



Excellent
Product by
Public
Procurement
Service



KS
Certification



Inno-biz



CE Certification



ISO9001 ISO14001



Corporate
Research
Institute



Patented
Products



Excellent
Products



2005 Hot
Selling
Products
for Korean
Economy



2014 Korea
Excellent
Patent Award

FAN COIL UNIT AIR CONDITIONING



SHINWOO

SHINWOO AIR CONDITIONING CO.,LTD.

In Digital age, our Technologies of Air-conditioning and Control System are Leading Position.
Shinwoo Air-conditioning Co.,LTD.
Is a leader of the HVAC Market

Shinwoo Air-conditioning Co.,LTD.

Is a leader of the HVAC Market

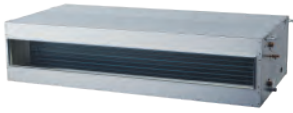
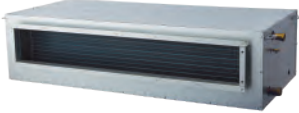
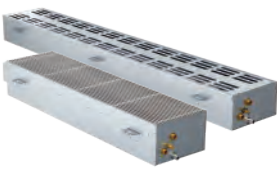
CONTENTS >>

Model Line-up	04
Company History	06
Features of Circular Cassette Type	08
Features of EPP	10
Independently-controlled Grille Panel	12
Power Line Central Control (PLC)	14
485 Communication Central Control (RS-485)	16
485 Communication Touchpad Central Control Unit	18
RF Wireless Communication	20
Circular Cassette Type	22
1-Way Ceiling Cassette, Slim Type	24
1-Way Ceiling Cassette, Slim Type, High Capacity	26
1-Way EPP Ceiling Cassette, Slim Type	28
4-Way Ceiling Cassette Type	30
4-Way EPP Ceiling Cassette Type	32
4-Way Ceiling Cassette Type, 4 Pipe	34
2-Way Ceiling Cassette Type	36
2-Way EPP Ceiling Cassette Type	38
2-Way Ceiling Cassette Type, 4 Pipe	40
1-Way Ceiling Cassette Type	42
1-Way Ceiling Cassette Type, 4 Pipe	44
Cassette Standard Type (CC)	46
Ceiling Concealed Type	48
Low-Noise, Ceiling Concealed Type	50
High-Pressure, Ceiling Concealed Type	52
High-Capacity, High-Pressure, Ceiling Concealed Type	54
Floor Concealed, Slim Type	56
Floor-Stand (Exposed/Concealed), Upper Discharge Type	58
Floor-Stand (Exposed/Concealed), Front Discharge Type	60
Floor-Stand Exposed, Slant Discharge Type (Rounded)	62
Floor-Stand Exposed, Slant Discharge Type (Inclined)	64
Floor-Stand Concealed, Front Suction Type	66
Lowboy (Exposed/Concealed Type)	68
Stand Type	70
Facility Cultivation Unit	72
Fan Coil Unit Accessories	74
Fan Coil Unit Installation Method	84
Capacity Conversion Table	96
Precautions for Fan Coil Unit Installation, Maintenance, and Use	100
Causes of Fan Coil Unit Malfunctions and Measures	101



Model Line-up

PRODUCT AND SYSTEM OVERVIEW

Ceiling Cassette Type			Concealed Type
			
Circular Cassette Type	4-Way EPP Ceiling Cassette Type	4-Way Ceiling Cassette Type, 4 Pipe	Ceiling Concealed Type
			
4-Way Ceiling Cassette Type	2-Way EPP Ceiling Cassette Type	2-Way Ceiling Cassette Type, 4 Pipe	Low-Noise, Ceiling Concealed Type
			
2-Way Ceiling Cassette Type	1-Way EPP Ceiling Cassette Type	1-Way Ceiling Cassette Type, 4 Pipe	High-Pressure, Ceiling Concealed Type
			
1-Way Ceiling Cassette Type	1-Way Ceiling Cassette Slim Type, High Capacity	Cassette Standard Type (CC)	High-Capacity, High-Pressure, Ceiling Concealed Type
			
1-Way Ceiling Cassette Slim Type			Floor Concealed, Slim Type

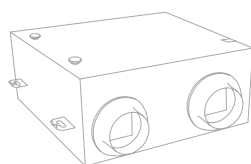
Floor-Stand Type		Stand Type	Facility Cultivation
			
Floor-Stand Exposed, Upper Discharge Type	Floor-Stand Concealed, Upper Discharge Type	Stand Type	Facility Cultivation Unit
			
Floor-Stand Exposed, Slant Discharge Type (Rounded)	Floor-Stand Concealed, Front Discharge Type		
			
Floor-Stand Exposed, Slant Discharge Type (Inclined)	Floor-Stand Concealed, Front Suction Type		
			
Floor-Stand Exposed, Front Discharge Type	Lowboy, Concealed Type		
			
Lowboy, Exposed Type			



Company History

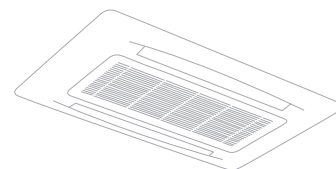
Shinwoo Air Conditioning Co., Ltd., was started as Shinwoo Industrial in 1991 and established itself as a corporate entity, Shinwoo Air Conditioning Corporation, in 1997. And today, it stands as a leading specialized manufacturer with the **largest domestic market share of fan coil units and ventilation units.**

1991-2005

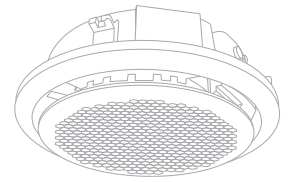


- 1991 07** Shinwoo Industrial was established
- 1993 03** Expanded the Ilsan Factory
- 1995 05** Commenced production of all basic FCU models
- 1996 09** Newly constructed and relocated Paju Plant 1
- 1997 06** Developed a new FCU product (ceiling cassette type)
- 07** Shinwoo Air Conditioning Co., Ltd., was established (CEO Park Jong-chan)
- 1998 10** Newly constructed and relocated Paju Plant 2
- 1999 12** Registered a utility model (fan coil device)
- 2001 02** Joined the Korea Refrigeration and Air Conditioning Association
- 03** Acquired ISO 9001 certification
- 06** Opened the Sales Headquarters, constructed a new factory, Paju Plant 3
- 11** Designated as a promising small- and medium-sized enterprise (Kookmin Bank)
- 2002 04** Joined the Incheon Gyeonggi Machinery Industry Cooperative
- 07** Developed a new product (4-way ceiling cassette)
- 09** Registered a utility registration (wireless remote control FCU)
- 2003 05** Participated in HARFKO 2003
- 2004 04** Commenced ventilation unit development
- 06** Acquired ISO 14001 certification
- 10** Commenced mass production of ventilation units
- 2005 04** Launched nationwide sales outlets
- 05** Participated in HARFKO 2005

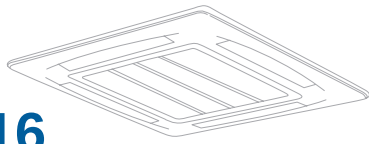
2006-2011



- 2006 07** Acquired a patent for the ventilation unit
- 10** Participated in the ICAT exhibition for solving sick house syndrome
- 2007 01** Acquired high-efficiency certification for the ventilation unit (all models)
- 02** Developed new products (1-way/2-way ceiling cassette type)
- 03** Participated in HARFKO 2007
- 06** Applied for a patent for "Ventilation cap and ventilation device using the same" (Application number: 10-2007-0053840)
- 2008 01** Acquired high-efficiency certification for the ventilation unit (all models)
- 08** Introduced ERP
- 09** Registered a patent for a ceiling concealed type air conditioner (Application Number: 0860078)
- 12** Acquired machinery and equipment licenses
- 2009 02** Acquired CE certification / Opened an affiliated research center (Korea Industrial Technology Association)
- 03** Developed the one-way ceiling cassette slim type Inno-biz certification
- Participated in HARFKO 2009
- Awarded the Minister of Knowledge Economy Prize
- 10** Awarded the Presidential Award (Excellent Development Capital Goods)
- 2010 06** Developed a 1-way slim type indoor air conditioner unit
- 11** Acquired clean business certification
- 12** Acquired venture business certification
- 2011 01** Developed portable air conditioner products
- 03** Participated in HARFKO 2011
- 04** Acquired KS certification
- Developed dehumidifier products
- 05** Developed an inclined type fan coil unit
- 08** Acquired KS certification the for fan coil unit



2017-Present



2012-2016

- 2012** 04 Developed an electric heater
Developed industrial air conditioners
Developed vinyl house units
05 Acquired a patent for the fan coil unit/ventilation unit UV + photocatalyst
- 2013** 03 Participated in HARFKO 2013
Developed electric boilers
08 Acquired a patent for the B-CDMA central control system
09 Developed a floor concealed slim type
10 Developed a 4-way ceiling cassette type using EPP
11 Developed a constant temperature and humidity controller
- 2014** 03 Developed a 2-way ceiling cassette type using EPP
04 Developed a high-capacity electric boiler
06 Developed a floor-stand concealed slim type
Awarded the Korea Excellent Patent Grand Prize
08 Developed a 4 Pipe ceiling cassette type (1/2/4-way)
10 Selected as a hit product by Kyungin Ilbo
11 Developed a ceiling cassette type grille with an inspection duct (Patent-10-1472719 Design-30-0777206)
12 Developed a 4-way/1-way slim type GHP indoor unit
- 2015** 03 Participated in HARFKO 2015
08 Participated in a refrigeration and air conditioning exhibition in Bangkok, Thailand
09 Acquired a patent for the fan coil unit with an elevating grille (Patent-10-1550182)
11 Developed a 2-way GHP indoor unit
- 2016** 03 Established a local subsidiary in Thailand
Opened the dedicated store for LG System Air Conditioner (System Gangseo Team)
05 Awarded the Presidential Industrial Award
10 Acquired certification as a promising small- and medium-sized business in Gyeonggi-do

- 2017** 01 Developed a low-noise ceiling concealed type
03 Participated in HARFKO 2017
06 Awarded procurement excellence certification
Developed an independently-controlled grille panel
11 Developed a ductless ventilation unit
12 Developed an LED photocatalyst for FCUs
- 2018** 07 Applied for a patent for atmospheric power saving controller (FCU/ERV)
08 Applied for a patent for an FCU with an air distribution grille
Developed a new wireless remote control
09 Developed a new design for 1-way slim type
Launched the System Air Conditioner Distribution Division
11 Developed a circular cassette type design
Awarded the Million Dollar Export Award
12 Developed an integrated wired remote control
- 2019** 01 Applied for a patent for a FCU with an atmospheric power control device
04 Developed a 1-way EPP slim type fan coil unit
06 Developed a design for a complex air purifier and ventilation device
- 2020** 04 CEO Park Jong-chan was appointed as the chairman of Paju CCI
07 Developed air purifiers
08 Developed a ceiling exposed type design
09 Developed circular cassette type products
- 2021** 02 Signed a new contract with the Multiple Award Schedule (MAS) of the Public Procurement Service for ventilation units
03 Acquired KC certification (electrical safety, electromagnetic waves) for all FCU models
07 Celebrated the 30th anniversary of Shinwoo Air Conditioning Co., Ltd.
Applied for a patent for a FCU with an air sterilization function
10 Participated in the 2021 Smart Manufacturing and Machinery Exhibition
- 2022** 04 Participated in the 2022 Korea Public Procurement Service Expo
06 Acquired ISO45001 (Occupational Health and Safety Management System) certification
10 Participated in the HARFKO 2022 exhibition
12 Acquired performance certification for FCUs (FCUs with indoor air sterilization & purification and standby power control technology)
- 2023** 06 Acquired ISO 45001 certification
09 Filed for design registration of ductless ventilation system
- 2024** 06 Developed new ductless ventilation unit
08 Developed new floor-stand slim type

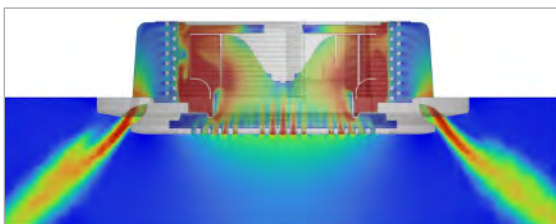
Features of Circular Cassette Type

Cooling and heating design that ensures even distribution of air flow with constant spacing between the fan and coil

Circular Grille Type

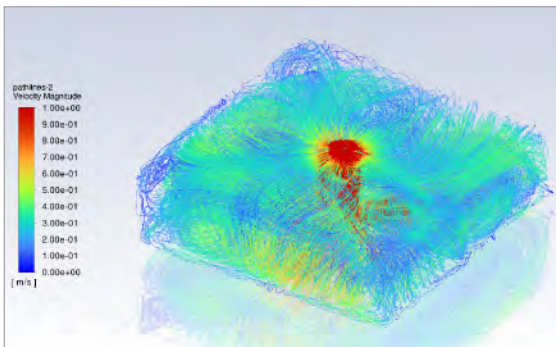


Square Grille Type



Internal Airflow Analysis

- **Velocity Distribution Specified:** 0-10 m/s
- **Result:** Fluids drawn in by the circular cassette are forcibly driven by the rotating fan, resulting in high flow rates due to the forced convection device. The fluid exiting the fan undergoes deceleration due to the large surface area before being discharged, causing an increase in flow rate.



Indoor Air Flow Analysis

- **Initial Settings:** 0-2 m from the ground → 20°C, 2-3 m → 40°C
- **Results:** As the air conditioner operates, the internal flows are mixed, resulting in a uniform temperature distribution overall. Over time, it can be observed that the internal temperature gradually decreases. The results above show the velocity distribution in the indoor space over time. High velocity is formed from the fan to the floor, and then the velocity continues to circulate from the floor, spreading throughout the indoor space.



>> Features of Circular Cassette Type

01

Both the circular grille (exposed installation) and the square grille (concealed installation) are available, depending on the installation location



02

Interior panel that harmonizes with non-linear interior designs

→ A circular design that blends harmoniously with any space



03

The airflow direction is 360°, with the air flow is evenly distributed without blind spots, ensuring smooth cooling and heating.

→ Consistent spacing between the fan and coil



04

With the application of a new separate and dedicated fan, quieter and more powerful airflow is secured. It offers three levels of strength (high, medium, low) and a turbo function for rapid cooling and heating.

→ Simple and intuitive control



05

With the use of a patented sterilization device, it has excellent effects in sterilization, antibacterial action, odor removal, and addressing sick building syndrome, without deteriorating heating and cooling performance. **Option**

→ 4-season air purification



06

With the application of a DC drain pump, low noise, low vibration, and a high head (1.2M) are achieved. When a proportional control valve is applied, the return power of the heat source supply pump can be reduced by controlling the flow rate according to the set temperature.



Features of EPP

What is EPP (Expanded Poly-Propylene)?

EPP is a material created by physically expanding pure polypropylene (PP) without the use of chemical blowing agents. It forms spherical particles through physical expansion without inducing chemical changes internally.

>> Features of EPP Ceiling Cassette Type

01

High mechanical **strength, elasticity, flexibility** and **lightweight**

02

Excellent **insulation performance** to minimize external condensation

03

Wide operating temperature range from -40°C to 130°C, with excellent **cold and heat resistance**

04

Coloring and special additives (EMI shielding, UV stabilizer) **can be added**

05

Products **meeting UL fire retardant standards** (self-extinguishing)

06

With **resistance to chemicals, oils, water, and weather**, it inhibits oxidation and prevents corrosion, making it **suitable for use in high humidity Environments.**

07

The lightweight product design reduces labor costs during installation and shortens construction time, resulting in **cost savings.**

08

Environmentally friendly material that is 100% recyclable





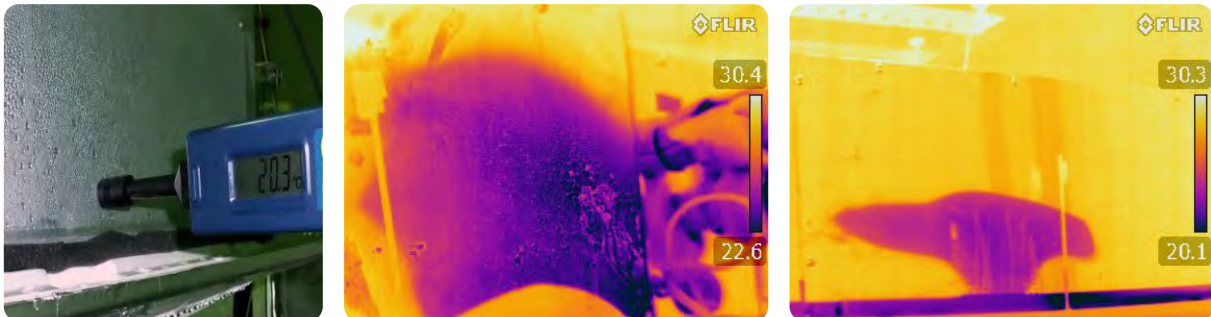
>> Comparison of External Condensation Tests between EPP Ceiling Cassette Type and Steel Ceiling Cassette Type

■ Condensation Test Conditions

Conditions	Item	Temperature and Humidity
Inlet and Ambient Temperature	Dry Bulb Temperature (°C)	27 ± 1
	Wet Bulb Temperature (°C)	24 ± 0.5
Water Supply Condition	Inlet Water Temperature (°C)	5 ± 0.5
	Outlet Water Temperature (°C)	Below 9°C
Position of the Air Volume Control	Weak	

KS B 6377: 2009 Table 7 and Annex C

■ 4-Way Ceiling Cassette Type Standard Steel Case (SFC-10K)



■ 4-Way EPP Ceiling Cassette Type (SFC-E10K)



Independently-controlled Grille Panel

Allows adjustment of individual airflow angles in different directions

Patent Number: 10-138187

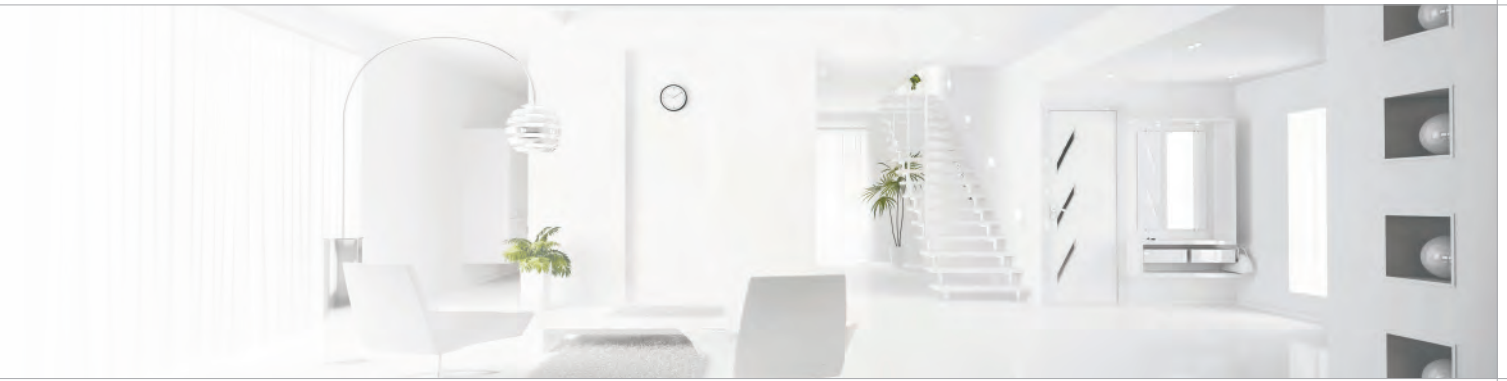
* Please refer to the separate pamphlet for details on the Procurement Excellence Product

With our extensive experience and advanced technology in the field, we are continuously developing technologies that prioritize high efficiency, eco-friendliness, and energy savings to align with customer convenience and national energy operation policies.

We launched a product using a new material called EPP, which takes the environment and economic efficiency into consideration, and succeeded in obtaining the designation of excellent procurement product.

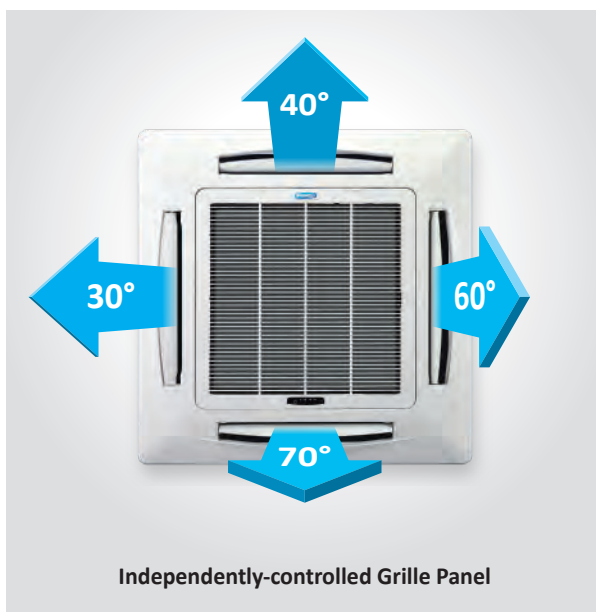
Shinwoo Air Conditioning Co., Ltd., will continue to work hand in hand with its customers, leading the air conditioning industry in South Korea and evolving into a future-oriented company that prioritizes customer satisfaction above all else.





>> Angle Adjustments

• Angle Adjustment Range: 30° - 70°



>> Automatic adjustment of airflow according to the quantity of the blades used

• Airflow control: Turbo, Strong, Medium, Weak, Automatic



Power Line **Central Control**

Power Line Communication

Features of power line communication optimized for high-speed communication and bulk control

>> Features of centralized control using power line communication

01 Using the power line for the FCU control communication cable

- ① When group-controlling fan coil units by room or individually controlling each unit from a central control device, communication line work must usually be done for each product. However, there is no need for separate communication line work as this product is already supplied with power, and the control system carries signals over the power line without the need for additional communication line work.
- ② In installations with multiple products like an RS-485 communication system, there is no need to check for misconnection of communication lines, poor contact of lines, disconnection of wiring, etc., and the installation and commissioning time is shortened.

02 Minimization of Noise Impact

- ① Utilizes cutting-edge technology to minimize the impact of noise caused by electricity and radio waves.
- ② Noise effects are minimized, allowing smooth communication at high speeds.

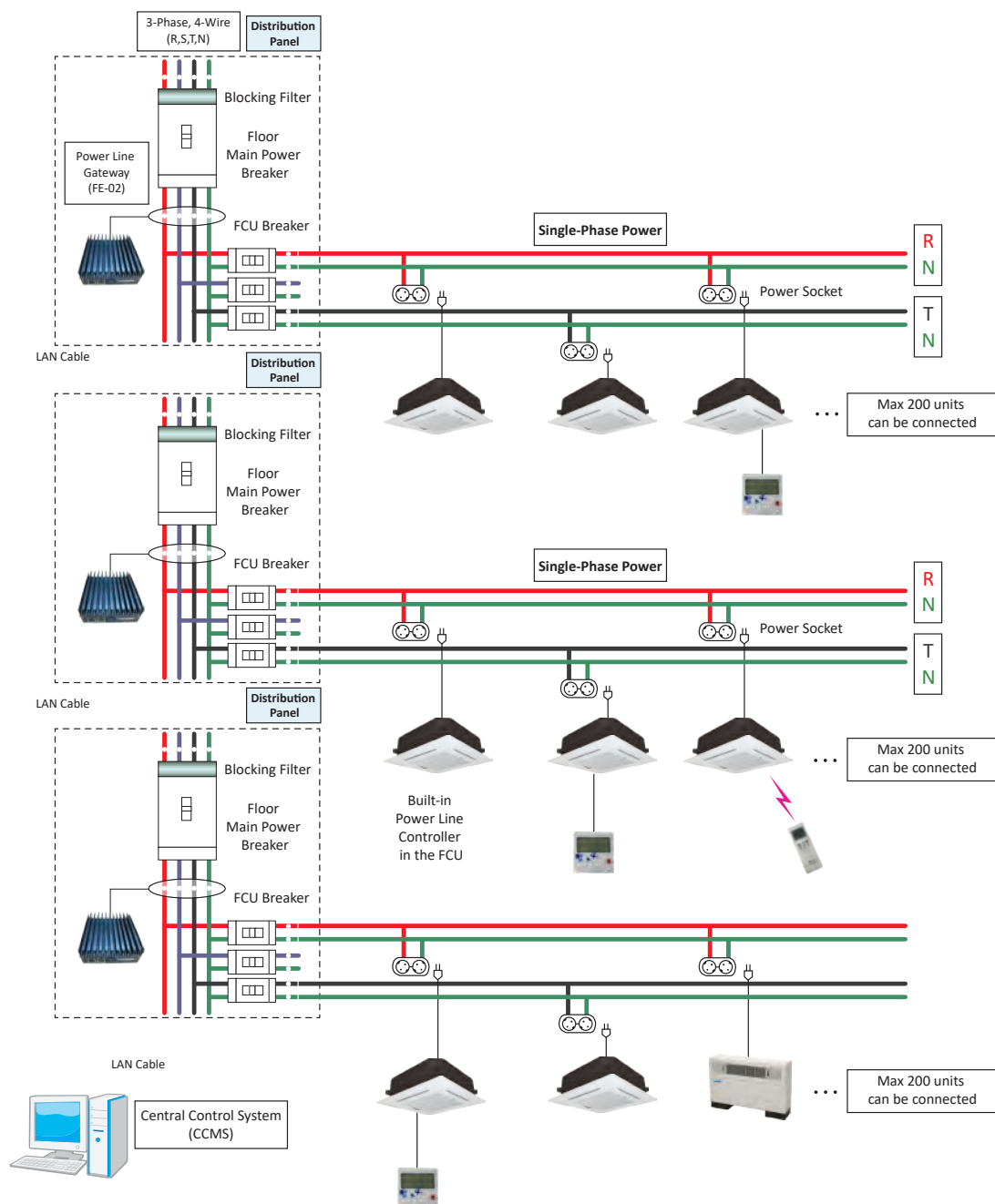
03 Centralized control available in large-scale environments

- ① Even in environments with over 25,000 fan coil units installed, centralized control can be performed smoothly and swiftly.
- ② Additional expansion and changes in office layouts can be easily accomplished by adding power line communication modules and changing addresses.

04 Energy-saving benefits

- ① Allows for individual control of products based on government-recommended temperature settings
- ② Utilizes features such as scheduled operation and centralized control of room occupancy from the central control room

>> Power Line Communication Concept Diagram



485 Communication Central Control (RS-485)

This is a communication method that uses a 2-wire, half-duplex, multi-point serial connection. It is a communication method where the main control unit sends and receives commands to and from each device by varying the transmission and reception times. In this method, all devices are connected in series for communication.
(Master/Slave Method)

>> Features of 485 Communication

01

Allows for multi-drop communication, enabling up to 32 transmit/receive units.

02

Capable of transmitting up to 1.2 km at 100 kbps

03

The optimal choice for serial communication in environments with distributed equipment across multiple networks, dealing with noise and using numerous devices

04

The 2-wire system allows for construction at a lower cost than other wired systems.

05

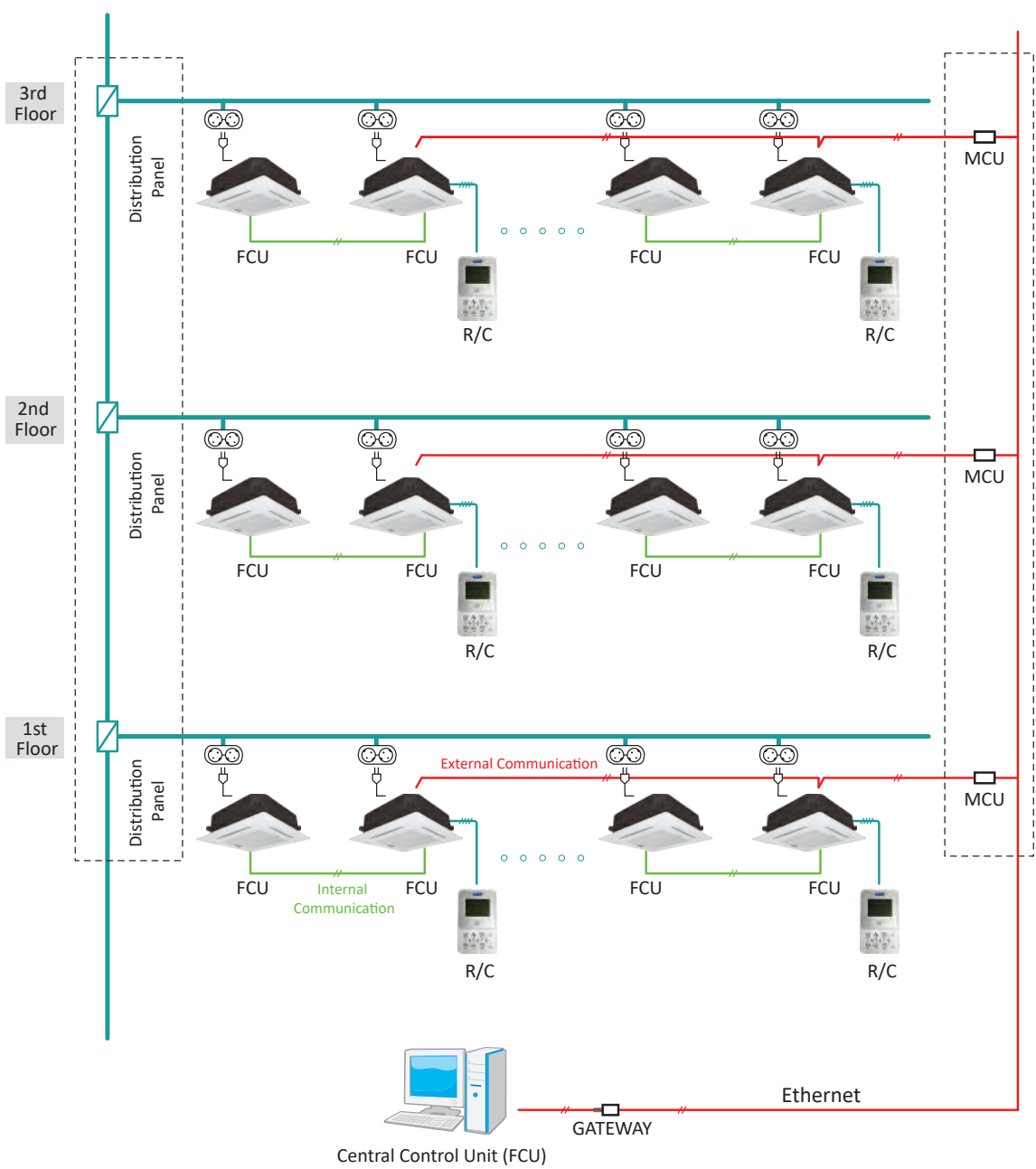
When connecting more than 32 products, a separate MCU is required, and the MCU also has 32 communication points.

Comparison of Communication Methods

Item	RS-485	PLC (Power Line Communication)
Communication Method	Dedicated communication cable	Power lines used for communication High-speed power line Ethernet communication
Signal Reach	1.2 km per device Communication speed decreases depending on distance	300 m per device Decreases due to the reduced power signal
Communication Line Construction	Requires dedicated cable line construction	No line construction required due to use of power lines
Communication Speed	9600-38,400 bps	Physical speed 200 Mbps Typically 40-80 Mbps
Control Quantity	Limited control Up to 32 devices per master For more than 32 devices, MCU is needed Up to 32 devices per MCU	Up to 25,600 devices for a single network
Signal Converter	RS-232 – RS-485 conversion	No separate converter required
Installation Equipment	Communication PCB by product MCU installation by zones (24-32 units) RS-485 or Ethernet communication between MCUs	Communication PCB by product 3-phase power line communication modem 3-phase/single-phase power line coupler Blocking filter Signal amplifier (installed depending on field conditions)
Individual Operating Status	Potential issues when controlling large quantities depending on the communication speed due to FCU quantity and distance	PC control available Use of high-speed Ethernet communication Individual control and monitoring available
Wired Remote Control	Up to 16 device connections Master (1 EA) + Slave (15 EA)	Up to 32 device connections Master (1 EA) + Slave (15 EA)
Wired Remote Control Connection	4-wire power and communication line	2-wire power supply using communication line
Structural Change	Line work required when changing the office structure Adjust the FCU ID for each product by adjusting the ADD switch on the PCB installed on the product	When changing the office layout, it only requires setting the IP by group or product
Features	New construction buildings: Piping work taking into account communication line work is required Existing buildings: Many obstacles exist when installing communication lines.	No separate communication line work required Network equipment related to communication must be installed on the FCU power line



>> RS-485 Communication Concept Diagram



485 Communication Touchpad Central Control Unit

Optimal choice for small-scale central control

>> Standard Touchpad



Features of the Standard Touchpad

- 7" touchpad
- Control up to a maximum of 32 units (ZONES)
- MODBUS Protocol
- Individual operational state monitoring and control

>> Integrated Modbus

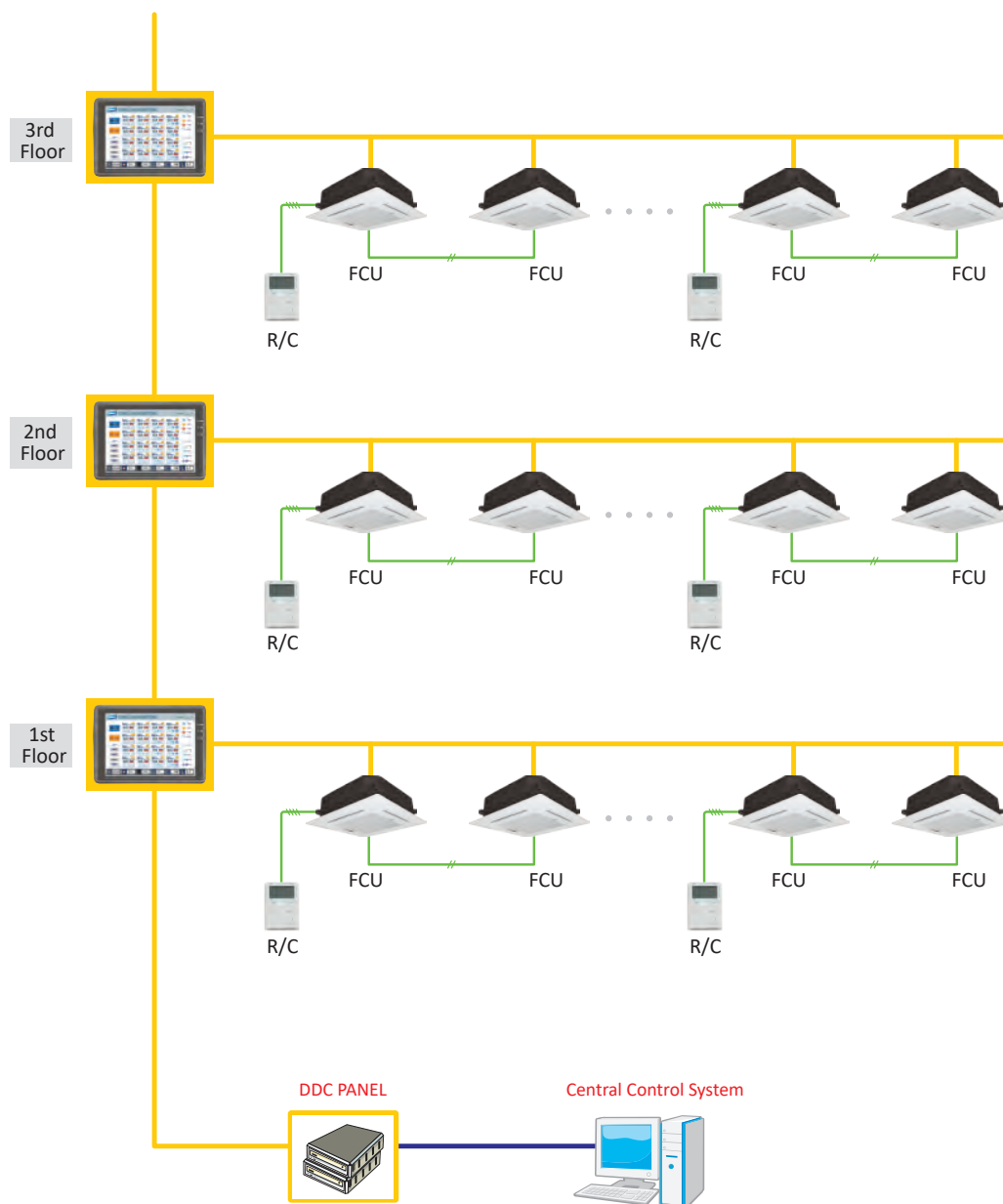


Features of the Integrated Modbus

- 7" touchpad
- Control up to a maximum of 128 units (ZONES)
- MODBUS Protocol
- Individual operational state monitoring and control



>> RS-485 Communication Concept Diagram



RF Wireless Communication

Radio Frequency Communication

Wireless communication using ISM bands that do not require communication lines

>> Features of RF wireless communication

01 No communication line required for FCU control

- ① When controlling fan coil units (FCU) individually or as a group, wired RS485 communication requires the connection of communication lines to the products. However, RF wireless communication does not require the connection of communication lines.
- ② No wiring work is needed, reducing the need for checking communication line issues such as wiring error, disconnection, or poor contact, which shortens commissioning time.

