Asia 大亞牌渦輪式增氧機

TURBO2 AERATOR

THE ULTIMATE IN AERATION SYSTEMS

The Compact Yet Robust Machine With Oxygenising, Degassing And Water Circulation Capabilities.

MAIN UNIT

HIGH SPEED MOTOR

1) Highly torsion and highly efficient motor.
2) Adopt integrated production to ensure product stability.
3) Meet CNS standard.
4) High rotational speed (2800rpm/ 50 Hz, 3200rpm/60 Hz).

DRAFT TUBE

1) Made of compound nylon materials.
2) Super strong "steel" characteristic, never out of shape.
3) Resists acid-alkalinity, withstands impact.

PROPELLER CHAMBER

1) Made of compound nylon materials.
2) Resists acid-alkalinity, withstands impact.
3) Special design with rubber bushing on its top to rectify the shaft's concentricity effectively.

ASJ-299 (2HP x 2P)

ASJ-190 (1HP x 4P)

[FOR HATCHERY AND NURSERY POND]

ASIA TURBO2 AERATOR
渦 輪 式 增 氧 機

INTRODUCTION 介紹

This is revolutionary product, we call it ASIA TURBO2 AERATOR. This unique product has been developed and improved for many years and is deemed today as the best aerator in the world. It is designed with the characteristic of combining the advantages of paddlewheel aerator and air injector. The most advantage of this ASIA TURBO2 AERATOR is that it can supply oxygen very quickly. Moreover, it is free to adjust its angle of mounting from the water surface of 0°to 45° stepless. Its characteristic of high oxygen transfer and wide angle of adjustment do solved the problem and defficiency of paddlewheel aerator (which is unable to dissolve oxygen in deep pond) and air injector (which mix the pond bottom waste with the pond water and resulted in muddy water all over the pond)

這是一部革命性的產品，我們稱它為渦輪式增氧機，因為其特性是結合水車式供氧機和射流式供氧機各項優點，進行開發設計而成，渦輪式增氧機最大優點在於可以快速供氧，又可以依照水池深度自由調整打水角度，可以從水平面０°無段限制調整到45°，有效提高深水供氧，大大改善水車式供氧機在池水太深時無法有效溶氧的現象，同時也改善一般射流式供氧機在池水太淺時容易造成池底污泥被攪動的缺點。

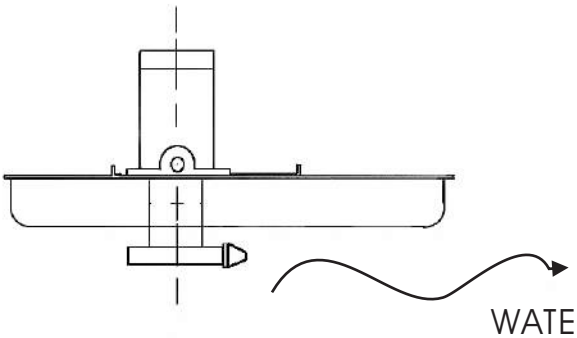
OPERATION PRINCIPLE 作用原理

TURBO2 has adopted direct transmission high rotaional speed motor (2800rpm/50HZ,3200rpm/60HZ) and a specially designed turbo type propeller.

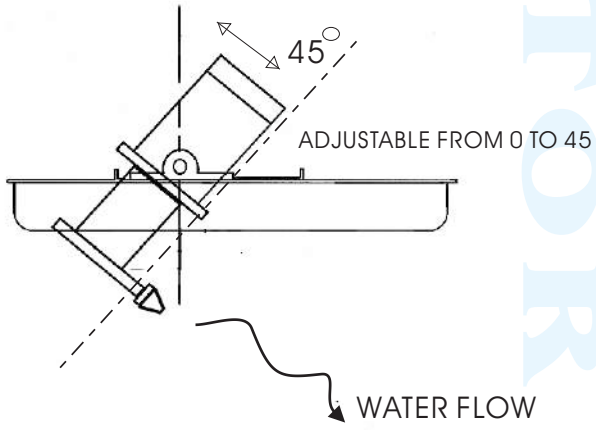
The TURBO2 aerator is mounted, angled into the water, with its motor and air intake above the water surface. The motor rotates a solid shaft to which the propeller is attached. The propeller's action move water past the blade, creating a low pressure zone at the hub of the propeller. A vacuum created by this pressure draw air in and through the large diameter draft tube, injecting it at a high velocity into the water at the propeller hub. The turbulence and flow created by the propeller breaks up the air bubbles, mixes, and disperses oxygen over a wide area of the pond. The horizontal water movement maximizes bubbles "hanging time",thus maximizing oxygen transfer.

