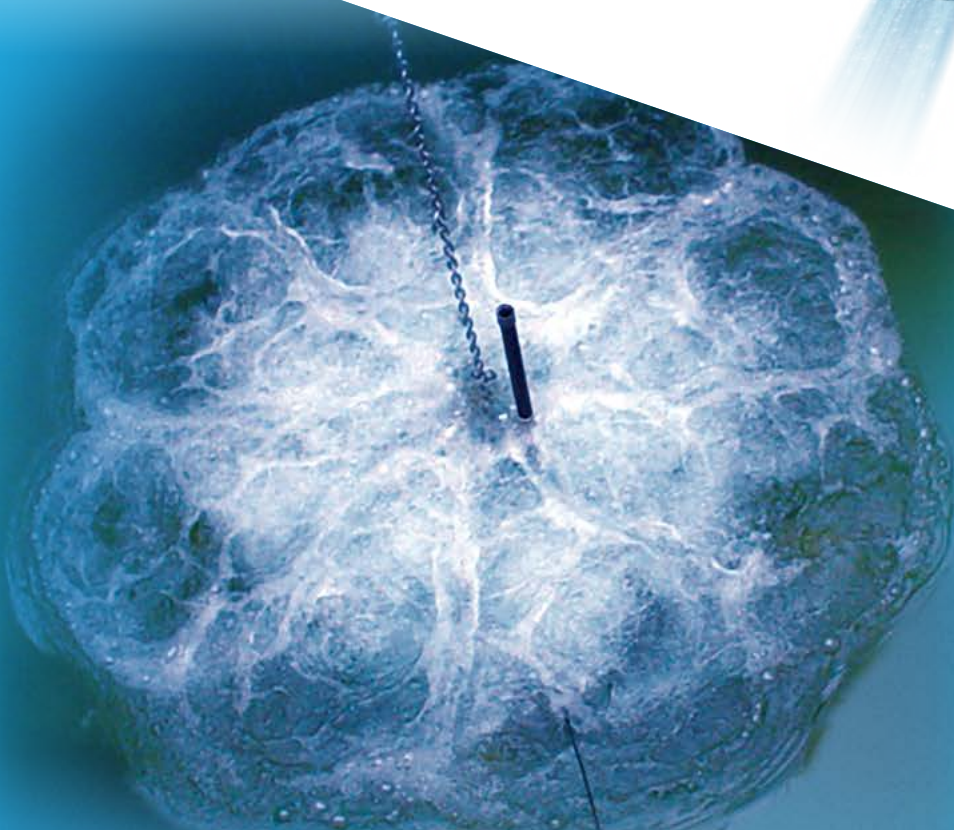


ShinMaywa

Submersible Aerator

Self-aspirating type JSA series

JSA
Series



Aeration agitation equipment JSA - Contributing to equipment, installation, maintenance, and overall cost reduction

