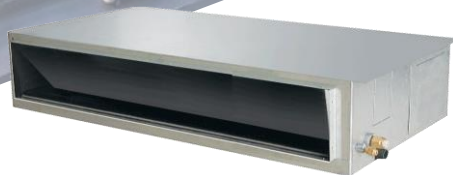
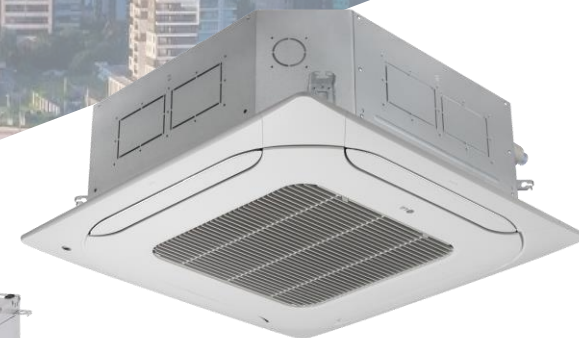
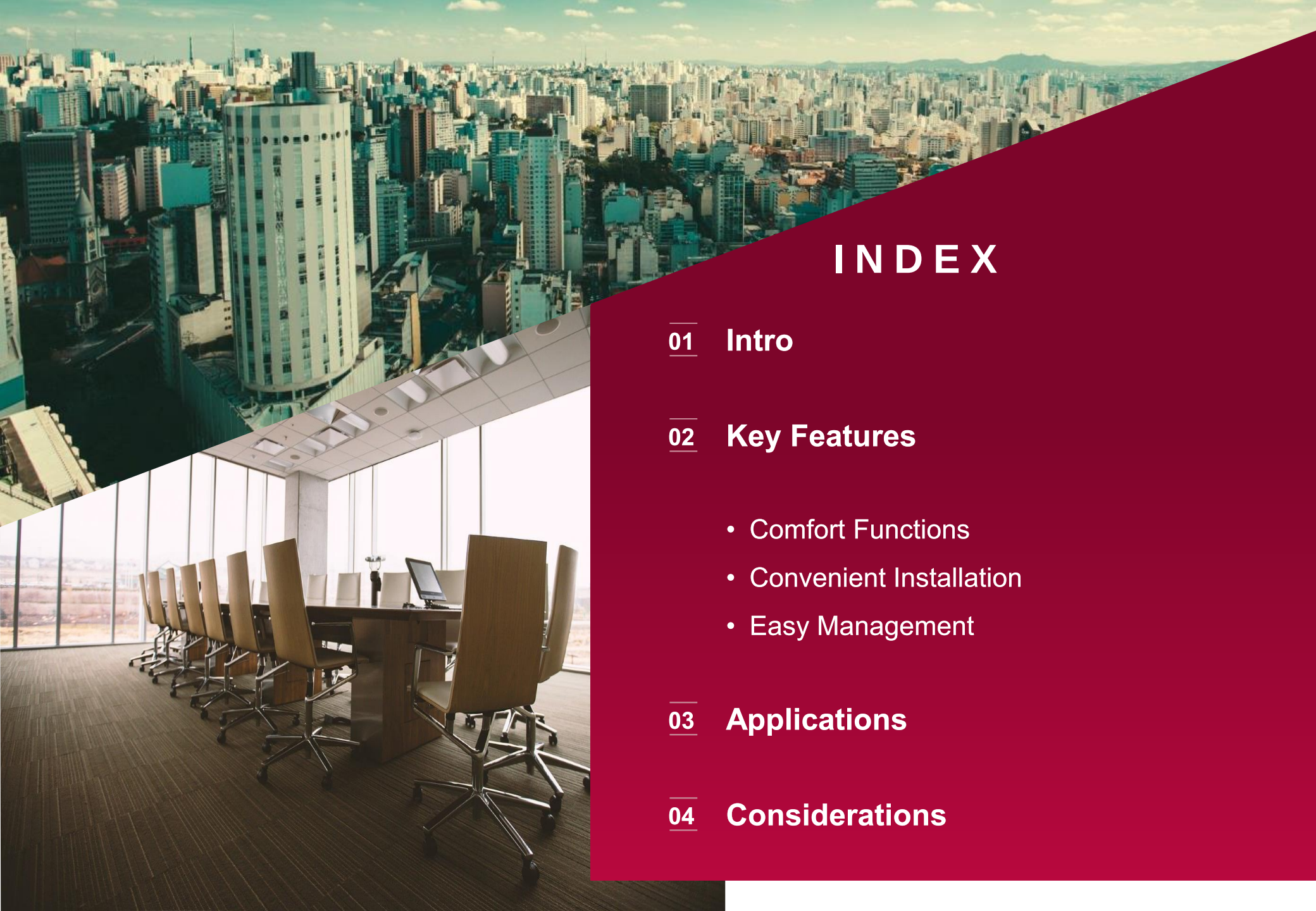


FCU (LG Fan Coil Unit)

4Way Cassette, Ceiling Concealed Duct Product Introduction



For LATAM, 2021. Jan
CAC Engineering Solution Team



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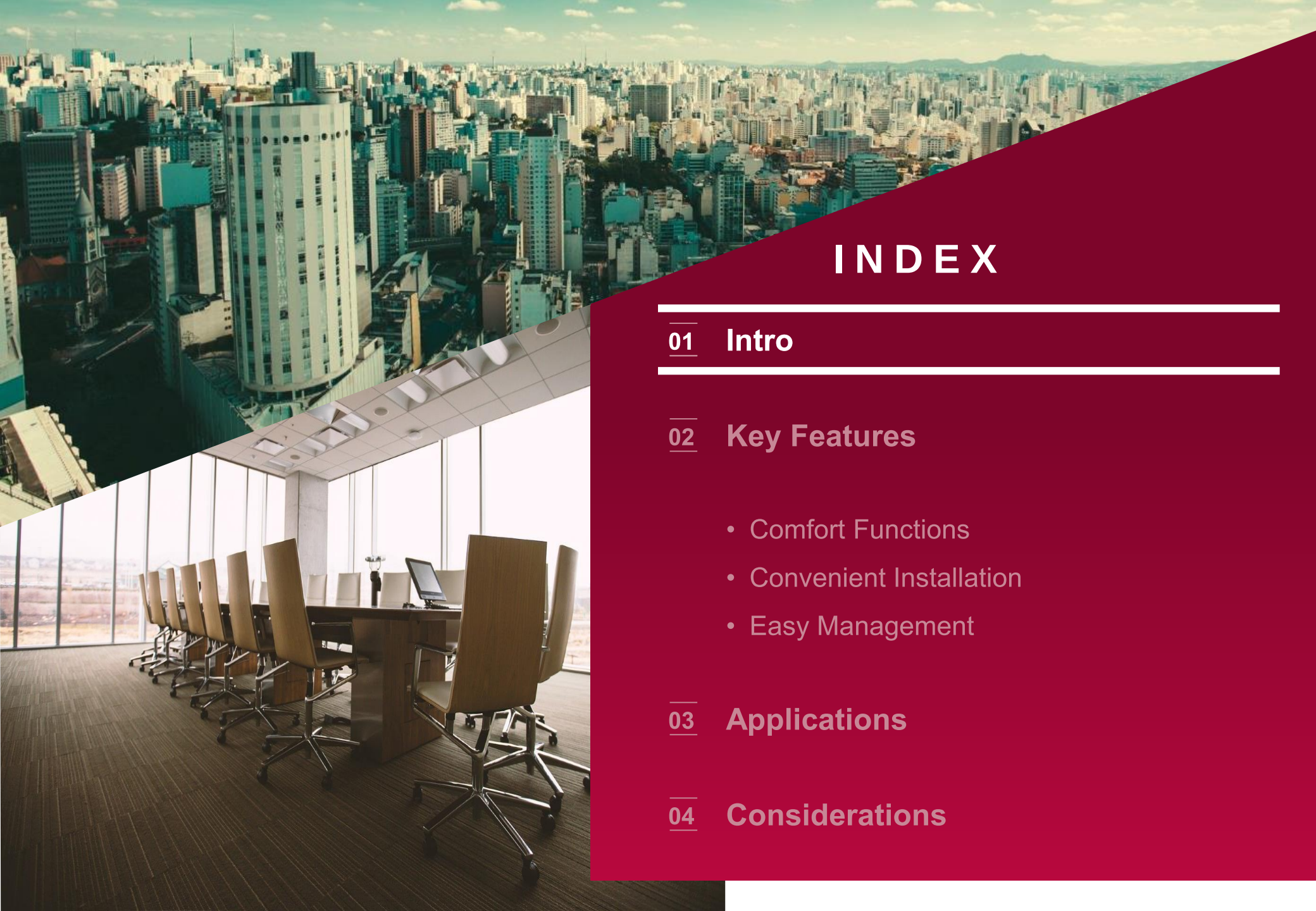
01 **Intro**

02 **Key Features**

- Comfort Functions
- Convenient Installation
- Easy Management

03 **Applications**

04 **Considerations**



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01 Intro

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What is FCU ?

FCU(Fan Coil Unit) is an indoor unit that is applied to various solutions using water such as chiller and hydro kit. Since only water pipe is installed indoors, it can be used more safely.

Water Solutions

Chiller

Water-cooled



Centrifugal

Air-cooled



Inverter Scroll



Absorption



Screw



Screw

Water Pipe

Only water
circulate indoor

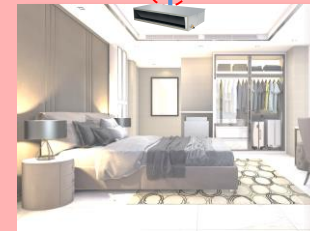
Various Applications



Office



Restaurant(Café)



Hotel



Residence



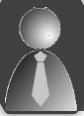
Retail(Shop)



Office

What's Needed?

It is natural that customers want coolness and comfort. On the contrary, if the product is too difficult to install or is inconvenient to manage, it will cause inconvenience to customers.



User



Uncomfortable because it's noisy and not cool enough.



Installer



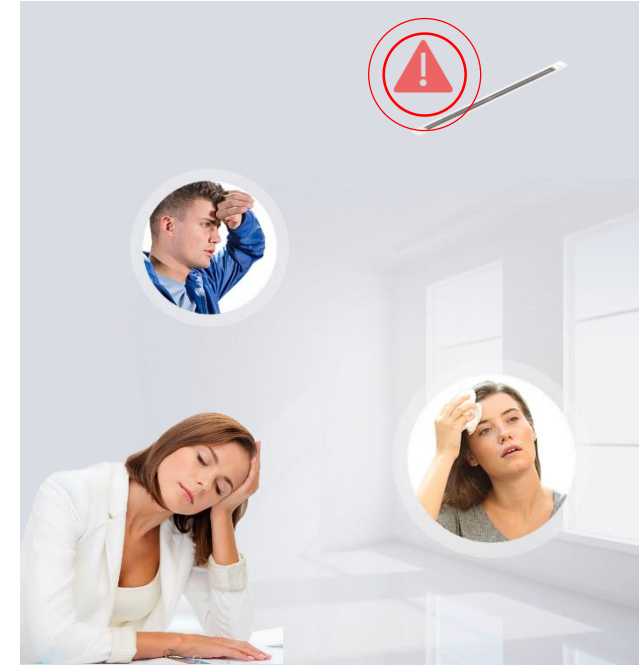
Installation is difficult and takes too long.



