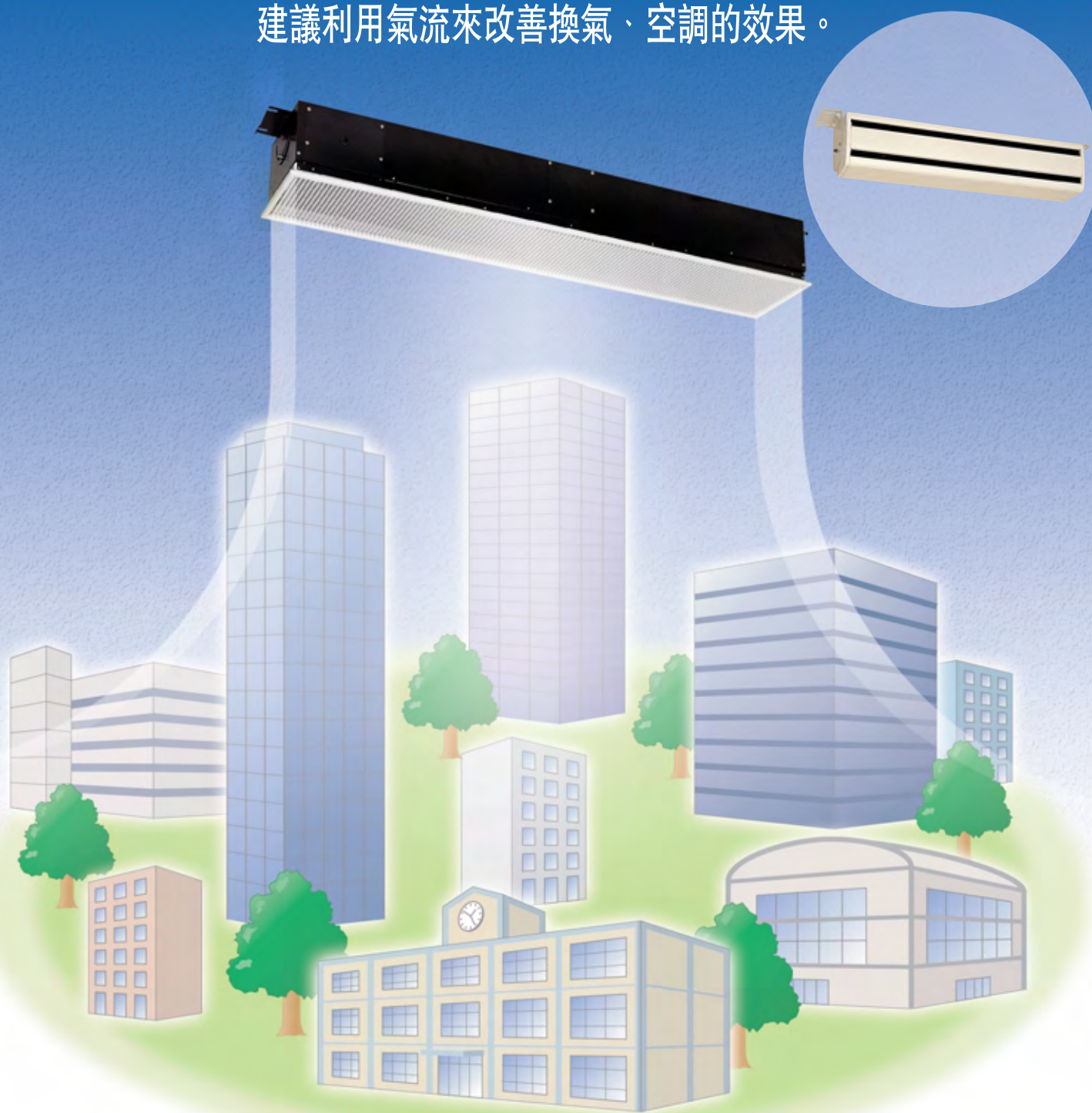


Changes for the Better



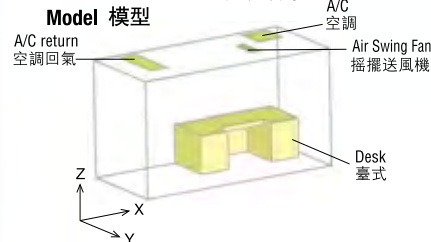
Mitsubishi Air Swing Fan 三菱搖擺送風機
Mitsubishi Air Conducting Fan 三菱空氣傳送扇

We propose improvements of ventilation and air conditioning by air flow
建議利用氣流來改善換氣、空調的效果。

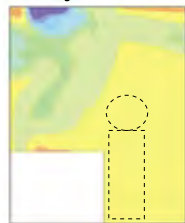


"Air Swing Fan" enhances the pleasantness in the room and, at the "搖擺送風機" 除了能改善室內的舒適性外，同時還有利於

Circulation effect 循環效果

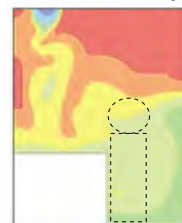


Air Swing Fan + Air conditioner 搖擺送風機+空調器



There isn't temperatures fluctuate between head and foot.
頭部和腳部之間沒有溫度差。

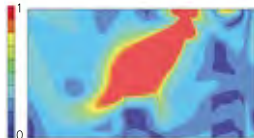
Air conditioner only 僅空調器



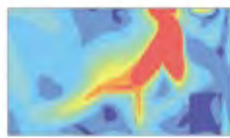
There is temperatures fluctuate between head and foot.
頭部和腳部之間有溫度差。

Cool wind effect 涼風效果

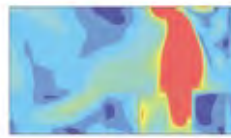
Swinging angle 0° 搖頭角度 0°
氣流 m/s



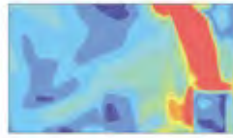
Swing angle +20° 搖頭角度 +20°



Swing angle +30° 搖頭角度 +30°



Swing angle +35° 搖頭角度 +35°



Cooling in summer 用於夏季冷氣時

Cool wind effect under summer conditions

It occurs sometimes during cooling in summer that cool air is tied up in a lump at around feet or the blow outlet of cool air and the cooling airflow cannot reach the side of window or places distant from the blow outlet of air conditioner. Combined use of the air swing fan assists to cool the living area homogeneously by circulating the indoor air and enhances the pleasantness. Another merit is that it produces a pleasant feeling of cool winds.

夏季環境下的涼風效果

在夏季使用冷氣時，往往會發生冷氣積聚在腳部及空調器送風口附近的情況，從而不能將冷氣吹到窗邊及離空調器送風口較遠的位置。如果同時使用搖擺送風機，讓空氣循環就能使冷氣均勻地吹到各個角落，從而提高了舒適性。此外，旋轉的氣流還能讓您獲得心情舒暢的涼風感。

Warming in winter 用於冬季暖氣時

Circulation effect under winter condition

During warming in winter, warmed air is likely to climb and tied up at around the ceiling in a condition of higher ceiling or large space. Combined use of the air swing fan circulates air forcibly and eliminates irregular distribution of indoor temperatures. Also, since it can warm the entire room quickly, the air conditioner is operated efficiently to save the energy.

