



## **Mechanical Surface Aerators**

Biological Treatment

# **Triveni** Mechanical Surface Aerator

## **Low Speed Mechanical Surface Aerator**

Triveni Aerators are designed and built consistent with sound engineering principles - a heavy duty design with high output torque capacity. You get Aerators that provide continuous trouble-free operation with minimum maintenance. The uniform power draw reduces damaging shock loadings on motor and gear reducer.

The motor and gear reducer are an integral unit and are flanged to the impeller shaft. There are no external bearings to be affected by the wastewater.

Triveni Low Speed Aerators are available in complete range of sizes in a fixed or floating design assuring the right type for each application. The size and number of Aerators required for best results in each installation can vary widely depending on the type of waste, flow volume and the basin size.

## **Varying Oxygen Transfer**

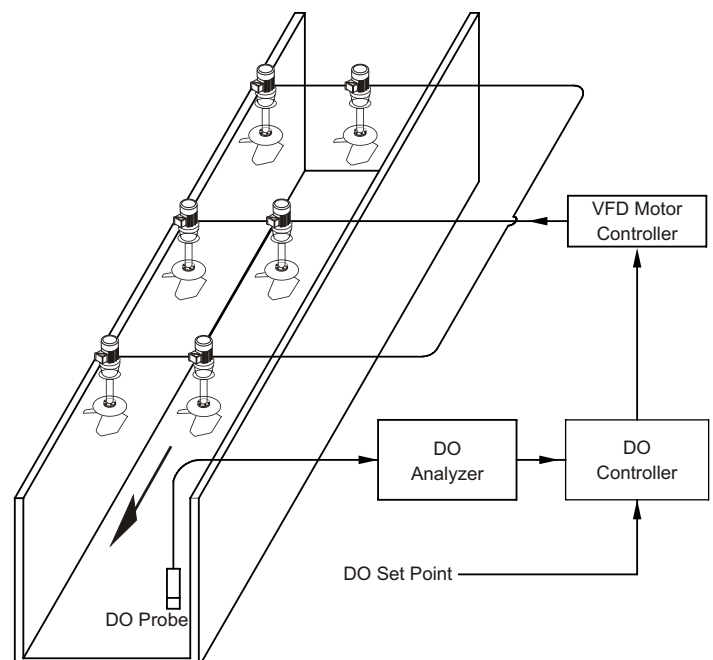
- Fixed Units - adjust blade exposure by varying the level of the unit through adjustable base plate.
- Blade exposure can also be adjusted by varying the liquid level for fixed units.
- Floating Units - adjust ballast in the pontoons by adding or withdrawing.
- By varying the motor speed through variable speed frequency drive or any other arrangements.
- There could be other means in specific situations for e.g. change of impeller blades etc., for which consult Triveni.

## **Adjustable Frequency Drive - Optional**

To minimize power cost, variable frequency drive controllers (VFD) can be “cost effective” in many wastewater treatment facilities. Dissolved Oxygen (DO) probes and instrumentation used in conjunction with VFD controllers continually match oxygen transferred to the system oxygen demand. The schematic drawing shows a typical arrangement.

## **Applications**

Activated Sludge
Aerobic Digesters
Lagoons
Post Treatment
Equalisation Basins



# **Triveni** Mechanical Surface Aerator

## **Unique Impeller design delivers greater efficiency with uniform power draw**

The mixed flow impeller design of Triveni Low Speed Aerators delivers the most efficient oxygen transfer and superior mixing performance. The design permits the impeller to operate over a wide range of submergence and at a higher RPM that not only increases aeration efficiency but also results in a remarkably uniform power draw.

The efficiency of the impeller is such that it permits relatively deep tank aeration without need for draft tubes.

