

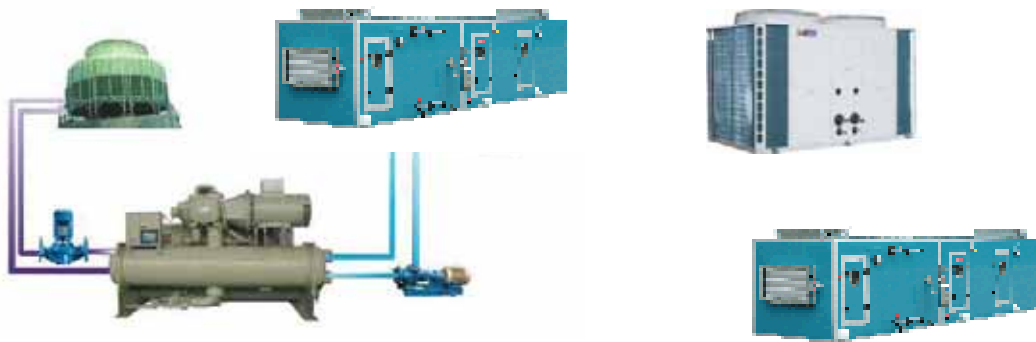
Westair
Industries, Inc.

**DX
AIR HANDLING UNIT**

INTRODUCTION

Basically, centralized air conditioning units model design are equipped with water cooled (air cooled) model chiller equipment + fan coil units or air handling units. However, for medium application spaces, there are some weaknesses:

- Complicated system design: the air discharge duct system, chilled water system and condensing water system.
- Preventative maintenance or treatment for the water system must be provided to avoid scaling and leakage.
- High installation cost and long set up installation period.



To eliminate the above inconveniences, Westair has developed another advanced product series WKZE (WKZS/WKZW) of air cooled direct expansion conditioning unit's model. The combination of the equipments consists of indoor unit (direct evaporative heat exchanger air handling unit) and outdoor unit (air cooled condenser). The refrigeration cycle connects the indoor unit and outdoor unit directly without any water system application. No only provide the simple clean solution but also energy saving for the equipment.

WKZE(WKZS/WKZW) product range combines the development and design of the new patent module framing structure, high quality air cooled heat pump unit and high static ducted unit.

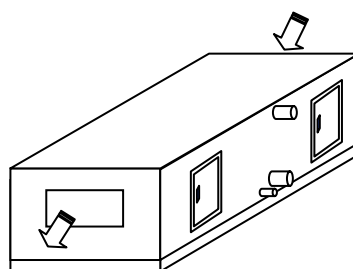
The design air volume range is 2500 M³/h~80000M³/h, else the cooling capacity range is 12.5KW~451KW. For some special customer /industrial requirement, there are some optional sections available: filtration, heater, humidifier and sterilize function sections etc

This model is widely used in metallurgical, chemical, mechanical, electrical and electronic industrial application. It is also applicable in the commercial mall, hospital, hotel, office block and etc. environment.

Left Right Model Determination

Facing the unit air intake opening, if the pipe connection and service panel are on the left side, the unit would be considered as left model and vice versa.

Air Intake



Air Discharge

Product Features

- **Patented Structural, Excellent Quality (Patent No.: 200530171886.8)**

Air handling compartment applied patent design structure with the 0.19% super low air leakage ratio. The unit uses panel's direct fixing structure and the internal of the panel comprise of high density of injected rigid polyurethane foam that ensure the strength of the panel.

Patented structural combination type air handling unit applies standard module design. Every module is 302mm length. Unit assembly's height and width can be adjusted accordingly with a module ratio to suit the design condition requirement. Outdoor units are using double systems or multi-systems to execute multi steps capacity regulation in order to cut down the operation cost. Multi-systems are all individual independent systems, units still operating without breaking down although one of the systems failed.

- **Flat internal, clean room application**

Again patented structure provides our AHU product with a good smooth surface of the unit which makes dust collection hard and not easy to be polluted. Thus it is suitable for clean room application.

- **Aesthetic Outlook and Fashion Design**

Unit panel uses high strength pre-painted steel as its external skin. The pre-painted steel has an antirust properties and is covered with a protection plastic layer to prevent any scratches during assemble and transportation. After the panel is constructed, the corner becomes an arc structure thus providing an aesthetic outlook.

- **Site Installation Easy and Fast Unit Handling**

The entire panel of the unit is constructed using bolt and nut fastening; it permits the equipment to be easily assembled or dismantle on the job site. Frequent assemble and dismantle will not affect the effectiveness of air tight and structural integrity of the unit. The equipment (unit) can be delivered according to customer requirement

- **Super Silent, Quiet Operation**

Utilization of latest technology full/semi closed hermetic screw compressor, resulted in a consistent reliable operation performance with low vibration and noise.

The unit utilizes low speed fan and semi hermetic compressor enveloped with a layer of sound absorption sponge for noise isolation.

The high performance low noise propeller fan blade with high efficiency fan motor has been selected to provide an effective air dynamic performance.

- **Intelligent Control, Efficiency Energy Saving**

Westair always provides the most effective HVAC solution to the customer and ensure every unit delivered has been performing an economical and reliable operation in order to fulfill comfort or engineering needs.

The microprocessor controller consists of self diagnosis, self – protection, capacity management, and modes selection etc functions. In additional to, the controller can upgrade into future functions development with isothermal and iso-humidity control in order to achieve high operation efficiency of the unit.

The unit is equipped with high low pressure switches, oil thermostat, oil level switch, oil pressure differential device, overload protector, and phase protector just to ensure the unit is safe for operation.

- **High Quality, Reliable Performance**

All system components are using world branded HVAC components such as ALCO, SPORLAN, DANFOSS, SAGINOMIYA etc which are of high quality and reliability. While the electrical control components are of SIEMENS, LG and etc manufacturer supplies parts.

Product Components

(1).Heat Exchanger

- Use high efficiency inner groove copper tube and anti-rust treatment aluminum fin. Its unique distribution refrigeration circuit will increase the performance effectiveness.

