



Dear Customer,

Thank you for choosing a Zorzini S.p.A. product. Zorzini manway doors and manhole covers¹ are designed and manufactured according to the highest standards in regards safety, functionality and durability. However, it is important to read and adhere to these instructions to ensure safety.

Thank you, again.

Zorzini SpA

PLEASE PASS THESE INSTRUCTIONS ON TO THE PERSONNEL IN CHARGE OF THE INSTALLATION OF MANWAY DOORS AND MANHOLE COVERS. TO ENSURE SAFE USE AND PROPER CARE OF THE PRODUCT, FOLLOW THE PRODUCT INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS CAREFULLY. FAILURE TO DO SO WILL VOID THE PRODUCT WARRANTY AND MAY RESULT IN PROPERTY DAMAGE, PERSONAL INJURY, OR DEATH.

AFTER THE INSTALLATION, THESE INSTRUCTIONS MUST BE KEPT FOR REFERENCE AND MADE AVAILABLE TO THE PERSONNEL IN CHARGE OF OPERATING AND SERVICING THE TANK ONTO WHICH THE ZORZINI PRODUCT HAS BEEN INSTALLED.

THIS PRODUCT MUST BE INSTALLED BY A QUALIFIED LICENSED PROFESSIONAL IN ACCORDANCE WITH SYSTEM DESIGN, SPECIFICATIONS, INSTRUCTIONS, AND OPERATION REQUIREMENTS. FOLLOW ALL APPLICABLE PRESSURE, THERMAL, PLUMBING, AND ELECTRICAL CODES, REGULATIONS AND STANDARDS.

The information in this instruction manual is subject to modifications without prior notice and is the exclusive property of Zorzini.

Copyright:

- The documents supplied with this product, including this manual, are the property of Zorzini S.p.A. and all rights are reserved.
- Manuals and abstracts of these Instructions can be incorporated with Zorzini S.p.A.'s prior written consent in the tank manufacturer's instructions for use and maintenance of the tank. Zorzini disclaims any liability that may derive from the tank manufacturer's failure to do so.

SAFETY ALERT SYMBOLS



Indicates a hazardous situation which, if not avoided, will result in death or serious injury. Obey all safety messages that follow this symbol to avoid injury or death.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury. Obey all safety messages that follow this symbol to avoid possible injury or death.



Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. Obey all safety messages that follow this symbol to avoid possible danger.



Is used to address practices not related to personal injuries.

¹ The Zorzini manway doors and manhole covers do not fall under the definition of "Pressure Equipment" in article 1.2.1 of the European Pressure Equipment Directive Guidelines 97/23/EC (PED) , and they are not marked CE. See Guideline 1/22 of the PED Guidelines.



1. INSTALLATION

Read these instructions carefully before installing the Zorzini manway door /manhole.

! WARNING

IT IS THE RESPONSIBILITY OF THE INSTALLER TO SELECT THE CORRECT MANWAY DOOR AND MANHOLE COVER FOR THE SPECIFIC TANK REQUIREMENTS. USE OF A MANHOLE WHICH DOES NOT TAKE INTO ACCOUNT THE SPECIFIC CHARACTERISTICS OF THE TANK (PRESSURE, TEMPERATURE, VOLUME, AND HEIGHT) COULD RESULT IN POSSIBLE PROPERTY DAMAGE OR INJURY.

The Zorzini catalogue lists the pressure limits and other specifications of all Zorzini products. For certain PED products the pressure (PS) and temperature limits (Tmin./Tmax) may be marked on both the frame and the lid of the manhole/manway door and represent the maximum pressure level and temperature which a manway door or a manhole cover can resist under normal conditions of use. **DO NOT REMOVE OR ALTER THESE MARKINGS.**

! WARNING

DO NOT EXCEED THE MAXIMUM PRESSURE OR TEMPERATURE LEVELS MARKED ON THE ZORZINI CATALOGUE OR IF APPLICABLE, ON THE PRODUCT. DOING SO COULD RESULT IN POSSIBLE INJURY OR PROPERTY DAMAGE.

Compliance with rules and regulations related to the construction of the tank is the sole responsibility of the tank builder.

Instructions as to the positioning of the product (horizontally or vertically, above or below the liquid level of the tank) are shown in the catalogue available on the Zorzini website (www.zorzinispa.com). Positioning the product in any position other than as shown in the catalogue may damage the manway and cause leakages. Do not apply any loads to the manhole or cause stress by vibrations. Use only the components (frame, lid, bolts, arms) provided by Zorzini.

The Zorzini products are individually fitted. Always use the manhole together with the frame provided. Decoupling the frame from the manhole could result in improper fit. Do not disassemble and do not use with any other component.

Before welding the frame of the manway door/manhole cover onto the tank, carefully prepare the surfaces and edges to be welded cleaning them with a degreasing agent and dry with a clean cloth. Carefully position the manway door against the frame to ensure cohesion.