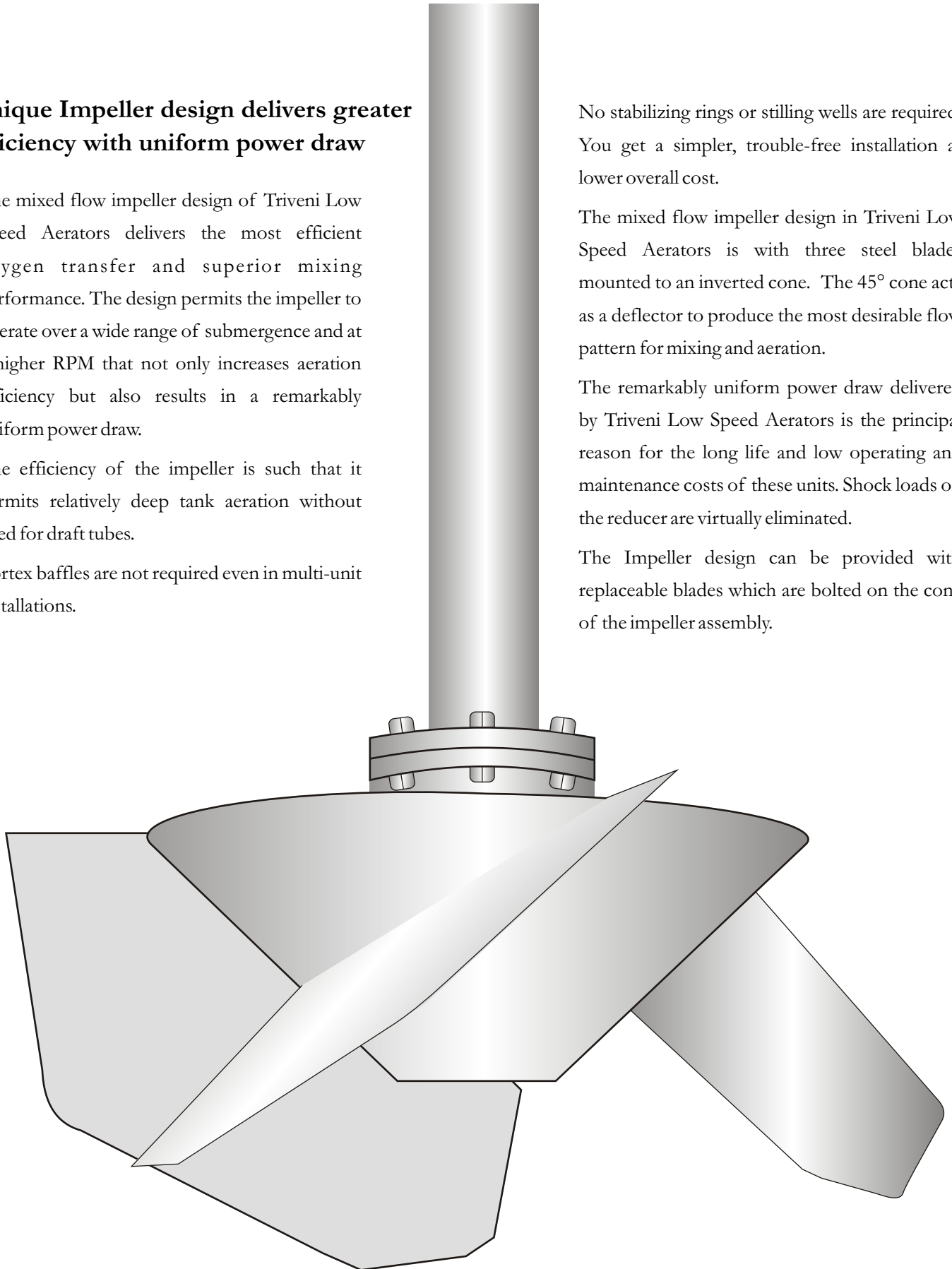
Vortex baffles are not required even in multi-unit installations.

No stabilizing rings or stilling wells are required. You get a simpler, trouble-free installation at lower overall cost.

The mixed flow impeller design in Triveni Low Speed Aerators is with three steel blades mounted to an inverted cone. The 45° cone acts as a deflector to produce the most desirable flow pattern for mixing and aeration.

The remarkably uniform power draw delivered by Triveni Low Speed Aerators is the principal reason for the long life and low operating and maintenance costs of these units. Shock loads on the reducer are virtually eliminated.

