



# **ASUREX-A100**

Service Manual

# Service Manual

Xenoic™

## ASUREX-A100 Automatic Suppressor Regenerator

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### Scope

This document concerns maintenance of an already installed ASUREX-A100. For all topics regarding unpacking, installation or consumable replacements for the ASUREX-A100, the reader is referred to the Instructions for Use.



*Before opening the pump for any maintenance, ensure that the pump has been turned off and disconnected from power supply.*

## Diagnosis

There are a couple of symptoms indicating that pump service or replacement is needed.

Symptom	Action
Unstable flow	Replace inlet and/or outlet check valves (1810-106)
No flow, but motor is operating	Replace diaphragm in pump house (1810-107)
Motor is not operating	Replace pump fuse or entire pump (1810-105)

## Spare parts

Please contact Diduco AB or your local Xenoic™ distributor for placing your order.

Ord. No.	Description
1810-105	Xenoic™ ASUREX-A100 Replacement pump
1810-106	Xenoic™ ASUREX-A100 Service kit for pump valve
1810-107	Xenoic™ ASUREX-A100 Service kit for pump house

## Service routines

### Initial preparations



*Wear protective glasses and gloves if risk of contact with the ASUREX-AS1 Solution.*

Before performing any maintenance, first disconnect the ASUREX-AR1 Cartridge from the pump inlet and remove the three-way luer connector from the pump outlet (which in turn connects to the safety check valve and the XAMS Suppressor). Immediately join these two tubing ends with the union provided with the ASUREX-A100 system to prevent the ASUREX-AS1 solution from leaking out.

Flush the pump flow line with purified water for 2-5 minutes to avoid contact with the ASUREX-AS1 Solution. Alternatively, flush the pump from inlet to outlet with at least 50 mL purified water using a plastic syringe. If neither of this is possible, make sure to wear protective glasses and gloves while performing the service routine.

Ensure that the pump has been turned off and disconnected from the power supply before opening it for any maintenance.

After service is finished, pump purified water through the pump for 2-5 minutes and empty the pump head before reconnecting the flow lines to the pump inlet and outlet.

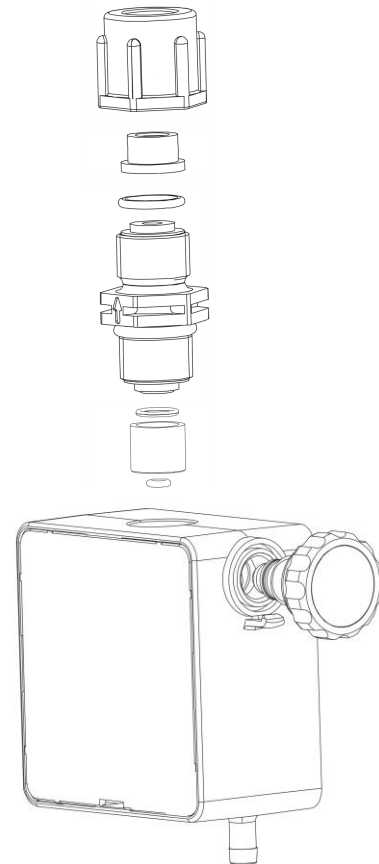
## Pump valves



*The suction and pressure valves and the inlet and outlet metering cartridges are identical and must be placed in the correct direction for the pump to work.*

Procedure for replacing the outlet check valves:

1. Ensure that the pump flow path has been cleaned and that the pump is disconnected from power supply
2. Unscrew the nut (I)
3. Remove the adapter (J) and O-ring (K) and keep these
4. Use a size 22 wrench to unscrew and remove the pressure valve (L) with the O-ring (M)
5. If the metering valve (O) is removed, reposition the O-rings  $\text{Ø}7 \times 1.5$  (N) and  $\text{Ø}2.5 \times 1.5$  (P) on each end of the outlet metering cartridge and carefully position this assembly into the pump head using a pair of tweezers while making sure that the larger opening and O-ring is facing upwards out from the pump head
6. Fit the new O-ring  $\text{Ø}14 \times 2.5$  (M) onto the new pressure valve (L) with the printed arrow pointing upwards, and turn this into position into the pump head using a size 22 wrench
7. Place the new O-ring  $\text{Ø}10 \times 2.5$  (K) on top of the pressure valve, reposition the adapter (J) and tighten the nut (I)



