

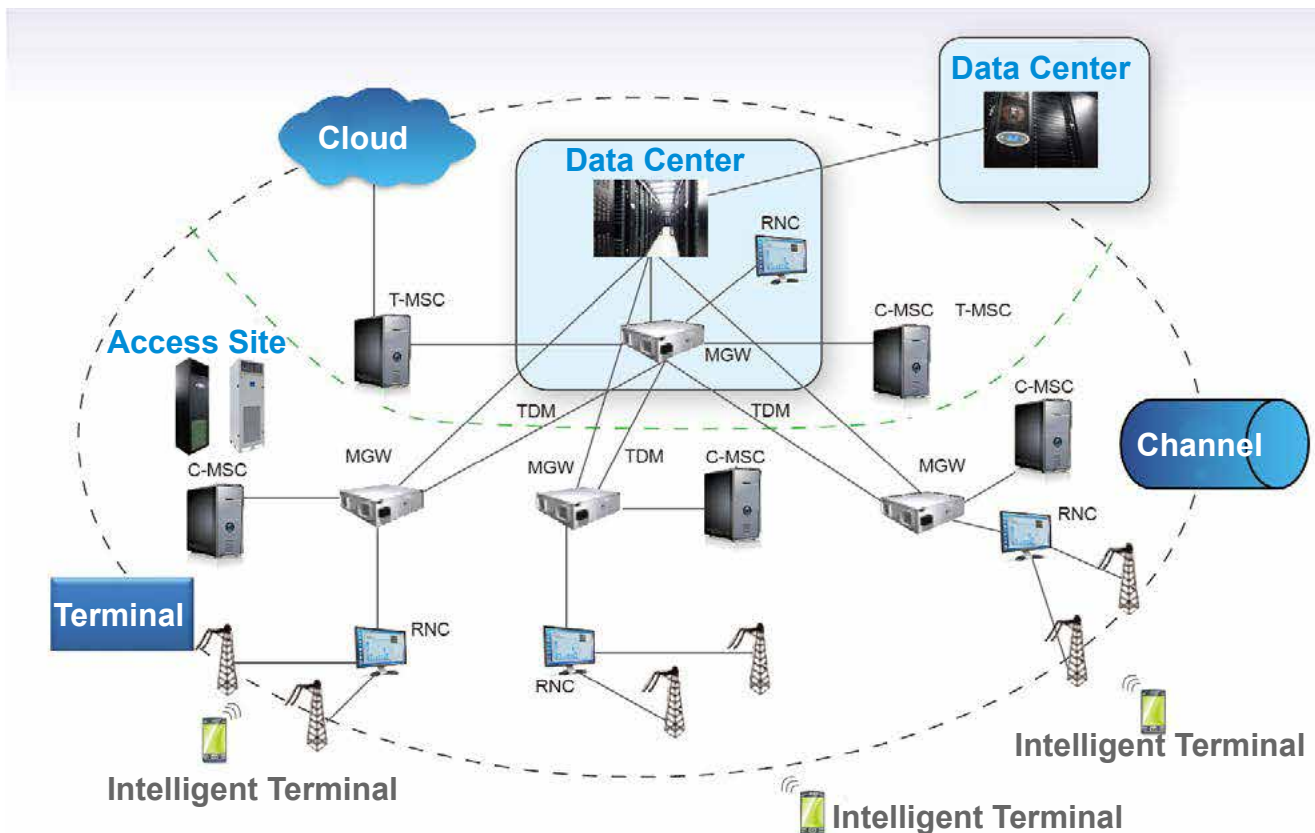


# **Izumi Cabinet Cooling System for Telecommunication and Data center**

**IZUMI CORPORATION, TOKYO, JAPAN**

# Climate Control Solution

## Future ICT Development – Cloud + Channel + Terminal



Izumi provides reliable and efficient cooling solutions for Cloud + Channel

### Izumi Climate Control Solutions



# DC Powered Air Conditioner

## Features & Benefits

- Reliable: The unit is powered by -48VDC power, regardless of the unstable AC power grid
- Energy efficiency: Efficient DC fan & Compressor, EER goes up to 4.5
- Low noise: Silently operating system available
- Corrosion protection: Powder coated sheetmetal endures harsh environment
- Easy maintenance: IP55 designed for flushing
- User friendly interface: LCD display with English menu makes convenient operation
- Environment friendly: Using R134a refrigerant and RoHS requirement compliance
- Dedicated design: Delay Start setting in case of big current, especially when multiple units start at one site
- Monitoring: Provide comprehensive alarm and status report through RS485 interface for remote control



