

Fu  Tsu

富資機械工業股份有限公司

# ROOTS TYPE ROTARY BLOWER



**TSA/SSR型**  
**TSA/SSR TYPE**



2009

 世界産業株式会社  
SECOH SANGYO CO., LTD. 技術合作

# 三葉式魯氏鼓風機

## THERR-LEAF HELICAL ROOTS BLOWER

### ■ TSA型概要

T S型三葉螺旋式魯氏鼓風機運用嶄新的技術和卓越的工程能力，把螺旋式構造以新的觀念進行，而成功的發展出容積型回轉式鼓風機。

此外此型本機在魯氏鼓風機裡屬於非常小的容量之等級。但為了使本機能發揮高性能的效率，因此針對鼓風機內部作了更加詳細的考量，即使是回轉速變更了，也可以保持優越之定風量特性，所以是保有低噪音、無脈動之優越特性的鼓風機。

### ■ SSR型概要

S S R型三葉式魯氏鼓風機是我們從事長期的魯氏鼓風機生產、銷售中再投入新技術與研究而開發出的新產品。

本機內之葉輪在外型上採用新的外形，促使全斷熱效率及容積效率更加優越，成為風量、壓力特性十分優良的鼓風機。

而效率良好時可減少鼓風機本身的發熱量，降低溫度的上昇值。全機種在乾燥的情況下可以使用至  $0.6\text{kgf/cm}^2$  之排出壓力。

### ■ Description of Types TSA Blowers

The three-lobe helical roots type rotary blower Type TS is an epoch-making displacement blower which has been developed successfully from a completely new concept by utilizing a combination of the excellent process capability and innovated techniques.

These blowers fall under the very small volume class of roots type, but are given adequate considerations to details in order to provide high efficiency so that this type has superior properties of constant air capacity, low noise and vibration free.

### ■ Description of Types SSR Blowers

The three-lobe helical roots type rotary blower Type SSR of is a new product which has been developed by adopting innovated techniques, based on the manufacturing experience in the roots type rotary blowers for many years.

These blowers have improved full-adiabatic efficiency as well as volumetric efficiency and provide superior air capacity vs. pressure characteristic.

The superiority of efficiency leads to reduction of the heat from the blower itself, and therefore, reduction of the temperature elevation, and thus the operation of blower in dry condition has become practical at the discharge pressure as low as  $0.6\text{kgf/cm}^2$ .



# 富資魯式鼓風機

## 特長

### FU-TSU ROOTS TYPE ROTARY BLOWERS FEATURES

1. 螺旋式結構是以切開機殼的吸入，排出的遮壁線為  $20^\circ$  以上的定子螺旋方式。遮壁線和葉輪最前端部份所構成的三角形吸入與排出部份隨著葉輪的轉動漸漸的進行開閉。所以不像以前的魯氏鼓風機一樣，吸口與排口部份不會瞬間地開閉。因此鼓風機運轉時之聲音十分低，並且幾乎沒有吐出脈動。
  2. 此形葉輪是三葉直線形狀，不像螺旋式葉輪一樣會產生因軸推力方向有變位而發生互相接觸；所以葉輪之間隙只需要保持形方向の間隔，不像螺旋式葉輪需要考慮軸推力方向的變位導致間隙過大，所以和同型的螺旋式鼓風機比較下，效率更加良好。
  3. 葉輪採用特殊外形，所以葉輪之間隙能保持一定的間隙，所以鼓風機的效率極佳。
  4. 使用精密的NC鉋床加工機生產葉輪，能夠完全的控制精度，使每一台鼓風機的性能均一樣良好，並且生產葉輪時已經作好動平衡校正，所以鼓風機幾乎沒有振動。
1. The helical construction uses the stator helical method that the screen lines of casing at the suction and discharge sides are cut to a helical shape, and the triangle suction and discharge port formed by a straight line of the rotor top is to be opened and closed gradually.

Therefore, the suction and discharge ports of this type is not opened or closed at moments, which makes these blowers have an only limited operation sound and almost free from pulsations from discharge.
  2. The rotors are three-lobe straight type, so that the rotors cannot interfere with each other, resulting from minor displacements in the thrust direction as in the helical type. Therefore, the clearance between the rotors should be assured in the profile direction only and thus there is no necessity of an excessive clearance on account of displacements in the thrust direction as in case of the rotor helical type. From such reasons, these blowers have a very high efficiency, in comparison with the rotor helical type of same dimensions.
  3. By adoption of an unique profile of rotor, the clearance between the rotors can be held to be constant, which makes the efficiency even higher.
  4. The precision of rotors is fully controlled and variation of precision between blowers is almost nil because the rotors are produced under the mass production control by utilizing a precision NC machine.

In addition, the rotors are dynamically balanced in the fabrication stage already, so that these rotors are almost free from vibrations as in the case of conventional rotors which are still unbalanced.



# TSA型, SSR型

## 性能表的使用

### HOW TO USE PERFORMANCE TABLES

性能表中有表示鼓風機型號、口徑、回轉數、排出壓力、風量、所要動力等關係。

1. 性能表所標記的風量是表示標準吸入狀態下的風量。標準狀態是表示溫度20°C，絕對壓力1.0332kgf/cm<sup>2</sup> (101.3kpa)，相對濕度65%的狀態。

2. 基準狀態 (溫度0°C，絕對壓力1.0332kgf/cm<sup>2</sup> {101.3kpa}) 的風量，一般以Nm<sup>3</sup>/min來表示。如果吸入壓力一樣，則依照下列方式可以換算為標準狀態的風量。

$$Q_s = Q_n \times 1.0732$$

$Q_s$  = 標準狀態風量 (m<sup>3</sup>/min)

$Q_n$  = 基準狀態風量 (Nm<sup>3</sup>/min)

3. 排出狀態風量以下述方式可以換算為標準狀態。

$$Q_s = Q_d \times \frac{1.0332 + P_d}{1.0332} \times \frac{273 + t_s}{273 + t_d}$$

$Q_d$  = 排出風量 (m<sup>3</sup>/min)

$P_d$  = 排出壓力 (kgf/cm<sup>2</sup>)

$t_s$  = 吸入溫度 (°C)

$t_d$  = 排出溫度 (°C)

4. 依照上述的換算結果所得到的風量和排出壓力可以從性能表查到鼓風機型號、口徑、回轉速、所需要動力等數值。

5. 在性能表上有顏色區別表示馬達動力。請依照所需要動力來使用相應顏色之馬達。

6. 鼓風機的型號區別的選定範圍互相有些重覆選定標準是需要較經濟型的請選小型號鼓風機，防噪音性的請選較大型號鼓風機。

The performance tables give the model number, bore, r.p.m., discharge pressure, air capacity and required power of the blower

1. The air capacity in the tables is indicated in the standard suction state. The standard suction state herein mentioned is defined as the condition at 20°C temperature, 1.0332kgf/cm<sup>2</sup> {101.3kPa} absolute pressure and 63% relative humidity.

2. The reference air capacity (0°C temperature and 1.0332kgf/cm<sup>2</sup> {101.3kPa} absolute pressure) is generally indicated in Nm<sup>3</sup>/min.

However, it may be converted into the standard air capacity by the following equation, if the suction pressure is equal.

$$Q_s = Q_n \times 1.0732$$

where,  $Q_s$ : standard air capacity; and  $Q_n$ : reference air capacity.

3. The discharge air capacity can be converted into the standard air capacity by the following equation.

$$Q_s = Q_d \times \frac{1.0332 + P_d}{1.0332} \times \frac{273 + t_s}{273 + t_d}$$

where,  $Q_d$ : discharge air capacity, in m<sup>3</sup>/min.;  $P_d$ : discharge pressure, in kgf/cm<sup>2</sup>;  $t_s$ : suction temperature, in °C; and  $t_d$ : discharge temperature, in °C.

4. According to the air capacity and discharge pressure as calculated above, the model number, bore, r.p.m. and required power can be found in the performance table.

5. The motor powers are indicated by color marking, and the motor powers to be used should be that indicated.

6. The choice is overlapped depending upon the type of blower. For reference, however, selection should be lower number blowers for the economy and higher number blowers for the sound level.

換算成SI單位時的單位換算率表(粗線所圍繞的部份為SI單位)

SI Units Conversion Table (SI Units in Heavy Lines)

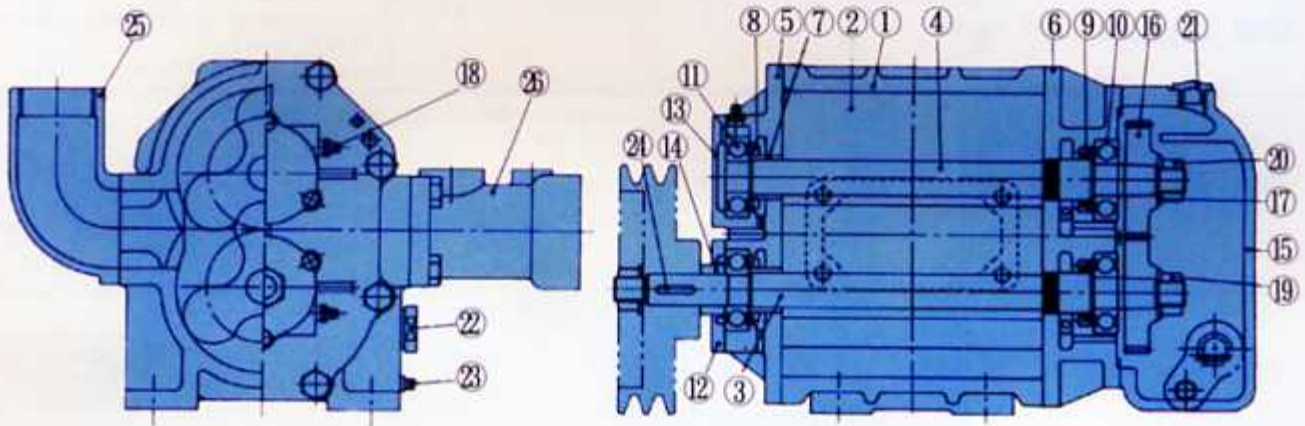
	Pa	bar	kgf/cm <sup>2</sup>	atm	mmH <sub>2</sub> O	mmHg (Torr)
壓力 Pressure	1	1 × 10 <sup>-5</sup>	1.019 72 × 10 <sup>-6</sup>	9.869 23 × 10 <sup>-6</sup>	1.019 72 × 10 <sup>-1</sup>	7.500 62 × 10 <sup>-3</sup>
	1 × 10 <sup>3</sup>	1	1.019 72	9.869 23 × 10 <sup>-1</sup>	1.019 72 × 10 <sup>4</sup>	7.500 62 × 10 <sup>2</sup>
	9.806 65 × 10 <sup>4</sup>	9.806 65 × 10 <sup>-1</sup>	1	9.678 41 × 10 <sup>-1</sup>	1 × 10 <sup>4</sup>	7.355 59 × 10 <sup>2</sup>
	1.013 25 × 10 <sup>5</sup>	1.013 25	1.033 23	1	1.033 23 × 10 <sup>4</sup>	7.600 00 × 10 <sup>2</sup>
	9.806 65	9.806 65 × 10 <sup>-3</sup>	1 × 10 <sup>-4</sup>	9.678 41 × 10 <sup>-5</sup>	1	7.355 59 × 10 <sup>1</sup>
	1.333 22 × 10 <sup>5</sup>	1.333 22 × 10 <sup>-3</sup>	1.359 51 × 10 <sup>-3</sup>	1.315 79 × 10 <sup>-3</sup>	1.359 51 × 10	1



