



Tailor-made solutions engineered for you

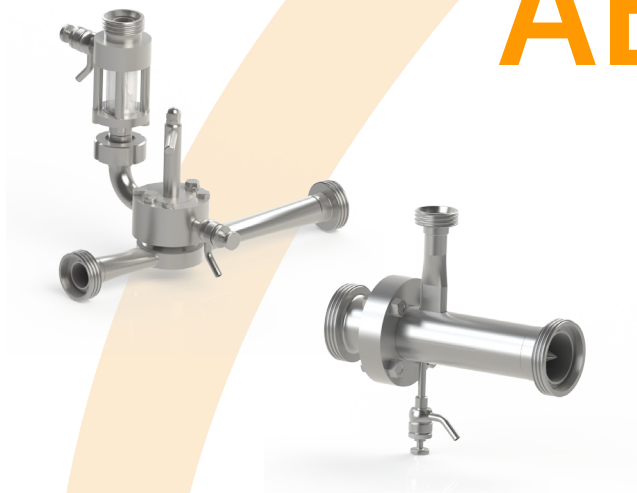
Brewery & Know-How



50 years of expertise

**Carbonators
in-line injection of a gas
for clear liquids**

AE[®]



OVERVIEW:

The AE carbonator is used for the in-line injection of a gas in a clear liquid. The gas is injected in the carbonator via the side entry spigot and diffused in the liquid through a porous disc (version A) or an injection sleeve perforated with calibrated holes (version D). The particular profile of the carbonator optimizes the dissolution of the gas in the product and limits the expansion of the carbonated liquid on exit from the equipment.

The AE carbonator is equipped with a mounting thread on the liquid intake and outlet and on the gas intake. A drain valve on the injection chamber is used during line cleaning to evacuate the cleaning solution from the chamber.

The saturation level of the liquid in gas is determined by the flow, the temperature of the liquid and the pressure of the gas. We are able to determine these values according to the required saturation levels.

The AE carbonator can be integrated in an XAE type unit integrating the automatic adjustment and control of in-line measurement.

KEY BENEFITS:

- ▲ In-line carbonatation
- ▲ Injection of the gas at the core of the liquid stream
- ▲ Version available for wort ventilation
- ▲ Desaturation minimized after the injection

APPLICATIONS:

- ▲ On circuits conveying clear liquids
- ▲ Beers and other carbonated beverages

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TECHNICAL SPECIFICATIONS:

Sizes:

- **SMS:** 38 mm (1.1/2"), 51 mm (2"), 63.5 mm (2.1/2"), 76.1 mm (3") and 104 mm (4")
- **DIN 11851:** DN 15, DN 20, DN 25, DN 40, DN 50, DN 65, DN 80 and DN 100

Connection: Male

Gas connector size: DN 20 for standard DIN 11851, DN 25 for standard SMS

Service pressure: Up to 6.0 bar

Service temperature: From 1 °C to 120 °C

Materials:

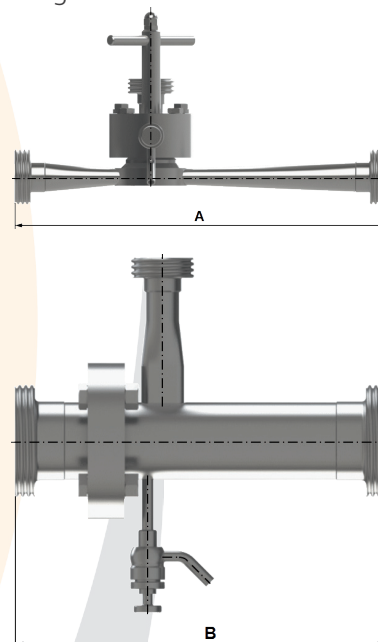
- Parts in contact with the product: 1.4404 (316L) stainless steel
- Other parts: 1.4301 (304L) stainless steel
- Tightness in contact with the product: EPDM (Ethylene Propylene Diene Monomer)

We recommend placing a non-return valve with drain on the gas intake so that the side entry intake spigot can be cleaned.