02 Long-distance wireless communication with minimal communication interference

- ① The use of low-frequency ISM bands allows for communication distances of up to 2 km (in open areas), with minimal impact from building structures. This enables communication over significant distances even within buildings, allowing for the control of remote FCUs.
- ② Internal communication operates in the 447 MHz band, while central control communication operates in the 424 MHz band. Each band uses 11 channels, minimizing mutual interference.
- ③ Unique algorithms are applied to minimize interference on the same frequency in close proximity, ensuring that controlling multiple FCUs within a short range does not lead to interference.

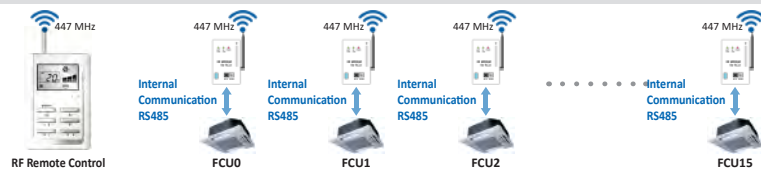
03 Compatibility with existing FCUs

- ① The RF modem can be used by connecting to the internal or external communication terminal of the existing FCU. The ID is read and used from the FCU, and there is no need to set the ID again.
- ② The RF modem can be used by connecting to the RS485 communication terminal of the existing gateway.
- ③ The RF remote control is capable of two-way communication and has all the functions of a conventional wired remote control. It can be powered permanently using the power terminal, eliminating the limitations and inconveniences associated with battery usage (such as limited usage time and frequent battery replacement).

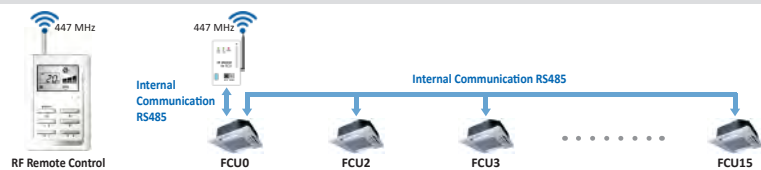
>> RF wireless communication system configuration

Internal Communication

Communicate with the FCU's RF modem using the RF remote control (wireless)

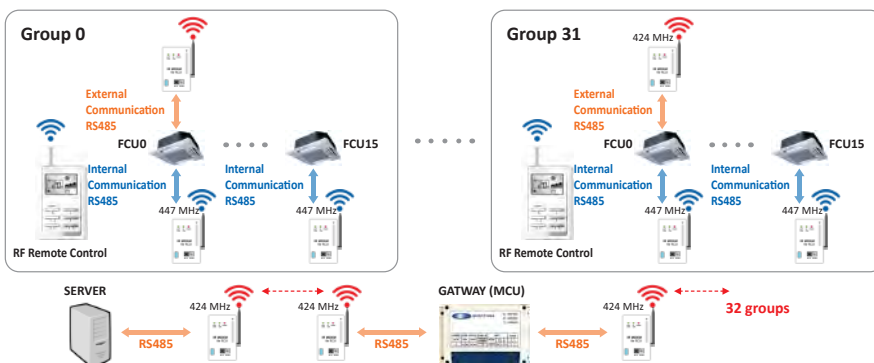


Wireless communication between the RF remote control and master FCU's RF modem, while RS485 wired communication with the slave FCU (wireless + wired)

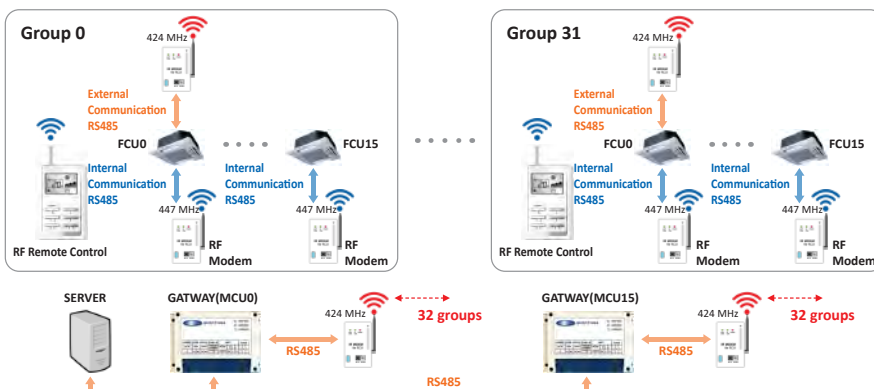


External Communication

RF GATEWAY (Wireless connection for the entire system)



RF GATEWAY (Combined wired and wireless connection)



Circular Cassette Type

Creates an optimal indoor environment with even, 360° airflow.



With the application of a dedicated fan, quieter and more powerful airflow is secured.

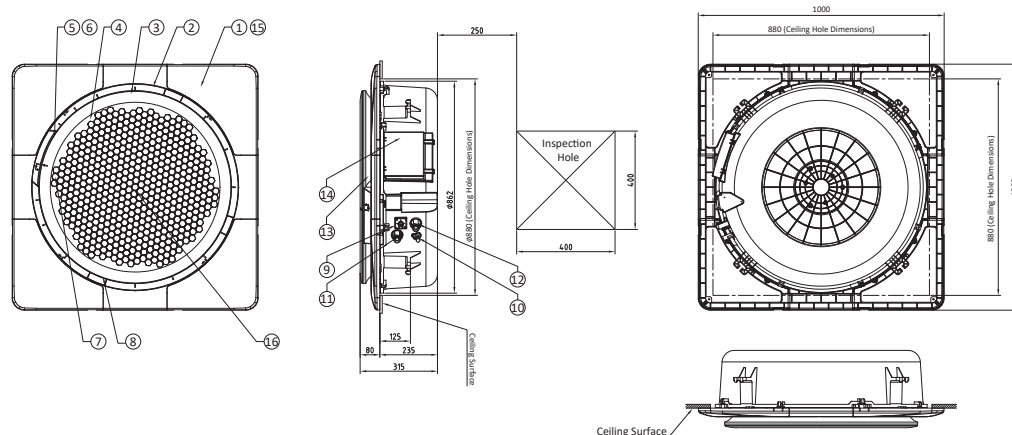


- ▶ An automatic drain pump is built-in.
- ▶ A drain check valve is installed as standard to prevent backflow of condensate.
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency.
- ▶ A wireless remote controller is included as a standard feature, offering three fan speed settings (strong, medium, weak) and Turbo mode for rapid cooling and heating.

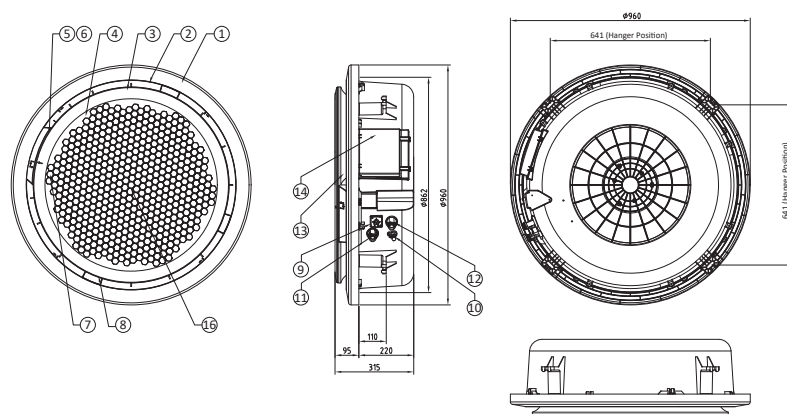


- ▶ Depending on the installation location, circular grilles (exposed) and square grilles (concealed) are available
- ▶ For energy savings, installation of On/Off valves for each unit is recommended. **Option**
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Registered with Korean Patent No. 10-1147406.

Circular Cassette Type (Squared Grille)



Circular Cassette Type (Rounded Grille)



Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	INTERIOR GRILLE ASS'Y	ABS	1	
2	DRAIN PAN	ABS	1	SLIDING TYPE
3	FLAP		4	
4	RETURN GRILLE	ABS	1	
5	DRAIN PUMP	ASS'Y	1	
6	FLOAT S/W	ASS'Y	1	DC 12 V
7	REMOTE CONTROL RECEIVER		1	
8	STEPPING MOTOR	ASS'Y	4	
9	DRAIN PIPE PORT		1	ø16 (Outer Diameter)
10	AIR VENT	ASS'Y	1	PT1/4" (Manual)
11	WATER INLET	BS	1	PF 3/4" (20 A)
12	WATER OUTLET	BS	1	PF 3/4" (20 A)
13	INNER GUIDE	EPS	1	
14	CONTROL BOX	ABS	1	
15	ACCESS DOOR	ABS	4	
16	FAN & MOTOR	ASS'Y	1	

Standard Specifications

Category	Specifications		SFC-R3K		SFC-R4K		SFC-R5K		SFC-R6K		SFC-R8K		SFC-R10K	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	A	B
	Cooling Capacity	W	5,210	3,900	6,100	4,590	8,390	6,390	10,090	7,610	13,180	9,890	15,660	11,630
		Kcal/h	4,480	3,360	5,240	3,950	7,210	5,500	8,680	6,550	11,330	8,510	13,460	10,000
	Heating Capacity	W	9,860	5,950	11,530	6,980	15,560	9,530	18,460	11,220	23,840	14,470	28,780	17,270
		Kcal/h	8,480	5,120	9,910	6,000	13,380	8,200	15,880	9,650	20,500	12,440	24,750	14,850
	Flow Rate	ℓ/min	15.0	11.2	17.5	13.2	24.1	18.4	28.9	21.8	37.8	27.8	44.9	33.3
	Head Loss	mAq	3.6	2.0	4.9	2.8	2.4	1.4	3.4	2.0	5.7	3.1	8.1	4.5
Fan Blower	Type		Single Suction TURBO Type											
	SIZE	mm	ø480											
	Airflow Volume	m ³ /min	13		16		19		22		28		33	
	Drive Type		Direct Drive Motor											
	Quantity	EA	1											
Motor	Type		BLDC: Enclosed Type (8 poles, Class E insulation)											
	Quantity	EA	1											
Power Consumption		W	24		40		56		95		110		195	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)											
	Inlet	A	PF 3/4" (20 A)											
Pipe	Outlet	A	PF 3/4" (20 A)											
	Drain		ø16 (Outer Diameter) / Built-in Drain Pump (10 W) / Head 600 mm (from Outlet)											
External Material			Main Body and Grille Panel: Injection Molded (ABS, Composite PP Material)											
Insulation Material			P.U Foam, P.E Foam, Styro Foam / Flame Retardant											
Air Volume Control			Turbo, Strong, Medium, Weak, Automatic Wireless Remote Controller (Wired remote controller is optional)											
Power Supply			Single Phase 220 V 60 HZ											
AIR FILTER			Vinyl Chloride (Submersible Type)											
Discharge Swing Motor			DC 12V STEPPING MOTOR											
Dimensions	Main Body	DxWxH (mm)	880 x 240											
	Panel		ø960 x 240 (Rounded) / 1000 x 1000 x 74 (Squared)											
Product Weight		Kg	16.9 / 18.0				19.7 / 20.8				22.4 / 23.5			

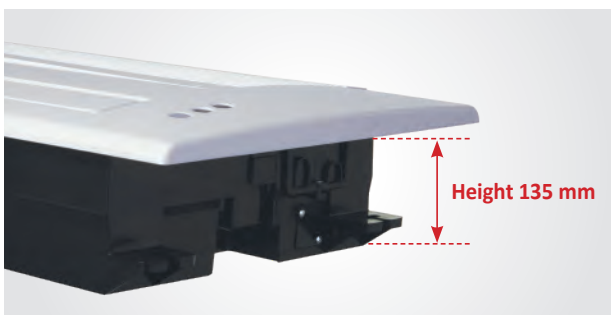
(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

1-Way Ceiling Cassette, Slim Type

Ultra-slim product suitable for officetels and apartments,
the first of its kind developed in Korea



Suitable for installation in locations with low ceiling height,
such as apartments and officetels (height 135mm).

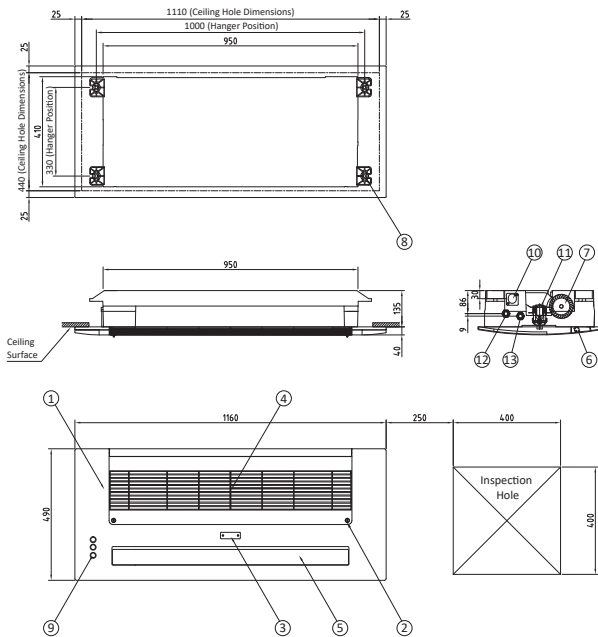


- ▶ A wireless remote controller is included as a standard feature, offering three fan speed settings (strong, medium, weak) and Turbo mode for rapid cooling and heating.
- ▶ An automatic drain pump is built-in (600 mm of drainage capability).
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.



- ▶ The swing blades can be adjusted to control the direction of airflow. The product also features aerodynamic blades designed to prevent direct contact between the discharged air and the ceiling, helping to prevent ceiling contamination. (Patent Acquired)
- ▶ Valve installation is highly recommended due to the product's characteristics.
- ▶ A drain check valve is installed as standard to prevent the backflow of condensate.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration Number No. 10-1147406.
- ▶ An interior grille with inspection openings can be installed. **Option**
 - Korean Patent Registration Number (Utility Model) No. 10-11472719

1-Way Ceiling Cassette, Slim Type

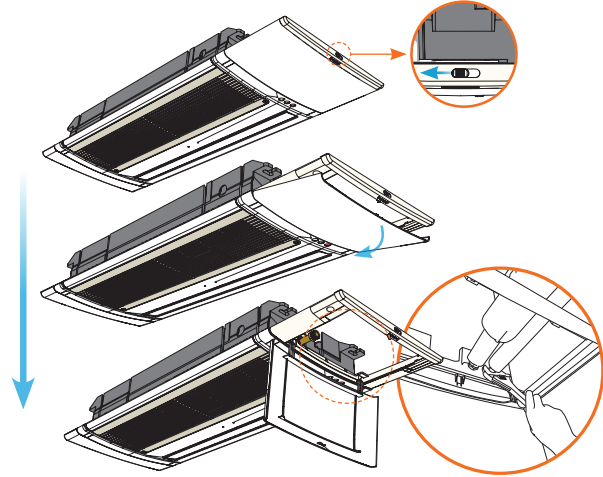


Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	INTERIOR GRILLE ASS'Y	ABS/HIPS	1	
2	GRILLE REMOVAL BUTTON	ABS/HIPS	2	SLIDING TYPE
3	NAME PLATE		1	
4	RETURN GRILLE	ABS/HIPS	1	
5	FLAP	ABS/HIPS	4	
6	STEPPING MOTOR	ASS'Y	1	DC 12 V
7	MOTOR		1	BLDC
8	HANGING BRACKET	ABS	4	
9	REMOTE CONTROL RECEIVER	ACRYLIC	1	
10	DRAIN PIPE PORT		1	Ø16 (Outer Diameter)
11	DRAIN PUMP	ASS'Y	1	1Ø, 220 V, 60 Hz
12	WATER OUTLET	BS	1	PF 3/4" (20 A)
13	WATER INLET	BS	1	PF 3/4" (20 A)

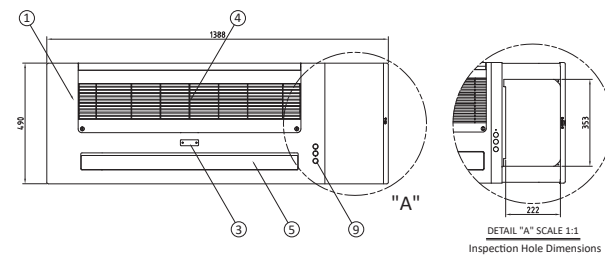
1-Way Slim Type Grille Panel with Inspection Hole

Korean Patent Registration Number (Utility Model) No. 10-11472719
Korean Patent Registration Number (Design) No. 30-0777206

- ▶ With the integration of the grille panel and inspection hole, there is no need to install a separate inspection hole on the ceiling.
- ▶ Installation of inspection holes can be omitted, reducing construction costs.
- ▶ With no inspection openings on the ceiling surface, a seamless and integrated interior design is achievable.
- ▶ Allows for convenient inspection of piping and valves.



1-Way Ceiling Cassette, Slim Type (Inspection Hole Type)



Standard Specifications

Category			Specifications		SFC-S2.5K		SFC-S3K		SFC-S3.5K	
Capacity	Capacity Conditions		A	B	A	B	A	B		
	Cooling Capacity	W	4,110	3,130	4,690	3,550	5,500	4,130		
		kcal/h	3,530	2,690	4,030	3,060	4,730	3,560		
	Heating Capacity	W	7,370	4,550	9,090	5,580	11,200	6,800		
		kcal/h	6,340	3,910	7,820	4,800	9,630	5,850		
	Flow Rate	ℓ/min	11.8	9.0	13.5	10.2	15.8	11.9		
Fan Blower	Head Loss	mAq	2.6	1.51	3.4	1.94	4.66	2.64		
	Type		Centrifugal Multi-Flow (Cross Flow Fan)							
	Airflow Volume	m³/min	7		9		12.5			
Motor	Type		BLDC							
	Quantity	EA	1							
Power Consumption		W	28		30.8		68			
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)							
Pipe	Inlet	mm	20 A							
	Outlet	mm	20A							
	Drain	mm	16A							
Power Supply		Single Phase 220 V 60 Hz								
Communication Line		Shield cable AWG24 x 4C								
AIR FILTER		Vinyl Chloride Filter								
Exterior	Main Body	D x W x H (mm)	410 x 950 x 135							
Dimensions	Panel		490 x 1160 x 30							
Product Weight		kg	12							

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

1-Way Ceiling Cassette, Slim Type, High Capacity

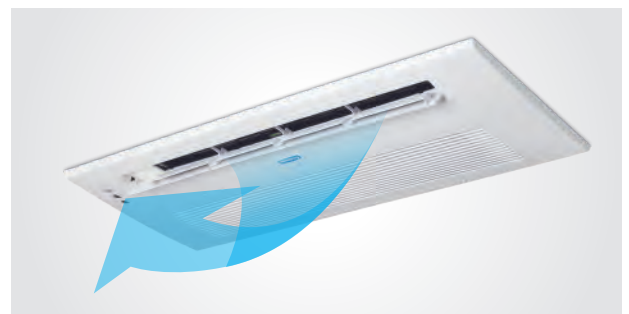
Ultra-slim product suitable for officetels and apartments,
the first of its kind developed in Korea



Suitable for installation in locations with low ceiling height,
such as apartments and officetels (height 170 mm).

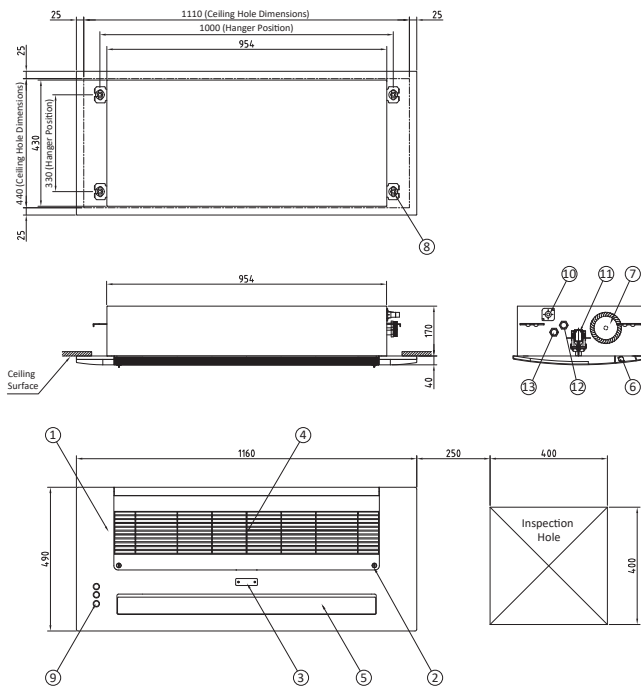


- ▶ A wireless remote controller is included as a standard feature, offering three fan speed settings (strong, medium, weak) and Turbo mode for rapid cooling and heating.
- ▶ An automatic drain pump is built-in (600 mm of drainage capability).
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.



- ▶ The swing blades can be adjusted to control the direction of airflow. The product also features aerodynamic blades designed to prevent direct contact between the discharged air and the ceiling, helping to prevent ceiling contamination. (Patent Acquired)
- ▶ Valve installation is highly recommended due to the product's characteristics.
- ▶ A drain check valve is installed as standard to prevent the backflow of condensate.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Registered with Korean Patent No. 10-1147406.
- ▶ An interior grille with inspection openings can be installed. **Option**
 - Registered with Korean Patent (Utility Model) No. 10-11472719

1-Way Ceiling Cassette, Slim Type, High Capacity

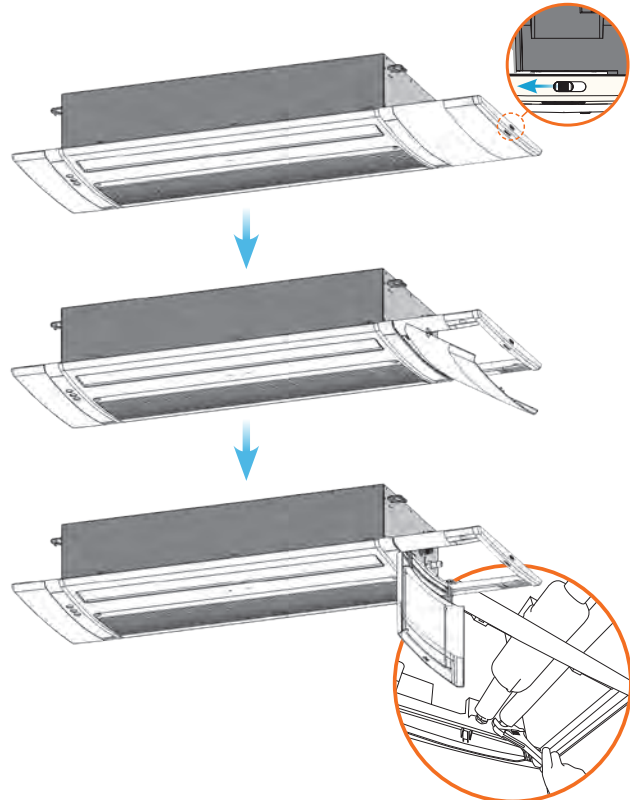


Part No	DESCRIPTION	MAT'L	QTY	REMARK
1	INTERIOR GRILLE ASS'Y	ABS/HIPS	1	
2	GRILLE REMOVAL BUTTON	ABS/HIPS	2	SLIDING TYPE
3	NAME PLATE		1	
4	RETURN GRILLE	ABS/HIPS	1	
5	FLAP	ABS/HIPS	4	
6	STEPPING MOTOR	ASS'Y	1	DC 12 V
7	MOTOR		1	BLDC
8	HANGING BRACKET	ABS	4	
9	REMOTE CONTROL RECEIVER	ACRYLIC	1	
10	DRAIN PIPE PORT		1	Ø16 (Outer Diameter)
11	DRAIN PUMP	ASS'Y	1	1Ø, 220 V, 60 Hz
12	WATER OUTLET	BS	1	PF 3/4" (20 A)
13	WATER INLET	BS	1	PF 3/4" (20 A)

1-Way Slim Type Grille Panel with Inspection Hole

Korean Patent Registration Number (Utility Model) No. 10-11472719
Korean Patent Registration Number (Design) No. 30-0777206

- ▶ With the integration of the grille panel and inspection hole, there is no need to install a separate inspection hole on the ceiling.
- ▶ Installation of inspection holes can be omitted, reducing construction costs.
- ▶ With no inspection openings on the ceiling surface, a seamless and integrated interior design is achievable.
- ▶ Allows for convenient inspection of piping and valves.



Standard Specifications

Category			Specifications		SFC-S4KH		SFC-S4.5KH	
Capacity	Capacity Conditions		A	B	A	B		
	Cooling Capacity	W	6,130	4,650	6,920	5,230		
		kcal/h	5,270	4,000	5,950	4,500		
	Heating Capacity	W	13,270	8,140	14,300	8,740		
		kcal/h	11,410	7,000	12,300	7,520		
	Flow Rate	ℓ/min	17.5	13.5	19.8	15.0		
Fan Blower	Head Loss	mAq	3.1	1.8	3.9	2.3		
	Type		CROSS FLOW FAN					
	Airflow Volume	m³/min	13.5		15			
Motor	Type		BLDC					
	Quantity	EA	1					
Power Consumption		W	67		83			
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)					
Pipe	Inlet	mm	20A					
	Outlet	mm	20A					
	Drain	mm	16A					
Power Supply			Single Phase 220 V 60 HZ					
Communication Line			Shield cable AWG24 x 4C					
AIR FILTER			Vinyl Chloride (Submersible Type)					
Exterior	Main Body	D x W x H (mm)	430x950x170					
Dimensions	Panel		490x1,160x40					
Product Weight			kg 22					

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

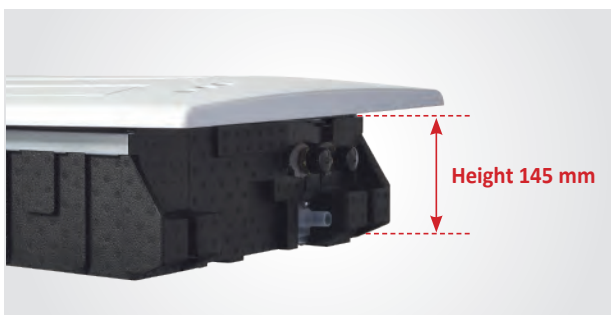
Facility Cultivation Type

1-Way EPP Ceiling Cassette, Slim Type

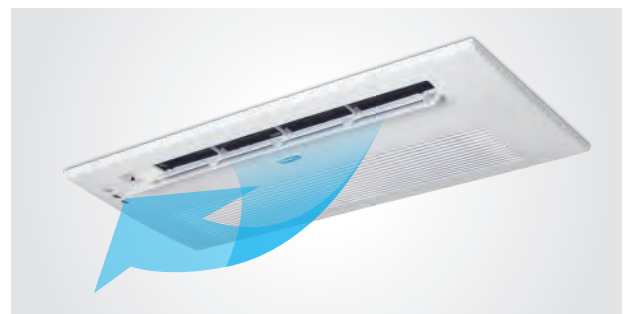
Ultra-slim product suitable for officetels and apartments, the first of its kind developed in Korea



Suitable for installation in locations with low ceiling height, such as apartments and officetels (height 145mm).

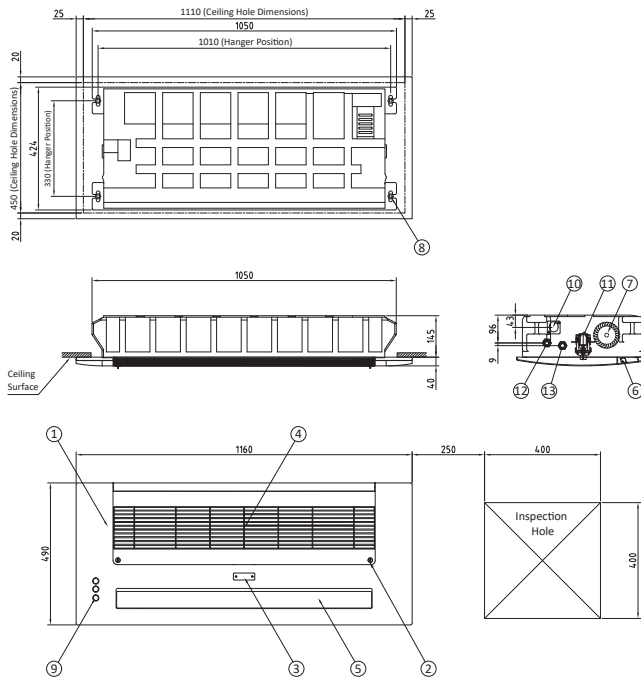


- ▶ A wireless remote controller is included as a standard feature, offering three fan speed settings (strong, medium, weak) and Turbo mode for rapid cooling and heating.
- ▶ An automatic drain pump is built-in (600 mm of drainage capability).
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.



- ▶ The swing blades can be adjusted to control the direction of airflow. The product also features aerodynamic blades designed to prevent direct contact between the discharged air and the ceiling, helping to prevent ceiling contamination. (Patent Acquired)
- ▶ Valve installation is highly recommended due to the product's characteristics.
- ▶ A drain check valve is installed as standard to prevent the backflow of condensate.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Registered with Korean Patent No. 10-1147406.
- ▶ An interior grille with inspection openings can be installed. **Option**
 - Registered with Korean Patent (Utility Model) No. 10-11472719

1-Way EPP Ceiling Cassette, Slim Type

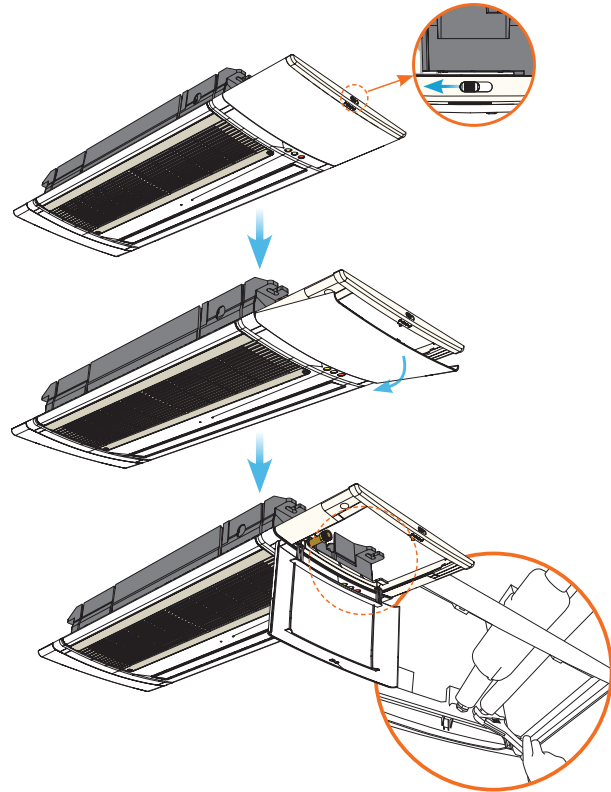


Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	INTERIOR GRILLE ASS'Y	ABS/HIPS	1	
2	GRILLE REMOVAL BUTTON	ABS/HIPS	2	SLIDING TYPE
3	NAME PLATE		1	
4	RETURN GRILLE	ABS/HIPS	1	
5	FLAP	ABS/HIPS	4	
6	STEPPING MOTOR	ASS'Y	1	DC 12 V
7	MOTOR		1	BLDC
8	HANGING BRACKET	EPP	4	
9	REMOTE CONTROL RECEIVER	ACRYLIC	1	
10	DRAIN PIPE PORT		1	Ø16 (Outer Diameter)
11	DRAIN PUMP	ASS'Y	1	1Ø, 220 V, 60 Hz
12	WATER OUTLET	BS	1	PF 3/4" (20 A)
13	WATER INLET	BS	1	PF 3/4" (20 A)

1-Way Slim Type Grille Panel with Inspection Hole

Korean Patent Registration Number (Utility Model) No. 10-11472719
Korean Patent Registration Number (Design) No. 30-0777206

- ▶ With the integration of the grille panel and inspection hole, there is no need to install a separate inspection hole on the ceiling.
- ▶ Installation of inspection holes can be omitted, reducing construction costs.
- ▶ With no inspection openings on the ceiling surface, a seamless and integrated interior design is achievable.
- ▶ Allows for convenient inspection of piping and valves.



Standard Specifications

Category			Specifications		SFC-ES2.5K		SFC-ES3K		SFC-ES3.5K	
Capacity	Capacity Conditions		A	B	A	B	A	B		
	Cooling Capacity	W	4,110	3,130	4,690	3,550	5,500	4,130		
		kcal/h	3,530	2,690	4,030	3,060	4,730	3,560		
	Heating Capacity	W	7,370	4,550	9,090	5,580	11,200	6,800		
		kcal/h	6,340	3,910	7,820	4,800	9,630	5,850		
	Flow Rate	ℓ/min	11.8	9.0	13.5	10.2	15.8	11.9		
Fan Blower	Head Loss	mAq	2.6	1.51	3.4	1.94	4.66	2.64		
	Type		Centrifugal Multi-Flow (Cross Flow Fan)							
	Airflow Volume	m³/min	7		9		12.5			
Motor	Type		BLDC							
	Quantity	EA	1							
Power Consumption		W	28		30.8		68			
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)							
Pipe	Inlet	mm	20 A							
	Outlet	mm	20 A							
	Drain	mm	16 A							
Power Supply			Single Phase 220 V 60 Hz							
Communication Line			Shield cable AWG24 x 4C							
AIR FILTER			Vinyl Chloride Filter							
Exterior	Main Body	D x W x H (mm)	410 x 950 x 145							
Dimensions	Panel		490 x1160 x 30							
Product Weight			kg 12							

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

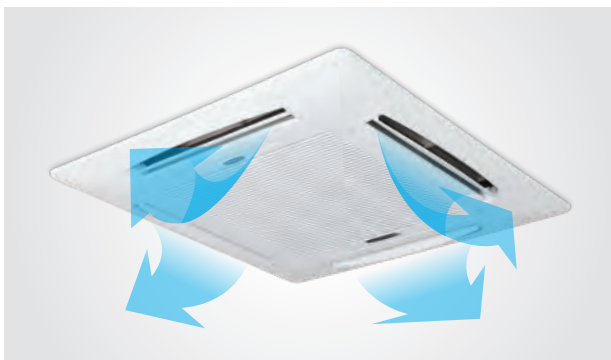
Facility Cultivation Type

4-Way Ceiling Cassette Type

Creates an optimal indoor environment with even airflow in all four directions

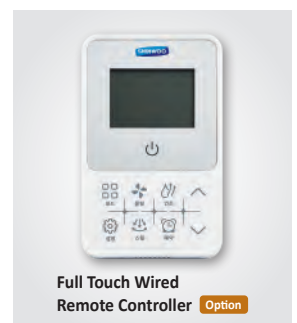


With the use of the TURBO FAN, quieter and more powerful airflow is secured.



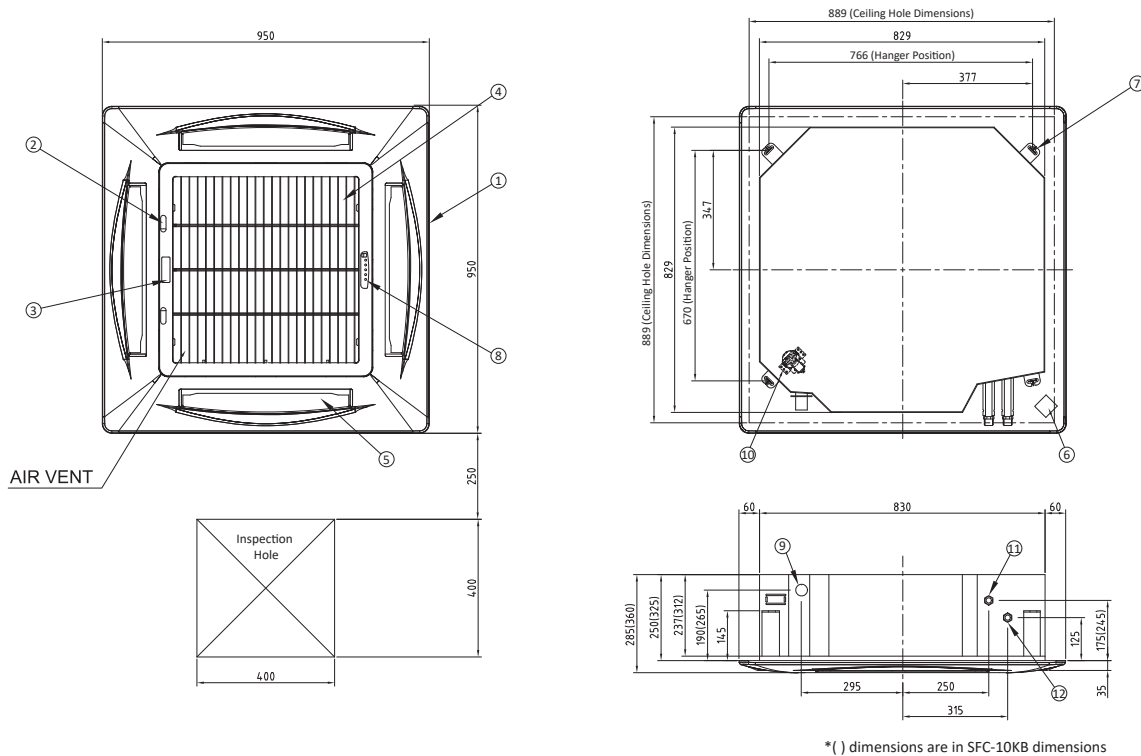
- ▶ An automatic drain pump is built-in (600 mm of drainage capability).
- ▶ A drain check valve is installed as standard to prevent the backflow of condensate.
- ▶ An independent control grille panel can be installed. **Option**
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency.

