



Air Curtains

Introduction

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Air Curtains

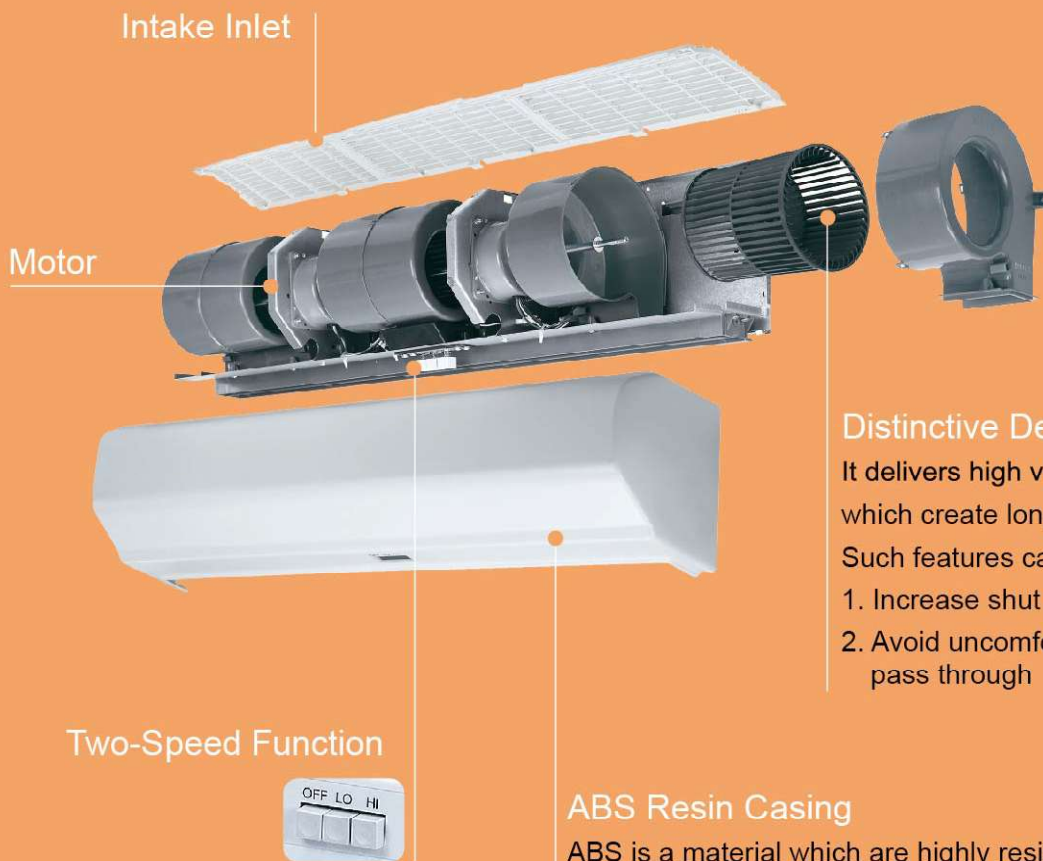
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Doors of a shop need to be opened frequently to let people pass through. However, open door allows air leaks to outside that increases energy consumption of air conditioners. By using air curtain, an invisible air screen will build up to minimize air exchange between the air at outside and indoor.

Improved Functionality and Workability



Intake Inlet

Motor

Two-Speed Function



Distinctive Design of Sirocco Fan

It delivers high velocity and thin air flow which create longer reach and narrow diffusion.

Such features can

1. Increase shut out ability and
2. Avoid uncomfortable feelings when you pass through

ABS Resin Casing

ABS is a material which are highly resistant to rust and with high bending flexibility which make the outlook more streamline. It provides a simple design that suits for all interiors.

Advantages of Panasonic Air Curtain

High Air Velocity

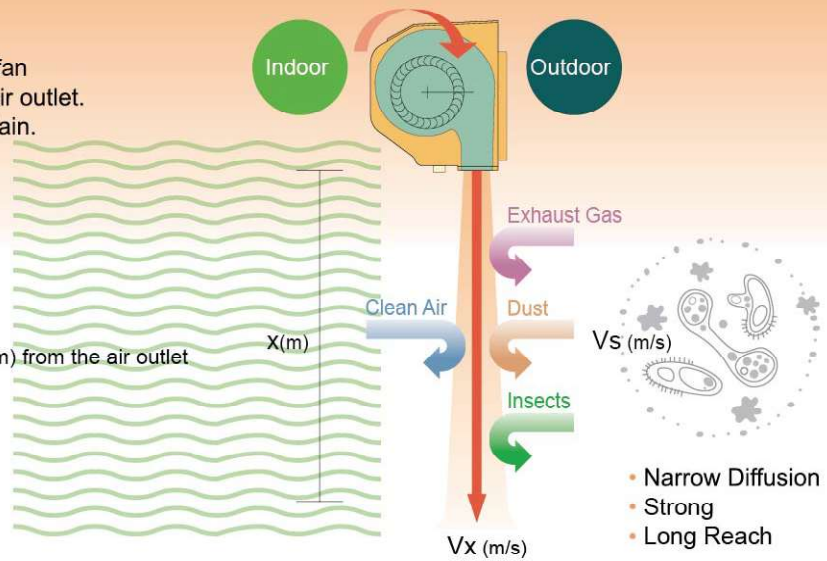
The high pressure produced by sirocco fan delivering a powerful jet of air from the air outlet. Thus maximizes the effect of the air curtain.

$$V_s = A \times V_x$$

V_s : Shut-out penetrating velocity (m/s)

V_x : Central air velocity (m/s) at distance X(m) from the air outlet

A : Constant



The above illustration shows an effect of air curtain as sensuous image.

