COMPOSE IT®
Innovative Tanks

Installer and user manual for COMPOSE IT bladder expansion vessels

Sommaire

1. General

For your safety, please read the entire manual before installing this product. *COMPOSE IT* bladder expansion vessels shall only be used with water. In *COMPOSE IT* bladder expansion vessels, the air is captive inside the bladder (air cell).

COMPOSE IT bladder expansion vessels are **pre-charged with pressure**. The tank must never be opened before having totally released the air pressure. In order to find out if there is still pressure insite, use the air valve on the top of the tank.
The warranty is canceled if the tank is used at temperatures or pressures outside of its nominal range. The warranty is canceled if the tank is submitted to vacuum (below atmospheric pressure).

2. Important

Minimal ambient temperature: 1°C
Maximal ambient temperature: 50°C
Minimal water temperature: 1°C
Maximale water temperature (Ts): 50°C
Pressure in bladder at delivery: 1,8 bar
Minimal pressure (Pm) : 0 bar relative (P atm)
Working pressure (Ps): 8 bar
Recommended pressure in the bladder before start: 0,2 to 0,5 bar below pump starting pressure
Never submit a tank to vacuum (pressure lower than atmospheric pressure)

CONDITIONS FOR NORMAL USE

The tank shall only be used in applications for which it was conceived, manufactured and tested. See the CE sticker on the tank.
Water must be removed before moving the tank to avoid damaging the plastic support.

RECOMMENDATIONS FOR SAFE USE

The goal for a safe use of the pressure tanks is to identify all situations leading to a risk for the user's safety. The points to be considered include but are **not** limited to the following list:

- Avoid shocks on the tank
- Do not apply mechanical stress to the connection parts
- Limit the external stresses on the pressure tank:
    - Do not expose to direct sunlight;
    - Do not expose to flames or excessive heat;
    - Threads and connections are under the responsibility of the installer;
    - The devices connected to the tank shall comply with existing standards, and the installation shall prevent the pressure from rising above 8bar.

RECOMMENDATIONS FOR WATER TIGHT CONNECTION TO THE TANK

In order to ensure water tightness with the plastic threads on COMPOSE IT tanks, **do not** use Teflon or oakum to avoid damaging the threads. It is recommended to use o-rings, with connection parts ensuring a proper o-ring compression. When o-rings cannot be used, sealing glue such as LOCTITE SI 5331 is an option.
COMPOSE IT declines all responsibility regarding the incorrect mounting of o-rings or other sealing solutions.

COMPOSE IT declines all responsibility in case of damage resulting from modifications or repairs made without its explicitly written consent, or resulting from non-respect of this manual.

3. Installation of the expansion vessel

WARNING

The installation shall be performed by qualified personnel, responsible for the respect of current regulation, codes and standards as well as the respect of the manufacturer's instructions. The red seal on the pressure tank is a control device ensuring your safety: it shall only be broken by a qualified installer after obtaining written agreement from the manufacturer.
Pressure tanks are delivered by the manufacturer with a pre-charge pressure of 1.8bar in the bladder. It is recommended, and under the responsibility of the installer, to set the air pressure to 0.2 - 0.5 bar below the pump starting pressure.
Make sure that the pressure vessel is installed on a horizontal and flat surface.

Connect the COMPOSE IT expansion vessel to your system. It is now ready to use.

