

FORM 5501-2209

揚帆

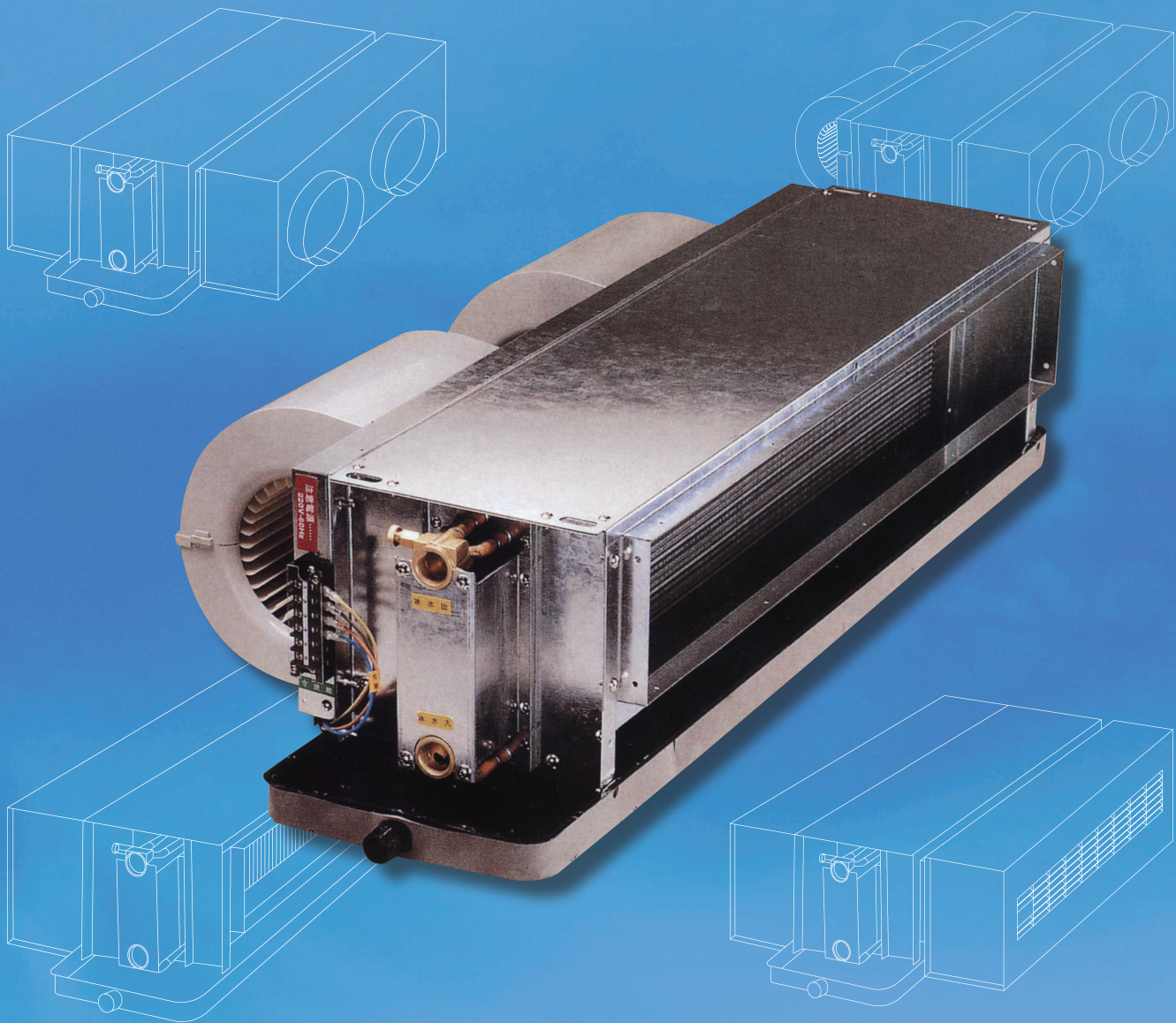
YANGFAN

# 吊掛式送風機及附屬風箱

Fan Coil Unit Ceiling type and accessory air-box

如採用 EC 永磁同步馬達可節耗電 22-77%

With PMSM Motor, its power consumption can be saved by 22~77%



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榮獲國際品質認證

## 吊掛式室內送風機結構與特性

1. 揚帆牌室內送風機採用鍍鋅銅板機殼，配置前曲葉片式風車，鋁質多縫型鰭片盤管及PE防火保溫之滴水盤等，使整個送風機外形美觀，結構精緻。本產品設計耐用年限為十年，在安裝精確，維護良好，操作正常情況下，可使用十年以上而不致故障。
2. 風車馬達為E級絕緣電容器起動感應式馬達，軸心均經調質與硬鉻處理，使軸心永久不變形、不生銹、又耐用。滾珠軸承，能自動潤滑，轉動時無噪音、又省電。
3. 可搭配EC永磁同步馬達，在AC馬達同樣轉速相比，其消耗功率可節省22~77%，堪稱最省電風機。
4. 盤管採用高純度無縫紫銅管與鋁質多縫型散熱鰭片，經機械脹管而成，鰭片與銅管間接觸絕對緊密，能發揮最佳換熱效果。
5. 為減少水頭損失集水頭採用黃銅鍛造而成，水流分佈均勻順暢。出水端設旋鈕式排氣閥，能輕易排出系統內空氣。
6. 在室內適當位置安裝風速及溫度控制開關與本送風機連接，以控制所需風量及溫度。
7. 為客戶安裝方便，特推出吊掛隱藏式室內送風機附屬產品，歡迎選購使用。
  - 吊掛隱藏式室內送風機（附集風箱）
  - 吊掛隱藏式室內送風機（附回風箱）
  - 吊掛隱藏式室內送風機（附集風箱+回風箱）
  - 吊掛式直吹式（格柵式集風箱）

## Fan Coil Units (Ceiling Type) Construction and General Features

1. YANGFAN fan-coil units are fabricated of rigid galvanized steel casing, complete with quiet metal DIDW centrifugal fan, slit aluminum finned coil, and steel galvanized drain pan with 5mm high density self fire-extinguishing insulation, providing the units a compact appearance and a minimum 10-year life time as designed. Under correct installation, well maintenance and normal operation conditions, the units even work in trouble-free for more years than the designed life.
2. All units are using E class insulation 3-speed permanent split capacitor motor with its shaft normalized and chrome plating treated, no deflection, corrosion proof and durable. Ball bearings provide low-noise and save energy.
3. It can be matched with EC permanent magnet synchronous motor. Compared with the same speed of AC motor, its power consumption can be saved by 22~77%, which is the most economical fan.
4. The coils are using slit aluminum fins mechanically and tightly bonded to seamless copper tubes, providing high heat transfer.
5. For minimizing the pressure drop, all units adopt the brass water header to distribute the water fluently and evenly. An air vent on the header makes air in the system easily released.
6. Just loosen the screws; exchange the positions of fan deck and air outlet flange, the piping direction has been immediately reversed. This special design for all units' means less time spent per unit during installation for arrangements with left-hand or right-hand connections.
7. For customers to install convenient. We are to present the ceiling concealed type fan coil units(YFCR)append to product . Thank you for choose our products.
  - Fan coil units(Ceiling Concealed Type with Plenum)
  - Fan coil units(Ceiling Concealed Type with Return-Air Box)
  - Fan coil units(Ceiling Concealed Type with Plenum & Return-Air Box)
  - Fan coil units(Ceiling direct blow with grille bellows)