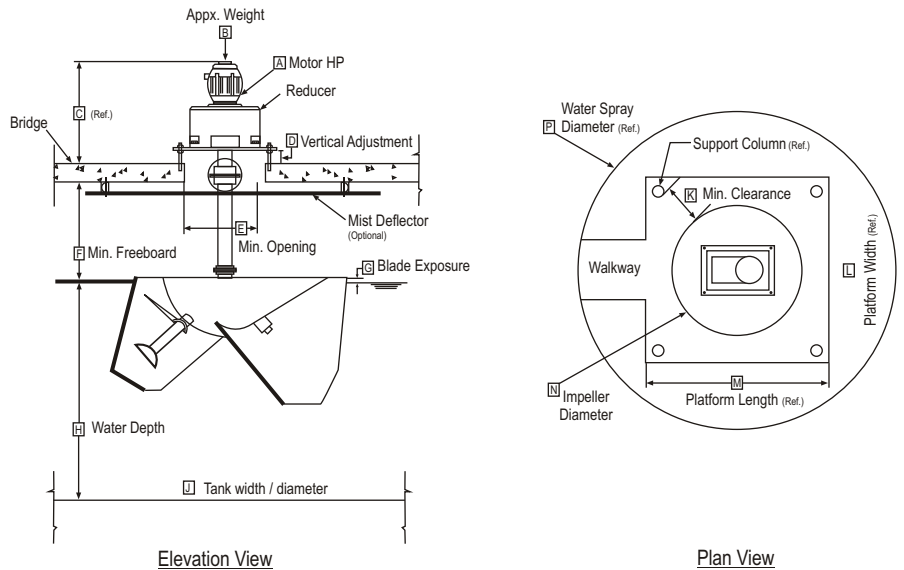
The Impeller design can be provided with replaceable blades which are bolted on the cone of the impeller assembly.



# Triveni Mechanical Surface Aerator

## Bridge Mounted Fixed Aerator

Triveni Low Speed Bridge Mounted Aerators employ steel or concrete bridges or platforms and are mounted on adjustable steel plates with adequate strength to support the entire Aerator. The vertical adjustment provides the desired submergence of the impeller for best operating results. In addition, Aerators can be provided with adjustable frequency drive controllers to automatically match oxygen transferred to the system oxygen demand, using DO probes, thereby optimizing power utilization.



## Baffles (optional)

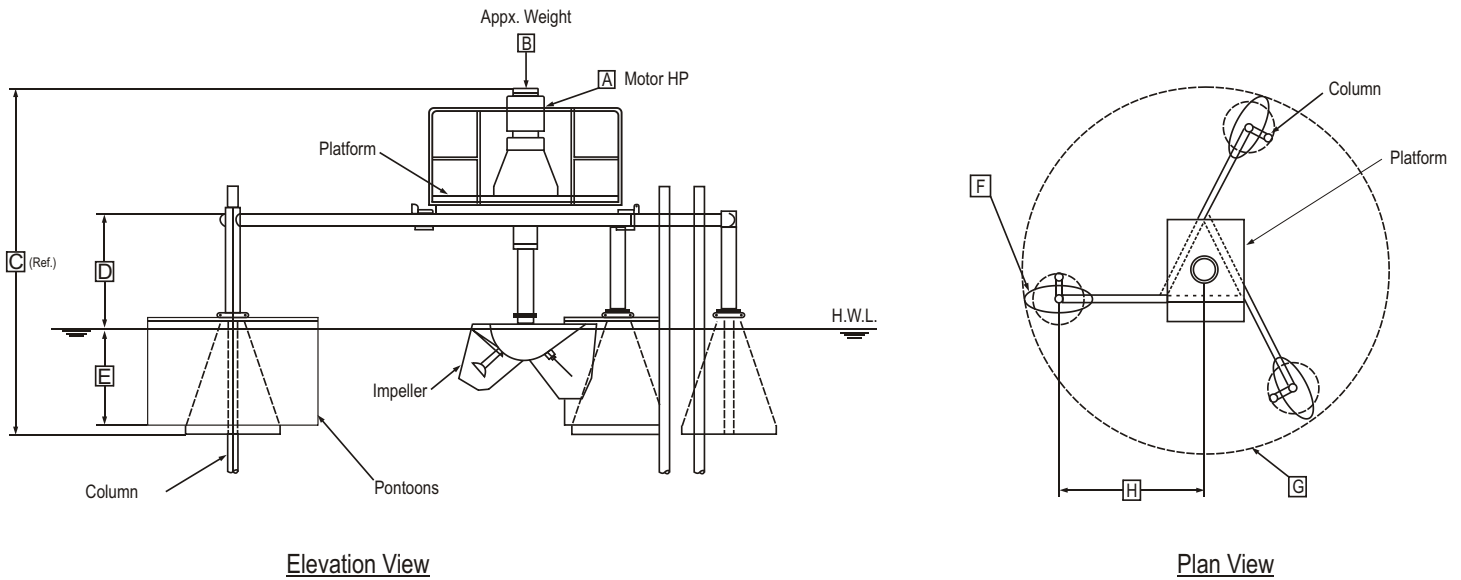
In most multi installations, the configuration of the Triveni impellers eliminates need for baffling. However, in some applications, such as a centrally located single Aerator in a tank, baffles may be required to prevent swirling and vortexing.

