

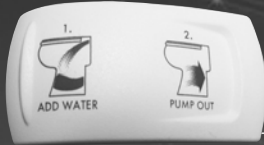
# SANIFLO®

A Group SFA Company



**297**  
01.10  
IND1-01

## SANIMARIN Macerator Toilet Owner's Manual



Experience the silence of Sanimar



The Specialist for Automatic Marine Toilet

# SANIMARIN

### INSTALLATION INSTRUCTIONS

The user should retain these instructions for future reference

**SANIMARIN® 31C • SANIMARIN® 35 • SANIMARIN® 48**

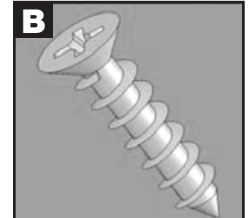
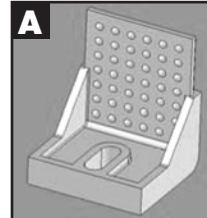
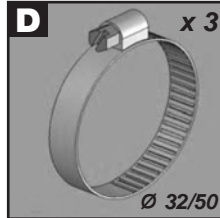
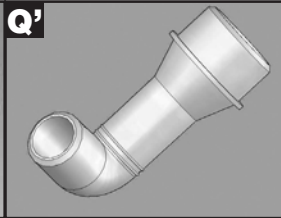
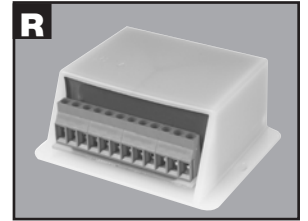
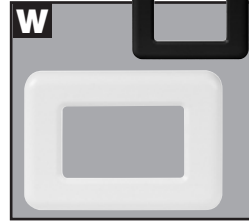
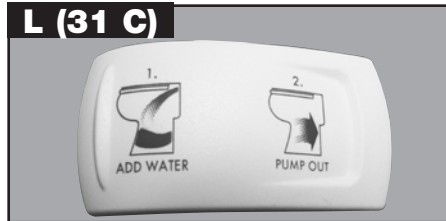


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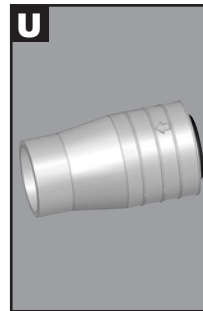
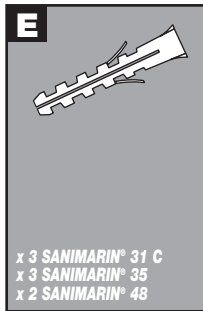
[www.sanimarin.com](http://www.sanimarin.com)

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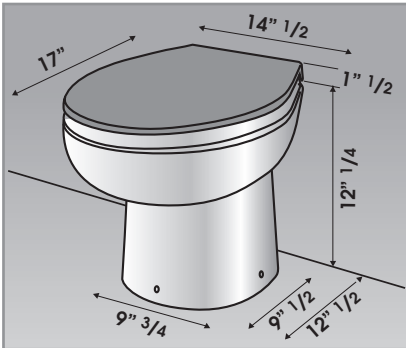
x 3 SANIMARIN® 31 C  
x 3 SANIMARIN® 35  
x 2 SANIMARIN® 48

x 3 SANIMARIN® 31 C  
x 3 SANIMARIN® 35  
x 2 SANIMARIN® 48

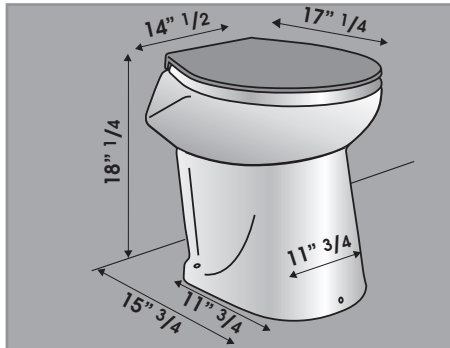


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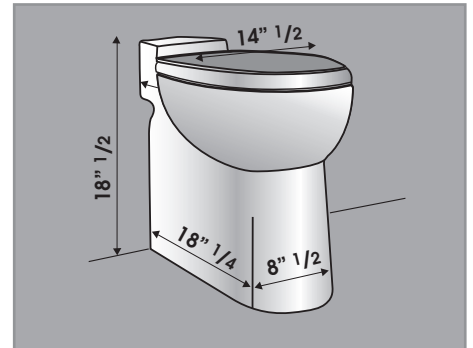
**SANIMARIN® 31C**