Owner



Too difficult and complex to manage or clean



Why LG FCU?

LG FCU has various advantages from design to operation with LG's excellent water system solution.

Comfort Functions

Convenient Installation

Easy Management



User



It is cool and quiet, so it is very comfortable.



Installer



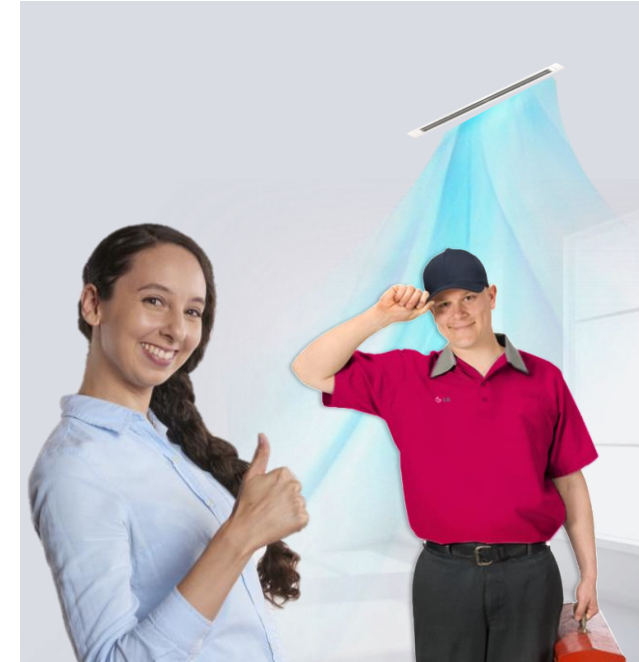
It can be installed easily and quickly, saving time.



Owner



Easy & simple manage and quick resolution in case of breakdown



Why LG FCU?

LG FCU has various advantages from design to operation with LG's excellent water system solution.

Comfort Functions



Low Noise



LG ThinQ



2 Thermistors



Sleep Mode



Comfort Airflow¹⁾



Stylish Design¹⁾



Human Detection¹⁾



Zone Control³⁾

Convenient Installation



Easy & Flexible Installation⁴⁾



E.S.P. Setting²⁾



Ceiling Height Setting¹⁾

Easy Management



Easy Filter Maintenance



Auto Dry



Easy Access⁶⁾



Group Control



Easy Scheduling



Individual Controller Lock



Central Control

1) Available only 4Way Cassette

2) Available only Low Ceiling Concealed Duct

3) Available only Middle Static Ceiling Concealed Duct

4) Available only 4Way Cassette and Low Static Ceiling Concealed Duct

5) Available only 4Way Cassette and Middle Static Ceiling Concealed Duct

6) Available only Low and Middle Static Ceiling Concealed Duct

Line-up of FCU & Central Controller

With wide capacities line-up(5~44 CMM), FCU can be apply to a more diverse kinds of place.

Air Flow Rate(CMM)		5	6	7	8	9	12	13	17	18	19	20	21	25	30	31	34	39	41	44
4 Way Cassette 	Line-up		○	○		○	○				○		○	○		○			○	
	Capacity	kW	1.8	2.7		3.2	4.1				6.0		7.2	9.0		10.5			13.0	
		kBtu/h	6	9		10	14				20		25	31		36			44	
	Chassis		TR	TR		TR	TQ				TP		TP	TN		TN			TM	
Low Static Ceiling Concealed Duct 	Line-up	○	○	○	○	○		○		○										
	Capacity	kW	1.3	1.8	2.5	3.2	3.9		5.5	6.6										
		kBtu/h	5	6	9	11	13		19	23										
	Chassis		L1	L1	L2	L2	L3		L3	L3										
Middle Static Ceiling Concealed Duct 	Line-up								○			○		○	○		○	○		○
	Capacity	kW							5.6			6.6		9.0	10.0		10.9	12.7		14.0
		kBtu/h							19			23		31	34		37	43		48
	Chassis								M1			M1		M2	M2		M3	M3		M3

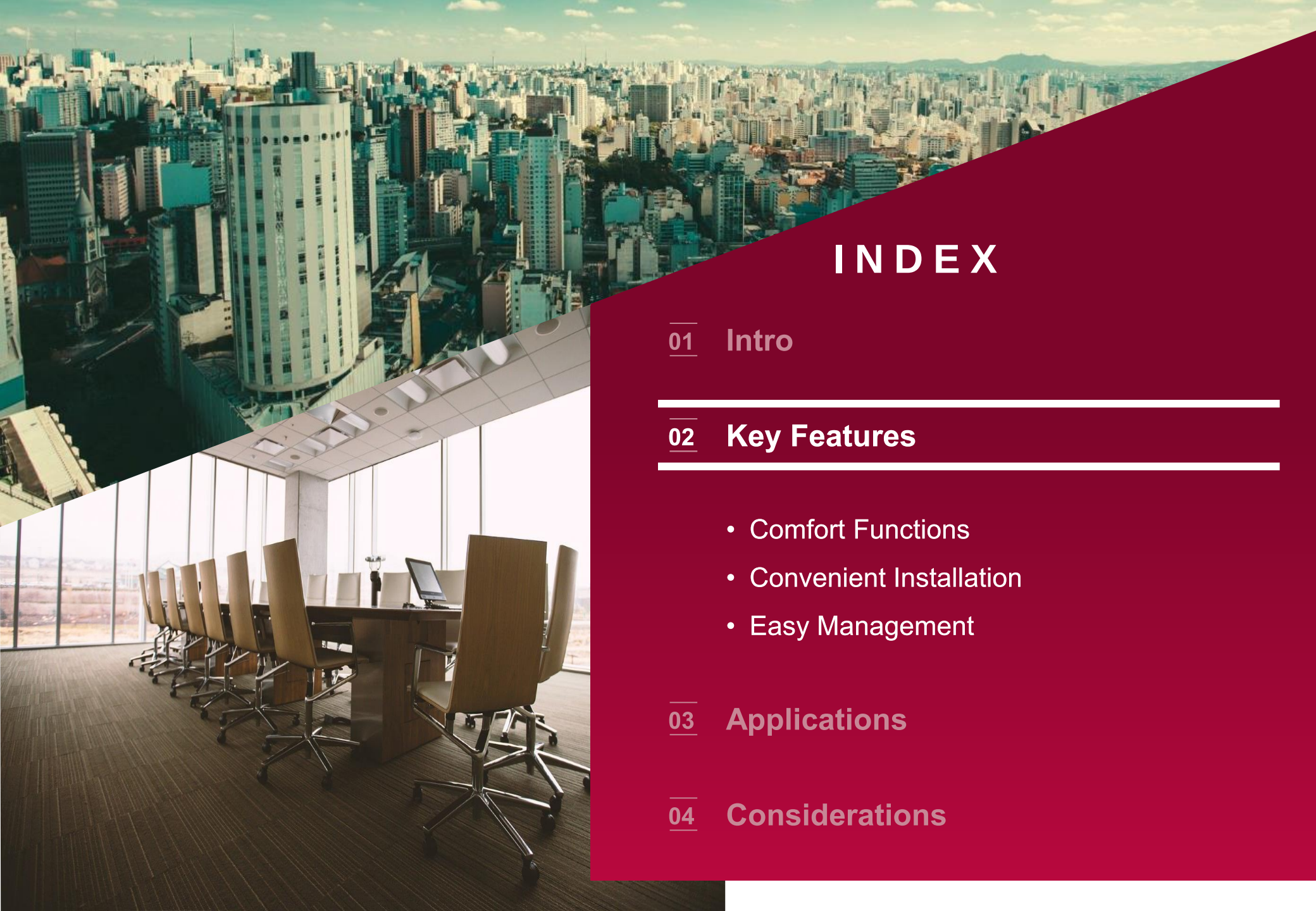
※ All lineups are for 2 pipes type only.

* Based on Cooling Capacity. Cooling Capacity testing condition : Inlet/Outlet Water Temperature 7°C / 12°C, Indoor Air Temperature 27°CDB / 19°CWB

LG Central Controller		AC Ez  PQCSZ250S0	AC Ez Touch  PACEZA000	AC Smart 5 ¹⁾  PACS5A000	ACP 5 ¹⁾  PACP5A000	ACP Lonworks  PLNWKB000	AC Manager 5 ²⁾  PACM5A000
Max. Connectable No.	IDUs (A/C, FCU)	16	32	64	128	64	4,096
	A/C + ERV	32	64	128	256	64	-
	AHU	-	-	16	16	16	-
	Chiller	-	-	5 Optional ³⁾	10 Optional ³⁾	-	-

1) Without additional device, ACP 5 and AC Smart 5 provide BACnet IP and Modbus TCP interface for BMS

2) ACP 5 or AC Smart 5 is required 3) Except for some features (user mode, additional function, etc.)



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- Convenient Installation
- Easy Management

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04 Considerations

Low Noise

Comfort Functions

The optimal design for FCU reduces noise to 33dB(A) to maintain a quiet and comfortable indoor environment. Due to low noise operation, it is preferred most applications to provide comfort.



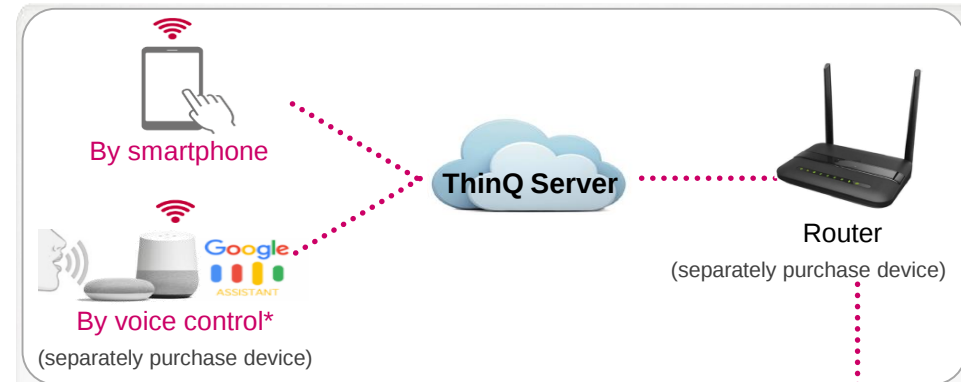
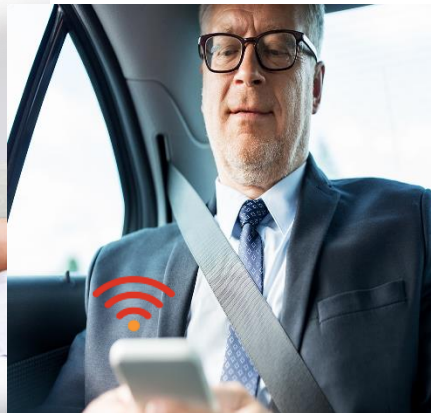
* 6kBtu/h capacity model, Sound pressure level value are measured at noise measuring chamber accordance with LG Internal standard

** Sound Data Source : OSHA(Occupational Safety and Health Administration)'s typical sound levels(dB(A))

Through mobile application, it is not only possible to set the FCU's on/off, but also, to set reservation, and so on. With this function, you can make a reservation in advance and turn off the power outdoors.



