

# **Aspirating Aerator**

Lambda aspirating jet aerator is an efficient aerator to be installed in aerating tanks, basins, aerated lagoons and rivers/canals for municipal and industrial wastewater treatment. The hi-grade material air jet is directly mounted at an adjustable angle with the motor portion and air intake above the surface, and the propeller portion below the surface. The motor rotates and turns the hollow shaft along with the propeller and drives the water at a high speed near the propeller blades. Air above the water level is drawn via the air intake port and going into the hollow shaft. Turbulent flow created by the propeller breaks up the air into small bubbles along the water streamline, mixes in the basin and disperses oxygen. Maximum oxygen transfer can be achieved by increasing bubble hang time via horizontal water movement.





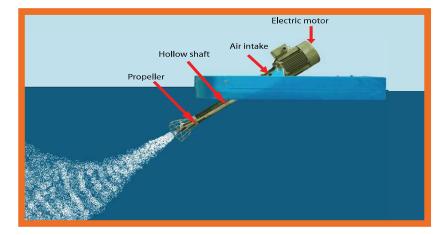
#### Features

- The aerator parts are made from stainless steel 304/316 or engineering plastic depending upon water quality.
- Aerator synchronous speeds are 1,500 rpm and 3,000 rpm.
- Ceramic or stainless steel sleeve is installed at the shaft end bearing, when uses in common water.
- There is no end bearing model for the high-strength cantilever hollow shaft, which means no bearing problem when used in abrasive water.
- Installation is available both in fix and float types.

#### **Benefits**

- Creates effective horizontal water movement to limit algae growth and distribute oxygen over a wide area.
- Operates quietly without spraying or splashing for year-round performance.
- Reduce odors by injecting oxygen and providing water movement.
- Directs circulation into most areas as the aerator angle adjust to control the amount of circulation and depth of bubble stream.
  Easy to move and install by one person (we recommend a registered electrician to do all the wiring).







# Application

#### Sewage

Aeration, re-suspension and circulation of oxidation ditches, aerobic treatment of sewage effluent, mixing, consolidation and treatment of sludge, improved digestion resulting in the ditch returning to original handling capacity.

#### **Fish Farms**

The total flexibility in depth and position gives the high volume of entrained air which is the perfect choice for fish rearing tanks, growing cages and fishing lakes.

#### **Environmental Use**

Oil spillage recovery, ranging from slight oil contaminated cooling water to heavy pollution after oil spillage and to the removal of water bound larvae e.g. mosquitoes.







#### **Process Waste**

The floatation aerator is ideal for use on large bodies of water, such as lagoons and reservoirs, where stratification is to be avoided. The unit will also deal with polluted water in situ, rejuvenating depleted oxygen levels. This method of aerating has been proved, in large ditches (e.g. paper manufacturing), to improve the consistency of effluent prior to discharge.





# **Application Guide**

This guide is written to assist the user of Lambda aspirating jet aerators in the effective and efficient sizing and application of this product. When making a recommendation for Lambda aerators you must carefully consider mixing and oxygen requirements, as well as the configuration of the process system.

#### How is it applied?

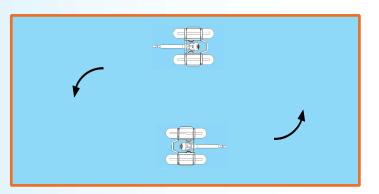
Lambda aerators can be mounted on floats, basin walls or bridge. They are fully adjustable with several mooring option available to fit specific basin geo-Metries. Multiple aerators can be used depending upon the basin size. These aerators can be used in different shaped tanks, lagoons and oxidation ditches. Typical positioning is presented in the left.

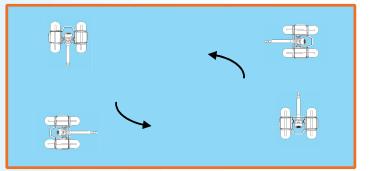
#### Design and process advantages:

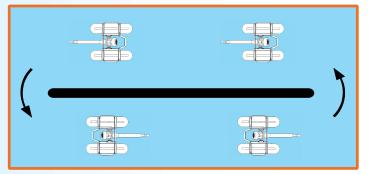
Oxygen transfer rates are maximized by the extremely efficient mixing capabilities of the Lambda aerator and by the horizontal bubble hang time generated. This makes the Lambda aerator the ideal choice for large lagoons or for any application that requires complete mixing because mixing zones can be linked to maximize energy efficiency. The versatility of the mounting options reduced capital costs.