(2).Compressor

- Full hermetic screw compressor applied the latest 5 versus 6 unmatching gear rotors. Its' positive negative rotors are manufactured and precisely machined to provide minimum clearance and high quality.
- Soft scroll compressor hermetic compressor with high capacity ratio and efficiency will ensure small vibration noise, water proof and reliable quality and high performance.

(3). Fan Motor

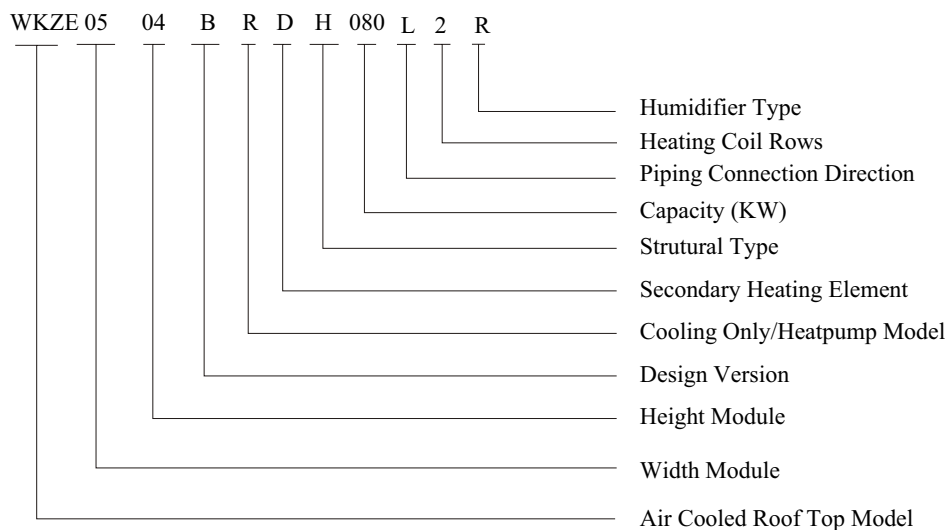
- ? Applied high quality efficiency centrifugal fan motor, with unique anti vibration structure in order to reduce the unit vibration and noise level.

(4). Microprocessor Controller

- For scroll compressor models and not isothermal/isohumidity models apply single panel controller with LCD displays. The LCD display comes with multi-color background and several operation modes selection.
- The screw compressor and isothermal/isohumidity models uses SIEMENS compact slim S7-200PLC controller, it provides high reliability, anti interference and can operate in the -25~55℃ critical working range. The controller equips with a Chinese/English operation panel and optional with black white/color touch screen panel. With the RS485 signal port socket provided, the units can execute remote control and group network control functions within 1000 meter.

Model Nomenclature

INDOOR UNIT



Model Nomenclature: WKZE/WKZS/WKZW5/35/50mm thickness panel

Unit Width Module Number: 03, 04, 05...20

Unit Height Module Number: 02, 03, 04, 05....12

Design Version: A, B, CZ

Functional Code: H- Isothermal/Isohumidity, R- Heatpump, Omitted- Cooling Only

Secondary Heating Element: D- Electrical Heater, W- Hot Water Coil, Z- Steam Coil

Structural Type: H- Horizontal Model, V- Vertical Model

Capacity: *KW

Piping Connection Direction: R- Right piping, L- Left piping

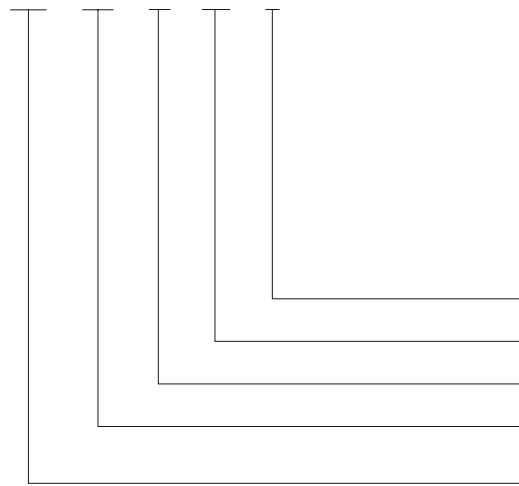
Hot Coil Rows: 01, 02, 03, 04....

Humidifier: R- Electrical Heater Humidifier, J- Electrode Humidifier, Z- Dry steam Humidifier, M- Wet Membrane Humidifier

W- High Pressure Spray Humidifier, L- Spray Humidifier, Omitted- Without Humidifier Section

Outdoor Unit

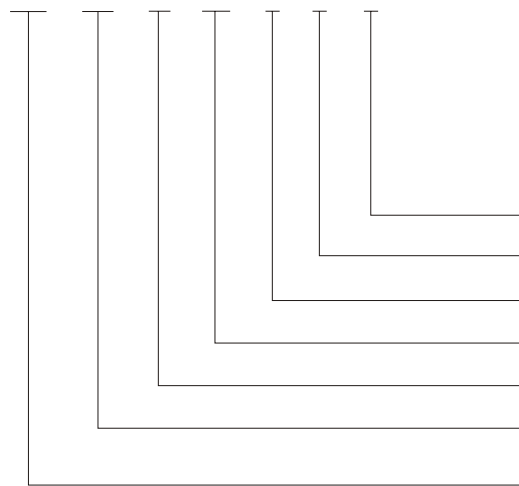
WKCA 1067 A R X



- Direct Expansion Model
- R-Heatpump Omitted - Cooling Only
- Design Version
- Capacity Code
- Air Cooled Screw Condenser Outdoor



WKSA 250 B R X B AA



- Product Design Specification
- Power Supply
- Direct Expansion Model
- Heatpump Model
- Design Version
- Capacity Code
- Air Cooled Screw Condenser Outdoor



