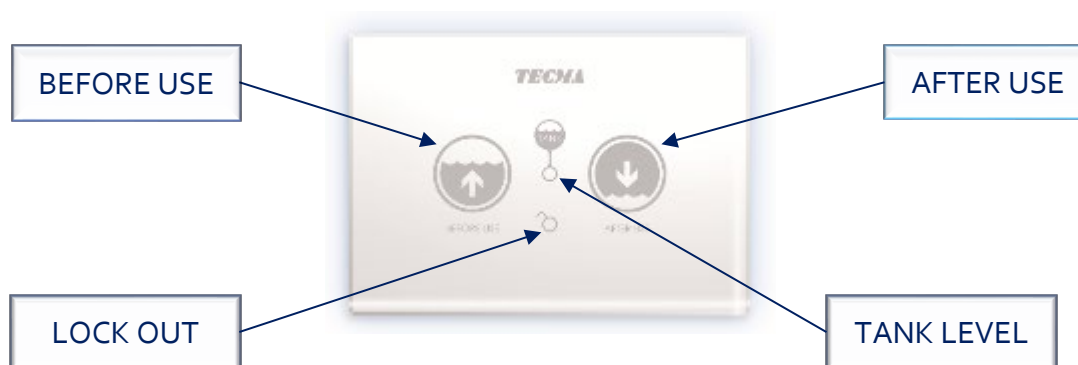
4.4 Touch SFT Multifunction control panel

4.4.1 Function

The Touch SFT Multifunction control panel can work both in Navigation mode and in Mooring mode.

The Navigation mode cycle eliminates the water inside the bowl at the end of use, preventing the possible leakage of water due to the movements of the boat.

The mooring mode cycle works like domestic toilets: just the activation of the "AFTER USE" button is enough to activate the cycle in its entirety. In Mooring mode there is always a quantity of water inside the bowl to create a hydraulic cap.



To switch from mooring mode to navigation mode see [par. 2.3.3](#).

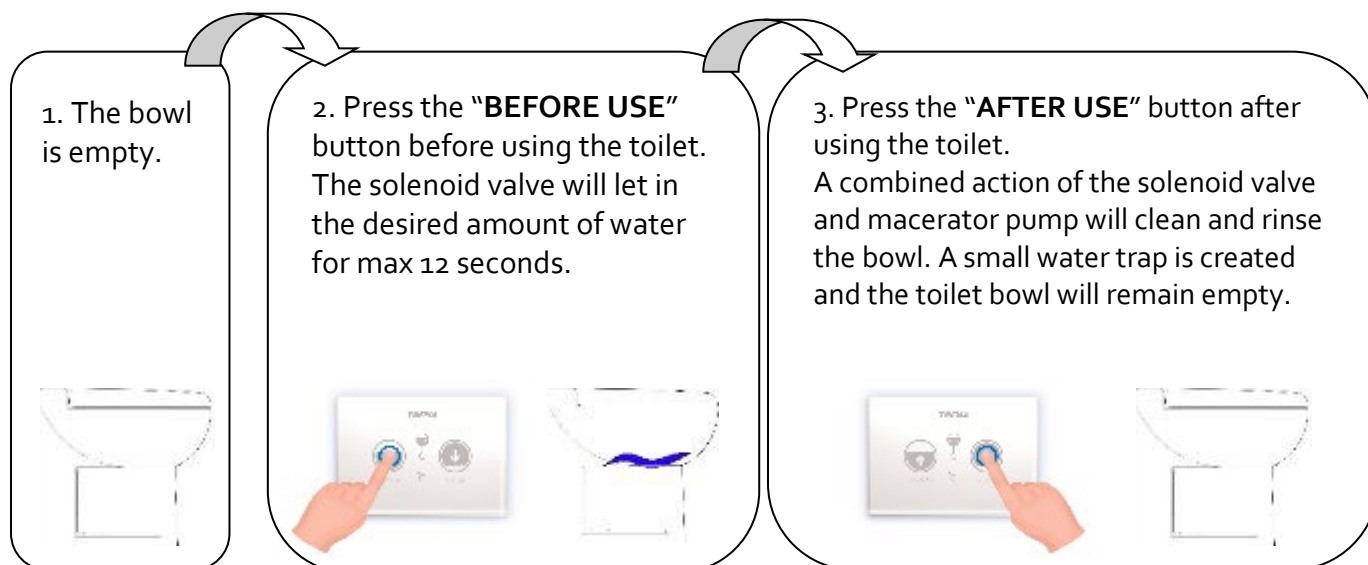


NOTE: If desired, the amount of water that is used during each drain cycle can be adjusted directly on the back of the Touch panel. In fact, in the rear part of the latter there is a special regulator that can be operated by turning it clockwise to increase the amount of water or counterclockwise to decrease it. The recommended water level is 1 cm above the exhaust outlet.

4.4.2 Sailing or Mooring mode

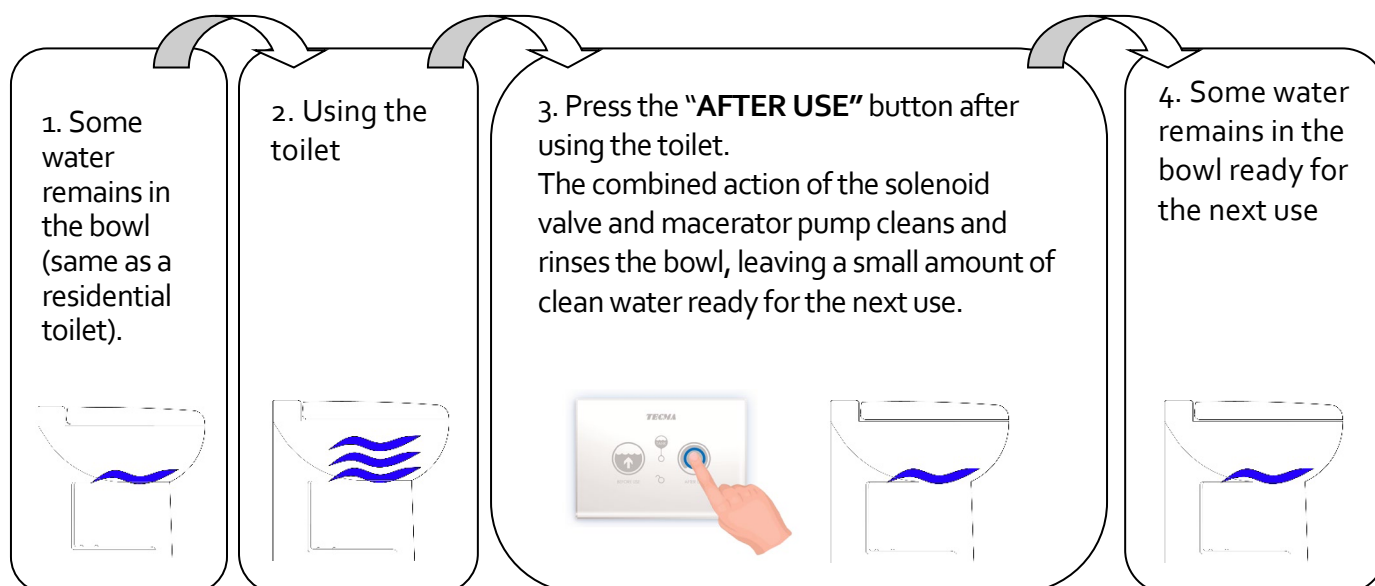
Set the system to sailing mode if you plan on sailing often. The toilet will remain empty after use. Only a small amount of water will be added to create a water trap. This will avoid accidental water spilling caused by motion of the vessel during navigation.

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



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.

MOORING MODE: water remains in the toilet, ready for the next use.



4.4.3 Changing flushing mode

The system is set on sailing mode by default. To switch from one mode to another:

- 1) Press and hold the BEFORE USE and AFTER USE buttons simultaneously
- 2) After 3 seconds, the sensor LED will flash: keep pressing.
- 3) After 5 seconds, the perimeter LED will flash: release the buttons.
- 4) The toilet will automatically do:
 - a. If you are setting from Sailing mode to Mooring mode: water inlet.
 - b. If you are setting from Mooring mode to Sailing mode: pump activation.
- 5) Repeat the procedure to change mode again.

