Total Ventilation
Fan & Blower
Giant Jet Fan
Long Fan/Single Fan/Fanroomless Fan
HVAC heating and Cooling equipment

When you fell fresh,
there is ECTA Co...

Ver. 201809

ECTA Co

System Description

Necessity of Ventilation for Basement Car Park

The major cause of air pollution at the underground parking lot is the exhaust gas by automobile. There are many harmful ingredients of exhaust gas such as carbon monoxide, carbonic acid gas, nitrogen oxide, hydrocarbon, graphite, lead compound and and etc. however, the concentration of Carbon monoxide (CO) is being used as environmental index of the parking lot taking into consid-eration of toxicity to human body and the effluent volume. In case of two or more harmful sub-stances are mixed into it there is method of ACGIH who proposed to do as the sum of ratio of max-imum permissible concentration of each ingredient against each ingredient concentration shall be 1.0 or less however, the example applied in case of automobile exhaust gas is not known. Recently the toxicity of nitrogen oxide (Nox) which is pointed out as cause of atmospheric pollution such as photochemical smog is noteworthy as object of restriction for automobile exhaust gas. In case of the underground parking lot however, the carbon monoxide (Co) is the main factor of environ-mental pollution ventilation to maintain concentration of CO less than the objective value will be necessary.

Ductless Ventilation System

Due to limited space and congested installation of M&E Services in the Basement Car Park Area, most of conventional Ventilation System (Duct System) has been replaced with Ductless Ventilation System in order to use the ceiling space effectively by eliminating the services complexity.
The Ductless Ventilation System is composed with ; -

- Supply Fan (Fanroomless Fan)
- Jet Fan (Long Fan or Single Fan)
- Exhaust Fan (Fanroomless Fan)
- Control System with CO Detector
- Electrical works

Jet Fan is the replacement of ductwork and deliver fresh air from Supply Fan to Exhaust Fan and All Jet Fans and Exhaust Fanroomless Fans are equipped with High Temperature Motors for Fire Mode operation during 2 hours under 250℃.

Ductless Ventilation System not only solves the M&E coordination problem of the congested area but also saves construction money.

Method of Operation

The Ductless Ventilation System can be operated either by manually or automatically.
Manual operation will be initiated by pressing an On/Off Switch and automatic operation will be done by a CO Gas Detector by sensing of CO Gas concentration in the Car Parking Area.
Alternatively an 24Hour Timer can be used for the initiation of automatic operation.

Ductless Ventilation Fan

Long Fan®

Feature

- Low speed stratum ventilation system
- Maintaining jet width of 1.5M ~ 2.5M
- Ease installation and Maintenance
- Energy saving effect (4w/h per 1CMM)
- Jet speed of 11m/sec, distance to reach : 15~20m
- Wind velocity of remaining air : 0.5m/sec

Application

- Ventilation in the parking lot
- Air curtain for exit
- Prevention of condensation in the window
- Solving the temperature difference.

Selection Data

Model	Air volume (CMH)(50Hz)	Static Pressure (mmAq)	Power Source (V/Ph/Hz)	Power Consumption (W)	Size (mm) (LxDxH)	Weight (Kg)	Sound dB(A) @ 1m	RPM
LO 100AN	1,000	1.9	220/1/50	70	900x180x206	10	53	1,445
LO 100BN	1000	1.9	220/1/50	70	915x180x206	10.5	53	1445
LO 100AN-2S	1000 (High) / 800 (Low)	1.9 High) / 1.2 (Low)	220/1/50	70 (High) / 40 (Low)	900x180x206	10	53 (High) / 51 (Low)	1445 (High) / 1156 (Low)
LO 125AN	1,500	1.9	220/1/50	92	1,155x180x206	12	54	1,420
LO 125BN	1500	1.9	220/1/50	92	1,121x180x206	12	54	1420
LO 125AN-2S	1500 (High) / 1200 (Low)	1.9 (High) / 1.2 (Low)	220/1/50	92 (High) / 45 (Low)	1,155x180x206	12	54 (High) / 52 (Low)	1420 (High) / 1136 (Low)
LO 150AN	2,000	1.7	220/1/50	110	1,505x180x206	13.5	55	1,395
LO 150BN	2000	1.7	220/1/50	110	1,480x180x206	12.5	55	1395
LO 150AN-2S	2000 (High) / 1600 (Low)	1.7 (High) / 1.1 (Low)	220/1/50	110 (High) / 60 (Low)	1,505x180x206	13.5	55 (High) / 53 (Low)	1395 (High) / 1116 (Low)
LO 200AN	2,500	1.7	220/1/50	138	1,505x180x206	13.5	61	1,390
LO 200BN	2500	1.7	220/1/50	138	1,480x180x206	12.5	61	1390
LO 200AN-2S	2,500 (High) / 2000 (Low)	1.7 (High) / 1.1 (Low)	220/1/50	138 (High) / 75 (Low)	1,505x180x206	13.5	61 (High) / 59 (Low)	1,390 (High) / 1,112 (Low)
LO 300AN	3,000	1.7	220/1/50	270	1,480x180x206	18	63	1,490
LO 300BN	3000	1.7	220/1/50	270	1,480x180x206	12.5	63	1490
LO 300AN-2S	3,000 (High) / 2400 (Low)	1.7 (High) / 1.1 (Low)	220/1/50	270 (High) / 140 (Low)	1,480x180x206	12.5	63 (High) / 61 (Low)	1,490 (High) / 1,192 (Low)

Power Code Lengh : 2.5m

Ductless Ventilation Fan

Material Specification

Model	Casing Material	Fan Material (Impeller)	Motor Type	Motor Insulation	Finish Color
LO 100AN	STEEL, GI, STS	AI, PVC, STEEL	AC	Class B	White, Other made
LO 100BN	STEEL, GI, STS	AI, PVC, STEEL	BLDC	Class B	White, Other made
LO 100AN-2S	STEEL, GI, STS	AI, PVC, STEEL	AC	Class B	White, Other made
LO 125AN	STEEL, GI, STS	AI, PVC, STEEL	AC	Class B	White, Other made
LO 125BN	STEEL, GI, STS	AI, PVC, STEEL	BLDC	Class B	White, Other made
LO 125AN-2S	STEEL, GI, STS	AI, PVC, STEEL	AC	Class B	White, Other made
LO 150AN	STEEL, GI, STS	AI, PVC, STEEL	AC	Class B	White, Other made
LO 150BN	STEEL, GI, STS	AI, PVC, STEEL	BLDC	Class B	White, Other made
LO 150AN-2S	STEEL, GI, STS	AI, PVC, STEEL	AC	Class B	White, Other made
LO 200AN	STEEL, GI, STS	AI, PVC, STEEL	AC	Class B	White, Other made
LO 200BN	STEEL, GI, STS	AI, PVC, STEEL	BLDC	Class B	White, Other made
LO 200AN-2S	STEEL, GI, STS	AI, PVC, STEEL	AC	Class B	White, Other made
LO 300AN	STEEL, GI, STS	AI, PVC, STEEL	AC	Class B	White, Other made
LO 300BN	STEEL, GI, STS	AI, PVC, STEEL	BLDC	Class B	White, Other made
LO 300AN-2S	STEEL, GI, STS	AI, PVC, STEEL	AC	Class B	White, Other made

<Casing Material>

* EGI : Electro -Galvanized Iron.
* STS : Stainless Steel #304 without Coating

Motor Type

* A : A/C Motor
* B : BLDC Motor
* E : EBM Motor (Germany)

Specifications are subject to change randomly

Ductless Ventilation Fan

Sound Power Data

Sound power level, A-weighted / Model	Sound dB(A) @ 1m	Octave frequency bands (Hz)							
		63	125	250	500	1000	2000	4000	8000
LO 100AN	53	51	44	45	42	42	38	37	31
LO 100BN	53	51	44	45	42	42	38	37	31
LO 100AN-2S	53 (High) / 51 (Low)	49	42	43	40	40	36	35	29
LO 125AN	54	52	45	46	43	43	39	38	32
LO 125BN	54	52	45	46	43	43	39	38	32
LO 125AN-2S	54 (High) / 52 (Low)	50	43	44	41	41	37	36	30
LO 150AN	55	53	46	47	44	44	40	39	33
LO 150BN	55	53	46	47	44	44	40	39	33
LO 150AN-2S	55 (High) / 53 (Low)	51	44	45	42	42	38	37	31
LO 200AN	61	60	53	54	51	51	47	46	40
LO 200BN	61	60	53	54	51	51	47	46	40
LO 200AN-2S	61 (High) / 59 (Low)	57	50	51	48	48	44	43	37
LO 300AN	63	61	54	55	52	52	48	47	41
36LO 300BN	63	61	54	55	52	52	48	47	41
LO 300AN-2S	63 (High) / 61 (Low)	59	52	53	50	50	46	45	39

Long Fan®

Ordering Information

0) Basic Model No. : Select by Air Flow Rate / EGI Casing

LO 100 : 1,000 CMH
LO 125 : 1,500 CMH
LO 150 : 2,000 CMH
LO 200 : 2,500 CMH

1) 1st Additional No. : Select by Motor Type

A : A/C Motor
B : BLDC Motor
E : EBM Motor (Germany)

2) 2nd Additional No. : Select by Motor Insulation Class

H : High Temp Motor
(Motor Insulation Class H)
N : Normal Motor
(Motor Insulation Class B)

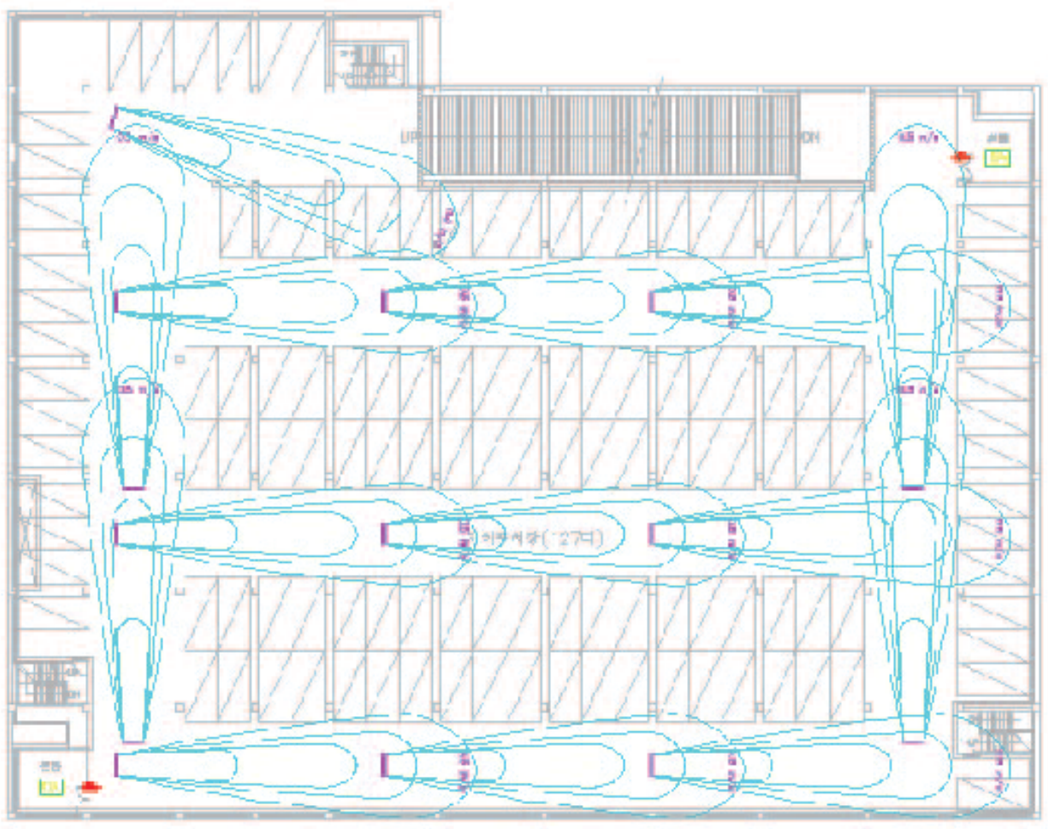
3) 3rd Addition No. : Stainless Steel Casing

S : Stainless Steel

* Example of Final Model No.

- EGI Casing : LO 150AH, LO 150AN, LO 150BN
- STS Casing : LO 150AH(S), LO 150AN(S), LO 150BN(S)

System Design (Example)



Outline

- Area : 3,350㎡
- Height : 3.4m
- Volume : 11,390㎥
- Purpose : underground packing lot of apartment

