



CE

本機型榮獲專利字號
新式第101792號(凹凸緣設計)
新式第066802號(沉水式設計)
新式第134273號(羅立式設計)

ISO 9001 2000國際品質認證

高品質 低噪音

沉水式魯氏鼓風機

Minimal Vibration and Low Noise
Submersible Roots Blower

ISO 9001



專業製造魯氏鼓風機

Specializing in the manufacturing of Roots blowers

為何選擇春鼎魯氏鼓風機？

Why Should You Select the Trundean Roots Blower?

本公司具有ISO 9001 2000國際品質認證及CE認證資格

Trundean Machinery provided with ISO 9001 2000 Quality Certificate and CE Certificate qualifications



春鼎魯氏鼓風機各項專利特點

◆魯氏鼓風機之改良：

專利證號新型第一〇一七九二號採凹凸緣緊密配合替代傳統插銷裝配防止位移永無偏心運轉狀態。

◆水冷式魯氏鼓風機：

專利證號新型第一一六七一七號降低機體溫度，減少軸承齒輪因長期高壓昇溫運轉所造成之損壞。

傳統鼓風機壓力振幅大，造成振動及噪音，縮短軸承、齒輪及其他傳動元件的壽命。

Traditional blowers result in pressure pluses and vibrations that rob power and shorten the life of every bearing, gear and other transmission component.

較低的噪音

壓力脈衝是主要的噪音源，春鼎魯氏鼓風機能有效降低噪音達5dB。

Lower Noise

Pressure pluses are the major noise source in blowers. The TRUNDEAN new Roots Blower design can efficiently reduce noise by approximately 5 dB.

較低的能源損耗

春鼎魯氏鼓風機的設計能減少逆流對轉子的壓力，相對的也減少能源的損耗。

Lower Energy Consumption

TRUNDEAN new Roots Blower are designed to control backflow pressure to the rotor in order to reduce energy consumption.

軸承壽命延長

由於葉輪傳遞的振動減少，得以延長軸承壽命達20%。

Longer Bearing Life

Less vibration transmitted through the lobe results in approximately 20% longer bearing life.

公司的經營理念 研究創新、技術超群、產品精良、服務誠懇。

春鼎魯氏鼓風機掌握核心技術，絕對是您最佳的選擇

春鼎鼓風機特點：

一、本公司生產之鼓風機氣室與側蓋採凹凸緣密合，以提高鼓風操作強度且防止螺栓固定時引起偏心現象而影響鼓風機之壽命。

二、本公司葉輪採用最先進之四軸加工一次加工法，以減少人為誤差，提昇葉輪之精密度，並提高鼓風機之效率。

三、免潤滑油無故障

在轉子與轉子間，及轉子與殼體間，設有適當間隙，在運轉中互不接觸，內部不需潤滑處理、機械部份之接觸，採正時齒輪驅動模式、且殼體（轉子動作室）以側蓋氣油分離，不致有潤滑油混入之虞，故吐出之氣體為不含油成份之清淨空氣，即使在長期運轉情況下，亦可安心使用。

高度標準化之組件、品質保證，所有零件均經CNC自動化工作母機加工，規格均一致化，即使因不當使用所導致之損害，亦能輕而易舉的更換新舊零件，節省維修時間、與工時費用、零件特價供應不虞維護之困擾、訓練有素之外勤服務人員，讓台端得到最佳之售後服務。

四、低噪音、低震動

在噪音及振動之防治方面，本公司曾經多年加以研究，此一系列新機種乃採高精密度轉子結構，以遂行理想之逆流壓縮功能，鼓風機吐出空氣之脈動，可更平滑的進行，噪音及振動均可大幅度減低，因此，就小型鼓風機而言，可免加裝出口消音器。

The Characteristic of the TRUN-DEAN Blower:

* The air compartment and the side cover of our blower has a flange and groove rim, which can not only strengthen the blower's operational functions but also prevent eccentric phenomenal resulting from the fastening of the stud, which may shorten the life of the blower.

* To reduce man-made errors, enhance the precision of the leave-wheel, and to promote the blower **efficiently**, our rotor uses the most advanced--one time work process Four- Shaft method.