# TSA型

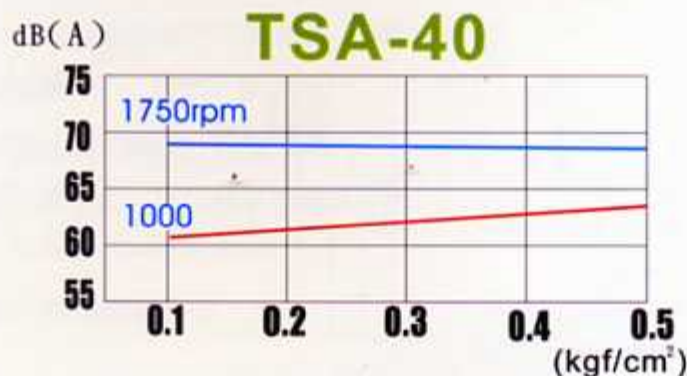
## 構造圖 噪音表

### TYPE TSA STRUCTURAL DRAWING and NOISE LEVEL TABLE



No.	Name	Material	Qty	No.	Name	Material	Qty	No.	Name	Material	Qty
1	Casing	FC250	1	10	Bearing	SUJ2	1	19	Hexagon Nut	SS400	1
2	Impeller	FC250	2	11	Bearing	SUJ2	2	20	Hexagon Nut	SS400	1
3	Drive Shaft	S45C	1	12	Bearing Cover(Drive Side)	FC250	1	21	Air Breather	Plastic	1
4	Driven Shaft	S45C	1	13	Bearing Cover(Drive Side)	FC250	1	22	Oil Gauge	SS+Glass	1
5	Side Cover(Drive Side)	FC250	1	14	Collar	SS400	1	23	Drain Plug	FCMB	1
6	Side Cover(Gear Side)	FC250	1	15	Gear Case	FC250	1	24	Parallel Key	S50C	1
7	Bearing Sleeve	S45C	2	16	Gear	SCM415	2	25	Reducer(Suction Side)	FC250	1
8	Rubber Ring	NBR	2	17	Plain Washer	SPCC	2	26	Reducer(Discharge Side)	FC250	1
9	Oil Seal	NBR	2	18	Grease Nipple	C3604	2				

● 噪音表 dB[A]機側 1.0m NOISE LEVEL dB[A] Machine Side 1.0m





# TSA型

## 性能表 外型尺寸圖

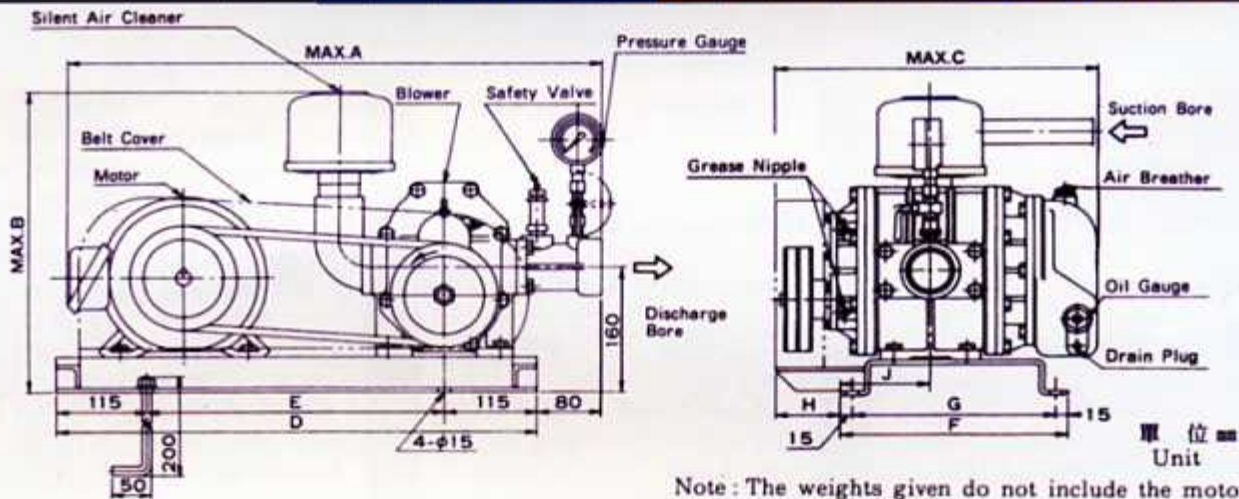
### TYPE TSA PERFORMANCE TABLE and OUTLINE DIMENSIONS

註:如因產品改良致尺寸變更時,不另行通知

0.75kW 1.5kW

Qs: 吸入狀態風量 (m<sup>3</sup>/min)  
Suction-phase Air Volume (m<sup>3</sup>/min)  
La: 所要動力 (kW)  
Required electric power (kW)

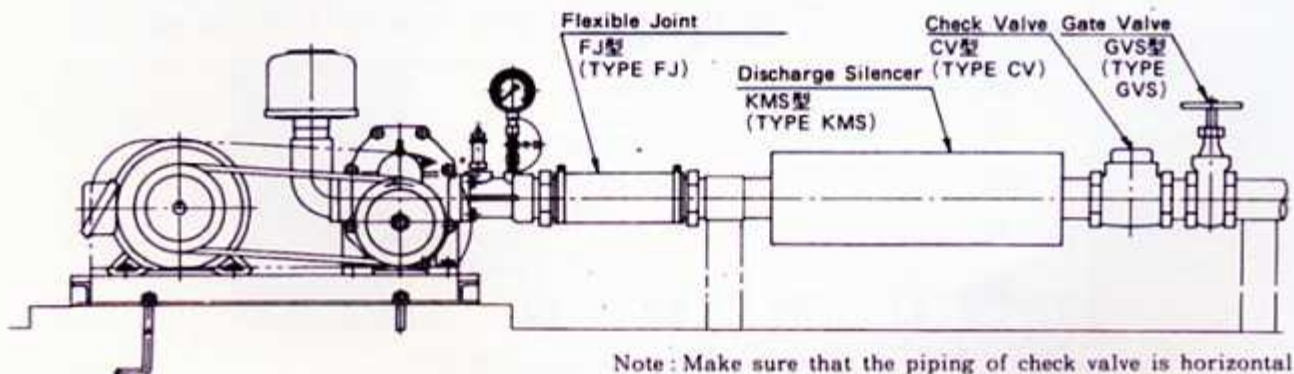
型式 Type	口徑 Bore	回轉數 rpm	吐出壓力 (kg/cm <sup>2</sup> ) Discharge Pressure																			
			0.10		0.15		0.20		0.25		0.30		0.35		0.40		0.45		0.50			
			9.8kPa	14.7kPa	19.6kPa	24.5kPa	29.4kPa	34.3kPa	39.2kPa	44.1kPa	49.0kPa	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	
TSA-40	1½ B (40A)	1000	0.45	0.32	0.42	0.36	0.39	0.40	0.36	0.46	0.33	0.52										
		1250	0.65	0.40	0.62	0.45	0.59	0.50	0.56	0.58	0.53	0.65	0.51	0.73	0.48	0.80	0.46	0.90	0.43	0.99		
		1500	0.84	0.48	0.81	0.54	0.78	0.60	0.75	0.69	0.72	0.78	0.70	0.87	0.87	0.96	0.65	1.07	0.62	1.18		
		1750	1.04	0.56	1.01	0.63	0.98	0.70	0.95	0.81	0.92	0.91	0.90	1.01	0.87	1.11	0.85	1.25	0.82	1.38		



Note: The weights given do not include the motor.

Mark Type	Bore	A	B	C	D	E	F	G	H	J	Weight(kg)
TSA-40	Rc1½	670	360	350	550	320	250	220	60	85	42

### TSA型 配管參考圖 Reference Drawing of Piping for Type TSA



Note: Make sure that the piping of check valve is horizontal.



