



# AR

## 沉水式曝氣機

## SUBMERSIBLE AERATOR



泵浦 曝氣系統 廢水處理機械



綠色 · 安全 · 永續經營

**川源股份有限公司**  
GSD INDUSTRIAL CO., LTD.

品質管理系統ISO 9001  
TAF水泵實驗室認證合格廠

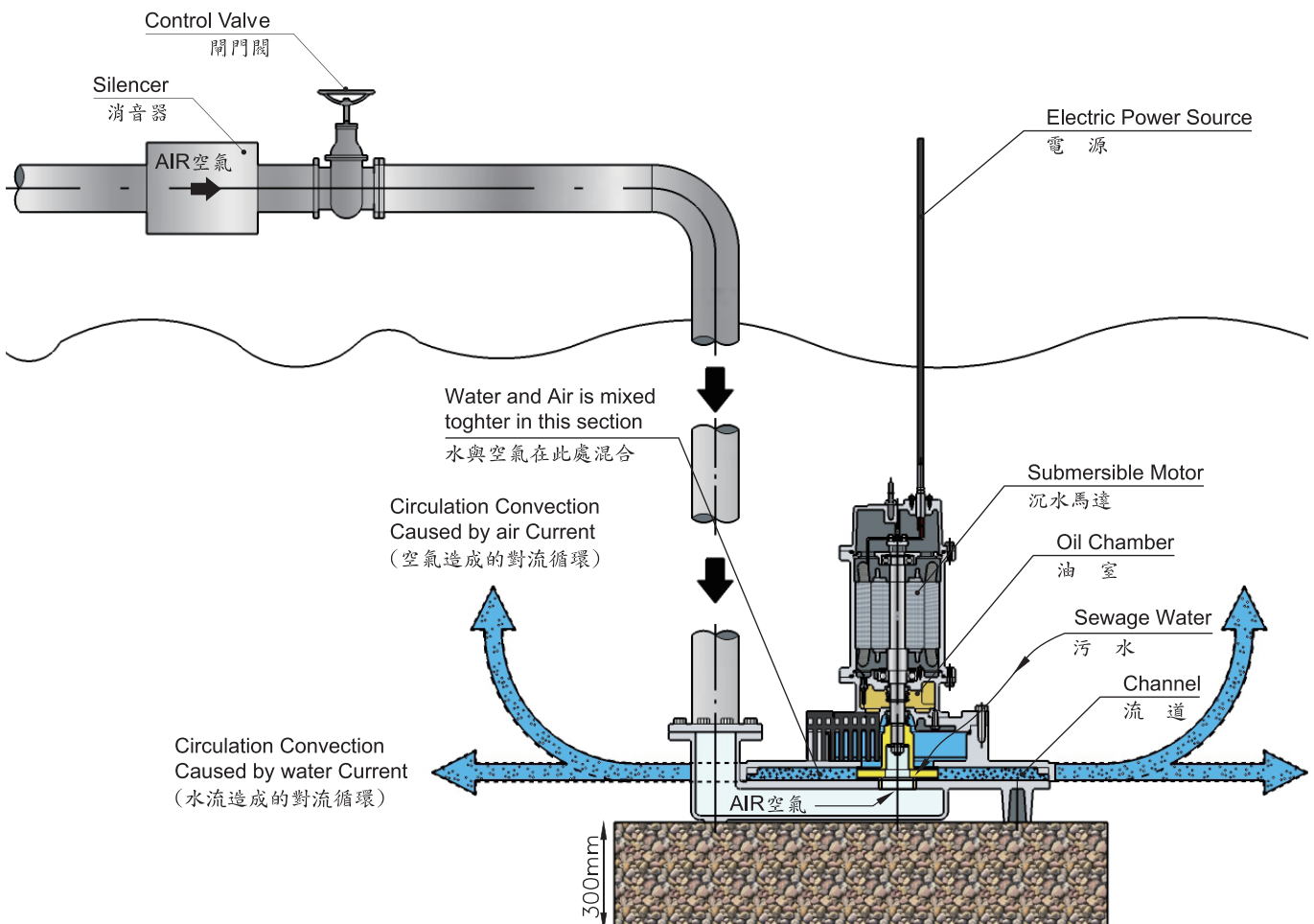
# AR 沉水式曝氣機 SUBMERSIBLE AERATOR

## 特性介紹 FEATURES (REFER TO FIG.A)

“川源牌”沉水式曝氣機，乃是利用馬達直接帶動葉輪旋轉來產生離心力，它可在水中形成局部低氣壓來引進液體，同時由於葉輪轉動時所造成之真空吸力亦會自大氣中吸入空氣，此時液體和氣體在混氣室中充分混合後之氣液混合體再藉由離心力作用快速排出。

