Sampling by syringe

PESH

Instruction manual

Reference: PESH_NOT_EN

Version A

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1 OVERVIEW

1.1. The manufacturer

SERVINOX is a specialist in process equipment for the brewing, food, cosmetology and chemical sectors.

Process equipment expertise:
In the areas of tank protection, sampling, gas injection in liquids, pigging systems or cleaning with patented products.

SERVINOX is certified ***ISO 9001*** and offers products compliant with the following applicable standards and directives:

- Directive on Pressure Equipment ***(DESP) 2014/68/EU***
- European Directive relative to materials installed in an Explosive Atmosphere ***(ATEX) 2014/34/EU***
- 3A US manufacturers' hygienic standard

We are an active member of the of the ***EHEDG France*** association (European manufacturers' hygienic standard).

1.2. Instruction manual

To ensure equipment integrity and the safety of personnel, you must familiarise yourself with the information contained in this manual before proceeding with installation and use of the equipment.

Depending on the installation and the fluid, precise directives and rulings apply. These must be complied with.

In addition to the recommendations contained in this instruction manual, the general recommendations concerning safety at work and protection must be applied. Regulations relative to the protection of the environment must also be respected.

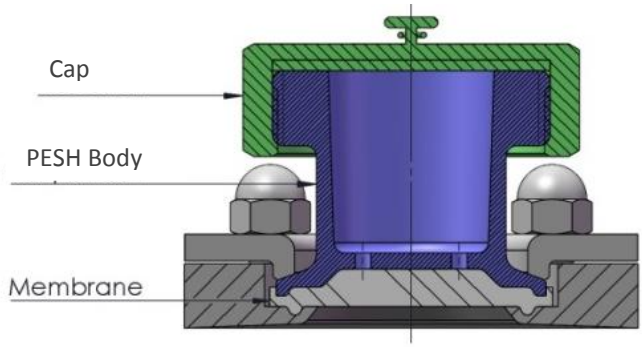
1.3. Presentation of the equipment

The PESH type sampling by syringe system is used to take a sample of clear or low viscosity liquid from a tank or transfer circuit in order to carry out quality and/or bacterial controls.

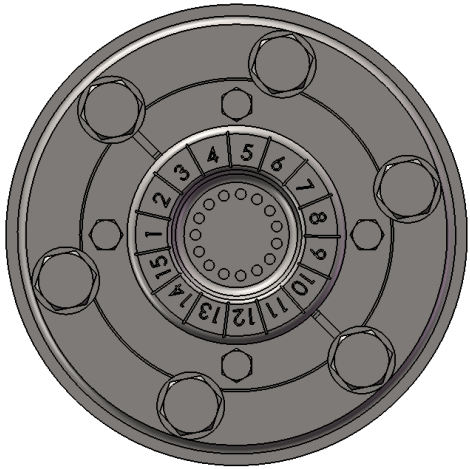
This sampling valve must be used on circuits carrying group 2 clear or viscous liquids (compliant with article 9 of European directive 2014/68/EU).

Description of the operation

The sampling valve is intended for fluid sampling using a syringe through a self-repairing membrane.



The front panel of the PESH is referenced 1 to 15, thereby enabling each sampling zone to be identified.



1.4. Markings

If the user encounters difficulties that cannot be resolved by these service, additional information should be requested from the manufacturer or, where appropriate, the equipment distributor.

You must indicate the SERVINOX order and/or series/manufacturing order number starting with SVX for any specific request (spare parts, etc.).

2 SAFETY RECOMMENDATIONS

The technical manual contains fundamental recommendations that must be respected. You must read this technical manual before assembly and cut-in.

2.1. Indications and symbols

The following pictograms are used to call your attention to important points relative to the safety of personnel and the integrity of the equipment:

SYMBOL	DEFINITION
	Direct danger for persons
	Possible deterioration of the product or its environment
	Useful information or application recommendations
	Minimum number of persons required for certain operations. (The number of persons shown in the pictogram indicates this minimum number).
	Minimum technical capacity level. (the figure in red indicates the minimum level required).

