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# Conditions for Transportation, Installation, and Use of Krilico Filter Pressure Vessels

## Content

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## 1 BASIC INFORMATION

The body is a tank with either a top opening or both top and bottom openings. The liner, which comes into direct contact with water, is made of impermeable materials such as plastic, high-density polyethylene (HDPE), polyamide, polypropylene, or food-grade polyester.

Externally, to provide maximum strength and pressure resistance, the bodies are wrapped with fiberglass impregnated with epoxy resin.

The bodies have diameters ranging from 8" to 63" with openings of 2.5" - 8 NPSM; 4" - 8 - UN; 6" - FLG.

The body is suitable for use with salt (NaCl) and is resistant to 5% solutions of HCl, H2SO4, and NaOH.

**Materials:**

Liner: High-density polyethylene.
Outer coating: Fiberglass with epoxy resin and hardener.
Seamless liner:
Has a smooth and even inner surface.
Is resistant to chemical agents (alkalis, acids) and deionized water.
Is abrasion-resistant.

## 2 OPERATING CONDITIONS

2.1 Maximum operating pressure: 10.5 bar.
2.2 Operating temperature: 1-50°C.
2.3 The bodies undergo testing for 250,000 pressure cycles from 0 to 10 bar.
2.4 The body fails at a pressure of 40 bar.
2.5 Maximum vacuum: 75 mm Hg ≈ 0.1 bar.

## 3 SAFETY REQUIREMENTS

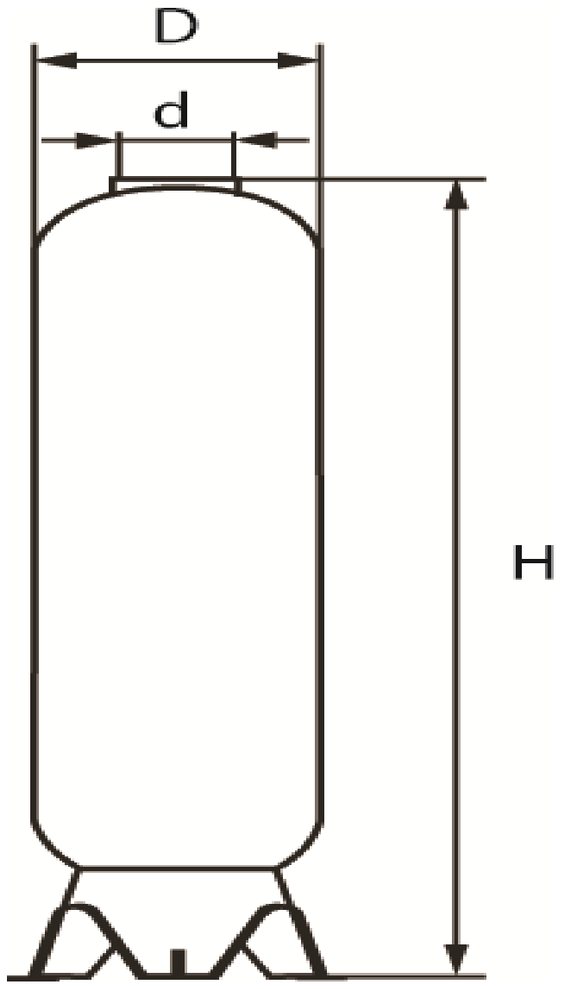
3.1 The body is manufactured in accordance with NSF/ANSI 44 and NSF/ANSI 61 and is designed for use in hydraulic systems with excess pressure.
3.2 Before operating the body, personnel must familiarize themselves with the safety rules outlined in this document.
3.3 It is prohibited to perform any work on the body without shutting off the water supply and releasing the pressure.

3.4 The body is intended for water filtration and is not designed for use under vacuum or with compressed air.
3.5 When handling chemicals for the preparation of working reagent solutions, washing, and disinfecting the body, rubber gloves and other personal protective equipment must be worn.

