Wash valve 3A

LPAA

Instructions

Reference : LPAA_NOT_EN

Version D

34-36 Avenue Roger Hennequin
78197 Trappes cedex - France
Tel. : + 33 (0)1 30 16 15 00
Fax : +33 (0)1 30 16 15 01
Home page : http://www.servinox.com

1 INTRODUCTION

1.1. The manufacturer

SERVINOX is a specialist, making process equipment for the brewing, food, cosmetic and chemical industries.

Skill and knowledge about process equipment:
In areas such as the protection of tanks, sampling, injection of gas in liquids, scouring or cleaning pipes with patented products.

SERVINOX is certified ***ISO 9001: 2008*** and makes products complying with the following applicable standards and directives:

- Pressure Equipment Directive ***(PED) 2014/68/EU***
- European Directive concerning Devices for Use in Explosive Atmospheres ***(ATEX) 2014/34/EC***
- Hygienic standard for manufacturers US 3A

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

1.2. Instructions

To ensure the integrity of the device and the safety of people, you should be aware of the information contained in these instructions before installing and using the device.

Depending on the installation and the fluid, the specific directives and regulations apply, and should be complied with.

In addition to these instructions, the general instructions for safety at work and protection should be applied. The regulations concerning the protection of the environment must also be followed.

1.3. About the equipment

SERVINOX wash valves are designed to efficiently clean components inside a tank during cleaning cycles

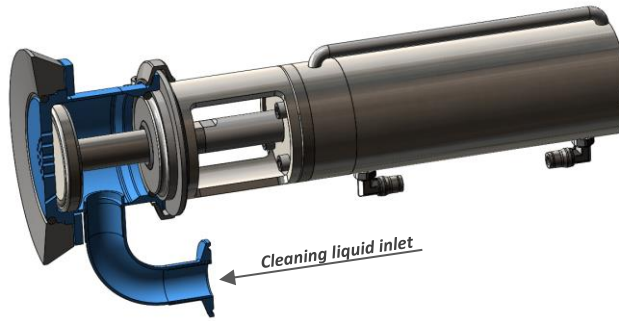
This valve is a process line accessory according to article 4, paragraph 3 of European Directive 2014/68/EU.

This valve should be used on a circuit conveying clear or viscous liquid products of group 2 (compliant with article 13 of European Directive 2014/68/EU).

How it works

This valve consists of a cylinder operated by compressed air, which allows the valve to open releasing the cleaning agent through holes drilled in the body in the shell ring.

The valve body is pierced with 2.5 mm diameter holes, which are directed according to a specific study of the areas to be cleaned inside your tank.



The actuator consists of a closing spring; thus, the valve is held closed without pressurised air. This equipment has been designed according to the 3A rules.

This implies that the ***CIP inlet must be at the bottom*** and that the type of connection is either to be welded or clamp.

1.4. Signs

If the user encounters difficulties that these instructions cannot solve, he/she should request additional information from the manufacturer or the distributor of the device.

It is imperative to mention the SERVINOX order and/or batch number beginning with SVX for any special requests (spare parts, etc).

2 SAFETY INSTRUCTIONS

This technical manual contains basic instructions that should be followed. It is therefore essential to read it before installation and commissioning.

2.1. *Indications and symbols*

The following pictograms are designed to draw your attention to important points relating to the safety of people and the integrity of the device:

SYMBOL	DEFINITION
	Direct danger for people
	Possible damage to the product or its environment
	Essential advice
	Minimum number required for certain operations. (The number of characters in the pictogram indicates the minimum number of persons).
	Minimum technical skill level. (The number in red indicates the minimum level required).

Some jobs require special technical skills and qualifications, such as for maintenance repairs or work on electrical equipment.

Three levels specify the required technical skill (knowledge of the device concerned, experience, training, etc):

	WORKER'S PROFILE	QUALIFICATIONS
Level 1	**End user** with no technical knowledge	**Default level** if the skill pictogram is not present. Permits only **ordinary use and routine maintenance**.
Level 2	**Experienced professional**	**Trained and experienced - knowing the equipment and the technologies used**
Level 3	**The manufacturer's personnel** / expert of the product	**Work reserved for the manufacturer** of the documented device

2.2. Safety of workers

Installation, test, adjustment, maintenance and replacement should be performed:

- By qualified persons
- Following the recommendations and guidelines given in these instructions
- Complying with the arrangements for safety at work, procedures and resources of the fitter, and the legal notifications for the prevention of accidents, especially those concerning electrical installations.

Not following these safety instructions can result in the loss of all right to claim damages.

2.3. Intended use

Correct utilisation

Check that the device chosen is right for its intended use, referring to the documents supplied with it.

Incorrect utilisation

The device must not be used for any other purpose other than its intended use. The manufacturer cannot be held responsible in case of incorrect utilisation.

The equipment must not be used beyond the following operating limits:

PARAMETERS	LIMITS
Maximum admissible pressure	6 bar
Maximum/minimum temperature	+1°C / 120°C

3 TECHNICAL SPECIFICATIONS

3.1. Specifications

SPECIFICATIONS	SERVINOX PROPOSAL
Connections	*CIP CONNECTION IMPERIAL (OD) 1'':* To be welded, clamp *TANK CONNECTION:* Flange, clamp
Service temperature	MINIMUM: +1°C MAXIMUM: +120°C
Washing rate	$6m^3/h$ at 2 bar
Pressure	*TANK:* 1,5 bar MAXIMUM (single-effect actuator) 6 bar MAXIMUM (double-effect actuator) *CLEANING LIQUID:* 3 bar MAXIMUM (with 6 bar of air in the actuator) *ACTUATOR:* 2,8 bar MINIMUM 4,5 bar MAXIMUM
Materials	*PARTS IN CONTACT WITH THE PRODUCT:* Stainless 1.4404 (316L) *OTHER PARTS:* Stainless 1.4307 (304L) *SEALS (3A):* EPDM, FKM *OTHER SEAL*: N-Buna

General

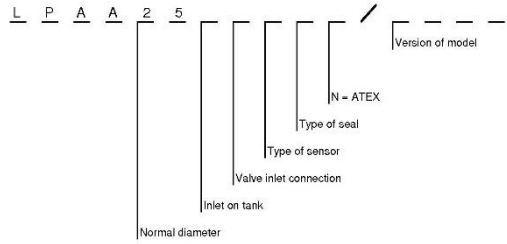
The valve body is fitted with seals "I" of class 3A.

The following best practices apply: 3-A no. 605-04

Good practices for fixed piping of processes and cleaning systems used in dairies and dairy plants.

The valve is identified by a sign:

Equipment reference



Inlet on tank

Code	Type of connection
F	Flange (not included)

Valve inlet connection

Code	Type of connection
W	Welded
C	Clamp

Type of sensor

Code	
B	Control Unit
0	No detector
1	1 detector
2	2 detectors

Type of seal

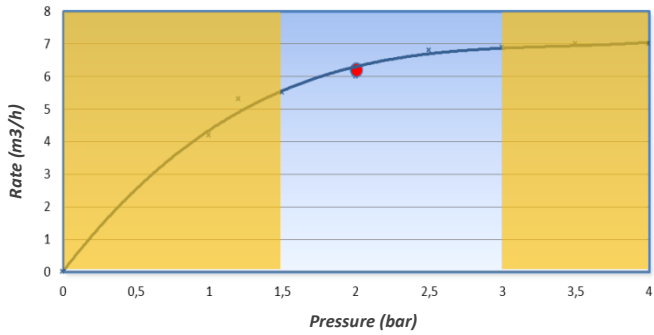
Code	Seal
E	EPDM
V	FKM (Viton)

Installation and maintenance

All connections to the LPA A valve must be carried out in accordance with good hygiene practices and rules 3A no. 605-04.

