



Pressure reducing & filtering station
for process lines

XFI[®]



OVERVIEW:

True to its specific solutions development and innovation culture, Servinox has designed a compact module for air or CO² treatment that is fully adjustable to the requirements of users and existing installations. It handles the capture of micro-organisms in order to generate food chain compressed air or CO². Depending on the quality of the gas entering, the pressure reducing and filtering station relies on a pre-filter with automatic vent, adjustable pressure valve and a sterile filter to guarantee considerable particle retention capacity. In addition, the XFI station incorporates a clean steam supply to sterilize the main filter.

KEY BENEFITS:

- ▲ Multifunction unit: pressure regulation and filtration
- ▲ Easy integration and customized manufacture, with trouble-free installation on existing installations
- ▲ High particulate retention capacity
- ▲ Minimal load losses resulting in savings
- ▲ Wide choice of sizes according to the expected flow
- ▲ Hygienic design
- ▲ Minimal dimensions

APPLICATIONS:

- ▲ Group 2 fluids in compliance with the European Pressure Equipment Directive (PED) 97/23/CE
- ▲ System ideally suited for breweries, dairies, the agri-food and beverages industry

GENERAL TECHNICAL SPECIFICATIONS:

The gas filtering station is equipped with an internal automatic pre-filter vent (1), a reducer (pressure regulator with vent), ball and/or butterfly valves, a steam filter (2), a sterile filter with thermometer (3), a pressure gauge with separator, thermostatic steam traps and a sampling valve.

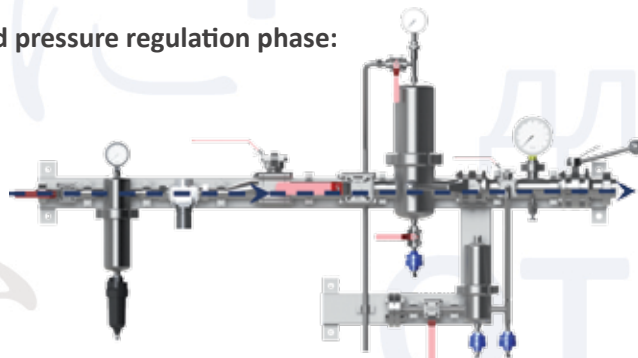
Maximum supply pressure: 10 bar

Maximum service temperature:

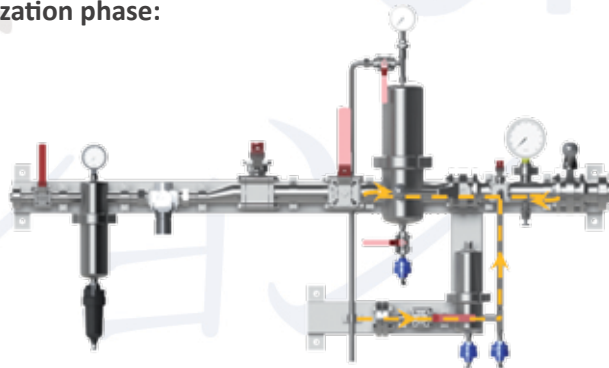
- Sterile part: 0 °C to 121 °C
- Non-sterile part: -5 °C to 60 °C

Unit made of 1.4301 (304) stainless steel.

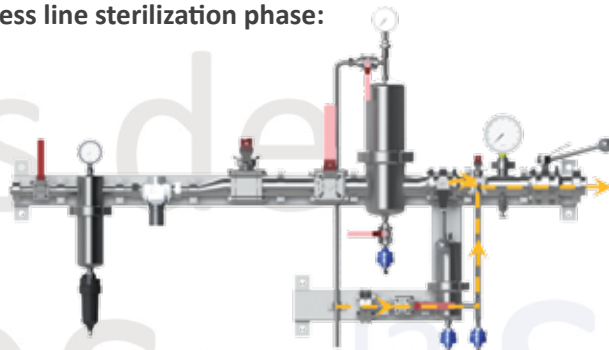
Gas filtration and pressure regulation phase:



Sterile filter sterilization phase:



Downstream process line sterilization phase:



Servinox makes every effort to update its documents in line with improvements to its products.