渦輪式增氧機，是採用高轉速馬達直接傳動（2800RPM/50HZ，3200RPM/60HZ），經由特殊設計的渦輪式葉輪，在水中高速運轉，使水中瞬間產生眞空狀態，再籍由軸心中空設計，從水面吸入大量氧氣進行混合之後由葉輪送入水中，所以能在最短時間內快速供氧，改善池水功能，因此我們稱這一部機器爲快速供氧的先鋒。

SIDE VIEW (AT 0° ADJUSTMENT)



SIDE VIEW (AT 45° ADJUSTMENT)



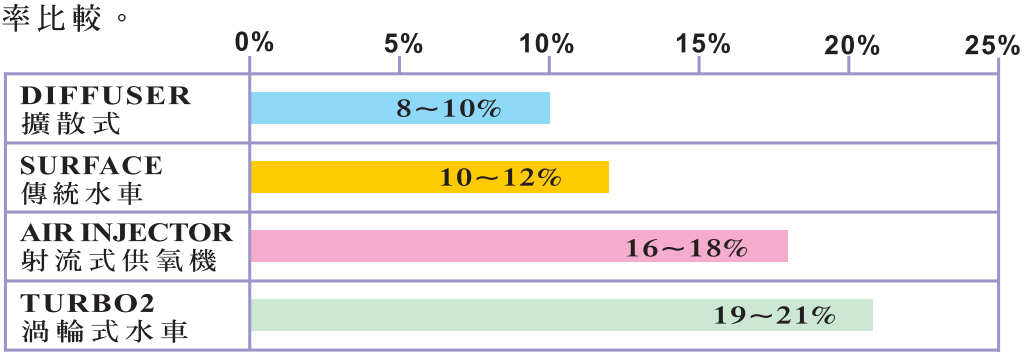
TURBO2 AERATOR

BENEFITS
優點

1. DISSOLVED OXYGEN 溶氧率

After air is drawn into the water, the extremely high velocity current passes around the end of shaft which breaks the air into very fine bubbles and penetrates deep to the bottom. Due to this longer hang time the oxygen transfer efficiency is as high as 19~21%. Also according to testing, TURBO2 delivers 1.3~1.8 kgs oxygen to the water per horsepower per hour which is the best among all aerators in the market. Following is the comparison of oxygen transfer efficiency between various aerators.

空氣注入水中後，被强大的渦流打散成細小的氣泡，這些數量龐大的氣泡在水中可停留較長的時間，其氧氣傳輸效率高達19~21%，根據實驗，每匹馬力在一小時內可以傳輸1.3~1.8 公斤的氧到水中，這種系統的溶氧率是已知的設備中最好的一種，以下是各種充氣機的傳輸效率比較。



Comparison of oxygen transfer
氧氣傳輸效率比較表

2. TO ELIMINATES POND BOTTOM ORGANIC WASTE 排除池底的有機廢物

By the jet water flow started from the depth of 30 cm, the organic waste sinking in the water will be brought to the water surface and attach on the tiny air bubbles to expose itself under the sun. As the result, it will turn organic waste into harmless organic matter and prevent fatal diseases. In addition. By the regular and continuous water circulation in the pond the soil is filled of oxygen and makes fish/ shrimp rest well

透過噴射水流對30cm以下池水的帶動，原本沉澱在池底的有機廢物可藉此浮至水面並附著在噴射水流所產生的微細氣泡上，進而透過陽光底下的曝曬作用，使這些有機廢物完全轉換成對養殖池無害的有機化合物，並使其不再成爲養殖疾病產生的溫床。另由於循環水流充滿了氧，並以一定速度流經池底，促進池底土壤的活性化，可使魚蝦更安定的棲息於池底。

3. PREVENT WATER STRATIFICATION 避免池水產生明顯分層

Another problem facing by fish farmers is the Water Stratification. The cooler water tends to sink. Since it is heavier and denser, displacing warmer water that is trying to rise. Such thermal difference will cause stratification in the pond. With this water stratification, the water temperature, oxygen and salt dissolved in the water will vary with the depth of the water. Hence, it will affect the growing rate and surviving rate of the fish / shrimp. By the regular and continuous water circulation generated by TURBO2 in the pond, the water stratification could be prevented to depths as great as 3m.