# SSR型

## 主要規格

### TYPE SSR SPECIFICATIONS



#### ● SSR 型 主要規格

鼓風機口徑 : 50~200A

風 量 : 0.8~58m<sup>3</sup>/min

壓 力 : 0.1~0.6kgf/cm<sup>2</sup>

馬達動力 : 0.75~90kw

#### ● Major Specifications of Type SSR

Bore : 50~200A

Air Capacity : 0.8~58m<sup>3</sup>/min

Pressure : 0.1~0.6kgf/cm<sup>2</sup>

Motor Power : 0.75~90kw

#### ● 標準附屬品 :

- 共同底座
- 皮帶護罩
- 鼓風機皮帶輪, 馬達皮帶輪
- V型皮帶
- 入口消音器(附有過濾器)
- 出口短管
- 安全閥
- 逆止閥
- 壓力計

#### ● Standard Accessories

- Common Base
- V-belt Cover
- Blower Pulley, Motor Pulley,
- V-belt
- Suction Silencer (With Air Filter)
- Reducer
- Safety Valve
- Check Valve
- Pressure Gauge

[1] 具有十分完備的全機種性能表和標準規格，容易選定機種。

[2] 本機和附屬零件俱備有標準化的量產體制，隨時可以滿足客戶的需求。

[3] 螺旋式結構再加上符合各鼓風機的空氣消音器，可使噪音降至最低。

[4] 轉子為經過全面精密加工的製品，在生產過程中已經作好了動平衡校正，所以幾乎不會有振動。

[5] 小型設計的鼓風機，所佔面積很小。

[1] The performance tables and standardized specifications are made available for all types to allow easy selection of one in need.

[2] The blowers including accessories are standardized and are under the mass production control so as to be able to correspond to the orders and needs at any time.

[3] The operation noise is lowered to the level not ever achieved by adopting, in addition to the helical construction, a silent air cleaner as appropriate to each type of the blowers.

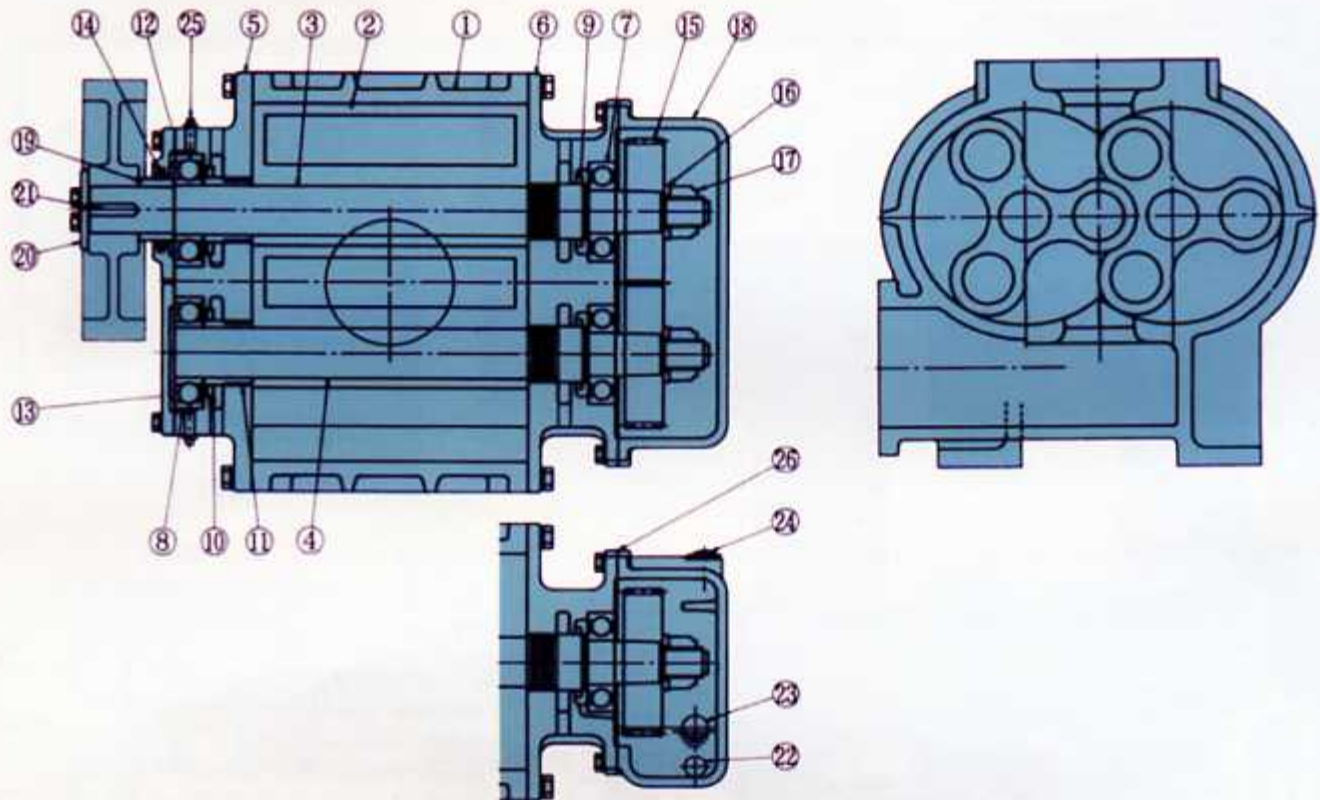
[4] The rotor is a precision product machined in its full surface, and since it is dynamically balanced in the shop completely, it will have almost no vibration.

[5] The blowers require only a small area for installation due to a compact design.

# SSR型

## 構造圖

### TYPE SSR STRUCTURAL DRAWING



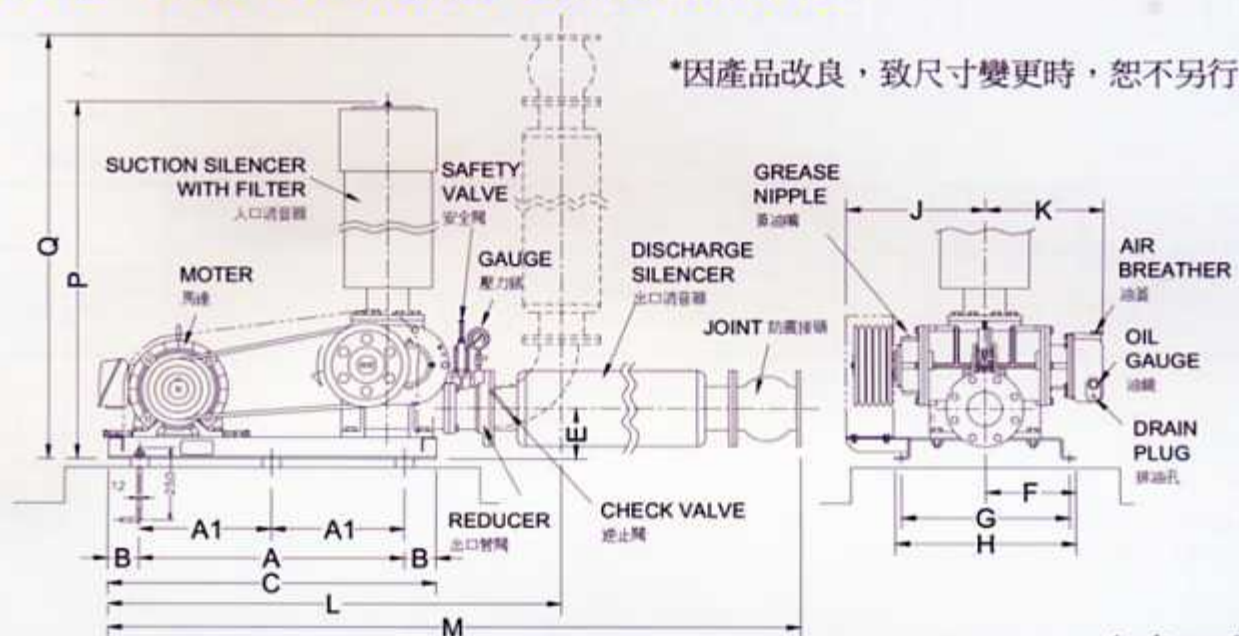
No.	Name	Material	Qty	No.	Name	Material	Qty	No.	Name	Material	Qty
1	Casing	FC250	1	10	Stop Ring(Drive Side)	NBR	2	19	Collar	S45C	1
2	Impeller	FC250	2	11	Bearing Sleeve	S54C	2	20	End Plate	SS400	1
3	Drive Shaft	S45C	1	12	Bearing Cover(Drive Side)	FC250	1	21	Parallel Key	S45C	1
4	Driven Shaft	S45C	1	13	Bearing Cover(Drive Side)	FC250	1	22	Drain Plug	FCMB	1
5	Side Cover(Drive Side)	FC250	1	14	Z Seal	NBR	1	23	Oil Gauge	SS+Glass	1
6	Side Cover(Gear Side)	FC250	1	15	Gear	SCM435	2	24	Air Breather	Plastics	1
7	Bearing	SUJ2	2	16	Gear Lock Washer	SS400	2	25	Grease Nipple	C3604	1
8	Bearing	SUJ2	2	17	Gear Lock Nut	SS400	2	26	Gear Case Packing	Three Sheet	1
9	Stop Ring(Gear Side)	NBR	2	18	Gear Case	FC250	1				



# SSR型

## 外形尺寸圖

### TYPE SSR OUTLINE DIMENSIONS



\*因產品改良，致尺寸變更時，恕不另行通知。

(unit:mm/kg)