**SANIMARIN® 35**

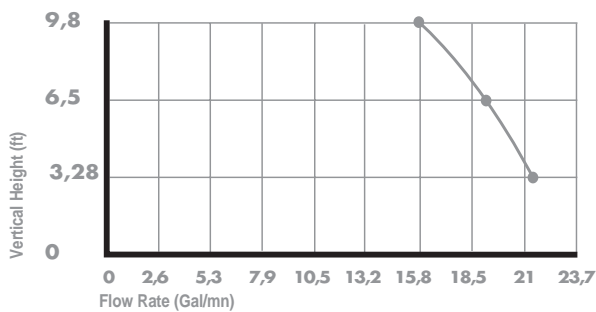


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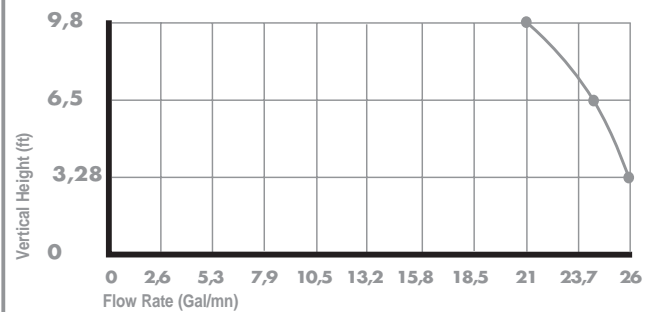


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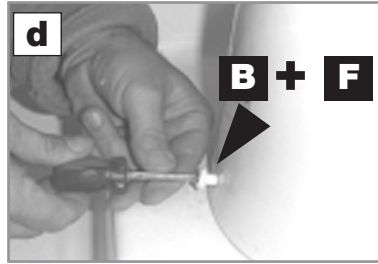
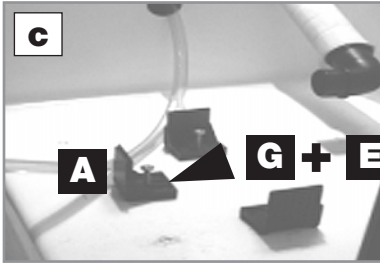
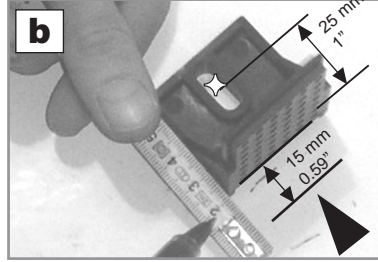
**SANIMARIN® 31 C • SANIMARIN® 35 • SANIMARIN® 48 12 V**



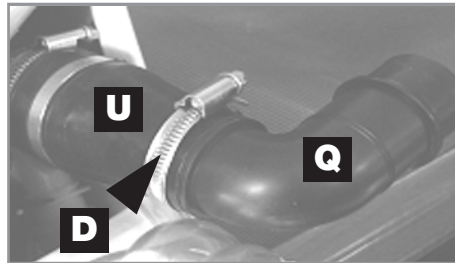
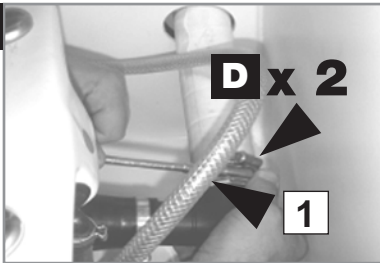
**SANIMARIN® 31 C • SANIMARIN® 35 • SANIMARIN® 48 24 V**



6a



6b

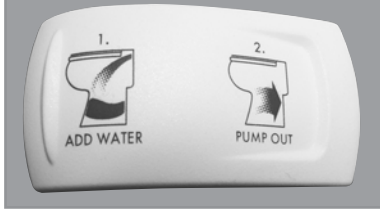


6c

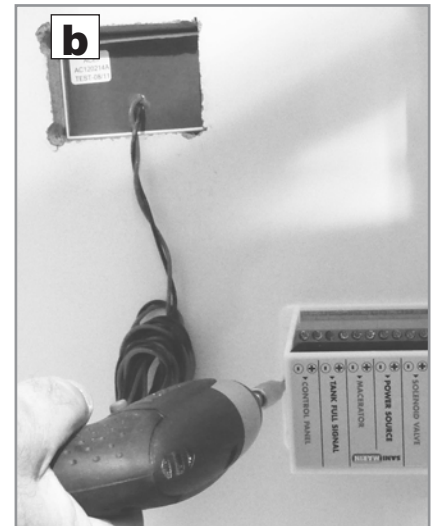
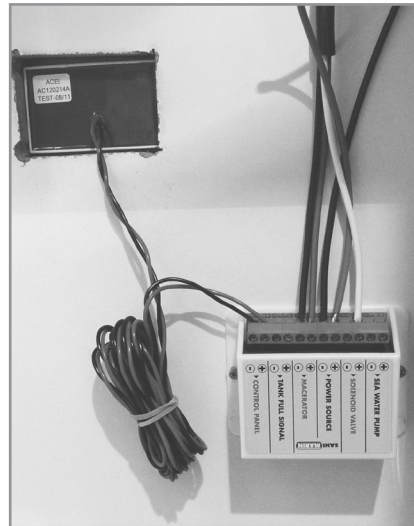
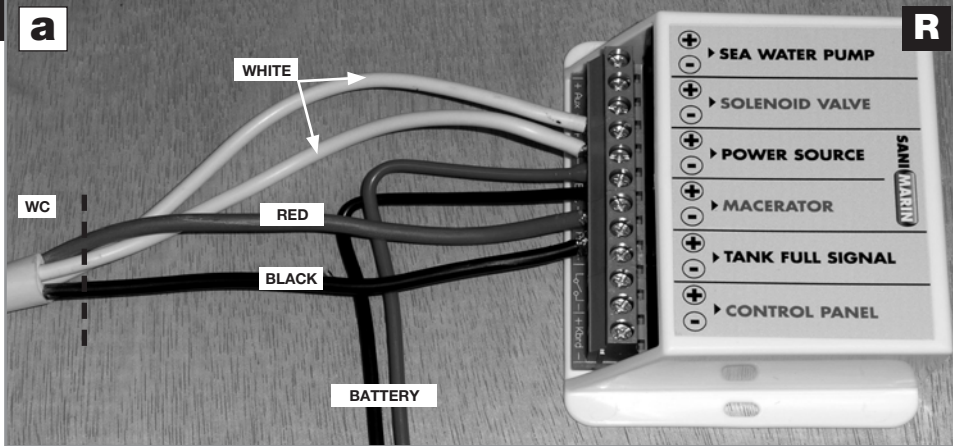


