

Frequently Asked Questions (FAQs)

1) What are the benefits of using Aeration Tube over paddle wheel aerators or other methods?

- ✓ Using the diffused aeration method gives upto 3 times higher Dissolved Oxygen (DO) because of higher Standard Oxygen Transfer Rate (SOTR). Another way to see this is that you can get similar DO with 3 times lower power consumption.
- ✓ It provides good DO at pond bottom also where other methods fail. This leads to better immunity and higher survival rate. Higher Stocking density is possible because of higher DO. Better and faster growth of species and probiotics, better organic conversion of waste due to good growth of probiotics and a better autotrophic cycle are other benefits of diffused aeration.

2) How is AirOxi tube different from using other submerged methods like jet aerators

- ✓ The tube is made of a special elastomeric compound that gives it the property of micro holes with very small bubble size. This ensures that the bubble size is very small and oxygen transfer is very high. Other methods of aeration are not able to get this level of oxygen transfer.

3) What is the air flow rate of the tube?

- ✓ The designed air flow is 0.5 to 0.8 m³/hr for high efficiency but since the burst pressure of the tube is very high, the range of air flow is very high - upto 3 m³/hr depending on the size of tube selected. Actual working flow rate will depend on many parameters like installation depth, design used to install the tube, blower type and capacity, inlet pipe size and inlet pressure. Since all these reduce the final air reaching the tube, we recommend using up to 30 mtr of tube per HP of blower size. Please get in touch with us for a site specific solution.

4) What is the cost of installing the system

- ✓ Cost of the system varies widely depending on the type of application – nursery, grow out pond, RAS, bio-floc, raceway etc. And also on the species in the pond – shrimp, fish, algae etc. There are many factors determining the cost including pond size and water parameters. This is because for optimum calculation. However as thumb rule, you can consider about 1.6 lacs per hectare of pond. The cost of AirOxi tubes is usually only 20% of the entire system, the rest being the cost of the blowers, piping and installation.
- ✓ For a more accurate cost for your pond and to get the list of materials required, please visit www.airoxi.com/calculator

5) How many meters of AirOxi Tube do I need for my pond?

- ✓ The quantity of tubes varies as per the aeration requirement. As a thumb rule you can consider 20 to 30 mtrs of AirOxi tube (regular size of 0.5" x 1") per HP of blower used. This range is because deeper the installation of tube under the water, lesser the quantity per HP that you can use, due to the water head. The quantity is half for the large size 1"x 1.5" AirOxi tube.
- ✓ For a more accurate calculation, please visit www.airoxi.com/calculator

6) Even after installing the diffused aeration method using AirOxi Tubes, will I need to use paddle aerators?

- ✓ Once you install the AirOxi tube system, you do not need to use the paddle aerators for increasing Dissolved Oxygen. Paddle aerators, long arm aerators, jet aerators and other aerators spend more energy on water movement than in aerating. If you already have paddle aerators, you can use them in 4 corners of the pond for 2 hours a day (staggered intervals) for water movement to give directional flow to the water. If you wish to use these tubes for giving directional flow to the water, without using paddle aerators, there are simple designs available which can do this. Please contact us for more details.

7) If there are holes in the tube, do they choke up when used in the pond?

- ✓ The tube is designed with micro holes to maximize efficiency of oxygen transfer. But since it will be in water all the time, the quality of the water will affect the tube condition and it may have blocked holes. Besides that, it is always better to clean it between cultures. However what is important to customers is that at least through the length of the culture, there is no need to clean the tube. For this many preventive actions can be taken.

8) What kind of preventive actions will prevent blocking of tube

Blocking or clogging of holes may happen depending on how proper is the installation, how often is it used and the conditions in the pond. There are few simple ways to ensure that the holes do not block

- Installing the tube 12-18" above pond bottom will prevent sludge from sticking to the tube. The tube should remain above the pond bottom, even when air is not flowing through it
- Continuous use will also reduce the sludge sticking to the tube
- Installation in lengths of 2 mtrs or less. Contact our representative for advice on which designs work best and can avoid such problems. Or visit www.airoxi.com/calculator to see different designs
- Use large size header pipe from the blower and to the tube, so there is minimum pressure drop and sufficient air is available as per the designed air flow of the tube. The main header should be at most 1" less than blower outlet. If the blower outlet is 5", then the minimum size header pipe you should use is 4" / 100 mm, etc.

9) So how often is it required to clean the tube?

- ✓ How frequently the tube has to be cleaned depends on pond water conditions. In some ponds cleaning is not required for 3-4 months (and so it is done after the harvest). And in some cases it needs to be done once in 10 days.
- ✓ The difference is because of water conditions and also how often the air is blown and if installation is as per recommended length and inlet pipe size used for air flow. For proper installation and continuous use the tube will not be normally required to be cleaned during culture.

10) I do not want to clean the tube during the culture. What is the best way to ensure that cleaning is not required during the culture and I can do it after the harvest?

- ✓ Install AirOxi tube at a height of 12" when without PE lining and 6" when with PE lining. The tube should not touch the bottom at any time.
- ✓ Select design that will have at-most 2 mtrs in single length or 5 x 1 mtrs in a PVC pipe frame
- ✓ Ensure good size of inlet pipe to AirOxi tube – consider one inlet for at-most every 2 mtrs of AirOxi Tube
- ✓ Ensure header pipe of minimum 63 mm, and ideally same size or 1" less than blower outlet.
- ✓ Use continuously, 24 x 7

11) How do we know if the holes are getting blocked and how do we clean it?

- ✓ Even before the air flow is visibly reduced, the pressure gauge will show an increase in operating pressure. Which means you can take up preventive cleaning rather than waiting for the air flow to visibly reduce.
- ✓ When the tubes are being used and the culture is not over, simply take the tubes out for a day. Let it dry for 24 hours and then use a rough scrape – like AirOxi clamp, or putty knife or hacksaw blade. DO NOT scrape when wet else it will clog the holes more, although temporarily it will seem to perform better. Also do not enter the water and rub the tube while it is wet in water.
- ✓ When the tubes are kept out for maintenance between cultures, dip the tube in a drum of a solution that will clean organic waste like bleaching powder or hydrogen peroxide or mild tile cleaning acid.

12) What is the warranty on the product and what is the expected usable life?

- ✓ AirOxi tube has a 1 year warranty against manufacturing defect.
- ✓ The actual cost of the tube is only about 20% of the entire system. And the benefits of the system are far higher in savings and higher production. So many customers change the tube every year.