- ▶ A wireless remote controller is included as a standard feature, offering three fan speed settings (strong, medium, weak) and Turbo mode for rapid cooling and heating.



- ▶ For energy savings, installation of On/Off valves for each product is recommended. **Option**
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration No. 10-1147406.

4-Way Ceiling Cassette Type



Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	INTERIOR GRILLE ASS'Y	ABS/HIPS	1	
2	GRILLE REMOVAL BUTTON	ABS/HIPS	2	SLIDING TYPE
3	NAME PLATE		1	
4	RETURN GRILLE	ABS/HIPS	1	
5	FLAP	ABS/HIPS	4	
6	STEPPING MOTOR	ASS'Y	1	DC 12 V

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
7	HANGING BRACKET	GI	4	
8	REMOTE CONTROL RECEIVER	ACRYLIC	1	
9	DRAIN PIPE PORT		1	Ø16 (Outer Diameter)
10	DRAIN PUMP	ASS'Y	1	1Ø, 220 V, 60 Hz
11	WATER OUTLET	BS	1	PF 3/4" (20 A)
12	WATER INLET	BS	1	PF 3/4" (20 A)

Standard Specifications

Category	Specifications		SFC-3KB		SFC-4KB		SFC-5KB		SFC-6KB		SFC-8KB		SFC-10KB	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	A	B
	Cooling Capacity	W	4,840	3,660	6,690	5,000	7,990	6,110	9,610	7,270	12,640	9,480	15,360	11,630
		Kcal/h	4,160	3,150	5,750	4,300	6,870	5,250	8,260	6,250	10,870	8,150	13,210	10,000
	Heating Capacity	W	9,660	5,870	13,200	7,970	15,920	9,770	19,060	11,630	24,880	15,120	29,540	18,020
		Kcal/h	8,310	5,050	11,350	6,850	13,690	8,400	16,390	10,000	21,390	13,000	25,400	15,500
	Flow Rate	ℓ/min	13.9	11.0	19.2	14.0	23.0	18.0	27.6	21.0	36.3	27.0	44.0	33.3
Head Loss	mAq	3.1	2.0	6.0	3.2	2.1	1.3	3.1	1.8	5.5	3.0	13.4	7.7	
Fan Blower	Type		Single Suction TURBO Type											
	SIZE	mm	Ø480											
	Airflow Volume	m³/min	13		16		19		22		26		33	
	Drive		Direct Drive Motor											
	Quantity	EA	1											
Motor	Type		BLDC Semi-Enclosed Type (8 poles, Class E insulation)											
	Quantity	EA	1											
Power Consumption		W	20		37		55		80		125		186	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)											
Pipe	Inlet	A	PF 3/4" (20 A)											
	Outlet	A	PF 3/4" (20 A)											
	Drain		Ø16 (Outer Diameter) / Built-in Drain Pump (10 W) / Head 600 mm (from Outlet)											
External Material			Main Body: Zinc-Coated Steel Plate (0.8 t, 1.0 t) / Grille Panel: Injection Molded (HIPS, ABS Material)											
Air Volume Control			Turbo, Strong, Medium, Weak, Automatic Wireless Remote Controller (Wired remote controller is optional)											
Power Supply			Single Phase 220 V 60 HZ											
AIR FILTER			Vinyl Chloride (Submersible Type)											
Discharge Swing Motor			DC 12 V, STEPPING MOTOR											
Dimensions	Main Body	D x W x H (mm)	830 X 830 X 250											
	Panel		950 X 950 X 35											
Product Weight		Kg	21.5					23					30	

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type

4-Way EPP Ceiling Cassette Type

Cost-saving construction through lightweighting

(Achieved a weight reduction of more than 40% compared to existing steel products)



This is the first such technology and material applied to 4-way ceiling cassette in Korea.



► Use of eco-friendly heat-resistant and corrosion-resistant materials

- EPP (Expanded Poly-Propylene) is resistant to heat, provides excellent insulation, and minimizes heat loss, resulting in outstanding performance.
- EPP inhibits oxidation and prevents corrosion, even when used for a long period of time.

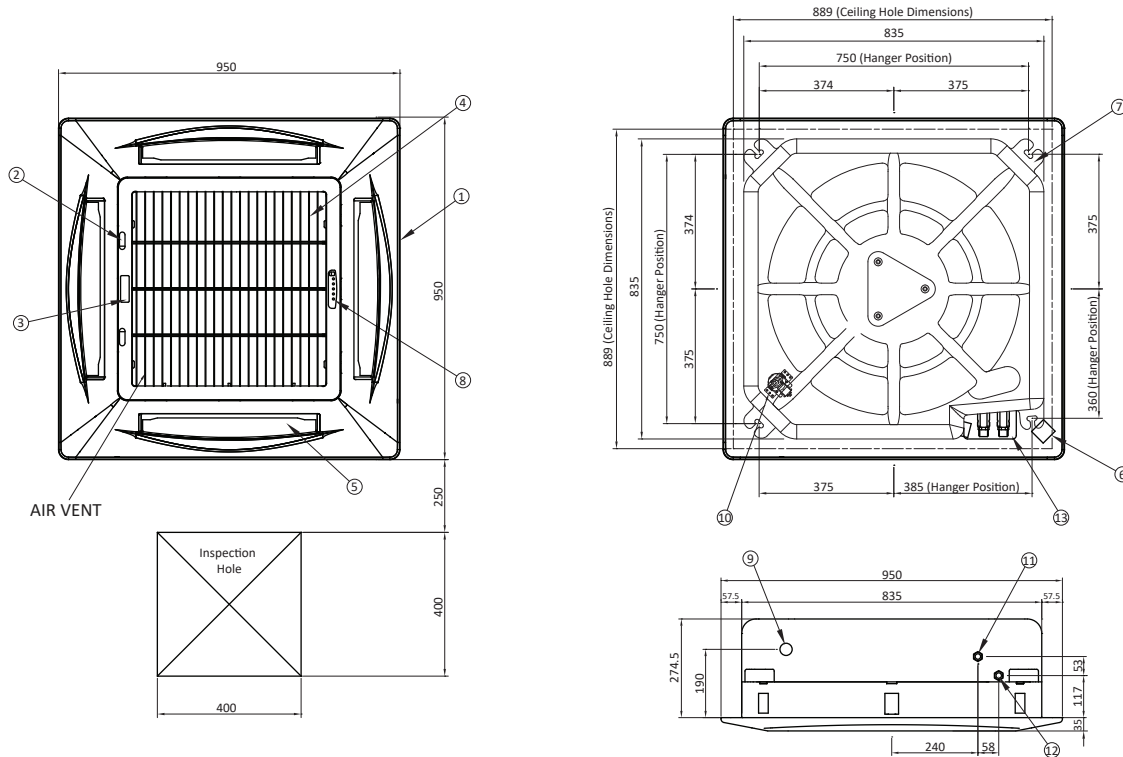
► Use of lightweight materials

Using lightweight materials compared to traditional steel products can save construction costs.

- Density Comparison: Steel (7.85 kg/m³) >> EPP (0.12 kg/m³)

- With the application of a BLDC motor as a standard specification power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency.
- A wireless remote controller is included as a standard feature, offering three fan speed settings (strong, medium, weak) and Turbo mode for rapid cooling and heating.
- An automatic drain pump is built-in (600mm of drainage capability).
- A drain check valve is installed as standard to prevent the backflow of condensate.
- An independent control grille panel can be installed. **Option**
- For energy savings, installation of On/Off valves for each unit is recommended. **Option**
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration No. 10-1147406
- Registered 4 domestic patents related to EPP
 - 2 Utility Model Patents: No. 10-1266268, No. 10-1280448
 - 2 Design Patents: No. 30-0694028, No. 30-0694029

4-Way EPP Ceiling Cassette Type



Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	INTERIOR GRILLE ASS'Y	ABS/HIPS	1	
2	GRILLE REMOVAL BUTTON	ABS/HIPS	2	SLIDING TYPE
3	NAME PLATE		1	
4	RETURN GRILLE	ABS/HIPS	1	
5	FLAP	ABS/HIPS	4	
6	STEPPING MOTOR	ASS'Y	1	DC 12 V
7	HANGING BRACKET	EPP	4	

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
8	REMOTE CONTROL RECEIVER	ACRYLIC	1	
9	DRAIN PIPE PORT		1	Ø16 (Outer Diameter)
10	DRAIN PUMP	ASS'Y	1	1Ø, 220 V, 60 Hz
11	WATER OUTLET	BS	1	PF 3/4" (20 A)
12	WATER INLET	BS	1	PF 3/4" (20 A)
13	External Auxiliary Drain Plate	ABS	1	

Standard Specifications

Category	Specifications		SFC-E3K		SFC-E4K		SFC-E5K		SFC-E6K		SFC-E8K		SFC-E10K	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	A	B
	Cooling Capacity	W	4,840	3,660	6,690	5,000	7,990	6,110	9,610	7,270	12,640	9,480	15,360	11,630
	Heating Capacity	W	4,160	3,150	5,750	4,300	6,870	5,250	8,260	6,250	10,870	8,150	13,210	10,000
		Kcal/h	9,660	5,870	13,200	7,970	15,920	9,770	19,060	11,630	24,880	15,120	29,540	18,020
	Flow Rate	ℓ/min	13.9	11.0	19.2	14.0	23.0	18.0	27.6	21.0	36.3	27.0	44.0	33.3
	Head Loss	mAq	3.1	2.0	6.0	3.2	2.1	1.3	3.1	1.8	5.5	3.0	13.4	7.7
Fan Blower	Type		Single Suction TURBO Type											
	SIZE	mm	Ø480											
	Airflow Volume	m³/min	13		16		19		22		26		33	
	Drive Type		Direct Drive Motor											
	Quantity	EA	1											
Motor	Type		BLDC Semi-Enclosed Type (8 poles, Class E insulation)											
	Quantity	EA	1											
Power Consumption		W	20		37		55		80		125		186	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)											
Pipe	Inlet	A	PF 3/4" (20 A)											
	Outlet	A	PF 3/4" (20 A)											
	Drain		Ø16 (Outer Diameter) / Built-in Drain Pump (10 W) / Head 600 mm (from Outlet)											
External Material			Material: Expanded PolyPropylene / Grille Panel: Injection-Molded (HIPS, ABS Material)											
Air Volume Control			Turbo, Strong, Medium, Weak, Automatic Wireless Remote Controller (Wired remote controller is optional)											
Power Supply			Single Phase 220 V 60 HZ											
AIR FILTER			Vinyl Chloride (Submersible Type)											
Discharge Swing Motor			DC 12 V, STEPPING MOTOR											
Dimensions	Main Body	D x W x H (mm)	835 X 835 X 274.5											
	Panel		950 X 950 X 35											
Product Weight			15				17				20			

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type

4-Way Ceiling Cassette Type, 4 Pipe

This is a 4 Pipe ceiling cassette type product, the first of its kind developed in Korea.



Cooling and heating valves can be controlled separately.



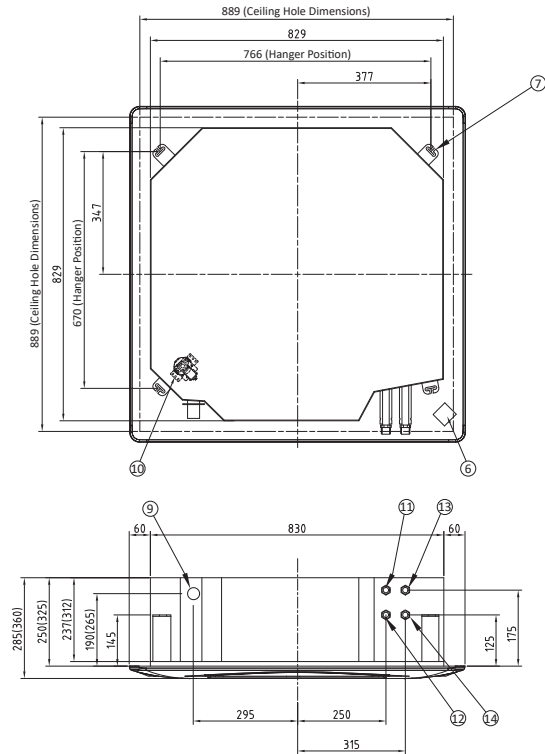
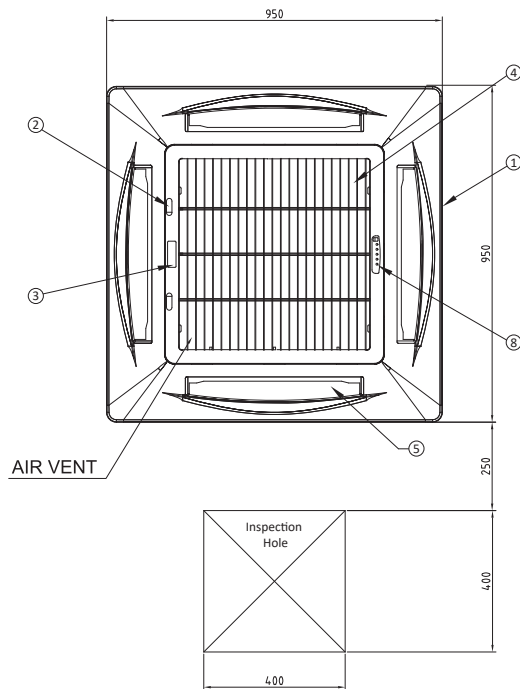
- ▶ A wireless remote controller is included as a standard feature, offering three fan speed settings (strong, medium, weak) and Turbo mode for rapid cooling and heating.
- ▶ Uses high airflow, low noise Turbo Fans.
- ▶ A drain check valve is installed as standard to prevent the backflow of condensate.
- ▶ With application of a BLDC motor as a standard specification power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency.

- ▶ An automatic drain pump is built-in. (600 mm of drainage capability).



- ▶ For energy savings, installation of On/Off valves for each product is recommended.
Option
- These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. **Option**
- Central control can be achieved through power line communication and RS-485 communication.
- Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
- Korean Patent Registration No. 10-1147406

4-Way Ceiling Cassette Type, 4 Pipe



Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	INTERIOR GRILLE ASS'Y	ABS/HIPS	1	
2	GRILLE REMOVAL BUTTON	ABS/HIPS	2	SLIDING TYPE
3	NAME PLATE		1	
4	RETURN GRILLE	ABS/HIPS	1	
5	FLAP	ABS/HIPS	4	
6	STEPPING MOTOR	ASS'Y	1	DC 12 V
7	HANGING BRACKET	GI	4	

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
8	REMOTE CONTROL RECEIVER	ACRYLIC	1	
9	DRAIN PIPE PORT		1	Ø16 (Outer Diameter)
10	DRAIN PUMP	ASS'Y	1	1Ø, 220 V, 60 Hz
11	HOT WATER OUTLET	BS	1	PF 3/4" (20 A)
12	HOT WATER INLET	BS	1	PF 3/4" (20 A)
13	COOL WATER OUTLET	BS	1	PF 3/4" (20 A)
14	COOL WATER INLET	BS	1	PF 3/4" (20 A)

Standard Specifications

Category	Specifications		SFC-2K2		SFC-3K2		SFC-4K2		SFC-5K2		SFC-6K2	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B
	Cooling Capacity	W	3,030	2,340	4,640	3,520	6,170	4,710	7,650	5,850	9,200	6,980
		Kcal/h	2,620	2,010	3,990	3,030	5,310	4,050	6,580	5,030	7,900	6,000
	Heating Capacity	W	5,130	3,020	6,340	3,710	8,930	5,230	11,020	6,400	12,150	6,980
		Kcal/h	4,410	2,600	5,460	3,190	7,680	4,500	9,480	5,500	10,450	6,000
	Flow Rate	ℓ/min	8.9/7.4	6.8/4.4	13.3/9.1	10.2/5.4	17.8/12.9	13.6/7.6	22.0/15.9	16.8/9.2	26.4/17.5	20.1/10.1
	Head Loss	mAq	2.46/0.85	1.44/0.3	5.49/2.75	3.23/0.45	9.84/4.92	5.74/0.9	15.0/3.9	8.8/1.3	21.6/4.8	3.17/1.58
Fan Blower	Type		Single Suction TURBO Type									
	SIZE	mm	Ø480									
	Airflow Volume	m³/min	6		9.5		13		16		26	
	Drive Type		Direct Drive Motor									
	Quantity	EA	1									
Motor	Type		BLDC Semi-Enclosed Type (8 poles, Class E insulation)									
	Quantity	EA	1									
Power Consumption		W	40		44		51		56		130	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)									
Pipe	Inlet	A	PF 3/4" (20 A)									
	Outlet	A	PF 3/4" (20 A)									
	Drain		Ø16 (Outer Diameter) / Built-in Drain Pump (10 W) / Head 600 mm (from Outlet)									
External Material			Main Body: Zinc-Coated Steel Plate (0.8 t, 1.0 t) / Grille Panel: Injection Molded (HIPS, ABS Material)									
Air Volume Control			Turbo, Strong, Medium, Weak, Automatic Wireless Remote Controller (Wired remote controller is optional)									
Power Supply			Single Phase 220 V 60 HZ									
AIR FILTER			Vinyl Chloride (Submersible Type)									
Discharge Swing Motor			DC 12 V, STEPPING MOTOR									
Dimensions	Main Body	D x W x H (mm)	830 X 830 X 250									
	Panel		950 X 950 X 35									
Product Weight		Kg	36				36.5				37.5	

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type

2-Way Ceiling Cassette Type

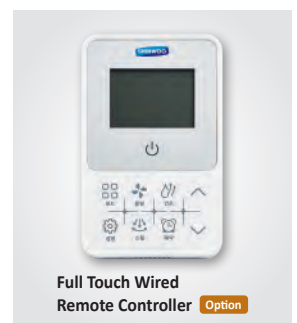
Creates an optimal indoor environment with even airflow in two directions

With the use of the TURBO FAN, quieter and more powerful airflow is secured.



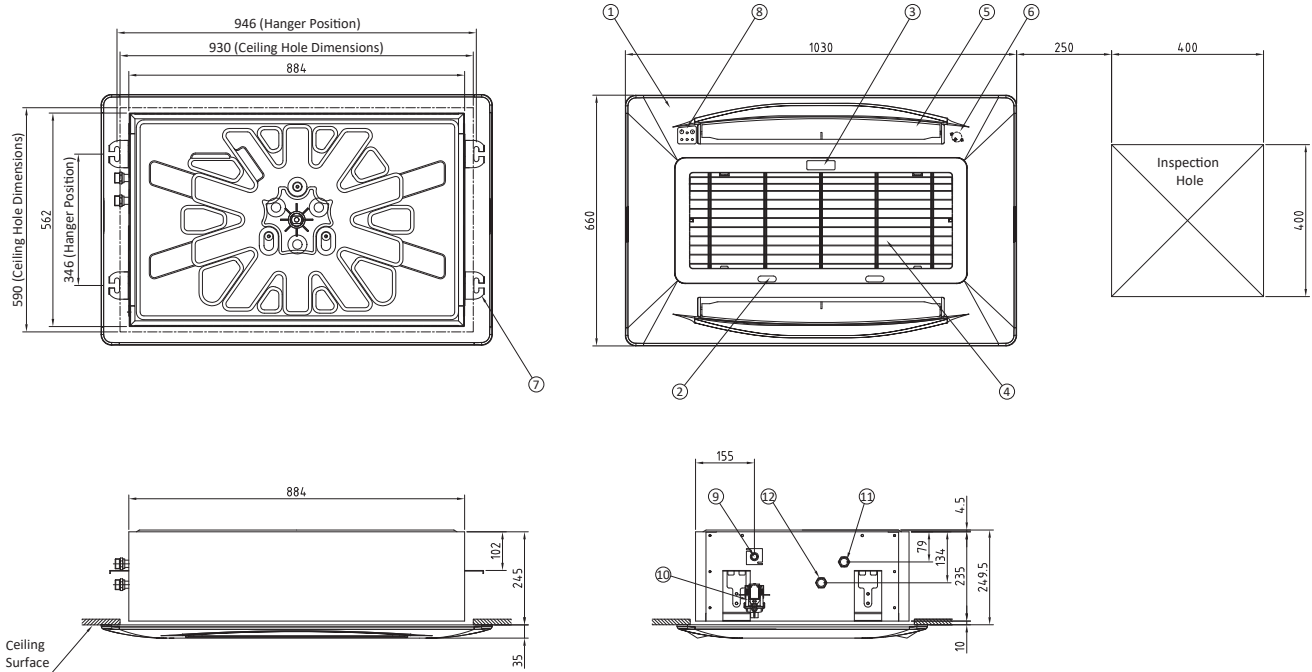
- ▶ An automatic drain pump is built-in (600mm of drainage capability).
- ▶ A drain check valve is installed as standard to prevent the backflow of condensate. **Option**
- ▶ An independent control grille panel can be installed. **Option**
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency.

- ▶ A wireless remote controller is included as a standard feature, offering three fan speed settings (strong, medium, weak) and Turbo mode for rapid cooling and heating.



- ▶ For energy savings, installation of On/Off valves for each product is recommended. **Option**
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration No. 10-1147406

2-Way Ceiling Cassette Type



Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	INTERIOR GRILLE ASS'Y	ABS/HIPS	1	
2	GRILLE REMOVAL BUTTON	ABS/HIPS	2	SLIDING TYPE
3	NAME PLATE		1	
4	RETURN GRILLE	ABS/HIPS	1	
5	FLAP	ABS/HIPS	4	
6	STEPPING MOTOR	ASS'Y	1	DC 12 V

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
7	HANGING BRACKET	GI	4	
8	REMOTE CONTROL RECEIVER	ACRYLIC	1	
9	DRAIN PIPE PORT		1	Ø16 (Outer Diameter)
10	DRAIN PUMP	ASS'Y	1	1Ø, 220 V, 60 Hz
11	WATER OUTLET	BS	1	PF 3/4" (20 A)
12	WATER INLET	BS	1	PF 3/4" (20 A)

Standard Specifications

Category			Specifications		SFC2-3KB		SFC2-4KB		SFC2-5KB	
Capacity	Capacity Conditions		A	B	A	B	A	B		
	Cooling Capacity	W	4,830	3,660	6,400	4,880	7,580	5,810		
		Kcal/h	4,150	3,150	5,500	4,200	6,520	5,000		
	Heating Capacity	W	9,600	5,870	11,990	7,370	13,800	8,490		
		Kcal/h	8,260	5,050	10,310	6,340	11,870	7,300		
	Flow Rate	ℓ/min	13.9	11.0	18.4	14.0	21.8	18.0		
	Head Loss	mAq	4.6	2.9	8.0	4.6	13.1	7.6		
Fan Blower	Type		Single Suction TURBO Type							
	SIZE	mm	Ø325							
	Airflow Volume	m³/min	11		13		16			
	Drive Type	Direct Drive Motor								
	Quantity	EA	1							
Motor	Type		BLDC Semi-Enclosed Type (8 poles, Class E insulation)							
	Quantity	EA	1							
Power Consumption			W	52	67		105			
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)							
Pipe	Inlet	A	PF 3/4" (20 A)							
	Outlet	A	PF 3/4" (20 A)							
	Drain		Ø16 (Outer Diameter) / Built-in Drain Pump (10 W) / Head 600 mm (from Outlet)							
External Material			Main Body: Zinc-Coated Steel Plate (0.8 t, 1.0 t) / Grille Panel: Injection Molded (HIPS, ABS Material)							
Air Volume Control			Turbo, Strong, Medium, Weak, Automatic Wireless Remote Controller (Wired remote controller is optional)							
Power Supply			Single Phase 220 V 60 HZ							
AIR FILTER			Vinyl Chloride (Submersible Type)							
Discharge Swing Motor			DC 12V STEPPING MOTOR							
Dimensions	Main Body	D x W x H (mm)	562 X 884 X 239.5							
	Panel		1030 X 660 X 35							
Product Weight			Kg	22.5						

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type

2-Way EPP Ceiling Cassette Type

Cost-saving construction through lightweighting

(Achieved a weight reduction of more than 40% compared to existing steel products)



This is the first such technology and material applied to the 2-way ceiling cassette in Korea.



► Use of eco-friendly heat-resistant and corrosion-resistant materials

- EPP (Expanded Poly-Propylene) is resistant to heat, provides excellent insulation, and minimizes heat loss, resulting in outstanding performance.
- EPP inhibits oxidation and prevents corrosion, even when used for a long period of time.

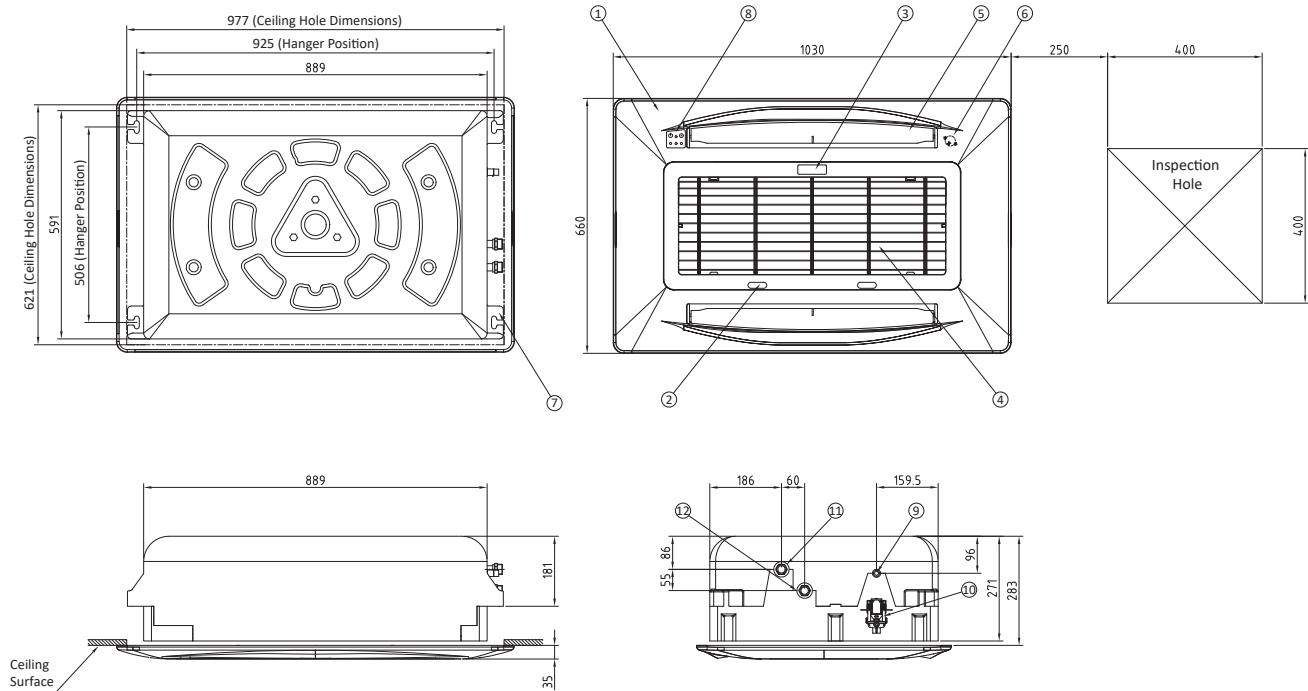
► Use of lightweight materials

Using lightweight materials compared to traditional steel products can save construction costs.

- Density Comparison: Steel (7.85 kg/m³) >> EPP (0.12 kg/m³)

- With the application of a BLDC motor as a standard specification power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency.
- A wireless remote controller is included as a standard feature, offering three fan speed settings (strong, medium, weak) and Turbo mode for rapid cooling and heating.
- An automatic drain pump is built-in (600mm of drainage capability).
- A drain check valve is installed as standard to prevent the backflow of condensate.
- An independent control grille panel can be installed. **Option**
- For energy savings, installation of On/Off valves for each product is recommended. **Option**
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration No. 10-1147406
- Registered 4 domestic patents related to EPP
 - 2 Utility Model Patents: No. 10-1266268, No. 10-1280448
 - 2 Design Patents: No. 30-0694028, No. 30-0694029

2-Way EPP Ceiling Cassette Type



Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	INTERIOR GRILLE ASS'Y	ABS/HIPS	1	
2	GRILLE REMOVAL BUTTON	ABS/HIPS	2	SLIDING TYPE
3	NAME PLATE		1	
4	RETURN GRILLE	ABS/HIPS	1	
5	FLAP	ABS/HIPS	4	
6	STEPPING MOTOR	ASS'Y	1	DC 12 V

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
7	HANGING BRACKET	EPP	4	
8	REMOTE CONTROL RECEIVER	ACRYLIC	1	
9	DRAIN PIPE PORT		1	Ø16 (Outer Diameter)
10	DRAIN PUMP	ASS'Y	1	1Ø, 220 V, 60 Hz
11	WATER OUTLET	BS	1	PF 3/4" (20 A)
12	WATER INLET	BS	1	PF 3/4" (20 A)

Standard Specifications

Category	Specifications		SFC2-E3K		SFC2-E4K		SFC2-E5K	
Capacity	Capacity Conditions		A	B	A	B	A	B
	Cooling Capacity	W	4,830	3,660	6,400	4,880	7,580	5,810
		Kcal/h	4,150	3,150	5,500	4,200	6,520	5,000
	Heating Capacity	W	9,600	5,870	11,990	7,370	13,800	8,490
		Kcal/h	8,260	5,050	10,310	6,340	11,870	7,300
	Flow Rate	ℓ/min	13.9	11.0	18.4	14.0	21.8	18.0
	Head Loss	mAq	4.6	2.9	8.0	4.6	13.1	7.6
Fan Blower	Type		Single Suction TURBO Type					
	SIZE	mm	Ø325					
	Airflow Volume	m³/min	11		13		16	
	Drive Type	Direct Drive Motor						
	Quantity	EA	1					
Motor	Type		BLDC Semi-Enclosed Type (8 poles, Class E insulation)					
	Quantity	EA	1					
Power Consumption		W	52		67		105	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)					
Pipe	Inlet	A	PF 3/4" (20 A)					
	Outlet	A	PF 3/4" (20 A)					
	Drain		Ø16 (Outer Diameter) / Built-in Drain Pump (10 W) / Head 600 mm (from Outlet)					
External Material		Material: Expanded PolyPropylene / Grille Panel: Injection-Molded (HIPS, ABS Material)						
Air Volume Control		Turbo, Strong, Medium, Weak, Automatic Wireless Remote Controller (Wired remote controller is optional)						
Power Supply		Single Phase 220 V 60 HZ						
AIR FILTER		Vinyl Chloride (Submersible Type)						
Discharge Swing Motor		DC 12V STEPPING MOTOR						
Dimensions	Main Body	DxWxH (mm)	591 X 973 X271					
	Panel		1030 X 660 X 35					
Product Weight		Kg	18.5					

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type

2-Way Ceiling Cassette Type, 4 Pipe

This is a 4 Pipe ceiling cassette type product, the first of its kind developed in Korea.

Cooling and heating valves can be controlled separately.



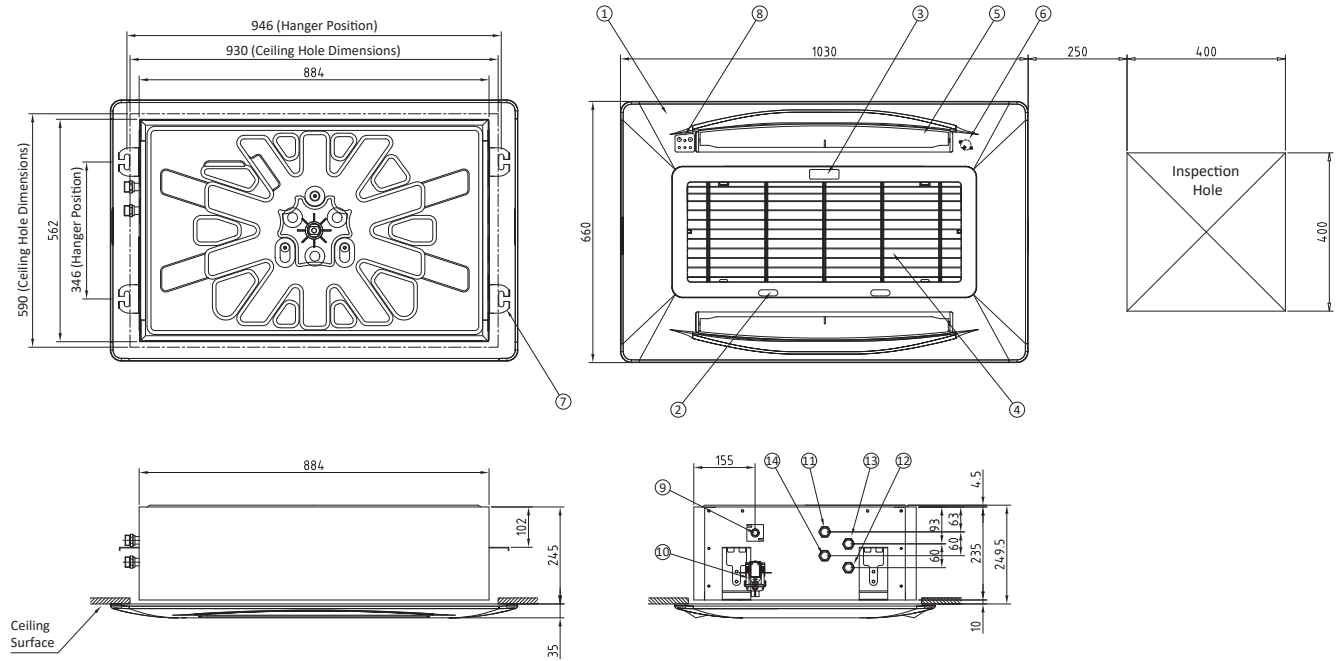
- ▶ A wireless remote controller is included as a standard feature, offering three fan speed settings (strong, medium, weak) and Turbo mode for rapid cooling and heating.
- ▶ Uses high airflow, low noise Turbo Fans.
- ▶ A drain check valve is installed as standard to prevent the backflow of condensate. Option
- ▶ With the application of a BLDC motor as standard a specification power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency.

- ▶ An automatic drain pump is built-in. (600 mm of drainage capability).



- ▶ For energy savings, installation of On/Off valves for each product is recommended. Option
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. Option
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. Option
 - Korean Patent Registration No. 10-1147406

2-Way Ceiling Cassette Type, 4 Pipe



Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	INTERIOR GRILLE ASS'Y	ABS/HIPS	1	
2	GRILLE REMOVAL BUTTON	ABS/HIPS	2	SLIDING TYPE
3	NAME PLATE		1	
4	RETURN GRILLE	ABS/HIPS	1	
5	FLAP	ABS/HIPS	4	
6	STEPPING MOTOR	ASS'Y	1	DC 12 V
7	HANGING BRACKET	GI	4	

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
8	REMOTE CONTROL RECEIVER	ACRYLIC	1	
9	DRAIN PIPE PORT		1	Ø16 (Outer Diameter)
10	DRAIN PUMP	ASS'Y	1	1Ø, 220 V, 60 Hz
11	HOT WATER OUTLET	BS	1	PF 3/4" (20 A)
12	HOT WATER INLET	BS	1	PF 3/4" (20 A)
13	COOL WATER OUTLET	BS	1	PF 3/4" (20 A)
14	COOL WATER INLET	BS	1	PF 3/4" (20 A)

Standard Specifications

Category	Specifications		SFC2-3K2		SFC2-4K2		SFC2-5K2	
Capacity	Capacity Conditions		A	B	A	B	A	B
	Cooling Capacity	W	4,730	3,630	6,090	4,630	6,710	5,080
		Kcal/h	4,070	3,120	5,240	3,980	5,770	4,370
	Heating Capacity	W	6,280	3,700	7,930	4,630	8,800	5,080
		Kcal/h	5,400	3,180	6,820	3,980	7,570	4,370
	Flow Rate	ℓ/min	13.6/9.0	10.5/5.4	17.5/11.4	13.3/6.7	19.3/11.4	14.6/12.7
	Head Loss	mAq	4.36/0.96	2.60/0.34	7.22/1.53	4.17/0.53	8.79/1.53	5.03/1.9
Fan Blower	Type		Single Suction TURBO Type					
	SIZE	mm	Ø325					
	Airflow Volume	m ³ /min	8		13		16	
	Drive Type		Direct Drive Motor					
Motor	Quantity	EA	1					
	Type		BLDC Semi-Enclosed Type (8 poles, Class E insulation)					
	Quantity	EA	1					
Power Consumption		W	36		50		92	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)					
Pipe	Inlet	A	PF 3/4" (20 A)					
	Outlet	A	PF 3/4" (20 A)					
	Drain		Ø16 (Outer Diameter) / Built-in Drain Pump (10 W) / Head 600mm (from Outlet)					
External Material			Main Body: Zinc-Coated Steel Plate (0.8 t, 1.0 t) / Grille Panel: Injection Molded (HIPS, ABS Material)					
Air Volume Control			Turbo, Strong, Medium, Weak, Automatic Wireless Remote Controller (Wired remote controller is optional)					
Power Supply			Single Phase 220 V 60 HZ					
AIR FILTER			Vinyl Chloride (Submersible Type)					
Discharge Swing Motor			DC 12V STEPPING MOTOR					
Dimensions	Main Body	D x W x H (mm)	562 X 884 X 239.5					
	Panel		1030 X 660 X 35					
Product Weight		Kg	32					

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type

1-Way Ceiling Cassette Type

Creates an optimal indoor environment with even airflow in one direction

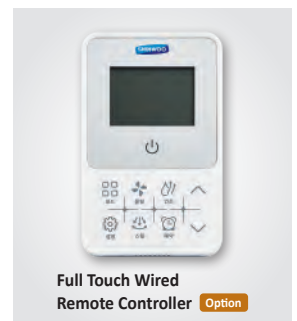


Enables quiet operation with the adoption of a Sirocco Fan.