Design

- Supply air volume : 36,313㎥/h
- Induction air volume : 1,045,380㎥/h

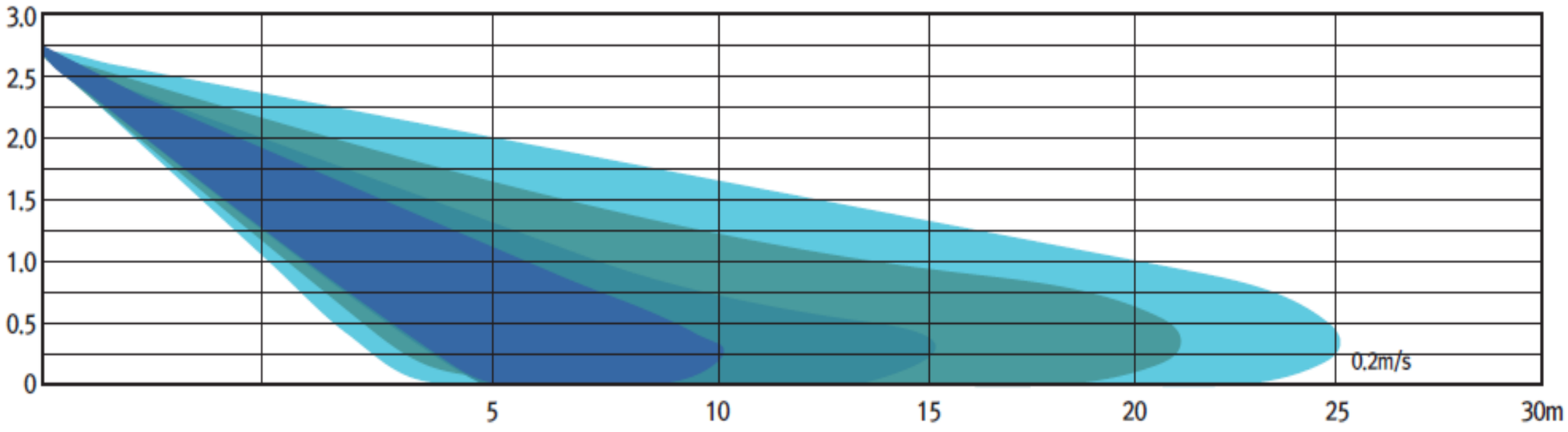
Long Fan selection

LO 150 x 14 SET

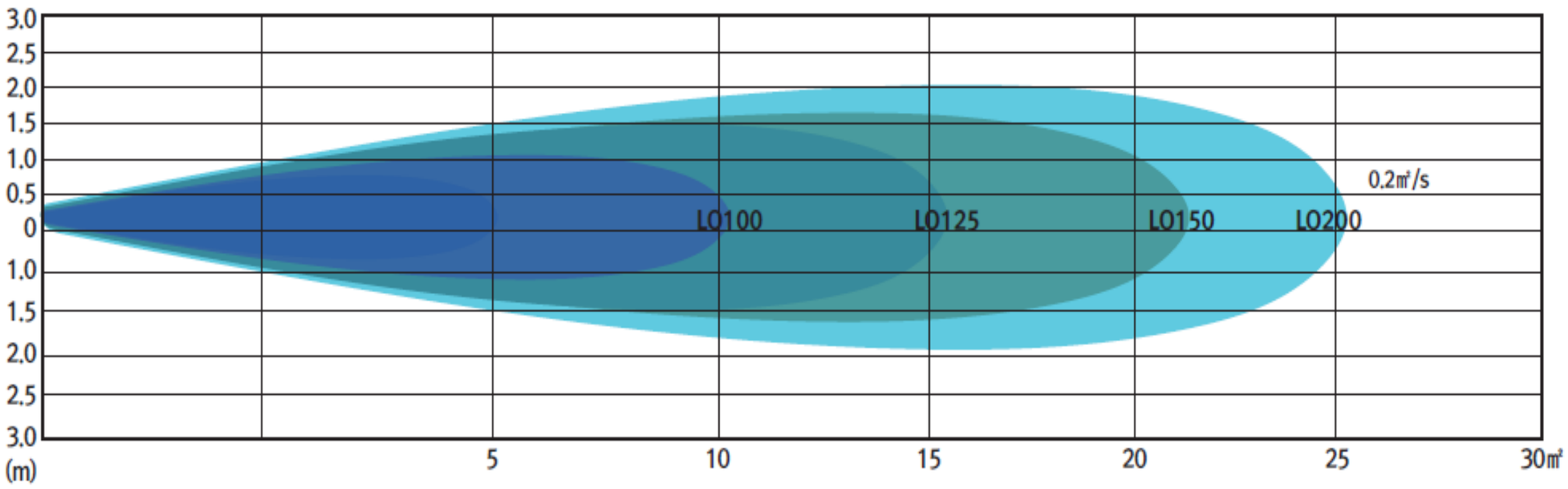
Long Fan®

Wind velocity distribution chart

Side View



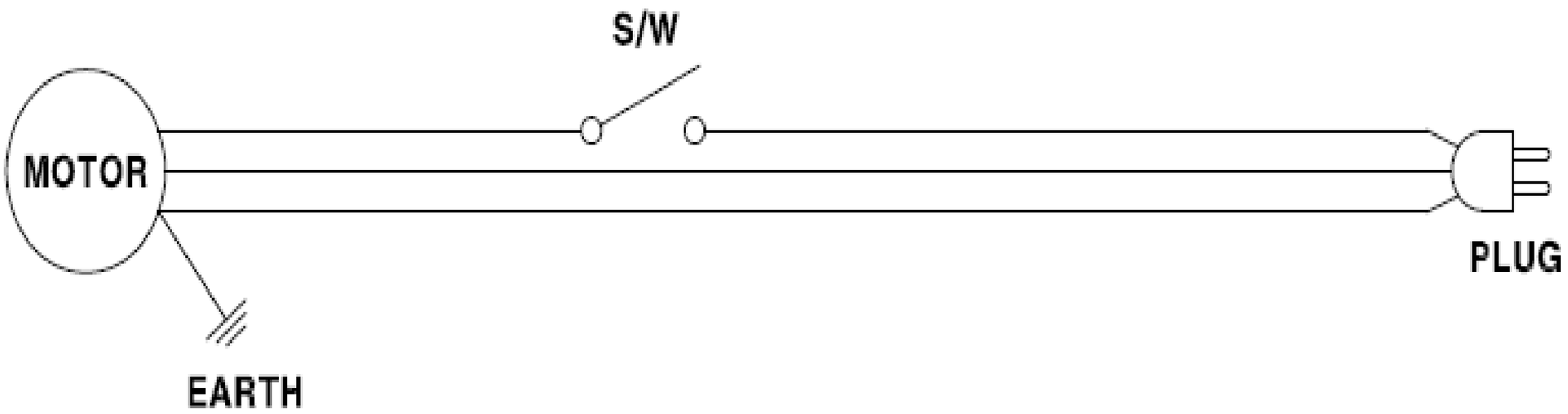
Ground plan



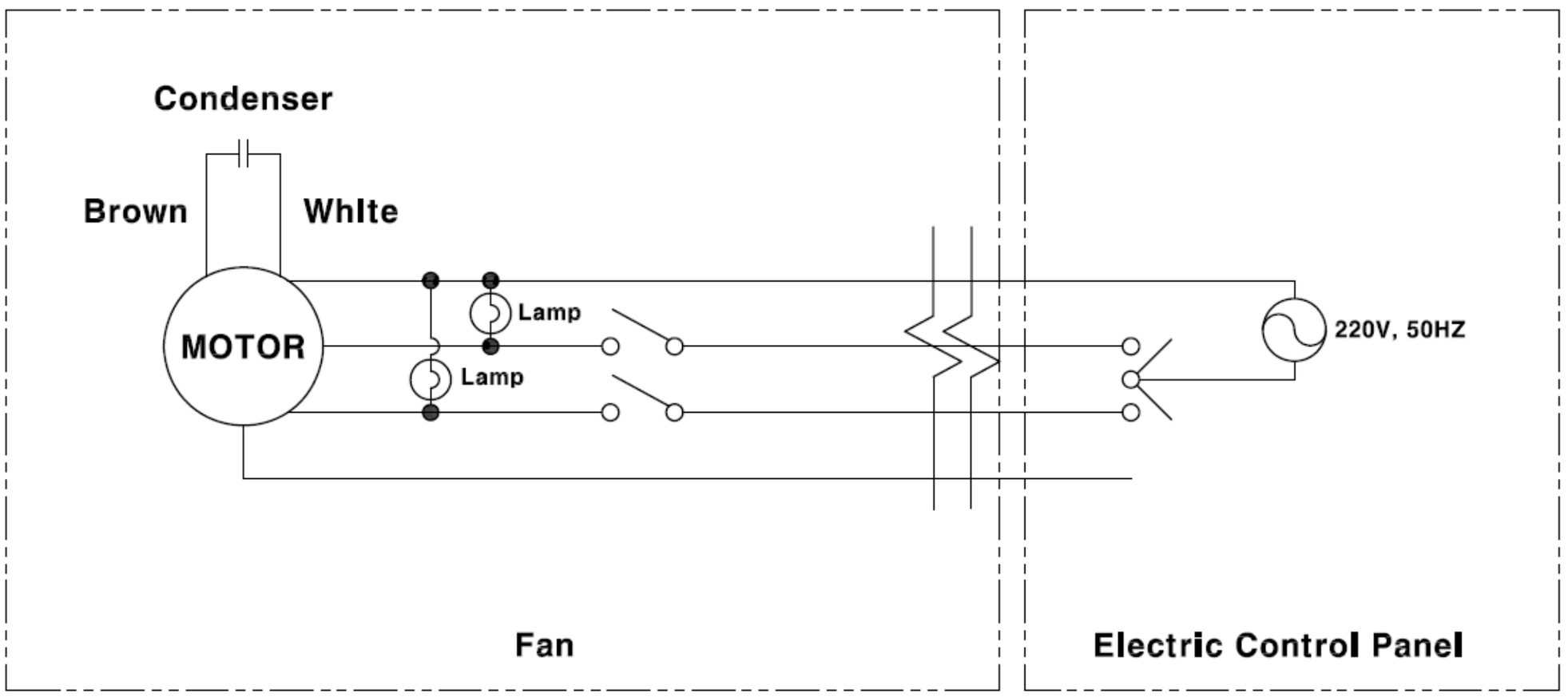
Ductless Ventilation Fan

LONG FAN WIRE DIAGRAM

- AC MOTOR



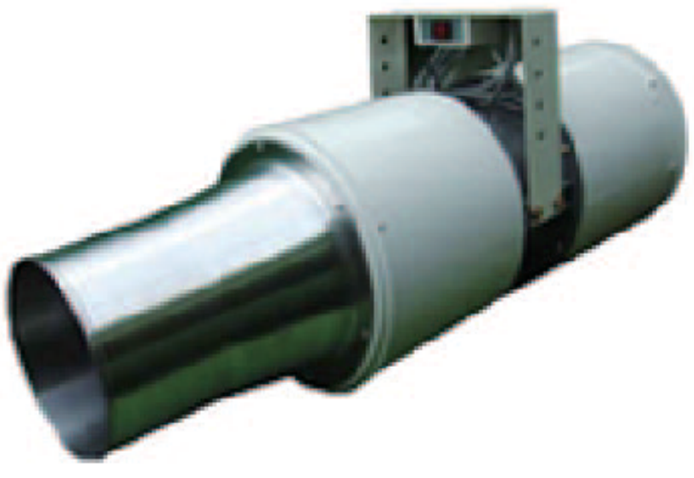
- 2- SPEED MOTOR



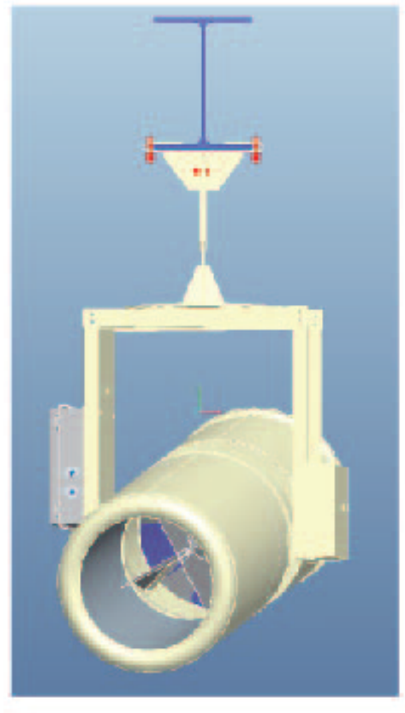
Ductless Ventilation Fan

Single Fan® & Giant Jet Fan

The simple design, easy control and various functions are the basic elements of ventilation system in the intelligent building. The Single Fan System which has a step developed from the technology accumulated by econozzle is ventilation system the low noise fan and econozzle were unified and which was specially designed and manufactured so that it may be suitable for air conditioning at large premise and ventilation of an underground parking lot.

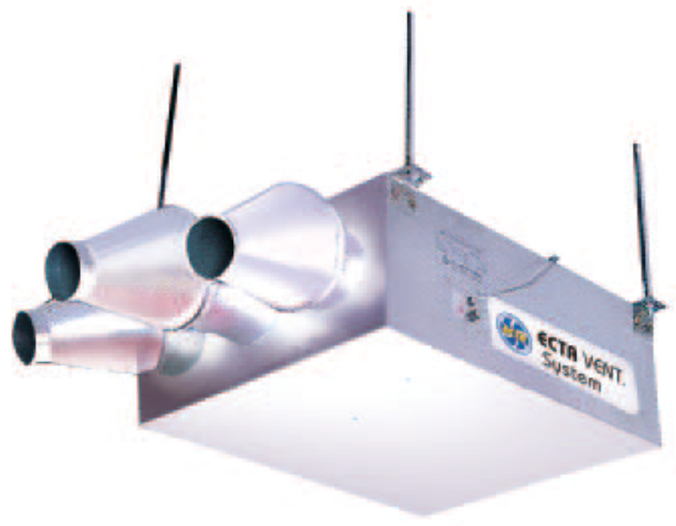


Single Jet Fan



Jet Fan Installation

Giant Jet Fan



Multi Jet Fan

Feature

- System without ducts required
- High efficiency ventilation resulted from mixed air stream
- Ease installation and Maintenance
- Energy saving effect by 70% compared to the former system
- Low noise

Application

- U/G parking lot
- Gymnasium
- U/G space & factory of various types
- H/V UNIT

Patent

- Applied for Korean patent No. 72880
- Japanese patent No. 3007888
- American patent No. 03.200.318
- Chinese patent No. 1222618A

Single Fan®

Selection Data

Model	Air volume (CMH)(50Hz)	Static Pressure (mmAq)	Power Source (V/Ph/Hz)	Power Consumption (W)	Size (mm) (LxDxH)	Weight (Kg)	Sound dB(A) @ 1m	RPM
SO 200AN	1,500	2.1	220/1/50	122	985x280x395	14	53	2,800
SO 200BN	1,500	2.1	220/1/50	122	985x280x395	14	53	2,800
SO 200AN-2S	1500 (High) / 1200 (Low)	2.1 (High) / 1.4 (Low)	220/1/50	122 (High) / 65 (Low)	985x280x395	14	53 (High) / 52 (Low)	2922 (High) / 2338 (Low)
SO 240AN	2,160	2.1	220/1/50	126	1,215x305x700	22	64	2,925
SO 240BN	2160	2.1	220/1/50	126	1,215x305x700	22	64	2925
SO 240AN-2S	2,160 (High) / 1,772 (Low)	2.1 (High) / 1.4 (Low)	220/1/50	126 (High) / 70 (Low)	1,215x305x700	22	64 (High) / 62 (Low)	2,925 (High) / 2,400 (Low)
SO 300AN	2,700	2.1	220/1/50	240	1,052x436x660	29	58	1,288
SO 300BN	2700	2.1	220/1/50	240	1,052x436x660	29	58	
SO 300AN-2S	2,700 (High) / 1,652 (Low)	2.1 (High) / 0.8 (Low)	220/1/50	240 (High) / 55 (Low)	1,052x436x660	29	58 (High) / 57 (Low)	1,288 (High) / 788 (Low)
SO 330AN	3,000	2.1	220/1/50	252	1,450x407x780	33	59	1,352
SO 330BN	3000	2.1	220/1/50	252	1,450x407x780	33	59	
SO 330AN-2S	2,500 (High) / 1,800 (Low)	1.7 (High) / 0.9 (Low)	220/1/50	138 (High) / 51 (Low)	1,450x407x780	33	61 (High) / 57 (Low)	1,390 (High) / 1,000 (Low)
S2W 200	1,500	1.7	220/1/50	157	1,090x410x280	20	60	2,770
S3W 200	1,500	1.8	220/1/50	158	1,105x525x280	20	60	2,720
S4W 150	1,133	7.8	220/1/50	340	1,180x640x310	35	60	2,720

Ordering Information

0) Basic Model No. : Select by Air Flow Rate
SO 200 : 1,500 CMH
SO 240 : 2,160 CMH

1) 1st Additional No. : Select by Motor Type
A : A/C Motor
B : BLDC Motor

2) 2nd Additional No. : Select by Motor Insulation Class
H : High Temp Motor
(Motor Insulation ClasH)
N : Normal Motor
(Motor Insulation Clas B)

Example of Final Model No. : SO **200AH,** SO **200**AN, SO 200**BH, SO** 200**BN**