Fig.1: from Sailing to Mooring

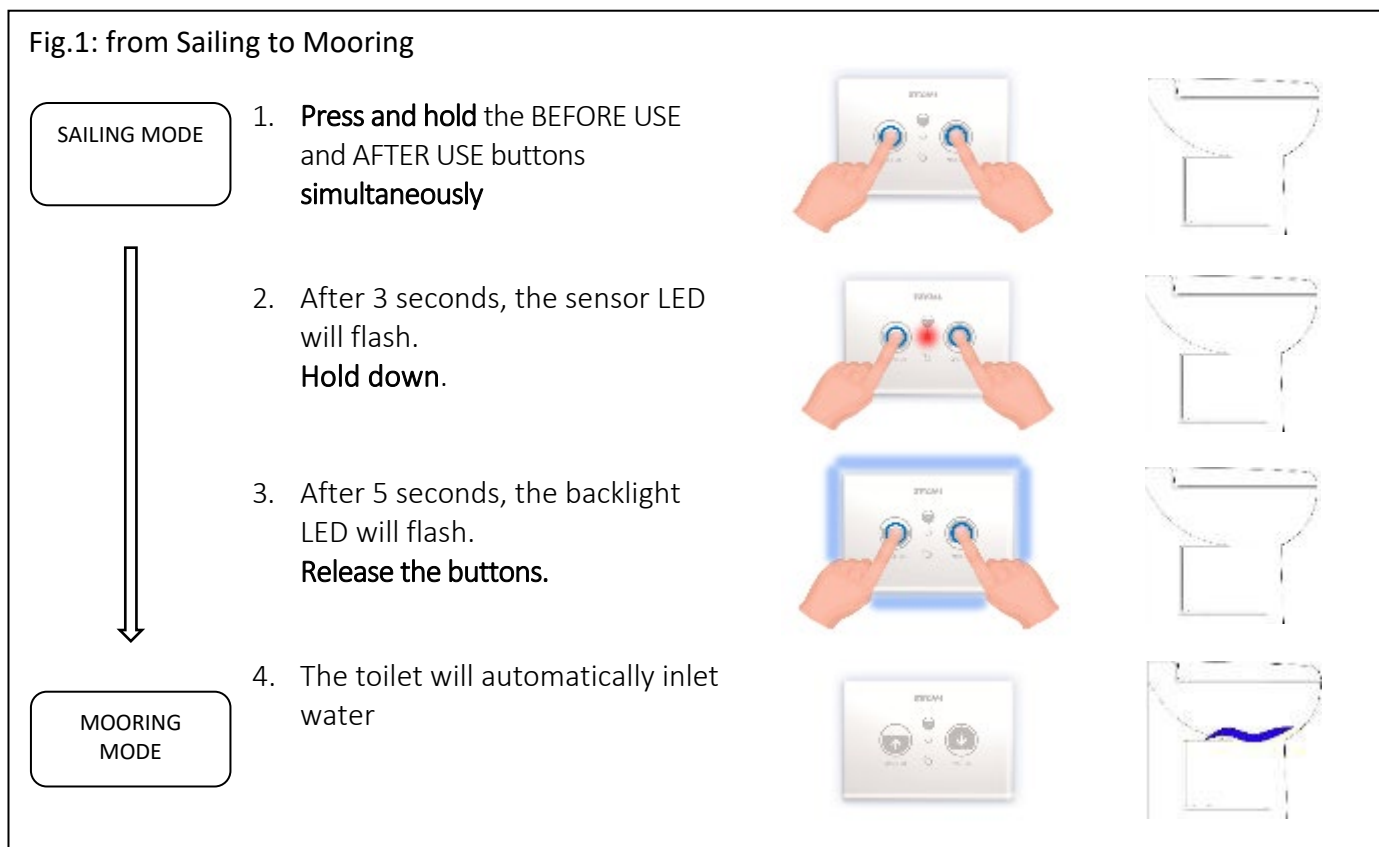
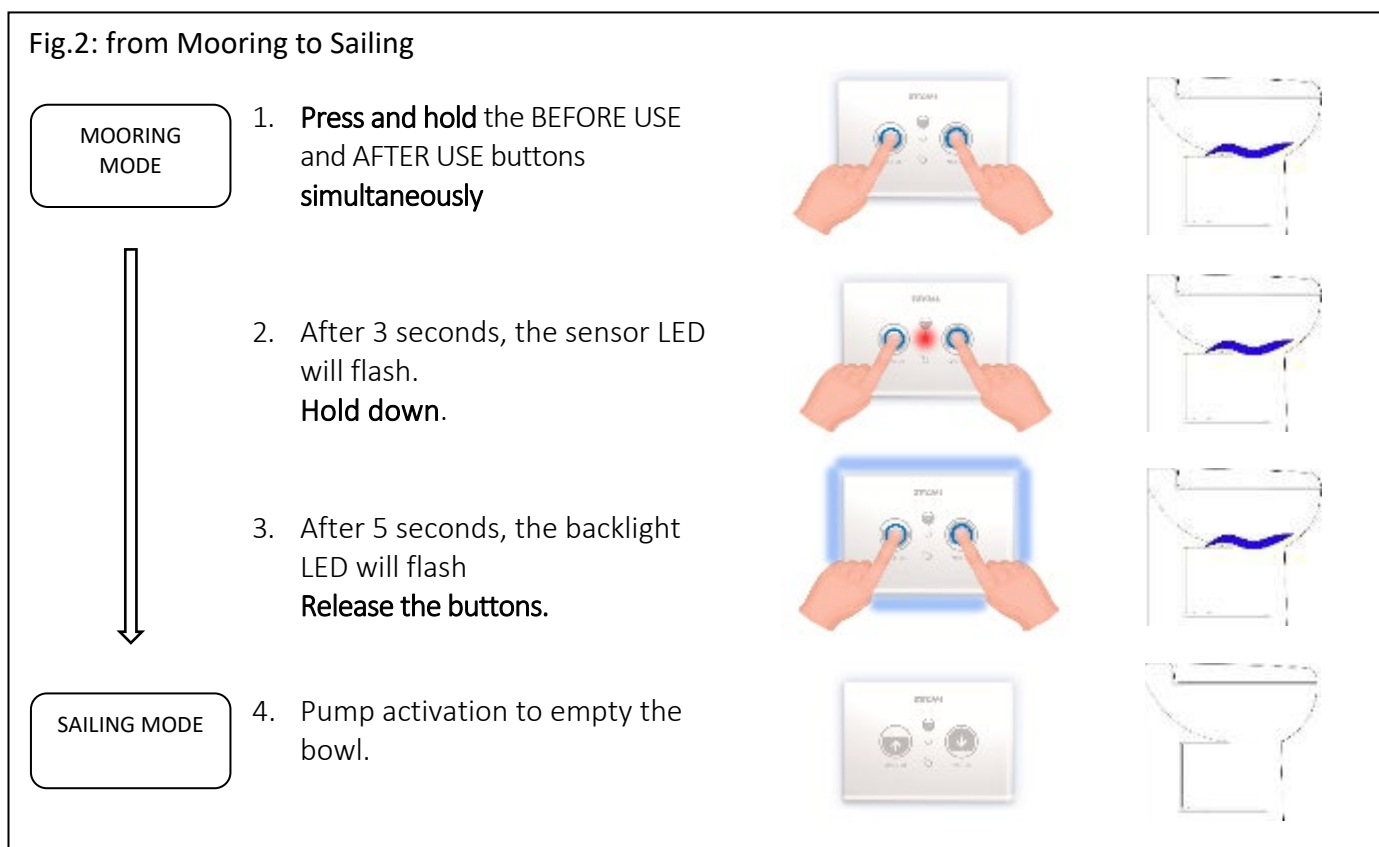


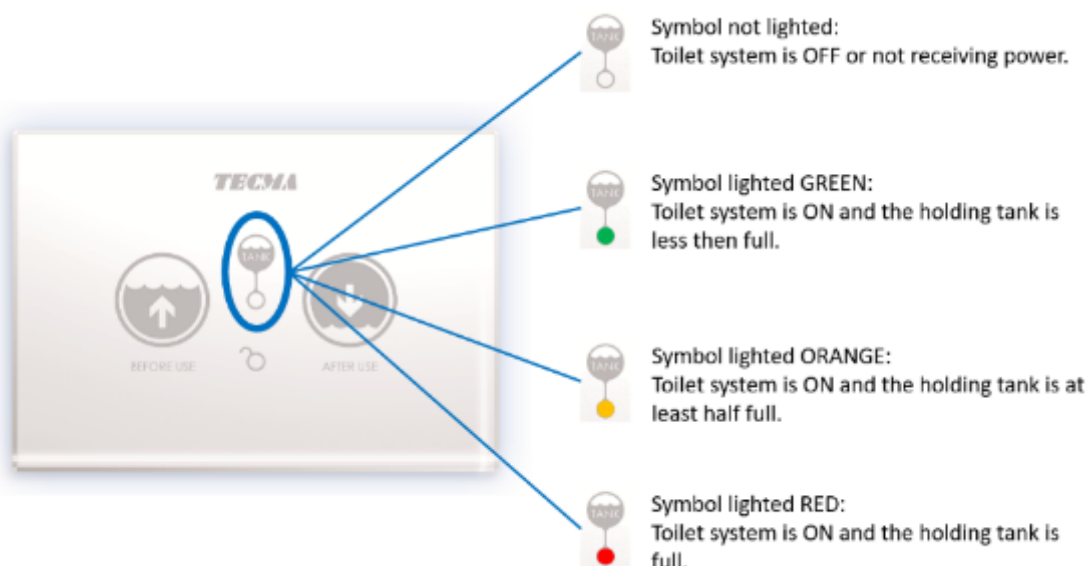
Fig.2: from Mooring to Sailing



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*".

4.4.4 Tank level LED – Block function

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 inlet of water inside the bowl. Only the macerator pump will stay active.