Good practices for fixed piping of processes and cleaning systems used in dairies and dairy plants.
The valve is identified by a sign.

Washing rate curve



Recommended functioning point

Work area not recommended

3.2. Options

- Detection of opening of the magneto-inductive valve
- Detection of opening by control unit

Magneto-inductive option

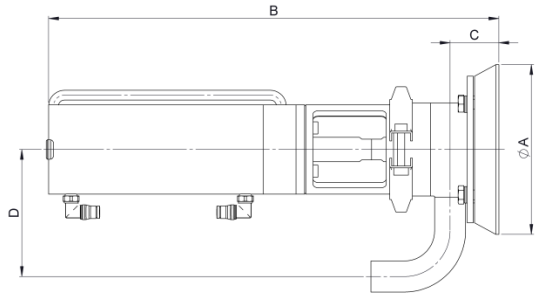
Control unit option

Areas ATEX

- The valve can be certified for an Explosive Environment (ATEX) according to the following areas:
  - With and without magneto-inductive detection: category device 1G, 2G or 3G (zone Ex 0, 1 or 2) IIC T6.
  - With control unit : category device 3G (zone Ex 2) IIC T4 and 3D (zone Ex 22) IIIC T4.

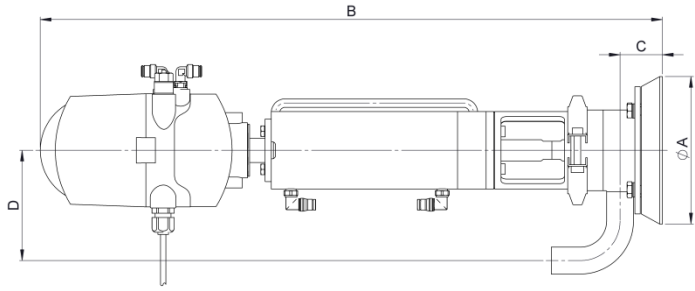
3.3. Dimensions

Standard model



DIMENSIONS (mm)			
ØA	B	C	D
139	370	40	110

Model with control unit



DIMENSIONS (mm)			
ØA	B	C	D
139	588	40	110

4 COMMISSIONING

4.1. Transport / Reception / Handling

During transport, protect against all external danger (blows, knocks, vibration, etc)

Upon receipt, check:

- that ***the package is in good condition***
- that the device ***is delivered as ordered***
- that the device ***has not been damaged***

If the device is damaged, it must not be fitted on the installation. Contact the manufacturer or your distributor.

4.2. Storage

If the device is not fitted immediately after delivery, it should be stored ***carefully***.

It should be stored in its original packaging, in a covered area, with protection against dirt, rain, snow, insects, and away from shock.

The safe storage temperature is between 5°C and 40°C, with relative humidity of the air < 50%.

If the device is stored at negative temperatures, the resistance of the materials to cold should be taken into account (e.g.: the seals).

If storage is for longer than one year, the seals need to be replaced before commissioning.

4.3. Warning before installation

Carefully read the warning label attached to the device (see below)

4.4. Installation

General

Before using the equipment, the user must visually ensure its apparent good condition: no corrosion, packaging residue.

If the fluid is harmful, flammable, toxic, etc..., fit the installation with a discharge pipe, leading to a safe place.

You are advised to check the compatibility of these products with the seals and materials before use.

The device must only be fitted on an installation not in use and inert (no pressure or risk of fluid transfer)

The workers

The work described below should be carried out by qualified and experienced persons.

The workers must be equipped with personal protective equipment against danger associated with the escape or contact with the fluid (burns, sounds, splashes, etc)

The device must be welded by qualified persons according to the directives of the country of installation. The weld must not contain impurities and must be carried out hygienically.

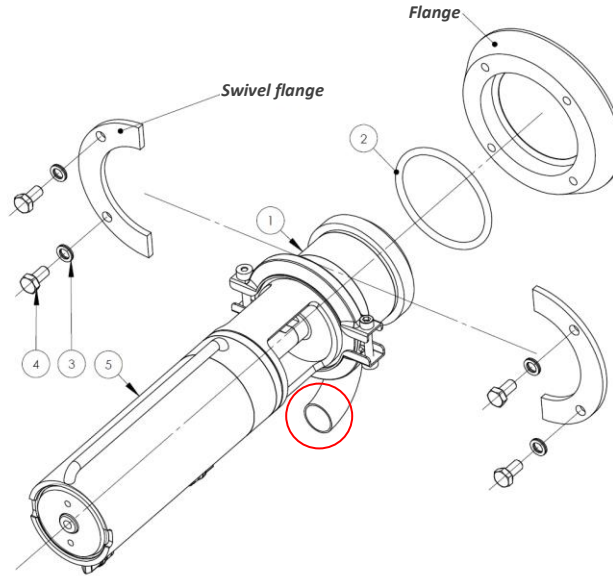
After all welding and/or polishing work, the equipment must be cleaned of all residues, dust, etc.

- ***Preparing the tank***:

The tank should be pierced just at the outside diameter of the flange without play.

- ***Preparing the flange***:

It is imperative to remove the "body (Ref.1) / cylinder (Ref.5)" assembly with the 2 swivel flanges and their screws (Ref.4) + washers (Ref.3).



Check and note the internal dimensions of the flange on all diameters in order to recheck them after welding.

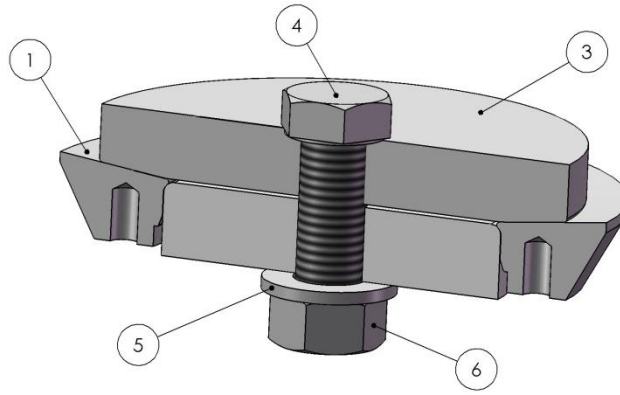
- ***Preparing the flange for welding***:

1) Flanges must be fitted in the correct places to allow a proper flow.

2) ***Check, and mark the position of the threaded holes*** for fitting the device.

3) In all cases, the flanges must be fitted so that they are definitely flush inside the wall.

It is imperative to use the SERVINOX solder pad (Ref.3 and Ref. 5) to be ordered with the flange (Ref. 1) to avoid serious deformation during welding.



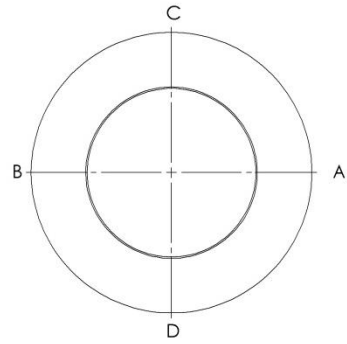
4) ***Insert a pad within the flange to avoid deforming the weld.***

- ***Welding the flange***:

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

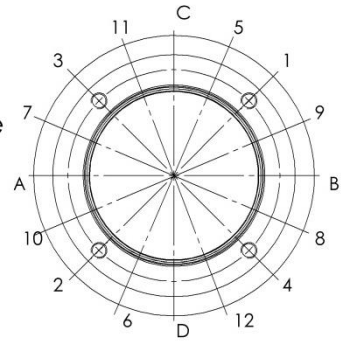
2) ***Point the flange inside*** the tank following: A, B then rectify if necessary and point C and D.