由於水流噴出的力量相當大，能夠有效促成液體進行對流和迴流的動作，此時在氣液混合體內的微小氣泡，自水底緩緩上升的過程中，氧氣便逐漸溶入水裏，因為氣泡相當細小且數量很多，氣體與液體的接觸面積相形增大，因此溶氧效率高。

GSD submersible aerator-AR uses the rotation of the impeller directly coupled with motor to create a centrifugal force, which makes local low-pressure in the water. Meanwhile, the impeller entrance generates vacuum situation to draw oxygen from air. When air and water mix together, the aerator house will drain out of the channel by centrifugal force. Powerful water flow from aerator can push the liquid doing convection and circulation effectively. In addition, the air from liquid form plenty of tiny bubbles, which slowly rise from the bottom, the oxygen will integrate in water gradually. The oxygen transfer rate of GSD aerator is higher than other competitors' because these bubbles are tiny and numberless and the surface area is large.

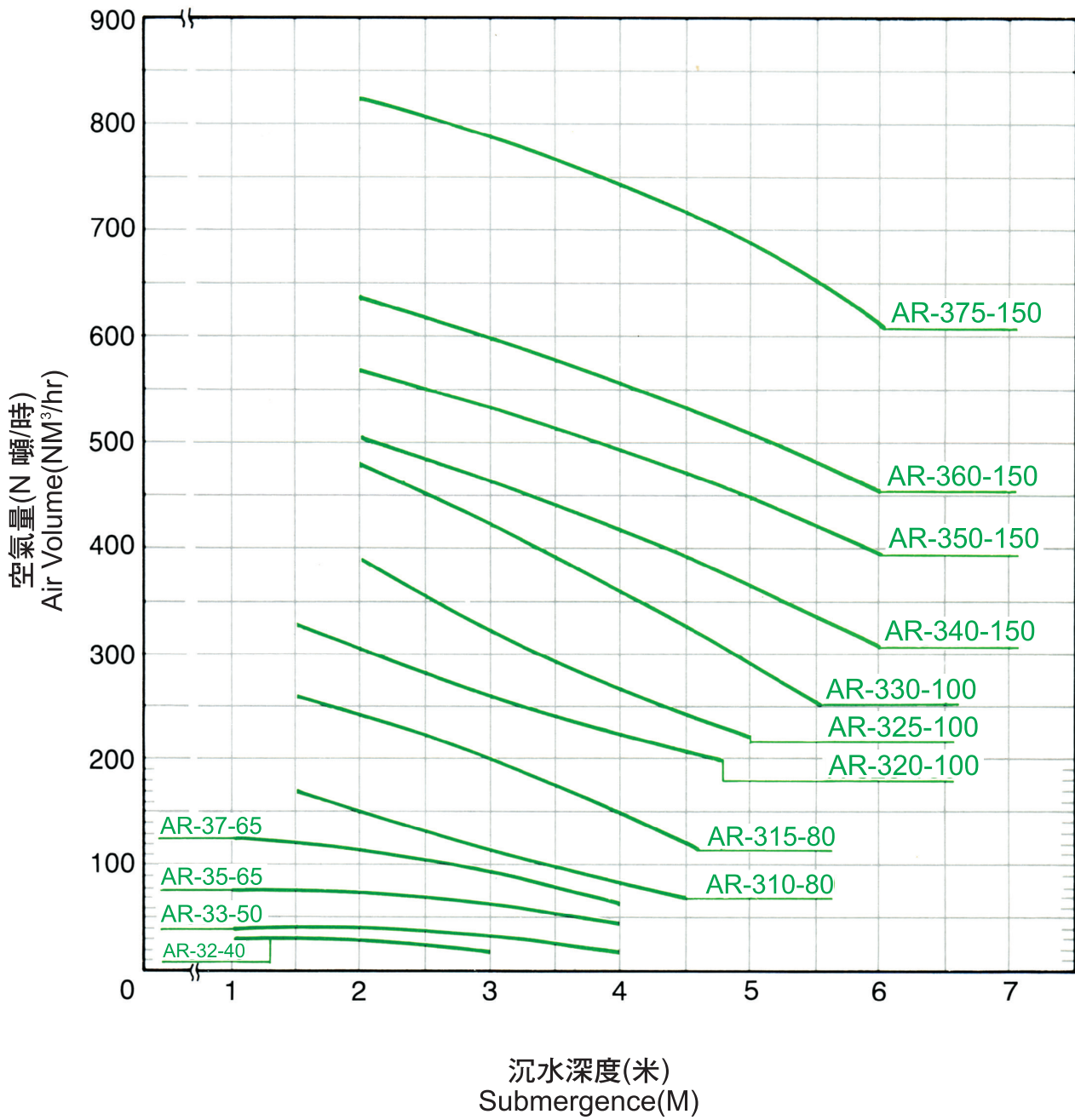


.(Fig A)