Certain interventions demand technical abilities and special authorisations, such as unscheduled maintenance work or work on electrical equipment.

3 levels indicate the required technical ability (knowledge of the material in question, experience, training, etc.).

	PROFILE OF PERSONS INVOLVED	DETAILS
Level 1	**End user** with no technical knowledge.	**Default level** if the ability pictogram is not present. Only authorised **general use and maintenance operations**.
Level 2	Experienced **professional**.	Trained and **experienced**. **Knows the equipment and technologies** used.
Level 3	**Manufacturer's personnel** / product expert	**Work reserved for the manufacturer** of the documented equipment.

2.2. Operator safety

The installation, control, adjustment, maintenance and replacement operations must be carried out:

- By qualified personnel,
- In accordance with the recommendations indicated in this manual,
- By integrating the measures ensuring safety at work, the procedures and specific means of the installer and the legal obligations relative to the prevention of accidents, in particular regarding the electrical installations.

Non-compliance with the safety recommendations may result in the loss of all claims to damages.

2.3. Planned usage

Compliant utilisation

Using the supporting documents, make sure that the equipment has been selected for the intended use.

Inappropriate use

The equipment must not be used except for the usage for which it is intended. The manufacturer declines all responsibility in the event of contrary and inappropriate use.

The equipment must not be used over and above the following operating limits:

PARAMETERS	LIMITS
Maximum permitted pressure	10 bar
Admissible fluid temperature	130°C

3 TECHNICAL SPECIFICATIONS

3.1. Specifications

SPECIFICATIONS	SERVINOX OFFER
Connection	Clamp (Ø50.5 mm) + membrane, compatible sizes: DIN11850-2: DN25, DN32 SMS 3008: DN32, DN38 OD (ASME BPE): 1½ Contra ferrule not supplied
Service temperature	MIN.: +1°C MAX.: +130°C
Service pressure	MIN.: 0.1 bar MAX.: 10 bar
Materials	*PARTS IN CONTACT WITH THE PRODUCT:* 1.4404 (316L) stainless steel *OTHER PARTS:* 1.4307 (304L) stainless steel *MEMBRANE:* Silicon USP Class VI

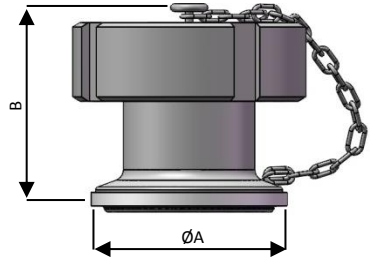
3.2. Options

- Supply of the NA Connect® flange or equivalent
- Supply of the SERVINOX flange (ref. TC00203)

3.3. Dimensions

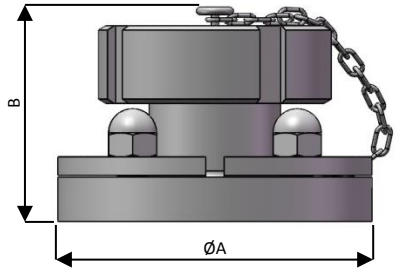
PESH only

SIZES	ØA	B
COTE (MM)	50.5	52



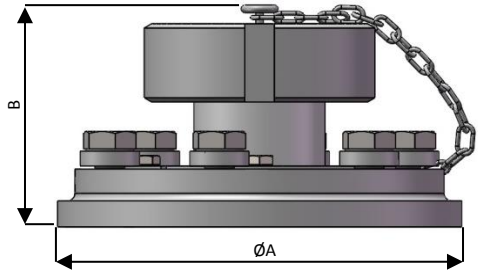
Assembly on N/A connect flange

SIZES	ØA	B
DIMENSIONS (MM)	85	58



Assebly on flange TC00203

SIZES	ØA	B
DIMENSIONS (MM)	109,5	60



4 CUT-IN

4.1 Transport/ Delivery acceptance/ Handling

On delivery receipt, check*:*

- that ***the packaging is in good condition***,
- that the mixer ***delivered is conform to the order***,
- that the equipment ***has not been damaged***.

If the equipment is damaged, it must not be mounted on the installation. Contact the manufacturer or, where appropriate, your distributor.