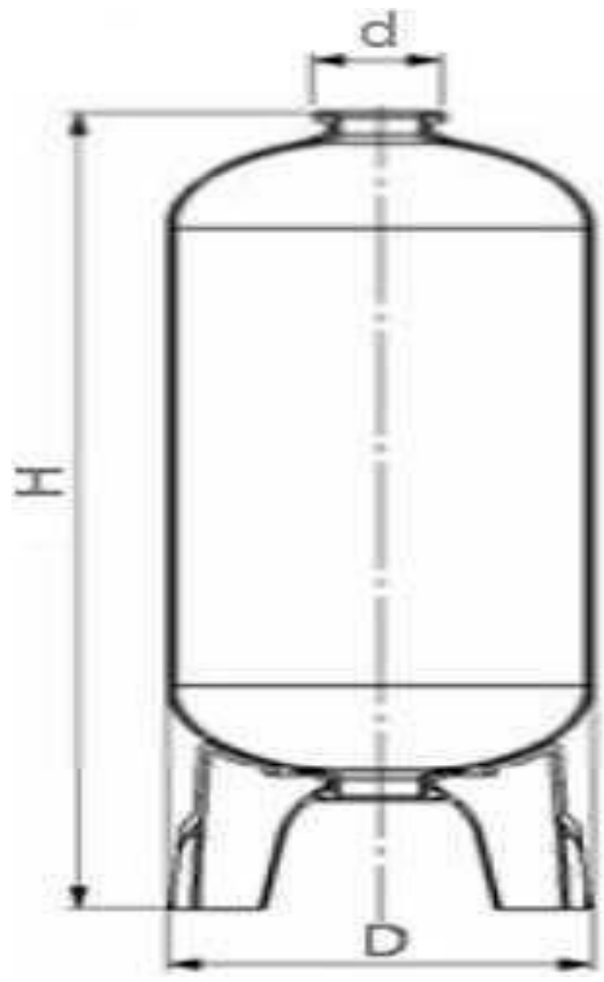
**It is not allowed to:**

- Operate the body at water inlet pressures and temperatures above those specified in Section 2;
- Allow hazardous bacteriological or chemical substances to enter the body;
- Expose the body to direct sunlight, freezing, or sub-zero temperatures;
- Place the body near heating devices or expose it to temperatures above 50°C;
- Install the body in areas with high dust levels in the air;
- Obstruct the area where the body is located; access to the equipment and control units must be easy and convenient;
- Allow minors or individuals not trained in the rules of operation to enter the premises where the body is located.

