

# Airwell

by Airwell Group



## Mini FlowLogic & FlowLogic II collection R410A VRF

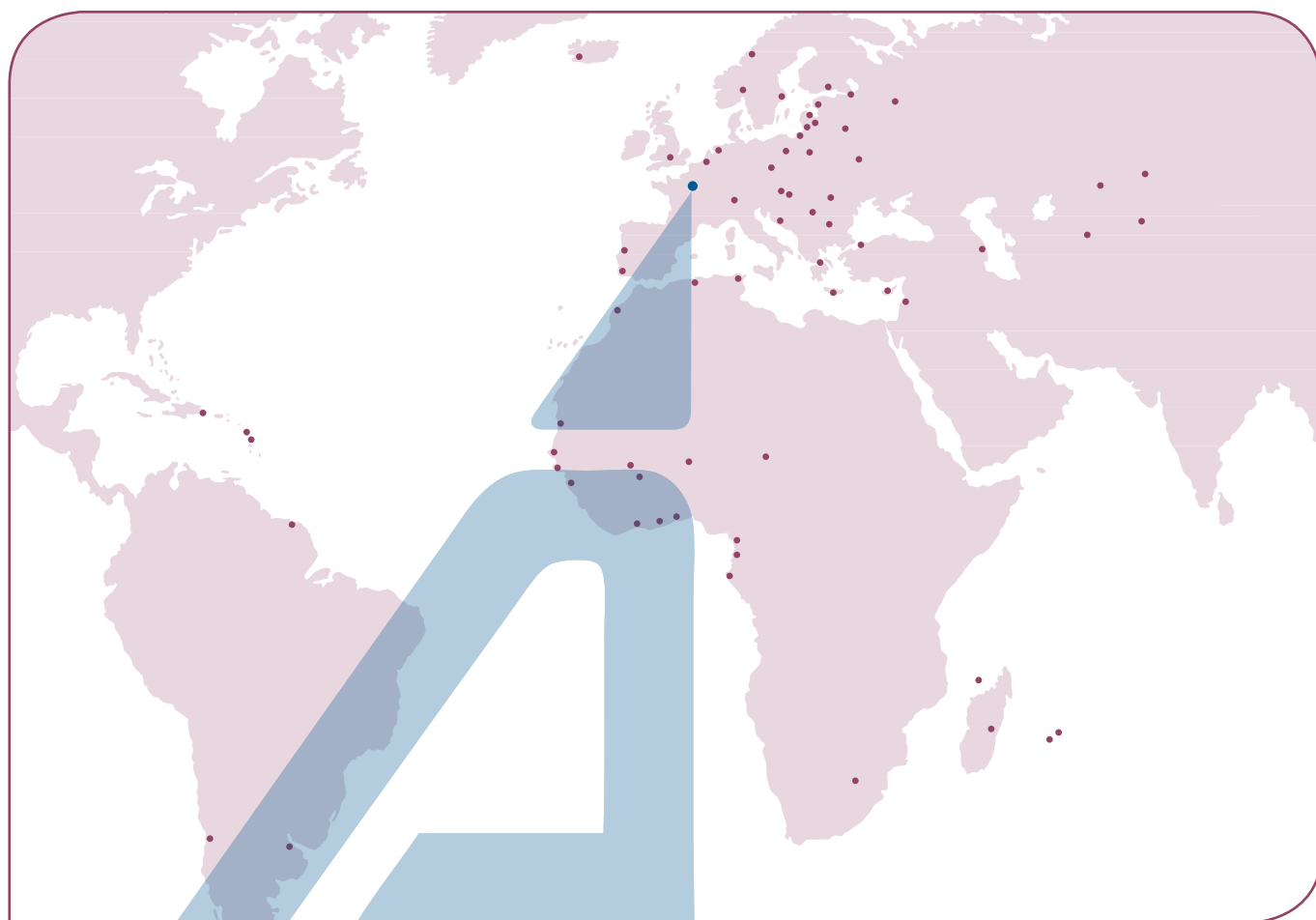
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## AN INTERNATIONAL SALES NETWORK



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# One Group, one history, many ambitions

**2012 will mark the 65<sup>th</sup> anniversary of the Group's activity and international expansion.**

The Airwell Group has a long history, marked by innovations at every stage of its development. In 1947 Paul Wallet founded the company L'Air Conditionné Entreprise (ACE) near Paris and, with the brand Airwell, quickly became the leading manufacturer of direct-expansion air conditioners. The foundations had been laid for what would become one of the largest groups worldwide to offer solutions for both the residential sector and to businesses, industry and the service sector.



## **INDUSTRIAL BEGINNINGS**

Since the 1950s, ACE has been mass-producing air conditioning systems for private and commercial use. At that time, the company designed the first window unit – one of its flagship products – intended for the European and African markets.

## **A DECADE OF INNOVATION**

Moving forward, in 1970 Airwell split its “window” unit into two parts to form a “split” system unit, becoming the first European manufacturer to produce this product. Another string was added to its bow a few years later, in 1979, with the air-water heat pump. In the wake of the two oil crises, this system could be connected to existing fuel oil boilers in homes. And in 1982 Airwell came up with the first range of wall split systems, incorporating a remote control, a high-tech tangential flow turbine to reduce noise levels and rotary compressors.



## ONGOING EXPANSION

Always at the cutting edge of technology, in 1988 Airwell became the first western company to develop the Inverter system, which varies the speed of the compressor, thus enabling the temperature to be adjusted and energy savings to be made. In the 1990s, the company experienced exceptional growth, resulting in the creation of its “historic” factory in Tillières-sur-Avre, Normandy, and the acquisition of distributors in Spain, Italy, Germany and France.

## AN INTERNATIONAL DIMENSION

In 1997, Airwell joined the Israeli group, Elco Holdings, which is listed on the Tel-Aviv stock exchange and is involved in many sectors: household appliances, air conditioning, retail sale of electronics and real estate. Other acquisitions, between 1998 and 2001, most notably of factories in France, Italy and China, strengthened the Group’s international position. At the same time, it expanded its distribution network to Argentina and Turkey. The first decade of the new millennium saw acquisitions in Germany (Polenz Klimatechnik) and the USA (Fedders). Finally, to strengthen its position on the Asian markets, the Airwell Group will open a new factory in Taicang (China) in June 2012.

## WHAT DOES THE FUTURE HOLD?

Many challenges lie ahead. The first is reliant on increasingly efficient, high quality products and services, which means listening to customers and ensuring a local presence. R&D is also one of the main priorities, with a desire to offer major innovations every year for each business line.

# FlowLogic II, a high performance system for all those involved in the project

**FlowLogic II is a range of variable refrigerant flow solutions for heating and air conditioning applications comprising of three innovative systems each utilising high performance R410A refrigerant.**

This range is unmatched by anything on the market and can independently pilot **up to 64 indoor units**, giving a capacity of between 3 and 48HP (8 to 135 kW). The DC Inverter technology means that these systems achieve remarkable energy efficiency (**COP up to 4**) whilst offering ultra silent operation, and a compact footprint.

This range of products is adapted to numerous applications : residential, small businesses, major office complexes, shopping centers or hotels etc : and this is thanks to its numerous technical assets such as :

- A range of single and 3 phases units,
- Significant refrigerant pipe lengths and height differences,
- Minimum outdoor temperature for heating mode operation -15°C,
- Heating or cooling.



## HIGH PERFORMANCE SYSTEM

- Owners or users benefit from a system which offers significant energy savings and has a direct impact on their fuel bills.
- The user benefits from a high performance system which guarantees optimal comfort all year round
- The installer benefits from the simplicity of the installation procedure
- The designer benefits from a number of tools (software and documents) which make it easier to calculate the dimensions of the system.

## OPTIMAL ENERGY SAVINGS - GOOD FOR THE ENVIRONMENT

The energy efficiency of the FlowLogic II range is exceptional thanks to the use of DC Inverter compressors and the use of variable speed fan motors. Therefore for 1 kW of electricity used by the system, up to 4 kW of heat output is generated. As the units operate using R410A, the entire range of products contributes to the preservation of the environment (high performance “green” fluid, recyclable and harmless to the ozone layer, reduction in energy consumption) within the framework of the Renewable Energy plan.

## SILENT OPERATION

The Twin Rotary and Scroll DC Inverter compressors are fitted across the entire FlowLogic II range producing a significant reduction in noise levels and vibrations that guarantees silent running.

## A COMPLETE RANGE OF INDOOR UNITS AND CONTROL DEVICES

All indoor units and control devices are the same across the two systems of the Airwell Mini FlowLogic II and FlowLogic II range.



Cassette CBV 600x600



Cassette CCV 900x900



Floor ceiling FAV



Console BAV



High wall HAV



Ducted DBV



Ducted DAV

# AIRWELL RANGE

## FlowLogic II Range - Outdoor units

MODEL NAME	PAGE	CAPACITY HP	POWER SUPPLY	CODE
Mini FlowLogic II	 10	<b>3</b>	1PH 230 V	7SP14H006
		<b>6</b>	3PH 400 V	7SP14H009
FlowLogic II	 14	<b>10</b>	3PH 400 V	7SP14H002
		<b>14</b>	3PH 400 V	7SP14H004
		<b>16</b>	3PH 400 V	7SP14H005

Capacity (HP)	3	6	10	14	16	20	24	26	28	30	32	34	36	38	40	42	46	48
Cooling (kW)	8.0	18.0	28.0	40.0	45.0	56.0	68.0	73.0	80.0	85.0	90.0	96.0	101.0	108.0	113.0	118.0	130.0	135.0
Heating (kW)	9.5	20.0	31.5	45.0	50.0	63.0	76.5	81.5	87.5	95.0	100.0	108.0	113.0	119.0	126.5	131.5	145.0	150.0
	1																	
		1																
			1			2	1	1				2	2	1	1	1		
				1			1		2	1		1		2	1		1	
					1			1		1	2		1		1	2	2	3



## 2-WAY MINI FLOWLOGIC II

Composed of three and single phase units of 3 & 6 HP, this range is designed for residential use or for light commercial use.

### PRODUCT ADVANTAGES

- > COP can reach 4.1
- > Up to 9 units can be connected
- > Single phase electrics
- > Compact (0.32 m<sup>2</sup> footprint)
- > Minimum outdoor temperature for heating mode operation -15°C
- > Minimum outdoor temperature for cooling mode operation -5°C
- > DC Inverter compressor and ventilator
- > Refrigerant tubing lengths of up to 150 m

### DC Inverter rotary compressor (YCV 080)



Realize high efficiency and compact designed compressor by joint wrap & rare metal magnet motor.

Wide range inverter compressors would satisfy the customer's innovative requirement and design.

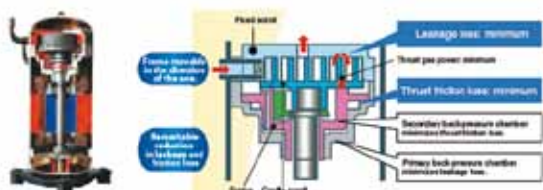
### DC fan motor



DC fan motor speed can be adjusted from 0~1000 r/min, it can improve the unit efficiency, at the same time, the unit can realize low ambient cooling operation.

