

# Air Handling Unit (Suspended)

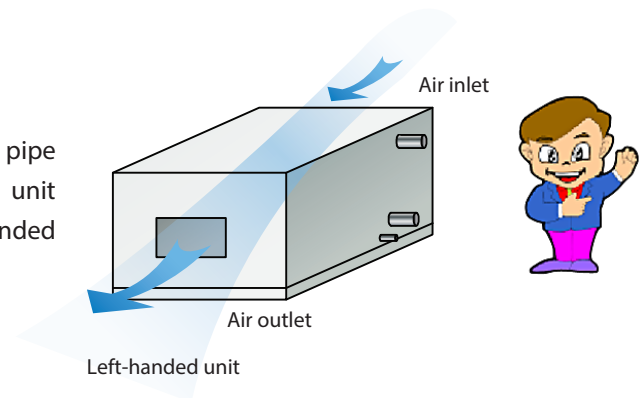


- ◆ Low air leakage rate
- ◆ High strength, high reliability
- ◆ Outstanding cold-bridge-free structure
- ◆ High performance heat exchanger

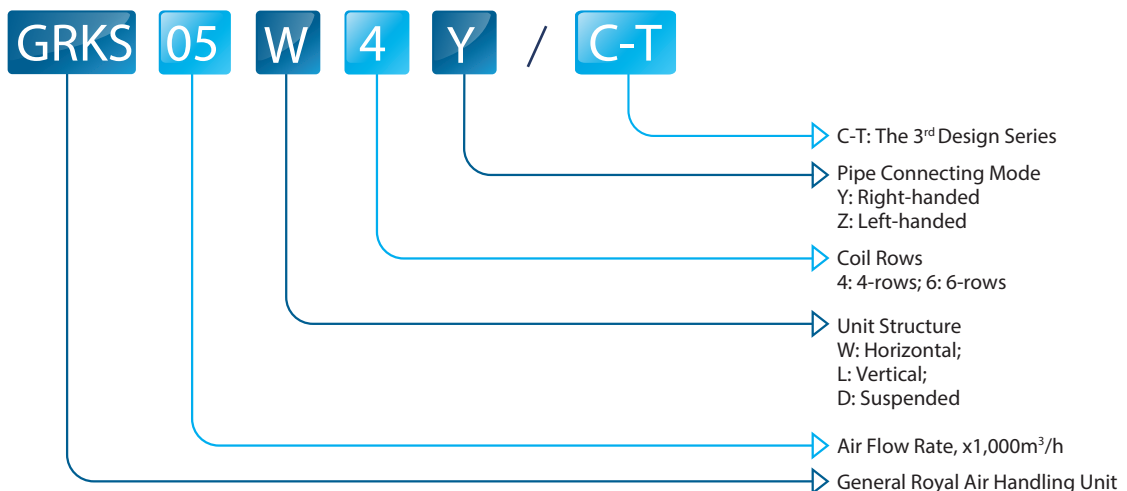
2,000m<sup>3</sup>/h ~ 15,000 m<sup>3</sup>/h  
(1,200CFM ~ 8,800CFM)

## Orientation

Unit handling orientation is determined by location of pipe connection while facing unit in the direction of air flow. The unit below is left-handed connection unit, otherwise is right-handed connection unit.



