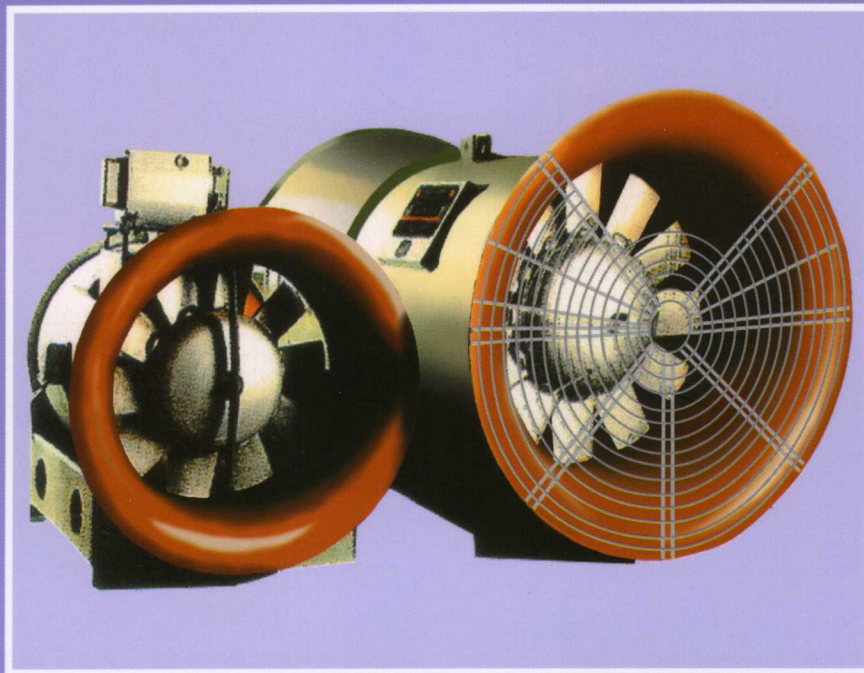




KSA/ISO 9001 인증취득업체
KS표시 허가업체
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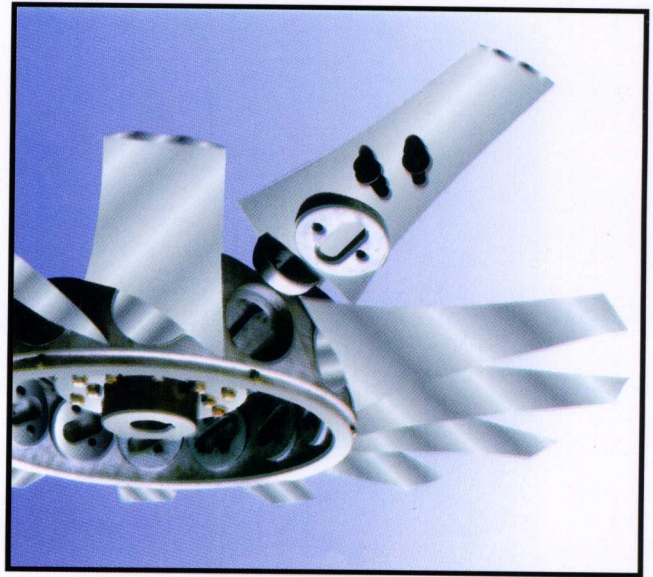
VARIABLE PITCH AXIAL FLOW FAN



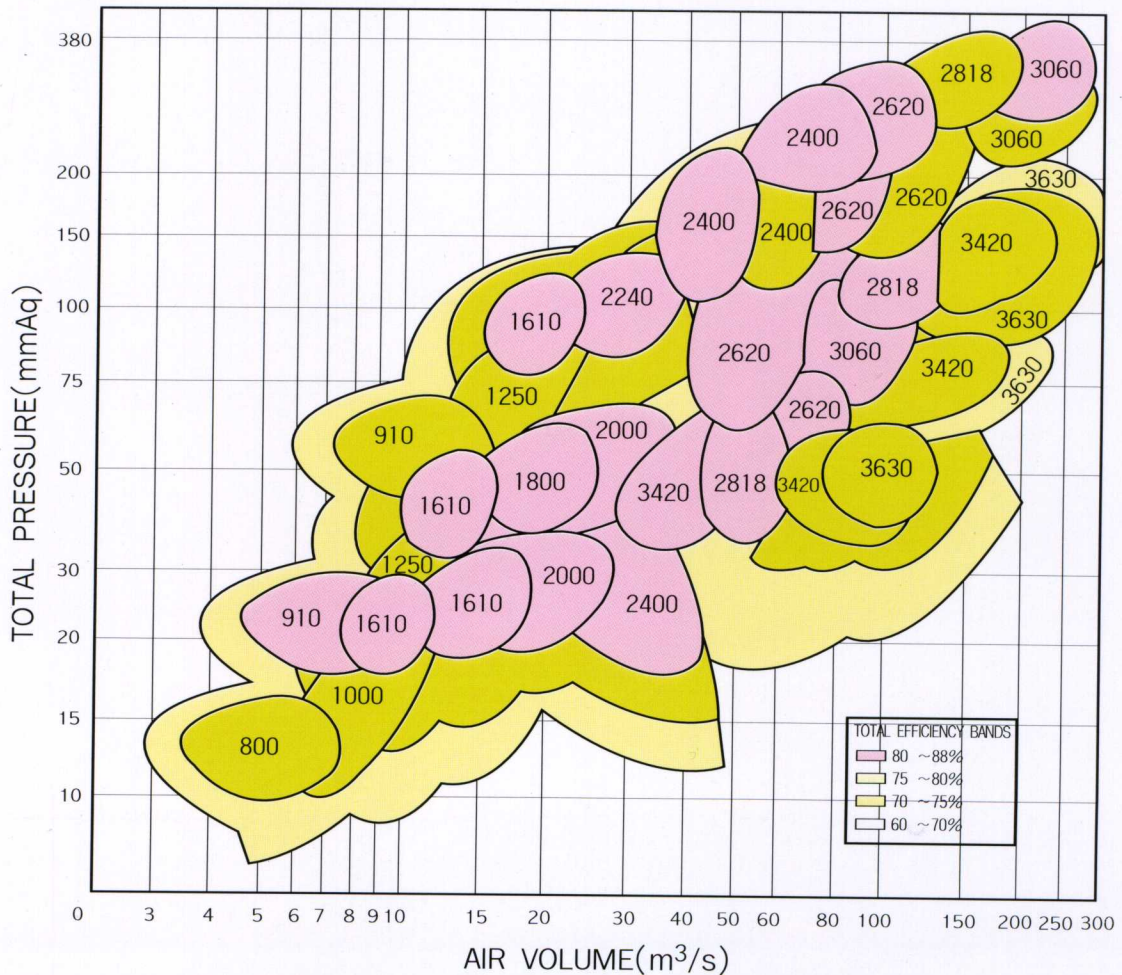
주식회사 삼원이앤비
Samwon Environment & Blower CO., LTD.

