

# VAC1

INVERTER TECHNOLOGY



## Key Features

### • INVERTER TECHNOLOGY TO IMPROVE SYSTEM EFFICIENCY

System utilized all DC Inverter Compressors and a high pressure chamber to reduce overheat loss and improve compression efficiency from direct intake. High-efficient Permasyn Motor is adopted to provide better performance than traditional DC Inverter Compressor.



HP Chamber structure can raise the high and middle frequency performance.

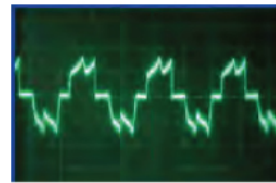
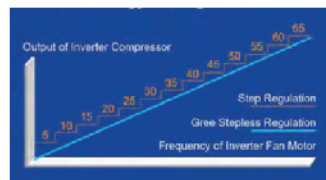


New DC motor (concentrated) raises the low frequency performance.

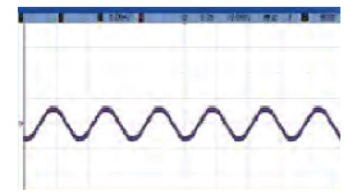
### • SENSORLESS DC INVERTER FAN MOTOR

Stopless speed regulation ranges from 5Hz to 65Hz. Compared with traditional inverter motors the operation is more energy-saving.

Sensorless control technology guarantees lower noise, less vibration and stopless operation.



Before



After

### • ACCURATE INTELLIGENT ALLOCATION TECHNOLOGY OF CAPACITY AND OUTPUT OF OPTIMAL PORTION TO ENSURE HIGHEST EFFICIENCY

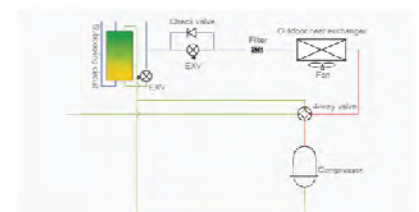
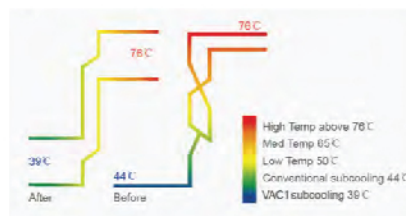
When the total load of the system demands more than the 75% running capacity, an extra unit will automatically start, if the total load demands less than 40% of running capacity, a units will shut down; therefore each unit shares between 40% to 75% of the total load, ensuring that the system will perform at the highest efficiency.

	Company A	Air-Con VAC1
Allocation Method	10HP(full load) + 2HP(low load)	6HP(partial load) + 6HP(partial load)
Performance Compared	Unit costs more energy and may be soon damaged.	Unit costs less energy and can always be kept in good condition.

### • SUB-COOLING CONTROL FOR OPTIMAL COOLING AND HEATING CONDITIONS

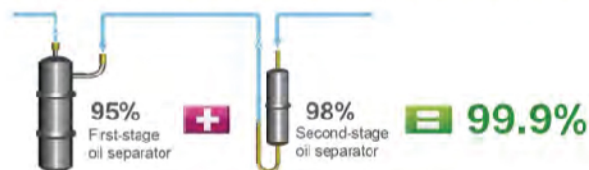
Heat exchange loop can control the first sub-cooling process of heat exchanger. Subcooling degree can reach 11°C.

Sub-cooling loop can reach up to 9°C  
On the second stage, to guarantee cooling and heating performance.



• **TWO STAGE OIL SEPARATION CONTROL PATENTED TECHNOLOGY**

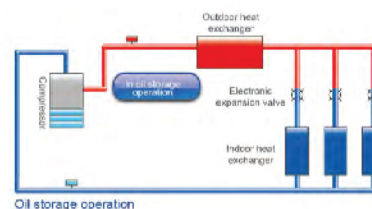
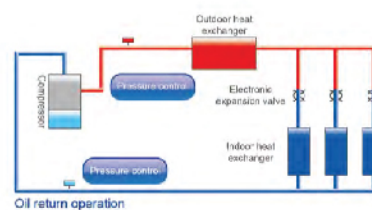
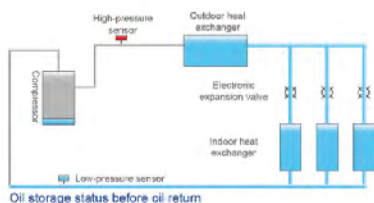
First-stage oil separator adopts an excellent filtration with a separation efficiency of 98%. On the second stage oil separator, the remaining 2% of the refrigerant oil will be removed at a 95% efficiency, giving the system a total separation of 99.9%



• **OIL RETURN CONTROL TECHNOLOGY**

**Oil Control**

This new oil return technology effectively managed the oil return and storage on each compressor, this tool greatly improves the operation lifespan of the compressors.