4.2 Storage

If the equipment is not installed immediately after delivery, it should be ***stored according to accepted practice***.

It must be stored in its original packaging, in a covered area and protected from dirt, rain, snow, insects and not subject to shocks or vibrations.

The risk-free storage temperature is between 5°C and 40°C, with a relative air humidity of < 50%.

If the equipment is stored in negative temperature conditions, you must take into account the materials' cold resistance (example: the seals).

If the storage period is above one year, the seals must be replaced before cut-in.

4.3 Installation

General observations

Before using the equipment, users must carry out a visual inspection to check the condition: no corrosion or packaging residue.

If the fluid is harmful, inflammable, toxic, etc., equip the installation with a discharge pipe leading to a secure place.

However, we recommend that you check the compatibility of these products with the seals and materials before use.

The operators

The tasks detailed below must be carried out by persons who are qualified and experienced.

The personnel must be equipped with gloves.

Welded connection of the N/A connect or TC00203 flange

The equipment must be welded on installation by qualified personnel as per the prevailing directives in the country of installation. There must be no impurities in the weld and must be done in a hygienic manner.

After any welding and/or polishing work, the equipment must be cleaned to remove all residue, dust, etc.

- **Tank preparation**:

The size of the hole drilled in the tank must correspond precisely to the external diameter of the flange and be play-free.

- **Flange preparation**:

You must dismount the PESH from its flange (see § maintenance)

Check and note the flange inside dimensions on all the diameters in order to control them again after welding.

- **Flange welding preparation**:

1) The flanges must be installed in the designated positions on the tank

2) Check and carefully locate the position of the tapped holes for equipment mounting.

3) The flange mounting must be done so that it is flush with the interior of the tank wall.

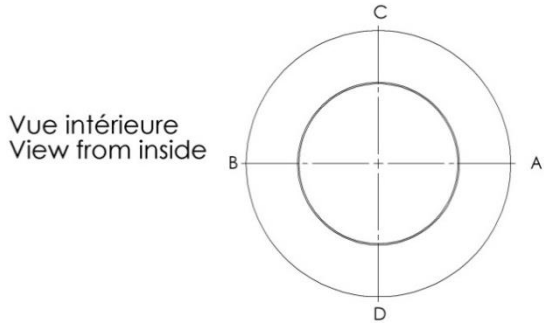
For flange TC00203 only:

You must use the SERVINOX solder plug which must be ordered with the flange to avoid any significant deformation during the welding.

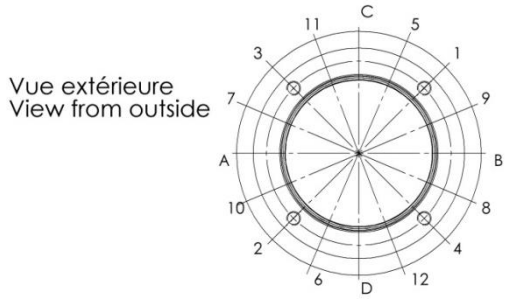
- **Weld the flange**:

1) Position the aligned flange with the inside of the tank.

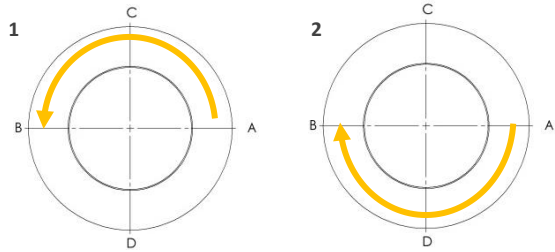
2) Tack the flange inside the tank by following: A, B then correct where necessary and tack C and D.



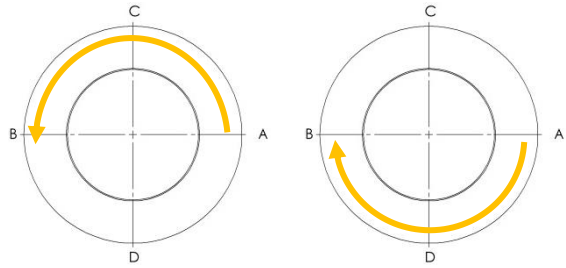
3) Tack the flange from the outside in 12 spot with inside inerting: follow the welding plan below from 1 to 12.



