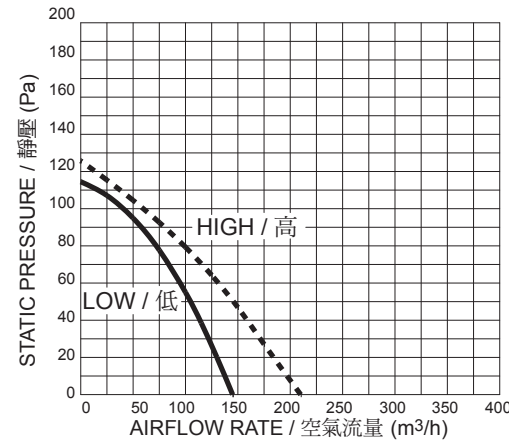


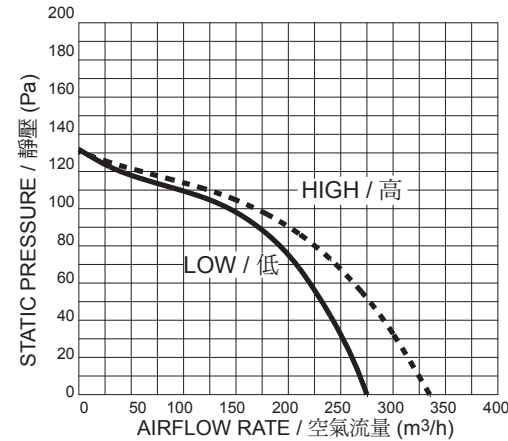
Model 型號	Rated Voltage 額定電壓 (V)	Frequency 頻率 (Hz) Notch / 陷波	Rated Current 額定電流 (A)	Power Consumption 耗電量 (W)	Airflow Rate 空氣流量 (m ³ /h)	Noise Level 噪音水平 (dB)	Connecting Duct Diameter 連接管路直徑 (mm)	Vane Diameter 葉片直徑 (cm)	Weight 重量 (kg)		
V-15ZMW-E	220	50	High/ 高	0.11	25	21.5	φ 100	φ 15	6.0		
			Low/ 低	0.10	16	17.0					
V-15ZMWP-E	240	50	High/ 高	0.12	29	22.5				φ 150	6.0
			Low/ 低	0.11	19	19.0					
V-18ZMW-E	220	50	High/ 高	0.21	43	26.5	φ 150	φ 18	8.5		
			Low/ 低	0.18	29	23.0					
V-18ZMWP-E	240	50	High/ 高	0.22	49	29.0				φ 200	9.5
			Low/ 低	0.19	35	26.5					
V-18ZMW-E	220	50	High/ 高	0.28	60	31.0	φ 150	φ 18	8.5		
			Low/ 低	0.24	34	26.0					
V-18ZMWP-E	240	50	High/ 高	0.28	67	32.5				φ 200	9.5
			Low/ 低	0.24	39	28.0					
V-18ZMW-E	220	50	High/ 高	0.47	99	32.5	φ 200	φ 18	9.5		
			Low/ 低	0.45	78	30.0					
V-18ZMWP-E	240	50	High/ 高	0.47	109	33.0				φ 200	9.5
			Low/ 低	0.46	88	32.0					

■ P-Q CHARACTERISTIC / P-Q 特性 (220 V 50 Hz)

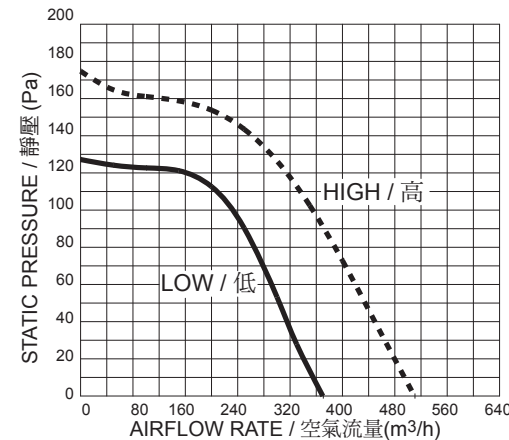
V-15ZMW-E



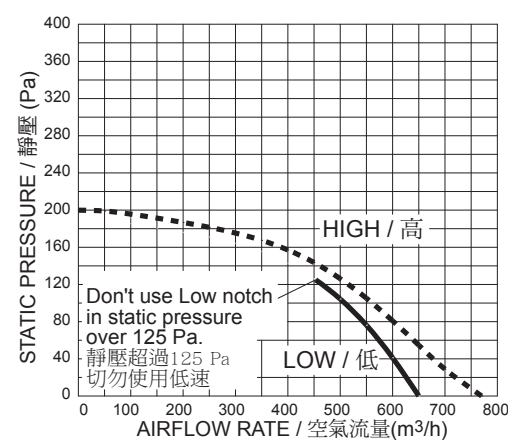
V-15ZMWP-E



V-18ZMW-E



V-18ZMWP-E



MITSUBISHI ELECTRIC CORPORATION
NAKATSUGAWA WORKS
1-3 Komaba-cho, Nakatsugawa-city Gifu-pref. 508-8666, Japan

三菱電機株式会社 中津川製作所
〒508-8666 岐阜県中津川市駒場町1番3号

The PDF data of this manual can be viewed by accessing it from this 2D code.
本說明書的PDF資料可以從此二維碼進行存取并閱讀。

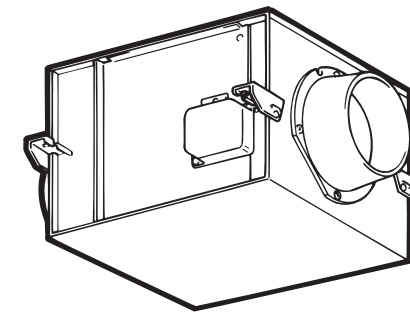


Inline Fan / 直流式離心扇

MODELS / 型號

V-15ZMW-E
V-15ZMWP-E
V-18ZMW-E
V-18ZMWP-E

Installation / Instruction Manual 安裝 / 使用說明書



Contents / 目錄

Page/ 頁次

Safety Precautions / 安全須知	2-4
External Dimensions / 外型尺寸	4
Example of installation / 安裝範例	5
Installation / 安裝方法	5-8
Check after installation / 安裝後檢查	8
Trial Operation / 試運轉	9
Explaining to the User / 對用戶的說明	9
Inspection / 維修檢查	9-10
How to Use the Fan / 風扇使用方法	10
Maintenance / 保養方法	11
Before Requesting Repair / 要求修復前須知	11
After-sales Service / 售後服務	11
Specifications / 規格	12

For contractors

Please read this manual carefully before starting installation in order to ensure safe and correct installation. Installation work must be carried out either by the dealer or specialized installation contractor.