Remote Control...



* Device availability in your country can be checked at
Google : <https://support.google.com/store/answer/2462844?hl=en>

+ Functions by LG ThinQ

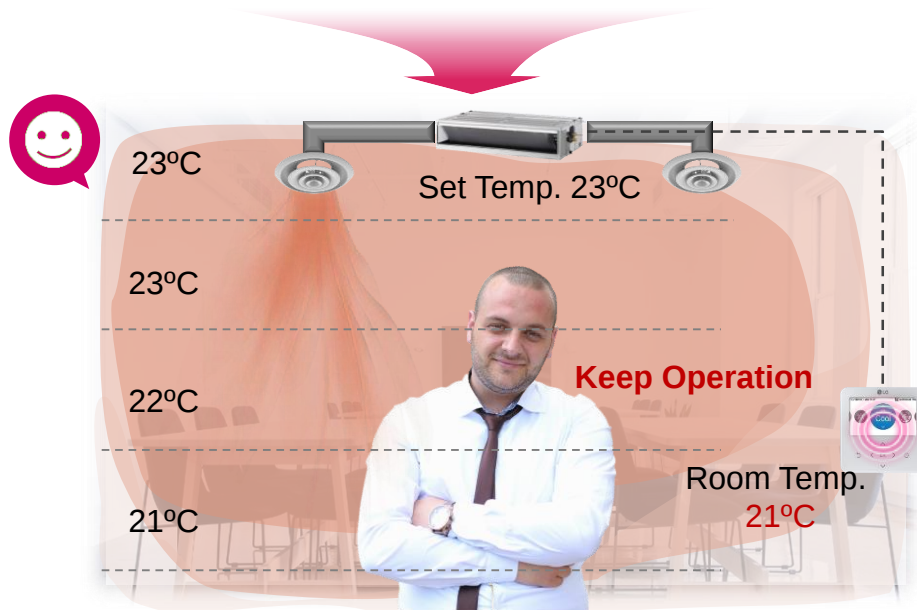
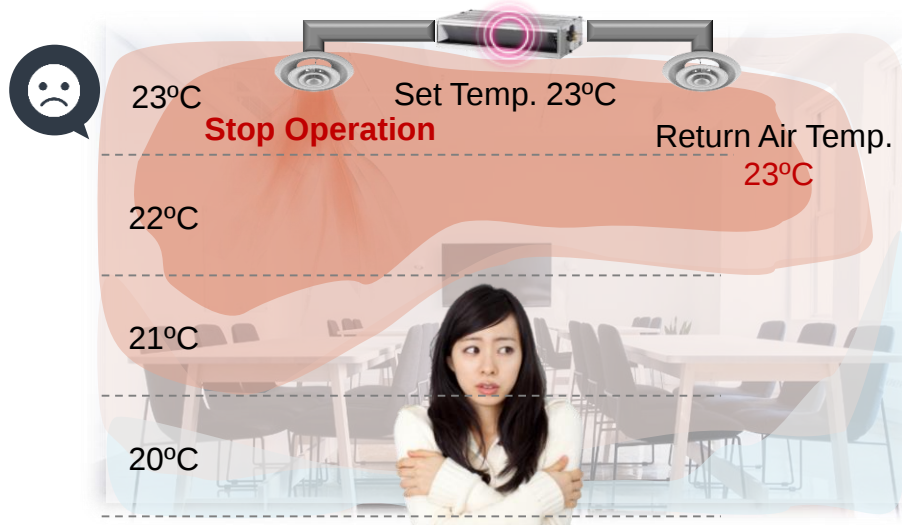


PWFMD200

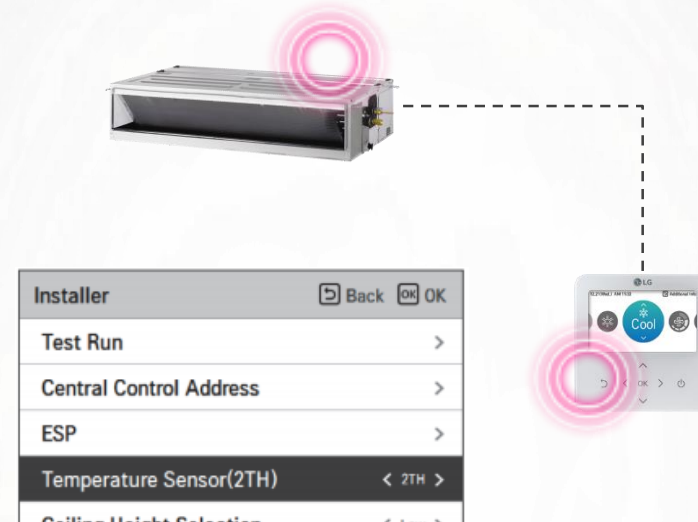
※ Search "LG ThinQ" on Play store or App store then download the app.
※ Functionality may be different according to each IDU model.

2 Thermistor

LG FCU can select either the FCU's temperature sensor, wired remote controller or 2 thermistor function to sense the indoor temperature precisely.



[Selectable Thermistor]



[Operation Reference Temperature Setting]

FCU	Remote Controller	2TH(Default)
		Automatic Switching

+ Details of Setting

Sleep Mode

LG FCU change the fan speed so that the wind is not blown directly to the people asleep.



Airflow Rate : High



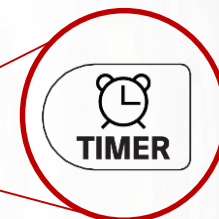
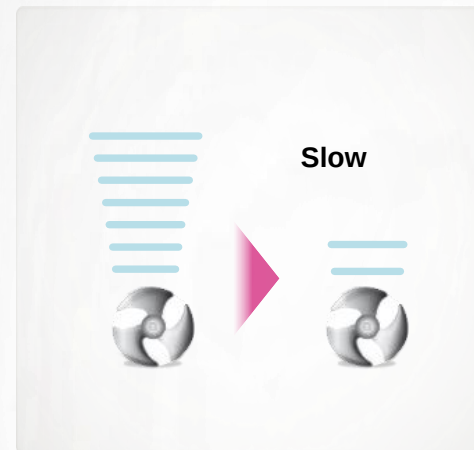
Airflow Rate : High

Airflow Rate : Low



[Fan Speed]

- After setting the sleep mode, fan speed is changed to low.



[Sleep Mode Setting]

- Sleep mode is operated by Sleep Timer setting.

Timer	Back	OK
Simple Timer	Off	>
Sleep Timer	Off	>
Turn-Off Reservation	Off	>
Turn-On Reservation	Off	>

Sleep Timer	Back	OK
1 hours, left to stop.		Start

Comfort Airflow(4Way Cassette)

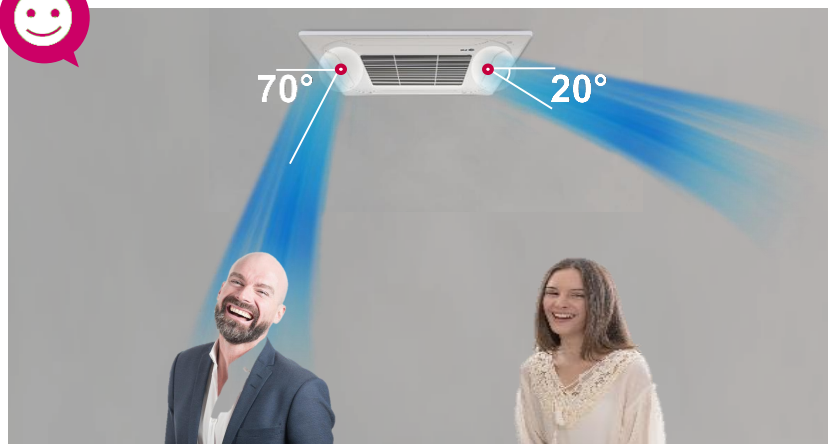
Comfort Functions

Depending on the installation environment, conditions of use, and the user's location, 4 vane angles can be controlled in 6 steps from 20° to 70°, depending on the indoor environment and personal preference. You can freely adjust the wind direction.



Feel Hot

Feel Cold

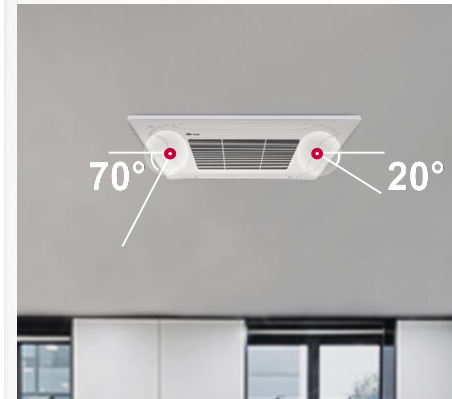


Feel Cool

Feel Comfortable

[Wind direction]

[Individual vane control]



[Swirl swing]



[Individual vane control]



Comfort Airflow(4Way Cassette)

Comfort Functions



With indirect wind,
Comfortable!

Comfort indirect wind
Without touching the skin directly, a large space is comfortable!



With direct wind,
Cooler!

Cool direct wind
Cooler on a hot day.

Stylish Design Panel(4Way Cassette)

Comfort Functions

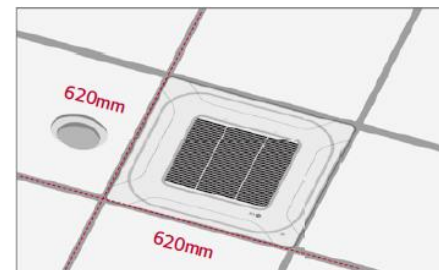
New 4 way cassette panel adapted a unibody shape and fits into the ceiling cell size.

U-style 4Way cassette



Compact Size

Panel size is fit into the ceiling tile.