**Specialized Compressor Oil Storage Control**

The system applies specialized compressor oil storage technology, which can control the lowest oil level for compressor operation.

• **MODULES ROTATION OPERATING TO MAXIMIZE LIFESPAN**

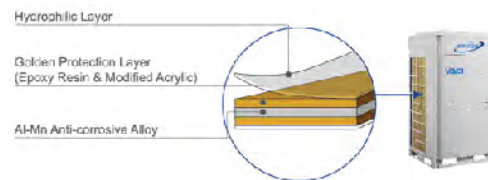
**Modules operate on 8 hours rotation**

The operating priority sequence of the outdoor unit modules will be changed without restart when the system accumulatively operates for 8 hours, which can maximize life of the system.



• **HIGHLY ANTICORROSIVE GOLDEN FINN**

The primary material use on the gold fins is an antirust alloy made of Aluminum-Manganese. The fins are coated with a golden protection layer composed of an epoxy resin and silicon free modified acrylic. The anti-corrosive performance under a salt-spray test is 200% to 300% higher than the normal blue fins.



# Controls

## Remote Controllers



### Remote Controller CT-XBE2G

- Can be switched in auto, cooling, dehumidifying, fan and heating operation modes.
- Besides turbo, 6 levels of fan speed can be set.
- Available functions: child lock, drying, health, ventilation, turbo, sleep, light, absence, 1-feel and timer.
- Clock display and indoor/outdoor ambient temperature viewing functions.
- Up & down swing and left & right swing.



### Remote Controller CT-XBE3G

- Back lighting LCD.
- Can be switched in auto, cooling, dehumidifying, fan, heating, floor heating, 30 heating and space heating operation modes.
- 7 Levels of fan speed, up & down swing and left & right swing.
- Available functions: child lock, energy saving, drying, health, ventilation, quiet/auto quiet, sleep, light, absence, low-temperature dehumidifying, 1-feel and timer.
- With clock display, system parameters viewing and setting functions.

# Controls

## Wired Controllers



### Wired controller CT-XL57

- LCD with black background and white words, touch buttons.
- Clock can be displayed and set, 24 hours timer setting for on/off.
- 7 levels of fan speed, up & down swing and left & right swing.
- Can be switched in auto, cooling, dehumidifying, fan, heating, floor heating, 3D heating and space heating operation modes.
- Master and slave wired controllers can be set simultaneous control over several IDUs is available
- Available functions: sleep, ventilation, quiet/auto quiet, light, energy saving, auxiliary heating, drying, memory, low-temperature dehumidifying, absence in heating, controllable auxiliary heating in dehumidifying, filter cleaning reminder, etc.
- Detect ambient temperature; receive infrared remote controller signal.
- With project parameters viewing and setting functions.



### Wired controller CT-XL59

- Small and fashionable outlook with thickness only of 11 mm; LCD with black background and white words; touch buttons.
- Clock can be displayed and set; 24 hours timer setting for on/off.
- 7 levels of fan speed, up&down swing and left&right swing.
- Can be switched in auto, cooling, dehumidifying, fan, heating, floor heating, 3D heating and space heating operation modes.
- Master and slave wired controllers can be set; simultaneous control over several IDUs is available.
- Available functions: sleep, ventilation, quiet/auto quiet, light, energy saving, auxiliary heating, drying, memory, low-temperature dehumidifying, absence in heating, controllable auxiliary heating in dehumidifying, filter cleaning reminder, etc.
- Detect ambient temperature; receive infrared remote controller signal.
- With project parameters viewing and setting functions.