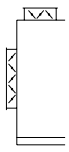
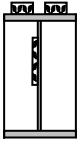
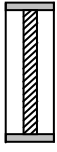
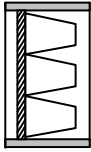
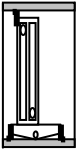
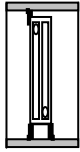
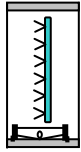
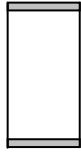
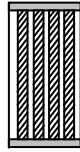
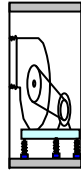
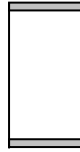
Model	Indoor		WKZS0807B-186	WKZS0807BR-186	WKZE0808B-235	WKZE0808BR-235	WKZS0908B-272	WKZS0908BR-272	
	Outdoor		WKSA250BM	WKSA250BRM	WWKCA1067AX	WWKCA1067AR	WWKCA1067AX	WWKCA1067AR	
		Quantity	3	3	1	1	1	1	
Nominal Cooling Capacity		kW	186	186	235	235	272	272	
Nominal Heating Capacity		kW		192		273		315	
Power Supply			380V/3N~/50Hz						
Refrigerant			R22						
Indoor Unit	Air Volume	m ³ /h	37500		40000		50000		
	Outline Dimension	Width	2486		2486		2788		
		Height	2284		2586		2586		
		Length	Depends On The Module Amount Of Sections (302mm for each module)						
Outdoor Unit (Single Unit)	Compressor Type* Quantity		Scroll*2		Semi Hermetic Screw*1		Semi Hermetic Screw*1		
	Cooling Input Power		kW	19.8	19.8	75.3	75.3	82.8	82.8
	Heating Input Power		kW		18.6		68.5		75.2
	Weight		kg	532	544	2580	2650	2780	2850
	Outline Dimension	Width	mm	1808		2940		3100	
		Depth	mm	1090		2200		2200	
		Height	mm	1210		2370		2370	
	Piping Diameter	Liquid Line	mm(in)	2*15.88(5/8)		28.6(1-1/8)		34.9(1-3/8)	
		Gas Line	mm(in)	2*28.6(1-1/8)		66.68(2-5/8)		79.4(3-1/8)	
	Model	Indoor		WKZW1108B-325	WKZW1108BR-325	WKZW1109B-372	WKZW1109BR-372	WKZW1210B451	WKZW1210BR-451
Outdoor			WWKCA1093AX	WWKCA1093AX	WWKCA1108AX	WWKCA1108ARX	WWKCA1130AX	WWKCA1130ARX	
		Quantity	1	1	1	1	1	1	
Nominal Cooling Capacity		kW	325	325	372	372	451	451	
Nominal Heating Capacity		kW		375		430		520	
Power Supply			380V/3N~/50Hz						
Refrigerant			R22						
Indoor Unit	Air Volume	m ³ /h	60000		70000		80000		
	Outline Dimension	Width	3422		3422		3724		
		Height	2616		2918		3220		
		Length	Depends On The Module Amount Of Sections (302mm for each module)						
Unit (Singl)	Compressor Type* Quantity		Semi Hermetic Screw*1		Semi Hermetic Screw*1				
	Cooling Input Power		kW	105.7	105.7	118	118	139.9	139.9
	Heating Input Power		kW		97		108.2		127.5
	Weight		kg	3570	3650	3660	3740	4100	4200
	Outline Dimension	Width	mm	4040		4040		4040	
		Depth	mm	2200		2200		2200	
		Height	mm	2500		2500		2880	
	Piping Diameter	Liquid Line	mm(in)	34.9(1-3/8)		34.9(1-3/8)		41.3(1-5/8)	
		Gas Line	mm(in)	79.4(3-1/8)		79.4(3-1/8)		79.4(3-1/8)	

Model	Indoor		WKZE0503B-050	WKZE0503BR-050	WKZE0503B-062	WKZE0503BR-062	WKZE0604B-076	WKZE0604BR-076	
	Outdoor		WKSA200BX	WKSA200BRX	WKSA250BX	WKSA250BRX	WKSA150CX	WKSA150CRX	
		Quantity	1	1	1	1	2	2	
Nominal Cooling Capacity		kW	50	50	62	62	76	76	
Nominal Heating Capacity		kW		56		64		82	
Power Supply			380V/3N~/50Hz						
Refrigerant			R22						
Indoor Unit	Air Volume	m ³ /h	10000		12000		15000		
	Outline Dimension	Width	1711		1711		1862		
		Height	1036		1187		1338		
		Length	Depends On The Module Amount Of Sections (302mm for each module)						
Outdoor Unit (Single Unit)	Compressor Type* Quantity		Scroll*2		Scroll*2		Scroll*3		
	Cooling Input Power		kW	17.6	17.6	19.8	19.8	13.3	13.3
	Heating Input Power		kW		16.5		18.6		12
	Weight		kg	480	492	532	544	315	325
	Outline Dimension	Width	mm	1808		1808		1150	
		Depth	mm	1090		1090		1143	
		Height	mm	1210		1210		1260	
	Piping Diameter	Liquid Line	mm(in)	2*15.88(5/8)		2*15.88(5/8)		15.88(5/8)	
		Gas Line	mm(in)	2*28.6(1-1/8)		2*28.6(1-1/8)		34.9(1-3/8)	
	Model	Indoor		WKZE0605B-102	WKZE0605BR-102	WKZE0705B-125	WKZE0705BR-125	WKZS0707B-152	WKZS0707BR-152
Outdoor			WKSA200BM	WKSA200BRM	WKSA250BM	WKSA250BRM	WKSA200BM	WKSA200BRM	
		Quantity	2	2	2	2	3	3	
Nominal Cooling Capacity		kW	102	102	125	125	152	152	
Nominal Heating Capacity		kW		110		128		160	
Power Supply			380V/3N~/50Hz						
Refrigerant			R22						
Indoor Unit	Air Volume	m ³ /h	20000		24000		30000		
	Outline Dimension	Width	1862		2164		2184		
		Height	1640		1640		2284		
		Length	Depends On The Module Amount Of Sections (302mm for each module)						
Outdoor Unit (Single Unit)	Compressor Type* Quantity		Scroll*2		Scroll*2		Scroll*3		
	Cooling Input Power		kW	17.6	17.6	19.8	19.8	17.6	17.6
	Heating Input Power		kW		16.5		18.6		16.5
	Weight		kg	480	492	532	544	480	492
	Outline Dimension	Width	mm	1808		1808		1808	
		Depth	mm	1090		1090		1090	
		Height	mm	1210		1210		1210	
	Piping Diameter	Liquid Line	mm(in)	2*15.88(5/8)		2*15.88(5/8)		2*15.88(5/8)	
		Gas Line	mm(in)	2*28.6(1-1/8)		2*28.6(1-1/8)		2*28.6(1-1/8)	