VIRABLE PITCH AXIAL FLOW FANS

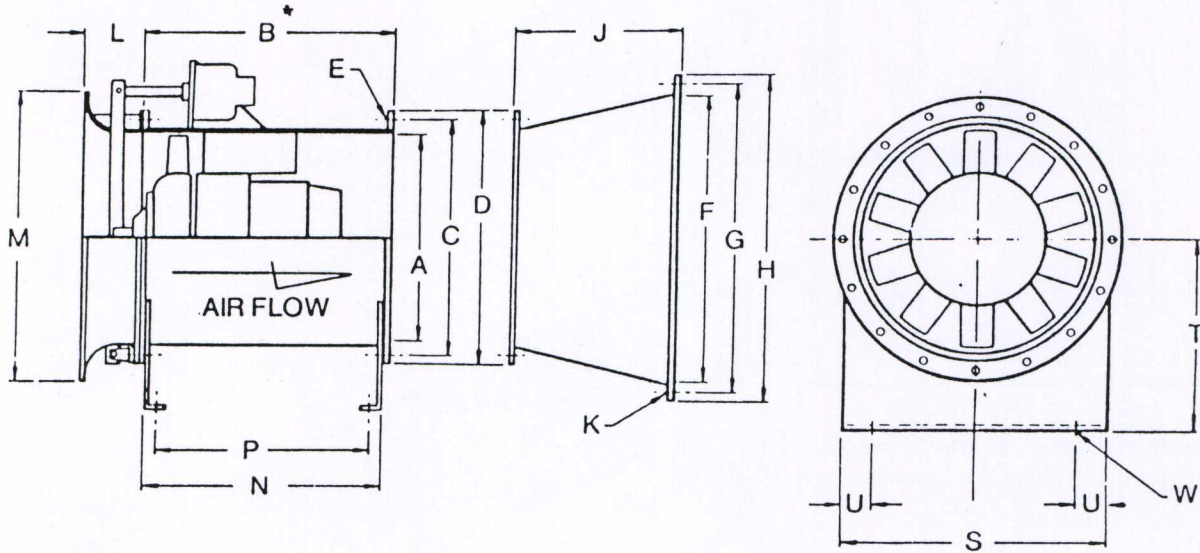
삼원 VIRABLE PITCH AXIAL FLOW FAN은
 BLADE 각도 조절이 용이하며 사용자가
 요구하는 사양조건에 맞추기가 쉽다.
 정교한 BLADE 설계를 송풍기 효율을 극대화
 하여 사용동력을 최대한 줄였다.



SELECTION CHART



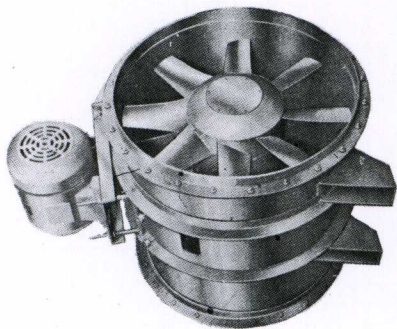
DIMENSIONS SHEET (MOTOR DIRECT DRIVE)



(단위 : mm)

