

1 - GENERAL • All ZILIO pressurized vessels with replaceable membrane comply with the safety standards according to Directive 2014/68/UE.

This manual is designed to comply with art. 4.3-enclosure 1 to Directive 2014/68/UE and it is enclosed with the product.

2 - DESCRIPTION AND USE OF THE PRODUCT • Heating: ZILIO expansion vessels are required to allow for the expansion that occurs when water is heated; thus limiting pressure increase within the system. ZILIO pressurized vessel with replaceable membrane are necessary for normal and lasting working of drinking water distribution and pumping systems. They are a reservoir of pressurized water and so they prevent constant cycling of the pump - All ZILIO pressurized vessels / expansion tanks are designed to be working with type 2 fluids; any other fluids are not allowed (unless Zilio provides a specific written declaration). All ZILIO pressurized vessels / expansion tanks consist of a sealed steel tank with a replaceable membrane inside. Zilio membranes are balloon shaped, with a sealed connection to the flange, preventing water from being in touch with the steel of the vessel.

3 - TECHNICAL DATA • The technical details of each pressure vessel are written on the label which is stuck on each item. The data are: Code; Serial Number; Production Date; Capacity; Working Temperature (TS); Pre-charge; Maximum Working Pressure (PS).

This label is firmly applied to the vessel and it must not be removed, or changed.

Pressure vessels must be used according to the technical data indicated on this label. Prescribed limits must not be exceeded.

4 - GENERAL INSTRUCTIONS FOR INSTALLATION OR REPLACEMENT. •

• Make sure you are using all the necessary handling means and you are taking all the necessary precautions before locating and installing the vessel.

• The vessel must be installed indoors in a ventilated area not subject to freezing. It must also be kept away from heat sources, power generators and any other sources that might damage it.

• Depending on the model, the weight of the vessel, full of water, is designed to be supported by the system piping. Therefore, it is quite important, when necessary, that the pipes are correctly supported with brackets, clamps or other devices. Furthermore, if the vessel has not a base and is installed horizontally, it must be properly fastened.

• Shut off power supply and water supply to the system. Make sure the system is not under pressure and is completely cold, in order to prevent possible burning or other serious injuries.

• Before installing the unit, remove the plastic cap covering the charging valve and check, with a pressure gauge, that pre-charge corresponds to the factory pre-charge value indicated on the label, with a $\pm 20\%$ tolerance. If necessary, adjust the pre-charge to the required value; replace and tighten the plastic cap on the valve.

• Install the vessel in the correct location, according to the water system plan, preferably in vertical position with the water connection downwards (see drawings) in the following positions:

- On the return pipes in sealed heating systems (fig. 1)

- Between the boiler and the check valve, or the pressure relief valve, in potable hot water systems (fig. 2);

- After the check valve positioned on the pump outlet, in pumped systems for water storage and lifting (fig. 3).

• After installing the vessel, start the system and check there are no water leaks. It will also be necessary to expel all air from the piping. Check that pressure and temperature meet the required limits; if necessary open a nearby faucet to reduce pressure and/or decrease temperature in order to have the proper temperature value.

• Do not tighten the threaded fitting too much.

• Plug the hole with a blank plug or install a pressure gauge and/or a safety valve (fig. 4).

Warning: the installation procedure detailed above is meant to be a general reference. Please make sure you take into account the specifications and the instructions of the system plan, the operating requirements and the local norms and codes.

5 - MAINTENANCE **Warning: maintenance activities must only be performed by a qualified and authorized installer.**

• Before any check or maintenance activity, make sure the water supply and power are shut off, the system is cold and not under pressure and the vessel is empty.

• The vessel must be checked every six months, to make sure the pre-charge value is the one on the label (factory set pre-charge or customer set pre-charge) with a tolerance of $\pm 20\%$ if not otherwise stated.

• Clean the vessel only with water and soap, for a longer lasting of the paint.

• The vessel components may, in time, wear out. In case some components are worn out or corroded, the vessel must be replaced.

• Use only ZILIO spare parts for replacement.

Note: the vessel must be replaced in case it is excessively worn out and, in any case, after 5 years from the installation date. This ensures a proper working of the system.

ZILIO is not responsible for any damage to property or for any injury to people due to failure to follow the above instructions, in particular due to improper dimension, installation, maintenance, working of the vessel and of the related system.

