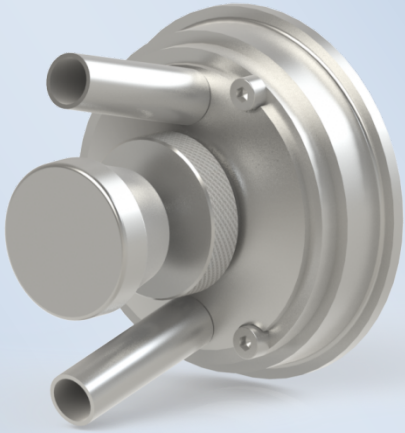
*Sampling valve*

# PEMA



## Instruction manual

**Reference: PEMA_NOT_FR**

**Version D**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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
- Tank accessories compliant with §4.3 of the European directive ***(PED) 2014/68/EU***

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

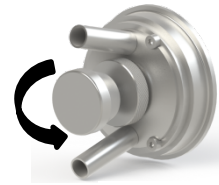
The PEMA type sampling valve is used to take a sample of clear or viscous liquid from a tank in order to carry out quality and/or bacterial controls.

***This sampling valve must be used on circuits carrying group 2 clear or viscous liquids (compliant with §4.3.9 of European directive 2014/68/EU).***

## Description of the operation

***In the manual version*** its drive head allows for permanent sampling valve opening by unscrewing the drive head (Picture 1). The sampling valve is closed by screwing the drive head.

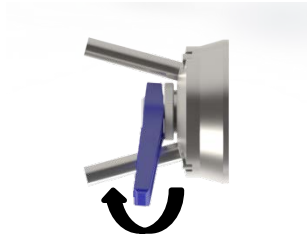
***Manual version***



***Picture 1***

***In the standard lever version*** its drive head allows for a one-time opening of the sampling valve by pressing the lever (Picture 2) or a permanent opening by turning the lever 90° (Picture 3)

***Standard lever version***

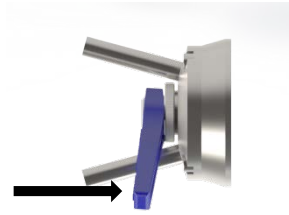


***Picture 2***

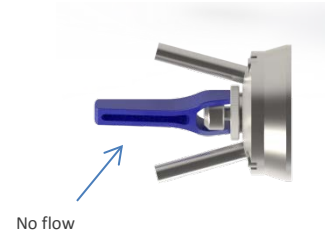
***Picture 3***

***In the non-blocking lever version (dead man)*** the drive head allows for one-time opening only of the sampling valve by pressing the lever (Picture 4). Permanent opening is impossible even by turning the lever 90° (Picture 5).

***Non-blocking lever version (dead man)***



***Picture 4***




***Picture 5***

***In automatic version*** the drive head is activated pneumatically which enables the permanent opening of the sampling valve (Picture 6). The sampling valve returns to its closed position once the air is cut off and by the action of a spring. The automatic version contains a sampling opening detection inductive sensor.

***Automatic version***

***Picture 6***

PEMA sampling has a connection dedicated to the passage of CIP liquid thereby enabling the sampling chamber to be cleaned.

The sampling valve sealing is obtained by a membrane and a counter spring maintains the sampling valve in the closed position.

The hygienic design guarantees there is no retention zone (an ideal place for bacteria to develop) and ensures it is easy to clean.

# 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 |
|  | Mandatory recommendation |
|  | Minimum number of persons required for certain operations.<br>(The number of persons shown in the pictogram indicates this minimum number). |
|  | Minimum technical capacity level.<br>(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.<br>Only **general use and servicing operations** are authorised. |
| **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, servicing 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 certification 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:***

| PARAMETER | LIMITS |
|---|---|
| **MAX permitted pressure**<br>**MIN permitted pressure** | **5 bar**<br>**0.1 bar** |
| **Min./max. temperature** | **+1°C / +100°C** |

## 2.4. *Analysis of the generic risks*

| | | | |
|---|---|---|---|
| **DANGER / RISK** |  |  |  |
| | Hot fluid | Very hot surfaces | Aggressive fluid |
| **DAMAGE** | Burns | Burns | Burns |
| **PREVENTION** |  |  |  |
| | Appropriate clothing, glasses, gloves | Appropriate gloves | Appropriate gloves, glasses, mask |