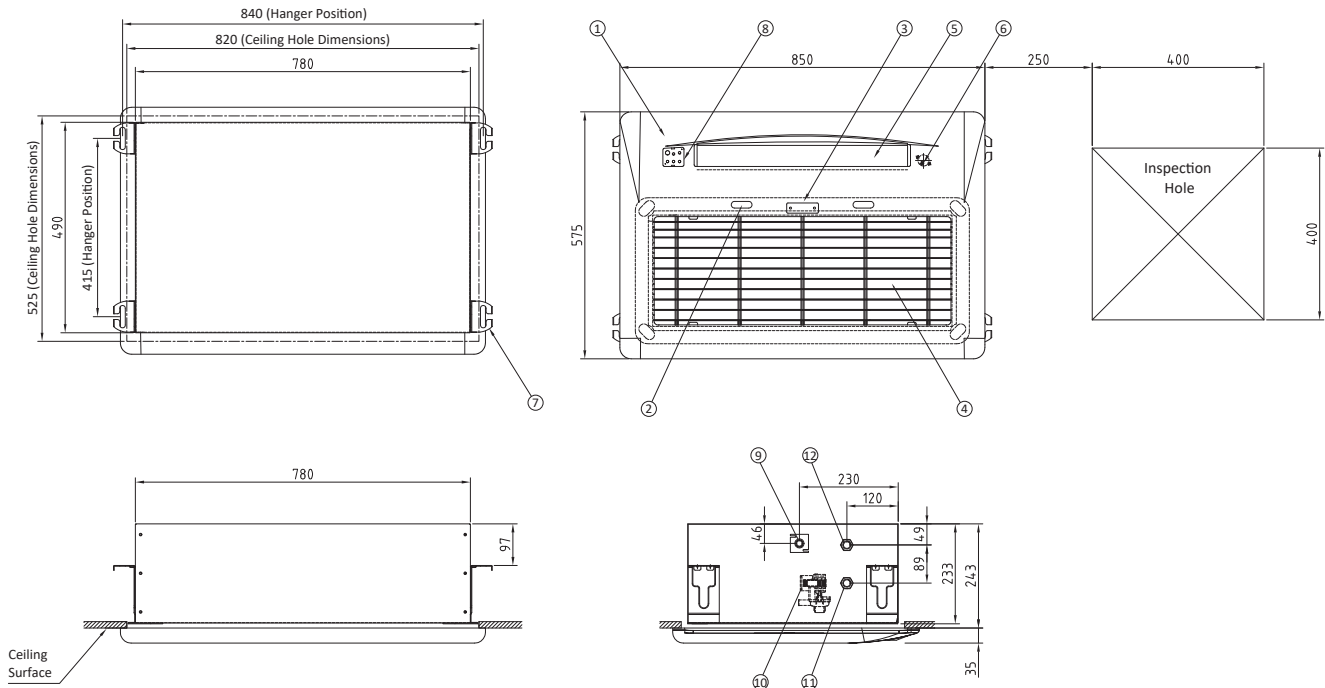
- ▶ An automatic drain pump is built-in (600 mm of drainage capability).
- ▶ A drain check valve is installed as standard to prevent the backflow of condensate. **Option**
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency.

- ▶ A wireless remote controller is included as a standard feature, offering three fan speed settings (strong, medium, weak) and Turbo mode for rapid cooling and heating.



- ▶ For energy savings, installation of On/Off valves for each product is recommended. **Option**
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration No. 10-1147406

1-Way Ceiling Cassette Type



Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	INTERIOR GRILLE ASS'Y	ABS/HIPS	1	
2	GRILLE REMOVAL BUTTON	ABS/HIPS	2	SLIDING TYPE
3	NAME PLATE		1	
4	RETURN GRILLE	ABS/HIPS	1	
5	FLAP	ABS/HIPS	4	
6	STEPPING MOTOR	ASS'Y	1	DC 12 V

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
7	HANGING BRACKET	GI	4	
8	REMOTE CONTROL RECEIVER	ACRYLIC	1	
9	DRAIN PIPE PORT		1	Ø16 (Outer Diameter)
10	DRAIN PUMP	ASS'Y	1	1Ø, 220 V, 60 Hz
11	WATER OUTLET	BS	1	PF 3/4" (20 A)
12	WATER INLET	BS	1	PF 3/4" (20 A)

Standard Specifications

Category	Specifications		SFC1-1.5KB		SFC1-2KB		SFC1-2.5KB		SFC1-3KB		SFC1-3.5KB	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B
	Cooling Capacity	W	2,450	1,860	3,210	2,440	3,840	2,910	4,730	3,610	5,360	4,070
		Kcal/h	2,110	1,600	2,760	2,100	3,300	2,500	4,070	3,100	4,610	3,500
	Heating Capacity	W	4,880	2,980	6,070	3,720	7,070	4,300	8,520	5,230	10,070	6,160
		Kcal/h	4,200	2,560	5,220	3,200	6,080	3,700	7,330	4,500	8,660	5,300
	Flow Rate	ℓ/min	7.1	5.3	9.3	7.0	11.1	8.3	13.6	10.3	15.4	11.7
	Head Loss	mAq	0.58	0.32	1	0.57	1.42	0.79	3.2	1.84	4.1	2.37
Fan Blower	Type		Double Suction SIROCCO Type									
	SIZE	mm	ø140 X 165		ø140 X 200		ø140 X 200		ø140 X 200		ø140 X 200	
	Airflow Volume	m³/min	5.6		7		9		9		11	
	Drive Type		Direct Drive Motor									
	Quantity	EA	1									
Motor	Type		BLDC Semi-Enclosed Type (8 poles, Class E insulation)									
	Quantity	EA	1									
Power Consumption		W	30		41		74		74		108	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)									
Pipe	Inlet	A	PF 3/4" (20 A)									
	Outlet	A	PF 3/4" (20 A)									
	Drain		ø16 (Outer Diameter) / Built-in Drain Pump (10 W) / Head 600 mm									
External Material			Main Body: Zinc-Coated Steel Plate (0.8 t, 1.0 t) / Grille Panel: Injection Molded (HIPS, ABS Material)									
Air Volume Control			Turbo, Strong, Medium, Weak, Automatic Wireless Remote Controller (Wired remote controller is optional)									
Power Supply			Single Phase 220 V 60 HZ									
AIR FILTER			Vinyl Chloride (Submersible Type)									
Discharge Swing Motor			DC 12 V, STEPPING MOTOR									
Dimensions	Main Body	D x W x H (mm)	490 X 780 X 231									
	Panel		850 X 575 X 35									
Product Weight		Kg	27		27		28		30		30	

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

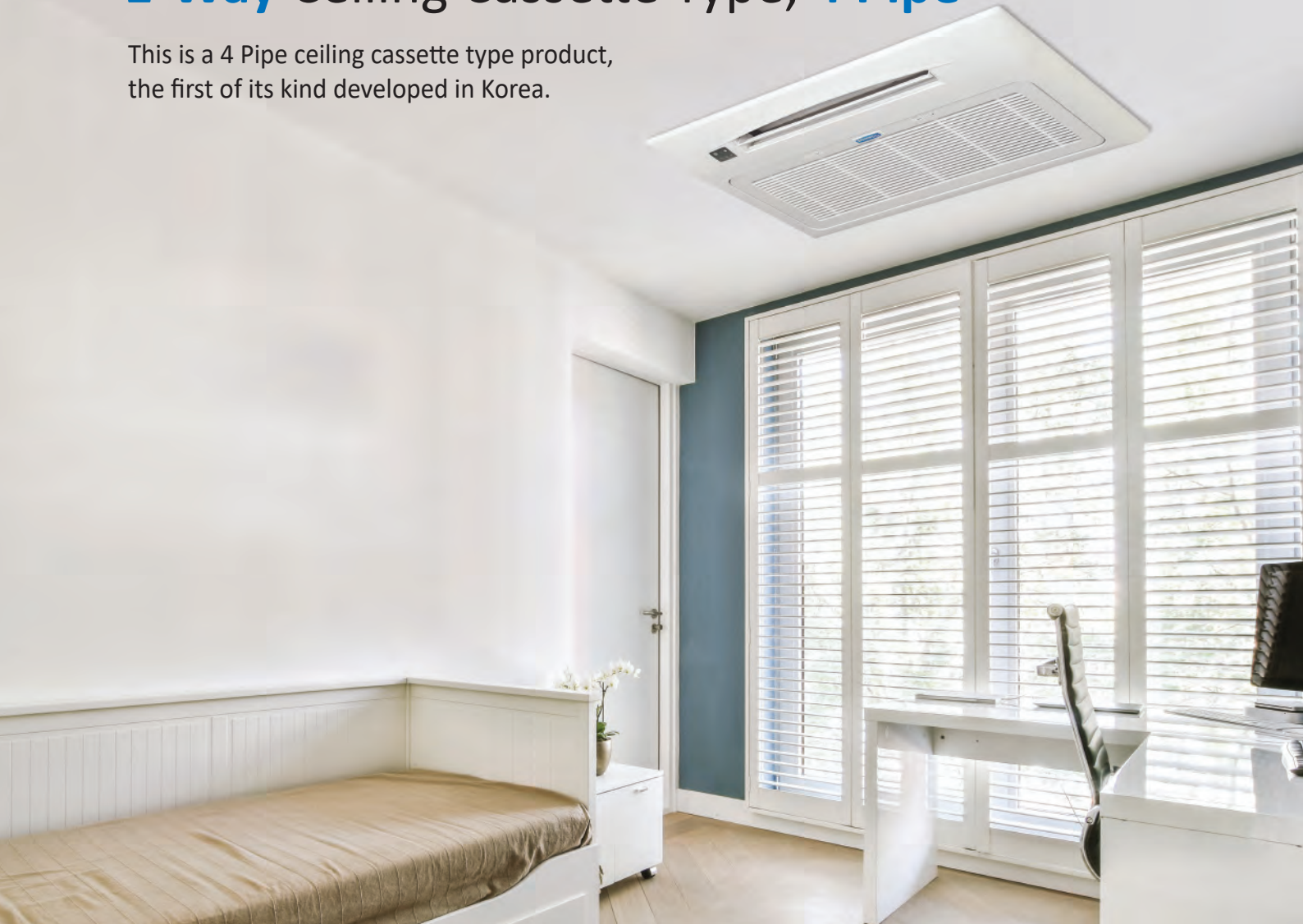
Floor-Stand Type

Stand Type

Facility Cultivation Type

1-Way Ceiling Cassette Type, 4 Pipe

This is a 4 Pipe ceiling cassette type product, the first of its kind developed in Korea.



Cooling and heating valves can be controlled separately.



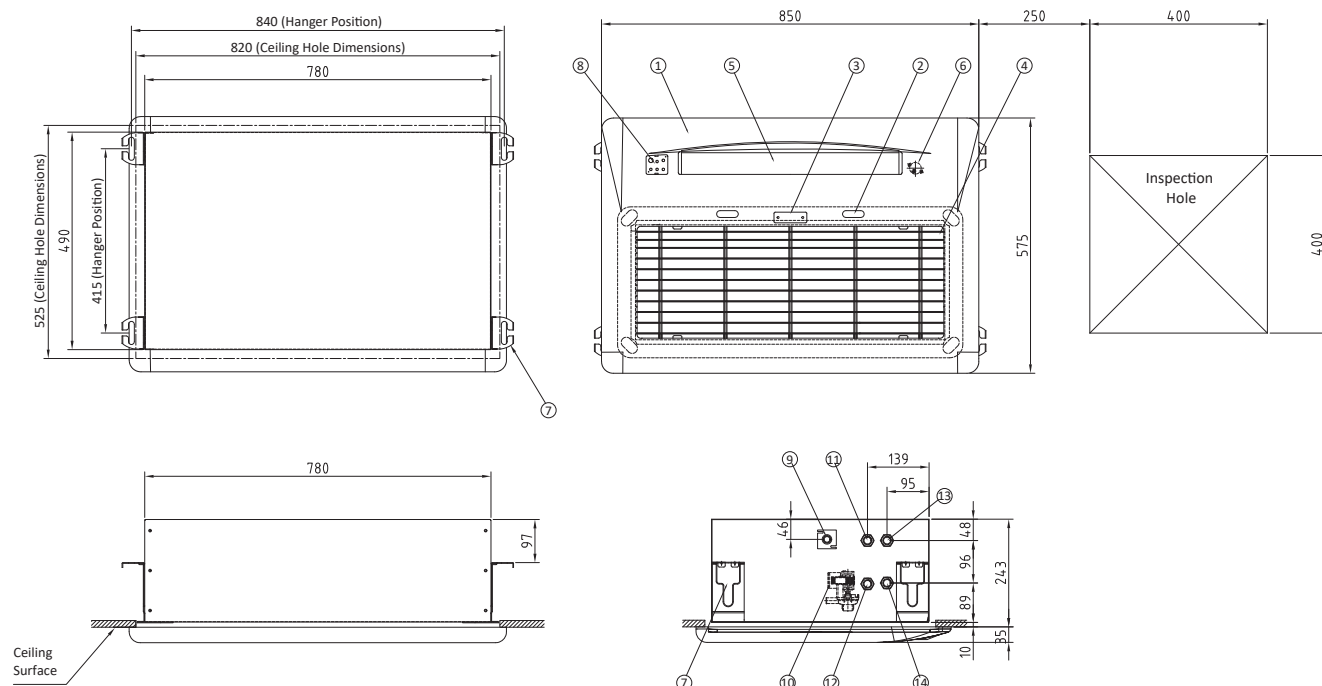
- ▶ A wireless remote controller is included as a standard feature, offering three fan speed settings (strong, medium, weak) and Turbo mode for rapid cooling and heating.
- ▶ Enables quiet operation by adopting Sirocco Fan.
- ▶ A drain check valve is installed as standard to prevent the backflow of condensate.
- ▶ With the application of a BLDC motor as a standard specification power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency.

- ▶ An automatic drain pump is built-in. (600 mm of drainage capability).



- ▶ For energy savings, installation of On/Off valves for each product is recommended.
Option
- These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. **Option**
- Central control can be achieved through power line communication and RS-485 communication.
- Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
- Korean Patent Registration No. 10-1147406

1-Way Ceiling Cassette Type, 4 Pipe



Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	INTERIOR GRILLE ASS'Y	ABS/HIPS	1	
2	GRILLE REMOVAL BUTTON	ABS/HIPS	2	SLIDING TYPE
3	NAME PLATE		1	
4	RETURN GRILLE	ABS/HIPS	1	
5	FLAP	ABS/HIPS	4	
6	STEPPING MOTOR	ASS'Y	1	DC 12 V
7	HANGING BRACKET	GI	4	

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
8	REMOTE CONTROL RECEIVER	ACRYLIC	1	
9	DRAIN PIPE PORT		1	Ø16 (Outer Diameter)
10	DRAIN PUMP	ASS'Y	1	1Ø, 220 V, 60 Hz
11	COOL WATER OUTLET	BS	1	PF 3/4" (20 A)
12	COOL WATER INLET	BS	1	PF 3/4" (20 A)
13	HOT WATER OUTLET	BS	1	PF 3/4" (20 A)
14	HOT WATER INLET	BS	1	PF 3/4" (20 A)

Standard Specifications

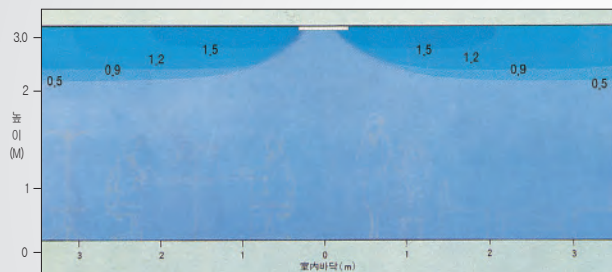
Category			Specifications		SFC1-1.5K2		SFC1-2K2		SFC1-3K2	
Capacity	Capacity Conditions		A	B	A	B	A	B		
	Cooling Capacity	W	2,460	1,860	3,380	2,570	4,300	3,240		
		Kcal/h	2,120	1,600	2,910	2,210	3,700	2,790		
	Heating Capacity	W	2,780	1,620	3,620	2,080	4,420	2,510		
		Kcal/h	2,390	1,390	3,110	1,790	3,800	2,160		
	Flow Rate	ℓ/min	7.1/4.0	5.5/2.4	9.7/5.2	7.4/3.0	12.4/6.4	9.4/3.7		
Head Loss	mAq	0.5/0.63	0.3/0.23	0.93/1.07	0.54/0.36	1.52/1.62	0.87/0.54			
Fan Blower	Type		Double Suction SIROCCO Type							
	SIZE	mm	Ø140 X 165			Ø140 X 200		Ø140 X 200		
	Airflow Volume	m³/min	4			7		11		
	Drive		Direct Drive Motor							
	Quantity	EA	1							
Motor	Type		BLDC Semi-Enclosed Type (8 poles, Class E insulation)							
	Quantity	EA	1							
Power Consumption		W	30			35		40		
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)							
Pipe	Inlet	A	PF 3/4" (20 A)							
	Outlet	A	PF 3/4" (20 A)							
	Drain		Ø16 (Outer Diameter) / Built-in Drain Pump (10 W) / Head 600 mm							
External Material			Main Body: Zinc-Coated Steel Plate (0.8 t, 1.0 t) / Grille Panel: Injection Molded (HIPS, ABS Material)							
Air Volume Control			Turbo, Strong, Medium, Weak, Automatic Wireless Remote Controller (Wired remote controller is optional)							
Power Supply			Single Phase 220 V 60 HZ							
AIR FILTER			Vinyl Chloride (Submersible Type)							
Discharge Swing Motor			DC 12 V, STEPPING MOTOR							
Dimensions	Main Body	D x W x H (mm)	490 X 780 X 231							
	Panel		850 X 575 X 35							
Product Weight		Kg	29					31		

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

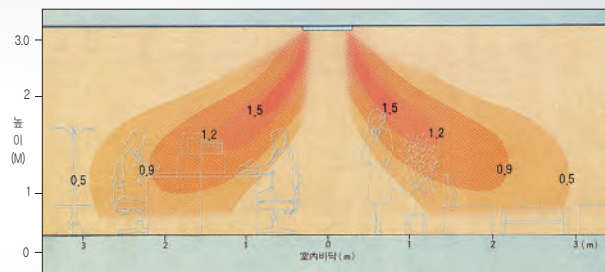
Cassette Standard Type (CC)



The Down Flow method is used to ensure good air distribution, allowing individual control of airflow in each section or area.



* Setting for horizontal discharge: Airflow distribution during cooling (LOUVER angle 40° in strong wind conditions)

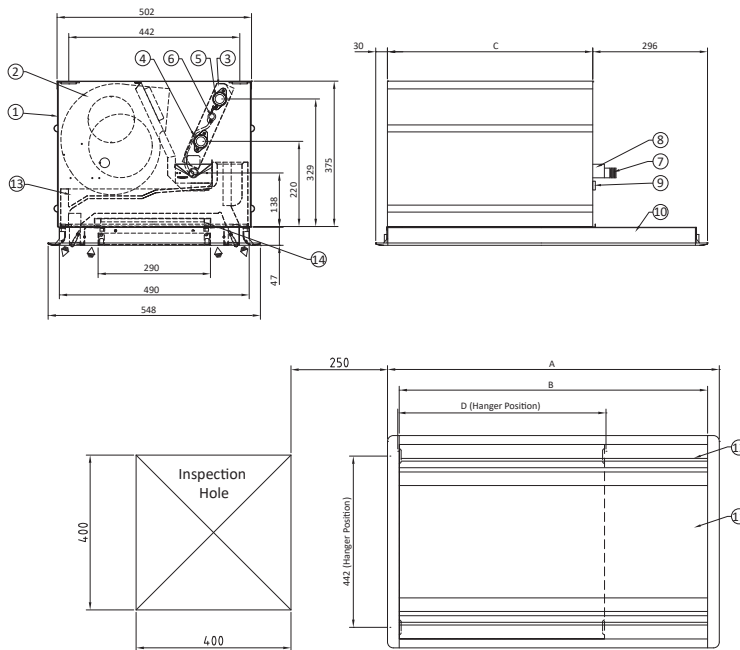


* Setting for vertical discharge: Airflow distribution during heating (LOUVER angle 65° in strong wind conditions)

- ▶ The airflow control grille is made of aluminum, and EPS is used as the insulation material inside the product, making it lightweight. The height of the unit can be adjusted up to 70 mm depending on the ceiling height at the installation site.
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency. **Option**
- ▶ A MICOM wireless remote controller switch can be attached. **Option**

- ▶ For energy savings, installation of On/Off valves for each product is recommended. **Option**
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration No. 10-1147406

Cassette Standard Type (CC)



MODEL	A	B	C	D	E	Ceiling Hole Dimensions	Fully Threaded Bolt Dimensions
SFC-20CC	856	796	530	538	1	520 x 828	442 x 537
SFC-30CC	986	926	660	668	1	520 x 958	442 x 667
SFC-40CC	1136	1076	810	818	2	520 x 1108	442 x 817
SFC-60CC	1446	1386	1120	1128	2	520 x 1418	442 x 1127
SFC-80CC	1756	1696	1430	1438	3	520 x 1728	442 x 1437

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	BODY SIDE PLATE	GI 0.8T	2	-
2	FAN	ABS	E	SIROCCO FAN (Ø192)
3	HEATING & COOLING COIL	CU-AL	1	3/8" * t0.35 (SLIT FIN Applied)
4	WATER INLET	BS	1	PF 3/4" (20 A)
5	WATER OUTLET	BS	1	PF 3/4" (20 A)
6	AIR VENT	BS	1	PT 1/8" (Manual)
7	DRAIN CONNECTION	-	1	PT 3/4" (20 A)
8	DRAIN PAN	CR 0.8 T	1	Powder Coating
9	TERMINAL BLOCK	-	1	20 A, 6 P
10	GRILLE PANEL	CR+AL	1	Inner Diameter Ø14 Outer Diameter Ø18
11	SERVICE PANEL	CR 0.8T	1	Powder Coating
12	Airflow Volume Control GRILLE	AL	2	Powder Coating
13	AIR CHAMBER	Styrofoam	1	-
14	AIR FILTER	Vinyl Chloride	1	Submersible

Standard Specifications

Category		Specifications		SFC-20CC		SFC-30CC		SFC-40CC		SFC-60CC		SFC-80CC	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	
	Cooling Capacity	W	2,790	2,120	3,700	2,810	5,360	4,050	7,220	5,490	10,440	7,870	
		Kcal/h	2,400	1,820	3,180	2,420	4,610	3,480	6,210	4,720	8,980	6,770	
	Heating Capacity	W	5,640	3,470	7,780	4,770	10,990	6,710	14,330	8,760	21,240	12,950	
		Kcal/h	4,850	2,980	6,690	4,100	9,450	5,770	12,320	7,530	18,270	11,140	
	Flow Rate	ℓ/min	8.1	6.0	10.7	8.0	15.4	11.5	20.8	15.7	30.0	22.4	
Head Loss	mAq	0.7	0.4	1.6	0.9	4.4	2.4	3.5	2.0	9.5	5.3		
Fan Blower	Type		Double Suction Multiblade (SIROCCO FAN)										
	SIZE	mm	ø192 XL170		ø192 XL200		ø192 XL170		ø192 XL200		ø192 XL200		
	Airflow Volume	m³/min	5.7		8.5		11.3		17		22.6		
	Drive		Direct Drive Motor										
	Quantity	EA	1		1		2		2		3		
Motor	Type		AC Semi-Enclosed Type (6 poles, Class B insulation)										
	Quantity	EA	1		1		1		1		2		
Power Consumption		W	45		55		75		95		150		
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)										
Pipe	Inlet	A	PF 3/4" (20 A)										
	Outlet	A	PF 3/4" (20 A)										
	Drain		NIPPLE 3/4" (20 A)										
External Material			Galvanized Steel Sheet										
Air Volume Control			Strong, Medium, Weak 3-Stage Rotary Switch										
Power Supply			Single Phase 220 V 60 HZ										
AIR FILTER			Vinyl Chloride (Submersible Type)										
Product Weight		Kg	23		27		33		39		52		

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

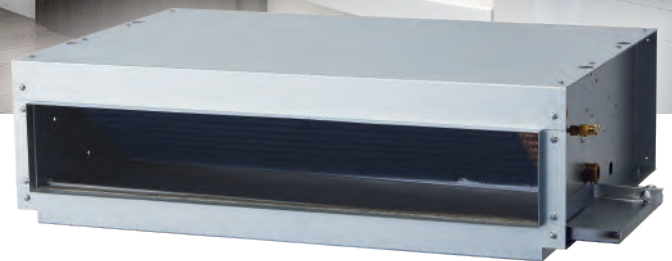
Floor-Stand Type

Stand Type

Facility Cultivation Type



Ceiling Concealed Type



An electric motor with low vibration, low noise, and a long-lifespan die-cast housing has been applied.

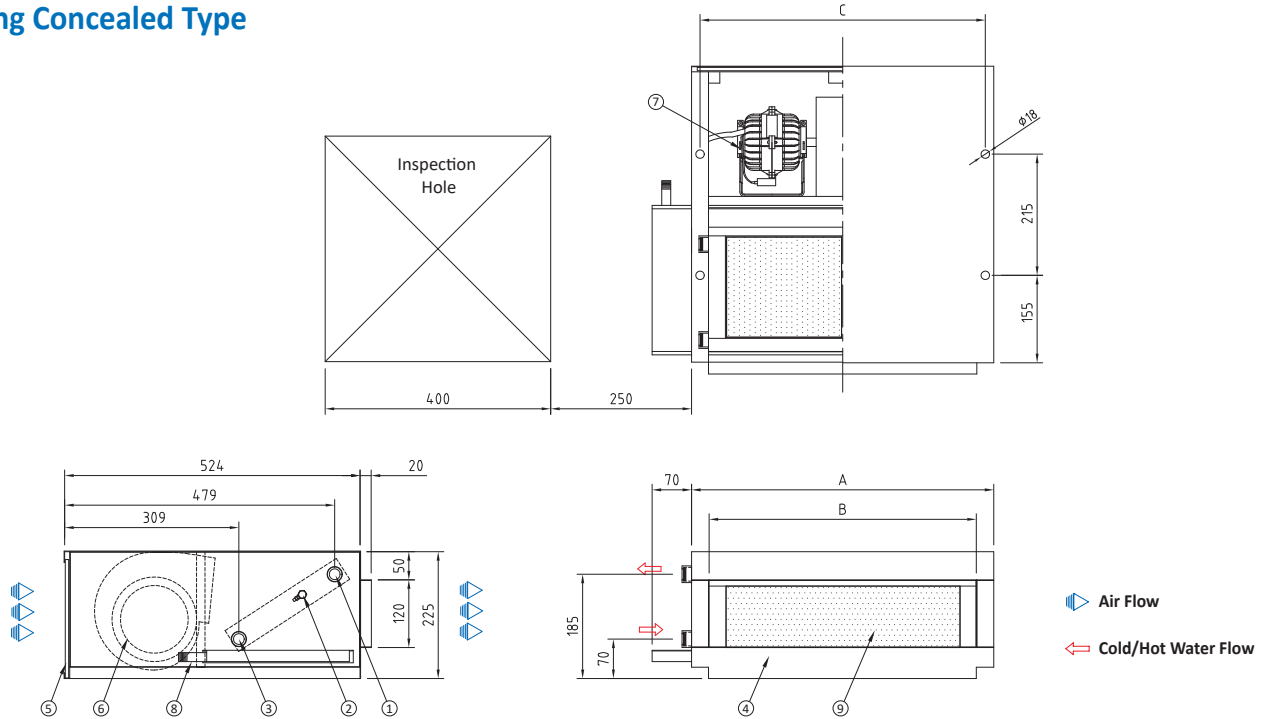


- ▶ As it is concealed inside the ceiling, indoor space can be utilized effectively.
- ▶ Able to apply 4 Pipe configuration. Option
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor, with low power and high efficiency. Option



- ▶ For energy savings, installation of On/Off valves for each product is recommended.
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump. Option
- ▶ Both central control and group control are available. Option
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps offers outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. Option
 - Korean Patent Registration No. 10-1147406

Ceiling Concealed Type



MODEL	A	B (Outlet)	C (Hanger Position)	D (Motor)	E (Fan)
SFC-20CM	540	480	510	1	1
SFC-30CM	660	600	630	1	1
SFC-40CM	780	720	750	1	2
SFC-60CM	1020	960	990	1	2
SFC-80CM	1260	1200	1230	2	3
SFC-120CM	1500	1440	1470	2	4

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	WATER INLET	BS	1	PF 3/4" (20 A)
4	DRAIN PAN	GI	1	
5	AIR FILTER	Vinyl Chloride	1	Submerged Type
6	FAN & HOUSING	ASS'Y	E	
7	MOTOR	ASS'Y	D	
8	DRAIN CONNECTION		1	NIPPLE 3/4" (20 A)
9	COIL ASS'Y	CU-AL	1	

Standard Specifications

Category		Specifications		SFC-20CM		SFC-30CM		SFC-40CM		SFC-60CM		SFC-80CM		SFC-120CM	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	A	B	
	Cooling Capacity	W	2,790	2,120	3,700	2,810	5,360	4,050	7,220	5,490	10,440	7,870	13,610	10,260	
		Kcal/h	2,400	1,820	3,180	2,420	4,610	3,480	6,210	4,720	8,980	6,770	11,700	8,820	
	Heating Capacity	W	5,640	3,470	7,780	4,770	10,990	6,710	14,330	8,760	21,240	12,950	23,640	14,340	
		Kcal/h	4,850	2,980	6,690	4,100	9,450	5,770	12,320	7,530	18,270	11,140	20,330	12,330	
	Flow Rate	ℓ/min	8.1	6.0	10.7	8.0	15.4	11.5	20.8	15.7	30.0	22.4	39.1	29.3	
Head Loss		mAq	0.7	0.4	1.6	0.9	4.4	2.4	3.5	2.0	9.5	5.3	16.8	9.4	
Fan Blower	Type		Double Suction Multi-Blade Type (SIROCCO FAN)												
	SIZE	mm	Ø145 X L165		Ø145 X L200		Ø145 X L165		Ø145 X L200		Ø145 X L200		Ø145 X L200		
	Airflow Volume	m³/min	5.7		8.5		11.3		17		22.6		34		
	Drive		Direct Drive Motor												
	Quantity	EA	1		1		2		2		3		4		
Motor	Type		AC Semi-Enclosed Type (6 poles, Class B insulation)												
	Quantity	EA	1		1		1		1		2		2		
Power Consumption		W	45		55		70		85		55 + 85		85 X 2		
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)												
Pipe	Inlet	A	PF 3/4" (20 A)												
	Outlet	A	PF 3/4" (20 A)												
	Drain		NIPPLE 1/2" (15 A)												
External Material			Galvanized Steel Sheet												
Air Volume Control			Strong, Medium, Weak 3-Stage Rotary Switch												
Power Supply			Single Phase 220 V 60 HZ												
AIR FILTER			Vinyl Chloride (Submerged)												
Product Weight		Kg	15		17		20		24		32		40		

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type

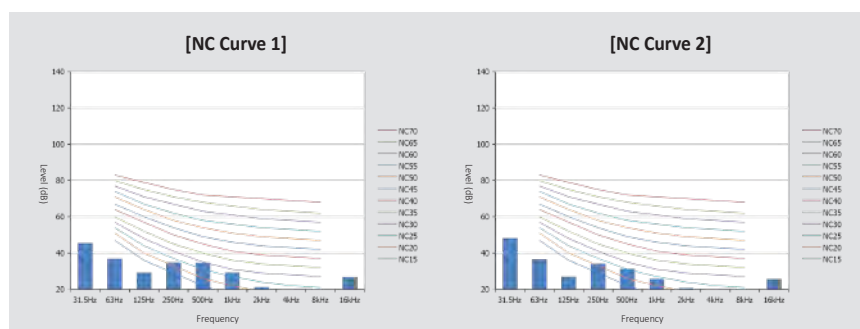


A product designed to minimize operational noise for a comfortable indoor environment

Low-Noise, Ceiling Concealed Type



NC Noise Curve

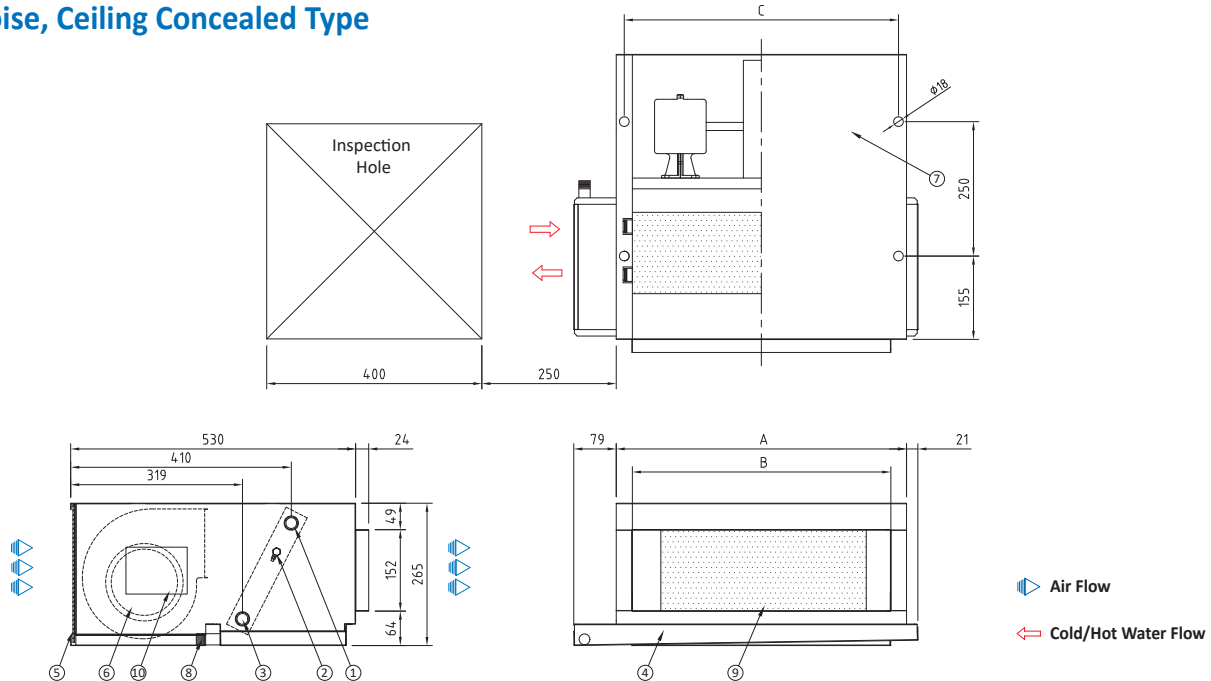


- ▶ NC (Noise Criteria) curve is a method of evaluating indoor noise based on the results of analyzing noise in 1:1 octave bands. It is a noise standard determined based on the degree to which it is harmful to conversation.
- ▶ With the application of a newly developed BLDC motor and fan, operation noise and power consumption are minimized.
- ▶ It can be easily operated based on contact control using a rotary switch.
- ▶ As it is installed inside the ceiling, you can effectively utilize indoor space.
- ▶ Able to apply 4 Pipe configuration. **Option**



- ▶ For energy savings, installation of On/Off valves for each product is recommended.
- These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump. **Option**
- ▶ Both central control and group control are available. **Option**
- Central control can be achieved through power line communication and RS-485 communication.
- Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
- Korean Patent Registration No. 10-1147406