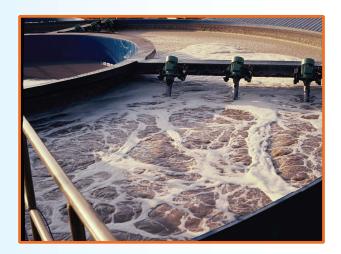












## **Type : S, for Common Water 380V, 3 Phase, 50 Hz, IP55, 3,000 rpm.**



# 2 -5.5 Hp

Model			Approx.Total			
Model	Нр	Aerator	Motor Cover	Frame	Float	Weight (kg)
STT020A-PA080	2	$\checkmark$	$\checkmark$	-	$\checkmark$	42
STT030A-PA080	3	$\checkmark$	$\checkmark$	-	$\checkmark$	44
STT055A-PA100	5.5	$\checkmark$	$\checkmark$	I	$\checkmark$	60



# 7.5 -10 Hp

			Quantity	Quantity				
Model	Нр	Aerator	Motor Cover	Frame	Float	Weight (kg)		
STH075A-PI200	7.5	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	172		
STH100A-PI200	10	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	207		



# 15 -25 Hp

Mastal			Quantity					
Model	Нр	Aerator	Motor Cover	Frame	Float	Weight (kg)		
STH150A-PI200	15	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	285		
STH200A-PI200	20	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	306		
STH250A-PI200	25	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	325		

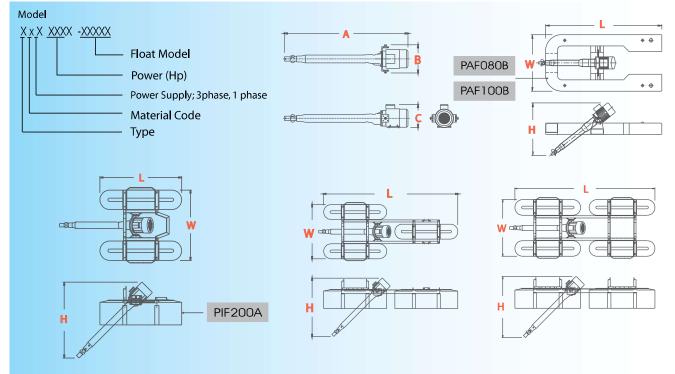


# 30 Hp

Model	11.		Approx.Total			
	Нр	Aerator	Motor Cover	Frame	Float	Weight (kg)
STH300A-PI200	30	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	402



### Aerators



#### **General Specification**

Model	SxT020A-PA080	SxT030A-PA080	SxT055A-PA100	SxH075A-PI200	SxH100A-PI200	SxH150A-PI200	SxH200A-PI200	SxH250A-PI200	SxH300A-PI200	
Motor										
Power [KW / Hp]	1.5 / 2	2.2 / 3	4 / 5.5	5.5 / 7.5	7.5 / 10	11 / 15	15 / 20	18.5 / 25	22 / 30	
Voltage [V], Phase, Frequency					380 V, 3 Ph, 50 Hz	<u>.</u>				
Rated current [A]	3.5	4.8	8.2	11.2	14.7	21	28.3	36	42	
Insulation class		Н								
Protection class					IP55					
Impeller					Marine Type					
Impeller speed approx. [rpm.]	2,880	2,880	2,905	2,910	2,910	2,930	2,930	2,940	2,940	
Number of float	PA	.080 x 1	PA100 x 1	1 PI200 x 2 PI200 x 3			PI200 x 3		PI200 x 4	
Weight Approx. [kg.]	42	44	60	172	207	285	306	325	402	
Mooring cable diameter [mm.]		6	5		9				12	