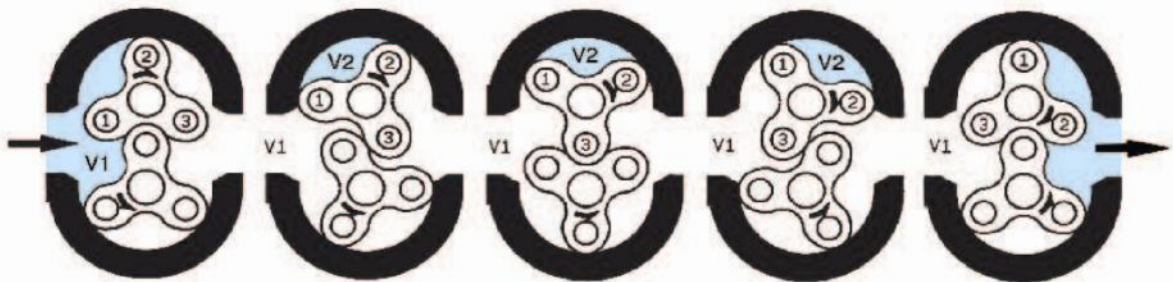
* Unique Design with Quality Components

Appropriate clearance between the rotors and the rotors with the casing ensure no direct operational contact, hence no lubrication is necessary. The synchronous gear drive system and the shaft bearings are the only parts which require lubrication. Separate lateral chambers are designed to house these moving parts with proper seals to prevent oil leakage to the main chamber. Computerized CNC machines are used to produce components and parts of high quality and precision, also saves the user both time and labor during maintenance and replacement.

* Low Noise & Minimal Vibration

Noise and vibration reduction are the main emphasis in developing the new series of roots blower. The TRUNDEAN Blower rotor concept was adopted based on its flow characteristics which is very stable and even compared to the 2 lobes type, also coupled with the fact that it shows a considerable reduction of both noise and vibration. The extent of reduction can even allow the smaller unit to operate without the need of a silencer.

鼓風機動作原理：



魯氏鼓風機之動作原理為機體氣室內裝置兩組葉輪，以相反方向迴轉時，吸入側因容積V1變化而產生低壓，為平衡壓力而吸入空氣，而形成容積V2之空氣，再由吐出側送出空氣，由吐出口之阻力而產生高壓。

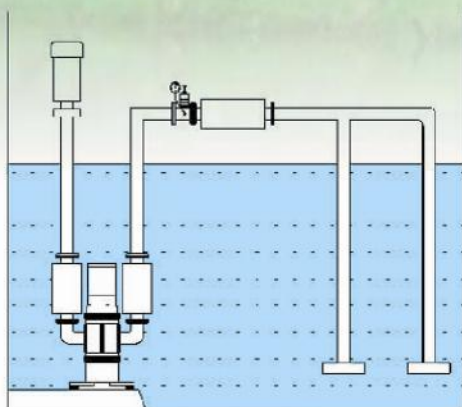
由於兩葉輪間保有一定之間隙，因此兩葉輪並無相互摩擦，所以不必在葉輪間添加任何潤滑劑，即可高速運轉排送潔淨空氣，亦可用於真空用途。

Principle of the Blower Operation:

There are two sets of rotors in the air compartment of the blower body, when the rotors operate in opposite directions they suck in air to balance the pressure created due to the volume V1 change on the inlet side. And the air of the volume V2 will be sent out thru the outlet side and the high pressure will be created thru the outlet mouth.

Also, there is no need to apply any lubrication between the two rotors because of the existing gap between them which gives no worry about the possibility of friction. It runs well at high speed and produces clean air. It also can be used in vacuum circumstances.

沉水式魯氏鼓風機之優點 Features of the Roots blower

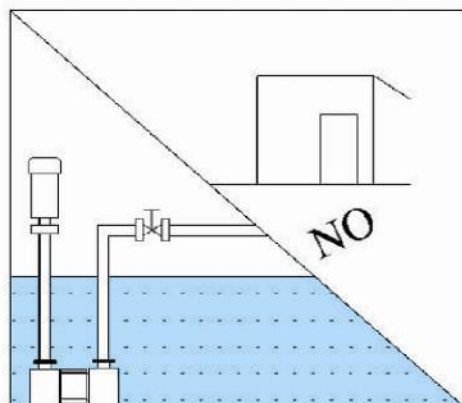


寧靜

運轉中之鼓風機，因置放在水中，故聲音在空氣與水之介面被折射入水中，而不傳入空氣中，同時水與槽壁亦同樣折射回去而達到減音之效果。

Quietness

Because of its submersibility under water, there will be not much noise from the machine when in use.