Procedure for replacing the inlet check valves:

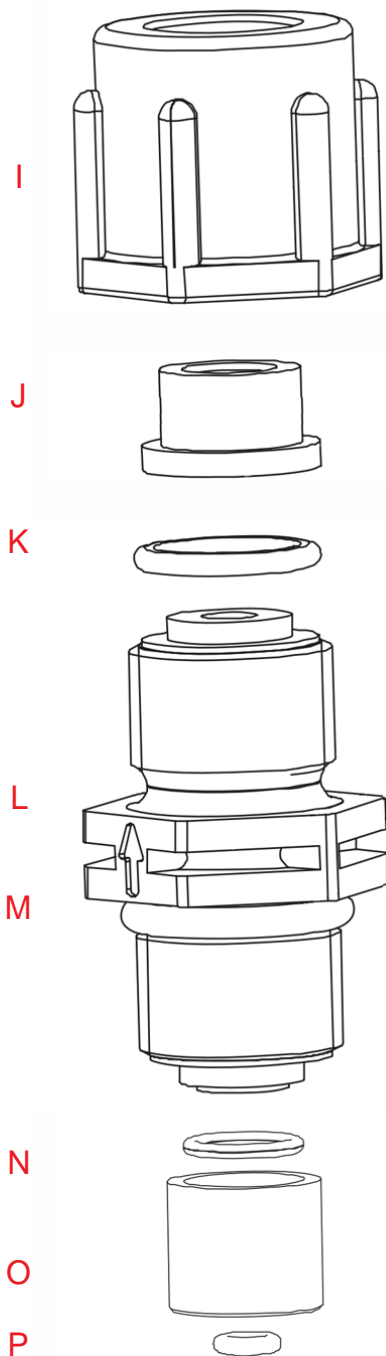
1. Ensure that the pump flow path has been cleaned and that the pump is disconnected from power supply
2. Turn the pump upside down
3. Unscrew the nut (Q)
4. Remove the adapter (R) and O-ring (S) and keep these
5. Use a size 22 wrench to unscrew and remove the suction valve (T) with the O-ring (U)
6. If the metering cartridge (W) is removed, use a pair of tweezers to position the inlet metering cartridge (without any O-rings) into the pump head while making sure that the larger opening is facing into the pump head
7. Fit the new O-ring  $\text{Ø}14 \times 2.5$  (U) onto the new suction valve (T), place the new O-ring  $\text{Ø}10 \times 2.5$  (V) on top of the suction valve in the direction of the printed arrow, facing the metering cartridge, and turn this into position into the pump head using a size 22 wrench
8. Place the new O-ring  $\text{Ø}10 \times 2.5$  (S) on top of the pressure valve, reposition the adapter (R) and tighten the nut (Q)



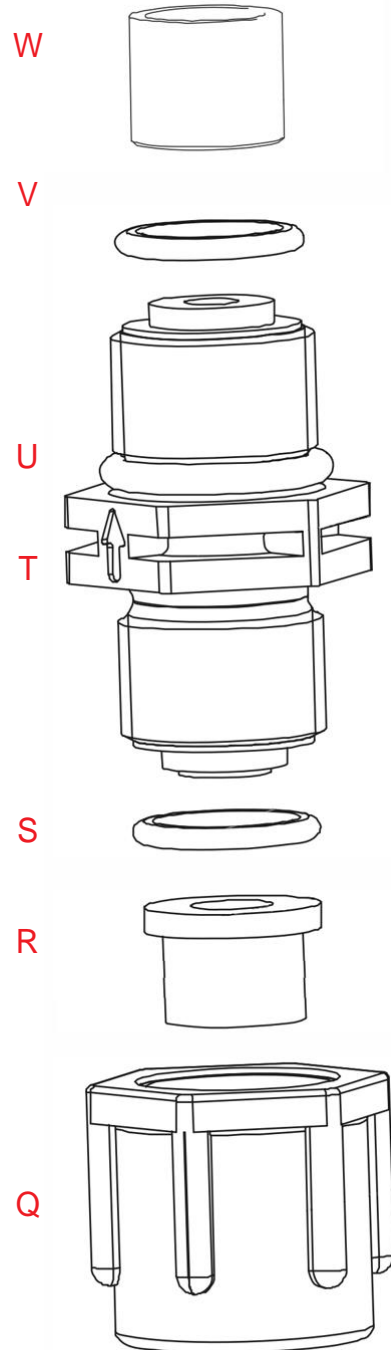
**Figure 1:** Assembly drawing of the outlet valves (above pump head) and the inlet valves (below pump head).