Type	HP	A	A1	B	C	E	F	G	H	J	K	L	M	P	Q	WEIGHT
SSR-50	1	500	*	70	640	95	103	205	240	177	180	860	1395	795	830	89
SSR-50	2	500	*	70	640	95	138	225	260	177	180	860	1395	795	830	99
SSR-50	3	500	*	70	640	95	173	255	290	172	180	860	1395	795	830	105
SSR-50	5	500	*	70	640	95	182	270	305	178	180	860	1395	795	830	116
SSR-65	2	515	*	70	655	105	125	245	280	210	200	895	1530	865	980	109
SSR-65	3	515	*	70	655	105	145	255	290	200	200	895	1530	865	980	116
SSR-65	5	515	*	70	655	105	156	245	280	204	200	895	1530	865	980	127
SSR-65	7.8	515	*	70	655	105	190	275	310	200	200	895	1530	865	980	132
SSR-80	3	620	*	70	760	130	130	245	280	230	225	1040	1860	1008	1190	156
SSR-80	5	620	*	70	760	130	130	245	280	230	225	1040	1860	1008	1190	167
SSR-80	7.5/10	620	*	70	760	130	205	295	330	240	225	1040	1860	1008	1190	192/203
SSR-100	5	700	*	100	900	140	160	330	365	285	265	1205	2100	1095	1355	197
SSR-100	7.5/10	700	*	100	900	140	170	305	340	285	265	1205	2100	1095	1355	222/332
SSR-100	15/20	700	*	100	900	140	245	455	490	360	265	1205	2100	1095	1355	277/299
SSR-125	7.5/10	730	365	100	930	160	165	295	330	320	295	1330	2465	1280	1685	327/338
SSR-125	15/20	730	365	100	930	160	280	415	450	325	295	1330	2465	1280	1685	382/404
SSR-125	25/30	730	365	100	930	160	280	415	450	325	295	1330	2465	1280	1685	445
SSR-150	15/20	870	435	100	1070	190	220	425	465	410	375	1530	2875	1440	2005	522/544
SSR-150	25/30/40	870	435	100	1070	190	245	450	490	410	375	1530	2875	1440	2005	582
SSR-150	50/60	870	435	100	1070	190	310	510	550	405	375	1530	2875	1440	2005	715
SSR-200	ALL	1280	640	100	1480	210	280	610	660	535	524	1875	3370	1730	2325	MAX1400



# SSR型

## 性能表

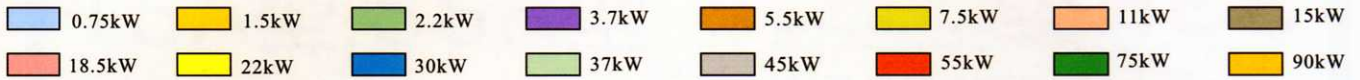
### TYPE SSR PERFORMANCE TABLE

Qs: 吸入狀態風量 (m<sup>3</sup>/min)  
Suction-phase Air Volume (m<sup>3</sup>/min)  
La: 所要動力 (kW)  
Required electric power (kW)

型式 Type	口徑 Bore	回轉數 rpm	吐出壓力 (kgf/cm <sup>2</sup> ) Discharge Pressure																							
			0.10		0.15		0.20		0.25		0.30		0.35		0.40		0.45		0.50		0.55		0.60			
			Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La		
SSR 50	50A	1100	1.19	0.26	1.13	0.40	1.08	0.54	1.03	0.68	0.99	0.82	0.95	0.96	0.92	1.10	0.89	1.24	0.86	1.38						
		1230	1.36	0.36	1.30	0.51	1.25	0.66	1.20	0.81	1.16	0.96	1.12	1.11	1.08	1.26	1.05	1.41	1.02	1.56	0.99	1.71				
		1350	1.51	0.47	1.46	0.63	1.41	0.79	1.36	0.95	1.32	1.11	1.28	1.27	1.24	1.43	1.20	1.59	1.17	1.75	1.13	1.91				
		1470	1.68	0.63	1.63	0.79	1.59	0.95	1.54	1.11	1.50	1.82	1.46	1.44	0.43	1.60	1.39	1.76	1.35	1.93	1.32	2.09	1.29	2.26		
		1560	1.81	0.75	1.77	0.91	1.73	1.08	1.69	1.24	1.65	1.41	1.61	1.57	1.58	1.74	1.54	1.90	1.50	2.07	1.47	2.23	1.43	2.40		
		1660	1.93	0.80	1.89	0.98	1.85	1.16	1.81	1.33	1.77	1.51	1.73	1.69	1.69	1.87	1.65	2.05	1.61	2.23	1.58	2.40	1.54	2.58		
		1750	2.04	0.85	2.00	1.04	1.96	1.23	1.92	1.42	1.88	1.61	1.84	1.80	1.80	1.99	1.76	2.18	1.72	2.37	1.68	2.56	1.64	2.75		
		1850	2.17	0.99	2.13	1.18	2.09	1.37	2.05	1.57	2.01	1.76	1.97	1.95	1.93	2.14	1.89	2.34	1.85	2.53	1.81	2.71	1.77	2.91		
		1960	2.32	1.14	2.28	1.34	2.24	1.53	2.20	1.73	2.16	1.92	2.12	2.12	2.08	2.31	2.04	2.51	2.00	2.70	1.96	2.90	1.92	3.09		
		2120	2.52	1.41	2.47	1.62	2.42	1.82	2.38	2.03	2.33	2.23	2.29	2.44	2.24	2.64	2.20	2.85	2.16	2.05	2.12	3.26	2.08	3.46		
SSR 65	65A	1110	1.67	0.63	1.58	0.80	1.50	0.97	1.43	1.14	1.37	1.31	1.32	1.48	1.27	1.65	1.22	1.82	1.17	1.99						
		1240	1.91	0.70	1.84	0.89	1.76	1.08	1.68	1.27	1.62	1.46	1.56	1.65	1.51	1.84	1.46	2.03	1.41	2.22	1.36	2.41				
		1360	2.14	0.80	2.07	1.01	2.00	1.22	1.93	1.43	1.87	1.64	1.81	1.85	1.76	2.06	1.70	2.27	1.65	2.48	1.60	2.69				
		1460	2.35	0.88	2.27	1.11	2.20	1.33	2.13	1.55	2.07	1.78	2.01	2.00	1.96	2.22	1.90	2.45	1.85	2.67	1.80	2.90	1.76	3.13		
		1550	2.54	0.96	2.46	1.20	2.39	1.43	2.32	1.67	2.25	1.90	2.19	2.14	2.14	2.37	2.08	2.61	2.03	2.84	1.98	3.08	1.94	3.31		
		1670	2.75	1.05	2.68	1.31	2.62	1.56	2.56	1.82	2.49	2.07	2.43	2.33	2.38	2.58	2.33	2.83	2.28	3.08	2.23	3.34	2.19	3.59		
		1770	2.94	1.13	2.88	1.40	2.82	1.67	2.76	1.94	2.70	2.21	2.64	2.48	2.59	2.75	2.54	3.02	2.49	3.29	1.45	3.56	2.41	3.83		
		1860	3.13	1.24	3.07	1.52	3.00	1.80	2.94	2.08	2.88	2.36	2.82	2.65	2.76	2.93	2.71	3.22	2.66	3.50	2.61	3.78	2.57	4.07		
		1980	3.39	1.38	3.32	1.68	3.25	1.98	3.18	2.28	3.12	2.57	3.06	2.87	3.00	3.18	2.94	3.48	2.89	3.78	2.84	4.08	2.80	4.38		
		2150	3.65	1.60	3.58	1.93	3.52	2.25	3.46	2.58	3.40	2.90	3.34	3.23	3.28	3.55	3.22	3.88	3.17	4.20	3.12	4.53	3.08	4.85		
SSR 80	80A	1130	2.99	0.77	2.93	1.10	2.86	1.43	2.80	1.76	2.73	2.09	2.67	2.42	2.61	2.75	2.55	3.08	2.50	3.41	2.45	3.74	2.41	4.07		
		1240	3.36	1.89	3.29	1.28	3.22	1.63	3.16	1.99	3.09	2.34	3.03	2.70	2.97	3.05	2.92	3.41	2.86	3.76	2.81	4.12	2.76	4.47		
		1300	3.56	1.03	3.49	1.40	3.42	1.77	3.36	2.14	3.29	2.50	3.23	2.88	3.17	3.24	3.12	3.62	3.06	3.98	3.01	4.35	4.96	4.72		
		1370	3.80	1.16	3.74	1.55	3.67	1.93	3.60	2.32	3.53	2.70	3.47	2.09	3.41	3.47	3.36	3.86	3.30	4.24	3.25	4.63	3.20	5.01		
		1470	4.12	1.30	4.04	1.72	3.97	2.13	3.90	2.56	3.83	2.96	3.77	3.38	3.71	3.79	3.66	4.21	3.60	4.62	3.55	5.04	3.50	5.45		
		1570	4.42	1.51	4.35	1.94	4.28	2.37	4.22	2.80	4.15	3.23	4.10	3.66	4.04	4.09	3.99	4.52	3.93	4.95	3.89	5.38	3.84	5.81		
		1660	4.72	1.69	4.65	2.14	4.58	2.59	4.52	3.04	4.45	3.49	4.40	3.94	4.40	4.39	4.29	4.84	4.23	5.29	4.18	5.74	4.13	6.19		
		1750	4.04	1.90	4.96	2.36	4.88	2.82	4.81	3.28	4.47	3.74	4.69	4.20	4.69	4.66	4.58	5.12	4.52	5.58	4.48	6.04	4.44	5.50		
		1840	5.31	2.07	5.24	2.56	5.17	3.05	5.11	3.84	5.04	4.03	4.99	4.52	4.99	5.01	4.88	5.50	4.82	5.99	4.78	6.48	4.73	6.97		
		1930	5.61	2.27	5.54	2.78	5.46	3.29	5.40	3.80	5.33	4.31	5.28	4.82	5.22	5.33	5.17	5.84	5.11	6.35	5.06	6.86				

0.75kW
1.5kW
2.2kW
3.7kW
5.5kW
7.5kW
11kW
15kW  
18.5kW
22kW
30kW
37kW
45kW
55kW
75kW
90kW