DIMENSIONS IN MM:

DIN SIZES	LENGTH A (MM)
DN 15	250
DN 20	340
DN 25	350

DIN SIZES	LENGTH B (MM)	SMS SIZES	LENGTH B (MM)
DN 40	200	38 mm	200
DN 50	260	51 mm	245
DN 65	374	63.5 mm	380
DN 80	510	76.1 mm	474
DN 100	760	104 mm	764



OPTIONS:

- Wort ventilation version for beer production
- Other types of connectors
- Other construction materials nuances
- Customized equipment

GUARANTEE:

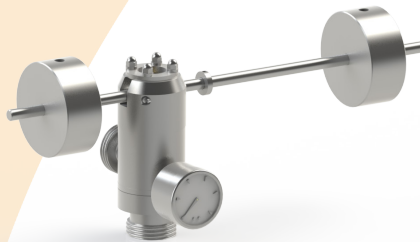
12 months from the date of shipment (except in the case of special conditions)

COMPLIANCE:

- Piping accessory compliant with European **PED 2014/68/UE, §4.3**
- Elastomer gaskets compliant with **FDA CFR 21.177.2600** and **1935/2004/EC** ruling

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

**Bunging valve system
for fermentation or storage tank
under pressure**
BO[©]



OVERVIEW:

The bunging valve system is an element used to regulate pressure. It is used to control fermentation and maintain a constant pressure in a tank.

A ball ensures sealing on contact with a lip seal. The pressure adjustment is via a sliding stainless steel weight on the lever. The system comes with a 63 mm diameter stainless steel manometer.

KEY BENEFITS:

- ▲ Fermentation control
- ▲ Maintains a constant pressure
- ▲ Possible versions: Pressure, Pressure/vacuum, Pressure/pressurization, Pressure/vacuum/pressurization

APPLICATIONS:

- ▲ Equipment for maintaining pressure for tanks where the pressure is between 0 and 6 bar
- ▲ Process equipment especially suited to beer production (fermentation, filtered beer and storage tanks) and wine production (sparkling wines)
- ▲ The bunging valve system is an element for regulating the pressure and is not therefore a security accessory intended to protect against excess pressures and as a rule is not sufficient to protect against vacuums.

To protect your tanks more effectively against the risks of vacuum and excess pressure: refer to the «Security & Protection» range sheets.

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TECHNICAL SPECIFICATIONS:

Sizes: DN 25, DN 40

Connections: Male

Service pressure: Up to 6.0 bar

Service temperature: From 1 °C to 80 °C

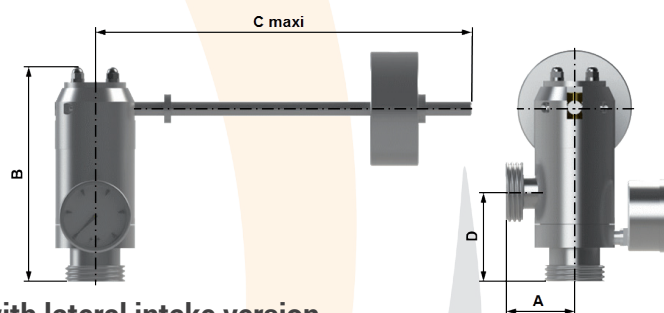
Materials:

- Parts in contact with the product: 1.4404 (316L) stainless steel
- Other parts: 1.4301 (304L) stainless steel
- Ball: Arnite®
- Gaskets: EPDM (Ethylene Propylene Diene Monomer)

STANDARD DIMENSIONS IN MM:

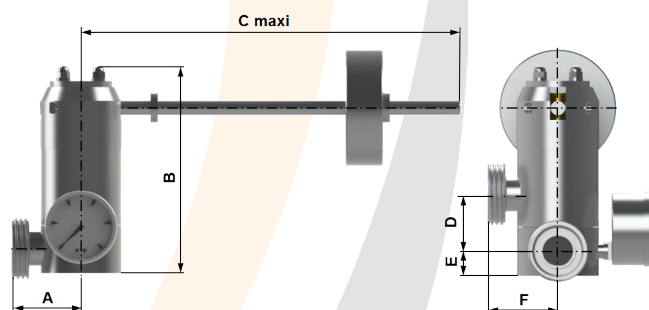
Model BO-A: Pressure only with lower intake version