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IMPORTANT

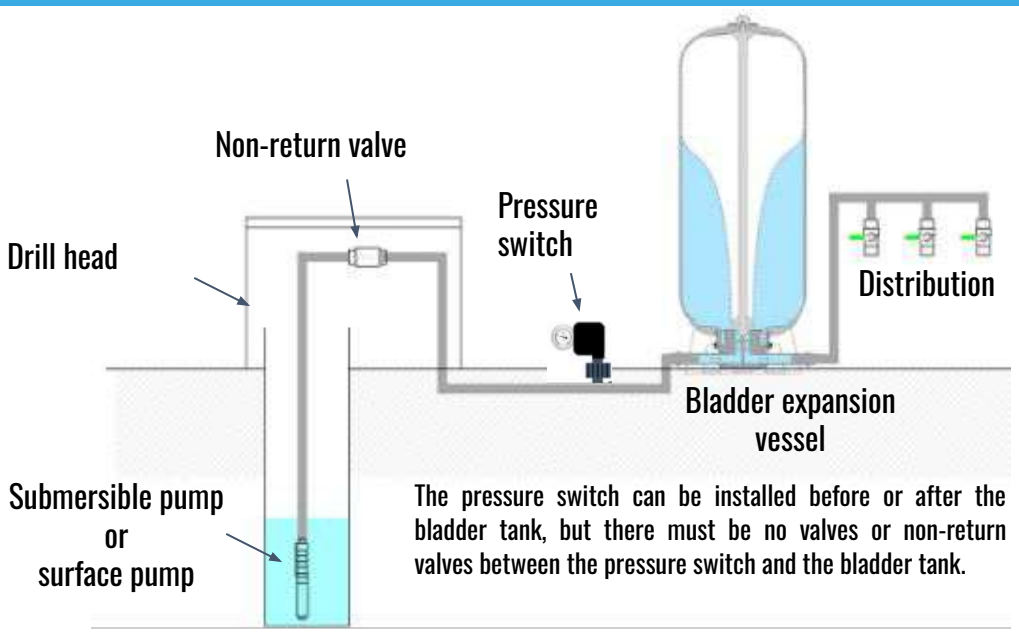
This list contains important but **non exhaustive** information related to the installation of COMPOSE IT bladder expansion vessels:

- Prior to installation, make sure that the tank was not damaged during transportation.
- The necessary safety devices (e.g. pressure relief valves) must be installed by a qualified installer in order to ensure that pressure and temperature always remain within the correct range: pressure between atmospheric pressure and 8bar, temperature between 1°C and 50°C.
- The installer is responsible for the selection and installation of proper safety devices.
- The tightening torques for connecting fittings, safety devices and other parts must be strictly observed:
    - 10 N.m for the water inlet and outlet pipes
    - 30 N.m for the V-band clamp on the bottom of the tank
    - 20 N.m for the nut on the air valve on top of the tank;
- A flexible hose must be used to connect the tank to the rest of the installation, to compensate for the tank expansion when under pressure. **The manufacturer declines all responsibility in case of absence of a flexible hose**.
- The installation of the bladder expansion vessel must be performed by qualified personnel, under the responsibility of the installer.
- In case of intervention on the bladder expansion vessel (adaptations, modifications, repairs,...), the installer shall consult the manufacturer. The manufacturer declines all responsibility in case of intervention without its written prior consent.
- The bladder expansion vessel and/or the connection parts attached to it shall never be used as supporting elements and shall not be submitted to external stress.
- In case of replacement, only original parts provided by the manufacturer shall be used.

4. Use of the expansion vessel

Before starting the water circulation, make sure that no damage was caused during the installation work. Check that water tightness is properly ensured at all connection points, control o-rings and tightening torques. The tank shall always remain within the nominal pressure and temperature ranges. The installer is responsible for the proper installation of the bladder expansion vessel, which is one element integrated in a global system aiming at regulating a pump.

5. Typical installation example



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6. Maintenance

The maintenance recommendations below are **not an exhaustive list**. It is the responsibility of the professional to ensure that the installation is maintained in accordance with current regulations, good practice and the specific features of the installation.

We recommend checking the air pressure in the bladder at least once a year.

A- The tank must be emptied of water before checking the air pressure in the bladder.
B- Using a manometer, check the pressure on the valve located on the top of the tank.
C- Add air if necessary (using a compressor) so that the pressure is between 0.2 and 0.5 bar below the cut-in pressure.
D- Replace the protective cap on the valve.
E- Restart the installation and fill the tank with water.

7. Bladder replacement

Link to a demonstration video

https://youtu.be/uwyf8wxDxpA?si=e2FXmSWFMYv-nm9w

Important : The tank is under pressure
Never open the V-band clamp without ensuring the air has been totally removed from the bladder.

STEP 1: Drain the water from the tank
Drain the tank of water. Open a tap on the drainage side to check that the tank no longer contains pressurised water. Remove the tank from your installation. Remove the valve protection cover; the valve is now accessible.