型式 Type	口径 Bore	回轉數 rpm	吐出壓力 (kgf/cm <sup>2</sup> ) Discharge Pressure																					
			0.10		0.15		0.20		0.25		0.30		0.35		0.40		0.45		0.50		0.55		0.60	
			9.8kPa		14.7kPa		19.6kPa		24.5kPa		29.4kPa		34.3kPa		39.2kPa		44.1kPa		49.0kPa		53.9kPa		58.8kPa	
			Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La
SSR 100	100A	1070	4.51	1.20	4.37	1.07	4.22	2.20	4.09	2.70	3.96	3.20	3.83	3.70	3.75	4.20	3.67	4.70	3.58	5.20	3.50	5.70	3.42	6.20
		1160	4.00	1.42	4.85	1.95	4.69	2.49	4.56	3.03	4.43	3.56	4.33	4.10	4.23	4.64	4.15	5.17	4.06	5.70	3.98	6.25	3.90	6.78
		1240	5.45	1.56	5.29	2.13	5.12	2.70	4.99	3.27	4.86	3.84	4.76	4.41	4.66	4.89	4.57	5.55	4.48	6.12	4.40	6.69	4.32	7.26
		1320	5.97	1.64	5.82	2.27	5.66	2.89	5.54	3.52	5.41	4.14	5.31	4.77	5.21	5.39	5.12	6.02	5.02	6.64	4.94	6.27	4.86	7.89
		1480	6.67	1.77	6.53	2.47	6.39	3.13	6.28	3.86	6.17	4.49	6.08	5.25	6.99	5.85	5.92	6.64	5.84	7.21	5.77	8.03	5.70	8.57
		1580	7.14	1.92	7.01	2.66	6.88	3.37	6.77	4.13	6.66	4.83	6.58	5.60	6.49	6.28	6.42	7.07	6.34	7.74	6.27	8.54	6.20	9.19
		1700	7.71	2.09	7.59	2.88	7.47	3.66	7.37	4.45	7.26	5.23	7.19	6.02	7.11	6.80	7.03	7.59	6.94	8.37	6.88	9.16	6.82	9.93
		1790	8.12	2.24	8.01	3.12	7.90	3.89	7.80	4.71	7.70	5.53	7.63	6.36	7.55	7.13	7.45	8.00	7.40	8.82	7.33	9.65	7.26	10.46
		1890	8.58	2.41	8.48	3.28	8.38	4.14	8.29	5.01	8.19	5.87	8.12	6.74	8.05	7.60	7.98	8.47	7.90	9.33	7.83	10.20	7.76	11.06
		2010	9.19	2.56	9.09	3.49	9.00	4.41	8.91	5.34	8.82	6.26	8.76	7.19	8.70	8.11	8.64	9.04	8.58	9.96	8.53	10.89	8.47	11.81
SSR 125	125A	980	9.41	1.80	6.27	2.46	6.12	3.12	5.98	3.78	5.86	4.44	5.74	5.10	5.63	5.76	5.52	6.42	5.43	7.08	5.34	7.74	5.26	8.40
		1050	6.93	2.10	6.77	2.79	6.63	3.48	6.50	4.17	6.37	4.86	6.25	5.55	6.14	6.24	6.04	6.93	5.94	7.62	5.86	8.31	5.78	9.00
		1200	7.94	2.70	7.79	3.48	7.65	4.25	7.53	5.03	7.40	5.80	7.29	6.58	7.18	7.35	7.07	8.13	6.98	8.90	6.89	9.68	6.81	10.45
		1310	8.70	3.10	8.58	3.95	8.47	4.80	8.37	5.65	8.27	6.50	8.17	7.35	8.07	8.20	7.98	9.05	7.89	9.90	7.81	10.75	7.73	11.60
		1410	9.40	3.39	9.28	4.31	9.17	5.22	9.06	6.13	8.96	7.04	8.86	7.95	8.76	8.86	8.67	9.77	8.58	11.68	8.50	11.59	8.42	12.50
		1470	9.83	3.69	9.71	4.64	9.60	5.59	9.50	6.53	9.40	7.48	9.30	8.42	9.21	9.36	9.12	10.31	9.03	11.25	8.95	12.19	8.88	13.14
		1550	10.40	3.90	10.31	4.90	10.19	5.90	10.07	6.90	9.96	7.90	9.86	8.90	9.76	9.90	9.67	10.90	9.58	11.90	9.50	12.90	9.43	13.90
		1650	11.13	4.40	11.00	5.48	10.87	6.56	10.76	7.64	10.65	8.72	10.55	9.80	10.45	10.88	10.36	11.96	11.28	13.04	10.20	14.12	10.14	15.20
		1770	11.92	4.90	11.79	6.02	11.68	7.14	11.57	8.26	11.47	9.38	11.37	10.50	11.28	11.62	11.20	12.74	11.13	13.86	11.06	14.98	11.00	16.10
		1880	12.63	5.40	12.50	6.58	12.39	7.76	12.28	8.94	12.18	10.12	12.08	11.30	11.99	12.48	11.91	13.66	11.83	14.84	11.76	16.02	11.70	17.20
SSR 150	150A	810	12.90	2.91	12.65	3.75	12.42	4.59	12.21	5.54	12.02	7.05	11.85	8.89	11.69	10.27	11.53	11.60	11.38	12.93	11.25	14.06	11.14	15.19
		870	14.13	3.13	13.84	4.51	13.58	5.90	13.33	7.12	13.10	8.67	12.89	10.05	12.69	11.43	12.51	12.82	12.34	14.20	12.19	15.59	12.05	16.97
		990	15.92	3.34	15.67	4.90	15.44	6.46	15.22	8.02	15.01	9.58	14.81	11.14	14.63	12.70	14.46	14.26	14.30	15.82	14.15	17.38	14.02	18.94
		1120	18.03	5.38	17.77	7.10	17.53	8.31	17.30	10.53	17.08	12.24	16.87	13.96	16.68	15.67	16.50	17.39	16.33	19.10	16.17	20.82	16.03	22.53
		1200	19.39	6.32	19.14	8.06	18.91	9.80	18.69	11.53	18.49	13.27	18.29	15.01	18.12	16.75	17.95	18.49	17.79	20.23	17.85	21.97	17.52	23.71
		1270	20.58	7.14	20.35	8.90	20.13	10.66	19.92	12.42	19.73	14.18	19.55	15.94	19.38	17.70	19.22	19.46	19.08	21.22	18.95	22.98	18.83	24.74
		1410	22.81	9.01	22.57	11.01	22.35	13.01	22.14	15.01	21.94	17.01	21.75	19.01	21.58	21.01	21.42	23.01	21.27	25.01	21.13	27.01	21.01	29.01
		1540	24.89	10.99	24.63	13.11	24.40	15.23	24.17	15.35	23.95	19.47	23.75	21.59	23.56	23.71	23.39	25.83	23.22	27.95	23.08	30.07	22.94	32.19
		1670	26.84	12.71	26.57	14.96	26.32	17.21	26.08	19.46	25.85	27.71	25.63	23.96	25.43	26.21	25.24	28.46	25.06	30.71	24.91	32.96	24.76	35.21
		1780	28.06	14.19	27.79	16.61	27.53	19.02	27.08	21.44	27.05	23.85	26.83	26.27	26.62	26.68	26.42	31.10	26.24	33.51	26.07	35.93	25.91	38.34
SSR 200	200A	700	30.20	7.65	29.65	10.72	29.01	13.93	28.50	16.73	28.09	19.66	27.77	22.65	27.46	25.61	27.16	28.51	26.83	31.52	26.53	34.27	26.27	37.12
		850	33.70	9.40	33.10	12.72	32.57	16.15	32.15	19.30	31.79	22.67	31.51	26.00	31.21	29.21	30.91	32.49	30.54	35.73	30.25	38.74	29.95	41.91
		930	37.15	10.99	36.56	14.71	36.14	18.39	35.74	21.76	35.43	25.79	35.16	29.21	34.89	32.79	34.55	36.28	34.19	39.88	33.86	43.20	33.54	46.86
		1040	41.82	13.08	41.31	17.31	40.86	20.64	40.51	25.10	40.28	29.29	40.02	33.46	39.82	37.60	39.42	41.45	39.02	45.51	38.65	49.29	38.31	53.41
		1140	46.10	15.05	45.64	19.78	45.15	23.50	44.92	27.89	44.68	32.43	44.46	36.94	44.21	41.65	43.83	46.21	43.40	50.45	43.04	54.61	42.69	59.22
		1210	48.79	16.81	48.63	21.58	47.95	26.00	47.66	30.77	47.44	35.67	47.22	40.58	47.00	45.33	46.72	49.95	46.31	54.63	46.00	58.86	45.68	63.75
		1280	51.46	19.20	51.02	23.78	50.67	28.53	50.39	33.49	50.20	38.75	50.01	43.85	49.82	49.03	49.53	53.83	49.25	58.59	48.95	63.05	48.69	68.12
		1350	54.17	20.70	53.66	25.87	53.38	30.96	53.15	36.38	52.92	41.68	52.79	47.12	52.60	52.66	52.36	57.57	52.14	62.62	51.95	67.17	42.71	72.45
		1450	58.00	23.32	57.64	28.37	57.28	33.67	57.06	39.60	56.84	45.64	56.72	51.30	56.59	57.01	56.40	62.33	56.21	67.58	56.06	72.72	55.92	78.55