Specification

Model	Indoor		WKZE0302B-012	WKZE0302BR-012	WKZE0302B-014	WKZE0302BR-014	WKZE0402B-019	WKZE0402BR-019
	Outdoor		WKSA050BX	WKSA050BRX	WKSA060BX	WKSA060BRX	WKSA075BX	WKSA075BRX
	Quantity		1	1	1	1	1	1
Nominal Cooling Capacity		kW	12.5	12.5	14.5	14.5	19	19
Nominal Heating Capacity		kW		13.5		16		21
Power Supply			380V/3N~/50Hz					
Refrigerant			R22					
Indoor Unit	Air Volume		m ³ /h		2500		3000	
	Outline Dimension	Width	mm		956		956	
		Height	mm		734		734	
		Length	mm		Depends On The Module Amount Of Sections (302mm for each module)			
Outdoor Unit	Compressor Type*Quantity		Scroll*1		Scroll*1		Scroll*2	
	Cooling Input Power		kW		4.25		4.25	
	Heating Input Power		kW		3.85		4.55	
	Weight		kg		90		93	
	Outline Dimension	Width	mm		970		1010	
		Depth	mm		440		420	
		Height	mm		955		1230	
	Piping Diameter	Liquid Line	mm(in)		9.52(3/8)		9.52(3/8)	
		Gas Line	mm(in)		19.05(3/4)		19.05(3/4)	
	Model	Indoor		WKZE0402B-026	WKZE0402BR-026	WKZE0402B-030	WKZE0402BR-030	WKZE0403B-037
Outdoor		WKSA100BX	WKSA100BRX	WKSA125BX	WKSA125BRX	WKSA150CX	WKSA150CRX	
Quantity		1		1		1		
Nominal Cooling Capacity		kW	26.5	26.5	30	30	36.8	36.8
Nominal Heating Capacity		kW		28		34		41
Power Supply			380V/3N~/50Hz					
Refrigerant			R22					
Indoor Unit	Air Volume		m ³ /h		5000		6500	
	Outline Dimension	Width	mm		1258		1409	
		Height	mm		885		885	
		Length	mm		Depends On The Module Amount Of Sections (302mm for each module)			
Outdoor Unit	Compressor Type* Quantity		Scroll*2		Scroll*2		Scroll*3	
	Cooling Input Power		kW		8.5		8.5	
	Heating Input Power		kW		7.8		10	
	Weight		kg		232		240	
	Outline Dimension	Width	mm		1403		1558	
		Depth	mm		821		882	
		Height	mm		985		1190	
	Piping Diameter	Liquid Line	mm(in)		2*12.7(1/2)		2*12.7(1/2)	
		Gas Line	mm(in)		2*19.05(3/4)		2*19.05(3/4)	

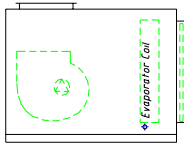
Functional Section Dimension

Model	Section Length(mm)										
	Mixing Box	Air Damper Section	Flat Filter Section	Bag Filter Section	Evaporator Section	Heating Section	Humidifier	Middle Section	Silencer Section	Fan Section	Air Discharge Section
											
0302	604	1208	151	453	604	302	604	604	1057	906	604
0402	604	1208	151	453	604	302	604	604	1057	1057	604
0403	604	1208	151	453	604	302	604	604	1057	1057	604
0503	604	1208	151	453	604	302	604	604	1057	1057	604
0604	604	1208	151	453	604	302	604	604	1057	1359	604
0605	604	1208	151	453	604	302	604	604	1057	1359	604
0705	755	1208	151	453	604	302	604	604	1057	1359	755
0707	755	1510	151	453	906	302	604	604	1057	1510	755
0807	755	1510	151	453	906	302	604	604	1057	1661	755
0808	906	1510	151	453	906	302	604	604	1057	1661	906
0908	906	1510	151	453	906	302	604	604	1057	1812	906
1108	1057	1510	151	453	906	302	604	604	1057	1963	1057
1109	1057	1510	151	453	906	604	604	604	1057	2114	1057
1210	1057	1510	151	453	1208	604	604	604	1057	2114	1057

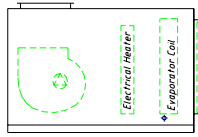
Note:

1. Mixing box and air discharge section dimensions is standard dimension. The air discharge opening dimension and position has to refer to the actual application.
2. Humidifier length should be depended on the humidify requirement and methods.
3. If the wet membrane humidifier install behind the cooling coil, its individual section is unnecessary. However, two module lengths are required for wet membrane humidifier's individual section installation.
4. In front of filter section, cooling section, heating section and silencer, middle section is required for unit servicing and maintenance.
5. The above chart is only for reference, actual design will be changed depend on the requirement and application.
6. For special section request, please contact Westair.

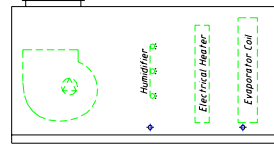
Standard Functional Section's Combination



Standard Cool(Heatpump)

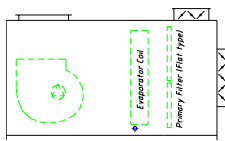


Standard Cool(Heatpump) + Electrical Heater

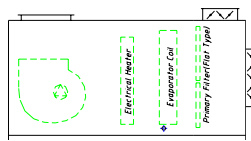


Standard Isothermal/Isohumidify

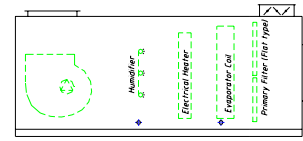
With Mixing Box Model:



Cool(Heatpump)



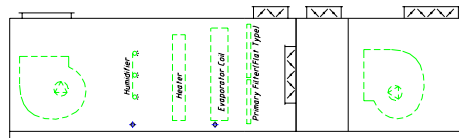
Cool(Heatpump) + Electrical Heater



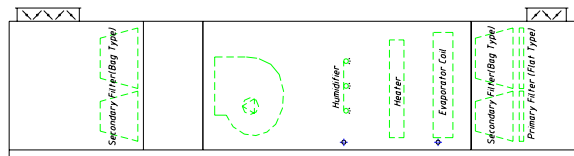
Isothermal/Isohumidifier

Electrical Heater can be replaced by hot water/steam coil. For service vocation, between evaporator coil section and the heating section should place an additional middle section.

