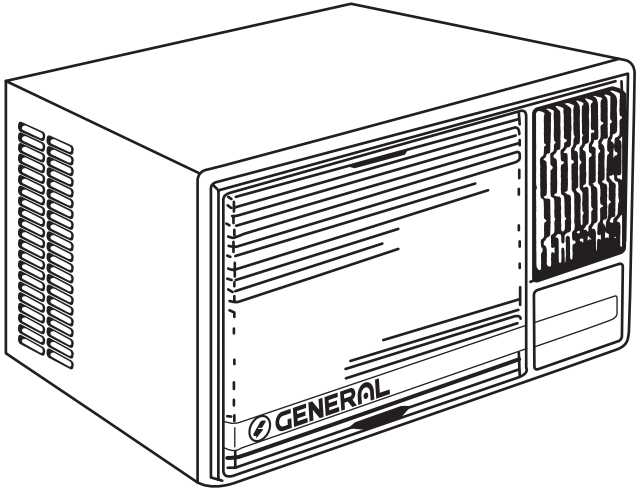
GENERAL

使用説明書

冷 氣 機

AF 系列

中國語



FUJITSU GENERAL LIMITED

P/N 9385901018-02

電源供給

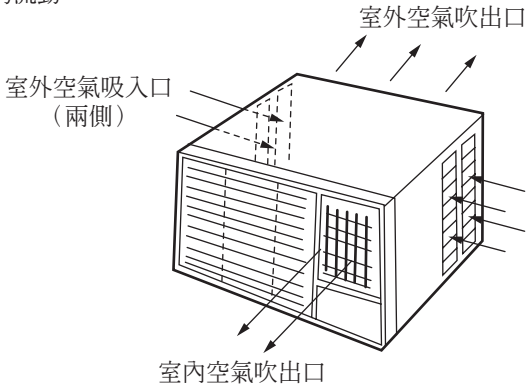
⚠ 警告
(1) 爲了使空調機能夠高效、順利地運行，應將電源插頭透過附有延時保險絲之專用電路插接於定格銘板上所述的正確電源上。 (2) 若本設備的電源線已損壞，由於需要使用專用工具和專用電線，因此必須請經授權的服務人員更換。

安裝

⚠ 警告
此項工作必須由經授權的服務人員來進行。

1. 安裝位置

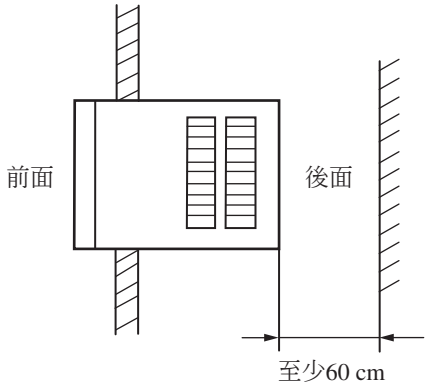
(1) 選擇一個位置，冷氣機所吹出的冷空氣能夠均勻的循環吹送到房間每一部分。確定在室內側、室外側沒有障礙物妨礙空氣的流動。

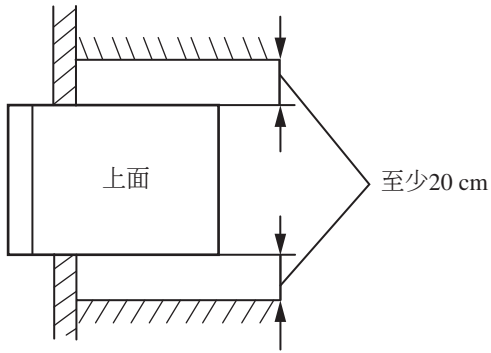


(2) 通常室內空氣循環最理想的狀態是將冷氣機安裝在從外箱下緣算起距地板約0.75 m（29.5"）到1.5 m（59"）的位置。

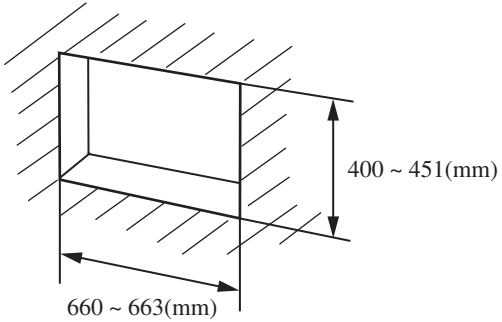
(3) 安裝位置，必須有足夠的強度以支撐冷氣機本身的重量及足夠的剛性以防止振動傳遞到窗子上。

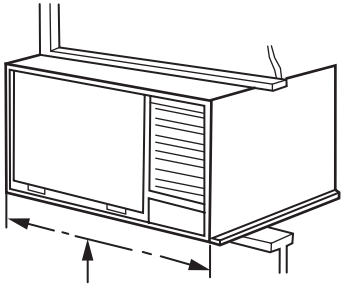
(4) 在冷氣機的後面及兩側不要有障礙物。





2. 安裝口尺寸



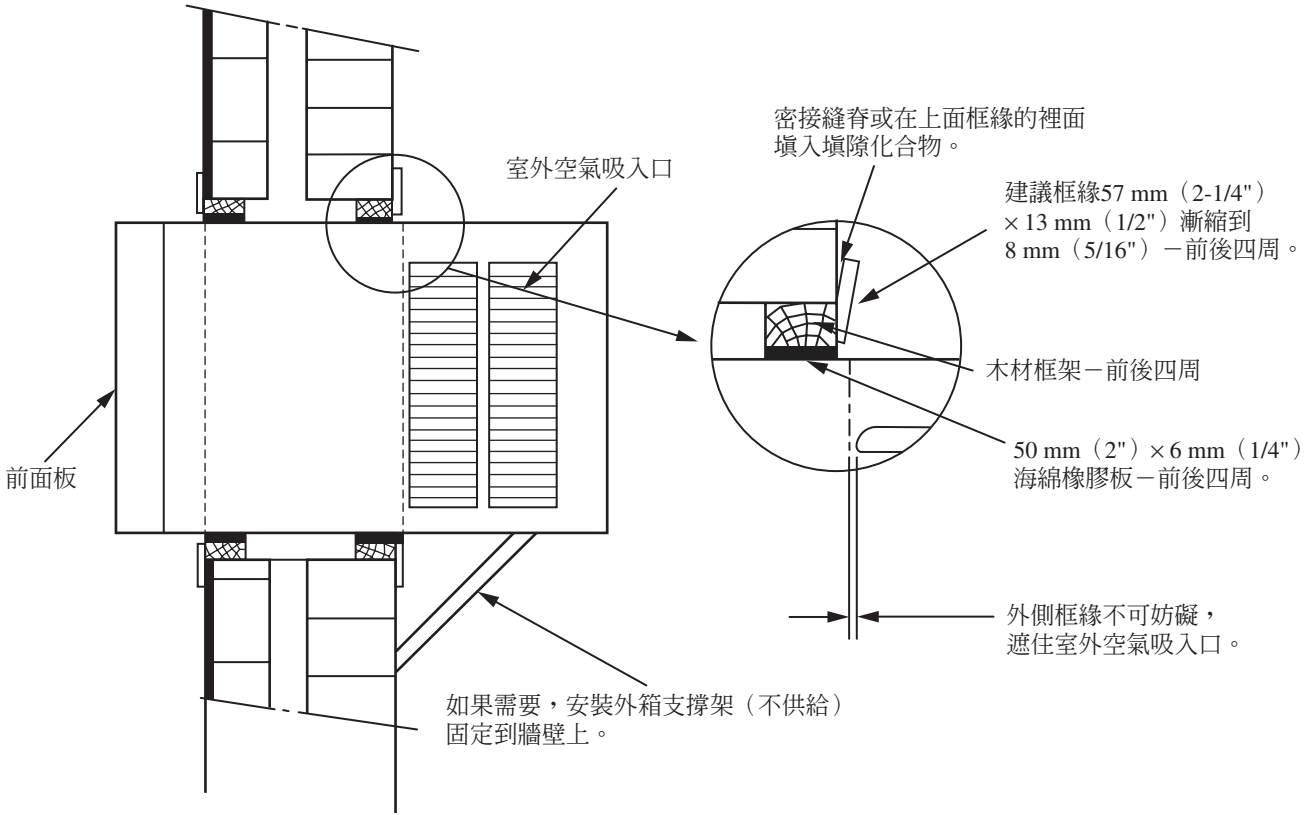

將斷熱材塞入外箱與本體底部之間空隙

3. 安裝步驟

(1) 拆下前面板。
(2) 將冷氣機本體從外箱中拉出。
(3) 用釘子或螺絲釘將外箱固定在木框上，室外空氣吸入口要裝在牆壁外側，如果必要，用托架將外箱支撐在牆壁上。外箱與牆壁之間的任何縫隙要徹底地密封。
(4) 將冷氣機本體完全推進外箱。
(5) 然後將冷氣機本體底部與外箱之間空隙，以螺絲起子將斷熱材從室內側塞入密封。
(6) 裝回前面板。

註：當做木框的時候，要注意冷氣機後面要比前面低 0.5~1 cm，這樣子凝結水才能流到室外，如果冷氣機前面比較低，凝結水及雨水會流進室內。

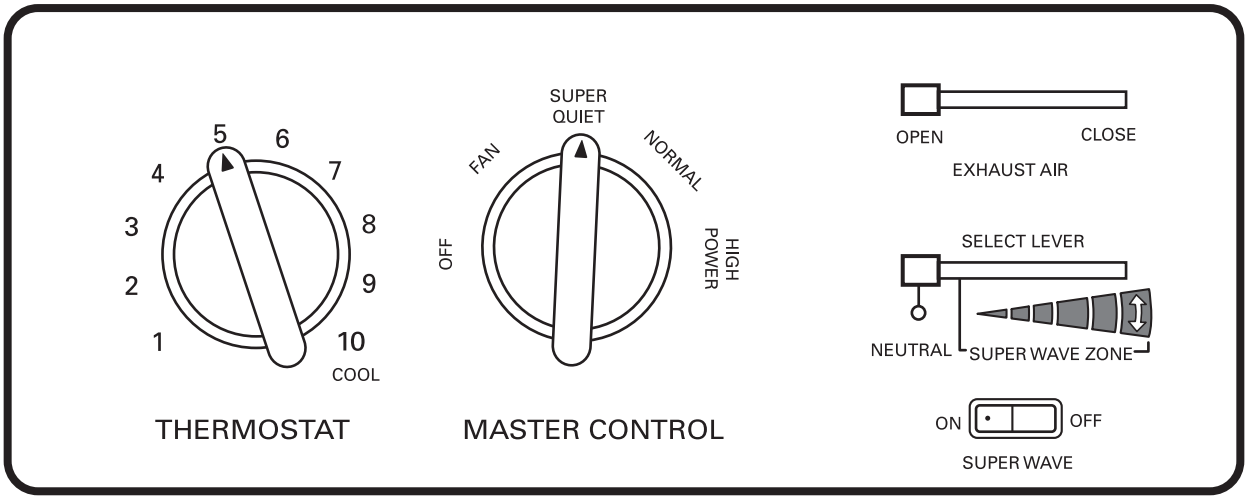
4. 典型的安裝法

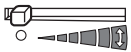

密接縫脊或在上面框緣的裡面
填入填隙化合物。
室外空氣吸入口
建議框緣57 mm（2-1/4"）
× 13 mm（1/2"）漸縮到
8 mm（5/16"）－前後四周。
木材框架－前後四周
50 mm（2"）× 6 mm（1/4"）
海綿橡膠板－前後四周。
前面板
外側框緣不可妨礙，
遮住室外空氣吸入口。
如果需要，安裝外箱支撐架（不供給）
固定到牆壁上。