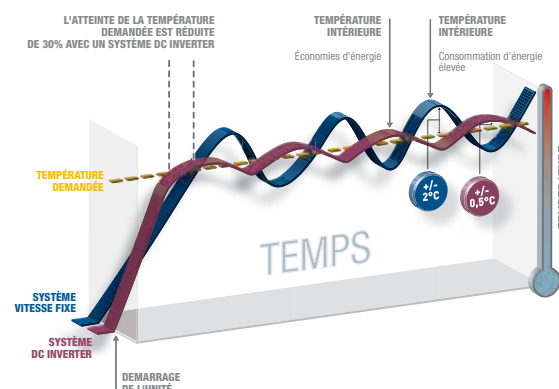
### Highly efficient DC scroll compressor (YCV 180)

The highly efficient scroll compressor is equipped with a "Flexible Mechanism" that allows movement in the axial direction of the frame supporting the cradle scroll. This greatly reduces both leakage and friction loss, ensuring very high efficiency throughout the speed range.



### DC Inverter technology

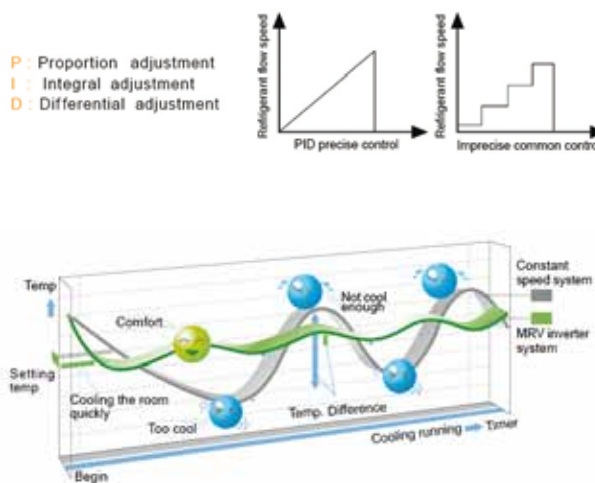
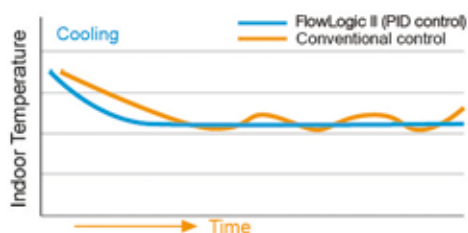
DC Inverter motor. High efficiency. Low vibration, low noise. High reliability.



## PRECISE CONTROL

### ■ PID control

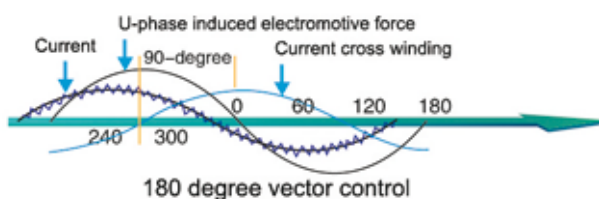
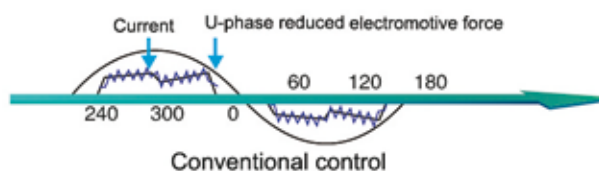
PID control adjusts the output of compressor and the open degree of EEV, balances the indoor refrigerant flow, realizes the linear output, creates a comfortable environment. The temperature could be control precisely.



## 180 DEGREE VECTOR CONTROL TECHNOLOGY

### ■ Features

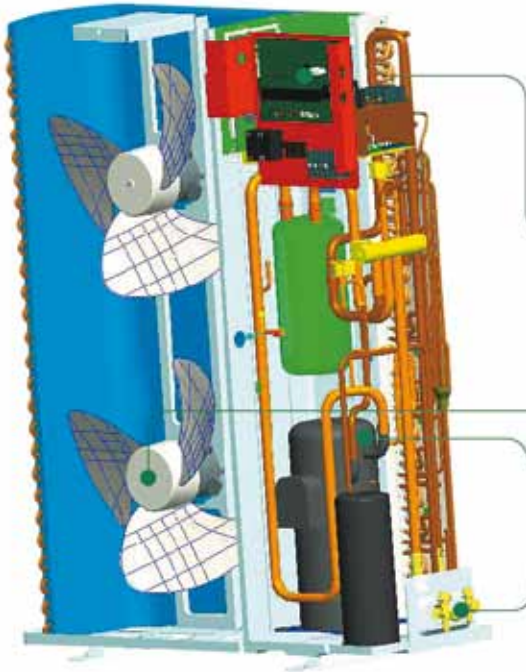
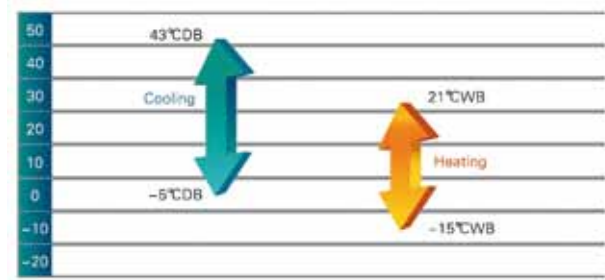
Airwell using power resistance to detect the rotor position of compressor, results in the consistency of the compressor working current and Current Sine waves, improve power efficiency about 17%.



## OPERATION RANGE

Mini FlowLogic II series permits a system design considering a heating range operation under a low temperature condition from  $-15^{\circ}\text{C}$  of previous model and a cooling range operation  $-5^{\circ}\text{C}$ .

For the capacities under low temperature conditions, please see technical data sheets.



## CONTROL AND SAFETY

- Control compressor running frequency by temp. Sensor, more precise and prompt than conventional control system.
- Protections: pressure, temp., compressor, fan motor, refrigerant, oil quantity etc. Realize perfect performance.
- Malfunction self-diagnose.
- DC fan motor (YCV 180).
- DC Inverter compressor, high efficiency.
- Single set valve, easy to installation and save installation time.

## MINI FLOWLOGIC II TECHNICAL DATA

			Model	YCV 080	YCV 180
			Code	7SP14H006	7SP14H009
CAPACITY	Cooling	kBtu/H		27.3	61.4
		kW		8	18
	Heating	kBtu/H		32.4	68.2
		kW		9.5	20
ELECTRICAL PARAMETERS	Power supply	Ph/V/Hz		1/220~230/50	3/380~400/50-N
	Cooling power input	kW		2.2	5.5
	Heating power input	kW		2.15	5.25
	EER/COP			3.64/4.42	3.27/3.8
PERFORMANCE	Air flow (H)	m³/h		3500	6500
	Noise level (H)	dB(A)		55	60
INSTALLATION	External dimensions (W/D/H)	mm		948/340/840	948/340/1250
	Shipping dimensions (W/D/H)	mm		1095/410/935	1094/410/1400
	Net/Shipping weight	kg		74/89	130/140
	Compressor type			Rotary	Scroll
	Refrigerant type			R410A	R410A
	Refrigerant liquid pipe	inches		3/8"	3/8"
	Refrigerant gas pipe	inches		5/8"	3/4"
	Max pipe length	m		50	100
	Max drop between indoor & outdoor*	m		30/20	30/20
	Maximum indoor units connectable	quantity		5	9
WORKING TEMP.	Cooling	°C		-5~43	-5~43
	Heating	°C		-15~21	-15~21

\* 30 m if the outdoor unit is above indoor unit, 20 m if the outdoor unit is below indoor unit.

## AIRWELL SOLUTIONS





## 2-WAY FlowLogic II

Composed of DC Inverter models 10, 14 & 16 HP, this new generation of units enables a capacity range from 10 to 48 HP to be covered by combining up to 3 units. This range offers noise pressure levels that vary between 55 and 66 dB(A) without a silent mode, making these units the quietest on the market.

### PRODUCT ADVANTAGES

- > The whole range is DC Inverter.
- > Capacity range from 10 to 48 HP.
- > COP average of 3.9
- > COP can reach 4.1, which is a 15% COP increase in relation to the previous range
- > 12% increase in EER in relation to the previous range
- > 40 indoor units connectable from 24HP to only 2 outdoor units
- > Minimum outdoor temperature of heating mode operation -20°C
- > DC Inverter fan
- > Noise levels: 51.5 dB(A)\*
- > Power Ratio 130%
- > Indoor Units Identical to the FlowLogic 3 way and
- > Mini FlowLogic R410A ranges
- > Control device identical to the 3 way FLOW
- > LOGIC and Mini FlowLogic R410A ranges.
- > Unit dimensions optimised
- > De-icing between outdoor units
- > Lead lag operation to maintain equal operating time
- > Total connection length 300 metres
- > Wide range of control systems (Wireless control devices, touch screen central controller, GTC gateway.)

## EFFICIENCY

### DC Inverter Compressor high efficiency



Use high efficiency DC Inverter scroll compressor, high efficiency, low noise.

Note: not only use DC Inverter compressor, some models also use fix speed compressor, pls. refer to the service manual details.

### DC fan motor

The speed of the wide range DC fan motor can be adjusted from 0 to 1000 r/min.



Compared to conventional AC motors, a DC fan motor offers greater operating efficiency, especially during low-speed rotation. The efficiency could be 90%.

## Efficient structure

### New big diameter "aviation" fan

This new fan could reduce air loss, air resistance and noise, increase heat exchange efficiency.

### 4-way air return heat exchanger technology

The 4-way air return.

The compressor and condenser are placed in separated compartments. This structure of outdoor unit can realize lower air resistance, higher heat efficiency and lower noise level.



## Energy save lock function

**26°C in cooling mode, 20°C in heating mode, lock function, save operation cost**

Setting temperature fixed to 26°C, the air conditioner operation cost can reduce 10%.

At the same time, the 26°C is healthy to the human body.

z lock  
10% power saving

## EFFICIENT PARTS

### ■ Sub-cooling circuit

Sub-cooling circuit utilizes little refrigerant to cool most of refrigerant in system, and makes it a further cooling, improves sub-cooling degree of refrigerant, in can avoid energy loss due to refrigerant flash evaporating when it goes through PMV.

It will increase cooling capacity by 6%, reduce refrigerant circulation amounts, so that it can increase the efficiency of system.



### ■ Efficient exchanger

W-model Ø8 inner grooved tube.

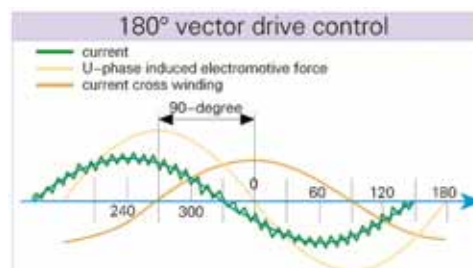
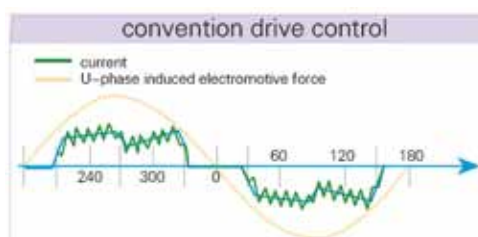
Hydrophylic aluminium coil fin.

It will increase efficiency of heat exchange by 5%.

## ADVANCE CONTROL TECHNOLOGY

### ■ 180° vector drive control technology

Using the power resistance to detect the position of rotor in compressor, so that the operation current of compressor close to sine wave easily.