# 3 TECHNICAL SPECIFICATIONS

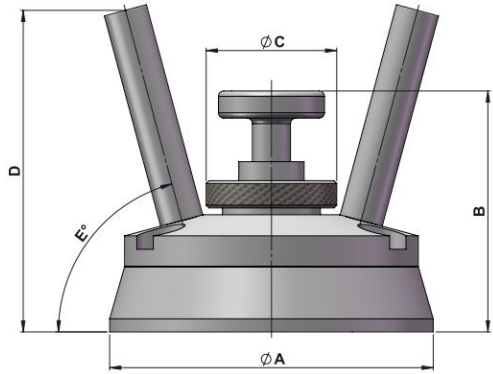
## *3.1. Standard version*

**Specifications**

| SPECIFICATIONS | SERVINOX OFFER |
|---|---|
| **Connection** | Smooth weld DN06: 8 x 1<br>Smooth weld DN10: 12 x 1 |
| **Sizes** | DN06<br>DN10 |
| **Service temperature** | MIN.: +1°C<br>MAX.: +100°C |
| **Service pressure** | *LIQUID:*<br>6 bars max.<br>5 bars for PEMA DN10 lever and automatic versions |
| **Materials** | *PARTS IN CONTACT WITH THE PRODUCT:*<br>1.4404 (316L) stainless steel<br>*OTHER PARTS:*<br>1.4301 (304L) stainless steel<br>*SEALS:*<br>Silicone, VITON, EPDM<br>*MEMBRANE:*<br>EPDM, Nitrile,VITON,FFKM |

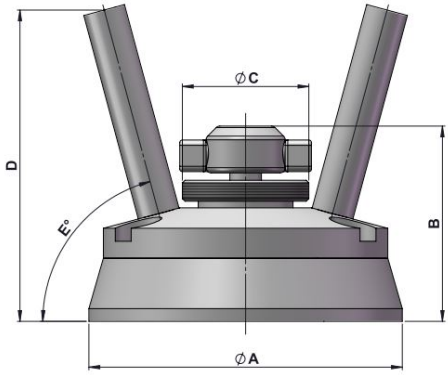
## Dimensions

*Manual version*



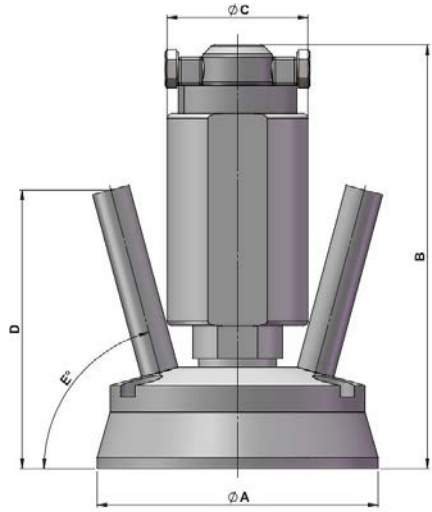

| DIMENSIONS (MM) | | | | | |
|---|---|---|---|---|---|
| SIZES | ØA | B | ØC | ØD | E° |
| DN06 | 60 | 44 | 24 | 59 | 75 |
| DN10 | 80 | 64 | 35 | 69 | 75 |

*Lever version*



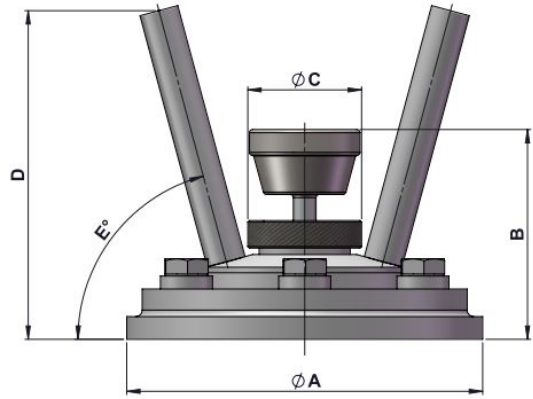

| DIMENSIONS (MM) | | | | | |
|---|---|---|---|---|---|
| SIZES | ØA | B | ØC | ØD | E° |
| DN06 | 60 | 37 | 25 | 54 | 75 |
| DN10 | 110 | 57 | 36 | 64 | 75 |

***Automatic version***



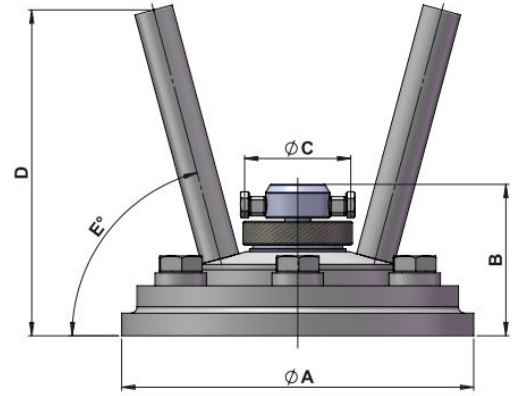

| DIMENSIONS (MM) | | | | | |
|---|---|---|---|---|---|
| **SIZES** | **ØA** | **B** | **ØC** | **ØD** | **E°** |
| **DN06** | 60 | 90 | 30 | 54 | 75 |
| **DN10** | 110 | 102 | 38 | 64 | 75 |

