Sanitary Cartridge filter – GSTL series

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I - EQUIPEMENT MAIN DESCRIPTION

Thanks a lot for your trust in Filtration group. you bought a filtrating equipment Series GSTL.
This document is issued in accordance with European directives and more specifically according to the PED 2014/68 /EU directive on pressure equipment.

Main characteristics:

- Design code	ASME Section VIII, Div 1
- DEP 2014 / 68 /EU	Art 4§3
- Housing material	316 Stainless steel
- Gasket material	Silicone as standard
- Usable fluid	liquid group 2* as standard. refer to nameplate for other possibility.
- Maximum allowable pressure in use	9,5 bar as standard. Refer to nameplate for potential difference.
- Allowable corrosion thickness	0mm
- Maximum allowable Temperature	100° C as standard. Refer to nameplate for potential restriction
- Weight (empty)	6 Kg
- Maximum pressure drop	2,5 bar (g)

All liquid/gas not adapted to Gasket material and filter material must be excluded

***The group 2 liquid used must have a vapour pressure of less than 0.5b at the maximum permissible temperature.**
This equipment is designed to operate only under the above conditions.
It is the user's responsibility to check that the conditions of use are respected (type of fluid/pressure/temperature) and that the materials of construction (filter body and seals) are suitable for the fluids used.
Filtration Group will not accept any responsibility or liability if the equipment is used outside these conditions.

The filtrates have to be group 2 liquids: non-hazardous liquid. Liquid or gas group 1 or 2 is defined following PED 2014/68/UE directive.
The use of group2 gas or group 1 fluid must be study with Filtration group before any possibility of using this filter.

II - INSTALLATION INSTRUCTIONS

This filter series is sanitary vessel. From filtration group, you will receive each part of the filter protected under a thicky plastic bag that will protect part against potential transport hurts and air environment.
The delivery consist in :

- SUM 5, 10, 20 or 30 inches

that would be adapted to the cartridge length (5, 10 20 or 30 inch)

- GASKET

Standard alimentary material is Silicone as standard

- BASEPLATE

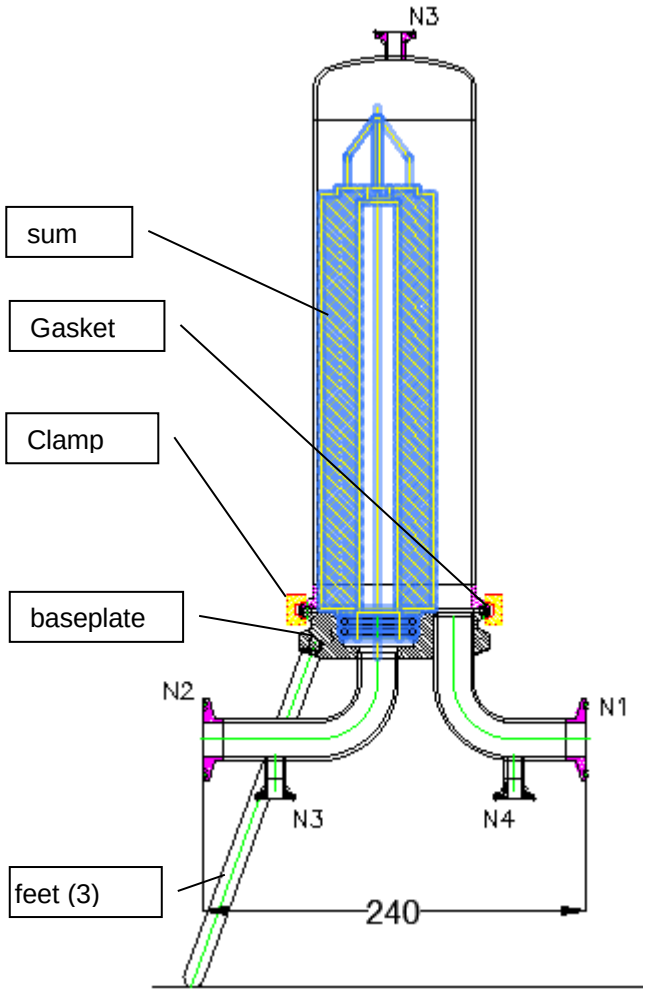
Adapted to cartridge interface (222 or 226)

- CLAMP

Fixing together SUM/GASKET/BASEPLATE

- 3 support feet

Directly screwed to the baseplate



Open all plastic bags and fix together all the part to get your sanitary filter GSTL ready for filtration process.