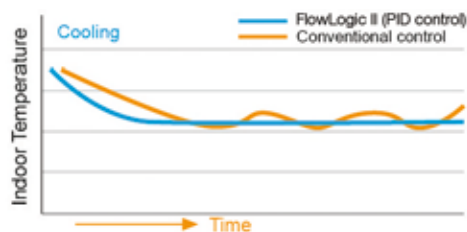


## COMFORT

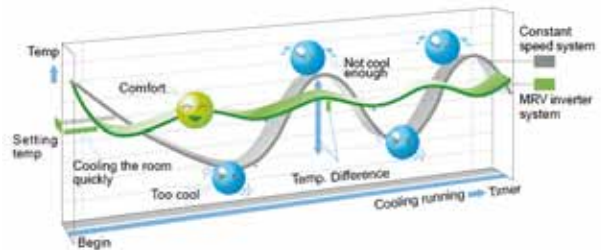
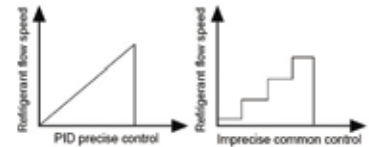
## PRECISE CONTROL

## ■ PID control

PID control adjusts the output of compressor and the open degree of EEV, balances the indoor refrigerant flow, realizes the linear output, creates a comfortable environment. The temperature could be control precisely.



P: Proportion adjustment  
I: Integral adjustment  
D: Differential adjustment



## CONTROL

## CONTROL TECHNOLOGY

## ■ Variable control mode



RCV01

Wireless remote controller (standard for wall mounted and console type).

➤ Realize standard control function.



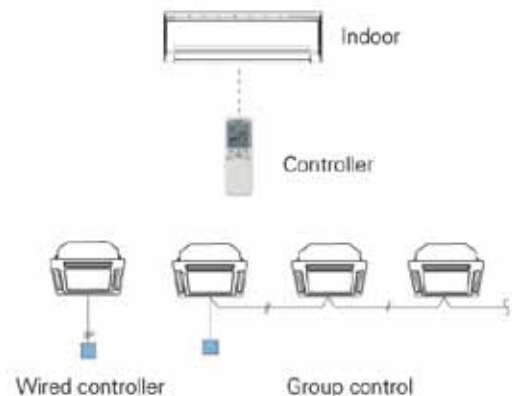
RWV01

Wired & Group controller (standard for cassette, convertible and duct type).

➤ Max 16 indoor units (all the indoor units work in the same mode).

➤ Realize Master & Slave control using 2 controller.

➤ Set ON/OFF time.



## ■ Simple controller (optional)



RWV03

➤ Max 16 indoor units (all the indoor units work in the same mode).

➤ Set ON/OFF time.

➤ Mode selection: cool/heat/fan.

➤ Temperature setting.

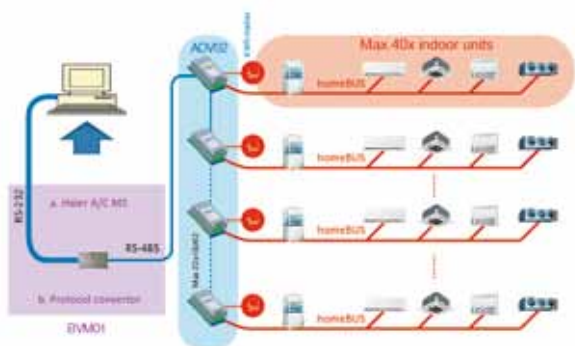
➤ Failure code display.

## BMS CONTROL

### ■ BVM01

#### Simple Airwell A/C management system

- RS-485 communication length is max 1000m.
- Total connected indoor units quantity is limited 400.
- Energy pulse meter is optional.



### ■ BVM02

#### Network Airwell A/C management system

- Total actual connected indoor units quantity is max 1000.
- Internet remote control.
- Separate purchase parts by dealers/customers:
  - computer display;
  - energy pulse meter and printer if calculating the power consumption requested.
- Interface: BACnet and modbus.

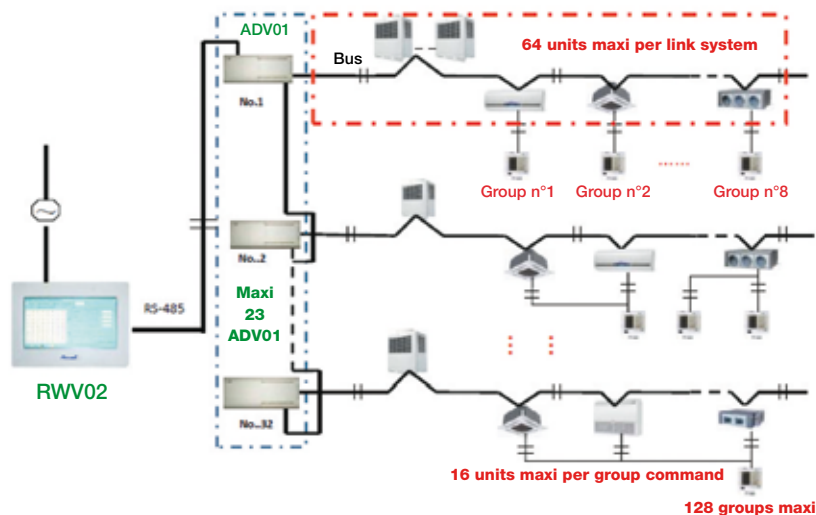


## CONTROL TECHNOLOGY



### ■ Central controller (optional)

- Touch screen.
- Max RS-485 communication wire length is 1000m.
- Max connectable indoor units groups quantity is 128.
- Weekly timer function included.
- Zones creation.
- Central control mode.

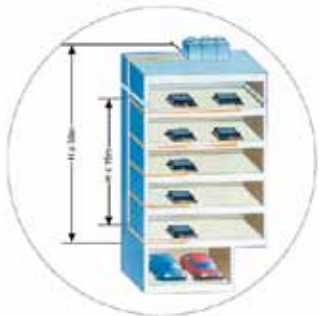
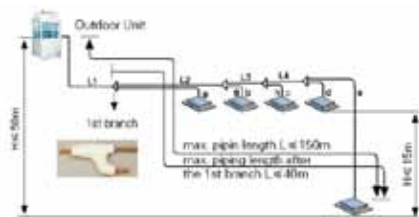


## INSTALLATION

### FLEXIBLE INSTALLATION

#### ■ Long piping length & large drop

- Total refrigerant piping length.
- Max 300m refrigerant piping length.
- Max 50m height drop between indoor and outdoor units (outdoor unit above, 40m if outdoor unit below).
- Max 15m height drop between indoor units.



### EASY TRANSPORTATION

#### ■ Modularized design

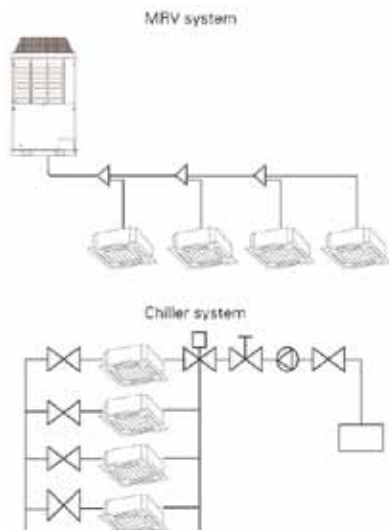
The outdoor units' space only occupies 0.74m<sup>2</sup> and 1.04m<sup>2</sup>, it can transport with elevators, save lots of transport cost and time. The outdoor units can installed in different floors, save the whole system test time.



### EASY INSTALLATION

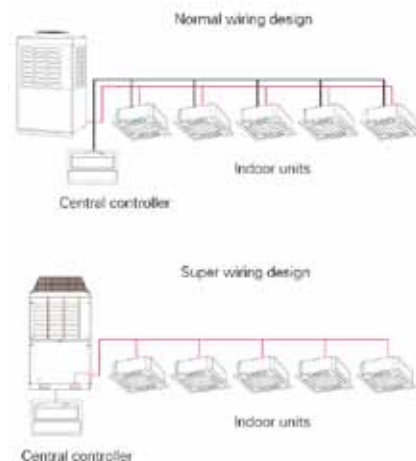
#### ■ Concise system

Comparing with chiller system, without filter, stop valves, accessory, FlowLogic II units refrigerant piping greatly reduce the system installation work and save a lot of protection & clean work.



#### ■ Wiring system

A wiring system is used to enable shared use of the wiring between indoor & outdoor units and the central control wiring, with a simple wiring operation. The only work you need to do is to connect the central controller to the outdoor unit directly if central controller is adopted.



# RELIABILITY

## ADVANCED TECHNOLOGY

### ■ High quality DC Inverter compressor

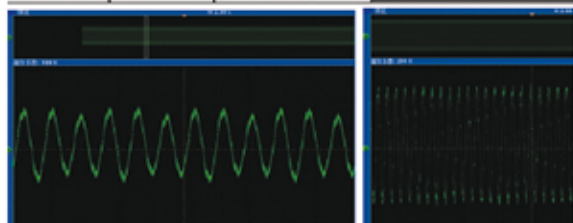
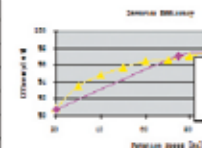
The highly efficient scroll compressor is equipped with a "frame compliance mechanism" that allows movement in the axial direction of the frame supporting the cradle scroll. This greatly reduces both leakage and friction loss, ensuring very high efficiency throughout the speed range.



### ■ High quality Inverter module

Inverter module imported from Japan, design and evaluate according to Japanese standard (7 items, 45 specifications).

30	93.48	(20.87/5.33)	75	97.03	27
40	94.85	(21.25/6.9)	95	97.44	30
50	95.79	(21.86/8.28)	115	97.79	34
60	96.49	(24.06/7.29)			
70	96.69	(24.42/8.9)			
80	97.11	(25.03/9.09)			
90	97.48	(25.84/8.59)			
100	97.59	(26.11/8.87)			
110	97.80	(25.94/8.04)			
120	97.84	(27.64/8.84)			



### ■ More reliable outdoor PCB

All the hardware evaluated by the expert. Part design according to Japanese design standard. Improve the process, adopt the advanced method, painted with insulation paint, and tested at high ambient temperature to make sure good quality.



## DUTY CYCLING

### ■ Duty cycling of outdoor units

The outdoor units make no difference between primary unit and secondary unit. For the system which consists of more than one unit, the operating turns of units will be changed every 8 hours. Duty cycling of outdoor units could balance the operation hours and life of each outdoor unit in order to prolong the system's life.



## RELIABLE OPERATION

### ■ Backup operation

If one outdoor unit malfunction happens the other units provide emergent operation until repair achieved. In one module system, also can realize backup operation when fix speed compressor error happens. The backup operation could avoid the system close down due to one unit going wrong, it is quite reliable to use.

1 outdoor unit: 2 sets compressor system

Comp.	Inv.	Fix.	Capacity
Inverter Alarm	Malfunction	Stop	0%
Fixed alarm	Operation	Malfunction	67%

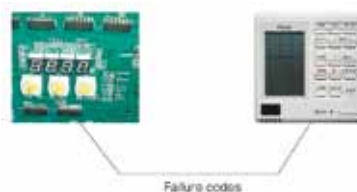
3 outdoor units: 36HP

Comp.	Module 1	Module 2	Module 3	Capacity
Inverter Alarm	Malfunction	Stop	Operation	33% or 67%
Fixed alarm	Operation	Malfunction	Operation	60%



### ■ Auto checking malfunction

Failure codes displayed by LED by 4x7 segments display in outdoor PCB or controllers are so detailed for us to find the fail place more quickly, and can judge the failure content easily.