*Manual version on flange TC00203*



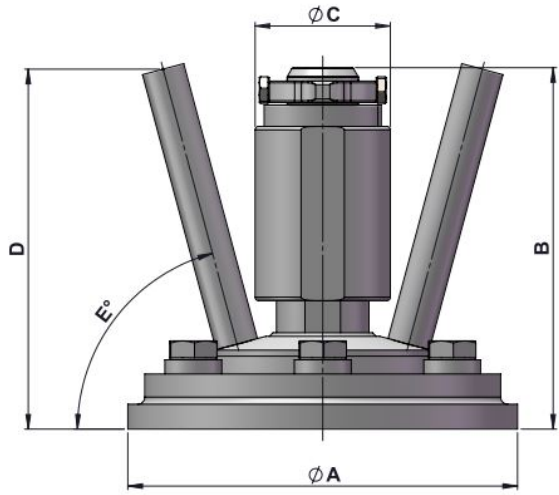

| DIMENSIONS (MM) | | | | | |
|---|---|---|---|---|---|
| SIZES | ØA | B | ØC | ØD | E° |
| DN06 | 100 | 45 | 30 | 91 | 75 |
| DN10 | 110 | 65 | 38 | 101 | 75 |

*Lever version on flange TC00203*




| DIMENSIONS (MM) | | | | | |
|---|---|---|---|---|---|
| SIZES | ØA | B | ØC | ØD | E° |
| DN06 | 100 | 27 | 24 | 91 | 75 |
| DN10 | 110 | 47 | 35 | 101 | 75 |

*Automatic version on flange TC00203*




| DIMENSIONS (MM) | | | | | |
|---|---|---|---|---|---|
| **SIZES** | **ØA** | **B** | **ØC** | **ØD** | **E°** |
| **DN06** | 100 | 90 | 30 | 91 | 75 |
| **DN10** | 110 | 105 | 38 | 101 | 75 |

### 3.2. Options

- Tank mounting by flange to weld TC00203
- Automatic version "ATEX 2014/34/EU zones 1 & 2, gas and dust" certified
- Valve without CIP connection if flame sterilisation (1 output only)
- Stainless steel caps on threaded nozzles
- Silicone cap on smooth output
- Special connections on request
- Membrane USP Class VI compliant
- Opening detection (automatic version only)
- 1 output and 1 input CIP/SIPP
- Non-blocking opening (dead man)

# 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 cold resistance of the materials (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, safety helmets and safety boots.***

### Welded connection


***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 it 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.***

***NEVER USE TOOLS TO DISMOUNT THE SAMPLING VALVE***

***The sampling valve must be dismounted before welding the flange on its support in order not to damage the membrane and the sealing***

***If this procedure is not complied with the membrane may be destroyed***

## Flange welded connection

- **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)

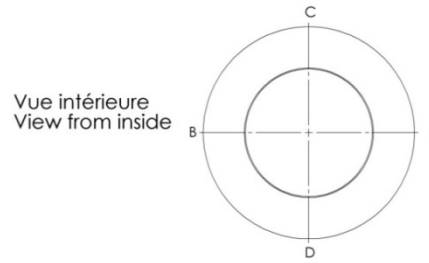
***Check and note the flange inside dimensions on all the diameters in order to control them again after welding.***

- **Flange welding preparation**:

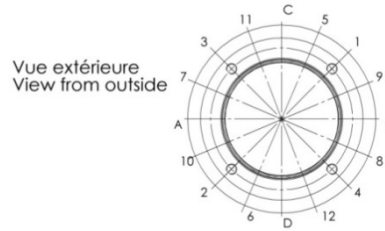
1) The flanges must be installed in the designated positions on the tank
2) Check and carefully locate the position of the tapped holes for equipment mounting.
3) The flange mounting must be done so that it is flush with the interior of the tank wall.

- **Weld the flange**:

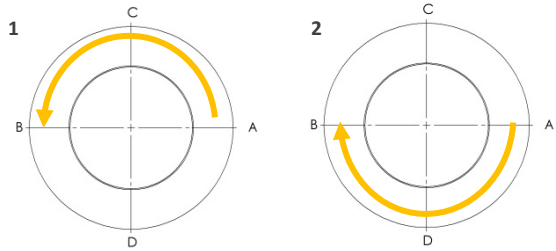
1) Position the aligned flange with the inside of the tank.
2) Tack the flange inside the tank by following: A, B then correct where necessary and tack C and D.