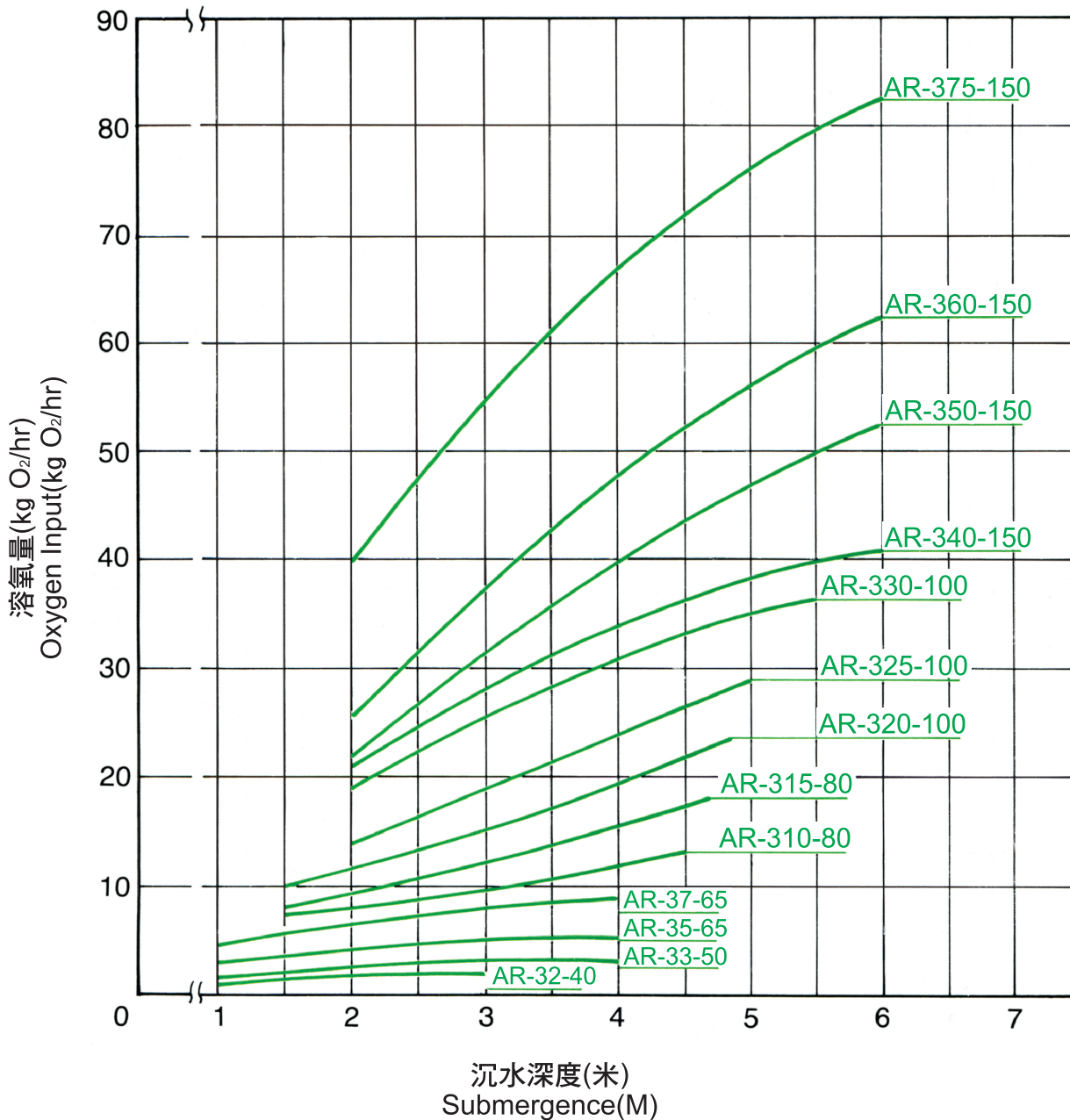
註：消音器及閘門閥為選購附屬配備。

Silencer and Control Valve are optional equipments.