Low-Noise, Ceiling Concealed Type



MODEL	A	B (Outlet)	C (Hanger Position)	D (Motor)	E (Fan)
SFC-L20N	540	480	510	1	1
SFC-L30N	660	600	630	1	2
SFC-L40N	780	720	750	1	2
SFC-L60N	1020	960	990	2	3
SFC-L80N	1260	1200	1230	2	3

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	WATER INLET	BS	1	PF 3/4" (20 A)
4	DRAIN PAN	GI	1	
5	AIR FILTER	Vinyl Chloride	1	Submerged Type
6	FAN & HOUSING	ASS'Y	E	
7	MOTOR	ASS'Y	D	
8	DRAIN CONNECTION		1	NIPPLE 3/4" (20 A)
9	COIL ASS'Y	CU-AL	1	
10	PCB BOX	GI	1	

Standard Specifications

Category			Specifications		SFC-L20N		SFC-L30N		SFC-L40N		SFC-L60N		SFC-L80N	
Capacity	Capacity Conditions		1 COIL	2 COIL	1 COIL	2 COIL	1 COIL	2 COIL	1 COIL	2 COIL	1 COIL	2 COIL		
	Cooling Capacity	W	2,080	1,930	2,940	2,670	3,890	3,470	5,840	5,260	7,530	6,800		
		Kcal/h	1,790	1,660	2,530	2,300	3,350	2,990	5,030	4,530	6,480	5,850		
	Heating Capacity	W	3,070	2,800	4,370	3,870	5,780	5,050	8,710	7,650	11,190	9,980		
		Kcal/h	2,640	2,400	3,760	3,330	4,970	4,350	7,490	6,580	9,630	8,580		
	Flow Rate	ℓ/min	6.0	5.5	8.0	7.7	11.5	9.9	15.7	15.1	22.4	19.5		
Head Loss	mAq	0.55	0.47	1.20	1.09	2.92	2.18	7.07	6.54	5.44	4.12			
Fan Blower	Type		Double Suction Multi-Blade Type (SIROCCO FAN)											
	SIZE	mm	Ø160 X L180		Ø160 X L160		Ø160 X L180		Ø160 X L160		Ø160 X L160			
	Airflow Volume	m³/min	5.7		8.6		11.2		17		22.7			
	Drive		Direct Drive Motor											
	Quantity	EA	1		2		2		3		4			
Motor	Type		BLDC Motor											
	Quantity	EA	1		1		1		2		2			
Power Consumption		W	17		20		25		50		70			
Noise	Noise	dB (A)	35.1		32.3		36.1		39.8		41.5			
	NC Noise		NC-30		NC-30		NC-35		NC-35		NC-40			
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)											
Pipe	Inlet	A	PF 3/4" (20 A)											
	Outlet	A	PF 3/4" (20 A)											
	Drain		NIPPLE 3/4" (20 A)											
External Material			Galvanized Steel Sheet											
Air Volume Control			Strong, Medium, Weak 3-Stage Rotary Switch											
Power Supply			Single Phase 220 V 60 HZ											
AIR FILTER			Vinyl Chloride (Submerged)											
Product Weight		Kg	22	25	23	27	26	30	31	35	34	40		

(Note) Capacity Condition: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

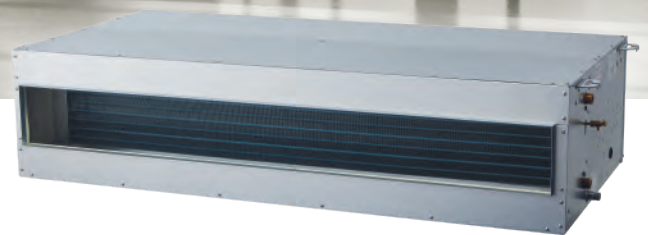
Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type



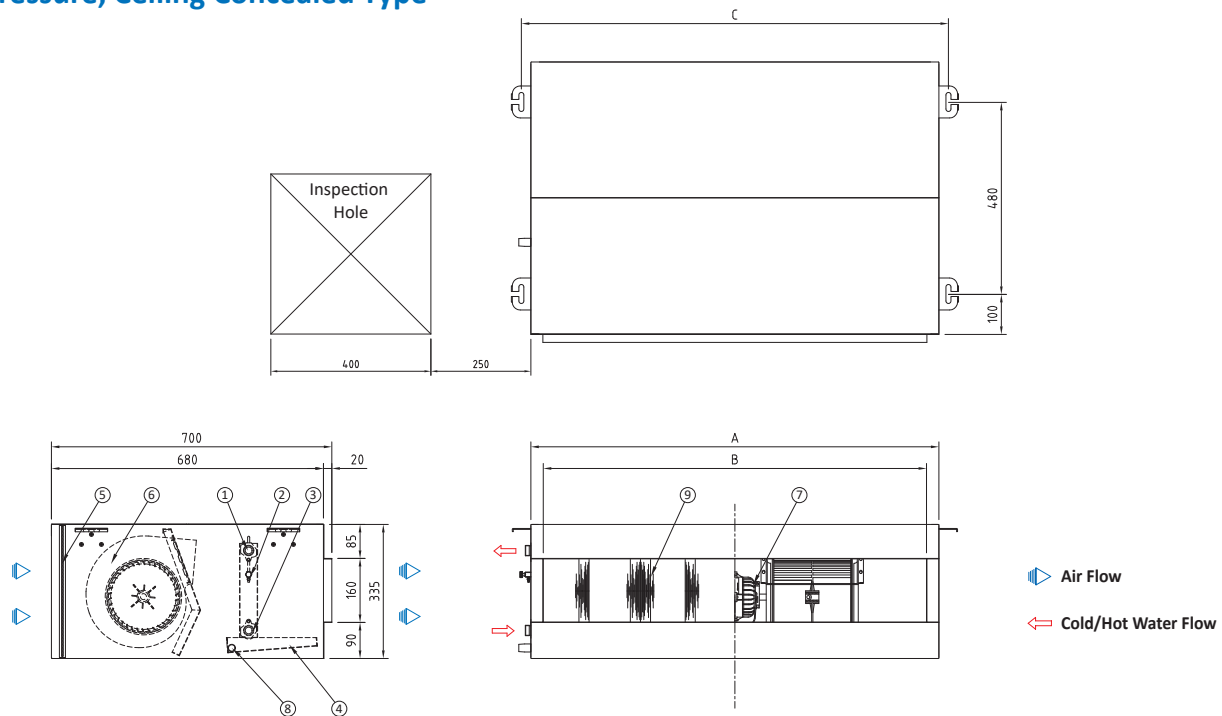
High-Pressure, Ceiling Concealed Type

The maximum effect can be achieved in sites with long ducts connected to the product (high static pressure).



- ▶ As it is concealed inside the ceiling, indoor space can be utilized effectively.
- ▶ Able to apply 4 Pipe configuration. **Option**
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency. **Option**
- ▶ For energy savings, installation of On/Off valves for each product is recommended. **Option**
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration No. 10-1147406

High-Pressure, Ceiling Concealed Type



MODEL	A	B (Outlet)	C (Hanger Position)	D (Motor)	E (Fan)
SFC-H13	780	730	828	1	1
SFC-H17	1020	960	1068	1	2
SFC-H21	1020	960	1068	1	2
SFC-H28	1200	1140	1248	2	3
SFC-H31	1200	1140	1248	2	3
SFC-H35	1440	1380	1488	2	4

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	WATER INLET	BS	1	PF 3/4" (20 A)
4	DRAIN PAN	GI	1	
5	AIR FILTER	Vinyl Chloride	1	Submerged Type
6	FAN & HOUSING		E	
7	MOTOR	ASS'Y	D	
8	DRAIN CONNECTION		1	NIPPLE 1/2" (15 A)
9	COIL ASS'Y	CU-AL	1	

Standard Specifications

Category	Specifications		SFC-H13		SFC-H17		SFC-H21		SFC-H28		SFC-H31		SFC-H35	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	A	B
	Cooling Capacity	W	5,380	4,050	7,230	5,490	10,510	7,970	12,620	9,480	14,060	10,640	17,730	13,430
		Kcal/h	4,630	3,480	6,220	4,720	9,040	6,850	10,850	8,150	12,090	9,150	15,250	11,550
	Heating Capacity	W	11,070	6,710	14,330	8,760	21,220	13,020	25,450	15,470	28,440	17,380	31,420	21,860
		Kcal/h	9,520	5,770	12,320	7,530	18,250	11,200	21,890	13,300	24,460	14,950	27,020	18,800
Flow Rate	ℓ/min	15.5	11.5	20.8	15.7	30.2	22.8	36.2	27.1	40.4	30.5	50.9	38.5	
Head Loss	mAq	4.6	2.5	11.1	6.3	25.9	14.8	11.7	6.6	16.2	9.3	28.5	16.3	
Fan Blower	Type		Double Suction Multi-Blade Type (SIROCCO FAN)											
	SIZE	mm	ø192 X L170		ø192 X L200		ø192 X L200		ø192 X L170		ø192 X L200		ø192 X L200	
	Airflow Volume	m³/min	13		17		21		28		31		35	
	Drive		Direct Drive Motor											
	External Static Pressure (ESP)	mmAq	5											
	Quantity	EA	1		2		2		3		3		4	
Motor	Type		AC Semi-Enclosed Type (6 poles, Class B insulation)											
	Quantity	EA	1		1		1		2		2		2	
Power Consumption		W	150		195		205		300		315		340	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)											
Pipe	Inlet	A	PF 3/4" (20 A)											
	Outlet	A	PF 3/4" (20 A)											
	Drain		NIPPLE 1/2" (15 A)											
External Material			Galvanized Steel Sheet											
Air Volume Control			Strong, Medium, Weak 3-Stage Rotary Switch											
Power Supply			Single Phase 220 V 60 HZ											
AIR FILTER			Vinyl Chloride (Submerged)											
Product Weight		Kg	30		34		36		40		42		46	

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type



High-Capacity, High-Pressure, Ceiling Concealed Type

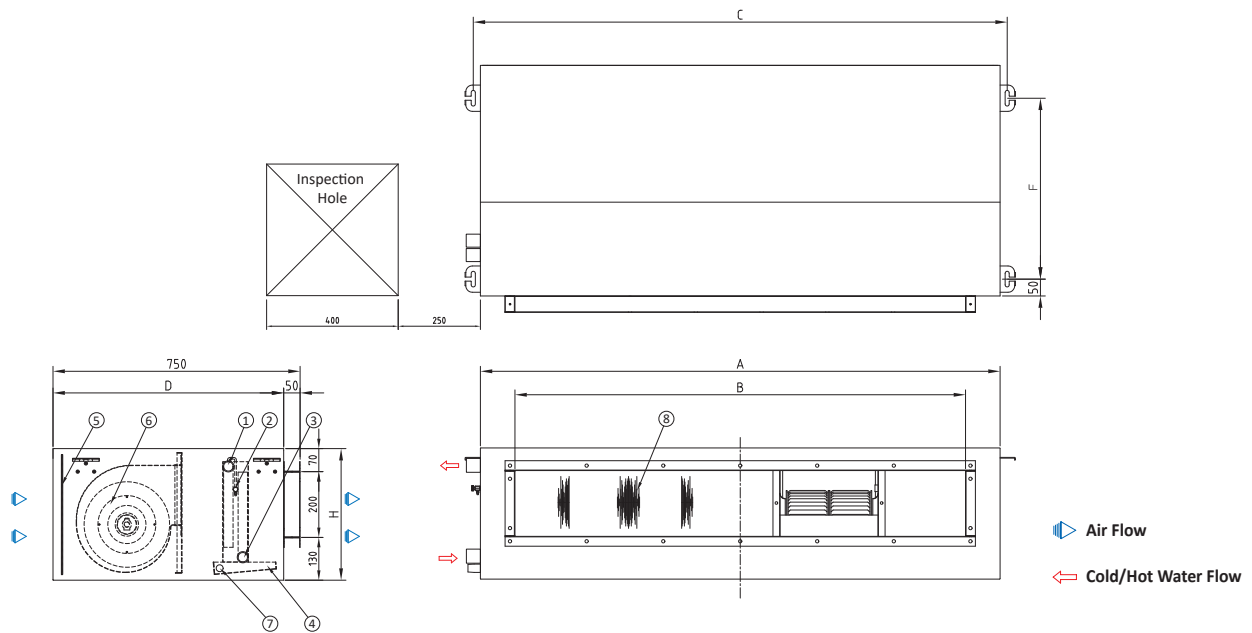


Suitable for locations with high ceiling heights such as churches or lobby areas, as well as locations that require high airflow and high pressure.



- ▶ As it is concealed inside the ceiling, indoor space can be utilized effectively.
- ▶ Able to apply 4 Pipe configuration. **Option**
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency. **Option**
- ▶ For energy savings, installation of On/Off valves for each product is recommended. **Option**
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration No. 10-1147406

High-Capacity, High-Pressure, Ceiling Concealed Type



MODEL	A	B (Outlet)	C (Hanger Position)	D	E	F	H
SFC-H40	1150	940	1195	700	2	550	400
SFC-H45	1250	1040	1295	700	2	550	400
SFC-H50	1450	1240	1495	700	2	550	400
SFC-H55	1580	1370	1695	700	2	550	400
SFC-H60	1595	1490	1640	1050	2	900	600

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	WATER INLET	BS	1	PF 3/4" (20 A)
4	DRAIN PAN	GI	1	
5	AIR FILTER	Vinyl Chloride	1	Submerged
6	FAN & MOTOR	ASS'Y	E	
7	DRAIN CONNECTION		1	NIPPLE 3/4" (20 A)
8	COIL ASS'Y	CU-AL	1	

Standard Specifications

Category	Specifications		SFC-H40		SFC-H45		SFC-H50		SFC-H55		SFC-H60		
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	
	Cooling Capacity	W	19,100	14,830	20,450	15,450	23,940	18,260	26,910	20,440	39,500	29,770	
		Kcal/h	16,430	12,750	17,590	13,290	20,590	15,700	23,140	17,580	33,970	25,600	
	Heating Capacity	W	35,140	21,280	39,160	24,420	46,730	28,720	49,770	30,470	62,840	38,380	
		Kcal/h	30,220	18,300	33,680	21,000	40,190	24,700	42,800	26,200	54,040	33,010	
	Flow Rate	ℓ/min	54.8	38.4	58.7	44.3	68.7	52.3	77.2	58.6	113.3	73.3	
Head Loss	mAq	2.2	1.1	2.9	1.6	4.6	2.7	6.5	3.7	2.5	1.1		
Fan Blower	Type		Double Suction Multi-Blade Type (SIROCCO FAN)										
	Airflow Volume	m³/min	40		45		50		55		60		
	Drive		Direct Drive Motor										
	External Static Pressure	mmAq	5 (Additional external static pressure is optional)										
Motor	Type		AC Semi-Enclosed Type (6 poles, Class B insulation)										
	Quantity	EA	2		2		2		2		2		
Power Consumption		W	550		580		680		720		900		
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)										
Pipe	Inlet	A	Socket PT 1" (25 A)									Soket PT 40A	
	Outlet	A	Socket PT 1" (25 A)									Soket PT 40A	
	Drain		NIPPLE 3/4" (20 A)										
External Material			Galvanized Steel Sheet										
Air Volume Control			Strong, Medium, Weak 3-Stage Rotary Switch										
Power Supply			Single Phase 220 V 60 HZ										
AIR FILTER			Vinyl Chloride (Submerged)										
Product Weight		Kg	54		57		62		64		80		

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

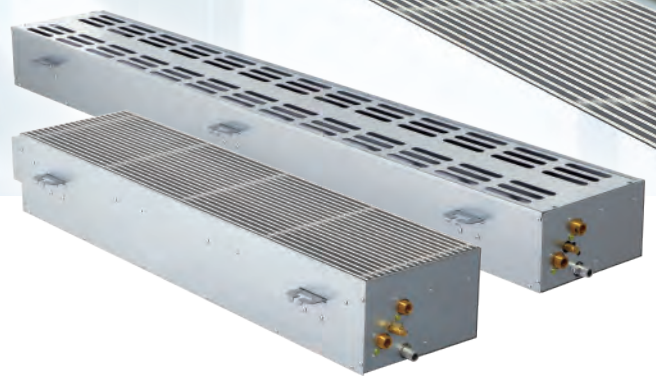
Floor-Stand Type

Stand Type

Facility Cultivation Type

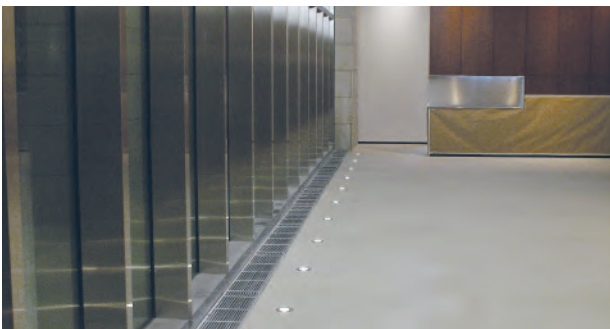


Developed to adapt to changing environments, this latest product offers excellent space utilization and an optimal environment



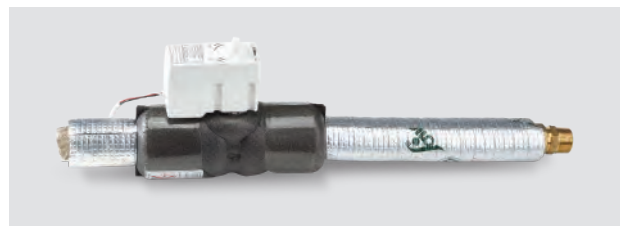
Floor Concealed, Slim Type

Excellently reduces the load on the outer perimeter of curtain walls, such as in the lobbies of various buildings.



- ▶ Developed to adapt to changing environments, this latest product provides improved space utilization and a comfortable environment.
- ▶ Features a low-noise, long-lasting, single-phase capacitor induction motor and a cross-flow fan.

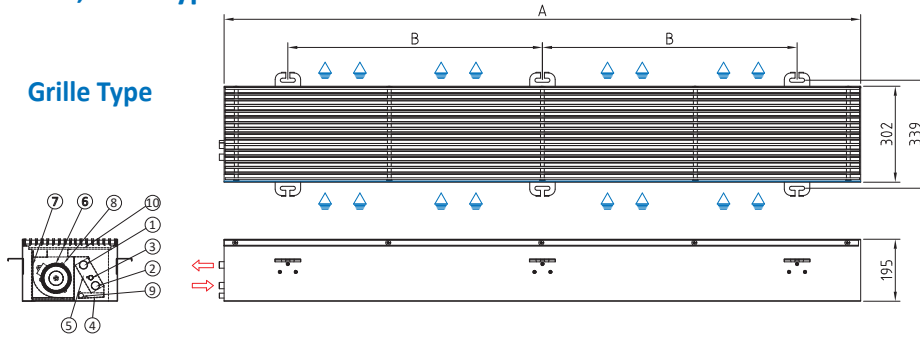
- ▶ For energy savings, installation of On/Off valves for each unit is recommended. **Option**
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.



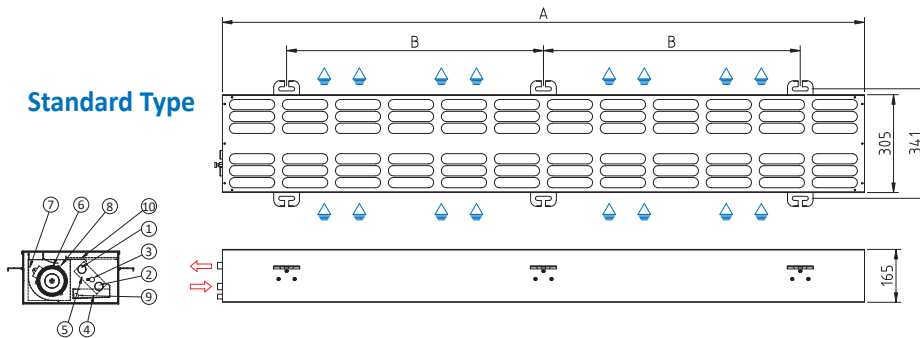
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration No. 10-1147406

Floor Concealed, Slim Type

Grille Type



Standard Type



▶ Air Flow

↔ Cold/Hot Water Flow

MODEL	A	B	C	D
SFC-S1TM	1200	900	1	1
SFC-S2TM	1800(2000)	700(800)	2	2

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	WATER INLET	BS	1	PF 3/4" (20 A)
3	AIR VENT	BS	1	PT 1/8" (Manual)
4	DRAIN PAN	GI	1	-
5	HEATING & COOLING COIL	CU-AL	1	3/8" * t0.35 (SLIT FIN Applied)
6	FAN IMPELLER	ABS	C	CROSS FLOW FAN (Ø96)
7	FAN HOUSING	GI	C	-
8	MOTOR	ASS'Y	D	1Ø 220 V 60 Hz
9	DRAIN CONNECTION	-	1	NIPPLE 15 A
10	AIR FILTER	Vinyl Chloride	1	Submerged Type

Standard Specifications

Category	Specifications		SFC-S1TM		SFC-S2TM	
Capacity	Capacity Conditions		A	B	A	B
	Cooling Capacity	W	3,010	2,300	4,830	3,640
		Kcal/h	2,590	1,980	4,150	3,130
	Heating Capacity	W	5,680	3,480	9,000	5,460
		Kcal/h	4,890	3,000	7,730	4,700
	Flow Rate	ℓ/min	8.7	6.8	13.9	10.5
Head Loss	mAq	0.8	0.5	3.5	2.0	
Fan Blower	Type		Cross Flow Fan			
	SIZE	mm	Ø96 X L715		Ø96 X L715	
	Airflow Volume	m³/min	6.8		11	
	Drive		Direct Drive Motor			
Motor	Quantity	EA	1		2	
	Type		Semi-Enclosed Type (4 poles, Class B insulation)			
Power Consumption	Quantity	EA	1		2	
		W	20		45	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)			
Pipe	Inlet	A	PF 3/4" (20 A)			
	Outlet	A	PF 3/4" (20 A)			
	Drain		NIPPLE 1/2" (15 A)			
External Material			Galvanized Steel Sheet, Powder Coating			
Air Volume Control			Direct Terminal Power Connection / Rotary Switch (Optional)			
Power Supply			Single Phase 220 V 60 HZ			
AIR FILTER			Vinyl Chloride (Submerged)			
Product Weight		Kg	23		48	

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type



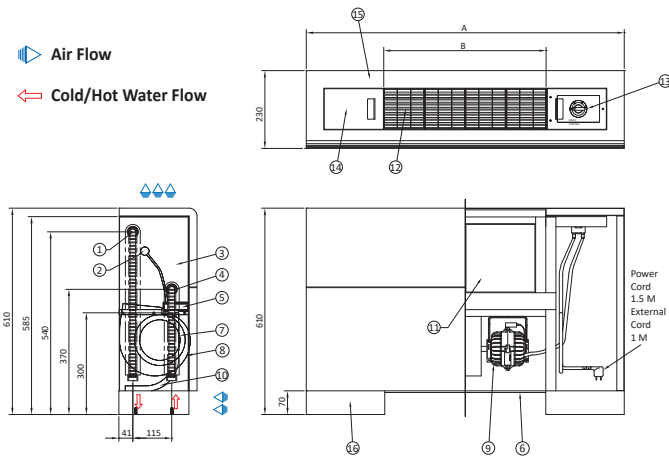
Floor-Stand (Exposed/Concealed), Upper Discharge Type

An electric motor with low vibration, low noise, and a long-lifespan die-cast housing has been applied.



- ▶ A discharge grille with an airflow direction adjustable by 90 degrees is used to evenly distribute indoor air. (Exposed Type)
- ▶ A general MICOM switch and wireless remote controller switch can be attached. Option
- ▶ Able to apply 4 Pipe configuration. Option
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency. Option
- ▶ For energy savings, installation of On/Off valves for each unit is recommended. Option
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. Option
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. Option
 - Korean Patent Registration No. 10-1147406

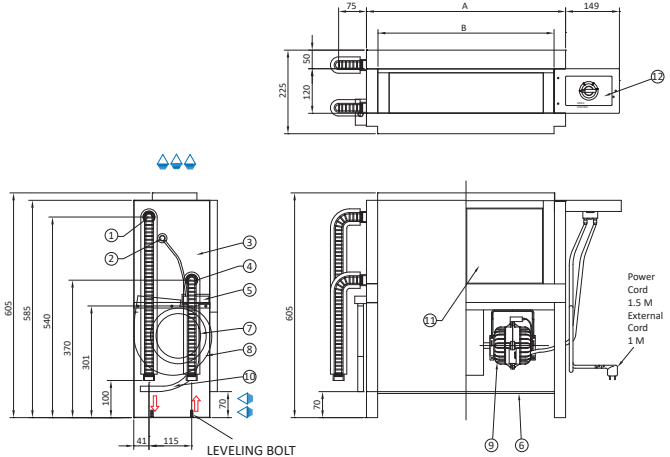
Floor-Stand Exposed, Upper Discharge Type



MODEL	A	B (Outlet)	C (Grille)	D (Motor)	E (Fan)
SFC-20T	940	p120 x 4 = 480	4	1	1
SFC-30T	1060	p120 x 5 = 600	5	1	1
SFC-40T	1180	p120 x 6 = 720	6	1	2
SFC-60T	1420	p120 x 8 = 960	8	1	2
SFC-80T	1660	p120 x 10 = 1200	10	2	3
SFC-120T	1900	p120 x 12 = 1440	12	2	4

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	INNER SIDE CASING	GI 1.0 T	2	-
4	WATER INLET	BS	1	PF 3/4" (20 A)
5	DRAIN PAN	Heat-Resistant ABS	1	Plastic
6	AIR FILTER	Vinyl Chloride	1	Submerged Type
7	FAN IMPELLER	ABS	E	SIROCCO FAN (Ø145)
8	FAN HOSE	ABS	E	-
9	MOTOR	ASS'Y	D	1Ø 220 V 60 Hz
10	DRAIN HOSE	Soft Polyvinyl Chloride	1	Inner Diameter Ø14 Outer Diameter Ø18
11	HEATING & COOLING COIL	CU-AL	1	3/8" * t0.35 (SLIT FIN Applied)
12	GRILLE	Heat-Resistant ABS	C	120*120
13	CONTROL SWITCH	-	1	Rotary Type (Strong, Medium, Weak 3-Stage)
14	ACCESS DOOR	ABS	2	120*200
15	EXTERNAL PANEL	CR 1.0 T	1	-
16	BASE	Composite PP 3 T	2	T/K 30%

Floor-Stand Concealed, Upper Discharge Type



MODEL	A	B (Outlet)	C (Grille)	D (Motor)	E (Fan)
SFC-20TM	540	480	4	1	1
SFC-30TM	660	600	5	1	1
SFC-40TM	780	720	6	1	2
SFC-60TM	1020	960	8	1	2
SFC-80TM	1260	1200	10	2	3
SFC-120TM	1500	1440	12	2	4

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	INNER SIDE CASING	GI 1.0 T	2	-
4	WATER INLET	BS	1	PF 3/4" (20 A)
5	DRAIN PAN	Heat-Resistant ABS	1	Plastic
6	AIR FILTER	Vinyl Chloride	1	Submerged Type
7	FAN IMPELLER	ABS	E	SIROCCO FAN (Ø145)
8	FAN HOSE	ABS	E	-
9	MOTOR	ASS'Y	D	1Ø 220 V 60 Hz
10	DRAIN HOSE	Soft Polyvinyl Chloride	1	Inner Diameter Ø14 Outer Diameter Ø18
11	HEATING & COOLING COIL	CU-AL	1	3/8" * t0.35 (SLIT FIN Applied)
12	CONTROL SWITCH	-	1	Rotary Type (Strong, Medium, Weak Three-Stage)

Standard Specifications

Category	Specifications		SFC-20T, TM		SFC-30T, TM		SFC-40T, TM		SFC-60T, TM		SFC-80T, TM		SFC-120T, TM	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	A	B
	Cooling Capacity	W	2,790	2,120	3,700	2,810	5,360	4,050	7,220	5,490	10,440	7,870	13,610	10,260
		Kcal/h	2,400	1,820	3,180	2,420	4,610	3,480	6,210	4,720	8,980	6,770	11,700	8,820
	Heating Capacity	W	5,640	3,460	7,780	4,770	10,990	6,710	14,330	8,760	21,240	12,950	23,640	14,340
		Kcal/h	4,850	2,980	6,690	4,100	9,450	5,770	12,320	7,530	18,270	11,140	20,330	12,330
	Flow Rate	ℓ/min	8.1	6.0	10.7	8.0	15.4	11.5	20.8	15.7	30.0	22.4	39.1	29.3
	Head Loss	mAq	0.7	0.4	1.6	0.9	4.4	2.4	3.5	2.0	9.5	5.3	16.8	9.4
Fan Blower	Type		Double Suction Multi-Blade Type (SIROCCO FAN)											
	SIZE	mm	Ø145 X L165		Ø145 X L200		Ø145 X L165		Ø145 X L200		Ø145 X L200		Ø145 X L200	
	Airflow Volume	m³/min	5.7		8.5		11.3		17		22.6		34	
	Drive		Direct Drive Motor											
	External Static Pressure	mmAq	1		1		2		2		3		4	
Motor	Type		AC Semi-Enclosed Type (6 poles, Class B insulation)											
	Quantity	EA	1		1		1		1		2		2	
Power Consumption		W	30		40		50		70		40 + 70		70 X 2	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)											
Pipe	Inlet	A	PF 3/4" (20 A)											
	Outlet	A	PF 3/4" (20 A)											
	Drain		Soft Vinyl Hose (Inner Diameter Ø14, Outer Diameter Ø18)											
External Material			Galvanized Steel Sheet, Powder Coating											
Air Volume Control			Strong, Medium, Weak 3-Stage Rotary Switch											
Power Supply			Single Phase 220 V 60 HZ											
AIR FILTER			Vinyl Chloride (Submerged)											
Product Weight		Kg	24 (14)		27 (16)		31 (20)		36 (25)		41 (32)		49 (40)	

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type



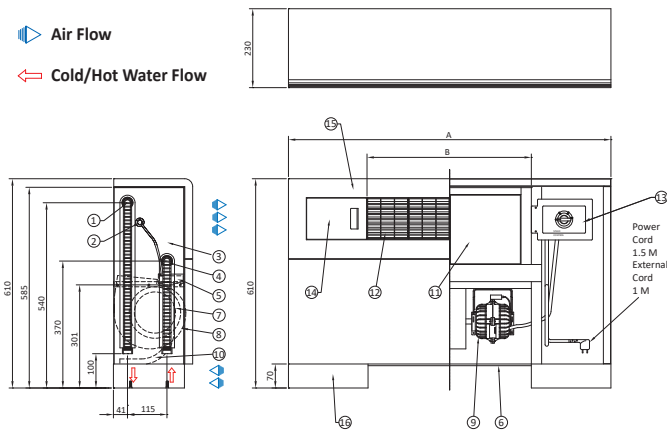
Floor-Stand (Exposed/Concealed), Front Discharge Type

An electric motor with low vibration, low noise, and a long-lifespan die-cast housing has been applied.



- ▶ A discharge grille with an airflow direction adjustable by 90 degrees is used to evenly distribute indoor air. (Exposed Type)
- ▶ A general MICOM switch and wireless remote controller switch can be attached. Option
- ▶ Able to apply 4 Pipe configuration. Option
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency. Option
- ▶ For energy savings, installation of On/Off valves for each unit is recommended. Option
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. Option
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. Option
 - Korean Patent Registration No. 10-1147406

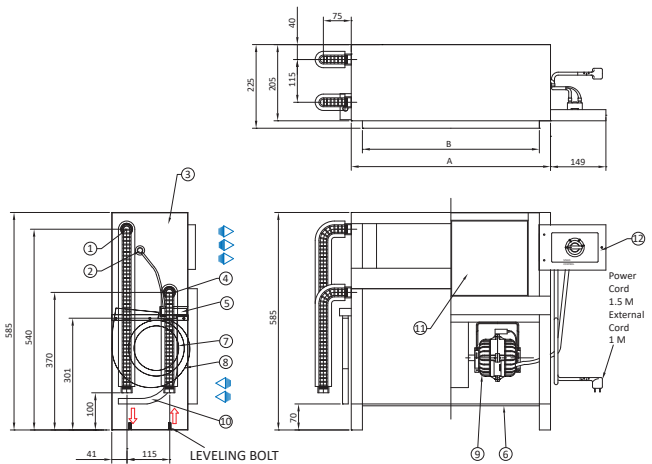
Floor-Stand Exposed, Front Discharge Type



MODEL	A	B (Outlet)	C (Grille)	D (Motor)	E (Fan)
SFC-20F	940	p120 x 4 = 480	4	1	1
SFC-30F	1060	p120 x 5 = 600	5	1	1
SFC-40F	1180	p120 x 6 = 720	6	1	2
SFC-60F	1420	p120 x 8 = 960	8	1	2
SFC-80F	1660	p120 x 10 = 1200	10	2	3
SFC-120F	1900	p120 x 12 = 1440	12	2	4

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	INNER SIDE CASING	GI 1.0 T	2	-
4	WATER INLET	HIPS	1	PF 3/4" (20 A)
5	DRAIN PAN	Heat-Resistant ABS	1	Plastic
6	AIR FILTER	Vinyl Chloride	1	Submerged Type
7	FAN IMPELLER	ABS	E	SIROCCO FAN (Ø145)
8	FAN HOSING	ABS	E	-
9	MOTOR	ASS'Y	D	1Ø 220 V 60 Hz
10	DRAIN HOSE	Soft Polyvinyl Chloride	1	Inner Diameter Ø14 Outer Diameter Ø18
11	HEATING & COOLING COIL	CU-AL	1	3/8" * t0.35 (SLIT FIN Applied)
12	GRILLE	Heat-Resistant ABS	C	120*120
13	CONTROL SWITCH	-	1	Rotary Type (Strong, Medium, Weak 3-Stage)
14	ACCESS DOOR	ABS	2	-
15	EXTERNAL PANEL	CR 1.0 T	1	Powder Coating
16	BASE	Composite PP 3 T	2	T/K 30%

Floor-Stand Concealed, Front Discharge Type



MODEL	A	B (Outlet)	C (Grille)	D (Motor)	E (Fan)
SFC-20FM	540	480	4	1	1
SFC-30FM	660	600	5	1	1
SFC-40FM	780	720	6	1	2
SFC-60FM	1020	960	8	1	2
SFC-80FM	1260	1200	10	2	3
SFC-120FM	1500	1440	12	2	4

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	INNER SIDE CASING	GI 1.0 T	2	-
4	WATER INLET	BS	1	PF 3/4" (20 A)
5	DRAIN PAN	Heat-Resistant ABS	1	Plastic
6	AIR FILTER	Vinyl Chloride	1	Submerged Type
7	FAN IMPELLER	ABS	E	SIROCCO FAN (Ø145)
8	FAN HOSING	ABS	E	-
9	MOTOR	ASS'Y	D	1Ø 220 V 60 Hz
10	DRAIN HOSE	Soft Polyvinyl Chloride	1	Inner Diameter Ø14 Outer Diameter Ø18
11	HEATING & COOLING COIL	CU-AL	1	3/8" * t0.35 (SLIT FIN Applied)
12	CONTROL SWITCH	-	1	Rotary Type (Strong, Medium, Weak 3-Stage)

Standard Specifications

Category	Specifications		SFC-20F, FM		SFC-30F, FM		SFC-40F, FM		SFC-60F, FM		SFC-80F, FM		SFC-120F, FM	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	A	B
	Cooling Capacity	W	2,790	2,120	3,700	2,810	5,360	4,050	7,220	5,490	10,440	7,870	13,610	10,260
		Kcal/h	2,400	1,820	3,180	2,420	4,610	3,480	6,210	4,720	8,980	6,770	11,700	8,820
	Heating Capacity	W	5,640	3,460	7,780	4,770	10,990	6,710	14,330	8,760	21,240	12,950	23,640	14,340
		Kcal/h	4,850	2,980	6,690	4,100	9,450	5,770	12,320	7,530	18,270	11,140	20,330	12,330
	Flow Rate	ℓ/min	8.1	6.0	10.7	8.0	15.4	11.5	20.8	15.7	30.0	22.4	39.1	29.3
	Head Loss	mAq	0.7	0.4	1.6	0.9	4.4	2.4	3.5	2.0	9.5	5.3	16.8	9.4
Fan Blower	Type		Double Suction Multi-Blade Type (SIROCCO FAN)											
	SIZE	mm	Ø145 X L165		Ø145 X L200		Ø145 X L165		Ø145 X L200		Ø145 X L200		Ø145 X L200	
	Airflow Volume	m³/min	5.7		8.5		11.3		17		22.6		34	
	Drive		Direct Drive Motor											
	External Static Pressure	mmAq	1		1		2		2		3		4	
Motor	Type		AC Semi-Enclosed Type (6 poles, Class B insulation)											
	Quantity	EA	1		1		1		1		2		2	
Power Consumption		W	30		40		50		70		40 + 70		70 X 2	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)											
Pipe	Inlet	A	PF 3/4" (20 A)											
	Outlet	A	PF 3/4" (20 A)											
	Drain		Soft Vinyl Hose (Inner Diameter Ø14, Outer Diameter Ø18)											
External Material			Galvanized Steel Sheet, Powder Coating											
Air Volume Control			Strong, Medium, Weak 3-Stage Rotary Switch											
Power Supply			Single Phase 220 V 60 HZ											
AIR FILTER			Vinyl Chloride (Submerged)											
Product Weight		Kg	24(14)		27(16)		31(20)		36(25)		41(32)		49(40)	

* Dimensions in () are for built-in weight

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

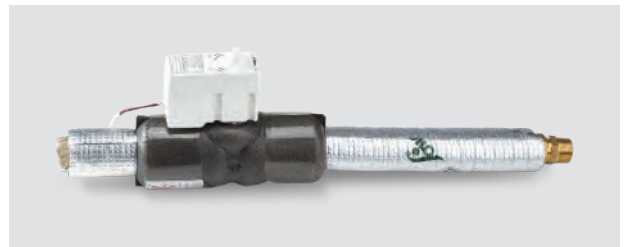
Floor-Stand Exposed, **Slant Discharge Type** (Rounded)



A discharge grille with an airflow direction adjustable by 90 degrees is used to evenly distribute indoor air.