Low Consumption

High efficient motors are adopted to ensure low power consumption by reducing up to 35%.
(Compared with previous 3 meter models)

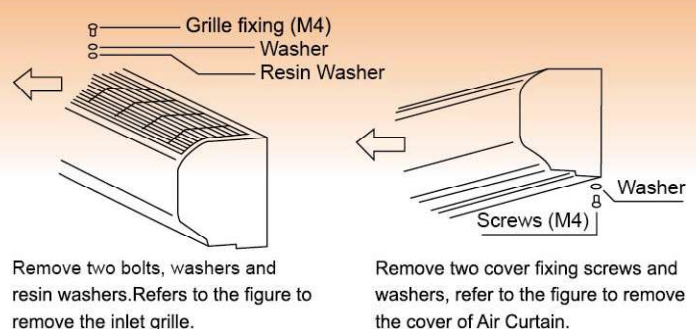
Low Noise

The quiet sirocco fan and ABS resin casing have reduced the noise level by an average of 10dB(A) compared with conventional models.



Easy Maintenance

The casing can be removed simply by unscrew 4 bolts. The whole set can be detached from wall to remove dust from sirocco fan for cleaning.



Remove two bolts, washers and resin washers. Refer to the figure to remove the inlet grille.

Remove two cover fixing screws and washers, refer to the figure to remove the cover of Air Curtain.

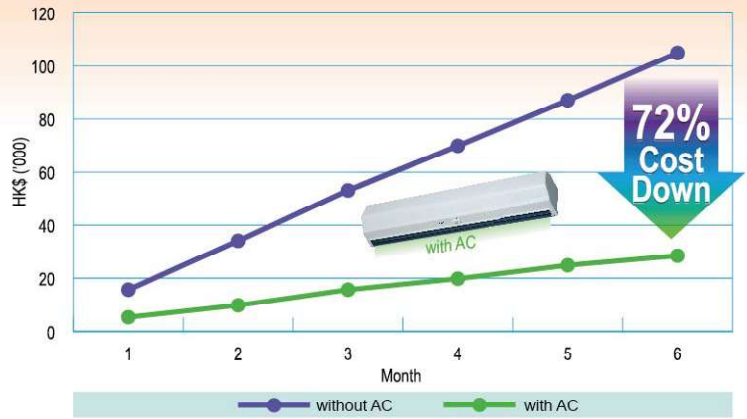
Air Curtains

Assumptions:

1. The Area of typical shop is 23.49 sq.m
2. 1 set of Panasonic large capacity air conditioner (model no. CS-D24DB4H5) is installed inside the shop
3. 2 sets of Panasonic Air Curtain (model no. FY-12ELN) are installed at the entrances

	Temperature (°C)	Humidity (%)
Indoor	23	55
Outdoor	35	95

5. Calculation is based on HK electricity charge : HK\$1/ kw
6. Operating hours of air conditioner and air curtain in the shop is 450 per month. (15 hours x 30 days)



Result Using an air conditioner together with air curtains can save energy consumption up to 72%

Notes:

- 1) Energy lost of air curtain is not included
- 2) Calculated at 0 m/s outside wind
- 3) Values are for reference only. Results will vary subject to outside wind, pressure balance of indoor and outdoor, etc.

Model Selection

The air curtain comes in six models. Select your model according to the installation site, usage area and required capacity.

Length of unit	Air velocity chart (m/s) Maximum value at HI speed 50Hz
900mm (3 feet)	
FY-10ESN	
1,200mm (4 feet)	
FY-10ELN	

Length of unit	Air velocity chart (m/s) Maximum value at HI speed 50Hz
900mm (3 feet)	
FY-12ESN	
1,200mm (4 feet)	
FY-12ELN	

Length of unit	Air velocity chart (m/s) Maximum value at HI speed 50Hz
900mm (3 feet)	
FY-14ESN	
1,200mm (4 feet)	
FY-14ELN	

▼ Efficient distance

The velocity characteristics were measured in a testing room free from the influence of surrounding walls and outside wind. Outside wind, air flow from air conditioners, use of ventilating equipment, etc., significantly lower the shielding effectiveness. Take these factors into consideration, it is recommended to select the one rank bigger model for better function.

Shut-Out Ability

An air curtain's shut-out ability is determined by the air velocity at the center of its airflow. The powerful discharge of air curtains enables them to maintain a high level of air velocity for the curtain's efficient distance, resulting in superior shut-out ability.