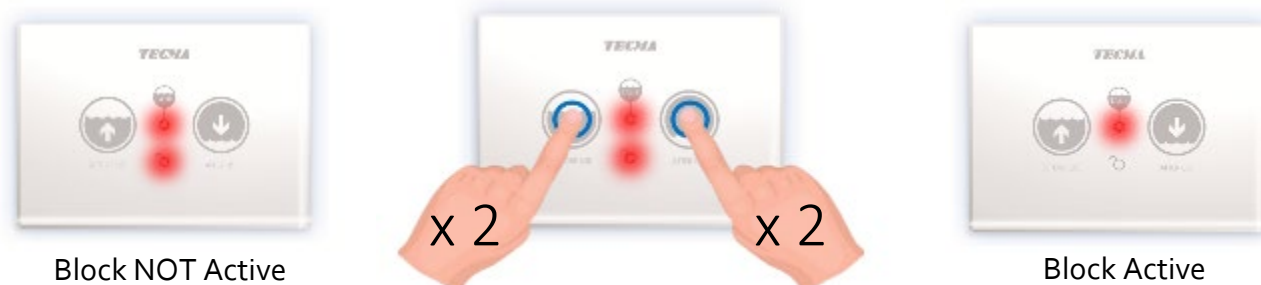
4.4.5 Lockout

If for any reason you intend to bypass the block function connected to the level of the black water tank, and reactivate the inlet of water, press both buttons simultaneously two times, with an interval of about 1 sec.

The "LOCK OUT" LED will come on to indicate that the panel is in lockout mode (block NOT active). The button LEDs will turn off during programming. When restarted, the control unit can be used.



To disable the lockout function, repeat the procedure:



4.4.6 *Disabling the toilet for cleaning operations.*

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

1. Place your hand on the panel for 15 seconds without touch it.
2. The backlight starts blinking for 3 sec.
3. **Remove the hand.**
4. Clean the panel with a cloth.
5. The buttons will be automatically enabled again after **15 seconds**.



4.4.7 *Disabling the toilet for a shower*

In case the Touch SFT Multifunction is installed in the shower, temporary disable the buttons in order to avoid it to be accidentally activated by water spread

1. Place your hand on the panel for 15 seconds without touch it.
2. The backlight starts blinking for 3 sec.
3. **Press the central area at the tank LED.**
4. All LEDs will flash to confirm command.
5. The backlight will start to blink slowly.
6. The buttons will be automatically enabled again after **15 minutes**.



4.4.8 *Programming the back led light*

You can program the Touch panel to have the backlight:

- a. Always on
- b. Always off
- c. Activated with a proximity sensor (default)

Instructions to switch from one program to another:

1. Press and release the LED at the centre (Tank level LED)
2. Press and release simultaneously the BEFORE USE and AFTER USE buttons.
3. Wait 2/3 seconds before performing other operations.

This way, you will switch from one program to another simultaneously

→ ALWAYS OFF → PROXIMITY → ALWAYS ON →



4.4.9 Pump manual activation

In caso di necessità, è possibile effettuare un ciclo con la sola attivazione della pompa maceratrice.

Press simultaneously both buttons for 3 seconds until the Lock LED flash and release.



4.4.10 *Overflow function*

To avoid possible overflows related to excessive consecutive inlet of water with the "BEFORE USE" button, an automatic block is enabled which does not allow more than two consecutive inlets.

The lock is disabled the next time the macerating pump is activated.



NOTE: effectiveness is not guaranteed if the water inlet level has not been appropriately set.

The "After Use" cycle will in any case introduce a quantity of water.

If only pump activation is required, see function 2.3.9 *Manual pump activation*.

4.4.11 *Reset*

If it is necessary, it is possible to activate the system reset function.

- a. Press and hold the LED at the centre (Tank level LED) for 10 seconds.
- b. All the LEDs will flash as reset confirmation.





WARNING: do not to exceed the tank maximum level when the "Tank Level" 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), you can use the "*Manual Activation*" function (see 2.3.9).

4.5 CUT-OUT Control Panels

When planning the installation make sure to consider:

- Thickness of the frame positioning wall
- The distance between the toilet and the frame; the cables have a length of 1.5 m

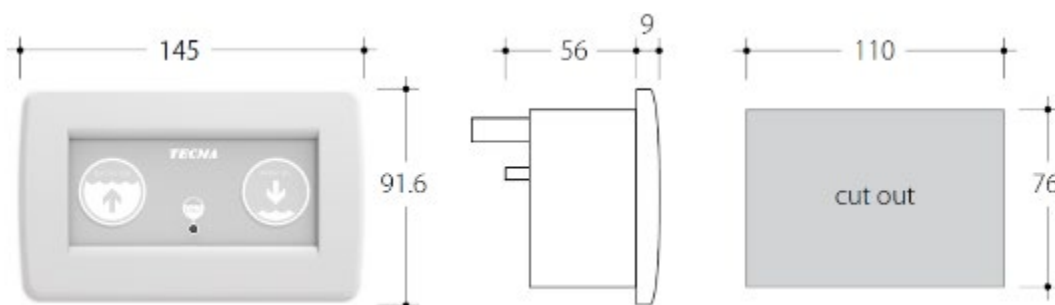


DANGER – HAZARD OF FIRE: Utilizzare sempre fusibili o interruttori raccomandati. La mancata osservanza delle raccomandazioni può provocare incendi.

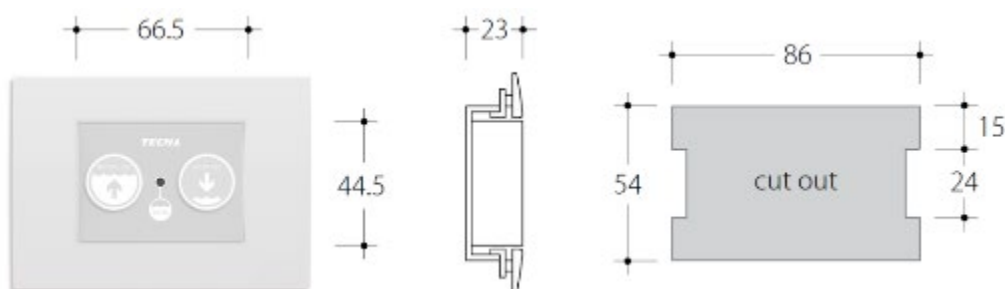


NOTE: For Multiframe SFT and TouchSFT Multifunction models, install the control panel in an easy accessible room for easy inspection.

4.5.1 Cut out for All-in-One SFT control panel:



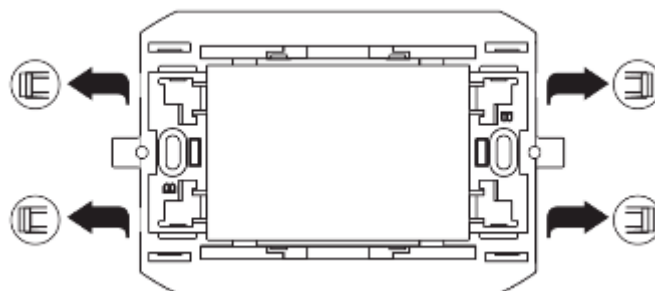
4.5.2 Cut out for Multiframe SFT control panel:



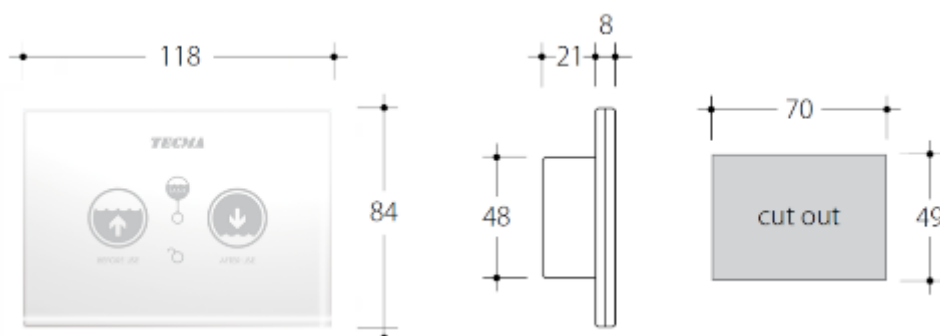
NOTE: The Multiframe SFT control unit is supplied as standard with the Bticino Living Light series frame. For compatibility of Multiframe SFT with commercial frames, refer to the following table:

	Bticino					Vimar			Ave	ABB		Gewiss
	Living	Light	Living Tech	Living Light	Axolute	Eikon	Eikon Evo	Plana	S44	Mylos	Chiara	Chorus
FRAME A	x	x	x	x	x	x	x	x	x	x		
FRAME B											x	x*

*To install the Chorus line (Gewiss) remove the fins from the *Frame B* (see the picture)



4.5.3 Cut out for Touch SFT Multifunction control panel:



4.6 Tank sensors

The sensor wiring of the control units, both in the standard one-level version (grey / black), and in the two-level version for Touch (red / black and white / green) have a voltage of 7V.

You can connect:

- Sensors with clean contact (float, with pressure switch or similar) which close the contact between the two poles of the connector.
- Electronic sensors with the following specifications:
 - Power 7V.
 - Electrical absorption 12,75 mA +/- 1 mA when the sensor is un-activated and 22,75 mA +/- 1 mA when activated.