## Nomenclature



# Specifications

## Suspended type

### Return air condition

Model	Air volume	Rated cooling capacity	Rated heating capacity	Water flow rate	Water pressure drop	Motor power	Chilled water pipe	Cooling water pipe	External static pressure	Sound level	Power supply	Driven type											
GRKSxxY(Z)/C-T	m <sup>3</sup> /h	kW	kW	L/s	kPa	kW	DN	DN	Pa	dB(A)	\	\											
02D	4	2000	9.8	20.6	0.5	11.0	0.32	32	25	80	55	380V, 3N~, 60HZ	Direct driven										
	6		13.0	24.1	0.6	26.0	0.32	32	25														
03D	4	3000	14.9	30.6	0.7	31.0	0.75	32	25	160	59		380V, 3N~, 60HZ	Belt driven									
	6		19.2	35.4	0.9	24.0	0.75	32	25														
04D	4	4000	20.5	40.7	1.0	60.0	1.1	40	25	200	60				380V, 3N~, 60HZ	Belt driven							
	6		25.7	46.9	1.2	49.5	1.1	40	25														
05D	4	5000	25.3	50.9	1.3	40.0	1.5	40	25	200	62						380V, 3N~, 60HZ	Belt driven					
	6		31.0	58.4	1.5	32.0	1.5	40	25														
06D	4	6000	30.3	60.4	1.5	43.8	1.5	40	25	200	63								380V, 3N~, 60HZ	Belt driven			
	6		37.1	70.0	1.8	44.0	2.2	40	25														
07D	4	7000	34.8	69.6	1.7	58.0	2.2	40	25	240	64										380V, 3N~, 60HZ	Belt driven	
	6		42.2	80.9	2.0	59.0	2.2	50	25														
08D	4	8000	40.4	80.5	1.9	26.0	2.2	40	25	240	64	380V, 3N~, 60HZ											Belt driven
	6		49.2	93.4	2.4	56.0	3.0	50	25														
09D	4	9000	45.0	90.1	2.2	34.0	3.0	40	25	280	66		380V, 3N~, 60HZ	Belt driven									
	6		60.5	103.0	2.9	25.4	3.0	50	25														
10D	4	10500	52.2	104.4	2.5	51.0	3.0	50	25	280	67				380V, 3N~, 60HZ	Belt driven							
	6		71.5	121.3	3.4	35.8	4.0	50	25														
12D	4	12000	56.7	121.2	2.7	54.0	4.0	50	25	280	68						380V, 3N~, 60HZ	Belt driven					
	6		79.6	135.4	3.8	41.6	4.0	50	25														
15D	4	15000	73.3	147.5	3.5	38.1	5.5	50	32	320	69								380V, 3N~, 60HZ	Belt driven			
	6		100.7	171.7	4.8	34.3	5.5	65	32														

1.Cooling capacity is based in the following condition

- a)Water temperature: 7 °C (inlet)/12 °C (outlet)      b)Air entering condition: 27 °C DB/19.5 °C WB

2.Heating capacity is based on the following condition

- a)Water temperature: 60 °C (inlet) /50 °C (outlet)      b)Air entering condition: 15 °C DB

### Fresh air condition

Model	Air volume	Rated cooling capacity	Rated heating capacity	Water flow rate	Water pressure drop	Motor power	Chilled water pipe	Cooling water pipe	External static pressure	Sound level	Power supply	Driven type											
GRKSxxY(Z)/C-T	m <sup>3</sup> /h	kW	kW	L/s	kPa	kW	DN	DN	Pa	dB(A)	\	\											
02D	4	2000	24.3	25.6	1.2	43.0	0.32	32	25	80	55	380V, 3N~, 60HZ	Direct driven										
	6		28.5	29.2	1.4	31.4	0.32	32	25														
03D	4	3000	36.2	37.5	1.7	48.0	0.75	40	25	160	59		380V, 3N~, 60HZ	Belt driven									
	6		42.2	41.3	2.0	33.0	0.75	40	25														
04D	4	4000	45.4	48.9	2.2	32.0	1.1	40	25	200	60				380V, 3N~, 60HZ	Belt driven							
	6		58.3	57.2	2.8	65.5	1.1	50	25														
05D	4	5000	58.9	61.8	2.8	63.0	1.5	50	25	200	62						380V, 3N~, 60HZ	Belt driven					
	6		71.7	66.9	3.4	41.0	1.5	50	25														
06D	4	6000	65.0	70.8	3.1	11.0	1.5	50	25	200	63								380V, 3N~, 60HZ	Belt driven			
	6		87.9	85.0	4.2	47.7	2.2	50	25														
07D	4	7000	75.9	81.6	3.6	15.1	2.2	50	25	240	64										380V, 3N~, 60HZ	Belt driven	
	6		101.1	98.3	4.8	68.4	2.2	65	25														
08D	4	8000	88.1	94.4	4.2	14.4	2.2	50	25	240	64	380V, 3N~, 60HZ											Belt driven
	6		114.5	113.4	5.5	63.3	3.0	65	25														
09D	4	9000	99.1	106.2	4.7	19.0	3.0	65	25	280	66		380V, 3N~, 60HZ	Belt driven									
	6		126.6	127.6	6.0	37.5	3.0	65	25														
10D	4	10500	117.4	125.4	5.6	29.5	3.0	65	25	280	67				380V, 3N~, 60HZ	Belt driven							
	6		145.1	148.8	6.9	57.9	4.0	80	25														
12D	4	12000	130.1	138.3	6.2	32.5	4.0	65	25	280	68						380V, 3N~, 60HZ	Belt driven					
	6		157.0	166.8	7.5	68.8	4.0	80	25														
15D	4	15000	165.2	177.0	7.9	27.2	5.5	80	32	320	69								380V, 3N~, 60HZ	Belt driven			
	6		204.8	211.6	9.8	56.6	5.5	80	32														