- This product runs exclusively on a 220-240 V / 1Ph / 50 Hz power supply. Check before installation if the power supply matches the specification of your Inline Fan or not.

Be sure to hand over this manual to the user upon completion of installation.

For customers

Please read this manual carefully before operating the product in order to ensure safe and correct operations.

Keep this manual after use at a safe place where you can consult immediately whenever it is necessary.

承包商須知

為確保安裝之安全性及正確性，在進行安裝作業之前，請詳讀本說明書。安裝作業必須交由經銷商或專業安裝承包商進行。

- 本產品僅能使用 220-240 V / 1Ph / 50 Hz 的電源運轉。開始安裝作業之前，請檢查電源是否符合您的直流式離心扇的規格。

請務必在安裝作業完成後將本說明書交給用戶。

顧客須知

為了確保運轉之安全性與正確性，在操作本產品之前，請詳讀此說明書。

使用後將本說明書放置在隨時可取得處，以便必要時參閱。






Safety Precautions / 安全須知





For contractors / 承包商須知

For customers / 顧客須知

Dangerous conditions resulting from improper handling and their extents are classified with the following symbols.
For details of installation instruction, please refer to section "Installation" on page 5-8.

因處置不當而造成的危險狀況及其程度將以下列符號分類說明。
如需有關安裝指示的詳細資訊，請參閱 5-8 頁的「安裝」部分。

 WARNING / 警告		
 Prohibition 禁止	Rated voltage and rated frequency must fall within the ranges of control capacity. (Failure to follow this precaution could result in fires or electrical shocks.)	額定電壓和額定頻率不得超出控制容量的範圍。 (否則可能導致火災或觸電事故。)
	Do not install the product at a place where explosive dust or gas could generate. (There is the risk of explosion or fires.)	切勿在會產生爆炸性粉塵或氣體的場所安裝本產品。 (否則可能引發爆炸或火災。)
	Do not install the product on the exhaust duct extending from any combustion equipment. (There is the risk of fires.)	切勿將本產品安裝於任何燃燒器具的排氣管上。 (否則可能引發火災。)
 Prohibition of wetting with water 禁止沾水	Do not wet with or splash water over the product. (It could cause short-circuit or electrical shocks.)	切勿用水沾濕或灑濕本產品。 (可能造成短路或觸電。)
	Do not modify the product in any way. Disassembly or repair of the product must be carried out only by qualified repair engineers. (There is the risk of fires, electrical shocks or injuries.)	切勿以任何方式改裝本產品。僅能由合格的維修工程師執行本產品之拆解與修復。 (否則可能導致火災、觸電或受傷。)
 Prohibition of contact 禁止觸摸	Do not insert fingers or objects between the vanes during operation. (There is the risk of injuries.)	切勿將手指或物品伸入運轉中的葉片。 (否則可能造成傷害。)
	When the operation has stopped while the power supply is alive, never attempt to touch the product. (It could start suddenly or there is the risk of electrical shocks.)	操作停止但是電源仍接通時，切勿碰觸本產品。 (可能會突然啟動或是導致觸電。)
 Follow instructions 遵照說明	If the product is used for exhausting air from a room where a combustion device of which exhaust gases passing through chimney, secure an air intake port of sufficient opening in order to prevent back flow of the exhausted gases into the room. (This may lead to carbon monoxide poisoning.)	如果本產品用於排出室內空氣，而室內有燃燒器具通過煙囪排出氣體時，則須確保空氣進氣口夠大，以免排出的氣體逆流回到室內。 (可能會因此導致一氧化碳中毒。)
	When using the product to ventilate air from a room where a combustion equipment with an exhaust stack is installed, an air intake opening(s) with sufficient size must be provided to prevent exhaust gas from reversing into the room. (There is the risk of carbon monoxide poisoning)	當使用本產品作為室內通風，而室內安裝有排氣煙囪的燃燒設備時，則必須有夠大的空氣進氣口，防止排出的氣體倒流進入室內。 (否則可能會發生一氧化碳中毒。)
	Where the product and metal ducts extending from the product run through wooden structures which are lined with metal laths, wire laths or metal sheets, install the product and the metal ducts with care to avoid electrical contact with such lining materials. (There is the risk of fires caused by fault currents.)	如果本產品和從本產品拉出的金屬管路通過佈有金屬條板、線網條板或金屬板的木造建物時，請小心安裝本產品和金屬管路，避免與這些襯料產生電氣接觸。 (否則故障電流可能導致火災。)
	Turn off the circuit breaker on the power distribution panel before maintenance or inspection of the product. (There is the risk of electrical shocks or injuries.)	在維修或檢查本產品之前，要關閉配電盤上的斷路器。 (否則可能導致觸電或受傷。)
	Do not handle the product with wet hands. (There is the risk of electrical shocks or injuries.)	手潮濕時請勿觸碰本產品。 (否則可能導致觸電或受傷。)
	Install an electrical leakage circuit breaker. (There is the risk of electrical shock.)	安裝漏電斷路器。 (否則可能導致觸電。)
	Connect the ground cable securely. (It could cause electrical shocks by failures or fault currents.)	將接地線連接妥當。 (否則可能會發生故障或故障電流而致觸電的危險。)