操作方法

控制板（Control Panel）

制冷機型



控制	位置	功能
主控制器 MASTER CONTROL	OFF	冷氣機電源切斷。
	FAN	只有風扇運轉，供給過濾空氣，但沒有冷氣效果。
	SUPER QUIET	風扇低速運轉，低噪音，冷氣能力弱。
	NORMAL	可以得到較“HIGH POWER”運轉爲安靜之冷氣效果。
	HIGH POWER	風扇高速運轉，冷氣能力最強。
溫度控制器 THERMOSTAT	1~10	根據設定，冷氣機自動地控制室內溫度。設定值越大，冷氣溫度越低。
自動風向開關 SUPER WAVE	ON	垂直風向板連續的變換氣流方向。當主控制器設定在“OFF”位置時，“SUPER WAVE”沒有作用。
	OFF	垂直風向板能夠停止搖擺，使氣流指向所希望的任何方向。
選擇桿 SELECT LEVER		用以調節氣流方向及搖擺角度，詳細請參照13~16頁。
排氣開關 EXHAUST AIR	OPEN	室內空氣排到室外側。
	CLOSE	排氣口開關。

冷卻降溫（Cooling）

炎熱的夏天，爲獲得最大的冷卻降溫效果，請將主控制器旋鈕調到強冷（HIGH POWER）位置，此時還可獲得最大的除濕、空氣循環，和除塵等效果。

調到弱冷（SUPER QUIET）位置時，運轉噪音可以減小。

室內空氣循環（Air Circulation）

適當的空氣流動是室內舒適度非常重要的因素。當把主控制器旋鈕調到“FAN”位置時，只有風扇轉動循環和過濾室內空氣而無冷卻作用。

必要時，也可進行換氣。

另外，雖然主控制器旋鈕調在“SUPER QUIET”或“HIGH POWER”位置，如果把溫度控制器旋鈕反時針方向轉到“1”的位置時，也可只循環空氣而不產生冷卻作用。

溫度控制（Thermostat Control）

利用溫度控制器設定溫度。

當室溫高於設定溫度時，壓縮機便自動打開開關運轉進行冷卻。

當室溫低於設定溫度時，壓縮機便自動停止運轉，冷卻作用也告停止。

亦即溫度控制器是利用能自動起動或停止壓縮機的作用去維持一定不變的室溫。

1. 希望比較低的溫度時，可順時針方向旋轉溫度控制器旋鈕，設定在較高的刻度值位置。
2. 希望升高室溫時，可逆時針方向旋轉溫度控制器旋鈕，設定在較小刻度值位置。
3. 通常如把溫度控制器旋鈕設定在刻度值“5”、“6”或“7”的位置時，即可獲得舒適的室內溫度。但請注意，室溫低於22ºC時，對人體健康將有不利的影響。
4. 當把溫度控制器旋鈕設定在“10”的位置時，因夜間的室外氣溫較低而導致過低的室內溫度（例如低於18ºC時）室內側的散熱片盤管可能發生凍結。
   散熱片盤管一旦發生凍結，從冷氣機吹出的氣流受阻，冷氣機的冷卻能力減低，導致室溫升高，不能獲得所需的冷度。
5. 當室溫不夠冷時，溫度控制器旋鈕可能要調到“8”、“9”或“10”的位置使用。這種情形，可能在下列的條件下發生，即水平風向板朝下，而垂直風向板朝左的情況下，造成氣流短路而循環空氣接觸到溫度控制器的感應部，致使溫度控制器作用而自動停止冷氣機運轉。

註：溫度控制器只控制壓縮機而已，因此，即使壓縮機停止運轉時，風扇仍可繼續鼓動空氣循環。

注意

因爲操作主控制器，或溫度控制器致使運轉停止時，至少需等3分鐘以上，才可以重新起動冷卻運轉。如在關閉冷卻運轉後立即又打開運轉時，壓縮機將流過過大電流，此時，安全裝置將起作用。這個安全裝置一旦發生作用，壓縮機就要再等大約20分鐘左右才能重新起動。

排氣控制（Exhaust Air Control）

將排氣開關（EXHAUST AIR）之調節桿，撥於“OPEN”和“CLOSE”之間適當的位置，可以依希望程度排出室內空氣，當調節桿撥向“OPEN”位置，排氣量會增加。

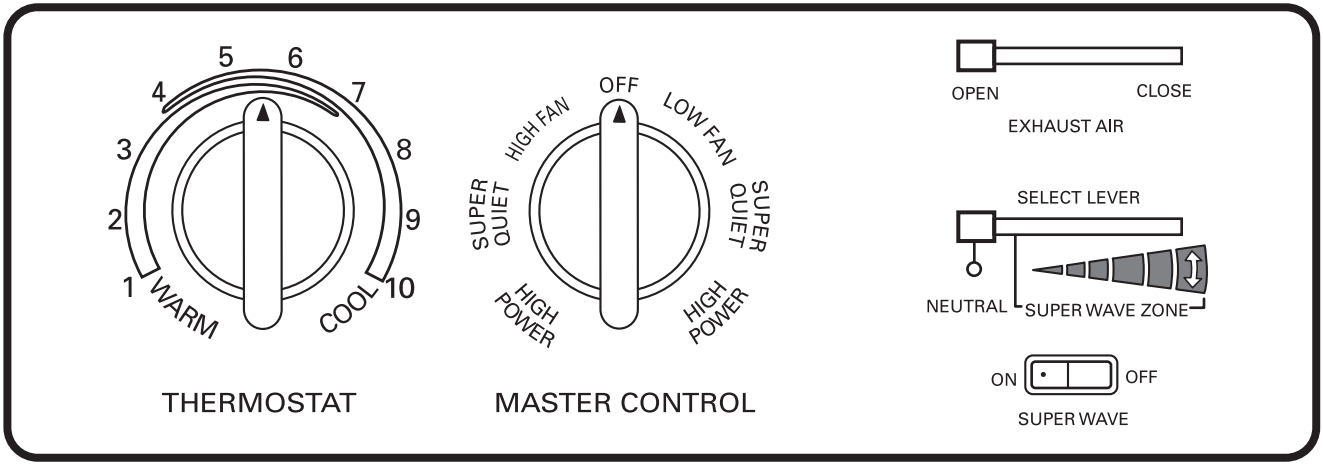
氣流方向控制（Air Direction Control）

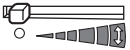
當自動風向（SUPER WAVE）開關是設定在“ON”位置時，垂直風向板會自動地開始左右搖擺吹出空氣，以使室內更有效的獲得冷氣/暖氣。

當自動風向（SUPER WAVE）開關切於“OFF”位置，風向板可以隨即停在任何位置。

搖擺角度及方向可以用選擇桿調整，搖擺可以向左側或中央或右側擺動一個範圍，視房間冷氣機安裝位置及佈置情形選擇適當的搖擺角度及方向。

逆循環機型


1
2
3
4
5
6
7
8
9
10
WARM
COOL
THERMOSTAT
OFF
HIGH FAN
LOW FAN
SUPER QUIET
SUPER QUIET
HIGH POWER
HIGH POWER
MASTER CONTROL
OPEN
CLOSE
EXHAUST AIR
SELECT LEVER
NEUTRAL
SUPER WAVE ZONE
ON
OFF
SUPER WAVE

控制	位置	功能
主控制器 MASTER CONTROL	HIGH POWER (紅)	風扇高速運轉－熱氣效果迅速。
	SUPER QUIET (紅)	風扇低速運轉－熱氣效果緩慢，運轉噪音較低。
	HIGH FAN	風扇高速運轉，無暖氣/冷氣效果－房間通風換氣。
	OFF	冷氣機電源切斷。
	LOW FAN	風扇低速運轉，無暖氣/冷氣效果－房間通風換氣。
	SUPER QUIET (藍)	風扇（低速）和壓縮機運轉－中等冷氣效果，運轉噪音較低。
	HIGH POWER (藍)	風扇（高速）和壓縮機運轉－迅速獲得最強冷氣效果。
溫度控制器 THERMOSTAT	WARM - COOL	自動控制暖氣/冷氣效果。逆時針/順時針轉動旋鈕以獲得最舒適的暖氣/冷氣效果。
自動風向開關 SUPER WAVE	ON	垂直風向板連續的變換氣流方向。 當主控制器設定在“OFF”位置時，“SUPER WAVE”沒有作用。
	OFF	垂直風向板能夠停止搖擺，使氣流指向所希望的任何方向。
選擇桿 SELECT LEVER		用以調節氣流方向及搖擺角度，詳細請參照13~16頁。
排氣開關 EXHAUST AIR	OPEN	室內空氣排到室外側。
	CLOSE	排氣口開關。

冷卻降溫（Cooling）

炎熱的夏天，爲獲得最大的冷卻降溫效果，請將主控制器旋鈕調到強冷（HIGH POWER）（藍）位置，此時還可獲得最大的除濕、空氣循環，和除塵等效果。

調到弱冷（SUPER QUIET）（藍）位置時，運轉噪音可以減小。

制熱升溫（Heating）

嚴寒的冬天，爲了產生最佳的制熱升溫效果，請將主控制器旋鈕調到強暖（HIGH POWER）（紅）位置。此時，還可獲得最大的空氣循環。

調到弱暖（SUPER QUIET）（紅）位置時，可以減少暖氣效果和運轉噪音。但是，由於風扇速度降低，可能在排氣口感覺到較強暖（HIGH POWER）（紅）位置更高的溫度。