冬季環境下的循環效果

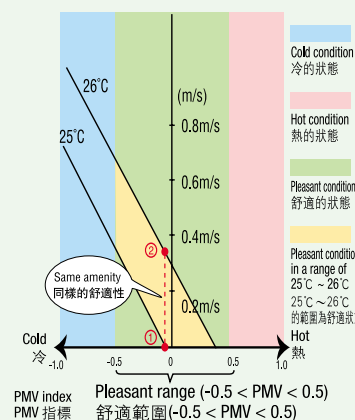
在冬季使用暖氣時，如果天花板高及房間空間大，那麼暖空氣將會上升流到天花板附近並積聚在那裏。如果同時使用搖擺送風機，強制使空氣循環就能消除室內溫度的不均勻性。此外，還能使整個房間迅速地暖起來，從而改善了空調器的運轉效率，有利於節能。

Relationship of temperature, wind velocity and pleasantness 溫度、風速、舒適性的關係

Test result obtained at our OA room (Measurement of PMV)
在本公司OA辦公室內進行實驗的結果 (PMV測試)



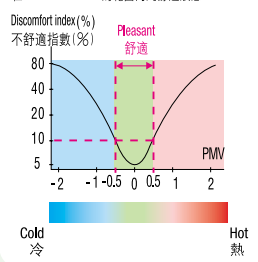
Change of PMV value PMV值的變化



What is PMV? 什麼是PMV?

PMV is the index to measure the pleasantness. It is determined based on the temperature / humidity / air velocity / clothing / metabolic rate and the most pleasant condition is considered generally to be in a range of -0.5 < PMV < 0.5.

PMV是表示舒適性的一個指標。其取決於溫度、濕度、風速、穿衣多少及活動量大小，一般而言，在-0.5 < PMV < 0.5的範圍內為舒適狀態。

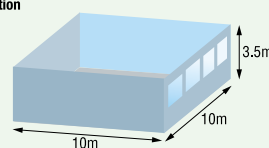


Point 要點 In summer time, the setting temperature may be raised by about 1°C owing to the cool wind effect by the airflow.
在夏季，利用氣流的涼風效果可以將設定溫度昇高約1°C。

Trial calculation of the effect of energy conservation (In case of summer time)

節能效果估算 (夏季時)

Trial calculation 計算條件



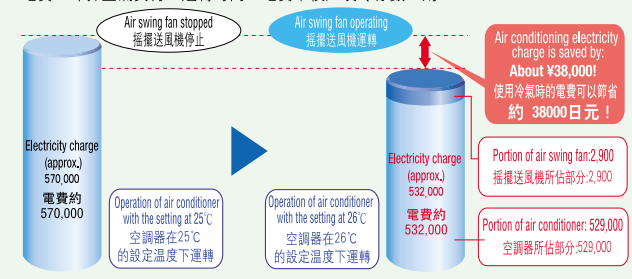
- Room space: 350m³
- Air conditioning method: All fresh air
- Air conditioner's air volume: 5100 m³/h
- Air swing fan: AS-908CSA x 4 units
- 室內體積: 350m³
- 空調方式: 全部外界空氣
- 空調風量: 5100m³/h
- 搖擺送風機: AS-908CSA x 4台

Setting temperature may be raised by about 1°C with the air swing fan.

利用搖擺送風機可以將設定溫度昇高1°C。

| | Setting Temperature 設定溫度 | Relative Humidity 相對濕度 | Enthalpy(kJ/kg) 焓(kJ/kg) | In-Outside Room Enthalpy Difference 室內外焓差 |
|--|-----------------------------|---------------------------|-----------------------------|--|
| Air swing fan stopped (Indoor condition) 搖擺送風機停止時室內條件 | 25°C | 50% | 50.3 | 35.9 |
| Air swing fan operating (Indoor condition) 搖擺送風機運轉時室內條件 | 26°C | 50% | 52.9 | 33.3 |
| Outdoor condition (Indoor condition) 室外條件 | 32°C | 70% | 86.2 | — |

- Guideline unit price of the electricity charge: ¥22/kWh Achievement coefficient: 2.373
- Operating time: 5 months in summer (June ~ October), 10 hours/day, 20 days/month
- Outdoor air load: Air density x Wind capacity x Difference of enthalpy x 0.28
- Electricity charge: Outdoor air load x Operating time x Unit price of electricity/achievement coefficient
- 電費大致標準單價: 22日元/kWh
- 運轉時間: 夏季5個月(6月~10月)，10小時/天，20天/月
- 外界空氣負荷: 空氣密度 x 風量 x 焓差 x 0.28
- 電費: 外界空氣負荷 x 運轉時間 x 電費單價 / 製冷係數，則



The difference of about ¥38,000 is the saving in energy! 其結果約可節省38000日元的電費，節能！

At the same time, contributes to the energy saving as well.

節省能源。

Installation examples of Air Swing Fan 搖擺送風機的安裝實例

- <Municipal high school> Messrs. Municipal Hachijo-jima High School
- (都立高中) 都立八丈高級中學

Swinging airflow produces a feeling of cool winds.
旋轉的氣流給您帶來涼風感



Address: Hachijo-cho, Hachijo Island, Tokyo
Quantity: 142 units
Location: Each schoolroom

地址：東京都八丈島八條町
台數：142台
場所：各教室

- <Aquarium> Messrs. Okinawa Churaumi Aquarium

- (水族館) 沖繩美海水族館

Swinging airflow produces a feeling of cool winds.
旋轉的氣流給您帶來涼風感



Address: Ishikawa, Motobe-cho, Okinawa Prefecture
Quantity: 71 units
地址：沖繩縣本部町字石川
台數：71台

- <Industrial machine maker> Messrs. Seiko Co., Ltd.

- <産業機械製造廠> 靜甲株式會社

Climbing of hot air and dewing on windowpanes in winter are suppressed.
在冬季可以抑制暖氣向上流及在窗面上結霜

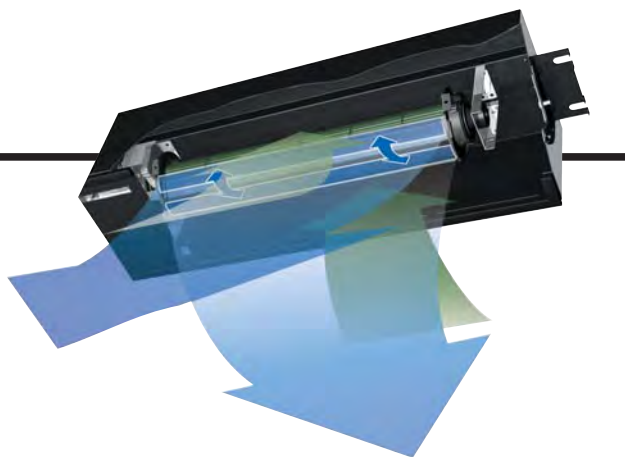


Address: Tenjin, Shimizu City, Shizuoka Prefecture
Quantity: 9 units
地址：靜岡縣清水市天神
台數：9台

<Feature> <特點>

- **Adaptable to embedded installation**
- **Blowing in a wide area with swing operation**
- **Long distance blowing with swing stopped**

- 可採用嵌入設置方式
- 在進行旋轉運轉時，可向寬廣的範圍送風
- 在停止旋轉時，可送風至更大的距離



AS-908CSA-HK



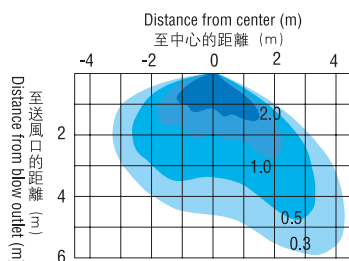
Max. distance of airflow reach 9m 氣流到達的最大距離為9米

Powerful blower capacity makes it adaptable to the ceiling height up to 9 m. Effect is maintained even in a high-ceiling room.