STEP 2: Take the air out of the bladder
Purge the air by removing the shell from the air valve. To facilitate extraction of the residual air in the bladder, we recommend using a hoover connected to the valve. Unscrew the lock nut.

STEP 3: Pull out the bladder
Lay the tank horizontally.
Remove the red seal and the heat-shrink tubing from the screw thread.
Unscrew the stainless steel clamp and remove the bladder.
If the bladder is full of water, use a cutter to pierce it and let the water out.

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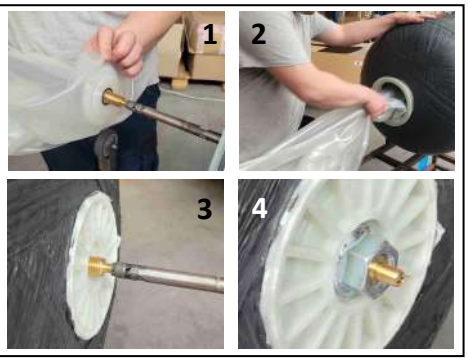

STEP 4: Insert the new bladder

1- Insert the new bladder (use a rod to guide it) - check that the o-ring close to the air valve is present.

2- Continuously push in the guided bladder. Make sure to only push and never pull, as it would disengage the central tube.

3 & 4- Once the valve is out, screw on the M16 lock nut with a tightening torque of 20 N.m.

STEP 5: Put back the lid

Make sure the o-ring is firmly in place between the lid and the tank.
Check that tank and lid are in contact all around the surface.
Apply a little grease on the threads of the V-band clamps before fitting the nut.
Reinstall the V-band clamp.
Tightening torque 30 N.m, or until the clamp makes contact.

Tip: Turn the tank over so that the lid is nicely flat before fitting the clamp.

STEP 6

Install a new red seal and write the date.
Install the bladder tank vertically on its support.

STEP 7

Inflate the bladder to the desired pressure.
This should 0.2 to 0.5 bar lower than the pump cut-in pressure.
Replace the valve protection cover.
You can now fill your tank with water again and use your system.

Regarding the frequency and nature of the periodic inspections of pressurised tanks along its lifetime, the current regulation, codes and standards apply.

- During inspections and maintenance operations on the COMPOSE IT bladder tanks in question, all safety regulations legally applicable in the country must be complied with.
- Before opening any connections or other openings in the tank, make sure there is no pressure in the network.
- Always make sure that the air pressure has been removed from the bladder before opening the V-band clamp (remove the valve obus)

8. Specifications

Description	Volume (litres)	Ext. diameter (+/- 5mm) (mm)	Weight (+/-0,5 kg) (kg)	Total height (mm)	Water inlet / outlet (inch)
RE-V 60	60	470	12.6	650	1 ¼"
RE-V 115	115	470	14,9	975	1 ¼"
RE-V 150	150	470	18.3	1 220	1 ¼"
RE-V 230	230	620	24.9	1 070	1 ¼"
RE-V 300	300	620	29	1 315	1 ¼"
RE-V 450	450	620	39.1	1 825	1 ¼"

9. Warranty

- The composite tank (tank only, i.e. non-replaceable parts) is guaranteed for a period of 10 years from the date of invoice.
- Replaceable accessories that may be supplied with the tanks (lids, bladders, tubes, nipples, etc.) are guaranteed for a period of 2 years from the invoice date.

Serial number

Each bladder tank has a unique serial number visible on the CE mark label. This label must be visible on the tank. In case the label is no longer visible, the serial number can be found engraved in one of the metal inserts around the tank collar (under the V-band clamp).
Send any after-sales service request to info@composeit.fr and mention the serial number in your request.
An after-sales service processing form will be sent to you.

10. Symbols

Caution

Pressurised equipment

Do not expose to direct sunlight

or

Read the installation manual.
The QR code sends you to the website page where relevant documents can be found.

11. Contact details

www.composeit.fr

Contact: info@composeit.fr

12. Declaration of conformity

CE

The declaration of conformity to the European Pressure Equipment Directive (PED) is available on request

13. Sanitary accreditations

ATTESTATION DE ACS CONFORMITE SANITAIRE

French health compliance certificate (ACS) available on request

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