供氣量與沉水深度關係曲線圖 AIR VOLUME PERFORMANCE CURVE

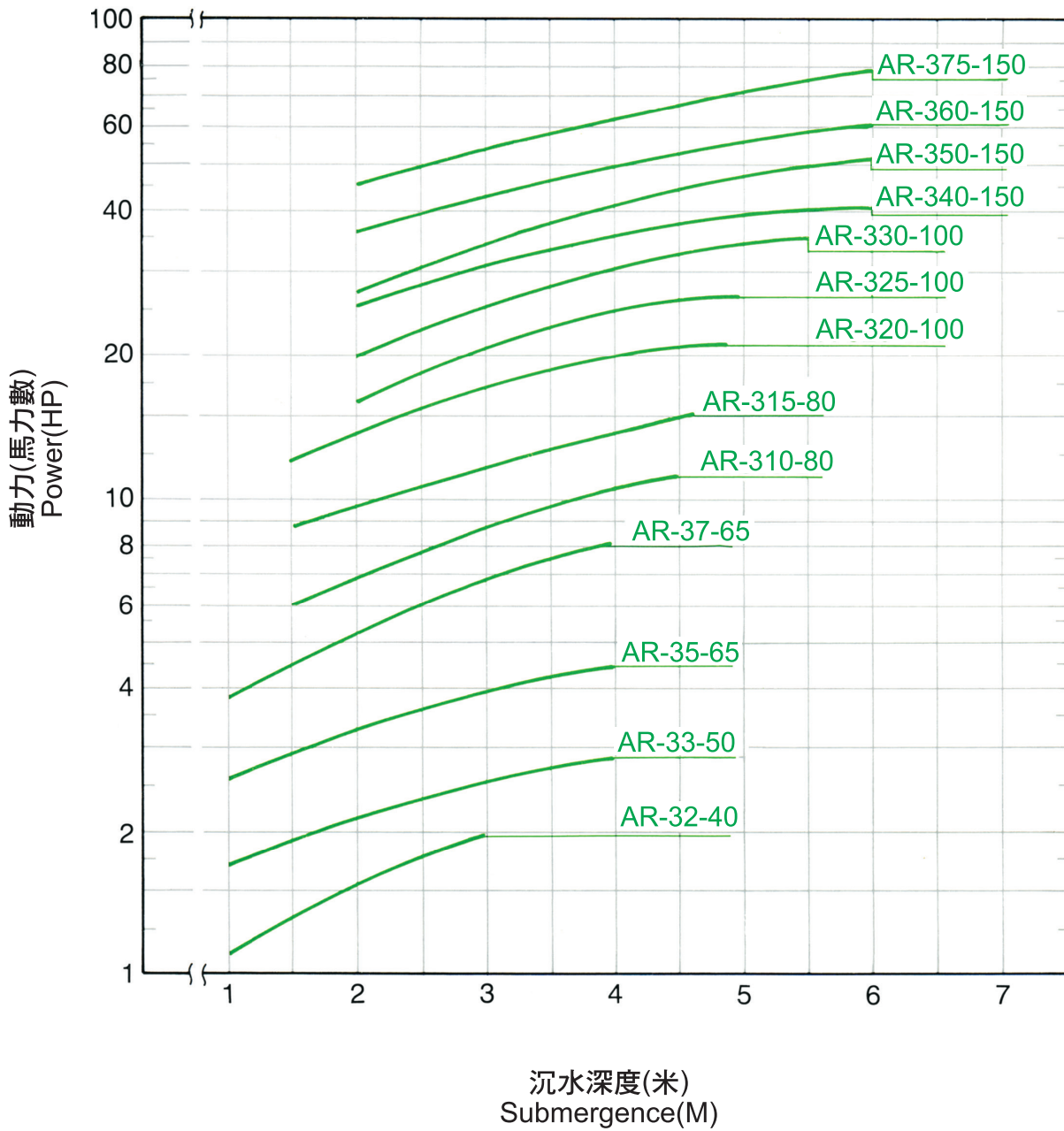


## ◀ 溶氧量與沉水深度關係曲線 OXYGEN INPUT PERFORMANCE CURVE

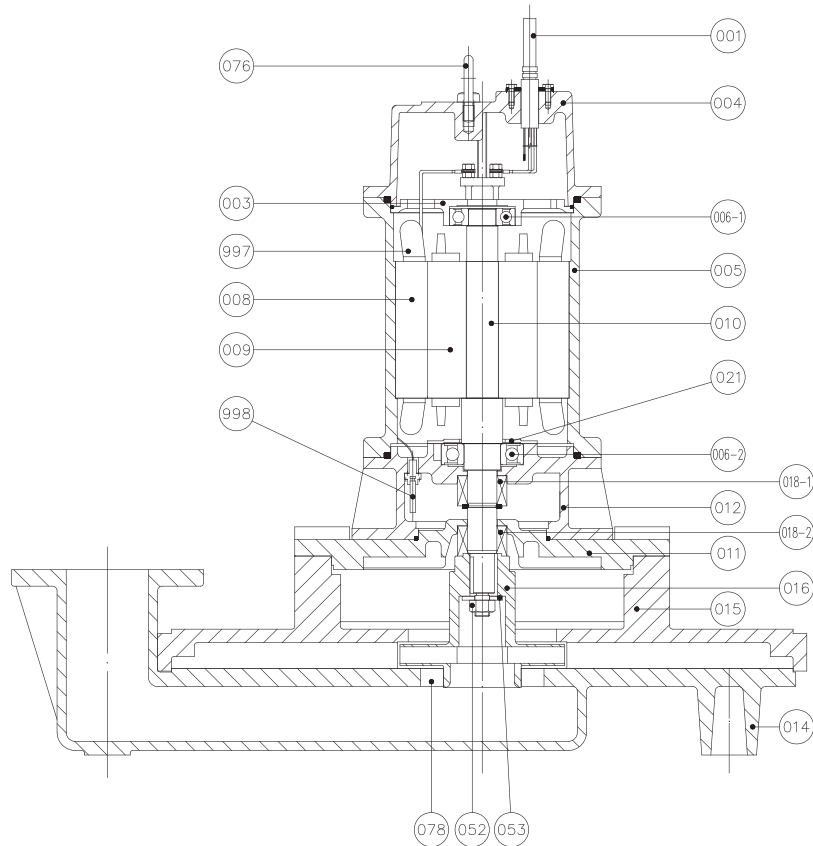


註：氧傳輸率測定的標準狀態為一大氣壓力水溫 20℃，清水在溶氧值為 0mg/L 狀態下開始測試。

動力與沉水深度關係曲線圖 POWER PERFORMANCE CURVE



## 結構圖 CONSTRUCTIONS



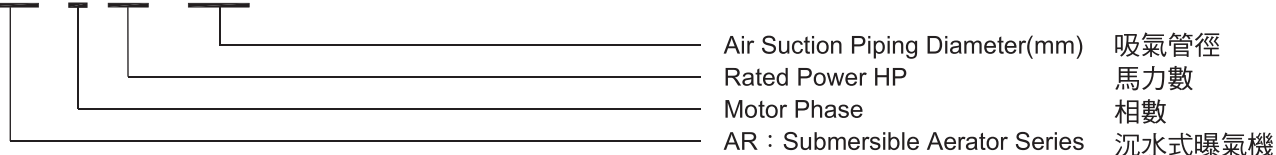
## 材質表 MATERIALS

NO.	名稱	NAME	MATERIAL			NO.	名稱	NAME	MATERIAL		
001	電 纜	CABLE	VCT(or 2CT)			003	軸 承 座	BEARING COVER	FC200	FC200	FC200
004	馬 達 蓋	MOTOR COVER	FC200	SCS13	SCS14	005	馬 達 本 體	MOTOR CASING	SUS304 FC200	SUS304 SCS13	SUS316 SCS14