 CAUTION / 注意		
 Prohibition 禁止	Avoid to install at a place where the product is exposed to open flames. (There is the risk of fires.)	避免將本產品安裝在暴露於明火處。 (否則可能引發火災。)
	Stop the operation immediately when any abnormal vibration has occurred on the fan unit. (There is the risk of injuries by the drop of fan unit or parts.)	當主機出現異常震動時，立即停止運轉。 (否則可能發生主機或零件掉落而造成傷害的危險。)
 Prohibition of use in bath or shower room 禁止在浴室或淋浴房內使用本機	Avoid to install at a place where the product is exposed to rain like outdoors or where atmosphere is highly humid like in a bath room. (It could cause electrical shocks or fires.)	避免安裝在室外等受雨淋的處所或浴室等環境濕氣重的地方。 (否則可能會發生觸電或火災。)
	Fan unit must be installed at a place where it is strong enough to bear its weight. (There is the risk of injuries by dropped objects.)	主機安裝的位置必須夠堅固而能夠支撐其重量。 (否則有被掉落物傷害的危險。)
 Follow instructions 遵照說明	Electrical work must be performed by a qualified electrical contractor. (Poor connections or incorrect wiring could result in electrical shock or in the outbreak of fire.)	電氣工作必須由合格的電氣承包商來完成。 (接線不良或錯誤可能會導致觸電或發生火災。)
	Wear groves when unpacking, installing, maintaining/inspecting or servicing the product. (There is the risk of cuts by sharp edges.)	在進行開箱、安裝、維修/檢查或保養本產品時，要戴手套。 (否則可能會被鋒利的邊緣割傷。)
	Turn off the circuit breaker on the distribution panel when the product is not operated for a long time. (There is the risk of electrical shocks, fault currents or fires.)	當本產品長時間未運轉時，要關閉配電盤上的斷路器。 (否則可能導致觸電、故障電流或火災。)
	When the power cable has been damaged, it must be repaired by a qualified electrical contractor in order to prevent risk of electrical accident.	電線受損時，必須由合格的電氣承包商修復，以防止發生電氣意外事故。
	This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. (This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.)	本電器設備非供肢體、感官或精神上有所障礙，或缺乏經驗和知識的人(包括兒童)使用，除非有負責其安全的人員給予他們使用本產品時的監督或指導。(若有人員監督或指示電器相關的安全用法，並理解潛在危險，本電器可供 8 歲及以上兒童及身體、感官或心智能力低下，或者缺乏使用經驗與知識的人士使用。兒童不得把玩本電器。在未經監督的情況下，兒童不得進行清潔和使用後維護作業。)
	Children should be supervised to ensure that they do not play with the appliance.	兒童必須受到監督，確保不會利用此電器設備嬉戲。
	The installation height of Inline Fan must be more than 2.3 m above the floor.	直流式離心扇安裝高度必須高於地板 2.3 米。

Safety Precautions (continued) / 安全須知 (續上)

Note / 附註:

It could result in failures if the product is installed at an unsuitable place. Avoid the following places:

- Where temperatures exceed 40°C.
- Where temperatures drop below -15°C.
- Where there is the risk of freezing.
- Where corrosive gas could generate or chemicals are handled.
- Where the atmosphere contains profuse dust or fume

It is recommended to provide a downhill grade of 1/100 or larger toward the outdoor for the intake duct and install a weather cover (commercially available), or others, at the end of duct to prevent rain water from intruding in the duct.

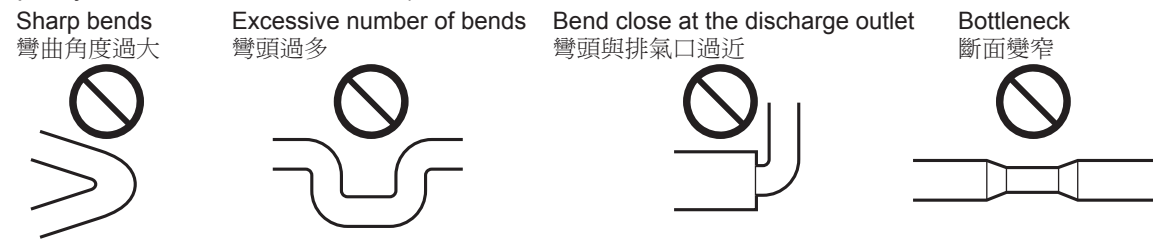
Following kinds of duct work are prohibited. (These could reduce the air capacity or cause abnormal noises.)

如果將本產品安裝於不適當的處所，可能導致故障。避免安裝於以下處所：

- 溫度超過 40°C 的地方。
- 溫度低於 -15°C 的地方。
- 有結凍風險的地方。
- 會產生腐蝕性氣體或是處理化學品的地方。
- 空氣含有大量灰塵或油煙的地方。

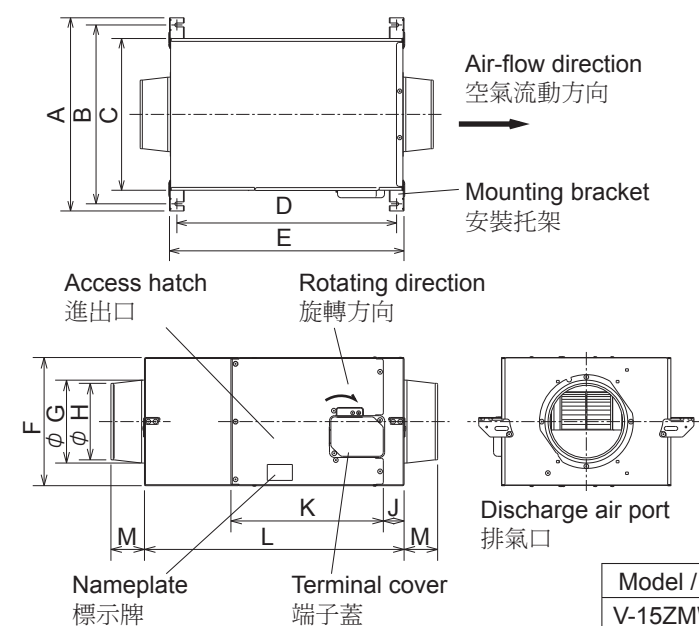
為了防止雨水進入，建議進氣管路要朝向室外，有 1/100 或以上的向下坡度，並在管路末端安裝擋雨罩（市售品）或其他類似品。

