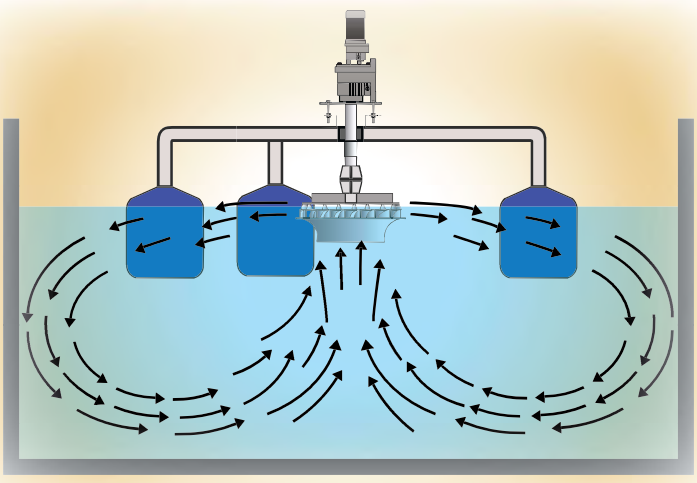
Low Speed Surface Aerator
Francis Turbine Series

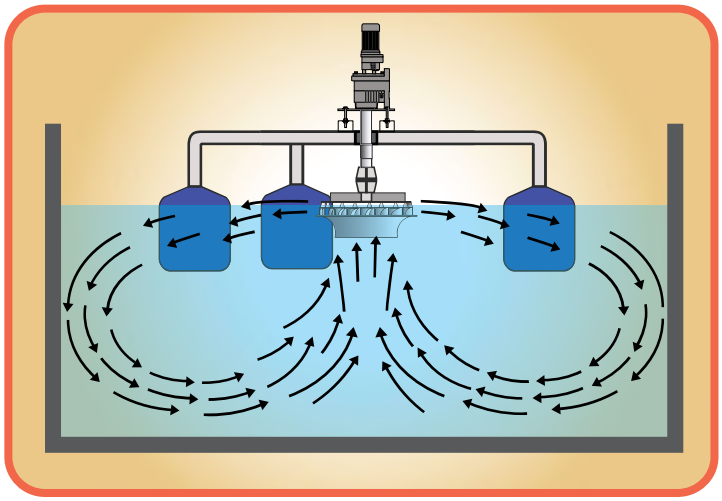
Low Speed Surface Aerator / Francis Turbine series is consist of a motor mounted to a gear reducer and an extended shaft. A specially designed rotor is attached to the bottom of the extended shaft. The aerator is positioned so the rotor is partially submerged in wastewater. When activated, the Low Speed Surface Aerators / Francis Turbine series turns at a slow speed (typically 40 to 100 rpm) specially designed fins on the rotor then pump massive amounts of water into the air in a fine spray. These very small droplets create a 360° circular pattern.

High transfer of oxygen results from the large surface area to volume ratio of the water droplet and its long exposure time in the air during its spray trajectory. Oxygen transfer is further enhanced by taking advantage of the oxygen transfer gradient of O^2 deficient water at the bottom of the basin by pumping it up and exposing it to the air above the water surface to promote faster mass transfer from ambient air to water droplet.



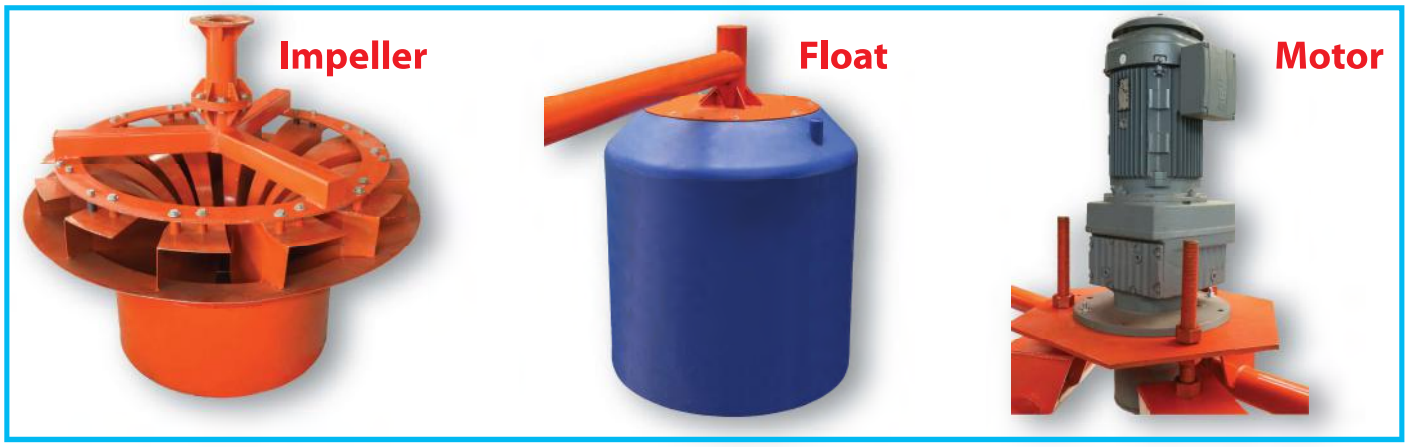
The deep pumping action of the Low Speed Surface Aerators / Francis Turbine Series generates effective l ocalized mixing to optimize many wastewater treatment processes. The Low Speed Surface Aerators / Francis Turbine Series is ideal for many industrial treatment process requiring fast and efficient oxygen transfer such as pulp and paper, food processing and others.