Single Fan®

Material Specification

Model	Casing Material	Fan Material (Impeller)	Nozzle	Motor Type	Motor Insulation	Finish Color
SO 200AN	SCP + Coating	Aluminum	SCP+Coating	AC	Class B	White
SO 200BN	SCP + Coating	Aluminum	SCP+Coating	BC	Class B	White
SO 200AN-2S	SCP + Coating	Aluminum	SCP+Coating	AC	Class B	White
SO 240AN	SCP + Coating	Aluminum	SCP+Coating	AC	Class B	White
SO 240BN	SCP + Coating	Aluminum	SCP+Coating	BC	Class B	White
SO 240AN-2S	SCP + Coating	Aluminum	SCP+Coating	AC	Class B	White
SO 300AN	SCP + Coating	Aluminum	SCP+Coating	AC	Class B	White
SO 300BN	SCP + Coating	Aluminum	SCP+Coating	BC	Class B	White
SO 300AN-2S	SCP + Coating	Aluminum	SCP+Coating	AC	Class B	White
SO 330AN	SCP + Coating	Aluminum	SCP+Coating	AC	Class B	White
SO 330BN	SCP + Coating	Aluminum	SCP+Coating	BC	Class B	White
SO 330AN-2S	SCP + Coating	Aluminum	SCP+Coating	AC	Class B	White
S2W 200	SCP + Coating	Aluminum	SCP+Coating (2-way Nozzle)	AC	Class B	White
S3W 200	SCP + Coating	Aluminum	SCP+Coating (3-way Nozzle)	AC	Class B	White
S4W 150	SCP + Coating	Aluminum	SCP+Coating (4-way Nozzle)	AC	Class B	White

🕐 SCP :Steel Cold rolled Plate

Ordering Information

0) Basic Model No. : Select by Air Flow Rate

SO 200 : 1,500 CMH
SO 240 : 2,160 CMH

1) 1st Additional No. : Select by Motor Type

A : A/C Motor
B : BLDC Motor

2) 2nd Additional No. : Select by Motor Insulation Class

H : High Temp Motor
(Motor Insulation ClasH)
N : Normal Motor
(Motor Insulation Clas B)

Example of Final Model No. : SO **200AH,** SO **200**AN, SO 200**BH, SO** 200**BN**

Single Fan®

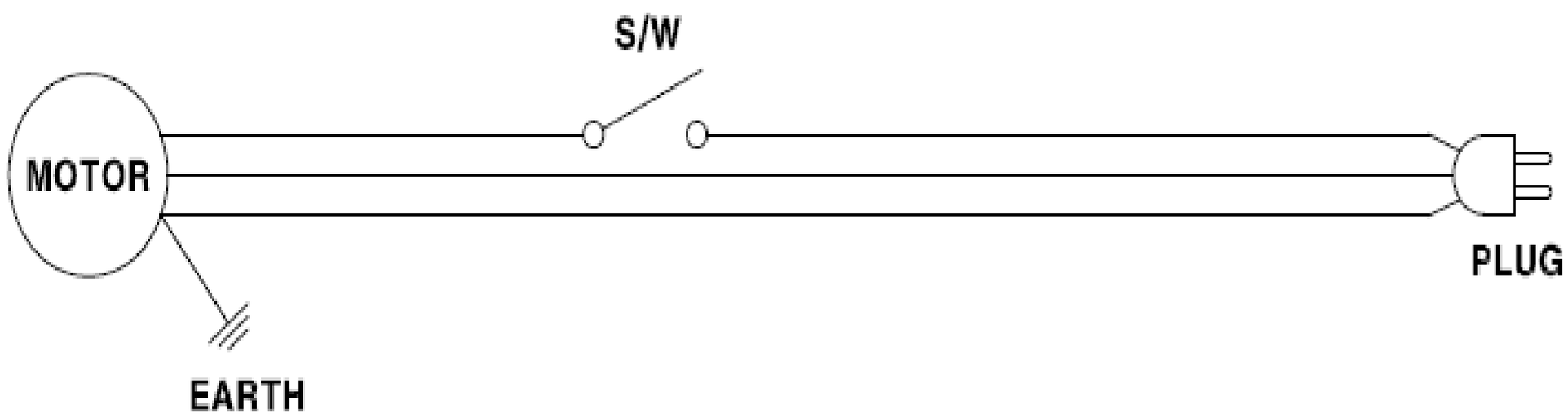
Sound Power Data

Sound powerlevel, A-weighted / Model	Sound dB(A) @ 1m	Octave frequency bands (Hz)							
		63	125	250	500	1000	2000	4000	8000
SO 200AN	53	44	45	46	46	46	44	40	39
SO 200BN	53	44	45	46	46	46	44	40	39
SO 200AN-2S	53 (High) / 52 (Low)	43	44	45	45	45	43	39	38
SO 240AN	64	55	56	57	57	57	55	51	50
SO 240BN	64	55	56	57	57	57	55	51	50
SO 240AN-2S	64 (High) / 62 (Low)	53	54	55	55	55	53	49	48
SO 300AN	58	50	51	52	52	52	50	46	45
SO 300BN	58	50	51	52	52	52	50	46	45
SO 300AN-2S	58 (High) / 57 (Low)	48	49	50	50	50	48	44	43
SO 330AN	59	50	51	52	52	52	50	46	45
SO 330BN	59	50	51	52	52	52	50	46	45
SO 330AN-2S	61 (High) / 57 (Low)	48	49	50	50	50	48	44	43
S2W 200	60	51	52	53	53	53	51	47	46
S3W 200	60	51	52	53	53	53	51	47	46
S4W 150	60	52	53	54	54	54	52	48	47

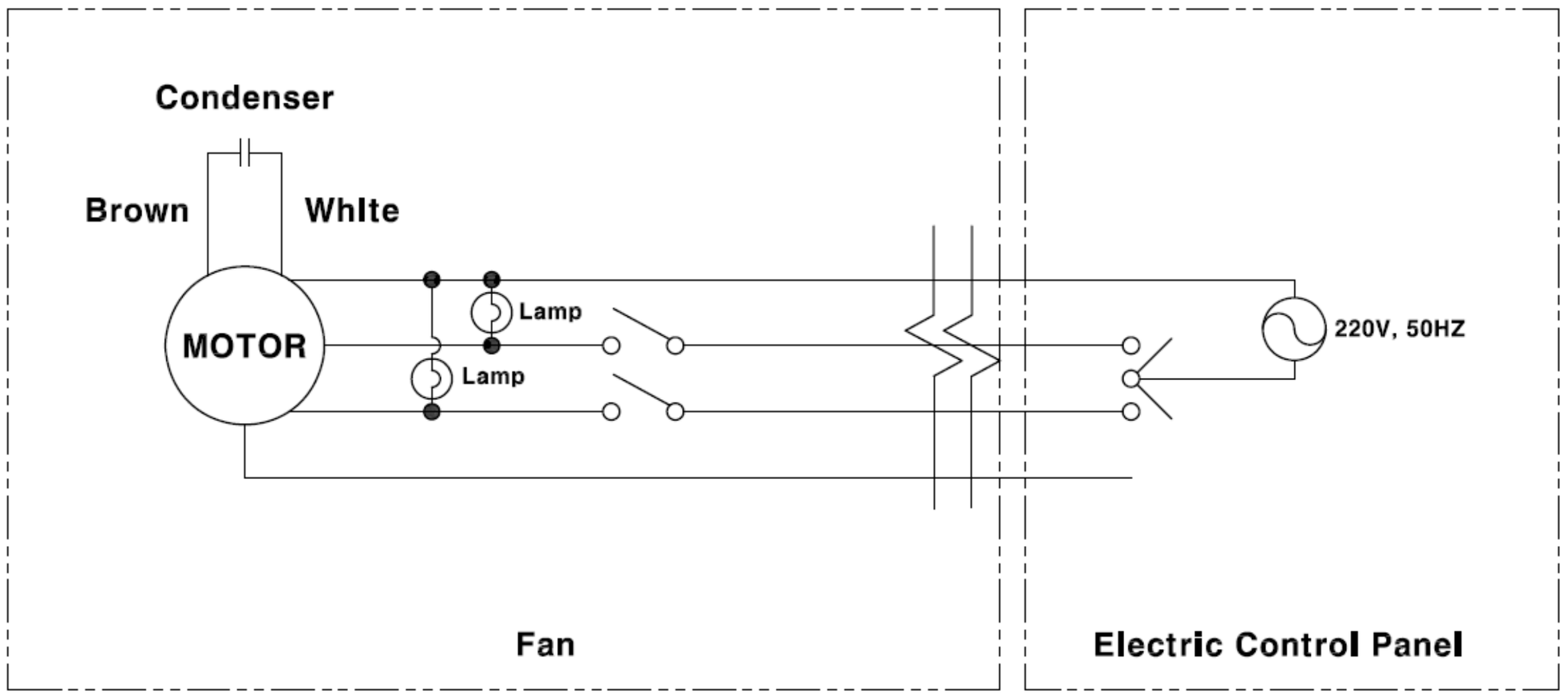
Ductless Ventilation Fan

SINGLE FAN WIRE DIAGRAM

- AC MOTOR

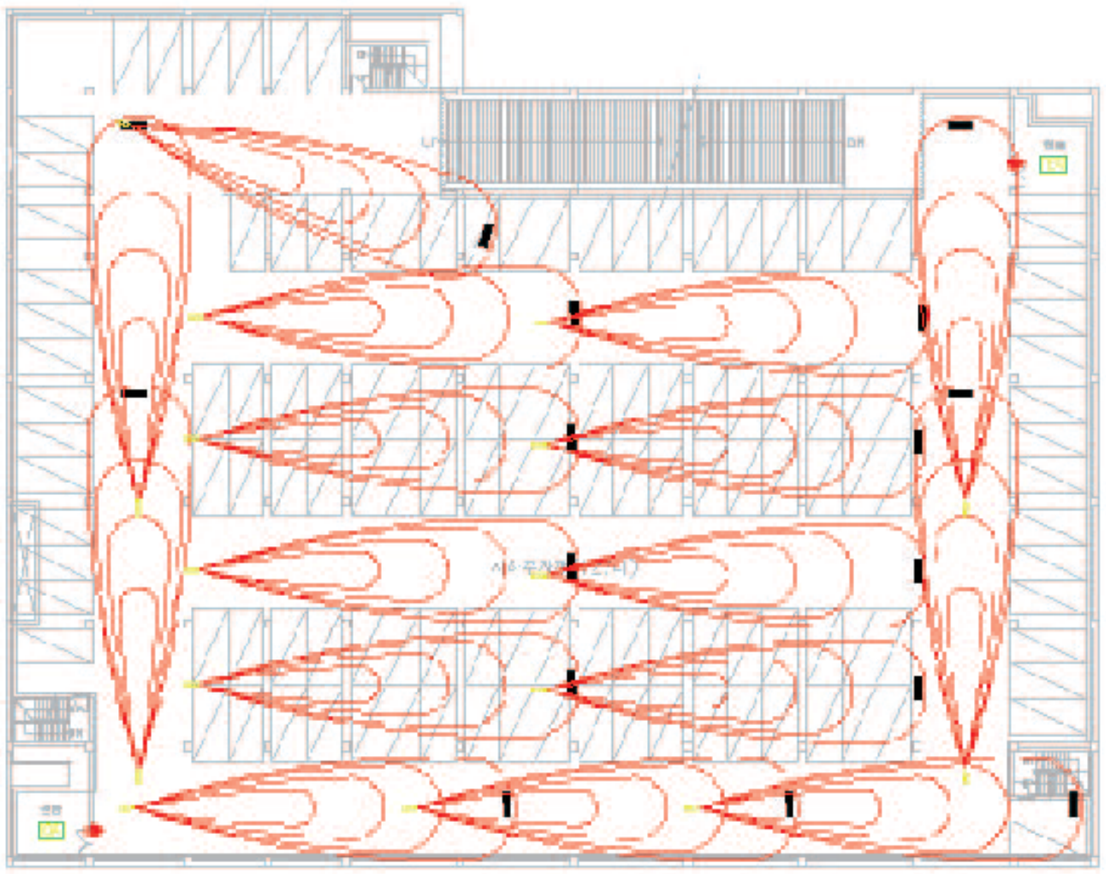


- 2- SPEED MOTOR



Single Fan®

System Design (Example)



지하1층 환풍설비 평면도

Outline

- Area : 3,350㎡
- Height : 3.4m
- Volume : 11,390㎥
- Purpose : underground packing lot of apartment