WARNING: In any case, do not connect the sensor cable to any power source.



NOTE: For the compatibility of the control units with other types of sensors or for the use of connections other than those indicated in the wiring diagrams, contact the

Tecma.

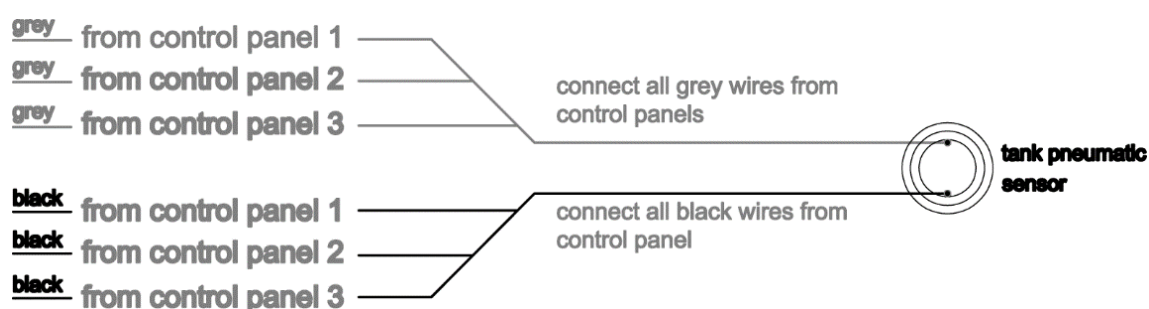
Tecma sensors can be of two types:

- Pressure switch
- Field-effect (Mirus cel)

For the installation guide see Appendix A3

4.6.1 *Pressure switch*

The pressure switch sensors can run with any panel. They are connected to the control unit with the grey/black wire (two-level version: red / black and white / green). In the presence of several control units on board, you must wire all the control units together before connecting the sensor. See fig. as example.



4.6.2 *Field-Effect*

These sensors can run with any panel. 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 Sensor has to be 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.

5. TROUBLESHOOTING

Refer to the *Troubleshooting* available on the website:

www.thetfordmarine.com

6. F.A.Q.

6.1 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.

6.2 What kind of maintenance is required?

TECMA products do not need special maintenance or winterisation.

It is however suggested periodically and in preparation for the winter of:

- Perform maintenance of the solenoid valve and / or intake pump filters.
- Perform rinsing cycles with clean water.
- 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.

We recommend cleaning the tanks and pipes with Thetford Tank Freshener.

6.3 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.

6.4 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.

6.5 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.

6.6 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 system with long discharge pipes and risk of siphoning, it is always recommended to

install a ventilated siphon on the line.

6.7 Do I have to install a ventilation duct for the integrated ventilation valve?

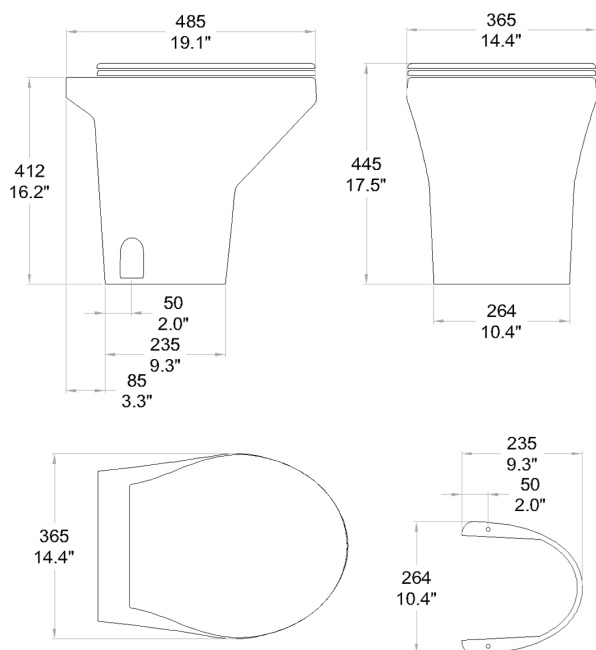
It is not necessary to connect the integrated ventilation valve with a ventilation duct.

In any case it is possible to do it following the best practices for the ventilation ducts.