**6 SUITE**

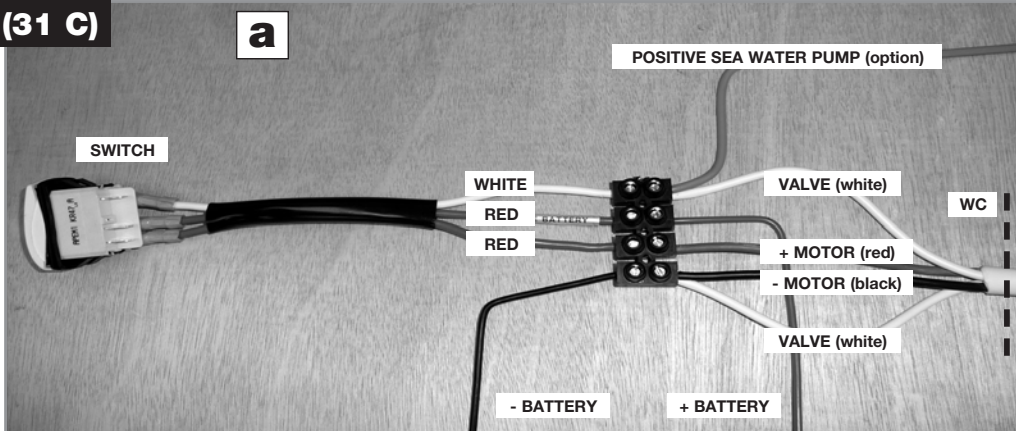
**6c (31 C)**



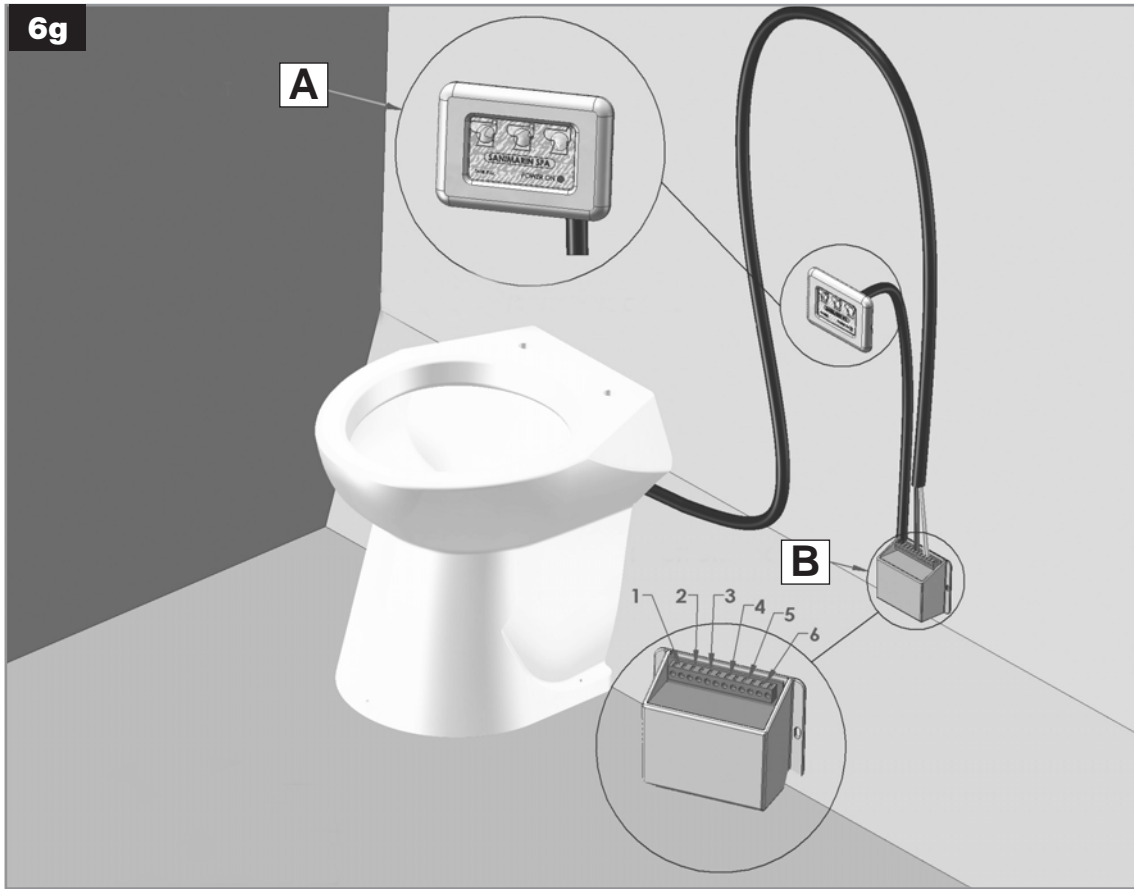
**6d**



**6d (31 C)**



6g



- A** Control Panel
- B** Electronic box

**Electronic connections**

- 1** Keyboard
- 2** Tank level indicator
- 3** Battery
- 4** Motor: red positive, black negative
- 5** Solenoid valve: white
- 6** Optional pump

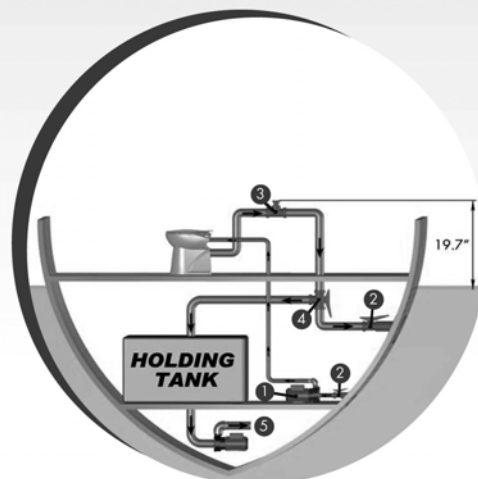
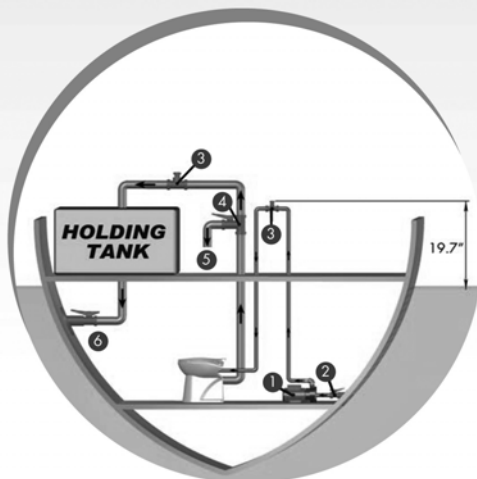
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HYDRAULIC INSTALLATION

The installation can be adapted to suit all configurations and all types of boats. SANIMARIN toilets operate with an onboard pressurized freshwater system, or with a raw water system requiring a separate seawater pump (not supplied).

Toilet below sea level, gravity draining of holding tank

Toilet above sea level, holding tank below sea level



- 1** Raw water pump
- 2** Seacock
- 3** Vented loop
- 4** 3 way valve
- 5** Discharge of the toilet direct to the sea
- 6** Gravity drainage to the sea of holding tank

- 1** Raw water pump
- 2** Seacock
- 3** Vented loop
- 4** 3 way valve
- 5** Discharge (to the sea) of the holding tank

**SANIMARIN® 31 C • SANIMARIN® 35 • SANIMARIN® 48**

SANIFLO A Group SFA Company

**12 V = 260 W - 24 V = 260 W**

## 1 GENERAL

**SANIMARIN®** is a WC equipped with a pump/macerator which installed and used correctly will give reliable and consistent service for many years. **SANIMARIN®** is for marine or mobil unit use. Please follow these installation instructions, paying attention to the following warnings;

«  » Possible danger to personnel,

«  » Warning of possible electrical hazard,

«**WARNING**» Possible danger of damage to the macerator.

### APPLICATION SN 35 C & SN 48

**SANIMARIN®** uses an electronic keyboard  which operates as follows;

• **STANDARD Operation:** press the NORMAL pad on the control console. Cycle time 19 secs.

**Water consumption: 2.2 lit / 0.58 gallons.**

• **ECO Cycle:** press the ECO pad on the control console. Cycle time 10 secs.

**Water consumption: 1.2 lit / 0.31 gallons.**

• **DRAINING Cycle:** press continuously the EMPTY pad on the control console.