The number, position and size of the O-rings differ from the pump inlet and pump outlet and must be placed exactly as shown in figure 1-3.



**Figure 2:** Exploded drawing of the outlet valves (above pump head) showing (top to bottom); nut (I), adapter (J), O-ring  $\varnothing 10 \times 2.5$  (K), pressure valve (L) fitted with O-ring  $\varnothing 14 \times 2.5$  (M), O-ring  $\varnothing 7 \times 1.5$  (N), outlet metering cartridge (O), O-ring  $\varnothing 2.5 \times 1.5$  (P).

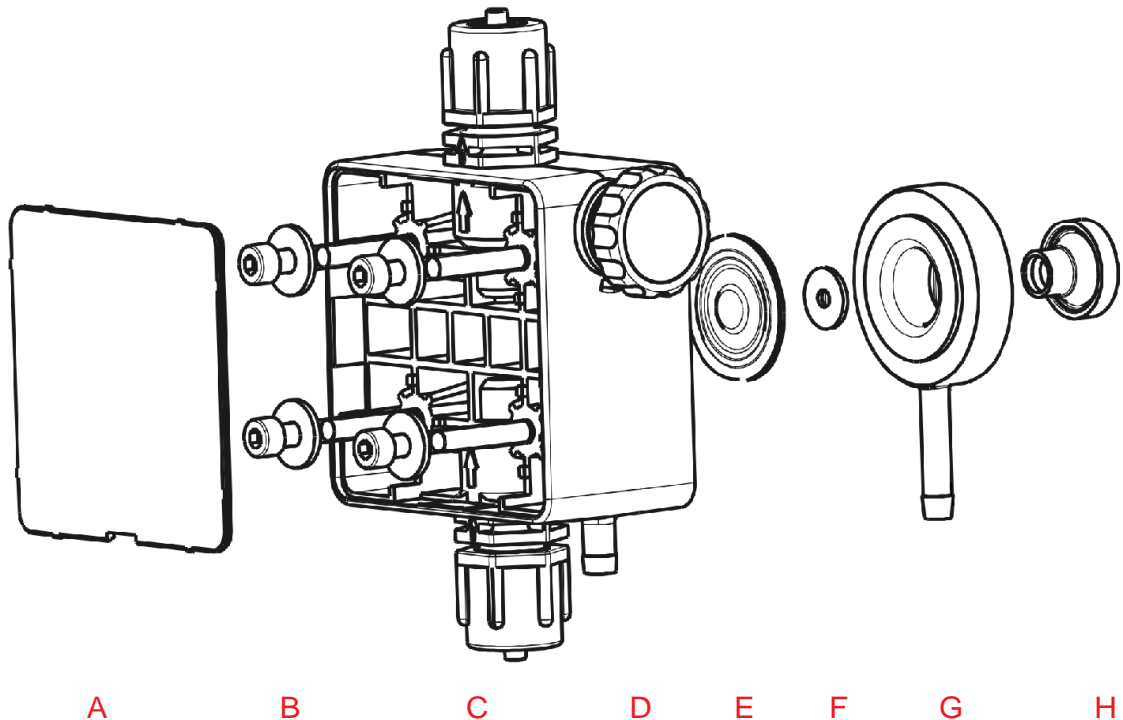


**Figure 3:** Exploded drawing of the inlet valves (below pump head) showing (bottom to top); nut (Q), adapter (R), O-ring  $\varnothing 10 \times 2.5$  (S), suction valve (T) fitted with O-ring  $\varnothing 14 \times 2.5$  (U), O-ring  $\varnothing 10 \times 2.5$  (V), inlet metering cartridge (W).