SIZES	DN 25	DN 40
A	60	99
B	183	203
C	453	465
D	77	85



Model BO-B: Pressure only with lateral intake version

SIZES	DN 25	DN 40
A	60	71
B	182	212
C	453	465
D	50	56
E	25	33
F	60	86

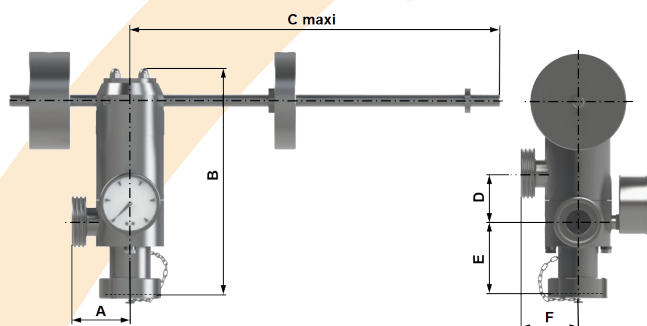


Model BO-C 52: Pressure with lateral intake/vacuum version

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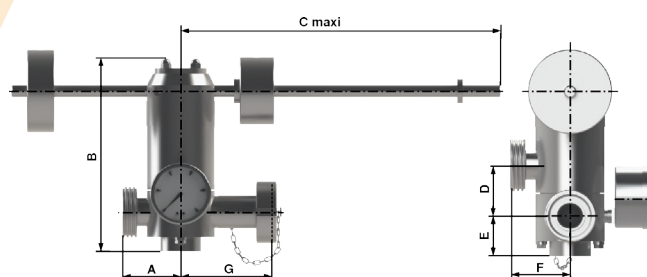
Model BO-C 54: Pressure with lateral intake/pressurization version

SIZES	DN 25	DN 40
A	60	71
B	240	256
C	453	465
D	50	59
E	73	79
F	60	98



Model BO-D: Pressure with lateral intake/pressurization/vacuum version

SIZES	DN 25	DN 40
A	60	71
B	196	223
C	453	465
D	50	59
E	40	47
F	60	98
G	104	118



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OPTIONS:

- Version all stainless steel supporting temperatures up to 120 °C
Balancing counterweight for extended range adjustment
- DN 32, DN 50 male connectors
- Other membranes available: FKM (Fluorocarbon rubber, eq. Viton®)
- Customized equipment: please contact us

GUARANTEE:

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

COMPLIANCE:

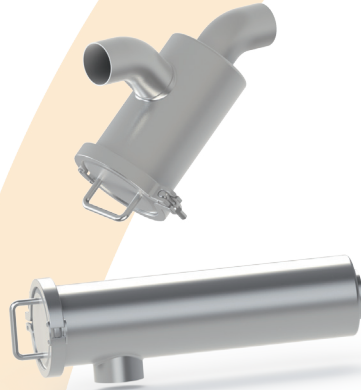
- Elastomer gaskets compliant with FDA CFR 21.177.2600 and 1935/2004/EC ruling

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In-line hygienic filters
all types of solid bearing liquids

FH[®]



Membrane:



Optional
membrane:



OVERVIEW:

The right-angled (FHE) and Y-shaped (FHY) in-line hygienic filters are intended to protect a pump or any other sensitive equipment from solid particles that can be found in a liquid.

Their hygienic design ensures the absence of retention zones (a breeding ground for bacteria) and provides for complete counterflow cleanability. The fluid enters through the axial orifice and exits laterally. Filtration is carried out by a V-wire wound in a cylinder, the filtration cut-off being determined by the spacing between the wires. The filtered particles are collected inside the filtering element. This design avoids filter plugging when the liquids contain fibers.

KEY BENEFITS:

- ▲ Filtration cut-off on demand
- ▲ Filtration of all types of liquids: clear, sticky or viscous
- ▲ No retention zone for optimal hygiene
- ▲ Option: magnetic trap
- ▲ Option: double jacket heating element

APPLICATIONS:

- ▲ Transfer lines conveying all types of solid bearing liquids
- ▲ Suitable both for liquids bearing solid particles and fibers

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TECHNICAL SPECIFICATIONS:

Sizes:

- **SMS:** 25mm(1"), 38mm(1 1/2"), 51mm(2"), 63mm(2 1/2"), 76mm(3"), 104mm(4")
- **DIN 11851:** DN 25, DN 32, DN 40, DN 50, DN 65, DN 80, DN 100

