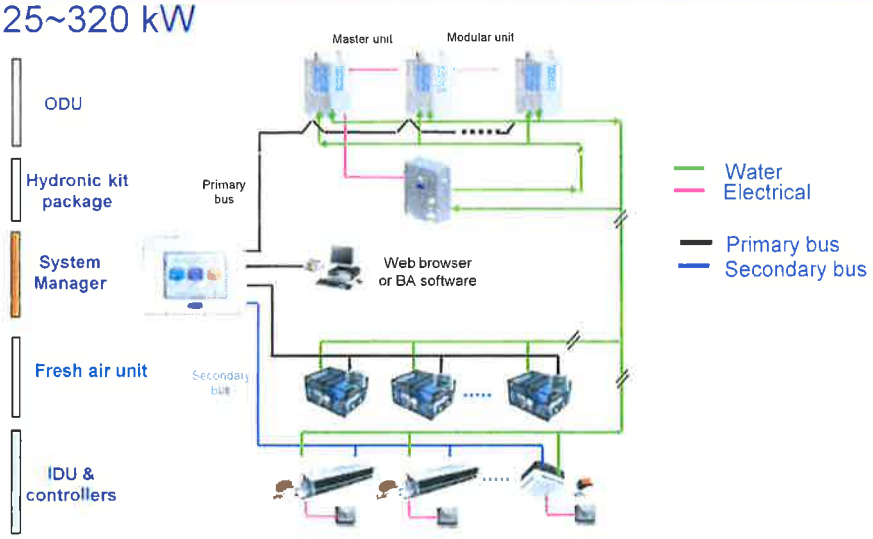
# Variable Water Volume (VWV) chilled-water system

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# Aqua-flow VWV structure

25~320 kW




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2

# Indoor unit



Ducted fan coil
(Ceiling fan coil unit)

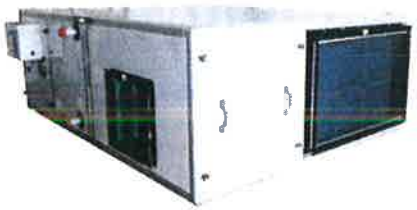


4 way cassette fan coil

Thermostat



Black Sliver Golden



Heat recovery
fresh air handling unit

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# Indoor unit



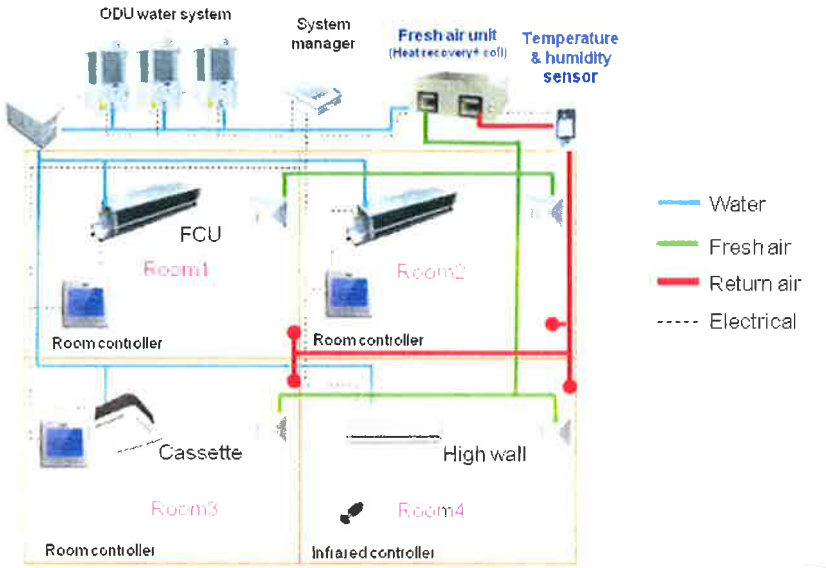
Air cooled **chiller** / **heat pump**



IVFD **hydronic** module

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# Typical chilled-water system