在池底60cm~75cm的深度下，其水溫較池面低上許多。由於低溫的水其重量及密度均較暖水爲高，因此會沉在池底並形成明顯分層。在這樣的分層作用下，池中的溶氧、溫度、鹽度將因深度的不同而有明顯的差別，進而影響魚蝦的成長速度及存活率。
浩洋牌超級渦輪式水車，以在30cm以下的池水中製造噴射水流的方式，持續帶動整個養殖池的水循環，以保持穩定均勻的水質。

TURBO2 AERATOR

BENEFITS
優點

4. PREVENT BARNACLE ATTACHED PROBLEM 避免藤壺附著問題

For the aerator(especially the submerged air injector) used in the salt water pond, there is always barnacle attached problem on its motor. It requires timely manual clearance to protect from the threat of barnacle. However, with the extra height added between water surface and motor, no such problem will occur on TURBO2. Consequently, it provides a longer service life

在海水養殖池中使用的增氧機，經常會面臨到藤壺附著在馬達上的問題，尤其是使用沉水式馬達的傳統增氧機，需定期以人工方式清除附著在馬達上的大量藤壺，以避免馬達故障。但浩洋牌超級渦輪式水車無須如此作業即可長保正常運轉。原因在浩洋牌超級渦輪式水車不將馬達沉在水底而將其垂直放置在水面之上，並特別加高其與水面的距離。如此一來，藤壺的附著問題將迎刃而解。

5. ECONOMIC BENEFITS 經濟效益

TURBO2 doesn't have to overcome the force of gravity to throw water inio air as other aerators do and is therefore capable of saving at least 1/3 of horsepower required. For example, if six 2HP traditional aerators are originally required for one hectare area intensive culture, due to this feature the number of units required can be reduced to four by using TURBO2. The saving of power consumption is substantial. Further, due to TURBO2's advanced and thorough design and construction, the machine is extremely solid and durable which will cost very little in maintenance.

根據實際使用的效果看來，使用渦輪水車TURBO2 不須要克服地心引力將水往空中拋可以節省1/3倍馬力以上，例如原來一公頃用6台兩馬力的一般水車之池塘改用渦輪水車 TURBO2只要4台兩馬力即足夠，如此在電力的消耗上可節省一筆很可觀的開銷，再者，由於渦輪水車TURBO2先進，周詳的設計及結構，使得機體堅固耐用，維修方面的花費極低。

6. PORTABLE & EASY MAINTENANCE 輕便靈巧，維修方便

TURBO2 aerator's simple structure allows no special maintenance but better working performance. Single shaft from motor to propeller engages full transformation of energy. Special material made propeller is lighter but stronger. Due to TURBO2's unique design, it weighs much less than traditional aerators. Only one person is required to handle during installation, moving unit for harvesting or maintenance.

浩洋牌超級渦輪式水車的設計已榮獲多國專利，簡潔的機身設計使其在維修容易的情況下，仍能發揮强大的工作效率。由馬達軸心直接連接葉片的單軸心設計，可將馬力完全發揮。再加上質地輕、强韌的葉片，讓浩洋牌超級渦輪式水車比傳統式增氧機更加省電、具效率及經濟。當機器安裝，魚蝦收成、保養維護時，由於機體輕便、設計靈巧，一人即可操作自如。

7. ADJUSTABLE MOUNTING ANGLE 安裝角度可調

Fish and shrimp need different water levels from larvae to adults and depths of ponds vary from place to place. The adjustable angle mounting feature of TURBO2 is best suited to every situation.

魚、蝦從幼苗起至成熟各階段所須水深不同，各處池塘水深也互異，渦輪水車TURBO2 可調角度之安裝特點適用於各種情況，方便且效果好。

TURBO2 AERATOR

SPECIAL FEATURES
特點

主機蓋
1.採用複合PE材料製成
2.吹氣成型，具高度防水
3.抗紫外線，不易老化

MACHINE COVER
1.Made of compound PE materials.
2.One-piece blow molded formation to ensure absolute water prevention.
3.Resist UV light to prevent ageing.