SPECIFICATIONS OF THE MAIN COMPONENTS: (FOR CO₂ FILTRATION)

1) PRE-FILTER:

The pre-filter with automatic vent is fitted with a coalescence and particulate cartridge for the retention of water and oil aerosols and the particles contained in the gases and compressed air in industrial applications.

Particulate retention rate at 0.01 µm: 99.99998 %

Materials:

- Filtering medium layer: Glass microfibers
- Coalescence layer: Polyester
- Internal and external filtering medium support: 1.4301 (304L) stainless steel
- Cups: Reinforced polymer glass fiber
- Gaskets: EPDM (Ethylene Propylene Diene Monomer)
- Cup/filtering medium and support medium link: Polyurethane

Compliance:

- ISO 12500-1 and ISO 12500-3

2) STEAM FILTRATION:

The steam filtration device includes a sintered stainless steel filter. This retains the particulate pollution in the gases, liquids and steam coming from abrasion in the valves, connections and rust.

The filtering element provides extremely economical filtration through its regenerative through ultrasonic bath design which is essential for high particulate bearing fluids. The porosity level is more than 50 %, which guarantees a high particulate retention capacity and excellent flow characteristics with a low load loss level.

Absolute retention rate: 1 µm

Materials:

- Filtering medium: 1.4404 (316L) sintered stainless steel
- Cups: 1.4301 (304) stainless steel SS
- Link material: Plastic steel
- Gaskets in contact with the product: EPDM (Ethylene Propylene Diene Monomer)

3) STERILE FILTER WITH THERMOMETER:

The sterile depth filter is designed for filtration of process compressed air and industrial gases. It comprises multi-layer media between the internal and external support grids and the stainless steel cups. It is 99.99998 % effective for a filtration cut-off of 0.01 µm.

The depth filter is an adhesive-free three dimensional borosilicate filter with a 95 % vacuum, ensuring high particulate and heavy flow retention power. It is naturally hydrophobic.

This data sheet can therefore be updated with no prior notifications.

Servinox is an ISO 9001:2008 certified company



Maximum differential pressure: 5 bar for a service temperature of 35 °C

Very low flow saturated steam in-line sterilization: 30 minutes at 121 °C, 20 minutes at 131 °C, 10 minutes at 141 °C

Autoclave sterilization: 121 °C - 125 °C for 30 minutes

Absolute retention rate: 99.99998 % at 0,01 µm

Bacteriological retention: LRV > 7 /cm² for T1

Coliphages Filtration surface: 494 cm² for a 10'' element (10/30)

Materials:

- Filtering medium: Borosilicate
- Upstream and downstream supports: 1.4301 (304) stainless steel SS
- Protection medium: Polyester
- Cups: 1.4301 (304) stainless steel SS
- Link material: VMQ (Silicone)
- Gaskets: EPDM (Ethylene Propylene Diene Monomer)

Filter compliance:

- Equipment compliant with FDA, as per CFR (Code of Federal Regulation) title 2, and USP Class VI
- Manufactured according to cGMP (current Good Manufacturer Practice) recommendations and DIN EN ISO 9001 certification
- Does not present any risk of fiber release
- Does not contain asbestos, glue or other chemical additives in its composition
- Laboratory tests guarantee 100 sterilization cycles with no loss of integrity

COMPLETE MODULE OPTIONS:

- Automatic control to limit risks of mishandling and to guarantee the quality of filtration

GUARANTEE:

12 months from the date of delivery (except in the case of special conditions)

COMPLIANCE:

- Piping accessory compliant with European PED 97/23/EC, §3.3

SERVINOX follows the recommendations of international guidelines and standards relative to hygienic design and construction, in particular those of the EHEDG and 3-A.

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