Specifications

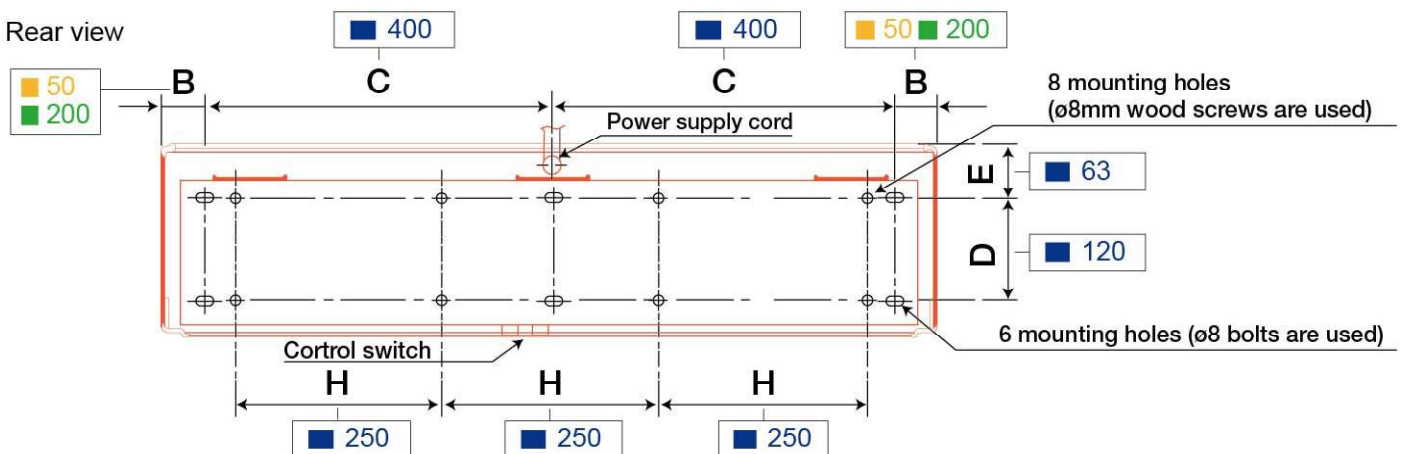
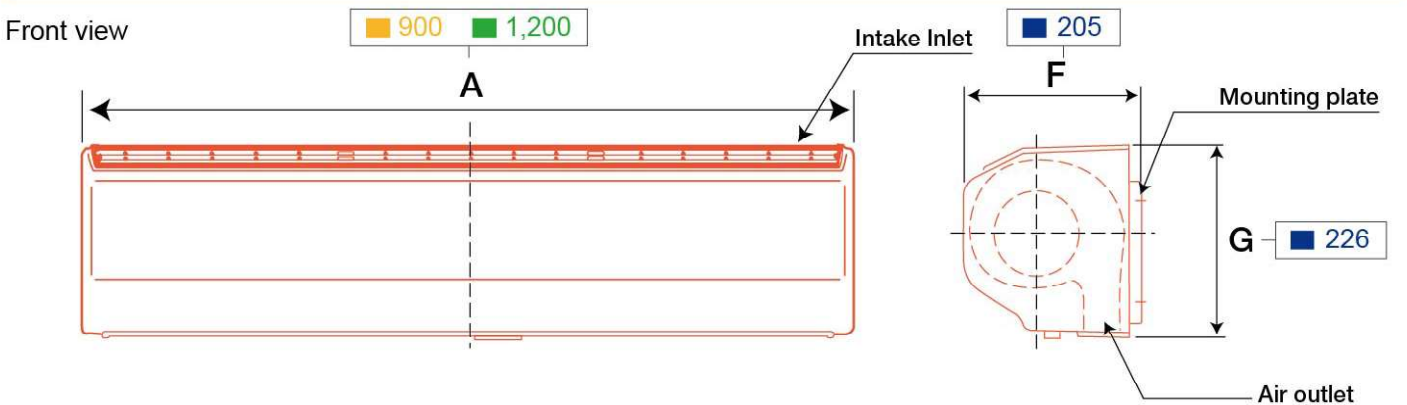
Model	Rating Voltage	Air Volume		Power Consumption [w]	Outlet Velocity [m/s]	Noise [dB(A)]	Current [A]	Weight [kg]	Length [mm]
		[CMH]	[l/s]						
FY-10ESN	Hi	750	208	72	13	46	0.40	12	900
	Lo	630	175	62	11.1	42	0.29		
FY-10ELN	Hi	1,000	278	96	13.1	46	0.54	14	1,200
	Lo	830	230	74	11	42	0.35		
FY-12ESN	Hi	1,050	292	176	16.9	55	0.82	13	900
	Lo	960	267	155	15.8	50	0.69		
FY-12ELN	Hi	1,420	394	224	17	56	1.04	15	1,200
	Lo	1,320	367	200	15.8	51	0.90		
FY-14ESN	Hi	1,340	372	257	21.9	62	1.14	13	900
	Lo	1,168	324	218	19.1	59	0.99		
FY-14ELN	Hi	1,867	518	333	22.5	63	1.52	15	1,200
	Lo	1,668	463	290	20.1	61	1.32		

Note : The values in specification tables are representative characteristic value at 220V 50Hz and the ambient temperature of 20°C.

The noise values were measured at an angle of 40° Below the air outlet, from a distance of 1.5 meters inside the room. The outlet velocity shows maximum value.