## 冰水式送風機標準規範

### Chiller Water type Standard Specifications

			YFCR						
型號 MODEL	單位 UNIT		300 S	400 S	600 S	800 S	1000 S	1200 S	1400 S
			300 H	400 H	600 H	800 H	1000 H	1200 H	1400 H
冷房能力	Cooling Capacity	Kcal/h	2,550	3,450	5,350	7,150	8,400	9,350	11,300
暖房能力	Heating Capacity	Kcal/h	4,200	5,900	8,460	11,040	13,200	14,900	18,000
風量 (高速)	Air volume	m <sup>3</sup> /h	525	690	1,050	1,380	1,750	2,040	2,450
<b>風扇</b> Fan									
型式	Type	前曲葉片離心雙吸口式 Double inlet Centrifugal Forward-curved Fan							
數量	Number	pcs	1	1	2	2	3	4	4
<b>馬達</b> Motor									
電源	Power source	1 PH - 110V - 60Hz / 1 PH - 220V - 60Hz							
型式	Type	E 級絕緣電容器起動式三速 AC 馬達或 EC 永磁同步馬達 E Class Insulation 3 Speed Permanent Split-capacitor AC Motor or EC permanent-magnet synchronous motor.							
數量	Number	pcs	1	1	1	1	2	2	2
<b>盤管</b> Coil									
型式	Type	鋁質多縫鱗片，經機械脹管與紫銅管緊密結合 Slit aluminum Fins mechanically bonded to copper tubes							
操作壓力	Operating Pers.	Kg/cm <sup>2</sup>	17.5	17.5	17.5	17.5	17.5	17.5	17.5
水流量	Water Flow	l/min	8.5	11.5	17.8	23.8	28	31.2	37.6
水壓降	Head Loss	mAq	0.9	1.5	3.1	5.0	2.6	3.1	3.9
進出水管徑	Water Conn.	In	3/4	3/4	3/4	3/4	3/4	3/4	3/4
<b>外型尺寸</b> Dimension									
	A	mm	900	1090	1290	1520	1740	1950	2140
	B	mm	520	710	910	1140	1360	1570	1760
	C	mm	480	670	870	1100	1320	1530	1720
	N	pcs	1	1	1~2	2~3	3~4	3~4	3~4
產品淨重 (不含風箱)	Net Weight (Except air box)	Kg	22.2	25.9	30.1	36.0	44.0	51.0	57.0

附註：以上能量在下列室內狀況下求得：  
 冷房：進風乾球溫度 27°C，濕球溫度 19.5°C  
 冰水進水溫度 7°C，出水溫度升高 5°C  
 暖房：進風乾球溫度 21°C，熱水進水溫度 60°C

Note : the capacity is based on the following conditions  
 Cooling — Entering air temp. 27°C DB, 19.5°C WB.  
 Entering chilled water temp 7°C leaving temp rise 5°C  
 Heating — Entering air temp 21°C DB. Entering hot water  
 temp 60°C



## 冰水式送風機 EC 馬達與 AC 馬達消耗功率節省比較 (110V)

Fan coil unit (chilled water type) power consumption compare (110V)

送風機型號 低靜壓 (機外靜壓 2mmAq)		EC 馬達			AC 馬達			消耗功率節省 %
		轉速	電流	耗功	轉速	電流	耗功	
		rpm	A	Wdc	rpm	A	Wac	Wac-Wdc/Wac
YFCR-300AS (單軸馬達 1 只)	HI	830	0.30	31.8	826	0.49	53.6	40.7%
	ME	750	0.23	24.3	745	0.46	49.8	51.2%
	LO	620	0.15	15.3	619	0.42	46.0	66.7%
YFCR-400AS (單軸馬達 1 只)	HI	950	0.45	47.7	940	0.72	79.0	39.6%
	ME	860	0.35	36.6	850	0.68	74.0	50.5%
	LO	710	0.23	23.0	700	0.61	66.5	65.4%
YFCR-600AS (雙軸馬達 1 只)	HI	820	0.44	46.9	817	0.80	84.6	44.6%
	ME	710	0.30	31.2	709	0.72	78.2	60.1%
	LO	570	0.19	17.7	565	0.61	67.8	73.9%
YFCR-800AS (雙軸馬達 1 只)	HI	950	0.65	71.8	945	1.00	104.0	31.0%
	ME	860	0.55	59.1	853	0.98	96.8	38.9%
	LO	710	0.33	34.7	707	0.76	84.0	58.7%
YFCR-1000AS (單軸 + 雙軸馬達)	HI	950/820	0.89	94.6	940/817	1.52	163.6	42.2%
	ME	860/710	0.65	67.8	850/709	1.40	152.2	55.5%
	LO	710/570	0.42	40.7	700/565	1.22	134.3	69.7%
YFCR-1200AS (雙軸馬達 2 只)	HI	820	0.88	93.8	817	1.6	169.2	44.6%
	ME	710	0.6	62.4	709	1.44	156.4	60.1%
	LO	570	0.38	35.4	565	1.22	135.6	73.9%
YFCR-1400AS (雙軸馬達 2 只)	HI	950	1.30	143.6	945	2.00	208.0	31.0%
	ME	860	1.10	118.2	853	1.96	193.6	38.9%
	LO	710	0.66	69.4	707	1.52	168.0	58.7%