禁止使用以下的管路類型。（否則可能導致風量下降或異常噪音。）

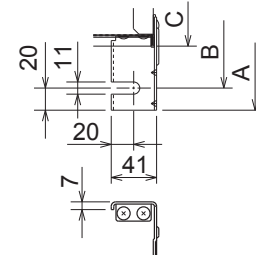


External dimensions / 外型尺寸

For contractors / 承包商須知



Detail of mounting bracket / 安裝托架的細節



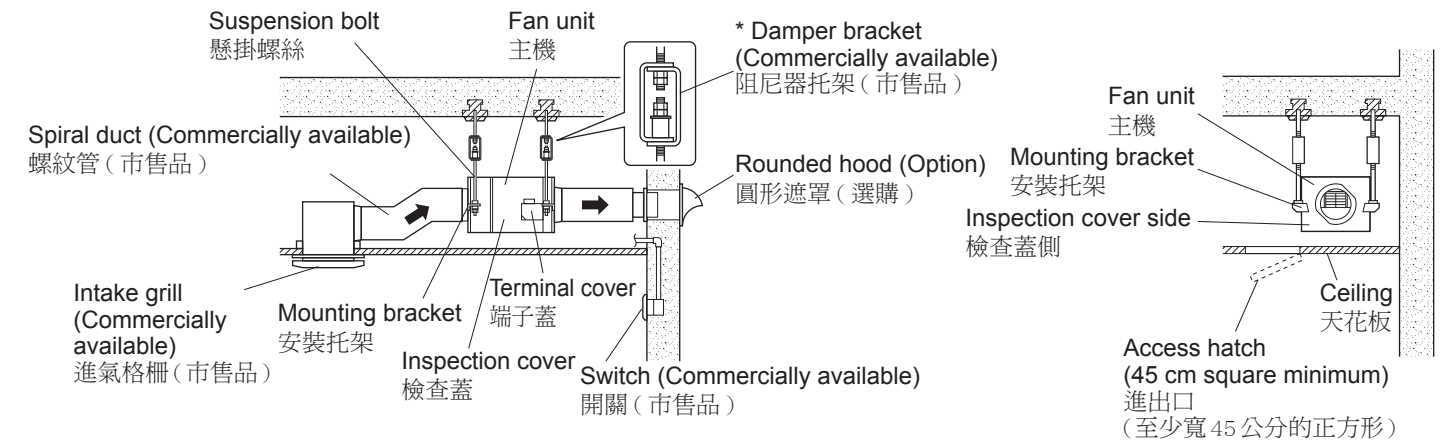
B, D: Mounting bracket pitch
B、D: 安裝托架間距

Unit / 單位 (mm)

Model / 型號	A	B	C	D	E	F	G	H	J	K	L	M
V-15ZMW-E	339	299	223	299	340	226	φ 110	φ 98	43	234	335	60
V-15ZMWP-E	339	299	223	299	340	226	φ 160	φ 142	43	234	335	70
V-18ZMW-E	371	331	255	353	394	255	φ 160	φ 142	51	291	389	70
V-18ZMWP-E	435	395	319	395	436	255	φ 208	φ 192	51	291	431	85

Example of installation / 安裝範例

For contractors / 承包商須知



* Damper bracket (supplied by the customer) can be used if in special condition for vibration requirement and it must can support the weight of the product.

* 如果有對震動需求的特殊條件，可以使用阻尼器托架（客戶提供），且其必須能支撐本產品的重量。

Installation / 安裝方法

For contractors / 承包商須知

Preparation before installation / 安裝前之準備工作

CAUTION / 注意

Wear groves when unpacking.
(To prevent injuries by sharp edge of parts.)
The installation height of Inline Fan must be more than 2.3 m above the floor.

拆箱時要戴手套。
(防止被零件鋒緣割傷。)
直流式離心扇安裝高度必須高於地板2.3米。

Note:

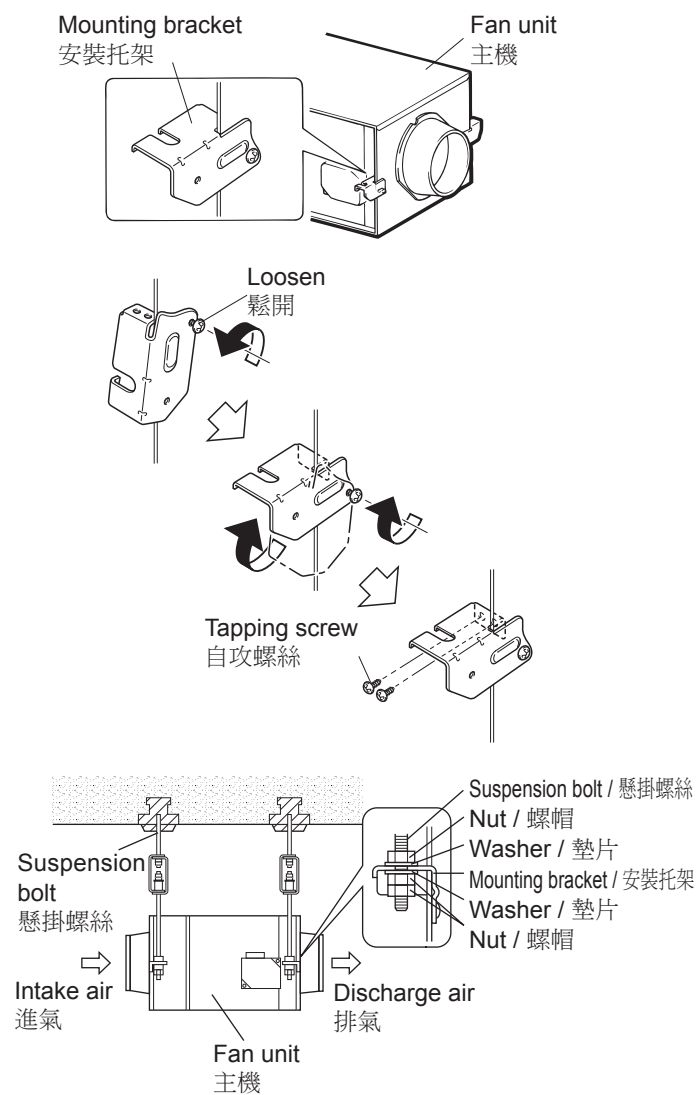
- Install the fan unit in a way that the unit does not contact with any objects.
- When there are any objects around the unit, install the unit 10 mm or more from them.
- Take extra care to ensure that the vanes are not deformed during transportation or installation. Deformed vanes could make unbalance the revolution and cause vibrations, abnormal noises, or others.
- Use of filter is recommended at the air intake side in order to prevent accumulation of dust or oil cake. (Sufficient care must be taken to select a suitable filter because the pressure loss and resulting decrease in the air capacity could vary widely depending on types and makers of filter.)
- When installing on a ceiling, make sure to provide an access hatch of 45 cm square minimum for maintenance and inspection.
- The motor cannot be installed in such a way that the motor shaft is oriented vertically (the inspection cover is oriented upward or downward).