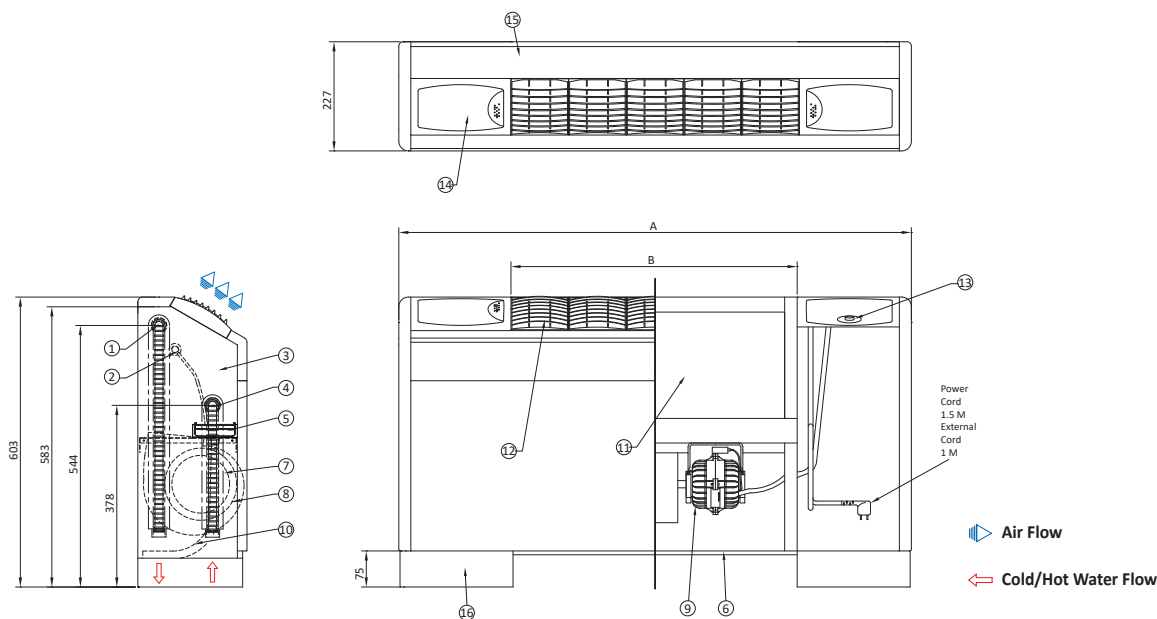


- ▶ A low-noise, long-life single-phase condenser induction motor is used.
- ▶ It complements indoor spaces with its elegant curved design.
- ▶ A general MICOM switch and wireless remote controller switch can be attached. **Option**
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motors with low power and high efficiency. **Option**



- ▶ For energy savings, installation of On/Off valves for each product is recommended. **Option**
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration No. 10-1147406

Floor-Stand Exposed, Slant Discharge Type (Rounded)



MODEL	A	B (Outlet)	C (Grille)	D (Motor)	E (Fan)
SFC-20TFV	946	p120 x 4 = 480	4	1	1
SFC-30TFV	1066	p120 x 5 = 600	5	1	1
SFC-40TFV	1186	p120 x 6 = 720	6	1	2
SFC-60TFV	1426	p120 x 8 = 960	8	1	2
SFC-80TFV	1666	p120 x 10 =1200	10	2	3
SFC-120TFV	1906	p120 x 12 =1440	12	2	4

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	INNER SIDE CASING	GI 1.0 T	2	-
4	WATER INLET	BS	1	PF 3/4" (20 A)
5	DRAIN PAN	Heat-Resistant ABS	1	Plastic
6	AIR FILTER	Vinyl Chloride	1	Submerged
7	FAN IMPELLER	ABS	E	SIROCCO FAN (Ø145)
8	FAN HOISING	ABS	E	-
9	MOTOR	ASS'Y	D	1Ø 220 V 60 Hz
10	DRAIN HOSE	Soft Polyvinyl Chloride	1	Inner Diameter Ø14 Outer Diameter Ø18
11	HEATING & COOLING COIL	CU-AL	1	3/8" * to.35 (SLIT Fin Applied)
12	GRILLE	Heat-Resistant ABS	C	120*120
13	CONTROL SWITCH	-	1	Rotary Type (Strong, Medium, Weak 3-Stage)
14	ACCESS DOOR	ABS	2	120*200
15	EXTERNAL PANEL	CR 1.0 T	1	-
16	BASE	ComPOSITE PP 3 T	2	T/K 30%

Standard Specifications

Category		Specifications		SFC-20TFV		SFC-30TFV		SFC-40TFV		SFC-60TFV		SFC-80TFV		SFC-120TFV	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	A	B	
	Cooling Capacity	W	2,790	2,120	3,700	2,810	5,360	4,050	7,220	5,490	10,440	7,870	13,610	10,260	
		Kcal/h	2,400	1,820	3,180	2,420	4,610	3,480	6,210	4,720	8,980	6,770	11,700	8,820	
	Heating Capacity	W	5,640	3,460	7,780	4,770	10,990	6,710	14,330	8,760	21,240	12,950	23,640	14,340	
		Kcal/h	4,850	2,980	6,690	4,100	9,450	5,770	12,320	7,530	18,270	11,140	20,330	12,330	
Flow Rate		ℓ/min	8.1	6.0	10.7	8.0	15.4	11.5	20.8	15.7	30.0	22.4	39.1	29.3	
Head Loss		mAq	0.7	0.4	1.6	0.9	4.4	2.4	3.5	2.0	9.5	5.3	16.8	9.4	
Fan Blower	Type		Double Suction Multi-Blade Type (SIROCCO FAN)												
	SIZE	mm	Ø145 X L165		Ø145 X L200		Ø145 X L165		Ø145 X L200		Ø145 X L200		Ø145 X L200		
	Airflow Volume	m³/min	5.7		8.5		11.3		17		22.6		34		
	Drive		Direct Drive Motor												
	Quantity	EA	1		1		2		2		3		4		
Motor	Type		AC Semi-Enclosed Type (6 poles, Class B insulation)												
	Quantity	EA	1		1		1		1		2		2		
Power Consumption		W	30		40		50		70		40 + 70		70 X 2		
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)												
Pipe	Inlet	A	PF 3/4" (20 A)												
	Outlet	A	PF 3/4" (20 A)												
	Drain		Soft Vinyl Hose (Inner Diameter Ø14, Outer Diameter Ø18)												
External Material			Galvanized Steel Sheet, Powder Coating												
Air Volume Control			Strong, Medium, Weak 3-Stage Rotary Switch												
Power Supply			Single Phase 220 V 60 HZ												
AIR FILTER			Vinyl Chloride (Submerged)												
Product Weight		Kg	23		26		29		34		39		47		

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

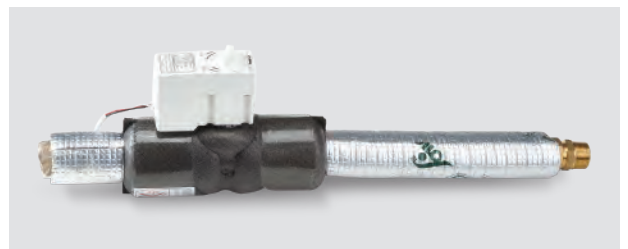
Floor-Stand Exposed, **Slant Discharge Type** (Inclined)



A discharge grille with an airflow direction adjustable by 90 degrees is used to evenly distribute indoor air.

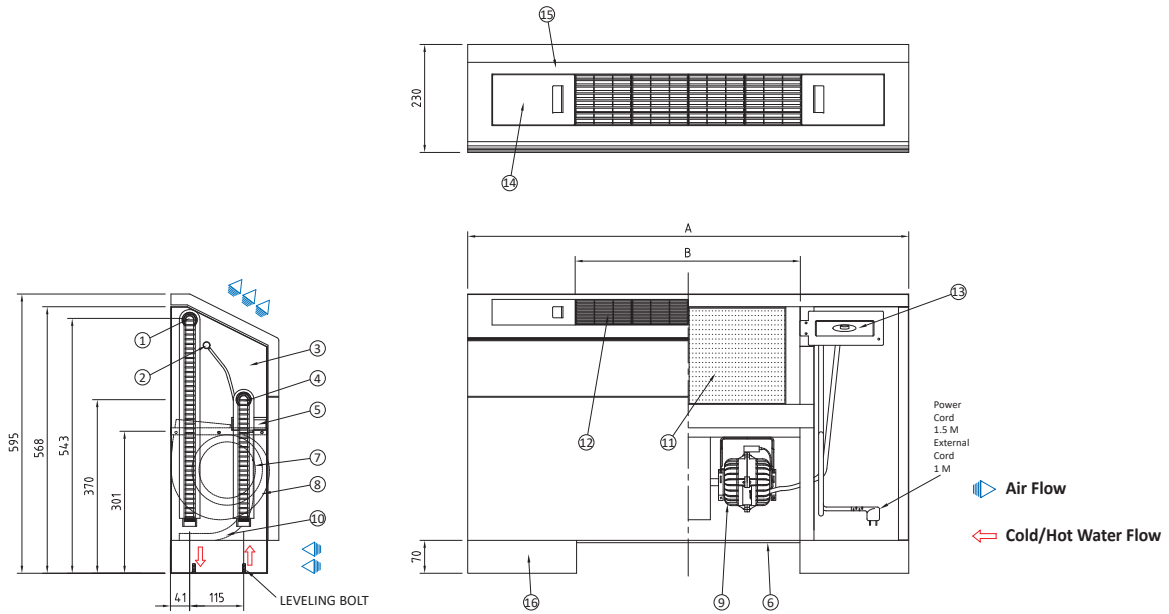


- ▶ A low-noise, long-life single-phase condenser induction motor is used.
- ▶ It complements indoor spaces with its elegant curved design.
- ▶ A general MICOM switch and wireless remote controller switch can be attached.
Option
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency. **Option**



- ▶ For energy savings, installation of On/Off valves for each product is recommended.
Option
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration No. 10-1147406

Floor-Stand Exposed, Slant Discharge Type (Inclined)



MODEL	A	B	C	D	E
SFC-20FT	940	p120 x 4=480	4	1	1
SFC-30FT	1060	p120 x 5=600	5	1	1
SFC-40FT	1180	p120 x 6=720	6	1	2
SFC-60FT	1420	p120 x 8=960	8	1	2
SFC-80FT	1660	p120 x 10=1200	10	2	3
SFC-120FT	1900	p120 x 12=1440	12	2	4

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	INNER SIDE CASE		2	
4	WATER INLET	GI	1	PF 3/4" (20 A)
5	DRAIN PAN	Heat-Resistant ABS	1	
6	AIR FILTER	Vinyl Chloride	1	Submerged Type
7	FAN IMPELLER	ABS	E	
8	FAN HOUSING	ABS	E	
9	MOTOR	ASS'Y	D	
10	DRAIN HOSE	Soft Polyvinyl Chloride	1	
11	HEATING & COOLING COIL	CU-AL	1	
12	GRILLE	Heat-Resistant ABS	C	120*120
13	CONTROL SWITCH		1	
14	ACCESS DOOR	ABS	2	120*200
15	EXTERNAL PANEL		1	
16	BASE	Composite PP	2	

Standard Specifications

Category	Specifications		SFC-20FT		SFC-30FT		SFC-40FT		SFC-60FT		SFC-80FT		SFC-120FT	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	A	B
	Cooling Capacity	W	2,790	2,120	3,700	2,810	5,360	4,050	7,220	5,490	10,440	7,870	13,610	10,260
		Kcal/h	2,400	1,820	3,180	2,420	4,610	3,480	6,210	4,720	8,980	6,770	11,700	8,820
	Heating Capacity	W	5,640	3,460	7,780	4,770	10,990	6,710	14,330	8,760	21,240	12,950	23,640	14,340
		Kcal/h	4,850	2,980	6,690	4,100	9,450	5,770	12,320	7,530	18,270	11,140	20,330	12,330
	Flow Rate	ℓ/min	8.1	6.0	10.7	8.0	15.4	11.5	20.8	15.7	30.0	22.4	39.1	29.3
	Head Loss	mAq	0.7	0.4	1.6	0.9	4.4	2.4	3.5	2.0	9.5	5.3	16.8	9.4
Fan Blower	Type		Double Suction Multi-Blade Type (SIROCCO FAN)											
	SIZE	mm	Ø145 X L165		Ø145 X L200		Ø145 X L165		Ø145 X L200		Ø145 X L200		Ø145 X L200	
	Airflow Volume	m³/min	5.7		8.5		11.3		17		22.6		34	
	Drive		Direct Drive Motor											
Motor	Quantity	EA	1		1		2		2		3		4	
	Type		AC Semi-Enclosed Type (6 poles, Class B insulation)											
Power Consumption		W	30		40		50		70		40 + 70		70 X 2	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)											
Pipe	Inlet	A	PF 3/4" (20 A)											
	Outlet	A	PF 3/4" (20 A)											
	Drain		Soft Vinyl Hose (Inner Diameter Ø14, Outer Diameter Ø18)											
External Material			Galvanized Steel Sheet, Powder Coating											
Air Volume Control			Strong, Medium, Weak 3-Stage Rotary Switch											
Power Supply			Single Phase 220 V 60 HZ											
AIR FILTER			Vinyl Chloride (Submerged)											
Product Weight		Kg	24		27		31		36		41		49	

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type



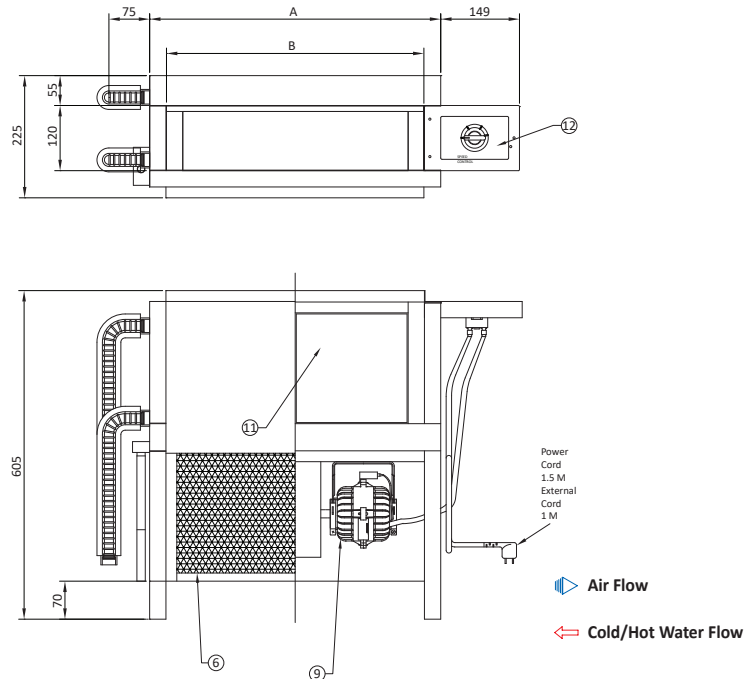
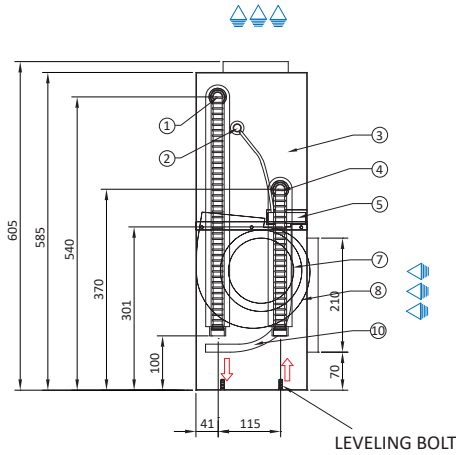
Floor-Stand Concealed, Front Suction Type

An electric motor with low vibration, low noise, and a long-lifespan die-cast housing has been applied.



- ▶ Able to optionally choose to install a separate external cover.
- ▶ A general MICOM switch and wireless remote controller switch can be attached. Option
- ▶ Able to apply 4 Pipe configuration. Option
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency. Option
- ▶ For energy savings, installation of On/Off valves for each unit is recommended. Option
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. Option
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. Option
 - Korean Patent Registration No. 10-1147406

Floor-Stand Concealed, Front Suction Type



MODEL	A	B (Outlet)	C (Motor)	D (Fan)
SFC-20TFM	540	480	1	1
SFC-30TFM	660	600	1	1
SFC-40TFM	780	720	1	2
SFC-60TFM	1020	960	1	2
SFC-80TFM	1260	1200	2	3
SFC-120TFM	1500	1440	2	4

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	INNER SIDE CASING	GI 1.0 T	2	-
4	WATER INLET	BS	1	PF 3/4" (20 A)
5	DRAIN PAN	Heat-Resistant ABS	1	Plastic
6	AIR FILTER	Vinyl Chloride	1	Submerged
7	FAN IMPELLER	ABS	D	SIROCCO FAN (Ø145)
8	FAN HOISING	ABS	D	-
9	MOTOR	ASS'Y	C	1Ø 220 V 60 Hz
10	DRAIN HOSE	Soft Polyvinyl Chloride	1	Inner Diameter Ø14 Outer Diameter Ø18
11	HEATING & COOLING COIL	CU-AL	1	3/8" * t0.35 (SLIT FIN Applied)
12	CONTROL SWITCH	-	1	Rotary Type (Strong, Medium, Weak 3-Stage)

Standard Specifications

Category	Specifications		SFC-20TFM		SFC-30TFM		SFC-40TFM		SFC-60TFM		SFC-80TFM		SFC-120TFM	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	A	B
	Cooling Capacity	W	2,790	2,120	3,700	2,810	5,360	4,050	7,220	5,490	10,440	7,870	13,610	10,260
		Kcal/h	2,400	1,820	3,180	2,420	4,610	3,480	6,210	4,720	8,980	6,770	11,700	8,820
	Heating Capacity	W	5,640	3,460	7,780	4,770	10,990	6,710	14,330	8,760	21,240	12,950	23,640	14,340
		Kcal/h	4,850	2,980	6,690	4,100	9,450	5,770	12,320	7,530	18,270	11,140	20,330	12,330
	Flow Rate	ℓ/min	8.1	6.0	10.7	8.0	15.4	11.5	20.8	15.7	30.0	22.4	39.1	29.3
	Head Loss	mAq	0.7	0.4	1.6	0.9	4.4	2.4	3.5	2.0	9.5	5.3	16.8	9.4
Fan Blower	Type		Double Suction Multi-Blade Type (SIROCCO FAN)											
	SIZE	mm	Ø145 X L165		Ø145 X L200		Ø145 X L165		Ø145 X L200		Ø145 X L200		Ø145 X L200	
	Airflow Volume	m³/min	5.7		8.5		11.3		17		22.6		34	
	Drive		Direct Drive Motor											
Motor	Quantity	EA	1		1		2		2		3		4	
	Type		AC Semi-Enclosed Type (6 poles, Class B insulation)											
Power Consumption		W	30		40		50		70		40 + 70		70 X 2	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)											
Pipe	Inlet	A	PF 3/4" (20 A)											
	Outlet	A	PF 3/4" (20 A)											
	Drain		Soft Vinyl Hose (Inner Diameter Ø14, Outer Diameter Ø18)											
External Material			Galvanized Steel Sheet, Powder Coating											
Air Volume Control			Strong, Medium, Weak 3-Stage Rotary Switch											
Power Supply			Single Phase 220 V 60 HZ											
AIR FILTER			Vinyl Chloride (Submerged)											
Product Weight		Kg	15		18		20		25		32		40	

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type



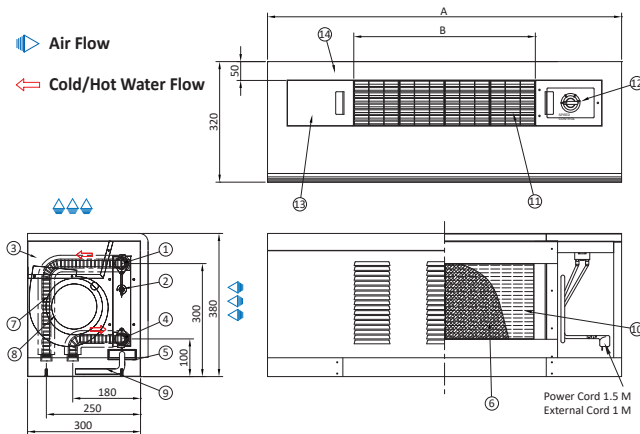
Lowboy (Exposed/Concealed Type)

An electric motor with low vibration, low noise, and a long-lifespan die-cast housing has been applied.



- ▶ Suitable for spaces with bright and large windows such as hotels, restaurants, leisure facilities, and offices.
- ▶ A general MICOM switch and wireless remote controller switch can be attached.
Option
- ▶ Able to apply 4 Pipe configuration. **Option**
- ▶ With the application of a BLDC motor as a standard specification, power consumption can be reduced by more than 30% compared to an AC motor with low power and high efficiency. **Option**
- ▶ For energy savings, installation of On/Off valves for each unit is recommended. **Option**
 - These control the flow in coordination with the unit's operation, preventing condensation issues during cooling, and reducing unnecessary operation cycles of the circulation pump.
- ▶ Both central control and group control are available. **Option**
 - Central control can be achieved through power line communication and RS-485 communication.
 - Group control of up to 16 units can be performed using a wired remote controller.
- ▶ The use of UV lamps provides outstanding effects in terms of sterilization, antibacterial properties, odor removal, and addressing sick building syndrome. **Option**
 - Korean Patent Registration No. 10-1147406

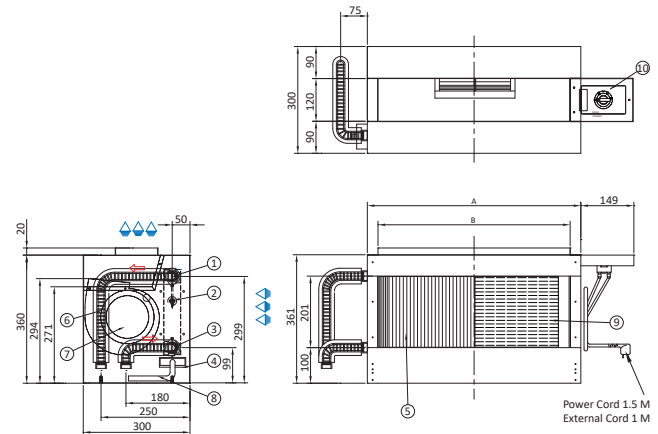
Lowboy Exposed Type



MODEL	A	B (Outlet)	C (Grille)	D (Motor)	E (Fan)
SFC-20L	940	p120 x 4 = 480	4	1	1
SFC-30L	1060	p120 x 5 = 600	5	1	1
SFC-40L	1180	p120 x 6 = 720	6	1	2
SFC-60L	1420	p120 x 8 = 960	8	1	2
SFC-80L	1660	p120 x 10 = 1200	10	2	3
SFC-120L	1900	p120 x 12 = 1440	12	2	4

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	INNER SIDE CASING	GI 1.0 T	2	-
4	WATER INLET	BS	1	PF 3/4" (20 A)
5	DRAIN PAN	Heat-Resistant ABS	1	Plastic
6	AIR FILTER	Vinyl Chloride	1	Submerged Type
7	FAN IMPELLER	ABS	E	SIROCCO FAN (Ø145)
8	MOTOR	ASS'Y	D	1Ø 220 V 60 Hz
9	DRAIN HOSE	Soft Polyvinyl Chloride	1	Inner Diameter Ø14 Outer Diameter Ø18
10	HEATING & COOLING COIL	CU-AL	1	3/8" * t0.35 (SLIT FIN Applied)
11	GRILLE	Heat-Resistant ABS	C	120*120
12	CONTROL SWITCH	-	1	Rotary Type (Strong, Medium, Weak 3-Stage)
13	ACCESS DOOR	ABS	2	120*200
14	EXTERNAL PANEL	CR 1.0 T	1	Powder Coating

Lowboy Concealed Type



MODEL	A	B (Outlet)	C (Grille)	D (Motor)	E (Fan)
SFC-20LM	540	480	1	1	1
SFC-30LM	660	600	1	1	1
SFC-40LM	780	720	1	2	2
SFC-60LM	1020	960	1	2	2
SFC-80LM	1260	1200	2	3	3
SFC-120LM	1500	1440	2	4	4

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	AIR VENT	BS	1	PT 1/8" (Manual)
3	WATER INLET	BS	2	PF 3/4" (20 A)
4	DRAIN PAN	Heat-Resistant ABS	1	Plastic
5	AIR FILTER	Vinyl Chloride	1	Submerged Type
6	FAN IMPELLER	ABS	D	SIROCCO FAN (Ø145)
7	MOTOR	-	C	1Ø 220 V 60 Hz
8	DRAIN HOSE	ASS'Y	1	Inner Diameter Ø14 Outer Diameter Ø18
9	HEATING & COOLING COIL	CU-AL	D	3/8" * t0.35 (SLIT FIN Applied)
10	CONTROL SWITCH	-	1	Rotary Type (Strong, Medium, Weak 3-Stage)

Standard Specifications

Category	Specifications		SFC-20L, LM		SFC-30L, LM		SFC-40L, LM		SFC-60L, LM		SFC-80L, LM		SFC-120L, LM	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	A	B
	Cooling Capacity	W	2,790	2,120	3,700	2,810	5,360	4,050	7,220	5,490	10,440	7,870	13,610	10,260
		Kcal/h	2,400	1,820	3,180	2,420	4,610	3,480	6,210	4,720	8,980	6,770	11,700	8,820
	Heating Capacity	W	5,640	3,460	7,780	4,770	10,990	6,710	14,330	8,760	21,240	12,950	23,640	14,340
		Kcal/h	4,850	2,980	6,690	4,100	9,450	5,770	12,320	7,530	18,270	11,140	20,330	12,330
	Flow Rate	ℓ/min	8.1	6.0	10.7	8.0	15.4	11.5	20.8	15.7	30.0	22.4	39.1	29.3
	Head Loss	mAq	0.7	0.4	1.6	0.9	4.4	2.4	3.5	2.0	9.5	5.3	16.8	9.4
Fan Blower	Type		Double Suction Multi-Blade Type (SIROCCO FAN)											
	SIZE	mm	Ø145 X L165		Ø145 X L200		Ø145 X L165		Ø145 X L200		Ø145 X L200		Ø145 X L200	
	Airflow Volume	m³/min	5.7		8.5		11.3		17		22.6		34	
	Drive		Direct Drive Motor											
	Quantity	EA	1		1		2		2		3		4	
Motor	Type		AC Semi-Enclosed Type (6 poles, Class B insulation)											
	Quantity	EA	1		1		1		1		2		2	
Power Consumption		W	30		40		50		70		40 + 70		70 X 2	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)											
Pipe	Inlet	A	PF 3/4" (20 A)											
	Outlet	A	PF 3/4" (20 A)											
	Drain		Soft Vinyl Hose (Inner Diameter Ø14, Outer Diameter Ø18)											
External Material			Galvanized Steel Sheet, Powder Coating											
Air Volume Control			Strong, Medium, Weak 3-Stage Rotary Switch											
Power Supply			Single Phase 220 V 60 HZ											
AIR FILTER			Vinyl Chloride (Submerged)											
Product Weight		Kg	24(15)		27(18)		31(20)		36(25)		41(32)		49(40)	

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Stand Type



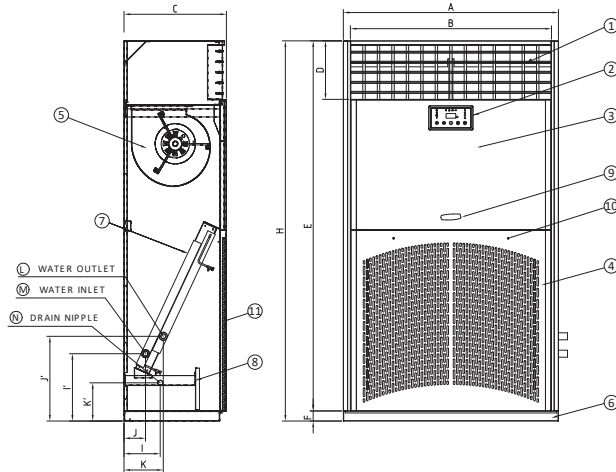
- ▶ A contact-touch MICOM switch is used for freely selecting the airflow, and it allows for automatic maintenance of indoor temperature, enabling economical cooling and heating.
 - The 3-phase products (SFC-150S and above) do not provide speed control.
- ▶ A wireless remote controller can be used.
 - Applicable to single-phase, 220 VAC 60 Hz products only.
- ▶ Suitable for large spaces such as gyms, churches, cathedrals, restaurants, where cooling and heating are difficult with general FCU.
- ▶ Central control can be achieved through power line communication and RS-485 communication. **Option**



4-Contact Touch MICOM

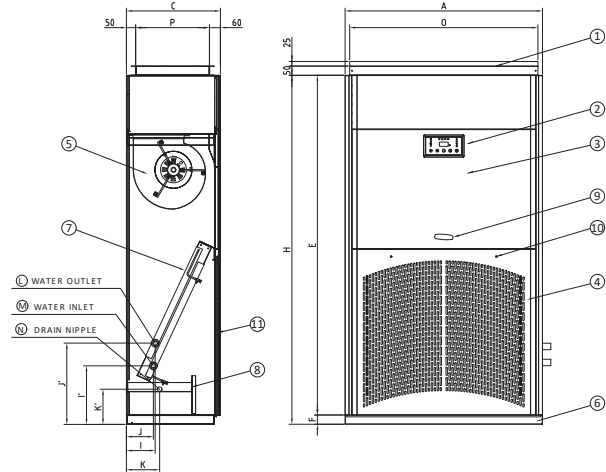
Stand Front Discharge (S TYPE)

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	AIR OUT GRILLE	AL		Powder Coating
2	CONTROL SWITH	-	1	1ø 220 V 60 Hz, Digital Touch
3	CASING	COLOR	1	
4	RETURN GRILL	COLOR	1	
5	FAN & MOTOR	-	1	
6	BASE	GI	1	Powder Coating
7	Heat Exchanger (COIL)	CU + AL	1	Cold and Hot Water Coil
8	DRAIN PAN	GI	1	Powder Coating
9	NAME PLATE	-	1	
10	SCREW BOLT	-	2	
11	Chlorine Mesh	-	1	



Stand Upper Discharge (SD TYPE)

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	AIR OUT GRILLE	COLOR		Powder Coating
2	CONTROL SWITH	-	1	1ø 220 V 60 Hz, Digital Touch Type
3	CASING	COLOR	1	
4	RETURN GRILL	COLOR	1	
5	FAN & MOTOR	-	1	
6	BASE	GI	1	Powder Coating
7	Heat Exchanger (COIL)	CU + AL	1	Cold and Hot Water Coil
8	DRAIN PAN	GI	1	Powder Coating
9	NAME PLATE	-	1	
10	SCREW BOLT	-	2	
11	Chlorine Mesh	-	1	



MODEL	A	B	C	D	E	F	H	I (IN)	I'	J	J' (OUT)	K	K' (Drain)	L	M	N	O	P
SFC-20S(SD)	600	530	410	265	1752	50	1802	99	293	132	452	129	151	20	20	20	500	300
SFC-30S(SD)	650	580	480	290	1842	50	1892	76	341	164	427	130	341	25	25	25	550	360
SFC-50S(SD)	650	580	480	290	1842	50	1892	76	341	164	427	130	341	32	32	25	550	360
SFC-75S(SD)	1070	1000	510	290	1842	50	1892	146	318	156	441	180	318	40	40	25	1020	400
SFC-100S(SD)	1070	1000	510	290	1842	50	1892	146	318	156	441	180	318	40	40	25	1020	400
SFC-150S(SD)	1660	1590	750	450	2050	70	2120	189	291	479	1081	229	165	50	50	25	1550	574
SFC-200(SD)	1660	1590	750	450	2050	70	2120	189	291	479	1081	229	165	50	50	25	1550	574
SFC-250S(SD)	1660	1590	750	450	2050	70	2120	144	306	432	1097	229	165	50	50	25	1550	574

Standard Specifications

Category	Specifications		SFC-20S(SD)		SFC-30S(SD)		SFC-50S(SD)		SFC-75S(SD)		SFC-100S(SD)		SFC-150S(SD)		SFC-200S(SD)		SFC-250S(SD)	
Capacity	Capacity Conditions		A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
	Cooling Capacity	W	6,730	5,120	10,280	7,670	22,900	17,440	34,310	26,160	45,900	34,880	68,990	52,330	90,490	69,770	118,050	87,210
		Kcal/h	5,790	4,400	8,840	6,600	19,690	15,000	29,510	22,500	39,470	30,000	59,330	45,000	77,820	60,000	101,520	75,000
	Heating Capacity	W	9,170	8,260	13,840	12,280	28,310	25,700	62,290	38,370	82,160	50,350	125,380	76,740	157,780	97,670	196,670	118,610
		Kcal/h	7,890	7,100	11,900	10,560	24,350	22,100	53,570	33,000	70,660	43,300	107,830	66,000	135,690	84,000	169,140	102,000
	Flow Rate	ℓ/min	19.4	15.0	29.5	21.5	65.7	50.0	98.4	75.0	131.6	100.0	197.8	150.0	259.5	200.0	338.5	200.0
Head Loss	mAq	0.4	0.3	0.2	0.1	1.2	0.7	1.4	0.8	2.8	1.6	2.1	1.2	4.3	2.5	9.9	3.5	
Fan Blower	Type		Double Suction Multi-Blade Type (SIROCCO FAN)															
	Airflow Volume	m³/min	20		30		42		60		88		130		180		200	
	Drive		Direct Drive Motor															
	Quantity	EA	1		1		1		2		2		2		2		2	
Motor	Type		AC Semi-Enclosed Type (8 poles, Class B insulation)												AC Semi-Enclosed Type (6 poles, Class B insulation)			
	Quantity	EA	1		1		1		2		2		2		2		2	
Power Consumption		W	290 (290)		410 (460)		590 (790)		750 (840)		1,080 (1,450)		2,640 (2,640)		3,960 (3,960)		3,300 (6,600)	
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)															
Pipe	Inlet	A	20		25		32		40		40		50		50		50	
	Outlet	A	20		25		32		40		40		50		50		50	
	Drain		NIPPLE (25 A)															
External Material			Color Steel Sheet, Powder Coating															
Air Volume Control			MICOM SWITCH (Auto, Strong, Medium, Weak)												MICOM SWITCH (only Strong for Air Volume)			
Power Supply			Single Phase 220 V 60 HZ												ø3 380 V 60 Hz			
AIR FILTER			Vinyl Chloride (Submerged)															
Product Weight		Kg	55		60		80		110		130		180		200		260	

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type

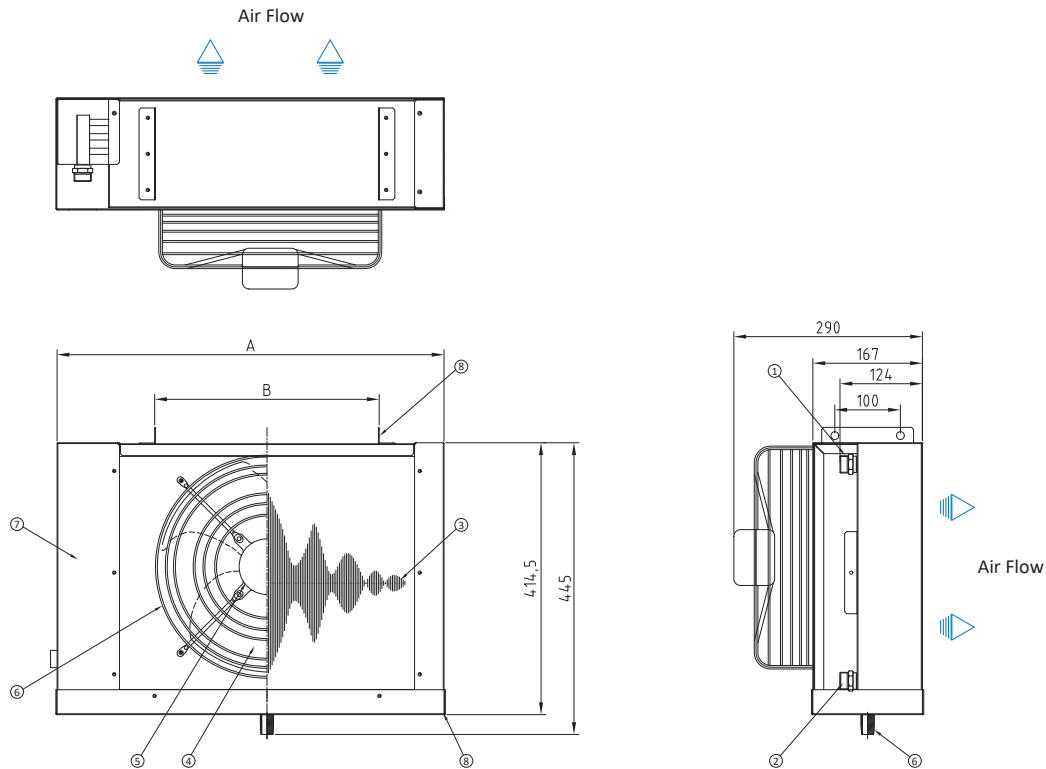
Facility Cultivation Unit



Customized cooling and heating are possible depending on the indoor environment of the facility cultivation house.