## 4 Technical Specifications



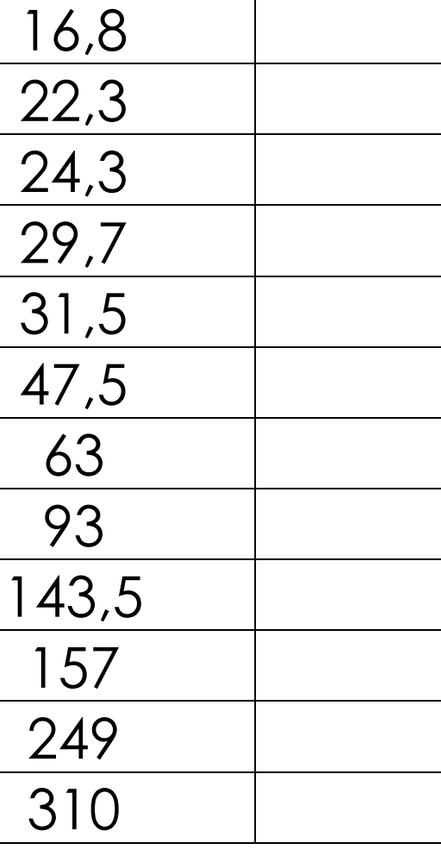

Pic. 1: Filter body with top opening




Pic. 2: Filter body with top and bottom openings

| Dimensions (DxH), inches | Connection Diameter (d), inches | Height with Base (H), mm | Volume, L | Empty Body Weight, kg | data sheet |
|---|---|---|---|---|---|
| | Upper-Lower | | | | |
| 08x17 | 2.5"-0" | 11 | 437 | 2,2 | |
| 08x44 | 2.5"-0" | 32 | 1125 | 4,8 | |
| 10x35 | 2.5"-0" | 38 | 896 | 4,7 | |
| 10x44 | 2.5"-0" | 50 | 1135 | 5,7 | |
| 10x54 | 2.5"-0" | 62 | 1380 | 6,5 | |
| 12x48 | 2.5"-0" | 77 | 1233 | 7,5 | |
| 12x52 | 2.5"-0" | 85 | 1333 | 8,2 | |
| 13x54 | 2.5"-0" | 102 | 1350 | 10,5 | |
| 14x65 | 2.5"-0" | 146 | 1660 | 13 | |
| | 4"-0" | 146 | 1661 | 13,1 | |
| 16x65 | 2,5"-0" | 191 | 1668 | 15,7 | |
| | 4"-0" | 191 | 1668 | 15,9 | |
| | 4"-4" | 191 | 1877 | 16,8 | |
| 18x65 | 4"-0" | 235 | 1655 | 22,3 | |
| | 4"-4" | 235 | 1873 | 24,3 | |
| 21x62 | 4"-0" | 307 | 1600 | 29,7 | |
| | 4"-4" | 308 | 1804 | 31,5 | |
| 24x72 | 4"-4" | 460 | 2080 | 47,5 | |
| 30x72 | 4"-4" | 697 | 2035 | 63 | |
| 36x72 | 4"-4" | 969 | 2090 | 93 | |
| 42x72 | 6"-6" FLG | 1390 | 2200 | 143,5 | |
| 48x72 | 6"-6" FLG | 1750 | 2250 | 157 | |
| 63x67 | 6"-6" FLG | 2110 | 2630 | 249 | |
| 63x86 | 6"-6" FLG | 2460 | 3425 | 310 | |

More information available on request.