附註:

- 安裝時主機不可碰到任何物品。
- 當風扇周邊有任何物件時，兩者之間距離至少有 10mm 或以上。
- 要特別小心確保葉片在搬運或安裝過程中沒有變形。變形的葉片會造成轉動不平衡，還有震動、異常噪音或其他狀況。
- 建議在空氣進氣端安裝濾網，以防止灰塵或油渣堆積。(要充分注意選擇適合的濾網，因為根據濾網的類型及製造商不同，其壓降及其導致的風量下降可能會大有不同。)
- 當安裝在天花板上時，務必保留一個不少於 45 cm 寬的正方形進出口以利維修與檢查作業。
- 馬達安裝時，馬達軸的方向不可是垂直的（檢查蓋朝上或下）。

Installation (continued) / 安裝方法 (續上)

Installation of fan unit / 主機安裝方法



1. Select a sufficiently strong place and embed mounting bolts (commercially available) referring to the diagrams of external dimensions. (See the example of installation.)
Suspension bolt diameter: M8-M10
* The ceiling and suspension bolts must be able to withstand a weight five times the product weight.

2. Secure the mounting brackets on the fan unit.
 - Make loose the screw on the bracket.
 - Turn the bracket around the loosened screw by 90 degrees to set it at level.
 - Fix the bracket securely on the fan body by tightening the loosened screw and accessory tapping screws. Tapping screws are packed at the inside of pipe flange.

1. 選擇夠堅固的位置，根據外型尺寸圖面嵌入安裝螺栓（市售品）。（參見安裝範例。）
懸掛螺栓直徑：M8-M10
* 天花板和懸掛螺栓必須能夠承受本產品的五倍重量。

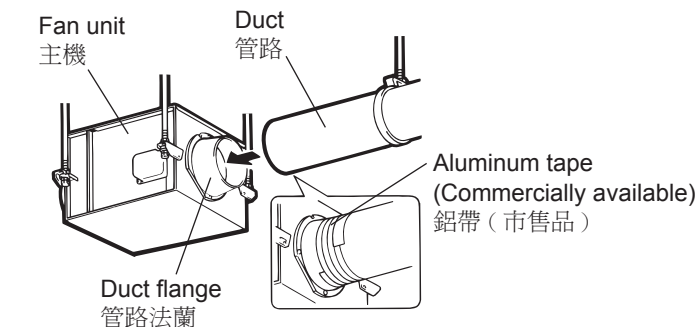
2. 將安裝托架固定在主機上。
 - 鬆開托架上的螺絲。
 - 繞著鬆開的螺絲旋轉托架 90 度到水平定位。
 - 鎖緊鬆開的螺絲及配屬的自攻螺絲，將托架固定在風扇機身上。自攻螺絲包裝在管路法蘭裡面。

3. Secure the fan unit horizontally to the suspension bolts. Tighten the unit with commercially available washers and nuts (M8-M10) which fit to the suspension bolt.

- Tighten the two nuts to prevent loosening.
- Before installing, check the markings on the intake air and discharge air ports on the bottom left of the pipe flange on the side of the fan unit.

3. 將主機以水平方向裝在懸掛螺栓上。
使用符合懸掛螺栓規格的市售墊片和螺帽（M8-M10），鎖緊主機。
 - 將兩個螺帽鎖緊，防止鬆脫。
 - 在安裝之前，檢查主機側邊的管路法蘭左下方的進氣口和排氣口上的標記。

Ducting work / 接管作業



1. Install the ducts securely on the duct flanges both at the intake and the discharge sides. Fix the ducts with rivets or screws available from the market and seal the clearance with aluminum tape also available from the market.
2. Suspend the ducts separately not to apply their weights to the fan unit.

1. 在進氣與排氣端的管路法蘭上安裝好管路。用市售的鉚釘或螺絲固定管路，再用也是市售的鋁帶將間隙密封。
2. 將管路單獨懸掛起來，不要把管路重量施加在主機上。

Electrical work / 電氣作業

WARNING / 警告

Rated voltage and rated frequency must fall within the ranges of control capacity.
(Failure to follow this precaution could result in fires or electrical shocks.)
Connect the ground cable securely.
(It could cause electrical shocks by failures or fault currents.)

額定電壓和額定頻率不得超出控制容量的範圍。
(否則可能導致火災或觸電事故。)
將接地線連接妥當。
(否則可能會發生故障或故障電流而致觸電的危險。)

CAUTION / 注意

Electrical work should be performed by a qualified electrical contractor.
(Poor connections or incorrect wiring could result in electrical shock or in the outbreak of fire.)