Interior fit



Lineless surface



Unibody shape
(No inlet line)

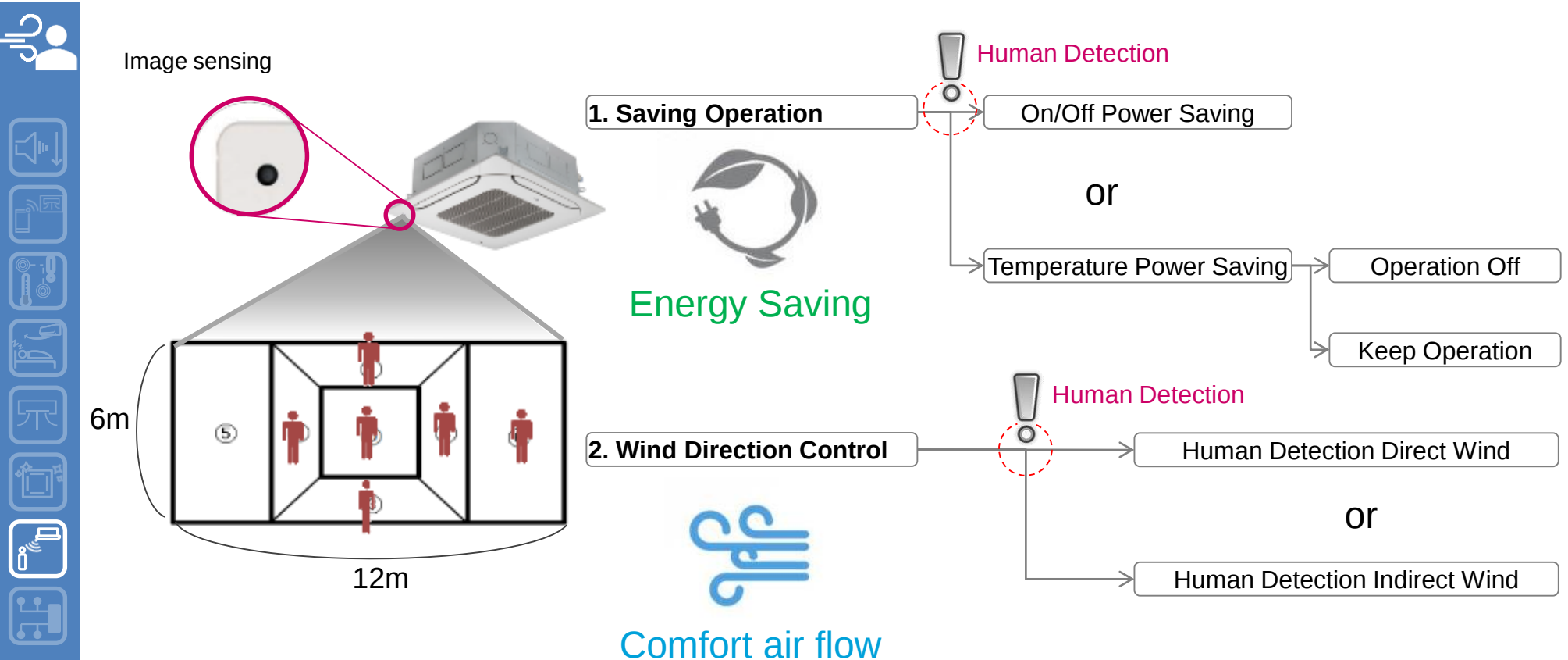
Detachable corner



reddot design award

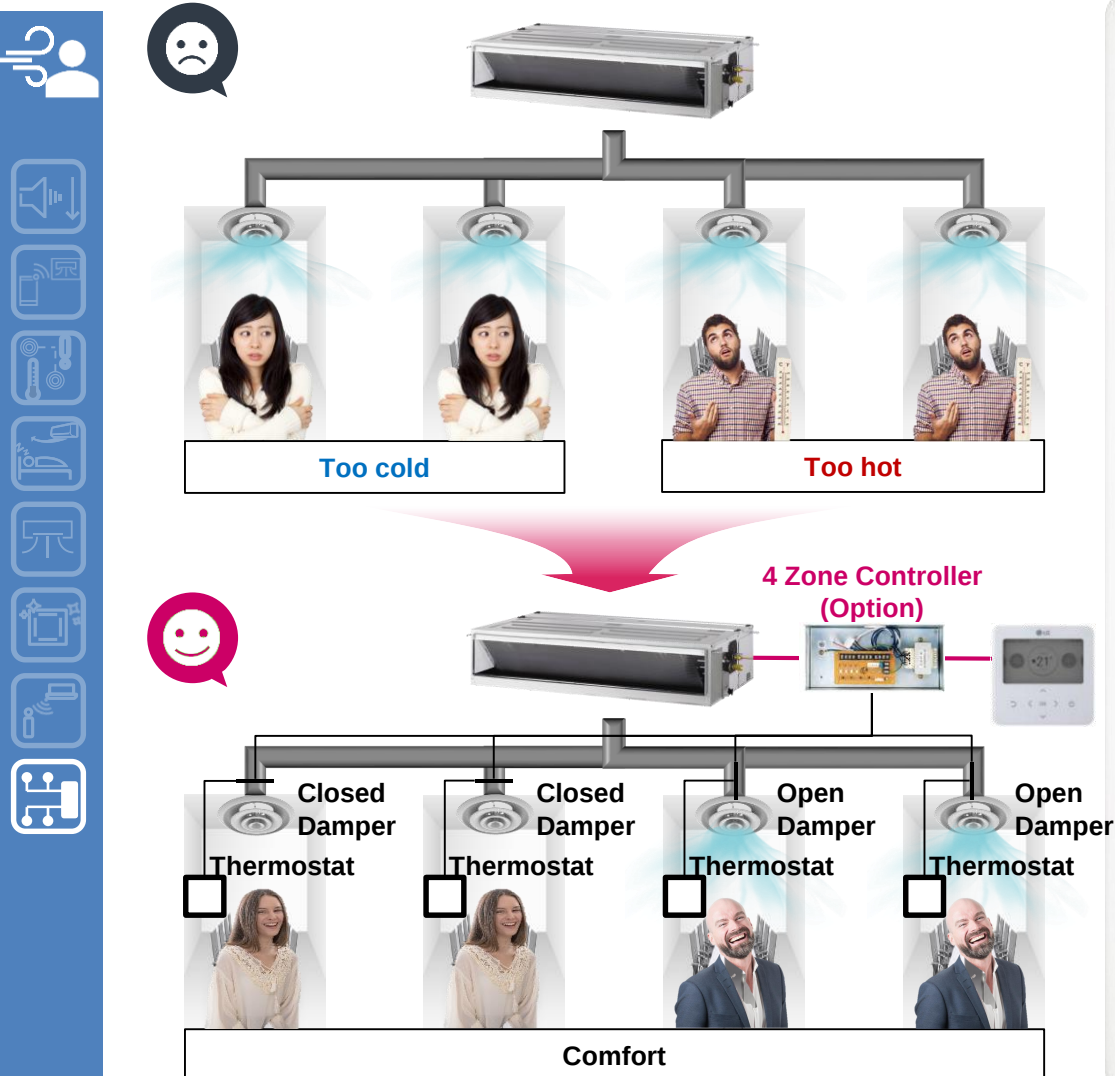
Human Detection(4Way Cassette)

Human detection kit detects how many people are in which zone by image sensing. FCU is controlled automatically according to the result of human detection.

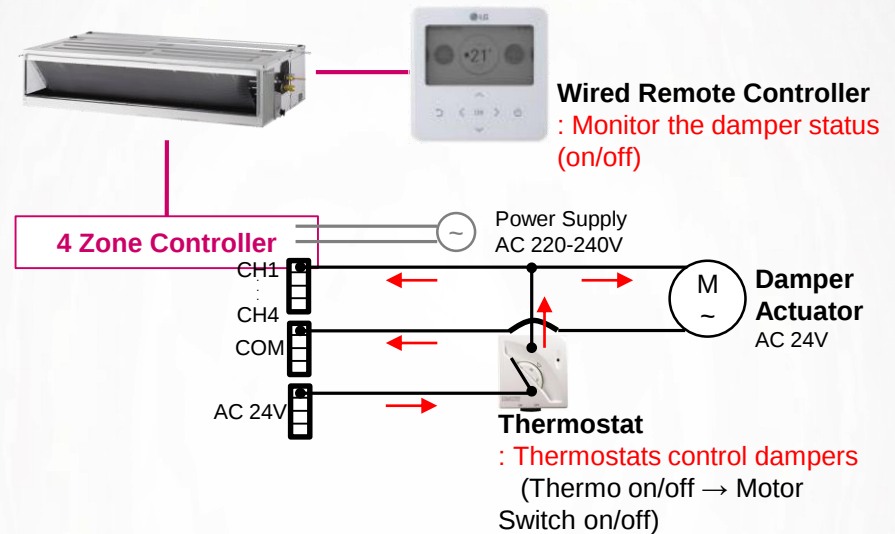


4 Zone Control(Middle Static Duct)

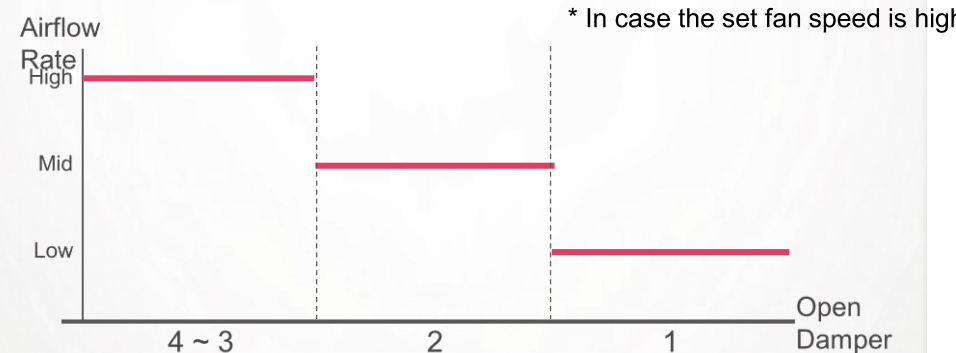
A single Middle Static ducted unit can air condition several indoor zones according to each zone's environment through duct.



[Installation Scene]



[Auto Fan Speed Change]

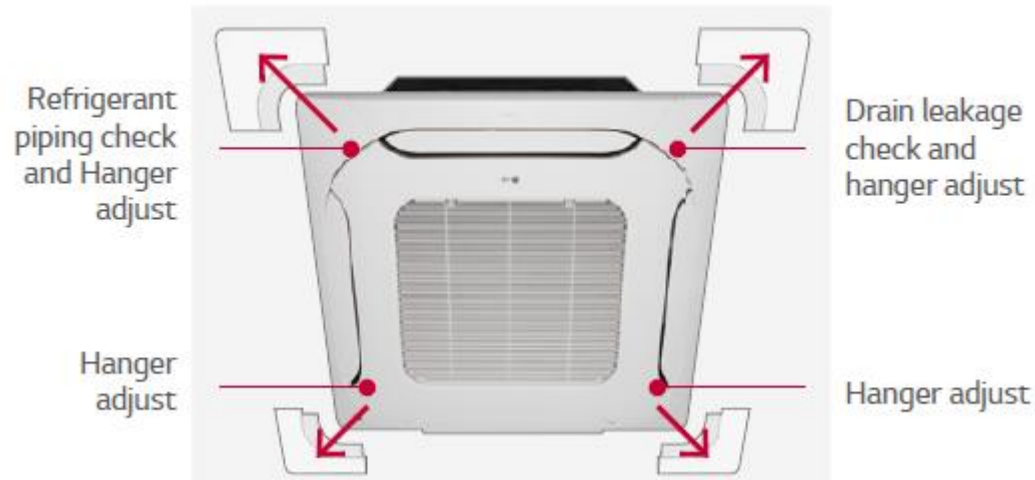


Easy & Flexible Installation(4Way Cassette)

Convenient Installation

The detachable corner design makes it easy to adjust the hanger during installation and helps to easily check leakages in the drain connection pipe. Moreover, button type holder design makes it is easy to install the panel to the body.