## Data Sheet

| Model                                | DC03HDNC1A   | DC05HDNC1A   | DC06HDNC1A   | DC10HDNC1C   | DC15HDNC1A   | DC20HDNC1A   | DC30CDNC1B   |
|--------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Height - mm                          | 348          | 545          | 545          | 746          | 746          | 746          | 1300         |
| Width - mm                           | 150          | 315          | 315          | 446          | 446          | 446          | 500          |
| Depth - mm                           | 200          | 170          | 170          | 200          | 200          | 250          | 230          |
| Height with flange - mm              | 400          | 583          | 583          | 783          | 783          | 783          | 1350         |
| Width with flange - mm               | 181          | 352          | 352          | 483          | 483          | 483          | 550          |
| Depth with flange - mm               | 200          | 170          | 170          | 200          | 200          | 250          | 230          |
| Weight - kg                          | 7            | 15           | 15           | 30           | 30.5         | 38           | 60           |
| Mounting                             | Door Mounted | Door Mounted | Door Mounted | Door Mounted | Door Mounted | Door Mounted | Door Mounted |
| Working Temp Range -                 | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    |
| IP Protection Level                  | IP55         | IP55         | IP55         | IP55         | IP55         | IP55         | IP55         |
| Refrigerant                          | R134a        | R134a        | R134a        | R134a        | R134a        | R134a        | R134a        |
| Cooling Capacity @L35/L35 - W        | 300          | 520          | 600          | 1250         | 1500         | 2000         | 3000         |
| Heating (Optional) - W               | 300          | 500          | 500          | 500          | 500          | 600          | 500          |
| Power Consumption @L35/L35 - W       | 120          | 160          | 200          | 345          | 490          | 624          | 860          |
| Current @L35/L35 - A                 | 2.50         | 3.34         | 4.20         | 7.20         | 10.20        | 13.00        | 18.00        |
| Internal Airflow - m <sup>3</sup> /h | 100          | 150          | 180          | 380          | 450          | 850          | 850          |
| Voltage - V,DC                       | -48          | -48          | -48          | -48          | -48          | -48          | -48          |

## Applications

Outdoor Hybrid Base Station



Outdoor Battery Cabinet



Wireless Outdoor Cabinet



# DC Series Low-noise Air Conditioner

## Datasheet

| Model                          | DC05HDNS1A   | DC10HDNS1A   | DC15HDNS1A   |
|--------------------------------|--------------|--------------|--------------|
| Height - mm                    | 545          | 746          | 746          |
| Width - mm                     | 315          | 446          | 446          |
| Depth - mm                     | 170          | 200          | 250          |
| Height with flange - mm        | 583          | 783          | 783          |
| Width with flange - mm         | 352          | 483          | 483          |
| Depth with flange - mm         | 170          | 200          | 250          |
| Weight - kg                    | 16           | 30           | 38           |
| Mounting                       | Door Mounted | Door Mounted | Door Mounted |
| Working Temp Range -           | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    |
| Noise Level - dB(A)            | 45           | 50           | 50           |
| IP Protection Level            | IP55         | IP55         | IP55         |
| Refrigerant                    | R134a        | R134a        | R134a        |
| Cooling Capacity @L35/L35 - W  | 500          | 1000         | 1500         |
| Heating (Optional) - W         | 500          | 500          | 500          |
| Power Consumption @L35/L35 - W | 200          | 355          | 425          |
| Current @L35/L35 - A           | 4.2          | 7.4          | 8.9          |
| Internal Airflow - m³/h        | 120          | 250          | 500          |
| Voltage - V,DC                 | -48          | -48          | -48          |