電氣作業應由合格的電氣承包商來完成。
(接線不良或錯誤可能會導致觸電或發生火災。)

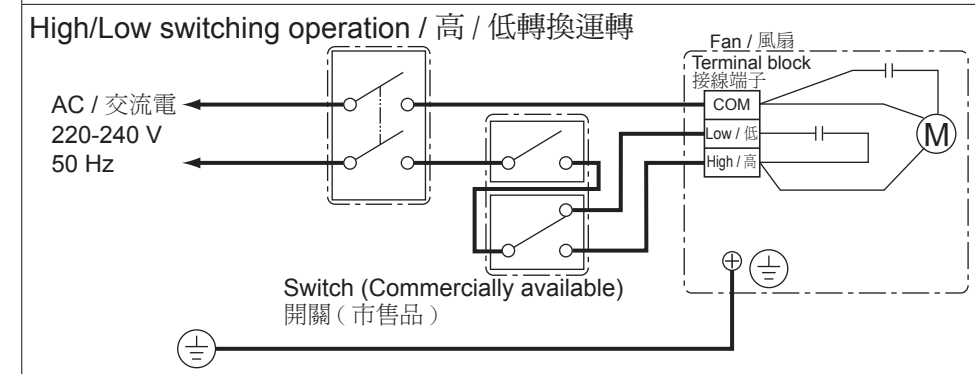
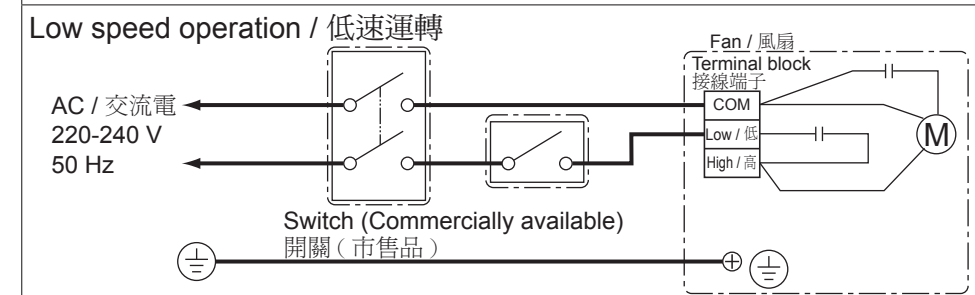
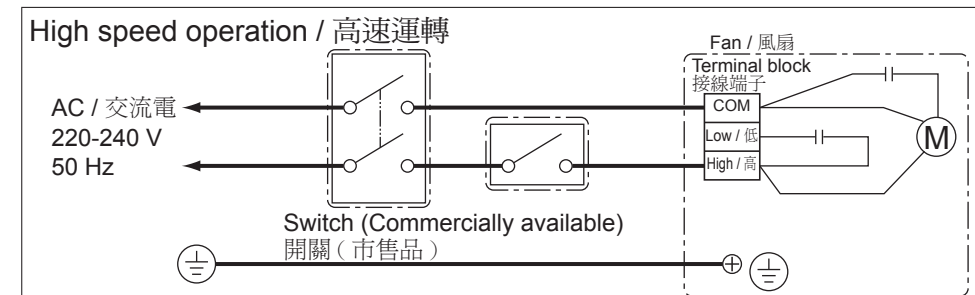
Note:

- When selecting a motor circuit breaker, use a value of 1.2 to 1.5 times that of the maximum load current listed in the specifications as a rule of thumb.
- Capacity of the switch should be selected on the basis of "Starting current x Number of units on connection".
When the switch is operating an electro-magnetic contactor, its capacity must be larger than the operating-coil current of contactor.
- A control switch (available from the market) is required to perform ON/OFF operation and High/Low switch operation. For the wiring and operating procedures, refer to the installation manual and instruction manual supplied with the control switch.
- Use a switch having a minimum distance between contacts of at least 3 mm.
- Miswiring may cause motor malfunction.

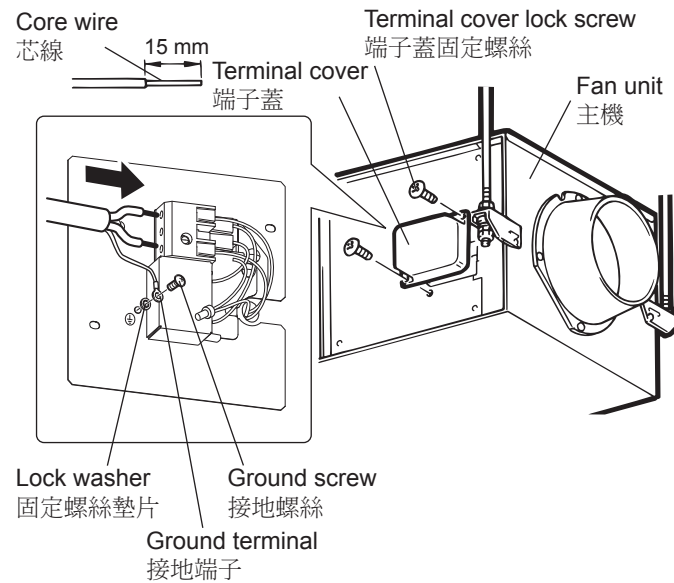
附註:

- 在選擇馬達斷路器時，使用規格中列出的最大負載電流的 1.2 到 1.5 倍的值作為參考值。
- 選擇開關容量應該根據「啟動電流 x 連接的台數」的原則。
當開關在運轉電磁接觸器時，其容量必須大於接觸器的工作線圈電流。
- 執行開 / 關運轉和高 / 低轉換運轉需要一個控制開關（市售品）。關於接線和操作步驟，請參閱控制開關附帶的安裝說明書與使用說明書。
- 使用最小接觸距離至少為 3 mm 的開關。
- 接線錯誤可能導致馬達故障。

Wire connection diagram / 接線圖



Installation (continued) / 安裝方法 (續上)



Note:

- Be sure to perform the electrical work by referring to the Wire Connection Diagram.
- The switch must have a minimum contact separation of 3 mm in all poles.