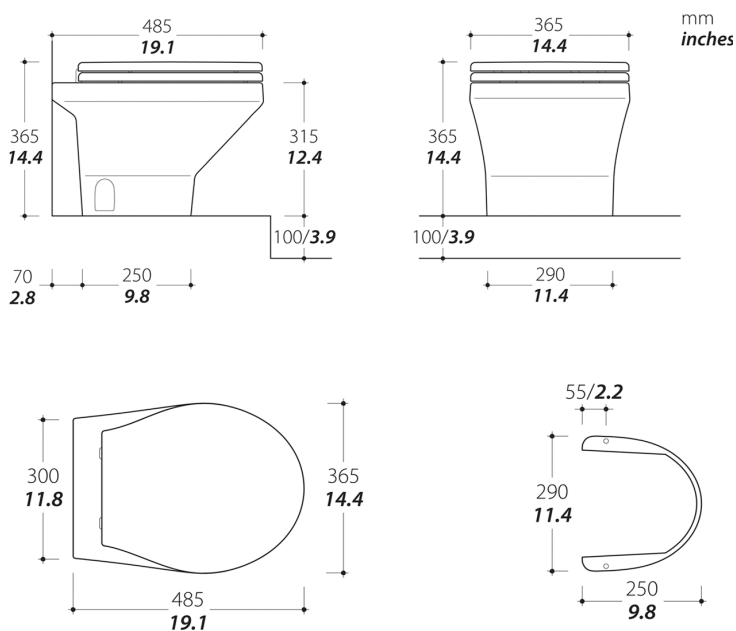
APPENDIX

A.1 DIMENSIONS / DIMENSIONI

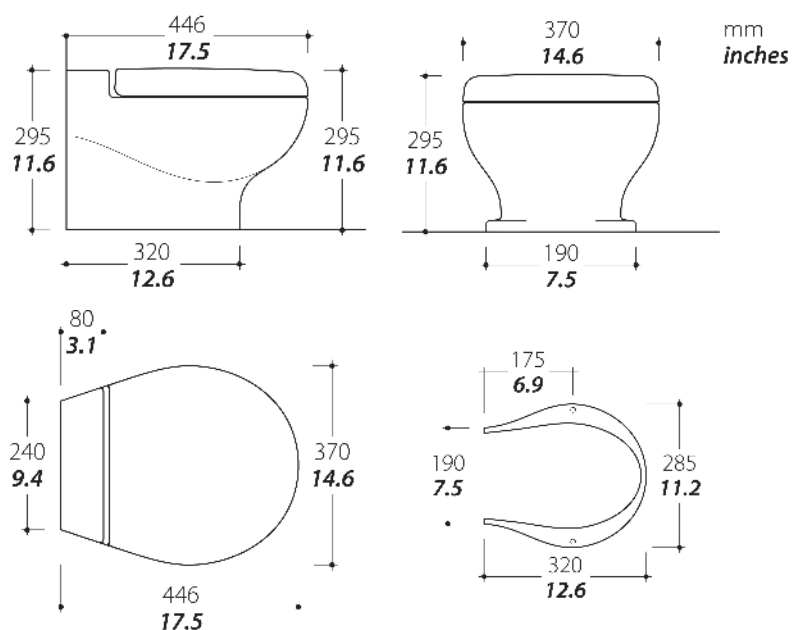
Compass High - 21.5 kg/ 47.4 lb



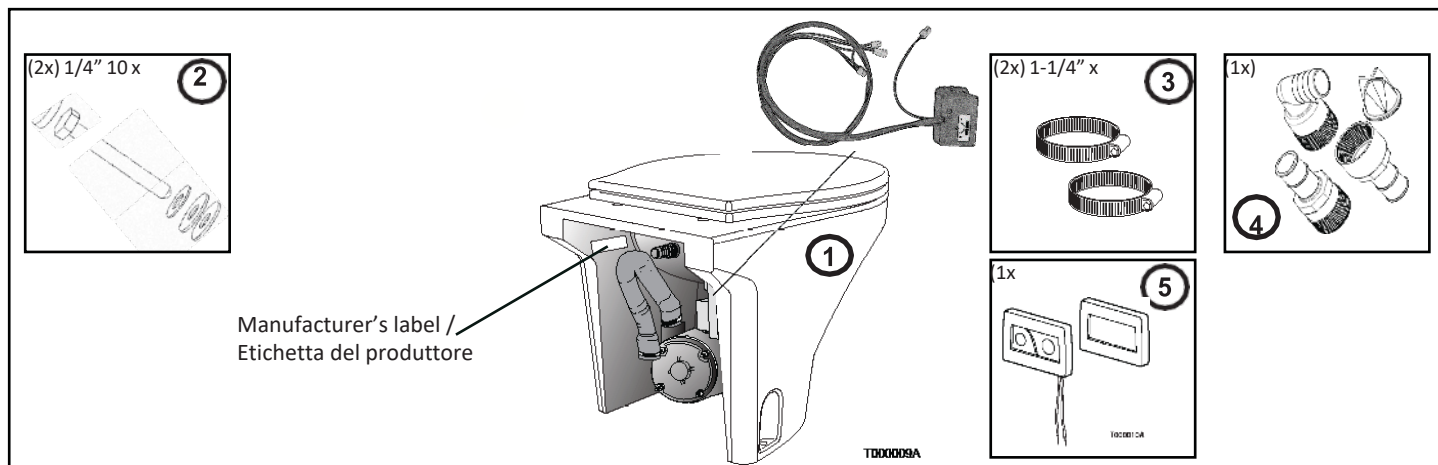
Compass Short - 19.5 kg/43.0 lb



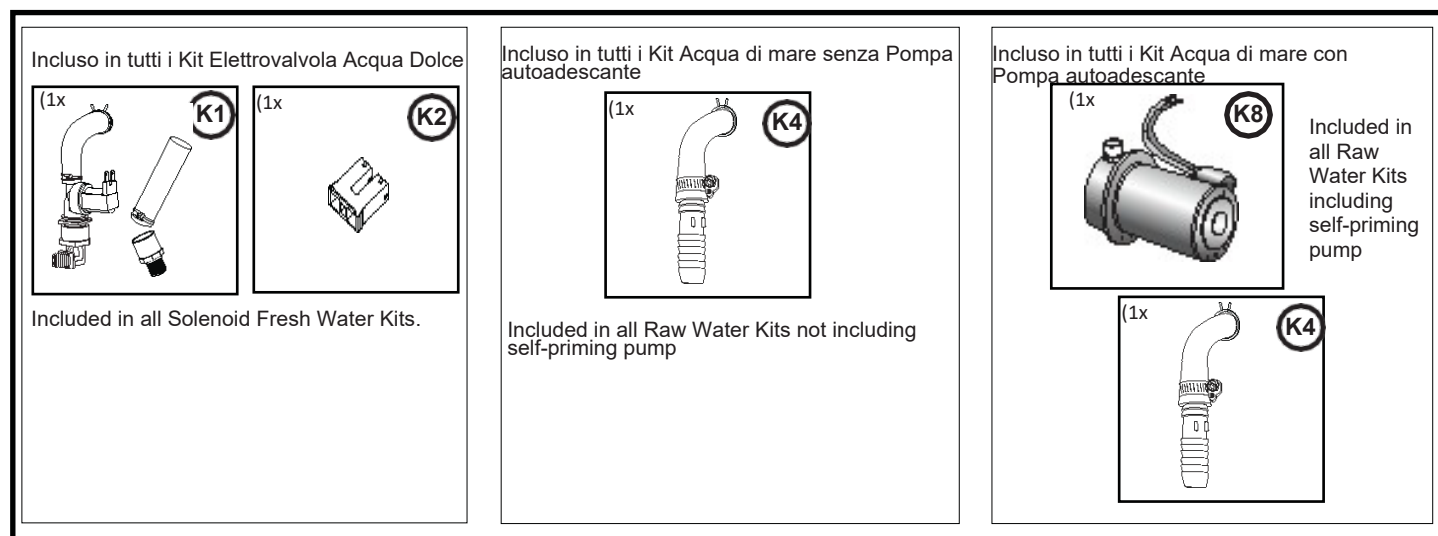
Nano 17.6 kg/ 38.8 lb



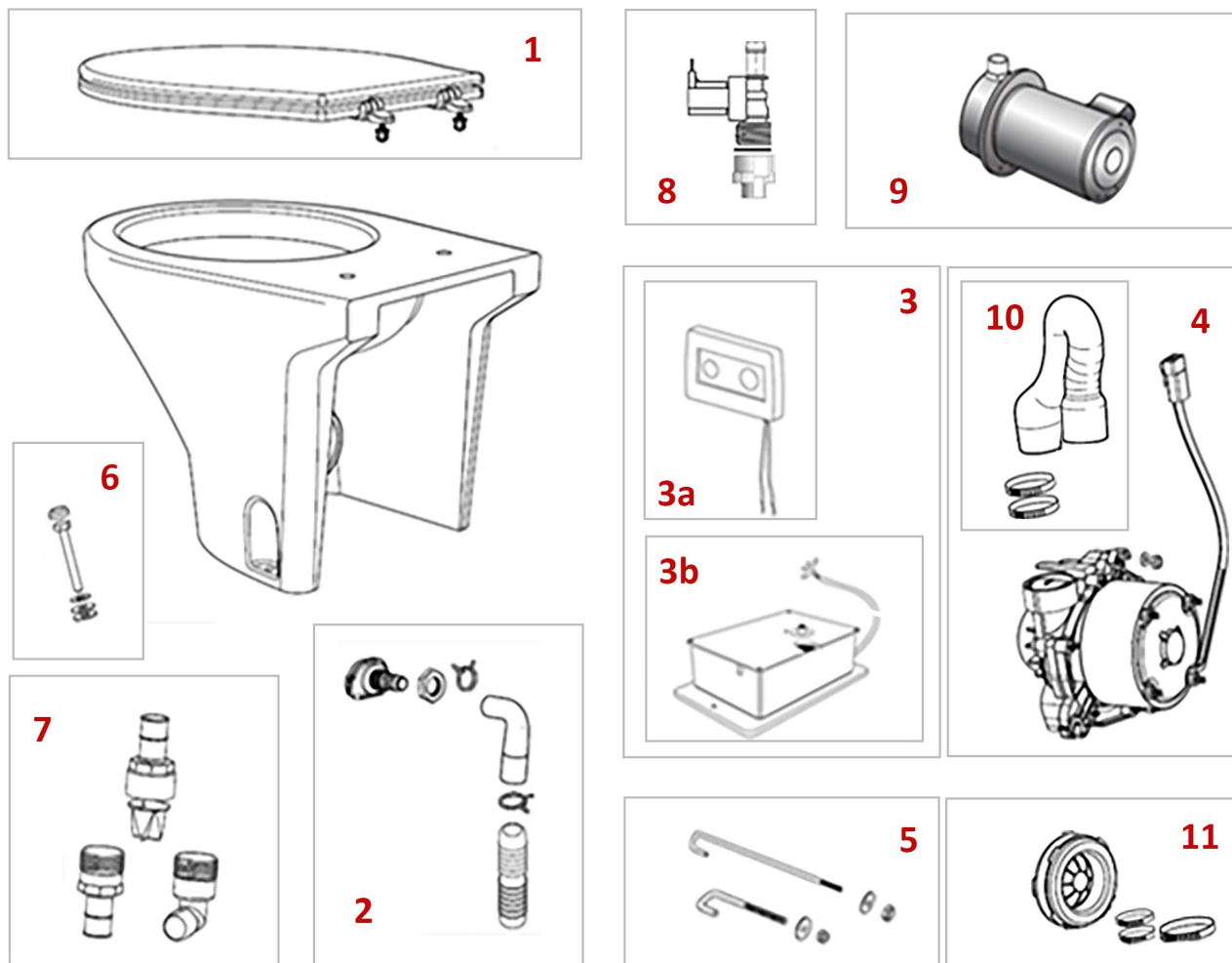
A.2 INSTALLATION KIT / KIT PER INSTALLAZIONE