## Applications

Residential Area or Area with Strict Demand for Low Noise



# DC Split 4.3kW Air Conditioner

## Datasheet

| Sheet   | Indoor unit  | Outdoor unit         |
|---|--------------|----------------------|
| <b>Dimensions, Weight &amp; Mounting</b>          |              |                      |
| Height - mm                                       | 295          | 700                  |
| Width - mm  | 900          | 870                  |
| Depth - mm  | 215          | 310                  |
| Net Weight - kg                                   | 13           | 50                   |
| Mounting  | Wall mounted | Wall / Floor mounted |
| <b>Environmental Protection &amp; Performance</b> |              |                      |
| Working Temp Range -                              | - 40 ~ + 55  | - 40 ~ + 55          |
| IP Protection Level                               | \            | IPX4                 |
| Refrigerant                                       | R134a        | R134a                |
| <b>Cooling / Heating Capacity</b>                 |              |                      |
| Cooling Capacity @L35/L35 - W                     | 4330         |                      |
| <b>Power Consumption</b>                          |              |                      |
| Power Consumption @L35/L35 - W                    | 1042         |                      |
| Current @ L35/L35 - A                             | 21.70        |                      |
| <b>Airflow</b>                                    |              |                      |
| Internal Airflow - m <sup>3</sup> /h              | 1100         | \                    |
| <b>Power Supply</b>                               |              |                      |
| Voltage - V,DC                                    | - 48         | - 48                 |



Indoor Unit



Controller



Outdoor Unit

## Applications

Hybrid Energy Powered Base Station Shelter



# AC Powered Air Conditioner

## Features & Benefits

Energy saving: Unique external fan control function available for energy - saving as well as emergency working mode

Low noise: The noise level of unit is reduced according to the heat load, silently operating in most time

Corrosion protection: Powder coated sheetmetal endures harsh environment

Easy maintenance: IP55 designed for flushing

Power grid adaptability: Optional DC power supply for fan & controller, 50/60Hz AC powered compressor can be used in any country

User friendly interface: LCD display with English menu makes convenient operation

Environment friendly: Using R134a refrigerant and RoHS requirement compliance

Dedicated design: Delay Start setting in case of big current, especially when multiple units start at one site

Monitoring: Provide comprehensive alarm and status report through RS485 interface for remote control



## Applications



# IC Series Low-noise Air Conditioner

## Datasheet

| Model                                | IC03HDNS1E   | IC05HDNS1B   | IC15HDNS1J   |
|--------------------------------------|--------------|--------------|--------------|
| Height - mm                          | 545          | 545          | 746          |
| Width - mm                           | 315          | 315          | 446          |
| Depth - mm                           | 170          | 170          | 200          |
| Height with flange - mm              | 583          | 583          | 783          |
| Width with flange - mm               | 352          | 352          | 483          |
| Depth with flange - mm               | 170          | 170          | 200          |
| Weight - kg                          | 17           | 17           | 34           |
| Mounting                             | Door Mounted | Door Mounted | Door Mounted |
| Working Temp Range -                 | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    |
| Noise Level - dB(A)                  | 45           | 50           | 55           |
| IP Protection Level                  | IP55         | IP55         | IP55         |
| Refrigerant                          | R134a        | R134a        | R134a        |
| Cooling Capacity @L35/L35 - W        | 400          | 520          | 1500         |
| Heating (Optional) - W               | 400          | 400          | 1000         |
| Power Consumption @L35/L35 - W       | 200          | 240          | 700          |
| Current @L35/L35 - A                 | 0.95         | 1.15         | 3.30         |
| Internal Airflow - m <sup>3</sup> /h | 120          | 120          | 400          |
| Voltage - V,Hz                       | 220, 50      | 220, 50      | 220, 50      |



## Applications

Residential Area or Area with Strict Demand for Low Noise



## TECHNICAL SPECIFICATION

### Datasheet

| Model                                | IC03HDNC1E   | IC05HDNC1B   | IC06HDNC1B   | IC10HDNC1J   |
|--------------------------------------|--------------|--------------|--------------|--------------|
| Height - mm                          | 545          | 545          | 545          | 746          |
| Width - mm                           | 315          | 315          | 315          | 446          |
| Depth - mm                           | 170          | 170          | 170          | 200          |
| Height with flange - mm              | 583          | 583          | 583          | 783          |
| Width with flange - mm               | 352          | 352          | 352          | 483          |
| Depth with flange - mm               | 170          | 170          | 170          | 200          |
| Weight - kg                          | 17           | 17           | 17           | 32           |
| Mounting                             | Door Mounted | Door Mounted | Door Mounted | Door Mounted |
| Working Temp Range -                 | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    |
| IP Protection Level                  | IP55         | IP55         | IP55         | IP55         |
| Refrigerant                          | R134a        | R134a        | R134a        | R134a        |
| Cooling Capacity @L35/L35 - W        | 400          | 520          | 600          | 1100         |
| Heating (Optional) - W               | 400          | 400          | 500          | 800          |
| Power Consumption @L35/L35 - W       | 200          | 240          | 240          | 540          |
| Current @L35/L35 - A                 | 0.95         | 1.15         | 1.15         | 2.50         |
| Internal Airflow - m <sup>3</sup> /h | 120          | 120          | 140          | 400          |
| Voltage - V,Hz                       | 220, 50      | 220, 50/60   | 220, 50/60   | 220, 50/60   |