#### • Adjustment of the cycle of rinsing

The rinsing time during the "Normal" cycle can be programmed, to add up to a further 5 seconds. The cycle time thus varies between 19 seconds and 24 seconds, and water consumption varies between 2.2 l / 0.58 gal and 3 l / 0.79 gal.

To enter the programming mode: press the "Normal" and "Eco" keys at the same time for at least 5 seconds. The red LED flashes for 5 seconds and then goes out.


To increase rinsing time by 1 second: press the "Normal" key = 1 beep (press 5 times at most).

To reduce rinsing time by 1 second: press the "Eco" key = 1 beep.

To exit the programming mode automatically: no keys pressed for 5 seconds = the green LED comes on.

The water consumption programmed remains in the memory even after the unit has been disconnected from the power supply.

#### • Management of the black water holding tank

LEDs and Buzzer: Depend on the status of the "Holding Tank" high level switch (optional connection to the electronic box .

Normal level: Green LED on, red LED off. Buzzer silent and all cycles authorized.

High level reached: Green LED off, red LED flashing = "Full" message visible, + Beeps when a key is pressed. 3 further cycles allowed. Pressing "Normal" for 5 seconds will return cycles to normal operation.

### APPLICATION SN 31 C

**SN 31 C** is commanded by a two-position switch:

- Add water: bowl flushing command
- Pump out: maceration and discharge command

#### Use:

1/ FLUSH: (Add Water) recommended water level: halfway up the bowl

2/ DISCHARGE: (Pump out)

3/ FLUSH: (Add Water) to fill the bottom of the bowl with water

**Note 1:** In rough seas, empty the bowl (using the pump out position) to avoid spillage

**Note 2:** No automatic cycle

## 3 DIMENSIONS (see drawing n° 3 page 2)

## 4 TECHNICAL DATA


Applications	discharge of a WC
Max. vertical evacuation	3 m / 9.8 ft
Max. horizontal evacuation	30 m / 98 ft
Nominal power	260 W in 12 V version 260 W in 24 V version
Electrical class	III
Isolation level	IPX4
Net weight	SN 31 C 16,4 Kg / 36.2 lbs SN 35 22,2 Kg / 48.9 lbs SN 48 23,8 Kg / 52.5 lbs

**CAUTION :** This product should not be used for any other purpose other than that described here. The minimum discharge pipe inner diameter should be 25 mm / 1 inch.

## 5 PERFORMANCE CURVE (see drawing n° 5 page 2)

## 6 INSTALLATION GUIDE





### 6a FIXING BOWL TO THE FLOOR

- Draw the outline of the base on the floor, in the area around the fixing holes in the ceramic bowl.
- Measure 15 mm / 0.59 inch from the outline drawn, position the brackets  and drill through the middle of the holes.
- Screw the brackets in place, leaving them loose, they will be tightened once the bowl has been fitted.
- Fit the bowl.

**Note:** wait until all the connections have been made before fixing the bowl definitively in place.

**Note:** on the **SANIMARIN® 35**, there is only one bracket, in the front. The two screws at the back are placed vertically.

### 6b CONNECTING THE WASTE PIPE AND THE WATER SUPPLY PIPE

Connect the 38/38 mm / 1" 1/2 diameter bend  or the 38/25 mm / 1 inch diameter bend  to the check valve  and the waste pipe, and then fix in place with clip . (through-the-wall, SN35) (through-the-floor, SN48 & SN31C)



**1 Water supply pipe.** To be connected to a seawater pump (supplied as an option), or to the pressurized onboard freshwater system. The pressure in the system must be at least 1.7 bar (flowrate 2.5gpm/ 9.5 gpm).

**Safety:** To ensure that your installation is safe under all heeling conditions, put a loop in the feeder and waste pipes, with a high point 50 cm / 19.6 inch above the waterline. Fit a ventilation valve at the high point of each loop.

**Note:** it is possible to fit a seawater pump other than the pump supplied as an option, provided that the current requirement is not more than 16 A (In that case you must insert a 12 or 24 VDC electrical relay).

Raw water pump must not be demand type. Pump is controlled by signal from control module or rocker switch for SN31C.


### 6c FITTING THE CONTROL TOUCHPAD (SN35 & SN48)

The touchpad  must be fitted in a position where it does not interfere with use of the seat and cover, and it must not be placed more than 1.50 m / 59 inch from the electrical control box . Cut out a rectangle measuring 80x50 mm / 3.15x1.96 inch from the bulkhead. Fix the keyboard in a horizontal position and clip the frame into place.

### 6c 31C FITTING THE ROCKER SWITCH AND PUSHBUTTON (SN31C)

- Panel cut-out: rectangle 40 mm x 25 mm.
- Fitting the switch: Cut out a rectangle in the bulkhead, to the measurements shown above.
- Fix the holder supplied in place with screws, and then insert the switch.
- Wire up the switch (6d).