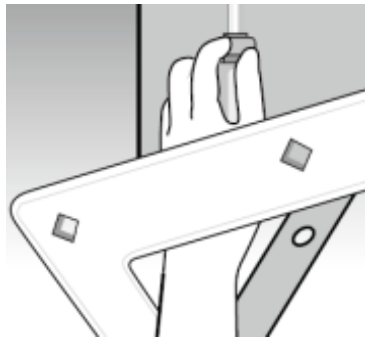
Detachable Corner Design



Drain Leakage Check



Hanger adjust



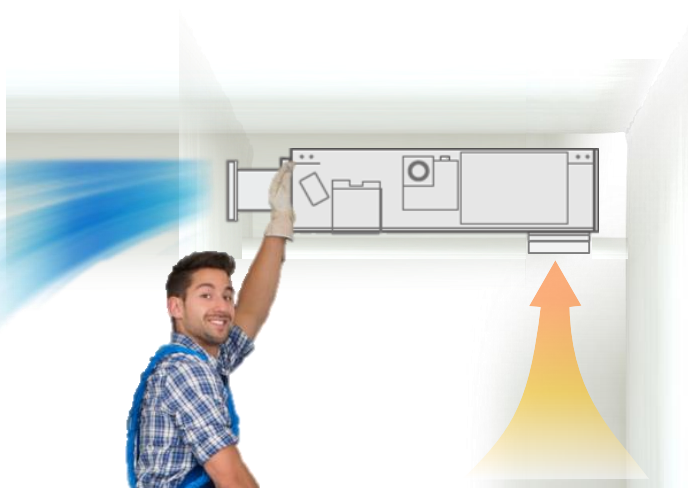
One Push Panel



Easy & Flexible Installation(Low Static Duct)

Convenient Installation

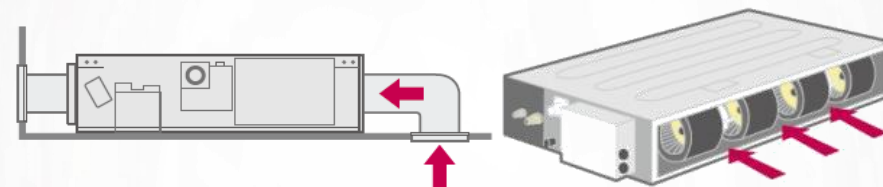
It is possible to choose the location of the air intake flexibly.



[Flexible Installation]

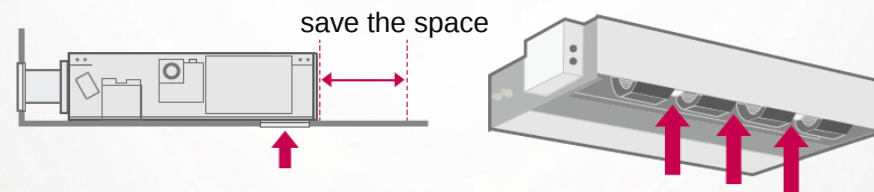
- It can be installed in limited space. because you can choose air intake from either rear or bottom.

Case 1 : Air intake from the rear of the unit



Case 2 : Air intake from the bottom of the unit

→ In case of insufficient air intake space



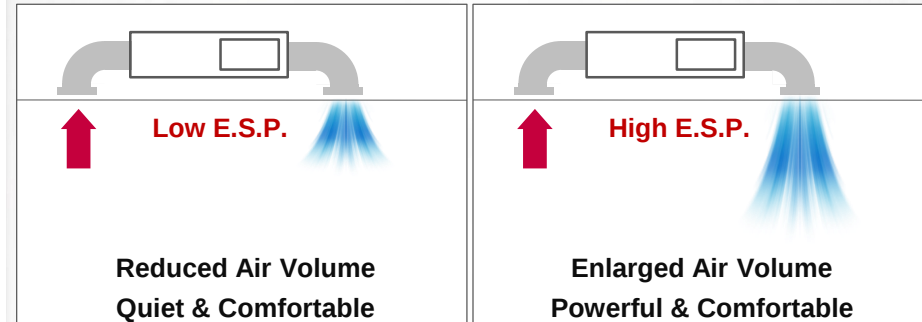
E.S.P. Setting(Low & Middle Static Duct)

Convenient Installation

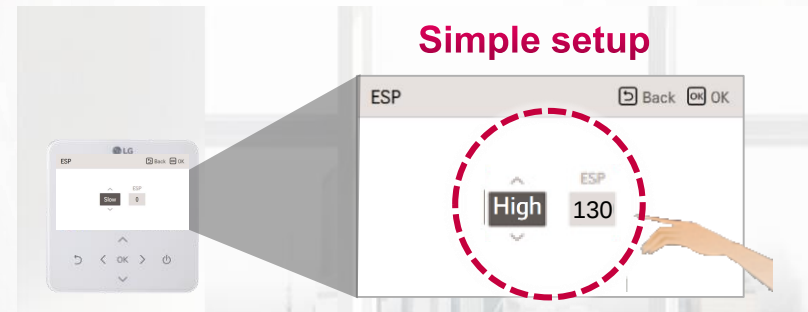
The E.S.P. control function can make air volume controlled easily with a remote controller. The BLDC motor can control fan speed to overcome any external static pressure to supply sufficient air volume .



[E.S.P. Setting]



Set RPM by simple touch on remote control to change airflow



※ E.S.P. Setting guide (Wired Remote Controller) :

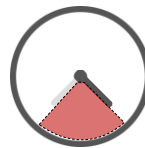
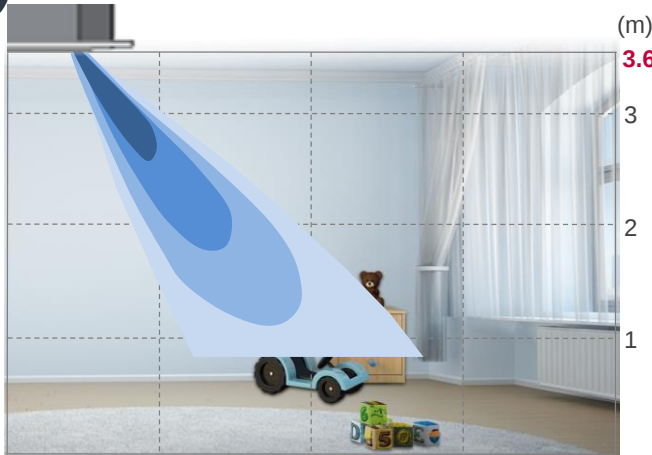
- Standard III (PREMTB100/10) : Menu → Setting → Installer → E.S.P. setting
- Standard II (PREMTB001/01) : Button click → 03 : XX → E.S.P. setting

※ Remote control is optional.

Ceiling Height Setting(4Way Cassette)

Convenient Installation

Installers do not need to set the fan RPM manually by actual ceiling height.
Control the fan speed according to the ceiling height simply by the remote controller.



[Ceiling Height Selection]



Deep switch setting



Remote Controller Setting

Installers can set the following setting values using [**<**, **>**](left/right) button.

Installer	Back OK OK
Temperature Sensor(2T1T)	< 2T1T >
Ceiling Height Selection	< Low >
Static Pressure	< V-H >
RMC Master/Slave	< Master >
Override Master/Slave	< Slave >

Ceiling height	Description
Low	Fan speed operates one step slower than the default value.
Standard	Operates at the default fan speed
High	Fan speed operates one step faster than the default value.
Very high	Fan speed operates two steps faster than the default value.

Easy Filter Maintenance

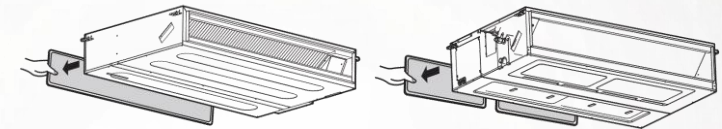
Easy Management

In addition to easy removal and cleaning, it notifies the user of the time of cleaning not only by the remote controller or mobile application, but also by the LED display on the cassette. It makes the filter management easy and the indoor environment can be kept clean.



[Easy Filter Maintenance]

Easy
Detach/
Attach



Low Static

Middle Static

[Filter Sign]

Indicator
Color

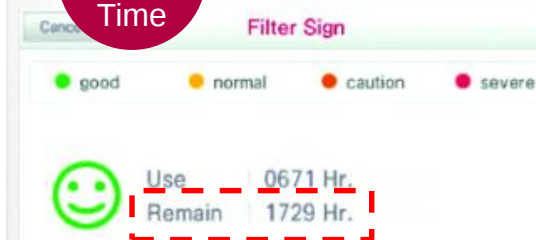


■ Clean filter in cooling/heating Mode

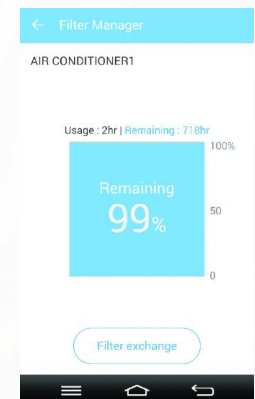
■ Clean filter when product is not operating

+ Details of Color

Display
Remain
Time



Wired Remote Controller



Mobile Application

Auto Dry

Easy Management

The interior of the air conditioner is maintained clean by drying off the heat exchanger to prevent the growth of bacteria, so the indoor environment can be kept clean.



[Auto Dry]

Cooling Mode



Wet

Bacterial propagation

▷ Odor occurs

After Cooling Off

Fan Mode



Dry

Auto Drying

▷ Odorless
▷ Inhibition of bacterial production

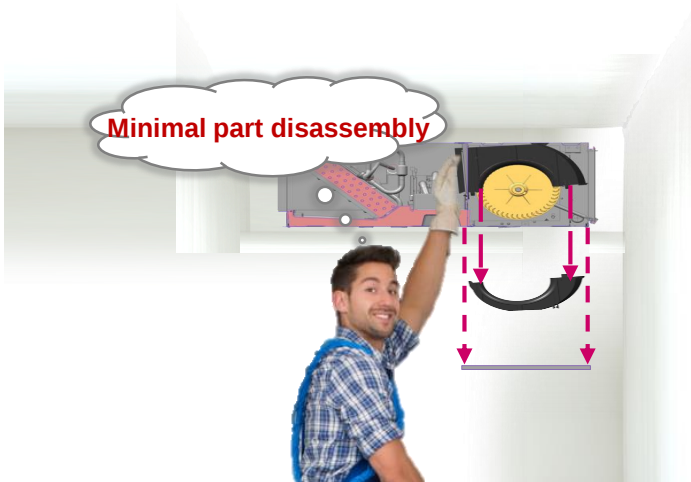
The comprehensive auto cleaning function prevents the formation of bacteria and mold on the heat exchanger, providing a more pleasant and comfortable environment.

Also, the indoor environment remains odorless with this function.