## 5 PACKAGE CONTENTS

1– Body

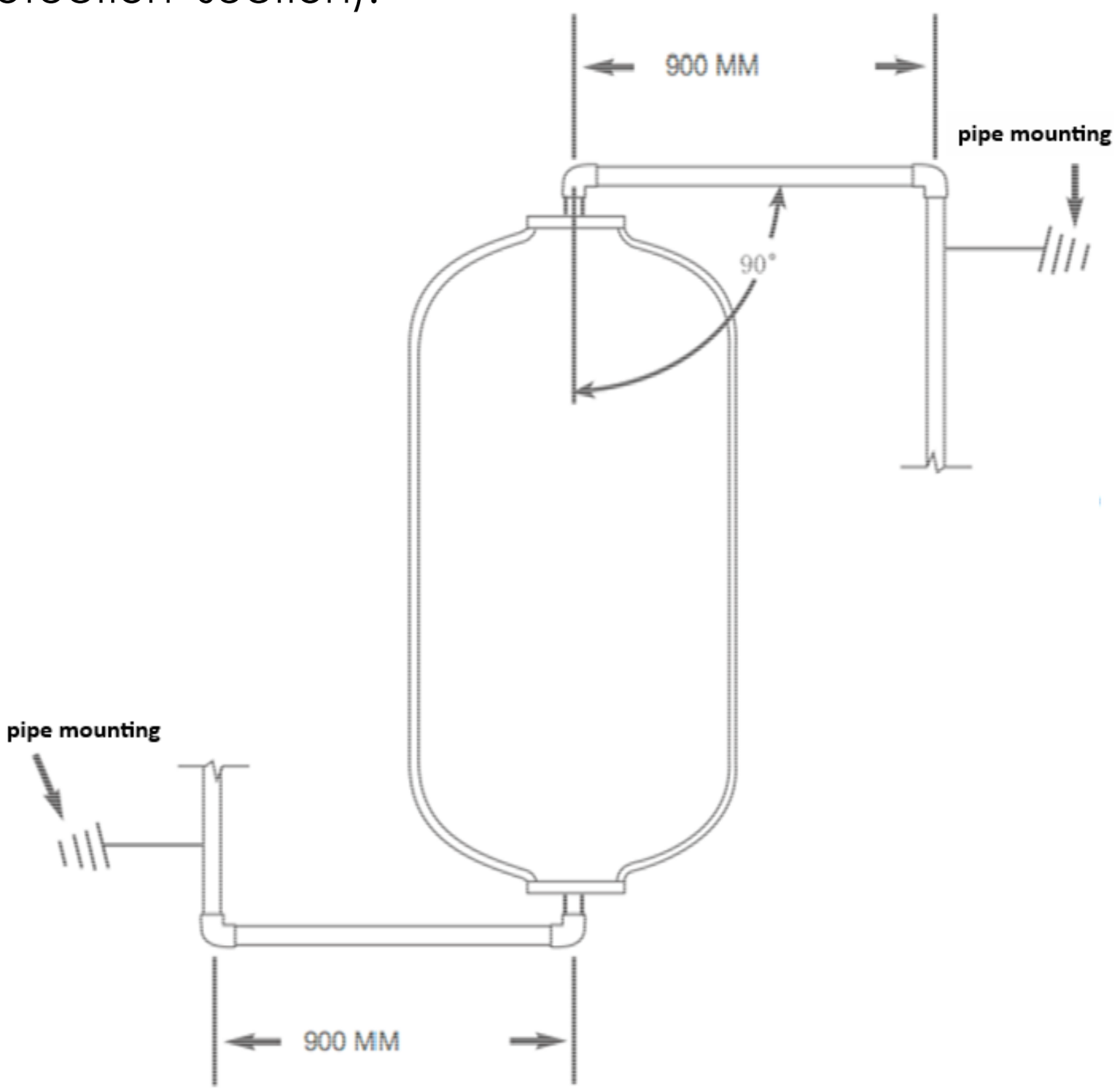
2– Base

To provide stability, a base ("skirt") made of high-strength reinforced plastic is attached to the bottom of the body.

## 6 PIPING RECOMMENDATIONS

The connection of pipelines to the filter body must allow for vertical expansion between the side, top, and bottom connections. Pipe connections should follow the diagram in Figure 3 or utilize flexible connectors as described in the "Vacuum Protection" section.

An effective alternative to using flexible connectors is employing standard mobility of right-angle fittings when using rigid plastic piping. By performing the necessary mechanical calculations, the required flexibility can be achieved directly within the piping system. This can be applied to top/bottom and side piping. When using metal pipes, flexible connectors must be used (refer to the "Vacuum Protection" section).




Picture . 3

The diagram above shows an example of piping for a filter body with a maximum pressure of 1.0 MPa (10 bar). For bodies operating at lower pressures, the minimum length of the pipe can be reduced as follows:

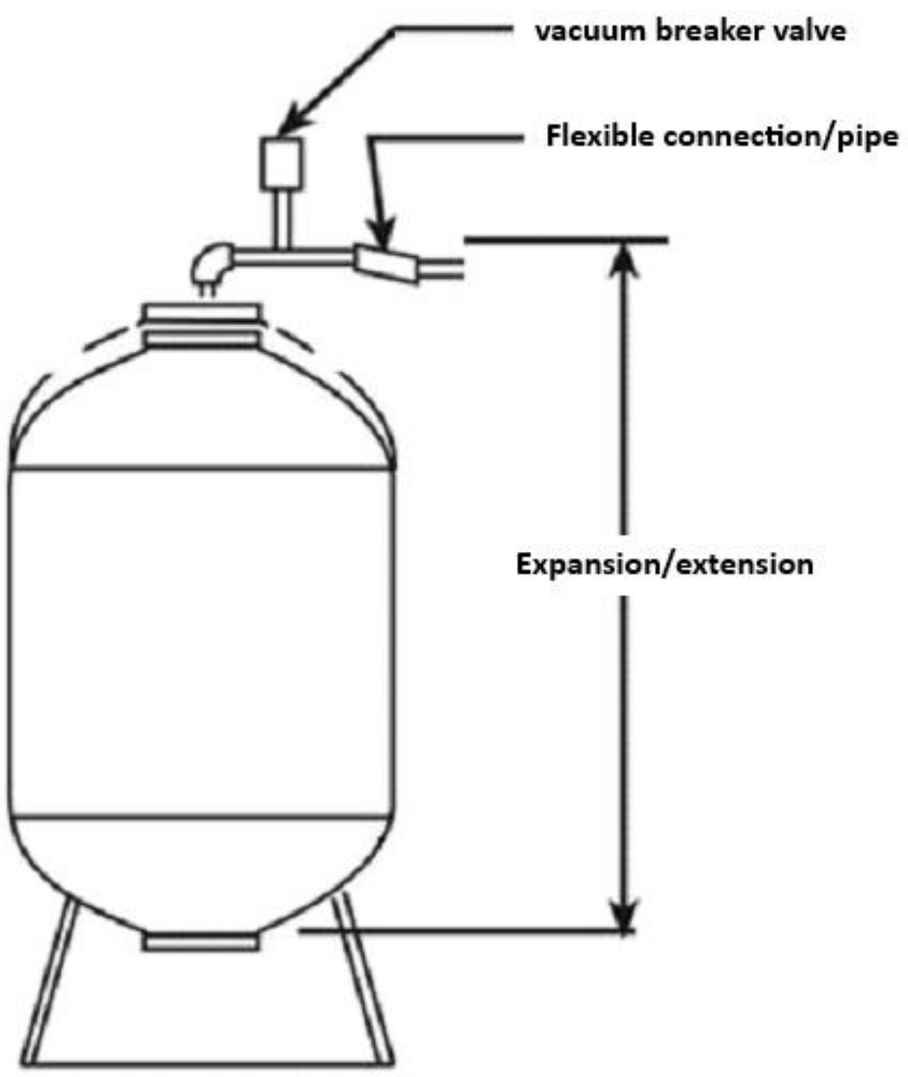
Multiply the pressure (in bar) by 90 to obtain the minimum length of the horizontal pipe section in millimeters.