送風機型號 高靜壓 (機外靜壓 4mmAq)		EC 馬達			AC 馬達			消耗功率節省 %
		轉速	電流	耗功	轉速	電流	耗功	
		rpm	A	Wdc	rpm	A	Wac	Wac-Wdc/Wac
YFCR-300AH (單軸馬達 1 只)	HI	880	0.34	36.5	880	0.55	60.0	39.2%
	ME	770	0.25	25.8	767	0.52	57.0	54.7%
	LO	630	0.15	15.5	624	0.47	51.8	70.7%
YFCR-400AH (單軸馬達 1 只)	HI	1000	0.52	55.6	1010	0.90	98.0	43.2%
	ME	900	0.40	42.0	880	0.76	82.1	48.8%
	LO	770	0.29	29.3	765	0.72	78.0	62.4%
YFCR-600AH (雙軸馬達 1 只)	HI	880	0.60	63.5	875	1.02	105.0	39.5%
	ME	760	0.38	41.2	759	0.92	100.0	58.8%
	LO	600	0.20	21.7	590	0.80	88.0	75.3%
YFCR-800AH (雙軸馬達 1 只)	HI	1000	0.76	83.9	998	1.22	118.0	28.9%
	ME	930	0.63	67.8	923	1.10	115.0	41.0%
	LO	790	0.39	41.7	782	0.97	105.0	60.3%
YFCR-1000AH (單軸 + 雙軸馬達)	HI	1000/880	1.12	119.1	1010/875	1.92	203.0	41.3%
	ME	900/760	0.78	83.2	880/759	1.68	182.1	54.3%
	LO	770/600	0.49	51.0	765/590	1.52	166.0	69.2%
YFCR-1200AH (雙軸馬達 2 只)	HI	880	1.20	127.0	875	2.04	210.0	39.5%
	ME	760	0.76	82.4	759	1.84	200.0	58.8%
	LO	600	0.40	43.4	590	1.60	176.0	75.3%
YFCR-1400AH (雙軸馬達 2 只)	HI	1000	1.52	167.8	998	2.44	236.0	28.9%
	ME	930	1.26	135.6	923	2.20	230.0	41.0%
	LO	790	0.78	83.4	782	1.94	210.0	60.3%

※ 測試負載條件：在乾盤管狀態，出風口全開測得。

※ Test load conditions: in the dry coil state, the air outlet is fully open

## 冰水式送風機 EC 馬達與 AC 馬達消耗功率節省比較 (220V)

Fan coil unit (chilled water type) power consumption compare (220V)