#### Application for aeration and mixing tank

* Oxygen transfer rate [kg. 02 / hr]	3.0	4.5	8.2	11.2	14.9	22.4	29.8	37.3	44.7
Min depth [m]	1.5	1.5	1.5	1.5	2	2.5	3	3	3
Max depth [m]	2.5	2.5	3.5	3.5	4	5	5	6	6
Working distance [m]	12	15	20	23	25	33	35	38	40
Mixing volume [cu.m]	100	150	300	400	550	800	1,000	1,300	1,600

#### Dimension

Aerator length [mm.] A	1,122	1,147	1,300	1,805	1,805	2,099	2,099	2,121	3,054
Aerator width [mm.] B	350	350	370	410	410	410	410	410	629
Aerator height [mm.] C	229	229	282	324	324	392	392	392	412
Total length [mm.] L	1,565	1,565	1,565	1,480	1,480	3,290	3,290	3,290	3,290
Total width [mm.] W	750	750	750	1,380	1,380	1,380	1,380	1,380	1,380
Total height [mm.] H	676	676	890	1,341	1,341	1,593	1,593	1,593	1,915

#### Material

Material Code	А	Т	U								
For aerator model	2-3 Hp	All model	All model								
Housing											
Drive shaft	Stainless Steel 304	Stainless Steel 304	Stainless Steel 316								
Propeller											
Mounting bracket		Stainless Steel 304									
Frame ass'y	F	lot-dip Galvanized Steel									
Bolts & nut		Stainless Steel 304									
Float	Polyet	Polyethylene, Polyurethane foam filled									

Float	
Float Number	Float Type
PA080	PAF080B
PA100	PAF100B
PI200	PIF200A



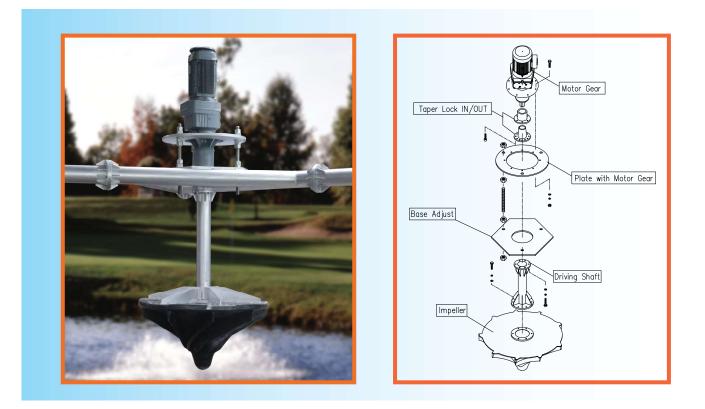
#### **Low Speed Surface Aerator**

#### **Drive Unit:**

The aerator is driven by a motor of suitable rating. The speed is reduced from the motor speed to the aerator speed by a suitable reduction gear box having worm/helical gears. The speed of the aerator and the diameter of the impeller are so selected that aerator will have the optimum oxygen transfer capacity. The motor is of reputed make suitable for outdoor duties. The reducer bearings and gears are oil lubricated and weather protected. Our range of manufacturing covers 3.0 HP, 5 HP, 10 HP, 12.5 HP, 15 HP, 20 HP, 25, HP, 30 HP, 40 HP, 50 **HP**, **60 HP**, **75 HP and 100 HP** fixed type surface aerators.

#### Adjusting Studs:

The depth of submergence can be adjusted by the adjusting studs. It is necessary to maintain the water level to avoid overloading of aerator drive.



#### How Aerator Works

Aerators 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 the wastewater. When activated, turns at a slow speed (typically 40 to 100 rpm). Specially designed fins on the rotor then pump large amounts of water into the air in a fine spray. These very small droplets create a 360-degree circular pattern. High transfer of oxygen is created by the large surface-to-volume ratio of the water droplet and its long exposure to air after spraying. Pumping up oxygen-deficient water at the bottom of the basin and exposing it to air above the water surface provides faster mass transfer from ambient air to the water droplet. The deep pumping action of aerator generates effective localized mixing to optimize many wastewater treatment processes. Aerator is ideal for treatment processes in industries that require fast and efficient oxygen transfer, including the pulp and paper, food processing, and other industries.



# **Basic Installation and Erection Procedures**

Shipped in modules and is easy to assemble in the field. It typically requires a crane and crew of two to four people, depending on size of the machine.