註：開機後約10分鐘，排放空氣才開始變暖。這是正常現象。

室內空氣循環（Air Circulation）

保持空氣流通是獲得舒適室溫的非常重要因素。當把主控制器調到“HIGH FAN”或“LOW FAN”位置時，只有風扇轉動循環室內空氣而無冷氣/暖氣效果。

還可按照以下方式來實現空氣循環而無冷氣/暖氣效果：

1. 當把主控制器調到“HIGH POWER（紅）”或“SUPER QUIET（紅）”時，完全順時針轉動溫度控制器。
2. 當把主控制器調到“HIGH POWER（藍）”或“SUPER QUIET（藍）”時，完全逆時針轉動溫度控制器。

溫度控制（Thermostat Control）

一旦將溫度控制器調到所需溫度，將會自動調整室溫，不會導致冷氣/暖氣效果過分或不足，從而始終保持舒適的室內環境。

冷卻降溫時，順時針轉動溫度控制器旋鈕以增加冷氣效果。

制熱升溫時，逆時針轉動溫度控制器旋鈕以增加暖氣效果。

溫度控制器只能控制壓縮機，因此即使在制冷/制暖操作期間壓縮機停機，風扇仍會不停地循環空氣。

要停止制冷/制暖操作，將主控制器調到OFF位置即可。

1. 希望比較低的溫度時，可順時針方向旋轉溫度控制器旋鈕，設定在較高的刻度值位置。
2. 希望升高室溫時，可逆時針方向旋轉溫度控制器旋鈕，設定在較小刻度值位置。
3. 通常如把溫度控制器旋鈕設定在刻度值“5”、“6”或“7”的位置時，即可獲得舒適的室內溫度。但請注意，室溫低於22ºC時，對人體健康將有不利的影響。
4. 當把溫度控制器旋鈕設定在“10”的位置時，因夜間的室外氣溫較低而導致過低的室內溫度（例如低於18ºC時）室內側的散熱片盤管可能發生凍結。
   散熱片盤管一旦發生凍結，從冷氣機吹出的氣流受阻，冷氣機的冷卻能力減低，導致室溫升高，不能獲得所需的冷度。

5. 當室溫不夠冷時，溫度控制器旋鈕可能要調到“8”、“9”或“10”的位置使用。這種情形，可能在下列的條件下發生，即水平風向板朝下，而垂直風向板朝左的情況下，造成氣流短路而循環空氣接觸到溫度控制器的感應部，致使溫度控制器作用而自動停止冷氣機運轉。

註：溫度控制器只控制壓縮機而已，因此，即使壓縮機停止運轉時，風扇仍可繼續鼓動空氣循環。

注意

因爲操作主控制器或溫度控制器致使制冷/制暖操作停止時，至少需等待3分鐘，才可以重新啓動。如果制冷/制暖操作在這段時間內重新啓動，過大電流將流過壓縮機，此時壓縮機馬達安全裝置將起作用。制冷/制暖操作就要再等待大約20分鐘左右才能重新啓動。

自動除霜（Automatic Defrosting）

在室外溫度很低時長期制熱，冷凝器會逐漸結霜，這樣降低了制暖效率。 爲了避免此情況，機組配備了自動除霜系統。
當出現結霜現象時，風扇自動停止運轉。等待5分鐘左右使霜融化，然後重新開始制熱。

排氣控制（Exhaust Air Control）

將排氣開關（EXHAUST AIR）之調節桿，撥於“OPEN”和“CLOSE”之間適當的位置，可以依希望程度排出室內空氣，當調節桿撥向“OPEN”位置，排氣量會增加。

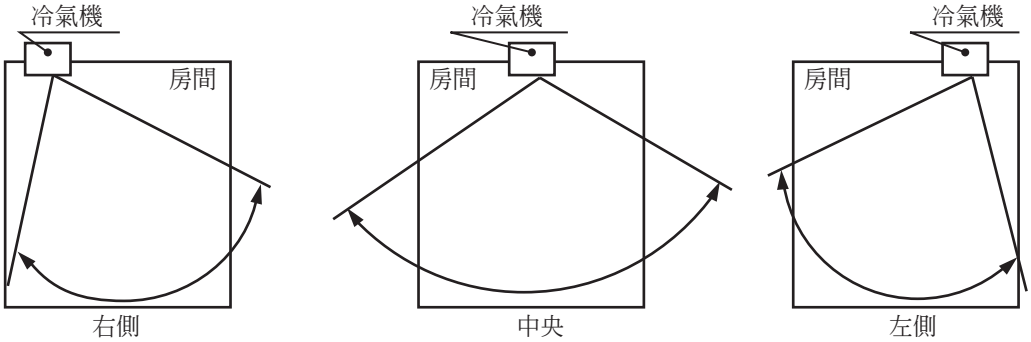
註：“EXHAUST”調到打開時，冷氣/暖氣效果會降低。

氣流方向控制（Air Direction Control）

當自動風向（SUPER WAVE）開關是設定在“ON”位置時，垂直風向板會自動地開始左右搖擺吹出空氣，以使室內更有效的獲得冷氣/暖氣。
當自動風向（SUPER WAVE）開關切於“OFF”位置，風向板可以隨即停在任何位置。
搖擺角度及方向可以用選擇桿調整，搖擺可以向左側或中央或右側擺動一個範圍，視房間冷氣機安裝位置及佈置情形選擇適當的搖擺角度及方向。

風向調節（Air Flow Adjustment）

此型冷氣機，如下圖所示，有3個氣流方向。設定好氣流方向，然後調整所需要的搖擺角度。

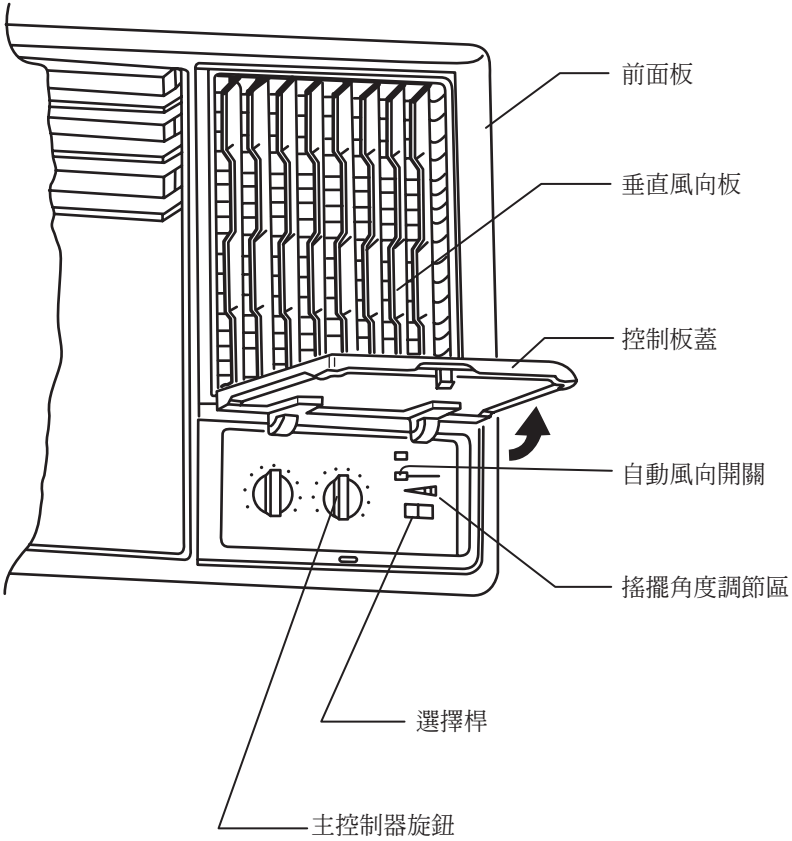


註：

室內濕度較高時的垂直風向板設定。

1. 將自動風向（SUPER WAVE）開關設定於“ON”的位置。
2. 或將自動風向（SUPER WAVE）開關設定於“OFF”的位置使用。當垂直風向板移向中央時，即將此開關設定爲“OFF”。

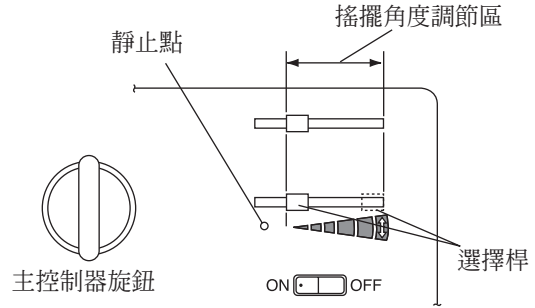
各部名稱



搖擺角度的調整

左、右推動調整選擇桿，便可減小或加大搖擺角度。可在搖擺角度調節區（SUPER WAVE ZONE）範圍內調整搖擺角度。

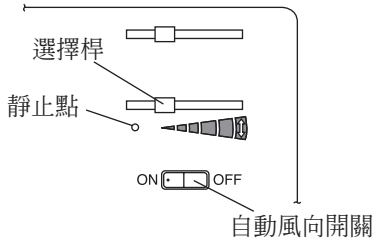
註：如把選擇桿推回“NEUTRAL”，垂直風向板便不能作正常的擺動。如錯把選擇桿推回“NEUTRAL”位置，請再按照“氣流方向和搖擺角度的調整”一節的說明重新調整搖擺角度。



