

Propulsair™

High Efficiency, Low Maintenance Aspirating Aerators and Mixers



Designed for Long Life, Low Maintenance

Durable Propulsair™ Aerator/Mixers are versatile, reliable and economical. Propulsair aerators provide dependable, low-maintenance aeration and mixing in a wide variety of wastewater treatment applications. Their innovative center-supported design and unique helical propeller eliminate both high wear submerged bearings and troublesome impeller fouling, ensuring longer service life, less frequent maintenance and reduced repair expense. Every Propulsair installation is carefully sized to deliver specified levels of aeration and mixing performance using design values that are both conservative and realistic.

During operation, air flow is induced from intake ports at the top of the drive shaft, down the shaft interior and into the prop wash where air and water are vigorously mixed. This oxygen-rich stream is driven down and outward at high velocity, scouting the basin floor and thoroughly mixing the contents.

Propulsair aerators offer a flexible and affordable source of aeration in lagoons and equalization basins. For oxidation ditches, Propulsair installation can be designed to maintain the 1 ft/second minimum channel velocity required for optimum process performance, allowing them to be used in place of disc and brush-type aerators.

For anaerobic applications where mixing but not aeration is required, Propulsair units can be supplied without air intake ports or with removable port covers.

Precision Drive Shaft

The stainless steel shaft is precision manufactured to 10 mil maximum runout, ensuring smooth, vibration-free operation.

Cast-Iron Housing, Twin Bearings Support Cantilevered Shaft

Twin bearings set in cast-iron housing provide rock-solid support for all operating loads, even in high-solids applications. Bearing B10 life is rated at 100,000 hours in 20 Hp. aerators, higher in smaller units. Regreaseable bearings allow lubrication to be matched with site conditions.

Non-Clogging Propeller

Hundreds of designs were evaluated in the search for a propeller that would deliver optimum mixing efficiency without rag-up. The resulting helical propeller draws liquid radially and discharges axially, eliminating axial intake flows that channel debris to the propeller.

No surface vortex or mist is created, reducing operating stress on support bearings and mount. Lightweight polypropylene construction enables the propeller to float if separated from the drive shaft.

Standard Drive Motor

Standard NEMA, C-Face, TEFC, 230/460 Volt motor makes replacement simple and inexpensive. Low 1800 RPM operating speed contributes to long service life.

Direct Drive

Eliminates high-maintenance gear reducers. Flexible high-speed coupling isolates the motor from shock loads and minor shaft misalignments, greatly extending motor life.