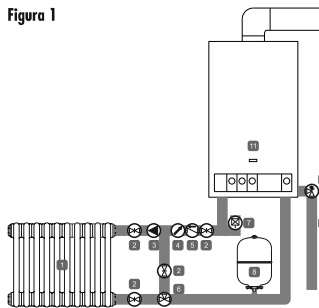
6 - SAFETY INSTRUCTIONS FOR RESIDUAL RISKS • Failure to follow the following directives may be hazardous and can result in death, serious injuries and property damage, besides making the vessel unusable. It is forbidden to pierce or weld the vessel. The expansion vessel and/or the pressurized vessel must not be uninstalled while it is in operation. Do not exceed the maximum working temperature and/or the maximum pressure allowed. Do not use the pressurized vessel and/or the expansion vessel improperly, for a use they were not designed for. Any expansion vessel and pressurized vessel is tested, checked and properly packed before shipping. The producer shall not be responsible for any damages due to improper transport or handling of the product, if the necessary precautions for product integrity and people safety are not taken.

ZILIO will not accept any claim for any damage to property or for any injury to people due to failure to follow the above instructions, in particular due to improper dimension, installation, maintenance, working of the vessel and of the related system.

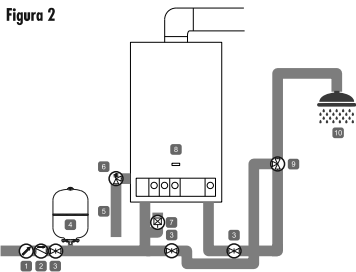
EXPANSION VESSEL	Problem	Cause	Solution
The system safety valve intervenes		Inappropriate tank volume	Replace with a vessel with the correct dimension
		The vessel is discharged	Pre-charge the vessel
		Pre-charge is not correct	Check that the pre-charge is 0,2 bar less than the pressure gauge start (within $\pm 20\%$ of the nominal value)
Hot vessel		The vessel was installed on the flow pipes	Install the vessel on the return pipes

PRESSURISED TANK	Problem	Cause	Solution
The system safety valve intervenes		Inappropriate tank volume	Replace with a vessel with the correct dimension
		The vessel is discharged	Pre-charge the vessel
		Pre-charge is not correct	Check that the pre-charge is 0,2 bar less than the pressure gauge start (within $\pm 20\%$ of the nominal value)
Hot vessel		Pre-charge air is too compressed	Replace with a vessel with the correct dimension
Frequent pump cycling		Inappropriate tank volume	Replace with a vessel with the correct dimension
		Pre-charge is not correct	Check that the pre-charge is 0,2 bar less than the pressure gauge start (within $\pm 20\%$ of the nominal value)
Noisy tank		The vessel does not discharge properly	Check that the pre-charge is 0,2 bar less than the pressure gauge start (within $\pm 20\%$ of the nominal value) or change vessel position
Vibrations in the tank		The vessel it does not discharge properly	Check the vessel is fastened and that the pre-charge is 0,2 bar less than the pressure gauge start
		The vessel is not properly fastened	Check the vessel is fastened

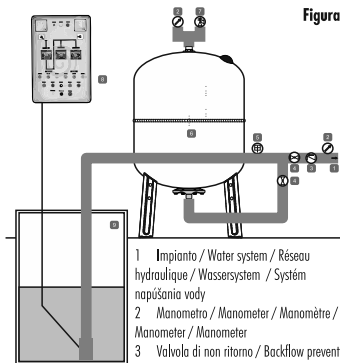




- 1 Utilizzatori / Utilities / Usager finale / Heizkörper / Vykurovací systém
- 2 Valvola a saracinesca / Gate valve / Robinet-vanne / Absperrventil / Uzavírací ventil
- 3 Pompa / Pump / Pompe / Čerpadlo
- 4 Manometro / Manometer / Manomètre / Manometer / Manometer
- 5 Valvola di non ritorno / Backflow preventer / Soupape de non-retour / Rückflussverhinderer / Spätnä klapka
- 6 Valvola miscelatrice / Mixing valve / Mélangeur / Mischventil / Zmiešavací ventil
- 7 Valvola di sfogo / Air bleed valve / Soupape d'évacuation / Entlüfter / Automatický odvzdušňovací ventil
- 8 Vaso d'espansione / Expansion vessel / Vase d'expansion / Membran-Druckausdehnungsgefäß / Expanzná nádobá
- 9 Scarico / Draining / Décharge / Abflusseinleitung / Odpad
- 10 Valvola di sicurezza / Safety valve / Soupape de sûreté / Sicherheitsventil
- 11 Caldaia / Boiler / Chaudière / Heizkessel / Kotel