Strong agitation

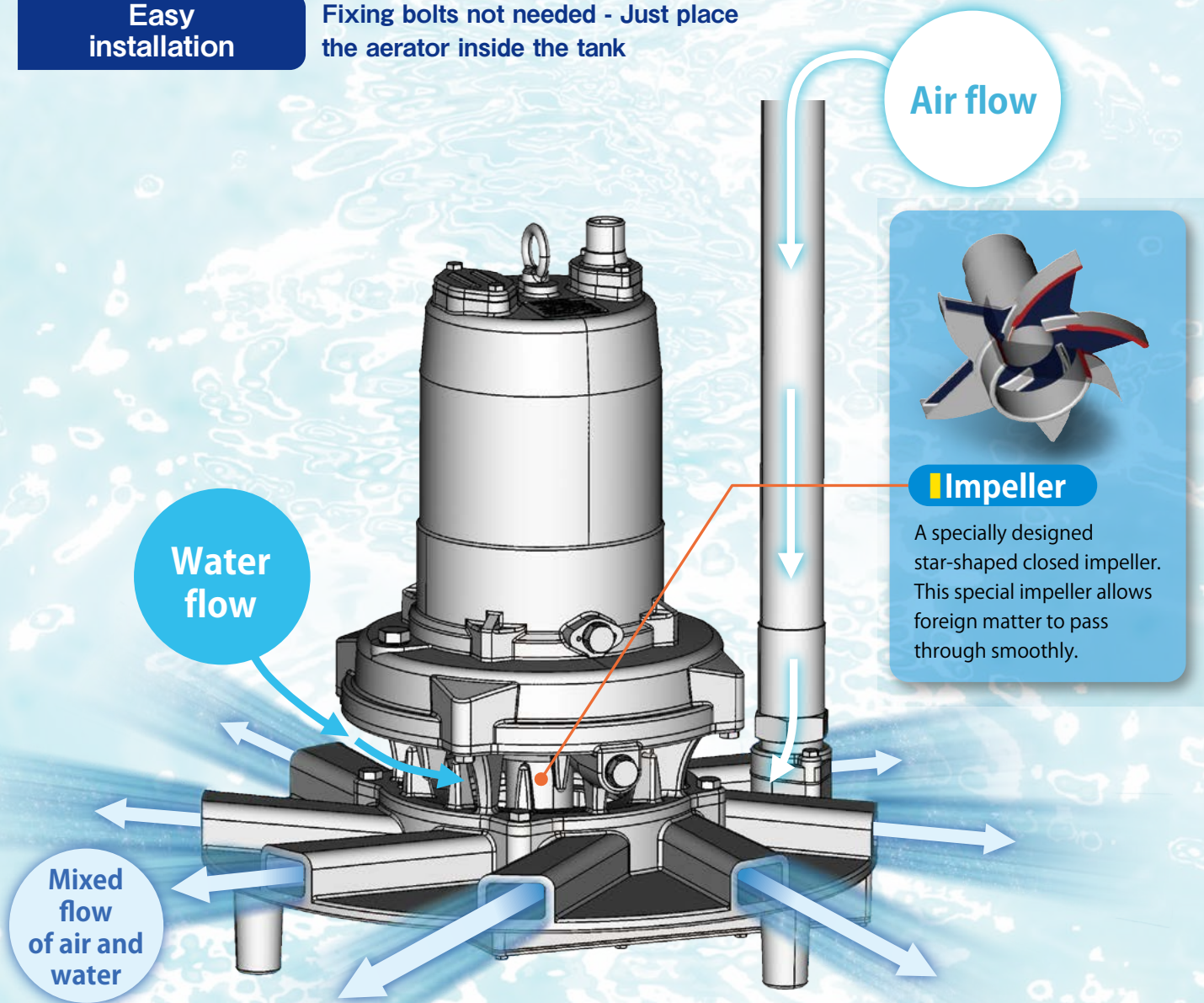
Powerful jet agitation from the bottom of the tank enables uniform agitation within the tank - Able to select at low power

Noise countermeasures not needed

No need to be concerned about noise caused by underwater installation

Easy installation

Fixing bolts not needed - Just place the aerator inside the tank



Applications

● Sewage and industrial waste treatment facilities

- Aeration and mixing processes
- SBR processes

Standard specifications

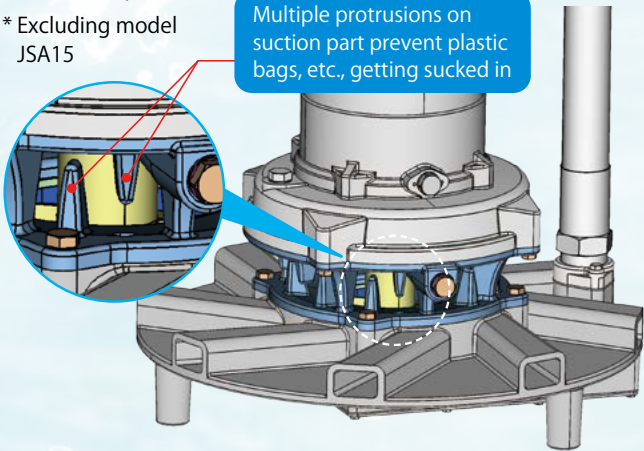
Intake pipe dia. (mm)	Model	Rated output (kW)	No. of poles	Revolving speed (min ⁻¹)	Passable particle dia. (mm)	No. of outlets	Max. water depth- Air flow rate (m - m ³ /h)	Weight (kg)
32	JSA15	1.5	2	3,000	12	5	3.5 - 21	45
50	JSA221	2.2	4	1,500	15	8	3.6 - 30	110
50	JSA371	3.7	4	1,500	15	8	4.0 - 56	115
50	JSA55	5.5	4	1,500	15	8	4.0 - 78	135