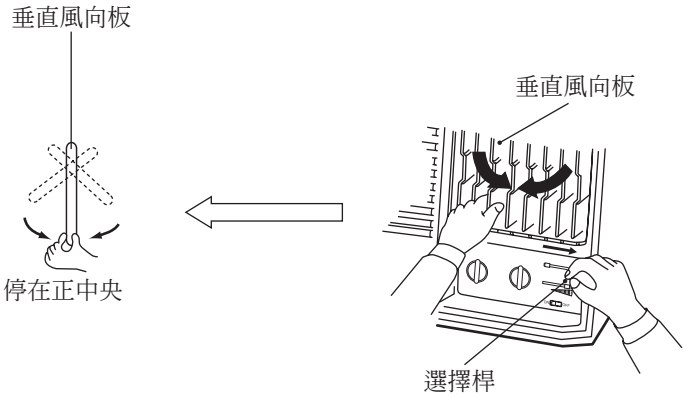
氣流方向和搖擺角度的調整

氣流方向對準中央：

1. 將選擇桿推到左端盡頭的“NEUTRAL”。



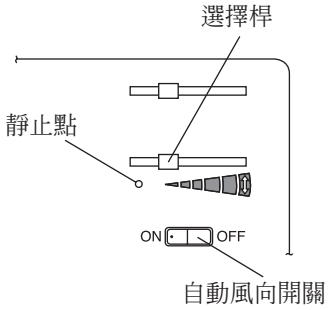
2. 將垂直風向板調到接近正中央，並將選擇桿推到搖擺角度調節區（SUPER WAVE ZONE）的右端盡頭。



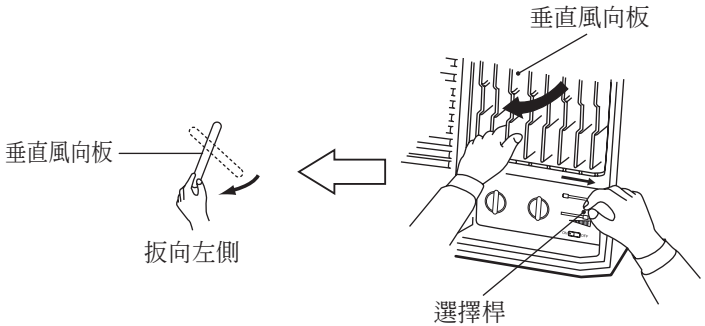
3. 將自動風向（SUPER WAVE）開關設定爲“ON”垂直風向板將以最大搖擺角度開始擺動。
   註：主控制器旋鈕如果是設定在“OFF”，請改設定在其他位置。
4. 搖擺角度，可在搖擺角度調節區（SUPER WAVE ZONE）範圍內進行調整。如把選擇桿推返左端，搖擺角度便告減小。請按個人喜好調整搖擺角度。
   註：如誤把選擇桿推回“NEUTRAL”位置時，垂直風向板將不能發揮正常的機能。此時，請重新按操作順序從頭調整。

氣流方向對向左邊：

1. 將選擇桿推到左端盡頭的“NEUTRAL”。



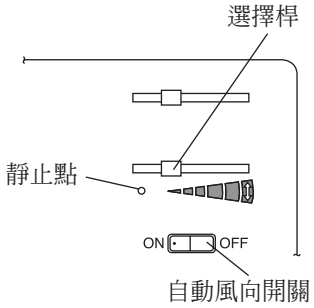
2. 將垂直風向板撥到最左端位置，再將選擇桿推到搖擺角度調節區（SUPER WAVE ZONE）的右端盡頭。



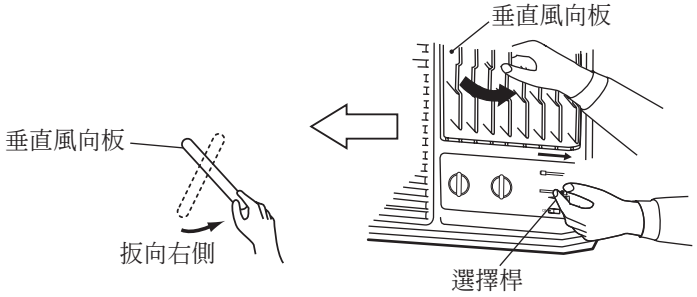
3. 將自動風向（SUPER WAVE）開關設定爲“ON”。
   垂直風向板將以最大的搖擺角度開始擺動。
   註：主控制器旋鈕如果是設定在“OFF”的位置時，請改設定在其他位置。
4. 搖擺角度，可在搖擺角度調節區（SUPER WAVE ZONE）範圍內進行調整。如把選擇桿推返左端，搖擺角度便告減小。請隨個人喜好調整搖擺角度。
   註：如誤把選擇桿推回“NEUTRAL”的位置時，垂直風向板將不能發揮正常的機能。此時，請重新按操作順序從頭調整。

氣流方向對向右邊：

1. 將選擇桿推到左端盡頭的“NEUTRAL”。



2. 將垂直風向板撥向最右端位置，再將選擇桿推到搖擺角度調節區（SUPER WAVE ZONE）的右端盡頭。



3. 將自動風向（SUPER WAVE）開關設定爲“ON”。垂直風向板將以最大的搖擺角度開始擺動。
   註：主控制器旋鈕如果是設定在“OFF”的位置時，請改設定在其他位置。
4. 搖擺角度，可在搖擺角度調節區（SUPER WAVE ZONE）的範圍內進行調整。如把選擇桿推返左端，搖擺角度便告減小。請隨個人喜好調整搖擺角度。
   註：如誤把選擇桿推回“NEUTRAL”的位置時，垂直風向板將不能發揮正常的機能。此時，請重新按操作順序從頭調整。

保養

室內空氣過濾

空氣過濾網安裝在可拆卸面板的背後。其主要功用是過濾室內空氣中的塵埃，故請定期加以清掃，以免堆積塵埃過多而阻塞。過濾網如果太髒，請用水洗滌。請先用中性洗劑沖洗後再用清水洗滌乾淨，洗淨後的過濾網，要放在日陰處風乾。

用手抵住前面板可拆卸部分的底邊向上推，再朝自己的方向拉出，可拆卸面板便很容易地可以拆卸下來（參照圖1、圖2）。空氣過濾網是裝於可拆卸面板的背後，向前拉起過濾網的下緣，便可拆卸過濾網（參照圖3），欲裝回過濾網，以過濾網的上邊插入可拆卸面板的上部鉤扣的下面，然後再壓入於下部的兩個鉤扣即可固定（參照圖4）。

要裝回可拆卸面板時，是將可拆卸面板的上緣對準前面板的上部，以相反於開啓的方法塞入即可。

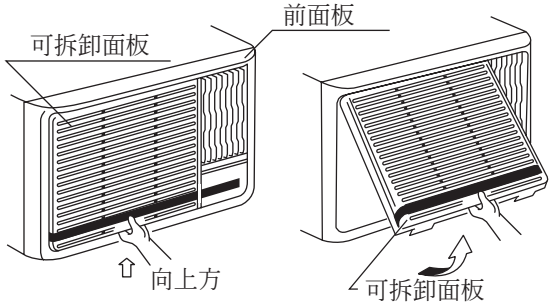


圖1 **圖2**

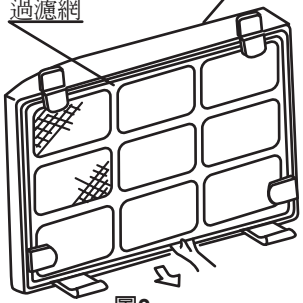


圖3

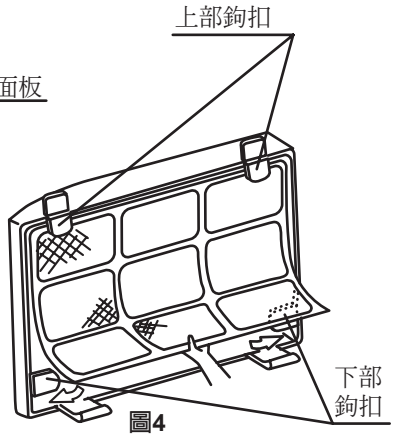


圖4

前面板的拆卸方法

⚠ 警告
此項工作必須由經授權的服務人員來進行。

按以下方法拆卸前面板。
前面板是藉上緣的卡夾和下緣的螺絲固定在冷氣機外箱上的，先拆去可拆卸面板之後，便可在前面板底邊的左、右端看到固定螺絲。卸下此兩螺絲（參照圖5）並用手推高前面板，便可將其全部拆下。要重裝上前面板時，首先把前面板上緣的兩個卡夾插入冷氣機外箱上邊相對的兩個卡夾溝中（參照圖6），再將前面板下緣壓入外箱，固定螺絲，前面板便告完全安裝在冷氣機上了。

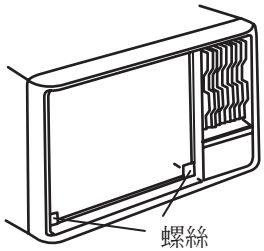


圖5

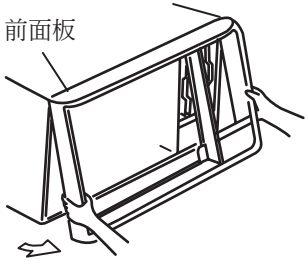


圖6

註：

1. 當冷氣機所需電流大於保險絲的額定熔斷電流時，保險絲將被燒斷。如有這種情形或供電線路故障等，屢次更換保險絲仍不斷燒斷保險絲時，就請連絡服務人員檢查。
2. 本冷氣機有去濕功能，可降低室內的空氣濕度。因此冷氣機外表如有水滴發生，這是正常情形，請勿介意。
3. 在感覺上，冷氣機的噪音似乎在夜間要比白晝大些，這是錯覺，因爲夜間的環境較寧靜的關係，故覺得冷氣機的噪音變成大些，實際上並無此事。

連絡服務人員檢查以前，請先確認下列事項：

1. 假如您的冷氣機不運轉，在通知服務人員請求維修以前，請先自己檢查以下項目：
   a) 電源插頭和插座是否接觸良好。
   b) 保險絲有沒有燒斷。
2. 冷氣機雖然運轉，但無冷卻效果：
   a) 冷氣機的溫度控制器之設定溫度是否高於室內溫度。
   b) 可拆卸面板背後的空氣過濾網是否太髒。過濾網阻塞時，將減低降溫效果，甚至使冷卻盤管發生凍結。
   c) 冷卻盤管如果凍結，首先請洗淨空氣過濾網。爲使趕快解凍，請開動冷氣機運轉，但要把主控制器旋鈕轉到“FAN”的位置直至完全解凍爲止。

一般常識

冷氣機的壓縮機不需加潤滑劑。因爲它本身含有足夠的潤滑油。風扇馬達的軸承也無需加潤滑劑。因爲採用防塵軸承，在此軸承的鋼珠之間已含有足量的潤滑脂。

操作及性能

制熱性能

- 此空調機利用熱泵從室外空氣吸取熱量到室內。因此，在室外溫度較低時，制熱效果明顯降低。感覺到室內制熱效果不足時，建議您使用其他制熱設備作爲空調機的輔助。
- 熱泵型空調機利用暖氣再循環給整個房間產生暖氣效果。因此，開機後，在整個房間變暖之前需要等待數分鐘。