| Model                                | IC15HDNC1J   | IC20HDNC1B   | IC30HDNC1B   | IC50HDNC1B   |
|--------------------------------------|--------------|--------------|--------------|--------------|
| Height - mm                          | 746          | 746          | 1300         | 1350         |
| Width - mm                           | 446          | 446          | 500          | 620          |
| Depth - mm                           | 200          | 200          | 230          | 300          |
| Height with flange - mm              | 783          | 783          | 1350         | 1401         |
| Width with flange - mm               | 483          | 483          | 550          | 671          |
| Depth with flange - mm               | 200          | 200          | 230          | 300          |
| Weight - kg                          | 32           | 37           | 65           | 90           |
| Mounting                             | Door Mounted | Door Mounted | Door Mounted | Door Mounted |
| Working Temp Range -                 | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    |
| IP Protection Level                  | IP55         | IP55         | IP55         | IP55         |
| Refrigerant                          | R134a        | R134a        | R134a        | R134a        |
| Cooling Capacity @L35/L35 - W        | 1500         | 2000         | 3000         | 5000         |
| Heating (Optional) - W               | 1000         | 1000         | 1000         | 3000         |
| Power Consumption @L35/L35 - W       | 600          | 850          | 1100         | 1850         |
| Current @L35/L35 - A                 | 2.90         | 3.90         | 5.20         | 8.5          |
| Internal Airflow - m <sup>3</sup> /h | 400          | 650          | 850          | 1400         |
| Voltage - V,Hz                       | 220, 50/60   | 220, 50/60   | 220, 50/60   | 220, 50/60   |



# HC Series Combo Air Conditioner

## Features & Benefits

- Reliable: Air conditioner and thermosiphon system as backup heat dissipation function
- Energy saving: Different cooling mode for varied ambient, reducing the energy consumption
- Low noise: The noise level of unit can be reduced according to the heat load, silently operating in most time
- Corrosion protection: Powder coated sheetmetal endures harsh environment
- Easy maintenance: IP55 designed for flushing
- DC powered fan & control system, AC compressor 50/60Hz general, applicable to global power
- User friendly interface: LCD display with English menu makes convenient operation
- Environment friendly: Using R134a refrigerant and RoHS requirement compliance
- Dedicated design: Delay Start setting in case of big current, especially when multiple units start at one site
- Monitoring: Provide comprehensive alarm and status report through RS485 interface for remote control



## Datasheet

| Model   | HC1008       | HC1508       | HC2010       | HC3012       |
|---|--------------|--------------|--------------|--------------|
| Height - mm                                       | 945          | 945          | 945          | 1300         |
| Width - mm  | 505          | 505          | 505          | 505          |
| Depth - mm  | 200          | 200          | 200          | 250          |
| Height with flange - mm                           | 1001         | 1001         | 1001         | 1350         |
| Width with flange - mm                            | 561          | 561          | 561          | 550          |
| Depth with flange - mm                            | 200          | 200          | 200          | 250          |
| Weight - kg                                       | 42           | 42           | 48           | 70           |
| Mounting  | Door Mounted | Door Mounted | Door Mounted | Door Mounted |
| Working Temp Range -                              | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    |
| IP Protection Level                               | IP55         | IP55         | IP55         | IP55         |
| Refrigerant                                       | R134a        | R134a        | R134a        | R134a        |
| Cooling Capacity @L35/L35 -W                      | 1100         | 1500         | 2000         | 3000         |
| Heat Exchange Capacity - W/K                      | 80           | 80           | 100          | 120          |
| AC Power Consumption @L35/L35 -W                  | 450          | 520          | 450          | 865          |
| DC Power Consumption @L35/L35 -W                  | 70           | 70           | 190          | 200          |
| AC Current @L35/L35 - A                           | 2.1          | 2.45         | 2.2          | 4.26         |
| DC Current @L35/L35 - A                           | 1.5          | 1.5          | 3.96         | 4.17         |
| Internal Airflow - m³/h                           | 400          | 400          | 800          | 850          |
| Rated Operating Voltage - Controller/ Fans - V,DC | -48          | -48          | -48          | -48          |
| Rated Operating Voltage - Heating System - V,Hz   | 220, 50/60   | 220, 50/60   | 220, 50/60   | 220, 50/60   |