4) Weld (lowest possible amperage) from the outside between A, C and B then between A, D and B.



5) Do a final finish inside the tank between A, C and B then between A, D and B.



Do not dismount the solder plug until it has completely cooled naturally.

- **After welding**:

1) Wait until the flange has cooled down naturally
2) Dismount the solder plug
3) Check all the internal diameters to make sure there has been no variation.
4) Polish the interior of the tank in line with the required Ra making sure you never touch the seal surface.
5) Make sure there are no particles left over.
6) Remount the PESH on the flange (see § maintenance)

5 OPERATION

5.1. Checking the operation

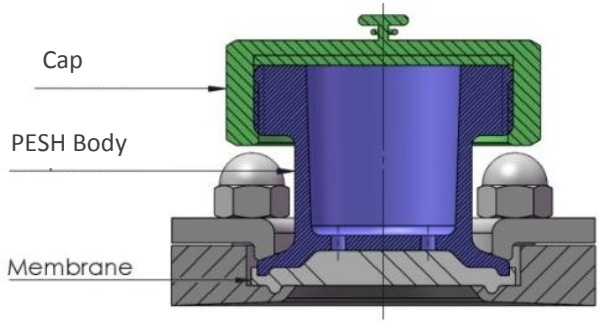
- Check that there are no leaks
- Check the correct assembly of the equipment on the installation
- Check the tightening of the screws or clamping ring

5.2. Adjustment

Adjustments are reserved for the manufacturer of the documented equipment.

Please contact Servinox or, where appropriate, your distributor.

5.3. Sampling

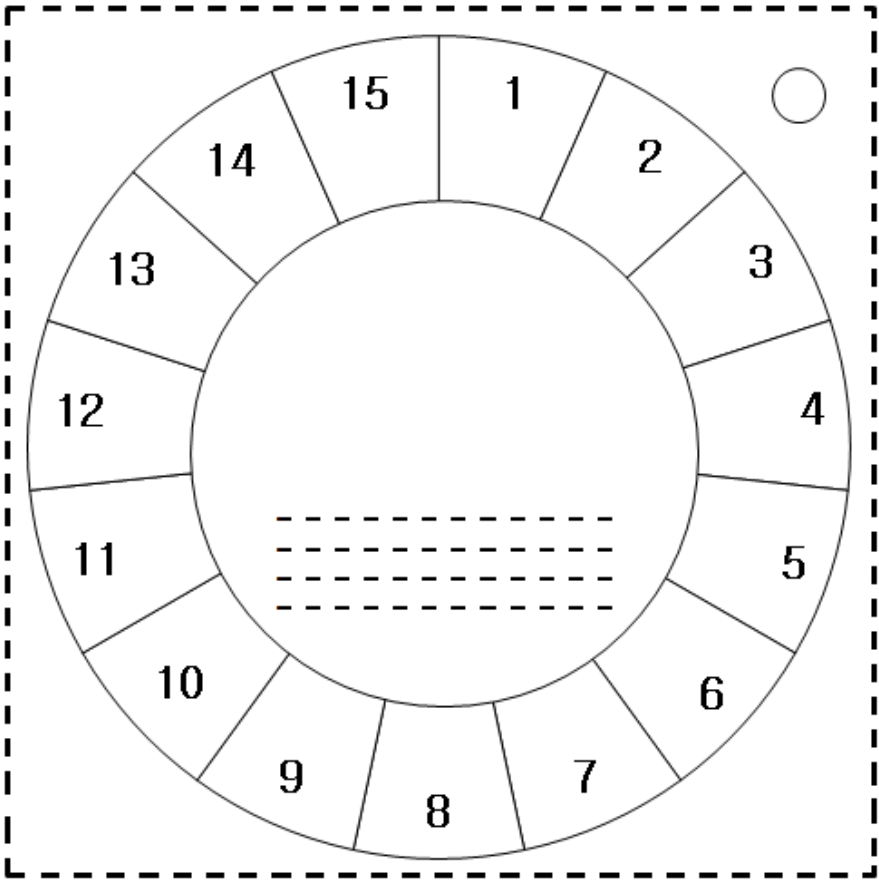


Do not pierce the membrane twice in the same place.

