

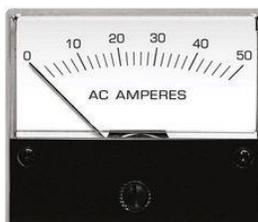
Installation method and suggestions for installing AirOxi Tube

- ✓ **Install only through AirOxi authorized installation partners and dealers.** They will ensure that the installation is proper
- ✓ **Select the right size of blower** for the pond. Refer table below for reference. This is for stocking of about 40-50 vennamei shrimps per square meter in mud pond or 70-80 in PE lining pond. For higher stocking , double the blower and tube quantity

Area	Recommended blower size	Recommended Tube quantity
1 ACRE	3 to 5 HP	100 mtrs
1 Hectare	5 HP	250 mtrs
2 Hectare	7.5 HP	500 mtrs
3 hectare	10 HP	750 mtrs
For additional hectare	Add 2.5 HP	Add 250 mtr



- ✓ Always use **ampere meter** for blower so you know the load of the motor. Higher than operating load will indicate problem with valves, or improper installation.



- ✓ Ensure that the **pressure gauge** on the blower is installed and working correctly



- ✓ **Check the filter of blower** is of good quality and at least 100 mesh size or paper filter. This will avoid tube choking through dust taken from the atmosphere



- ✓ When using diesel engine directly with the blower – keep the **exhaust of the engine at least 2 feet higher** and away from the blower. Otherwise the tube will get choked with carbon particles. And carbon monoxide and carbon dioxide levels in the pond will be very high, affecting the growth of the prawns



- ✓ **Install AirOxi Tube at least 12" to 15" (12 to 15 inches) above the pond bottom. (see pictures)** Do not just use weight to keep it at bottom. When air flow stops, the tube should not touch the pond bottom, else it will choke very fast.

- ✓ It is recommended that **installation is done in length of 3 to 5 mtrs tube (see pictures)**. So the minor variations between each meter length, is taken care of.



- ✓ **Provide release valve in front of blower.** This is necessary because the tubes will have water when the blower is turned off. Every time the blower is started, the valve is to be kept open and then slowly closed, to reduce load on motor.



- ✓ **Ensure that every line going from header pipe to AirOxi Tube ring / spiral / grid has a valve.** This is needed to compensate air flow at different places in the pond. Air flow will be different at different places because **water depth is different at different places** in the pond. The water pressure will make a difference which needs to be compensated. Wherever water depth is high, open the valve more.

Also the **distance of tube/ ring / grid from the blower will cause drop in air pressure.** The valves are to be used to compensate for this drop in pressure. The further away the grid is from the blower, the more you need to open the valve.

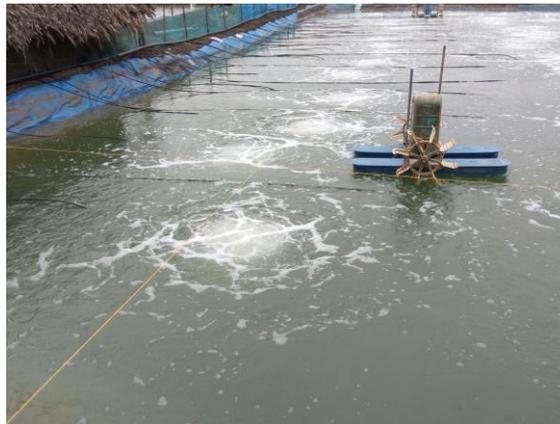


HOW TO KNOW IF TUBE IS INSTALLED PROPERLY

- ✓ **Ampere meter shows rate load** when blower is working.



- ✓ **All tubes are showing proper bubbles. The air should not come out very fast like boiling.** Nor should it be very less air. If air is coming out very fast like boiling then the blower is too big or the tubes are very less. So you need to increase number of tubes. Temporary you can release extra air, but you need to increase tubes. **(See picture)**



- ✓ **Pressure Gauge shows reading of approximately 2 to 3 PSI Or 0.2 - 0.3 Kg / cm².** The Root blowers generally work at 0.3 Kg/cm² pressure. If this is higher than operating pressure, you need to increase number of tubes. Or reduce size of blower. Or open air release valve



- ✓ **Individual valves used for each grid / ring / spiral are open at different angles.** This ensures every place gets proper aeration. If they are all fully open, adjust them to compensate for water pressure at different pond depths and also for distance of AirOxi tube from the blower.

PROPER USE OF TUBE TO MINIMIZE MAINTENANCE AND BREAKDOWN

- ✓ **Use the tube from day 1 of installation or stocking.** This will ensure that the holes are kept free of any particles.



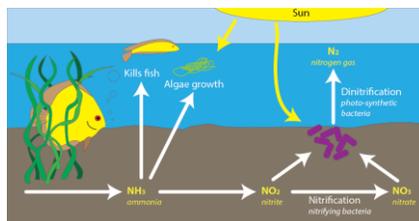
- ✓ **Use the tube EVERYDAY.** Even if DO levels are sufficient, using the tubes at night will ensure that you get very good growth, higher survival, higher immunity and lower ammonia levels. Use it for at least 4-5 hours if not more.



- ✓ **For maximum benefit, use the blower / tubes for 20 to 24 hours.** The power required is very less as compared to other methods of aeration. So make the best use of the system by ensuring high DO levels.



- ✓ Regular use of 20 hours or more will not just increase DO, but also **release the trapped ammonia gases** into the atmosphere. And it will give a good **growth to the other good organisms** in the pond, hence the **Autotrophic cycle** will ensure higher number of good bacteria and other organisms. This will **breakdown the sludge and other waste of the pond in an organic manner**



- ✓ **When turning on the blower, keep the air release valve open.** The tubes will have water in them, when the blower is turned off. So when restarting, keep the release valve open to reduce load on motor. And then slowly close it, as bubbles increase. When load is within limits and all tubes have bubbles coming out, close it completely.
- ✓ **Every week – clean blower filter.** If dust enters from outside through a bad filter, it will choke up the tube.
- ✓ **Check pressure gauge everyday.** The pressure gauge should be working properly.
- ✓ **Clean tubes when pressure gauge shows higher pressure. Or when you see reduced flow of air.** Please refer to recommend cleaning method document for the cleaning procedure



- ✓ **Keep extra 10% grid / spiral / rings – for use when you are cleaning the tubes.**
- ✓ **Check fittings every week.** Make sure there are no leakages along the piping.
- ✓ **Even if tubes are working perfectly, it is advisable to clean them once a month as preventive maintenance**

RESULTS TO EXPECT IF TUBE IS BEING USED PROPERLY

- ✓ **Faster growth. Saving of 15-20 days in growth.** (Measured by increase in feed, etc.) Compared to earlier methods used like paddle aerators, the larvae to harvest time should decrease by 15-20 days approximately (fro same stocking considering weight of 30-35 gram at harvest)



- ✓ **Higher stocking density and healthy prawns** if growth is same but you have increase stocking
- ✓ **Higher survival rate** (measured by increase in feed, etc.). If survival was under 85-90% earlier, then with proper use of this aeration method, and using it for 20 hours a day, you can expect a survival rate increase by 10-15%, (good pond management and other factors remaining same). For **mud ponds 85% survival** is quite common and for **PE lined ponds this can increase to 90-95%**



- ✓ **Lower power consumption.** If the customer is using blowers for aeration, and using paddle only for water circulation (2 hours a day at most), **then power consumption should go down by 40-60%**



If during your visit to customer you find that the tubes are not used, and paddle aerators are being used, then check for the above benefits. With irregular use the customer may not be getting the full benefit of using this system