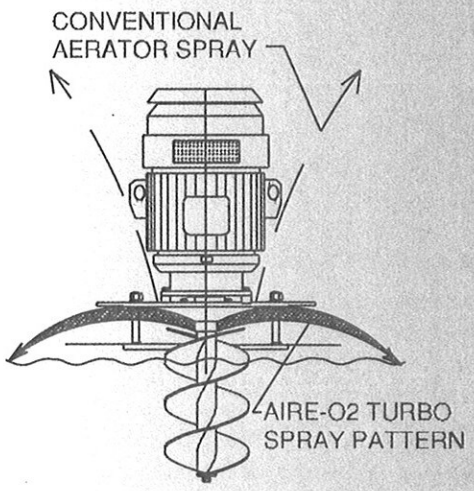
AIRE-O_2®

Aeration Industries International, Inc.

AIRE-O_2 TURBO®

HIGH PERFORMANCE SURFACE AERATOR



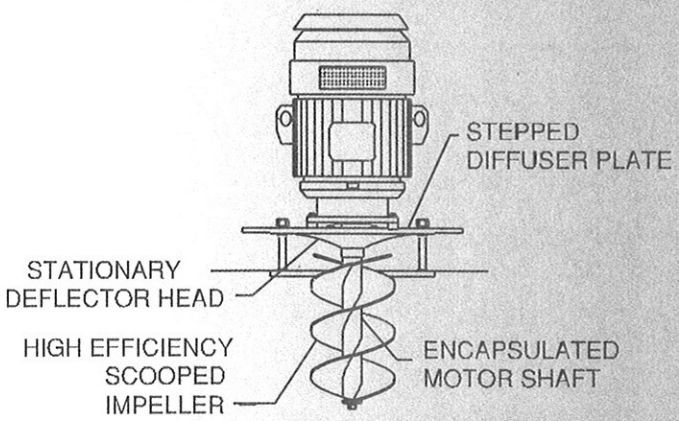
Superior AIRE-O_2 Technology

Aeration Industries International's high efficiency AIRE-O_2 Turbo® surface aerator is a low trajectory surface aerator designed to meet the special needs of municipalities, food processors, the pulp and paper industry, and petrochemical industry.

The AIRE-O_2 Turbo® surface aerator is technically advanced. The trajectory of the water is horizontal and out rather than vertical and out. An electric motor drives the patented Archimedean type "scooped" impeller, which is far superior to old fashion propeller type surface aerators. Almost effortlessly this impeller pulls wastewater up to a deflector head that transforms water into a fine film, then shoots the water droplets out in a uniform circular pattern.

Because the trajectory of the water is long and low, there is considerably less aerosoling and far more water is exposed to the air, increasing oxygen transfer.

Our high efficiency AIRE-O_2 Turbo® surface aerator will help you meet increasingly stringent regulations while reducing your operating costs.



Four Advancements
Designed for Cost Savings!

STATIONARY DEFLECTOR HEAD
- High flow rate
- Extended life of the motor bearing

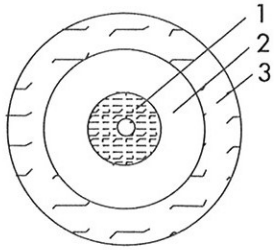
HIGH EFFICIENCY SCOOPED IMPELLER
- High pumpage rate
- Centrifugal energy efficient discharge
- Lower trajectory reduces aerosols

STEPPED DIFFUSER PLATE
- High oxygen transfer
- Reduced torque on motor

ENCAPSULATED MOTOR SHAFT
- Prevents motor corrosion
- Increases life of the motor

Optimum Performance

Performance Evaluation of a surface mounted, aeration device developing vertical flow should consider several criteria. Impingement, complete mix and oxygen dispersion are presented as various zones of influence, stated as diameter, with the aerator in the center. Oxygen transfer efficiency, long and short intake cones, high velocity flow, and erosion control, along with recommended horsepower for complete mix are presented for proper sizing of aeration and mixing needs.