## RELIABLE TEST

### ■ Test in the development phase

- Capability and safety test
- 500 hours salt spray test
- 6 hours rain test
- 130% over-match test
- 300m pipe length & 50m drop test
- EMC test

### ■ Test during manufacturing

- Manufacture test
- Parts test / Leak test / Operation test / Safety test
- Outgoing test
- Visual test / Function test / Capacity test / Acoustic test
- Accessories test



Airwell products



Climate simulating lab



Quality EMC lab



Auto-test line



Enthalpy difference testing lab



Noise testing lab



Center control



Helium leak test

## SUPPORT

### SOFTWARE SELECTION PROGRAM

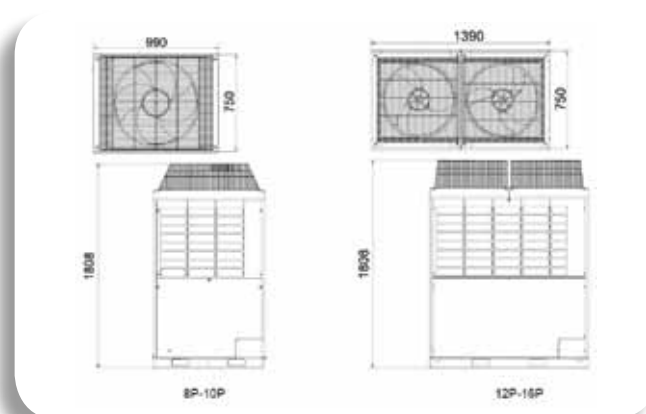


This software supply a solution of piping & wiring design, can help the designer select the right material lists, basic wiring diagram and control wiring diagram etc. Airwell also offers a computer selection program for defining size, piping, wiring diagram, and list of material (this software is only a tool to assist with decision making) and the results of it is directly dependant of the input data from the customer, so these data are provided for information purpose only and should not replace a study carried out by an approval filter.


## FLOWLOGIC II TECHNICAL DATA FOR 10, 14 AND 16 HP

				Model		YCV 280	YCV 400	YCV 450
				Code		7SP14H002	7SP14H004	7SP14H005
CAPACITY	Cooling			kW	28	40	45	
	Heating			kW	31.5	45	50	
ELECTRICAL PARAMETERS	Power supply			Ph/V/Hz	3/380~400/50-N	3/380~400/50-N	3/380~400/50-N	
	Power input (A)	Cooling	Rated/Max current		11.1/23.4	3/4"/28.5	20.3/31.6	
			Rated/Max power input		7.36/14.7	11.4/17.9	13.4/19.99	
		Heating	Rated/Max current		12.5/19	17.96/24.9	19.3/27.3	
			Rated/Max power input		7.97/11.9	11.6/15.6	13.5/17.1	
PERFORMANCE	Air flow (H)			m³/h	11100	14100	14100	
	Noise level (H)			dB(A)	57	60	60	
INSTALLATION	External dimensions (W/D/H)			mm	990/750/1808	1390/750/1808	1390/750/1808	
	Shipping dimensions (W/D/H)			mm	1090/860/1990	1490/860/1990	1490/890/1990	
	Net/Shipping weight			kg	240/255	360/378	368/386	
	Compressor type				Scroll	Scroll	Scroll	
	Refrigerant type				R410A	R410A	R410A	
	Refrigerant charge			kg	11	12	14.5	
	Refrigerant liquid pipe			inches	3/8"	1/2"	1/2"	
	Refrigerant gas pipe			inches	7/8"	1"	1"1/8	
	Oil equalization pipe			inches	3/8"	3/8"	3/8"	
	Environment temperature range		Cooling	°C	-5~43	-5~43	-5~43	
			Heating	°C	-15~21	-15~21	-15~21	
	Maximum indoor units connectable				quantity	16	16	26

### AIRWELL SOLUTIONS




## TECHNICAL DATA FOR 10-10 COMBINATION

Model				YCV 560	
Combination Model / Code				YCV 280 / 7SP14H002	
				YCV 280 / 7SP14H002	
					
CAPACITY	Cooling			kW	56
	Heating			kW	63
ELECTRICAL PARAMETERS	Power supply			Ph/V/Hz	3/380~400/50-N
	Power input (A)	Cooling	Rated/Max current		22.2/46.8
			Rated/Max power input		14.72/29.4
		Heating	Rated/Max current		25/28
			Rated/Max power input		15.94/23.8
PERFORMANCE	Air flow (H)			m³/h	22200
	Noise level (H)			dB(A)	60
INSTALLATION	External dimensions (W/D/H)			mm	950/750/1808 + 990/750/1808
	Shipping dimensions (W/D/H)			mm	1090/860/1990 + 1090/860/1990
	Net/Shipping weight			kg	480/510
	Compressor type				Scroll
	Refrigerant type				R410A
	Refrigerant charge			kg	22
	Refrigerant liquid pipe			inches	5/8"
	Refrigerant gas pipe			inches	1"1/8
	Oil equalization pipe			inches	3/8"
	Environment temperature range	Cooling		°C	-5~43
		Heating		°C	-15~21
	Maximum indoor units connectable			quantity	33

### AIRWELL SOLUTIONS





## TECHNICAL DATA FOR 10-14 COMBINATION

Model				YCV 680	
Combination Model / Code				YCV 280 / 7SP14H002	
				YCV 400 / 7SP14H004	
					
CAPACITY	Cooling			kW	68
	Heating			kW	76.5
ELECTRICAL PARAMETERS	Power supply			Ph/V/Hz	3/380~400/50-N
	Power input (A)	Cooling	Rated/Max current		30.15/51.9
			Rated/Max power input		18.76/32.6
		Heating	Rated/Max current		30.46/43.9
			Rated/Max power input		19.57/27.5
PERFORMANCE	Air flow (H)			m³/h	25200
	Noise level (H)			dB(A)	61
INSTALLATION	External dimensions (W/D/H)			mm	950/750/1808 + 1390/750/1808
	Shipping dimensions (W/D/H)			mm	1090/860/1990 + 1490/860/1990
	Net/Shipping weight			kg	600/633
	Compressor type				Scroll
	Refrigerant type				R410A
	Refrigerant charge			kg	23
	Refrigerant liquid pipe			inches	5/8"
	Refrigerant gas pipe			inches	1"1/8
	Oil equalization pipe			inches	3/8"
	Environment temperature range	Cooling		°C	-5~43
		Heating		°C	-15~21
	Maximum indoor units connectable			quantity	39

## AIRWELL SOLUTIONS





## TECHNICAL DATA FOR 10-16, 14-14 & 14-16 COMBINATIONS

Model			YCV 730	YCV 800	YCV 850	
Combination Model / Code			YCV 280 / 7SP14H002	YCV 400 / 7SP14H004	YCV 400 / 7SP14H004	
			YCV 450 / 7SP14H005	YCV 400 / 7SP14H004	YCV 450 / 7SP14H005	
						
CAPACITY	Cooling		kW	73	78.5	85
	Heating		kW	81.5	87.5	95
ELECTRICAL PARAMETERS	Power supply		Ph/V/Hz	3/380~400/50-N	3/380~400/50-N	3/380~400/50-N
	Power input (A)	Cooling	Rated/Max current	31.4/55	34.5/56.3	39.35/60.1
			Rated/Max power input	20.76/34.69	23.4/35.49	24.8/37.89
		Heating	Rated/Max current	1"1/4/46.3	34.4/49	37.26/52.2
			Rated/Max power input	21.47/29	23.5/30.7	25.1/32.7
PERFORMANCE	Air flow (H)		m³/h	25200	28200	28200
	Noise level (H)		dB(A)	61	62	62
INSTALLATION	External dimensions (W/D/H)		mm	950/750/1808 + 1390/750/1808	1390/750/1808 + 1390/750/1808	1390/750/1808 + 1390/750/1808
	Shipping dimensions (W/D/H)		mm	1090/860/1990 + 1490/860/1990	1490/860/1990 + 1490/860/1990	1490/860/1990 + 1490/860/1990
	Net/Shipping weight		kg	608/641	728/756	728/764
	Compressor type			Scroll	Scroll	Scroll
	Refrigerant type			R410A	R410A	R410A
	Refrigerant charge		kg	25.5	26.5	26.5
	Refrigerant liquid pipe		inches	3/4"	3/4"	3/4"
	Refrigerant gas pipe		inches	1"1/4	1"1/4	1"1/4
	Oil equalization pipe		inches	3/8"	3/8"	3/8"
	Environment temperature range	Cooling	°C	-5~43	-5~43	-5~43
		Heating	°C	-15~21	-15~21	-15~21
	Maximum indoor units connectable		quantity	43	46	50

### AIRWELL SOLUTIONS




## TECHNICAL DATA FOR 16-16, 10-10-14 & 10-10-16 COMBINATIONS

Model			YCV 900	YCV 960	YCV 1010	
Combination Model / Code			YCV 450 / 7SP14H005	YCV 280 / 7SP14H002	YCV 280 / 7SP14H002	
			YCV 450 / 7SP14H005	YCV 280 / 7SP14H002	YCV 280 / 7SP14H002	
			-	YCV 400 / 7SP14H004	YCV 450 / 7SP14H005	
						
CAPACITY	Cooling		kW	90	96	101
	Heating		kW	100	108	113
ELECTRICAL PARAMETERS	Power supply		Ph/V/Hz	3/380~400/50-N	3/380~400/50-N	3/380~400/50-N
	Power input (A)	Cooling	Rated/Max current	40.6/63.2	41.25/75.3	42.5/78.4
			Rated/Max power input	26.8/39.98	26.12/47.3	28.12/49.39
		Heating	Rated/Max current	38.6/54.6	42.96/62.9	44.3/65.3
			Rated/Max power input	27/34.2	27.54/39.4	29.4/40.9
PERFORMANCE	Air flow (H)		m³/h	28200	36300	36300
	Noise level (H)		dB(A)	62	63	63
INSTALLATION	External dimensions (W/D/H)		mm	1390/750/1808 + 1390/750/1808	950/750/1808 + 950/750/1808 + 1390/750/1808	950/750/1808 + 950/750/1808 + 1390/750/1808
	Shipping dimensions (W/D/H)		mm	1490/860/1990 + 1490/860/1990	1090/860/1990 + 1090/860/1990 + 1490/860/1990	1090/860/1990 + 1090/860/1990 + 1490/860/1990
	Net/Shipping weight		kg	736/772	840/888	848/896
	Compressor type			Scroll	Scroll	Scroll
	Refrigerant type			R410A	R410A	R410A
	Refrigerant charge		kg	29	34	36.5
	Refrigerant liquid pipe		inches	3/4"	3/4"	3/4"
	Refrigerant gas pipe		inches	1"1/4	1"1/4	1"1/2
	Oil equalization pipe		inches	3/8"	3/8"	3/8"
	Environment temperature range	Cooling	°C	-5~43	-5~43	-5~43
		Heating	°C	-15~21	-15~21	-15~21
	Maximum indoor units connectable		quantity	53	56	59