高效率馬達
1.具有高扭力、高效率
2.一貫作業生產、品質穩定
3.符合國家標準
4.高轉速2800rpm/50Hz，3200rpm/60Hz

HIGH SPEED MOTOR
1.Highly torsion and highly efficient motor.
2.Adopt integrated production to ensure product stability.
3.Meet CNS standard.
4.High rotational speed (2800rpm/50 Hz, 3200rpm/60Hz)

馬達調整支架
1.採用#304白鐵材質製成
2.經久耐用，永不生銹
3.具超强鋼性永不變型

MOTOR ADJUSTMENT ANCHOR
1.Made of #304 stainless steel material.
2.Toughness and durable, anti-corrosive and anti-rust.
3.Super strong steel characteristic, never out of shape.

調整基座
1.採用#304白鐵材質製成
2.經久耐用，永不生銹
3.具超强鋼性永不變型

ADJUSTMENT STAND
1.Mode of #304 stainless steel material.
2.Toughness and durable, anti-corrosive and ant-rust.
3.Super strong steel characteristic, never out of shape.

不鏽鋼活動接頭
1.採用銅合金材質製成
2.高韌性，配合高張力橡皮有效緩和傳動時所發生的振動

STAINLESS STEEL COUPLING
1.Made of bronze material.
2.High toughness, combined with high tension rubber to mitigate the vibration of transmission.

傳動軸心
1.採用#304白鐵材質製成
2.經久耐用，永不生銹
3.精密加工，同心度特佳

ROTATING SHAFT
1.Made of #304 stainless steel .
2.Toughness and durable, anti-corrosive and anti-rust.
3.Precise processing with excellent concentricity.

TURBO2 AERATOR

SPECIAL FEATURES
特點

吸氣外管
1.採用尼龍複合材質製成
2.強韌具鋼性，長久使用不變型
3.耐酸鹼、耐衝擊

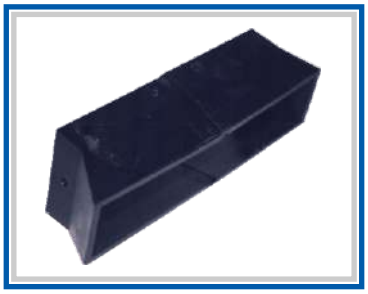
DRAFT TUBE
1.Made of compound nylon materials.
2.Super strong steel characteristic, never out of shape.
3.Resist acid-alkalinity, withstand impact.

不鏽鋼渦輪式葉輪
1. 採用不鏽鋼SUS 304材質。
2. 經特殊強化渦輪葉片設計。
3. 耐酸鹼及海水腐蝕，耐衝擊。

SS TURBO PROPELLER
1.Made of stainless steel SUS304.
2.Special design to strengthen the turbo type blades.
3.Resist acid-alkalinity ans seawater corrosion, withstand impact.

葉輪室
1.採用尼龍複合材質製成
2.耐酸鹼、耐衝擊
3.特殊設計，上置一個軸套，能有效校正傳動軸心的同心度

PROPELLER CHAMBER
1.Made of compound nylon materials.
2.Resist acid-alkalinity, withstand impact.
3.Special design with rubber bushing on its top to rectify the shaft's concentricity effectively.



噴嘴
1.採用尼龍複合材質製成
2.耐酸鹼、耐衝擊
3.出水口扁平設計，能有效提高水流衝擊壓力和分散水流範圍

NOZZLE
1.Made of compound nylon materials.
2.Resist acid-alkalinity, withstand impact.
3.A flat water outlet design, supply higher pressure of water current and to disperse the water current scope.