Connection: Smooth weld

Service pressure: Up to 10 bar

Service temperature: From 0 °C to 120 °C

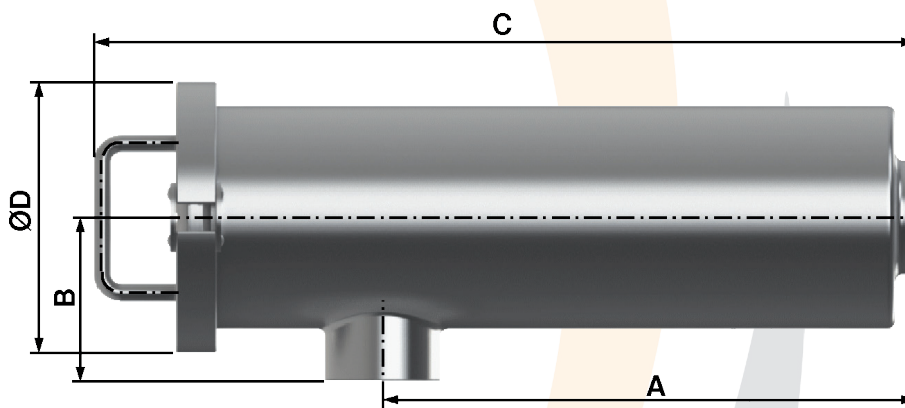
Filtration threshold: 500 µm (from 20 µm with the V type mesh)

Materials:

- Parts in contact with the product: 1.4404 (316L) stainless steel
- Other parts: 1.4307 (304L) stainless steel
- Gaskets in contact with the product: EPDM (Ethylene Propylene Diene Monomer)

DIMENSIONS IN MM:

FHE:

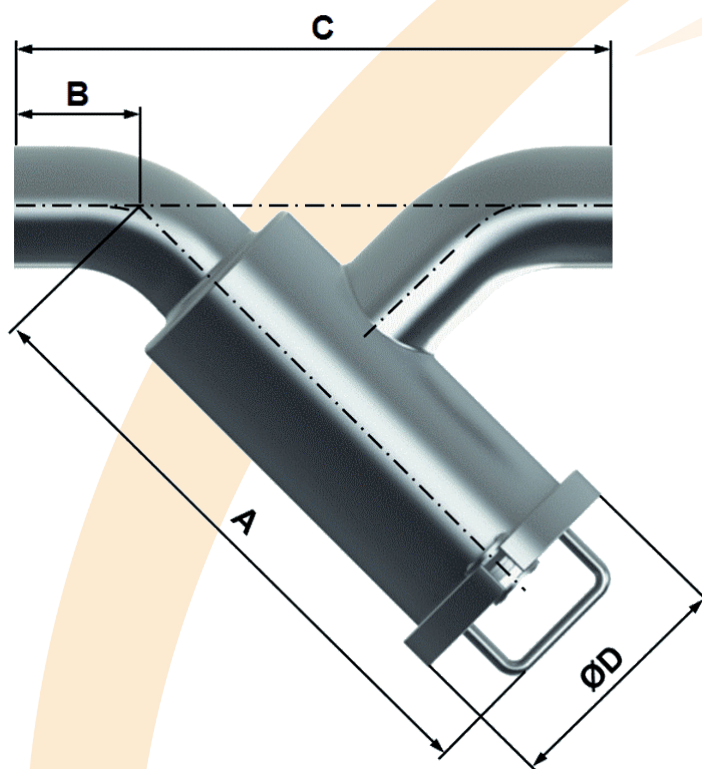


SMS SIZES	25	38	51	63	76	104
A	249	249	249	319	319	397
B	76	76	76	76	76	98
C	385	385	385	455	455	590
D	127	127	127	127	127	175

DN SIZES	25	32	40	50	65	80	100
A	249	249	249	249	319	319	397
B	76	76	76	76	76	76	98
C	385	385	385	385	455	455	590
D	127	127	127	127	127	127	175

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FHY:



SMS SIZES	25	38	51	63	76	104
A	249	263	262	312	314	384
B	35	46	51	72	74	81
C	195	231	250	326	333	368
D	127	127	127	127	127	155

DN SIZES	25	32	40	50	65	80	100
A	284	165	180	262	255	295	384
B	61	19	25	29	33	37	81
C	282	120	141	206	202	227	368
D	127	127	127	127	127	127	175

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OPTIONS:

- Magnetic bar: stops ferrous metal particles from 25 µm
- Open detection
- Double jacket heating element
- Filtration above 800 µm by perforated stainless steel sheet
- Other filtration cut-offs on demand
- Other types of connectors: Male, clamp, flange
- Other gaskets available: FKM (Fluorocarbon rubber, eq. Viton®), Perbunan®, VMQ (Silicone), etc.
- Gaskets USP Class VI compliant
- Other construction material types and finishes on request
- Customized equipment: please contact us

GUARANTEE:

12 mois à partir de la date de shipment (*sauf conditions particulières*)

COMPLIANCE:

- Piping accessory compliant with European **PED DESP 2014/68/UE**, §4.3
- Elastomer gaskets compliant with **FDA CFR 21.177.2600** and **1935/2004/EC** ruling
- Optional: Gaskets **USP Class VI** compliant

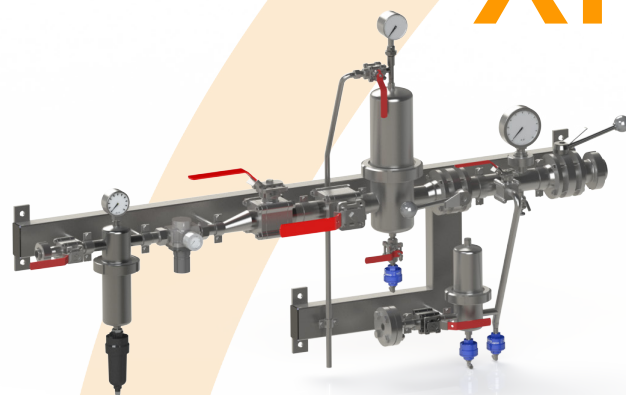
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Pressure reducing & filtering station

for process lines

XFI[®]



CE



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 2014/68/UE
- ▲ System ideally suited for breweries, dairies, the agri-food and beverages industry

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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.

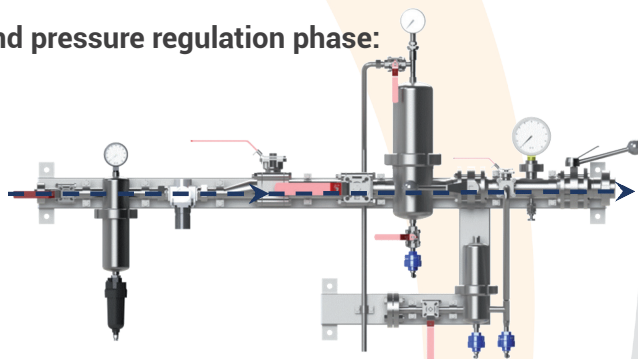
Maximum supply pressure: 10 bar

Maximum service temperature:

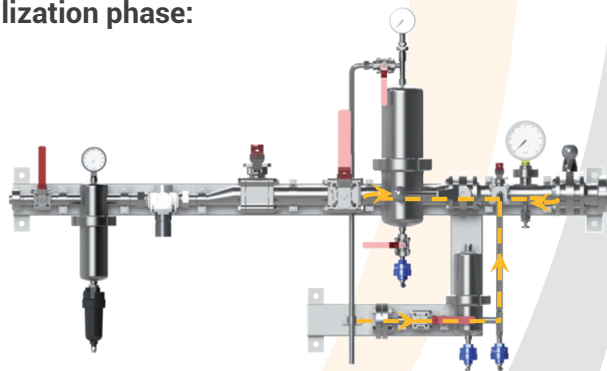
- Sterile part: 0 °C to 121 °C
- Non-sterile part: -5 °C to 60 °C

Unit made of 1.4301 (304) stainless steel.

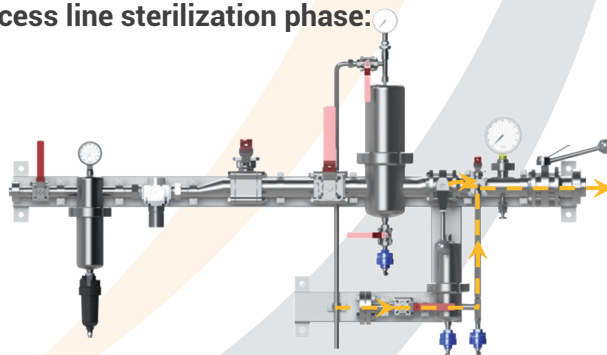
Gas filtration and pressure regulation phase:



Sterile filter sterilization phase:



Downstream process line sterilization phase:



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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.