送風機型號 低靜壓 (機外靜壓 2mmAq)	EC 馬達			AC 馬達			消耗功率節省 %	
	轉速	電流	耗功	轉速	電流	耗功		
	rpm	A	Wdc	rpm	A	Wac	Wac-Wdc/Wac	
YFCR-300BS (單軸馬達 1 只)	HI	840	0.22	32.8	834	0.25	55.8	41.2%
	ME	730	0.17	22.5	726	0.24	52.7	57.3%
	LO	590	0.12	13.9	584	0.22	48.5	71.3%
YFCR-400BS (單軸馬達 1 只)	HI	940	0.22	46.2	940	0.36	79.0	41.5%
	ME	850	0.17	35.3	850	0.34	74.0	52.3%
	LO	700	0.11	22.0	700	0.31	66.5	66.9%
YFCR-600BS (雙軸馬達 1 只)	HI	790	0.20	41.7	786	0.40	85.0	50.9%
	ME	680	0.13	27.8	678	0.36	78.0	64.4%
	LO	540	0.07	15.6	539	0.31	68.0	77.1%
YFCR-800BS (雙軸馬達 1 只)	HI	900	0.32	67.9	905	0.57	119.2	43.0%
	ME	780	0.21	44.5	784	0.51	110.6	59.8%
	LO	650	0.13	27.6	655	0.50	100.3	72.5%
YFCR-1000BS (單軸 + 雙軸馬達)	HI	940/790	0.42	87.9	940/786	0.76	164.0	46.4%
	ME	850/680	0.30	63.1	850/678	0.70	152.0	58.5%
	LO	700/540	0.24	37.6	700/539	0.62	134.5	72.0%
YFCR-1200BS (雙軸馬達 2 只)	HI	790	0.40	83.4	786	0.80	170.0	50.9%
	ME	680	0.26	55.6	678	0.72	156.0	64.4%
	LO	540	0.14	31.2	539	0.62	136.0	77.1%
YFCR-1400BS (雙軸馬達 2 只)	HI	900	0.64	135.8	905	1.14	238.4	43.0%
	ME	780	0.42	89.0	784	1.02	221.2	59.8%
	LO	650	0.26	55.2	655	1.00	200.6	72.5%

送風機型號 高靜壓 (機外靜壓 4mmAq)	EC 馬達			AC 馬達			消耗功率節省 %	
	轉速	電流	耗功	轉速	電流	耗功		
	rpm	A	Wdc	rpm	A	Wac	Wac-Wdc/Wac	
YFCR-300BH (單軸馬達 1 只)	HI	920	0.26	41.3	916	0.26	56.5	26.9%
	ME	830	0.21	31.8	821	0.24	54.1	41.2%
	LO	660	0.14	17.7	659	0.23	50.3	64.9%
YFCR-400BH (單軸馬達 1 只)	HI	1010	0.27	57.3	1010	0.45	98.0	41.5%
	ME	910	0.21	43.4	880	0.38	82.1	47.1%
	LO	780	0.15	30.5	765	0.36	78.0	60.9%
YFCR-600BH (雙軸馬達 1 只)	HI	880	0.27	57.6	878	0.56	119.0	51.6%
	ME	760	0.19	41.2	759	0.46	100.0	58.8%
	LO	600	0.10	21.7	591	0.40	88.0	75.3%
YFCR-800BH (雙軸馬達 1 只)	HI	1020	0.47	100.3	1014	0.72	141.0	28.9%
	ME	940	0.36	77.2	939	0.68	139.0	44.7%
	LO	770	0.20	42.9	767	0.64	133.0	67.7%
YFCR-1000BH (單軸 + 雙軸馬達)	HI	1010/880	0.54	114.9	1010/878	1.01	217.0	47.1%
	ME	910/760	0.40	84.6	880/759	0.84	182.1	53.5%
	LO	780/600	0.35	52.2	765/591	0.76	166.0	68.6%
YFCR-1200BH (雙軸馬達 2 只)	HI	880	0.54	115.2	880	1.12	238.0	51.6%
	ME	760	0.38	82.4	760	0.92	200.0	58.8%
	LO	600	0.2	43.4	600	0.80	176.0	75.3%
YFCR-1400BH (雙軸馬達 2 只)	HI	1020	0.94	200.6	1014	1.44	282.0	28.9%
	ME	940	0.72	154.4	939	1.36	279.0	44.7%
	LO	770	0.40	85.8	767	1.28	266.0	67.7%