- 1. Assemble the rotor.
- 2. Position the drive mechanism on the rotor. Bolt the rotor to the drive mechanism.
- 3. NSA1:bolt the arms to the center mechanism. NSA 2, 3 and 4: bolt the arms to the top lugs of the center mechanism.
- 4. Install the lower link bars between the center mechanism and the arms.
- 5. Bolt the float assemblies to the arms.
- 6. Fill the gearbox with oil.
- 7. Use the crane to place the NSA in the water. Hook up mooring and electric cable to the machine.
- 8. Adjust floats for desired rotor immersion.

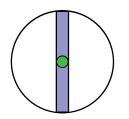
## **Mounting Flexibility**

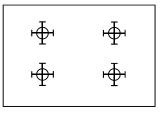
Aerator offers flexibility to be configured as a floating or fixed mounted unit. Each float mounted aerator installs on a "three-pod" pontoon system. The stainless steel pontoons are filled with closed cell polymer foam, making a rugged long-life float system. With a flotation safety factor of 2, a 250 pound (114 kg) operator can safely step on the fully assembled float and aerator system to check equipment or perform routine maintenance.

# **Application Guide**

Aerators can be fixed mounted on a platform or float mounted within a basin. Single aerators are used to aerate and mix small tanks while multiple aerators are used in large basins. Tank baffle walls are sometimes used to limit rotational mixing. These aerators can be used in round tanks, rectangular tanks, lagoons or oxidation ditches. Typical positioning is as follows:







**Round Tank** 

**Fixed Mount center** 

Rectangular Tank

Float Mount

Rectangular Tank

Fixed Mount

**Oxydation Ditch** 

Float Mount



# Low Speed Surface Aerator 380 V, 3 Phase, 50 Hz, IP55



# Mild steel with hot dip galvanized

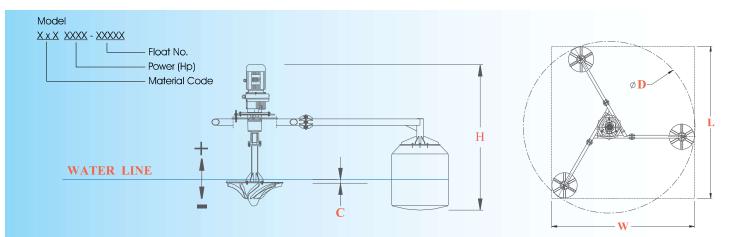
Model	Нр		Quantity	Approx.Total	
Model	μh	Aerator	Frame	Float	Weight (kg)
VST055A-PC250	5.5	$\checkmark$	$\checkmark$	$\checkmark$	588.0
VSH075A-PC700	7.5	$\checkmark$	$\checkmark$	$\checkmark$	1,081.0
VSH100A-PC700	10	$\checkmark$	$\checkmark$	$\checkmark$	1,107.0
VSH150A-PC700	15	$\checkmark$	$\checkmark$	$\checkmark$	1,130.0
VSH200A-PC700	20	$\checkmark$	$\checkmark$	$\checkmark$	1,271.0
VSH250A-PC2K0	25	$\checkmark$	$\checkmark$	$\checkmark$	3,145.0
VSH300A-PC2K0	30	$\checkmark$	$\checkmark$	$\checkmark$	3,513.0
VSH400A-PC2K0	40	$\checkmark$	$\checkmark$	$\checkmark$	3,585.0
VSH500A-PC2K0	50	$\checkmark$	$\checkmark$	$\checkmark$	3,850.0

### SS 304

Model	Нр		Quantity	Approx.Total	
model		Aerator	Frame	Float	Weight (kg)
VTT055A-PC250	5.5	$\checkmark$	$\checkmark$	$\checkmark$	588.0
VTH075A-PC700	7.5	$\checkmark$	$\checkmark$	$\checkmark$	1,081.0
VTH100A-PC700	10	$\checkmark$	$\checkmark$	$\checkmark$	1,107.0
VTH150A-PC700	15	$\checkmark$	$\checkmark$	$\checkmark$	1,130.0
VTH200A-PC700	20	$\checkmark$	$\checkmark$	$\checkmark$	1,271.0
VTH250A-PC2K0	25	$\checkmark$	$\checkmark$	$\checkmark$	3,145.0
VTH300A-PC2K0	30	$\checkmark$	$\checkmark$	$\checkmark$	3,513.0
VTH400A-PC2K0	40	$\checkmark$	$\checkmark$	$\checkmark$	3,585.0
VTH500A-PC2K0	50	$\checkmark$	$\checkmark$	$\checkmark$	3,850.0