006-1	軸 承	BEARING	—	—	—	006-2	軸 承	BEARING	—	—	—
008	定 子	STATOR	F CLASS	F CLASS	F CLASS	009	轉 子	ROTOR	—	—	—
010	主 軸	SHAFT	SUS410	SUS304	SUS316	011	油 箱 蓋	OIL COVER	FC200	SCS13	SCS14
012	中 承 座	BRACKET	FC200	SCS13	SCS14	014	混氣室底蓋	AERATION COVER	FC200	SCS13	SCS14
015	混氣室	AERATION HOUSING	FC200	SCS13	SCS14	016	葉 輪	IMPELLER	SCS13	SCS13	SCS14
018-1	機 械 軸 封	MECHANICAL SEAL	CARBON-NBR	CARBON-NBR	CARBON-NBR	018-2	機 械 軸 封	MECHANICAL SEAL	Silicon-NBR	Silicon-NBR	Silicon-VITON
021	軸 承 蓋	BEARING COVER	FC200	FC200	FC200	052	葉 輪 螺 帽	IMPELLER NUT	SUS304	SUS304	SUS316
053	防 鬆 墊 圈	WASHER	SUS304	SUS304	SUS316	076	環 首 螺 栓	EYE BOLT	SS400 ; SUS304		
078	磨 耗 環	WEAR RING	依稀龍	依稀龍	依稀龍	997	線 圈 過 熱 保 護 裝 置	COIL THERMAL PROTECTOR	—	—	—
998	測 漏 檢 知 器	LEAKAGE DETECTOR	—	—	—						

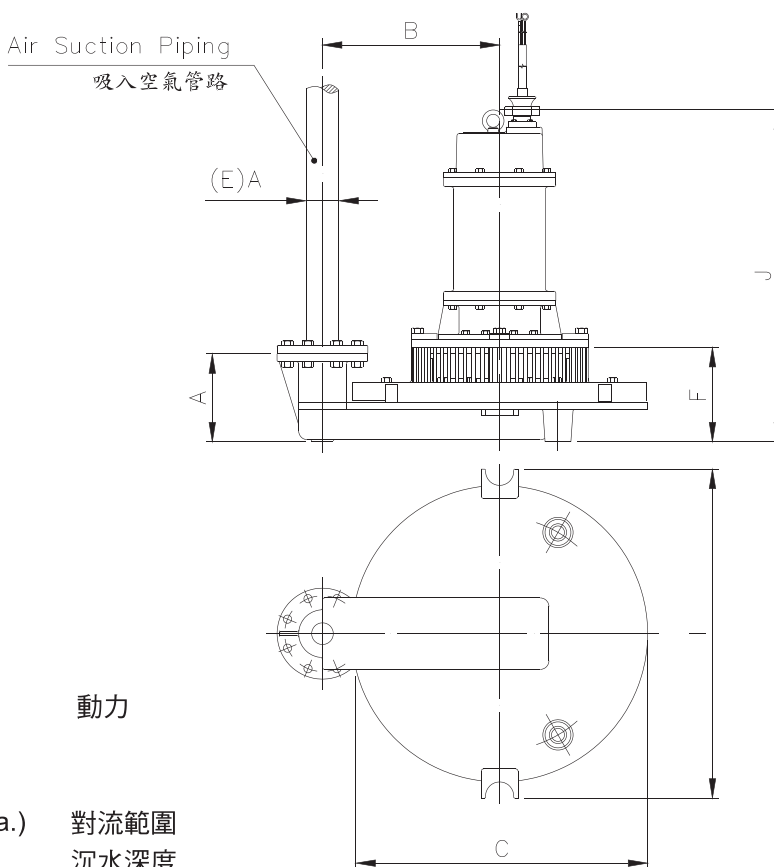
- 上述材質以外，可依客戶需求製作。  
Additional component materials are available on request.
- 電纜標準長度10M。  
The stand cable size is 10M.
- 10HP (含) 以下馬達本體採SUS不銹鋼沖壓外殼。  
Aerator adopted motor 10HP(include) is selected SUS casing.
- 997、998為選擇配備。  
Item 997 and 998 are optional on request.