白鐵主機架
1.採用#304白鐵材質製成
2.經久耐用，永不生銹
3.有效固定整台機器，使機器平穩運轉

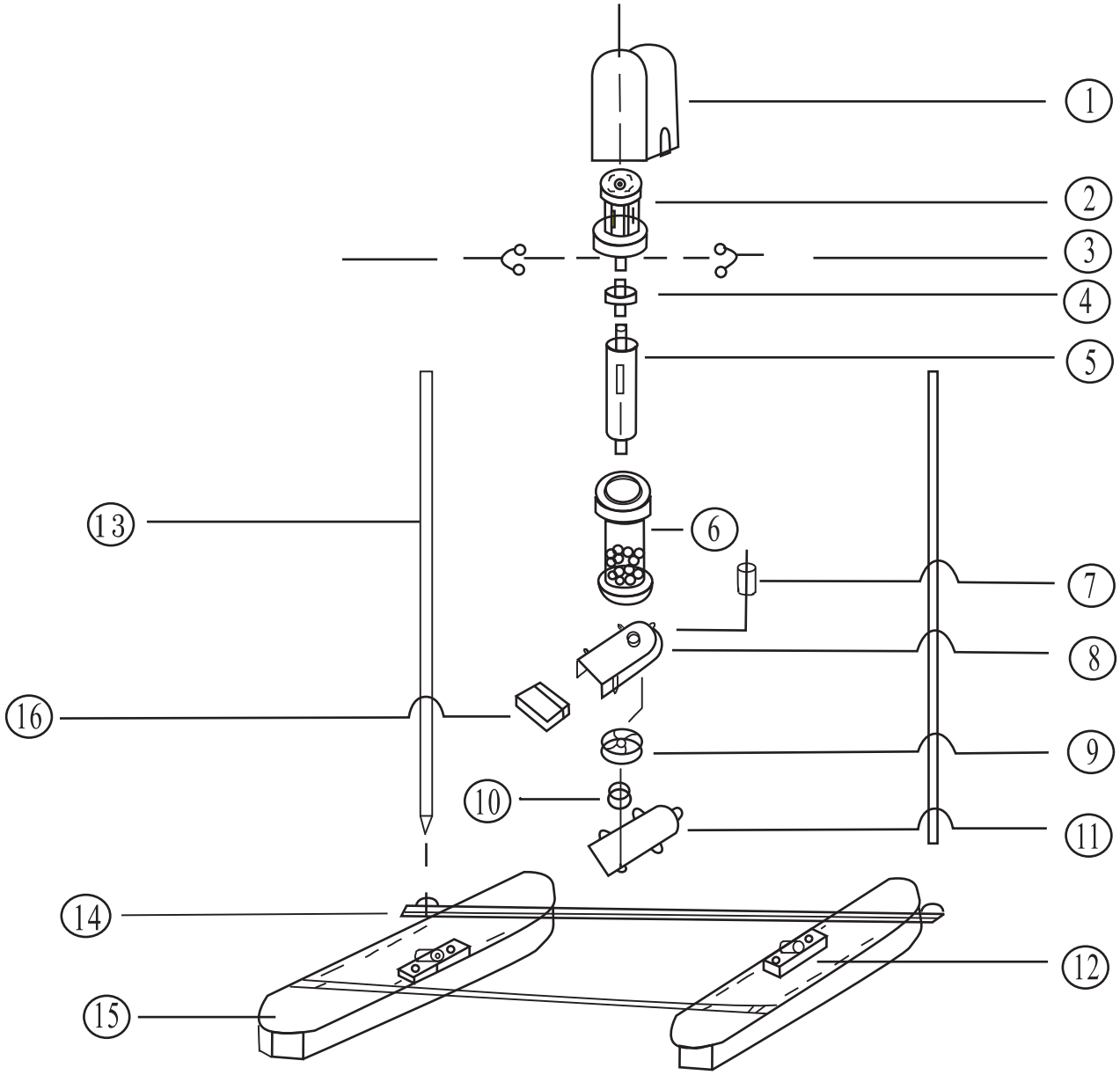
SS FRAME
1.Made of #304 stainless steel material.
2.Toughness and durable, anti-corrosive and anti-rust.
3.To fix whole set machine for stable operation.

浮船
1.採用高密度複合PE材料製成
2.具高延展性、耐衝擊
3.一體成型、永不漏水

PONTOON FLOATER
1.Made of compound PE materials.
2.Excellent ductility, withstand impact.
3.One-piece blow molded formation to ensure absolute water prevention.