1. Remove the terminal cover by loosening lock screws. (2 pieces)
2. Connect wires referring to the wiring diagram. Bare the core wire end by approximately 15 mm (VVF cable ϕ 1.6 or ϕ 2). Insert securely the ends into the terminal blocks till they hit the bottom.
3. Grounding must be performed by a qualified electrical contractor.
4. After completing the wiring, check if the product operates correctly. If it is OK, close the terminal cover.

附註：

- 進行電氣作業務必參照接線圖。
- 開關必須在全部的開關極中都有 3 mm 的最小接觸隔離。

1. 鬆開固定螺絲，取出端子蓋。(2 件)
2. 參照接線圖進行接線。
將芯線末端做成約 15 mm 的裸線 (VVF 纜線 ϕ 1.6 或 ϕ 2)。將末端牢固地插入接線端子，直到觸及底部。
3. 接地工作必須由合格的電氣承包商來完成。
4. 接線完成後，檢查本產品是否正確運轉。如果運轉順利，關上端子蓋。

Trial operation / 試運轉

For contractors / 承包商須知

When the installation, electrical work and installation of ducts are over, make sure to test whether the product operates properly or not.

在安裝作業、電氣作業和管路安裝完成之後，務必測試本產品是否運轉妥當。

■ Perform trial operation with the user in attendance.

■ 與用戶一同在現場進行試運轉。

■ When performing trial operation, check for the following symptoms. If any symptom is found, inspect the product.

■ 進行試運轉時，需檢查是否有以下之現象。如果發現任何現象，要檢查本產品。

Symptom / 現象	Cause / 原因	Inspection / 維修檢查
Vanes do not rotate or air volume is low even when the power is turned on. 打開電源以後，葉片不轉動或空氣流量過小。	Wires are connected incorrectly. 接線錯誤。	Check wiring according to the Wire Connection Diagram. 參照接線圖檢查線路狀況。
	High pressure loss caused by the piping. 配管引起的高壓損失。	Check the duct line for deformation or blockage. 檢查管路是否變形或阻塞。
Abnormal vibration, noise or air leakage. 異常震動、噪音或空氣洩漏。	Incorrect installation. 安裝錯誤。	Check the ceiling suspension brackets, suspension bolts, pipe flanges, and terminal cover to see if they securely tightened. 檢查天花板懸掛托架、懸掛螺栓、管道法蘭以及端子蓋，確認是否緊固鎖定。
		Check that there is no air leakage from the clearance of the aluminum tape. 檢查鋁帶間隙是否有空氣洩漏出來。

Check after installation / 安裝後檢查 For contractors / 承包商須知

After installation work, please double-check the points below. If there is any trouble, it must be done correctly.

安裝作業完成後，請再次檢查以下各要點。若有任何問題，必須正確處理之。

■ Check points - Unit installation / 檢查要點 - 主機安裝

No. / 編號	Details to Check / 需檢查的細節	Result / 結果
1	Is the fan installed correctly? / 風扇是否已正確安裝?	
2	Is the power cord damaged? / 電源線是否有損壞?	
3	Is the power supply voltage correct? / 電源電壓是否正確?	
4	Are the wires connected correctly? / 線路連接是否正確無誤?	
5	Has the grounding work been performed correctly? / 接地作業是否已經正確完成?	

Explaining to the User / 對用戶的說明 For contractors / 承包商須知

- Explain correct use by following the descriptions in the "Installation / Instruction Manual".

- 按照「安裝 / 使用說明書」中的描述，說明正確的使用方法。

- Show the customer the location of the circuit breaker and the wall switch.

- 向客戶指出斷路器和牆壁開關的位置。

- Give the customer the "Installation / Instruction Manual".

- 將「安裝 / 使用說明書」交給客戶。

Inspection / 維修檢查 For contractors / 承包商須知

⚠ WARNING / 警告

Always turn off the circuit breaker on the distribution panel before starting maintenance.
(There is the risk of electrical shocks or injuries.)

任何時候在開始維修之前，務必關閉配電盤上的斷路器。
(否則可能導致觸電或受傷。)

⚠ CAUTION / 注意

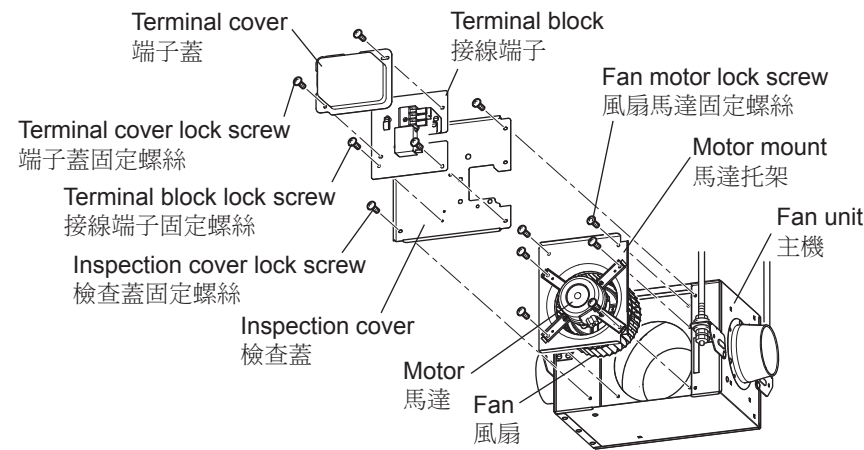
Wear groves when maintaining the product.
(There is the risk of cuts by sharp edges.)

維修本產品時要戴手套。
(否則可能會被鋒利的邊緣割傷。)

Inspection (continued) / 維修檢查 (續上)

For customers / 顧客須知

Exploded view of product (example) / 產品之分解視圖 (例子)



When any abnormal condition is observed on the motor or vanes, inspect them as follows.