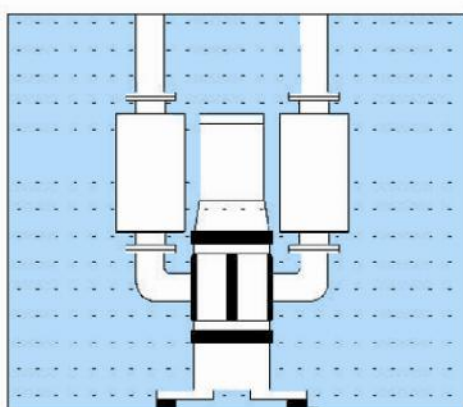


不需製作防音設備

沉水式鼓風機因置於水中，即達到減音之效果，故不需另製作防音罩或防音廠房，同時鼓風機置放於水槽中，不佔用空間，所以能有效利用空間。

No need for a silencer

Because it is under water, the created noise will be very low; there will be no need for a silencer. Under-water can mean space-saving.



構造堅實、安心使用

馬達與機體為直結式（沒有傳統型調整皮帶之困擾）。馬達與機台本身全以 O 型環圈閉封，絕無進水之虞。馬達若因過熱停機，請清潔外殼，以達散熱之效果。

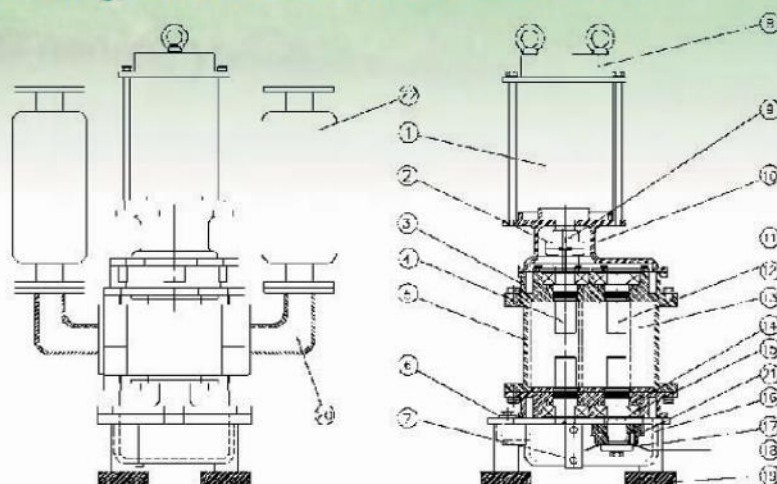
Strong structure, Worry free

- ✦ The direct connection between the motor and the blower can avoid the inconvenience of traditionally-done belt adjustment.
- ✦ The O-ring closure of the motor and the machine means worry free on the water leakage.
- ✦ Because of the overheat result the motor stopped, just cleanse outer surface to make the cooling back.

裝置簡單、配管短、省工時、不佔空間、不需防音設備...即達成無噪音之生活空間
Easy installation; easy assembly; labor-and-space saving; quietness.

沉水式魯氏鼓風機結構圖

The Structural diagram for the submersible blower



NO.	名稱 Name	數量 Qty	材質 Material	NO.	名稱 Name	數量 Qty	材質 Material
1	馬達外殼 Casing of Motor	1	SUS304	12	葉輪 Rotor	2	FC250
2	聯軸器 Coupling	2	FCD500	13	TC 油封 TC oil seal	2	NBR
3	軸承座 Bearing base	1	FC250	14	軸承 Bearing	4	SUJ2
4	主動軸 Drive shaft	1	S45C	15	扣環 "S" Ring	2	SK7
5	本體 Main body	1	FC250	16	齒輪油箱 Gear box	1	FC250
6	入油栓塞 Lubrication plug	1	SS400	17	墊圈 Washer	2	S45C
7	洩油栓塞 Oil drain plug	1	SS400	18	甩油片 Oil splasher	1	SS400
8	馬達蓋 Motor cover	1	NBRJ	19	防震墊片 Vibration cushion	4	Rubber
9	鍵 Key	1	S45C	20	彎管接頭 Pipe flange	2	FC250
10	連接座 Connecting base	1	FC250	21	齒輪 Gear	2	SNM21
11	被動軸 Driven shaft	1	SCM440	22	消音器 Silencer	2	SS400