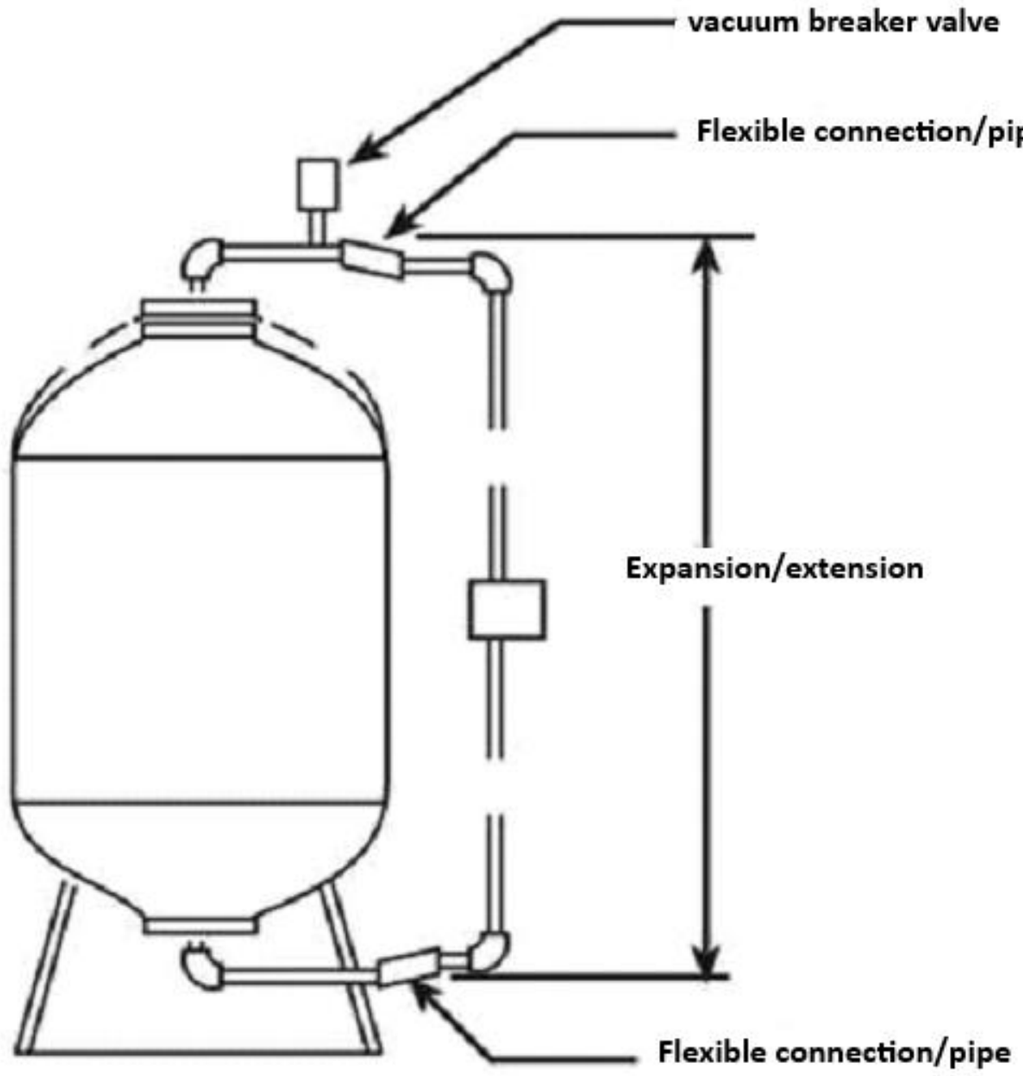
For example, if the pressure in the body is 8.3 bar: 8.3 * 90 ≈ 740 mm.