### Wired controller CT-XL58

- With simplified functions. mechanical buttons, back lighting LCD and convenient operation.
- Can be switched in auto, cooling, dehumidifying, fan and heating operation modes.
- Master and slave wired controllers can be set; simultaneous control over several DUs is available.
- Detect ambient temperature; receive infrared remote controller signal.
- With system parameters viewing and setting functions.
- 7 levels of fan speed, up & down swing.
- Door control system can be connected.



### Wired controller CT-XL60

- Elegant appearance;
- High-resolution color LCD;
- Capacitive touch control; receive infrared remote controller signal.
- Various timing functions: three weekly timers and one countdown timer can be set simultaneously; mode, temperature and fan speed can be preset in weekly timer.
- Complete system functions; each function will be implemented in an individual page with interactive and humanized interface.
- Various personalized functions, e.g. setting brightness and backlight time.
- Sufficient viewing functions, e.g. viewing on/off status and after-sales service hot line.

# Smart Zone Controller and Central Controller



- 1280\*800 high-resolution color LCD;
- 7" capacitive touch screen for easy operation.
- Shielding function of single unit, group and all IDUs (shielding on/off, mode, temp setting, etc.).



- 1280\*800 high-resolution color LCD;
- 7" capacitive touch screen for easy operation.
- With project setting, parameter viewing, malfunction record and access management functions.

## Smart zone controller CT-DF-6435G

- With various functions: centralized control (control all indoor units), group management (support DIY grouping), schedule management (setting of several schedules) and single unit control (on/off, mode, temp setting, fan speed, quiet, swing control, etc.).
- Provide naming of indoor units, selection of icons and personalized settings (setting background, backlight, etc).
- Up to 32 units can be centrally controlled.
- Elegant and fashionable appearance.
- Embedded installation in wall with projecting thickness only of 11 mm.
- Connectable with network of indoor units or outdoor units.
- Independent power supply in 11 0-240V wide voltage range.
- With project setting, parameter viewing, malfunction record and access management functions.

## Central controller CT-DF-6335G

- With various functions: centralized control (control all indoor units), group management (support DIY grouping), schedule management (setting of several schedules) and single unit control (on/off, mode, temp setting, fan speed, quiet, swing control, etc.).
- Shielding function of single unit, group and all IDUs (shielding on/off, mode, temp setting)
- Provide naming of indoor units, selection of icons and personalized settings (setting background, backlight, etc);
- Up to 128 units can be centrally controlled;
- Elegant and fashionable appearance;
- Embedded installation in wall with projecting thickness only of 11mm;
- Connectable with network of indoor units or outdoor units;
- Independent power supply in 11 0-240V wide voltage range.

# VAC1 Mini 50/60 HZ

HP	MODEL	PRODUCT OUTLOOK
4	CH4H6C12K	
5	CH4H6C14K	
6	CH4H6C16K	



MODEL			CH4H6C12K	CH4H6C14K	CH4H6C16K
CAPACITY RANGE	HP		4	5	6
CAPACITY	COOLING	kW	12.1	14	16
	HEATING	kW	14	18.5	18.5
EER		kW/kW	3.97	3.52	3.3
COP		kW/kW	4.28	4.14	3.96
IPLV	COOLING	kW/kW	/	/	/
POWER SUPPLY		V/Ph/Hz	220~240-1Ph-50Hz&208~230V-1Ph-60Hz		
MAX. CIRCUIT / FUZE CURRENT		A	28.1/32	31.8/32	33/6/40
POWER CONSUMPTION	COOLING	kW	3.05	3.98	4.85
	HEATING	kW	3.27	3.99	4.67
MAXIMUM DRIVE IDU NO.		unit	7	8	9
REFRIGERANT CHARGE VOLUME		kg	5	5	5
SOUND PRESSURE LEVEL		dB(A)	55	56	58
CONNECTING PIPE	LIQUID	mm	Φ9.52		
	GAS	mm	Φ15.87		
DIMENSION (W*D*H)	OUTLINE	mm	900x340x1345		
	PACKAGE	mm	998x458x1514		
NET WEIGHT / GROSS WEIGHT		kg	110/120	110/120	110/120
LOADING	40' GP	set	57	57	57
QUANTITY	40' HQ	set	57	57	57

# 88HP Max Capacity

The Largest Free Combination



- Max Capacity of single outdoor unit reaches 22HP and max combination capacity is even up to 88HP, in an industry leading level.