### AIRWELL SOLUTIONS




## TECHNICAL DATA FOR 10-14-14, 10-14-16 & 10-16-16 COMBINATIONS

Model			YCV 1080	YCV 1130	YCV 1180
Combination Model / Code			YCV 280 / 7SP14H002	YCV 280 / 7SP14H002	YCV 280 / 7SP14H002
			YCV 400 / 7SP14H004	YCV 400 / 7SP14H004	YCV 450 / 7SP14H005
			YCV 400 / 7SP14H004	YCV 450 / 7SP14H005	YCV 450 / 7SP14H005
					
CAPACITY	Cooling		kW	106.5	113
	Heating		kW	119	126.5
ELECTRICAL PARAMETERS	Power supply		Ph/V/Hz	3/380~400/50-N	3/380~400/50-N
	Power input (A)	Cooling	Rated/Max current	45.6/79.7	50.45/83.5
			Rated/Max power input	30.76/50.19	32.16/52.69
		Heating	Rated/Max current	46.9/68	49.76/71.2
			Rated/Max power input	31.47/42.6	33.07/44.6
PERFORMANCE	Air flow (H)		m³/h	39300	39300
	Noise level (H)		dB(A)	63	63
INSTALLATION	External dimensions (W/D/H)		mm	950/750/1808 + 1390/750/1808 + 1390/750/1808	950/750/1808 + 1390/750/1808 + 1390/750/1808
	Shipping dimensions (W/D/H)		mm	1090/860/1990 + 1490/860/1990 + 1490/860/1990	1090/860/1990 + 1490/860/1990 + 1490/860/1990
	Net/Shipping weight		kg	968/1011	968/1019
	Compressor type			Scroll	Scroll
	Refrigerant type			R410A	R410A
	Refrigerant charge		kg	37.5	37.5
	Refrigerant liquid pipe		inches	3/4"	3/4"
	Refrigerant gas pipe		inches	1"1/2	1"1/2
	Oil equalization pipe		inches	3/8"	3/8"
	Environment temperature range	Cooling	°C	-5~43	-5~43
		Heating	°C	-15~21	-15~21
	Maximum indoor units connectable		quantity	63	64

### AIRWELL SOLUTIONS



## TECHNICAL DATA FOR 14-16-16 & 16-16-16 COMBINATIONS

Model			YCV 1300	YCV 1350	
Combination Model / Code			YCV 400 / 7SP14H004	YCV 450 / 7SP14H005	
			YCV 450 / 7SP14H005	YCV 450 / 7SP14H005	
			YCV 450 / 7SP14H005	YCV 450 / 7SP14H005	
					
CAPACITY	Cooling		kW	130	135
	Heating		kW	145	150
ELECTRICAL PARAMETERS	Power supply		Ph/V/Hz	3/380~400/50-N	3/380~400/50-N
	Power input (A)	Cooling	Rated/Max current	59.65/91.7	60.9/94.8
			Rated/Max power input	38.2/57.88	40.2/59.97
		Heating	Rated/Max current	56.56/79.5	57.9/81.9
			Rated/Max power input	38.6/49.8	40.5/51.3
PERFORMANCE	Air flow (H)		m³/h	42300	42300
	Noise level (H)		dB(A)	64	64
INSTALLATION	External dimensions (W/D/H)		mm	1390/750/1808 + 1390/750/1808 + 1390/750/1808	1390/750/1808 + 1390/750/1808 + 1390/750/1808
	Shipping dimensions (W/D/H)		mm	1490/860/1990 + 1490/860/1990 + 1490/860/1990	1490/860/1990 + 1490/860/1990 + 1490/860/1990
	Net/Shipping weight		kg	1096/1150	1104/1158
	Compressor type			Scroll	Scroll
	Refrigerant type			R410A	R410A
	Refrigerant charge		kg	41	43.5
	Refrigerant liquid pipe		inches	3/4"	3/4"
	Refrigerant gas pipe		inches	1"1/2	1"1/2
	Oil equalization pipe		inches	3/8"	3/8"
	Environment temperature range	Cooling	°C	-5~43	-5~43
		Heating	°C	-15~21	-15~21
	Maximum indoor units connectable		quantity	64	64


















### AIRWELL SOLUTIONS



# AIRWELL RANGE

## FlowLogic II Range - Indoor units

MODEL NAME		PAGE	Capacity (HP)	Cooling (kW)	Heating (kW)
Hi Wall		30			
				Code	
Cassette 600x600		34			
				Code	
Cassette 900x900		36			
				Code	
Floor & Ceiling		38			
				Code	
Ducted LSP		40			
				Code	
Ducted MSP		42			
				Code	
Console		48			
				Code	

	7	9	12	16	18	24	28	30	38	48
	2.2	2.8	3.6	4.5	5.6	7.1	8	9	11.2	14
	2.2	2.8	3.6	4.5	5.6	7.1	8	9	11.2	14
										
	7SP02H001	7SP02H002	7SP02H003		7SP02H005					
										
		7SP04H001	7SP04H002	7SP04H003						
										
						7SP04H005		7SP04H007		7SP04H009
										
			7SP02H008			7SP02H011				
										
		7SP03H002								
										
					7SP03H007		7SP03H009		7SP03H011	
										
			7SP05H002							

RCV01  
(STD)

## HAV

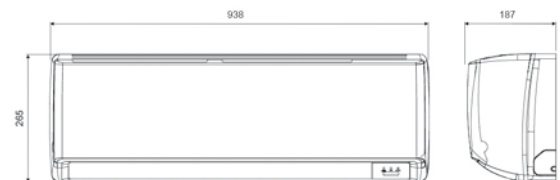
### HIGH WALL

- **EEV inside put**  
The EEV box inside put, easy for installation.
- **High-quality DC fan motor**  
Reduce the indoor unit noise greatly.
- **New fashion design**
- **Infrared remote controller included on standard.**

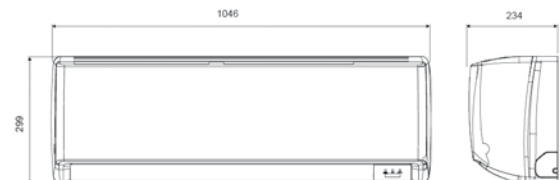
## AIRWELL SOLUTIONS



### ■ Dimensions: 007-009-012 models



### ■ Dimensions: 018 model



## HAV TECHNICAL DATA

Model			HAV 007	HAV 009	HAV 012	HAV 018
Code			7SP02H001	7SP02H002	7SP02H003	7SP02H005
CAPACITY	Cooling	kBtu/H	7.5	9.5	12.3	19.1
		kW	2.2	2.8	3.6	5.6
	Heating	kBtu/H	8.5	10.9	13.6	21.5
		kW	2.5	3.2	4	6.3
ELECTRICAL PARAMETERS	Power supply	Ph/V/Hz	1/220~230/50	1/220~230/50	1/220~230/50	1/220~230/50
PERFORMANCE	Air flow (H/M/L)	m³/h	600	600	600	800
	Noise level (H/M/L)	dB(A)	37/33/31	37/34/31	41/36/33	43/39/34
INSTALLATION	External dimensions (W/D/H)		mm	938/187/265	938/187/265	1046/234/299
	Shipping dimensions (W/D/H)		mm	1016/304/360	1016/304/360	1126/344/388
	Net/Shipping weight		kg	10.9/12.6	10.9/12.6	13/16.5
	Refrigerant liquid pipe		inches	1/4"	1/4"	3/8"
	Refrigerant gas pipe		inches	1/2"	1/2"	5/8"
	Controller	Wired		Not available	Not available	Not available
		Infrared		RCV01 (S)*	RCV01 (S)*	RCV01 (S)*

\* O: optional, S: standard.



## CBV

### CASSETTE 600X600

- > New particular design
- > Quiet operation
- > Built-in high head drain pump
- > Fresh air inlet
- > Wired controller RWV01 included on standard
- > EEV inside

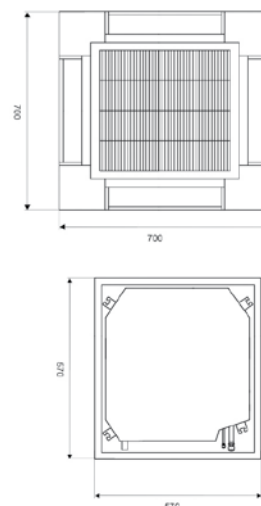
## PRODUCT ADVANTAGES

- > The cassette external dimension is 570x570x260mm for easy installation. It is universal and harmony with standard ceiling 600x600mm. There is no breakage for ceiling during installation.
- > Airflow pass through the outlet smoothly and fluently owing to the streamline air outlet. Bring you a much more quiet space. The fan blade adopts the design of irregular helix. The indoor unit can run at the lowest sound level.
- > Built-in Drain Pump drains water automatically. A standard drain-head height of up to 600mm is possible, creating the ideal solution for perfect water drainage.
- > Pre-set fresh air inlet, can introduce the outside fresh air into the room, greatly improve the indoor air quality (optional).

## CBV TECHNICAL DATA

			Model		CBV 009	CBV 012	CBV 016
			Code		7SP04H001	7SP04H002	7SP04H003
CAPACITY	Cooling		kBtu/H	9.5	12.3	15.3	
			kW	2.8	3.6	4.5	
	Heating		kBtu/H	10.9	13.6	17.1	
			kW	3.2	4	5	
ELECTRICAL PARAMETERS	Power supply		Ph/V/Hz	1/220~230/50	1/220~230/50	1/220~230/50	
PERFORMANCE	Air flow (H/M/L)		m³/h	700	700	700	
	Noise level (H/M/L)		dB(A)	32/30/29	32/30/29	33/30/29	
INSTALLATION	External dimensions (W/D/H)		mm	570/570/260	570/570/260	570/570/260	
	Shipping dimensions (W/D/H)		mm	718/680/380	718/680/380	718/680/380	
	Net/Shipping weight		kg	19/21	19/21	19/21	
	Refrigerant liquid pipe		inches	1/4”	1/4”	1/4”	
	Refrigerant gas pipe		inches	3/8”	1/2”	1/2”	
PANEL	Code panel			7ACVFH001	7ACVFH001	7ACVFH001	
	External dimensions (W/D/H)		mm	700/700/60	700/700/60	700/700/60	
	Shipping dimensions (W/D/H)		mm	740/750/115	740/750/115	740/750/115	
	Net/Shipping weight		kg	2.8/4.8	2.8/4.8	2.8/4.8	
	Controller	Wired		RWV01 (S)*	RWV01 (S)*	RWV01 (S)*	
		Infrared		RCV01 (O)*	RCV01 (O)*	RCV01 (O)*	

### ■ Dimensions: 009-012-016 models



## AIRWELL SOLUTIONS



\* O: optional, S: standard.