微電腦控制自動除霜

當室外溫度很低，濕度很高時，暖氣模式將會致使室外機組內部結霜，從而降低了制熱性能。內置的微電腦監控結霜情況。必要時除霜模式會運作，但會暫時打斷暖氣模式（室內和室外風扇都會停止運轉）。需要等待7至15分鐘，才可以恢復運轉。

溫度和濕度範圍

溫度和濕度的允許範圍如下：

冷卻運轉	室外溫度： 約21ºC至43ºC。
	室內溫度： 約21ºC至32ºC。
	室內濕度： 約80％或以下。如果機組長期在高濕環境下工作，可能在機組表面上結露並滴水。
制熱運轉	室外溫度： 約0ºC至21ºC。
	室內溫度： 約30ºC或以下

如果機組在較以上溫度條件更高的溫度下工作，自動保護電路可能啓動並終止運轉。如果機組在較以上溫度條件更低的溫度下工作，熱交換機可能凍結並引起漏水或其他故障。

- 本空調機不得用於除室內冷卻降溫或制熱升溫外的其他任何用途。

GENERAL
FUJITSU GENERAL LIMITED
1116, Suenaga, Takatsu-ku, Kawasaki 213-8502, Japan

GENERAL

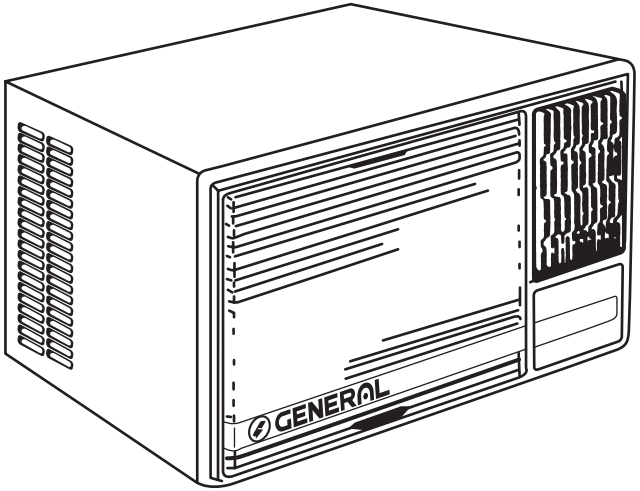
OPERATING MANUAL
使用説明書

OPERATING MANUAL

ROOM AIR CONDITIONER

English

中國語



AF SERIES

FUJITSU GENERAL LIMITED

P/N 9385901018-02

POWER SUPPLY

⚠ WARNING

(1) In order to enable efficient and trouble-free operation of your air conditioner, connect the power plug of your air conditioner through an exclusive circuit, having a time delay fuse, to the correct power supply describe on the rating plate.

(2) If the power supply cord of this appliance is damaged, it should only be replaced by the authorized service personnel, since special purpose tools and specified cord are required.

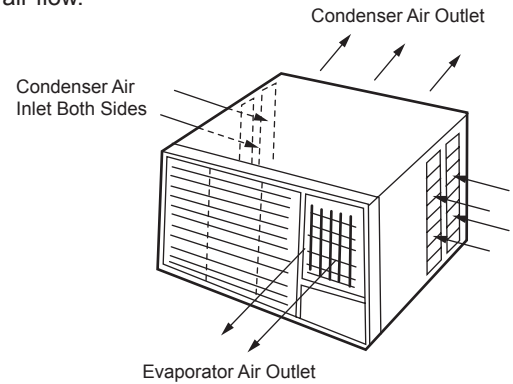
INSTALLATION

⚠ WARNING

In the work of this item, the authorized service personnel should work.

1. Installation location

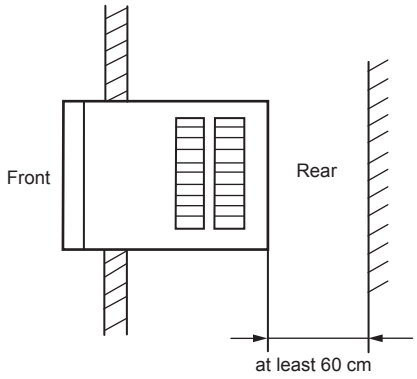
(1) Select a place where cool air emitted from the Air Conditioner circulates evenly, reaching every part of the room. Make sure that no obstacles both inside and outside the room prevent the air flow.

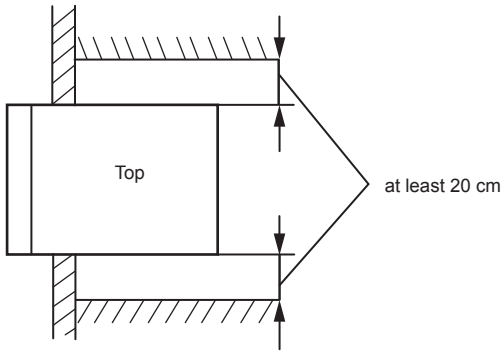


(2) Where practicable, locate the air conditioner with the lower edge of the cabinet approximately 0.75 m (29.5") to 1.5 m (59") from the floor. This usually gives the optimum air circulation pattern within the room for cooling.

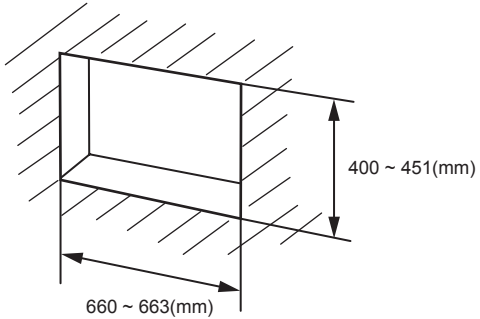
(3) Mounting must be strong enough to support the weight of the air conditioner with sufficient rigidity to prevent vibration being transmitted to windows and the like.

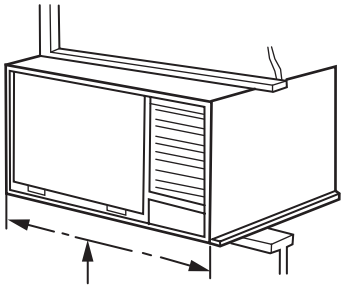
(4) Where the rear and sides of the unit are unobstructed.





2. The Dimension of opening for mounting





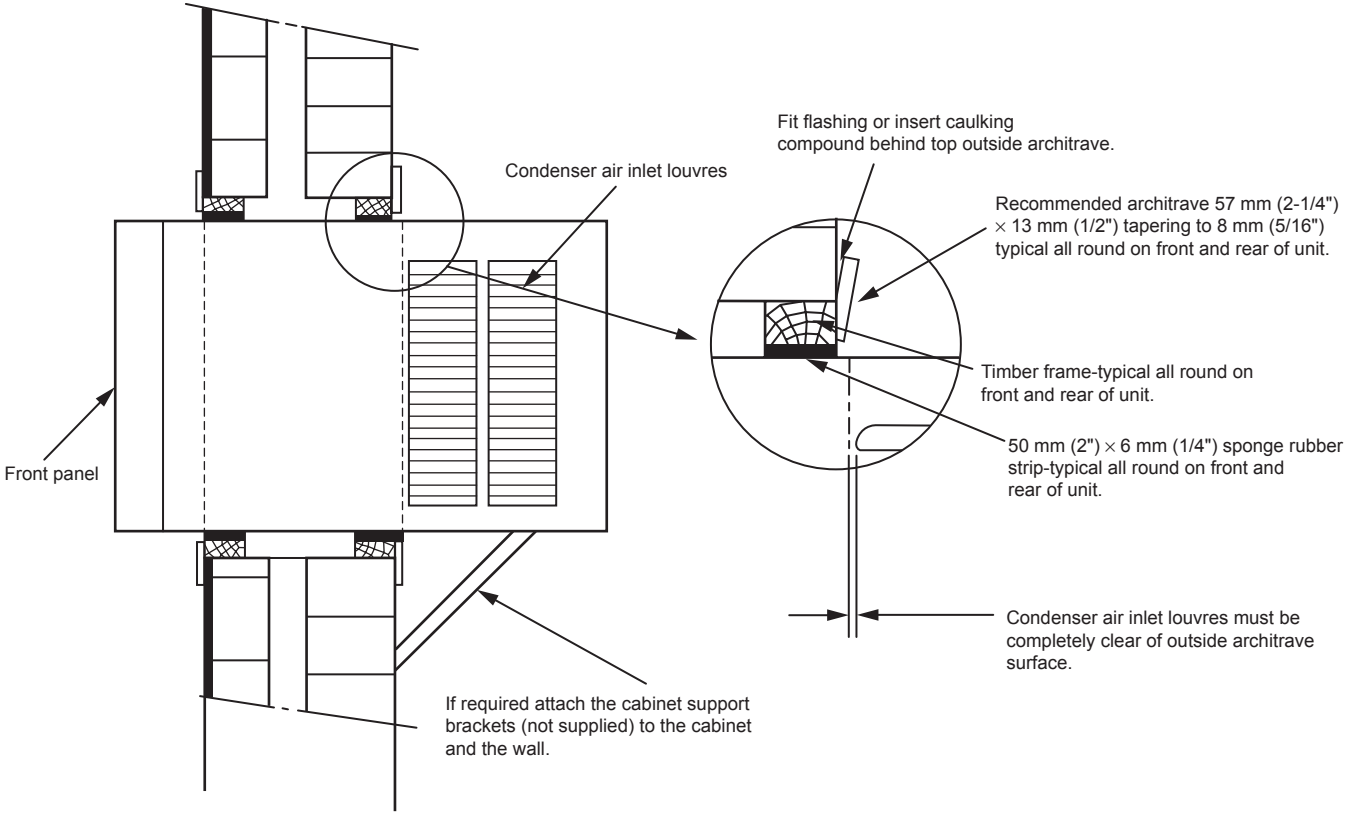
Fit the small urethane foam into the space between the cabinet and the unit.

3. Installation process

(1) Remove the front panel.
(2) Slide out the unit from the cabinet.
(3) Fix the cabinet to the timber frame using nails or screws so that the condenser air inlet louvre is placed outside the wall. If required, support the cabinet in the wall with brackets and completely weather seal any gap between the cabinet and the wall.
(4) Push the unit completely back into the cabinet.
(5) Next, fit the attached urethane foam into the space between the cabinet and the bottom of the unit with a screwdriver to seal the room inside from the outside.
(6) Refit the front panel.