※ 測試負載條件：在乾盤管狀態，出風口全開測得。

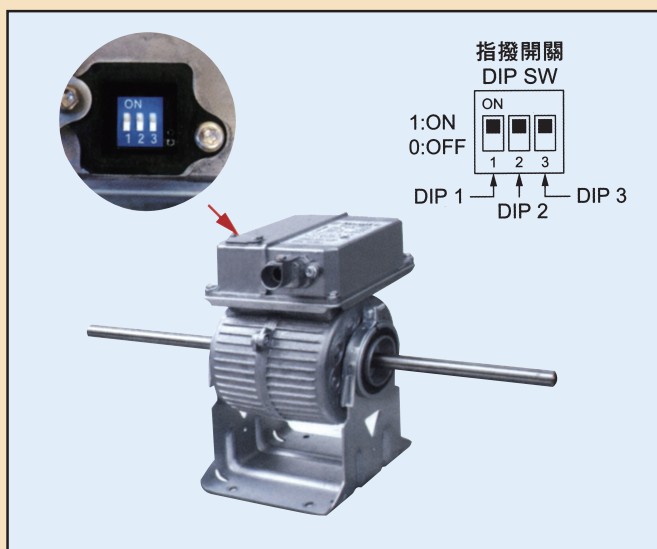
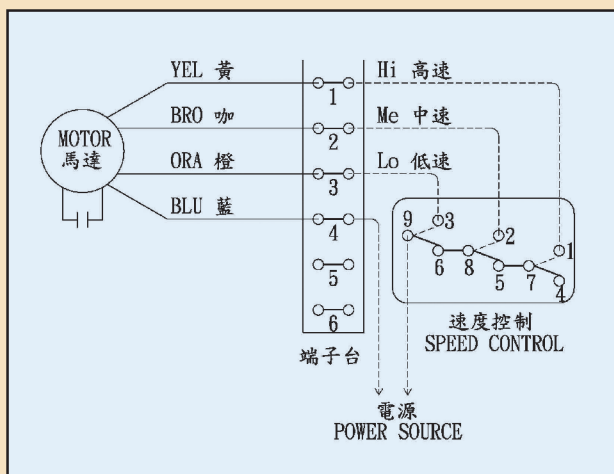
※ Test load conditions: in the dry coil state, the air outlet is fully open

## 三速開關及三速溫控器接線說明

### Three-speed switch and three-speed thermostat wiring instructions

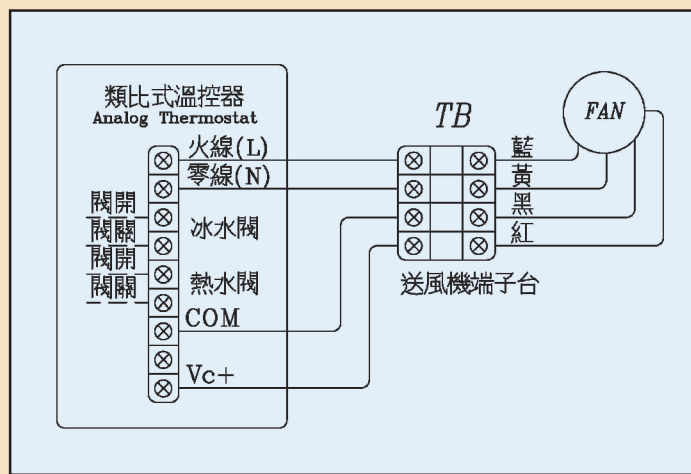
#### 產品配線及特性

1. 本產品對應原本使用的 AC 馬達，能達到節能的效果，也不需變更原外部配線及溫控器即可將送風機變成節能產品，以下是產品的驅動系統的配線圖。
2. 本產品可直接替換現有傳統室內送風機用的 AC 三速馬達，不需另加設其他組件。
3. 馬達驅動器的指撥開關可彈性依需求，調整馬達最高轉速（可參考下速度對應表）。



#### Product wiring and features

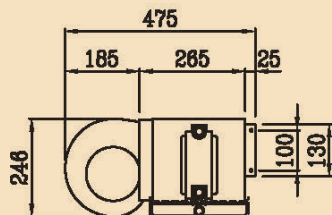
1. This product corresponds to the original AC motor, which can achieve the effect of energy saving, and the blower can be turned into an energy saving product without changing the original external wiring and thermostat. The following is the wiring diagram of the drive system of the product.
2. This product can directly replace the AC three-speed motor used in the existing indoor air supply unit without adding other components.
3. The DIP switch of the motor driver can flexibly adjust the maximum speed of the motor according to the needs (refer to the speed correspondence table below)



