

# Safer, More Cost Effective, Efficient Aeration

Venturi  
eration, Inc.



**HYDRO**  
INNOVATIONS

# Aeration (Venturi)

Venturi-Aeration units are the safe and efficient way to aerate tanks, lagoons, basins and oxidization ditches.

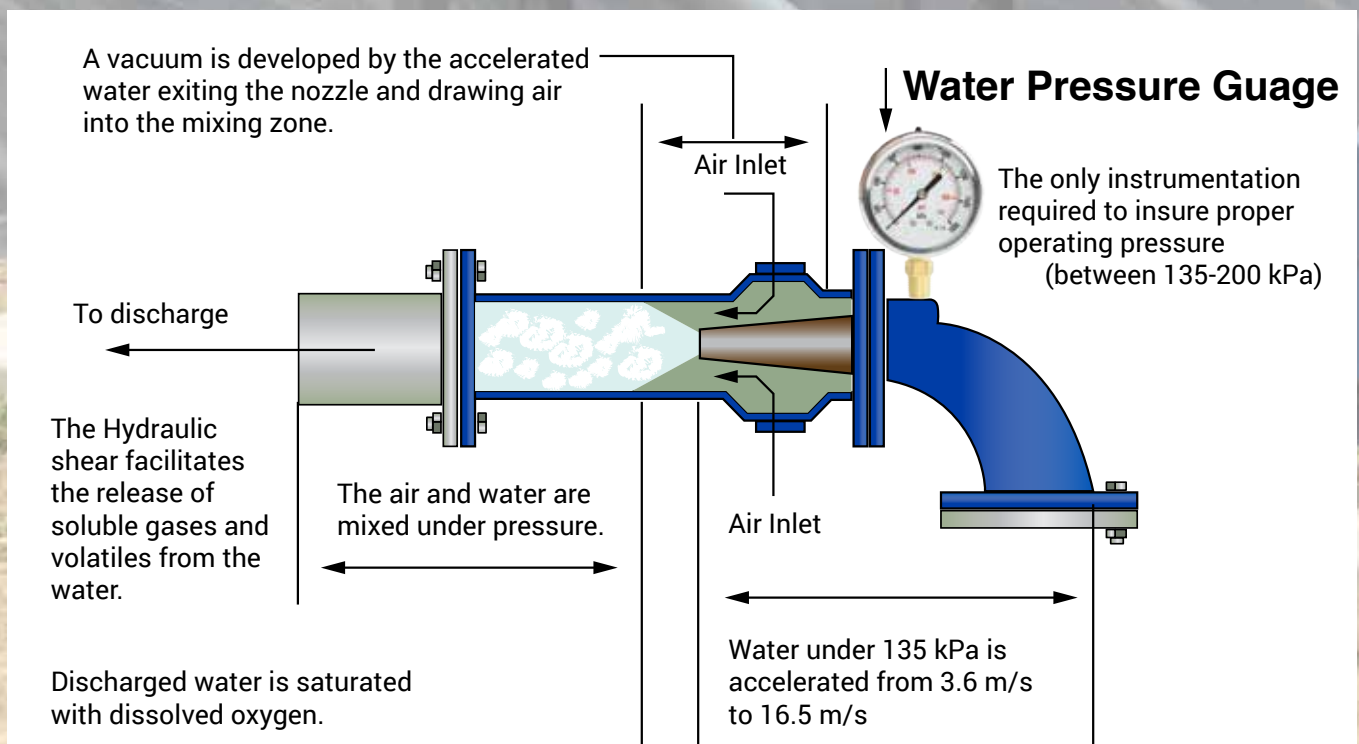
Units are paired with Gorman-Rupp self priming pumps, so all of the aeration equipment can be mounted on the bank and not on the water surface. The Venturi-Aeration unit uses the "Venturi" effect to draw in atmospheric air.

Water is primed from the water source by the Gorman-Rupp self-priming pump, and "fed" under pressure into the Venturi-Aerator (V-A). The water is accelerated through a nozzle in the V-A which is specifically machined to suit each application. Air is drawn in via the venturi effect and the air and water are mixed under pressure. The water is then discharged, where "hydraulic shear" facilitates the release of soluble gasses and volatiles from the water. The discharged water is saturated with dissolved oxygen.

## Advantages

There are many advantages to the Venturi-Aerator. Some of these include:-

- Bank Mounted for safe and easy access
- Not having to use blowers or compressors
- Reduction in WHS issues because operators can quickly and safely access the Venturi-Aerator and pump for monitoring and/or maintenance
- No gearboxes to maintain or service
- No need for cranes or row boats to access equipment
- Easy to service and conduct routine maintenance



### Efficient

Just because the Venturi-Aerator is more convenient to access, and safer for operators, does not mean users need to accept lower efficiencies. Venturi-Aerators can produce an S.O.T.E. (standard oxygen transfer efficiency) of up to (and in some cases exceeding) 1.86kgO<sub>2</sub>/kWh

Model	Flow Range (L/s)	Max. Dissolved Oxygen/Hr
VA-100	4-11	4.6kg
VA-250	12-22	9.2kg
VA-500	25-47	19.8kg
VA-800	50-88	37.0kg

The Venturi-Aerators need to then be paired with the most efficient pump to deliver the best S.O.T.E.



### Applications for the Venturi-Aeration systems are many, and include:

- Odour control, corrosion control and BOD reduction at Sewage Pumping Stations
- Odour control and pH improvement at Food Process Plants
- Sludge separation to enhance settling and performance of the primary clarifier at WWTP's
- Septage Receiving - for odour control, BOD reduction, degassing H<sub>2</sub>S and "shearing" organic materials
- Mixing and Equalization
- Supernatant aeration from digesters
- Landfill leachate aeration prior to head-works
- Oil & Grease Recovery
- Effluent aeration to streams or wetlands
- Stripping PCE, TCE, etc. from industrial waste streams and groundwater
- Lagoon aeration with two zones
- Stripping CO<sub>2</sub> to raise pH, allowing for nitrification (pH >6.8) to begin

# VENTURI AERATION

## 800-439-2610



## Venturi - Aerators are "Powered By" Gorman-Rupp Pumps



Ultra V Series



Super U Series



80 Series



Super T Series

**Suitable Industries/Uses:** Municipal Wastewater Treatment, Industrial Wastewater Treatment, Lake Destratification, Mine Water Treatment



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