Due to the high temperatures during welding and to control distortion, the welder should perform tack-welding at points placed opposite each other all the way around the frame, and then tack-weld in the middle of each resulting distance between those already done, until the whole length is covered with the required number of points with the appropriate spacing; only then proceed to the continuous welding along the perimeter.

During welding, remove or protect the gasket to avoid damaging it with heat or sharp metallic parts. To avoid deformation of the frame and to ensure a perfect coupling, use a spacer in place of the gasket. Doing so will reduce to a minimum the thermal expansion of the frame, maintain the original form and dimension of the frame and guarantee a perfect coupling.

Fully wash the Zorzini product before first use.

! CAUTION

Do not carry out any welding, drilling, folding, cutting, sanding, polishing or other operations on the manway door/manhole cover not expressly provided in these instructions.

! CAUTION

Any storage of the gaskets must be done in accordance with the norm ISO 2230, and particular attention should be placed to avoid that the seals get in contact with unsuitable substances or with the light.

NOTICE

ZORZINI DISCLAIMS ANY LIABILITY FOR PERSONAL INJURIES OR DAMAGES IF THE MANWAY DOOR/MANHOLE COVER IS NOT INSTALLED BY QUALIFIED PERSONNEL ACCORDING TO THESE INSTRUCTIONS.

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2. SAFETY

! WARNING

AUTHORIZED PERSONNEL INVOLVED IN THE INSTALLATION, MAINTENANCE-OPERATIONS AND USE OF ZORZINI PRODUCTS MUST WEAR PPE (CLOTHING, HELMETS, GOGGLES, GLOVES, SAFETY FOOTWEAR) AND, IF AND WHEN REQUESTED, OTHER GARMENTS OR EQUIPMENT CONFORMING TO THE PPE REGULATION IN FORCE IN THE COUNTRY.

! WARNING

BEFORE ANY OPERATIONS ARE CARRIED OUT ENSURE THAT NO PRESSURE EXISTS INSIDE THE TANK. ALL THE OPERATIONS ON OR PERTAINING TO THE MANWAY DOORS/MANHOLE COVERS MUST BE PERFORMED BY SKILLED PERSONNEL TRAINED IN PRESSURE TANK OPERATION. DURING OPENING PHASE, ENSURE THAT ALL THE COMPONENTS OF THE LOCKING SYSTEMS (HANDLE, BUSH, WASHER ETC.) REMAIN ATTACHED, SO AS TO PREVENT THEM FROM FALLING INTO THE TANK.

! CAUTION

THE MANUFACTURER/SELLER OF THE TANK TO WHICH THE MANHOLE IS MOUNTED SHALL BE RESPONSIBLE FOR ENSURING THAT THESE USE AND MAINTENANCE INSTRUCTIONS ARE MADE AVAILABLE TO THE END-USERS OF THE TANK. ZORZINI IS NOT RESPONSIBLE FOR ANY MALFUNCTIONS THAT DERIVE FROM INCORRECT INSTALLATION OR OPERATION OF THE MANHOLE/ MANWAY DOOR OR FAILURE TO CORRECTLY CARRY OUT MAINTENANCE OPERATIONS.

3. CLOSING AND TIGHTENING

The service personnel are responsible for the effective closure of the manhole / manway door.

Before closing, make sure that the contact surface of the gasket is cleaned of any debris or dirt that may affect proper sealing. Always check the condition of the seal and its seat.

When closing, make sure the lid fits easily into the frame and that it is centered onto the frame, without any deformations or effort. Make sure the gasket fits correctly and is centered in its seat.

Before tightening the handles, make sure that between the frame and the lid there is a slight play-gap, which shows that the the manhole / manway door will close correctly.

Place all bolts with their blocks and handles on the seat of the lid.

Tighten the cover at 50% of the clamping force, check that the lid and the seal are properly positioned on the frame, and only tighten the screw completely when you have checked that the lid is correctly positioned. **Tighten uniformly so that the static force of pressure is equally distributed all-over the gasket** (e.g. cross-clamping). Do not overtighten or use wrenches, levers or tighteners to tighten the handles. Over tightening may compromise the functionality over time of the manhole or manway.

4. OPENING

! DANGER

BEFORE OPENING THE MANWAY DOOR/ MANHOLE COVER, MAKE SURE THAT THE TANK/CONTAINER/EQUIPMENT IS NOT UNDER PRESSURE. ALWAYS WEAR RESPIRATORS IF CHEMICAL FUMES OR TOXIC GASES ARE PRESENT. ALLOW THE TANK TO COOL BEFORE OPENING.

Unscrew the handles slowly, in the same way they were tightened, releasing them cross- way. Once opened, always position the cover so as to avoid damage to the gasket.