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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 shipment (except in the case of special conditions)

COMPLIANCE:

- Piping accessory compliant with European PED 2014/68/UE , §4.3

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Automatic coupling system with touchscreen

Secure transfer
& automatic degassing

XLA[®]



OVERVIEW:

The XLA automatic coupling system with touchscreen allows, during a transfer of fluid, a device to be supplied continuously by an automatic change of tank, while evacuating the non-product associated gas that is located in the piping. As a rule, this unit is installed upstream of a filler or storage tank (fermentation tanks to filters, etc.).

The XLA system operates as a standalone unit. It can operate in 5 different modes: product transfer automatic mode, water flush mode, blending mode, unit CIP mode, operator override via tactile panel mode.

In its standard version, the unit comprises 2 lanterns and 1 control unit and incorporates a stainless steel chassis (see below).

KEY BENEFITS:

- ▲ Secure transfer of beer with continuous degassing function, with no risk of contamination during the transfer and changing of the tanks
- ▲ Unit fully washable in situ
- ▲ Interactive and tactile interface, colors and multilingual for easier operator use and control
- ▲ Control system with dialogue capability with supervision

APPLICATIONS:

- ▲ Secure and optimized transfer of beer from the fermentation tanks to conditioning, according to the manufacturing stages
- ▲ Water flush and simple blending of the beer

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TECHNICAL SPECIFICATIONS:

Sizes:

The flow to pass through the system defines its size. As a rule, the following table indicates the appropriate size according to the flow:

FLOW (M ³ /H)	RECOMMENDED SIZE
4.5 to 9	DN 40
7 to 14	DN 50
12 to 24	DN 65
18 to 36	DN 80
28 to 56	DN 100

Connections: Male DIN 11851

Service pressure: 4 bar

Max. sterilization temperature: 95 °C

Footprint (example):

- Overall unit dimensions: L 910 x D 600 x H 1800 mm for the standard version
- Weight: approx. 220 kg depending on the options and version (in operation)
- Dimensions of the control cabinet: L 500 x D 200 x H 400 mm for the standard version

Utilities and connections:

- Electrical: Installed power: 2 kW - Voltage: 400 VAC - Frequency: 50Hz - Connection: on terminal
- Pneumatic: Dry compressed air: 6-8 bars - Connection: 1/4 PdG
- Hydraulic: Service pressure: 4 bars - Connections Tanks A and B, output, intake CIP line: Male DIN 11851

Materials:

- Parts in contact with the product: 1.4307 (304L) stainless steel
- Gaskets in contact with the product: EPDM (Ethylene Propylene Diene Monomer)
- Control cabinet: IP66 stainless steel unit