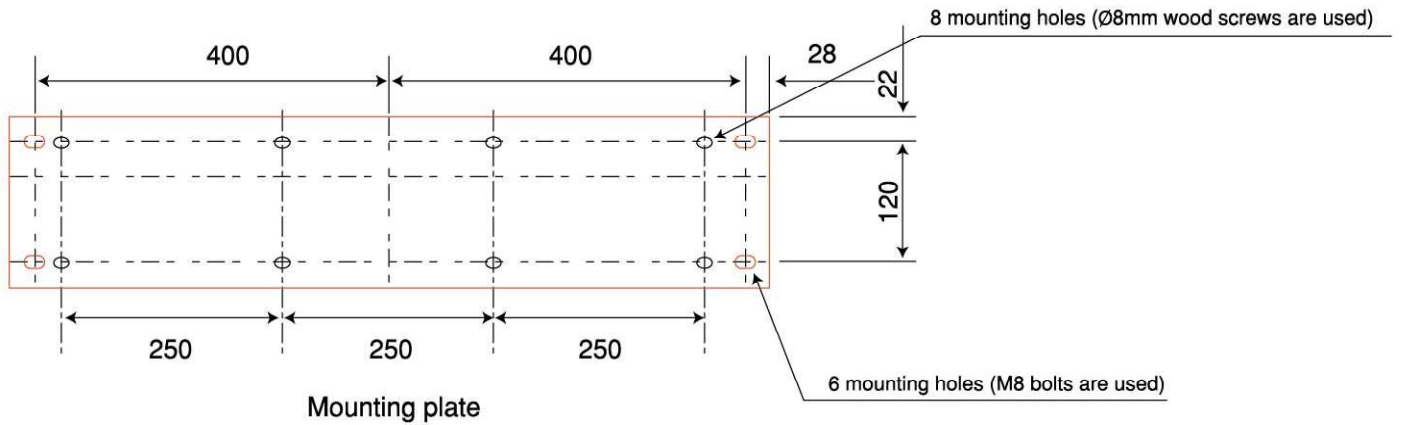
Dimensions

unit : mm



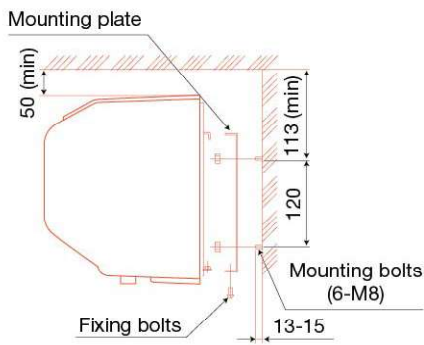
■ FY-10ESN FY-12ESN FY-14ESN
 ■ FY-10ELN FY-12ELN FY-14ELN
 ■ All models

Installation Method



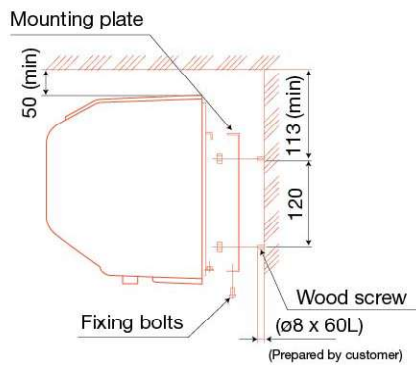
unit : mm

1 Mounting on Concrete



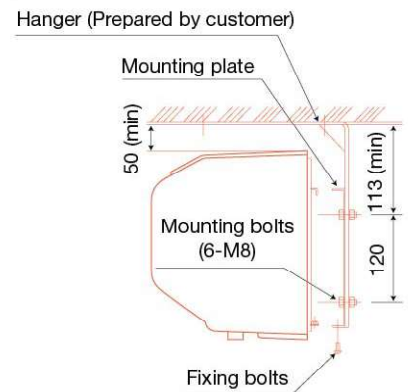
Fix the mounting plate tightly with washers, spring washers and nuts

2 Mounting on Wooden Frame



If mounting to a wooden frame, you may need to use a reinforcing material to ensure a secure installation

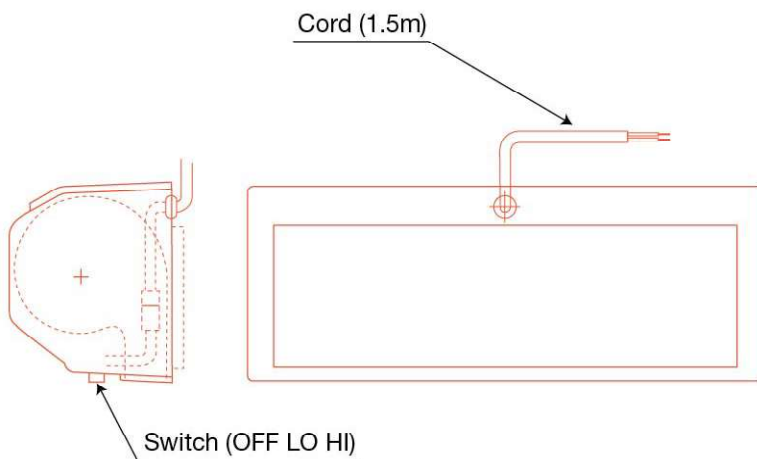
3 Mounting on Steel Hanger



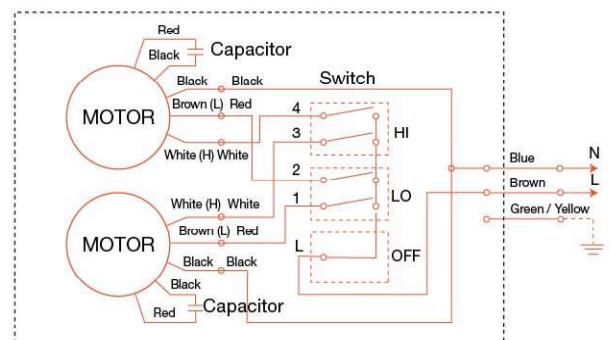
If using customer-provided hangers, use six M8 bolts, washers, spring washers and nuts to fix the unit tightly