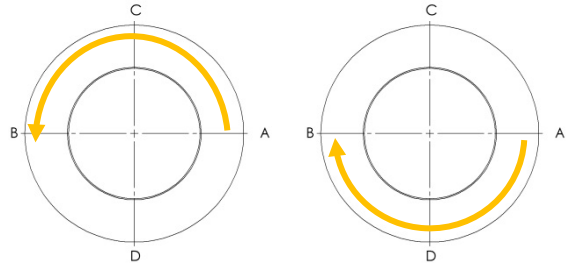

3) Tack the flange from the outside in 12 spot with inside inerting: follow the welding plan below from 1 to 12.



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)

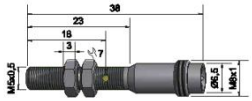
### Inductive sensor (option

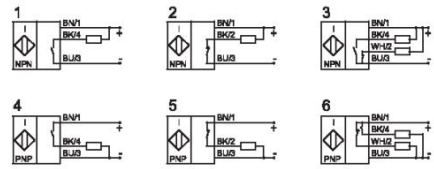
RECHNER SENSORS

**Détecteurs Inductifs Série 10 - PNP**

Boîtier M 5 x 0,5
- Matière du boîtier: Acier inox VA N° 1.4305 / AISI 303
- Portée normalisée Sn 1,5 mm
- Embase de connexion M 8 x 1

| **Caractéristiques techniques** | Montage noyable |
|---|---|
| Portée normalisée $S_n$ | 1,5 mm |
| Version électrique | 3 pôles - DC |
| Fonction de sortie | Fermeture |
| **Type NPN** | |
| **Code Art.** | |
| Schéma de raccordement N° | |
| **Type PNP** | **IAS-10-M5-S-Y7** |
| **Code Art.** | **IA 0328** |
| Schéma de raccordement N° | **4** |
| Tension d' alimentation ($U_B$) | 10...30 V DC |
| Courant de sortie max. ($I_a$) | 200 mA |
| Tension de déchet max. ($U_d$) | ≤ 2,0 V |
| Ondulation résiduelle max. admissible | 20 % |
| Consommation à vide ($I_o$) | 10 mA typique |
| Fréquence de commutation max. | 3 kHz |
| Plage de température opérationnelle | -25...+70 °C |
| Voyant LED | Jaune |
| Circuits de protection | Intégrés |
| Indice de protection (Norme IEC 60529) | IP 67 |
| Norme | EN 60 947-5-2 |
| Raccordement | Embase M 8 x1 |
| Matériau du boîtier | Acier inox N° 1.4305 / AISI 303 |
| Face active | PA |
| Fermeture arrière | - |
| | |
| **Accessoires** (inclus dans la fourniture) | 2 écrous M 5 |




**Made in Hungary**

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### Pneumatic connection

The pneumatic connection of the cylinder is intended for a 6mm polyamide tube on push-in fittings

### Installing the inductive sensor

1) Maintain the cylinder under pressure and check that the cylinder rod is extended

2) ***Screw*** the sensor not connected tight in the M5 tapped hole on the cylinder body (Ref.2.8).

3) ***Loosen the sensor one half-turn***, then tighten the locknut to maintain the sensor in position.

4) Connect the inductive sensor electrically and manually control the cylinder to check that the sensor is working correctly.

Observe the sensor body:

***Orange light on = sampling valve open (sampling of fluid)***

***Light off = sampling valve closed***

# 5 OPERATION

## 5.1. Checking the operation

- Check that there are no leaks
- Ensure the valve is maintained correctly in closed position
- Check the correct assembly of the equipment on the installation
- Check the drive head tightening

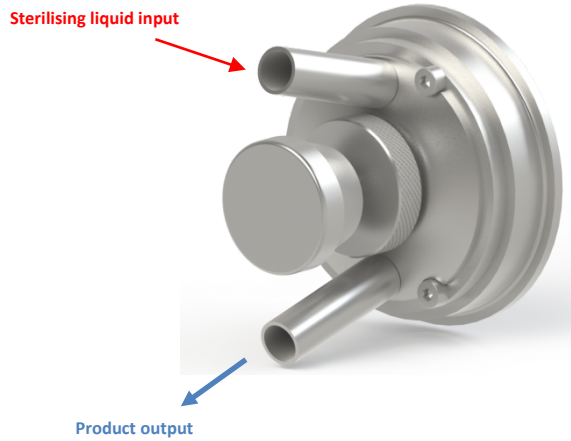
## 5.2. Adjustment

Adjustments are reserved for the manufacturer of the documented equipment.

Please contact Servinox or, where appropriate, your distributor.

## 5.3. Sterile utilisation

- For sampling valves with 1 output ***before sampling***, we recommend flame sterilising (butane torch type) of the output tube for 1 minute.
- For sampling valves with 2 outputs, the second output allows for CIP liquid intake outside the sampling, the other evacuation duct is the sampling output.