1.Cooling capacity is based in the following condition

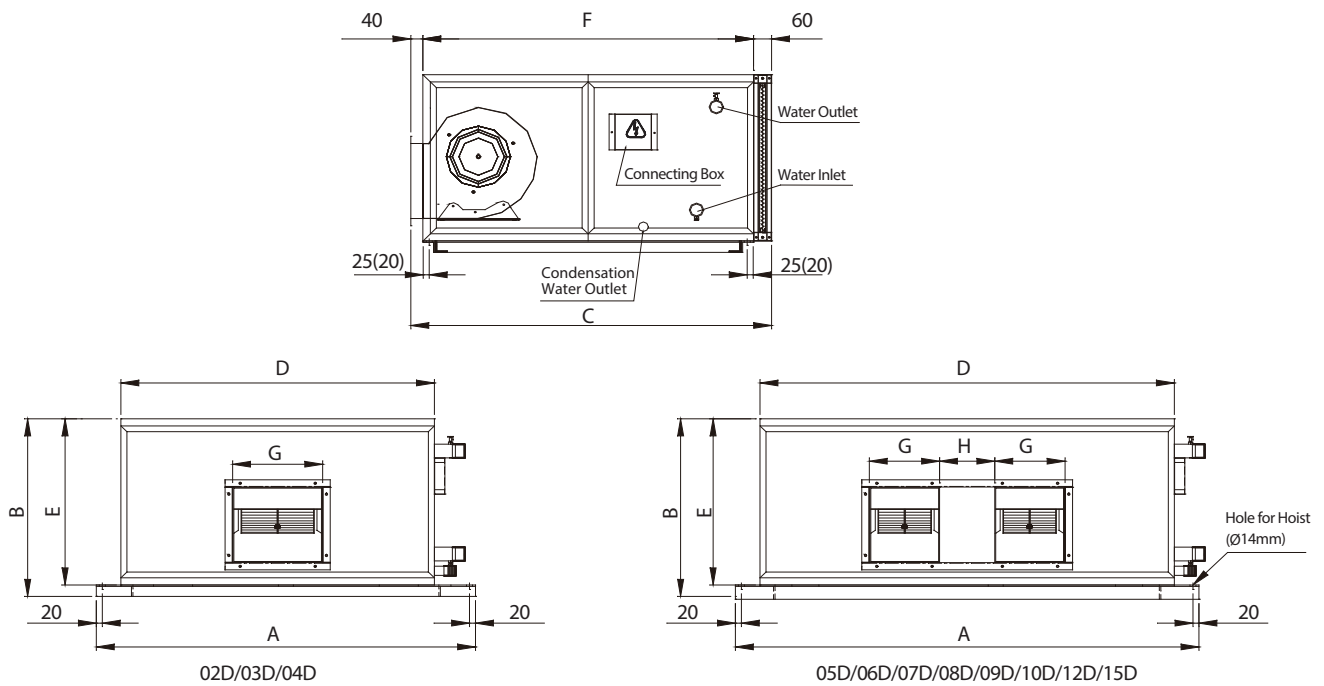
- a)Water temperature: 7°C(inlet)/12°C(outlet)      b)Air entering condition: 27°C DB/19.5°C WB