MODEL SIZE	FAN HOUSING						OUTLET CONE					INLET BELL		MOUNTING LEGS				
	A	B	C	D	E	CASING TH'K	F	G	H	J	K	L	M	N	P	S	T	W
	I.D DIA.		BOLT CIR.DIA.	O.D DIA.	HOLES NO/DIA.		I.D OUTLET	BOLT CIR.DIA.	O.D OUTLET		HOLES NO/DIA.	O.D INLET	HOLES DIA.					
800	820	915	848	885	12-11	4.5	1003	1048	1085	565	12-11	162	1092	902	864	812	584	11
910	920	1015	948	985	12-11	4.5	1127	1184	1235	635	12-11	178	1225	1003	965	864	661	11
1000	1020	1015	1048	1085	12-11	4.5	1257	1314	1365	721	12-11	195	1359	1003	965	965	718	11
1120	1120	1015	1184	1235	16-14	6.0	1406	1463	1514	810	16-14	213	1511	997	946	1168	805	14
1250	1220	1220	1322	1362	16-14	6.0	1553	1625	1665	859	16-14	229	1683	1200	1149	1270	891	14
1420	1420	1220	1472	1512	16-14	6.0	1711	1768	1819	881	16-14	254	1876	1200	1149	1422	988	14
1610	1620	1220	1564	1715	24-14	6.0	2007	2092	2169	1154	24-14	283	2134	1200	1149	1524	1118	14
1800	1820	1220	1880	1942	24-14	6.0	2247	2319	2359	1267	24-14	314	2400	1200	1136	1676	1250	14
2000	2020	1220	2168	2170	24-14	9.0	2505	2591	2667	1416	24-14	343	2654	1200	1136	1880	1392	14
2240	2220	1220	2298	2368	32-16	9.0	2738	2818	2888	1525	32-16	371	2770	1200	1124	2080	1460	16
2400	2420	1520	2512	2598	32-16	9.0	2984	3084	3264	1656	32-16	398	3224	1494	1402	2250	1700	16
2620	2620	1520	2718	2798	32-16	9.0	3234	3334	3514	1792	32-16	424	3478	1494	1402	2450	1829	16
2818	2820	1520	2928	3018	32-16	9.0	3485	3595	3795	1940	32-16	449	3742	1494	1392	2620	1971	16
3060	3020	1830	3128	3218	42-16	9.0	3732	3842	4042	2074	42-16	473	3988	1794	1692	2820	2094	16
3240	3220	1830	3334	3424	42-16	12.0	3980	4090	4290	2210	42-16	496	4240	1794	1692	3000	2220	16
3420	3420	1830	3554	3664	42-16	12.0	4230	4360	4600	2351	42-16	518	4540	1794	1670	3200	2390	16
3630	3620	1830	3754	3864	48-19	12.0	4480	4610	4850	2495	48-19	540	4780	1794	1670	3400	2510	19

AXIAL FLOW FAN



Where the air volume is 450m³/min and static pressure 25mmAq,

- 1) The value 5.5kw is obtained from the crossing point a of the air volume and the static pressure.
- 2) The diameter 900 is obtained by drawing a parallel from the crossing point a to the right-upper oblique line.
- 3) The revolution coefficient $K = 1134 \times 10^3$ is obtained by drawing a parallel from the crossing point a to the right.

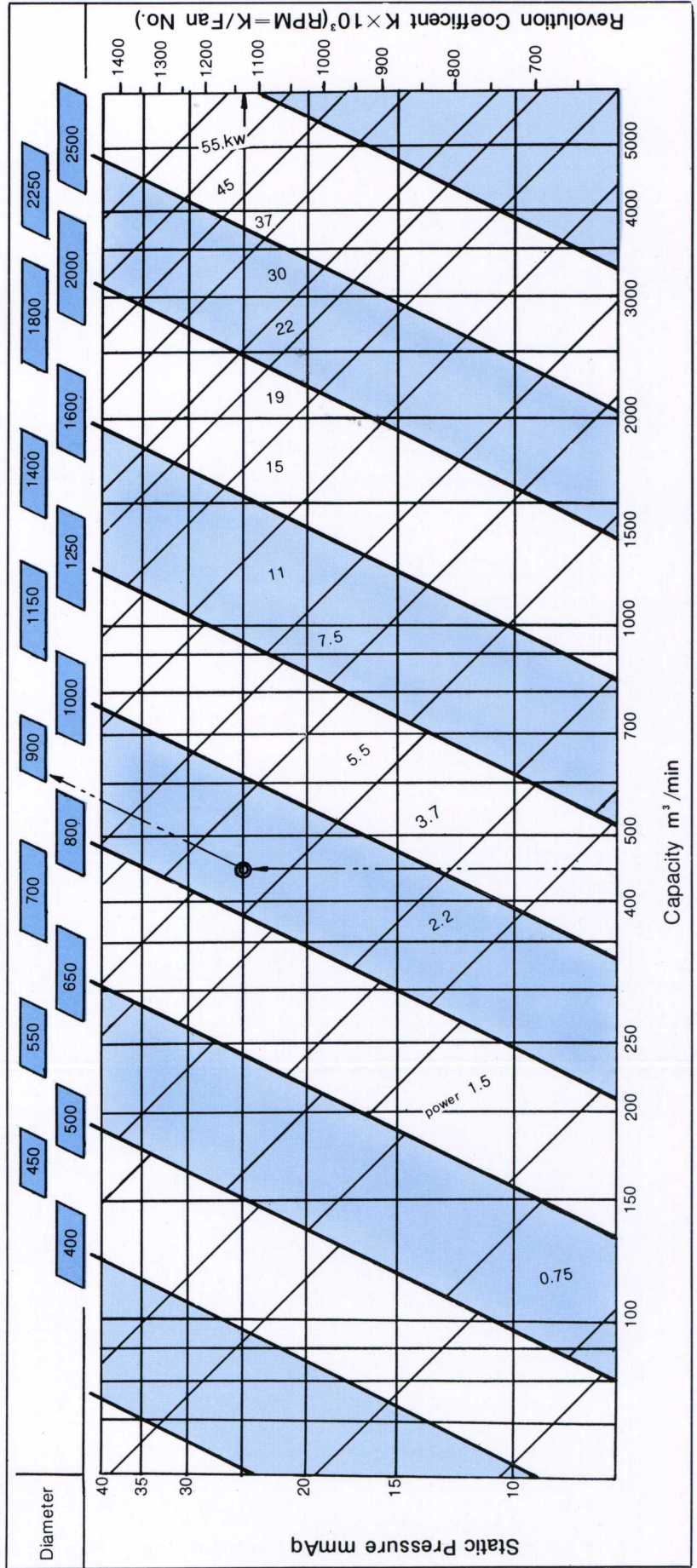
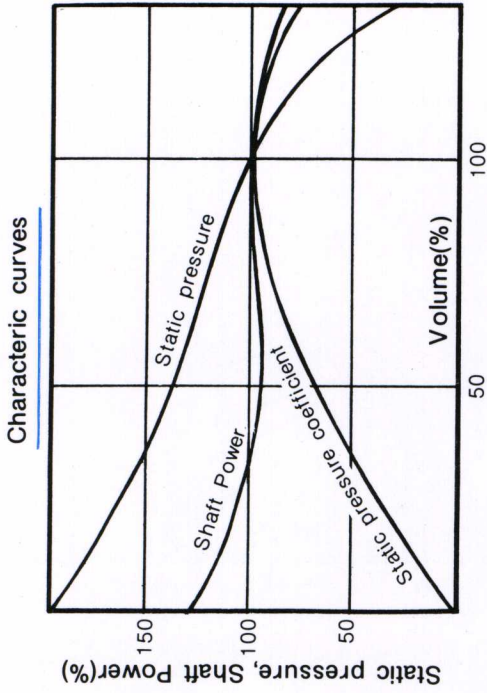
$$\text{Revolution} = \frac{K}{\text{Fan diameter}} = \frac{1134000}{900} = 1260\text{rpm}$$