1. IMPINGEMENT DIAMETER
2. ZONE OF COMPLETE MIX
3. ZONE OF INFLUENCE

Fig. 1 Performance Zones

FIGURE 1. Performance zones are various areas or zones of influence used for evaluating a surface aerator's overall performance. Figure 1 illustrates these various zones and clarifies the terms used.

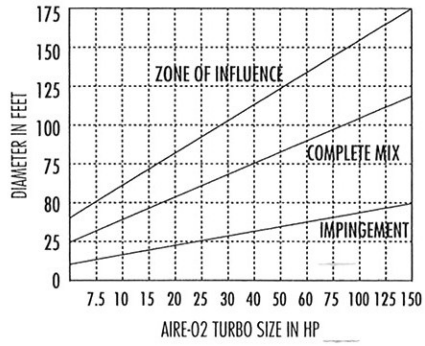


Fig. 2 Complete Mix/Impingement/Influence

FIGURE 2. Zone of complete mix is commonly referred to as the white water zone and represents the cross-sectional area of the cylindrical volume recirculated at a sufficient velocity where solids are maintained in a suspension. Complete mix is defined as the area in which solids concentrations do not vary by more than 10% or the average velocity is greater than or equal to 0/5 fps. Solids are subject to settling outside of this area. Also illustrated is the zone of impingement, which refers to the surface area directly agitated by physical contact with the discharge of the aerator and is an indication of the transfer efficiency. The lower trajectory discharge of the AIRE-O_2 Turbo® surface aerator produces a greater zone of influence.

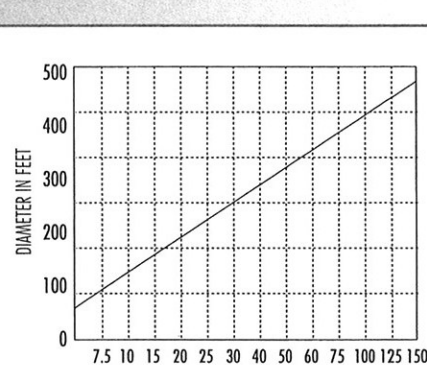


Fig. 3 Zone of Oxygen Dispersion

FIGURE 3. Zone of oxygen dispersion refers to a surface area representing the cross section of volume in which oxygen is effectively dispersed. It is primarily for determining the quantity and arrangement of multiple aerators in a basin.

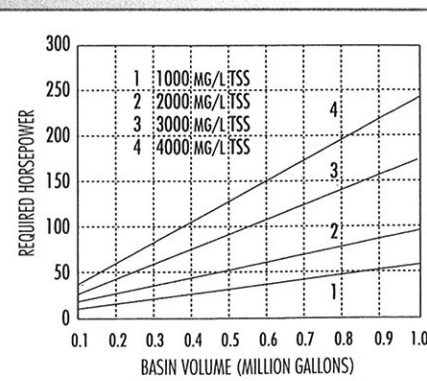


Fig. 4 Aire-O_2 Turbos® Required for Complete Mix

FIGURE 4. Complete mix horsepower represents the recognized power per volume ratio to achieve complete mixing, as described in FIGURE 1 and 2, for direct drive mechanical aerators. This graph is based on achieving 0.5 fps velocity at a normal operating depth. There are different horsepower requirements for various concentrations of solids. Refer to your local Representative for solids concentrations greater than shown or for a complete system recommendation.

The methods and data represented on this page are intended for use by the designer to approximate aeration and mixing needs utilizing the AIRE-O_2 TURBO® *aerator. These instruction are not intended to cover every application.*

CAUTION: Use of the data presented herein with other aerators will not produce the same results.

Please contact Aeration Industries International, Inc. at 1-800-328-8287 for further analysis or with applications other than described.