### **Low Speed Surface Aerator - SEW Motor**



### **General Specification :**

Mode 
 VxH075A-PC700
 VxH100A-PC700
 VxH150A-PC700
 VxH200A-PC700
 VxH250A-PC2K0
 VxH300A-PC2K0
 VxH400A-PC2K0 VxH500A-PC2K0 Geared motor Power [KW/Hp] 4/5.5 5.5/7.5 7.5/10 11/15 15/20 18.5/25 22/30 30/40 37/50 Voltage [V], Phase, Frequency 380V, 3Ph, 50Hz Insulation class F Protection class P55 74 78 88 98 107 43 43 53 Rated current [A] 8.7 11 5.5 22.5 29.5 37 42.5 55 67 Service factor 2.8 3.7 3 2.2 3 3.6 2.7 27 3.2 Flange size 350 450 450 450 550 550 660 660 660 Impeller type Turbine Impeller dia. approx. [mm.] 1000 1,180 2,000 2,200 Number of float PC250 x 3 PC700 x 3 PC2K0 x 3

### Application for aeration and mixing tank

Oxygen transfer rate [kg] O2/hr	8.2	11.2	14.9	22.4	29.8	37.3	44.7	59.6	74.5
Min depth [m]	1.5	1.5	1.5	1.5	1.5	2	2	2	2
Max depth [m]	4	4	4	4.5	4.5	5	5	5	5
Mixing aeration tank [dia.m]	10.5	15.5	17.5	22.0	25.0	33.0	35.0	37.0	38.0
Aeration pond/Lagoon [dia.m]	32.0	42.0	46.0	50.0	55.0	64.0	68.0	74.0	80.0

## **Dimension**:

Diameter [mm.] D		5,500 6,000							7,500			
Height [mm.] H	1,725	1,765	1,850	2,390	2,410	2,470	2,550	3,760	3,840	3,900	3,980	
Coverage [mm.] C		50						+50 to +100				
Width [mm.] W		4,050 5,650							6,535			
Length [mm.] L		4,250				5,975		6,870				
Weight approx. [kg.]	525	550	588	1,081	1,107	1,130	1,271	3,145	3,513	3,585	3,850	
Mooring cables diameter [mm.]		6 9					)			12		

### **Material :**

Material code	c	т	11				
Geared motor	SEW MADE IN WES	F GERMANY, IP55, Service Fac	tor higher than two				
Coupling	Stainless						
Drive shaft			Stainless Steel 316				
Impeller	Hot-dip Galvanized Steel	Stainless Steel 304					
Frame ass'y							
Bolt & nut	Stainless Steel 304						
Float	Polyethylene, PU Foam Filled						

#### Float

Float Number	Float Type
PC250	PCF250A
PC700	PCF700A
PC2K0	PCF2K0A

\*Oxygen transfer rate at standard condition.

Mixing volume are calculated due to power per unit volume 10 watt/cu.m.