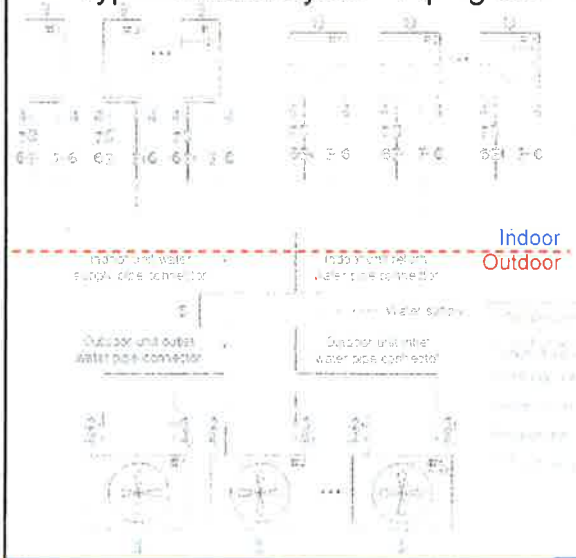



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# Design for water system

## Typical Water System Piping Connection Schematic




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# ODU water system

## System components






Air cooled chiller / heat pump

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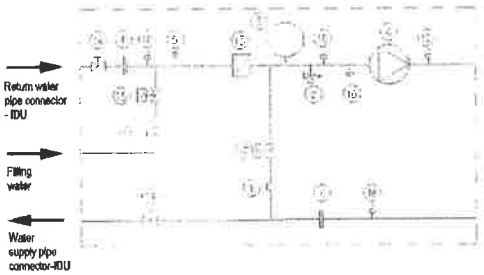
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# Integrated Hydronic kit

## Water system components



Installed unit






Hydronic Kit schematic

| | |
|---|---|
| 1、Manual relief valve | 10、Drain valve |
| 2、Safety valve | 13、Filter |
| 3、Expansion tank | 14、Manual valve |
| 4、Variable frequency water pump | 15、Automatic filling valve |
| 5、Automatic relief valve | 17、Differential pressure bypass valve |
| 6、Water temperature thermistor | 18、Pressure transducer |

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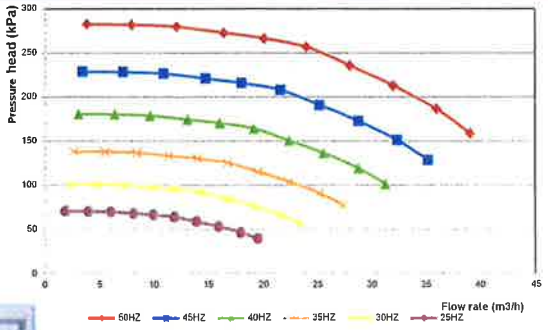
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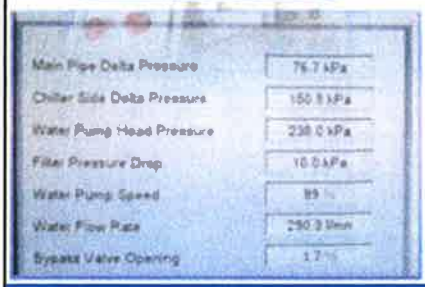
8