Outstanding features

Stable operation

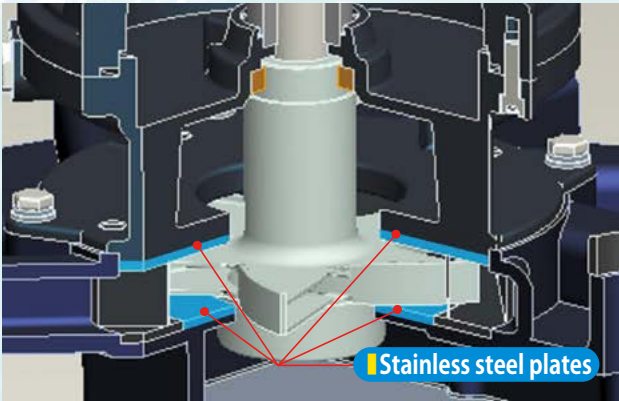
Strainer prevents entry of foreign substances. Few obstructions for impeller.

* Excluding model JSA15



Long service life

The top and bottom internal surfaces of the housing are lined with stainless steel plates. This improves abrasion resistance and suppresses the reduction in air flow performance due to degradation over time. (Excluding Model JSA15)



Time-proven reliability

The drive motor is an air-filled submersible type, which has been highly rated for submersible pumps for many years.

Easy-to-maintain design

Oil changes and motor inspections may be carried out while the unit is in its upright position; in short, the product is configured for easy maintenance.

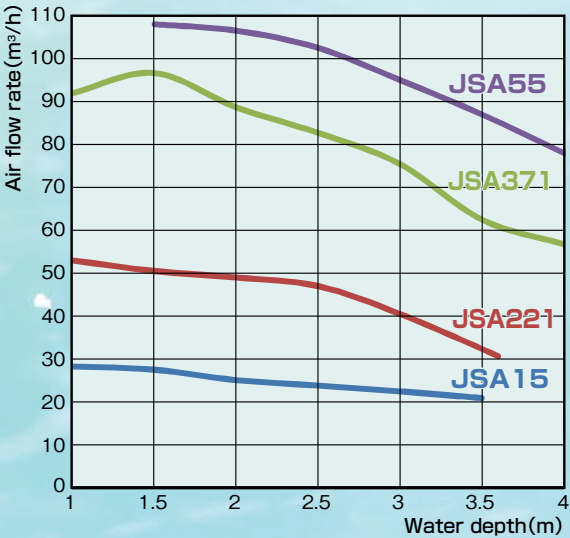
Component specifications

Model	Cable specifications					Mechanical seal	
	Type	Sectional area	No. of cores	Outside dia.	length	Top	Bottom
JSA15	PVC	1.25mm ²	4	11.5mm	8m	SiC/SiC	SiC/SiC
JSA221	insulated	1.25mm ²	4	11.5mm			
JSA371	PVC	2.0mm ²	4	12mm			
JSA55	sheathed cable	3.5mm ²	4	14mm			

Main specifications

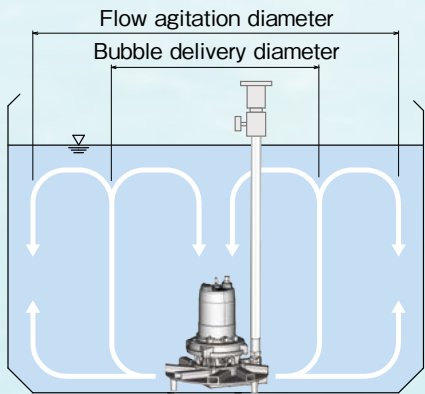
	Model	JSA15	JSA221	JSA371	JSA55
Handling Liquid	Kind of Liquid	Wastewater and sewage			
	Temperature	0 - 32℃			
Material	Cable	PVC insulated PVC sheathed cable			
	Motor Shaft	420J2 Stainless steel			
	Impeller	304 Stainless steel casting			
	Discharge housing	Gray iron casting(FC200)			
Electric Motor	Type	Dry type submersible induction motor			
	Insulation / Enclosure	Class E / IP68			
	Phase	3-phase			
	No. of poles	2	4		
	Atarting Method	Direct on line			
	Protector	Thermal protector (Auto-reset type)			