# Low Speed Surface Aerator 380 V, 3 Phase, 50 Hz, IP55





### Mild steel with hot - dip galvanized

Madal		Q	Approx.Total		
Model	Нр	Aerator	rator Frame Fl		Weight (kg)
VTG020-3PC250	2.0	$\checkmark$	$\checkmark$	$\checkmark$	550.0
VTG030-3PC250	3.0	$\checkmark$	$\checkmark$	$\checkmark$	600.0
VTG040-3PC250	4.0	$\checkmark$	$\checkmark$	$\checkmark$	650.0
VTG055-3PC250	5.5	$\checkmark$	$\checkmark$	$\checkmark$	700.0
VTG075-3PC250	7.5	$\checkmark$	$\checkmark$	$\checkmark$	1,150.0
VTG010-3PC250	10	$\checkmark$	$\checkmark$	$\checkmark$	1,200.0
VTG015-3PC700	15	$\checkmark$	$\checkmark$	$\checkmark$	1,300.0
VTG020-3PC700	20	$\checkmark$	$\checkmark$	$\checkmark$	1,450.0
VTG025-3PC1K	25	$\checkmark$	$\checkmark$	$\checkmark$	2,350.0
VTG030-3PC1K	30	$\checkmark$	$\checkmark$	$\checkmark$	2,500.0
VTG040-3PC1K	40	$\checkmark$	$\checkmark$	$\checkmark$	2,550.0
VTG050-3PC2K	50	$\checkmark$	$\checkmark$	$\checkmark$	3,850.0
VTG060-3PC2K	50	$\checkmark$	$\checkmark$	$\checkmark$	4,000.0
VTG075-3PC12	50	$\checkmark$	$\checkmark$	$\checkmark$	4,100.0

#### SS 304

Model		Q	Approx.Total			
Model	Нр	Aerator Frame		Float	Weight (kg)	
VTS055-3PC250	5.5	$\checkmark$	$\checkmark$	$\checkmark$	550.0	
VTS055-3PC250	5.5	$\checkmark$	$\checkmark$	$\checkmark$	600.0	
VTS055-3PC250	5.5	$\checkmark$	$\checkmark$	$\checkmark$	650.0	
VTS055-3PC250	5.5	$\checkmark$	$\checkmark$	$\checkmark$	700.0	
VTS075-3PC250	7.5	$\checkmark$	$\checkmark$	$\checkmark$	1,150.0	
VTS010-3PC250	10	$\checkmark$	$\checkmark$	$\checkmark$	1,200.0	
VTS015-3PC700	15	$\checkmark$	$\checkmark$	$\checkmark$	1,300.0	
VTS020-3PC700	20	$\checkmark$	$\checkmark$	$\checkmark$	1,450.0	
VTS025-3PC1K	25	$\checkmark$	$\checkmark$	$\checkmark$	2,350.0	
VTS030-3PC1K	30	$\checkmark$	$\checkmark$	$\checkmark$	2,500.0	
VTS040-3PC1K	40	$\checkmark$	$\checkmark$	$\checkmark$	2,550.0	
VTS050-3PC2K	50	$\checkmark$	$\checkmark$	$\checkmark$	3,850.0	
VTS060-3PC2K	50	$\checkmark$	$\checkmark$	$\checkmark$	4,000.0	
VTS075-3PC2K	50	$\checkmark$	$\checkmark$	$\checkmark$	4,100.0	

# Low Speed Surface Aerator Francis Turbine Series

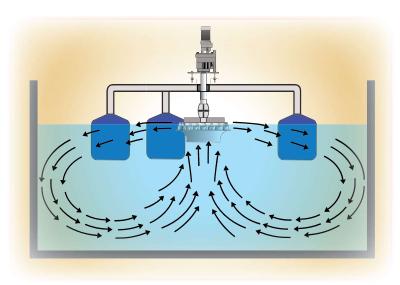


Lambda

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<sup>2</sup> 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 I 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.



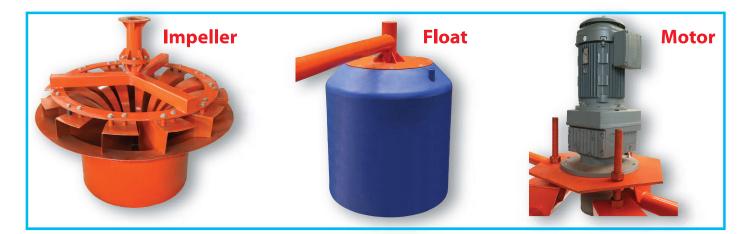


The Low Speed Surface Aerators / Francis Turbine Series offers high oxygen transfer and reliable operation to meet the requirements of your toughest wastewater teatment environments.



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.

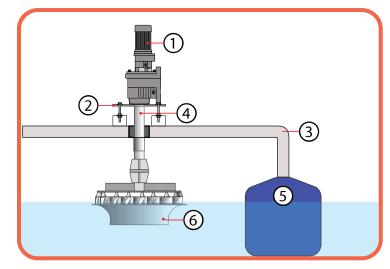
Low Speed Surface Aerators / Francis Turbine series integrate the most recent power transmission technology to optimize rotation speed and maximize torque while minimizing the power consumption.