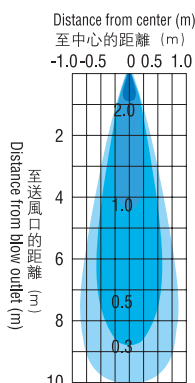
利用全功率的送風功能，可以對應的最大天花板高度達9米。即使是高的天花板也能發揮好的效果。

● Air velocity distribution 風速分佈

Swing 搖頭



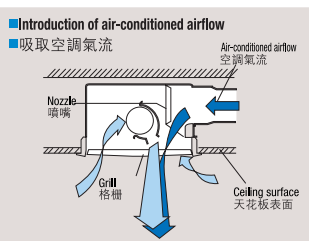
Swing stopped 停止搖頭



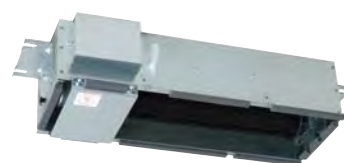
Air-conditioned airflow can be introduced. 可吸取空調氣流

If the air conditioner is connected with a duct, cool air can be transferred in a wide area.

空調器與管道扇可相互連接，向寬廣的範圍吹送冷氣。



AS-606SA-HK



Compact body 機身小巧緊湊

Length of product is restricted to 600 mm so that it can fit to the size of ceiling panel (600 x 600). It fits neatly in the ceiling.

產品長度被控制在600毫米內，適用的天花板面板尺寸為(600×600)。能夠利索地安裝於天花板。

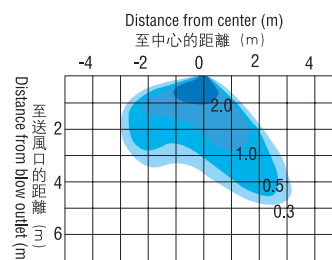


Max. distance of airflow reach 6 m 氣流到達的最大距離為6米

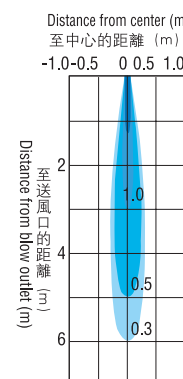
In spite of its compact body, it is adaptable to the ceiling height up to 6 m. 機身雖小巧，但可滿足天花板最大高度6米的使用要求。

● Air velocity distribution 風速分佈

Swing 搖頭



Swing stopped 停止搖頭



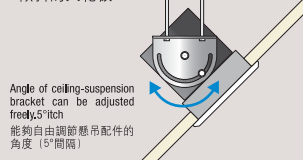
Common feature 共同特點

Installable on inclined ceiling 可以在傾斜的天花板上安裝使用

There is no restriction on the angle so far as the motor axis is disposed horizontally.

只要馬達軸處於水平方向，無角度限制。

Inclined ceiling 傾斜的天花板



Angle of ceiling-suspension bracket can be adjusted freely. 5° inch 能夠自由調節懸吊配件的角度 (5° 間隔)

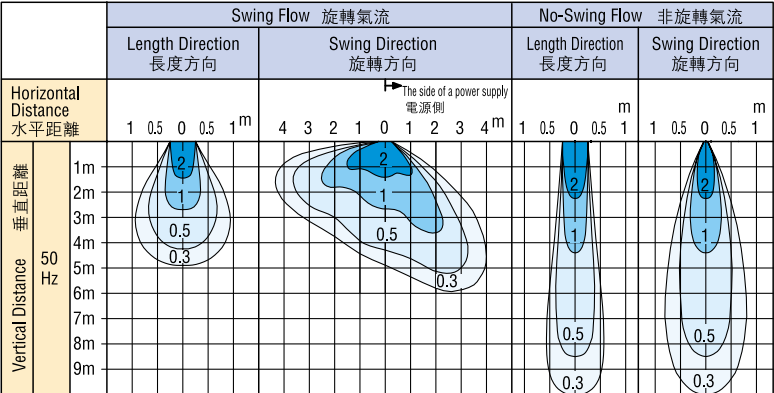
2 notches of Hing / Low Swinging can be turned ON / OFF 強、弱兩檔 搖頭可ON/OFF

- "Strong" and "Weak" wind velocity controls and selectable swinging of "Operation" and "Stop". Wide swinging winds produce the circulation effect that covers a wide area.
- Blowing angle can be fixed at any position. (Turn ON/OFF repeatedly till a desired wind blowing is obtained.)
- Single unit of controller can control more than one unit of air swing fan.
- 可以調節「強」、「弱」風速及選擇搖頭「運轉」、「停止」。能以寬廣的旋轉氣流獲得廣範圍的循環效果。
- 可將送風角度固定在任意位置。(請一邊觀察送風狀況一邊操作ON/OFF開關)
- 可用一個遙控器來操作多台擺擺送風機的運轉。



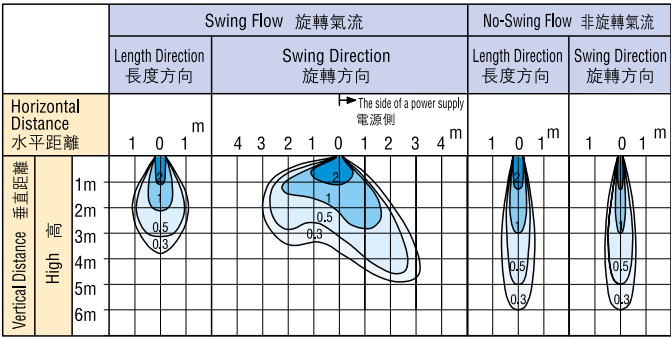
Specifications 規格

Air velocity distribution 氣流速度分佈 AS-908CAS-HK



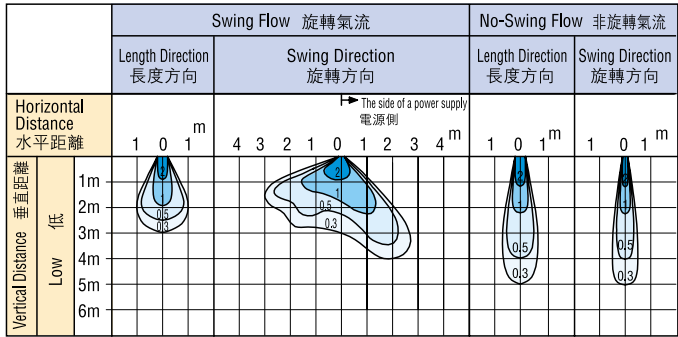
*The figures in above chart are maximum air velocity [m/s] at free air.
 *These distributions are measured under the condition without the influence by the indoor temperatures fluctuate, the conditioned-air, and the outside wind, etc.
 *These distributions are measured with a grille.
 * 上面曲線圖表示自由空間中的最大氣流速度[m/s]。
 * 這些速度分佈是在無室內溫度變化影響的條件下測得的。
 * 這些速度分佈是在帶格柵的情況下測得的。