## CCV

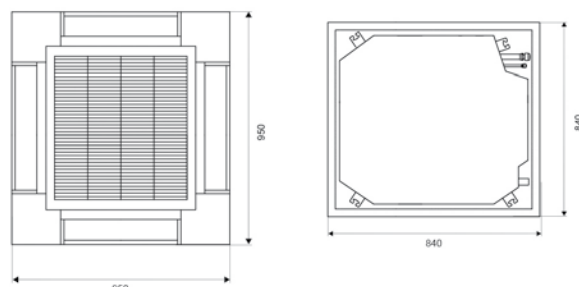
### CASSETTE 900X900

- Compact design
- Advance structure facilitating cleaning and installation
- Fresh air inlet
- New particular panel design
- EEV inside
- Wired controller RWW01 included on standard

## PRODUCT ADVANTAGES

- Adopt the compact design the thick of the main body is only 290mm. So even the inner space of the ceiling is narrow the unit can also be installed easily.
- The suction grille can be rotated by 90° and its installation direction can be selected randomly.
- Pre-set fresh air inlet, can introduce the outside fresh air into the room, greatly improve the indoor air quality (optional).
- From small to big size use the same appearance panel, harmony with the environment and with consistence appearance.

### ■ Dimensions: 024-030-048 models



## CCV TECHNICAL DATA

			Model		CCV 024	CCV 030	CCV 048
			Code		7SP04H005	7SP04H007	7SP04H009
CAPACITY	Cooling		kBtu/H	24.2	30.7	47.7	
			kW	7.1	9	14	
	Heating		kBtu/H	27.3	34.1	54.6	
			kW	8	10	16	
ELECTRICAL PARAMETERS	Power supply		Ph/V/Hz	1/220~230/50	1/220~230/50	1/220~230/50	
PERFORMANCE	Air flow (H/M/L)		m³/h	1200	1800	1800	
	Noise level (H/M/L)		dB(A)	35/34/31	37/35/31	42/39/35	
INSTALLATION	External dimensions (W/D/H)		mm	840/840/240	840/840/295	840/840/295	
	Shipping dimensions (W/D/H)		mm	930/930/330	930/930/390	930/930/390	
	Net/Shipping weight		kg	30/36	38/40	38/40	
	Refrigerant liquid pipe		inches	3/8"	3/8"	3/8"	
	Refrigerant gas pipe		inches	5/8"	5/8"	5/8"	
PANEL	Code panel			7ACVFH002	7ACVFH002	7ACVFH002	
	External dimensions (W/D/H)		mm	950/950/80	950/950/80	950/950/80	
	Shipping dimensions (W/D/H)		mm	985/985/115	985/985/115	985/985/115	
	Net/Shipping weight		kg	6/9	6/9	6/9	
	Controller	Wired		RWV01 (S)*	RWV01 (S)*	RWV01 (S)*	
		Infrared		RCV01 (O)*	RCV01 (O)*	RCV01 (O)*	

\* O: optional, S: standard.

## AIRWELL SOLUTIONS





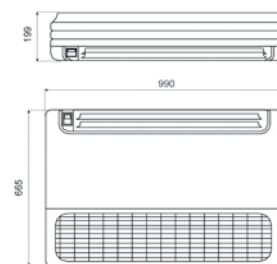
## FAV FLOOR & CEILING

- > Ultra-thin unit body, only thick 199mm (24 model)
- > Wide-angle airflow
- > Quiet running
- > EEV inside
- > Wired controller RWV01 included on standard

## PRODUCT ADVANTAGES

- > The convertible indoor unit adopts a double drain pan design. The unit body is very thin, only 199mm. It is beautiful, elegant and space saving.
- > 100° wide angle louvers and 70° wide angle blades design to make a precise control of the airflow. It averagely distributes the comfortable air to every corner of the room.
- > Thanks to the low sound level centrifugal fan, the unit always works quietly so as to give more comfort to life.

### ■ Dimensions: 012-024 models



## FAV TECHNICAL DATA

Model			FAV 012	FAV 024
Code			7SP02H008	7SP02H011
CAPACITY	Cooling	kBtu/H	12.3	24.2
		kW	3.6	7.1
	Heating	kBtu/H	13.6	27.3
		kW	4	8
ELECTRICAL PARAMETERS	Power supply	Ph/V/Hz	1/220~230/50	1/220~230/50
PERFORMANCE	Air flow (H/M/L)	m³/h	800	800
	Noise level (H/M/L)	dB(A)	48/46/44	48/46/44
INSTALLATION	External dimensions (W/D/H)		mm	990/665/199
	Shipping dimensions (W/D/H)		mm	1150/750/300
	Net/Shipping weight		kg	28.3/34.3
	Refrigerant liquid pipe		inches	1/4"
	Refrigerant gas pipe		inches	3/8"
	Controller	Wired	RWV01 (S)*	RWV01 (S)*
		Infrared	RCV01 (O)*	RCV01 (O)*

## AIRWELL SOLUTIONS



\* O: optional, S: standard.



RCV01

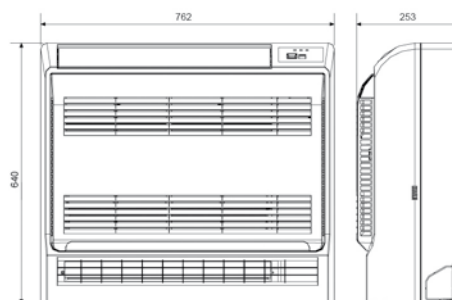
## EVA CONSOLE

- High efficiency filter
- Quiet running
- Compact unit body and space saving
- Fast temperature adjustment
- EEV inside
- Blowing up and down

## PRODUCT ADVANTAGES

- The unit adopt high efficiency filter, can efficiently filter the dirt etc., and improve the room air quality.
- Thanks to the low sound level centrifugal fan, the unit always works quietly so as to give more comfort to life.
- The unit body is very thin and harmonious with room. It is beautiful, elegant and space saving.
- Air supplying from top or the bottom of the unit body for fast temperature adjustment.

### ■ Dimensions: 012 model



## EVA TECHNICAL DATA

		Model	EVA 012
		Code	7SP05H002
CAPACITY	Cooling	kBtu/H	12.3
		kW	3.6
	Heating	kBtu/H	13.6
		kW	4
ELECTRICAL PARAMETERS	Power supply	Ph/V/Hz	1/220~230/50
PERFORMANCE	Air flow (H/M/L)	m³/h	520
	Noise level (H/M/L)	dB(A)	43/39/36
INSTALLATION	External dimensions (W/D/H)	mm	762/253/640
	Shipping dimensions (W/D/H)	mm	784/305/719
	Net/Shipping weight	kg	18/20
	Refrigerant liquid pipe	inches	1/4"
	Refrigerant gas pipe	inches	1/2"
	Controller	Wired	/
		Infrared	RCV01 (S)*

## AIRWELL SOLUTIONS



\* O: optional, S: standard.



RWW01



RCV01  
(optional)



(infrared receiver  
to combined  
with RCV 01)



RWW03  
(optional)

## DAV

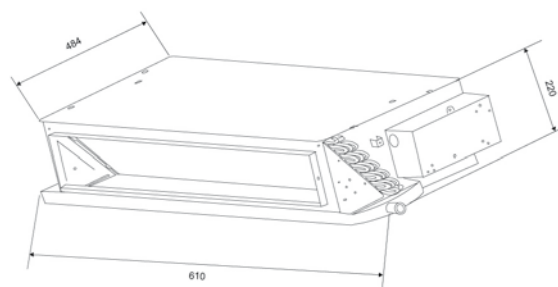
### DUCTED LOW STATIC PRESSURE

- > 220 ultra thin design and space saving
- > Elegant outlook fit with your style
- > Optional air return design
- > Optional static pressure
- > High efficiency filter G3
- > EEV inside
- > Wired controller RWW01 included on standard

## PRODUCT ADVANTAGES

- > Ultra thick design make all the models have only 220mm height. It is more convenient for installation and maintenance.
- > The indoor unit placed in the ceiling only the inlet and outlet grill can be seen. The most suited grill can be used to fit with the indoor decoration.
- > Ther are two air return design for the different requestment. Let the decoration more optional.
- > Two choice of optional static pressure 0 Pa and 20 Pa for the low static pressure duct make user more convenient.
- > The unit adopts G3 grade filter which can efficiency filter the dirt etc., and improve the room air quality. At the same time, the filter can be pulled out from downside, convenient for maintenance and cleaning.

### ■ Dimensions: 009 model



## DAV TECHNICAL DATA

		Model	AD092MLERA
		Code	7SP03H002
CAPACITY	Cooling	kBtu/H	9.5
		kW	2.8
	Heating	kBtu/H	10.9
		kW	3.2
ELECTRICAL PARAMETERS	Power supply	Ph/V/Hz	1/220~230/50
PERFORMANCE	Air flow (H/M/L)	m³/h	400
	Noise level (H/M/L)	dB(A)	35/32/30
INSTALLATION	External dimensions (W/D/H)		mm 610/484/220
	Shipping dimensions (W/D/H)		mm 710/545/280
	Net/Shipping weight		kg 15/17
	Refrigerant liquid pipe		inches 1/4"
	Refrigerant gas pipe		inches 3/8"
	Static pressure		Pa 20
	Controller	Wired	RWW01 (S)*
		Infrared	RCV01 (O)*

\* O: optional, S: standard.

## AIRWELL SOLUTIONS





DBV 018-028



DBV 038



RWV01

RCV01  
(optional)(infrared receiver  
to combined  
with RCV 01)RWV03  
(optional)

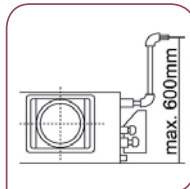
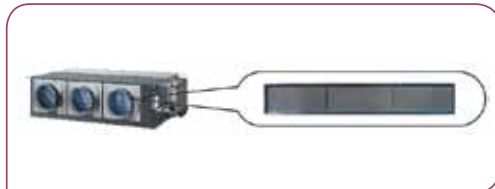
## DBV

### DUCTED MEDIUM STATIC PRESSURE

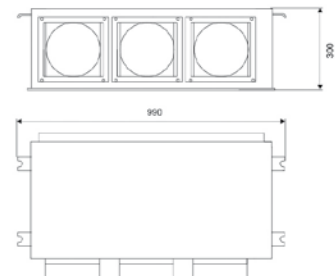
- Flexible static pressure selection, meet the customers' personal requests
- High efficiency filter G3
- Special up-drainage water pump
- EEV inside
- Wired controller RWV01 included on standard
- Plenum for air outlet provided:
  - 3 Ø200 sizes 018 and 028
  - 4 Ø200 size 038

## PRODUCT ADVANTAGES

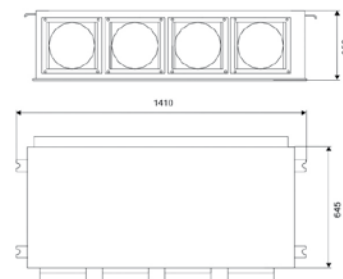
- The unit has standard static pressure (0-50 Pa) & middle static pressure (50-96 Pa) two choices, flexible air supply mode, make the installation more free and meet different personal requests.
- The unit adopts G3 grade filter which can efficiently filter the dirt etc., and improve the room air quality. At the same time, the filter can be pulled out from downside, convenient for maintenance and cleaning.
- The unit has a water pump whose the max. drainage height can be up to 600mm.