另有不銹鋼材質，價格另議

TSW 系列沉水式魯氏鼓風機性能表

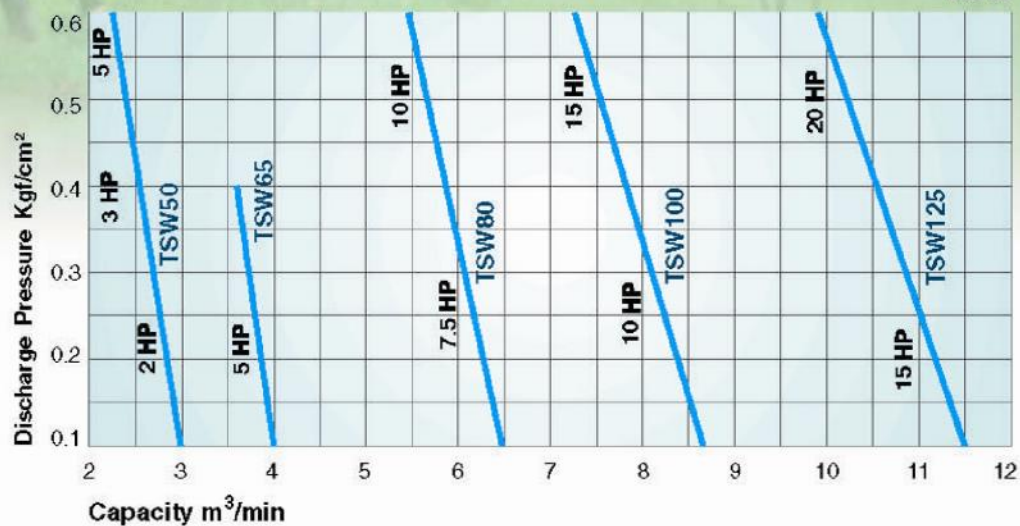
Function table for the TSW line submersible blower

機型 Model	口徑 Bore	出力 Power HP	壓力 Kgf/cm ² 風量 m ³ /min						Pressure kgf/cm ² Capacity m ³ /min						重量 Weight (kg)
			50 Hz						60 Hz						
			0.1	0.2	0.3	0.4	0.5	0.6	0.1	0.2	0.3	0.4	0.5	0.6	
TSW5015	2"	2	2.94	2.84	2.74				3.04	2.94	2.83				115
TSW5022	2"	3	2.94	2.84	2.74	2.64	2.53		3.04	2.94	2.83	2.73	2.62		
TSW5037	2"	5	2.94	2.84	2.74	2.64	2.53	2.44	3.04	2.94	2.83	2.73	2.62	2.52	
TSW6537	2.5"	5	3.99	3.85	3.71	3.58			4.09	3.95	3.75	3.59			130
TSW8055	3"	7.5	6.47	6.27	6.07	5.87			6.59	6.39	6.19	5.99			210
TSW8075	3"	10	6.47	6.27	6.07	5.87	5.68	5.48	6.59	6.39	6.19	5.99	5.81	5.62	
TSW10075	4"	10	8.66	8.36	8.07	7.79			8.75	8.46	8.17	7.89			280
TSW10011	4"	15	8.66	8.36	8.07	7.79	7.50	7.22	8.75	8.46	8.17	7.89	7.61	7.34	
TSW12511	5"	15	12.44	12.22	11.89	11.45			12.99	12.66	12.33	12.01			400
TSW12515	5"	20	12.44	12.22	11.89	11.45	11.12	10.79	12.99	12.66	12.33	12.01	11.67	11.34	