# 6 SERVICING AND MAINTENANCE

## 6.1. General

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 correct maintenance and equipment guarantee.***

We can provide you with replacement packs for worn parts (membrane, 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

***<u>Comply with the following points before any intervention:</u>***

***- 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 sampling
- No bare electrical wires

***Every 6 months:***

- Carry out an inspection and internal cleaning of the sampling

***Annually:***

- Replace the membrane

***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** | |
| | | | |
| | | | |

### Material required

- Medium thread lock
- 1 flat-blade screwdriver
- 1 multi-grip pliers
- 1 spindle Ø3mm, 100mm long (Servinox supply on request)
- 1 opening plate (non-blocking option)
- 1 wrench no.24 (thickness 7mm max) or SERVINOX tooling (automatic version)

## 6.3. Maintenance operation

**Overall exploded view (standard PEMA to screw on flange)**

***Never use a tool for the maintenance except for removing the screws.***


**Equipment parts list**

| REFERENCE | DESCRIPTION | QUANTITY |
|---|---|---|
| **1** | Flange to weld | 1 |
| **2** | Body | 1 |
| **3** | PEMS head | 1 |
| **4** | Membrane | 1 |
| **5** | "R" seal | 1 |
| **7** | TCHC screw | 3 |

### Sampling valve disassembly (standard PEMA to screw on flange)

To disassemble the sampling valve, proceed as follows:

**1)** Unscrew the screws (Ref. 7) and disassemble the body (Ref. 2) from the flange (Ref. 1)

**2)** Remove the seal (Ref. 5)

**3)** Unscrew and remove the PEMS head (Ref. 3) from the body (Ref. 2)

**4)** Remove the membrane (Ref. 4)

### Sampling valve re-assembly (standard PEMA to screw on flange)

To re-assemble the sampling valve, proceed as follows:

**1)** Replace the membrane (Ref. 4) and re-position it in the PEMS head (Ref. 3)

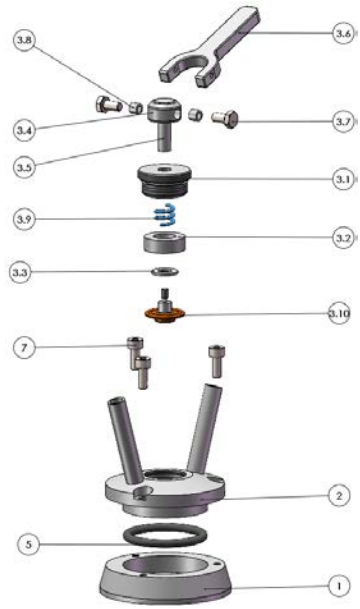
**2)** Screw the PEMS head (Ref. 3) on the body (Ref. 2)

**3)** Replace the seal (Ref. 5)

**4)** Place the body (Ref. 2) on the flange (Ref. 1)

**5)** Screw the screws (Ref.7)

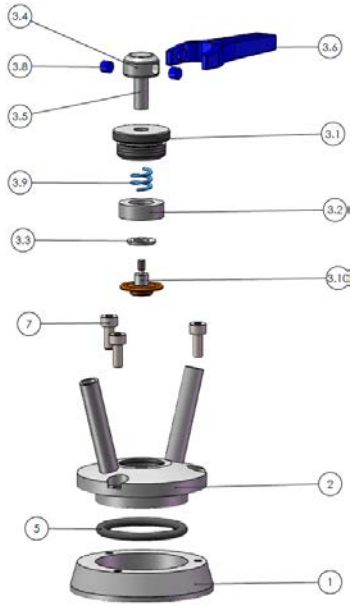
**Overall exploded view**
**(STAINLESS STEEL lever)**




**Equipment parts list**

| REFERENCE | DESCRIPTION | QUANTITY |
|---|---|---|
| **1** | Flange to weld | 1 |
| **2** | Body | 1 |
| **3** | PEMS head | 1 |
| **3.1** | Control screw | 1 |
| **3.2** | Membrane press | 1 |
| **3.3** | Washer | 1 |
| **3.4** | Support washer | 1 |
| **3.5** | Lever brace | 1 |
| **3.6** | Stainless steel lever | 1 |
| **3.7** | TH screw | 2 |
| **3.8** | Machined washer | 2 |
| **3.9** | Spring | 1 |
| **3.10** | Membrane | 1 |
| **5** | “R” seal | 1 |
| **7** | TCHC screw | 3 |