AS-606SA-HK High notch 高檔



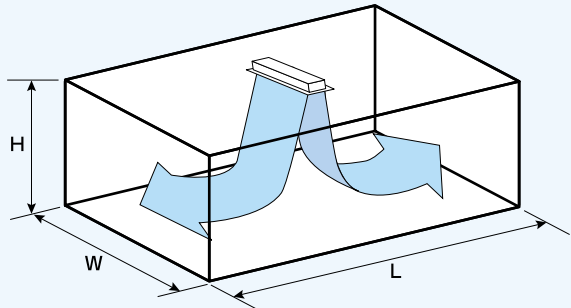
*The figures in above chart are maximum air velocity [m/s] at free air.
 *These distributions are measured under the condition without the influence by the indoor temperatures fluctuate, the conditioned-air, and the outside wind, etc.
 *These distributions are measured without a grille.
 * 上面曲線圖表示自由空間中的最大氣流速度[m/s]。
 * 這些速度分佈是在無室內溫度變化影響的條件下測得的。
 * 這些速度分佈是在無格柵的情況下測得的。

Low notch 低檔



Guide to the installation method of the air swing fan 有關搖擺送風機設置方法之設想

Standard for the installation per unit 每設置一台的大致標準

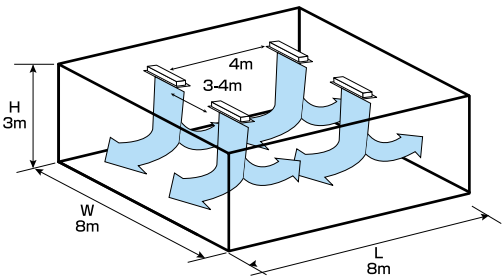


| | Operation Mode 運轉模式 | H | L | W |
|--------------|------------------------|-----------------|----|----|
| AS-908CSA-HK | Swing 搖頭 | 4 m max 4m以下 | 6m | 2m |
| AS-606SA-HK | Swing 搖頭 | 3 m max 3m以下 | 4m | 2m |

Point of the installation 設置要點

To distribute the air stream to a wide area, the air swing fan should be installed in a manner that it will become L > W. Swinging operation produces a cool feeling by the air stream. 為了能使氣流吹到各個角落，在設置搖擺送風機時應使L > W。此外，如果進行搖頭運轉還能使您通過氣流獲得清涼的感覺。

(Example) In case of classroom (例) 學校教室的情況



Point of the installation 設置要點

Since the wind stream tends to run along the walls, install the air swing fan a little closer to the center. 由於氣流容易沿著壁面流動，所以應將搖擺送風機設置在稍微偏向中央的位置。

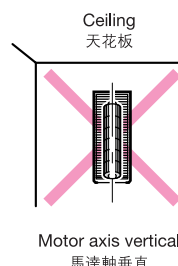
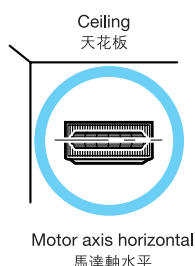
Installation 安裝

Points to note during installation

- Install the product at a surface which has strength sufficiently.
- Installing the product in an improper location may cause it to malfunction. Do not install in location such as the following:
 - a. Outdoors
 - b. Low temperature locations such as refrigerators or freezers
 - c. Sooty or steamy locations
 - d. Locations such as fiber mills or pottery factories that generate large amounts of cotton dust, mineral dust, fine particles
 - e. Locations where acid or alkaline gases are generated or flow in
 - f. Locations where combustible gases are generated, flow in, accumulate, or leak out
- This product is designed for use on condition that it is installed at high level. For safety, do not install where people can easily touch the product.
- Be sure to install a grille to prevent objects from entering the blade.
- Be sure to install the fall-prevention wires(Included parts).
- Installing the product in an improper location may cause it to condensation. Do not install in locations such as the following:
 - a. High humidity locations.
 - b. Locations where a cool wind from an air conditioner directly blow to the unit.
- Set up an Earth Leakage Circuit Breaker certainly.
- To prevent motor overheating, install a protective device such as a motor circuit breaker.
- Select a motor circuit breaker referring to the current value that is approximately 1.2 to 1.5 times as much as that in the specifications on page 5.
- When installing the product in the ceiling, an access hole larger than 45cm on a side (facing the terminal box) must be provided on the ceiling.
- Keep the motor axis level, regardless of the mounting surface.

安裝時的注意事項

- 將本產品安裝在具有足夠強度的平面上。
- 將本產品安裝在不適當的場所，則可能會引起故障。因此，請勿安裝在下列之類的場所。
 - a. 室外
 - b. 冷藏室或會結冰的低溫場所。
 - c. 有煤煙或水蒸汽的場所。
 - d. 會產生大量棉塵、礦物塵埃、微粒子等的纖維或陶器生產車間。
 - e. 產生的酸性或鹼性氣體會流入的場所。
 - f. 會流入、積聚或滲漏燃燒氣體的場所。
- 本產品被設計成專為安裝在高處使用。為確保安全，不要將本產品安裝在人容易觸碰到場所。
- 一定要安裝格柵以防止異物進入機內而粘附在葉片上。
- 一定要安裝防掉落鋼索（隨帶部件）。
- 將本產品安裝在不適當的場所，則可能會產生冷凝氣體。因此，請勿安裝在下列之類的場所。
 - a. 高濕場所
 - b. 空調器的冷氣直接吹得到本機的場所。
- 一定要安裝對地漏電斷路器。
- 為了防止馬達過熱，請安裝馬達斷路器之類的保護裝置。
- 請參照附錄中1.2~1.5項中的電流值來選擇馬達斷路器，電流值的大小必須符合第5頁中規格的要求。
- 如將本產品安裝到天花板上，則必須在天花板上開一個邊長為45cm的方孔（朝向端子接線盒）。
- 不管安裝在什麼平面上都要使馬達軸保持水平。



Installation examples 安裝實例

AS-908CSA-HK

(Length unit: mm)
長度單位: mm

| Flush to the ceiling 與天花板齊平 | Inclined ceiling 傾斜的天花板 | Wall mounting 壁裝方式 | Exposed mounting 露出安裝 |
|--------------------------------|----------------------------|-----------------------|--------------------------|
| | | | |

AS-606SA-HK

| Flush to the ceiling 與天花板齊平 | Inclined ceiling 傾斜的天花板 | Wall mounting 壁裝方式 | Exposed mounting 露出安裝 |
|--------------------------------|----------------------------|-----------------------|--------------------------|
| | | | |