A	B	C	D	E	F	G	H		J		K	L	M	N	P	A
							Min.	Max.	Min.	Max.						
HP	Kgs.	All dimensions are in mm														HP
5	700	1220	75	330	1100	75	1500	3000	6000	12000	600	2100	2000	1015	2700	5
7.5	750	1220	75	330	1100	75	1500	3600	6000	12000	600	2100	2000	1015	3100	7.5
10	760	1220	75	330	1100	100	1500	4200	6000	12000	900	2100	2000	1015	4900	10
15	850	1220	75	330	1100	100	1800	4800	7500	16800	1050	2100	2000	1090	5500	15
20	950	1500	75	380	1200	125	1800	4800	9000	18300	1050	2100	2000	1195	6700	20
25	1000	1500	75	380	1200	125	2400	5500	10500	20000	1200	2100	2000	1270	7000	25
30	1200	1500	75	380	1200	125	2400	5500	10500	20000	1200	2100	2000	1345	7600	30
40	1300	1600	75	380	1400	165	2400	5500	10600	23000	1400	2400	2500	1575	8200	40
50	1800	1600	75	380	1400	165	3000	6000	10600	24500	1400	2400	2500	1625	8500	50
60	2200	1600	50	460	1500	200	3000	6000	12000	24500	1500	2400	2500	1675	9700	60
75	2300	2000	50	460	1500	200	3600	6700	12000	27500	1700	2700	2500	1675	10400	75
100	3400	2030	50	460	1500	250	3600	7200	16500	33000	1700	2700	3000	2030	10400	100

All dimensions are approximate (for reference only)

## Floating Aerator

Floating Aerators employ generally reinforced fiberglass foam filled pontoons connected to the Aerator platform by a triangular tubular structural frame. The platforms are sized to provide adequate work area around the drive. Pontoons are placed to minimize any interference with the flow pattern and maximize stability. Each of the pontoons has a ballast compartment which can be filled with water or other liquid or other suitable material to adjust submergence and level the unit. The pontoons can also be provided in steel construction - carbon steel or stainless steel.



A	B	C	D	E	F	G	H	A
HP	Kgs.	All dimensions are in mm						HP
5	2200	3600	1200	950	900 x 2100	7300	2500	5
7.5	2300	3600	1200	950	900 x 2100	7300	2500	7.5
10	2350	3600	1200	950	900 x 2100	7300	2500	10
15	2400	3600	1200	950	900 x 2100	7300	2500	15
20	2600	3600	1200	950	900 x 2100	7300	2500	20
25	2700	3600	1200	950	900 x 2100	7300	2500	25
30	3000	3600	1200	950	900 x 2100	7300	2500	30
40	4400	4200	1600	1300	1500 x 2700	9500	3300	40
50	4900	4200	1600	1300	1500 x 2700	9500	3300	50
60	5400	4200	1600	1300	1500 x 2700	9500	3300	60
75	5500	4200	1600	1300	1500 x 2700	9500	3300	75
100	6500	4200	1600	1300	1500 x 2700	9500	3300	100

All dimensions are approximate (for reference only)

# Wide Range of Aeration Equipment

## Low Speed Surface Aerators

Fixed

Floating

## High Speed Surface Aerators

Fixed

Floating

## Fine Bubble Flexible Membrane Diffusers

Disc

Tube

## Coarse Bubble Diffusers

## Rotating Biological Contactors

## Submerged Biological Contactors

## Mechanical Aerators for Oxidation Ditch

## Rotary Distributors for Trickling Filters

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