min = minimum

Electric Work



Connection Diagram



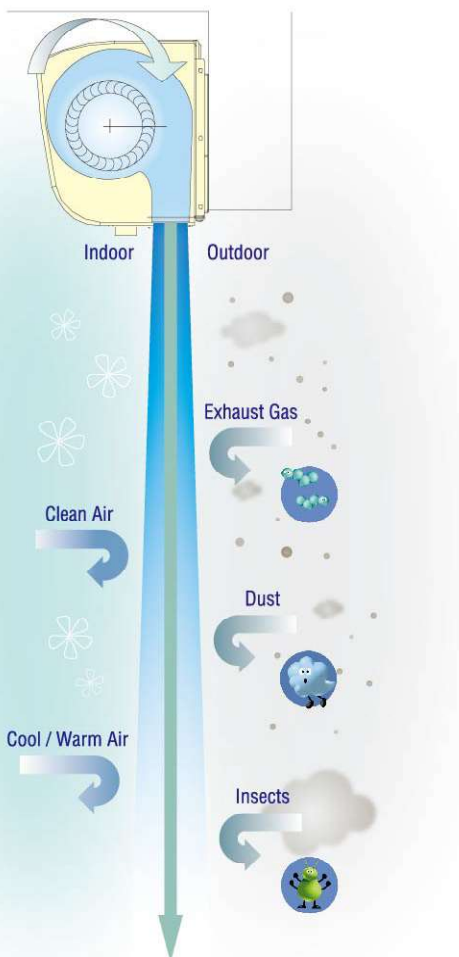
Product Lineup

Width	Efficient Distance		
	3m	3.5m	4m
900mm	FY-3009U1	FY-3509U1	FY-4009U1
1200mm	FY-3012U1	FY-3512U1	FY-4012U1
1500mm	FY-3015U1	FY-3515U1	FY-4015U1



Effects of Air Curtain

Doors of a shop need to be opened frequently to let people pass through. However, opening door allows air leaks to outside that increases energy consumption of air conditioning. By using Air Curtain, an invisible air screen will build up to minimize air exchange between the air outdoor and indoor.



Heating / Cooling Retention

Retains heated or cooled air within the space which entrance is frequently opened such as restaurants, shopping malls, etc. It allows minimum temperature fluctuation in the space area (*1)



Odor Shielding

Prevents odors from special function rooms, such as vegetable preparation rooms and chemical labs, etc., and also the automobile exhaust fumes from outside street (*1)



Insect-proof Effect

Checks out annoying, harmful and germ-laden insects to maintain the required health and sanitation standards in the space area (*2)



Dust-proof Effect

Screens out dirt and dust from outside street that maintains a clean environment for food or clothing stores (*1)

(*1) Outside wind, air flow from air conditioners, using ventilators, etc., may significantly lower the shielding effectiveness.

(*2) The effectiveness against insects depends largely on the kind of insect, surrounding environment, air velocity of the air curtain, etc. If more effective insect prevention is required, use the air curtain in combination with other methods.

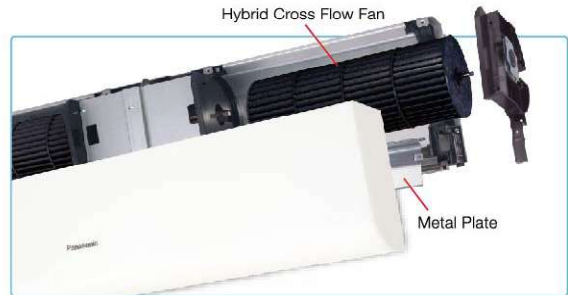
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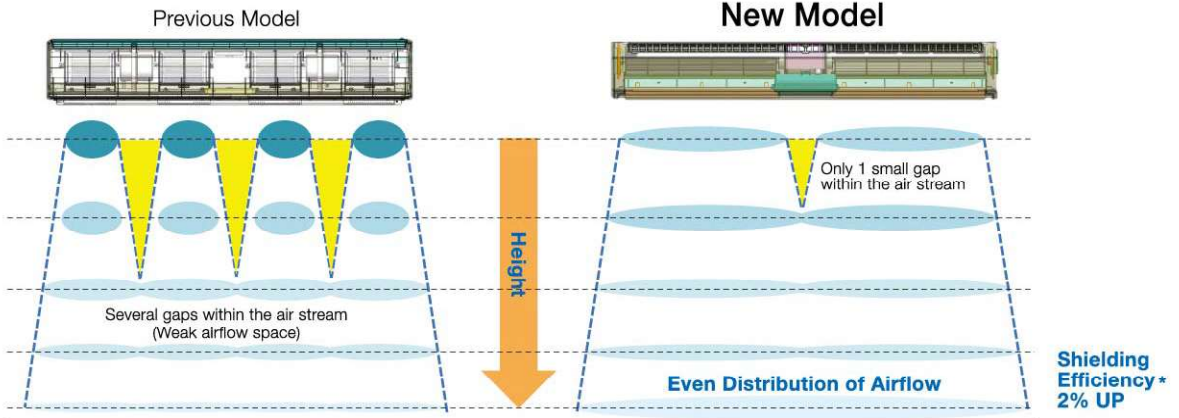
Feature Highlight