Replace the membrane after 15 samples.

Replace the cap after each sampling.

We recommend using a grid (see example on the next page) to monitor the use of the installed membrane.



The picture may be reproduced

6 SERVICING AND MAINTENANCE

6.1. General observations

The equipment requires periodic servicing to ensure correct operation.

An inspection must be carried out at regular intervals. You must comply with an initial 6 month inspection period.

Certain fluid properties (corrosive, aggressive, abrasive, residual, viscosity, etc.) and certain environmental conditions (climate, pollution, etc.) may require the periods between the inspections to be shortened.

SERVINOX provides spare parts for the correct maintenance and equipment guarantee.

We can provide you with replacement packs for worn parts (seals, etc.) and we recommend that you keep a few packs in stock for quick repairs.

You can also contact SERVINOX for all matters regarding the maintenance of the equipment.

Maintenance precautions

Comply with the following points before any intervention:

- Switch off and secure the equipment
- Depressurize the system
- The installation must be emptied
- The fluid must be cooled to ambient temperature
- Ventilate the duct network if the fluid is corrosive and aggressive.

The operators

The tasks detailed below must be carried out by persons who are qualified and experienced.

The personnel must be equipped with gloves, safety helmets and safety boots.

6.2. Inspections and servicing

Mandatory periodic servicing:

Every 2 months for 6 months after cut-in

- Absence of traces of corrosion
- No leaking of CIP/Product liquid or compressed air
- Tightening of the assemblies
- Correct operation of the valve

Every 6 months:

- Carry out an inspection and internal cleaning of the body

Annually:

- Replace the membrane (Ref. 1.2)
- If PESH assembly with TC00203, replace the seal (Ref. 4)

We recommend you check the membrane material before replacing to avoid any chemical compatibility problems.

We recommend noting all the servicing and inspection operations carried out on the installation in a table of the following type:

Date	Company	Name of the operator	Signature
PREVENTIVE MAINTENANCE			
Operations		**Others, Observations**	
CHECKING THE CORRECT OPERATION AND GOOD CONDITION			
Operations		**Others, Observations**	

Exploded view of the PESH on clamp ferrule

[clamping ring / clamp ferrule]

Parts list

REFERENCE	DESCRIPTION	QUANTITY
1	PESH unit	1
1.1	PESH body	1
1.2	Membrane	1
1.3	Cap with chain	1

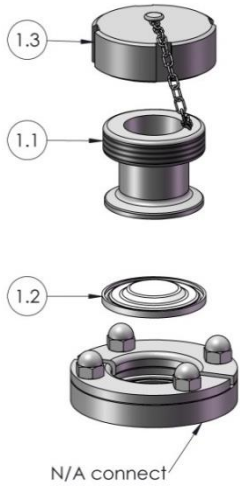
Disassembly of the PESH on clamp ferrule

1) Unscrew the clamping ring,
2) Remove the PESH body (Ref.1.1) and then remove the membrane (Ref.1.2)
3) Unscrew the cap (Ref.1.3),
4) Clean all the components.

Re-assembly of the PESH on clamp ferrule

1) Screw the cap (Ref.1.3) on the PESH body (Ref.1.1),
2) Replace the membrane (Ref.1.2), then re-assemble the PESH body (Ref.1.1) on the clamp ferrule using the clamping ring.