Performance (air flow rate)



Note : The air flow rates given are for standard conditions, i.e. temperature 20°C and 1 atm; there may be variation of up to approximately ±5%.

Flow pattern



Model	Limit water depth (m)	Bubble arrival dia. (m)	Convective agitating dia.	
			Circle (m)	Square (m)
JSA15	3.5	(1.9)	(5)	(4.5)
JSA221	3.6	(2.4)	(6)	(5.5)
JSA371	4.0	(3)	(7)	(6.5)
JSA55	4.0	(3.9)	(12)	(11)

- Bubble delivery dia. : Area in which bubbles provide direct oxidation.
- Flow agitation dia. : Area in which indirect oxidation occurs through flow agitation.

*The JSA-series is not designed for anaerobic mixing.

Easy set-up

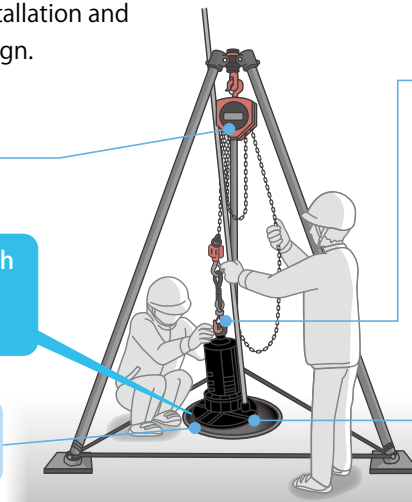
Simply connect the air intake pipe and place the unit in the tank to get the unit up and running.

By placing the water inlet and outlet on the side, we have achieved a low height and a low center of gravity for a stable installation balance. (Height/bottom surface diameter $\approx 1/1$) We have achieved weight reductions and reduced time for installation and maintenance by optimizing our design.

Possible to install by hand with a general-purpose chain hoist.

Possible to install in locations with small opening parts such as manholes. (Min. $\phi 600$ mm)

Can be installed just as it is without draining the water in the tank.



Adopts a single suspension hook in the center of the device to ensure strength. Easy position adjustment when installing it.

2 point suspension



1 point suspension



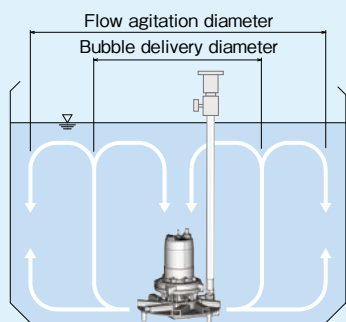
Just set it up.
No need to fix installation surface.

Aeration method

For small, shallow tanks with a small throughput, aeration is possible with "top aeration," however as aeration capacity is insufficient for deep tanks, using a submersible aerator is effective. A submersible aerator sucks in water, mixes air inside it, and then releases it. As it is released at the bottom of the tank and as there is agitation, strong convection occurs even in deep tanks and this leads to an aeration effect.

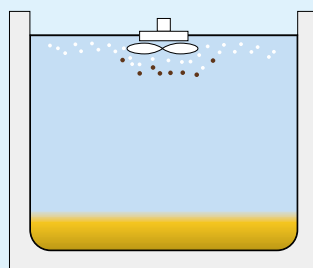
* In addition, in comparison to the blower diffuser type, installation and maintenance are more simple and a blower installation space or blower housing above ground are not necessary.