※重量不含馬達

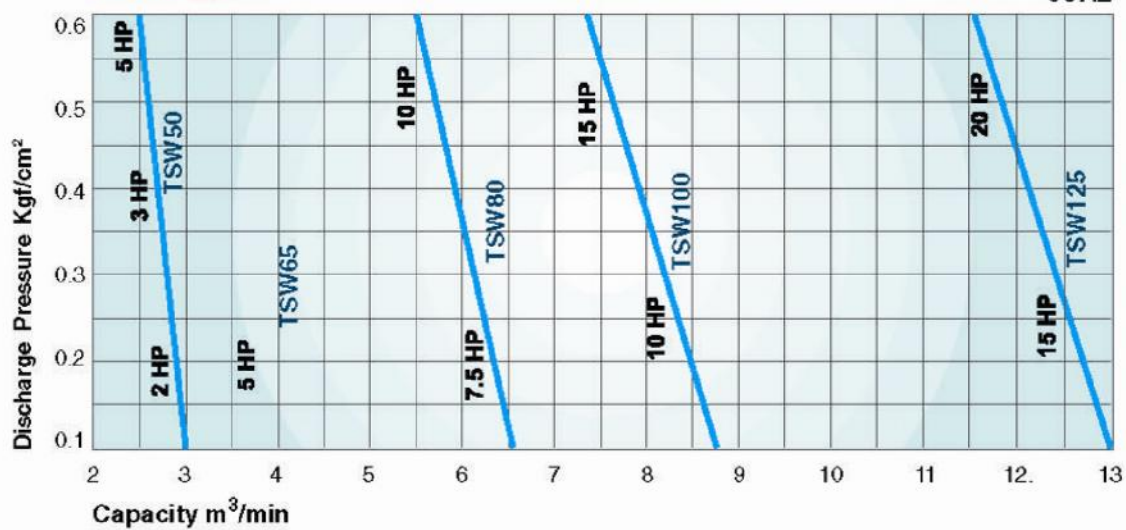
性能曲線圖 Performance-Curves

50Hz

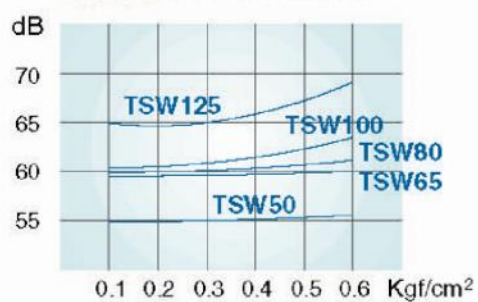


性能曲線圖 Performance-Curves

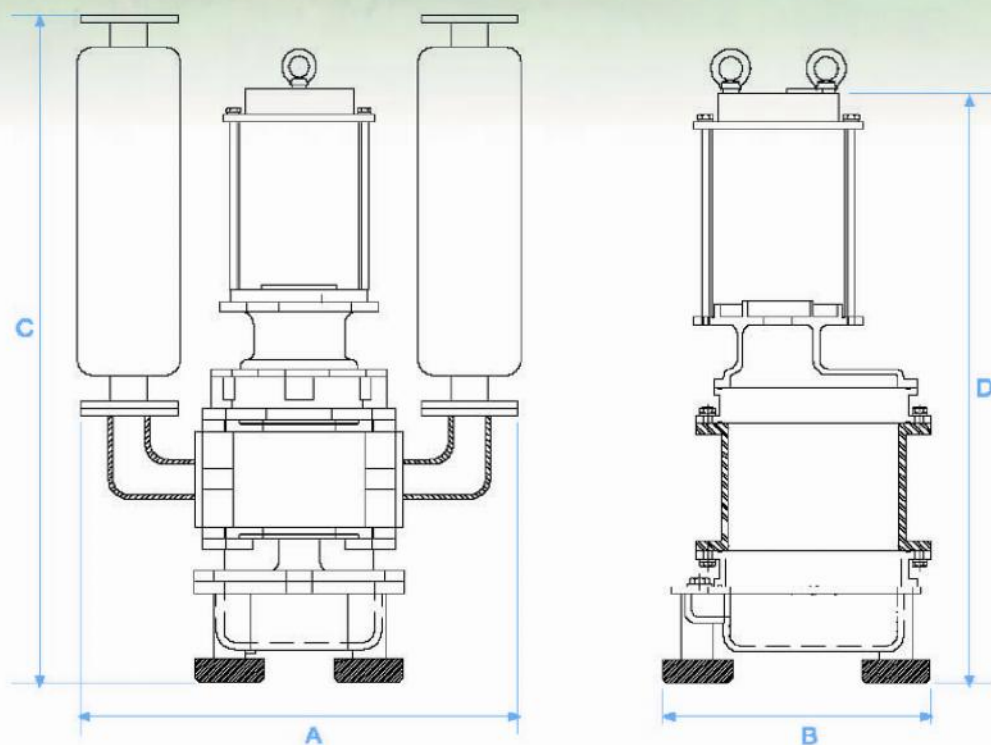
60Hz



噪音值 Noise Levels



外型尺寸圖 Dimensions

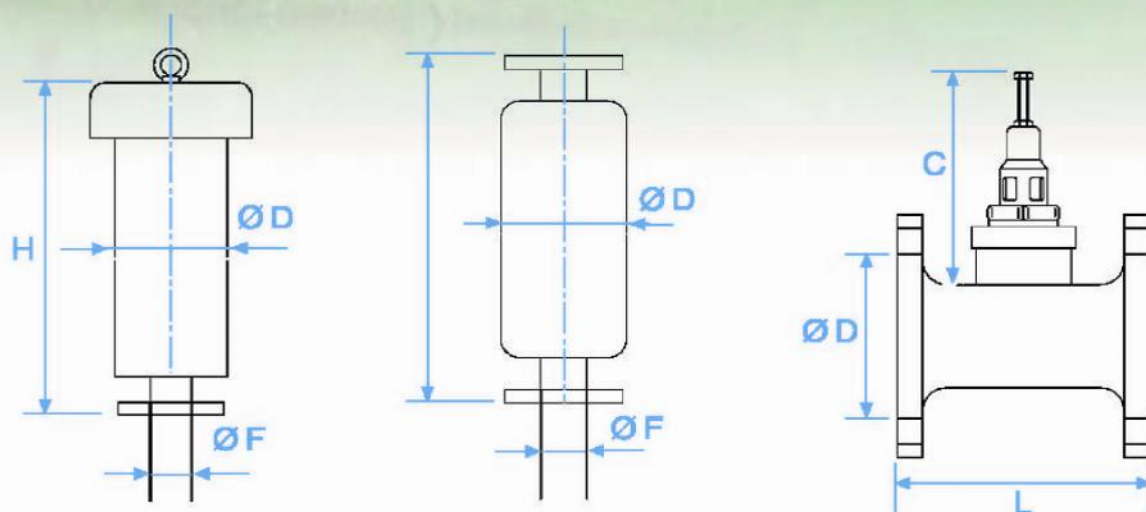


Unit/mm

TYPE	出力 HP	A	B	C	D
TSW 5015	2	650	340	840	775
TSW 5022	3	650	340	840	775
TSW 5037	5	650	340	840	775
TSW 6537	5	675	340	870	835
TSW 8055	7.5	775	425	1200	870
TSW 8075	10	775	425	1200	870
TSW 10075	10	880	425	1280	870
TSW 10011	15	880	425	1280	870
TSW 12511	15	955	425	1340	1090
TSW 12515	20	955	425	1340	1090

附件尺寸

Dimensions of the Accessories



入口消音器 Suction Silencer

TYPE	H	F	D	Weight KG
SS-50	765	50	165	14
SS-65	780	65	216	22
SS-80	780	80	216	25