Design

- Supply air volume : 36,313㎥/h
- Induction air volume : 1,152,000㎥/h

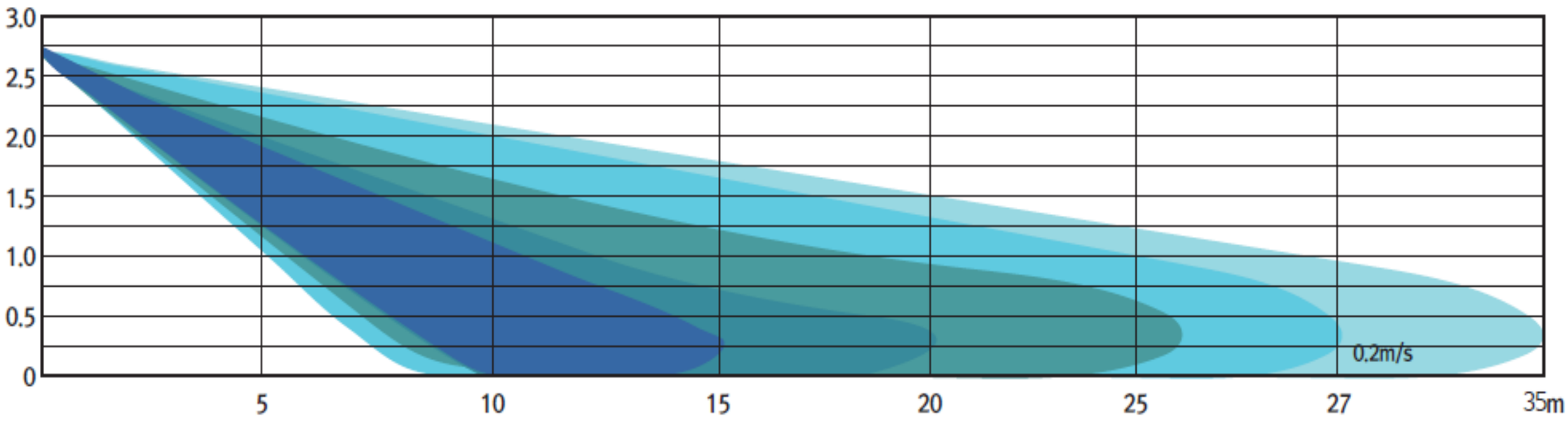
Single Fan selection

SO 200A x 16 SET

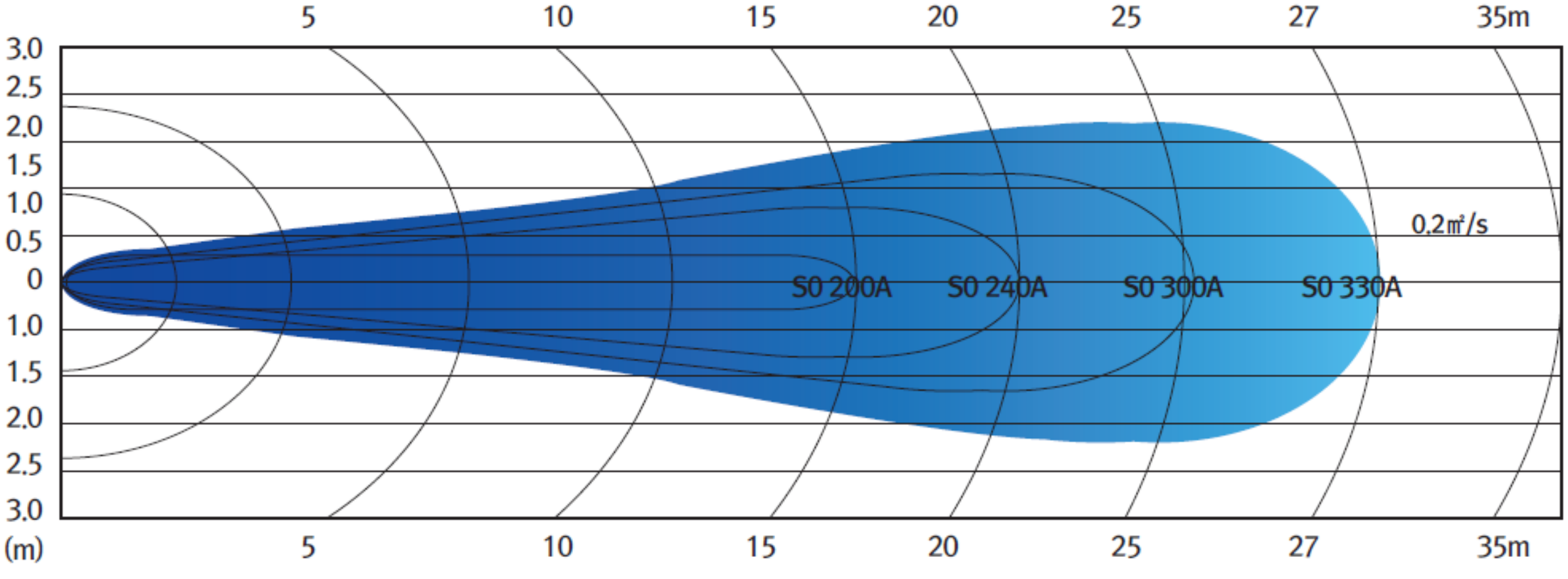
Single Fan®

Wind velocity distribution chart

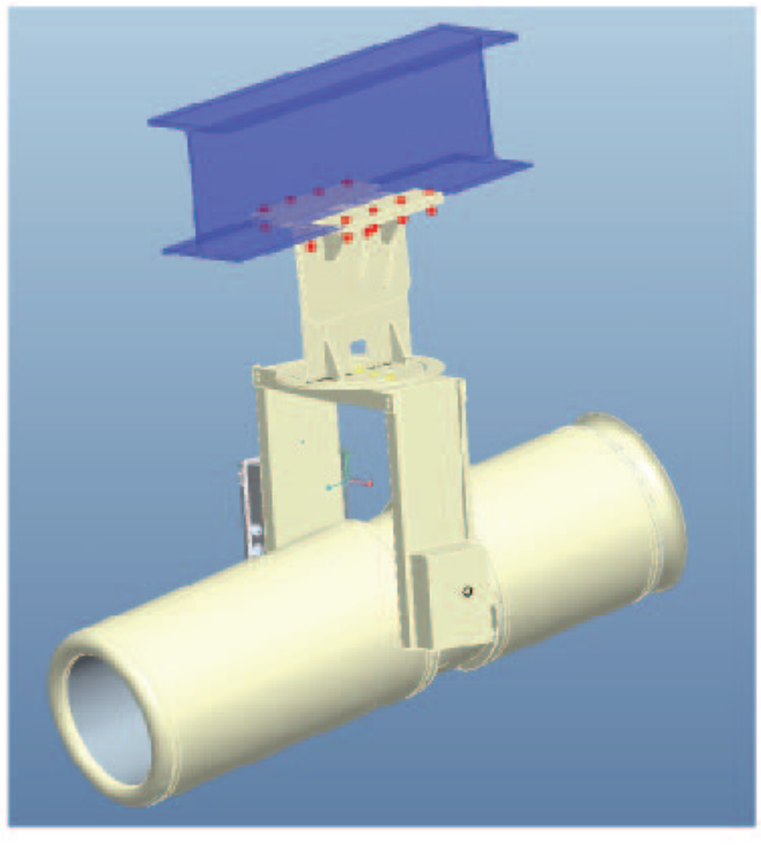
Ground plan



Side View



Giant Jet Fan Spec(Single Fan)



GIANT JET FAN SPEC (SINGLE FAN)

Model	Air volume (CMH)(50Hz)	Static Pressure (mmAq)	Power Source (V/Ph/Hz)	Power Consumption (W)	Size (mm) (LxDxH)	Weight (Kg)	Sound dB(A) @ 1m	RPM
GJET 350-M	3,300	5	220/1/50	185	1450x455x780	36	54	4 Pole
GJET 450-M	4,300	5	220/1/50	245	1565x504x859	43	55	4 Pole
GJET 680-M	6,800	5	220/1/50	380	1810x640x900	60	65	4 Pole
GJET 1000-M	10,000	7~15	380/3/50	1,560	2200x1030x1400	216	70	4 Pole
GJET 1500-M	15,000	7~15	380/3/50	1,840	2200x1030x1400	216	70	4 Pole
GJET 2000-M	20,000	7~15	380/3/50	2,400	2500x1030x1500	230	72	4 Pole
GJET 2500-M	25,000	7~15	380/3/50	2,750	2500x1030x1500	230	72	4 Pole

Giant Jet Fan Spec(Single Fan)

Material Specification

Model	Casing Material	Fan Material (Impeller)	Nozzle	Motor Type	Motor Insulation	Finish Color
GJET 350-M	SCP+Coating	Aluminum	SCP+Coating	AC Motor	B or H grade	White
GJET 450-M	SCP+Coating	Aluminum	SCP+Coating	AC Motor	B or H grade	White
GJET 680-M	SCP+Coating	Aluminum	SCP+Coating	AC Motor	B or H grade	White
GJET 1000-M	SCP+Coating	Aluminum	SCP+Coating	AC Motor	B or H grade	White
GJET 1500-M	SCP+Coating	Aluminum	SCP+Coating	AC Motor	B or H grade	White
GJET 2000-M	SCP+Coating	Aluminum	SCP+Coating	AC Motor	B or H grade	White
GJET 2500-M	SCP+Coating	Aluminum	SCP+Coating	AC Motor	B or H grade	White

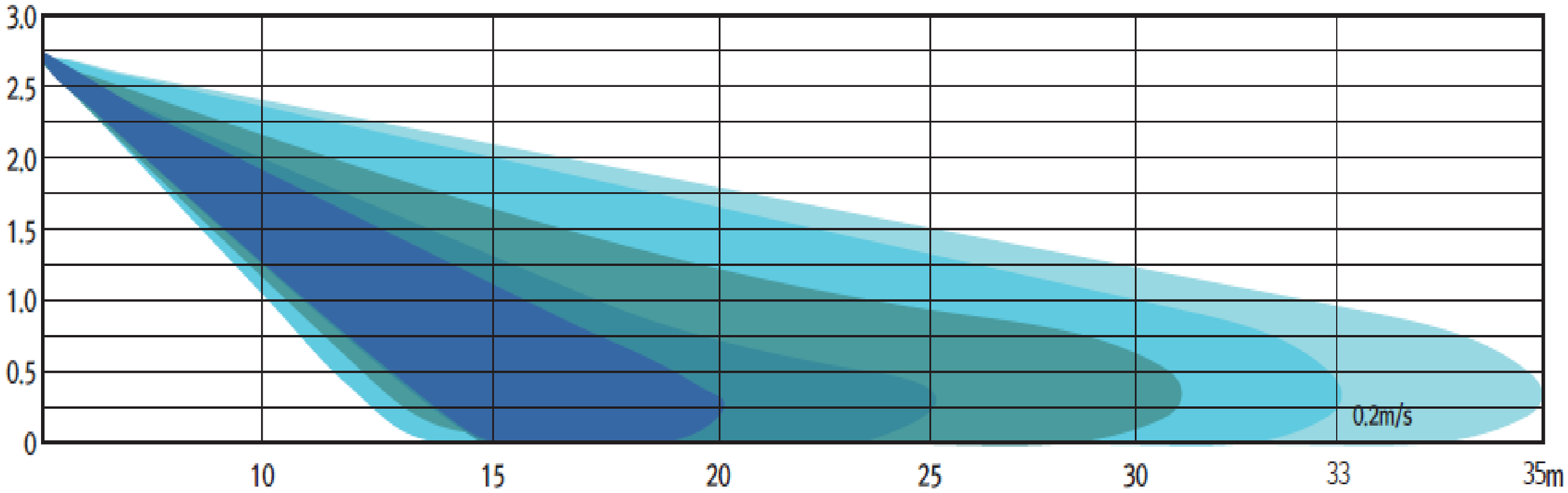
Sound Power Data

Sound power level, A-weighted / Model	Sound dB(A) @ 1m	Octave frequency bands (Hz)							
		63	125	250	500	1000	2000	4000	8000
GJET 350-M	54	45	46	47	47	47	45	41	40
GJET 450-M	55	46	47	48	48	48	46	42	41
GJET 680-M	65	56	57	58	58	58	56	52	51
GJET 1000-M	70	62	63	64	64	64	62	58	57
GJET 1500-M	70	61	62	63	63	63	61	57	56
GJET 2000-M	72	64	65	66	66	66	64	60	59
GJET 2500-M	72	63	64	65	65	65	63	59	58

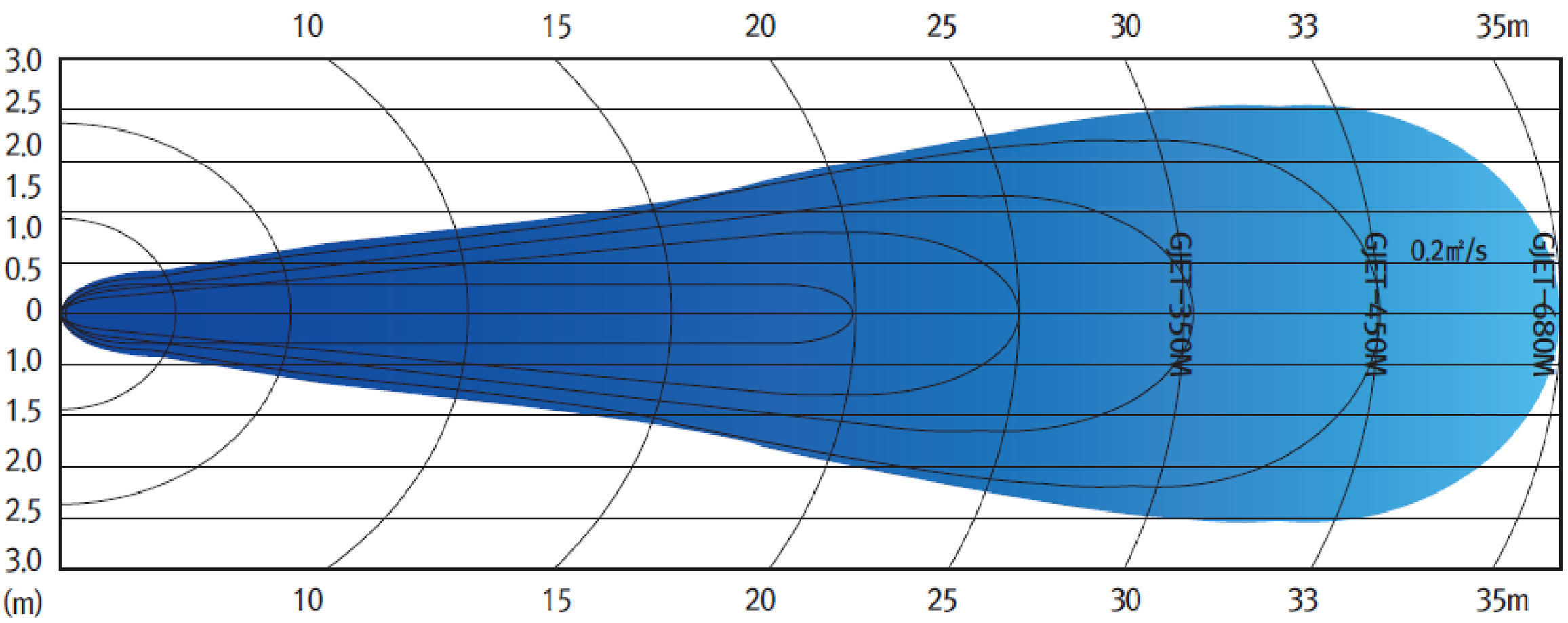
Giant Jet Fan Spec(Single Fan)