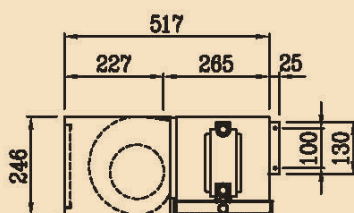
#### 速度對照表 The speed correspondence table

DIP1	DIP2	DIP3	HI	ME	LO
0	0	0	950	760	570
0	0	1	1000	800	600
0	1	0	1150	920	690
0	1	1	1200	960	720
1	0	0	1050	840	630
1	0	1	1100	880	660
1	1	0	1250	1000	750
1	1	1	1300	1040	780

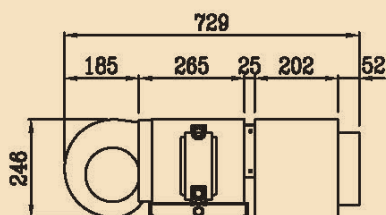
一般型側面尺寸  
SIDE DIMENSION



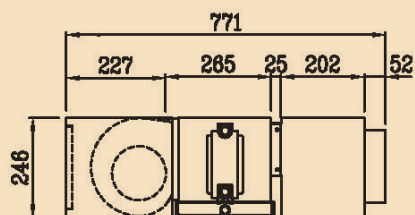
附回風箱側面尺寸  
With Return-Air Box



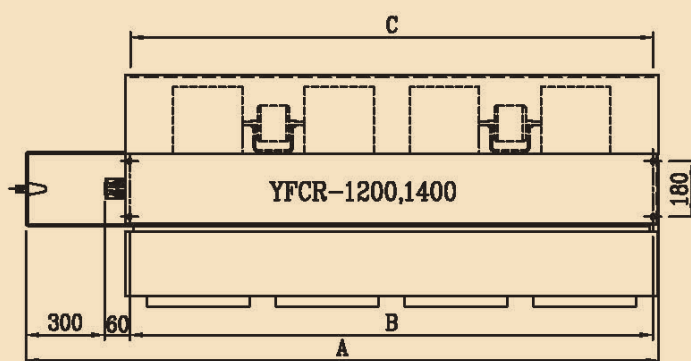
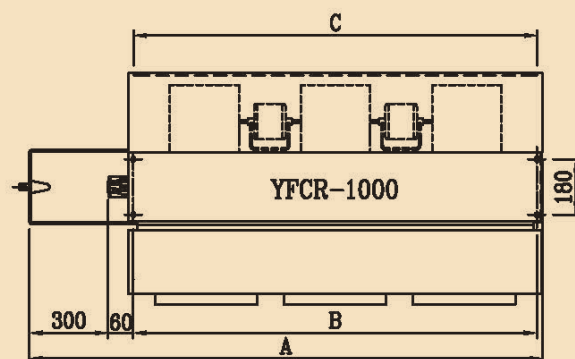
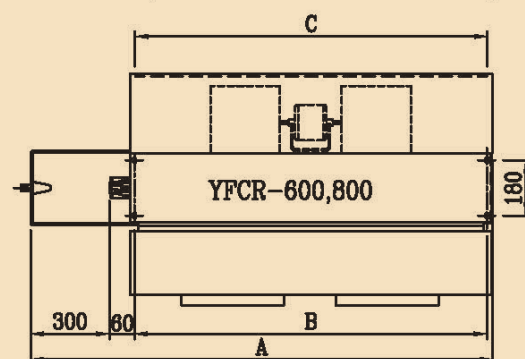
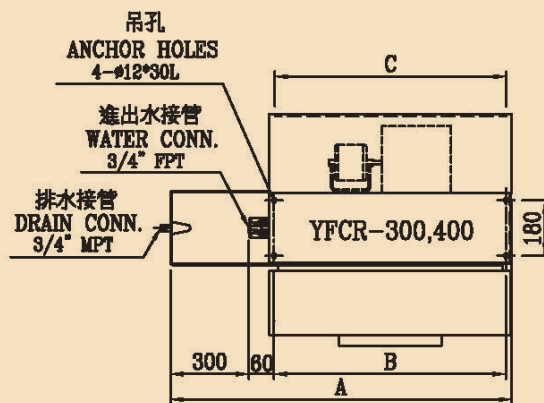
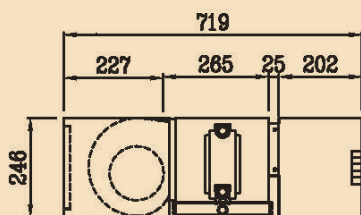
附集風箱側面尺寸  
With Plenum Box