- ▶ Excellent heat transfer performance and easy installation.
- ▶ It can be installed not only in facility cultivation houses but also in barns, pigsties, poultry houses, and greenhouses.
- ▶ Customized design is possible to meet the demands of consumers.

Facility Cultivation Unit



MODEL	A	B	C
SFC-30CU	590	344	1
SFC-60CU	940	564	2

Part No	DESCRIPTION	MAT'L	Q'TY	REMARK
1	WATER OUTLET	BS	1	PF 3/4" (20 A)
2	WATER INLET	BS	1	PF 3/4" (20 A)
3	COIL ASS'Y	AL	1	
4	Propeller	AL	1	AXIAL FAN
5	MOTOR	ASS'Y	C	1Ø 220 V 60 Hz
6	Fixed Mesh	ASS'Y	C	
7	CASING	GI	1	
8	DRAIN PAN	GI	1	
9	DRAIN pipe connection		1	NIPPLE 1/2" (15 A)

Standard Specifications

Category			Specifications		SFC-30CUD		SFC-60CUD	
Capacity	Capacity Conditions		A	B	A	B	A	B
	Cooling Capacity	W	12,250	9,300	27,560	20,930		
		Kcal/h	10,540	8,000	23,700	18,000		
	Heating Capacity	W	20,950	12,790	47,500	29,070		
		Kcal/h	18,020	11,000	40,840	25,000		
Fan Blower	Flow Rate	ℓ/min	35.2	26.7	78.6	60.1		
	Head Loss	mAq	4.6	2.7	7.6	4.5		
	Type		Propeller					
Fan Blower	SIZE	mm	Ø300					
	Airflow Volume	m³/min	25		50			
	Drive		Direct Drive Motor					
Motor	Quantity	EA	1		2			
	Type		Semi-Enclosed (4 poles, Class E insulation)					
Power Consumption	Quantity	EA	1		2			
	W		66		130			
Heat Exchanger	Type		Integrated Multi-Pass Cross Finned Tube (Slit Fin)					
Pipe	Inlet	A	PF 3/4" (20 A)					
	Outlet	A	PF 3/4" (20 A)					
	Drain		15 A					
External Material			Galvanized Steel Sheet					
Power Supply			Single Phase 220 V 60 HZ					
Product Weight			Kg	8		16		

(Note) 1. Capacity Condition A: Cooling Capacity: When indoor air is DB 27°C, WB 21°C, and inlet water temperature is 5°C Heating Capacity: When indoor air is 18°C, and inlet water temperature is 80°C
 2. Capacity Condition B: Cooling Capacity: When indoor air is DB 27°C, WB 19.5°C, and inlet water temperature is 7°C Heating Capacity: When indoor air is 21°C, and inlet water temperature is 60°C

Ceiling Cassette Type

Concealed Type

Floor-Stand Type

Stand Type

Facility Cultivation Type

Fan Coil Unit Accessories

Combination Valve and FCU Automatic Control System

VALVE & FCU CONTROL SYSTEM OVERVIEW

► Purpose of Use

- Adjust the amount of cooling (heating) water supplied to the FCU during cooling (heating) for increased energy efficiency and cost savings.
- Attach a combination valve to the FCU piping and install temperature sensors to adjust the amount of cooling (heating) water based on the temperature
- Centrally manage the FCU and combination valves using a PC for integrated control

► Control Specifications

1. Operating Modes (When a Variable Valve is Applied)

- (1) The valve controller can switch between cooling, heating, and ventilation modes.
- (2) In cooling mode, the opening rate of the valve is variable based on the cooling design flow rate.
- (3) In heating mode, the opening rate of the valve is variable based on the heating design flow rate.

2. Air Volume Control

- (1) The air volume can be adjusted to weak, medium, or strong wind, and the opening rate of the valve is variable.
- (2) In automatic mode, the air volume is automatically changed to weak, medium, or strong depending on the temperature, and the valve opening rate is also automatically adjusted

3. Status Display (Central Control Option)

- (1) The temperature can be displayed.
- (2) Displays the target opening rate of the valve based on the design flow rate under cooling, heating, weak wind, medium wind, and strong wind conditions
- (3) Displays the actual valve opening rate received as feedback from the valve

4. Fault Detection Function (Central Control Option)

- (1) If the output opening rate of the valve and the opening rate of the feedback valve are more than the set error range, a fault is detected and is displayed in the automatic control software to ensure user awareness.

VALVE & FCU CONTROL SYSTEM CHARACTERISTICS

► System Characteristics

- System configuration for integrated management of the FCU and VALVE.
- The VALVE & FCU central control system monitors and controls the operation/stop and opening percentage (0~100%) of the VALVE.
- The VALVE & FCU central control system monitors and controls the status of the FCU (operation/stop, airflow volume, operation mode).

► Combination Valve & FCU Controller (option)

- Combination Valve Control Function: AC 24 V power supply/DC 0~10 V variable output for valve volume control, DC 0~10 V FEEDBACK for valve volume status
- FCU Control Function: Operation/stop, airflow volume control (weak, medium, strong)
- Communication Function: ID granting function (No. 1~32), transmission and reception of valve status and control information
- Temperature Sensor: FCU airflow volume control applied based on the temperature, valve volume control, and freeze prevention function

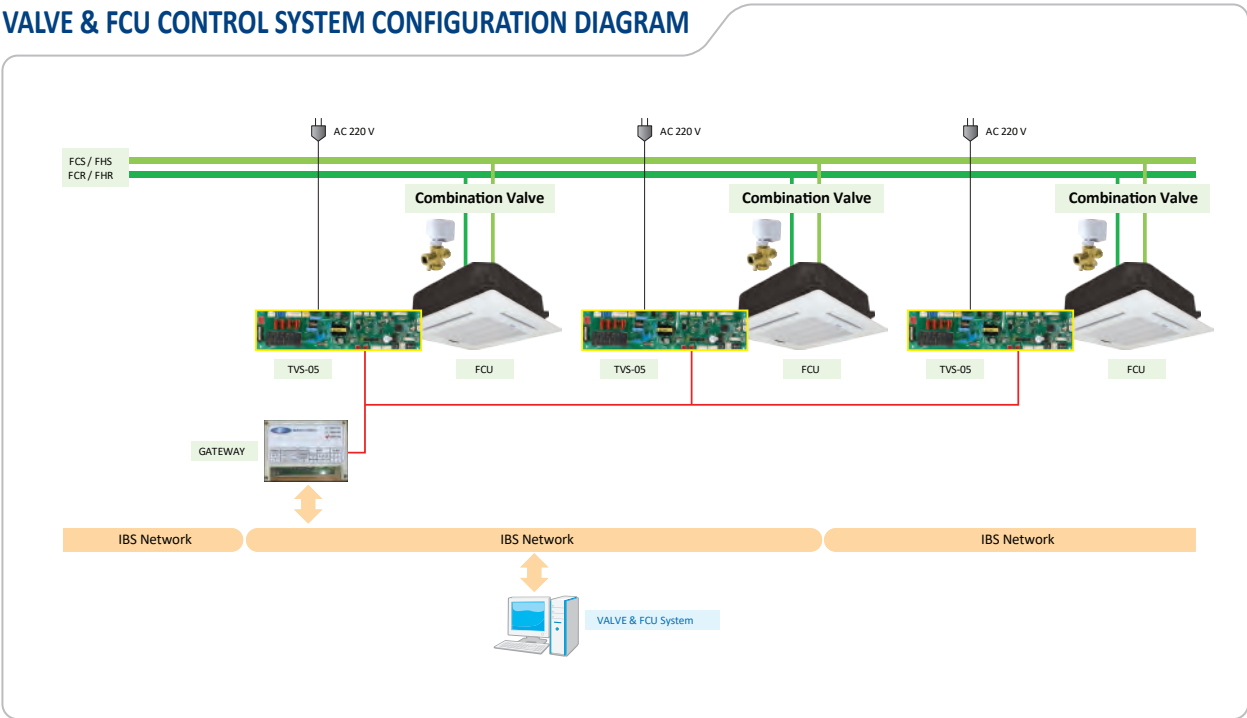
► GATEWAY (option)

- Communication Relay: Relays communication of the 32 VALVE & FCU CONTROLLER and VALVE & FCU central control program

► Combination Valve Central Control System (option)

- VALVE Status: Individual/group-controlled operation/stop, valve opening output rate, valve opening FEEDBACK amount
- VALVE Control: Individual/group-controlled operation/stop, valve opening rate setting for cooling/heating
- FCU Status: Individual/group-controlled operation/stop, airflow volume (weak, medium, strong)
- FCU Control: Individual/group-controlled operation/stop, airflow volume (weak, medium, strong), mode control (cooling, heating, ventilation)
- Temperature Control: Specifying the set temperature – Control of the VALVE and FCU according to the temperature.

VALVE & FCU CONTROL SYSTEM CONFIGURATION DIAGRAM



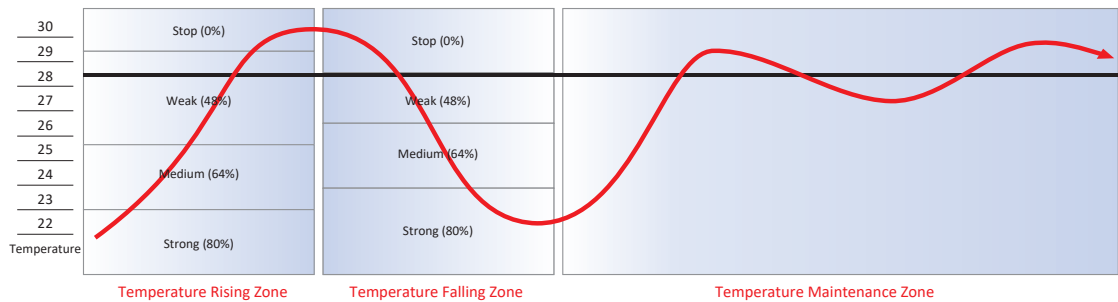
VALVE & FCU CONTROL SYSTEM CHARACTERISTICS

► Example of the FCU Air Volume and Valve Opening Based on Temperature

• Control Conditions:

Set Temperature	Operating/Driving Mode	RANKUP (Variable Rate by Airflow Volume)	Heating Valve Opening Rate
28 degrees Celsius	Heating	20%	80%

- **Temperature Increase:** When the temperature rises and approaches the set temperature, the air volume and valve opening is lowered (strong □ medium □ weak) to reduce the supply of hot and cold water.
- **Temperature Decrease:** When the temperature drops below the set temperature, the air volume and valve opening is raised (weak □ medium □ strong) to increase the supply of heat source water (cold water, hot water).
- **Temperature Maintenance Zone:** When the temperature approaches the set temperature, the air volume operates in weak mode, maintaining the minimum valve opening or stopping to ensure a consistent temperature.



FAN COIL UNIT Accessories

Central Control PC Software

Central Control Program Screen



Central Control Program Function

Management Functions

- ▶ User Management
- ▶ Equipment Management: Creation, modification, deletion of equipment (FCU, GROUP), and more
- ▶ Data Management: Management, search, and output of the operating status and abnormal event information

Monitoring Functions

- ▶ Overall operation/stop status of the FCU ZONE
- ▶ Overall cooling/heating/blowing mode status of the FCU ZONE
- ▶ Overall airflow volume of the FCU ZONE (Auto, Weak, Medium, Strong, Turbo)
- ▶ Overall temperature status of the FCU ZONE (Setting)
- ▶ Operation/stop status of individual FCUs
- ▶ Cooling/heating/ventilation mode status of individual FCUs
- ▶ Airflow volume of individual FCUs (Auto, Weak, Medium, Strong, Turbo)
- ▶ Temperature status of individual FCUs (Set, Current)

Control Functions

- ▶ Overall operation/stop function of the FCU ZONE
- ▶ Overall cooling/heating/ventilation mode functions of the FCU ZONE
- ▶ Overall airflow volume change function of the FCU ZONE
- ▶ Overall temperature setting of the FCU ZONE
- ▶ Operation/stop function of individual FCUs
- ▶ Cooling/heating/ventilation mode functions of individual FCUs
- ▶ Airflow volume change functions of individual FCUs
- ▶ Temperature setting of individual FCUs

FAN COIL UNIT Accessories

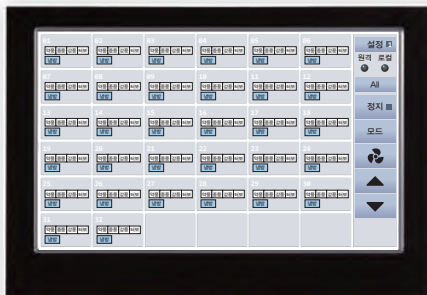
| Central Control Accessories (RS-485)

Touchpad Standard Type



- ▶ Controls and monitors the operation status of up to 32 units
- ▶ Available for individual/group control and PC-linked control
- ▶ Available for remote lock by individual/group
- ▶ Used in small-scale FCU control and monitoring systems
- ▶ Easy and simple user interface with built-in TOUCH sensor
- ▶ Controls up to 128 units when adding an MCU (Option)

Touchpad with Built-in MODBUS



- ▶ Controls and monitors the operation status of the basic 32 units (group)
- ▶ Available for individual/group control and PC-linked control
- ▶ Available for remote lock by individual/group
- ▶ Used in small-scale FCU control and monitoring systems
- ▶ Easy and simple user interface with a built-in TOUCH sensor

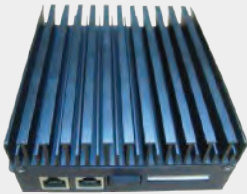
MCU (MODBUS CONVERTER UNIT)



- ▶ Provides 1 RS-485 channels (up to 32 units per channel)
- ▶ Check the communication status through the LED
- ▶ Lower FCU Communication: Shinwoo HVAC FCU Protocol
- ▶ Higher System (PC/TOUCH): MODBUS

FAN COIL UNIT Accessories

Central Control Accessories (Power Line Communication)

Model	Functions
Input/Output Control PCB DFC-02 	- Control device installed in the FCU to control indoor temperature - Applicable to all types of FCUs, including floor-stand, ceiling, cassette, and other types of models - Compatible with fans, valves, drain pumps, photocatalyst units, wired remote controllers, and wireless remote controllers.
Gateway FE-02 	- Power line communication 3-phase gateway - Communication is possible in any phase by ensuring that all phases (R, S, T) of the power line are applied - Applicable to single phases - Operates with the input/output control PCB - 1024 Mac Address, controls up to 200 devices
3-Phase Coupler FE-02-C 	- Phase-to-phase coupler for power line communication - Combines the separated signals of each phase (R, S, T) - Blocks commercial voltage and couples only communication frequency signals for each phase - Operated with FE-02 as needed
3-Phase Repeater FE-02-R 	- Installed in areas that power line communication signals do not reach smoothly - Acts as a bridge to connect weak signals
Blocking Filter SPL-BF-054 	- Installed to prevent interference with adjacent power line signals - Installed on the main circuit breaker side of the distribution board that supplies power to the FCU - Installed a gateway at the bottom of the blocking filter

Model	Functions
Single-Phase Coupler FE-02-C2 	- Installed in places where single-phase power lines are used - Other functions are the same as the 3-phase coupler
Wired Remote Controller for Power Line Communication DFC-02W 	- Connected by wire to one input/output control PCB - Control up to a maximum of 32 units - Allows administrator settings and configuration verification checks - Operation mode/airflow volume/temperature/alarm/group operation - Infrared receiver installed for the use of a wireless remote controller
Indoor Temperature Sensor ST-T10K-R 	- Detects the indoor temperature and transmits it to the input/output PCB - Controls the airflow volume and valve of the fan coil unit based on the temperature detected by the sensor
Pipe Temperature Sensor ST-T10K-C 	- Detects the temperature of the heating and cooling coil - A temperature sensor is used for freeze prevention by detecting the coil temperature
BacNet/IP Server PFC-BN-01 	- Collects operation data of the FCU controller - Converts to BacNet/IP protocol - Communicates with the FCU using the Modbus TCP/IP protocol - Collect data for up to 1000 devices

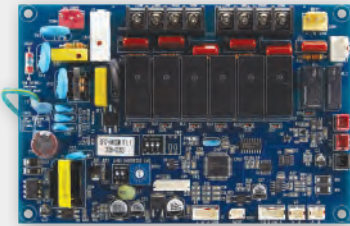
FAN COIL UNIT Accessories

| PCB and Controller

► Cassette Type

Model	Functions
400A (M) / 400B 	- Shinwoo Air Conditioning universal PCB exclusively for AC motors - Shinwoo Air Conditioning universal PCB (400B) for BLDC motors - Shinwoo Air Conditioning proprietary protocol and MODBUS protocol for internal/external communication (RS-485) - Provides a starting and overload (status) contact point (no power required) - Provides a 2/3-way valve contact point (AC 220 V)

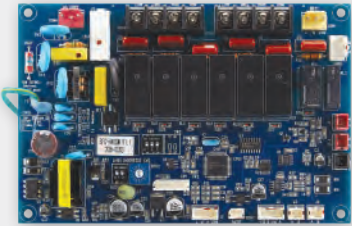
► High-Pressure Type

Model	Functions
300AB 	- Basic PCB exclusive for high-pressure type BLDC motors - Provides a valve contact point (AC 220 V) - No communication function
H400M 	- PCB exclusive for large-capacity, high-pressure type (H40–H60) - Same basic functions as 400MR

► MICOM

Model	Functions
C5A	A white rectangular floor-standing MICOM controller. It features a red LED display showing '23.7 °C'. Above the display, the brand 'SHINWOO' is printed. To the right of the display, there are labels for 'AUTO', 'HIGH', 'MID', and 'LOW'. Below the display, there are five buttons labeled 'COOL', 'HEAT', 'FAN', 'VALVE', and 'LOCK'. At the bottom, there are five more buttons: a power button, 'MODE', an up arrow, a down arrow, and 'FAN'. - Floor-stand type, ceiling cassette (CC) MICOM controller - Provides an external communication contact point (RS-485) - Provides a valve contact point (AC 220 V) - Provides room/pipe temperature sensors - Compatible with wireless remote controllers (C5A)

► Stand Type

Model	Functions
H400M	A blue printed circuit board (PCB) for a stand-type MICOM controller. It features various electronic components, including capacitors, resistors, and integrated circuits. There are several connectors and terminals along the edges. - Provides a communication contact point (RS-485) - Usage restriction function - Provides a valve contact point (AC 220 V)
S1000	A black rectangular stand-type MICOM controller. It has a red LED display showing '23.7 °C'. Above the display, there are icons for 'SET', 'TEMP', and '°C'. Below the display, there are five buttons: 'MODE', 'UP', 'ON/OFF', 'DOWN', and 'FAN'. There are also icons for 'AUTO', 'HIGH', 'MID', and 'LOW' on the right side. - MICOM controller for the stand type - Touch control panel - Controlled with the Weak/Medium/Strong/AUTO FAN button

FAN COIL UNIT Accessories

Wired and Wireless Remote Controller and Switch

► Wired Remote Controller

Model	Functions
FCUR-S5 	- Control for 16 units in groups/individually - Control of the Turbo/Strong/Medium/Weak airflow volume - RS-485 Communication 2-CORE, GND 1-CORE, DC 12 V 1-CORE - Protocol by Shinwoo Air Conditioning - Touch controller - 9600 BPS communication speed with PCB
FCUR-S2 	- Control for 16 units in groups - Control of the Turbo/Strong/Medium/Weak airflow volume - RS-485 Communication 2-CORE, GND 1-CORE, DC 12 V 1-CORE - Protocol by Shinwoo Air Conditioning - Button controller - 9600 BPS communication speed with PCB
FCUR-T3 	- Group control for 16 units - Control of the Turbo/Strong/Medium/Weak airflow volume - RS-485 Communication 2-CORE, GND 1-CORE, DC 12 V 1-CORE - Protocol by Shinwoo Air Conditioning - Touch controller - 9600 BPS communication speed with PCB
FCT-600-4B 	- Group control for 16 units - Control of the Turbo/Strong/Medium/Weak airflow volume - Protocol by Shinwoo Air Conditioning - Wired remote controller for the independent control grille panel
FCT-350-FS 	- Control for 4 units in groups/individually - Control of the Turbo/Strong/Medium/Weak airflow volume - RS-485 Communication 2-CORE, GND 1-CORE, DC 12 V 1-CORE - Protocol by Shinwoo Air Conditioning - Touch controller - 9600 BPS communication speed with PCB

► Wireless Remote Controller and Rotary Switch

Model	Functions
FCUR-S11 	- Wireless remote controller for individual control of the FCUs
EM-SW01 	- Wireless remote controller for the independent control grille panel
Rotary Switch 	- Control of the Turbo/Strong/Medium/Weak airflow volume - Maximum allowable current 3 A

FAN COIL UNIT Accessories

Valve and Automatic Air Vent

▶ Valve

Model	Functions
Thermal ON/OFF Valve 	- Drive Power: AC 220 V 50/60 Hz, 3.5 W - Operating Time: Max 5 min - Manual Open/Close: Available - Differential Pressure: Max 3 Kg/cm² - Maximum Pressure: 16 Kg/cm²
Motorized ON/OFF Valve 	- Drive Power: AC 220 V 50/60 Hz, 4 W - Operating Time: 40 sec - Manual Open/Close: Available - Differential Pressure: Max 3 Kg/cm² - Maximum Pressure: 16 Kg/cm²
Flow Control ON/OFF Valve 	- Drive Power: AC 220 V 50/60 Hz, 4 W - Operating Time: 40 sec - Manual Open/Close: Available - Differential Pressure: 0.2~3 Kg/cm² - Maximum Pressure: 10 Kg/cm²
Pressure Independent Flow Control Proportional Valve 	- Drive Power: AC/DC 24 V, 5 W - Operating Time: 54 sec - Manual Open/Close: Available - Differential Pressure: 0.3~4 Kg/cm² - Maximum Pressure: Max 25 Kg/cm²

▶ Air Vent

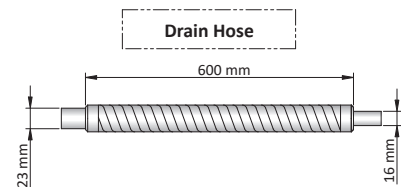
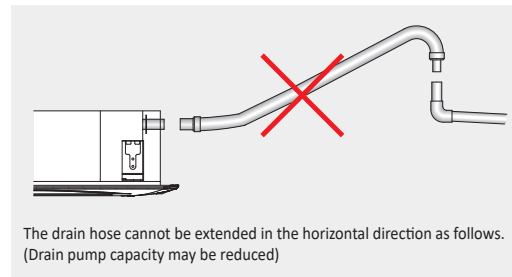
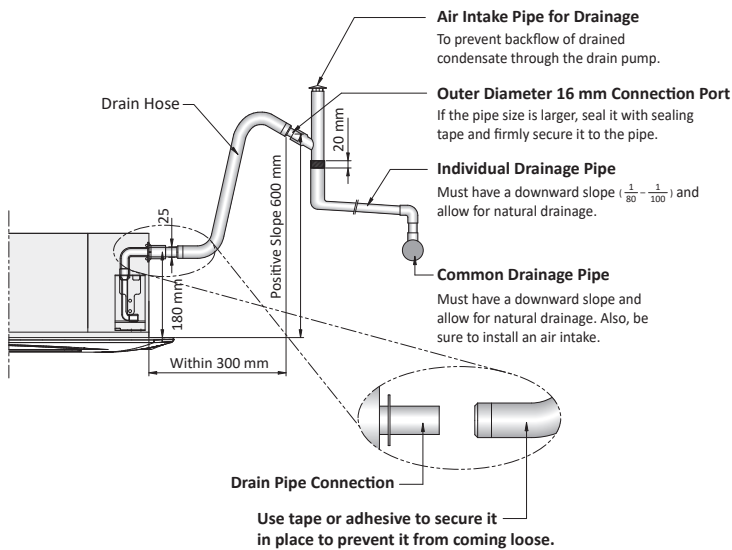
Model	Functions
Automatic Air Vent 	- Attached to the outlet side of the heat exchanger - Automatically discharges when a certain amount of air is filled - Design patent for an air vent for an FCU: No. 30-0748125 - Utility model patent for a fan coil unit equipped with an air vent: No. 10-1429871
Cassette Drain Air Vent 	- Drain air vent for a ceiling cassette - Prevents the backflow with an air purging function on the drain hose - Check valve can be attached (1-way slim type as a standard, other cassette type options) - Utility model patent for air conditioning equipment with a condensate backflow prevention unit: No. 10-1204261 - Design patent for a drain connector for an air conditioner: No. 30-0733311, 30-0733312

* In addition to the basic valves that we offer, our company also handles various proportional control valves and multi-functional valves, allowing for customized designs tailored to specific systems.

Fan Coil Unit Installation Method - Installation Precautions

Cassette Type/CC

>> Installation Method for 1-, 2- and 4-Way Ceiling Cassette Drains



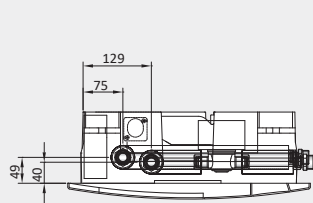
>> Common Precautions for Ceiling Cassette Type

- When installing the product, be sure to provide a minimum slope ($\frac{1}{80} - \frac{1}{100}$) for the drain pipe.
- Securely fix the product at a location capable of withstanding a weight equal to 4.5 times the total weight of the indoor unit per anchor.
- Ensure proper connection by designating the lower header as (SUPPLY) and the upper header as (RETURN).
- Before operating the product, use the heat exchanger air vent to remove the air inside the heat exchanger.
- Piping Precautions**
 - Perform on-site insulation and taping on each connection part of the pipe to prevent water leakage and condensation in the pipe area.
 - Install manual valves to allow for locking when the system will not be in operation for an extended period.
 - Ensure that the drain hose is installed without any twists or bends.
 - After completing the piping work, remove any foreign substances from the pipes and perform a pressure test.

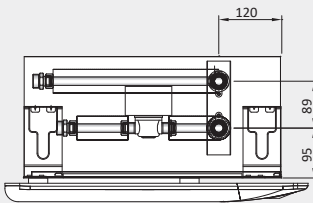
>> 1-, 2- and 4-Way Ceiling Cassette Types

- To facilitate easy maintenance of the product, be sure to install an inspection port (400 X 400 – 600 X 600) in the direction of the piping after installation. If the inspection port is not installed, after-sales service and other services will not be available, and damage to the ceiling interior may occur.
- The rated head capacity of the condensate drainage pump is 600 mm. If it is excessively elevated or extended horizontally, condensate may overflow beyond the rated capacity of the condensate drainage pump.
- Included components: air suction pipe, drain hose, connection piping for the condensate drainage pump (pre-installed on the product).
- Installed an air suction pipe at the inlet of each individual drainage pipe (included in the basic supply).
- When performing automatic control construction, please set the number of controls and addresses between the wired remote control and the product, and connect A and B of the communication lines correctly. This is the main cause of communication errors.
- If constant power is not supplied to the product during the winter season, the freeze prevention function may not work properly, leading to a risk of freezing or rupture. (Applies only when attaching a valve)
- For further details, refer to the installation manual provided upon product delivery. (1/2/4-WAY)

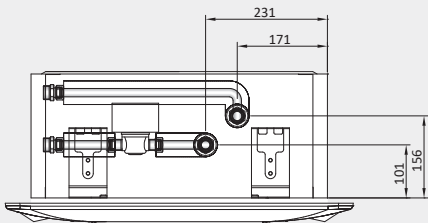
>> Cassette Drain Pipe



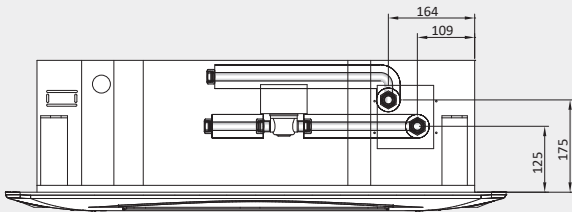
1-Way Slim



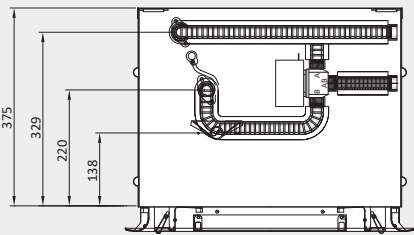
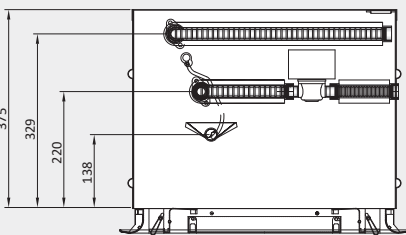
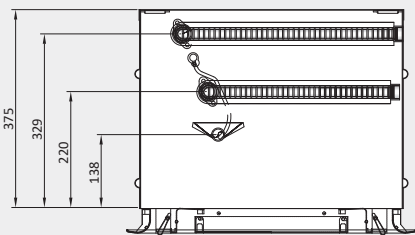
1-Way Standard



2-Way

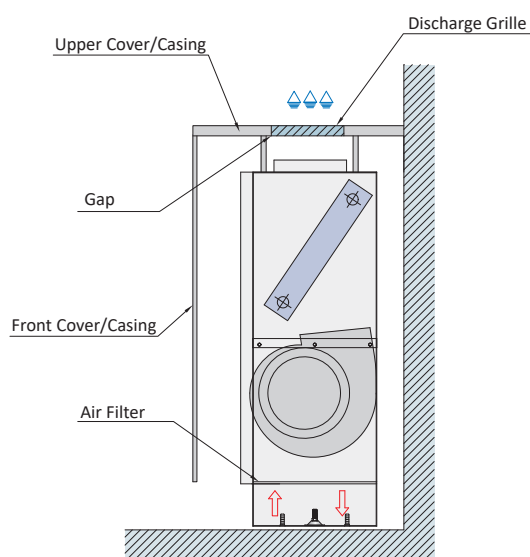
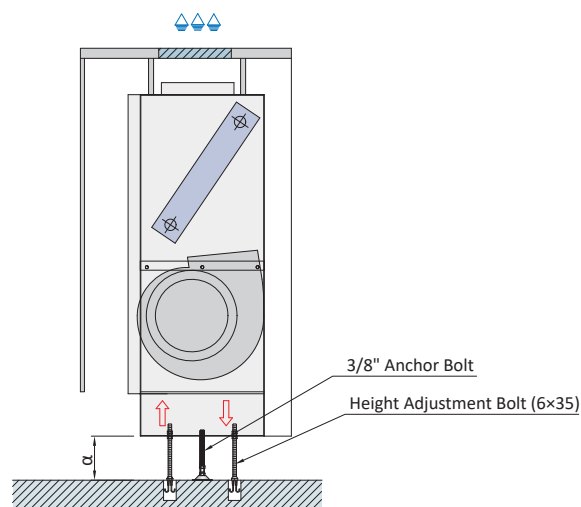


4-Way



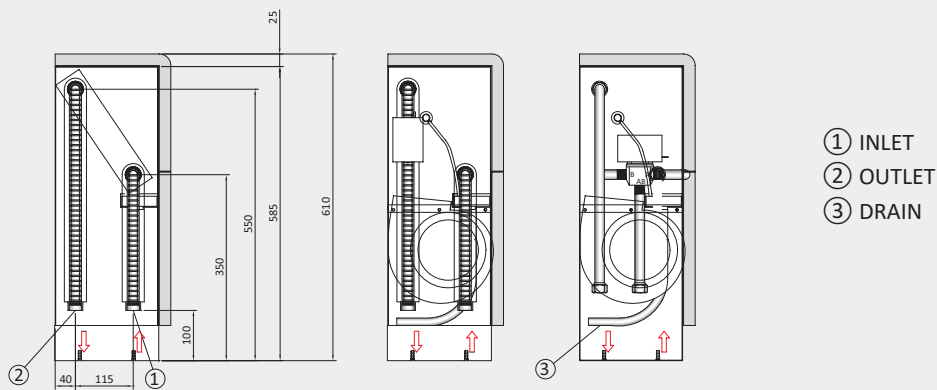
CC

Fan Coil Unit Installation Method - Installation Precautions

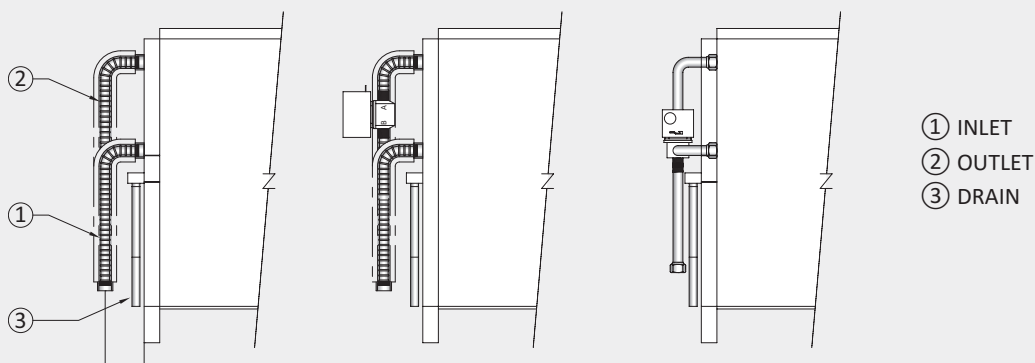
Floor-Stand Type/Floor-Stand Concealed Type/Lowboy Type**Floor-Stand Concealed Type****Floor-Stand Concealed Type Installation Diagram****>> Installation Precautions for Floor-Stand Type**

1. When installing the product, check the level of the floor and then install it horizontally.
2. When installing the product, be sure to provide a minimum slope (1/80~1/100) for the drain pipe.
3. When installing the product, ensure that there is space to remove the filter and space for maintenance purposes.
4. When installing the product, consider ensuring that the air intake area is equal to or larger than the discharge area.
5. When installing the product, keep the air intake and discharge sides at least 50 cm away from obstacles to ensure smooth air flow.
6. Ensure proper connection by designating the lower header of the heat exchanger as (SUPPLY) and the upper header as (RETURN).
7. Piping Precautions
 - A. Perform on-site insulation and taping on each connection part of the pipe to prevent water leakage and condensation in the pipe area.
 - B. Install manual valves to allow for locking when the system will not be in operation for an extended period.
 - C. Ensure that the drain hose is installed without any twists or bends.
 - D. After completing the piping work, remove any foreign substances from the pipes and perform a pressure test.
8. For the floor-stand (lowboy) concealed type, be sure to close the gap between the product and the discharge grille of the exterior cover.
9. The basic rotary switch is provided as an attachment to the product upon delivery.
10. Fan coil units can be connected in multiple/parallel with one standard rotary switch.
(However, when it is the same product, when the wind speed is fixed to either strong, medium, or weak, and when the total operating current of the connected products is less than 3 A)

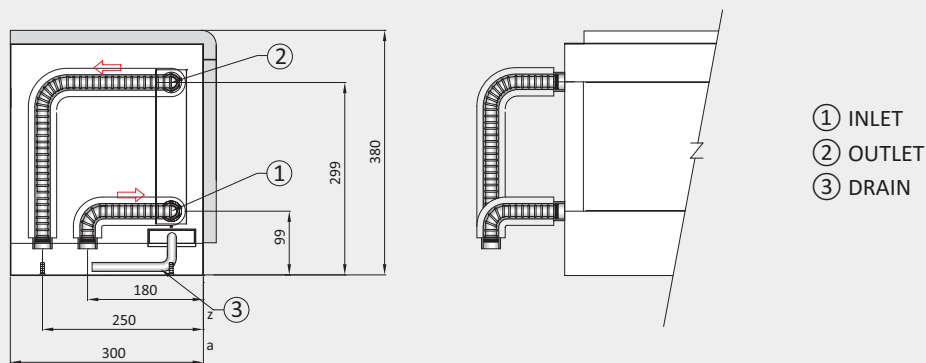
>> Drainage/Piping Installation Diagram for Floor-Stand Exposed Type