**Overall exploded view (PA lever)**




**Equipment parts list**

| REFERENCE | DESCRIPTION | QUANTITY |
|---|---|---|
| **1** | Flange to weld | 1 |
| **2** | Body | 1 |
| **3** | PEMS head | 1 |
| **3.1** | Control screw | 1 |
| **3.2** | Membrane press | 1 |
| **3.3** | Washer | 1 |
| **3.4** | Support washer | 1 |
| **3.5** | Lever brace | 1 |
| **3.6** | PA lever | 1 |
| **3.8** | PA washer | 2 |
| **3.9** | Spring | 1 |
| **3.10** | Membrane | 1 |
| **5** | “R” seal | 1 |
| **7** | TCHC screw | 3 |

### Sampling valve disassembly (STAINLESS STEEL/PA lever)

To disassemble the sampling valve, proceed as follows:

**1)** Unscrew the screws (Ref. 7) and disassemble the body (Ref. 2) from the flange (Ref. 1)

**2)** Remove the seal (Ref. 5)

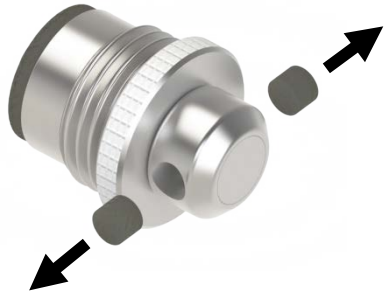
**3)** Unscrew the drive head (Ref.3) from the body (Ref. 2)

**4)** Dismount the lever (Ref. 3.6) from the support washer (Ref. 3.4).

***PA lever:***

- To dismount the lever, remove it using snap-ring pliers or a screwdriver as shown below.


- Remove the small silicon wafers (Ref. 3.8) that maintain the lever in any rotation position (Ref. 3.6).



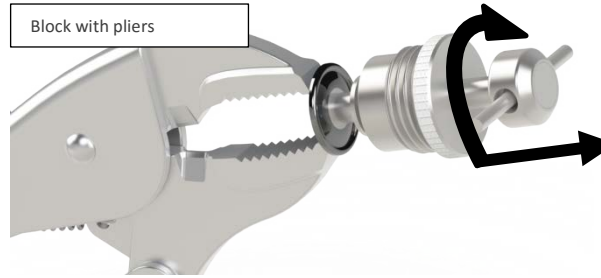
***Stainless steel lever***:

- Remove the hexagonal screws (Ref. 3.7) in order to remove the stainless steel lever (Ref. 3.6)
- Remove the machined washers (Ref. 3.8)

**5)** Place a 3mm diameter and 100mm long rod in the support washer drill hole (Ref. 3.4) and lift spindle (Ref. 3.5) to block its rotation.

**6)** To remove the membrane, turn the support washer (Ref. 3.4) with the lift spindle (Ref. 3.5) using the rod, while blocking the rotation of the membrane (ref. 3.10) using pliers.

***Pay special attention to the ejection of the washer (Ref. 3.3), the spring (Ref. 3.9) and the membrane (Ref. 3.10***

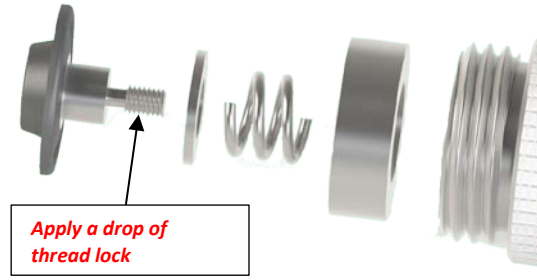



**7)** Remove the spring (Ref. 3.9), the membrane press (Ref. 3.2) and the washer (Ref. 3.3).

### Sampling valve reassembly (STAINLESS STEEL/PA lever)

To re-assemble the sampling valve, proceed as follows:

**1)** Procure the new membrane (Ref. 3.10) and position the washer (Ref. 3.3), then add a drop of thread lock (medium) on the thread of the membrane.



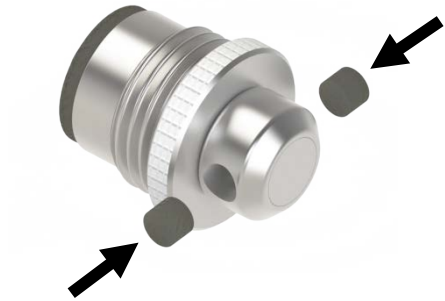

**2)** Replace on the spindle in order on the lift spindle (Ref. 3.5): the control screw (Ref 3.1), the membrane press (Ref. 3.2), the spring (Ref. 3.9)

**3)** Screw the lift spindle unit (Ref.3.5) onto the membrane (Ref. 3.10), using the 3mm diameter rod.

**4)** Assembling the lever

***PA lever***:

- Replace the two silicon wafers (Ref. 3.8) in the support washer drill holes (Ref. 3.4). See picture below.