Vue intérieure
View from inside

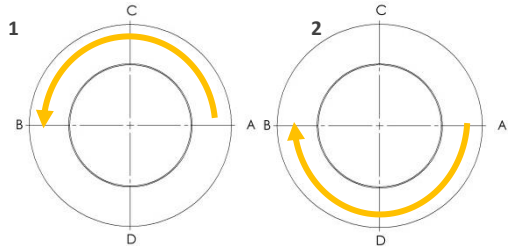


3) ***Point the flange on the outside*** in 12 points with inerting on the inside: follow the welding plan below from 1 to 12.

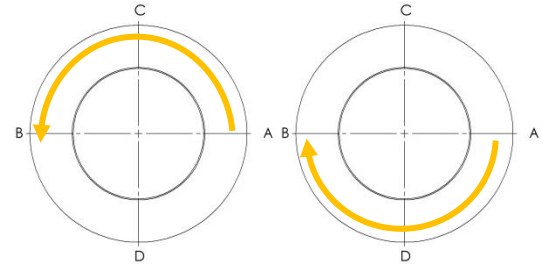
Vue extérieure
View from outside



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



5) Perform a finishing pass inside the tank between A, C and B then between A, D and B.



Do not remove the solder pad until everything has cooled naturally.

- ***<u>After welding</u>***:

1) Wait until the flange has cooled naturally
2) Remove the solder pad
3) ***Check all the inside diameters to ensure there is no variation.***
4) ***Polish the interior of the tank according to the desired Ra without touching the seal surface.***
5) ***Check that there are no particles.***
6) Refit the "body / cylinder / valve" taking care to replace the seal gasket (Ref. 5).

- ***Preparing and welding the pipes:***

1) Provide a detachable connection upstream if the outlet connection is smooth to welding, to facilitate maintenance work on the valve.
2) ***The cleaning liquid inlet elbow must be directed downwards (unless otherwise specified).***
3) Disconnect the cylinder with the valve body (See “Maintenance” chapter)
4) Weld the smooth outlet and clean the interior of the body
5) Fit the cylinder with the valve body (See “Maintenance” chapter)

Position detector

Adjust and test the functioning of the detectors or control unit supplied.

Pneumatic connections of the cylinder

The pneumatic connection of the cylinder is designed for 6 mm polyamide instant tube fittings in ¼” square. Provide a sufficient air supply pressure/flow rate of 3 bar minimum.

5 USING

5.1. Check before commissioning

- Verify the absence of leak of fluid from the tank at the flange connection to be welded
- Supply cleaning liquid to the valve and verify the absence of leak at the liquid inlet connections. Also, the cleaning liquid must not leak inside the tank, because the valve must normally be in closed position.
- Test the operation of the cylinder (detection of opening/closing)
- Verify the washing rate
- Check that the wash jets are well directed.

5.2. Adjustments

Adjustments are reserved for the manufacturer of the documented device.

Contact SERVINOX or your distributor.

5.3. Operation

End of CIP arrival product through the LPAA valve: stop the arrival product (stop CIP pump) before closing the valve.

6 CARE AND MAINTENANCE

6.1. General

The device requires maintenance to ensure proper functioning.

An inspection should be carried out at regular intervals. An initial inspection interval of 6 months should be followed.

Certain properties of fluids (corrosive, aggressive, abrasive, residues, viscosity, etc.) and certain environmental conditions (climate, pollution, etc.) may require reducing these inspection intervals.

For the proper maintenance and warranty of the device, SERVINOX supplies spare parts. Specify the serial number and product number for all orders.

We keep bags of wear parts at your disposal (seals, etc) and we advise you to keep a few bags in stock for quick jobs.

You can contact SERVINOX for advice on the maintenance of the device.

Maintenance precautions

<u>Do the following before any work:</u>

- Put the device out of action
- Depressurise the system
- The installation must be emptied
- The fluid must be cooled to room temperature
- Ventilate the pipe system, if the fluid is corrosive and aggressive

The workers

The work described below must be performed by qualified and experienced personnel.

The personnel must be equipped with gloves, helmet and safety shoes.

6.2. Inspection and maintenance

Mandatory periodic maintenance:

Every 2 months for 6 months after commissioning

- Absence of corrosion
- Absence of leak of cleaning liquid or compressed air
- Tightness of the assemblies
- The correct functioning of the valve
- Absence of bare electric wires

Every 6 months:

- Carry out an inspection and internal cleaning of the valve
- Check the condition of the valve seal (Ref.5.18) and the spacer seal (Ref.5.17).

Every year:

- Replace all the seals: (Ref.2), (Ref.5.12), (Ref.5.13), (Ref.5.14), (Ref.5.17), (Ref.5.18) and (Ref.5.22).
- Check for wear to the bushing (Ref.5.10 and 5.11) and clip bearing (Ref.5.25), replace if necessary.

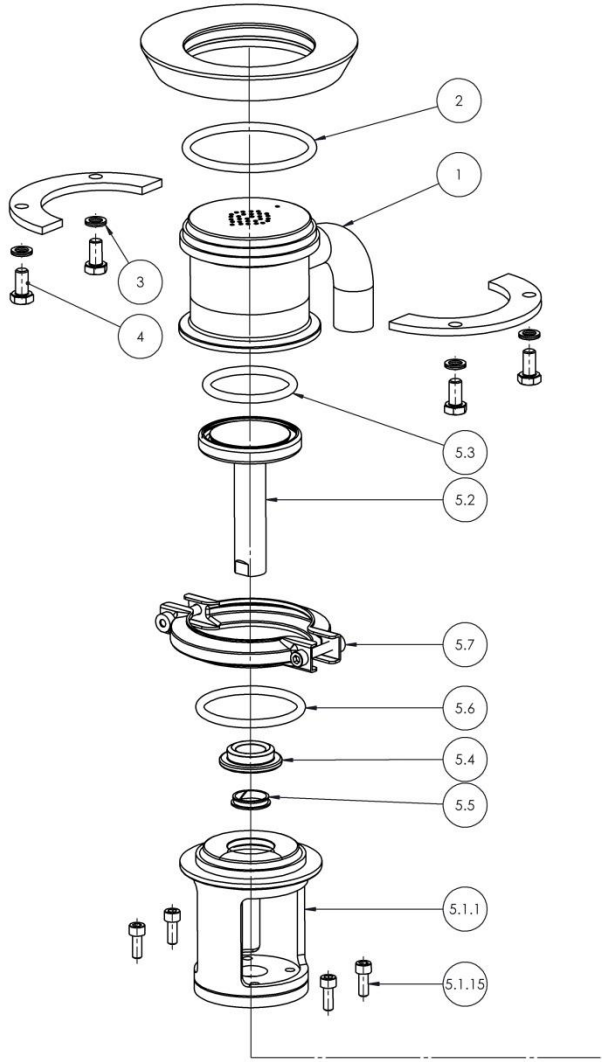
You are advised to check the compatibility of your products with the seals and materials before use