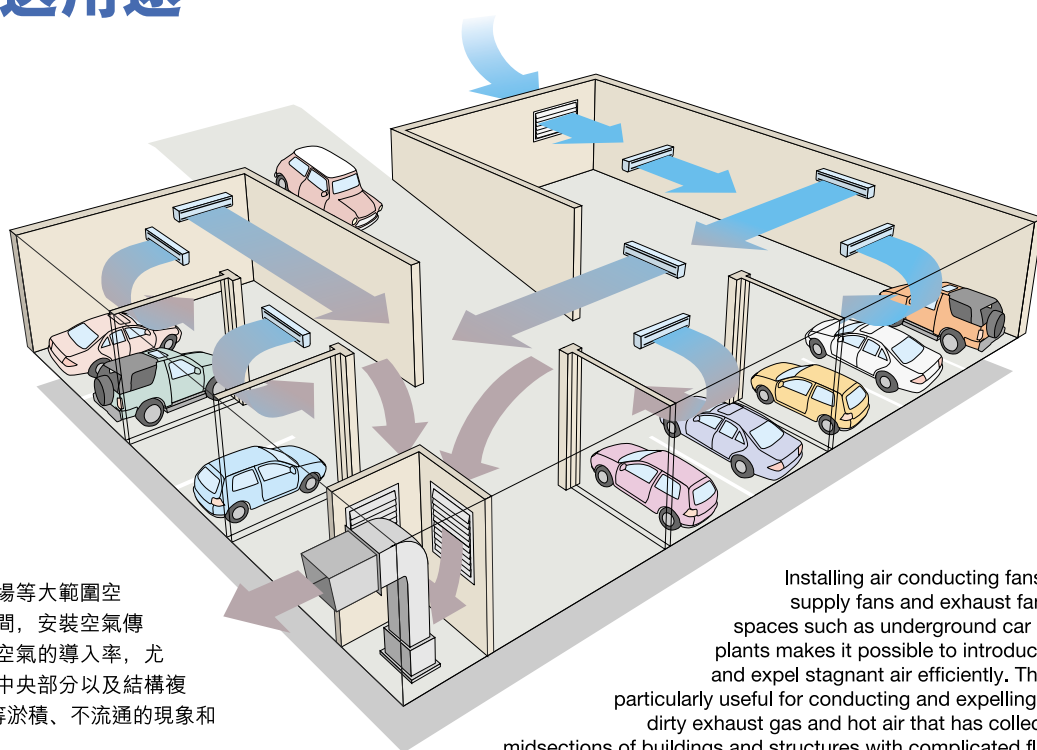
Winde Variation of Ductless Ventilation 適用於寬闊大空間範圍內的無管道換氣。

Air conducting fans are used as auxiliary equipment for ventilators and air-conditioners in guiding flows of exhaust gas in car parks and improving the efficiency of ventilation and air-conditioning in plants and warehouses.

空氣傳送扇作為換氣送風機和空調機的輔助機被廣泛應用於停車場、工場、倉庫等場所。
它可以排送停車場內的汽車廢氣以及提高工場和倉庫的換氣率和冷暖率的作用。

Conducting applications 傳導排送用途

Car parks
停車場

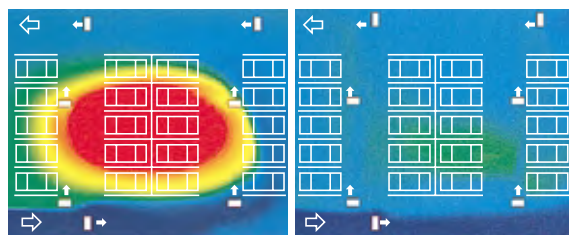


在地下停車場以及工場等大範圍空間，在供氣和排氣之間，安裝空氣傳送扇可提高外部新鮮空氣的導入率，尤其它可以改善建築物中央部分以及結構複雜部位的廢氣/熱氣等淤積、不流通的現象和誘導、排放混濁空氣。

Installing air conducting fans between supply fans and exhaust fans in large spaces such as underground car parks and plants makes it possible to introduce fresh air and expel stagnant air efficiently. The fans are particularly useful for conducting and expelling stagnant, dirty exhaust gas and hot air that has collected in the midsections of buildings and structures with complicated floor plans.



Exhaust gas density distribution
排氣濃度分佈圖



Air conducting fans not in use
空氣傳送扇未使用時

Air conducting fans in use
空氣傳送扇使用時

0ppm 100ppm

Installation image

The airflow created by air conducting fans allows fresh air to permeate all corners of a car park while at the same time reliably directing the exhaust gas generated by vehicles in the car park toward the exhaust fans.

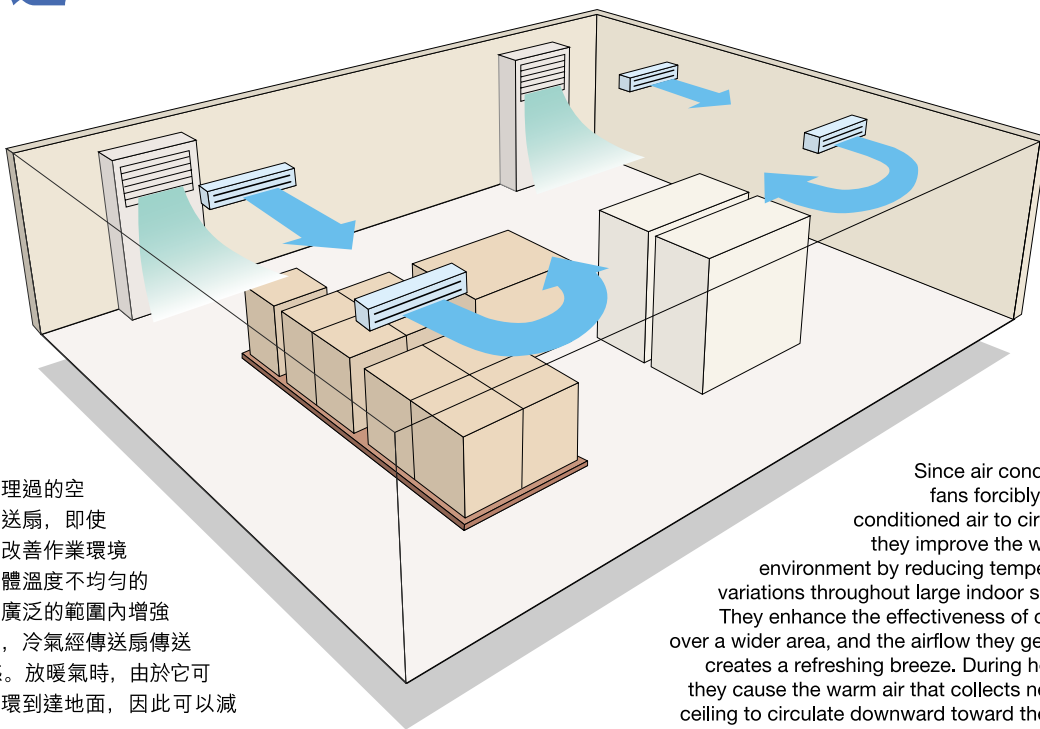
安裝概念

在利用空氣傳送扇的氣流向停車場導入新鮮外氣的同時，還可確實地傳送及誘導停車場內產生的廢氣，使之進入到排氣扇內。

Configurations for Large Spaces

Circulation applications 環 循 用 途

Plants, warehouses
工場、倉庫



為了強制性地使空調機處理過的空氣得到循環，利用空氣傳送扇，即使在大空間範圍內也可達到改善作業環境的效果，並可減少室內整體溫度不均勻的現象。放冷氣時，可在更廣泛的範圍內增強冷氣效果，尤其放冷氣時，冷氣經傳送扇傳送後，可增加人體的涼爽感。放暖氣時，由於它可以使天花板附近的暖氣循環到達地面，因此可以減少空調機的運轉成本。

Since air conducting fans forcibly cause conditioned air to circulate, they improve the working environment by reducing temperature variations throughout large indoor spaces. They enhance the effectiveness of cooling over a wider area, and the airflow they generate creates a refreshing breeze. During heating, they cause the warm air that collects near the ceiling to circulate downward toward the floor, curbing initial air-conditioning running costs.