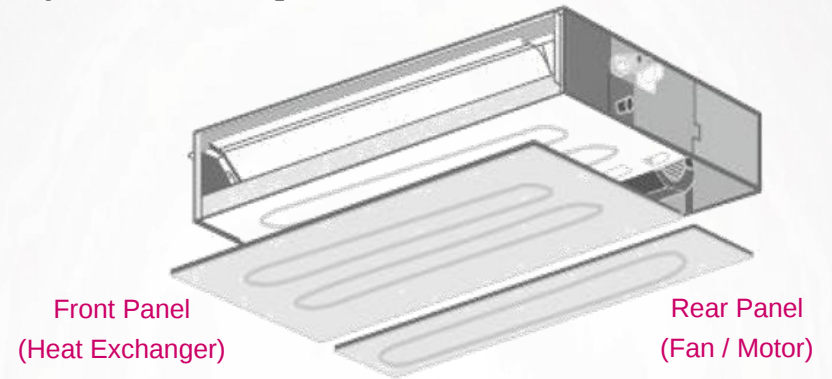
*The default is not to use the auto dry function, and setting is required to use it.

Easy Access Panel & Fan Case(Low & Middle Static Duct) Easy Management

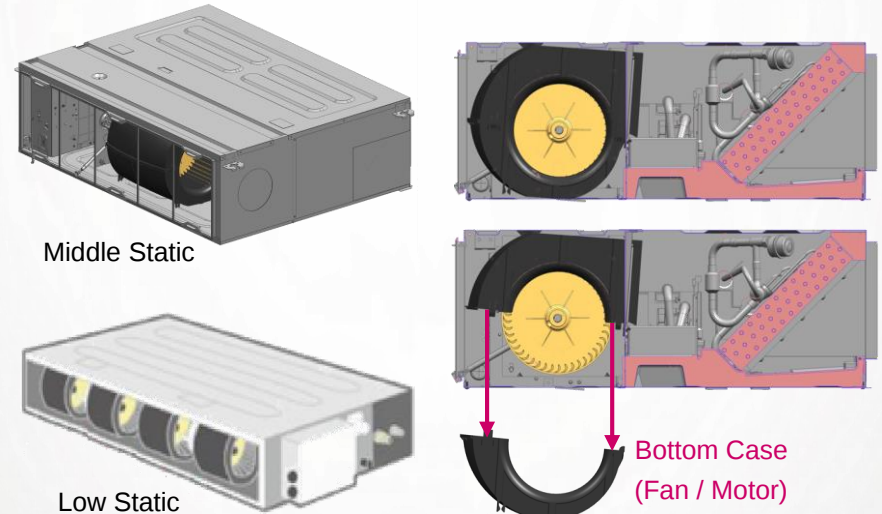
Middle Static duct offers an easy access for maintenance with a detachable panel and a fan case.



[Easy Access Panel]



[Easy Access Fan Case]

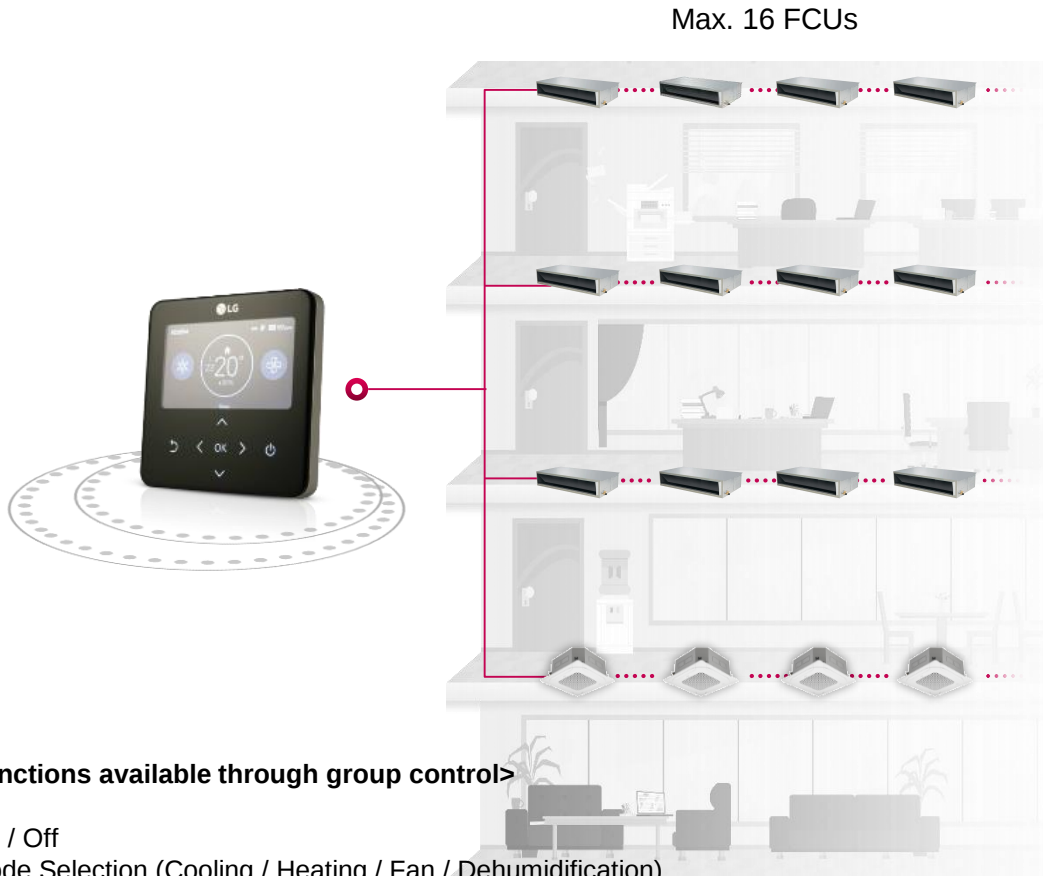


Group control with One Remote Controller

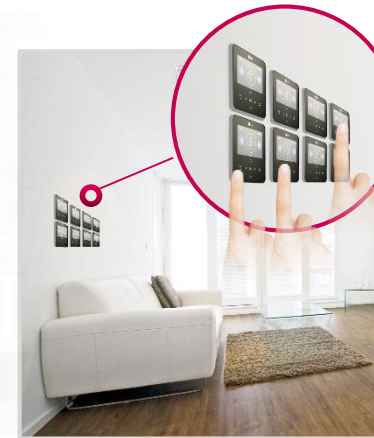
Easy Management

Up to 16 FCUs can be controlled with one wired remote controller.

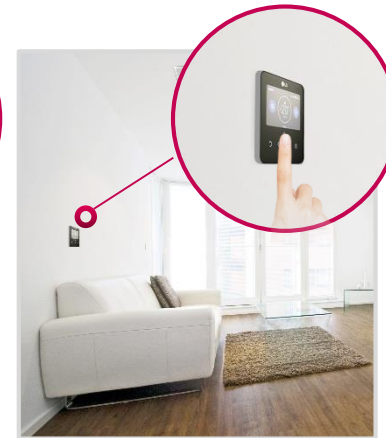
By controlling several FCUs at once, it can provide convenience and save installation cost.



Control Convenience



Individual Control



Group control

Installation costs saving



<Functions available through group control>

- On / Off
- Mode Selection (Cooling / Heating / Fan / Dehumidification)
- Fan Speed (High / Med / Low)
- Time Setting Etc.

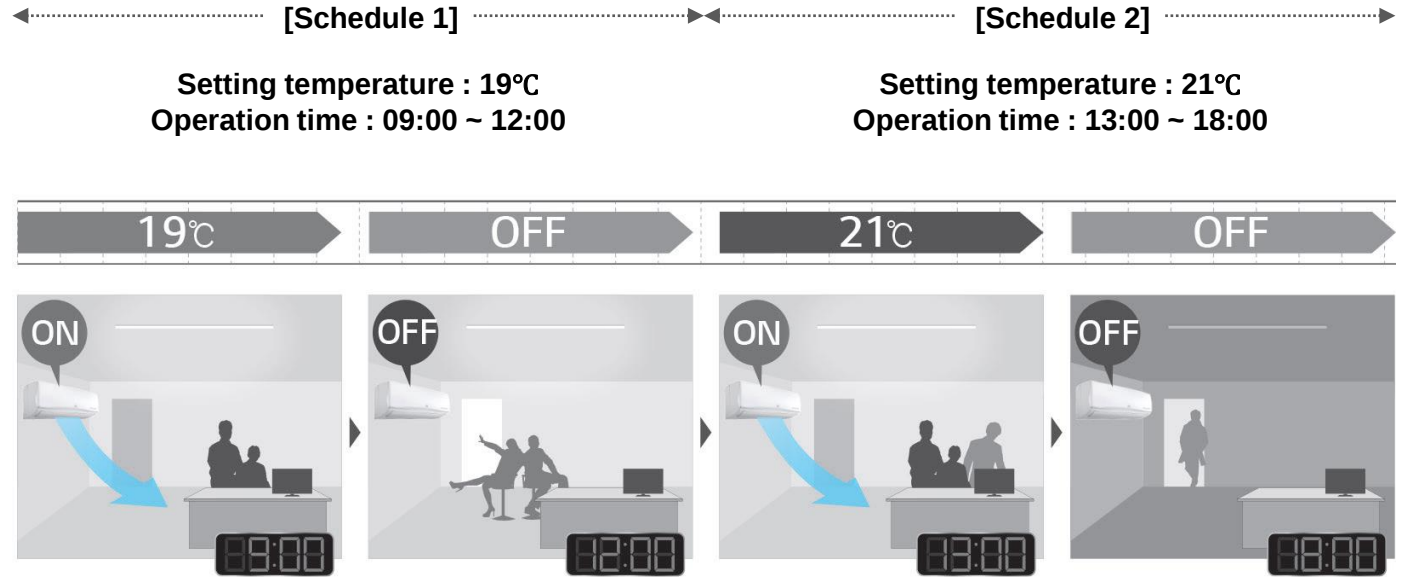
Easy Scheduling

Easy Management

You can set 2 schedules for one day, and up to 14 schedules for a week.



- Schedule can be set daily and weekly.
- Depending on the type of wired remote controller, the number of schedules that can be set varies.



※ This function is for wired remote controller only.
※ Wired remote controller need to be purchased separately.



Premium

- Daily 5 schedules
- Up to 35 schedules for a week



Standard III

- Up to 30 schedules for one day or a week



Standard II

- Daily 2 schedules
- Up to 14 schedules for a week

Individual Controller Lock

Lock function prevents the unexpected FCU operation from unauthorized person.
It can be operated by individual controller as well as central controller.



Total Lock

It locks all operation button of individual controller



Partial Lock

It locks partial function of individual controller



On/Off



Operation Mode



Set Temperature



Fan Speed

Versatile Central controller

Easy Management

LG has easy and various controller from individual to central such as Standard III Remote controller and ACP 5. so LG can offer many convenient functions and flexible interface for each user.