1. Efficient Barrier Effect

- Cross Flow Fan is adopted that airflow distribution is wide and uniform within the air stream while the air volume output can be maintained with low noise level.
- Unique Auxiliary Air Inlet allows more air intake at lower front that enhances airflow output.



Wide and Uniform Airflow



Thick Air Stream



2. Highly Durable

- Resin with glass fiber material is used in the Hybrid Cross Flow Fan. Incorporated with the metal bush, the durability is prolonged significantly.

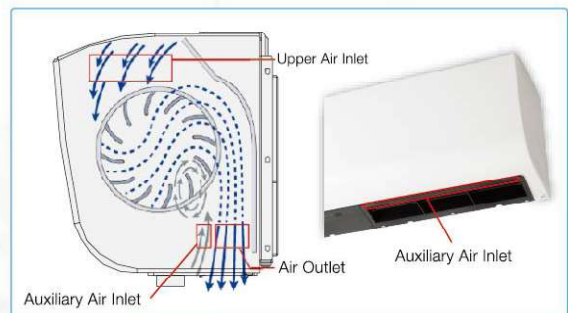


3. Easy Maintenance

- The Cross Flow Fan can generate air current between the fan and front cover forming movement of dust that reduces accumulation of dust on the fan blade.
- Simple structure allows convenient cleaning of the fan – just detach the front cover and metal plate to clean product interior.

4. Contemporary Design

- Modern and streamline outlook fits the décor of interior perfectly. Also, the main air inlet locates at top of the product allowing a neat and clean image.



*As compared with FY-2509U1 and FY-08ESN

Specification

	Model No.	Voltage [V]	Hz	Air Volume				Consumption [W]		Current [A]		Outlet Velocity [m/s]		Noise [dB(A)]		Weight [kg]
				Hi		Lo		Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	
				CMH	CFM	CMH	CFM									
900mm	FY-3009U1	220	50	1,100	647	920	541	76	70	0.35	0.32	10.5	8.5	48.5	45.0	12.0
	FY-3509U1	220	50	1,150	677	1,000	589	95	85	0.41	0.39	11.0	9.0	51.0	49.0	12.0
	FY-4009U1	220	50	1,340	789	1,190	700	110	94	0.50	0.43	12.0	10.0	54.5	51.0	12.5
1200mm	FY-3012U1	220	50	1,400	824	1,270	747	94	85	0.43	0.40	9.5	8.0	48.5	44.5	14.5
	FY-3512U1	220	50	1,550	912	1,300	765	114	100	0.49	0.46	10.5	8.5	49.0	46.0	14.5
	FY-4012U1	220	50	1,700	1,001	1,530	901	126	105	0.59	0.49	12.0	10.0	52.5	48.5	15.5
1500mm	FY-3015U1	220	50	2,000	1,177	1,800	1,059	131	110	0.59	0.50	10.5	9.5	51.5	48.0	18.0
	FY-3515U1	220	50	1,800	1,059	1,500	883	146	110	0.67	0.52	11.0	9.0	52.0	49.0	18.0
	FY-4015U1	220	50	2,450	1,442	2,080	1,224	177	147	0.81	0.68	13.0	10.0	56.0	52.0	18.0

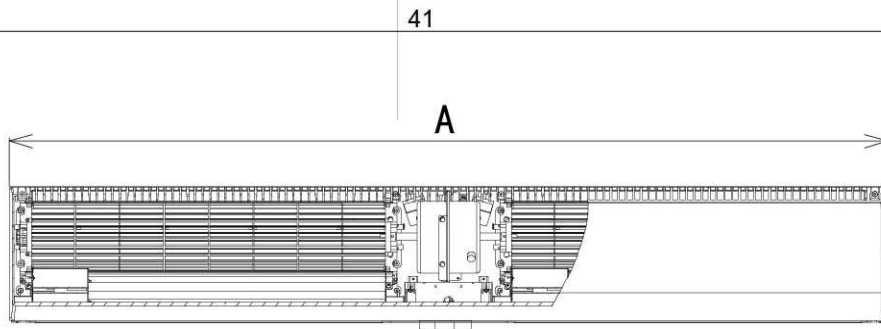
Note: 1. The parameters as shown in above table are measured at ambient temperature of 20°C

2. The noise value is measured 1.5m far from the product at angle of 45° below the air outlet. The air outlet is the maximum value.