Self-aspirating aerator type



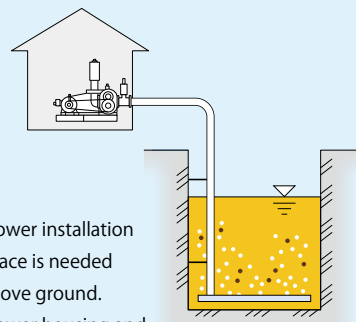
Air and water are released and agitated at the bottom of the tank.

Surface aeration type



Sludge sedimentation occurs due to insufficient agitation at the bottom of the tank.

Blower diffuser type



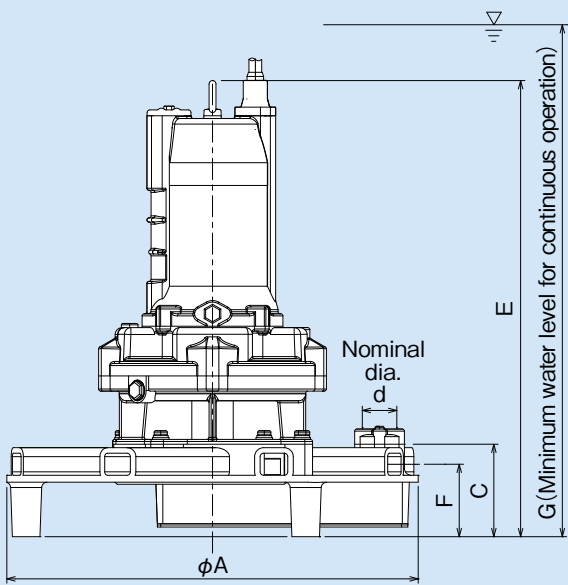
Blower installation space is needed above ground. Blower housing and soundproof box are needed for blower noise countermeasures. Installation work for a diffuser and piping inside the tank is needed.

Comparison of Aeration (For small sized waste water treatment plant)

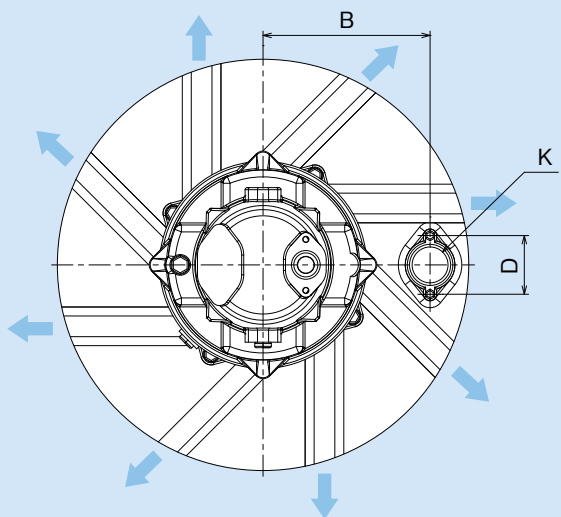
	JSA	Surface Aerator	Blower Diffuser
O ₂ transfer	★★★	★	★★★
Agitating	★★★	★	★★
Initial cost	★★★★★	★★★	★★★
Maintenance	★★★	★★	★★
Installation	★★★	★★★	★
Noise	★★★★	★★	★

※This comparison is a relative comparison based on one example, and its effectiveness is not guaranteed.

Dimensions (Unit : mm)