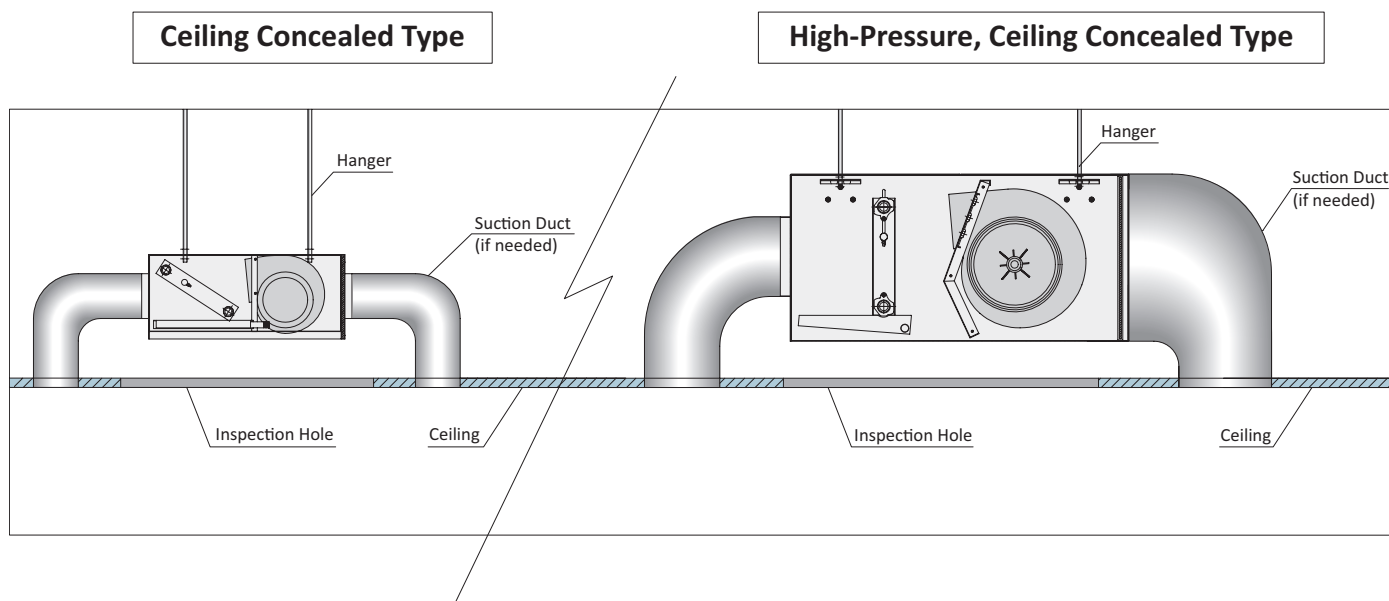
>> Drainage/Piping Installation Diagram for Floor-Stand Concealed Type



>> Drainage/Piping Installation Diagram for Lowboy Type

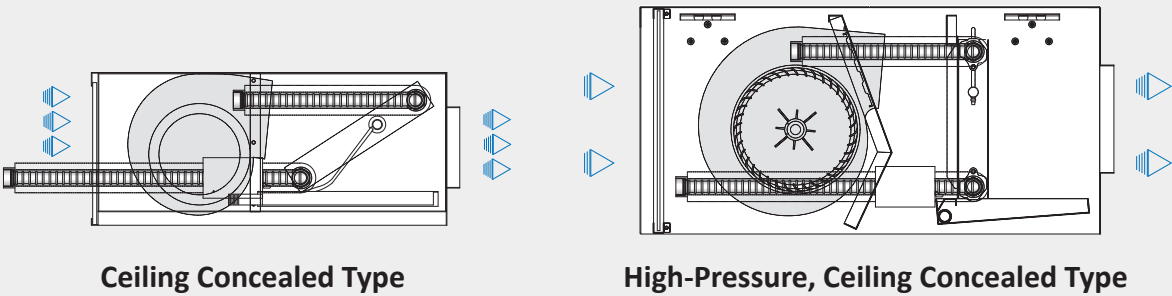


Fan Coil Unit Installation Method - Installation Precautions

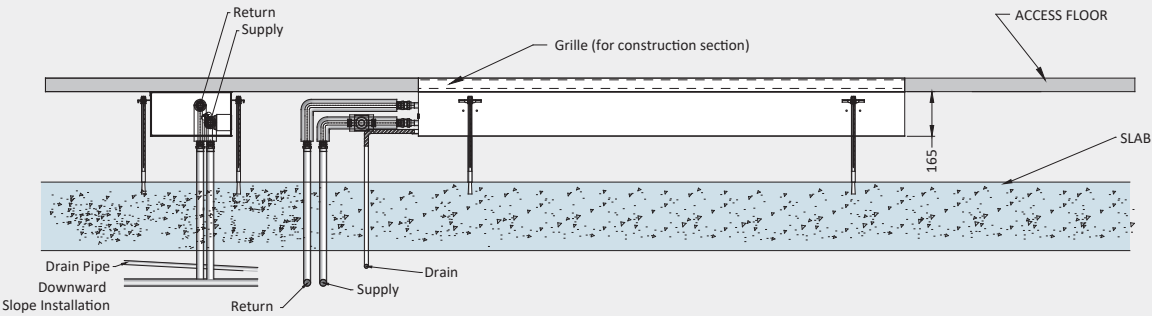
Ceiling Type/Floor Concealed, Slim Type**>> Installation Precautions for Ceiling Type**

1. When installing the product, check the level of the floor and then install it horizontally.
2. When installing the product, be sure to provide a minimum slope (1/80–1/100) for the drain pipe.
3. When installing the product, ensure that there is space to remove the filter and space for maintenance purposes.
(Foldable and soft frame filters are optional depending on the site conditions.)
4. To facilitate easy maintenance of the product, be sure to install an inspection port (400 X 400 – 600 X 600) in the direction where the piping is installed.
5. When installing the product, consider ensuring that the air intake area is equal to or larger than the discharge area.
6. Ensure proper connection by designating the lower header of the heat exchanger as (SUPPLY) and the upper header as (RETURN).
7. **Piping Precautions**
 - A. Perform on-site insulation and taping on each connection part of the pipe to prevent water leakage and condensation in the pipe area.
 - B. Install manual valves to allow for locking when the system will not be in operation for an extended period.
 - C. Ensure that the drain hose is installed without any twists or bends.
 - D. After completing the piping work, remove any foreign substances from the pipes and perform a pressure test.
8. **Separate ducts and diffusers can be connected.**
(However, performance may decrease depending on the external static pressure. Select either high-pressure or ceiling concealed type according to site conditions.)
9. **The standard rotary provided is delivered separately and must be installed on site.**
10. **Fan coil units can be connected in multiple/parallel with one standard rotary switch.**
(However, when it is the same product, when the wind speed is fixed to either strong, medium, or weak, and when the total operating current of the connected products is less than 3 A)

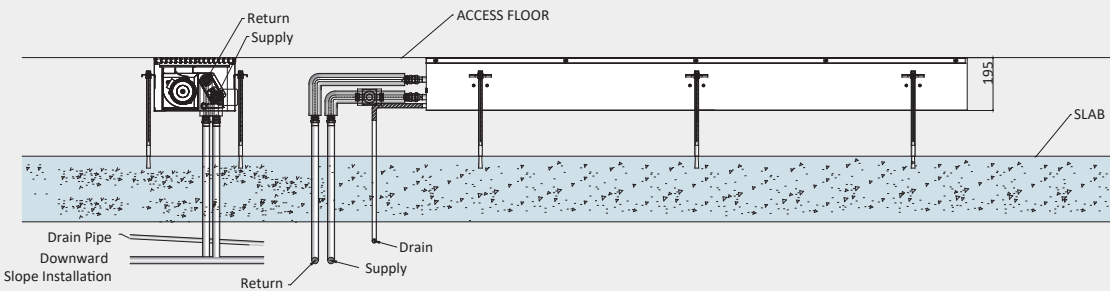
>> Drainage/Piping Installation Diagram for Ceiling Type



>> Drainage/Piping Installation Diagram for Floor Concealed, Slim Type, SFC-S0TM



Installation Diagram without Grille

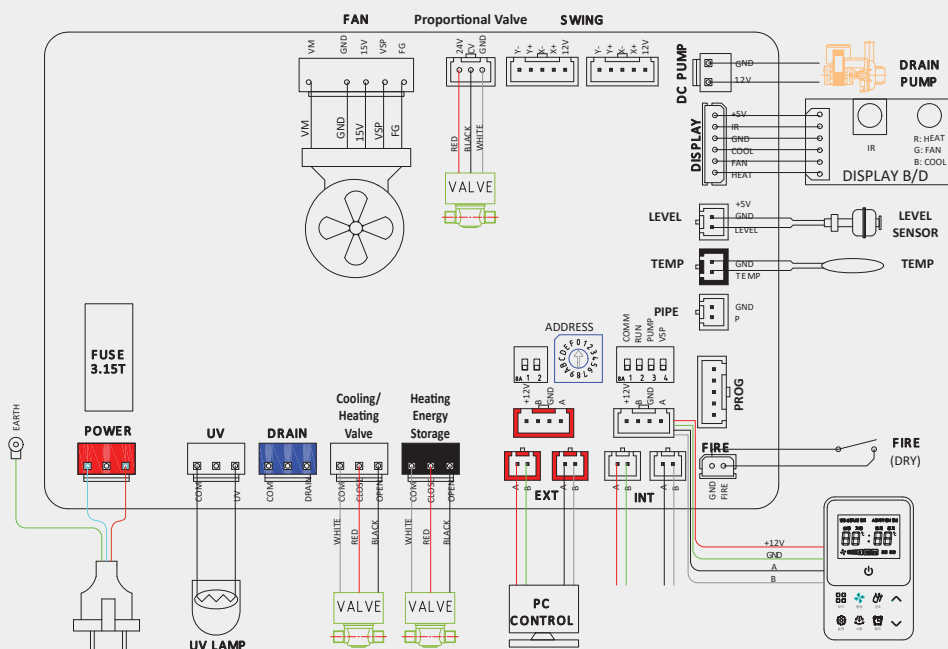


Installation Diagram with Grille

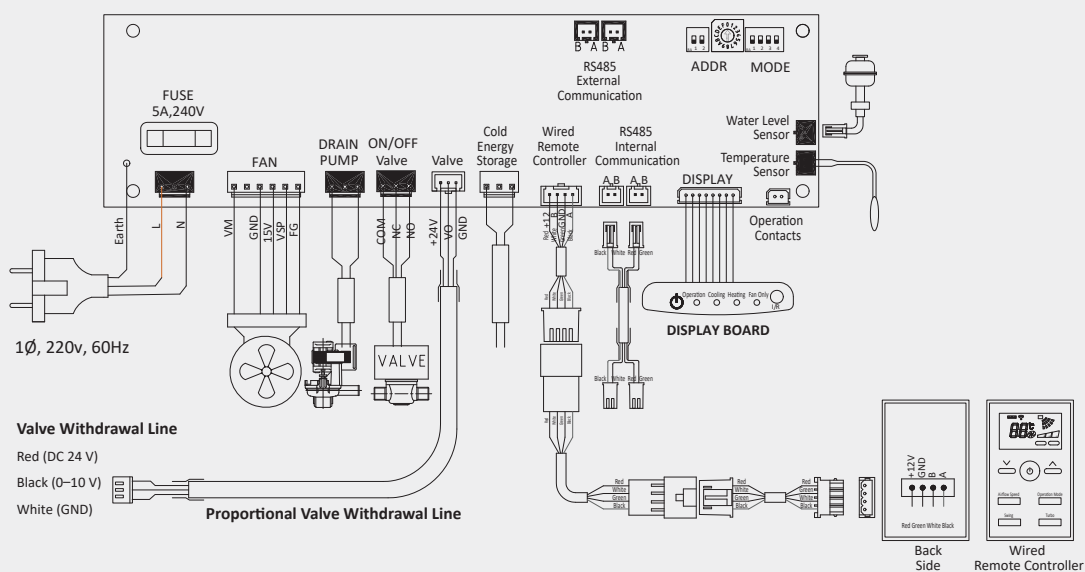
Fan Coil Unit Installation Method - Standard Electrical Wiring Diagram

Circular Cassette Type/ 1-,2- or 4-Way Standard Type

>> Circular Cassette Type



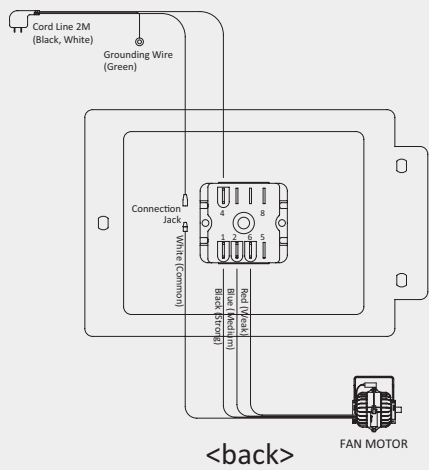
>> 1-4-Way Ceiling Cassette Type



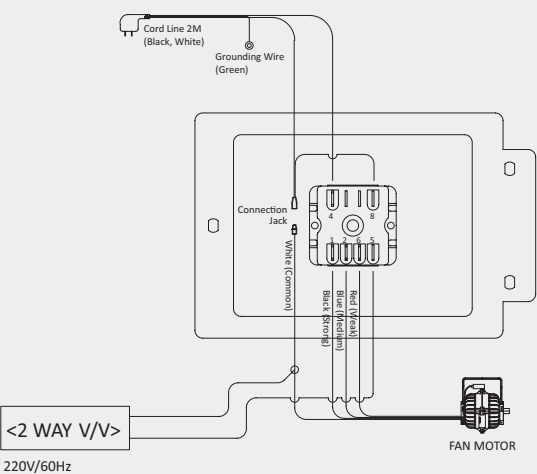
Fan Coil Unit Installation Method - Standard Electrical Wiring Diagram

Floor-Stand Type/Ceiling Concealed Type

>> Floor-Stand Type Electrical Wiring Diagram_Standard / Valve

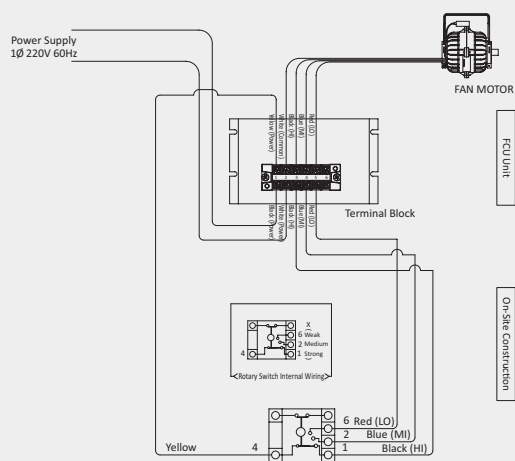


Floor-Stand Type Electrical Wiring Diagram_Standard

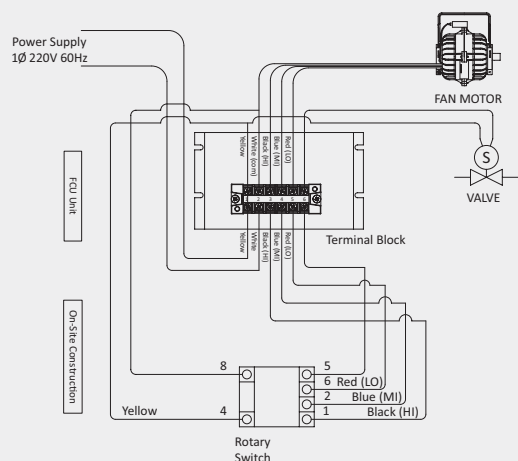


Floor-Stand Type Electrical Wiring Diagram_Valve

>> Ceiling Concealed Type Electrical Wiring Diagram_Standard / Valve



Ceiling Concealed Type Electrical Wiring Diagram_Standard

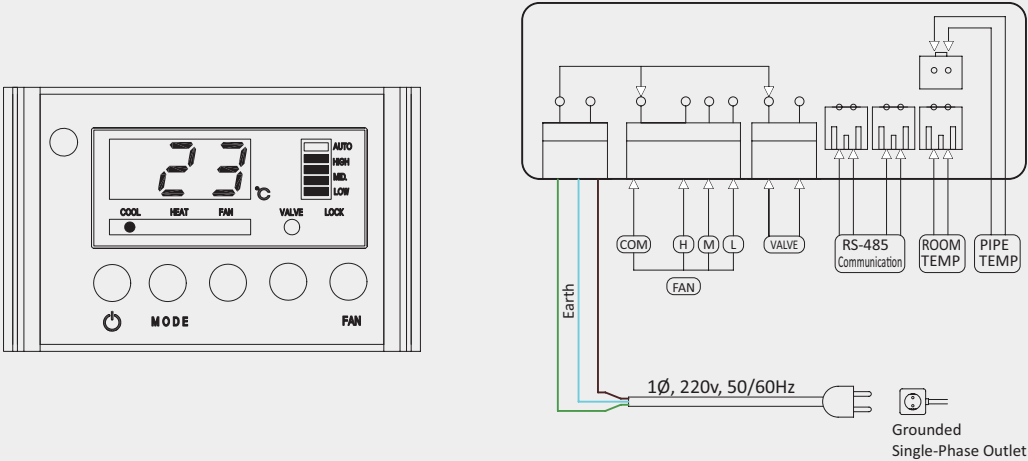


Ceiling Concealed Type Electrical Wiring Diagram_Valve

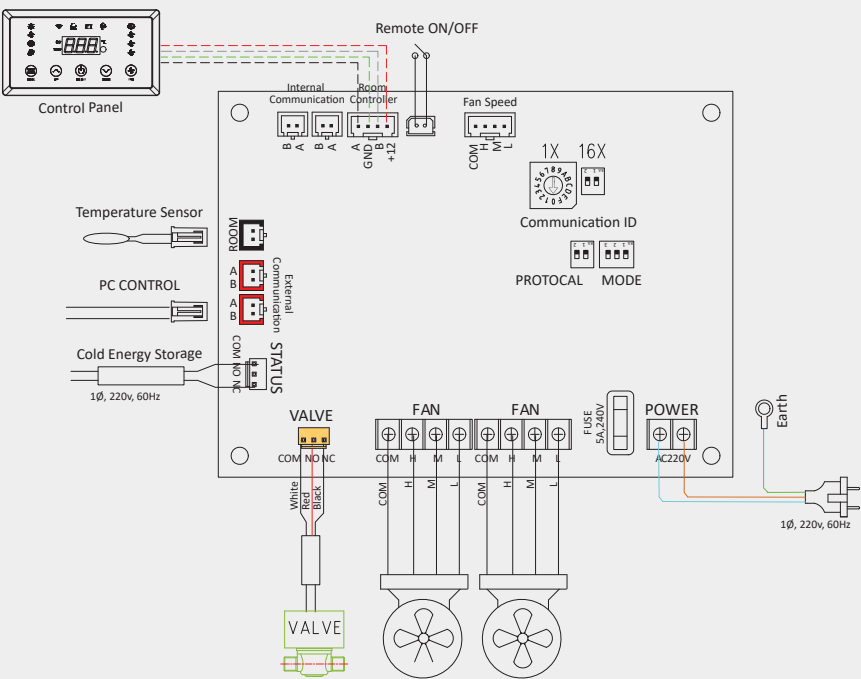
Fan Coil Unit Installation Method - **Standard Electrical Wiring Diagram**

Floor-Stand Type MICOM, Stand Type

>> Floor-Stand Type MICOM (C5A) Wiring Diagram



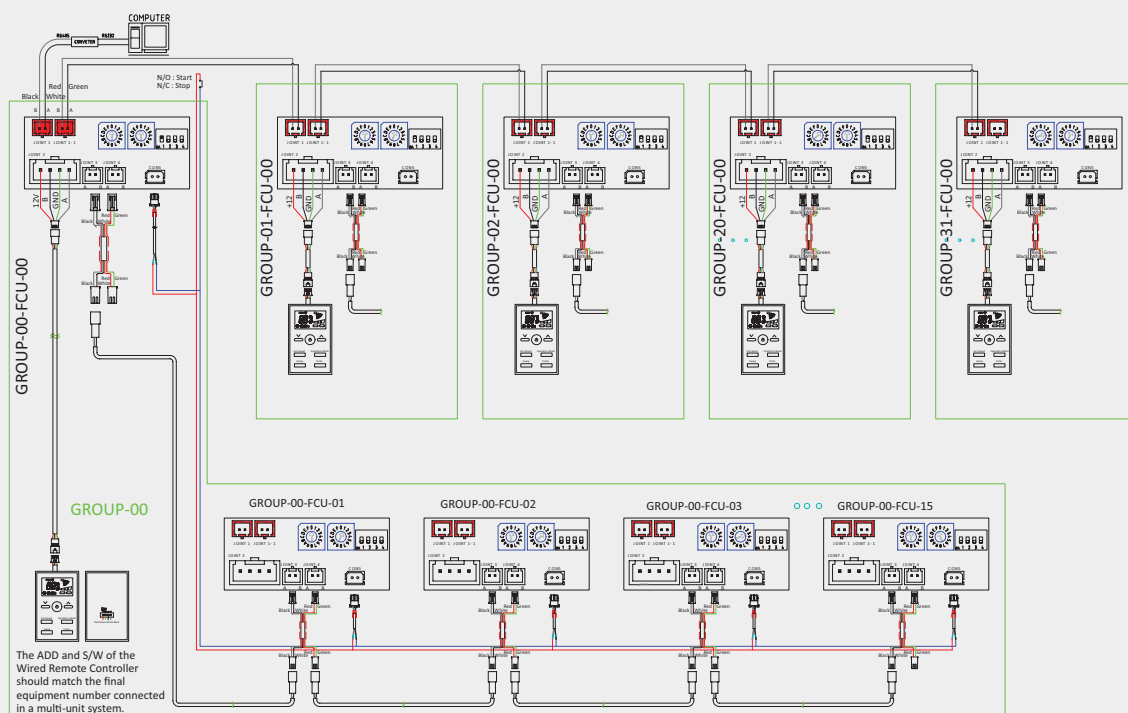
>> Stand Type Wiring Diagram



Fan Coil Unit Installation Method - Standard Electrical Wiring Diagram

Central Control Integration

>> External/Internal/Contact Integration

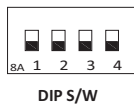


>> Configuration



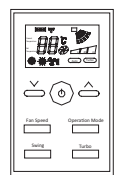
Address Switch Setting for the PCB

1. The first address switch is typically used to set the group number (16 groups).
2. The second address switch is used to set the product number from 0 to F (16 units).
3. You can connect a maximum of 16 FCU devices to one wired remote controller (16 devices per group, up to 256 devices).



Setting DIP Switches for PCB Mode and the Communication Speed

- | | | |
|--|--|--|
| 1. Internal/External Communication Selection | ☐ Group Control | ☐ Central Control |
| 2. FAN or VALVE MODE | ☐ FAN MODE | ☐ VALVE MODE |
| 3. Water Level Sensor Mode | ☐ Sensor Mode | ☐ Timer Mode |
| 4. Model Selection | ☐ 1, 2way | ☐ 4way |



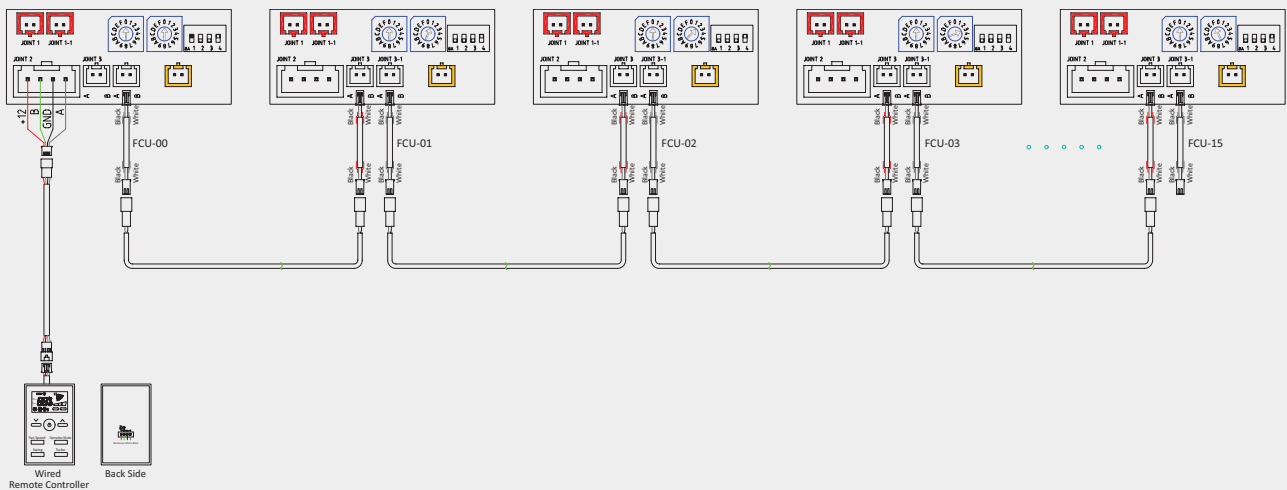
Setting for Group Control (Internal Communication)

1. Set the ADD and Setting on the wired remote controller to match the final equipment number connected in multi-unit operation.
2. You can connect a maximum of 16 FCU devices to one wired remote controller.
3. ADD and Setting Method:
 - Press and hold the Fan Speed + Operation Mode switch for three seconds, and a number (1-16) will be displayed and you will enter the connection count setting mode. You can set it from 1 to 16 using the $\wedge$ and $\vee$ arrow buttons, then press the Power button to confirm (initial state value = 1).
4. If the indoor product installation layout changes, you must modify the Add setting on the remote controller to prevent communication errors.

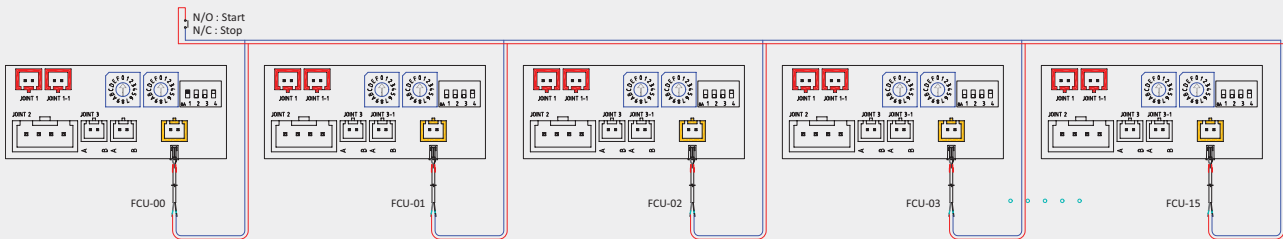
Fan Coil Unit Installation Method - Standard Electrical Wiring Diagram

Group Control and Contact Point Control

>> Group Control



>> Contact Control



Precautions for Fan Coil Unit Installation, Maintenance and Use

1. Installation Preparations

1. Transportation

Two people should handle transportation, and the device may be damaged if dropped or impacted during transport.

2. Storage/Stacking

When storing on site, do not open the packaging and do not stack more than 6 layers.

When storing outdoors, make sure to wrap well with plastic or similar material to protect it from rain and snow.

3. After Unpacking

3-1 After installing the product at the site, be sure to block the product's suction port.

If foreign substances enter the product during construction, it may cause a deterioration in product performance or malfunction.

3-2 If the external case is damaged or scratched, re-painting is not possible, so please handle it with care.

4. Product Installation

4-1 Install the product horizontally to ensure smooth condensate drainage.

4-2 All products must have enough space to insert and remove the filter.

4-3 Please install so that there are no obstacles near the suction and discharge ports.

2. Driving Preparations

1. Check the condition of the power plug.

2. Perform air purging inside the heat exchanger to check for any residual air.

*When starting the unit for the first time or after an extended shutdown, you must use the air purging valve on the heat exchanger to remove any trapped air in the heat exchanger and piping.

3. If the valve is installed as an option, check the condition of the control valve in the piping line.

4. Check the presence/absence of the air filter and its cleaning status.

5. Ensure that there are no factors that could interfere with the operation around the fan coil unit.

3. Precautions During Product Use

1) Frost Caution (Summer Season)

When the fan coil unit is in contact with outside air or air with high temperature and humid (relative humidity of 80% or more), cold water flows in the heat exchanger, and water droplets form on the outside of the product and wet the floor regardless of whether the fan is operating or not.

Please operate while paying attention to the following.

A) During operation – Operate the refrigeration unit after starting the fan coil unit operation.

B) During shutdown – Stop the refrigeration unit first, and then stop the fan coil unit.

C) During partial operation – When one refrigeration unit or several fan coil units are stopped for an extended period (more than 12 hours), be sure to shut off the water supply. Operating cold water circulation with the fan stopped can cause water droplets to form on the exterior of the casing, leading to moisture on the floor. If the cold water cannot be shut off, operate the fan at low speed (L). (We strongly recommend the use of individual ON/OFF valves.)

D) During operation in hot and humid conditions – Directing some of the airflow for partial cooling purposes is not the original intended use of the fan coil unit. In such cases, water droplets may accumulate on the surface. To prevent water droplets from falling onto the floor, place a drip tray underneath and connect a drainage pipe to allow for proper drainage.

E) During cooling operation, avoid installing any heat-emitting objects inside the room where the fan coil unit is installed.

2) Cold Weather Precautions (Winter Season)

During the winter, there is a risk of the heat exchanger freezing and bursting due to operation stoppage, so please operate with caution according to the following.

A) Operate the circulation pump continuously to circulate water. Especially in extreme cold weather, operate the hot water boiler at a temperature low enough to prevent freezing and circulate hot water.

B) If not used for an extended period, completely drain all water from the entire device, including the heat exchanger interior and piping.

C) For products with a ceiling cassette or MICOM controller, freeze prevention automatically operates under the condition that individual ON/OFF valves are installed.

3) End of Season Precautions

If the cooling/heating season has ended, and the fan coil unit will not be used for an extended period, completely drain all water from the entire device, including the inside of the heat exchanger and the piping.

4) Usage and Maintenance

A) Turning off the device during use by cutting off the power supply can cause damage to the components and may lead to malfunctions.

B) For ceiling cassette type products with built-in condensate pumps (not natural drainage), cutting off the power supply may result in the residual condensate not being discharged, potentially causing water overflow. Some valves will not close when power is lost, leading to continuous condensate generation and possible excessive charges in some billing systems.

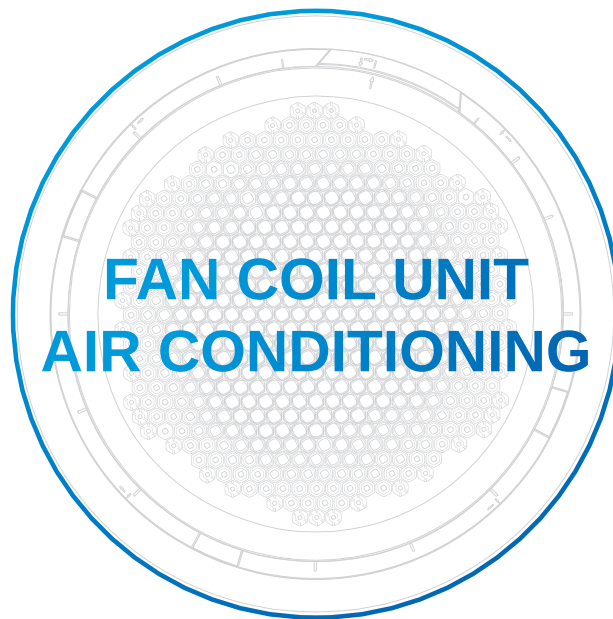
C) Do not place computers, furniture, clothing, or other objects directly below ceiling or ceiling cassette type products. Equipment malfunction or damage may occur due to water dripping, depending on the humidity in the installation location.

D) Modifying or changing components arbitrarily can cause product malfunctions, and in the case of malfunctions, the manufacturer may not be held responsible and warranty repairs may not be possible.

E) The drain plate and coils can accumulate dirt over time, which may cause performance deterioration, leakage, and odors. Therefore, please clean them every 2-3 years.

Causes of Fan Coil Unit Malfunctions and Measures

Operation	Abnormal Symptoms	Main Causes	Expected Causes and Measures	
			Detailed Causes	Measures
Operation Start-up	The fan is not rotating.	A. Power Supply Issues	1. Power Outage	Wait until the power is restored
			2. Abnormal Voltage (Below 90% of the rated voltage)	Request maintenance from the power company or an electrical service company
			3. Power Cord Cut or Poor Contact with the Outlet	Replace the power cord or check and replace the outlet.
			4. Power Plug Detachment	Securely attach the power plug
		B. Control Circuit and Circuit Component Malfunction	5. Wiring Breakage and Terminal Disconnection	Refer to the electrical wiring diagram to check and reconnect or repair.
			6. Fuse Breakage	Replace the fuse
			7. Switch Malfunction	Check the wiring arrangement and ensure there are no disconnected wires
		C. Motor Malfunction	8. Condenser Malfunction	Replace
			9. Motor Malfunction	Replace
		D. Switch Operation Malfunction	10. Check Operation Status	Check the operational state
			11. Select Operation Mode	In the case of MICOM type, ensure the appropriate cooling or heating mode is selected
			12. Temperature Setting Malfunction	For temperature control types, check if the temperature setting is appropriate and reset if necessary
During operation	Abnormal noise or vibration occurs during operation	A. Abnormal noise from the fan	1. Loosening of assembly screws	Check and tighten as needed
			2. Intrusion of foreign substances into air ducts or rotating parts	Remove the foreign substances
			3. Interference between the rotating assembly and housing	Adjust the gap by loosening the rotating body fixing bolt
			4. Damage to the rotating assembly	Replace
			5. Defect of the motor	Check and repair or replace as needed
		B. Heat Exchanger	6. Air in the heat exchanger	Perform air purging
		C. Product	7. Poor fastening of fixing bolts	Tighten the bolts securely
			8. Missing dustproof grille	Install the dustproof grille
			9. Contact with other structures	Resolve contact points
	Low air volume	The air volume is low.	10. Abnormal low supply power voltage (Below 90% of the rated voltage)	Contact the power company or an electrical contractor for improvement
			11. Obstruction in the air inlet/outlet	Remove foreign objects
			12. Clogged air filter	Clean the filter
			13. Incorrect motor or condenser capacity	Check the capacity of the motor and condenser and replace if necessary
	Reduced Cooling/ Heating Capacity	A. The air volume is low.	14. Check items 10 to 13	
		B. Performance is insufficient compared to the actual cooling/heating load	15. Load calculation or equipment selection error	Contact the equipment provider
		C. No water flow	16. Check if the valves in the piping line are closed.	Check and open the valve
			17. Piping line errors	Check for improper piping connections or reverse valve installations in the line
		D. Insufficient cooling/heating water volume	18. Piping design or installation error	Contact the equipment provider
			19. Insufficient capacity of the circulation pump	Contact the equipment provider
		E. Lack of a heat source	20. Supply water temperature below the design temperature	Check and improve the capacity of the refrigeration unit or boiler
				Check the insulation status of the piping and reinforce if necessary
		F. Decreased heat exchange efficiency	21. Contamination of the heat exchanger (coil) fins	Check and clean contamination of the heat exchanger
	Leakage from the product	A. Condensate water drainage issue	22. Improper coupling of the drain hose	Check and secure the coupling properly
			23. Absence of an air vent on the drain pipe	Install an air vent at the end of the hose
			24. Defective drain piping	Check if the drain pipe has the appropriate diameter and slope, and take corrective measures
			25. Foreign material entering the drain pump	Check for foreign material and remove it
			26. Malfunction of the drain pump	Inspect and replace if necessary
			27. Inadequate drain height	For pump-built-in types, check the drain height and modify the piping if needed
		B. Piping connection Leakage	28. Poor connection of each pipe joint	Check and reassemble the packing or sealing
			29. Insufficient insulation	Check the insulation of the connected pipes and reinstall if necessary
		C. Poor installation	30. Poor state of balance	Install horizontally using a level gauge
When stopped,	the fan does not stop.	Electrical circuit malfunction	1. Switch malfunction	Inspect and replace if necessary
			2. Control circuit abnormality	Inspect and replace (In the case of MICOM type, the operation stops after a certain period.)



SHINWOO SHINWOO AIR CONDITIONING CO.,LTD.

Headquarter and Factories

106 Jeongmun-ro 588beon-gil,Paju-eup,Paju-si, Gyeonggi-do
Tel. 82-31-953-8725 Fax. 82-31-953-8729

Sales Headquarter

#917-919 Dongmun Good Morning Tower 1, Hosu-ro 358-39, Ilsandong-gu, Goyang-si, Gyeonggi-do
Tel. 82-31-902-0030 Fax. 82-31- 932-1037

Website

<http://www.shinwoofcu.co.kr>

* The specifications of this product are subject to change without notice for quality improvement.