◀ 型號說明 TYPE DESCRIPTION

**AR - 3 20 - 100**



◀ 外型尺寸圖 DIMENSIONS



P: Power, 3 Phase. 4 Pole,  
 220V (220/380/440).  
 60Hz ; HP.

動力

D: Range of Convection. M. (Dia.)

對流範圍

H: Submergence. M.

沉水深度

Type	P		Main-Sub. D (M)	Max.-Min. H (M)	A	B	C	E	F	I	J
	(HP)	(kw)									
AR-32-40	2	1.5	1.0-2.0	3.0-1	155	300	505	40	152	566	546
AR-33-50	3	2.2	2.5-5.0	4.0-1	155	300	505	50	154	566	586
AR-35-65	5	3.7	3.0-6.0	4.0-1	203	300	505	65	156	566	701
AR-37-65	7½	5.5	3.5-7.0	4.0-1	203	410	685	65	218	760	767
AR-310-80	10	7.5	4.5-9.0	4.5-1.5	203	410	685	80	218	760	767
AR-315-80	15	11	5.0-10.0	4.6-1.5	203	410	685	80	220	760	902
AR-320-100	20	15	5.8-11.5	4.8-1.5	203	410	685	100	223	760	905
AR-325-100	25	19	5.9-11.8	5.0-2.0	203	410	685	100	225	760	1092
AR-330-100	30	22	6.0-12.0	5.5-2.0	203	410	685	100	226	760	1093
AR-340-150	40	30	7.3-14.5	6.0-2.0	338	600	950	150	375	1110	1464
AR-350-150	50	37	7.5-15.0	6.0-2.0	338	600	950	150	374	1110	1464
AR-360-150	60	45	7.8-15.5	6.0-2.0	338	600	950	150	384	1110	1474
AR-375-150	75	55	8.0-16.0	6.0-2.0	338	600	950	150	384	1110	1729

若使用於50HZ地區, 請另外洽詢業務選型。

## ◀ 依曝氣池型之安裝配置選型建議 BASIN DIMENSIONS

Unit: m

TYPE	Maximum Water Depth	Shape and Size Type		
		Round	Square	Rectangular
AR-32-40	3	3.5(Dia)	3.1(Length)	2.5x3.8
AR-33-50	4	4.8(Dia)	4.2(Length)	3.4x5.2
AR-35-65	4	6.6(Dia)	5.8(Length)	4.8x7.1
AR-37-65	4	8.0(Dia)	7.1(Length)	5.8x8.7
AR-310-80	4.5	9.8(Dia)	8.7(Length)	7.1x10.6
AR-315-80	4.6	12.5(Dia)	11.1(Length)	9.1x13.6
AR-320-100	4.8	12.5(Dia)	11.5(Length)	9.1x13.6
AR-325-100	5	12.5(Dia)	11.8(Length)	9.7x14.5
AR-330-100	5.5	12.5(Dia)	12.0(Length)	9.7x14.5
AR-340-150	6	16 (Dia)	14.5(Length)	12.5x17
AR-350-150	6	16 (Dia)	15(Length)	13x17.5
AR-360-150	6	16 (Dia)	15.5(Length)	13x17.5
AR-375-150	6	16 (Dia)	16(Length)	13.5x18