With Air Discharged Model:



Clean Room Model:



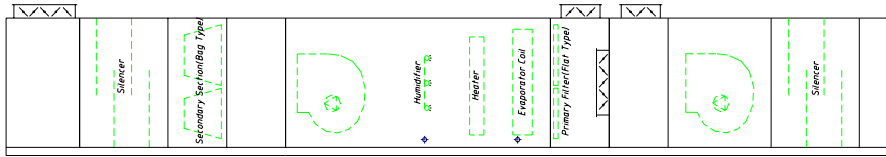
Front bag filter(Secondary) can install with lower grade filter (such as F5) or be eliminated, else the back bag filter(Secondary) require high grade(F7 or F8); if end user's air discharge opening is not equipped with high efficiency filter and filtration requirement is 300, 000 meshes grade, it can add with pre-high efficiency filter section after the secondary filter. Between the secondary filter and the pre-high filter section is a service section. If the user's filtration requirement is above 300,000 meshes grade, the user side air discharge opening must install with high efficiency filtration. Then, the unit can not be equipped with pre-high efficiency filter in order to reduce the unit cost and operation cost.

Humidifier can not put in front of the secondary bag filter to avoid the steam damped the filter and loss the filtration function.

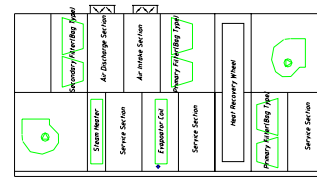
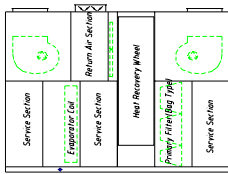
Humidifier placed behind the secondary bag filter section, between these two sections must have sufficient space for steam absorption.

Silencer Clean Room Model

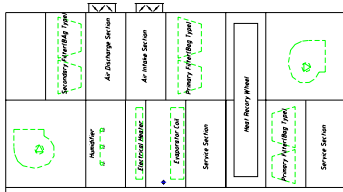
This model can use as air discharge function, and install the silencer in front of the air intake section.



Energy Saving Model:



Standard Model



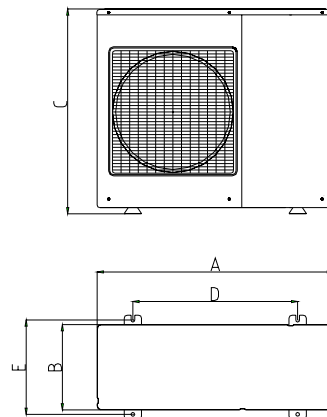
Standard Clean Room Model

Isothermal/Isohumidifier Model

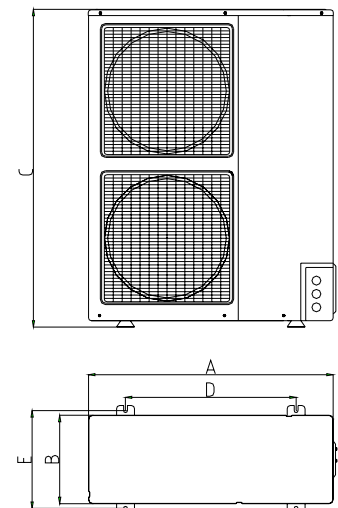
Outdoor Unit Outline Dimension

	WKSA050B(R)X	WKSA060B(R)X
	970	1010
	350	340
	955	1230
	645	570
	440	420

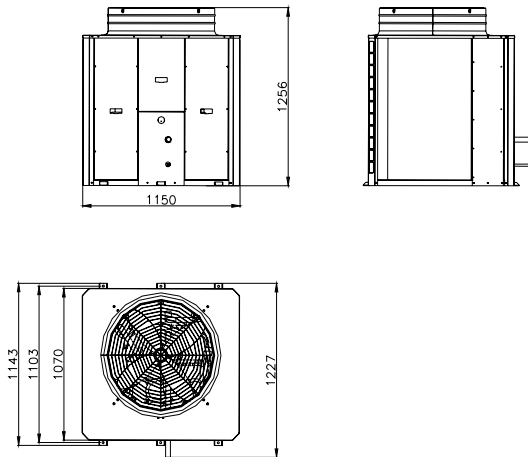
WKSA050B(R)X



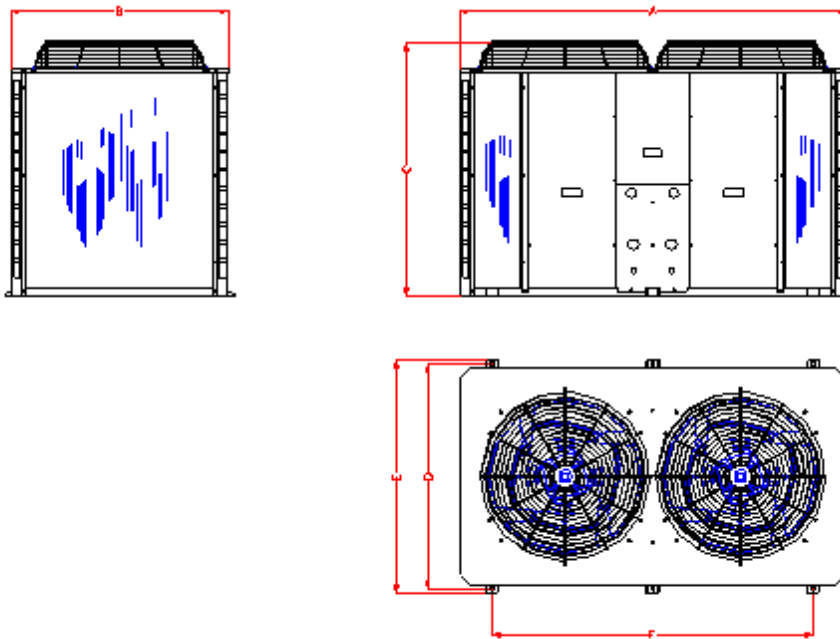
WKSA060B(R)X



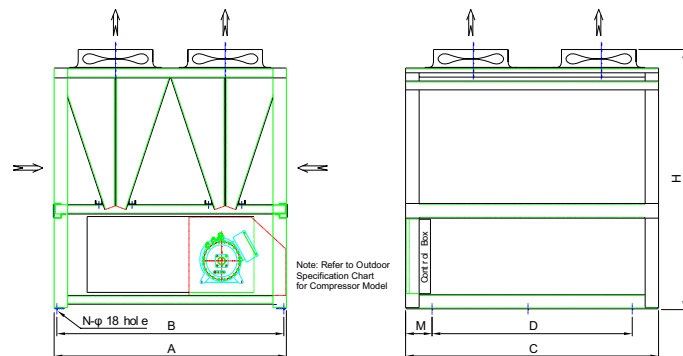
WKSA150CX/CRX/CM/CRM



WKSA075B(R)X/100B(R)X/ 125 B(R)X/150 B(R)X/200B(R)X/200B(R)M/250B(R)X/250B(R)M



WKCA10670A(R)X/10780 A(R)X/10930 A(R)X/11080 A(R)X



WKCA	A	B	C	D	H	M
10670A/R/X	2200	2150	2940	840px3=2520	2370	210
10780A/R/X	2200	2150	3100	860px3=2580	2370	260
10930A/R/X	2200	2150	4040	1000px3=3000	2550	520
11080A/R/X	2200	2150	4980	1000px3=3000	2550	520

Air-Cooled Unit Operation Range:

	Cooling	Heating
Indoor Return Air Temperature	16~32□	10~30□
Outdoor Ambient Temperature	18~45□	-10~25□

Note:

1. If the site temperature is out of the operation rang, the unit protection device will be triggered.
2. Within the temperature operation range, the unit performance and capacity can be referred to the ‘cool/heat capacity correction factor chart).
3. For out of the working range requirement, the unit needed to redesign or customize to suit special application.

Cooling/Heating Capacity Correction Factor Chart
● Cooling Mode

Indoor Air Intake Temperature □		Outdoor Air Intake Dry Bulb Temperature □				
Dry Bulb	Wet Bulb	25	30	35	40	45
23	16	0.98	0.94	0.89	0.85	0.81
25	18	1.05	1	0.95	0.9	0.85
27	19	1.1	1.05	1	0.95	0.90
28	20	1.12	1.07	1.02	0.96	0.91
30	22	1.19	1.13	1.08	1.02	0.96
32	24	1.26	1.20	1.15	1.08	1.03

● Heating Mode

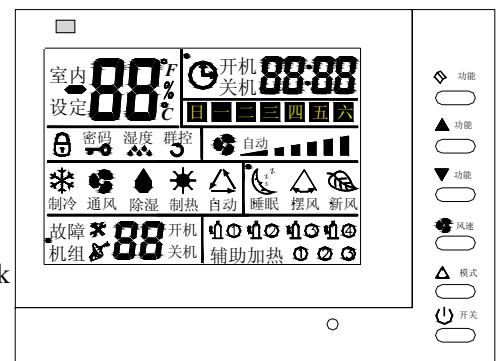
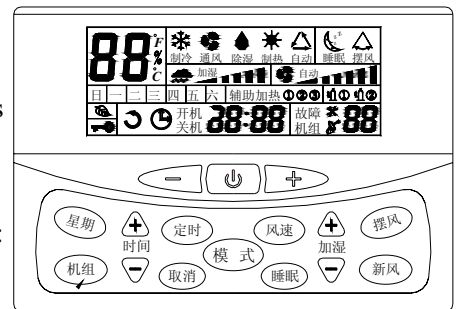
Indoor Air Intake Dry Bulb Temperature□	Outdoor Air Intake Wet Bulb Temperature°C				
	-5	0	6	10	15
16	0.77	0.89	1.02	1.13	-
18	0.77	0.88	1.02	1.12	-
20	0.76	0.87	1	1.11	1.25
21	0.76	0.78	0.99	1.10	1.24
22	0.75	0.86	0.97	1.09	1.23
24	0.75	0.85	0.96	1.08	1.22

Cooling/Heating Capacity Correction Factor for Extended Connection Piping

		Single Way Connection Pipe Length									
Elevation between Indoor and outdoor		7.5m	10m	15m	20m	25m	30m	35m	40m	45m	50m
Outdoor higher than Indoor	0m	1	0.98	0.96	0.94	0.92	0.90	0.88	0.86	0.84	0.82
	5m	0.995	0.975	0.955	0.935	0.915	0.895	0.875	0.855	0.835	0.815
	10m		0.97	0.95	0.93	0.91	0.89	0.87	0.85	0.83	0.81
	15m			0.945	0.925	0.905	0.885	0.865	0.845	0.825	0.805
	20m				0.92	0.90	0.88	0.86	0.84	0.82	0.80
	25m					0.895	0.875	0.855	0.835	0.815	0.795
Indoor higher than Outdoor	0m	1	0.98	0.96	0.94	0.92	0.90	0.88	0.86	0.84	0.82
	5m	0.99	0.97	0.95	0.93	0.91	0.89	0.87	0.85	0.83	0.81
	10m	-	0.96	0.94	0.92	0.90	0.88	0.86	0.84	0.82	0.80
	15m	-	-	0.93	0.91	0.89	0.87	0.85	0.83	0.81	0.79
	20m	-	-	-	0.90	0.88	0.86	0.84	0.82	0.80	0.78
	25m	-	-	-	-	0.87	0.85	0.83	0.81	0.79	0.77