Exploded view of the PESH on N/A connect flange



Parts list

REFERENCE	DESCRIPTION	QUANTITY
1	PESH unit	1
1.1	PESH body	1
1.2	Membrane	1
1.3	Cap with chain	1

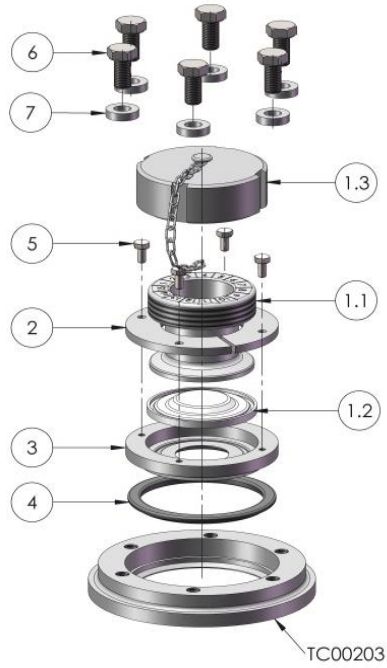
Disassembly of the PESH on N/A connect flange

1) Disassemble the 2 half-flanges of the N/A connect,
2) Remove the membrane (Ref.1.2) and the PESH body (Ref.1.1),
3) Unscrew the cap (Ref.1.3),
4) Clean all the components.

Re-assembly of the PESH on N/A connect flange

5) Screw the cap (Ref.1.3) on the PESH body (Ref.1.1),
6) Replace the membrane (Ref.1.2), then re-assemble the PESH body (Ref.1.1) on the N/A connect flange using the 2 half-flanges and cap nuts.

Exploded view of the PESH on flange TC00203



Parts list

REFERENCE	DESCRIPTION	QUANTITY
1	PESH unit	1
1.1	PESH body	1
1.2	Membrane	1
1.3	Cap with chain	1
2	Clamping flange	1
3	Intermediary flange	1
4	O-ring seal	1
5	TH 4 x 8 screw	4
6	TH 8 x 16 screw	6
7	Machined washer 16 x 8	6

Disassembly of the PESH on flange TC00203

1) Unscrew the screws and (Ref.6) and remove the washers (Ref.7).
2) Remove the intermediary flange (Ref.3) with the PESH (Ref.1)
3) Remove the seal (Ref.4)
4) On a workbench, unscrew the screws (Ref.6) then remove the 2 clamping half-flanges (Ref.2).
5) Remove the PESH body (Ref.1.1), then remove the membrane (Ref.1.2)
6) Clean all the components.

Re-assembly of the PESH on flange TC00203

1) Replace the membrane (Ref.1.2), then re-assemble the PESH body (Ref.1.1) on the intermediary flange (Ref.3) using the 2 half-flanges (Ref.2) and screws (Ref.6).
2) Replace the seal (Ref.4) on the intermediary flange (Rep.3).
3) Position the intermediary flange (Ref.3) and PESH (Ref.1) unit on the tank flange TC00203, then screw the 6 screws (Ref.6) with the washers (Ref.7).

7 TROUBLESHOOTING

The table below provides assistance in troubleshooting and is intended to help you resolve simple operating incidents

INCIDENT	POSSIBLE CAUSE	SOLUTION
Fluid leak	- Flange welding broken (poor welding on installation, corrosion, etc.)	> Repair the welding by qualified persons
	- Membrane worn out	> Replace the worn out membrane > Adapt the membrane material to the fluid
	- Incorrect clamping of the PESH body on its support	> Tighten the clamping ring or half-flanges
	- Membrane dripping	> Check the membrane assembly

8 GUARANTEE

Unless stipulated otherwise in the offer, the ***equipment is guaranteed for 12 months as of the date of delivery.***

Parts deemed defective following expertise in our factory shall be replaced at no cost.

If any of the equipment components (worn parts, seal, etc.) need to be replaced, they must be replaced by SERVINOX original parts

The guarantee does not cover damage resulting from:

Incorrect assembly, inappropriate or abusive use,

An accident or installation that is not conform,

Equipment modification,

A leak following a passage of impurities shall not be taken into account,

Mandatory servicing not carried out.

The guarantee covering our products provides for free repairs on parts returned to us where it is proved that they have become unusable prematurely due to a manufacturing or material fault.

We shall not be held responsible for any damages due or any other obligation of this type.

The equipment has been checked prior to leaving the factory.

This equipment is certified inspected and authorised for sale

Notes

solutions
engineered for you
dprozesse: Proces
ösungen fluid
für Ihre dise
de solu
vendung adaptada
indu

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