4) Conclusion:

AXIAL FLOW FAN DAF-900

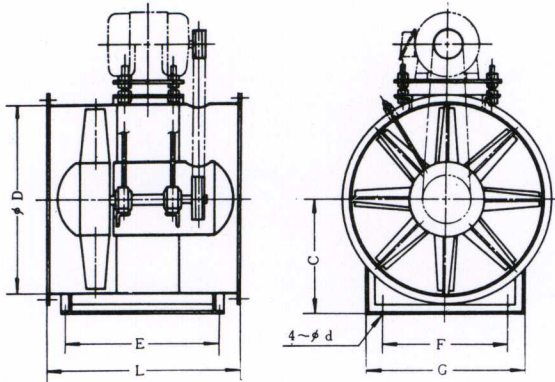
450m³/min \times 25mmAq \times 1260rpm \times 5.5kw

Selection Chart

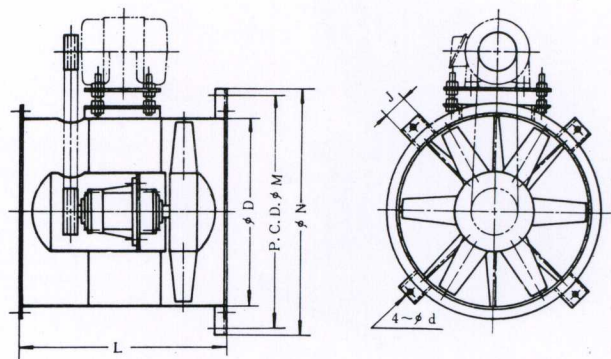


DIMENSIONS SHEET (V-BELT DRIVE)