### 6d ELECTRICAL CONNECTIONS (SN35 & SN48)

- a - Fix the box  in a dry, protected location.
- b - Connect the cable from the touchpad to the box.
- c - Insert and connect the electrical wiring from the **SANIMARIN®** to the electrical box, see 6g drawing. Lastly, connect the electrical box to the battery, making sure that the cross-section of the wires is sufficient
- 12 VDC: AWG 12 (4sq.mm) up to 9m/30ft and larger if a greater length is required.
  - 24 VCD: AWG 14 (2.5sq.mm) up to 9m/30ft and larger if a greater length is required.


### 6d 31C ELECTRICAL CONNECTIONS (SN31C) : see picture

The electricity supply to the **SANIMARIN®** must be connected directly to the boat's electrical switchboard, and it must be used solely for that equipment. It is advisable to add a 25 A fuse in a 12 Volt system, and a 15 A fuse in a 24 Volt system.

**Make sure the wires are connected correctly:  
Red wire = positive (+) terminal,  
black wire = negative (-) terminal**

### 7 DISCHARGE PIPE

 **Caution:** Please check local legislation regarding discharge from on board toilets- i.e. holding tanks etc. **SANIMARIN®** macerates and pumps at the same time.

A seacock should be fitted where the **SANIMARIN®** discharges through a skin fitting. (see drawing )

  **Caution:** For units installed below the water line, the discharge pipe should rise at least 50 cm / 19.7 inch above water level and be fitted with an anti-siphon valve prior to falling and discharging through the skin fitting.

**SANIMARIN®** does not require the use of chemicals in order to operate.

### 8 OPERATING TEST FOR PUTTING INTO SERVICE AND SUBSEQUENT CHECKS

#### SN35 & SN48

- 1 - Open the water admission valve fully to ensure a good bowl rinse.
- 2 - **STANDARD Cycle**
  - Press pushbutton **NORMAL** and after approximately 9 seconds of flush cycle, the pump will start and run for approximately 6 seconds to clear the bowl and then it takes 4 seconds to reprime the bowl.
- 3 - Throw several sheets of toilet tissue into the bowl and repeat the cycle. The bowl should completely clear. Repeat the cycle again.
- 4 - **ECO Cycle**
  - Press pushbutton **ECO** and after approximately 3 seconds of flush cycle the pump will start and complete the discharge within a further 3 seconds and then it takes 4 seconds to reprime the bowl.


#### SN31C


Connect the unit to the power supply, and turn the watersupply valve on fully to flush the unit thoroughly. Press **Add water** until the waterlevel is about halfway up the bowl (about 9 sec), put some pieces of toilet paper in the bowl, **Pump out** (about 6 sec) and then **Add water** (about 4 sec).

Note: We recommend compliance with the time lapses shown above.

### 9 USAGE

**SANIMARIN®** can be used like any normal toilet and does not require any particular maintenance.

 **Caution 1** **Only the disposal of toilet papers, fecal matter, and waste water will be under guarantee. Any damage due to foreign bodies such as cotton, condoms, sanitary towels, wet wipes food, hair, or liquids such as oils, solvent products,... will not be under guarantee.**

 **Caution 2** If away for a long period (holiday,...) or in the event of a long interruption of electricity, the water and electricity supplies to the **SANIMARIN®** should be switched off.

### 10 SERVICE

- Normal non-foaming household bleaches/WC cleansers can be used with this unit.

### 11 WINTERING

- In the event of a long period without use, rinse the bowl and carry out several flushing cycles with a supply of fresh water.

### 12 FAULT FINDING

In most cases, any inconsistencies in the operation of the unit will be minor and easy rectified. Please refer to the chart below. If the problem cannot be easily remedied thanks to this chart, please call our **SANIFLO Service organisation** or go to a **SANIFLO-approved technician**.



Disconnect the electrical power supply, before attempting any work on the unit.