A.3 KIT PARTS / PARTI DEL KIT



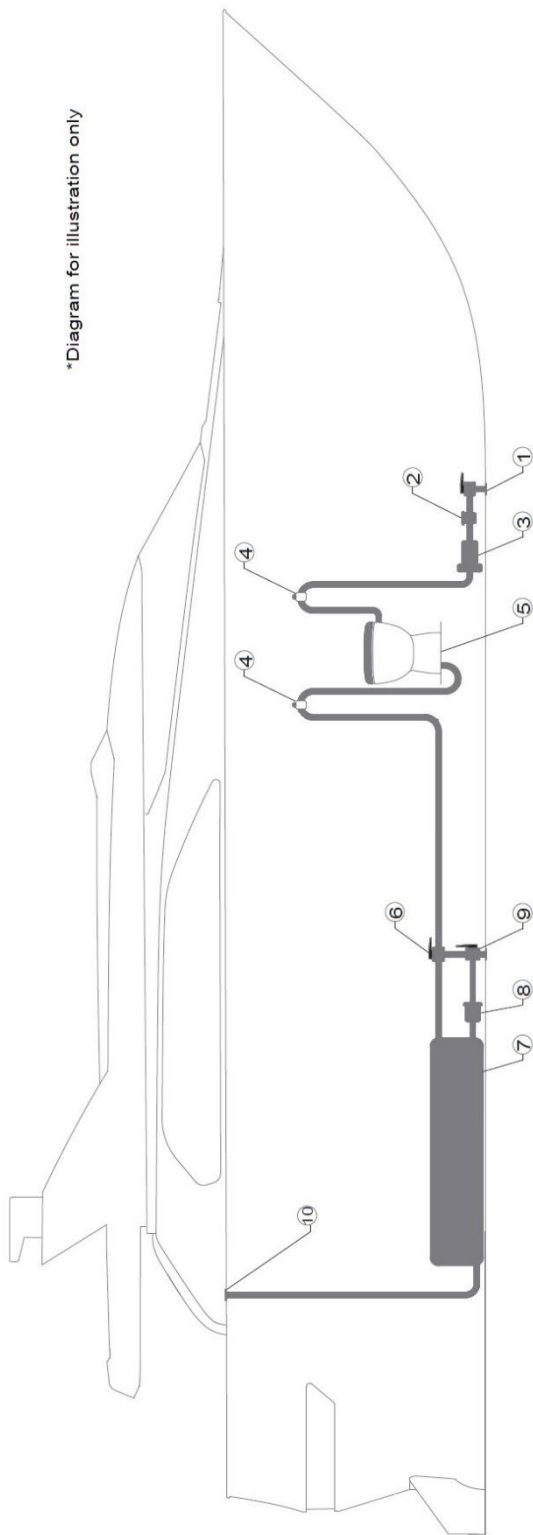
A.4 SPARE PARTS / RICAMBI



No	DESCRIPTION
1	Seat & Cover
2	Inlet Nozzle Kit
3	Control Panel Kit
3a	Wall switch
3b	Controller
4	Motor Pump Kit
5	J-Bolt Kit
6	Floor Mount Hardware
7	Lower Discharge Check Valve (DDBV)
8	Invensys Solenoid 12V / 24V
9	Raw Water Pump 12V / 24V
10	Short Discharge Tube Kit
11	Grommet

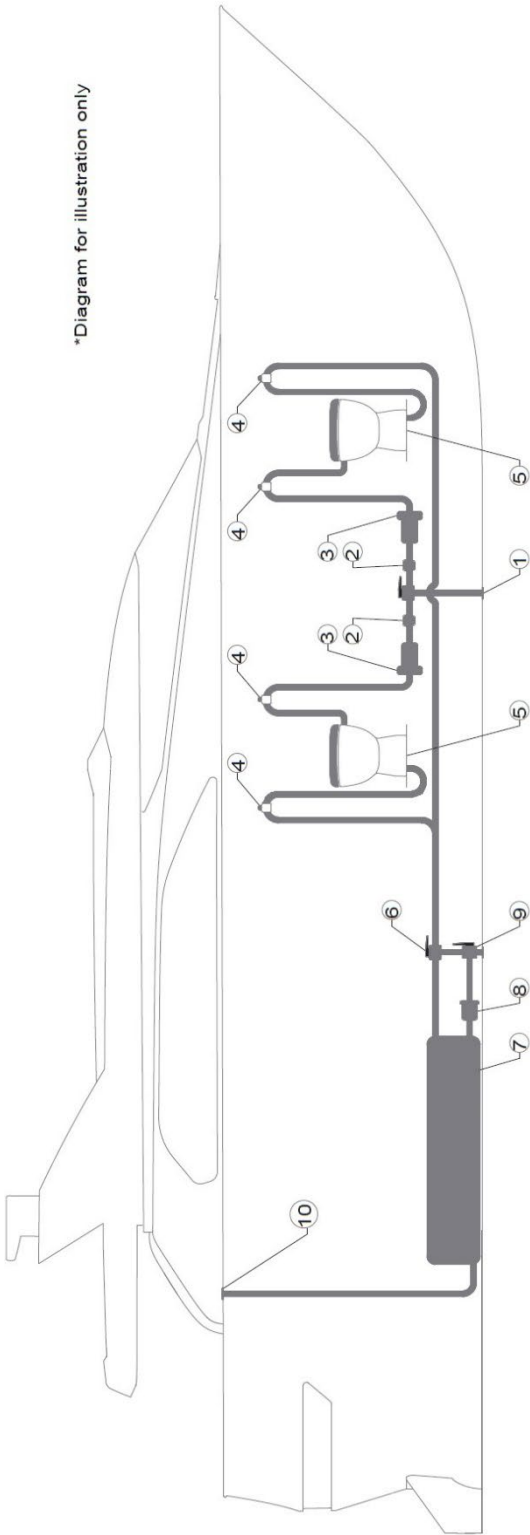
A.5 SYSTEM DIAGRAMS / DIAGRAMMI DEGLI IMPIANTI

A.5.1. Single System / Impianto Singolo



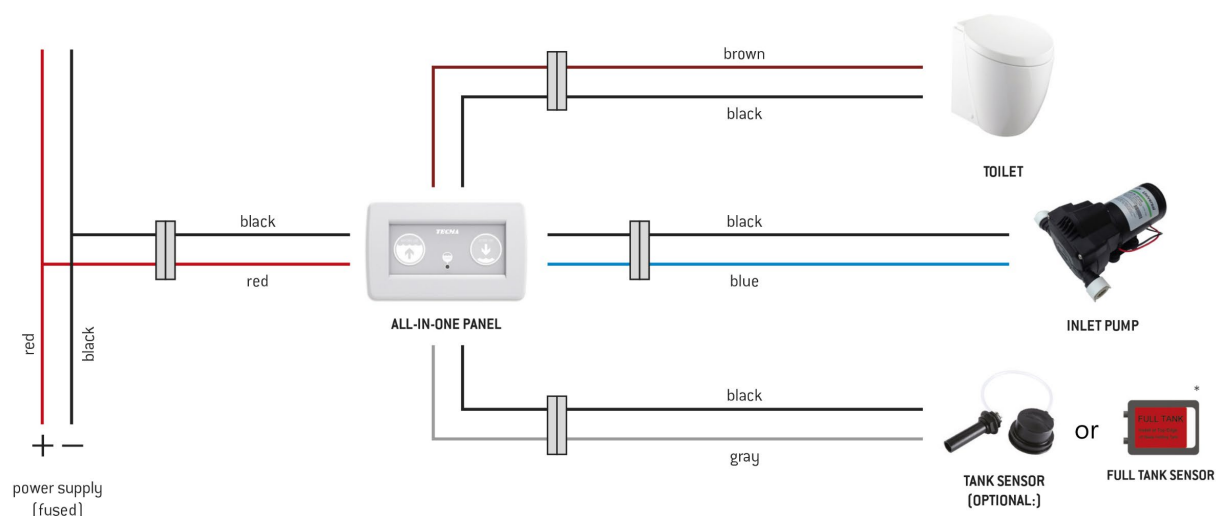
1	RAW WATER INTAKE – ball valve seacock	6	Y SELECTION VALVE
2	RAW WATER STRAINER	7	HOLDING TANK with TECMA sensor
3	TECMA RAW WATER PUMP	8	HOLDING TANK DISCHARGE PUMP
4	TECMA VENTILATION VALVE – siphon break	9	BLACK WATER OUTLET - HULL
5	TECMA MACERATOR TOILET	10	BLACK WATER OUTLET - DECK

A.5.2. Multiple Single System / Impianto Singolo Multiplo

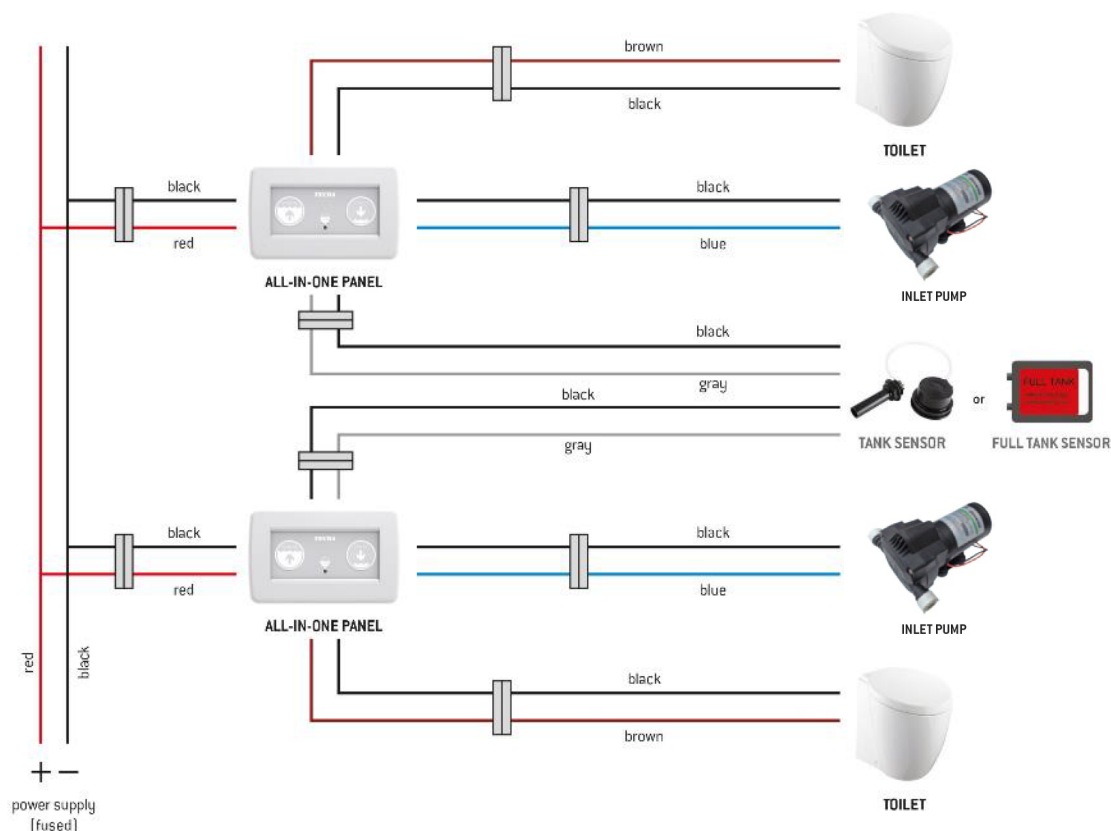


1	RAW WATER INTAKE – ball valve seacock	6	Y SELECTION VALVE
2	RAW WATER STRAINER	7	HOLDING TANK with TECMA sensor
3	TECMA RAW WATER PUMP	8	HOLDING TANK DISCHARGE PUMP
4	TECMA VENTILATION VALVE – siphon break	9	BLACK WATER OUTLET - HULL
5	TECMA MACERATOR TOILET	10	BLACK WATER OUTLET - DECK