Wind velocity distribution chart

Side View



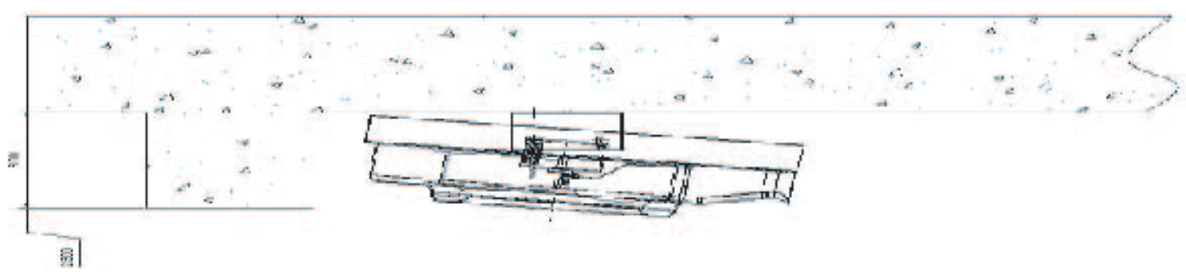
Ground plan

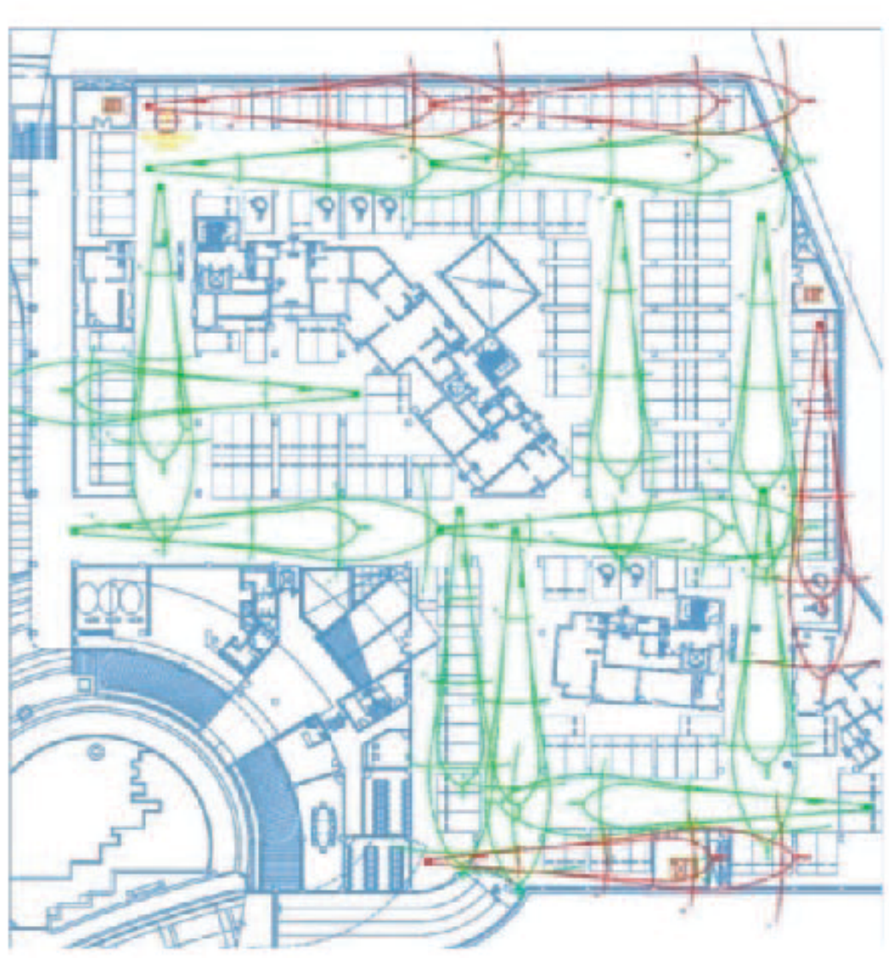


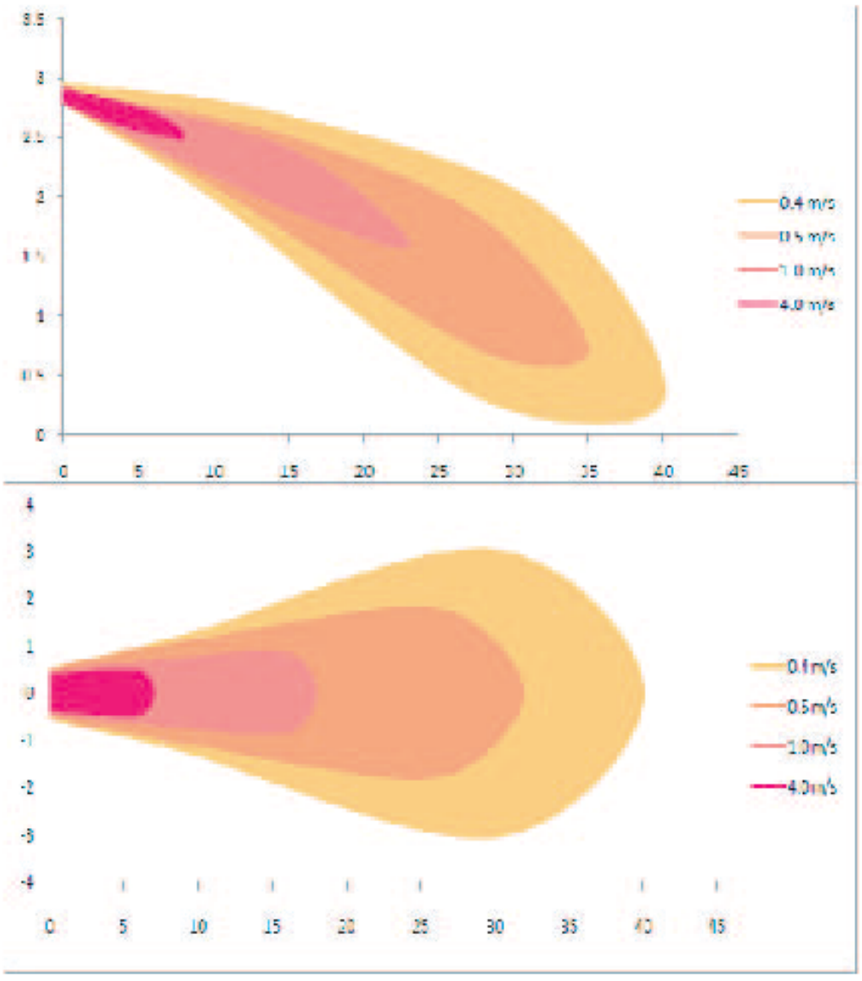
CEN VEN JET FAN SYSTEM

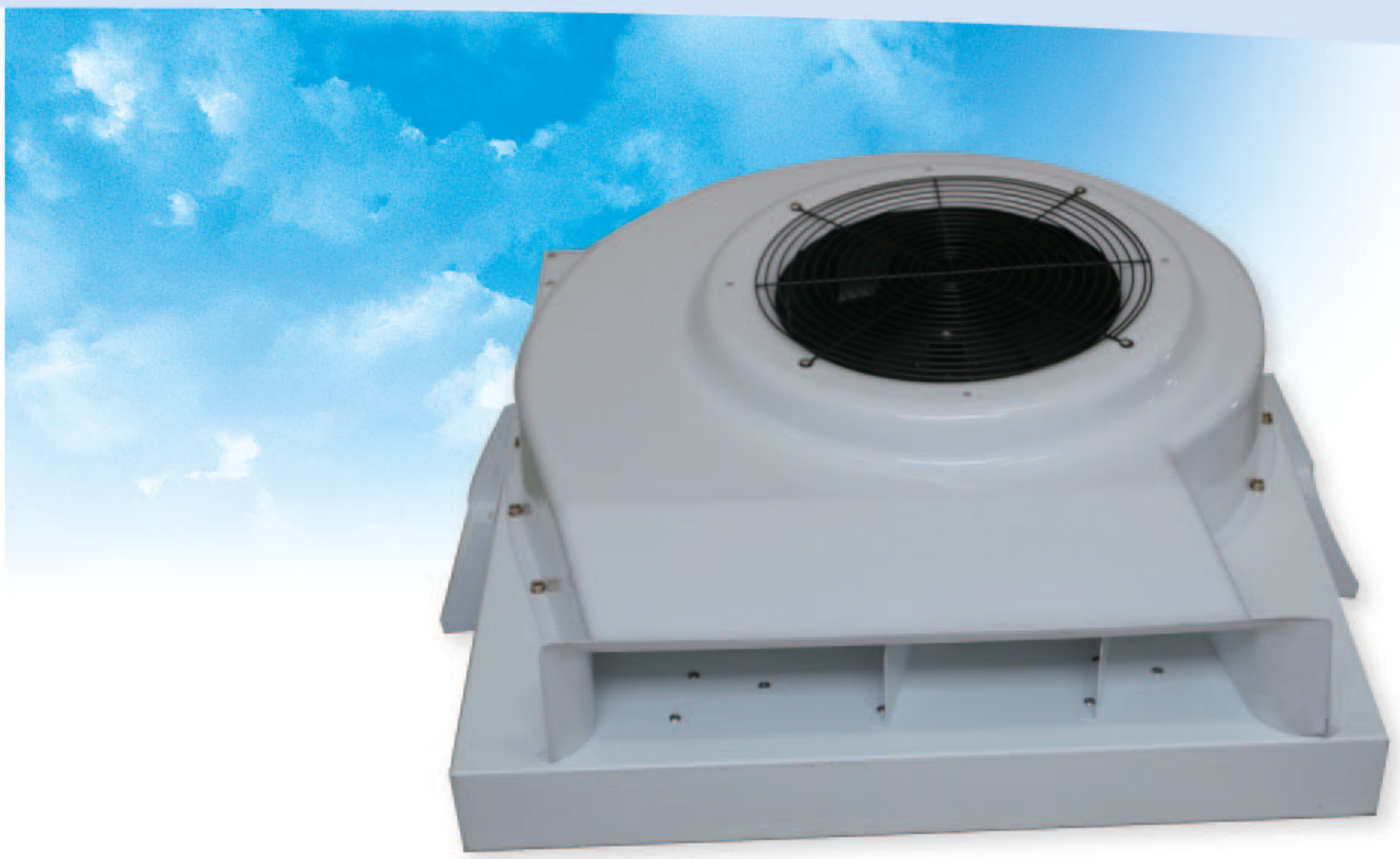
CEN VEN JET FAN

- Applying a high-power Low-noise EC Moter structure.
- High static pressure, apply additional protection through the condensation temperature and humidity control.
- Energy Savings, cost savings.

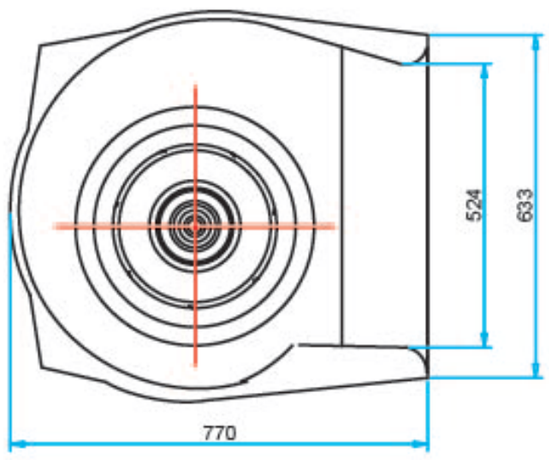




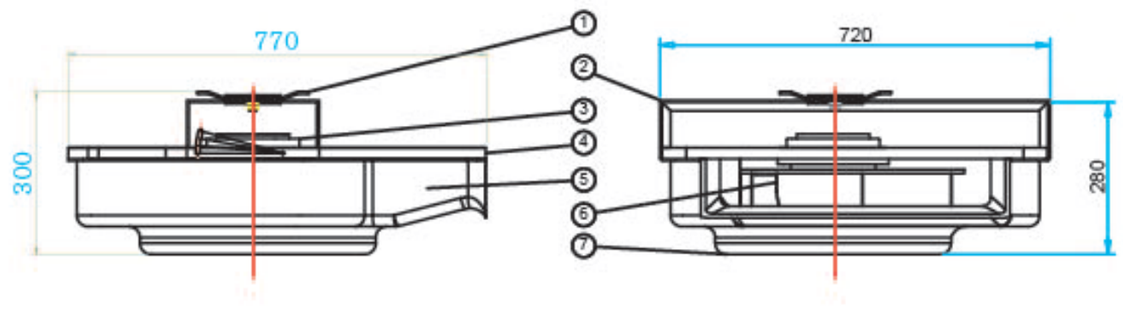




DIMENSION



TOP VIEW



FRONT VIEW

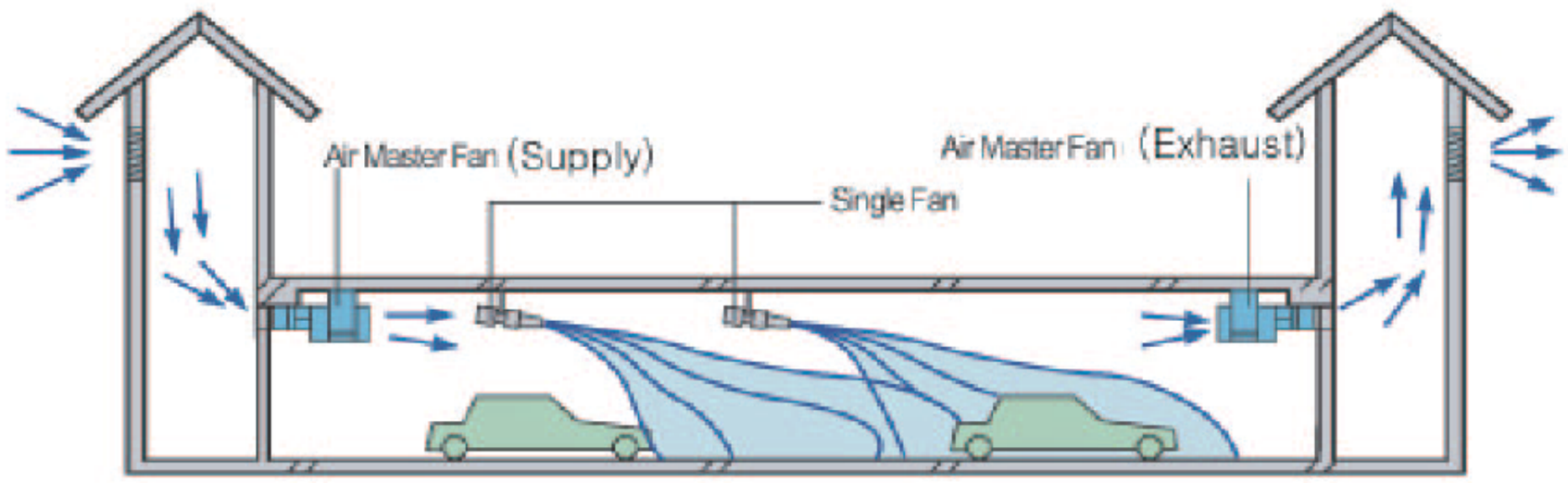
CEN VEN JET FAN SPECATION

Model	Air voiume (CMH)	Static pressure (mmAq)	Power source (Volt/Ph/Hz)	Power Consumption (W)	size (L×W×H)	Weight (Kg)	Sound (dB)	OPTION
CEN VEN-15A	1,560	20	220/1/50	480	770×780×195	25 Kg	52	Left and right adjustment / Temperature & Humidity Sensor
CEN VEN-16A	1,960	20	220/1/50	560	770×780×195	30 Kg	56	Left and right adjustment / Temperature & Humidity Sensor
CEN VEN-17A	3,000	20	220/1/50	840	770×780×195	40 Kg	66	Left and right adjustment / Temperature & Humidity Sensor
CEN VEN-18A	3,540	20	220/1/50	990	990×1080×230	45 Kg	70	Left and right adjustment / Temperature & Humidity Sensor

Ductless Ventilation Fan

Fanroomless Fan®

Fanroomless Fan System Concept

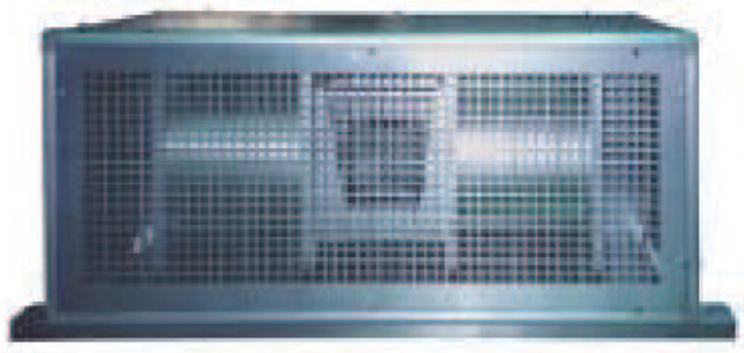


Feature

- Minimization of restriction for place to be mounted due to easy installation at the existed floor height.
- Achievement of effective supply/exhaust air by appropriate Displacement of fans according to jobsite condition in case of complicated building structure
- Simple to meet a numbers of parking legally required
- Low cost with easiness for installation and execution on site
- No fan room required and maintaining the low noise level

AM-250 (Supply)

AM-250 (Exhaust)



Fanroomless Fan®

Selection Data

Model	Air flow (CMH)	Power (V/Ph/Hz)	Static pressure (mmAq)	Motor Kw(Pole)		Motor Insulation Class		Weight (kg)		Spring Isolator (Kg*Q'ty)	
				Supply	Exhaust	Supply	Exhaust	Supply	Exhaust	Supply	Exhaust
AM -80	4,100 (5,000)	380/3/50	15	0.75(4)	0.75(8)	B	H	88	88	50*4	50*4
AM -125	6,200 (7,500)	380/3/50	15	1.5(4)	1.5(8)	B	H	95	95	50*4	50*4
AM -165	8,300 (10,000)	380/3/50	15	1.5(4)	1.5(8)	B	H	165	165	100*4	100*4
AM -250	12,500 (15,000)	380/3/50	15	2.2(4)	2.2(8)	B	H	190	190	100*4	100*4
AM -330	16,600 (20,000)	380/3/50	15	3.7(4)	3.7(8)	B	H	215	215	100*4	100*4
AM -415	20,830 (25,000)	380/3/50	15	5.5(4)	5.5(8)	B	H	230	340	100*4	150*4
AM -500	25,000 (30,000)	380/3/50	15	5.5(4)	5.5(8)	B	H	340	470	150*4	200*4
AM -580	29,050 (35,000)	380/3/50	15	7.5(4)	7.5(8)	B	H	340	470	150*4	200*4
AM -670	33,200 (40,000)	380/3/50	15	7.5(4)	7.5(8)	B	H	530	470	200*4	200*4
AM -750	37,350 (45,000)	380/3/50	15	7.5(4)	7.5(8)	B	H	530	470	200*4	200*4

* The parenthesis ( ) is an air flow at 60Hz.