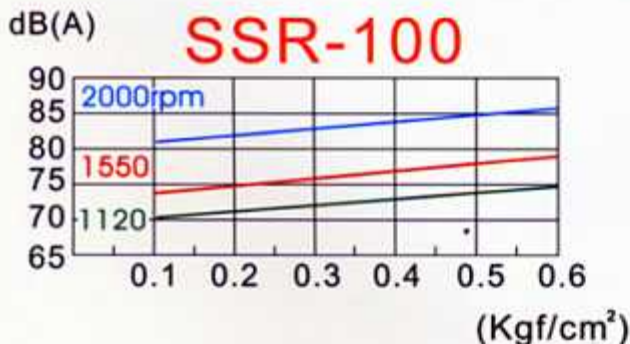
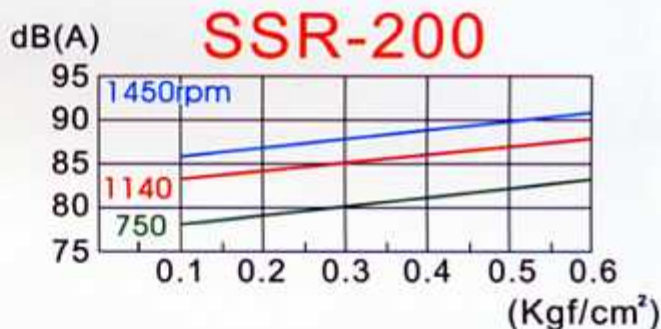
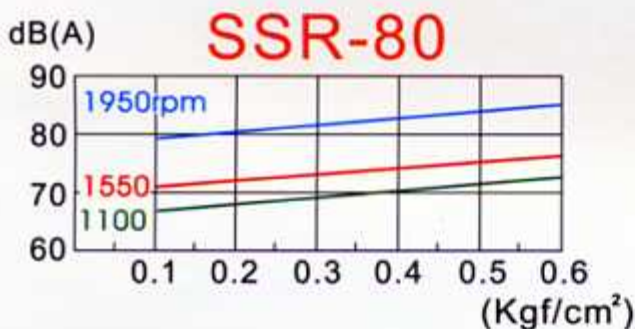
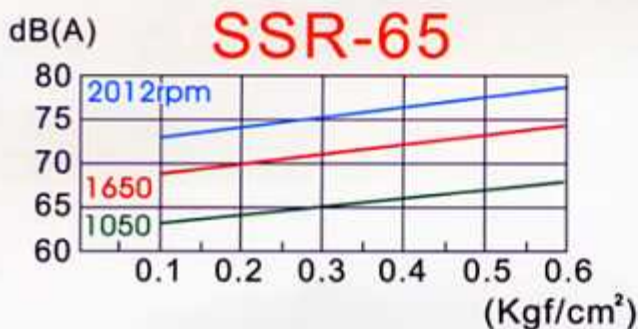
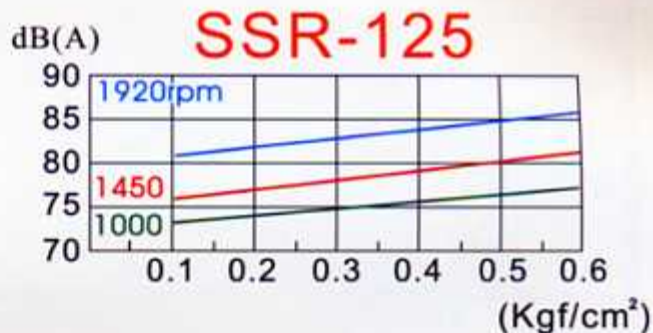
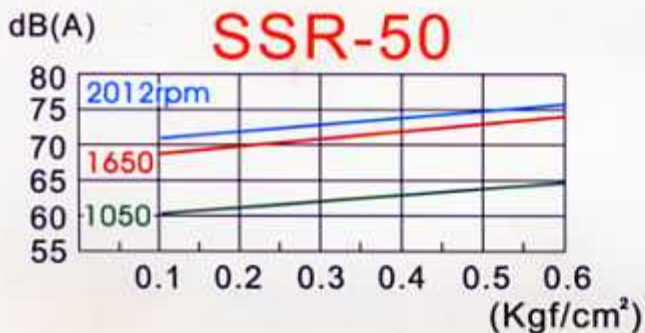
# SSR型

## 噪音表

TYPE SSR NOISE LEVEL

● 噪音表 dB[A] 機側1.0m

Machine  
Side 1.0m  
NOISE LEVEL dB[A]



Note: These values are based on the measurements taken in our shop.



# TSA型, SSR型

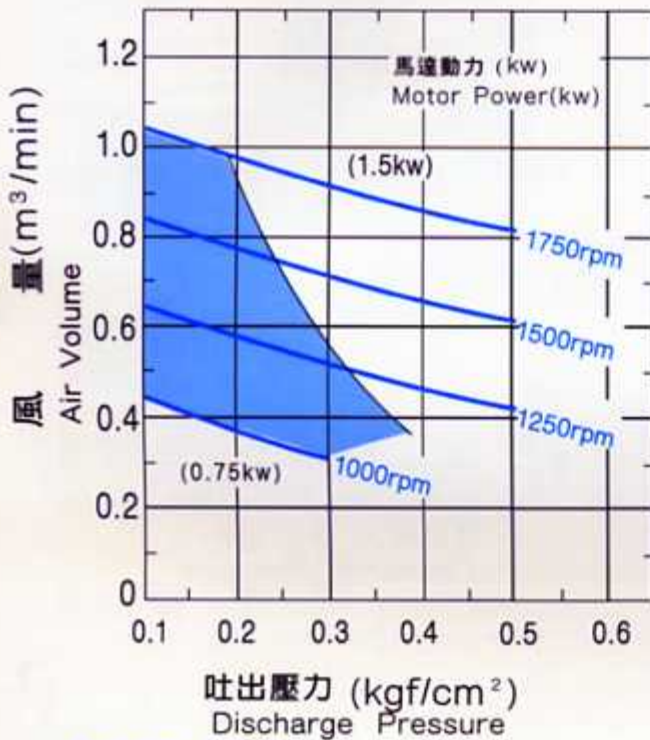
## 性能曲線

### PERFORMANCE CURVE

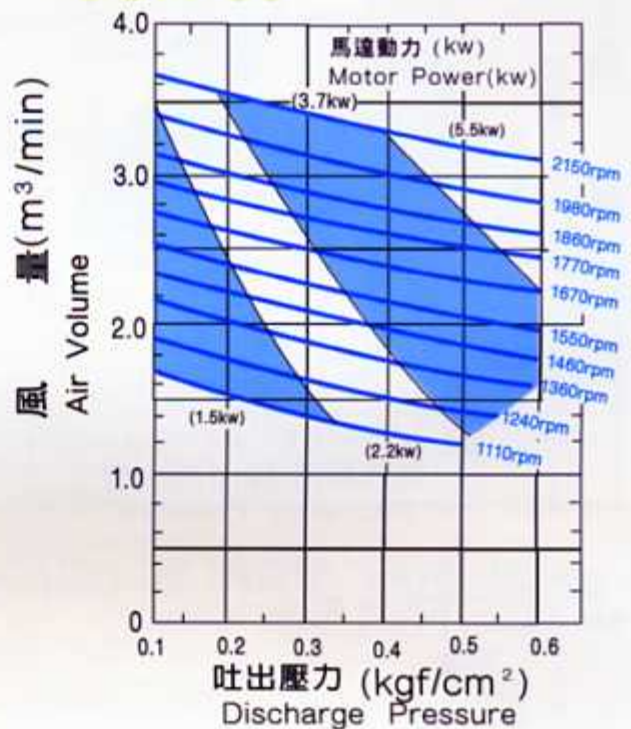
當您詢問關於風機時，請儘量詳細告訴我們下列內容：  
User are kindly requested to inform us of the following as far in detail as possible.

1. 用途—水處理曝氣用、養殖用、粉體輸送用等。  
Usage — water treatment aeration, fish care, particles transport, or others.
2. 規格—口徑、需要風量、排出壓力等。  
Specifications — bore, required air capacity, discharge pressure, etc.
3. 吸入氣體之性質—吸入氣體之特殊性等(腐蝕性、灰塵)。  
Nature of suction gas — any properties of suction gas (corrosive, dust, etc.)
4. 設置條件—室內或屋外、清潔溫度等。  
Location — indoors or outdoors, ambient temperature, etc.
5. 馬達—型號、額率、電壓、單相或三相等。  
Motor — type, frequency, voltage, single- or three-phase, etc.
6. 附屬品、備用零件—有無需要。  
Accessories and spares — if necessary or not.