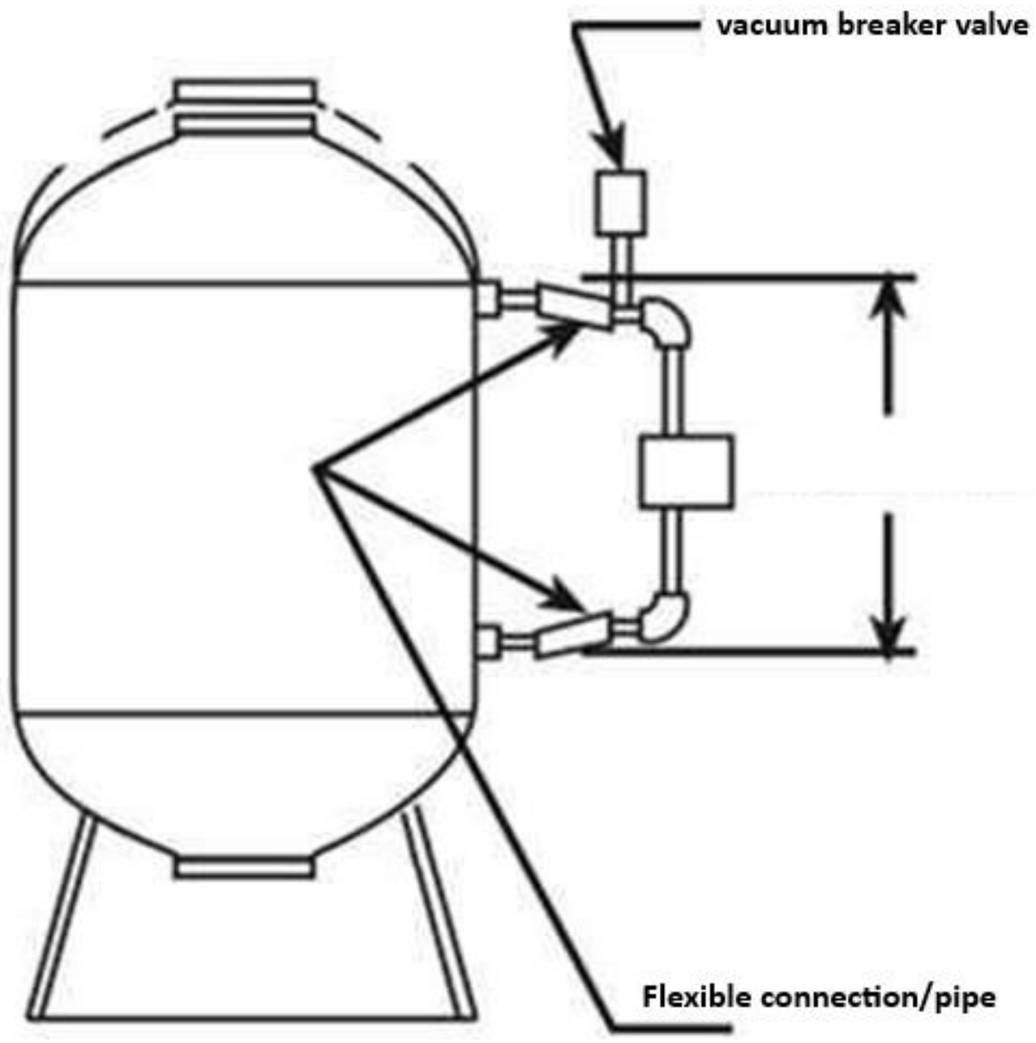
## 7 VACUUM PROTECTION

Filter bodies allow a maximum vacuum of 75 mm Hg (0.1 bar) inside the body. To prevent the creation of a vacuum beyond this value, it is recommended to install an appropriate vacuum relief valve at the inlet of the filter body, as shown below.

**FILTER BODY PIPING OPTIONS**



# 8 WARRANTY OBLIGATIONS

Dear Customer,

To avoid any issues or misunderstandings, please carefully review the information contained in the warranty certificate and the operating instructions!