## Pump house



*Do not use any tools to tighten the diaphragm or to position the bellow since this may cause irreparable damage.*



**Figure 4:** Assembly drawing of the pump housing and wearing parts showing cover plate (A), head screws with disks (B), pump head (C), vent screw (D) on side of pump head, diaphragm (E), support disk (F), sandwich plate (G), bellow (H).

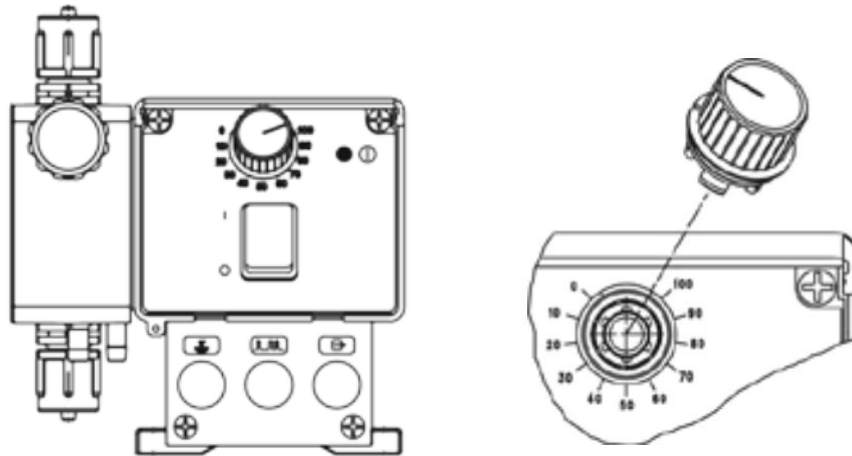
Procedure for replacing the pump diaphragm:

1. Ensure that the pump flow path has been cleaned and that the pump is disconnected from power supply
2. Remove the cover plate (A)
3. Loosen the four head screws with disks (B) using a size 4 hex key and remove pump housing (C)
4. Unscrew and remove the diaphragm (E), support disk (F) and sandwich plate (G)
5. Pull away the bellow (H)
6. Carefully position the new bellow (H), sandwich plate (G) and support disc (F)
7. Remove the transport cover from the new diaphragm (E) and carefully turn it into place and tighten by hand
8. Put back the pump head (C) and fasten it by tightening the four socked head screws with disks (B) alternating left and right sides (torque 3-4 Nm)
9. Put back the cover plate (A) onto the pump head
10. Replace the vent screw (D) if it shows signs of wear

## Pump fuse



*Before opening the pump to replace the glass cartridge fuse, ensure that the pump has been turned off and disconnected from the power supply*



**Figure 5:** Front view of pump (left) with the four screws holding the front cover in each corner, and an illustration (right) of how to remove the mechanical flow adjustment screw.

Procedure for replacing the pump fuse:

1. Ensure that the pump is turned off and disconnected from power supply
2. Open and carefully remove the transparent front cover of the pump
3. Pull out and remove the flow adjustment screw without changing the flow rate
4. Remove the four screws keeping the pump front in place
5. Open the pump and locate the holder for the glass cartridge fuse
6. Remove the broken glass cartridge fuse and replace with a new fuse having the specified rating (T 315 mA) and size (5x20 mm)
7. Close the pump front and tighten the four screws keeping it in place
8. Attach the flow adjustment screw at the same position as before (usually 80%)
9. Put back and close the transparent front cover of the pump



*Only use fuses with the specified rating (T 315 mA) and size (5x20 mm), or else the pump may not start and can be irreversibly damaged*

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Tvistevägen 48C, 907 36 Umeå, Sweden  
[www.diduco.com](http://www.diduco.com) · [info@diduco.com](mailto:info@diduco.com)