A.5.3. Single System Wiring / Cablaggio Impianto Singolo

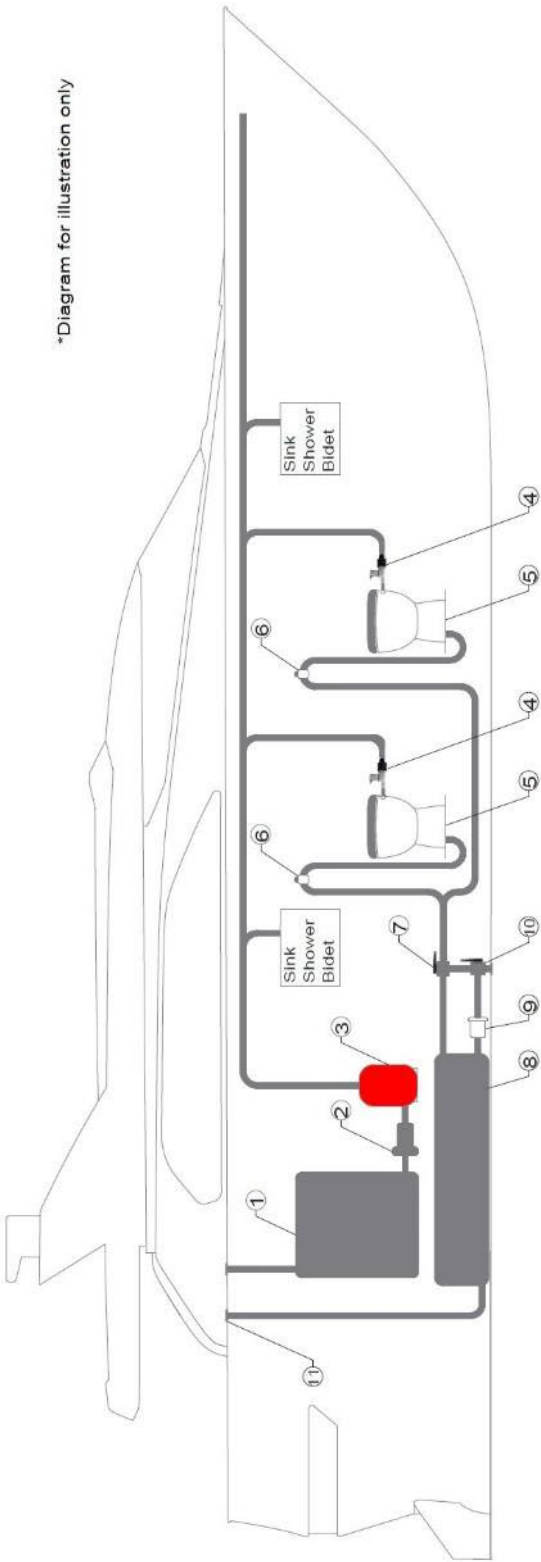


A.5.4. Multiple Single System Wiring / Cablaggio Impianto Singolo Multiplo



In case of installations other than those indicated in the diagrams, please contact Tecma for compatibility check.

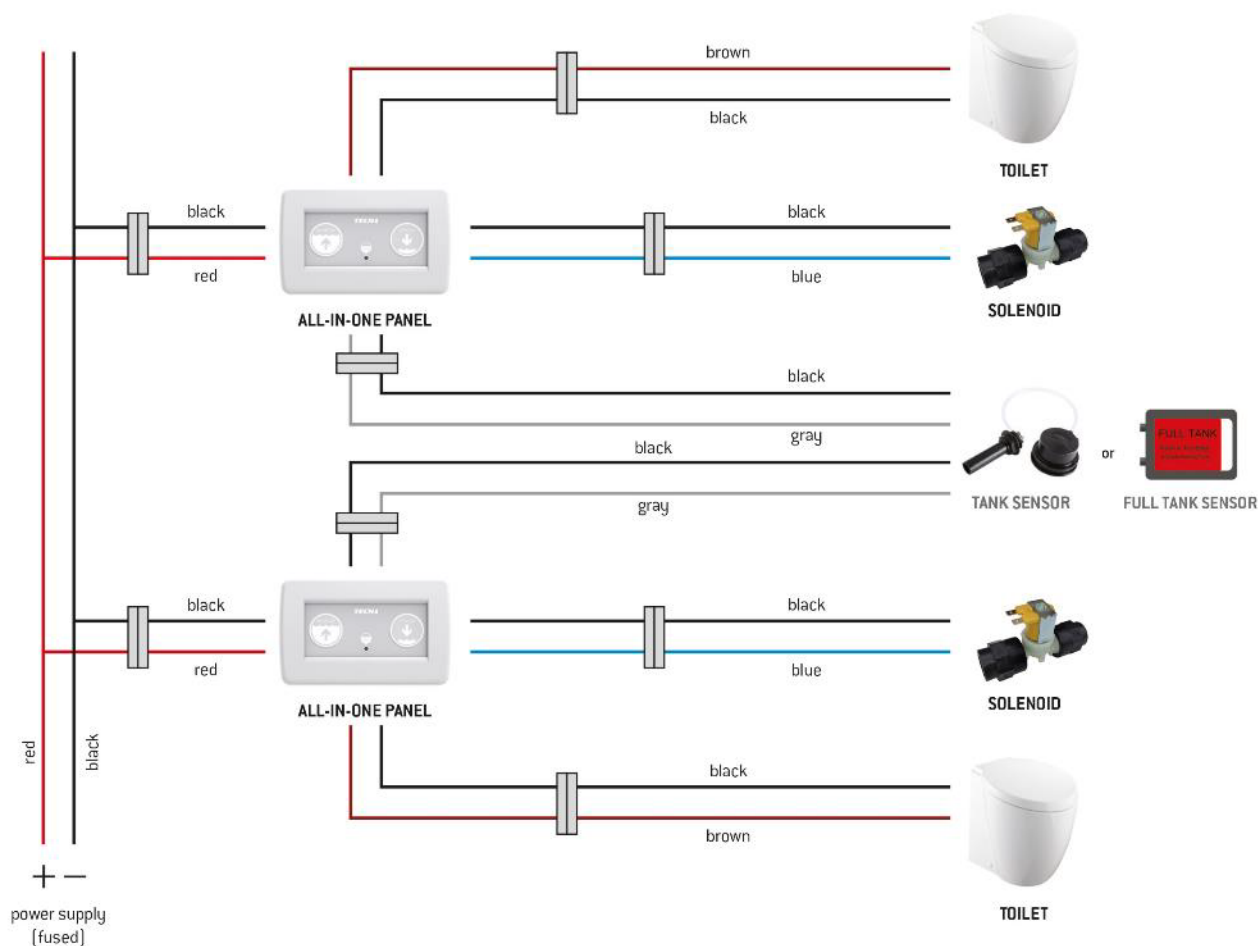
A.5.5. Centralized Fresh Water System / Impianto Centralizzato Acqua Dolce



1	FRESH WATER TANK	6	TECMA VENTILATION VALVE
2	FRESH WATER PUMP	7	Y SELECTION VALVE
3	ACCUMULATOR	8	HOLDING TANK with TECMA sensor
4	SOLENOID	9	HOLDING TANK DISCHARGE PUMP
5	TECMA MACERATOR TOILET	10	BLACK WATER OUTLET - HULL
		11	BLACK WATER OUTLET - DECK

