

MIXJET



**MIXING & AIREATION, ENERGY OPTIMIZATION
AND REDUCTION IN MAINTENANCE COSTS**

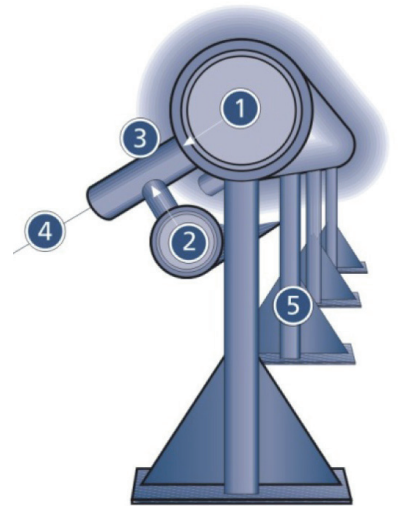
MIXJET is a wastewater aeration/agitation system, specially designed to aerate BIOLOGICAL TREATMENTS, HOMOGENIZATION TANKS and AEROBIC SLUDGE DIGESTION (ATAD), through the "jet aeration" concept by producing bubbles of a small diameter. The system combines a high oxygen transfer with a lack of the typical problems found in other aeration systems such as blockages, corrosion or mechanical maintenance.

ADVANTAGES

1. Possibility of agitation and/or aeration with the same equipment.
2. Energy saving in aeration (Alpha factor of approximately 0.9 versus 0.3-0.4 with ceramic or membrane diffusers).
3. Lower maintenance costs:
 - No corrosion and chemical compatibility (Polypropylene or Polyester Reinforced with Fibreglass).
 - No cracks from vibration, as with diffuser piping (small diameter).
 - No moving parts inside the tank.
 - Long life: the micronizer battery has a lifespan of over 20 years.
 - Mechanical equipment outside the tanks.
 - No need for platforms or hoists.
4. No blockages from fats, solids and chemical precipitation or biological fouling, as in the diffusers.
5. Savings in space as the tanks can be up to 20m high.
6. Increased performance with height, by increasing the oxygen transfer (SOTE). Drastic reduction in aerosols, VOCs, foam and smells, by using air flows of up to 75% less than in other systems.
7. No dead zones and decanters.
8. Possibility of injecting reagents and carrying out controls in the recirculation piping.
9. Possibility of regulating the air flow using, for example, a dissolved oxygen meter.
10. Pre-assembled in the workshop.
11. Perfect for oxic and anoxic processes in a single tank.
12. Possibility of aerating and agitating sludge with high concentrations of suspended solids in the reactor (30-40 g/l).

FUNCTIONING

- 1.- The water to be aerated/agitated enters through a central tube from the recirculation pump.
- 2.- Driven by this pump, it passes through the ejector, creating the venturi effect.
- 3.- Suction is produced from the air collector, which can be pressurised with a compressor to increase its efficiency.
- 4.- The wastewater/air bubbles mix is pumped inside the tank.
- 5.- It is all supported by stainless steel anchored to the base of the tank.



APPLICATIONS

- Aerobic biological treatments.
- Special design for aireation in SBR's".
- Alternating stages of aeration/anoxia.
- Wastewater homogenization.
- Sludge homogenization.
- Sludge digestion (ATAD system).
- Control of pH, chemical oxidation, etc.

MATERIALS

aqualia industrial offers different options according to the application and water characteristics:

- System in PP and structure in AISI304 or 316.
- System in GRP and structure in AISI304 or 316 or GRP.
- System in carbon steel with carbide silicon and structure in AISI304 or 316 or carbon steel with anti-abrasion coating.

OPTIONS

- FORCED agitation and aeration: with the recirculation pump and the air compressor functioning simultaneously.
- ATMOSPHERIC agitation and aeration: thanks to the venturi effect of the ejector, without needing the compressor.
- Agitation: Agitation occurs without air entering, through the multiplying effect of the water flow ejector (up to 5 times greater than the recirculation pump).
- Suitable configurations for carousel or rectangular storage tanks and circular tanks.