- Assembling the lever (Ref. 3.6) on the support washer (Ref. 3.4). To assemble the lever, first insert a tab in a support washer hole and then insert the second tab in the opposite opening, see picture below.

***Stainless steel lever***:

- Position the two machined washers (Ref. 3.8) in the lift spindle (Ref. 3.5)
- Assemble the lever (Ref. 3.6) with the two screws (Ref. 3.7)

**5)** Tighten the head ***WITHOUT TOOLS*** (Ref. 3) in the body (Ref.2) using the knurled part of the control screw (Ref. 3.1). The re-assembly position is therefore obtained by ***tightening the head in this position*** on the body.

**6)** Replace and install the seal (Ref. 5) on the flange (Ref. 1)

**7)** Position the body (Ref. 2) on the flange (Ref. 1)

**8)** Tighten the screws (Ref. 7)

### Dismounting the sampling valve with non-blocking option

1) To dismount the head from the body, just tilt the lever (Ref. 3.6) downwards and ensure you have the opening plate supplied with the PEMS at hand. You must place this plate between the support washer (Ref. 3.4) and the head (Ref. 3).

5) Unscrew the head (Ref. 3) from the body (Ref. 2), using the knurled part of the control screw (Ref. 3.1).

***To replace the membrane, follow the procedure detailed in steps 3 to 7 the previous chapter "Sampling valve disassembly (Stainless steel/PA lever)"***

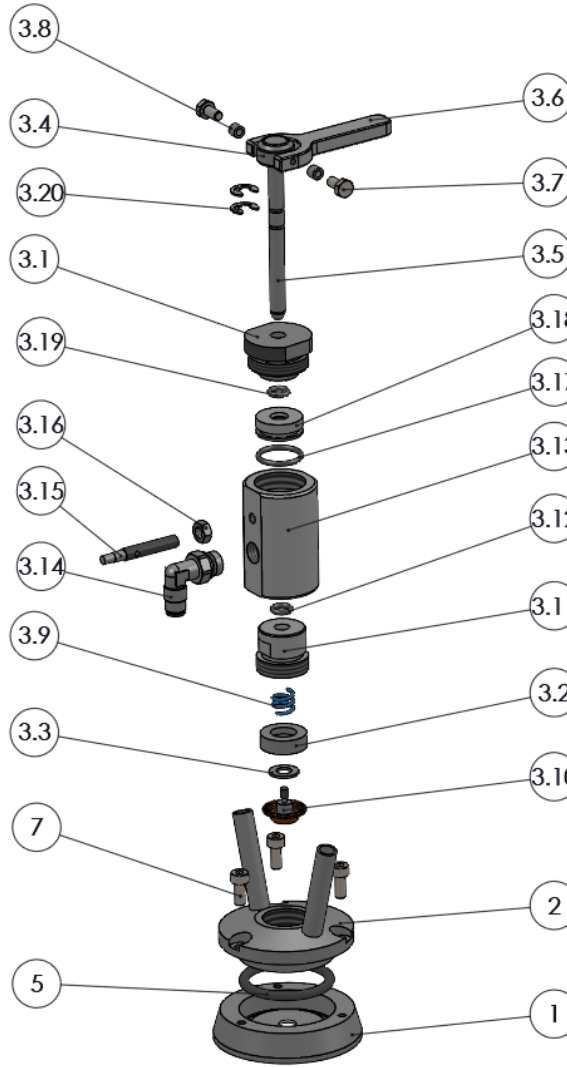
### Re-mounting the sampling valve with non-blocking option

1) To remount the head on its body, just tilt the lever (Ref. 3.6) downwards and ensure you have the opening plate at hand. You must place this plate between the support washer (Ref. 3.4) and the head (Ref. 3).

2) Screw ***WITHOUT TOOLS*** the head (Ref.2.1) in the body (Ref.1), using the knurled part of the head.

3) ***Once the PEMS head is mounted on its body, don't forget to remove the opening plate (otherwise continuous flow).*** To do this, tilt the lever downwards (Ref. 3.6) and remove the opening plate.