1. Remove the terminal cover and disconnect the wires from the quick-connection terminals.
 - Pull out the power wire (VVF cable) while pushing the white part of the quick-connection terminal with a flat head screwdriver. (Pulling the wire out forcibly may damage the quick-connection terminal.)
 - Remove the ground lead from the ground terminal.
2. Remove the inspection cover by removing lock screws and unhook the terminal block from the fan unit.
3. Removing lock screws from the motor mount, pull out the fan and the motor.

Note:

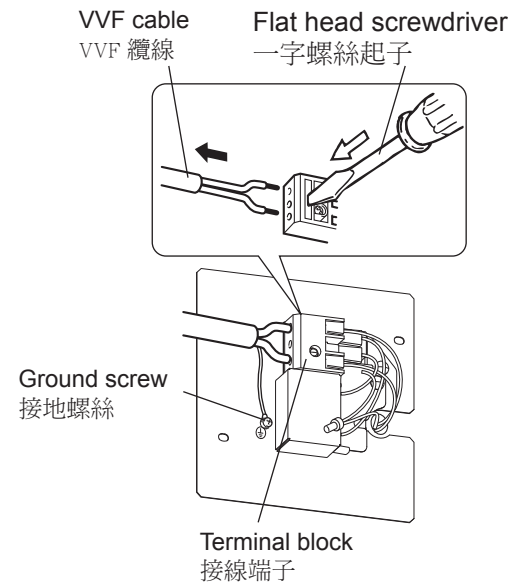
- Do not pull motor lead wires forcibly.
- Since the motor is heavy, handle the motor and the fan carefully not to damage them or hurt yourself.
- Do not remove the vanes from the motor. If the vanes must be removed, ask a qualified electrical contractor.

發現馬達或葉片有任何異常狀況時，依照以下方法檢查之。

1. 取下端子蓋並斷開快速連接端子之接線。
 - 一邊拉出電源線(VVF纜線)，一邊使用一字螺絲起子壓快速連接端子的白色部分。(強行拉出電線可能會損壞快速連接端子。)
 - 從接地端子取出接地線。
2. 取下固定螺絲、取下檢查蓋，再從主機脫鉤移除接線端子。
3. 取下馬達托架的固定螺絲，取出風扇和馬達。

附註：

- 切勿強拉馬達引線。
- 因為馬達很重，搬動馬達和風扇時要十分小心避免損壞，或是傷到自己。
- 切勿取下馬達上的葉片。如果必須取下葉片，要詢問合格的電氣承包商。



How to Use the Fan / 風扇使用方法

For customers / 顧客須知

Use the control switch on the wall to start and stop fan operation.

Note

- Frequent use of non-neutral detergents or disinfectants at the ventilator installation site may shorten the service life of the fan.

使用牆上控制開關開始或停止風扇運轉。

附註

- 若在通風機安裝處頻繁使用非中性洗滌劑或消毒劑，可能會縮短風扇的使用壽命。

Maintenance / 保養方法

For customers / 顧客須知

WARNING / 警告

Always turn off the circuit breaker on the distribution panel before starting maintenance.
(There is the risk of electrical shocks or injuries.)

任何時候在開始維修之前，務必關閉配電盤上的斷路器。
(否則可能導致觸電或受傷。)

CAUTION / 注意

Wear gloves when maintaining the product.
(There is the risk of cuts by sharp edges.)

維修本產品時要戴手套。
(否則可能會被鋒利的邊緣割傷。)

- When a filter is used (at the intake side), clean the filter. Please note that the method of cleaning varies depending on the kinds or specifications of filter.
 - Clogged filter could reduce the air capacity considerably.
- The motor is fitted with thermal fuse as an overload protector. The above thermal fuse sometimes blows and stops rotation in the case of locked operation, overloading, application of an incorrect voltage, or an ambient temperature in excess of the rated level. If this happens, the fuse is blown, power cannot be supplied, and operation cannot be restarted. Switch off the power and ask a qualified electrical contractor to replace the motor.
- To ensure prolonged and safe use of the product, inspect it periodically for loose screws, rust and corrosion.

- 若是使用濾網時(在進氣側)，清理濾網。請注意清理的方法會依照濾網的規格而有所不同。
 - 濾網阻塞會大幅降低風量。
- 馬達配有熱熔斷器作為過載保護器。在鎖定運轉、過載、使用錯誤的電壓，或環境溫度超出額定水準時，上述熱熔斷器有時候會熔斷而使運轉停止。如果發生這種情況，保險絲熔斷，不能提供電力，並且無法重新啟動運轉。關閉電源並通知合格的電氣承包商更換馬達。
- 為了確保本產品能延長安全使用的壽命，要定期檢查有無螺絲鬆脫、有無生鏽和腐蝕。

Before Requesting Repair / 要求修復前須知

For customers / 顧客須知

If the following phenomenon is found and cannot be corrected after inspection by the customer, turn off the breaker and ask your dealer or an electrical contractor to inspect and repair the fan.

如果客戶發現以下現象並且檢查之後無法修復，則關閉斷路器，請經銷商或電氣承包商前來檢查風扇並修復。

Phenomenon / 現象	Cause / 原因	Inspection / 檢查
No operation. 不運轉。	Is the fan unit turned on? 主機是否打開？	Check the circuit breaker on the power distribution panel. 檢查配電盤上的斷路器。 Is there a power outage? 是否有停電？
There is abnormal sound or vibration during operation. 運轉時有異常聲音或震動。	Are mounting screws loose? 安裝螺絲是否鬆脫？ Has dust built up in the outdoor hood? 室外遮罩是否有灰塵堆積？	Re-tighten the mounting screws. 重新鎖緊安裝螺絲。 Remove dust. 將灰塵清除。

After-sales service / 售後服務

For customers / 顧客須知

Please consult your dealer whenever you may need any after-sale service.

需要任何售後服務時，請洽詢經銷商。

Retention period of functional repair parts

We will retain the functional repair parts for 9 years after terminating production of the product.
The functional repair part means a part which is necessary to maintain the function of the product.

功能性修復零件的保存期間

本產品終止生產後，我們會在 9 年內保留所需的功
功能性修復零件。
功能性修復零件意即維持本產品功能所需的零件。