SS-100	780	100	288	35
SS-125	1395	125	338	63

Unit/mm

出口消音器 Discharge Silencer

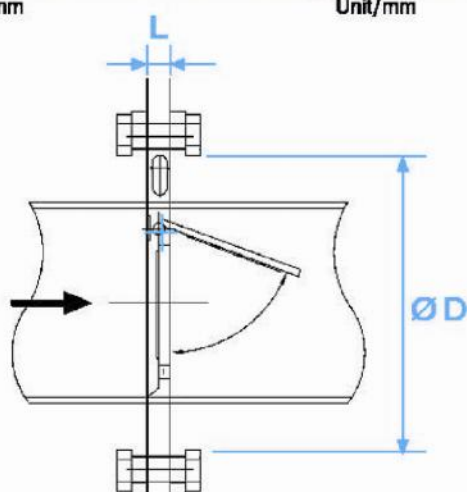
TYPE	H	F	D	Weight KG
DS-50	780	50	165	17
DS-65	780	65	216	25
DS-80	780	80	216	27
DS-100	780	100	288	36
DS-125	1405	125	338	70

Unit/mm

短管安全閥 Short Pipe Safety Valve

TYPE	L	D	C	Weight KG
TJ-50	160	155	132	6
TJ-65	160	175	132	7
TJ-80	185	185	150	8
TJ-100	185	210	150	9
TJ-125	185	250	150	15

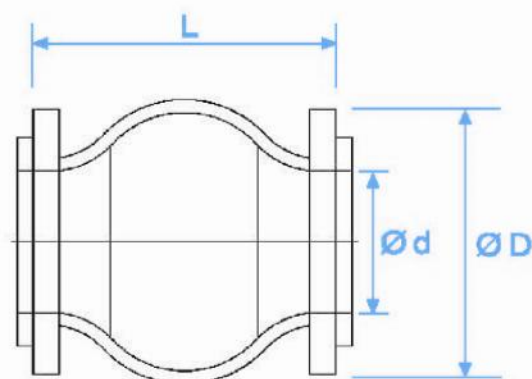
Unit/mm



截止閥 Check Valve

TYPE	D	L
AC-50	106	16
AC-65	125	16
AC-80	133	16
AC-100	158	16
AC-125	189	16

Unit/mm

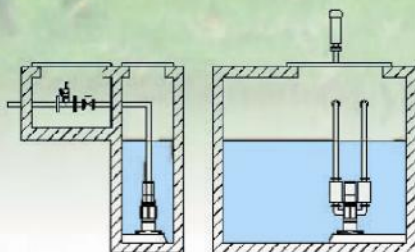


防震接頭 Flexible Joint

TYPE	D	d	L	Weight KG
FJ-50	155	50	105	4
FJ-65	175	65	115	5
FJ-80	185	80	130	5.5
FJ-100	210	100	135	6
FJ-125	250	125	170	10