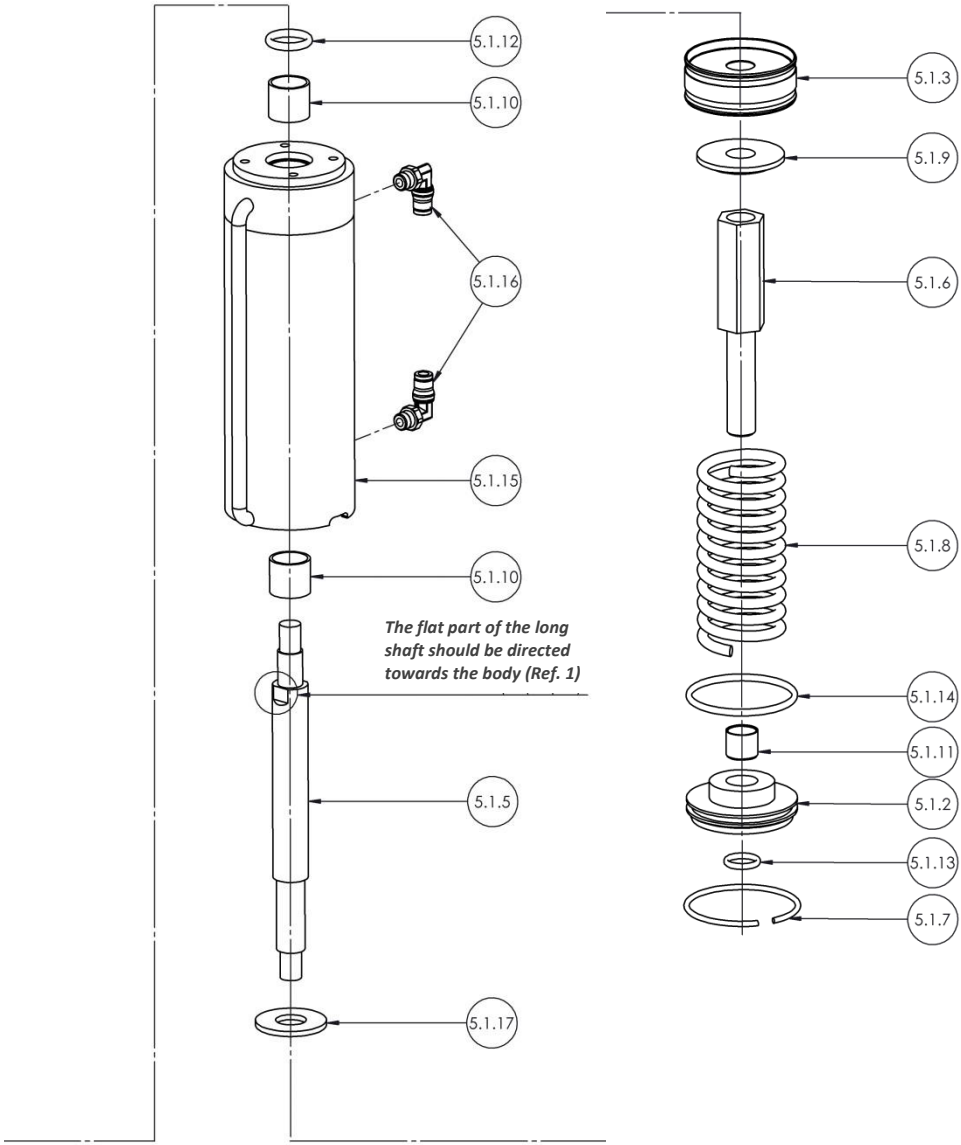
We advise you to enter all the maintenance and test operations carried out on the installation in a form of this type:

Date	Company	Name of the worker	Signature
PREVENTIVE MAINTENANCE			
Operations		**Other, Comments**	
CHECKS ON CORRECT FUNCTIONING AND GOOD CONDITION			
Operations		**Other, Comments**	

6.3. Maintenance

Exploded view

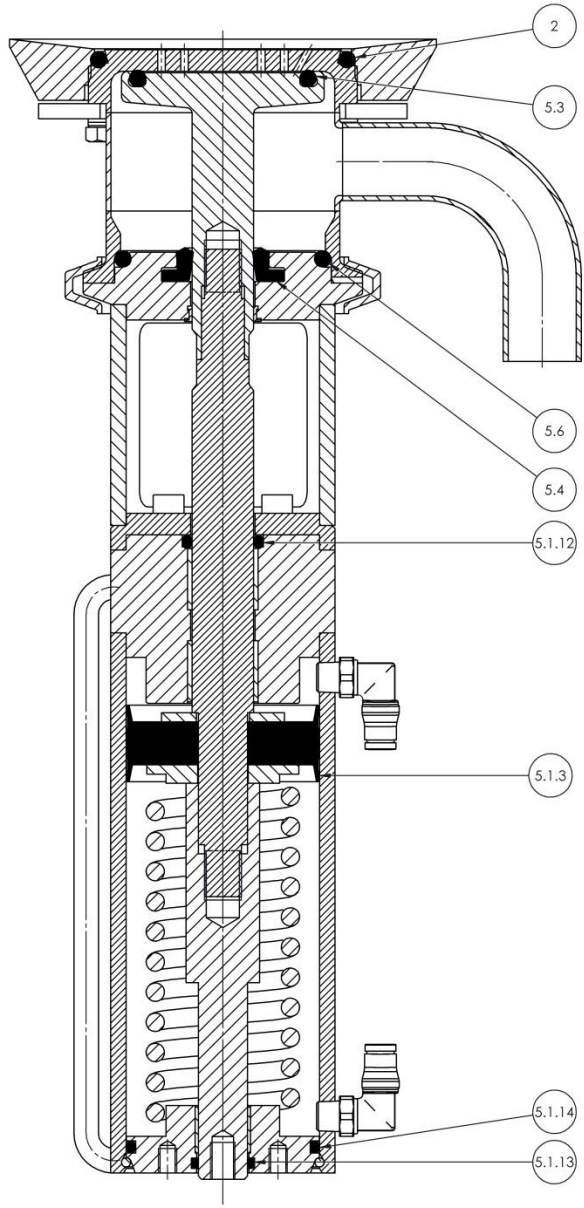



5.1.12
5.1.10
5.1.16
5.1.15
5.1.10
The flat part of the long shaft should be directed towards the body (Ref. 1)
5.1.5
5.1.17
5.1.3
5.1.9
5.1.6
5.1.8
5.1.14
5.1.11
5.1.2
5.1.13
5.1.7

Parts list

REF	DESCRIPTION
1	Body
2	Tank seal gasket
3	Self-locking washer
4	Flange screw
5.1.1	Spacer
5.1.2	Back plate
5.1.3	Piston seal
5.1.4	Complete cylinder tube
5.1.5	Long shaft
5.1.6	Rear shank
5.1.7	Retainer ring
5.1.8	Spring
5.1.9	Upper spring guide
5.1.10	Front bushing
5.1.11	Back bushing
5.1.12	Seal
5.1.13	Seal
5.1.14	Seal
5.1.15	Screw
5.1.16	Male angle connector ∅6 - 1/8 ''
5.1.17	Washer
5.2	Valve
5.3	Valve seal
5.4	Shank scraper seal
5.5	Clip bearing
5.6	Spacer seal
5.7	Collar clamp