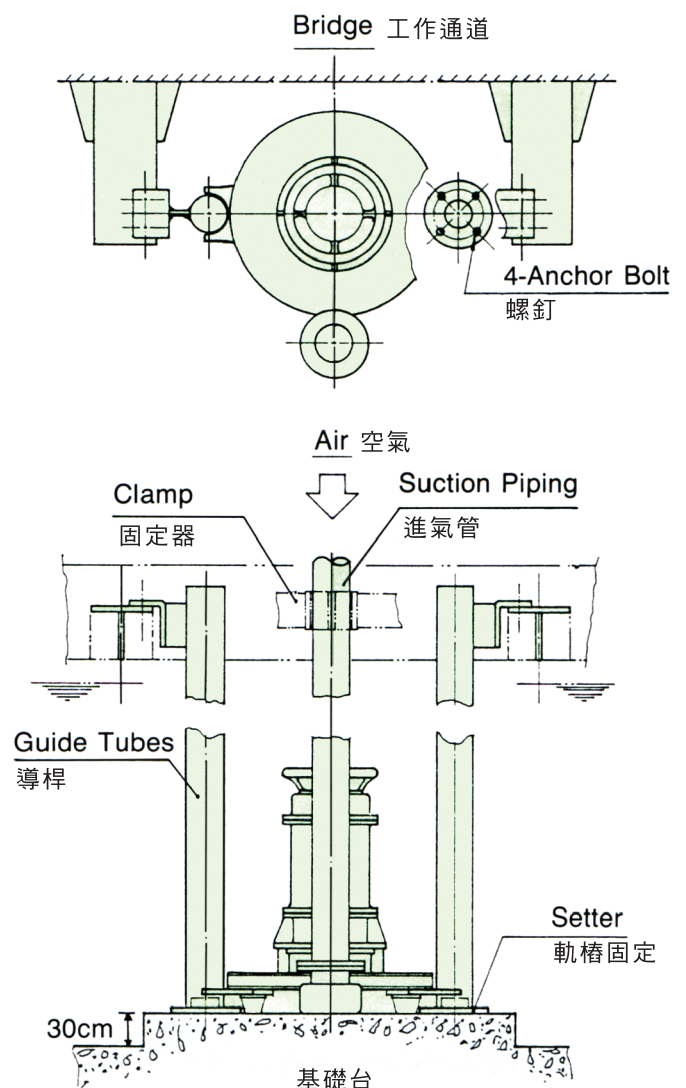
## ◀ 安裝指示 INSTALLATION

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

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

為了日後保養維護作業方便，提醒以下注意事項：

- (1) 將軌樁固定在基礎台上（在曝氣池注入廢水前）。
- (2) 設置適當的工作通道，其結構強度必須考慮到絞動及吊升設備。
- (3) 導桿應預先準備，且建議採用不鏽鋼管。
- (4) 進氣管應依現場情況予以適當固定。



曝氣系統比較說明 COMPARISON OF AERATION EQUIPMENT

	鼓風機/散氣管式曝氣機 Blower/Diffuser Dispersion Pipe.	AR沉水式曝氣機 AR Submersible Aerator
安裝概要示意 Installation Outline		
附件 Accessory	<ul style="list-style-type: none"> <li>· 撓性接頭、輸出消音器、閘門閥、逆止閥等 Flexible Joint, Discharge Silencer, Gate Valve, C.V. Etc.</li> <li>· 高單價空氣分散器 High Price Air Diffuser</li> </ul>	<ul style="list-style-type: none"> <li>· 不需要 Unnecessary</li> <li>· 不需要 Unnecessary</li> </ul>
功能特性 Characteristic	<ul style="list-style-type: none"> <li>· 吵雜 Noisy</li> <li>· 產生高溫 High Temperature Discharged.</li> <li>· 無法阻絕塵粒進入鼓風機 Disallowing Dust into Blower Casing.</li> </ul>	<ul style="list-style-type: none"> <li>· 安靜 Silence</li> <li>· 無此顧慮 None</li> <li>· 無 None</li> </ul>
維護 Maintenance	<ul style="list-style-type: none"> <li>· 空氣分散氣易阻塞，影響溶氧效率 Air Diffuser Blocked Easily and Cleaned Difficulty.</li> <li>· 一年數次 More Than Once a Year.</li> <li>· 更換作業成本高 The replacement cost is expensive.</li> <li>· 散氣盤/管如破損後，會嚴重影響處理(溶氧)效果，其更換成本將還高於散氣盤/管的成本 The break of diffuser plate/pipe will affect the treatment(oxygen transfer) performance, and the replacement cost will be higher than its cost.</li> </ul>	<ul style="list-style-type: none"> <li>· 每年一次 Once a Year.</li> <li>· 沉水馬達平常不需保養 Submersible pump is not maintenance ordinarily.</li> </ul>

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# Green Safe Development



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