附集風箱 + 回風箱側面尺寸  
With Plenum & Return-Air Box

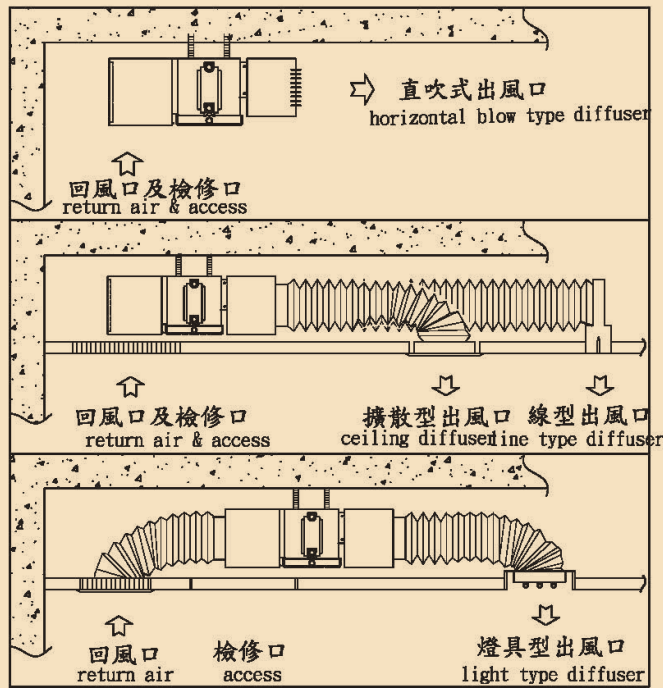


附集風箱( 格柵式 ) + 回風箱側面尺寸  
With Plenum(Grille type) & Return-Air Box

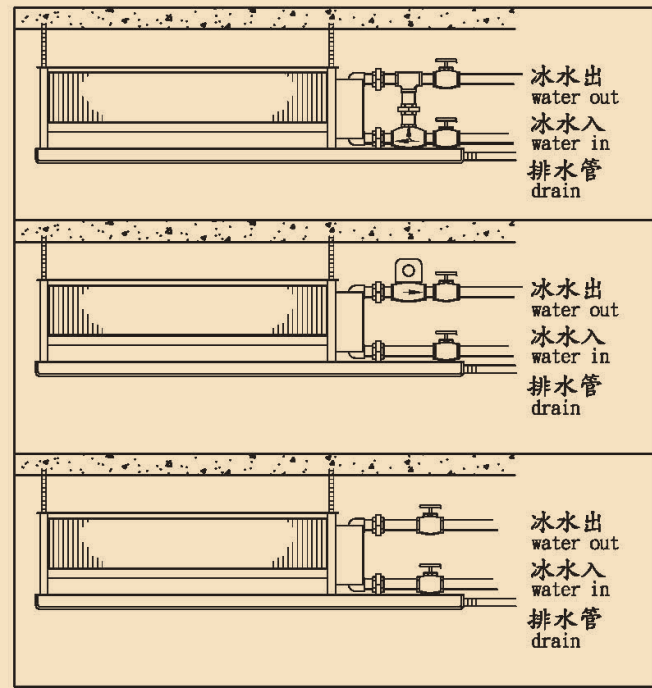


格柵式風箱ABC尺寸  
與各型相同

## 風管安裝圖例 Air Duct Installation



## 水管安裝圖例 Water Piping Installation



材料表 (一台份)  
material list(one unit)

ITEM NO.	品名	規格	數量
1	三通閥	3/4"	1
2	內卜	3/4" 1-1/2"	3
3	內卜	3/4" * 1	7
4	三通	3/4"	1
5	彎頭 90°	3/4"	2
6	由任	3/4"	3
7	閘閥門	3/4"	2