Horizontal Type



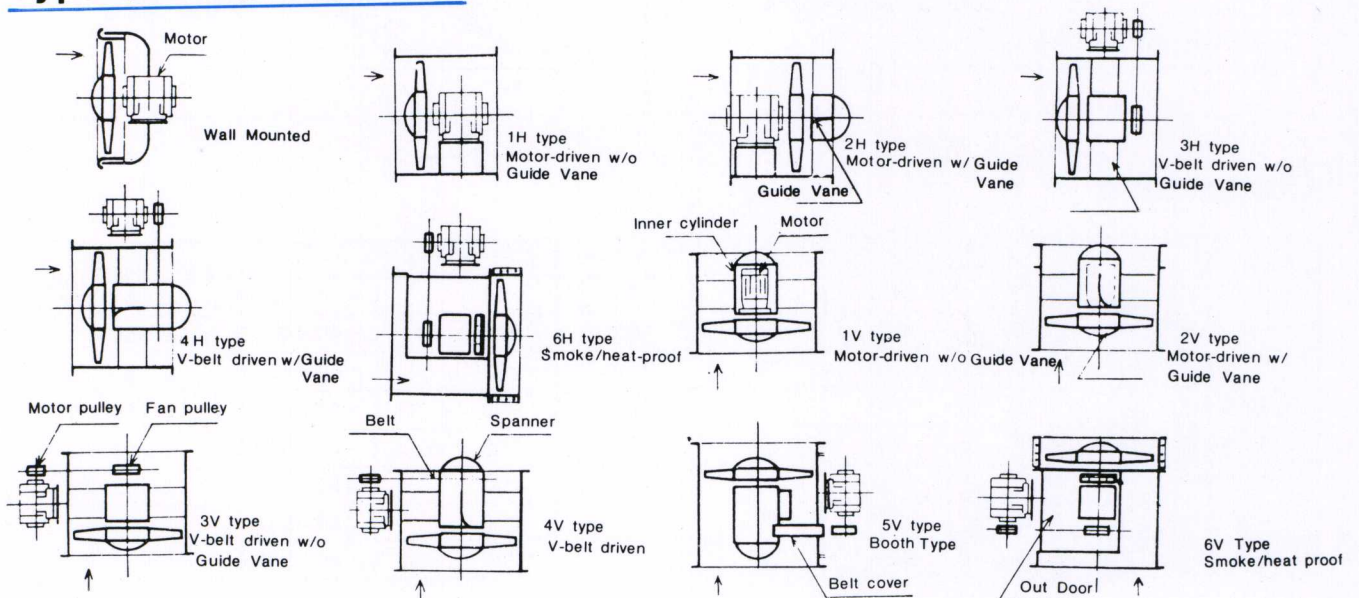
Vertical Type



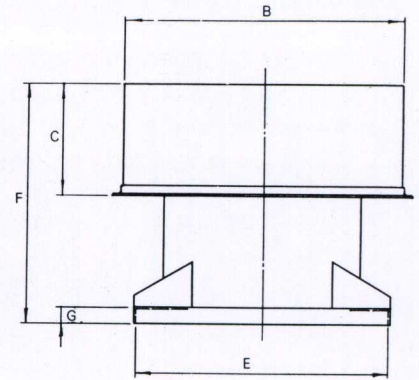
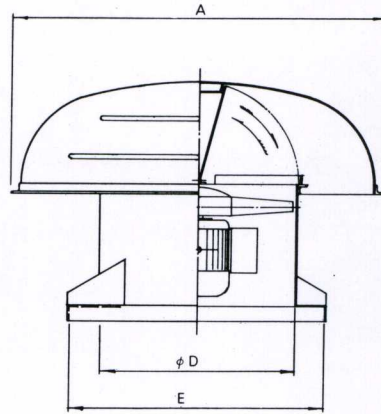
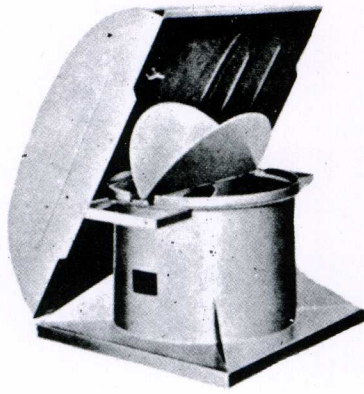
Dimensions

Reference No.	Common		H Type					V Type			
Fan No.	D	L	C	E	F	G	d	J	M	N	d
SAF - 400	400	400	260	365	280	340	11	50	520	570	11
SAF - 450	450	450	285	410	320	380	11	50	570	620	11
SAF - 500	500	500	315	460	340	420	11	50	620	670	11
SAF - 550	550	600	340	560	380	460	15	75	700	750	15
SAF - 650	650	650	390	600	470	550	15	75	800	850	15
SAF - 700	700	700	425	625	500	580	15	75	850	900	15
SAF - 800	800	800	475	725	560	660	15	100	950	1000	15
SAF - 900	900	900	525	825	640	740	19	100	1040	1100	19
SAF - 1000	1000	900	590	825	700	800	19	100	1150	1200	19
SAF - 1150	1150	900	670	825	750	850	19	125	1290	1360	19
SAF - 1250	1250	1000	750	900	800	950	19	125	1450	1550	19
SAF - 1400	1400	1000	800	900	860	1060	19	150	1600	1700	19
SAF - 1600	1600	1100	900	1000	900	1180	19	150	1800	1900	19
SAF - 1800	1800	1100	1030	1000	1020	1320	19	150	2030	2130	19
SAF - 2000	2000	1200	1130	1075	1200	1500	24	150	2230	2330	24
SAF - 2250	2250	1200	1250	1075	1400	1700	24	200	2500	2580	24
SAF - 2500	2500	1200	1400	1075	1600	1900	24	200	2750	2830	24

Type of Axial Flow Fan



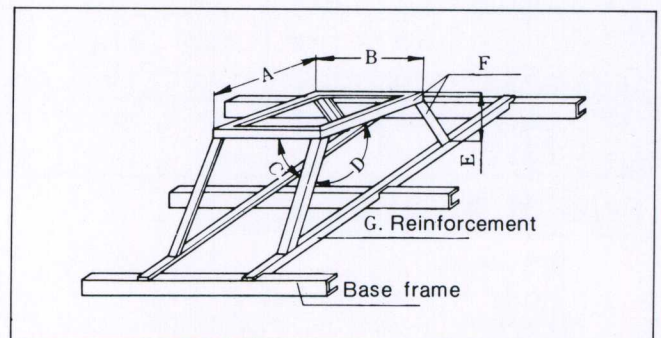
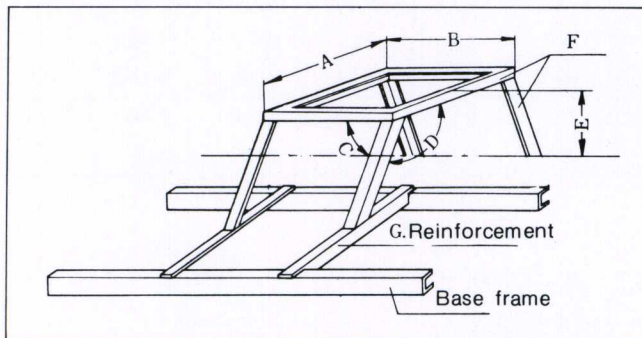
ROOF VENTILATOR



Selection Chart & Dimensions

Model No.	KW-Pole	Air volume					Dimensions						
		0 mmAq	5 mmAq	10 mmAq	15 mmAq	20 mmAq	A	B	C	D	E	F	G
SRF-300	0.1-4	30	22				600	500	200	310	400	500	40
SRF-400	0.2-4	90	75	65			760	600	290	410	520	650	40
SRF-500	0.4-4	120	110	95			960	750	350	510	650	750	40
SRF-600	0.75-6	230	210	185	150		1100	840	380	610	760	850	40
SRF-700	1.5-6	270	252	236	210		1400	940	400	710	900	950	50
SRF-800	2.2-6	485	456	420	370		1500	1000	450	810	1000	1050	50
SRF-900	2.2-6	590	545	502	440	118	1600	1200	500	910	1150	1250	50
SRF-1000	3.7-8	720	640	580	500	440	1900	1400	550	1010	1300	1500	50

Dimension of Support



Dimensions

Type	Code	A	B	C	D	E	F	G
SRF-300		390	390	90°	120°	200	L-40×40×5	L-50×50×6
SRF-400		510	510	90°	120°	200	L-40×40×5	L-50×50×6
SRF-500		640	640	90°	120°	200	L-40×40×5	L-50×50×6
SRF-600		770	770	90°	120°	200	L-40×40×5	L-50×50×6
SRF-700		950	950	90°	120°	200	L-50×50×6	L-65×65×6
SRF-800		1035	1035	90°	120°	200	L-50×50×6	L-65×65×6
SRF-900		1135	1135	90°	120°	200	L-50×50×6	L-65×65×6
SRF-1000		1285	1285	90°	120°	200	L-50×50×6	L-65×65×6

Selection of Mode

The following criteria must be observed in the selection appropriate model and roof ventilator as well as the quantity of ventilators be installed;

1) Determination of ventilation frequency

The proper ventilation frequency is estimated from the following Table(1), except for large plants for which the effective frequency may be determined liberally.