- 1 Manometro / Manometer / Manomètre / Manometer / Manometer
- 2 Valvola di non ritorno / Backflow preventer / Soupape de non-retour / Rückflussverhinderer / Spätnä klapka
- 3 Valvola a saracinesca / Gate valve / Robinet-vanne / Absperrventil / Uzavírací ventil
- 4 Vaso d'espansione / Expansion vessel / Vase d'expansion / Membran-Druckausdehnungsgefäß / Expanzná nádobá
- 5 Scarico / Draining / Décharge / Abflusseinleitung / Odpad
- 6 Valvola miscelatrice / Mixing valve / Mélangeur / Mischventil / Zmiešavací ventil
- 7 Valvola di sfogo / Air bleed valve / Soupape d'évacuation / Entlüfter / Automatický odvzdušňovací ventil
- 8 Caldaia / Boiler / Chaudière / Heizkessel / Kotel
- 9 Valvola miscelatrice / Mixing valve / Mélangeur / Mischventil / Zmiešavací ventil
- 10 Utilizzatori / Utilities / Usager finale / zum Verbraucher / TÜV



- 1 Impianto / Water system / Réseau hydraulique / Wassersystem / Systém napuštění vody
- 2 Manometro / Manometer / Manomètre / Manometer / Manometer
- 3 Valvola di non ritorno / Backflow preventer / Soupape de non-retour / Rückflussverhinderer / Spätnä klapka
- 4 Valvola a sfera / Globe valve / Soupape à bille / Absperrinheit / Guový ventil
- 5 Pressostato / Pressure switch / Pressostat / Druckschalter / Tlakový spínač
- 6 Autoclave a membrana intercambiabile / Interchangeable membrane pressure tank / Réservoir à membrane interchangeable / MAG mit tauschbarer Membrane / Tlaková nádobá s vymeniteľnou membránou
- 7 Valvola di sfogo / Air bleed valve / Soupape d'évacuation / Entlüfter / Automatický odvzdušňovací ventil
- 8 Quadro elettrico comandi / Switch board / Tableau électrique / Schaltkasten / Spúšací panel
- 9 Vasca con pompa ad immersione / Basin with submerged pump / Cuve avec pompe d'immersion / Becken mit Unterwasserpumpe / Ponorné čerpadlo

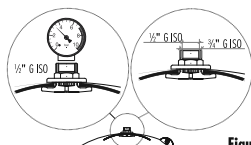


Figura 4

La seguente dichiarazione di conformità riguardante i vasi di espansione e autoclavi viene applicata esclusivamente agli apparecchi riportanti la marcatura CE ed appartenenti alla categoria ≥ II. Essa non deve essere considerata per gli apparecchi appartenenti alla categoria di cui all'art. 4.3 della direttiva.

DICHIARAZIONE DI CONFORMITA' UE

Zillo Industries S.p.A. via Sega Vecchia, 65 – 36050 Friola di Pozzoleone (VI) dichiara sotto la propria responsabilità che i vasi di espansione e/o autoclavi di propria fabbricazione, riportanti la marcatura CE ed accompagnati dalla presente dichiarazione, sono conformi ai requisiti essenziali di sicurezza dettati dalla Direttiva 2014/68/UE secondo i moduli H e H1 e le prescrizioni della EN 13831.

The following declaration of conformity for pressure and expansion vessels concerns only the units which are CE marked, belonging to the ≥ II category. It does not concern products belonging to the category indicated in art. 4.3 of the directive.

UE DECLARATION OF CONFORMITY

Zillo Industries S.p.A. via Sega Vecchia, 65 – 36050 Friola di Pozzoleone (VI) declares under its sole responsibility that the expansion and pressure tanks it manufactures, CE marked and with the present declaration enclosed, conform to the essential safety requirements of the Directive 2014/68/UE according to H and H1 modules and the prescription of EN 13831.

La présente déclaration de conformité s'applique exclusivement aux vases d'expansion et réservoirs à pression marqués CE et appartenant à la catégorie ≥ II. Cette déclaration n'est pas valable pour les appareils appartenant à la catégorie dont l'article 4.3 de la Directive.

DECLARATION DE CONFORMITE UE

Zillo Industries S.p.A. via Sega Vecchia, 65 – 36050 Friola di Pozzoleone (VI) déclare sous sa propre et unique responsabilité que les vases d'expansion et les réservoirs de sa propre production, ayants le marquage CE et munis de cette déclaration, sont conformes aux exigences essentielles de sécurité prévues par la Directive 2014/68/UE selon les modules H et H1 et les prescriptions de la norme EN 13831.