5. MAINTENANCE

Every month check the condition of the gasket, wash it, and dry it carefully with a clean, lintless cloth. Replace it with a new Zorzini gasket whenever it shows signs of wear. Regularly wash, dry and check the seat of the gasket on the cover/manway door.

Check the condition of the closing systems, eyebolts, washers, handles and handwheels for wear and replace as necessary with new and original Zorzini spare parts.

6. PRODUCT MANAGEMENT AT THE END OF HIS LIFE CYCLE

Zorzini SpA products are designed to be completely disassembled at the end of their life cycle by separating the various materials and allocating them to the proper disposal and / or recovery.

All materials have been selected to ensure the minimum environmental impact, the health and safety of the installing and maintaining personnel, provided that they have not been contaminated by hazardous substances during the use.

Dismantling and Disposal / Recovery personnel must be qualified and equipped with appropriate personal protective equipment (PPE) depending on the size, type and service to which the device is intended.

The management of waste produced during installation, extraordinary maintenance or after product discontinuation is governed by the regulations in force in the country where the product is installed, in any case we give the following general indications:

- steel components and metal inserts of the handwheels can be retrieved as raw material;
- seals / sealing elements (Silicon, Fpm, Natural rubber, Nbr, Epdm) can be allocated to recovery or disposal according to their use;
- the packaging materials containing the products and the plastic parts of the handwheels can be taken to the local separate collection of waste.

7. WARRANTY

All the ZORZINI S.p.A. ("Zorzini") products are guaranteed for a period of twelve (12) months from the date of delivery by Zorzini against defects in materials and workmanship, but only if (i) the products are installed, used, and maintained in accordance with the manuals provided by Zorzini and are used for the intended purpose, (ii) any such defect does not result from causes external to the product after delivery or use of non-original spare parts, and (iii) any such defect does not result from any modifications to the products without the prior written consent of Zorzini.

Zorzini checks the correct matching of lid and frame of each single product before the shipment. Therefore eventual deformation of the frame occurred after the installation and the resulting problems will not be object of the guarantee.

The claim must be transmitted within 8 days from when the defects occurs according to the "Procedure for returned materials and claims" into force.

Zorzini's obligation under this warranty shall be limited to the repair or replacement of any defective product, Ex Works (Incoterms 2010) Zorzini's Factory, Udine, Italy. point of manufacture. Zorzini shall not be responsible for the cost of removal or installation of any such product found to be defective.

If requested by Zorzini, customer shall return such products found to be defective to Zorzini, shipping prepaid by customer, for inspection once an authorization number is granted from Zorzini's field service representative. Normal wear items such as gaskets are excluded from this warranty. Zorzini shall not be liable under the warranty on the products unless the complaint is submitted promptly after discovery of the defect, in accordance with the Zorzini "Procedure for returned materials and claims" in effect from time to time. The customer must provide a detailed description of the problem or difficulty, and Zorzini will establish to its sole satisfaction that the product has been properly installed, maintained and operated.

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NO OTHER WARRANTIES. THE WARRANTIES IN THIS SECTION ARE IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED AND OF ALL OTHER WARRANTIES OR LIABILITIES OF ANY KIND. ZORZINI NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR ZORZINI ANY OTHER OBLIGATION, WARRANTY OR LIABILITY IN CONNECTION WITH THE PRODUCTS. EXCEPT FOR THE EXPRESS WARRANTIES SET FORTH HEREIN, CUSTOMER ACKNOWLEDGES AND AGREES THAT ZORZINI HAS NOT MADE AND SHALL NOT BE DEEMED TO HAVE MADE, AND HAS EXPRESSLY DISCLAIMED, ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, AS TO THE CONDITION, VALUE, DESIGN, OPERATION, PRODUCTIVENESS, MERCHANTABILITY OR FITNESS FOR USE FOR ANY PARTICULAR PURPOSE OF THE PRODUCTS OR ANY PART THEREOF. ZORZINI DISCLAIMS ANY WARRANTY IF THE PRODUCT HAS NOT BEEN PROPERLY INSTALLED, USED OR MAINTAINED, OR IF SPARE PARTS AND COMPONENTS NOT MANUFACTURED BY OR ON BEHALF OF ZORZINI HAVE BEEN USED.

LIMITATION OF LIABILITY. NOTWITHSTANDING ANYTHING IN THE SALE CONTRACT TO THE CONTRARY, WHETHER SUCH LIABILITY IS A RESULT OF A BREACH OF CONTRACT, A BREACH OF WARRANTY, OR OTHERWISE, ZORZINI'S LIABILITY IS LIMITED TO THE VALUE OF THE PRODUCT, AND IN NO EVENT SHALL ZORZINI BE LIABLE TO CUSTOMER FOR ANY PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO, DAMAGES RESULTING FROM LOSS OF USE OF THE PRODUCT, LOSS OF PRODUCTION, OR LOSS OF PROFITS OR INCOME.

A copy of these instructions is available on the Zorzini website at www.zorzinispa.com.