PC : Monitoring room

Tablet : Checking each room

Mobile : Working outside



Schedule
function



Energy
Management



Operation
Trending Report

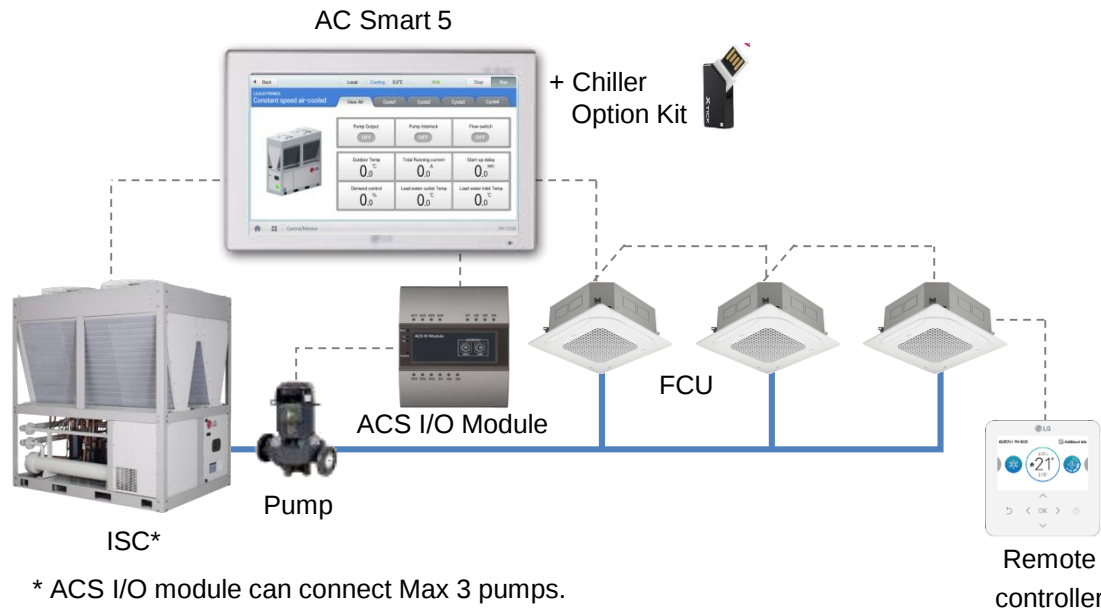


Automatic
E-mail Sending

Simple Central Control System(AC Smart 5)

Easy Management

AC Smart 5 can make smart building manager through a lot of smart function. You can simply configure the central control system and monitor and control the system easily.

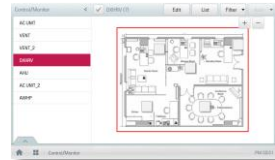


AC Smart 5

Max. No. of Controllable FCUs : 128 EA, ISC : 5 EA



User Friendly Interface
(Monitoring)



Map View
(Visual Navigation)



Easy Scheduling

* ISC : Inverter Scroll Chiller

Feature

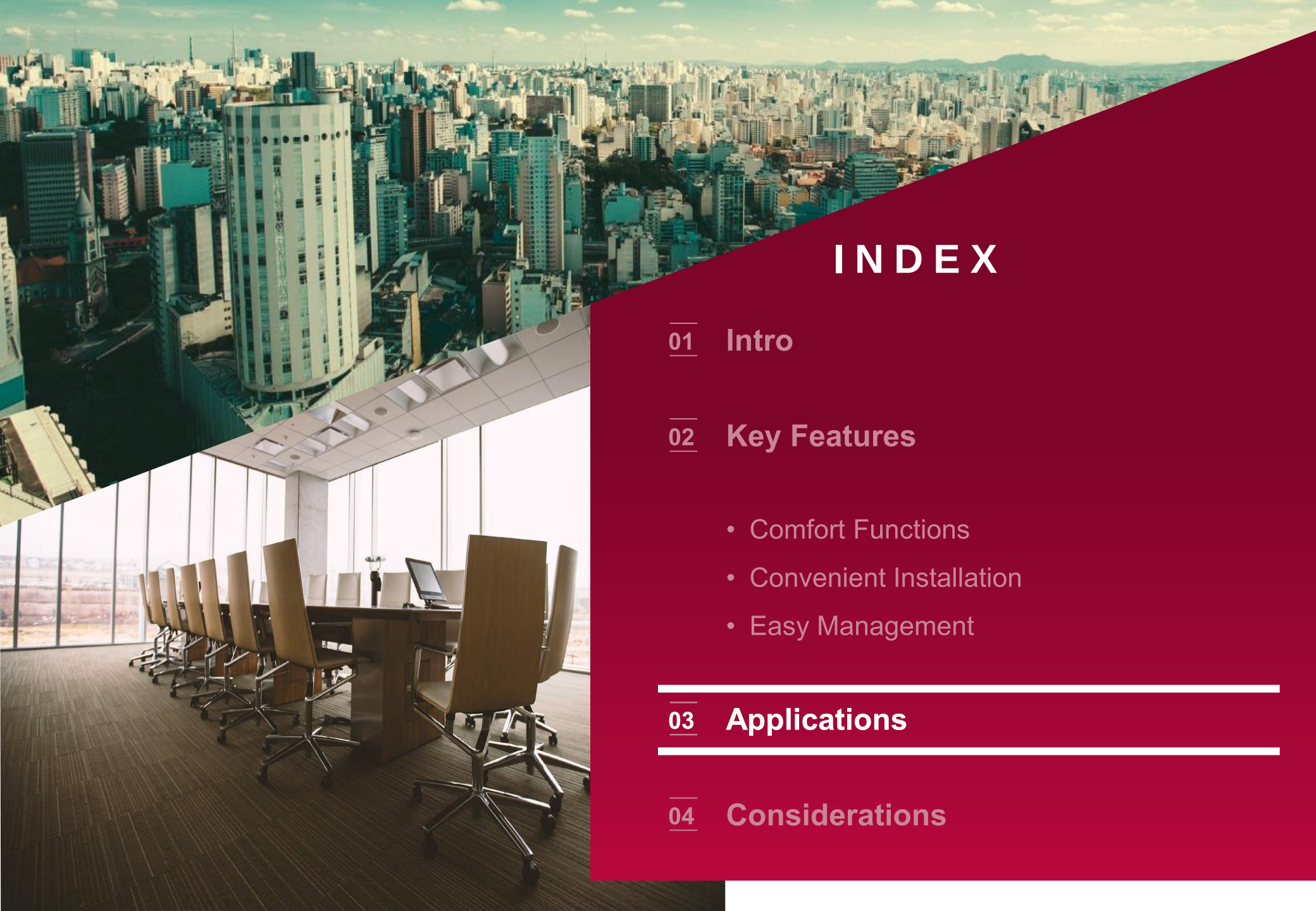
- Simple system configuration
- Chiller control via FCU remote controller

Functions

- Schedule
- Map View (Visual Navigation)
- Time limit control
- Energy Monitoring
- History
- Interlock with 3rd party equipment(ACS I/O is needed)
- Virtual Group Control for IDUs
- Emergency stop & alarm
- Error alarm by E-mail

Configuration

- AC Smart + Chiller Option Kit + ACS I/O Module
- ISC* + FCU + Wired Remote Controller



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- Convenient Installation
- Easy Management

03 Applications

04 Considerations

Office(4Way Cassette)

Applications

The 4Way Cassette FCU can make an office comfortable thanks to vane control, human detection kit and many other features.



Comfortable to work at all times

Occupants can feel comfortable because they can freely adjust the wind direction with 4 vanes each controllable. 4Way Cassette FCU can sense the indoor temperature more precisely with the 2 thermistor function.

Save wasted energy

The human body detection kit turns off the FCU when it detects that no one is in the room.

Quiet office at all times

Quiet operation is possible so as not to interfere with what you do in the office.

Cafeteria(4Way Cassette)

Applications

4Way Cassette FCU makes a comfortable air condition for dining and meeting at the cafeteria which is shared by many people, by not only quick cooling but humidity reference control.

Provide a comfortable dining environment

4Way cassette FCU provides quick cooling with dual sensing and various comfort air flows for the taste of user.

Pleasant dining condition

4Way cassette FCU is suitable for family's rest with low noise.
It provides pleasant condition without disturbing customer's dining.

Clean air condition

Not only the filter is easy to manage, but the Auto Dry function prevents odor from occurring in the cafeteria, as well



Bedroom(Low Static Duct)

Applications

In addition to enabling low noise operation for a comfortable bedroom, the Sleep Mode feature prevents sleep from being disturbed and prevents the bedroom from drying out through humidity reference control.

Provide a comfortable sleeping environment

In addition to low noise, it allows you to sleep comfortably without disturbing your sleep.

Suitable for tight spaces

The product can be installed in tight spaces thanks to the compact size and 2 structures of the air intake side.

Controllable from anywhere via smart phone

The product can be controlled from anywhere with LG ThinQ without remote controllers.



Hotel Room(Low Static Duct)

LG Low static ducted unit can make rooms comfortable thanks to its compact size, low noise and many other features.



Provide a comfortable sleeping environment

In addition to low noise, it allows you to sleep comfortably without disturbing your sleep.

Suitable for tight spaces

The product can be installed in tight spaces thanks to the compact size and 2 structures of the air intake side.

Comfortable room with humidity reference

By referring to the humidity as well as the temperature of the bedroom, it can make a comfortable room that is not hot or dry.

Office(Middle Static Duct)

Applications

The product can make an office comfortable thanks to zone control and many other features.



Comfortable to work at all times

Occupants can feel comfortable thanks to the dual sensing function, which removes humidity fast on humid days.

The product can sense the indoor temperature more precisely with the 2 thermistor function.

Air-conditioning according to each zone

The product can condition several zones at the same time according to each zone's environment using the optional zone controller.

Quiet office at all times

Quiet operation is possible so as not to interfere with what you do in the office.

Retail Shop(Middle Static Duct)

Applications

The product can make an retail shop comfortable thanks to its dual sensing, zone control and many other features.



Comfortable environment for sales

Occupants can feel comfortable thanks to the dual sensing function, which removes humidity fast on humid days.

The product can sense the indoor temperature more precisely with the 2 thermistor function.