The Low Speed Surface Aerators / Francis Turbine Series offers high oxygen transfer and reliable operation to meet the requirements of your toughest wastewater teatment environments.



Designed for long term continuous operations, the Low Speed Surface Aerators / Francis Turbine series utilizes an innovative composite material in the construction of its hydro-dynamically efficient rotor is specially molded to optimize the spray of water droplets resulting in some of the highest oxygen transfer rates of any mechanical aeration system. Using the latest in power transmission technology, the Low Speed Surface Aerators/ Francis Turbine Series converts the least amount of energy into the maximum amount of rotor torque for excellent aeration and deep basin mixing. Models are available from 2 to 150 horse power (1.5 to 110kw) at 50 to 60 Hertz.

Low Speed Surface Aerators / Francis Turbine series integrate the most recent power transmission technology to optimize rotation speed and maximize torque while minimizing the power consumption.



In addition, the Low Speed Surface Aerators / Francis Trubine Series includes these features:

- Flange coupling for high torque, long lifetime performance.
- Three pod float design for in basin stability.
- Standard motor for easy availability and replacement.
- Float or fixed mounted units to meet process requirements.
- Minimum 2.0 gearbox safety factor assures long life.

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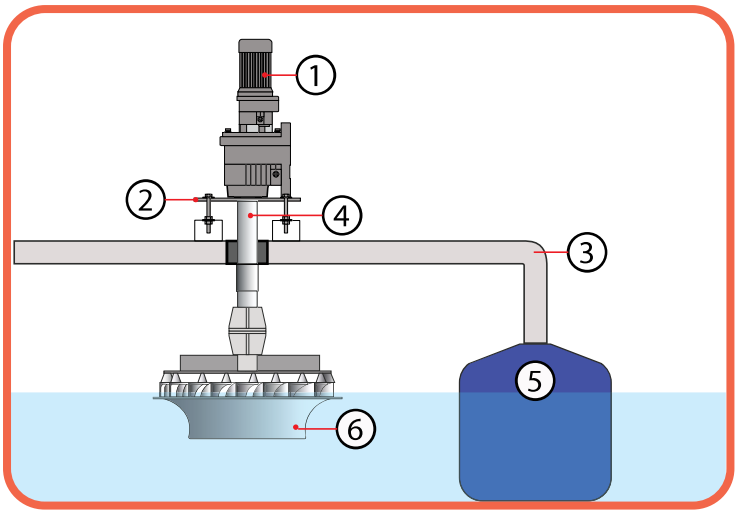

Construction and Material

No.	Name	Material
1	Gear Motor	Cast iron
2	Base Plate	Galvanized steel
3	Mounting Frame	Galvanized pipe
4	Drive Shaft	SUS
5	Float	PE+PU foam
6	Francis Turbine	SUS

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Product No.	Motor (50Hz)			Aerator					
	kW	HP	RPM (approx.)	Flow (m^3/hr)	Oxygen Transfer (kg O^2/hr)	Service Dia. (m)	Eff. Zone Dia. (m)	Service Depth (m)	Francis Turbine (mm)
LFCA-0055	4.0	5.5	83	1,450	11.0	12.5	38	2.0-3.0	950
LFCA-0075	5.5	7.5	93	1,650	15.2	15	42	2.0-3.5	1,050
LFCA-0100	7.5	10	87	1,900	20.6	18	50	2.5-4.0	1,150
LFCA-0150	11	15	98	2,850	28.5	22	58	2.5-4.5	1,250
LFCA-0200	15	20	93	3,950	38.6	28	65	2.5-5.0	1,350
LFCA-0250	18.5	25	94	4,500	46.4	32	72	3.0-5.5	1,450
LFCA-0300	22	30	87	6,000	60.2	38	80	3.5-6.0	1,600
LFCA-0400	30	40	88	7,500	76.6	42	90	3.5-6.5	1,750
LFCA-0500	37	50	88	9,500	98.4	48	105	4.0-6.5	1,900

Remark : Approximate test result with ambient temperature, low suspended solids wastewater.

Typical Applications :

Extended aeration
Municipal-industrial
Aerated lagoons

Equalization
Batch Reactor
Sludge holding

Oxidation ditches
Aerobic digestion

Widely used wastewater treatment process such as sequenced batch reactors (SRB), activated sludge reactors, moving bed biofilm reactor (MBBR), submerge aerated filter (SAF), aerobic sludge stabilization, digesters, lagoons, ponds, mixing or buffer tank etc.

The information contained herein relative to data, dimensions and recommendations as to the size, power and assembly is for the purpose of estimation only, These value should not be assumed universally applicable to specific design problems on particular designs, installation and plants may call for specific requirements consult Pakco International Co., Ltd. For exact recommendations or specific needs.