Note: When constructing a timber frame, arrange so that the outside rear of the air conditioner is between 0.5 ~ 1 cm lower than the front of the unit. This allows condensed water to drain off outside the room. If the inside of the air conditioner is lower, condensed water and rain may flow into the room.

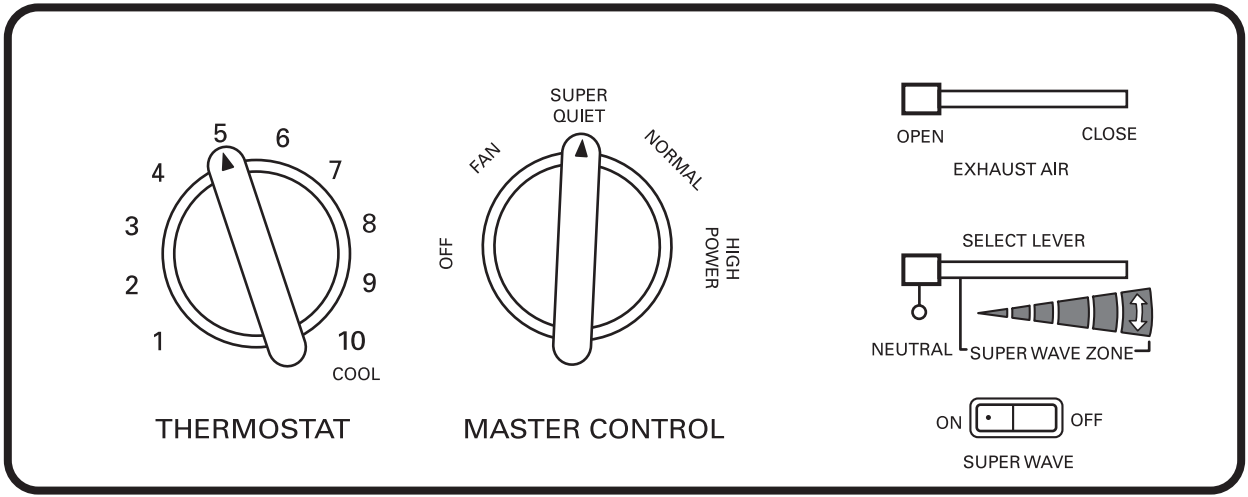
4. Typical installation

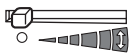


OPERATION

Control Panel

COOLING MODEL



CONTROL	POSITION	FUNCTION
MASTER CONTROL	OFF	The air conditioner is switched off.
	FAN	Fan only is operating to provide filtered air without cooling effect.
	SUPER QUIET	Fan speed is low and cooling efficiency is intermediate with low noise level.
	NORMAL	A cooling effect is obtained by a quieter operation than “HIGH POWER”
	HIGH POWER	Fan speed is at its maximum resulting in maximum cooling effect.
THERMOSTAT	1~10	Cooling is automatically controlled according to setting selected. The higher numbers on the dial indicate lower temperature.
SUPER WAVE	ON	Vertical louvres continuously change the direction of air flow. When the master control knob is set to “OFF”, the SUPER WAVE does not operate.
	OFF	Vertical louvres stop enabling air flow to be directed in any desired direction.
SELECT LEVER		This lever is used to adjust the air flow direction and sweep angle. For details, refer to pages 13 ~ 16.
EXHAUST AIR	OPEN	Room air is drawn outside.
	CLOSE	Exhaust vent is closed.

Cooling

To obtain maximum cooling effect in the hot summer select position HIGH POWER on the master control. Maximum moisture removal, air circulation and dust removal are effected at the same time.

Selection of SUPER QUIET reduces operating noise.

Air Circulation

An adequate flow of air is very important for comfort. When the master control knob is set at “FAN” position, the fan only is actuated so that the air is filtered and circulated without cooling effect.

If desired, it is possible to expel room air.

Air circulation only without cooling effect may also be achieved with the thermostat knob turned counterclockwise to “1” position and with the master control between “HIGH POWER” and “SUPER QUIET” position.

Thermostat Control

The thermostat is set by means of the thermostat control.

When the room temperature is higher than the thermostat setting, the compressor is automatically switched on to provide a cooling effect. When the room temperature is lower than the thermostat setting, the compressor is automatically switched off to stop cooling.

It can be seen therefore, that the thermostat serves to keep the room temperature constant by causing the compressor to start and stop automatically.

1. When you wish to lower the temperature, turn the thermostat control clockwise in the direction of the higher numbers on the dial.
2. When you wish to increase the temperature, turn the thermostat control counterclockwise in the direction of the lower numbers.
3. When the thermostat is set at positions “5”, “6” or “7”, comfortable room temperatures can usually be obtained. Please note that it is unhealthy for the room temperature to be lower than approximately 22°C.
4. When the thermostat control is positioned at “10”, the room-side fin coil may freeze up due to excessively low room temperature (for example, below 18°C) caused by low outdoor temperature at night.
   Once the fin coil becomes frozen, the air flow from the air conditioner is restricted by the frost, and the room temperature may rise due to the resultant weak cooling performance of the air conditioner.
5. The thermostat positions “8”, “9” and “10” can be used when the room temperature does not become sufficiently low. This condition may occur when the thermostat switches off automatically because cooled air, when it passes through the horizontal louvres positioned downwards and the vertical louvers positioned to the left, makes a short circuit and the recirculated air touches the sensor of the thermostat.

Note: The thermostat controls the compressor only and accordingly the fan is constantly circulating air even during the period when the compressor is off.

Important

When re-starting the cooling operation after it has been turned off by either master control or thermostat, be sure to allow at least three (3) minutes. If cooling operation is re-started immediately after it is turned off, an overcurrent will flow through the compressor motor and the safety device will be actuated. If the safety device is actuated it will not be possible to re-start the compressor motor for about 20 minutes.

Exhaust Air Control

By setting EXHAUST AIR control lever to the appropriate positions between “OPEN” and “CLOSE” positions, it is possible to expel the room air to the desired extent. The quantity of air to be expelled will increase when the lever is positioned closer to the “OPEN” position.

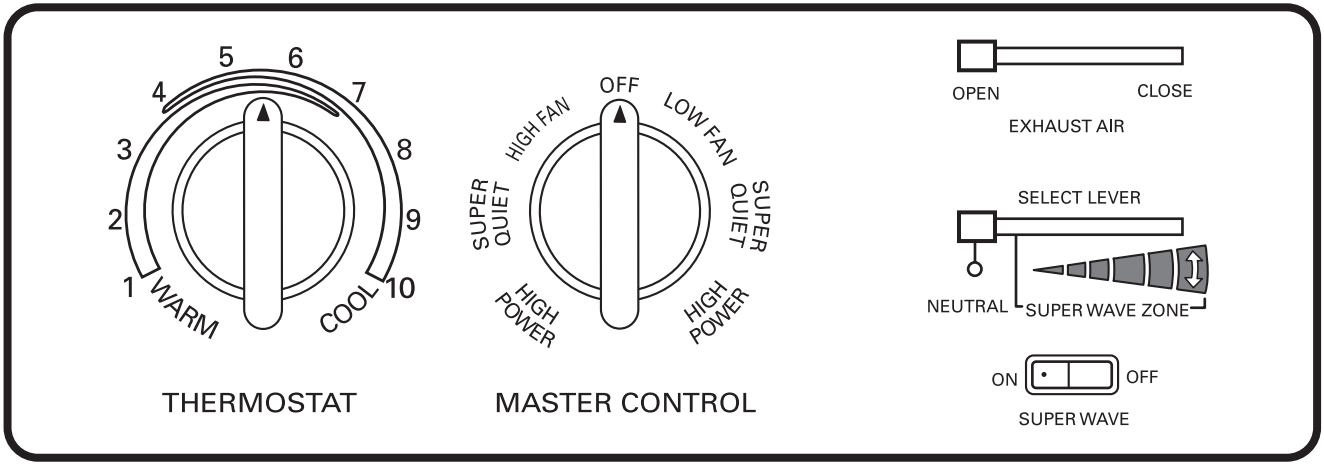
Air Direction Control

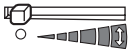
When the SUPER WAVE switch is turned to “ON” position, the vertical louvre is automatically actuated and sweeps the jet of air alternately, right and left and thus more effective cooling will be obtained.

Louvres may be stopped at any position when SUPER WAVE switch is turned off.

Sweep angle and direction can be adjusted with the select lever. The sweep can span an area either to the right or to the left. Select a sweep angle suitable to the layout of the room and the position of the air conditioner in the room which the air conditioner is installed.

REVERSE CYCLE MODEL



CONTROL	POSITION	FUNCTION
MASTER CONTROL	HIGH POWER (RED)	High fan speed - Rapid heating effect.
	SUPER QUIET (RED)	Low fan speed - Slow heating effect and reduced operating noise.
	HIGH FAN	High fan speed without heating/cooling - Room air is circulated and cleaned.
	OFF	The air conditioner is switched off.
	LOW FAN	Low fan speed without heating/cooling - Room air is circulated and cleaned.
	SUPER QUIET (BLUE)	Fan (Low Speed) and compressor operate - Intermediate cooling effect and reduced operating noise.
	HIGH POWER (BLUE)	Fan (High Speed) and compressor operate - Rapid cooling effect at top capacity.
THERMOSTAT	WARM - COOL	Amount of heating/cooling is maintained automatically. Turn knob counterclockwise/clockwise to obtain most comfortable heating/cooling.
SUPER WAVE	ON	Vertical louvres continuously change the direction of air flow. When the master control knob is set to “OFF”, the SUPER WAVE does not operate.
	OFF	Vertical louvres stop enabling air flow to be directed in any desired direction.
SELECT LEVER		This lever is used to adjust the air flow direction and sweep angle. For details, refer to pages 13 ~ 16.
EXHAUST AIR	OPEN	Room air is drawn outside.
	CLOSE	Exhaust vent is closed.

Cooling

To obtain maximum cooling effect in the hot summer select position HIGH POWER (BLUE) on the MASTER CONROL.
Maximum moisture removal, air circulation and dust removal are effected at the same time.
Selection of SUPER QUIET (BLUE) reduces operating noise.