SYMPTOM	PROBABLE CAUSES	REMEDIES
<ul style="list-style-type: none"> <li>• The cycle proceeds correctly, the motor turns but water in the bowl empties slowly or not at all</li> </ul>	<ul style="list-style-type: none"> <li>• <i>The evacuation is clogged</i></li> </ul>	<ul style="list-style-type: none"> <li>• Dismount and clean the discharge pipe.</li> </ul>
<ul style="list-style-type: none"> <li>• The cycle proceeds correctly, but some water remains in the bowl after a cycle</li> </ul>	<ul style="list-style-type: none"> <li>• <i>The height of evacuation is too great</i></li> <li>• <i>The discharge pipe is pinched</i></li> </ul>	<ul style="list-style-type: none"> <li>• Modify the installation.</li> <li>• Check the route of the discharge pipe.</li> </ul>
<ul style="list-style-type: none"> <li>• The motor rattles or crunches</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Foreign body into the bowl.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Disconnect the motor supplies.</li> <li>• Close water admission.</li> <li>• Remove the motor unit.</li> <li>• With a hook, withdraw all the matters being able to obstruct the rotation of macerator.</li> <li>• With a tool, turn the turbine in the 2 directions until rotation is free.</li> <li>• Re-connect the motor supplies and press on the pneumatic contactor to control the correct operation of unit.</li> <li>• Open water supply.</li> </ul> <p>If the macerator remains blocked, we recommend to call the SFA service.</p>
<p><b>SN35/SN48</b></p> <ul style="list-style-type: none"> <li>• After the button on the control console has been pressed, the cycle does not start</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Faulty programmer</i></li> <li>• <i>Faulty control console</i></li> </ul>	<ul style="list-style-type: none"> <li>• Replace the control console</li> <li>• Call an SFA service agent.</li> </ul>
<ul style="list-style-type: none"> <li>• The cycle engages but little water runs in the bowl</li> </ul>	<ul style="list-style-type: none"> <li>• <i>The inlet filter of the solenoid valve (18) is clogged.</i></li> <li>• <i>The water feed pipe is pinched.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Clean the filter of the solenoid valve.</li> <li>• Check the water admission pipe.</li> </ul>
<ul style="list-style-type: none"> <li>• The cycle engages but water does not run in the bowl</li> </ul>	<ul style="list-style-type: none"> <li>• <i>The stop valve is closed.</i></li> <li>• <i>The solenoid valve (18) is defective.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Open the stop valve.</li> <li>• Change the solenoid valve.</li> </ul>
<p><b>SN31C</b></p> <ul style="list-style-type: none"> <li>• After pressing add water, little water enters the bowl</li> </ul>	<ul style="list-style-type: none"> <li>• <i>The inlet filter of the solenoid valve (18) is clogged.</i></li> <li>• <i>The water feed pipe is pinched.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Clean the filter of the solenoid valve.</li> <li>• Check the water admission pipe.</li> </ul>
<ul style="list-style-type: none"> <li>• After pressing add water, no water enters the bowl</li> </ul>	<ul style="list-style-type: none"> <li>• <i>The stop valve is closed.</i></li> <li>• <i>The solenoid valve (18) is defective.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Open the stop valve.</li> <li>• Change the solenoid valve.</li> </ul>

### 13 GUARANTEE

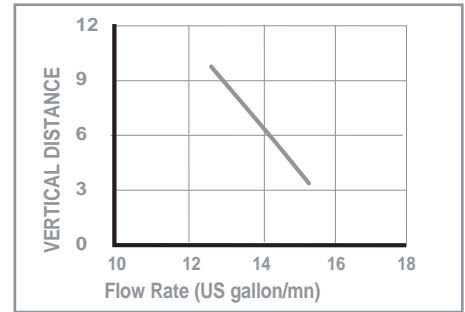
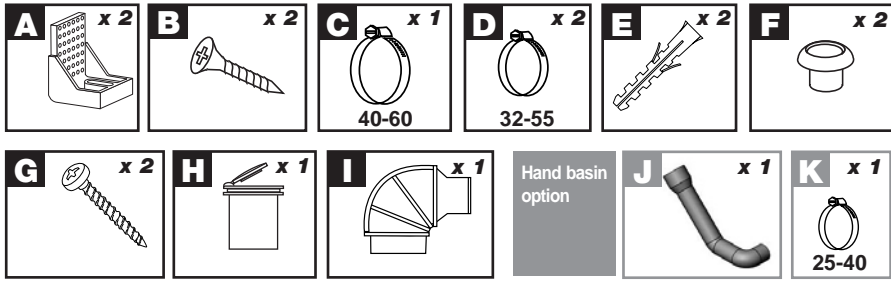
2 years guarantee from date of purchase, subject to correct installation and correct use: disposal of toilet papers and fecal matter only. Guarantee is limited to replacement or service of the defective spare parts, and any indemnity or claim for damages will not be included.

Freight and packing costs, travel expenses are not included in the guarantee. It does not cover any normal deterioration of the material over time, any external deterioration or accident, incorrect disposal of sanitary products. Any modification without prior notice will not be under guarantee. Fixing, modification, or replacement of parts without our agreement will not be guaranteed, and will invalidate it. Our liability is solely for the product itself.

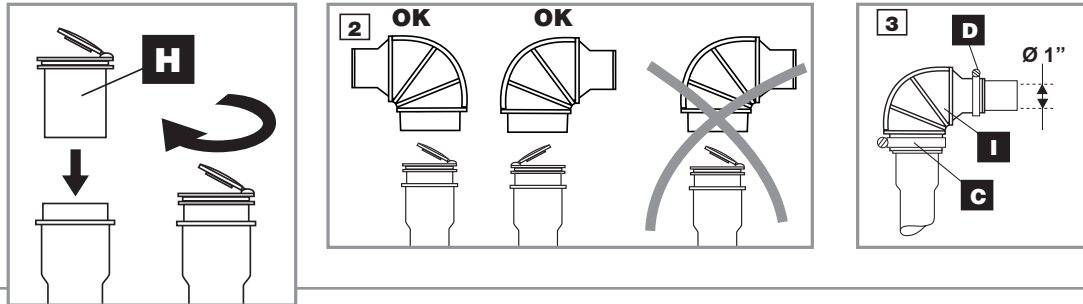
Guarantee starts from date of purchase we may request a copy of the invoice to validate the purchase date.