### ■ Dimensions: 018-028 models



### ■ Dimensions: 038 model



## DBV TECHNICAL DATA

Model Code			DBV 018 7SP03H007	DBV 028 7SP03H009	DBV 038 7SP03H011
CAPACITY	Cooling	kBtu/H	19.1	27.3	38.2
		kW	5.6	8	11.2
	Heating	kBtu/H	21.5	30.7	42.6
		kW	6.3	9	12.5
ELECTRICAL PARAMETERS	Power supply	Ph/V/Hz	1/220~230/50	1/220~230/50	1/220~230/50
PERFORMANCE	Air flow (H/M/L)	m³/h	1200	1200	1900
	Noise level (H/M/L)	dB(A)	43/37/35	43/37/35	43/37/35
INSTALLATION	External dimensions (W/D/H)	mm	990/650/300	990/650/300	1410/645/350
	Shipping dimensions (W/D/H)	mm	1167/860/345	1167/860/345	1557/800/370
	Net/Shipping weight	kg	39/45	39/45	59/66
	Refrigerant liquid pipe	inches	1/4"	3/8"	3/8"
	Refrigerant gas pipe	inches	1/2"	5/8"	5/8"
	Static pressure	Pa	50	50	50
	Controller	Wired	RWV01 (S)*	RWV01 (S)*	RWV01 (S)*
		Infrared	RCV01 (O)*	RCV01 (O)*	RCV01 (O)*

\* O: optional, S: standard.
















## AIRWELL SOLUTIONS



## Notes

# AIRWELL RANGE

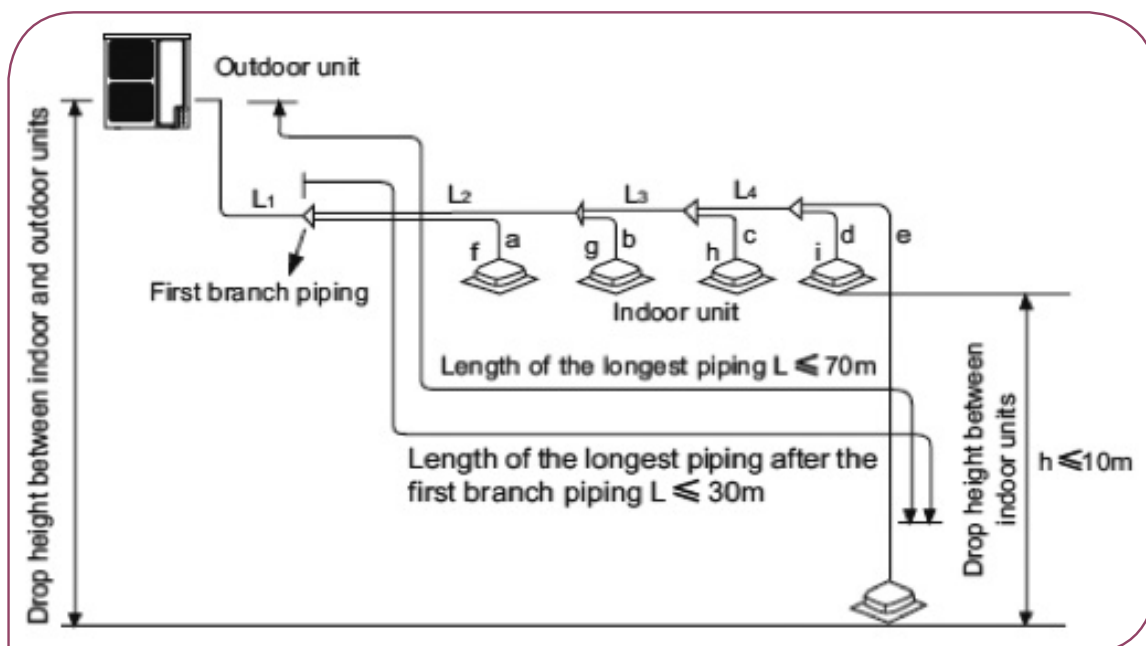
## FlowLogic II Range - Accessories

NAME		CODE	MODEL
Infrared controller		7ACELH001	RCV01
Infrared controller receiver		7ACELH009	REC01
Wired standard controller		7ACELH002	RWV01
Simplified controller		7ACELH008	RWV03
Central controller "Touch screen"		7ACELH003	RWV02
Connecting board		7ACELH004	ADV01
Gather pipe		7ACFHH005	TAS20
Gather pipe		7ACFHH006	TAS30
Manifild pipe		7ACFHH001	TAU335
Manifild pipe		7ACFHH002	TAU506
Manifild pipe		7ACFHH003	TAU730
Manifild pipe		7ACFHH004	TAU1350
Inverter protocol adaptater		7ACELH007	ADV02
RS485&232 converter + software		7ACELH005	BMV01
IPC (Industrial personal computer) + software		7ACELH006	BMV02

FUNCTION	FOR WHAT UNITS?	OPTIONAL / COMMENTS
Unit operating	Wall mounted Console	Standard with high wall and console Optional with cassette, convertible and ducted
Realize infrared control for duct type	Duct	
Unit operating and group control (max. 16 indoor units)	Duct 4-way cassette Floor ceiling	Standard with 4-ways cassette, ducted and floor ceiling
Unit operating and group control (max. 16 indoor units)	All (except for wall mounted & console type)	
ON/OFF function & malfunction code display (max. 128 groups) Zone, timer, central control mode	FlowLogic II	Mandatory with ADV01
Connecting RWV02 and outdoor units	FlowLogic II	Mandatory with RWV02
Refrigerant gathering	FlowLogic II	For 2 outdoor units
Refrigerant gathering	FlowLogic II	For 3 outdoor units
Refrigerant distribution	Total indoor units capacity less than 33.5 kW	
Refrigerant distribution	Total indoor units capacity less than 50.6 kW, but equal or bigger than 33.5 kW	
Refrigerant distribution	Total indoor units capacity less than 73 kW, but equal or bigger than 50.6 kW	
Refrigerant distribution	Total indoor units capacity bigger than 73 kW	
Protocol adapter and data storage	FlowLogic II	Mandatory with BVM01 and BVM02
BMS control (air conditioner edition)	FlowLogic II	
BMS control (BACnet protocol edition)	FlowLogic II	

# Annexes

## AVAILABLE PIPE LENGTH AND HEIGHT DIFFERENCE MINI FLOWLOGIC II



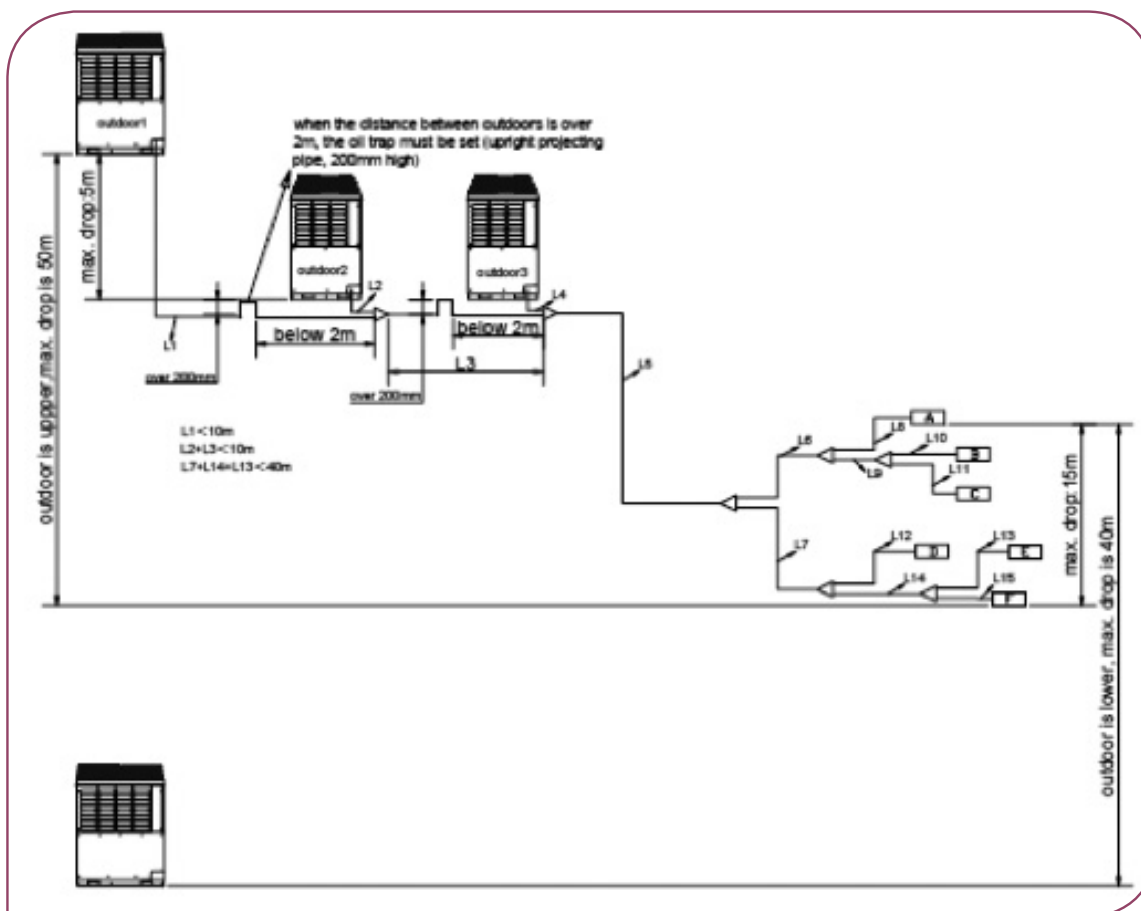
### YCV 080

			Allowable value	Piping part
LENGTH	Total length of piping (actual length)		50 m	L1+L2+a+b+c
	Longest piping L	Actual length	35 m	L1+L2+c
	Max. pipe length from 1 <sup>st</sup> branch pipe to indoor		15 m	L2+c
DROP	Drop between indoor and outdoor unit H	Outdoor is upper	30 m	-
		Outdoor is lower	20 m	-
	Drop between indoor units h		10 m	-

### YCV 180

			Allowable value	Piping part
LENGTH	Total length of piping (actual length)		100 m	L1+L2+L3+L4+a+b+c+d+e
	Longest piping L	Actual length	70 m	L1+L2+L3+L4+e
	Max. pipe length from 1 <sup>st</sup> branch pipe to indoor		30 m	L2+L3+L4+e
DROP	Drop between indoor and outdoor unit H	Outdoor is upper	30 m	-
		Outdoor is lower	20 m	-
	Drop between indoor units h		10 m	-

## AVAILABLE PIPE LENGTH AND HEIGHT DIFFERENCE FLOWLOGIC II



	Max. length	Pipe in above figure
Single way total pipe length	300 m	$L1+L2+L3+L4+L5+L6+L7+L8+L9+L10+L11+L12+L13+L14+L15$
Single way max. pipe length	150 m	$L1+L3+L5+L7+L13+L14$
Max. pipe length from 1 <sup>st</sup> branch pipe	40 m	$L7+L13+L14$
Main pipe actual length	90 m	L5
Height difference between indoor units	15 m	-
Height difference between outdoor units	5 m	-

## EXAMPLE OF "PRINT SCREEN" FROM OUR SELECTION SOFTWARE PROGRAM

### Definition of the rooms

**Room Data**

Name: MEETING ROOM

Area: 100 m<sup>2</sup>

Unit Load: 200 W/m<sup>2</sup> ...