Temperature
distribution
溫度分佈圖



Air conducting fans not in use 空氣傳送扇未使用時



Air conducting fans in use 空氣傳送扇使用時

Installation image

Since the airflow generated by air-conditioners is not sufficient to cover the entire plant, using air conducting fans with a long reach during heating and cooling helps the air-conditioned air to reach all corners, improving comfort levels throughout the plant's interior.

安裝概念

由於空調機處理的氣流無法均勻地分佈於整個工場的各個角落，利用空氣傳送扇可延長風的到達距離，使冷氣和暖氣可均勻地分佈於整個工場空間，提高室內的舒適感。



Realizing clean spaces and precise temperature control

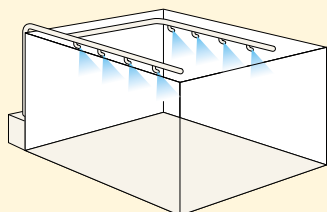
真正實現清潔的空間和對溫度的完全控制。

Lower initial costs 可削減初始成本

Since the ductless system eliminates the need to install ducts, it is ideal for reducing initial costs.

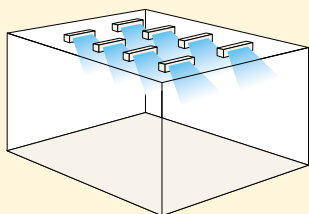
由於採用無管道方式，故不需要安裝管道工事。可削減導入時的初始成本。

Duct system
風管式



High equipment and installation costs
設備安裝工事費用高

Ductless system
無管式



Low equipment and installation costs
設備安裝工事費用的降低

Simple installation 施工簡單

Eliminating the need for duct connections facilitates installation by means of simple mounting to suspension bolts from the ceiling. The angle of the air vent is adjustable to 8 levels.

無需連接管道，設備安裝，施工簡單方便，僅需從天花板上用螺柱連接即可。有8個噴出角度可供選擇。施工簡單。



Large air volume/Low noise/Energy saving 大風量、低噪聲、省電

Employment small-size motor and small-size extra fan reduces successfully operation noise and power consumption in spite of the large air volume.

由於採用了小型馬達和特製的小型風扇，風量大卻降低了運轉噪音和耗電量。

Maintenance saving 保養工作少

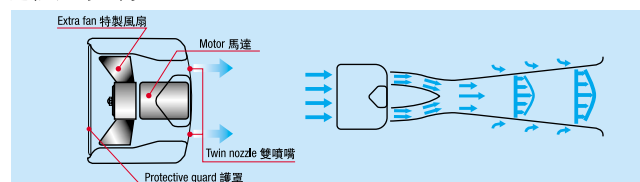
Propeller vanes can be cleaned easily because dust don't easily adhere to them. 灰塵難於積聚在螺旋葉片上，所以保養簡便，這是它的特點之一。



Realization excellent transfer capacity 具有优异的氣流傳遞能力

Suppressed expansion of blown airflow reduces the attenuation of airflow and extends the distance of reach for transfer air.

通過抑制氣流的吹送範圍，使氣流的衰減變小，從而能夠將氣流傳遞很長的距離。



Hotel Parking Garage 停車場

Tokyo Dome Hotel 東京巨蛋酒店

Location: Tokyo, Japan

Models used: AH-709S, 144 units

Area covered: Approximately 10,000 m²

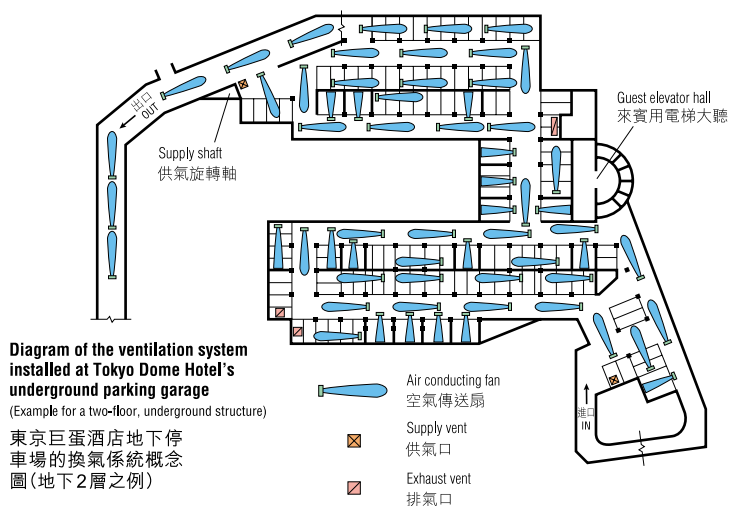
Advantages: 1. Elimination of ducts reduces costs.
2. Easy installation, adaptable to existing structures.
3. Improvement in spatial environment.

所在地: 東京, 日本

使用機種: AH-709S × 144台

對象面積: 約 10,000 m²

使用效果: 1 無管道式成本低廉。
2 施工簡單・對應迅速。
3 可改善空間環境。



Installation image

Through the proper positioning of an air conducting fan, outside air can be introduced and exhaust gas expelled with no stagnant air even for elaborate structures like mechanical ramp-style, two-level parking garages, flat, open parking garages, and small, partitioned areas.

安裝概念

除了機械式上下2層的停車空間及平面式停車場之外，還有用牆壁分割成小空間的停車場。只要合理地安裝空氣傳導排送扇，即使是上述結構複雜的停車場，也能順利地排除廢氣，導入新鮮外氣。



Automobile manufacturer 汽車製造工廠

X Motors, Aichi Plant 愛知縣某汽車工廠

Location: Aichi, Japan

Models used: AH-2009T, 35 units

Area covered: Approximately 8,250 m²

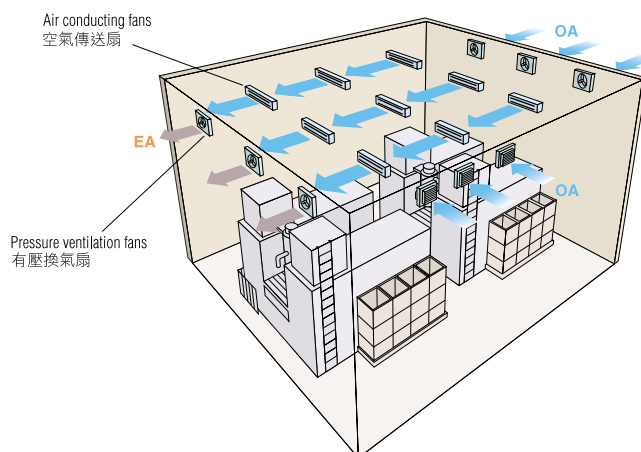
Advantages: 1. More efficient ventilation.
2. Helps create plants that are freely adaptable for air-conditioning designs.

所在地: 愛知縣, 日本

使用機種: AH-2009T × 35台

對象面積: 約 8250 m²

使用效果: 1 有效地實現了換氣。
2 自由對應有空調設計的空間。



Installation image

Air pollution within the plant rises with heat. The air flow created by air conducting fans expels this pollution and at the same time ensures that fresh air reaches all areas within the plant, increasing ventilation efficiency.

