

FORCE 7.2 SUBMERSIBLE ASPIRATION AERATOR MAINTENANCE SCHEDULE Water Treatment Applications

The *Acqua & Co.* FORCE 7.2 Submersible Aspiration Aerator is a high efficiency machine designed to allow continuous operation in outdoor ponds and lakes. Due to its short motor shaft design and effective sealing arrangement, the FORCE 7.2 has a low maintenance requirement.

However, it is important to provide effective preventative maintenance to ensure a long life from the aerator. It is recommended that an inspection of the primary seal is performed yearly, with inspection of the secondary seal and bearings performed every two years. It is recommended that the maintenance schedule provided be followed to ensure effective management of your asset.

Annual (Yearly) Maintenance

Yearly maintenance is required to inspect the condition of the primary seal and clean the unit. Please refer to *Acqua & Co.* Aerator Force 7.2/2,5/3 2° ed. 03/04 and Spare Parts List for reference as required.

- a) Remove and inspect propeller (Part No. 22) by removing cap (Part No. 56) and screw (Part No. 89).
- b) Remove suction crankcase (Part No.70)
- c) Remove and inspect teflon seal (Part No. 96) by removing shroud (Part No. 29) from the shaft. Replace teflon seal (Part No. 96).
- d) Drain paraffin oil from motor casing by removing plug (Part no. 95).
- e) Remove front flange (Part no. 18) and inspect mechanical seal (Part no. 47) and insulation tube (Part no. 54) on rotor. The mechanical seal should be inspected to ensure that there are no scratches or marks on the carbon or stationary face. The insulation tube should be examined for marking and scoring. Replace parts as necessary.
- f) Reassemble all parts ensuring **oil*** is added in the zone between the central housing (Part No. 17) and the propeller flange (Part No. 18).
O-ring (Part No. 52) is to be replaced on reassembly.
 - 250 mL of medicinal-grade paraffin oil is required for motor lubrication at each service interval.
 - BioRemedy uses and recommends: **BP Enerpar M002 Medicinal White Oil (ISO Viscosity Grade 15).**
- g) Clean floats, stainless steel tubing, and motor to remove all algae, barnacles, and other build-up.

Biennial (Two-Yearly) Maintenance

Every two years it is important to inspect the secondary seal, and the motor bearings for wear. These need to be replaced if necessary. Please refer to *Acqua & Co. Aerator Force 7.2/2,5/3 2^o* ed. 03/04 and Spare Parts List for reference as required.

- a) Perform the Annual (Yearly) Maintenance steps a) to e) as instructed.
- b) Remove the power supply cable from the motor by removing cable nut (Part No. 42) and connection box (Part No. 44). Underneath the connection box, the electrical wires are connected by clip connectors. The clip connectors need to be disconnected and the wires to the motor cut to allow removal of the stator.
- c) Undo the bolts on the flange in the centre of the motor connecting housings (Part No. 16 & 17). Part the housings to expose the stator and rotor. Remove the rotor to expose the bearings (2 x Part No. 28).
- d) Inspect the bearings (Part No. 28) for wear and damage. Replace if necessary.
- e) Reassemble unit.
O-ring (Part No. 51) is to be replaced on reassembly.
Ensure good connection of electrical fittings outside motor.
- f) Perform the Annual (Yearly) Maintenance steps f) to g) as instructed.
- g) Inspect sacrificial anode (Part No. 21) for wasting. Replace if necessary.