Designed Load: 20000 W

Actual Load: 19800 W

Combination: 99 % (90%-110%)

Indoor units:

- Ind1-AWSI-HAV007-N11
- Ind2-AWSI-HAV007-N11
- Ind3-AWSI-HAV007-N11
- Ind4-AWSI-HAV007-N11
- Ind5-AWSI-HAV007-N11
- Ind6-AWSI-HAV007-N11
- Ind7-AWSI-HAV007-N11
- Ind8-AWSI-HAV007-N11
- Ind9-AWSI-HAV007-N11

Buttons: New, Delete, Save, Copy, Edit, Complete

Name	Area	Unit Load	Designed Load	Actual Load	Percent(%)	Indoor cou
MEETING ROOM	100	200	20000	19800	99	9
MANAGER OFFICE	40	250	10000	11200	112	4
INFIRMERY	20	220	4400	4500	102	1
OFFICE	60	250	15000	0	0	0

### Indoor unit selection

**Add indoor units**

Name: Ind15

Model Selecting:

Series: Flow Logic II

Family: 4-way Cassette Type

Model: AWSI-CBV009-N11

Quantity: 1

Advanced

Default Controlling mode:

☒ Wired Control ☐ Remote Control

Room:

Name: MANAGER OFFICE

Area: 40 m<sup>2</sup>

Unit load: 250 W/m<sup>2</sup>

Design load: 10000 W

Actual load: 11200 W

Combination: 112 % (90-110)

Parameter:

Cooling Capacity: 2,8 kW

Heating Capacity: 3,2 kW

Airflow: 700 m<sup>3</sup>/h

Noise: 32/30/29 dB(A)

Weight: 21,8 kg

Size: 660\*570\*260(Panel:700\*700\*60) mm

Buttons: OK, Complete, Cancel, Detail

The total load of the room exceeds designing requirement, please check up carefully and then update it .

## Outdoor unit selection

**Edit outdoor units**

Name:

Series:

Family:

Model:

Combination:  % Actual: 88.8%

Standard Capacity: 40 Actual: 35.5

**DB/WB**

Outdoor DB:  °C Indoor WB:  °C

The temperature can be revised according to the local climatical condition. If the selected temperature is inconsistent with local condition, it may cause bad effect on cooling and heating ability.

**Outdoor unit parameter**

Cooling Capacity: 20~52 kW

Heating Capacity: 45 kW

Cooling Current: 19.05~28.5 A

Heating Current: 17.96~24.9 A

Weight: 360 kg Noise: 60 dB(A)

Size: 1390\*750\*1808 mm

[Detail](#)

[Pipe length and Drop Diagram](#)

[Display Picture](#)

Ctrl(Shift)+Clicking left-mouse-button on indoor units will select them; Dragging the selected indoor units to outdoor unit will connect them; Dragging from outdoor unit to indoor units can split the connection.

**Outdoor unit**

- Out1(AWAU-YCV400-H13)
  - Ind1(AWSI-HAV007-t)
  - Ind2(AWSI-HAV007-t)
  - Ind3(AWSI-HAV007-t)
  - Ind4(AWSI-HAV007-t)
  - Ind5(AWSI-HAV007-t)
  - Ind6(AWSI-HAV007-t)
  - Ind7(AWSI-HAV007-t)
  - Ind8(AWSI-HAV007-t)
  - Ind9(AWSI-HAV007-t)
  - Ind10(AWSI-CBV009-t)
  - Ind11(AWSI-CBV009-t)
  - Ind12(AWSI-CBV009-t)
  - Ind13(AWSI-CBV009-t)
  - Ind14(AWSI-CBV016-t)

**Available Indoor units**

[OK](#) [Cancel](#)

**Outdoor unit data**

Model:

Series:

Refrigerant:

Picture file:

Icon file:

Cooling DB/WB:  °C

Heating DB/WB:  °C

Family:

Can connect either indoor unit in the same series: ☒

Cooling Capacity:  kW

Heating Capacity:  kW

Min Cooling Capacity:  kW

Max Cooling Capacity:  kW

Noise:  dB(A)

Refrigerant added:  kg

Max pipe Len.Drop file:

Refrigerant charging file:

Gas/Liquid pipe:

Larger Gas/Liquid pipe:

Critical pipe length:  m

Oil pipe dia:

Equipsize pipe dia:

Power cable:

Power type:

Communication cable:

Cooling Running -temperature:  °C

Heating Running -temperature:  °C

Cooling running Cur:  A

Max cooling running Cur:  A

Heating running Cur:  A

Max Heating running Cur:  A

Gather pipe:

Min indoor number:

Max indoor number:

Subunits quantity:

Subunits' models:

Central controller:

Detector:

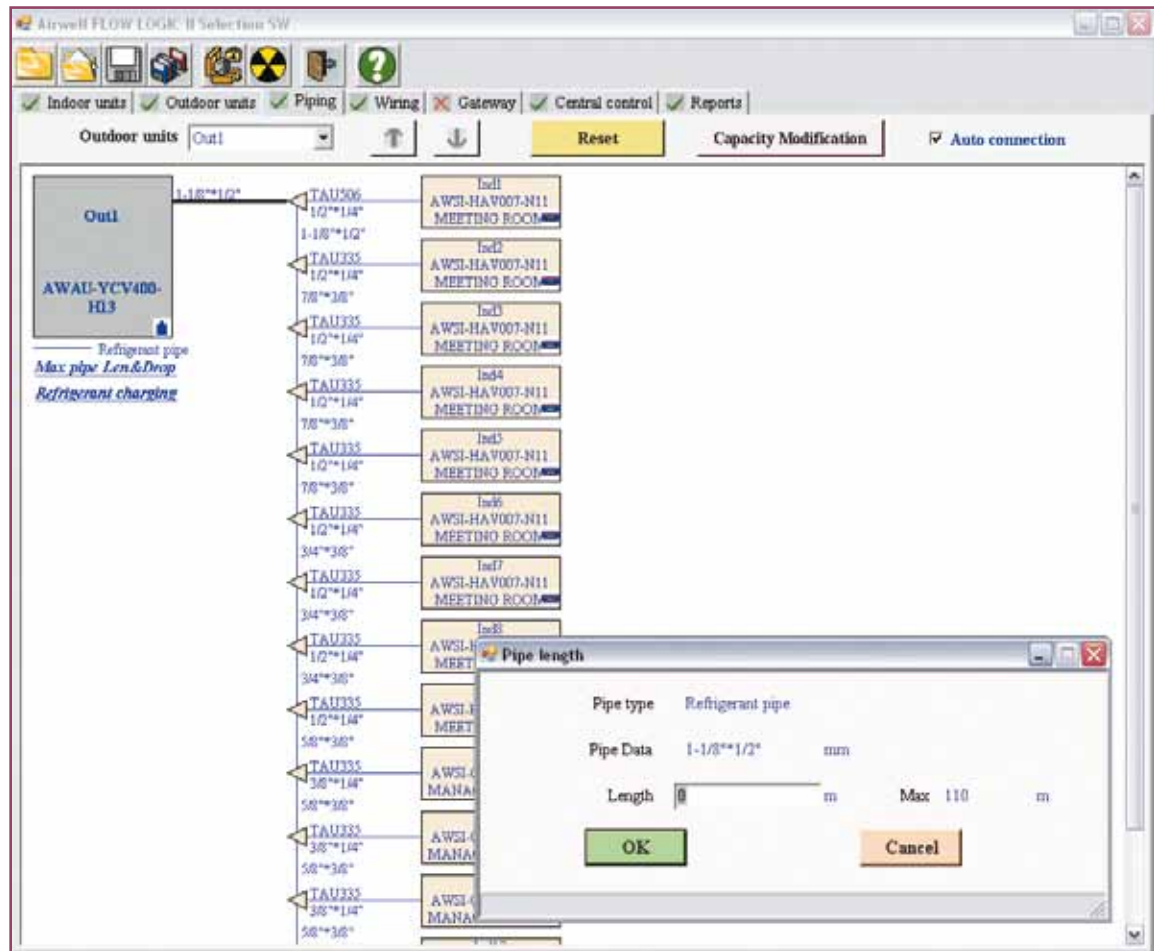
Weight:  kg

Gateway:

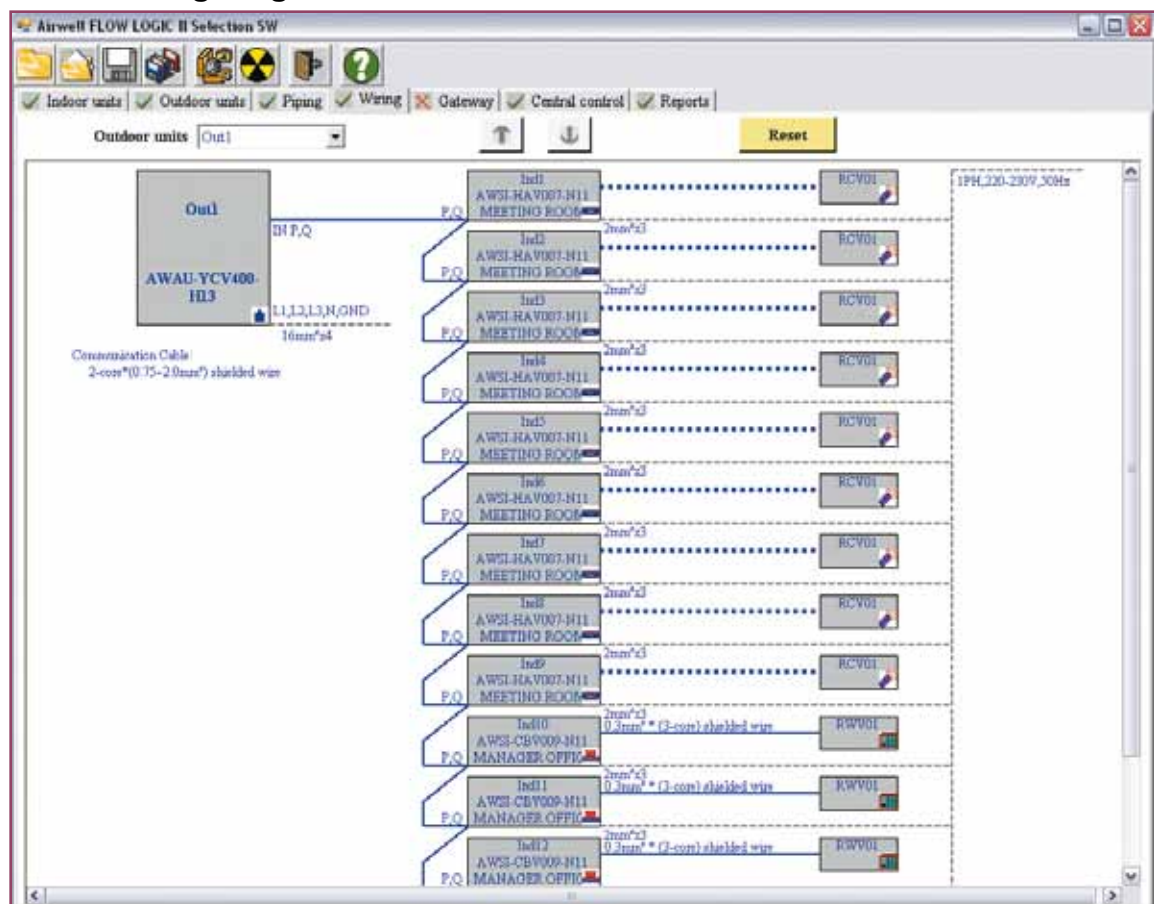
Size:  mm

[OK](#) [Cancel](#)

## Refrigerant diagram piping



## Cable wiring diagram



## Notes