Material Specification

Model	Casing	Fan (Impeller)	Driving Method		Size(m/m) (L x W x H)		Finish Color
			Supply	Exhaust	Supply	Exhaust	
AM -80	GI 1.2T	GI 1.0T	Direct	Direct	1,200 x 500 x 500	1,200 x 500 x 500	Silver
AM -125	GI 1.2T	GI 1.0T	Direct	Direct	1,200 x 550 x 550	1,200 x 550 x 550	Silver
AM -165	GI 1.2T	GI 1.0T	Direct	Direct	1,300 x 650 x 600	1,300 x 650 x 600	Silver
AM -250	GI 1.2T	GI 1.0T	Direct	Direct	1,400 x 750 x 650	1,400 x 750 x 650	Silver
AM -330	GI 1.2T	GI 1.0T	Direct	Direct	1,600 x 850 x 800	1,600 x 850 x 800	Silver
AM -415	GI 1.2T	GI 1.0T	Belt	Direct	1,900 x 900 x 850	1,900 x 1,060 x 850	Silver
AM -500	GI 1.2T	GI 1.0T	Belt	Direct	1,900 x 900 x 850	2,230x1,000x1,050	Silver
AM -580	GI 1.2T	GI 1.0T	Belt	Direct	1,900 x 1,060 x 850	2,230x1,000x1,050	Silver
AM -670	GI 1.2T	GI 1.0T	Belt	Direct	2,230 x 1,370 x 1,050	2,230x1,000x1,050	Silver
AM -750	GI 1.2T	GI 1.0T	Belt	Direct	2,230 x 1,370 x 1,050	2,230x1,000x1,050	Silver

*

MIXED FLOW FAN INLINE TYPE

㈜엑타는 건축 및 주택 냉난방 및 플랜트 건설 분야를 포함한 다양한 프로젝트를 담당하고 있다.
우리는 뛰어난 능력 과 각 프로젝트에서 얻은 다양한 경험을 가진 최고의 기술자들을 보유하고 있다.
건설 회사에서 요구하는 새로운 제품과 기술을 위한 연구 개발에 지속적인 투자를 한다.

ECTA Co., Ltd. is in charge of various projects including housing building and plant construction during in years past of working in the field of HVAC
We hold the best engineers who have high ability and various experiences in each proj ect. We are doing continuous investment on R&D for new technology and product, ac cording to the needs of various construction enterprises.

날개형상 (Impeller Shape)

- 원심형과 축류형 흐름을 통합한 날개구조로 주판이 약 45~55도의 경사면을 형성하고 있다.
- 유체가 45방향으로 유입후 보스면을 따라 유동한다.
- 날개수량은 9이며 폭이 넓다.
- 날개의 각은 5단계로 변경할 수 있는 구조를 갖추고 있다.
- 금형으로 제작하여 볼트 체결형 구조이며, 가벼워서 기동부하가 적다.

- Impeller forms a combination of centrifugal type flow and axial type flow, and the main plate forms about a sloping side of 45 to 55 degrees.
- Air flow circulates along boss side after inflow from a 45 degrees direction.
- The number of blades is nine and wide.
- The angle of blades is the variable structure of a five stage.
- Impeller is the structure of bolt joints, made of a die, and operational load is low because of light weight.

제품특징 (Product Features)

- 흡입구과 토출측 Guide van의 유체역학적 해석구조로 저소음이다.
- 사각 덕트 연결이 용이 하고 설치 공간이 동일 용량이 적다.
- 풍량 변동에 의한 정압의 변화는 작으며, 동력의 변화 폭도 적다.
- 가변익 날개로서 풍량 조정이 가능하며 경제적 운전이 가능하다.
- 흡입재를 통한 2차 소음감소로 동일용량 중 가장 소음이 적다.

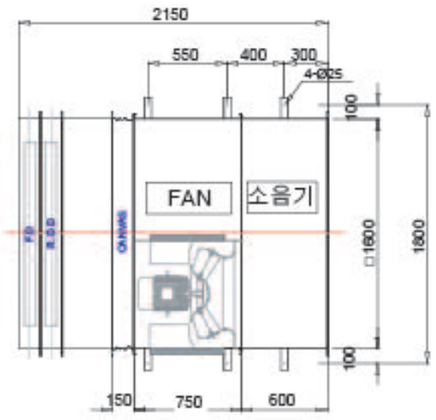
- The guide van of inlet and outlet side of Fluid dynamical and Structural Analysis is low sound.
- The square ducts connect easily, and compared with other equal qualification fans, Installation area is small.
- The change in the pressure by the airflow fluctuation is small, and the change of shaft power is small.
- Impeller adjusts easily air Volume, and economical driving is possible.
- Compared with other equal qualification fans, sound is the most low with a secondary noise reduction through acoustic absorbent.

AMCA Seal 정보 (AMCA Seal Information)

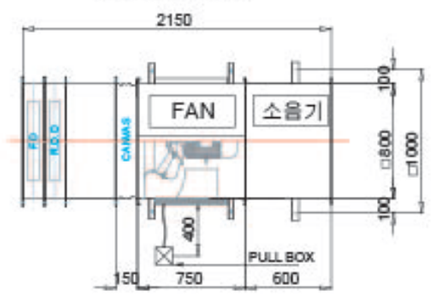
국제 공기 유동 및 제어 협회(AMCA)는 세계 공조 시스템 설비 제조업체의 비영리 협회입니다. 또한, 협회는 산업용, 상업용, 주거용 시장의 팬, 루버, 댐퍼, 에어 커튼, 공기 측정 장소, 음향 감쇠기 등의 다른 공조 시스템 구성요소도 포함합니다.
협회의 목표는 공기 유동 및 제어 산업의 번영과 공공의 이익과 성장을 촉진하는 것입니다. AMCA는 공조산업을 위해 자체 규정을 제시합니다. 팬, 댐퍼, 루버 구매자는 AMCA 국제 인증의 의미를 인식하고 있을 필요가 있습니다.

The Air Movement and Control Association(AMCA) International, Inc. is a not-for-profit international association of the world's manufacturers of related air system equipment-primarily, but not limited to: fans, louvers, dampers, air curtains, airflow measurement stations, acoustic attenuators, and other air system components for the industrial, commercial and residential markets.
The association's mission is to promote the health and growth of the air movement and control industry consistent with the interest of the public. AMCA International is a valuable resource and a strong means of self regulation for our industry. People who buy and specify fans, dampers, and louvers need to be aware of the value of the AMCA International seal.

DIMENSION

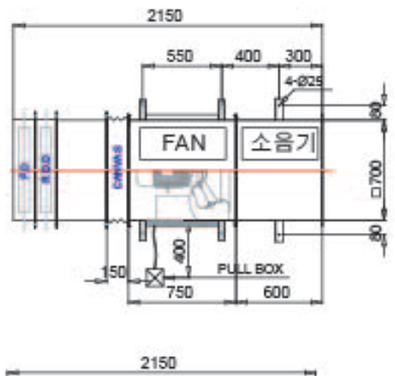


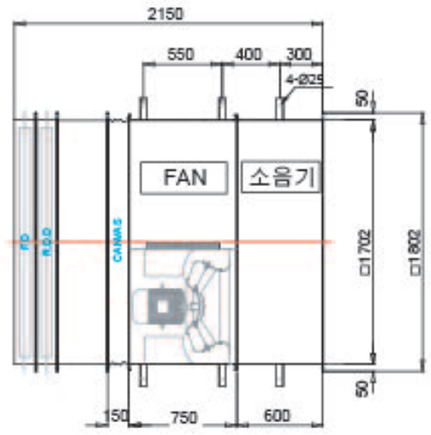
MFB700S



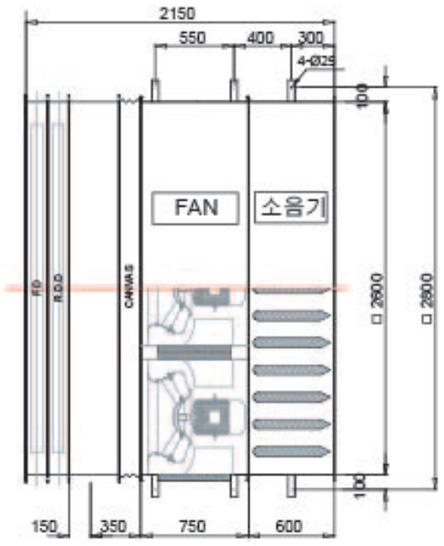
MFB700W

MFB800S





MFB800W



MFB800T

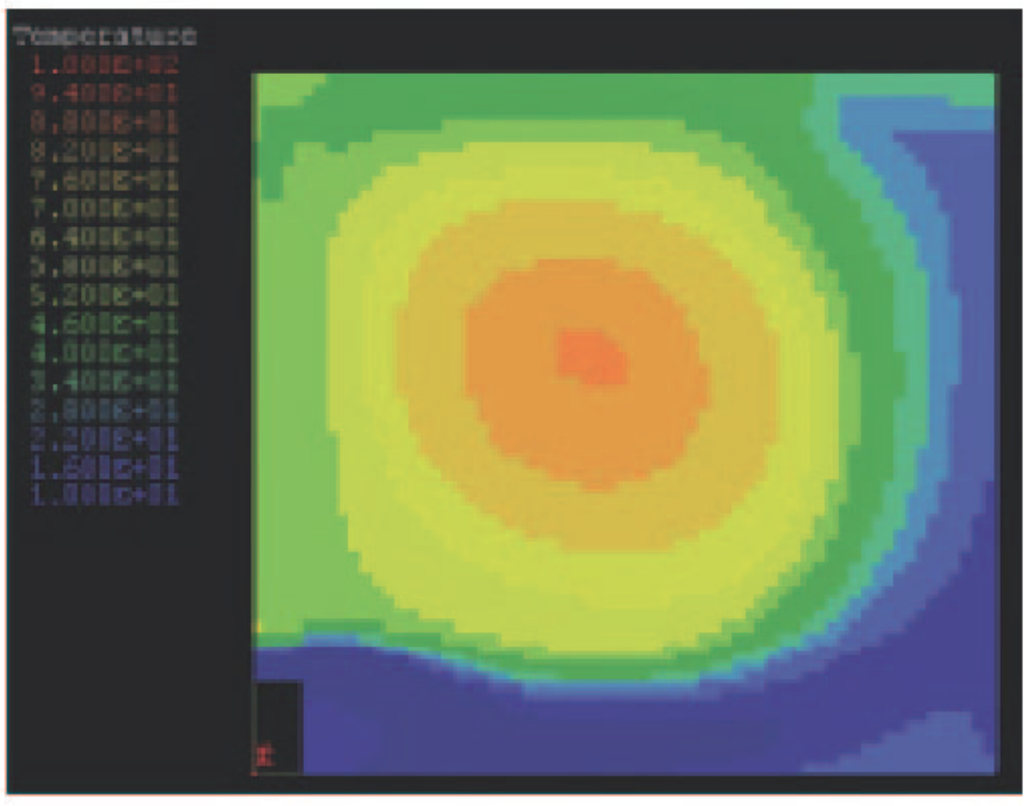
Series No.	A	B	C	D	E	F	G	H	I	J
MFB 700S	700	900	750	600	550	400	300	80	150	6-Φ25
MFB 700W	1,600	1,800	750	600	550	400	300	100	150	6-Φ25
MFB 800S	800	1,000	750	600	550	400	300	100	150	6-Φ25
MFB 800W	1,700	1,800	750	600	550	400	300	100	150	6-Φ25
MFB 800T	2,600	2,800	750	600	550	400	300	100	150	6-Φ25

SELECTION CHART

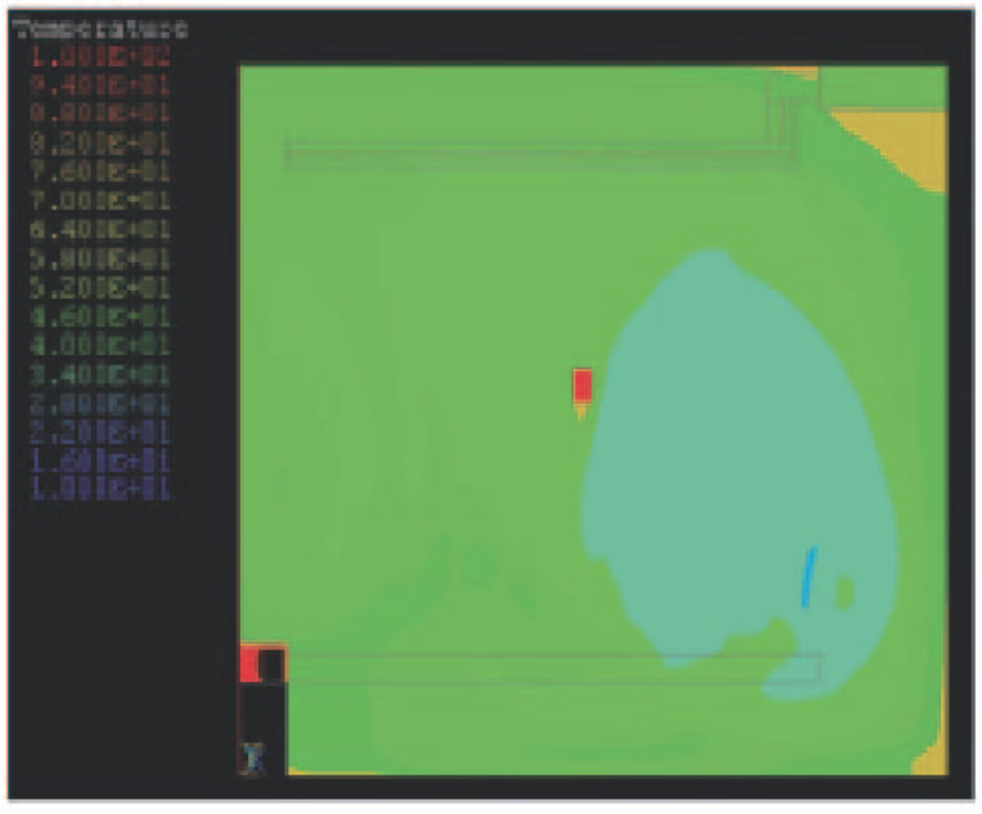
Multi-Wing FAN					Option
Series No.	Air Volume	Pressure	MOTOR	소음	
	CMH	mmAq	HP x Pole	dB(A)	
MFB 700S	12,000	15	3 X 6 X 3	67.5	
MFB 800S	15,000	15	3 X 6 X 3	68.5	
MFB 800S	18,000	15	5 X 6 X 3	68.5	
MFB 700W	21,000	15	4 X 6 X 3	67.5	including silencers
MFB 700W	24,000	15	4 X 6 X 3	67.5	including silencers
MFB 800W	27,000	15	6 X 6 X 3	67.5	including silencers
MFB 800W	30,000	15	6 X 6 X 3	68.5	including silencers
MFB 800W	33,000	15	10 X 6 X 3	67.5	including silencers
MFB 800W	36,000	15	10 X 6 X 3	67.5	including silencers
MFB 800W	39,000	15	10 X 6 X 3	67.5	including silencers
MFB 800T	42,000	15	9 X 6 X 3	69.5	including silencers
MFB 800T	45,000	15	9 X 6 X 3	69.5	including silencers
MFB 800T	48,000	15	9 X 6 X 3	71.5	including silencers
MFB 800T	51,000	15	15 X 6 X 3	71.5	including silencers
MFB 800T	54,000	15	15 X 6 X 3	71.5	including silencers