VCP - VRP - VR - VRV - VS - VSV - VSI - VA - VAV - VAO - VB - VBV - VAV-X - VSA - VZ - AVZ - AR - AVR - ARC - ARP - ARB - AVX - AHX
VCP - VRP - R - RV - S - SV - SI - A - AV - AO - B - BV - AV-X - Z - VZ - M - MB - MC - MP - X - VX - HX

DIRETTIVA 2014/68/UE MODULES H- H1

Nome, modello, capacità numero di fabbrica	Name, model, capacity, lot, batch or serial number	Nom. modèle, capacité, numéro de lot, numéro de série	Name, model, inhalt, seriennummer	Numé, model, capacitate, lot sau serie de fabricatie	Nombre, modelo, capacidad, número de serie	Jméno, typ, objem, výrobní číslo	Nazva, model, pojemnosť, partia lub number sestavy
VEDI ETICHETTA SUL VASO	SEEHE LABEL ON/THE TANK	VOIR ETIQUETTE SUR LE RESERVOIR	SIHE ETIKETT AUF DEM GEFÄß	VEZI ETICHETA DE PE REZERVOR	VEASE ETIQUETA DEVASO	VIZ VÝROBNÍ ŠTÍTEK NA NÁDOBE	PATRIZ ETIKETA NA ZBIRKONIKU
Al quale questa dichiarazione si riferisce è in conformità con la:	To which this declaration refers, is in conformity with the:	Auquel cette déclaration se réfère est conforme à la:	Sich in übereinstimmung befindet mit:	La care se refera prezenta declaratie, sunt in conformitate cu:	Al que se refiere esta declaración es conforme con:	Ke ktoré se toto prohlášení vzťahuje je vhodné s:	do ktorého odnosi się niniejsza deklaracja, jest zgodny z:
DIRETTIVA EUROPEA 2014/68/UE	EUROPEAN DIRECTIVE 2014/68/UE	DIRECTIVE EUROPÉENNE 2014/68/UE	EUROPÄISCHES RICHTLINIEN 2014/68/UE	DIRECTIVA EUROPEANA 2014/68/UE	DIRECTIVA EUROPEA 2014/68/UE	EVROPSKOU SMĚRNICI 2014/68/UE	Evropskájka Direktíva 2014/68/UE

In accord con: According to: selon: In conformitate cu: In conformitate cu: Podlie: Według

DIRETTIVA 2014/68/UE MODULI H-1-202-IT/Q160023_R01 - H1 1-202-IT/Q-170016 - SMĚRNICE 2014/68/UE MODUL H-1-202-IT/Q160023_R01 - H1 1-202-IT/Q-170016

VALUTAZIONE PROCEDURE DI CONFORMITA'	CONFORMITY ASSESSMENT PROCEDURES	EVALUATION PROCEDURES DE CONFORMITE	VERFAHREN ZUR KONFORMITÄTSEKLA - RUNG	PROCEDURI DE EVALUARE A CONFORMITATI	EVALUACION PROCEDIMIENTO DE CONFORMIDAD	ZKŮŠENÍ POSTUPY PRO POSOUZENÍ SHODY	ZGODNOSC OCENA PROCEDURY
VEDI ETICHETTA SUL VASO	SEEHE LABEL ON/THE TANK	VOIR ETIQUETTE SUR LE RESERVOIR	SIHE ETIKETT AUF DEM GEFÄß	VEZI ETICHETA DE PE REZERVOR	VEASE ETIQUETA DEVASO	VIZ VÝROBNÍ ŠTÍTEK NA NÁDOBE	PATRIZ ETIKETA NA ZBIRKONIKU
<p>ENTE NOTIFICATO NR. NOTIFIED BODY NO. ORGANISME NOTIFIE NR. BESTÄTIGENDE ANSTALT NR. ORGANISM NOTIFICAT NR. ORGANISMO NOTIFICADO NR. NOTIFIKOVANÁ OSOBA JEJNOSTKA NOTYFIKOVANA NR</p>							
<p>Data, data, datum, data, fecha, dati VEDI ETICHETTA SUL VASO SEE LABEL ON THE TANK VOIR ETIQUETTE SUR LES RESERVOIRS SEHEN SELBSTLEBENDIGS FABRISCHILID ADOSSORVINGESGEGÄBE VEZI ETICHETA DE PE REZERVOR VEASE ETIQUETA DEL VASO DATUM NA VÝROBNÍ ŠTÍTEK NA NÁDOBE</p>		<p>ZILLO SIMONE Legal Representative</p>		<p>TÜV RHEINLAND ITALIA S.R.L. VIA MATTEI, 3 20010 POGGIOANO MILANESE (MI)</p>		<p>CE 1936</p>	
<p>Liuogo - Place of issue - Lieu Ort der ausstellung - Loc emitere - Lugar Místo vystavení - Miejsce wydania Via Sega Vecchia, 65 Pozzoleone (VI) - Italy</p>		<p>Nóme e firma persona autorizata Name and signature of authorized person Nom et signature de la personne autorisée Name und unterschriфт des beauftragten Name si semnatura persoana autorizata Nombre y firma de persona autorizada Jméno a podpis oprávněné osoby Nazwisko i podpis osoby upoważnionej</p>					

user manual 7.0.4 - del 16/05/2018