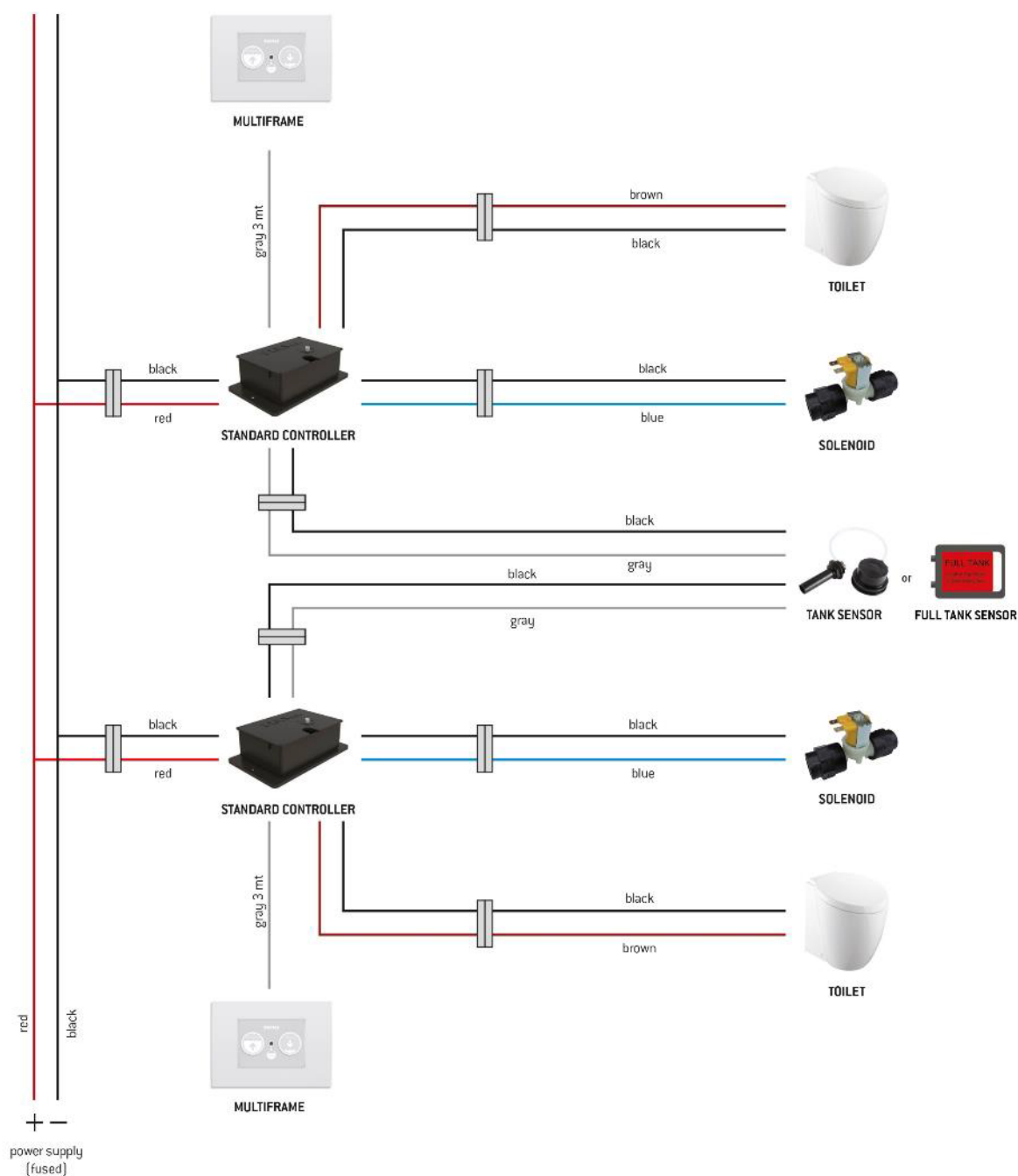
A.5.6. Centralized Fresh Water Wiring / Cablaggio Centralizzato Acqua Dolce

A.5.6.1. 12 V/24 V with All In One Switch



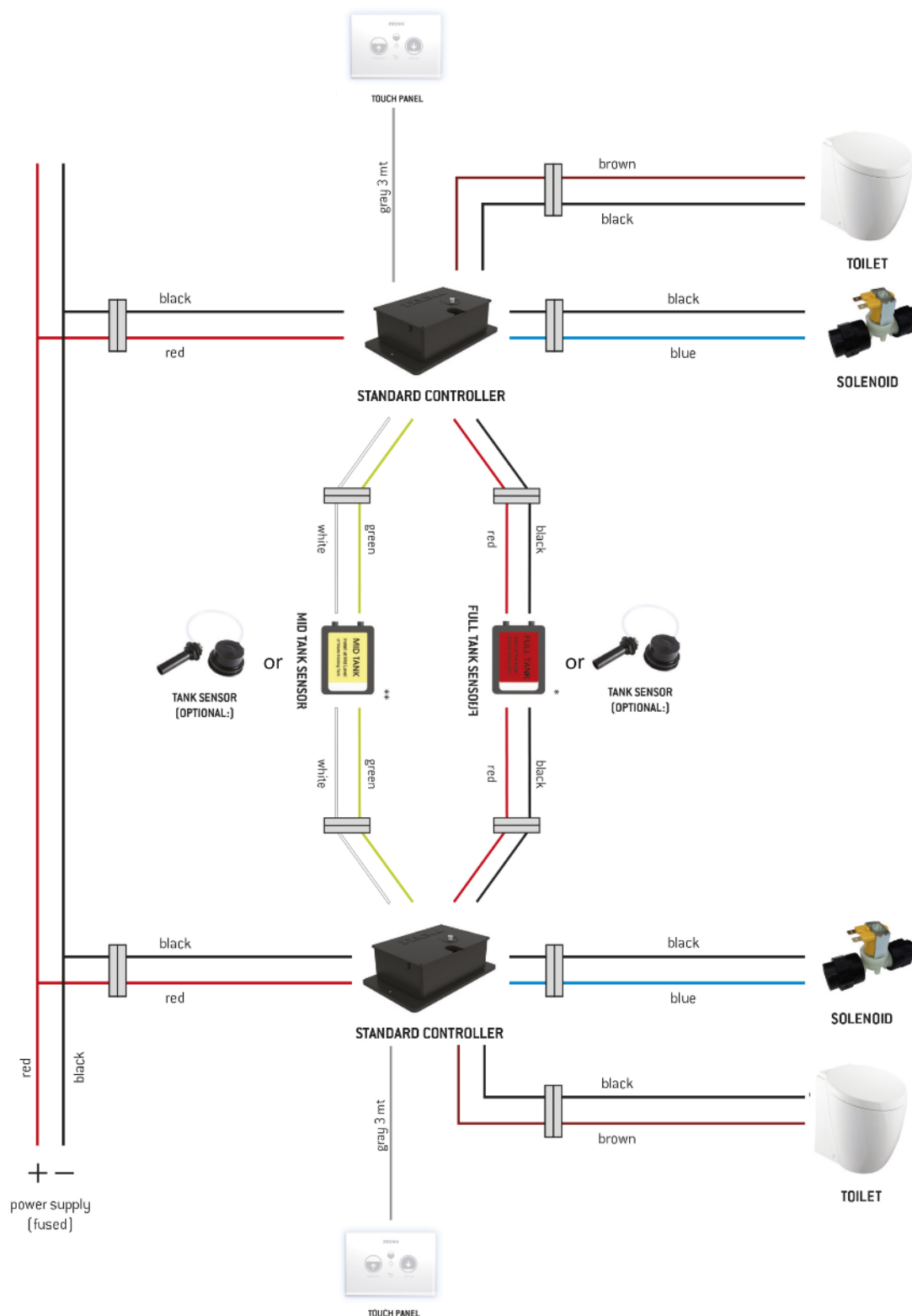
In case of installations other than those indicated in the diagrams, please contact Tecma for compatibility check.

A.5.6.2. 12 V/24 V with Multiframe Switch



In case of installations other than those indicated in the diagrams, please contact Tecma for compatibility check.

A.5.6.3. 12 V/24 V with Touch SFT Wall Switch



In case of installations other than those indicated in the diagrams, please contact Tecma for compatibility check.

A.5.7. Sensors Connection Guide / Guida alla Connessione dei Sensori

- All In One SFT 1P-2P / Multiframe SFT 2P: One level

FIELD EFFECT SENSOR



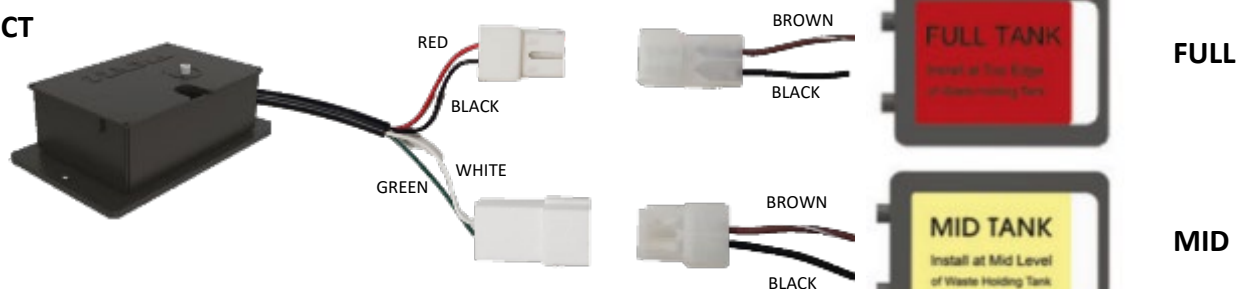
OR

PNEUMATIC SENSOR



- Touch SFT Multifunction: Two levels

FIELD EFFECT SENSORS



OR

PNEUMATIC SENSORS