2.Heating capacity is based on the following condition

- a)Water temperature: 60°C(inlet) /50°C(outlet)      b)Air entering condition: 15°C DB

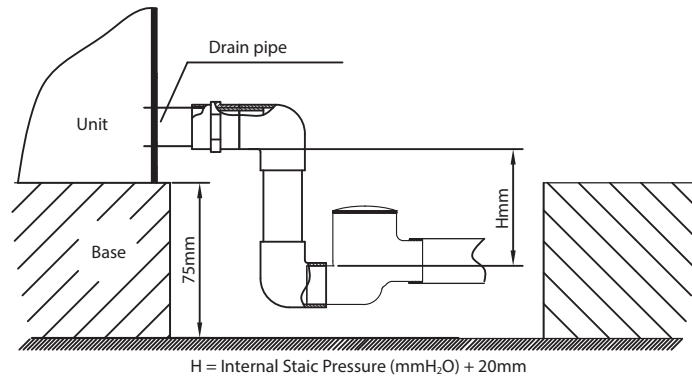
# Dimensions

## Suspended type



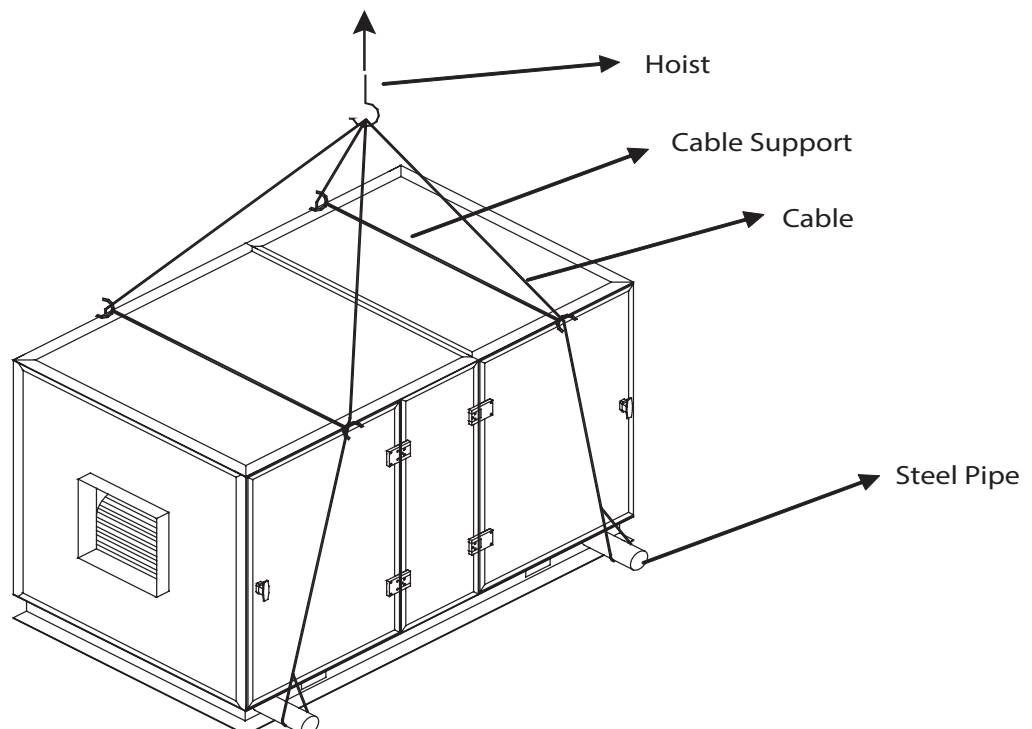
GRKSxxY(Z)/C-T	02D	03D	04D	05D	06D	07D	08D	09D	10D	12D	15D	
A	992	1207	1405	1657	1734	1859	1859	1988	2248	2298	2241	
B	620	620	620	630	690	690	780	780	780	820	1155	
C	950	1000	1000	1000	1000	1000	1000	1100	1100	1100	1300	
D	828	1043	1241	1493	1570	1695	1695	1824	2084	2134	2041	
E	580	580	580	580	640	640	730	730	730	770	1075	
F	850	900	900	900	900	900	900	1000	1000	1000	1200	
G	300	298	331	232	265	331	331	309	309	395	373	
H	—	—	—	184	214	264	264	244	244	324	294	
J	240	262	289	262	289	289	289	341	341	341	404	
Return air flange (HxW)	768x520	983x520	1181x520	1433x520	1510x580	1635x580	1635x670	1764x670	2024x670	2074x710	1981x1015	
Supply air flange (HxW)	300x240	298x262	331x289	648x262	744x289	926x289	926x289	862x341	862x341	1114x341	1040x404	
Packing dimension	1034x1094x761	1064x1344x776	1064x1344x776	1084x1784x786	1084x1844x831	1084x1984x846	1084x1984x936	1184x2114x936	1184x2374x936	1184x2424x976	1384x2364x1311	
Weight (kg)	4R	71	90	99	128	139	192	231	270	279	287	372
	6R	81	121	129	158	180	222	271	305	309	311	414