To close the filter :

1- Clean and examine the sealing surface
2- Install the Gasket on the BASEPLATE
3- Install the dedicated Cartridge 222 or 226
4- Align the two clamp parts (baseplate and sum)
5- Insert the gasket and ensuring it is centered
6- put the body clamp part
7- Tight the screw clamp to ensure good sealing

Place the filter on a flat, hard surface.
Before installation, note the correct direction of the flow (inlet / outlet).
Connect the necessary piping as well as the equipment provided (pressure gauge, temperature and / or pressure probe, purge valve, etc.) to the interfaces provided for this purpose

I/O interface of the filter is Tri Clamp:

The filter interface connection follows the ASME PBE standard and are Tri-clamp type

Interface name	Function	taille	Qté	Standard utilisé
N1	Inlet	1"	1	CLAMP ASME BPE
N2	Outlet	1"	1	
N3	Vent	1/2"	1	
N4	Inlet drain	1/2"	1	
N5	Outlet drain	1/2"	1	

III - INSTRUCTIONS FOR USE

III 1. General statement

Read this manual carefully before starting to install the filter.
This filter must be used within the limits of the parameters defined in chapter I.

The operator only can control the type of fluid and the level of dangerousness present in the filter. He remains solely responsible for implementing the security or protection actions adapted to the use of the filter.

Assembly and adjustment of the filter must be carried out by a qualified and experienced technician.
To ensure the safety use of the filter, a safety device must be installed upstream of the filter.
The installation of accessories (valve, piping, flange, etc.), the use of gaskets, bolts and nuts must comply with the required specifications

The filter should be used by qualified and trained people to avoid damage to equipment or surrounding accessories.
Before opening the cover, it is mandatory to check that the entire filter is no longer under pressure and that the potentially hot walls are at an acceptable temperature.
A securing process must be defined by the operator in the event of normal use and in the event of an emergency to avoid greater damage to equipment and people (closing valves, and decompressions, etc.)
The filter should be kept away from fire.
Only the setting up of recording of continuous technical data will make it possible to rule on the possible liability of Filtration group SAS.
This includes but not limited to the measurement of: Temperatures, pressures and pressure drop.

During filter starts and stops, an upstream process should ensure a slow opening / closing of the valves so as not to cause strain on the equipment.

Any wind loads / fatigue forces / snow and ice / earthquake / dynamic loads, reaction forces and torque forces resulting from supports, attached pipes, fixings etc ... have not been considered. The customer operator is solely responsible for verifying these points.

To be noted :

Our filter is supplied with a silicone gasket as standard.
It is essential that the user checks the suitability of this gasket for the liquid to be filtered.
If the fluid is not suitable for the standard gasket, we can supply other gasket material.
In this case, it is important to remove the standard gasket and replace it with the gasket supplied specifically for your use. The gasket will be identified with its material, enabling you to confirm its suitability for your fluid.
Under no circumstances should the filter be used with an unsuitable gasket.
The user is solely responsible for ensuring that the gasket material is suitable for the fluid to be filtered.

III 2. Filter use

Installation

Filter is ready to use after piping connection, the cartridge must be installed prior to filtration step

Opening of the filter and cartridge replacement

1. Be sure you haven't pressure inside the filter by checking any pressure gauge installed upstream and by opening the vent N3
2. Drain port (N3/N4) and assure not any potential inlet fluid would come (N1)
3. Unscrew the body clamp and remove it.
4. Remove the sum.
5. Remove the cartridge – The connection requested is a 226 or a 222 (double O-ring and bayonet) – the cartridge need to be push and turn to be remove.
6. Inspect the gasket and sealing surfaces to confirm that there are no defects and / or debris. In case of new gasket to be installed, note that the gasket may need to be stretched by hand to fit properly. The silicone relaxes with the first few uses. It is intentionally smaller to take account of this phenomenon.
7. Put a new cartridge, turn the cartridge to finalize installation. If necessary, lubricate the cartridge O-rings well with clean water, with the fluid to be filtrated or any other lubricant suitable for your filtration system.
8. Put the Sum and check alignment between sum, gasket and baseplate– Put the body clamp and tight manually.
9. Check that the downstream valve N2 is closed and the vent valve N3 open, slowly open the upstream valve to allow the liquid to fill the filter smoothly.
10. Close the vent valve as soon as you see liquid coming out to remove any remaining air bubble.
11. Slowly open the downstream valve until full opening and then fully open the upstream valve.
12. Check that no leaks are found, the unit is ready for operation.

Advise:

Change the cartridges in the event of differential pressure reaching about 1 bar (2,5 bar of pressure drop is the bearable limit) or a significant reduction in flow

III 3. Maintenance

The maintenance plan for this type of filter must be carried out. It must show periodic inspections in relation to the use frequency of the filter. It should include and not be limited to information on:

- The name of the parts subject to maintenance
- Description of operation
- Details of the actions carried out
- The date
- The maintenance cycle

The inspections must be carried out under the instructions of a relevant quality control. He will control the actions to be taken in the operation of the pressure vessel.

The periodic inspection will include:

- The gaskets, which must be observed regularly during operation,
- The entire filter for a visual inspection (in particular detection of any signs of corrosion).
- Checking the thickness of the walls of the pressure vessel