



APEC-SUN

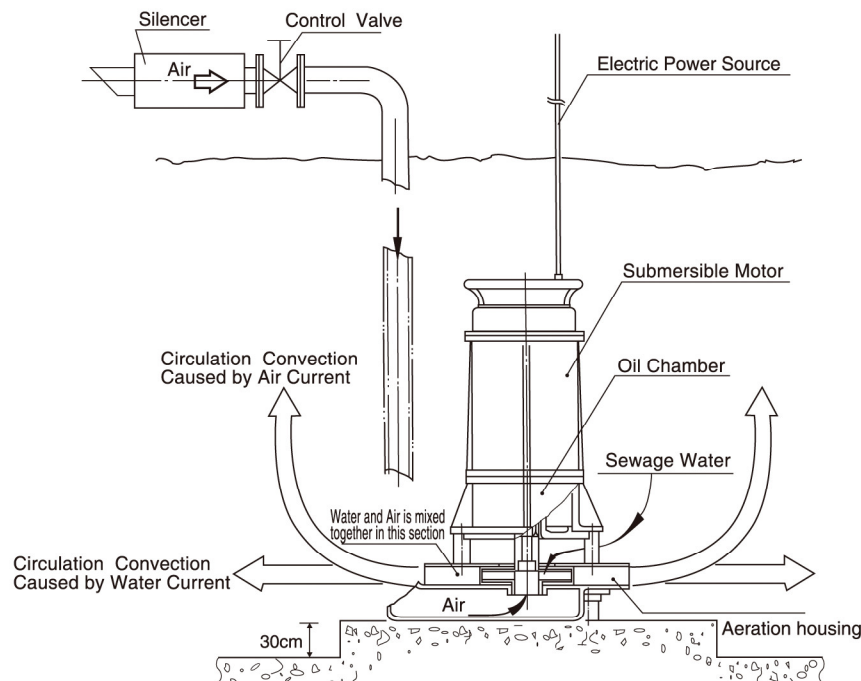
Submersible Aerator



CHARACTERISTICS:

Submersible aerator-AR utilizes the rotation of the impeller coupled directly to the motor to create a centrifugal force, which make local low pressure suck in water. Meanwhile the entrance of the impeller result in vacuum to draw air from atmosphere. Water and air mix in the Channel of Aeration Housing. The air-water-mixture current is discharged speedily by the centrifugal force.

Due to the water spurting extremely strong, make the fluid create convection and circulation effectively. Moreover the air becomes tiny bubbles. On the one hank the bubbles rise slowly, on the other hand the atmosphere oxygen is dissolved in water. Because the bubbles are tiny and numberless, their surface area is large, it makes the oxygen transfer rate of unit BHP higher than other type of aerator.



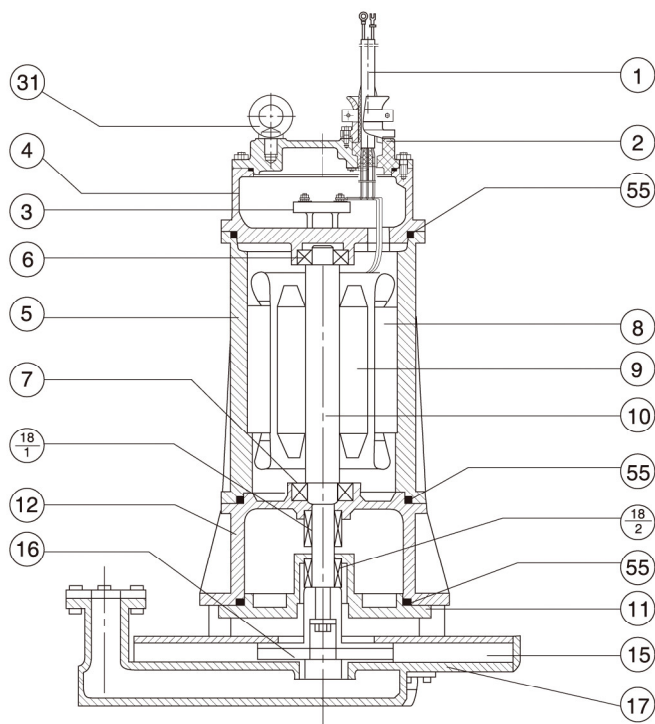
APPLICATIONS:

- Activated sludge basins and Sequencing Batch Reactors (SBR), providing aeration and mixing in one unit for degradation of biomass load.
- Mixing and equalization basins providing uniform wastewater loading to downstream processes, and eliminating odors.
- Sludge storage and stabilization, providing odor control as well as oxidation of sludge.
- Flotation of oil and grease.
- Additional aeration.
- Neutralization of alkaline wastewater with CO_2 or flue gas.