Specification of Outdoor Units

380~415V, 50/60Hz	MODEL		CV9H6B 08H	CV9H6B 10H	CV9H6B 12H	CV9H6B 14H	CV9H6B 16H	CV9H6B 18H	CV9H6B 20H	CV9H6B 22H	
	CAPACITY RANGE	HP	8	10	12	14	16	18	20	22	
	CAPACITY	COOLING	kW	22.4	28	33.5	40	45	50.4	56	61.5
		HEATING	kW	25	31.5	37.5	45	50	56	63	69
	EER	kW/kW	4.31	4	3.98	3.76	3.56	3.38	2.97	2.75	
	COP	kW/kW	4.55	4.32	4.17	4.05	3.85	3.84	3.6	3.16	
	POWER SUPPLY		V/Ph/Hz	380*415V-3PH-50/60HZ							
	MAX. CIRCUIT / FUSE CURRENT	A	15.7/20	20.9/25	24.7/32	28.8/40	33.2/40	36.8/40	43.8/50	48.9/50	
	POWER CONSUMPTION	COOLING	kW	5.2	7	8.41	10.65	12.65	14.9	18.9	22.3
		HEATING	kW	5.5	7.3	9	11.1	13	14.6	17.5	21.8
MAXIMUM DRIVE IDU NO.	unit	13	16	19	23	26	31	34	38		
REFRIGERANT CHARGE VOLUME	kg	5.9	6.7	8.2	9.8	10.3	12.7	13	13.5		
SOUND PRESSURE LEVEL	dB(A)	60	61	63	63	63	65	66	66		
CONNECTING PIPE	LIQUID	mm	φ 9.52		φ 12.7			φ 15.9			
	GAS	mm	φ 19.05	φ 22.2	φ 25.4		φ 28.6	φ 28.6			
OIL BALANCE		mm	φ 9.52			φ 9.52			φ 9.52		
DIMENSION	OUTLINE	mm	930*765*1605			1340*765*1605			1340*765*1740		
(W*D*H)	PACKAGE	mm	1010*840*1775			1420*840*1775			1420*840*1910		
NET WEIGHT / GROSS WEIGHT	kg	225/235	225/235	285/300	360/375	360/375	400/415	400/415	400/415		
LOADING QUANTITY	40' GP	set	24	24	16	16	16	16	16	16	
	40' HQ	set	24	24	16	16	16	16	16	16	

208~230V, 60Hz	MODEL		CV4H6B 08H	CV4H6B 10H	CV4H6B 12H	CV4H6B 14H	CV4H6B 16H	CV4H6B 18H	CV4H6B 20H	CV4H6B 22H	
	CAPACITY RANGE	HP	8	10	12	14	16	18	20	22	
	CAPACITY	COOLING	kW	22.4	28	33.5	40	45	50.4	56	61.5
		HEATING	kW	25	31.5	37.5	45	50	56	63	69
	EER	kW/kW	4.31	4	3.98	3.76	3.56	3.38	2.97	2.75	
	COP	kW/kW	4.55	4.32	4.17	4.05	3.85	3.84	3.6	3.16	
	POWER SUPPLY		V/Ph/Hz	208*230V-3PH-60HZ							
	MCA	A	36	38	43	60	65	68	74	80	
	MOP	A	60	60	60	80	90	93	103	112	
	POWER CONSUMPTION	COOLING	kW	5.2	7	8.41	10.65	12.65	14.9	18.9	22.3
HEATING		kW	5.5	7.3	9	11.1	13	14.6	17.5	21.8	
MAXIMUM DRIVE IDU NO.	unit	13	16	19	23	26	31	34	38		
REFRIGERANT CHARGE VOLUME	kg	5.9	6.7	8.2	9.8	10.3	12.7	13	13.5		
SOUND PRESSURE LEVEL	dB(A)	60	61	63	63	63	65	66	66		
CONNECTING PIPE	LIQUID	mm	φ 9.52		φ 12.7			φ 15.9			
	GAS	mm	φ 19.05	φ 22.2	φ 25.4		φ 28.6	φ 28.6			
OIL BALANCE		mm	φ 9.52			φ 9.52			φ 9.52		
DIMENSION	OUTLINE	mm	930*765*1605			1340*765*1605			1340*765*1740		
(W*D*H)	PACKAGE	mm	1010*840*1775			1420*840*1775			1420*840*1910		
NET WEIGHT / GROSS WEIGHT	kg	225/235	225/235	285/300	360/375	360/375	400/415	400/415	400/415		
LOADING QUANTITY	40' GP	set	24	24	16	16	16	16	16	16	
	40' HQ	set	24	24	16	16	16	16	16	16	