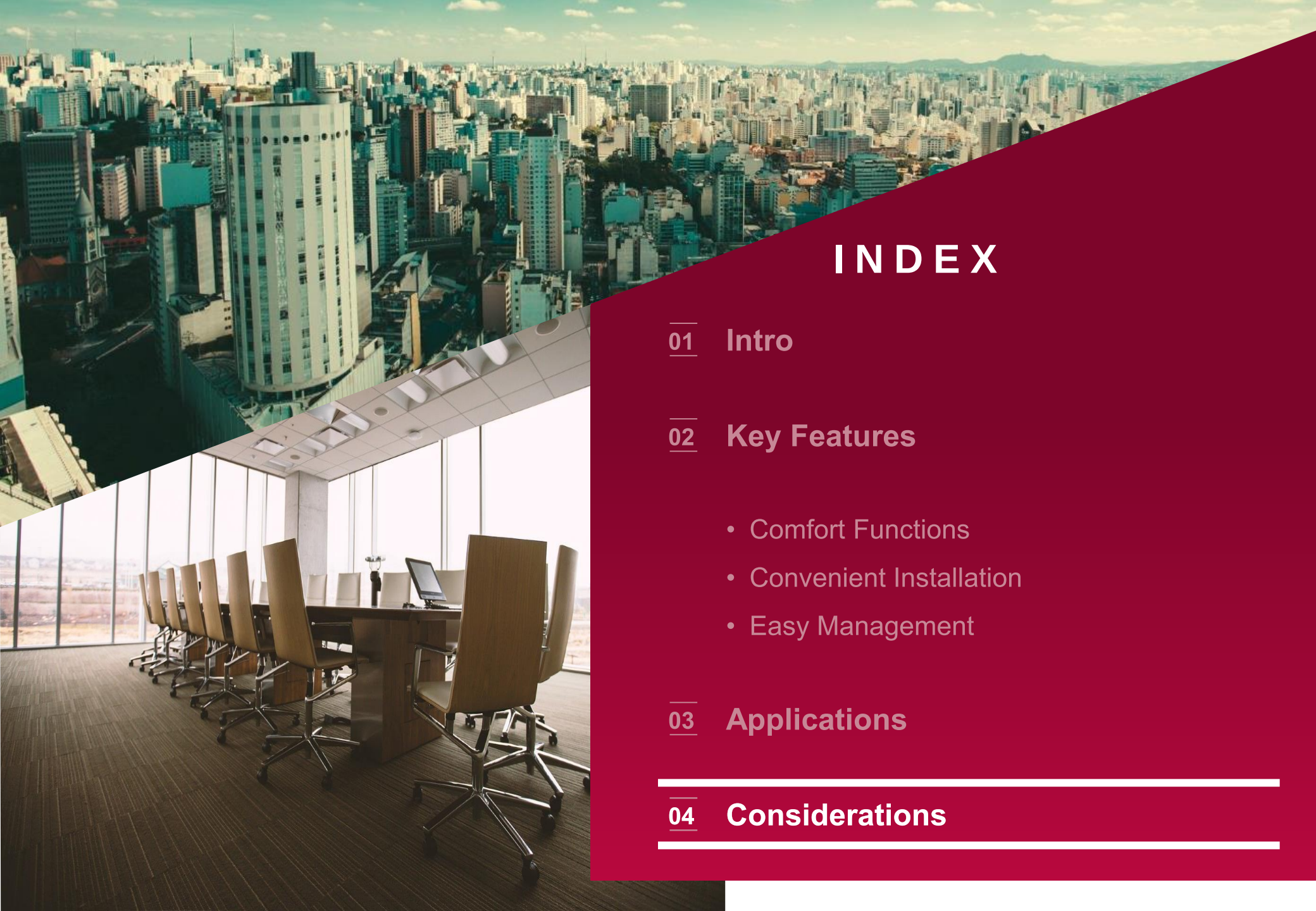
Appropriate airflow rate

The product enables an appropriate airflow rate thanks to the easy E.S.P. Setting.

Also the auto E.S.P. feature automatically adjusts the airflow rate to suit for the external static pressure of the each zone.

Controllable from anywhere via smart phone

The product can be controlled from anywhere with LG ThinQ without remote controllers.



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02 Key Features

- Comfort Functions
- Convenient Installation
- Easy Management

03 Applications

04 Considerations

Accessories

LG Supply

Remote
Controller



Premium
PREMTA000(A/B)



Standard III
PREMTB100 (White)
PREMTBB10 (Black)



Standard II
PREMTB001 (White)
PREMTBB01 (Black)



Wireless Remote Controller
PQWRH(C)Q0FDB



Simple
PQRVCVCL0Q(W)
PQRCHCA0Q(W) (for Hotel)

Dry Contact



PDRYCB000
(Simple)



PDRYCB400
(2 points)



PDRYCB300
(for Thermostat)



PDRYCB500
(for Modbus) 1)

ETC.



Remote Temperature Sensor
PQRSTA0



Wi-Fi Modem
PWFMD200



Drain Hose 2)
(1EA, 5m)



Group Control Wire
PZCWRCG3



2-Remo. Control Wire
PZCWRC2



Extension Wire
PZCWRC1

Others

Purchase on Site
(FCU Supplier)



Rubber Packing
(4EA, OD23 × ID15 × t3.2)



Flexible Pipe
(2EA, FPF 3/4", 350mm/500mm Ordered Specification)



Nipple
(2EA, MPT 3/4", MPF 3/4")



2Way Valve
(On/Off, 2-wires or 3wires)



Valve insulation Material
(1EA)

Installer Purchase



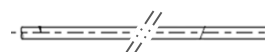
Ball Valve
(2EA, FPT 3/4", 20A)



Nipple
(2EA, MPT 3/4", MPF 3/4")



Strainer
(1EA, FPF 3/4", #30)



Water Pipe
(2EA, 20A, Copper or Stainless Tube)

Parts for Connecting Water Pipes

Water Pipes

(installer supply)

※ The supply items of each accessory may be determined by consultation according to the site situation.

Components for connecting water pipes

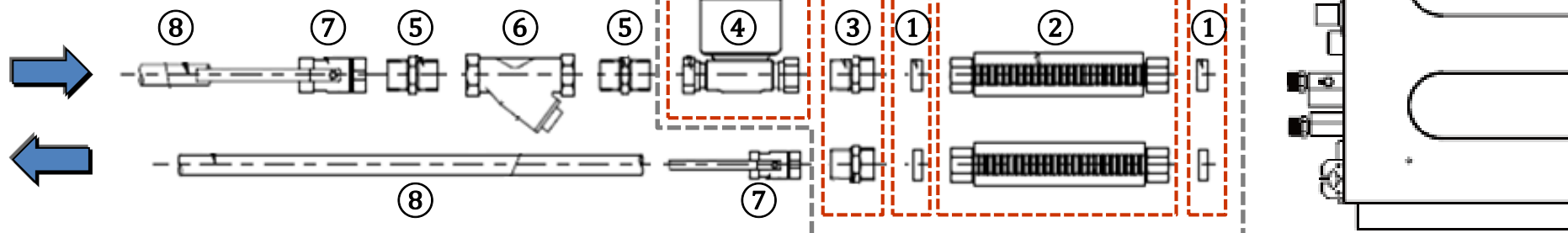
(Generally, purchased by the FCU supplier and supplied with the FCU)

After checking the flow rate conditions at the site, select the 2way valve type.

- 220V, On/Off, Electric Type, 20A
- 220V, On/Off + Constant Water Volume Supply Type, Electric Type, 20A or 25A

FCU Body

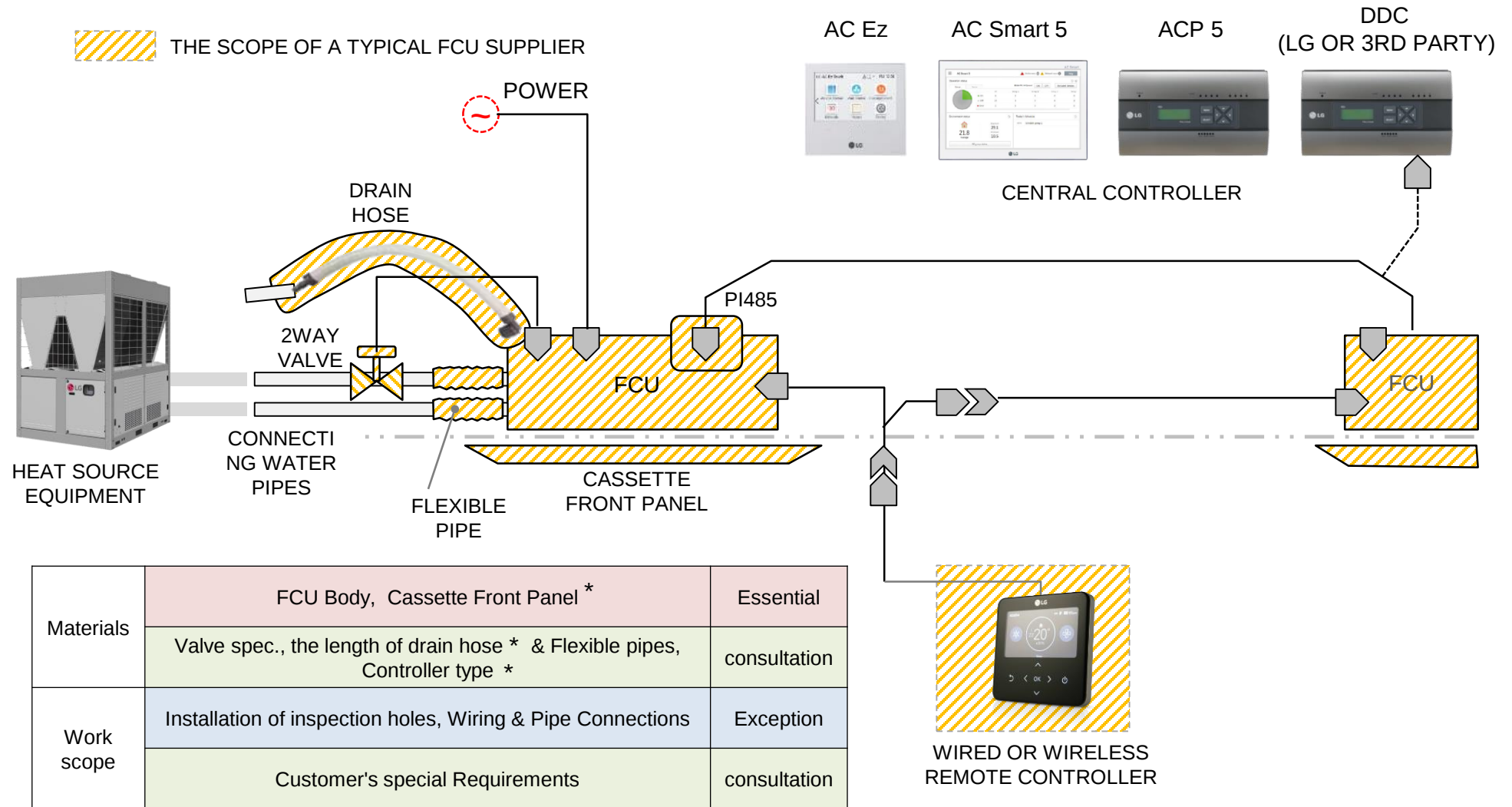
(LG Supply)



No.	Part name	Q'ty	Specification	Remark
①	Rubber Packing	4	ODØ23 x IDØ15 x 3.2t	Buy ①, ②, & ③ as a set. The length of the flexible pipes can be changed depending on the site conditions
②	Flexible Pipe	2	FPF 3/4, 350mm/500mm (Ordered Specification)	
③	Nipple	2	MPT 3/4 – MPF 3/4	
④	2 Way Valve	1	On/Off : 2-wire or 3-wire type(220V)	
⑤	Nipple	2	MPT 3/4 – MPT 3/4	installer purchase
⑥	Strainer	1	FPT 3/4, #30	
⑦	Ball Valve	1	FPT 3/4, 20A	
⑧	Water Pipe	-	20A(Copper Tube, Stainless Tube)	

CHECK THE MATERIALS SUPPLY & WORK SCOPE

The range of material supply and work scope may vary depending on the site situation, so consultation is required.



* ACCESSORY