FEATURES:

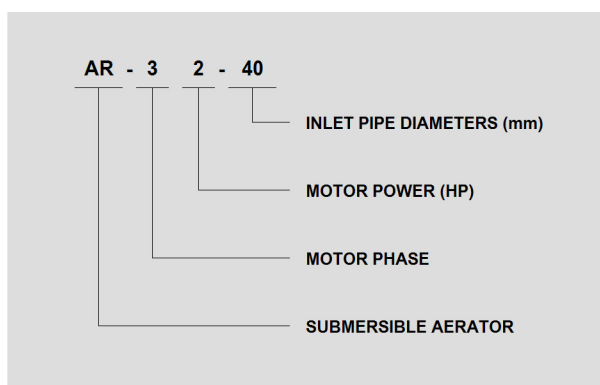
- Submersible motor, low noise, high efficiency.
- It has unique design for gas mixture chamber whose intake quantity is big. It can be mixed well with water.
- Adopt double mechanical seal, can extend useful life of motor.
- Twelve radiated outlets (high power aerator have fourteen outlets), can bring a mass of bubbles.
- Netty inlet, can avoid impeller not to be blocked by foreign material.
- Use guide rail to allow pump for easy installation, maintenance & reparation.

CONSTRUCTION:



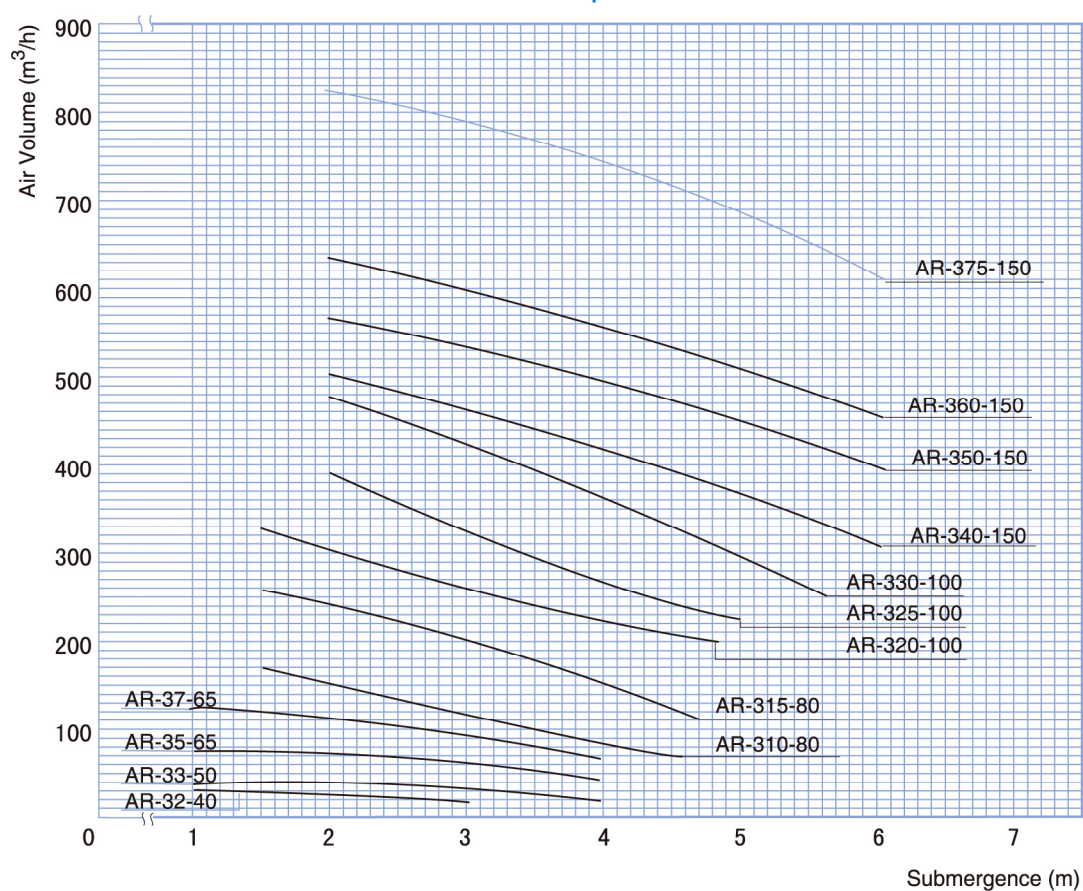
NO.	NAME	MATERIAL
1	Cable	2RNCT
2	Cable Hood	NBR
3	Connect Panel	MICA
4	Motor Cover	FC200
5	Motor Casing	FC200
6	Ball Bearing	
7	Ball Bearing	
8	Stator	
9	Rotor	
10	Shaft	SUS410
11	Oil Cover	FC200
12	Oil Box	FC200
15	Aeration Housing	FC200
16	Impeller	SUS304
17	Bottom Cover of Aeration Housing	FC200
18-1	Mechanical Seal	
18-2	Mechanical Seal	
31	Hanger	SUS304
55	O-Ring	NBR