TURBO2 AERATOR

ASSEMBLY LAYOUT
裝配圖



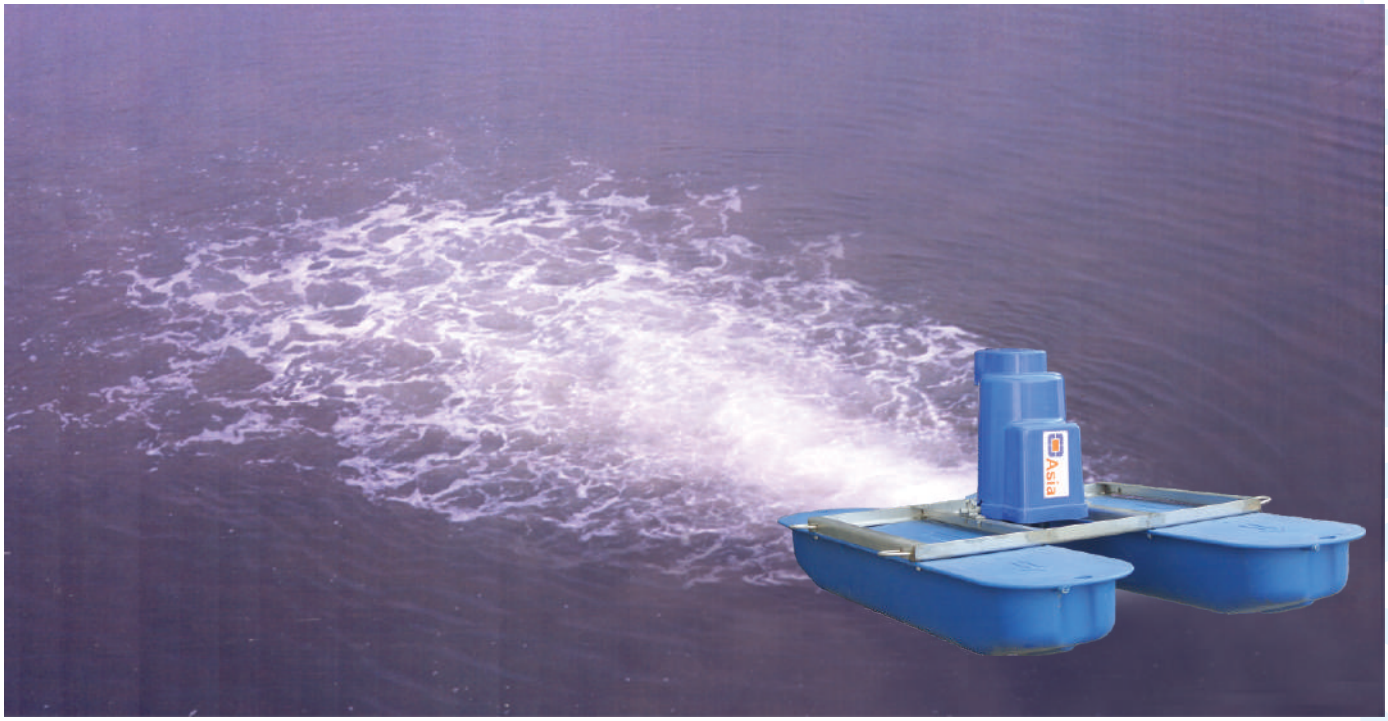
編號 PART NO	1	2	3	4	5	6
零件名稱 PART NAME	主機蓋 MACHINE COVER	馬達 ELECTRIC MOTOR (2HP)	調整支架 ADJUSTMENT ANCHOR	活動接頭 S.STEEL COUPLING	傳動軸心 ROTATING SHAFT	吸氣外管 DRAFT TUBE

編號 PART NO	7	8	9	10	11	12
零件名稱 PART NAME	軸套 BUSH	葉輪室 PROPELLER CHAMBER	葉輪 PROPELLER	葉輪螺絲 PROPELLER BOLT	葉輪室底蓋 PROPELLER CHAMBER BOTTOM COVER	調整基座 ADJUSTMENT STAND

編號 PART NO	13	14	15	16
零件名稱 PART NAME	固定杆 SETTING BAR	主機架 S.S FRAME	浮船 PONTOON FLOATER	噴嘴 NOZZLE

TURBO2 AERATOR

尖端科技新產品，改善養殖環境的利器，未來水車的主流



MODEL	POWER	VOLTAGE	HZ	PHASE	OPERATION AMP	OXYGENATION TRANSFER RATE	AERATION EFFICIENCY	DIMENSIONS L x W x H (CM)	WEIGHT	CONTAINER 20 FT/40 FT
ASJ-299	2HPx2P	380 - 415	50	3∅	1.6 A	3.3 Kg02/hr	2.4 Kg02/kw.hr	165 x 104 x 82	46 KGS	120/250 UNITS

AGENT/代理商

TURBO2 AERATOR