2) The measurements of a building(m³); width (m) × length (m) × height (m)

3) The proper model must be selected in accordance with the following Table(2).

4) The ventilation capacity of each model is available from the capacity table.

5) No. of ventilators required = $\frac{\text{Optimum frequency per hr} \times \text{building measurements(m}^3\text{)}}{60 \times \text{individual capacity(m}^3\text{/min)}}$

Optimum Ventilation Frequency(Table 1)

Work Type	Ventilation Fqy per Hr	Work Type	Ventilation Fqy per Hr	Work Type	Ventilation Fqy Per Hr
Machinery	10 ~ 15	Foodstuffs	12 ~ 20	Boiler room	20 ~ 60
Casting	30 ~ 60	Brewery	20 ~ 30	Office	5 ~ 10
Forging	40 ~ 60	Flour	6 ~ 12	Warehouse	6 ~ 12
Welding	15 ~ 20	Printing	5 ~ 15	Dressing room	5 ~ 15
Motor car	10 ~ 15	Spinning/weaving	5 ~ 10	Hospital	6 ~ 12
Plating	15 ~ 30	Coating/painting	30 ~ 60	Theatre	8 ~ 20
Chemicals	10 ~ 30	Woodworking	15 ~ 20	Dining room	8 ~ 10
Dyeing	15 ~ 30	Power generation	20 ~ 30	Kitchen	20 ~ 30
Paper mfg	15 ~ 30	Substation	30 ~ 50		

Note: The ventilation frequency refers to the optimum frequency for refreshing the air in a room per hour.

Selection of Models Relative to Building Height (Table 2)

4m or less	SRF-400	SRF-500		
4m~7m	SRF-500	SRF-600	SRF-750	
7m up	SRF-750	SRF-800	SRF-900	SRF-1000

Noise Rates by Model

(unit:phon)

Model	1.5m	4m	8m
SRF-400	66.5	58.0	52.5
SRF-500	64.5	55.5	50.5
SRF-600	66.0	57.5	52.0
SRF-700	71.0	62.5	57.5
SRF-800	73.5	65.0	59.0
SRF-900	83.5	75.0	69.0
SRF-1000	85.5	77.5	72.0

Note: SRF-400 model makes more noise despite its, due to the rapid revolution rate of its impeller.

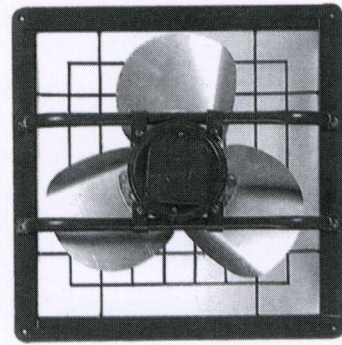
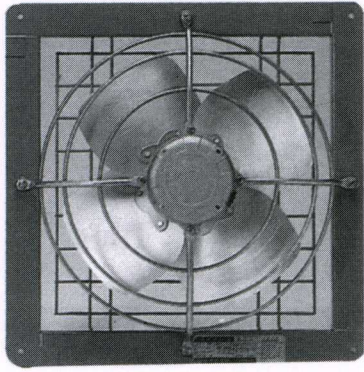
Noise Pollution Rate

(unit: phon)

Region Hours	Exc. Ind. Area	Ind. Area	Semi-Ind. Area	Commer- cial Area	Resid. Area	Exc. Resid. Area	Non- desing. Area
08:00-20:00	75	70	65	65	55	50	60
06:00-20:00 08:00-23:00	75	65	60	60	50	45	55
23:00-06:00	70	60	50	50	40	40	50

1. Measure on the border line
2. Classification of areas is based on that of city planning and/or the construction standards law.
3. This chart is based on the standard criteria unless otherwise specially designated.

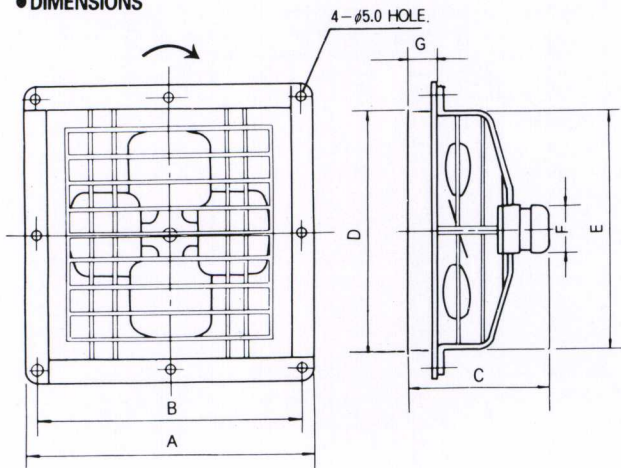
WALL VENTILATOR



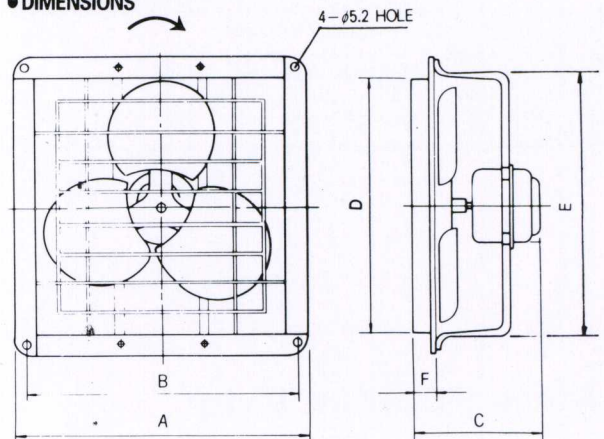
DESCRIPTION	SWR-250	SWF-300
FAN SIZE (mm)	φ 250	φ 300
VOLT (V)	1 φ × 220V	1 φ × 220V
POLE (P)	4	4
FREQUENCY(Hz)	60	60
POWER (W)	37	40
MAX. VOLUME(M ³ /h)	900	1080
REVOLUTION(r.p.m)	1550	1550
T Y P E	BALL BEARING	BALL BEARING
K G	2.22	2.66