Unit/mm

可使用之場所 Where to use



放流槽 消泡槽 鼓風槽

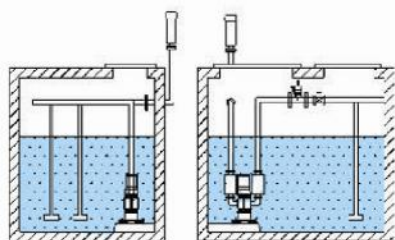
優點：1. 裝置淺、檢修容易。2. 換油可於放水後於槽內進行。

注意：1. 必需保持最低水位。2. 水溫需保持於 32 °C 以下。

Passage trough, Foam-removing trough, Blow trough

Advantage: 1. Shallow water installation easy for maintenance.
2. The oil change can be easily done in the trough after the water is out.

Caution: 1. Must keep the minimum water level.
2. Must keep the water temp below 32 °C .



曝氣槽

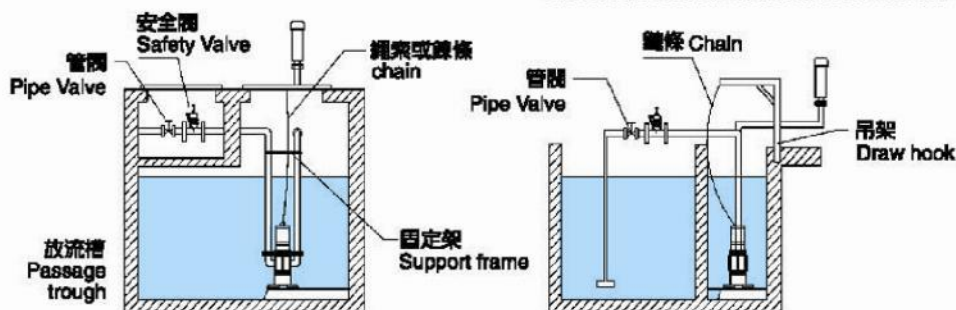
優點：1. 配管短、裝置易。2. 不需要鼓風機裝置場所。

注意：1. 裝置不要妨害旋迴流之位置。2. 汽泡不要直接衝刺到鼓風機。

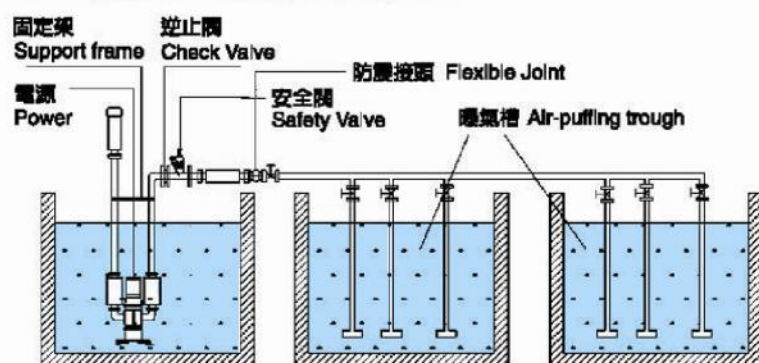
Air-puffing trough

Advantage: 1. Easy assembly parts.
2. Doesn't require a similar place next to the blower for installation.

Caution: 1. During installation, keep away from the return current.
2. Bubbles should not enter the blower.



安裝示意圖 Installation diagram



裝置要點

1. 用繩索或鍊條裝置機台，降於槽底並安置於基面上（不需使用固定螺柱）。
2. 不可將繩索鍊條拉緊，其尾端固定於掛鉤上。
3. 吸進及排出之管路，應用固定架固定，以防止鬆動。
4. 為方便裝置及管理，故需吊架及吊架孔，使用時插入吊架孔，不用時移開。
5. 開始運轉時，安全閥全開再調整至使用之壓力。

Installation

1. Lower the body into the trough bottom with the chain.
2. Don't tighten the chain; fix its end to the hook.
3. Fix the inlet and outlet pipes with pipe clips.
4. To remove easily, keep a hook with a hole for use.
5. To start, keep the safety valve to its fullest then adjust.