TYPE DESCRIPTION:

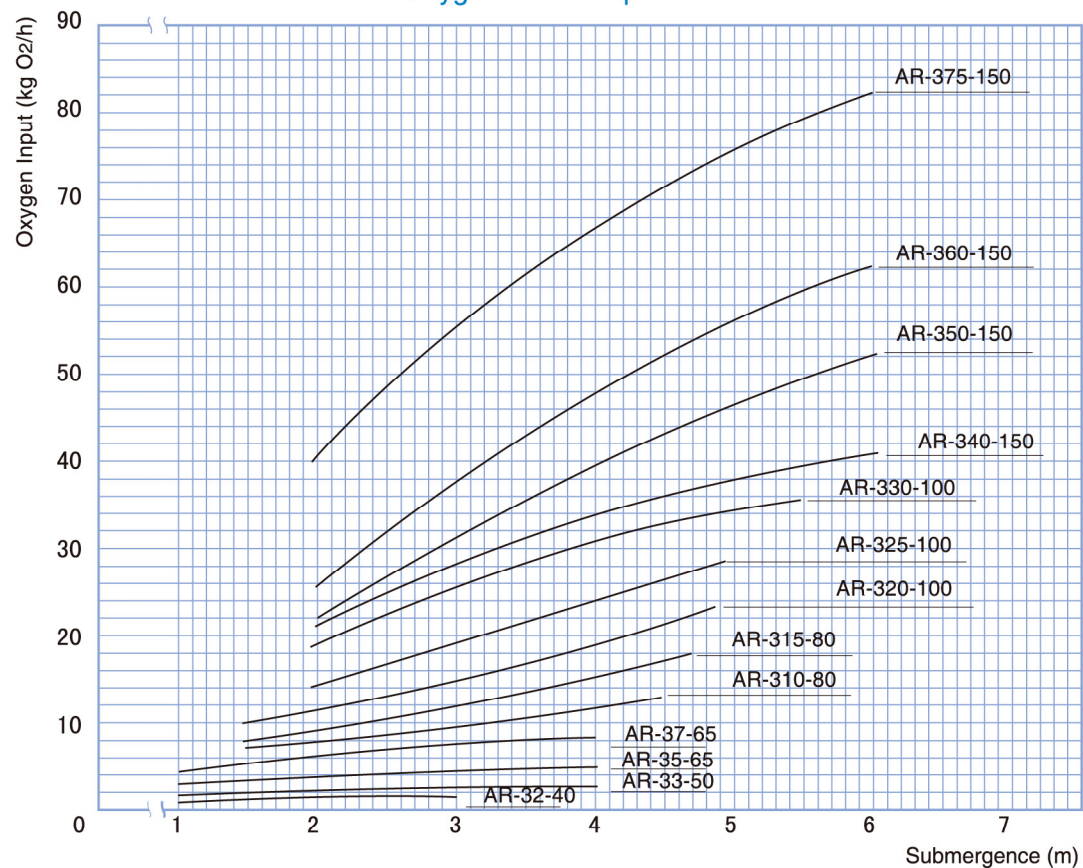


PERFORMANCE CURVE:

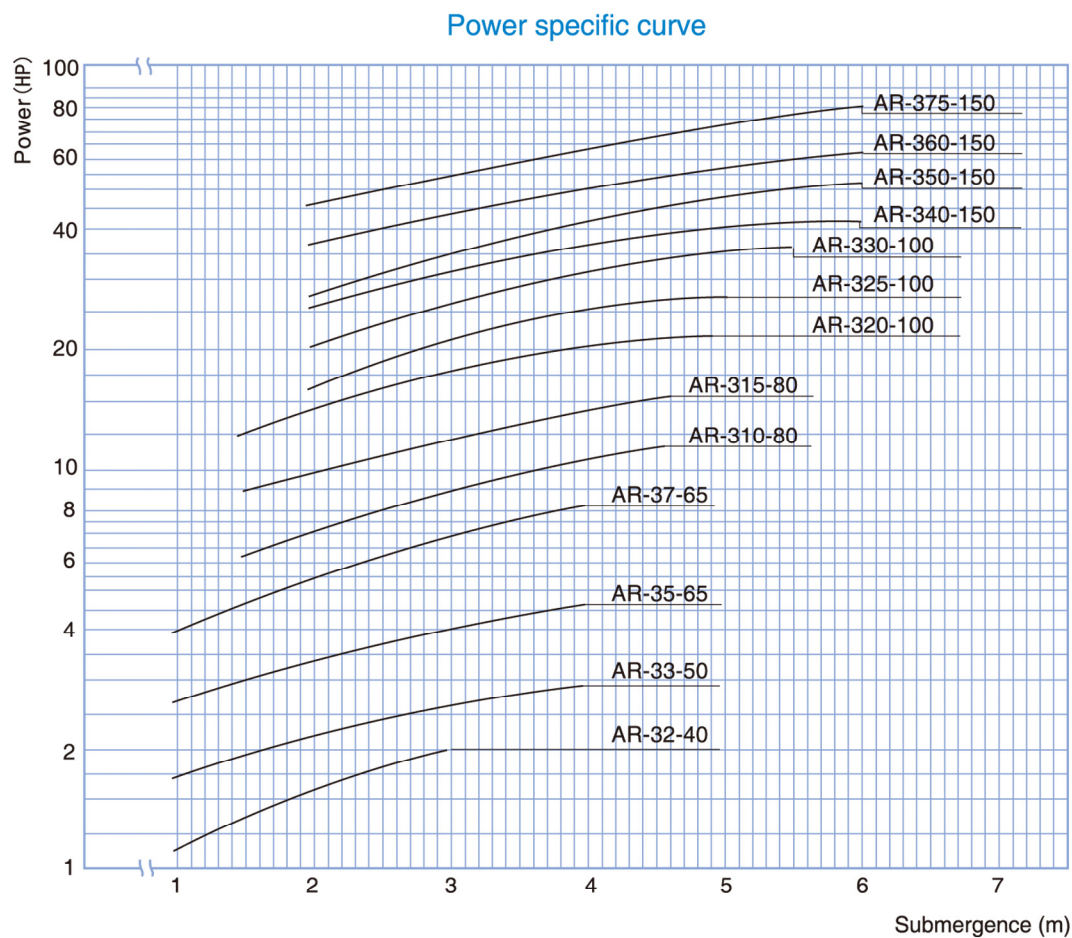
Air transfer specific curve



Oxygen transfer specific curve



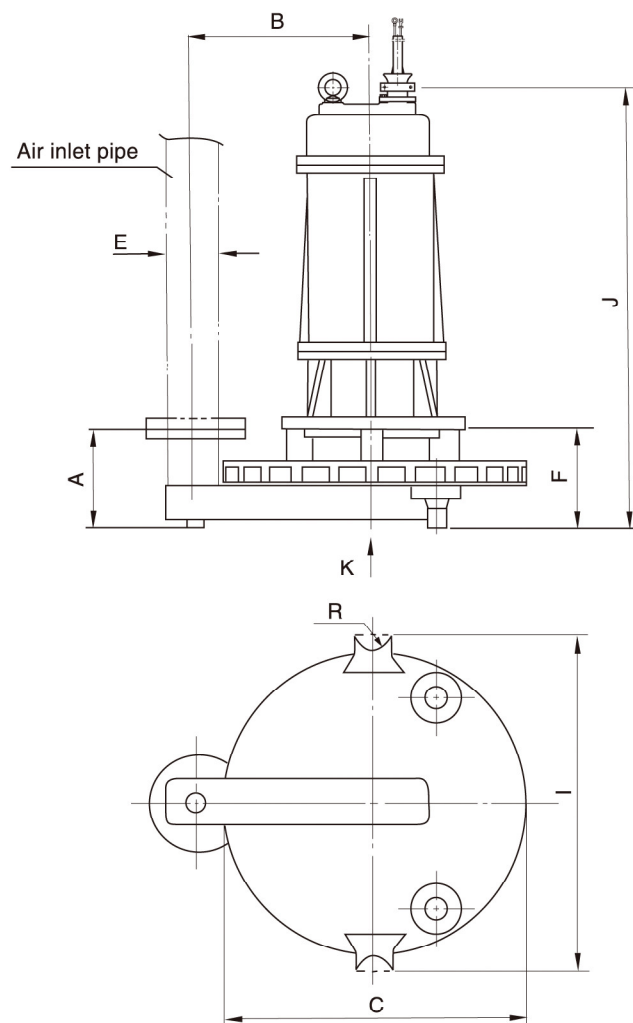
PERFORMANCE CURVE:



PERFORMANCE PARAMETER:

PUMP MODEL	POWER		OPERATION RANGE (m)	MIN - MAX WATER DEPTH (m)	INLET PIPE DIAMETER (mm)	THE MAXIMUM INTAKE of AIR (m ³ /h)	AIR TRANSFER CAPACITY (kgO ₂ /h)	WEIGHT (kg)
	HP	kW						
AR-32-40	2	1.5	1.0 - 2.0	1.0 - 3.0	40	30	2 - 1	104
AR-33-50	3	2.2	2.5 - 5.0	1.0 - 4.0	50	40	3 - 2	117
AR-35-65	5	3.7	3.0 - 6.0	1.0 - 4.0	65	80	5 - 3	132
AR-37-65	7.5	5.5	3.5 - 7.0	1.0 - 4.0	65	128	9 - 5	279
AR-310-80	10	7.5	4.5 - 9.0	1.5 - 4.5	80	170	13 - 7	286
AR-315-80	15	11	5.0 - 10.0	1.5 - 4.6	80	265	18 - 8	340
AR-320-100	20	15	5.8 - 11.5	1.5 - 4.8	100	330	23 - 10	355
AR-325-100	25	18.5	5.9 - 11.8	2.0 - 5.0	100	385	29 - 14	405
AR-330-100	30	22	6.0 - 12.0	2.0 - 5.5	100	470	36 - 19	420
AR-340-150	40	30	7.3 - 14.5	2.0 - 6.0	150	510	41 - 21	1000
AR-350-150	50	37	7.5 - 15.0	2.0 - 6.0	150	570	52 - 22	1080
AR-360-150	60	45	7.8 - 15.5	2.0 - 6.0	150	630	62 - 25	1150
AR-375-150	75	55	8.0 - 16.0	2.0 - 6.0	150	825	82 - 40	1200

INSTALLATION DIMENSIONS:



PUMP MODEL	DIMENSION (mm)							
	A	B	C	E	F	I	J	R
AR-32-40	155	300	505	40	152	565	597	30
AR-33-50	155	300	505	50	154	565	677	30
AR-35-65	155	300	505	65	156	565	694	30
AR-37-65	203	410	685	65	218	745	871	30
AR-310-80	203	410	685	80	221	745	874	30
AR-315-80	203	410	685	80	223	745	931	30
AR-320-100	203	410	685	100	225	745	973	30
AR-325-100	203	410	685	100	228	745	1097	30
AR-330-100	203	410	685	100	228	745	1097	30
AR-340-150	338	600	950	150	384	1028	1474	39
AR-350-150	338	600	950	150	384	1028	1474	39
AR-360-150	338	600	950	150	384	1028	1474	39
AR-375-150	338	600	950	150	384	1028	1474	39

BASIN DIMENSIONS:

PUMP MODEL	WATER DEPTH	SHAPE and DIMENSIONS (m)		
		ROUND (DIAMETER)	SQUARE	RECTANGULAR
AR-32-40	3.0	3.5	3.1 x 3.1	2.5 x 3.8
AR-33-50	4.0	4.8	4.2 x 4.2	3.4 x 5.2
AR-35-65	4.0	6.6	5.8 x 5.8	4.8 x 7.1
AR-37-65	4.0	8.0	7.1 x 7.1	5.8 x 8.7
AR-310-80	4.5	9.8	8.7 x 8.7	7.1 x 10.6
AR-315-80	4.6	12.5	11.1 x 11.1	9.1 x 13.6
AR-320-100	4.8	12.5	11.5 x 11.5	9.1 x 13.6
AR-325-100	5.0	12.5	11.8 x 11.8	9.7 x 14.5
AR-330-100	5.5	12.5	12.0 x 12.0	9.7 x 14.5
AR-340-150	6.0	16.0	14.5 x 14.5	12.5 x 17.0
AR-350-150	6.0	16.0	15.0 x 15.0	13.0 x 17.5
AR-360-150	6.0	16.0	15.5 x 15.5	13.0 x 17.5
AR-375-150	6.0	16.0	16.0 x 16.0	13.5 x 18.0

INSTALLATION:

For better and easier maintenance of the aerator, following instructions shall be noticed:

- The setter should be fixed on concrete base of the aeration basin (before the aeration basin was filled with waste water).
- When designing the Bridge (as show in below Fig.) the strength of the construction, the warping and the lifting equipment should be considered.
- The Guide Tubes should be prepared in advance and it is advisable to use the stainless steel tubes.
- The Air Pipes should be fixed if necessary depending upon the actual condition.

