

Maintenance Aqua Delta Piston Pump



Necessary:

Tape measure

Flat screwdriver (4mm - 6mm)

Phillips head screwdriver (+/- PZ2)

Socket/spanner 7mm

Socket/spanner 17mm

2x Spanner 24mm

Needle nose pliers

Grease gun

Valves

Carbon brushes

Cloth or soft brush

Extra:

2x Spanner 30mm or adjustable spanner

Rod Head bearing

Fuse 20 amp

Piston ring

Pressure spring piston

2x Valve seat seal

Insulating tape

Mower

2x Spanner 19mm or adjustable spanner



Maintenance:

- Remove sand and/or bird droppings from the solar panels. By using of a wet cloth or soft brush. (don't apply too much pressure).
- Mowing the grass which can possibly cause shade on the panels.
- The pump can be switched on and off by opening the box and turning the red button. The triangle key is located in the top of a tube of the rack of the solar panels. (turn the pump OFF when performing maintenance).



- A bit of 'jittering' on the scaffolding pipes with which the pump is in the water. If there is too much movement in this, you can push them a little deeper into the ground.
- Remove any vegetation at the inlet of the pump. (about 40cm in the water under the tube with the rubber valves)
- Check cables for damage by livestock or other animals.



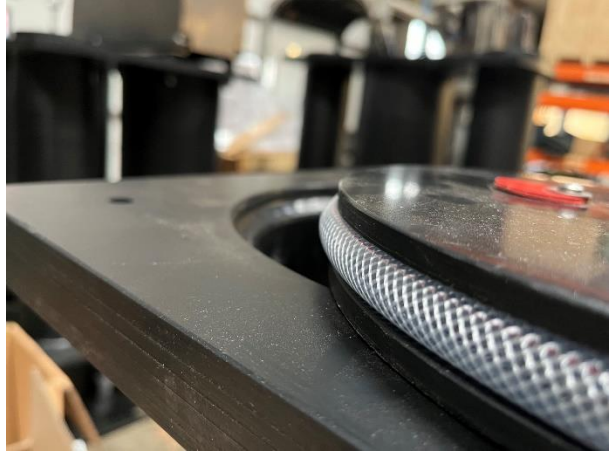
- Open bonnet with spanner 17mm. Leave your outer 2 bolts fixed, then the bonnet can be lifted.
(Note that the bolts are only 2cm long, so they quickly fall into the water)



- Annually check the rubber valves that close completely on top of the valve seats on the piston rod. (Valve rod can be pulled out of the tube without any problems). Most wear can be found at the bottom of the rubber valves.



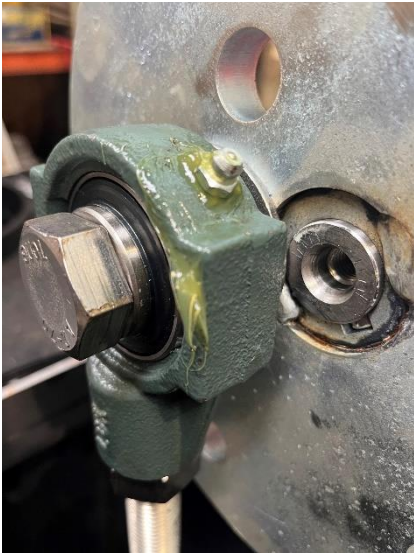
- Check piston rings if they are still closing. (this is the air hose around the piston) Also check the seal around the valves to see if they are still closed.



- Probably renew every 3 years simply by turning off the nuts and mounting the new flaps. **TIP:** mark the places where the nuts were, or measure the distance of the nuts on the threaded end.



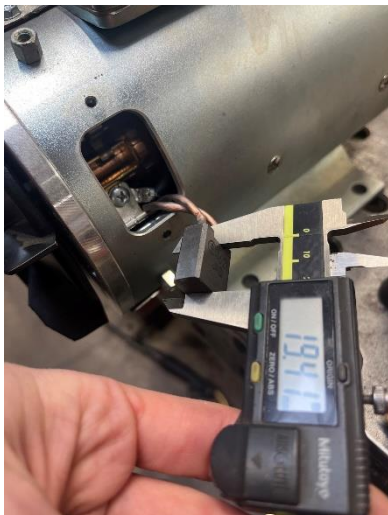
- From the pump the grease nipple on top of the head rod bearing preferably lubricate after the pump season so that it is full of grease and no other disturbances can occur in it.
- Replace the head rod bearing, if there is play on it. (once every 5 years) (head rod bearing spanner 30)



- Water counterweight valve/passag. (red cover on the piston disc) check if it can still close completely. (possibly remove sand and/or algae).



- Check plug fuse, replace when necessary (20 amp)
- Check and measure the carbon brush annually when starting up the pump, these must be at least 10mm. Carbon brush are new 8 x 20 x 25mm replaced at 8 x 20 x 09. They last a few years, around 2 to 4 years.



- Remove protective cover for cooling venders with cross screwdriver (4 screws)
- Protective plates for carbon brushes remove socket spanner 7 (3 x 2 pieces)
- Carbon brushes can be removed by lifting the spring slightly with a point pliers and gently pulling the cables.



- Make sure that the "spring" does not slide off.



- Screw anchors with which the panel frames are secured can be disassembled by loosening the m12 bolt (spanner 19) at the bottom, rear, the middle of the frame. The screw anchor itself can be rotated out of the ground by unscrewing it with a long lever (max 24mm). The lever must be inserted through the top holes of the anchor.



- Piston pump rotates +/- 45 revolutions per minute (45x the up and down of the piston). During an average sunny day.