1. Microprocessor Controller

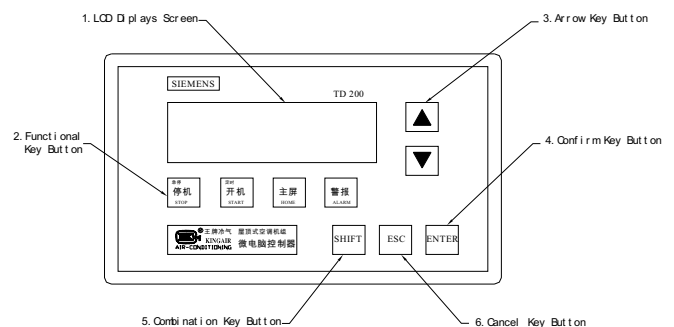
- LCD Screen Displays
- Multiple background colors, color changes according to the modes selected.
- Operation Modes: Cool, Fan, Dry, Heat and Auto.
- Temperature setting range: 16°C-30°C, Return air temperature: 0°C-50°C.
- Real Time Setting and Displays
- On/Off Timer
- Sleep Mode
- Key Lock Function
- Operation Faulty Codes Displays
- Main Control Board's Sensor Parameter Displays
- Compressor Operation Status Display
- Infra Red Remote Control
- Signal Socket Reservation: for remote control and group network control execution.



2. PLC Controller

TD200 Control Panel

Control panel is using SIEMENS TD200 displays controller. It can displays two rows of Chinese (English) words. The keypad is closed seal and water proof and moisture proof. Displays screen design is user friendly and easy to handle with user manual provided. Shown as right figure:



PLC Functions

Westair has joined development with SIEMENS to come out a new HVAC microprocessor controller based on advanced PLC technology. The main control chip is using SIEMENS's SIMATIC S7-22X CPU with completed functional, reliable operation and high interference resistance.

1. Intelligent Defrost:

It consists of automatic defrost and manual defrost functions:

2. Self Diagnosis and protection:

It divides the unit faults into two categories based on the influence degree to the unit and compressors (normal faulty and critical faulty), the buzzer will be initialed and record the related faulty contents.

3. Operation and Capacity Management:

For multi-compressors system, it can auto-balancing the compressors' operation time in order to extend the whole unit lifespan.

4. Chinese / English Character Menu and Passwords:

All conditions displays, parameters editing, faulty monitoring etc can be presented by Chinese characters. Parameters editing can be divided into three levels: user level, technician level and factory level. Every level has its own password.

User can set the ON/OFF timer for the unit. For holidays or non working shift, the technician can set the alarm delay time, compressor delay cut in time and defrost control etc.

5. Signal Socket:

Displays panel consists of two standard RS-485 connection sockets, one connects to I/O board communicate within 1000 meters; another one will connect to external network system to execute complete group control (1000 meters). There is one more RS232 connection socket to interlink with printer or thru modem to connect with the BAS system (for remote control purpose). Shown as below diagram:

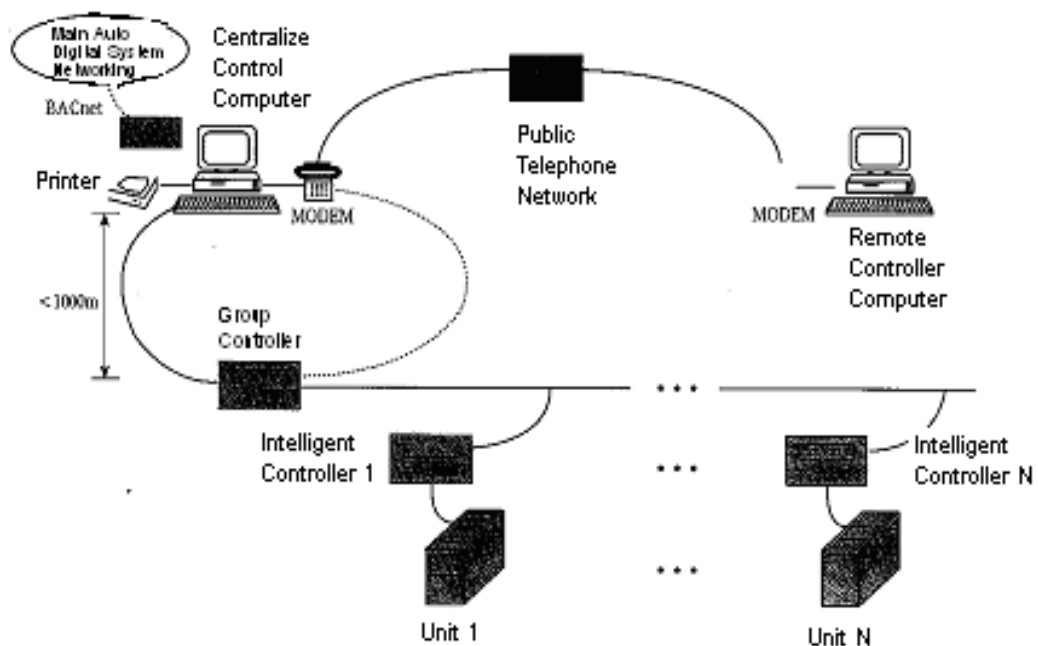
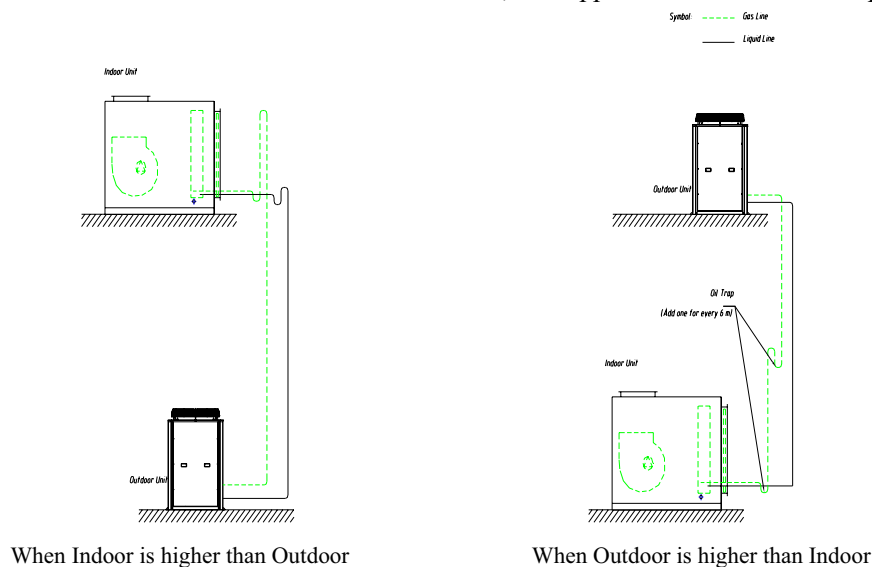