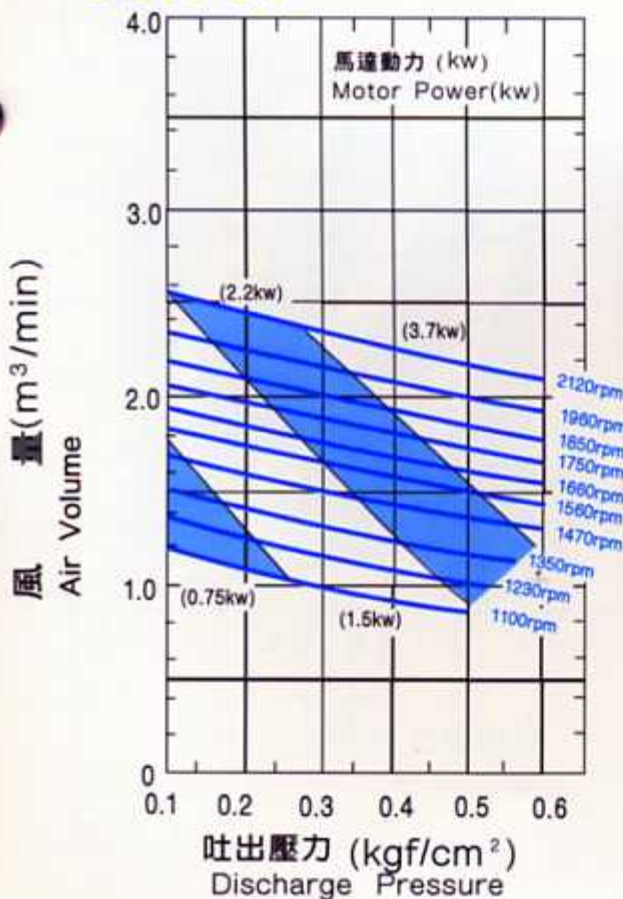
### TSA-40



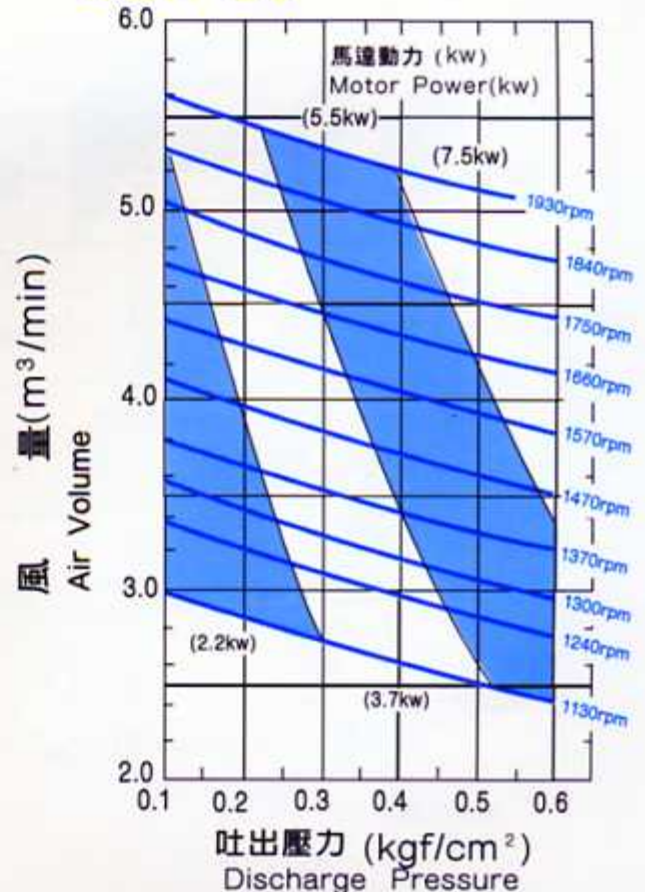
### SSR-65



### SSR-50

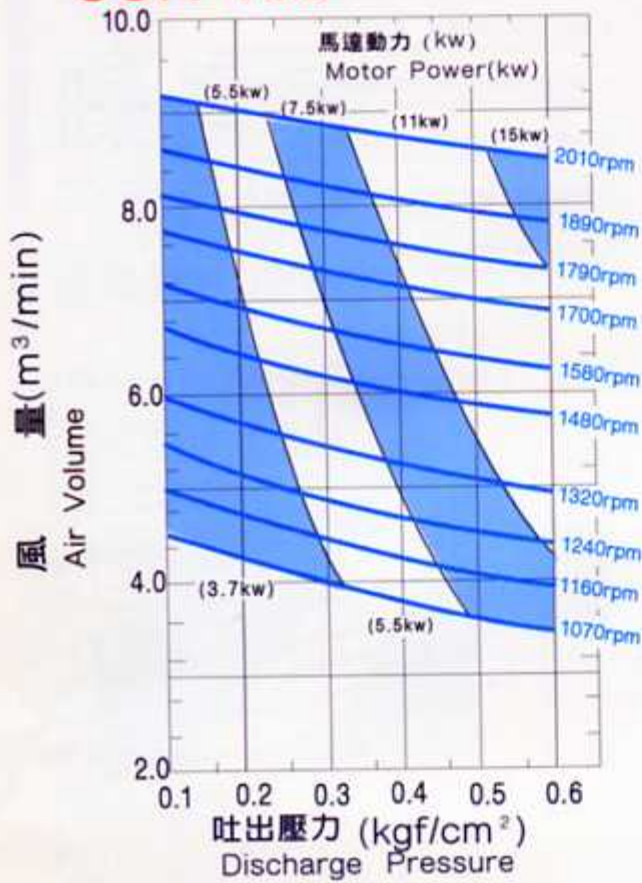


### SSR-80

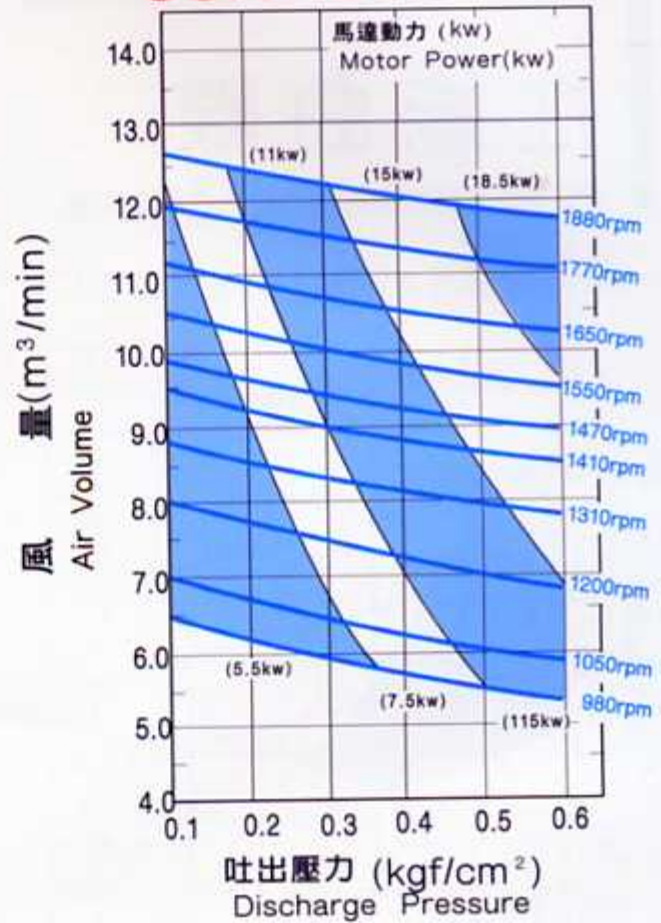




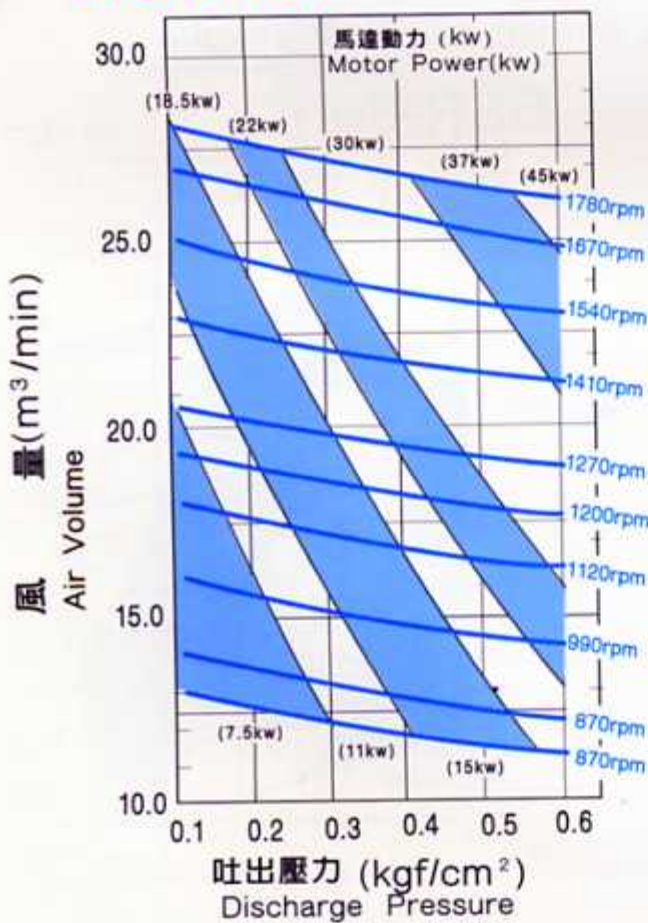
## SSR-100



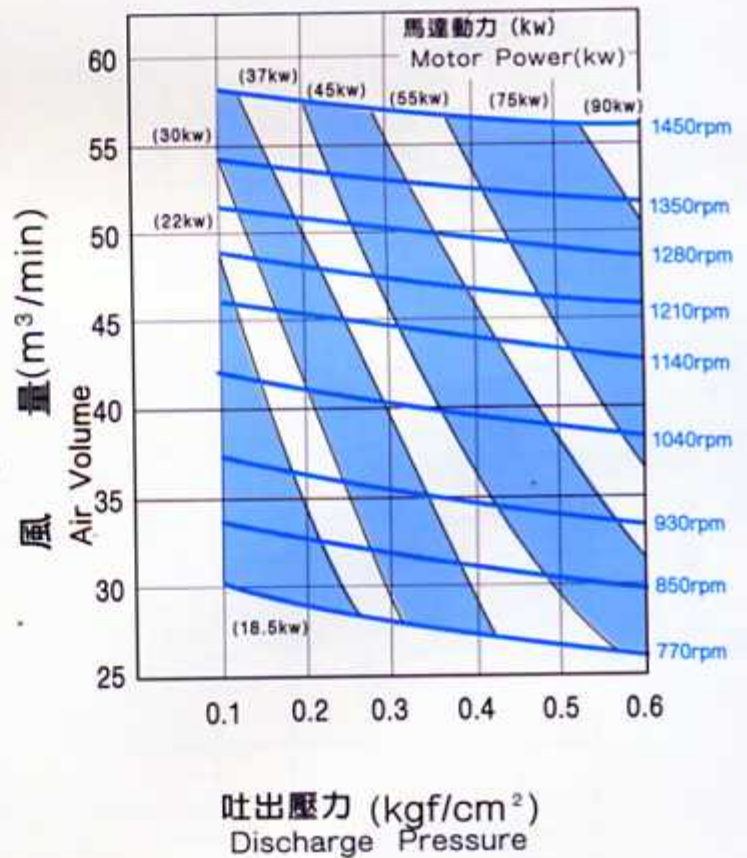
## SSR-125



## SSR-150



## SSR-200





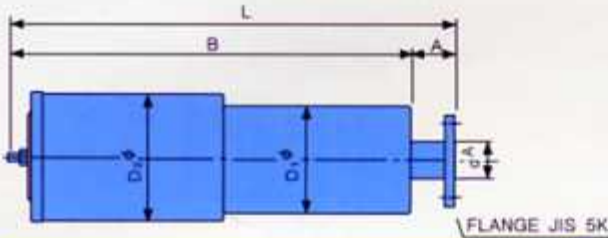
# TSA型, SSR型

## 特別附屬品

TYPES TSA, SSR ACCESSORIES

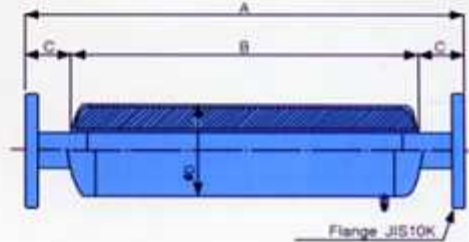
註:如因產品改良尺寸變更時,不另行通知。

### KSE型 入口消音器 Suction Silencer



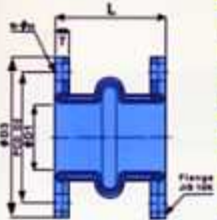
TYPE	d <sup>A</sup>	D <sub>1</sub> <sup>+</sup>	D <sub>2</sub> <sup>+</sup>	A	B	L
KSE-50	40A	139.8	165.2	55	460	515
KSE-65	50A	165.2	190.7	60	515	575
KSE-80	65A	216.3	241.8	70	568	638
KSE-100	80A	241.8	267.4	90	620	710
KSE-125	100A	267.4	318.5	90	735	825
KSE-150	125A	318.5	355.6	90	800	890
KSE-200	200A	400	460	135	945	1080