安裝概念

可將和熱氣一起上昇的空間內部的混濁空氣透過空氣傳送扇徹底排出，同時把外部的新鮮空氣傳導到室內各處，有效地提高換氣效率。

Specifications 規格

AH-1006S-E, AH-1509S-E, AH-2009S-E

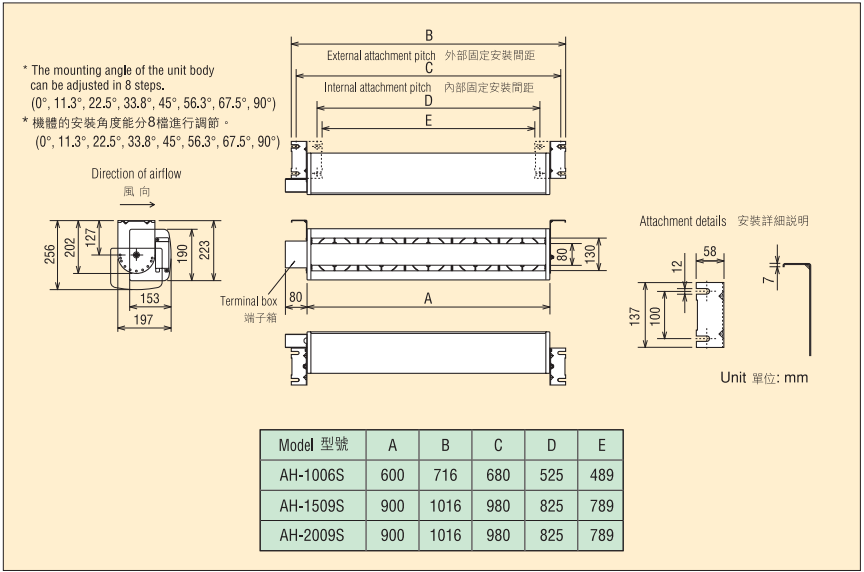


CAUTION

* Operating conditions: Temperatures of both ambient air around the main unit and transfer air are 0°C ~ +45°C and 90% RH at the room temperature. Beyond this range, it could result in seizure, deform, improper revolution or breakage.

注意

●使用條件：主體周圍環境溫度、遞送空氣溫度都為0°C ~ +45°C，在常溫下相對濕度應為90%以下。如果超出了這個範圍，則可能會引起燒損、變形、旋轉不良、損壞等問題。



AH-3009S-E

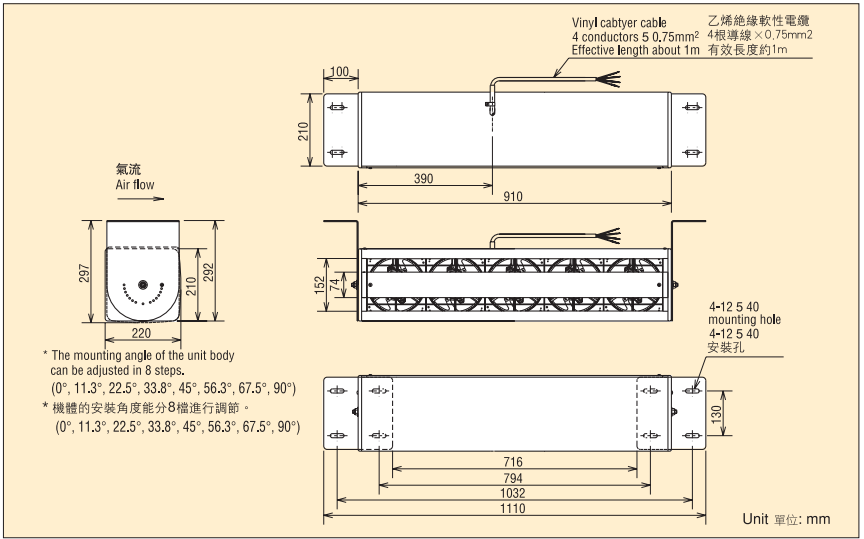


CAUTION

* Operating conditions: Temperatures of both ambient air around the main unit and transfer air are 0°C ~ +45°C and 90% RH at the room temperature. Beyond this range, it could result in seizure, deform, improper revolution or breakage.

注意

●使用條件：主體周圍環境溫度、遞送空氣溫度都為0°C ~ +45°C，在常溫下相對濕度應為90%以下。如果超出了這個範圍，則可能會引起燒損、變形、旋轉不良、損壞等問題。



Specifications 規格

| Model 型 號 | Power Supply 電 源 | Fan Speed 風速切換 | Power Consumption(W) 功率輸入 | Current (A) 電 流 | Air Volume (m ³ /h) 風 量 | Air Velocity (m/sec) 風 速 | Noise (dB) 噪 音 | Starting Current (A) 起動電流 | Weight (kg) 重 量 |
|--------------|--|-------------------|------------------------------|--------------------|---------------------------------------|-----------------------------|-------------------|------------------------------|--------------------|
| AH-1006S-E | Single-phase 50/60Hz 220-240/220V 單 相 | High | 30-34 / 35 | 0.14-0.15 / 0.17 | 700-750 / 700 | 6.5-6.9 / 6.5 | 42-44 / 43 | 0.23 | 7 |
| | | Low | 28-32 / 31 | 0.13-0.13 / 0.15 | 570-620 / 540 | 5.3-5.7 / 5.0 | 39-40 / 39 | | |
| AH-1509S-E | | High | 55-62 / 64 | 0.26-0.26 / 0.3 | 1180-1270 / 1180 | 7.3-7.8 / 7.3 | 43.5-45 / 44 | 0.43 | 10.5 |
| | | Low | 51.5-59 / 56 | 0.24-0.25 / 0.26 | 940-1040 / 870 | 5.8-6.4 / 5.4 | 39-41.5 / 36 | | |
| AH-2009S-E | Single - phase 50Hz 220-240V 單 相 | High | 90-105 / 102 | 0.43-0.47 / 0.47 | 1350-1400 / 1450 | 8.3-8.6 / 9.0 | 46.5-47.5 / 50 | 0.85 | 11 |
| | | Low | 77-87 / 85 | 0.36-0.37 / 0.39 | 1130-1200 / 1060 | 7.0-7.4 / 6.5 | 44-46 / 43 | | |
| AH-3009S-E | | High | 191-223 | 0.87-0.94 | 2100 | 8.2 | 58-58 | 2.53 | 20.5 |
| | | Low | 150-165 | 0.74-0.75 | 1860 | 7.3 | 55.5-56 | 1.55 | |

* The air volume given above is measured using the chamber method.(at Opa)

* The sound level is measured dB (A range) at the point 1.5m of 45 degree from center point of supply opening.

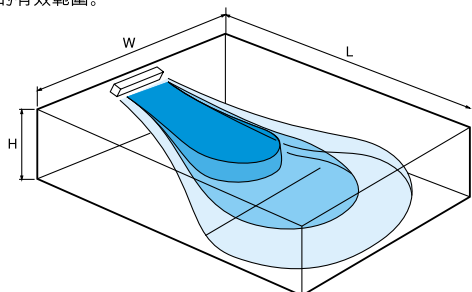
●上表中給出的風量為使用氣腔法所測得的數據。(Opa時)

●噪聲級數據是在離供氣口中心點1.5m、45度的位置上所測得的dB值（A範圍）。

Specifications / Installation 規格 / 安裝

Installation guideline 安裝的位置

Effective range for one air conducting fan.
1台空氣傳送風扇的有效範圍。



| Model 型號 | L | W | H |
|------------|---------|-------|--------|
| AH-1006S-E | 5 - 10 | 4 - 6 | 2 - 4 |
| AH-1509S-E | 10 - 15 | 5 - 7 | 3 - 6 |
| AH-2009S-E | 15 - 20 | 6 - 8 | 4 - 8 |
| AH-3009S-E | 20 - 30 | 7 - 9 | 5 - 10 |

Unit 單位: m

- There are cases where the reach distance is extended by angled venting, which causes the air to flow along the floor's surface.
- The air velocity distribution may be disturbed by enclosing walls, beams, pillars and other obstructions.
- Conditions in the building in question may result in differences in the spacing of units during installation.