Fitting the seals



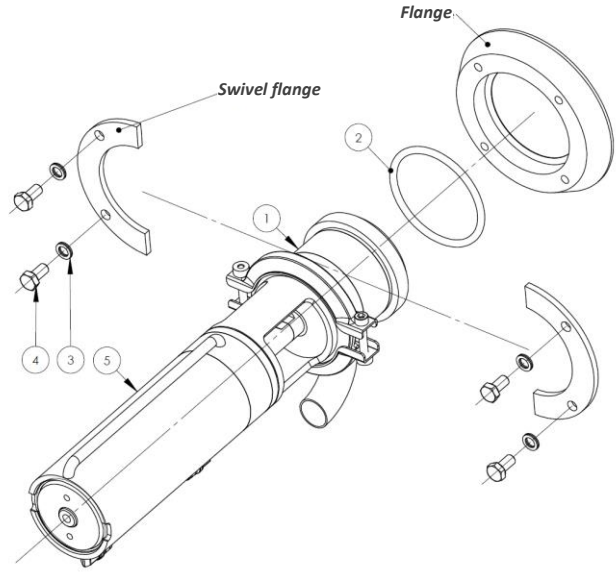
Removing the valve

Before any work, disconnect the air inlets and disconnect the electrical wires from the proximity detectors if any.

Verify the absence of all pressure and fluid inside the tank

To remove the valve, proceed as follows:

1) Remove the connector from the cleaning liquid inlet
2) Remove the screws (Ref.4) with their washer (Ref.3)
3) Free the Body (Ref.1) + Cylinder (Ref.5) from the flange on the tank.

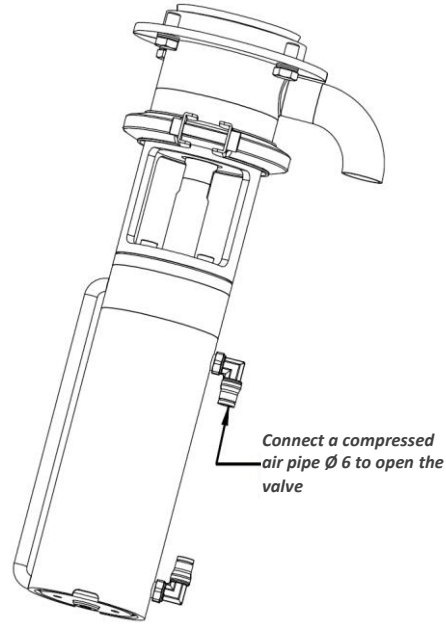


4) Check the condition of the seal gasket (Ref.2).

5) Place the assembly on a workbench

Be careful, never tighten the cylinder tube in a vice

6) Fit a flexible compressed air hose on the connector (Ref.5.1.16) situated in the upper part, pass in compressed air so that the valve (Ref.5.2) retracts into the body (Ref.1).



7) Remove the collar clamp (Ref.5.7) to disconnect the cylinder (Ref.5) from the body (Ref.1)

8) From the hole in the spacer (Ref.5.1.1), unscrew the valve (Ref.5.2) on the long shaft (Ref.5.1.5)

9) Release the pressure from the cylinder and ***remove the connectors (Ref.5.1.16).***

10) Check the condition of the seals:

- Valve seal (Ref.5.3).
- Spacer seal (Ref.5.6)
- Shank scraper seal (Ref.5.4)

11) Unscrew 4 screws (Ref.5.1.15) and withdraw the spacer (Ref.5.1.1)

The spring slackening operation must be carried out extremely carefully.

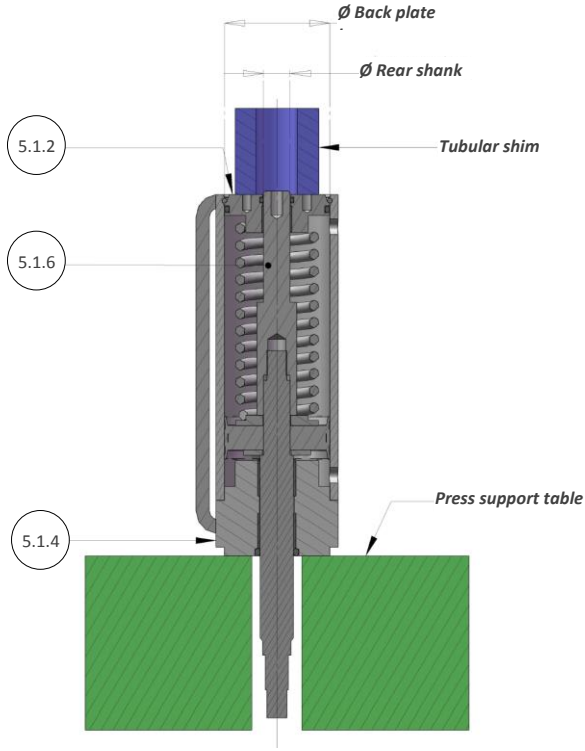
This operation must be carried out with a hydraulic press.

12) Position the cylinder on the table of the hydraulic press with the shank outlet downwards

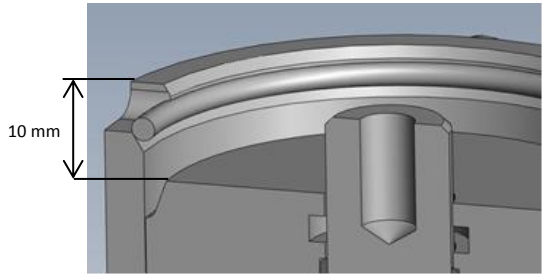
13) Position a cylindrical shim on the back plate (Ref.5.1.2) of the cylinder.

1) The interior diameter of the cylindrical shim must be more (minimum + 5mm) than the diameter of the rear shank (Ref.5.1.6)

2) The exterior diameter of the cylindrical shim must be less (maximum – 10mm) than the diameter of the back plate (Ref.5.1.2)



14) By means of the hydraulic press, push on the tubular shim so that the back plate ***sinks by 10 mm MAXIMUM*** into the cylinder tube, and then lock in this position.



15) Remove the retainer ring (Ref.5.1.7) by the slots provided for this purpose in the cylinder tube with a screwdriver.

16) Refit the hydraulic press head, to gradually free the back plate (Ref.5.1.2) from the cylinder tube until the spring (Ref.5.1.8) is completely relaxed.

17) Withdraw the back plate (Ref.5.1.2)

18) Check the condition of the seals on the back plate:

- Seal (Ref.5.1.13)
- Seal (Ref.5.1.14).

19) Withdraw the spring (Ref.5.1.8)

20) Remove the shank assembly from the cylinder body

21) Unscrew the rear shank (Ref.5.1.6) assembled on the long shaft (Ref.5.1.5), in order to withdraw the upper spring guide (Ref.5.9), the piston seal (Ref.5.1.3) and the washer (Ref.5.1.17).

22) Check the condition of the seals:

- Piston seal (Ref.5.1.3)
- Seal (Ref.5.1.12) on
- the cylinder body

Change the seals and/or bushing supplied by SERVINOX, of the whole device according to the service interval.

Refitting the valve

BEFORE REFITTING:

- Clean all parts, taking care to avoid the introduction of impurities which could damage the seals.

- Lubricate the piston seal grease reserve (Ref.5.3) and the spring (Ref.5.8) with MOLYKOTE BR 2 PLUS grease only.

- The spring should be changed if necessary and also coated with a protective layer of grease.