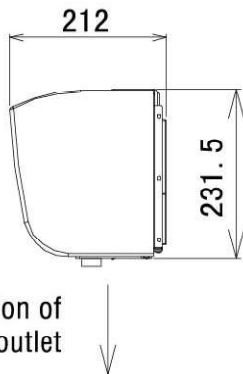
3. Because the above-mentioned velocity is measured in test laboratory where it's empty, without air flow and obstacle, after actual installation the velocity may vary depends on different service environment

Dimensions

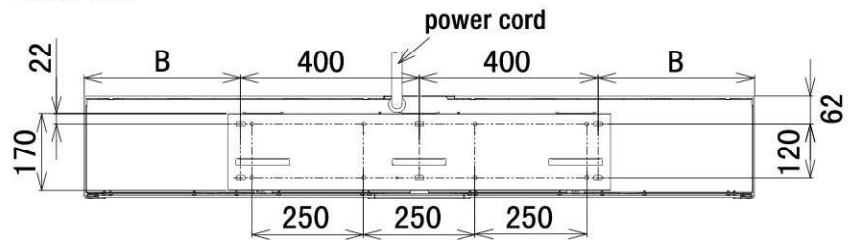
■ Front view



■ Right view



■ Back view



Unit: mm

Model	FY-3009U1	FY-3012U1	FY-3015U1
	FY-3509U1	FY-3512U1	FY-3515U1
	FY-4009U1	FY-4012U1	FY-4015U1
A	900	1200	1500
B	50	200	350



ACCESSORIES



Pipe Hood

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Vent Cap

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For Ceiling Mount Ventilating Fans & Air Moving Equipment



With Net

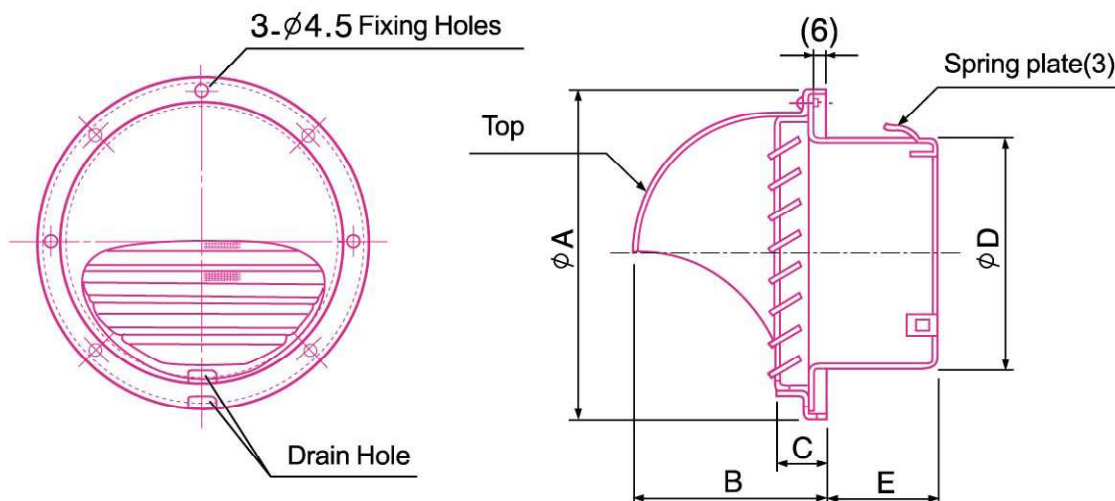
Without Net

FV-MGX100P FV-MGX150P

FV-MCX100P FV-MCX150P

- Round type pipe hood
- 2.5x2.5mm net equipped to keep out ingress of small particles (FV-MGX100P, FV-MGX150P Only)
- High strength stainless steel adopted
- Coated with metallic silver paint prevent oxidation of material
- 3 pieces of spring clip allow easy connection of duct or pipe
- Applicable to diameter 100/150mm duct or pipe
- It is recommended to use with net type for intake purpose

Dimensions



Model	A	B	C	D	E	Diameter of Applicable Pipe [mm]	Net Hole [mm]
FV-MGX100P	141	79	20	97	48	100	2.5 x 2.5
FV-MGX150P	190	106	23	147	53	150	2.5 x 2.5
FV-MCX100P	141	79	20	97	48	100	-
FV-MCX150P	190	106	23	147	53	150	-