8.1 The warranty period for the body is 12 (twelve) months from the date the body is delivered to the first buyer.
8.2 If your body requires warranty repair and/or replacement, please contact the selling organization.
8.3 This warranty covers the repair or replacement of the body or defective parts (at the discretion of the warranty provider) for defects arising due to poor manufacturing or production defects.
8.4 The warranty is valid under the following conditions:

- The information about the body is clearly, correctly, and fully filled out.
- The date of filling out the body information is indicated, with the seller's stamp and signature.
- The serial number of the body is unchanged, not removed, not erased, and remains legible.

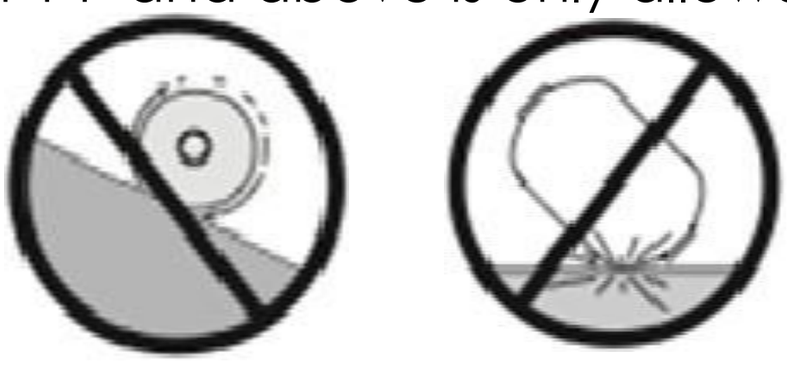
8.5 The body must be used in accordance with the operating instructions. The warranty is void if the storage, transportation, piping, installation, start-up (including work done by unqualified personnel), or operation rules outlined in the operating instructions are not followed.
8.6 The warranty does not cover defects resulting from:

- Mechanical damage;
- Modifications to the body's design or configuration;
- Use of inappropriate consumables or spare parts for repairs or service, differing from those recommended by the manufacturer;
- Entry of foreign objects, substances, etc., into the body;
- Use of the body for purposes other than its intended use;
- Force majeure circumstances: natural disasters, including fire, adverse weather conditions, and other external impacts on the body (rain, snow, humidity, heating, cooling, aggressive environments), as well as domestic and other factors not caused by the manufacturer and not related to technical malfunctions of the body.

8.7 The warranty does not cover consumables.
8.8 The buyer is responsible for any damage caused to themselves and/or third parties due to non-compliance with the rules outlined in the operating instructions.

## 9 TRANSPORTATION AND LOADING-UNLOADING RULES

9.1 Transportation of bodies with a diameter of 14" and above is only allowed in a vertical position.



9.2 Never roll or drag the body on its side.

9.3 Do not drop the body or allow it to experience severe impacts or rubbing against walls, partitions, tools, or equipment.

9.4 The lift operator must follow established fastening procedures.

9.5 Install slings inside the filter body.
Note: The internal slings should be soft to prevent damage inside the body.

9.6 Never attach cables, slings, chains, etc., around the body.

9.7 After transportation, if the temperature was below zero, the body should be left in a room for at least 12 hours before use, with the room temperature not below 20°C and relative humidity not exceeding 80%.

## 10 STORAGE CONDITIONS

10.1 If the body is to be stored before installation, keep it in the protective factory packaging until installation begins.

10.2 For bodies with a diameter of 14" and above, storage is only permitted in a vertical position.

10.3 Ensure that no dust or hazardous substances (bacteriological or chemical) enter the body.

10.4 Avoid exposure to direct sunlight.

10.5 Do not store the body near heating devices or at temperatures above 50°C.

10.6 After storage at temperatures below zero, the body must be conditioned at a positive temperature for at least 12 hours before loading and unloading.

## 11 SERVICE LIFE AND DISPOSAL

The warranty service life of the body is 7 years, provided that the consumer follows all requirements specified in the operational documentation.

After the designated service life and/or resource of the water purification equipment, replaceable consumables, and other non-hazardous waste, these should be disposed of at industrial solid waste landfills in accordance with the regulations of Rospotrebnadzor, following the applicable sanitary rules and standards.

## 12 ACCEPTANCE CERTIFICATE

Body _____, serial number _____
The body is manufactured in accordance with NSF/ANSI 44 and NSF/ANSI 61, accepted, and deemed fit for operation.

**Head of Quality Control**

**Stamp**

Personal signature: _____

Date: _____
Year, day, signature