**Equipment exploded view**
**(automatic version)**



**Equipment parts list (automatic version)**

| REFERENCE | DESCRIPTION | QUANTITY |
|---|---|---|
| **1** | Flange to weld | 1 |
| **2** | Body | 1 |
| **3** | PEMS head | 1 |
| **3.1** | Cover | 1 |
| **3.2** | Membrane press | 1 |
| **3.3** | Washer | 1 |
| **3.4** | Support washer | 1 |
| **3.5** | Lever brace | 1 |
| **3.6** | Stainless steel lever | 1 |
| **3.7** | TH screw | 2 |
| **3.8** | Machined washer | 2 |
| **3.9** | Spring | 1 |
| **3.10** | Membrane | 1 |
| **3.11** | PEMS head brace | 1 |
| **3.12** | “R” seal | 1 |
| **3.13** | Cylinder tube | 1 |
| **3.14** | Bracket | 1 |
| **3.15** | Inductive sensor | 1 |
| **3.16** | Nut | 1 |
| **3.17** | “R” seal | 1 |
| **3.18** | Piston | 1 |
| **3.19** | “R” seal | 1 |
| **3.20** | V-ring | 2 |
| **5** | “R” seal | 1 |
| **7** | TCHC screw | 3 |

### Sampling valve disassembly (STAINLESS STEEL lever)

To disassemble the sampling valve, proceed as follows:

**1)** Turn the lever horizontally 90°, thereby enabling the sampling to be opened

**2)** Loosen the drive head on the body using a wrench (no.24) with a maximum thickness of 7mm, or the specific tools supplied by Servinox

**1)** Turn the stainless steel lever 90° and remove the hexagonal screws (Ref. 3.7) in order to remove the stainless steel lever (Ref. 3.6)

**2)** Remove the machined washers (Ref. 3.8) replacing them by a through spindle with a diameter of 3mm and 100mm long

**3)** To dismount the membrane screwed on the lift spindle (Ref.3.5): hold the membrane (Ref. 3.10) and turn the lift spindle (Ref. 3.5) with the 3mm spindle

***BEWARE of the possible ejection of the washer (Ref. 3.3), due to the spring (Ref. 3.9) being compressed.***

**4)** Remove the washer (Ref. 3.3), the membrane press (Ref. 3.2), the spring (Ref. 3.9) and the brace (Ref. 3.11)

**5)** Unscrew the cover (Ref. 3.1) on the cylinder tube (Ref. 3.13)

**6)** Extract the seal (Ref. 3.12).

**7)** Dismount a V-ring (Ref. 3.20) on the membrane side.

**8)** Remove the piston (Ref. 3.18) on the lift spindle (Ref. 3.5) and dismount the seal (Ref. 3.17).

**9)** Remove the seal (Ref. 3.19).

### Sampling valve reassembly (STAINLESS STEEL lever)

To re-assemble the sampling valve, proceed as follows:

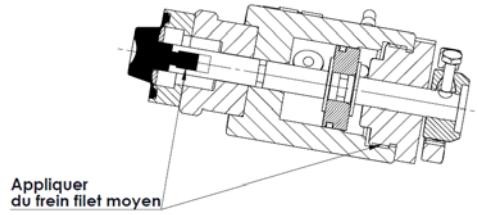
**10)** Replace the seals (Ref. 3.12) and (Ref. 3.19)

**11)** Replace the seal (Ref. 3.17) and on the lift spindle (Ref. 3.5) remount the piston (Ref. 3.18).

**12)** Mount the V-ring (Ref. 3.20) on the membrane side.

**13)** Make sure there are no impurities in the cylinder tube (Ref. 3.13) and add the silicone grease.

**14)** Apply a few drops of thread lock (medium) on the cover (Ref.3.1) and using a wrench tighten the cover on the unit [lift spindle (Ref. 3.5) / piston (Ref. 3.18) / lever (Ref. 3.6)] on the cylinder tube (Ref. 3.13).




**[Apply some thread lock (medium)]**

**15)** Mount, on the lift spindle (Ref. 3.5): the brace (Ref. 3.11) then the spring (Ref. 3.9), the membrane press (Ref. 3.2) and the washer (Ref. 3.3).

**16)** Apply a few drops of thread lock (medium) on the thread of the new membrane (Ref. 3.10) and screw the membrane on the lift spindle (Ref. 3.5).

**17)** Withdraw the spindle 3 mm.

**18)** Position the two machined washers (Ref. 3.8) in the lift spindle (Ref. 3.5)

**19)** Assemble the lever (Ref. 3.6) with the two screws (Ref. 3.7)

**20)** Tilt the lever (Ref. 3.6) horizontally in order to pull the membrane (Ref. 3.10).

**21)** Tighten the drive head on the body using a wrench (no.24) with a maximum thickness of 7mm, or the specific tools supplied by Servinox

**22)** Close the valve: turn the stainless steel lever 90° (Ref. 3.6)

**23)** Test the sealing of the valve and the absence of any air leak on the cylinder.

# 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** | - Connection welding broken (poor welding on installation, corrosion, etc.) | > Repair the welding by qualified persons |
| | - Membrane worn out | > Replace the worn out membrane<br>> Adapt the membrane material to the fluid |
| | - Incorrect tightening of the knurled head | > Tighten the head without the use of tools |
| | - 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, membrane, 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
dise
für Ihre
de solu
vendung
adaptada
indu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