Heating

To obtain maximum heating effect in severe winter select position HIGH POWER (RED) on the MASTER CONTROL. Maximum air circulation is obtained at the same time.
Selection of SUPER QUIET (RED) reduces heating effect and operating noise. However you may feel a higher temperature at the air outlet compared to the HIGH POWER (RED) position, due to the reduced fan speed.

Note: After you start driving, it will take approximately 10 minutes for the air from this unit become warm. This delay is normal.

Air Circulation

To maintain a comfortable room temperature, an important factor is the circulation of air. Room air can be circulated without cooling/heating by selecting either HIGH FAN or LOW FAN position on the master control.
Circulation of air without cooling/heating can be also effected as follows:

1. When operating with the MASTER CONTROL switched to HIGH POWER (RED) or SUPER QUIET (RED), turn the thermostat fully clockwise.
2. When operating with the MASTER CONTROL switched to HIGH POWER (BLUE) or SUPER QUIET (BLUE), turn the thermostat fully counterclockwise.

Thermostat Control

Once the thermostat is set to the desired temperature, the room temperature will be automatically adjusted without excessive or insufficient cooling/heating and thus a comfortable environment is always maintained.
When cooling, turn the THERMOSTAT knob clockwise to increase cooling effect.
When heating, turn the THERMOSTAT knob counterclockwise to increase heating effect.
The thermostat controls the compressor only, and accordingly the fan is constantly circulating air even during the period when the compressor is off during cooling/heating operation.
To stop the cooling/heating operation set the master control OFF position.

1. When you wish to lower the temperature, turn the thermostat control clockwise in the direction of the higher numbers on the dial.
2. When you wish to increase the temperature, turn the thermostat control counterclockwise in the direction of the lower numbers.
3. When the thermostat is set at positions “5”, 6” or “7”, comfortable room temperatures can usually be obtained.
   Please note that it is unhealthy for the room temperature to be lower than approximately 22°C.
4. When the thermostat control is positioned at “10”, the room-side fin coil may freeze up due to excessively low room temperature (for example, below 18°C) caused by low outdoor temperature at night.
   Once the fin coil becomes frozen, the air flow from the air conditioner is restricted by the frost, and the room temperature may rise due to the resultant weak cooling performance of the air conditioner.

5. The thermostat positions “8”, “9” and “10” can be used when the room temperature does not become sufficiently low. This condition may occur when the thermostat switches off automatically because cooled air, when it passes through the horizontal louvres positioned downwards and the vertical louvres positioned to the left, makes a short circuit and the recirculated air touches the sensor of the thermostat.

Note: The thermostat controls the compressor only and accordingly the fan is constantly circulating air even during the period when the compressor is off.

Important

When cooling/heating is stopped by means of either the MASTER CONTROL or THERMOSTAT CONTROL do not restart cooling/heating for at least three (3) minuets. If cooling/heating is restarted within this time, the compressor motor will be subjected to an over current and a compressor motor safety device will be actuated. If this occurs, restarting cooling/heating will not be possible for about 20 minutes.

Automatic Defrosting

When continuous heating is effected for a long period of time with low outside temperatures, the condenser tends to frost up and heating efficiency will drop. To prevent this condition, the unit is equipped with an automatic defrosting system.
When frosting occurs the fan is stopped automatically. After 5 or so minutes the frost will have melted and the normal heating function is then automatically returned.

Exhaust Air Control

By setting the EXHAUST control lever to an appropriate positions between “OPEN” and “CLOSE” positions, it is possible to expel the room air to the desired extent. The quantity of air to be expelled will increase when the lever is positioned closer to the “OPEN” position.

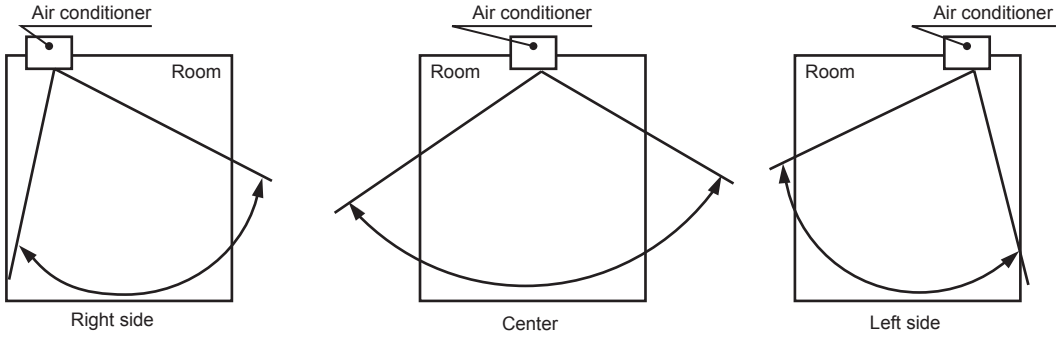
Note: Cooling/heating effect will be reduced when operating EXHAUST open.

Air Direction Control

When the SUPER WAVE switch is turned to “ON” position, the vertical louvre is automatically actuated and sweeps the jet of air alternately right and left thus more effective cooling/heating will be obtained.
Louvres may be stopped at any position when SUPEAR WAVE switch is turned off.
Sweep angle and direction can be adjusted with the select lever. The sweep can span an area either to the right or to the left. Select a sweep angle suitable to the layout of the room and the position of the air conditioner in the room which the air conditioner is installed.

Air Flow Adjustment

With this air conditioner, three air directions can be obtained as shown in the figures below. When the air flow direction is set adjust to the desired sweep angle.

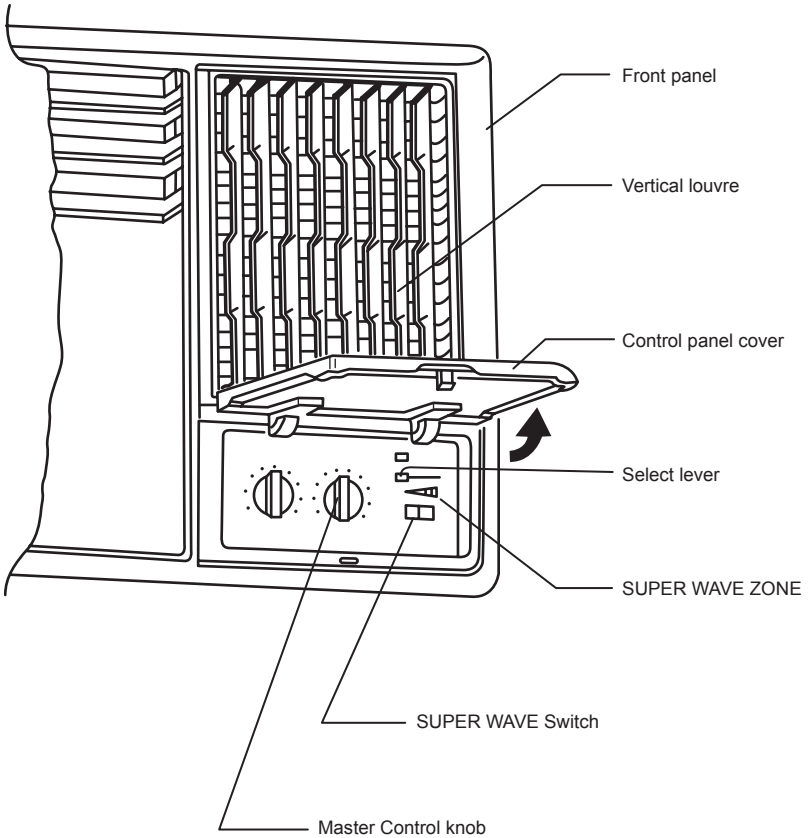


Note:

Setting the vertical louvre at high room humidity.

1. Set the SUPER WAVE switch to ON.
2. Or, to use with the SUPER WAVE switch to OFF, set the switch to OFF when the vertical louvre moves to the center.

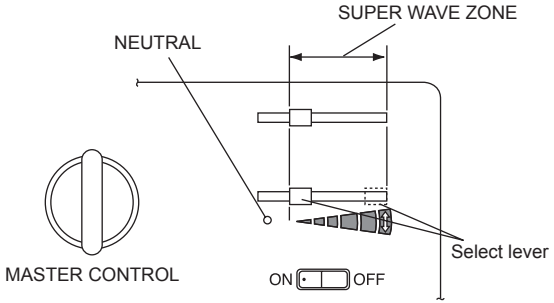
Names and Functions



Adjusting Sweep Angle

When the select lever is moved to the right or left, the sweep angle increases or decreases. Adjust the sweep angle within SUPER WAVE ZONE range.

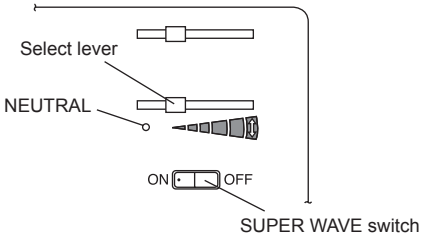
Note: When the select lever is returned to the “NEUTRAL”, the vertical louvres do not normal operate. If the select lever is returned to the “NEUTRAL” in error, readjust the sweep angle referring to “Adjusting air flow direction and sweep angle”.



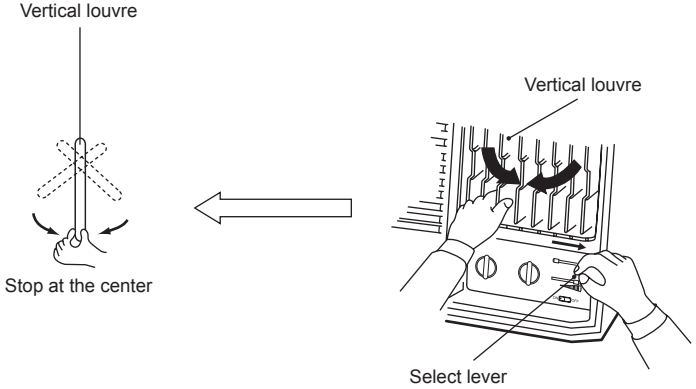
Adjusting Air Flow Direction and Sweep Angle

To direct air flow to center:

1. Move the select lever fully left to the “NEUTRAL”.



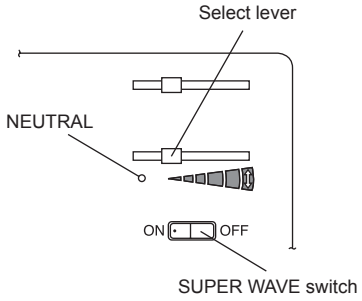
2. Position the vertical louvres approx. at the center and move the select lever fully to the right end of the SUPER WAVE ZONE.



