

## USER MANUAL

### OPERATION AND MAINTENANCE OF TECHNOPOLYMER TANKS

#### FUEL TANKS

The Tanks of SIC Divisione Elettronica are made with the most advanced technopolymers and come equipped with pickups, inserts, brass and aluminium fittings and with level indicator as well.

They are CE certified by RINA according to ISO 21487.

The available models are from 9 liters up to 1000 liters, in the following ranges: "P" parallelepiped shape, "T", "V", "1/2-V", "L" and "S" to be adapted to the tanks of vessels.

Before being marketed, they are duly tested with pressure tests for 24 hours.

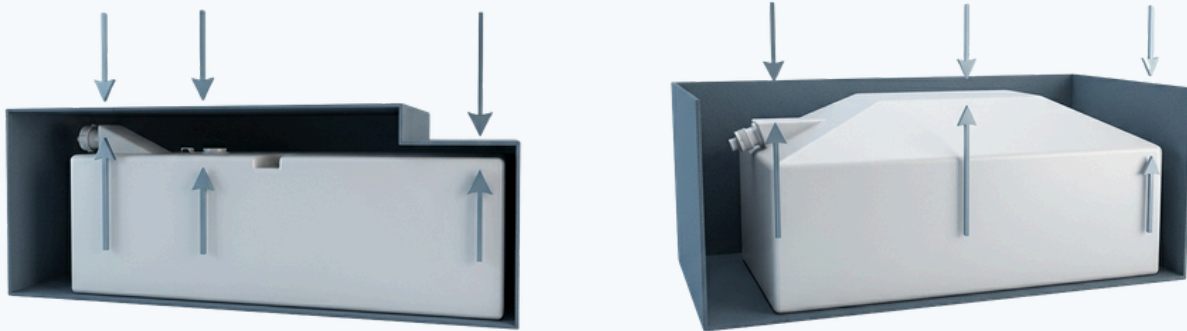
#### WARNINGS

All tanks designed to contain fuel shall be stored in a dry, ventilated place, away from the motor apparatus and other heat sources, possibly protected by fireproof insulating and non-absorbent screens. They must absolutely not be placed in cabins and exposed to sunlight or trampling.

The installation must be performed by qualified personnel or companies.

In any case, before the installation, the following must be verified:

- do not expose the tank to temperatures above 80° C
- fuel loading side
- The compartment housing the tank must include the presence of the hoses and the space required for maximum expansion of the tank (during a pressure test or during a refueling). For particular geometries with very large upper surfaces, expansion may be even of several centimeters.



#### BEFORE INSTALLATION, THE FOLLOWING SHOULD BE CHECKED

- The integrity of the tank;
- the place of installation;
- the spaces directly above the fuel tank;
- the way to access the installed tanks;
- the available space for additional components (such as filters, for example);
- the paths necessary to the fuel filler and vent pipes because the path influence directly the quality of the fill;
- the installation of certified piping;
- that the vent pipe has an exit to the outside;
- that the seat of the housing compartment is equipped with a flat, even base and with supports to anchor the tank and/or bulkheads fit for its containment.

#### USEFUL INFORMATION FOR INSTALLATION ON BOATS

In general, the boat while in the water is in a range of stabilized temperatures; the hull tends to take the temperature of the water that ranges from about 0° to max. 35°.

In some cases, for example when the tanks are allocated near the engines, the temperature may rise to +45-50° generating a volume increase in the fuel of about 1% every 9-10 °C.

There are two main cases where this can happen:

1. The first by difference of temperature during refueling, when petrol from underground storage tanks will be placed on those aboard the vessel, partially filled. In case of presence of continuous vent, immediately after refueling may also be generated a fuel spillage.
2. The second may occur daily with the change of day/night temperature.

The boat shed on the carts are generally more susceptible to temperature changes than the boat shed into the water which acts as a stabilizer of the temperature.

The factor that most influences the volume expansion may be the position of the tank during refueling, together with the length of the tank and to the fluctuations to which it is subjected.

**For this reason it is advisable to never fill the tank to its maximum capacity.**

## INSTRUCTIONS FOR USE

### **Getting Started.**

1. Inspect the inside of the tank to make sure it is dry and that there are no impurities. It is recommended to perform this inspection in any case, even if the tank is already installed, when it is empty, at least once a year;
2. Verify the integrity of any protections and/or insulations;
3. Verify that there is enough space to accommodate expansion and depression of the tank;
4. Make sure that the available measuring equipment is compatible with the level sensor.

### **Installation.**

1. Connect the fuel filling pipe to the tank filler;
2. Connect the engine fuel feeding pipe to the tank fuel pickup;
3. Connect the vent piping to the tank vent;
4. Tighten by means of an Allen key, all of the pipes connected to the tank by means of stainless steel tightening clamps.

The tank is already equipped with accessories and with a level sensor. This item could be a resistive vertical float sender , in the range American (240-33 Ohm) or European (3-180 or 10-180 Ohm) standard , or an electronic capacitive sender , which can work in four ranges :American (240-33 Ohm) or European (3-180 or 10-180 Ohm) , or 300-10 Ohm , or in current 4-20mAmp.

## DIRECTIONS FOR USE AND MAINTENANCE

Sic Divisione Elettronica's tanks are built with the utmost attention and care, and the company guarantees its operation. However, to preserve the original safety and efficiency the cooperation of the User is required. It is therefore recommended to carefully read these instruction, strictly following the indications and warnings therein contained.

The fuel tanks are made of cross-linked polymer with superior performance compared to other non-metallic tanks. However, due to the hazardous liquid that they are going to hold, it is necessary to strictly follow the rules below.

1. Proper installation. The installation of a tank is very important and should be carried out by specialized personnel. A bad installation can result in load or stress points which can cause breakage of the tank;
2. Proper method of fixation. Even the use of metal belts, which prevent the normal elasticity of the tank, may compromise the duration in time;
3. Routine annual inspections. The fuel in the tanks is a potential risk of fire and may cause damage to property and/or persons; It is therefore recommended to always inspect the tank before installation and before each season or after a period of not use of the boat. It is recommended to inspect the tank at least once a year;
4. Our cross-linked tanks have better performance than metal tanks, greater flexibility and less risk of breakage along the weld line, but to allow the characteristics of the tank remain unchanged over time it is recommended a proper installation and use, as prescribed in this User's Guide. Therefore, it is necessary to keep in mind that it is better to replace a tank after an inspection if it is very old or if it showed cracks during inspection rather than defer and risk the loss of fuel due to accidental breakage.