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.

# Low Speed Surface Aerator Francis Turbine Series



lambda

#### **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				

The Lo	The Low Speed Surface Aerators / Francis Turbine Series									
Product	Мо	tor (50	Hz)	Aerator						
No.	kW	HP	RPM (approx.)	Flow (m³/hr)	Oxygen Transfer (kg O²/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 <b>-</b> 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 <b>-</b> 4.5	1,250	
LFCA-0200	15	20	93	3,950	38.6	28	65	2.5 <b>-</b> 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 <b>-</b> 6.0	1,600	
LFCA-0400	30	40	88	7,500	76.6	42	90	3.5 <b>-</b> 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
- EqualizationBatch Reactor
- . Oxidation ditches
- Aerobic digestion

- . Aerated lagoons
- Sludge holding
- 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.

# **High Speed Surface Aerator**

The **LAMBDA** high speed floating aerator and high efficiency floating surface aerator are designed to maximize the two most common functions – to produce oxygen and mixing wastewater.

The wastewater (Liquid) is pump to the surface of water through high speed impeller which would create perfect liquid spray to improve the speed of oxygen into the wastewater tank (pond), which ensures the mixing of waste water and dispersion of oxygen.

The **LAMBDA** high speed floating surface aerator is the most economic and reliable aeration and mixing equipment using reliable motor to drive the blade directly, pumps the wastewater from tank (pond) through pipe with very high speed and create high speed flow. The pumped-out water will be sprayed out through guide cone panel and then will form sheet type falls. The water will form countless tiny bubbles with oxygen after flying and contacting the air and then the water will form turbulence and bubbles when falling down and hitting the water surface which help the water fully oxygenated and make the wastewater mixed.



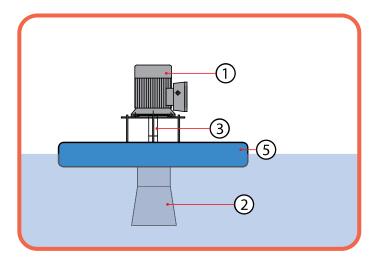
#### **Features and Advantages**

- Proven oxygen and mixing performance
- Easy and flexible installation
- Units are retrivable for easy access
- Lower cost

Lambda

- The electric motor is very safe, reliable and maintenance free
- Short lead time
- Easy to incorporate with existing plants
- Varius mooring arrangement available
- Very simple product structure





### **Construction and Material**

No.	Name	Material
1	Motor	Cast iron
2	Guide cone panel	Steel / PE
3	Shaft	SUS
4	Water inlet pipe	PE
5	Float	PE+PU foam
6	Impeller	SUS

	High Speed Floating Surface Aerator										
Draduct	M	otor (50	Hz)	Aerator							
Product – No.	kW	HP	RPM (4 pole)	Flow (m³/min)	Oxygen Transfer (kg O²/hr)	Service Dia. (m)	Max. Ser Dia. (m)	Service Depth (m)	Max. Serv.D.		
HFA-0104	0.75	1	1450	3	1.6	3.5	6.5	1.5-2.5	4.5		
HFA-0204	1.5	2	1450	5	3.2	5.5	10	2-3	5.5		
HFA-0224	2.2	3	1450	7	4.6	8	15	3-4	6		
HFA-0304	3	4	1450	8.5	6.5	9	16.5	3-4	6		
HFA-0504	4	5	1450	10	8.2	12	22	3-4	7		
HFA-0754	5.5	7.5	1450	12	11.5	15	27.5	3-4	7		
HFA-1004	7.5	10	1450	20	16.5	18	32.5	3-4	7		
HFA-1504	11	15	1450	26	22.5	27.5	50	4-5	8		
HFA-2004	15	20	1450	30	31	34	60	4-5	8		
HFA-2504	18.5	25	1450	34	38	38	67.5	4-5	8		
HFA-3004	22	30	1450	38	46	42	75	4-5	9		
HFA-4004	30	40	1450	48	60	45	80	5-6	9		

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.

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