DESCRIPTION	SWF-350	SWP-400
FAN SIZE (mm)	φ 400	φ 300
VOLT (V)	1 φ × 220V	1 φ × 220V
POLE (P)	4	4
FREQUENCY(Hz)	60	60
POWER (W)	100	115
MAX. VOLUME(M ³ /h)	2100	2700
REVOLUTION(r.p.m)	1670	1600
T Y P E	SLEEVE	SLEEVE
K G	4.43	4.91

● DIMENSIONS



● DIMENSIONS

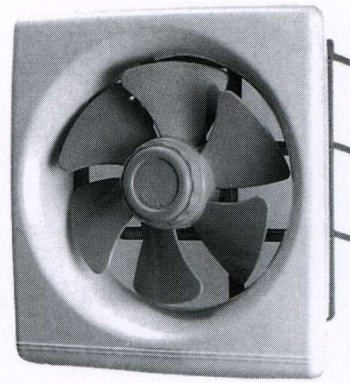
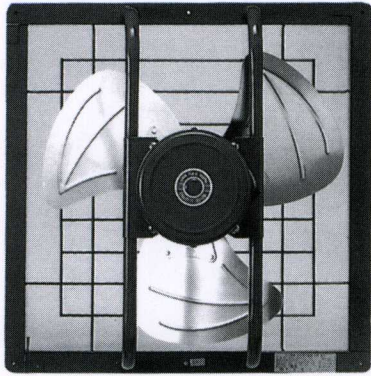


(UNIT:mm)

SIZE	A	B	C	D	E	F	G
250 φ	356	325	160	289	298	84	25
300 φ	400	370	170	333	330	84	30

(UNIT:mm)

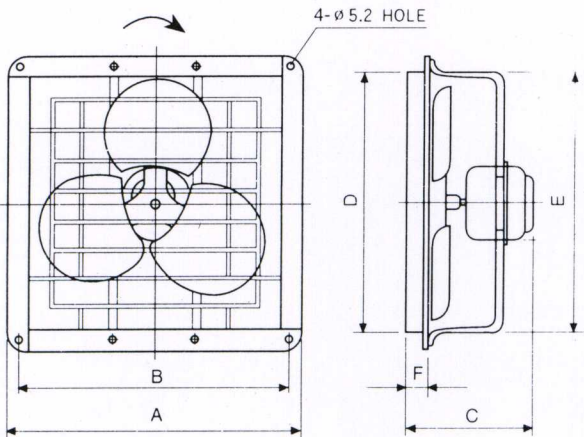
SIZE	A	B	C	D	E	F
350 φ	444	413	207	377	400	29
400 φ	490	458	213	425	448	29



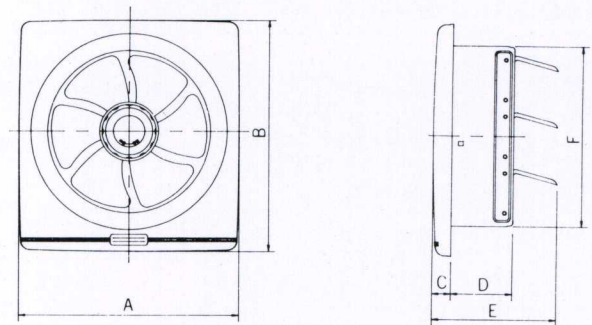
DESCRIPTION	SWF-450
FAN SIZE (mm)	φ 450
VOLT (V)	1φ × 220V
POLE (P)	4
FREQUENCY(Hz)	60
POWER (W)	280
MAX. VOLUME(M ³ /h)	4300
(mmAq)	12
REVOLUTION(r.p.m)	1680
T Y P E	BALL BEARING
K G	12.5

DESCRIPTION	SWF-150	SWF-200	SWF-250	SWF-300
FAN SIZE (mm)	φ 150	φ 200	φ 250	φ 300
VOLT (V)	1φ × 220	1φ × 220	1φ × 220	1φ × 220
POLE (P)	4	4	4	4
FREQUENCY(Hz)	60	60	60	60
POWER (W)	30	32	38	48
MAX. VOLUME(M ³ /h)	420	540	720	1110
REVOLUTION(r.p.m)	1550	1350	1400	1110
T Y P E	SLEEVE	SLEEVE	SLEEVE	SLEEVE
K G	1.8	2.3	2.81	3.35

● DIMENSIONS



● DIMENSIONS



(UNIT:mm)

DESCRIPTION	A	B	C	D	E	F
450 φ	545	514	274	480	496	29

(UNIT:mm)

DESCRIPTION	A	B	C	D	E	F	G	H
150 φ	233.6	283.6	247	47	75	122	170	31.8
200 φ	299	324	222	50	90	75	240	30.5
250 φ	349	374	204	50	90	60	290	30.5
300 φ	399	425	209	50	90	65	340	30.5