### DKM型 出口消音器 Discharge Silencer



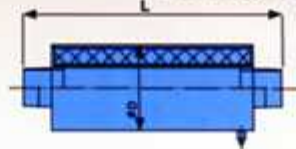
TYPE	EA	A	B	C	D <sup>+</sup>
DKM-50	50A	530	410	60	115
DKM-65	65A	640	510	65	145
DKM-80	80A	810	670	70	185
DKM-100	100A	920	770	75	210
DKM-125	125A	1160	1000	80	250
DKM-150	150A	1400	1200	100	280
DKM-200	200A	1600	1400	100	310

### EXJ型 防震接頭 Flexible Joint



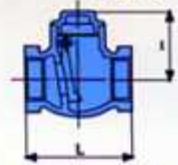
TYPE	Standard Size	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L	T	N-φH
EXJ-50	50A	50	120	155	105	16	4-19
EXJ-65	65A	65	140	175	115	18	4-19
EXJ-80	80A	80	150	185	130	18	8-19
EXJ-100	100A	100	175	210	135	20	8-19
EXJ-125	125A	125	210	250	170	20	8-23
EXJ-150	150A	150	240	280	180	22	8-23
EXJ-200	200A	200	290	330	205	24	12-23

### KMS型 出口消音器 Discharge Silencer



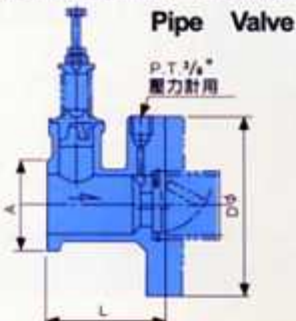
TYPE	Bore	D	L	Weight(kg)
KMS-40	R1 1/2	115	490	6.2

### CV型 逆止閥 Check Valve



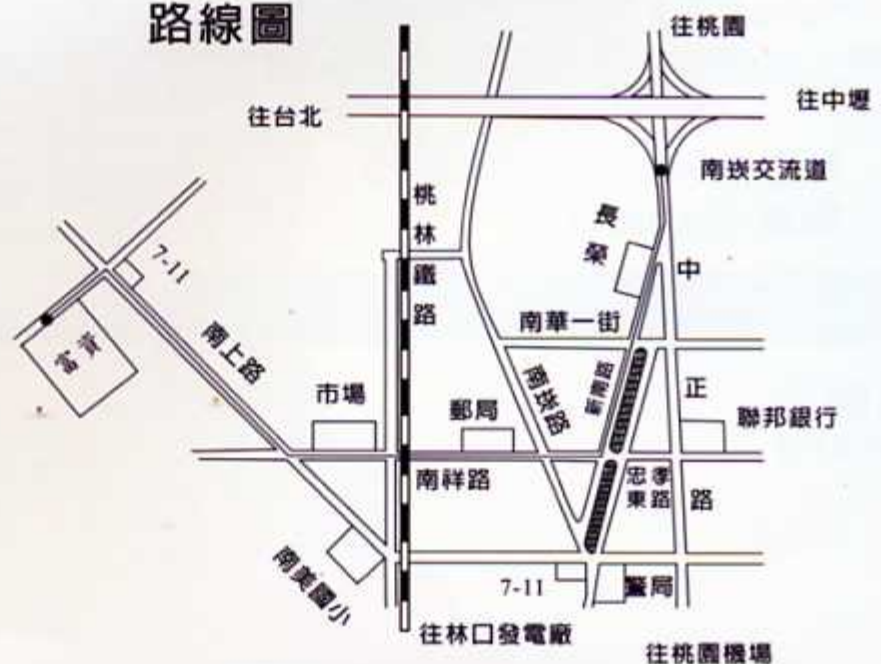
TYPE	Bore	L	H	Weight(kg)
CV-40	Rc 1/2	100	85	1.07

### SRC型 管閥 Pipe Valve



TYPE	L	A	D <sup>+</sup>
SRC-50	100	120	155
SRC-65	100	140	175
SRC-80	110	120	185
SRC-100	110	140	210
SRC-125	145	170	250
SRC-150	150	200	280
SRC-200	270	240	330

### 路線圖





# SSR型魯氏鼓風機使用說明書

## 1. 運轉前之注意事項

- 1-1 安裝，請檢查基礎螺絲二次鎖緊和底座之傾斜。
- 1-2 配管，對於鼓風機有沒有加上不必要的負荷？  
有沒有雜質混入，配管錯誤，開門閥是否關閉等？  
請確認螺絲鎖緊，和逆止閥的安裝位置以及方向。
- 1-3 運轉方向，從皮帶輪側來看是左運轉。
- 1-4 V形皮帶的張力，請適當地調整張力。
- 1-5 確認潤滑油到油位線的中央為止。

## 2. 起動時之注意事項

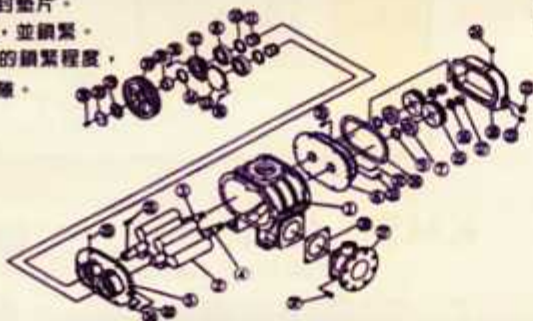
- 2-1 用手運轉，確認沒有異常現象後才可以啓動。
- 2-2 無負荷運轉，請運轉10~20分鐘，檢查看有沒有異常聲音，異常發熱等現象。
- 2-3 請充分地檢查各部位大約30min~1Hr。  
特別請注意異常音、發熱、振動、電流值等項目。

## 3. 運轉之注意事項（日常檢查）

- 3-1 運轉中請檢查下述事項並留下記錄表，這樣對於早期發現異常或發生問題時的原因調查有很大的幫助。  
電源、電壓、電流值、排出壓力、大氣溫度、排出溫度、軸承部溫度、振動、噪音、潤滑油油位、污垢程度、V形皮帶張力。
- 3-2 有關風量的調整方法，不可以使用排出側開門閥來調整風量，應該使用運轉數的變更和大氣排出等方法來實施。詳細內容請和敝公司聯絡、協商。

## 4. 分解、裝配之有關注意事項

- 請參考分解展開圖。
- 機殼側面沒有密封墊片。
- 齒輪要充份打緊，並鎖緊。
- 皮帶輪蓋面側板的鎖緊程度，  
可以決定側面間隙。

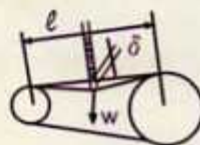


## 5. 定期檢查之有關注意事項

- 5-1 三個月定檢 · 更換潤滑油、黃油 · 調整V形皮帶張力  
· 清潔過濾器零件
- 5-2 一年定檢 · 更換V形皮帶 · 更換過濾器零件  
· 檢查內部是否有雜質附著。
- 5-3 兩年定檢 · 更換軸承 · Z型油封 · 檢查齒輪

## 6. V形皮帶張力調整標準

- 6-1 先找出 $l$ 之中心點，從這一中心點對垂直方向加上下表數值的負荷，這時候的撓度 $\delta$ ，要等於  $\delta = 0.016 \times l_{mr}$  的張力。



## 6-2 皮帶張力負荷Wkg

型號	A	3V	5V
最小值	1.0	1.5	3.5
最大值	3.0	3.0	5

- 6-3 運轉開始7~10天後，請再作一次檢查。

## 7. 潤滑油的種類和更換要領

- 7-1 純正潤滑油 中國石油R150，日本昭和JH460。
- 7-2 停止中全部更換，等油位很穩定以後，再一次確認油位，嚴守油位表的中央部份。

## 8. 黃油種類和更換要領

- 8-1 耐熱用鋰(Li)系列或者，矽(Si)系列的萬能黃油。
- 8-2 純正黃油，德士古 RPM 2號耐熱黃油。
- 8-3 從兩個黃油嘴押入黃油，把舊的黃油全部由排出口排出來，讓新的黃油可以看到為止。剛開始運轉時黃油偶而會從排出口漏出來，這時候把黃油擦掉即可。

## 9. 潤滑油以及黃油量

型號	潤滑油	黃油
TSA-40	0.22ℓ	適量
SSR-50.65	0.52ℓ	適量
SSR-80.100	0.78ℓ	適量
SSR-125	1.6ℓ	適量
SSR-150	2.1ℓ	適量
SSR-200	3.2ℓ	適量



# 富資機械工業股份有限公司

## FU-TSU MACHINERY CO., LTD.

公司工廠：臺灣省桃園縣龜山鄉南上村

南上路345巷5號

電話：(03)3527766 (代表號)

傳真：(03)3226176

FACTORY: NO.5L ANE 345 NAN SUNG

ROAD NAN SUNG VILLAGE KWEI

SHAN SHIANG, TAO YUAN, TAIWAN.

TEL:(03)3527766 FAX:(03)3226176

URL:www.fu-tsu.com.tw

E-mail:futsu.blower@msa.hinet.net

經銷商  
Company