# Hydronic parameters

HK150 Hydronic KIT





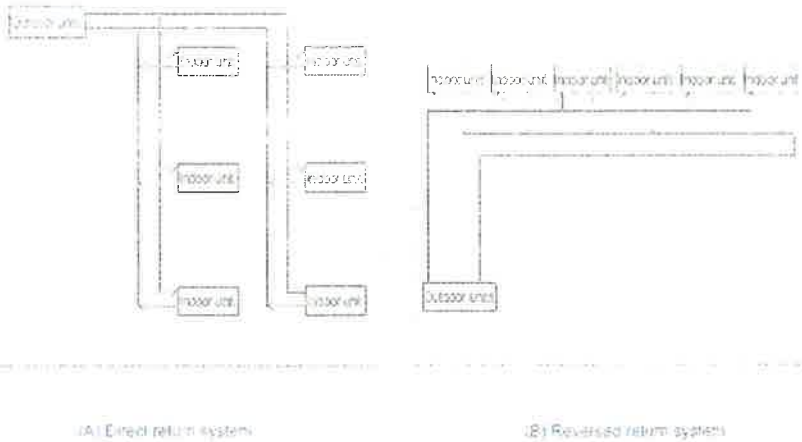

cmh x 1000/60 = l/min

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# Design for water system

Water Pipe Connection Method

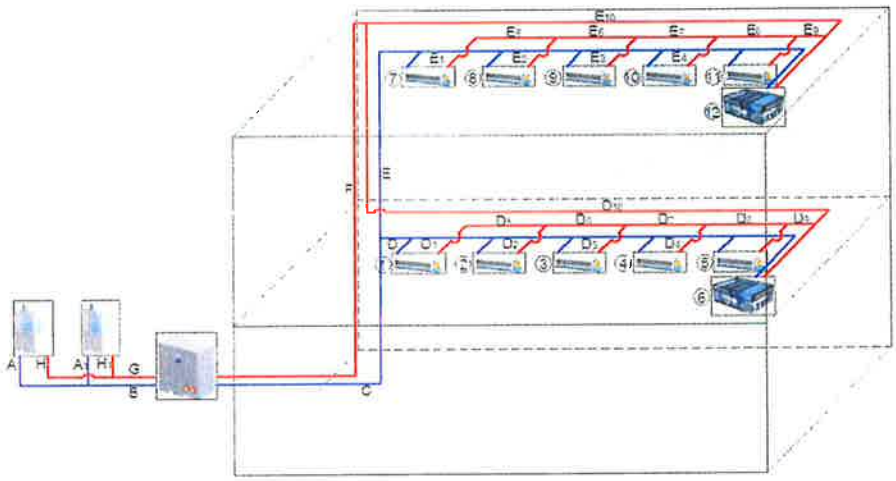


(A) Direct return system (B) Reversed return system

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# Typical system piping layout

Reverse return piping



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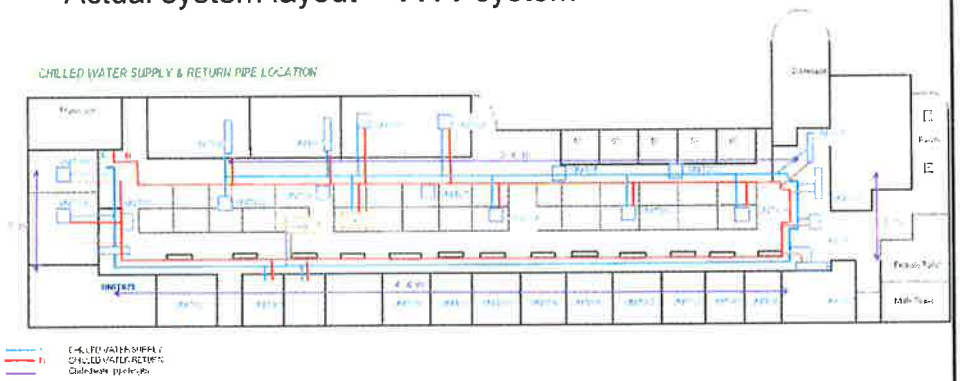


1st in last out.

# Reverse return piping layout

**Example:**

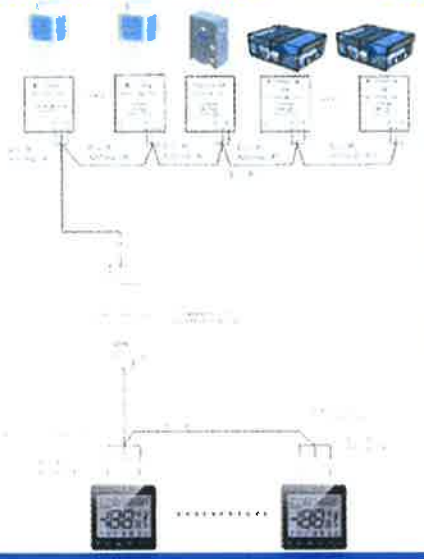
Actual system layout – VWV system




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# Electrical power supply requirement

## Electrical and control wiring diagram



Note:
Each outdoor unit, hydronic kit, fresh air unit and fan coil unit must be connected to the power supply **separately** and should be equipped with appropriate **circuit breakers** and overload protection. Connection through the terminal block of another unit is strictly prohibited.

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