DIMENSIONS approximate

60 HZ Motors

HP	RPM	AMP@ 460V	APPR. UNIT WGT LBS	DIMENSIONS ARE IN INCHES A	B	C	D	E	F
7.5	1800	11.0	646	60	51	46	97	66.5	62
10	1800	14.0	662	60	51	46	97	66.5	62
15	1800	21.0	809	60	55	46	101	67.5	63
20	1200	27.0	1179	72	68	58	126	85	81
25	1200	34.0	1236	72	68	58	126	85	81
30	1200	40.0	1510	88	71	58	129	85	80
40	1200	52.0	1625	96	78	40	118	73	69
50	1200	65.0	2297	96	78	40	118	73	69
60	1200	77.0	3017	96	83	40	123	73	69
75	1200	96.0	3029	96	83	40	123	73	69
100	1200	124.0	3700	96	88	40	123	73	69
125	900	154.0	5450	118	108	76	184	112	107
150	900	180.0	5579	118	108	76	184	112	107

*Dimensions A-F refer to illustration at right

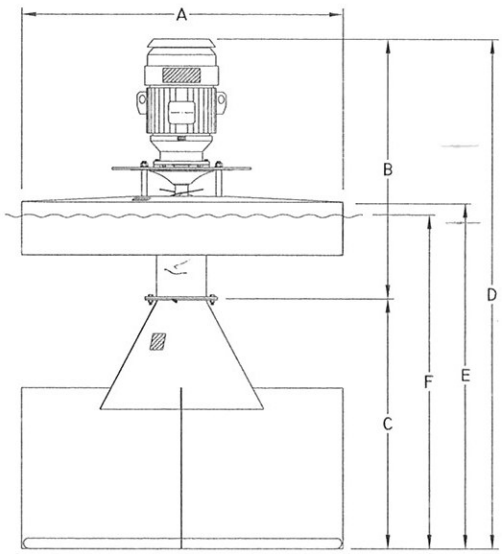
50 HZ Motors

KW	RPM	AMP@ 380V	APPR. UNIT WGT KG	DIMENSIONS ARE IN CENTIMETERS A	B	C	D	E	F
5.5	1450	11.7	293	152	130	117	247	169	160
7.5	1450	15.8	300	152	130	117	247	169	160
11	1450	22.0	367	152	140	117	257	172	160
15	980	31.0	535	182	173	147	320	216	208
18.5	980	39.0	560	182	173	147	320	216	208
22	980	45.0	685	223	180	147	327	216	208
30	980	59.0	737	228	198	102	300	185	175
37	980	74.0	1042	243	198	102	300	185	175
45	980	89.0	1368	243	210	102	312	185	175
55	980	108.0	1374	243	210	102	312	185	175
75	980	145.0	1678	243	223	102	325	185	175
90	750	186.0	2471	300	274	193	467	284	269
110	750	209.0	2530	300	274	193	467	284	271

*For premium efficient AIRE-O_2Turbo/motor specifications, contact factory.

MATERIALS OF CONSTRUCTION

Motor		Cast Iron
Flange Support	Type 304	Stainless Steel
Float skin	Type 304	Stainless Steel
Float Fill	Closed Cell	Polyurethane Foam
Volute	Type 304	Stainless Steel
Impeller	Type 304	Stainless Steel
Cone Cross	Type 304	Stainless Steel
Fasteners	Type 316	18-8 Molybdenum Stainless Steel



*CONE-CROSS AND VOLUTE SHOWN HERE ARE ONE OPTION OF MANY AVAILABLE DESIGN CONFIGURATIONS

AIRE-O_2®

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We reserve the right to improve the design of any AIRE-O_2® product at any time, without assuming obligation to modify AIRE-O_2® equipment previously manufactured. All statements contained in this brochure are accurate as of the time of printing.

Warranty: With proper use, installation and maintenance, Aeration Industries International, Inc. warrants that it will, at its option, repair replace goods found to be defective in material or workmanship provided that within **three years** from date of shipment, the purchaser gives written notice of such defect to the manufacturer. This warranty specifically excludes labor charges that may be incurred. It is also stipulated in this warranty that the purchaser shall return the goods, if requested, to the manufacturer at the point of origin, with transportation charges prepaid by the purchaser. If an examination by the manufacturer discloses to its satisfaction the existence of such defect, the manufacturer will honor this warranty. In no event shall the manufacturer be liable for any incidental, special or consequential damages resulting from said defects.