Reassemble the valve as follows:

23) Refit the seals:
   - (Ref.2) on the body (Ref.1)
   - (Ref.5.1.12) on the cylinder body (Ref.5.1.4)
   - (Ref.5.14 and 5.6) on the spacer (Ref.5.1.1)
   - (Ref.5.1.13 and 5.1.14) in the back plate (Ref.5.1.2).

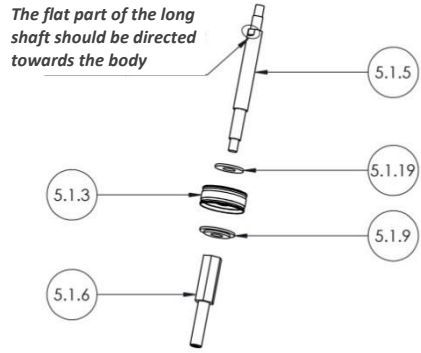
24) Refit (if changed) the bushing (Ref.5.1.10 and 5.1.11) and the bearing (Ref.5.5)

25) Refit the cylinder shank:
   - Fit the washer (Ref.5.1.17) then the piston seal (Ref.5.1.3) and the spring guide (Ref.5.1.9).
   - Screw the rear shank (Ref.5.1.6) to the long shaft (Ref.5.1.5) **with medium thread locker.**

26) Spray silicone inside the cylinder body (Ref.5.1.4)

27) Introduce the shank cylinder assembly into the body (Ref.5.1.4).

Be careful about the position of the flat part of the long shaft (Ref.5.1.5)



28) Position the spring (Ref.5.1.8) in the cylinder tube.

The tensioning of the spring must be carried out extremely carefully.

This operation must be carried out with a hydraulic press.

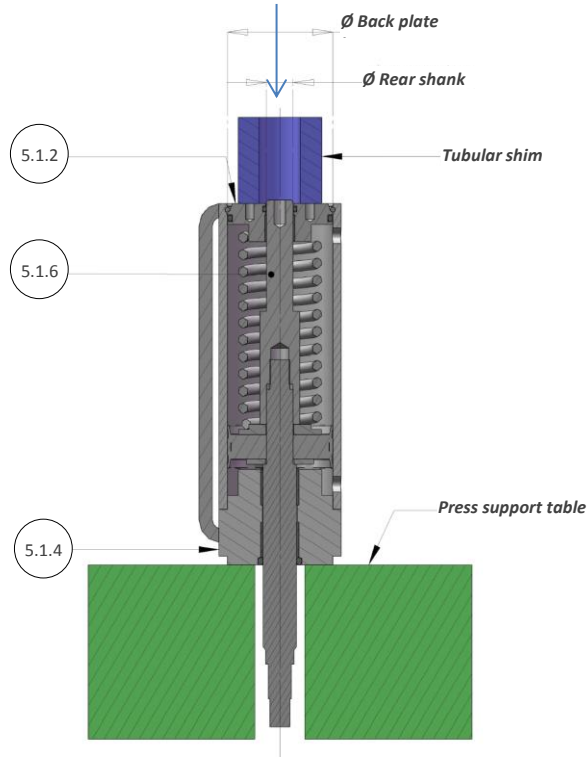
29) Position the cylinder on the table of the hydraulic press with the shank outlet downwards.

30) Pre-position the ring (Ref.5.1.7)

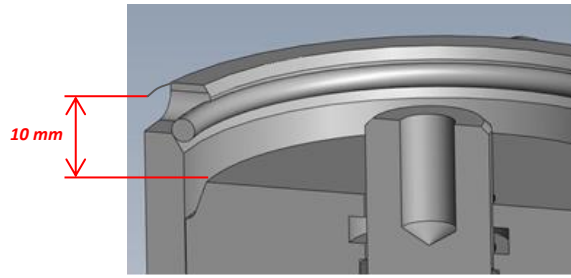
31) Position a cylindrical shim on the back plate (Ref.5.1.2) of the cylinder.

1) The interior diameter of the cylindrical shim must be more (minimum + 5mm) than the diameter of the rear shank (Ref.5.1.6)

2) The exterior diameter of the cylindrical shim must be less (maximum – 10mm) than the diameter of the back plate (Ref.5.1.2)



32) By means of the hydraulic press, gently push on the tubular shim so that the back plate ***sinks by 10 mm MAXIMUM*** into the cylinder tube and tensions the spring in the cylinder.



33) Fit the retainer ring (Ref.5.1.7) by the slots provided for this purpose in the cylinder tube.

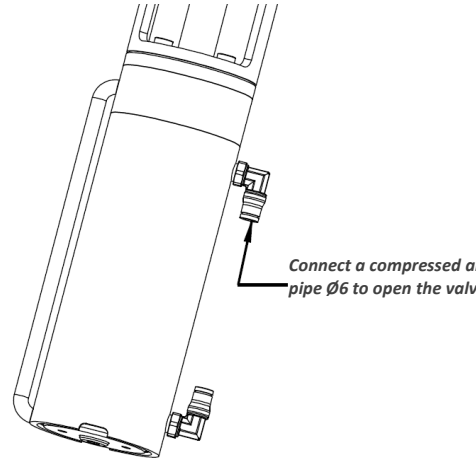
34) Refit the hydraulic press head, to gradually free the back plate (Ref.5.1.2) from the cylinder tube until the spring (Ref.5.1.8) is completely tensioned.

The back plate must press against the ring, otherwise change the spring.

35) Seal and fit the 2 pneumatic connectors (Ref.5.1.16).

36) Fit the spacer (Ref.5.1.1) with its 4 screws (Ref.5.1.15).

37) Fit a flexible compressed air hose on the connector (Ref.5.1.16) situated in the upper part, pass in compressed air so that the shank of the cylinder retracts into the body (Ref.5.1.4).



38) Screw the valve (Ref.5.2) on the long shaft (Ref.5.1.5).

39) Change seal valve Rep.5.3.

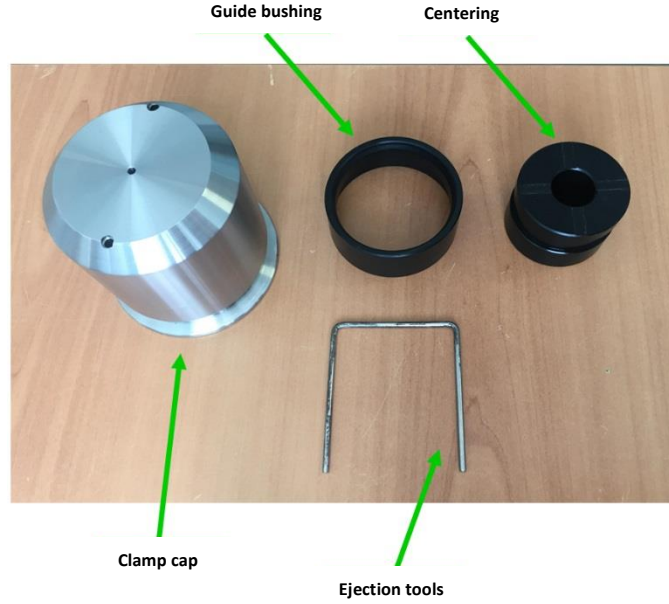
It is strongly recommended to use tooling ref. ZLP25OUT / 0001 to assemble the seal (Rep.5.3) on the valve (Rep.5.2)

INSTRUCTIONS FOR USE TOOLS ZLP25OUT/0001

Step 1 : Assembly preparation

a) Check the presence of the components that are useful for maintenance of the valve:

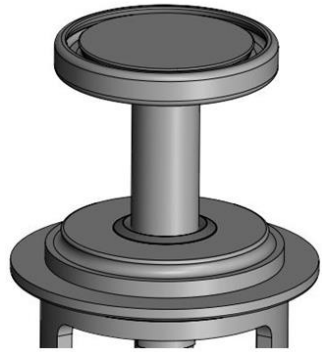
- Guide bushing.
- Centering.
- Clamp cap.
- Ejection tools.



b) Check the appearance and cleanliness of the seal to be fitted.