One Rotating Assembly

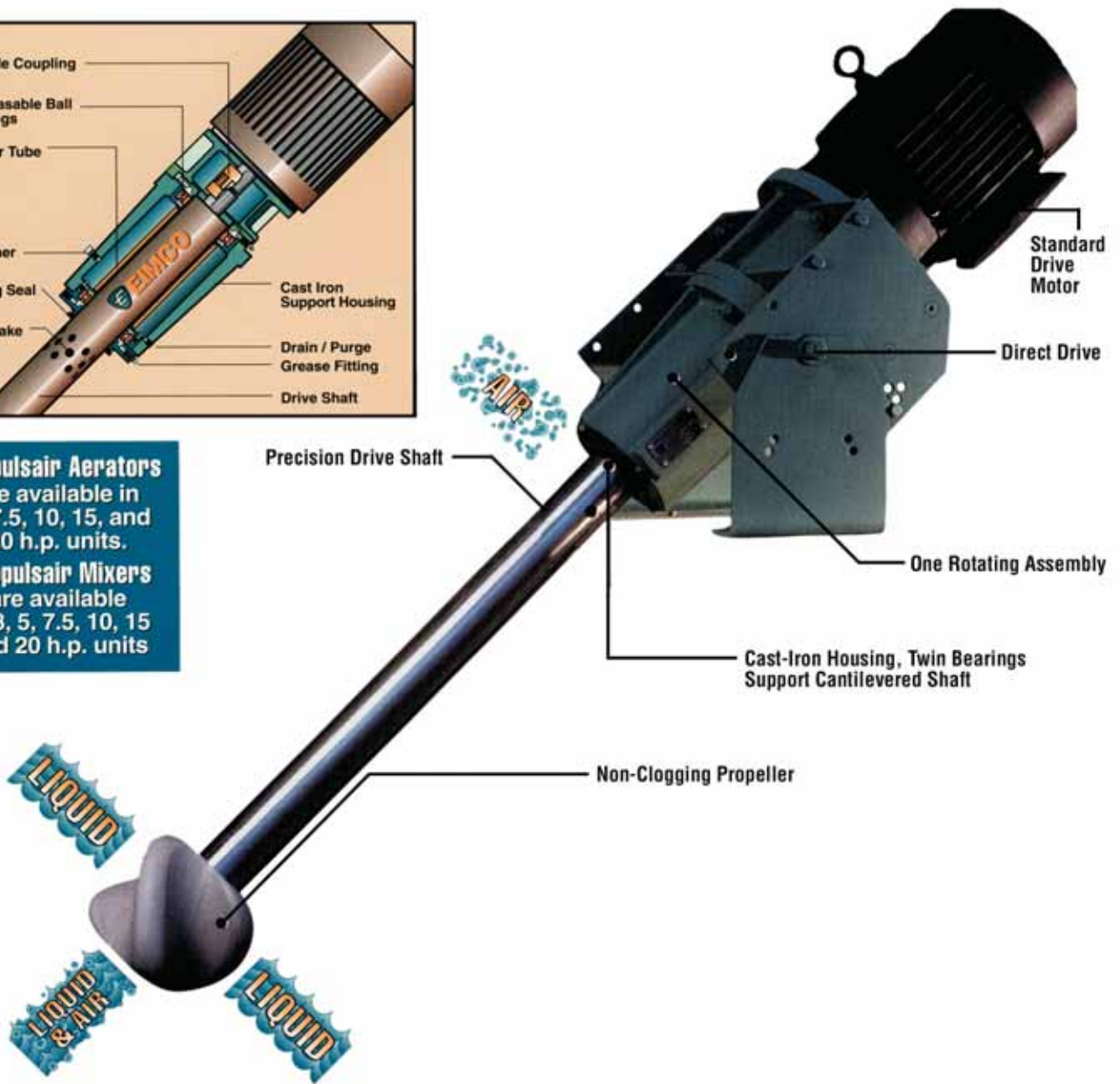
Uniform rotating assembly (bearing, housing and shaft) for all aerator sizes simplifies and minimizes spare parts inventory.



Designed for Long Life, Low Maintenance



Propulsair Aerators are available in 5, 7.5, 10, 15, and 20 h.p. units.
Propulsair Mixers are available in 3, 5, 7.5, 10, 15 and 20 h.p. units



Flexible Mounting Systems

Pontoon Mount

This simple, rugged float platform allows Propulsair aerators to be used in lagoons, ponds, equalization basins and racetrack-style oxidation ditches.

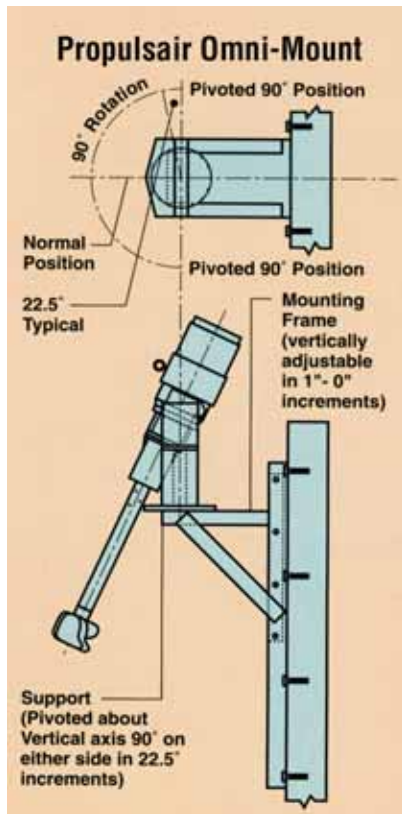
Fixed Mount

Fabricated fixed mount arrangements are available for basin walls, bridges, and platforms that permit convenient adjustment of the vertical discharge angle.

Omni-Mount

Propulsair Omni-Mounts add a 180-degree pivot capability to the basic fixed mounting arrangements, allowing vertical and horizontal

discharge angle adjustment. This system is valuable for preventing dead zones and solids accumulations when a basin must be mixed with a single unit.



(Photo Above Right) Pontoon-mounted Propulsair aerators in lagoon.

(Photo Right) Fixed, bridge-mounted units in an oxidation ditch.