| Model                                  | HC1008D      | HC1508D      | HC2010D      |
|--|--------------|--------------|--------------|
| Height - mm                            | 945          | 945          | 945          |
| Width - mm                             | 505          | 505          | 505          |
| Depth - mm                             | 200          | 200          | 200          |
| Height with flange - mm                | 1001         | 1001         | 1001         |
| Width with flange - mm                 | 561          | 561          | 561          |
| Depth with flange - mm                 | 200          | 200          | 200          |
| Weight - kg                            | 41           | 41           | 44           |
| Mounting                               | Door Mounted | Door Mounted | Door Mounted |
| Working Temp Range -                   | -40 ~ +55    | -40 ~ +55    | -40 ~ +55    |
| IP Protection Level                    | IP55         | IP55         | IP55         |
| Refrigerant                            | R134a        | R134a        | R134a        |
| Cooling Capacity @L35/L35 -W           | 1000         | 1500         | 2000         |
| Heat Exchange Capacity - W/K           | 80           | 80           | 100          |
| Heating Capacity (Optional) - W        | 500          | 500          | 500          |
| Cooling Power Consumption @L35/L35 - W | 300          | 450          | 600          |
| Heat Exchanger Power Consumption - W   | 70           | 70           | 190          |
| Cooling Current @L35/L35 - A           | 6.25         | 9.3          | 12.5         |
| Heat Exchanger Current - A             | 1.5          | 1.5          | 4            |
| Internal Airflow - m3/h                | 400          | 400          | 800          |
| Voltage - V,DC                         | -48          | -48          | -48          |

# Cabinate cooling Application.

## IX Series Heat Exchanger

### Features & Benefits

- Reliable: -48VDC power supply, works well even when AC power fails
- Low noise: The noise level of unit can be reduced according to the heat load, silently operating in most time
- Corrosion protection: Powder coated sheetmetal endures harsh environment
- Easy maintenance: IP55 designed for flushing
- In line with the RoHS requirements
- Dedicated design: Delay Start setting in case of big current, especially when multiple units start at one site
- Monitoring: Provide comprehensive alarm and status report through RS485 interface for remote control
- User friendly interface: LCD display with English menu



### Datasheet

| Model  | IX08CDHC1B   | IX12CDLC1D   | IX19HDLC1F   |
|--|--------------|--------------|--------------|
| Height - mm                                      | 746          | 1100         | 1246         |
| Width - mm                                       | 446          | 430          | 450          |
| Depth - mm                                       | 200          | 195          | 243          |
| Height with flange - mm                          | 783          | 1151         | 1294         |
| Width with flange - mm                           | 483          | 481          | 492          |
| Depth with flange - mm                           | 200          | 195          | 243          |
| Weight - kg                                      | 17           | 27           | 37           |
| Mounting   | Door Mounted | Door Mounted | Door Mounted |
| Working Temp Range -                             | -40 ~ +65    | -40 ~ +65    | -40 ~ +65    |
| IP Protection Level                              | IP55         | IP55         | IP55         |
| Rated Heat Exchanged Capacity - W/K              | 80           | 120          | 190          |
| Heating Capacity (Optional) - W                  | 500          | 1000         | 1000         |
| Rated Fan Power - W                              | 70           | 190          | 190          |
| Rated Fan Current - A                            | 1.50         | 4.00         | 4.00         |
| Heater Current - A                               | 2.30         | 4.50         | 4.50         |
| Internal Airflow - m <sup>3</sup> /h             | 450          | 850          | 1000         |
| Rated Operating Voltage - Controller/Fans - V,DC | -48          | -48          | -48          |
| Rated Operating Voltage - Heating System - V,Hz  | 220, 50/60   | 220, 50/60   | 220, 50/60   |