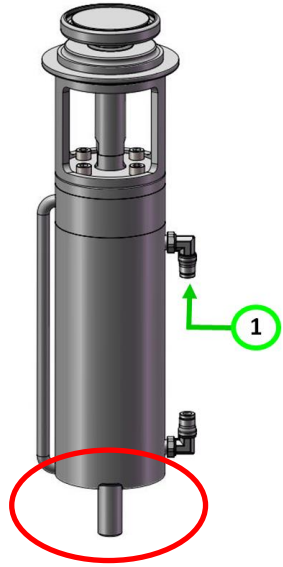
Step 2 : Valve position and positioning of the guide bushing

a) Put the LPAA valve vertically, the flapper upwards.

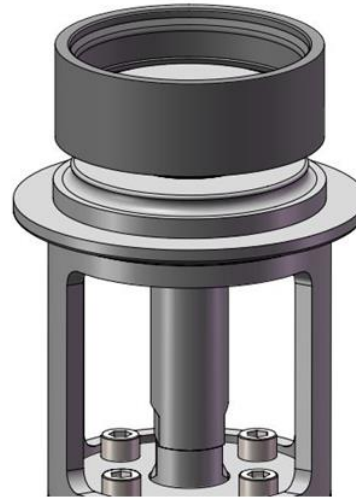


b) Introduce air through port 1 to retract the cylinder. Keep in pressure.

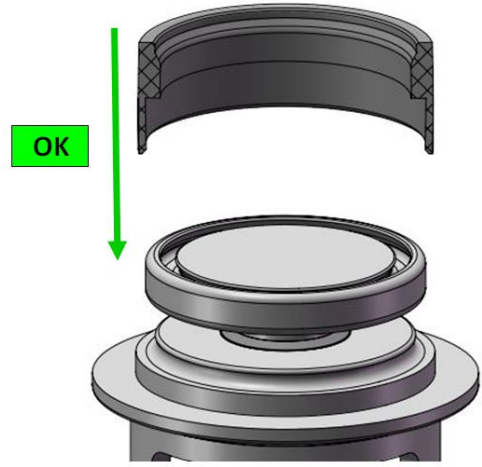
Be careful of the output of the rear rod of the actuator in case of absence of control head, and the risk of jamming fingers when removing the valve.



c) Fit the guide bushing on the valve.

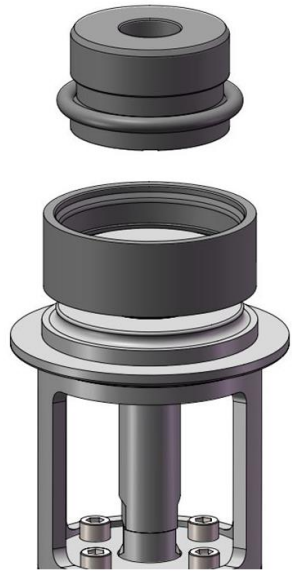


Check the fitting direction of the bushing.

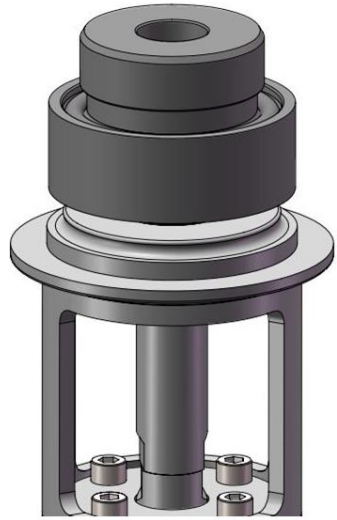


Step 3 : Installation of the seal and the centering

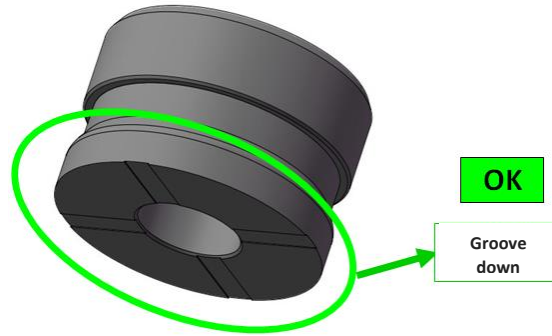
a) Put the seal around the centering.



b) Put the centering on the valve.

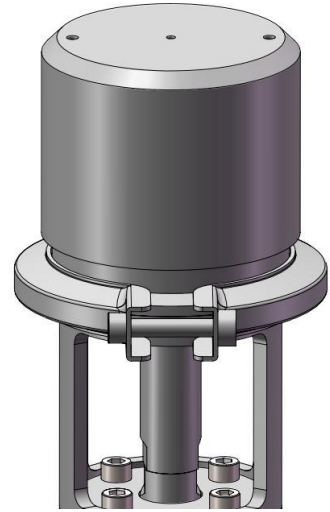


Check the mounting direction of the centering



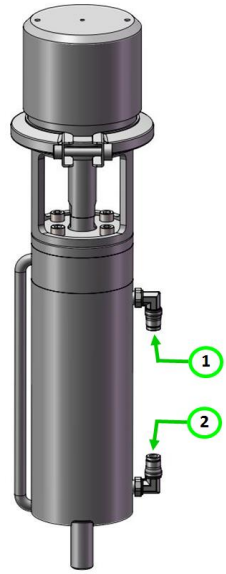
Step 4 : Installation of the clamp cap

a) Put on the clamp cap and tighten the collar.



Check the tightness of the collar

b) Introduce air through port 2 to mount the seal in his groove.

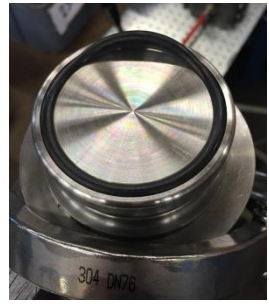


When pressurizing the valve, take all necessary precautions to ensure your own safety and that of others around the valve.

c) Put the valve in the open position (cylinder retracted) maintaining pressure through port 1.

d) Unscrew the collar and remove all components.

If the seal is not fully assembled, finish it up by hand

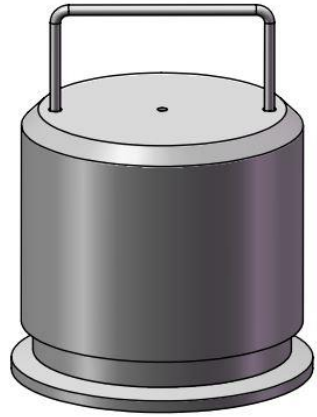


e) Use the spatula tool to let the air escape under the gasket inside the groove.