440~460V, 60Hz	MODEL		CV0H6B 08H	CV0H6B 10H	CV0H6B 12H	CV0H6B 14H	CV0H6B 16H	CV0H6B 18H	CV0H6B 20H	CV0H6B 22H	
	CAPACITY RANGE	HP	8	10	12	14	16	18	20	22	
	CAPACITY	COOLING	kW	22.4	28	33.5	40	45	50.4	56	61.5
		HEATING	kW	25	31.5	37.5	45	50	56	63	69
	EER	kW/kW	4.15	3.84	3.85	3.76	3.56	3.38	2.97	2.75	
	COP	kW/kW	4.31	4.12	4.01	4.05	3.85	3.84	3.6	3.16	
	POWER SUPPLY		V/Ph/Hz	440*460V-3PH-60HZ							
	MCA	A	19	20	24	32	35	37	40	43	
	MOP	A	30	30	35	40	40	45	50	55	
	POWER CONSUMPTION	COOLING	kW	5.4	7.3	8.7	10.85	12.9	14.9	18.9	22.3
HEATING		kW	5.8	7.65	9.35	11.45	13.3	14.6	17.5	21.8	
MAXIMUM DRIVE IDU NO.	unit	13	16	19	23	26	31	34	38		
REFRIGERANT CHARGE VOLUME	kg	6.5	6.7	8.2	9.8	10.3	12.7	13	13.5		
SOUND PRESSURE LEVEL	dB(A)	60	61	63	63	63	65	66	66		
CONNECTING PIPE	LIQUID	mm	φ 9.52		φ 12.7			φ 15.9			
	GAS	mm	φ 19.05	φ 22.2	φ 25.4		φ 28.6	φ 28.6			
OIL BALANCE		mm	φ 9.52			φ 9.52			φ 9.52		
DIMENSION	OUTLINE	mm	930*765*1605			1340*765*1605			1340*765*1740		
(W*D*H)	PACKAGE	mm	1010*840*1775			1420*840*1775			1420*840*1910		
NET WEIGHT / GROSS WEIGHT	kg	225/235	225/235	285/300	360/375	360/375	400/415	400/415	400/415		
LOADING QUANTITY	40' GP	set	24	24	16	16	16	16	16	16	
	40' HQ	set	24	24	16	16	16	16	16	16	

## Specification of Indoor Units

TYPE OF INDOOR UNIT	SPECIFICATION	22	25	28	32	36	40	45	50	56	63	71	72	80	90	100	112	125	140	160	224	280	450
HIGH STATIC PRESSURE DUCT TYPE UNIT										●	●	●		●	●	●	●	●	●	●	●	●	
LOW STATIC PRESSURE DUCT TYPE UNIT		●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●				
SLIM DUCTED TYPE INDOOR UNIT		●	●	●	●	●	●	●	●	●			●										
4-WAY CASSETTE UNIT				●		●		●	●	●	●	●			●	●	●	●	●	●	●	●	
COMPACT 4-WAY CASSETTE INDOOR UNIT		●		●		●		●	●	●													
2-WAY CASSETTE INDOOR UNIT				●		●		●	●	●	●	●											
1-WAY CASSETTE UNIT		●		●		●		●	●														
WALL MOUNTED TYPE UNIT		●		●		●		●	●	●	●	●											
FLOOR CEILING TYPE INDOOR UNIT				●		●			●	●	●	●			●		●	●	●				
CONSOLE INDOOR UNIT		●		●		●		●	●														
FLOOR STANDING TYPE INDOOR UNIT																●			●				
FRESH AIR PROCESSING INDOOR UNIT																			●		●	●	●
AIR HANDLER														●		●	●	●		●	●		



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