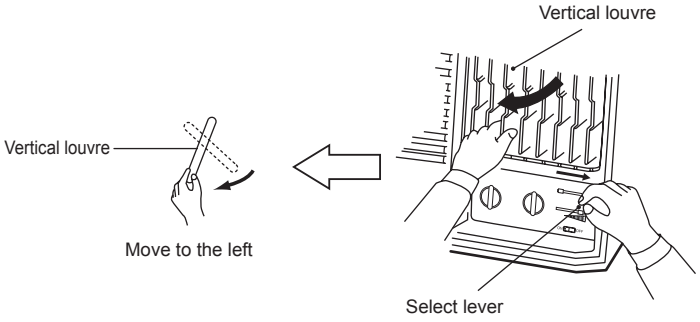
3. Set the SUPER WAVE switch to “ON”.
   The vertical louvres start rotating with the maximum sweep angle.
   Note: If the master control knob is set to “OFF”, set it to the other position.
4. The sweep angle can be adjusted within the SUPER WAVE ZONE range. When the select lever is returned to the left, the sweep angle decreases. Adjust sweep angle according to preference.
   Note: If the select lever is returned to the “NEUTRAL” in error, the vertical louvres do not function properly. In this event, carry out the procedure from the beginning.

To direct air flow to left side:

1. Move the select lever fully left to the “NEUTRAL”.



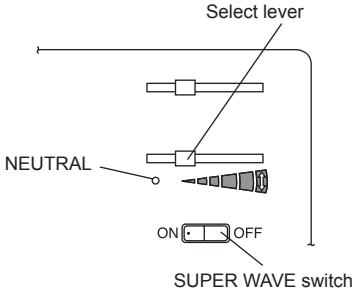
2. Lightly move the vertical louvres to the left until they stop, and move the select lever fully to the right end of the SUPER WAVE ZONE.



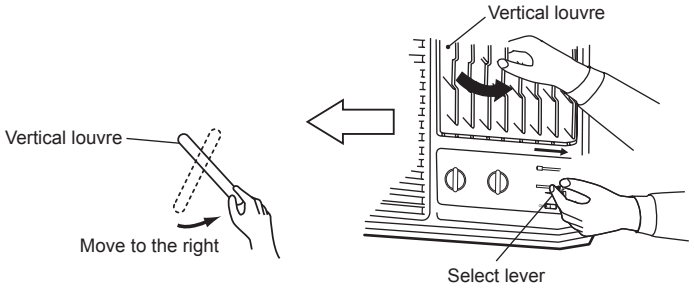
3. Set the SUPER WAVE switch to “ON”.
   The vertical louvres start rotating with the maximum sweep angle.
   Note: If the master control knob is set to “OFF”, set it to the other position.
4. The sweep angle can be adjusted within the SUPER WAVE ZONE range. When the select lever is returned to the left, the sweep angle decreased. Adjust sweep angle according to preference.
   Note: If the select lever is returned to the “NEUTRAL” in error, the vertical louvres do not function properly. In this event, carry out the procedure from the beginning.

To direct air flow to right side:

1. Move the select lever fully left to the “NEUTRAL”.



2. Lightly move the vertical louvres to the right until they stop, and move the select lever fully to the right end of the SUPER WAVE ZONE.



3. Set the SUPER WAVE switch to “ON”.
   The vertical louvres start rotating with the maximum sweep angle.
   Note: If the master control knob is set to “OFF”, set it to the other position.
4. The sweep angle can be adjusted within the SUPER WAVE ZONE range. When the select lever is returned to the left, the sweep angle decreases. Adjust sweep angle according to preference.
   Note: If the select lever is returned to the “NEUTRAL” in error, the vertical louvres do not function properly. In this event, carry out the procedure from the beginning.

MAINTENANCE

Room Air Filter

A filter is provided on the rear of the removable panel. Since the function of this filter is to filter dust and dirt in the air, please clean it regularly before it becomes clogged with dust. Wash the filter with clean water. If it is very dirty, rinse it in a synthetic detergent before washing in clean water. Allow the filter to dry thoroughly in the shade after washing. Remove the filter in the following manner.

Using the flip position, push the bottom of the removable panel up with your hand, pull it toward you, and the removable panel will be easily removed (See Fig.1, Fig. 2). The filter is attached to the rear side of the removable panel. Pull the lower edge of the filter forward in order to remove the filter, from the removable panel (See Fig. 3). To replace the filter, insert the top edge of the filter under the hooks at the top of the removable panel, then press into the two lower hooks to fix into place (See Fig. 4).

When you want to refit the removable panel, insert it by pushing the upper edge of the removable panel against the upper part of the front panel.

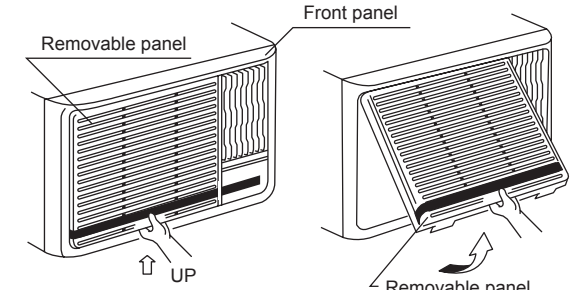


Fig. 1 **Fig. 2**

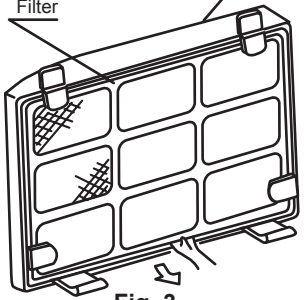


Fig. 3

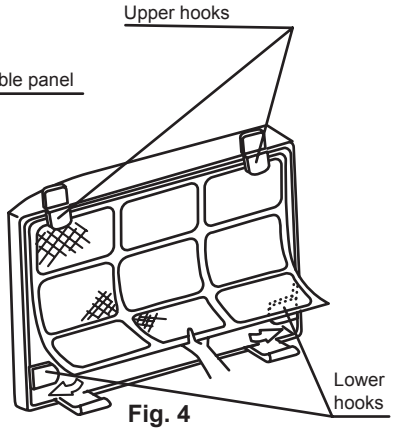


Fig. 4

How to Remove the Front Panel

⚠ WARNING

In the work of this item, the authorized service personnel should work.

Remove the front panel in the following manner.
The front panel is attached to the cabinet with snap clips at the top and screws at the bottom. Remove the removable panel first and you will see two screws at the left and right of the bottom side. Take them off. (See Fig. 5) Hold up the front panel with your hands to remove it completely. (See Fig. 6) When refitting the front panel, insert the two clips on the upper part of the panel into the two slots at the top side of the cabinet. Press the front panel at its bottom side and fix it with screws. This completes refitting of the front panel.

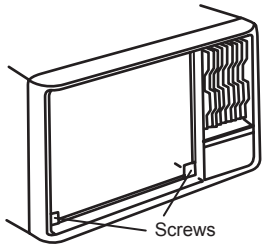


Fig. 5

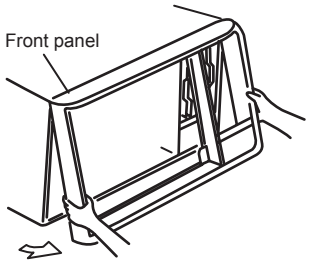


Fig. 6

Note:

1. A fuse may blow when a particularly large demand for electricity, which exceeds the capacity of the fuse, occurs in your home or when the voltage of the main power line drops due to some fault. If the fuse blows again after replacement with a new one, please call your dealer or service company.
2. Your air conditioner also acts to dehumidify the room air and to expel the water produced, therefore drops of water emitting from the outside of the unit is quite normal.
3. The noise level of your air conditioner may be felt to be higher at night than during the day. This is quite normal. This results from the fact that environmental noise level is lower at night so the noise level of the air conditioner is felt to be relatively higher.

Things to Do Before Calling a Serviceman

1. If your air conditioner does not operate check the following items before calling for service.
   a) Check that the power plug is properly connected to the power socket.
   b) Check your fuses.
2. When cooling effect is not obtained even with the air conditioner operating make the following checks.
   a) Check that the thermostat setting is higher than the room temperature.
   b) Check the filter. A clogged filter will reduce cooling efficiency. When a filter is excessively dirty cooling coils may ice up.
   c) If the cooling coils are iced up wash the filter. To get rid of the ice quickly operate the air conditioner with the master control knob on “FAN” position until all the ice has gone.

General Information

The compressor motor does not require lubrication as it contains sufficient oil.

No lubrication is required for the bearings of the fan motor as dust shielded ball bearings containing grease are fitted.

OPERATION AND PERFORMANCE

Heating Performance

- This air conditioner uses a heat pump which absorbs heat from outside air and brings it indoors. As a result, its heating performance is reduced as the temperature of outside air drops. If you find that insufficient room heat is produced, we recommend that you use the air conditioner together with other heating appliances.
- Heat-pump type air conditioners use warm-air recirculation to warm your entire room. As a result, some time will be required after starting operation until your entire room becomes warm.

Microcomputer-controlled Automatic Defrosting

When outside air temperatures are low and humidity is high, using the Heating mode may result in the creation of frost inside the outdoor unit, lowering its heating performance. A built-in microcomputer is used to monitor this condition and when necessary, the defrosting mode operates, resulting in a temporary interruption of the Heating mode (both indoor and outside fans will stop). About 7 to 15 minutes will be required for normal operation to be resumed.

TEMPERATURE AND HUMIDITY RANGE

Permissible ranges of temperature and humidity are as follows:

Cooling Operation	Outdoor temperature: About 21°C to 43°C
	Indoor temperature: About 21°C to 32°C
	Indoor humidity: About 80% or less. If the unit is used for long periods under conditions of high humidity, water may condense on and drip from the surface of the unit.
Heating Operation	Outdoor temperature: About 0°C to 21°C
	Indoor temperature: About 30°C or less

If the unit is used under higher temperature conditions than those noted here, the automatic protection circuit may operate, interrupting the operation. If the unit is used under lower temperature conditions than those noted here, the heat exchanger may freeze, causing water leakage or other malfunction.

- Do not use the air conditioner for any purpose other than room cooling or room heating.

FUJITSU GENERAL LIMITED
1116, Suenaga, Takatsu-ku, Kawasaki 213-8502, Japan