Cylindrical wind duct's friction loss table

$$h = \lambda \cdot \frac{L}{D} \cdot \frac{v^2}{2g} \cdot \gamma (\text{mmAq})$$

$$\lambda = 0.02$$

L = Straight length(m)

D = Wind duct diameter(m)

v = Average air velocity (m/s)

g = Accelerated gravity velocity
9.8m/s²

$$\gamma = 1.2\text{kg/m}^3$$

Power Calculation

$$kw = \frac{P \times Q \times \alpha}{6120 \times \eta}$$

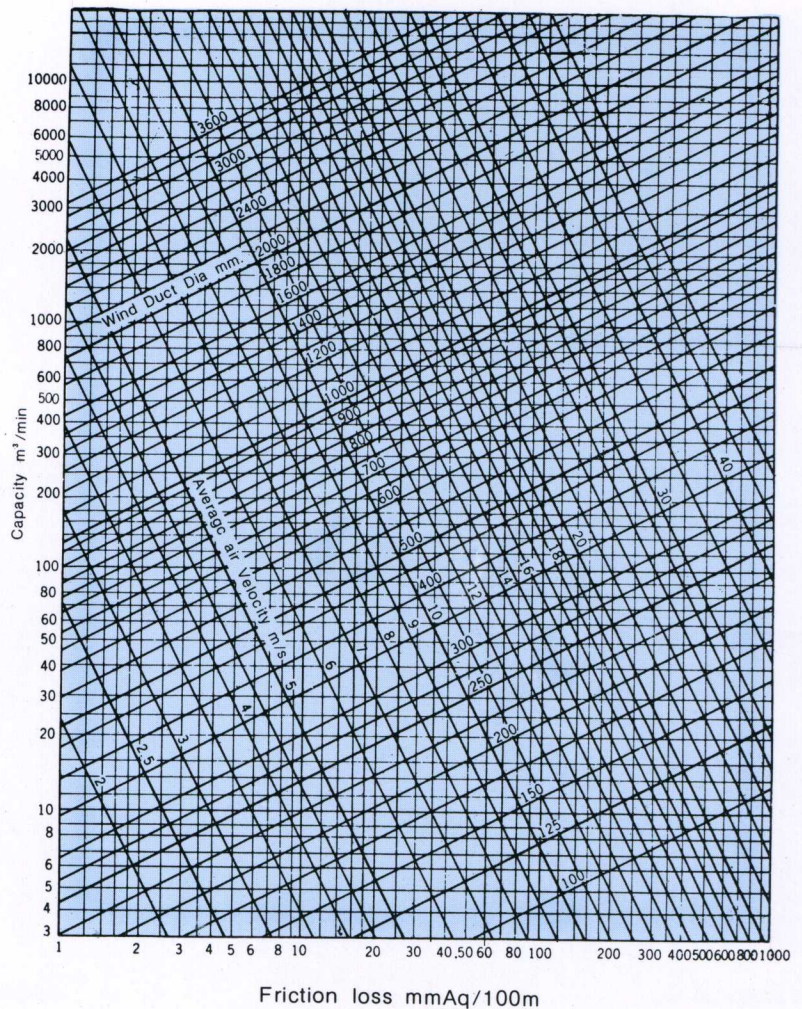
Capacity variance influenced by revolution

The correlations of air volume, air accorure and power to changes in revolution are estimated in accordance with the following format, provided that air pressure is 500mmAq or less and the projected revolution frequency change is 20 percent more or less:

$$Q' = \left(\frac{N'}{N}\right)Q \quad \begin{array}{l} Q : \text{Air volume (m}^3/\text{min)} \\ P : \text{Air pressure (mmAq)} \end{array}$$

$$P' = \left(\frac{N'}{N}\right)^2 P \quad \begin{array}{l} kw : \text{Power (kw)} \\ N : \text{Revolution (rpm)} \end{array}$$

$$kw' = \left(\frac{N'}{N}\right)^3 kw \quad \begin{array}{l} \eta : \text{Efficiency rate (\%)} \\ \alpha : \text{Reserve rate 1.1} \sim 1.3 \end{array}$$



Recommended Air Velocity for Ventilation and Air Supply

Classification	Air velocity(m/s)	Classification	Air velocity(m/s)
Air conditioning(low-speed duct)	2.5~11	Air Conditioning (high-speed duct)	12~30
Steam, gas and smoke	10	Fine dust	18~22
Air containing fine dust	15	Moist pellets	22
Saw dust	10~15	Fine coal powder	20~27.5
Saw dust(dry)	15~20	limestone	30~48
Wood scrap (wet)	20~22	Sand/cement	30~45
Wood scrap (heavy)	17.5~22.5	Synthetic resin billet	25~35
Raw wool	25~28	Wheat/barley	25~35
Salt/sand/sugar	28~33	Cereal powder	10~15
Grinder dust	17.5~22.5	Rubber dust	10~15
Sand blast dust	17.5~22.5	Raw cotton	20~25
Bakelite dust	10~12.5	Cotton dust	7.5~10

MAIN PRODUCTS

- FANS & BLOWERS
 - TURBO FAN & BLOWER
 - MULTI STAGE TURBO BLOWER
 - AIRFOIL FAN
 - MULTI BLADE FAN
 - RADIAL(PLATE) FAN
 - ROOF & WALL VENTILATOR
(PROPELLER, CENTRIFUGAL)
 - DUCT IN-LINE FAN
- DAMPERS
 - LEAKLESS DAMPER
 - BUTTERFLY DAMPER
 - LOUVER DAMPER
- DUST COLLECTORS
 - PULSE AIR JET BAG FILTER
 - CYCLONE
 - MULTICLONE
 - WET SCRUBBER
 - ROTARY DRUM FILTER
- PNEUMATIC CONVEYORS
 - VACUUM TYPE
 - PRESSURE TYPE
 - COMBINED TYPE



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