- 吹風角度，使風沿地面行走可延長到達距離。
- 受障礙物和梁柱等的影響，風速分布有出現破壞的時候。
- 根據條件設置間隔有所不同。

Points to note during installation 安裝時的注意事項

- Although circumstances differ according to installation sites and installation surfaces, please ensure in all cases that they have sufficient strength and that the units are firmly installed.
- The air conducting fan mounting plate should be used opened outward. However, installation is also possible when there are obstructions to the side of the air conducting fan. (When installing on the inside, please reattach the mounting plate on the inside.)
- When installing air conducting fans near a wall, please ensure there is enough space for air intake. (Please refer to the Installation example, Horizontal outflow, below.)
- 根據安裝場所/固定面的不同，要求安裝固定面有一定的強度，要牢固安裝。
- 空氣傳送扇的安裝板要向外打開使用。但如空氣傳送扇側面有障礙物時，也可安裝在內側。（在內側安裝時，請將安裝板調向內側。）
- 如在牆邊安裝空氣傳送扇時，請確保空氣吸入空間。（請參考以下安裝，水平排出的實例。）

Installation examples 安裝實例

| | Ceiling installation 安裝在天花板 | Ceiling-suspended installation 懸空吊裝 | Wall-mounting 安裝在牆壁時 |
|------------------------------|--------------------------------|--|-------------------------|
| Vertical outflow 空氣垂直噴出時 | | | |
| Horizontal outflow 水平狀噴出時 | | | |

Unit 單位: mm

*1. AH-10, 15, 20 type: 75 mm minimum, AH-30 type: 240 mm minimum

*2. AH-10, 15, 20 type: 100 mm minimum, AH-30 type: 150 mm minimum

*1. AH-10, 15, 20型號為75mm以上，AH-30型號為240mm以上。

*2. AH-10, 15, 20型號為100mm以上，AH-30型號為150mm以上。

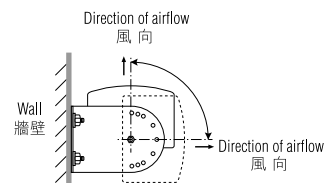
Ceiling installations and concrete walls 安裝在天花板和混凝土牆壁時

- Embed bolts in hard ceilings or wall surfaces leaving approximately 25 mm protruding.
- Place the mounting plate over the embedded bolts and secure it firmly with standard washers and nuts.
- 如屬堅固的天花板，或壁面時，要空出25mm嵌入隱型螺柱。
- 在隱型螺柱上固定安裝板，使用市場上出售的墊片、螺母牢固安裝。

Ceiling-suspended installations 懸空吊裝時

- Embed ceiling suspension bolts that are no longer than 900 mm in hard ceiling surfaces. (If the length exceeds 900 mm, take steps to ensure that the installation is vibration-proof.)
- Place the mounting plate over the ceiling suspension bolts and secure it firmly with standard washers and nuts.
- 懸空吊裝時、長度不得超過900mm、要鑲嵌特殊固定螺母。（如長度超過900mm、要施以防振動措施。）
- 把懸空螺母穿過安裝板固定、之後使用市場上出售的墊片、螺母牢固安裝。

Points to note during installation 安裝時的注意事項



In the case of wall-mounted installations, venting is not possible in this area.
安裝在牆壁時，該範圍部分無法噴出。

Air venting angles of air conducting fans 關於空氣傳送扇的噴出角度

The air venting angle can be adjusted in 8 stages from horizontal to vertical. In locations where there are beams, such as car parks, setting the outflow to horizontal will result in interrupted airflow, so it is necessary to angle it. If this is done, the airflow reaches over a wider area, and reaches a longer distance because of the Coanda effect, which occurs when the airflow hits the floor.

Coanda Effect

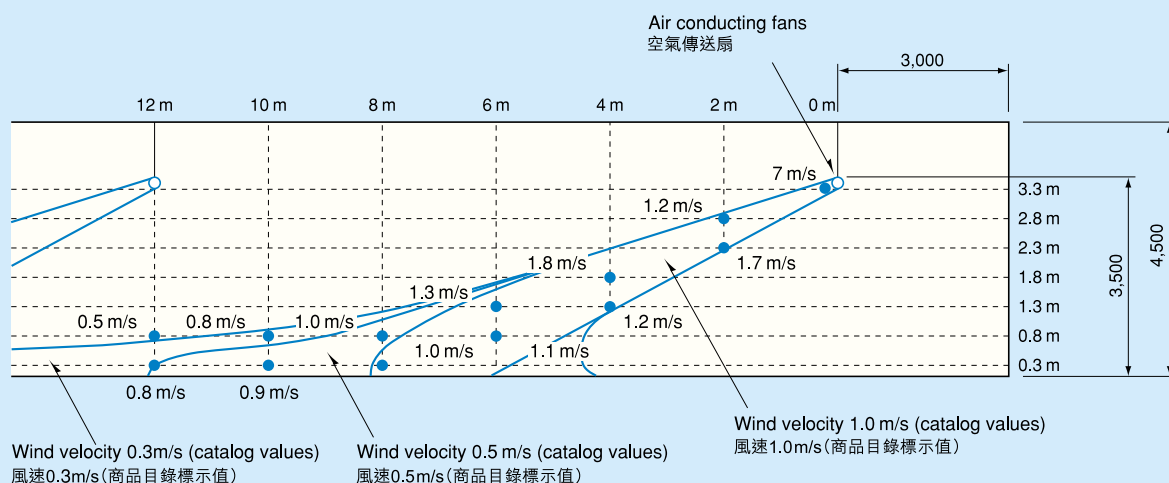
The Coanda Effect occurs when a jet of air or liquid becomes attached to the surface of a wall or ceiling and flows along or around it. Since the airflow disperses in only one direction, it loses speed less readily than a free jet and reaches further.

從水平到垂直可進行 8 個角度的調整。停車場有梁柱時，如空氣呈水平噴出狀，氣流則會被阻斷，因此有必要調整空氣的噴出角度。這樣方可使氣流均勻廣泛散布，尤其是氣流到達地面時，可產生附壁效應，有延長到達距離的效果。

附壁效應

被噴出的氣流在接近壁面及天花板時，氣流一旦被壁面(或地面)吸附然後再流散的現象。由於氣流只向一個方向擴散流動，和自由噴流相比，速度減衰率小，到達的距離則大。

Measurement data of what happens when a jet of air is blown out at an angle. 有角度噴出時的實測數據



It is clear that the wind velocity is larger and the distance reached is further in the case where the air is blown out at an angle rather than horizontally. However, the distance traveled varies according to the height of the ceiling and the angle.

實驗證明，與水平角度相比，有角度的噴出風速大，且到達的距離有所增加。但根據天花板的高度、角度不同、到達的距離亦不同。