Check that the gasket is flat in its groove, without irregular overshoot

f) Hold the actuator valve in the "open" position and disassemble the tooling

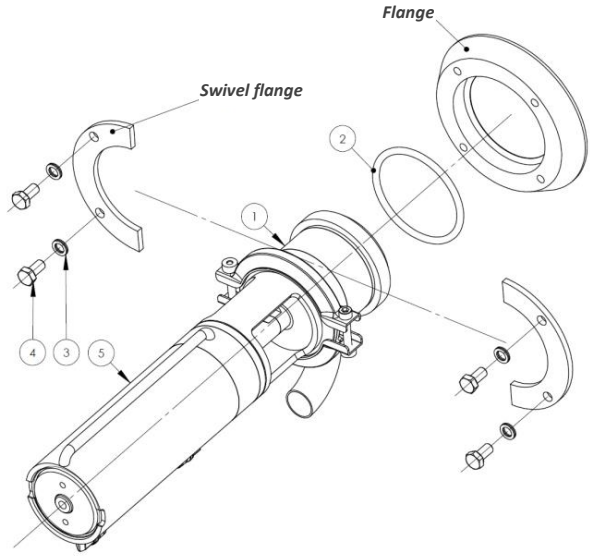
If the guide bushing is locked in the clamp cap; use appropriate tools to remove it.



40) Position the body (Ref.1) on the spacer (Ref.5.1.1) and fit the collar clamp (Ref.5.7)

41) Release the pressure in the cylinder.

42) Position the Body (Ref.1) + Cylinder (Ref.5) in the flange on the tank.

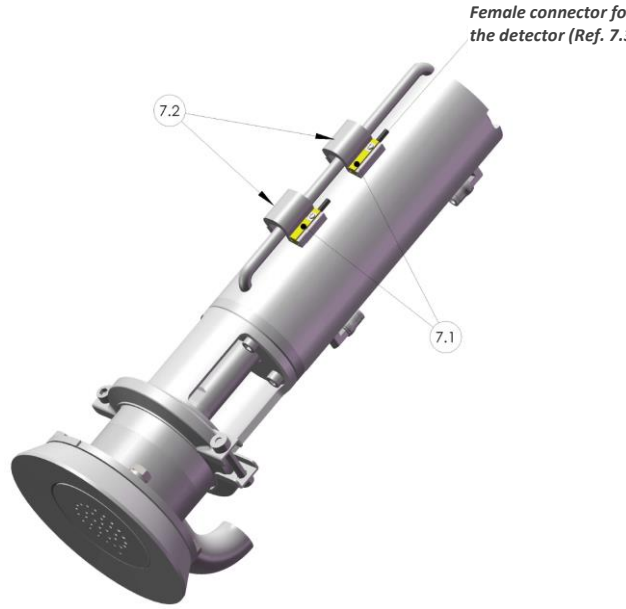


43) Fit the swivel flanges and tighten the screws (Ref.4) with their washer (Ref.3)

44) Refit the connector of the cleaning liquid inlet.

45) Check the air control of the cylinder (opening/closing)

Magneto-inductive option



REF	DESCRIPTION
7.1	Magneto-inductive detector
7.2	Detector support
7.3	female connector

Removing the detectors:

To remove the detectors, proceed as follows:

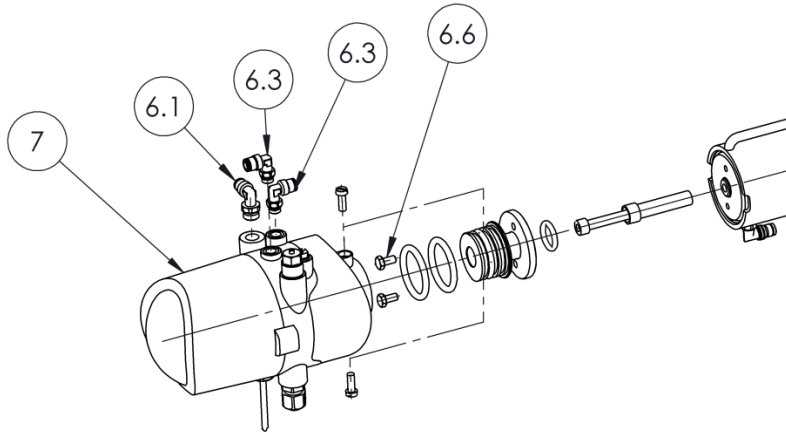
1) Remove the compressed air from the system and disconnect the detectors from their female connector (Ref.7.3)

2) Unscrew the sensors (Ref.7.1) on the supports (Ref.7.2)

3) Undo the clamping screw from the supports (Ref.7.2) to pull it out of the cylinder body.

Proceed in the reverse order to reassemble the detectors

Control unit option



REF	DESCRIPTION
6.1	Pneumatic air inlet connection
6.3	Pneumatic connection of the cylinder
6.6	Box fixing screw
7	Detection control box

Removing the control unit:

To remove the unit, proceed as follows:

1) Release the pressure of compressed air in the system and disconnect the electricity supply.
2) Unscrew the two lateral fixing screws of the housing and then remove it with the pneumatic connections for the cylinder (Ref.6.3) and for the air supply (Ref.6.1).
3) Unscrew the two fixing screws (Ref.6.6) from the adapter piece.
4) Remove the adapter piece with its seals.
5) Unscrew the screw from the detection washer and remove it.

Proceed in the reverse order to refit the control box.

7 DIAGNOSTIC AID

The table below is a diagnostic aid and is intended to help you remedy simple functional problems.

PROBLEM	POSSIBLE CAUSE	REMEDY
Jamming of the valve in closed position	> Pneumatic or electrical power failure	Check the compressed air and electricity supply where appropriate (Minimum pressure 3 bar)
	> Defective control system upstream	Check the operation of the solenoid valve or control unit Check the correct position of the magneto-inductive detectors
	> Pneumatic leak	Check the condition of the connectors and the state of the cylinder seals.
	> Loosening of assemblies	Check the tightness of the long shaft (Ref.5.1.5) and valve assembly (Ref.5.2)
Pneumatic leak	> Cylinder feed pipe pierced	Replace the pipe ∅6
	> Loosening or leak in the connectors (Ref.5.1.16)	Check the condition of the connectors and the state of the cylinder seals
Leak of cleaning fluid	> Worn seals	Check the condition of the seals of the valve and valve body, and change the seals if necessary
	> Seals not suitable for the fluid	Contact SERVINOX to choose suitable material for the seal
	> Loosening of assemblies	Check the tightness of the flange and clamp connection
Jamming of the valve in open position	> Defective control system upstream	Check the operation of the solenoid valve or control unit Check the correct position of the magneto-inductive detectors
	> Worn seals	Check the condition of the seals of the valve
Poor spraying during wash	> Impurities in the valve body	Clean the valve
	> Poor cleaning fluid pressure	Check the pressure at the valve inlet

8 WARRANTY

Unless otherwise stated in the proposal, the device is guaranteed ***12 months as from the date of delivery***.

After an examination in our factory, the parts considered as defective will be replaced at our expense.

All replacement of the device's components (wear parts, seal, etc) must be replaced by SERVINOX original parts

The warranty does not cover damage due to:

- Poor fitting, inappropriate or abusive utilisation
- An accident or incorrect installation
- Modification of the equipment
- Leaks following the passage of impurities will not be taken into account
- Required maintenance not performed

The warranty on our products covers the free repair of parts returned when proved that they have become unusable prematurely, following a manufacturing or material fault.

We are not bound to any compensation or any other obligation of this kind.

This equipment has been inspected before leaving the factory.

This equipment has been certified as having been inspected and authorised for sale

Notes

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

34-36 Avenue Roger Hennequin
78197 Trappes cedex - France
Tel. : + 33 (0)1 30 16 15 00
Fax : +33 (0)1 30 16 15 01
Home page : http://www.servinox.com