Figure 10 Networking Control System Schematic Diagram

Unit Installation

1. The unit can be installed on the roof, balcony and garden. The installation space must have good ventilation, clean and bright. Avoid places that are oily steamy and with other heating elements. The location must also be provided with a good water drainage system, low noise and is easy for pipe connection installation
2. Due to facts that the unit model is top blown model, the top awning is required to protect the unit from rain and snow. It is also better for carrying out the unit maintenance during raining.
3. To ensure there are sufficient spaces for maintenance and ventilation, no obstacles are allowed in the space distance, the height of the ceiling must be more than 2m above from the unit top panel and the surrounding wall must be lower than the top of the fin coil to avoid ventilation short circuit.
4. Unit assemble air intake should not be in a parallel direction with monsoon wind blowing direction
5. Flexible connector should be applied on the unit to reduce the unit vibration transmitting thru the ducts system. For duct connection convenience, extra space must be provided for the foundation base and roof slab opening. Recommendation opening dimension should larger than the duct size 150~200mm. All the duct connected must be supported by brackets and support holder, avoid using the unit to support duct's weight.
6. When there is elevation between the indoor and outdoor units, the copper tube installation must provide an oil trap.



Installation Foundation

1. The unit should be installed on a smooth solid surface with reinforced concrete cement or strong steel structure support. They must be able to support the unit weight and vibration resulted from the unit operation.
2. The concrete cement foundation surface does apply the cement as leveling surface with waterproof treatment. The surrounding of the foundation should be constructing the water drainage system that its slide angle should be larger than 0.5% so that it is easy for drain out to the drainage outlet.
3. In order to let the unit equipment operate quietly and avoid the vibration and the noise transmission to the lower floor, it is necessary to place a vibration isolator between the foundation and unit base. Leveling must be maintained by placing additional anti-vibration pad if necessary.

4. To avoid earthquake, monsoon or the possibility of pipe twisted crack due to migration in long operation duration, the unit should be considered to apply a better fixing solution.
5. The unit installation foundation and fastening fixing can be refer to the below example

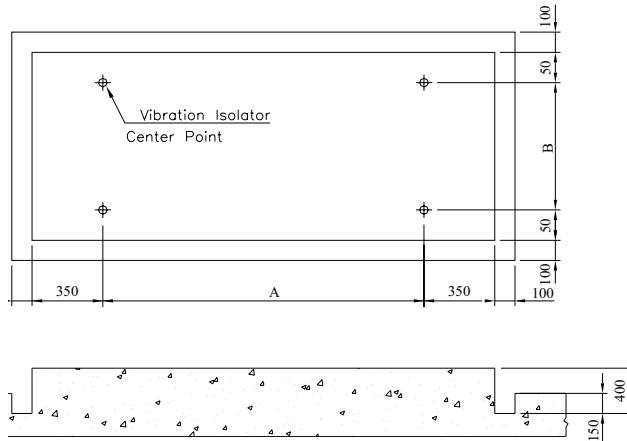


Diagram a Installation Foundation

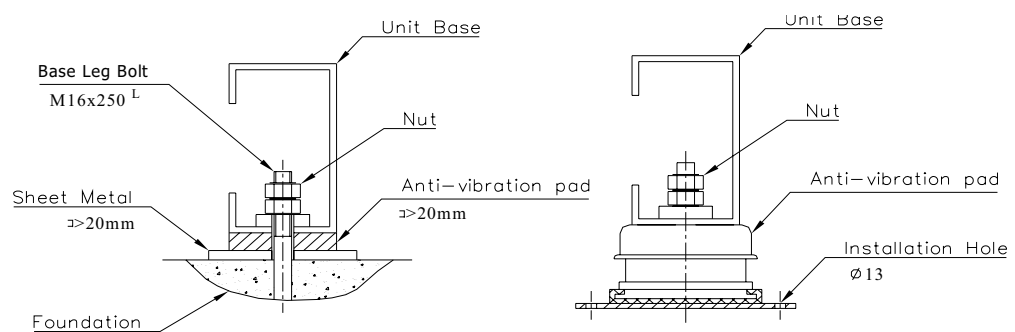


Diagram b

Diagram c

- Note: 1) Diagram a, foundation installation holes dimension detail can be refer to the unit model outline dimension diagram. A is the maximum installation holes distance along the unit width direction. Extra attention should be taken for the actual position of every installation holes along the unit width direction.
- 2) If the fixing method in Diagram b is used, the foundation must prepared base leg bolt installation holes according to the installation foundation diagram as shown in Diagram a.
 - 3) If the fixing method in Diagram c is being used, the foundation must prepare the vibration isolator installation bolt holes. Westair can provide the correspondent isolator (optional).

Remarks:

1. Westair reserved the right of these manual without prior inform.
2. Westair has the final product explanation authority.

WESTAIR INDUSTRIES, INC., incorporated in Texas, USA applies latest technology and sound experience in global HVAC industry to produce and make available one of the high quality wide range of air conditioning equipment for worldwide client's satisfaction.

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