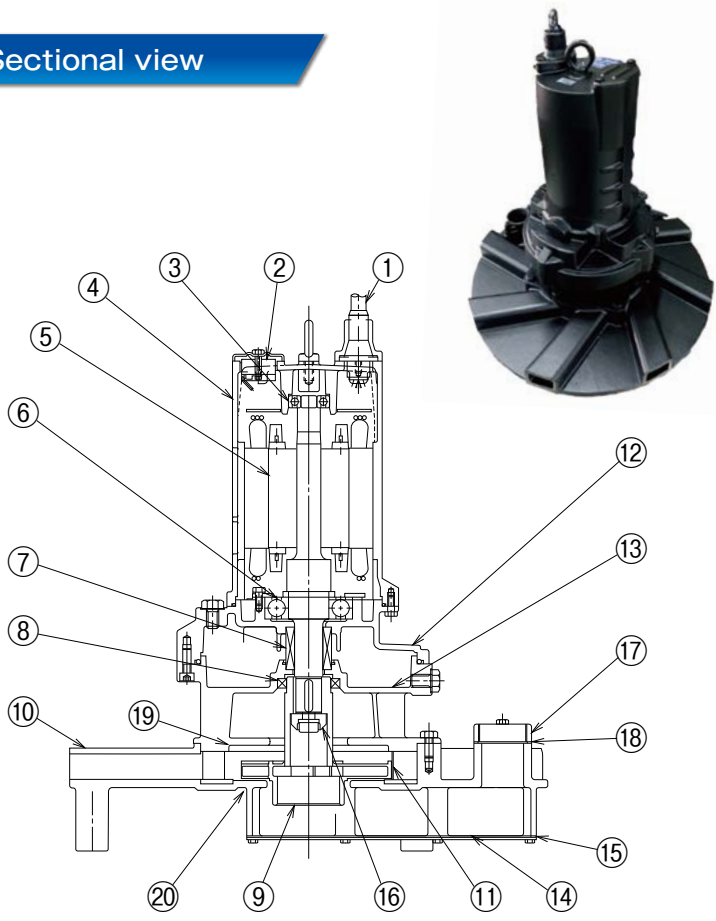


Type	JSA15	JSA221	JSA371	JSA55
d	32A		50A	
K	Rc1¼		Rc2	
A	366		596	
B	140		242	
C	106		134	
D	70		85	
E	475	582	661	648
F	86		105	
G	600	1,000		1,500



● Agitation efficiency increased by high flow rate, and multi-port injections ensure flow rate.

Sectional view



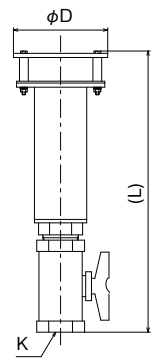
No.	Name	Material
1	Cable	PVC insulated PVC sheathed Cable
2	Thermal protector	—
3	Ball bearing (upper)	—
4	Stator housing	Gray iron casting (FC200)
5	Rotor	Shaft:420J2 Stainless steel
6	Ball bearing (lower)	—
7	Mechanical seal	Silicon carbide (SiC) (4-face)
8	Oil seal	Acrylonitrile butadiene rubber (NBR)
9	Impeller	304 stainless steel casting
10	Discharge housing	Gray iron casting (FC200)
11	Channel ring	Acrylonitrile butadiene rubber (NBR)
12	Oil housing	Gray iron casting (FC200)
13	Mechanical seal bracket	Gray iron casting (FC200)
14	Bottom cover	304 stainless steel
15	Gasket (Bottom cover)	Acrylonitrile butadiene rubber (NBR)
16	Impeller nut	304 stainless steel
17	Companion flange	Gray iron casting (FC200)
18	Gasket	Acrylonitrile butadiene rubber (NBR)
19	Liner plate (upper)	304 stainless steel
20	Liner plate (lower)	304 stainless steel

No.12, No.19 and No.20 do not apply to Model JSA15.

Options

- Lifting chain
- Suction silencer with ball valve (Material: Hard vinyl chloride)

	JSA15	JSA221	JSA371	JSA55
D(mm)	114		160	
L(mm)	308		470	
K	G1¼		G2	



Application Examples

Condominium wastewater treatment tanks (underground)

(Bangkok, Thailand.)



Food processing plant wastewater treatment facilities

(Samut Prakan, Thailand.)



Examples of deliveries

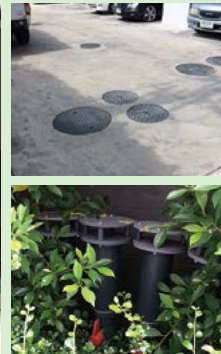
Condominiums in Thailand

For aeration of drainage tank



Customer opinions

As ShinMaywa has been a reliable submersible pump maker for many years, I didn't have any concerns about introducing a self-aspirating aerator - JSA. It is more durable than I expected, and I've been using it problem-free and with confidence.



Specifications and dimensions are subject to change without notice.

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