# SANIMARIN® 35 and SANIMARIN® 48 for 110 V

2



5a



**6 SANIMARIN® SFA SANIFLO**  
**CS40 / CLV50**  
**120 V - 60 Hz - 7,2 A**  
**IP44 - ⚡**

## 1 GENERAL DESCRIPTION

The **SANIMARIN®** is a water efficient toilet, it uses approximately 4 liters (1.06 gallons) of water per flush.

## 5 INSTALLATION

### 5a DISCHARGE PIPE INSTALLATION

See fig. n° 5a 1, 2, 3 (above).

At the rear of the **SANIMARIN®** is a rubber hose of 1 1/4-inch in diameter. Enclosed with the **SANIMARIN®** is a rubber elbow **I** and a flapper style checkvalve assembly **H**. Before inserting the checkvalve into the rubber hose, know in which direction you want to run the discharge installation. When facing the toilet from the front, you may want to run the discharge pipe to either the right hand side or to the left hand side of the **SANIMARIN®**. It is very important, that the open side of the checkvalve flapper, faces the direction of the discharge pipe. Insert flapper assembly into the pipe and push discharge elbow over it. Tighten the assembly with the provided gear clamp.

1. PVC: 1-inch solvent welded pipe. The flared end of a 1-inch coupling (or bend) fits exactly inside the rubber elbow. This pipe has a thicker wall thickness and fits therefore inside the discharge elbow. Use bends rather than elbows. Use two 45° elbows back-to-back to make up a 90° elbow.
2. Copper: 1-inch copper.
3. The flared end of a 1-inch coupling (or bend) fits exactly inside the rubber elbow. Use bends rather than elbows.
4. CPVC: 1-inch solvent weld pipe.
5. The flared end of a 1-inch coupling (or bend) fits exactly inside the rubber elbow. Use bends rather than elbows. Use two 45° elbows back-to-back to make up a 90° elbow.

If you make the discharge installation with pipe smaller than 1 1/4-inch, start the installation by inserting a coupling or an elbow into the discharge elbow and clamp down with a gear clamp. From there use a short piece of pipe before you change directions, (up, down, rear).

Do not yet connect the short piece of pipe to the discharge installation. If your installation requires a vertical discharge (and when made with 1-inch material), you may want to install a Full-Flow Ball Valve for servicing purposes and finish your discharge pipe installation.

The connection to the soil-stack should be made with an approved TY fitting and should be in accordance with your local plumbing code. (Using a SADDLE CLIP may not be permitted in your area.)

Because of the incorporated non-return valve, the pipe work can be installed up to 3m (9 feet) in height. (It is unadvisable to add an additional check valve.) It is possible to install the discharge pipe in either upwards or downwards direction. When discharging downwards it is necessary to run the discharge pipe horizontally for a distance of 12-inches (30cm) before changing directions.

Normally, an anti-siphon valve is not necessary because the **SANIMARIN®** automatically stops siphoning action.

### 5b WATER SUPPLY CONNECTION See fig. n° 5c (technical data sheet).

For the best possible flushing action, the **SANIMARIN®** needs to be connected to a 1/2-inch water supply. The **SANIMARIN®** is supplied with a supply tube. The copper end of this supply tube will fit inside the 3/8-inch compression end of a shut-off valve. Due to the international distribution of our product range, it may be possible that the tip of the supply connector is metric. Simply cut this portion off and you are left with a 3/8" connector.

### 5c ELECTRICAL CONNECTION

The **SANIMARIN®** should be connected to a 120 V, 60 Hz, 15 Amp. Ground Fault Circuit Interrupter, (either of the breaker or receptacle type). Connect only to receptacle protected by a ground fault circuit.

**Warning:** risk of electric shock - this pump is supplied with a grounding conductor and grounding type attachment plug to reduce the risk of electrical shock be certain that it is connected only to a properly grounded - type receptacle.

### 5d COMMISSIONING THE UNIT

1. Open the stop valve completely.
2. Plug the electrical cord into the receptacle.
3. Push the air switch and hold for one second, let the unit go through its cycle, repeat.
4. Now throw some toilet paper into the bowl and press the switch again to verify the correct working of the unit and discharge pipe.

**In case of electrical power failure of any duration, it is necessary to close the Shut-Off valve, because leaks, no matter how small, may fill up the bowl in time and cause flooding.**

# SANIFLO®

A Group SFA Company

U.S. -105 Newfield Avenue, Suite B, Edison, NJ 08837  
 Toll Free: 1-800-571-8191

Canada -1 - 685 Speedvale Avenue West, Guelph, ON N1K 1E6  
 Toll Free: 1-800-363-5874

[www.sanimarin.com](http://www.sanimarin.com)

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