# Installation



## ■ Water Pipe Installation

1. Keep the water pipes clean and install filter at the inlet of water pump.
2. The condensate water pipes are positioned at the bottom of the unit. The U-trap needs to be installed (refer diagram below) to ensure condensing water can be discharged freely and to prevent in-flow of odor.
3. Use torque wrench when installing the water inlet/outlet pipes. The torque should be less than 250.8N·m (21kgf·m) to prevent heat exchanger from being damaged. Install valves at water supply and return pipes outside the unit (except the condensing water discharge pipes) for modulation of water volume and to isolate the unit during maintenance. All the water pipes outside the unit should be properly insulated.
4. If hot or chilled water is the media of the heat exchanger, the water inlet pipes are positioned at the bottom and water outlet pipes are positioned at the top. If the media is steam, the air inlets are positioned at the top and water outlet pipes are at the bottom.
5. All the water pipes must be sealed and ensure no leakage.
6. The standard chilled water temperature should not be lower than 5°C. Hot water temperature should not be higher than





#### ■ Transportation

Depending on size of the units, transportation mode may be different. Units can be shipped in full assembly if the size is small enough. Otherwise, they can be arranged to be shipped in the form of CKD (Complete Knock Down).

#### ■ Inspection and Acceptance

Before installation, check if all sections and components are in good condition. Inform the dealer immediately if found any defect.

#### ■ Placement of Unit

If unit needs to be placed outdoor, ensure the unit is free from dust, rain, snow and keep it away from animals to protect the exterior finishing of the unit. The unit cannot be exposed to hot sun or the insulated panels may be deformed or discolor. Do not stack units in storage.

#### ■ Lifting of Unit

Keep the unit level while moving or lifting to avoid damage. Hoist the unit through lifting holes provided. Ensure there is proper protection procedures adopted during lifting (for example, to put chipboard/plywood to isolate the lifting cable and the unit) to protect the surface of the unit.

#### ■ Foundation

1) Leveling of the foundation will affect the installation and operation of the unit. If the foundation is not level, the following problems could happen:

- a) Difficult to install
- b) Air leakage at joints of panels and sections
- c) Condensate water discharge problem
- d) Fan installation problem It is recommended that the difference of level to be within  $\pm 3\text{mm}$ .

2) The foundation can be made of concrete or welded steel. Keep the steel surface smooth while welding. The height of foundation should not be less than 150mm. The water drainage is required for discharge of condensation water and for maintenance purposes.

3) Ensure that the foundation able to withstand the total weight of unit. Add shock absorber under the foundation if necessary.

#### ■ Unit Installation

The installation must be done by certified installer. Take note of the following:

- 1) Strictly comply with the installation instructions provided.
- 2) Leave enough space for repair and maintenance.
- 3) Use flexible duct for section of duct connection between the unit and external air duct to avoid vibration transmission.
- 4) The panels must be fitted tightly. Rubber gasket must be compressed properly to avoid air leakage.
- 5) Air filter should be the last item to be installed.
- 6) Proper cleaning must be carried out to clean the interior of the unit to remove debris of installation before commissioning.