Computational Fluid Dynamics (CFD)

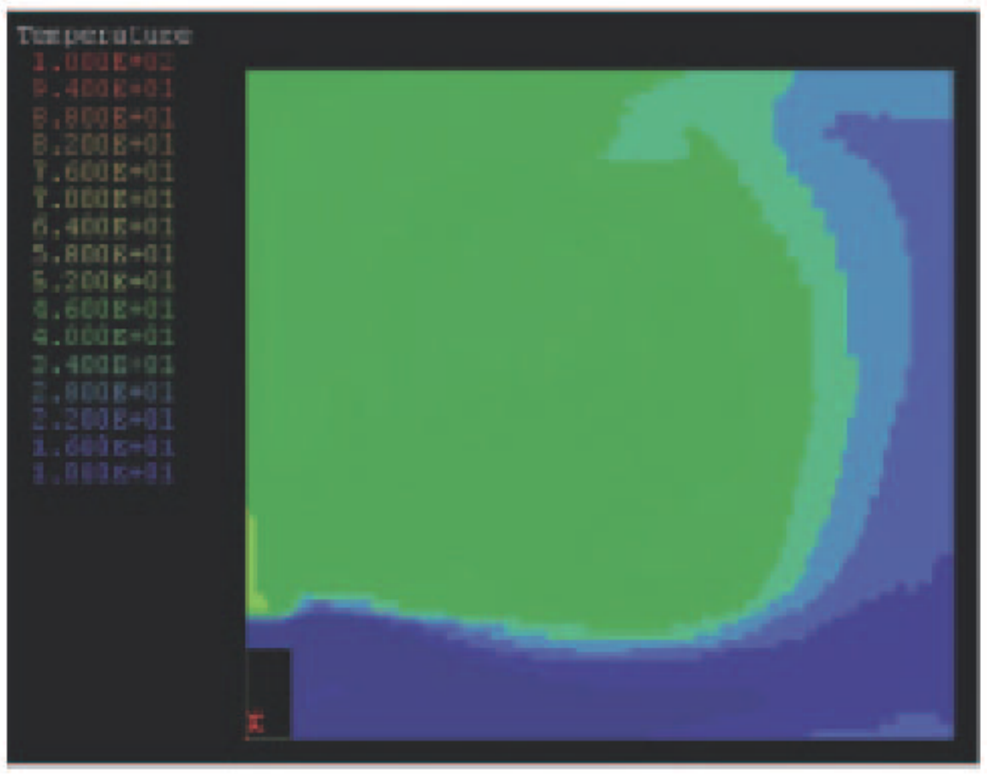
CO density when operating only supply and exhaust fan



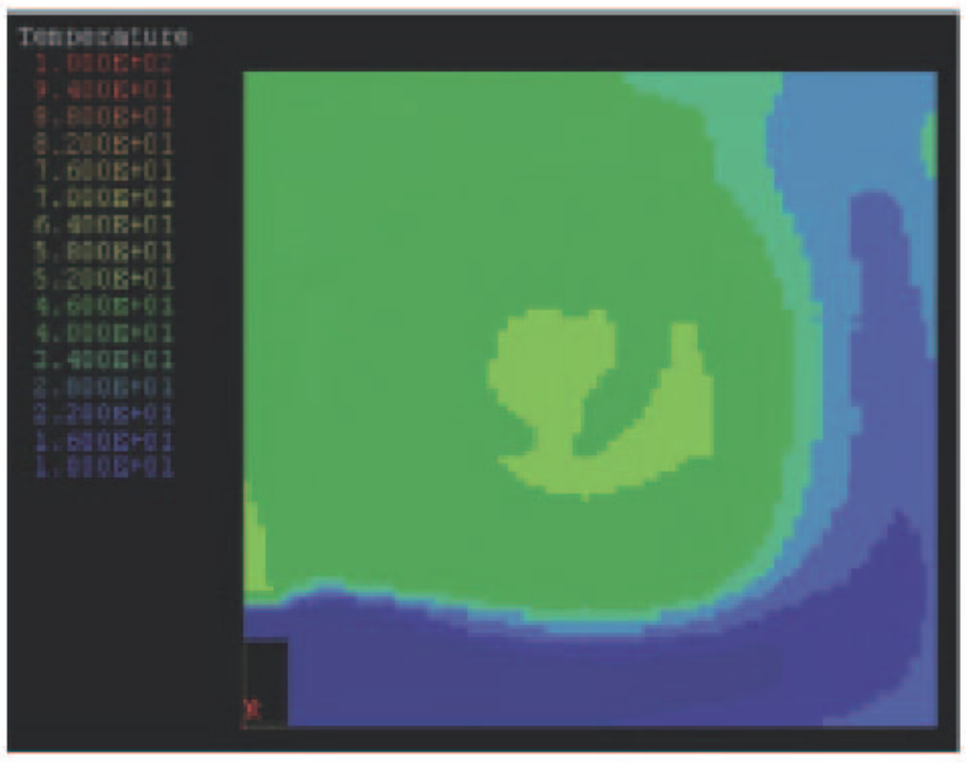
CO density when operating supply and exhaust fan with duct system



CO density when operating supply and exhaust fan with single fan



CO density when operating supply and exhaust fan with long fan



Design Criteria

The ventilation at U/G parking lot of a small houses does not take into account of temperature or air velocity however, it is different that the point have to be considered for prevention of dew, temperature and air velocity by the ventilation system of large U/G parking lot of Hotel, Department store and public works facilities.

Calculation of supply air volume

The required air volume will be decided by analytical know how of required ventilation volume taking into account of such elements as the parking turn of ratio, generating volume of carbon monoxide and vehicle moving distance.

Ventilation Efficiency (V_{EFF})

The residual room air velocity at U/G parking lot must be 0.5m/sec or less and the system to satisfy the minimum air exchange rate of room air taken into account of thermal conductivity ratio on the wall surface, surface wind velocity dilution effect must be designated or designed.

$$V_{EFF} = \frac{Q_i\ [m^3/h]}{V[m^3]} : \frac{\text{total induced air volume}}{\text{volume}}$$

Index of ventilation system of U/G parking lot

Usage	Supply air volume	Ventilation Eff. (V_{EFF})
Apartment House	2 times/h	30 times/h or more
Office facility	4-5 times/h	50 times/h or more
Hotel & public works	7-8 times/h	60 times/h or more

The dewing may be prevented by jetting the air so that the thermal conductivity ratio on the wall surface may be 25Kcal/sec or more in the terrain feature of country and the wall surface air velocity as required in the instance is 3m/sec or more
The minimum number of room air exchange rate to satisfy such condition is 50 times per hour and in this instance the room air is completely diluted and mixed and the shift zone and air pocket area are not appear as well as the temperature gradient.

Since therefore, the ventilation system at U/G parking lot must be appropriately selected and adopted by econozzle system and singlefan system subject to usage of the building and kind of ventilation access to and exit from.

Analysis of generated CO quantity and required ventilating rate

Project name		Area of parking lot	㎡
Height of floor	m	Volume V	㎥
Parking car	cars	Running distance Lt	m
Passing car xp	cars	Passing distance Lp	m

Co density of outside air : Co = 11.4mg/㎥ (10ppm)
Allowed Co content of inside : Cd = 57mg/㎥ (50ppm)
Coming in and out cars xt = rotating rate × Parking cars / 8
= × / 8 = cars
Idling cars xi = coming in and out cars (xt) = cars
CO exhaust rate during idling mi = 20.742 g/min
Average idling time ti = 2 min/car
Average CO exhaust rate during running $m = a \times v^{b}$
$= 14{,}814 \times 10^{-0.392056} \fallingdotseq 6.01$ [g/km)

note ; a, b : CO exhaust factor of unleaded gasoline passenger car
v : Average running speed of car (= 10km/hr)

❖ Total CO quantity in parking lot (M)
M = m / 1,000 [(xt × Lt) + (xp × Lp) + (mi × xi × ti)
= 6.01/1,000 [(×) + (×) + (20.742 × × 2)
≒ [g/hr]

❖ Estimated CO density in parking lot (Cr)
Cr = (M / V + Co) × 1,000 / 1.14
= (/ + 0.0114) × 1,000 / 1.14
≒ [ppm]

❖ Required ventilating rate (Q)
Q = M / (Cd − Co) × 1.2
= / (0.057 − 0.0114) × 1.2
≒ [CMH]

❖ Air exchange rate (Nd)
Nd = Q / V
= /
≒ [Time/hr]

❖ SELECTING TABLE OF ROTATING RATE

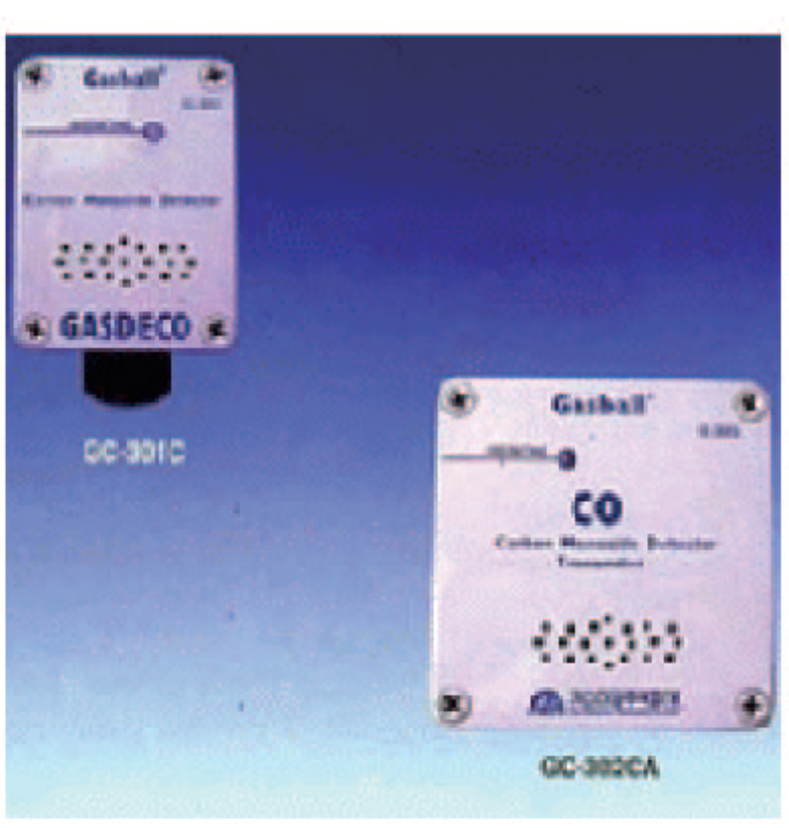
Purpose	Rotating rate
Facility	4.43
Hospital	6.4
Public use	7.1
General use	3.6
Hotel	5.5
Market	5.9
Public performance	4.2
Wedding	3.1
Civilization	3.8
Transportation	7.3
Apartment	2.1
Ground parking lot	4.44

MONO-OXIDE DETECTOR

Feature

Transmitter for mono –oxide gas leakage detection for elabling detection of mono –oxide(CO) gas that is harmful gas generated from U/G parking lot and premise of various building exclusive use for mono – oxide gas low cost with easy handling and installation.

- Exclusive use for mono–oxide gas
- Low cost with easy handling and installation
- Wide usable range for various buildings using U/G parking facilities and premises



Specification

Type	Independent, Atmosphere diffusion
Detection method	Semi–Conductor type, Electro–Chemical type
Subject gas	Exclusive use for mono–oxide gas
Alarm	Blinking of LED lamp (Red colour)
Power	AC/DC 24V
Usable temp./Hum.	–20 ~ 50℃, less than 85% (RH)
Wattage	2.5W (3W:alarm)
Installation	Wall hung type
Dimension	90mm x 60mm x 70mm (GC–301C)
Range	0 – 100/200/300/500ppm
Alarm setting value	50ppm/few ppm (GC–C type)
Response speed	Less than 10 seconds
Initial stabilization time	About 1 minute delay, 7 minutes operation
Operating indication	Lighting of LED lamp(Green colour)
Non-operating indication	Sensor cleaning time when blinking of LED(Green colour)
Connection wire	IV 1.25㎟~2.0㎟ (GC–301C 4선).
Contactor capacity	AC115V 3A, DC 28V 3A(GC–301C)

Fans & Blower

CENTRIFUGAL ROOF EXHAUST FAN

Hybrid Eco Fan

High Pressure Roof Fan

●USE

Exhausting in super high-rise building (kitchen, bathroom) and in the roof of a factory

●IMPELLER

Centrifugal Airfoil Impeller (Backward Airfoil) Fixed Pressure, Low-noise

●MOTOR

High efficiency motor for energy saving
BLDC(0.2~0.7KW)
Energy material high efficiency motor (1.5KW~5.5KW)

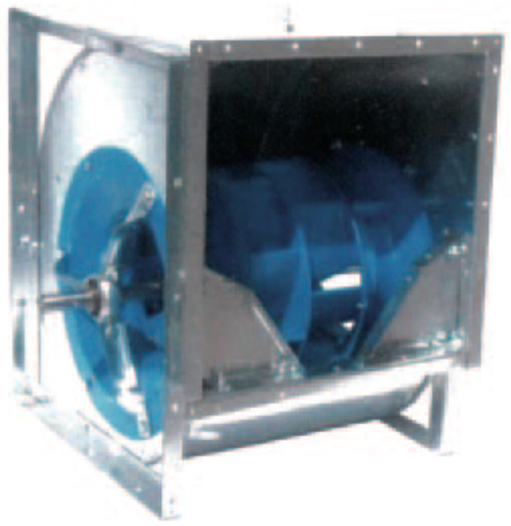
● HYBRID OPERATION SYSTEM FOR ENERGY SAVIN