### Applications



## Cabinate cooling Application.

# HC Series Low-noise Combo Air Conditioner

## Datasheet

| Model  | HC1508S      |
|--|--------------|
| Height - mm                                      | 945          |
| Width - mm                                       | 505          |
| Depth - mm                                       | 200          |
| Height with flange - mm                          | 1001         |
| Width with flange - mm                           | 561          |
| Depth with flange - mm                           | 200          |
| Weight - kg                                      | 48           |
| Mounting   | Door Mounted |
| Working Temp Range -                             | -40 ~ +55    |
| Noise Level - dB(A)                              | 55           |
| IP Protection Level                              | IP55         |
| Refrigerant                                      | R134a        |
| Cooling Capacity @L35/L35 - W                    | 1500         |
| Heat Exchange Capacity - W/K                     | 80           |
| AC Power Consumption @L35/L35 -W                 | 525          |
| DC Power Consumption @L35/L35 -W                 | 70           |
| AC Current @L35/L35 - A                          | 2.45         |
| DC Current @L35/L35 - A                          | 1.5          |
| Internal Airflow - m <sup>3</sup> /h             | 450          |
| Rated Operating Voltage - Controller/Fans - V,DC | -48          |
| Rated Operating Voltage - Heating System - V,Hz  | 220, 50/60   |

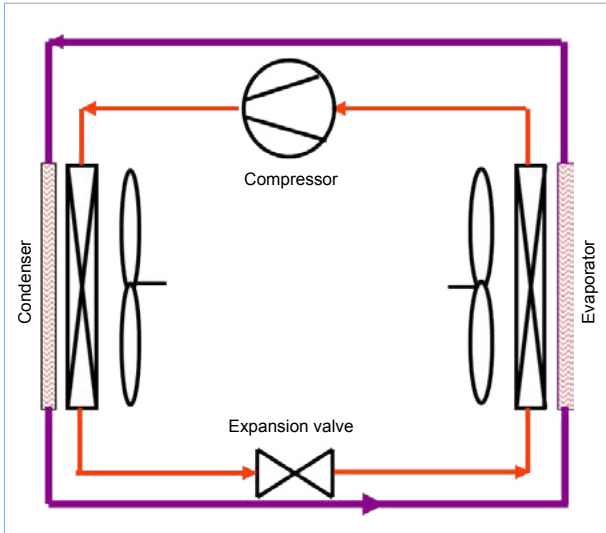


## Applications

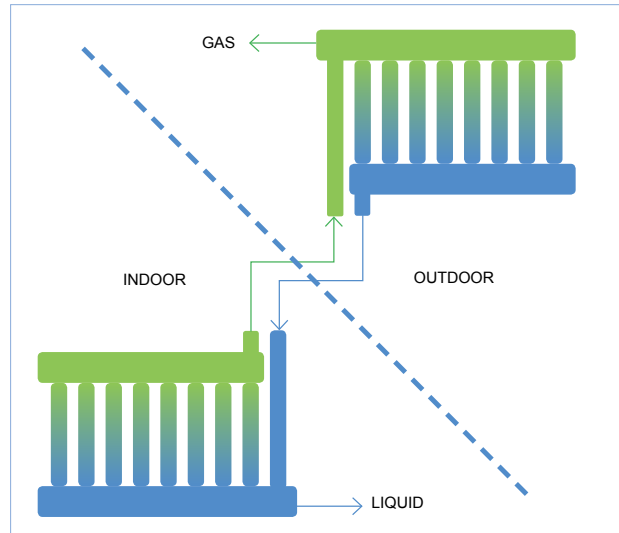
Residential Area or Area with Strict Demand for Low Noise



## Cabinate cooling Application.



Working Principle



Thermosiphon Working Principle

## Applications

Wireless Outdoor Cabinet

Outdoor Power Cabinet

Outdoor Battery Cabinet








## Cabinate cooling Application.

### Maintenance Guide

#### Maintenance Tools



#### Maintenance Procedures

|   |   |   |  |   |
|---|---|---|--|---|
|  |  |  |  |  |
| Before Cleaning   | Clean Condenser   | Clean Cabinet Filter  | Clean Outdoor Fan  | Smooth drainage ✓<br>Clean water discharging ✓  |