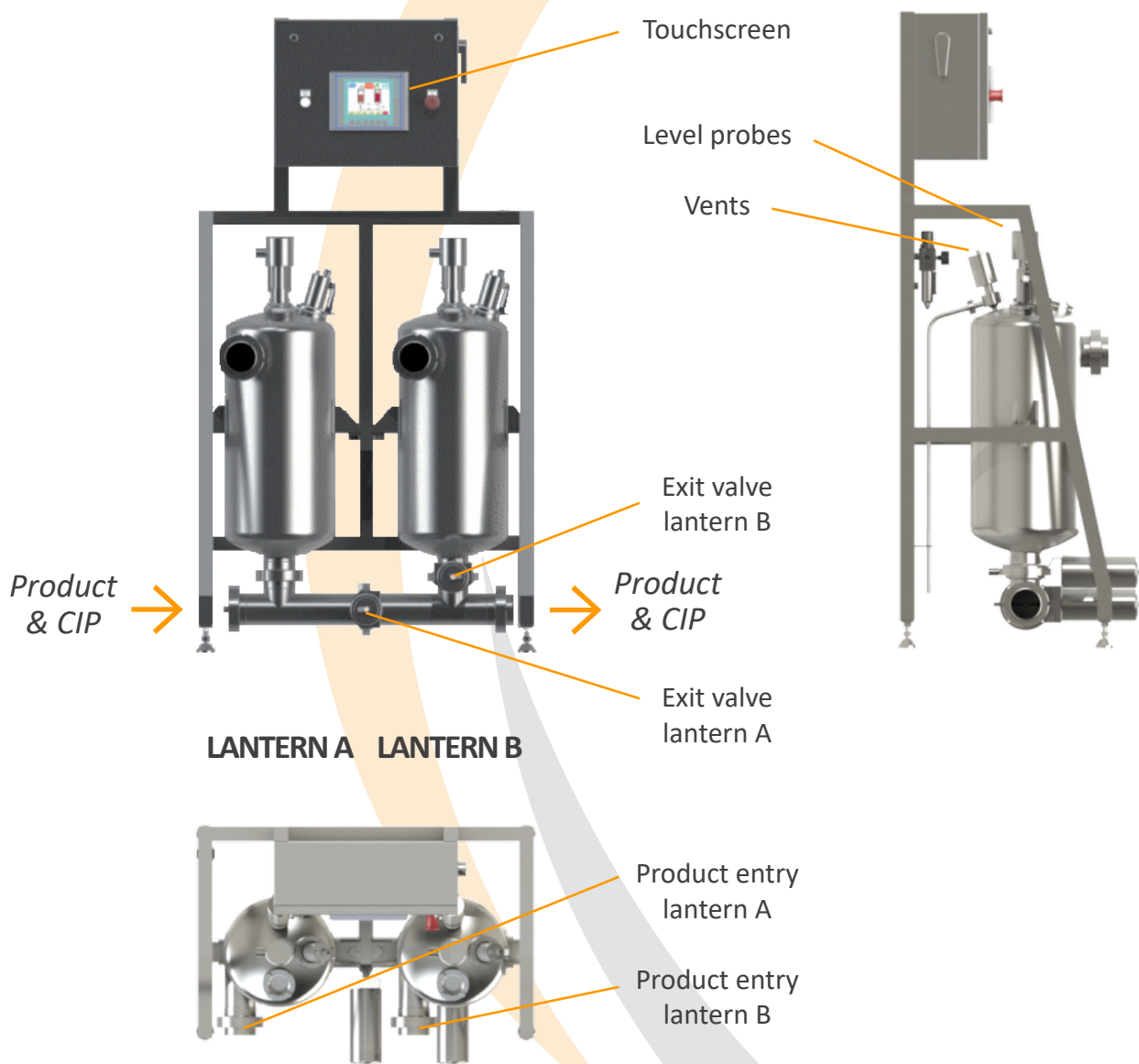
SYSTEM COMPONENTS (2 tanks):

- 2 tanks A and B each comprising: 1 vent, 1 analogue 4-20 mA level detection (high level, low level), 1 window, 1 light
- 1 manual butterfly valve and 2 automatic butterfly valves
- 1 control unit containing notably 1 SIEMENS® programmable controller and 1 touchscreen for system control and supervision

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OPERATING MODES:

- Automatic operation: Automatic degassing and product tank switching
- H²O water flush: Beer flush at the end of the transfer
- Blending of tanks A and B: Mixing beers
- CIP cleaning: Washing of all the lantern
- Manual operation: Overall control via the tactile panel (operator code)



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OPTIONS:

- Lantern with seat valves for cleaning lanterns A or B independently
- Filling function with volume counter and/or destination tank level probe interface
- Other construction materials nuances
- Customized equipment (3 body lanterns, etc.)

GUARANTEE:

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

COMPLIANCE:

- Compliant with European **PED 2014/68/UE** and European directive **2006/42/EC**
- Elastomer gaskets compliant with **FDA CFR 21.177.2600** and **1935/2004/EC** ruling

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SERVINOX

3 RANGES FOR 3 PRIORITIES...

Servinox, through its 3 main areas of expertise, invites the players in all sectors of industry to embark on a real momentum for progress:

Safety
& Protection



Quality
& Traceability



Efficiency
& Environment



... AND SOLUTIONS FOR SPECIFIC PROBLEMS.

Because the demands of industry players have evolved and shall continue to do so, Servinox is pleased to make available its research for enhancing performance.

« Tailor-made solutions engineered for you »

The dynamism of our company is reflected by our teams and their ongoing research for solutions, each one of which can be adjusted to a specific activity (agrifood, cosmetology, pharmaceuticals, etc.) and using regularly updated modelling, design, manufacturing, control and testing tools.

This ensures we have the skills and capacity to work on your specific problems, regardless of the momentum or phase of your activity.