For Ceiling Mount Ventilating Fans & Air Moving Equipment



With Net

FV-VGX100P FV-VGX150P

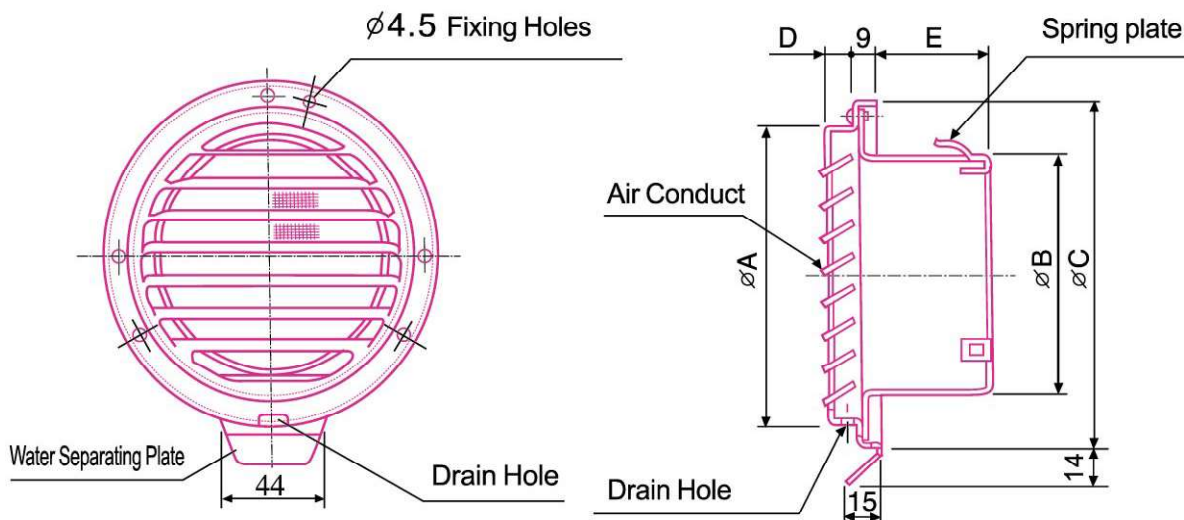


Without Net

FV-VCX100P FV-VCX150P

- Round type vent cap
- 2.5x2.5mm net equipped to keep out ingress of small particles (FV-VGX100P, FV-VGX150P Only)
- High strength stainless steel adopted
- Coated with metallic silver paint prevent oxidation of material
- 3 pieces of spring clip allow easy connection of duct or pipe
- Applicable to diameter 100/150mm duct or pipe
- It is recommended to use with net type for intake purpose

Dimensions



Model	A	B	C	D	E	Diameter of Applicable Pipe [mm]	Net Hole [mm]
FV-VGX100P	120	97	145	13	47	100	2.5 x 2.5
FV-VGX150P	169	147	195	18	52	150	2.5 x 2.5
FV-VCX100P	120	97	145	13	47	100	-
FV-VCX150P	169	147	195	18	52	150	-

Recent AME Significant Projects

Ventilating Fan - Ceiling Mount Type

Park Hotel, Tsim Sha Tsui
Royal View Hotel, Ting Kau
Vision City, Tsuen Wan
Rambler Oasis Hotel, Tsing Yi
Metro Park Hotel, Kowloon
Lake Silver, Wu Kai Sha
Palazzo, Sha Tin
The Dynasty, Tsuen Wan
Festival City, Tai Wai

Pun Tak Building, Causeway Bay
No.12 Broadwood Road
Emerald Green, Yuen Long
Star River, Macau
Gold Coast Hotel, Tuen Mun
VTC, Tuen Mun
The Mediterranean, Sai Kung
Panda Hotel, Tsuen Wan

Ventilating Fan - High Pressure Industrial Type

Stanley Ho Sports Centre, HKU
OTIS
Tunnel CLP Power Station, Tseung Kwan O
The Great Hill, Sha Tin
Lohas Park, Tseung Kwan O

International Christine School HK, Sha Tin
Fujitec Lifts
The Hermitage
Panda Hotel, Tsuen Wan
Shek Mun Estate Phase 2

Air Moving Equipment - Low-noise Type Cabinet Fan

Park Island, Ma Wan
MGM Grand Hotel, Macau
Peak One, Sha Tin
The Vineyard, Yuen Long
W-Hotel, Kowloon Station
The Harbour View Place, Kowloon Station
Le Point, Tin Keng Leng
Coastal Skyline, Tung Chung
One Central Macau Residences, Macau
Langham Hotel, Tsim Sha Tsui
Greenview Villa, Tsing Yi
The Apex, Kwai Chung
Yoho Town, Yuen Long

Florient Rise
Valais
No. 5-11, South Bay Road, Repulse Bay
6 Shiu Fai Terrace
Century Gateway, Tuen Mun
Double Cove, Ma On Shan
Billionnaire Avant, Kowloon City
Riva, Yuen Long
Nova City, Macau
Savannah, Tseung Kwan O
Monterey, Tseung Kwan O
One Prestige, Tseung Kwan O
Phase 16 Discovery Bay

Air Moving Equipment - Mini Sirocco Fans

Royal Park Hotel, Sha Tin
Schindler Lifts
Green Code, Fanling

PCCW Tower
Royal Garden Hotel

Air Curtain

2008 Olympic Equestrian Venue, Sha Tin
Margaret Hospital
Asia Air Freight Terminal Expansion
HAECO
The Hong Kong Community College, Poly U
Mong Kok East Station
Link Management
Mannings
North District Government Offices
Post Office, Wah Ming Estate, Fanling
Buddhist Wong Wan Tin College, Shatin
Palace Mall, Tsimshatsui
Hyland Theatre, Tuen Mun

Ruttonjee Hospital
Ambulatory Medical Service Block, Tung Wah
Eastern Hospital
The Hong Kong Polytechnic University
Marco Polo Hong Kong Hotel
Sha Tin Town Hall
Miramar Shopping Centre, Tsimshatsui
Regal Riverside Hotel
St. Paul Hospital
Courtyard by Marriott Hong Kong Sha Tin Hotel
Grand Hyatt Hotel, Wai Chai
The Chinese University of Hong Kong
Popcorn, Tseung Kwan O