Provides various operation manual depending on service environment
An hourly operation depending on frequency of use of the households
Automatic operation depending on perceiving of AD DUCT fixed pressure sensor

CENTRIFUGAL FANS

Sirocco Fan / Airfoil Fan

Cirocco Fan



Airfoil Fan

●USE

Air supply and exhaust in underground parking lots, machine rooms, generator rooms and electric rooms
Air supply and exhaust for smoke extraction systems, septic tanks and kitchens

●IMPELLER

Sirocco Fan (Forward Curved)
Airfoil Fan (Backward Airfoil)

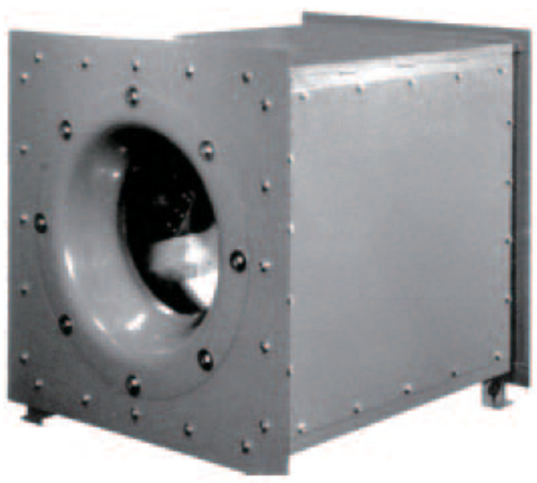
●MATERIAL

Casing : Galvanisedsteel Sheet
Impeller : Sirocco Fan (Galvanisedsteel Sheet)
Airfoil Fan (polymer-coated steel)

●MODEL

Sirocco single Suction (FCS315 - FCS1000)
Sirocco Double Suction (FCD315 - FCD1000)
Airfoil single Suction (ACS315 - ACS1000)
Airfoil Double Suction (ACD315 - ACD1000)

CENTRIFUGAL DUCT IN LINE FAN



ɔter Direct Type

V-belt Drive Type

●USE

Air supply and exhaust in general structures
Air supply and exhaust in machine rooms
generator rooms and electric rooms
Air supply and exhaust for fire-fighting

●IMPELLER

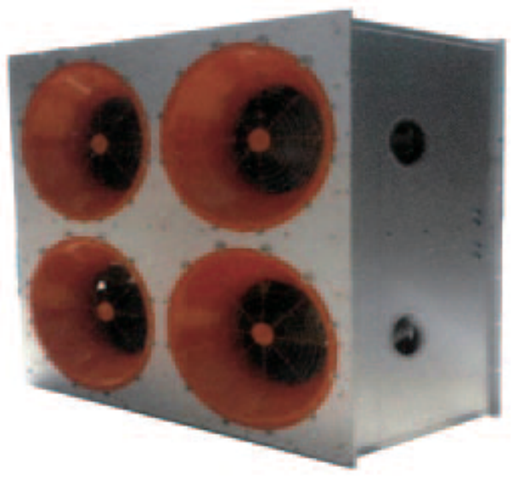
Backward blade - AL sheet
Airfoil blade - Polymer-coated steel

●MODEL

Energy saving high efficiency MOTOR BLDC(0.2~0.7KW)
Energy material high efficiency motor (1.5KW~7.5KW)

●Designed Suitable For Multipurpose For Air Supply And Exhaust We minimized a noise from the machine by applying Centrifugal Impeller(Back Ward Curve Type), and it is constructed to block the internal noise transferring to outside.
It is more small-sized, light-weighted than other ventilators on same specifications, and easy to install because it can be installed in between the ducts.

LARGE SPACE VENTILATION SYSTEM

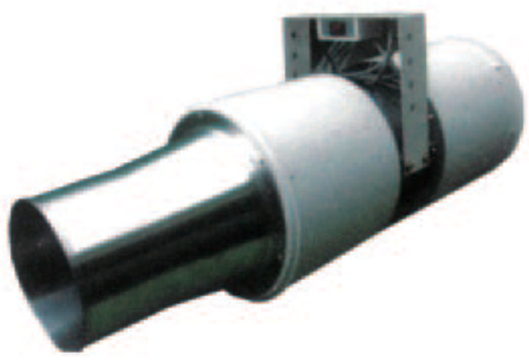


●MULTI PLUG FAN UNIT

Air supply and exhaust underground
parking lots
Air supply and exhaust in large spaces like factories
Can be used in various purposes through applying
to the options (FILTER, DAMPER, SILENCER)

● LONG FAN

Ventilation in parking lots
Preventing condensation for windows
Air curtain for gates

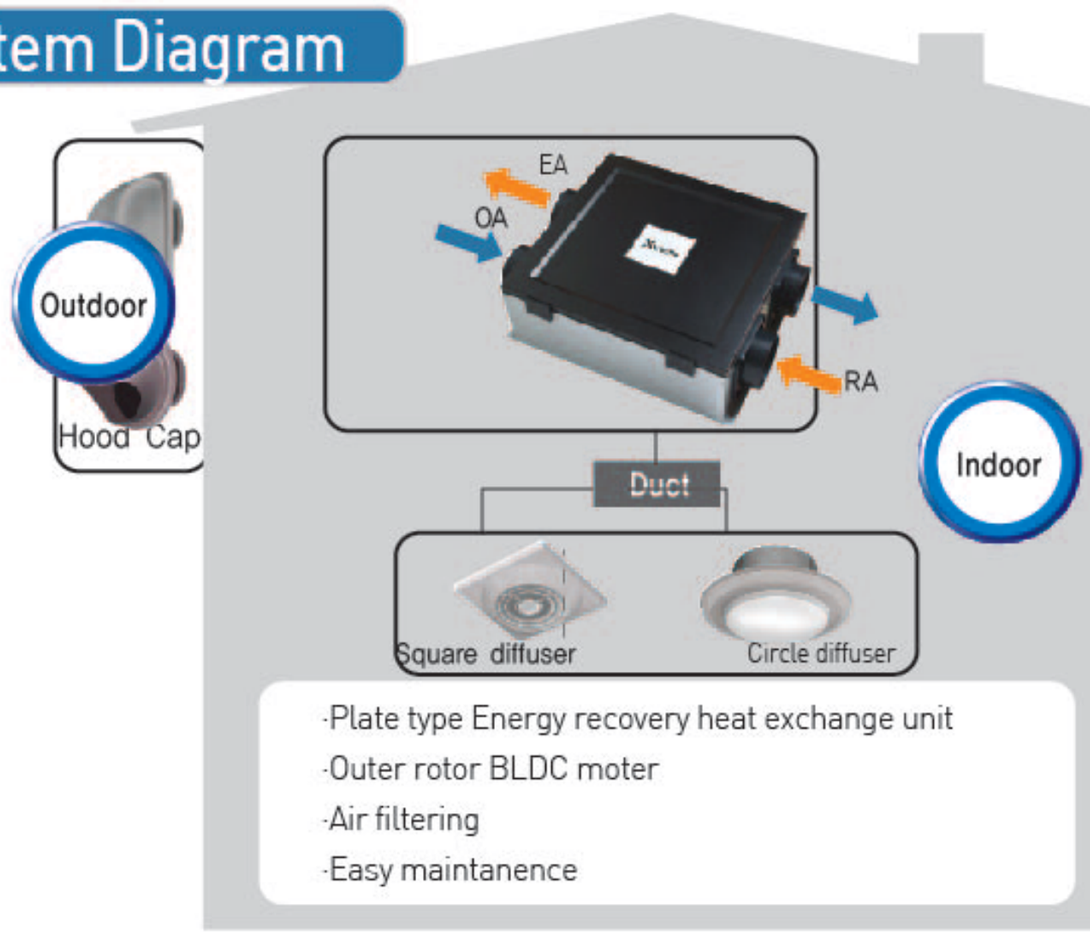


● SINGLE FAN

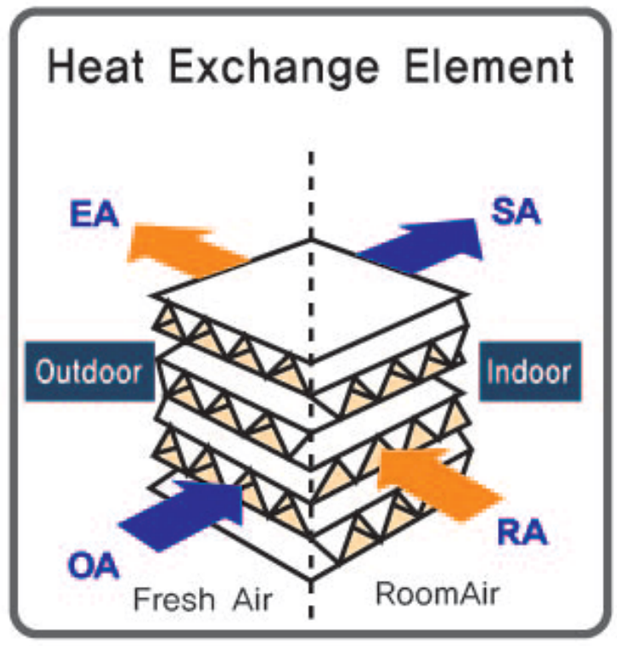
Ventilation in parking lots
Ventilation in factories and large spaces
Ventilation in gyms
Formation of air current in large spaces

ERV Ventilation System

XVEN System Diagram



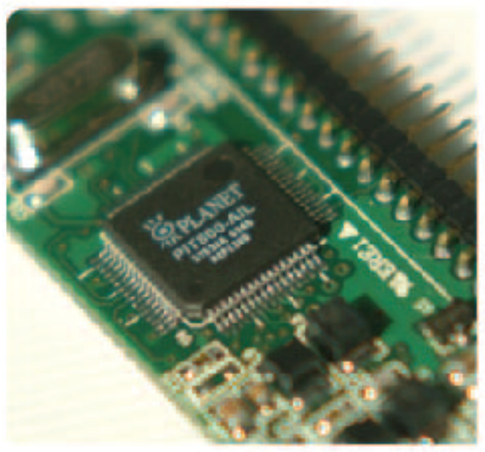
·Plate type Energy recovery heat exchange unit
·Outer rotor BLDC moter
·Air filtering
·Easy maintanence



XVEN Control System

- **Controller**
  - · Manual / Auto operation

Home sever



- **Home Network**(Option)

SPE Series Features

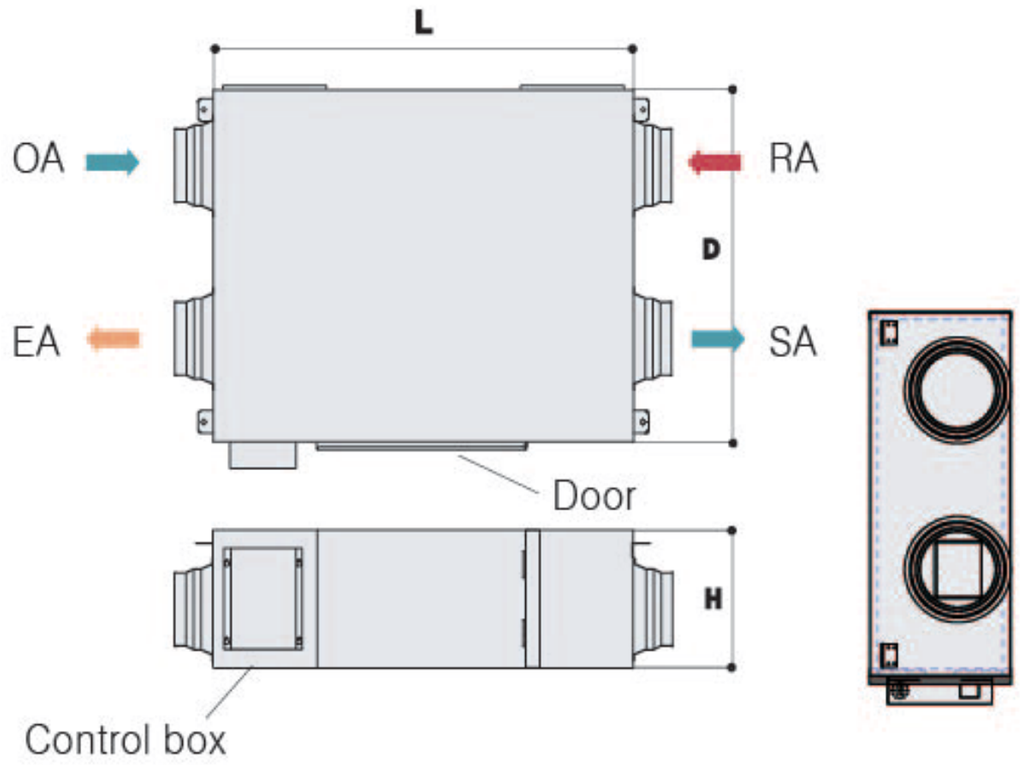
Ceiling Concealed Type

Special Materials Air-to-Air Heat Exchanger

Total Heat(Sensible & Latent) Recovery Unit

Pre Filtering at OA and RA

Low Noise Outer Rotor Moter



Specifications

DIVISION		MODEL						
		SPE-500	SPE-800	SPE-1000	SPE-1500	SPE-2000	SPE-2500	SPE-3000
Airflow	CMH	500	800	1,000	1,500	2,000	2,500	3,000
Static Pressure	mmAq	16.0	18.0	18.0	20.0	20.0	23.0	23.0
Temperature Heating	%	70.0	70.0	70.0	70.0	70.0	70.0	70.0
Effectiveness Cooling	%	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Electrical Data	ϕ ,V,Hz	1 ϕ ,220V,60Hz / 3 ϕ ,380V,60Hz						
Power Consumption	W	280	480	504	800	960	1,450	1,600
Filter		Pre-Filter						
Fan		Outer Rotor Sirocco						
Dimension	L(mm)	895	1,140	1,140	1,320	1,320	1,430	1,430
	D(mm)	860	860	860	1,265	1,265	1,680	1,680
	H(mm)	355	495	495	565	565	560	560
Dust Size	ϕ	200	250	250	300	300	350	350
Weight	Kg	38.0	72.0	72.0	115.0	120.0	140.0	145.0
Heat Exchange Element Material		Pulp for Total heat exchange PP for Sensible heat exchange						

When you fell fresh,
there is ECTA Co...

ECTA Co.,ltd.

Head Office
#710, ACE HighEnd Tower 10, 30, Gasan digital 1-ro,
Geumcheon-gu, Seoul, 08591, Korea
TEL : TEL : +82-2-2631-4552
FAX : +82-2-2632-4552
Factory : +82-43-215-4552
E-mail : ectaeng@naver.com

Institute of Technology &
1th Factory : 618-4, Seoam-ri, Tongjin-eup, Gimpo-si,
Gyeonggi-do, Korea
2th Factory : 135 Seongsan-ri, Ochang-eup, Cheongwon-gu,
Cheongju-si, Chungcheongbuk-do, Korea