裝置注意事項

Things to note for installation

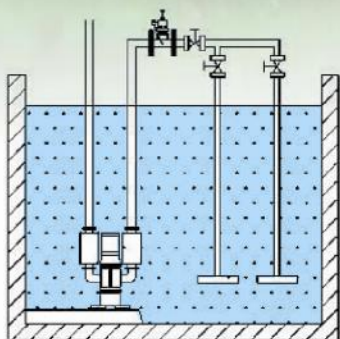


Diagram 1

1. 為確認動作及調整，應裝置於容易檢修之地方，為防止鼓風機停機時產生逆流，請裝置逆止閥並盡量裝置於曝氣槽水面以上之位置。
2. 如有污泥及塵埃...等堆積之可能，請提高鼓風機裝置之基面。
3. 污泥如堆積於馬達及鼓風機之周圍，將使馬達散熱不易，造成故障或燒燬之可能，因此如有污泥堆積之可能時，應另製一管路攪拌鼓風機周圍使污泥不附著其上。（如左圖之裝置）

為了安全起見，裝置鼓風機，請加裝漏電斷路系統。

1. Find a place for easy access to the machine, and to avoid the return wind current when the machine stops, a stop-return tap is necessary, which should be located higher than the air-puffing trough.
2. Raise the machine base to avoid any possible dust .
3. If the machine has to be in a dusty surrounding to keep the cooling function normal a special device (see the graph) should be around the blower to avoid the dust.

For safety reason there should be an emergency leak-brake valve when the machine is installed.

進氣排氣注意事項

Notice on the air intake and out take

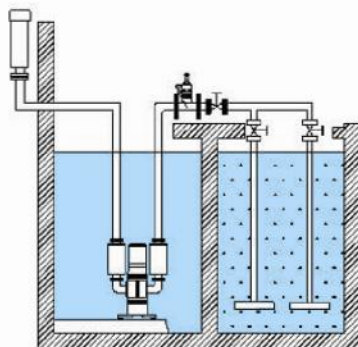


Diagram 2

1. 進氣消音器應豎立，並置於室外使其不吸入槽內之潮濕空氣，如圖（一）。
2. 進氣消音器應裝置於離於地面 1m 以上，並且開闊之地方，以便如有塵埃堆積，易於清理。
3. 圖（二）之裝置盡量避免之，因消音器易吸入槽內之濕空氣，而使氣室因過於潮濕，致使葉輪生銹產生故障之處，應避免之。
4. 預備機因長久放置，有可能產生生銹卡死之情況，故請每週予以運轉 30 分鐘，若置於潮濕之地點，請每日實施之。

1. The air inlet muffler should be vertically installed and should be placed outdoors to avoid the indoor damp air (sec diagram 1).
2. The air inlet muffler should be at least 1 M above the ground and in an open space for easy clean work later.
3. In diagram 2, the device should be away from damp air.
4. Keep a regular weekly check of 30 minutes warm up, or daily 30 minutes in damping place on the spare machine.

科技研發 與時俱進 開創新局



專利——是肯定我們研發的成果及領先業界的榮耀
Patent is to Approve our result and lead the glory



魯氏鼓風機結構改良



全水冷式鼓風機



直立式鼓風機



無軸式離心葉輪鼓風機



無軸封離心泵



全水冷式鼓風機



直立式鼓風機



魯氏鼓風機結構改良



迎賓大廳



嚴謹的測試品質·提供最佳品質



完整的組立生產線



完整的測試品質·提供產品最佳保證



主機庫存區



貨櫃碼頭



CNC電腦加工區



成品出貨區



專業製造生產鼓風機·產品齊全·並有特殊用途之規格材質

Specializing in the manufacturing of blowers; wide varieties of products; and special order with specific designs.

春鼎機械工業股份有限公司

TRUNDEAN MACHINERY CO., LTD.

台灣總公司/工廠：桃園市富國路861巷101號

Head office / Factory in Taiwan

No. 101 Lane 861, Fu Kuo Rd., Taoyuan, Taiwan

TEL: +886 3 323 8288 FAX: +886 3 323 8959

台南分公司/工廠：台南縣鹽水鎮舊營里舊營1-35號

Tainan Branch / Factory in Taiwan

No. 1-35 Jiu Ying, Jiu Ying Li, Yan Shui Town, Tai Nan County

TEL: +886 6 652 9455 FAX: +886 6 652 9520

上海分公司/工廠：上海市嘉定區黃渡鎮錢家村千秋橋路15號

Shanghai Branch / Factory in China

No. 15 Qian Qiu Qiao Rd, Huang Du Town, Jia Ding District, Shanghai, P.R.C.

TEL: +86 21 5959 8977 FAX: +86 21 5959 7997

E-mail: trundean@trade.sh.cn

泰國分公司/工廠：Tailand Branch / Factory

71/90 Sol 13 Chomthong Rd, Chomthong Bangkok 10150 Tailand

TEL: +66 2 878 1885 FAX: +66 2 878 1887

[Http://www.trundean.com.tw](http://www.trundean.com.tw)

E-mail: blower@trundean.com.tw

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