

# High Temperature Hydro Module



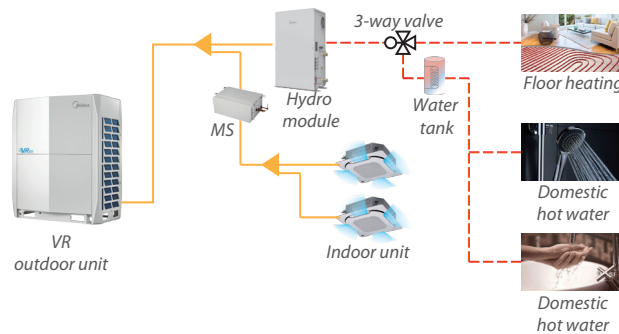
Model: CE-SMK-140/RN3  
Heating capacity: 14kW

## Features

- ❖ Smallest volume and weight in the industry
- ❖ Hot water can up to 80°C by the overlapping circulation system
- ❖ No need auxiliary electric heater, outlet water temperature is from 25°C to 80°C
- ❖ Heat recovery from cooling indoor units, free to produce hot water
- ❖ Wide operating temperature range
- ❖ Connection ratio extended to 200%
- ❖ Multiple hot water production scenarios
- ❖ Multiple functions

### Hot Water Supply

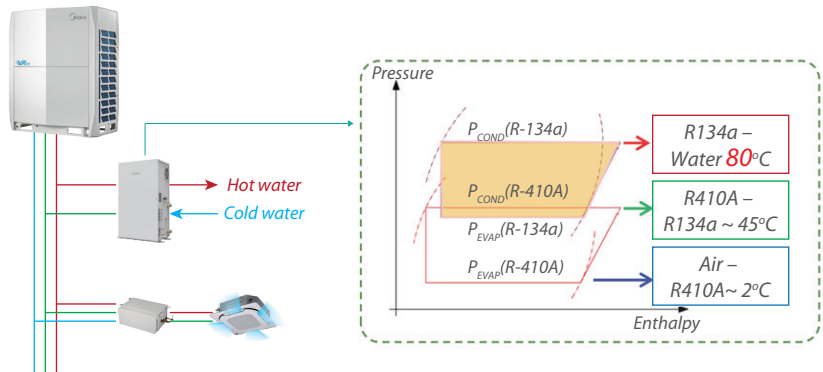
The VR outdoor unit can connect Midea high temperature hydro module to produce hot water from 25°C to 80°C to achieve space cooling/heating and hot water simultaneously.



### Hot Water Up to 80°C

The hot water can be up to 80°C by using the overlapping circulation system. The system has two compressors and two refrigerant systems.

- In low temperature circulation stage: it is R410A refrigerant system, R410A absorbs the heat from environment and release to the plate heat exchanger in the hydro module.
- In high temperature circulation stage: it is R134a refrigerant system, R134a absorbs the heat from outdoor R410A and release to water.



### “Free” Hot Water Production

The heat recovery VRF divert exhaust heat from indoor units in cooling mode to areas requiring heating to achieve “free” hot water production.

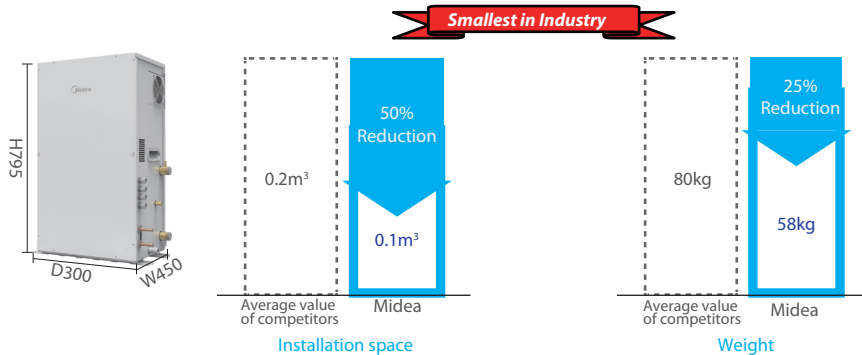


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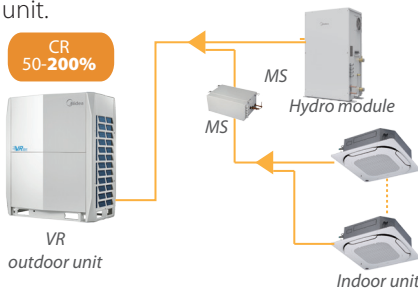
## Smallest Volume and Weight in The Industry

The new high temperature hydro module is compact and light to install, it is smallest volume and weight in the industry.



## Connection Ratio Extended to 200%

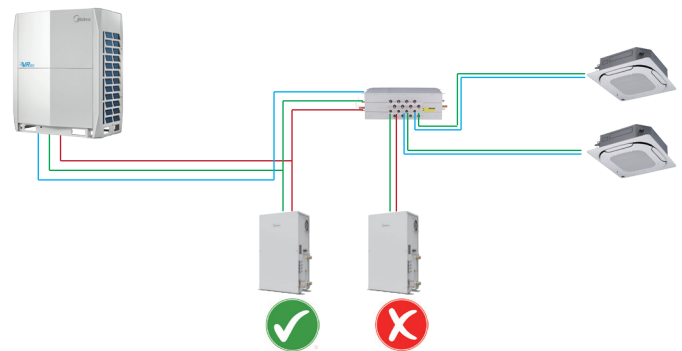
When hydro module and normal VRF indoor units are in a same VR system, the VR system permits the connection of units with a total capacity index equal to 200% that of the outdoor unit.



VR System		Connection Ratio
Hydro module + normal VRF indoor units	Total combination ratio	50%~ <b>200%</b>
	Total combination ratio of normal VRF indoor units	50%~130%
	Total combination ratio of hydro module	0%~100%
	Only hydro module is note allowed in VR system	NO

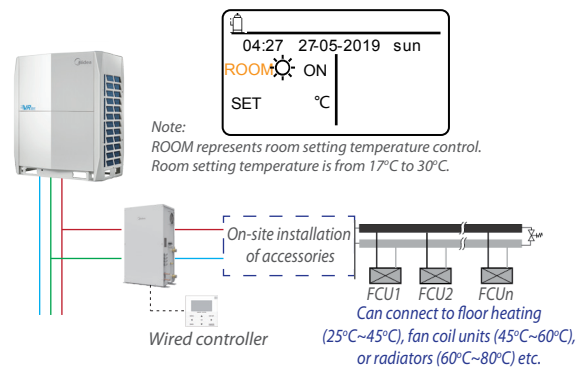
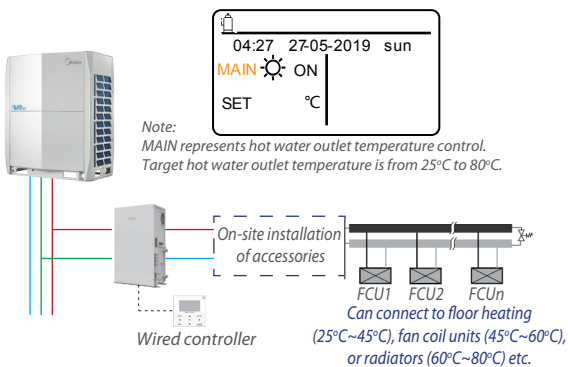
## Optimized Installation Method

The hydro module should be connected to the main pipe, no need to occupy the connection pipe of the MS. Through this optimized design, the MS can connect more indoor units.



## Multiple Hot Water Production Scenarios

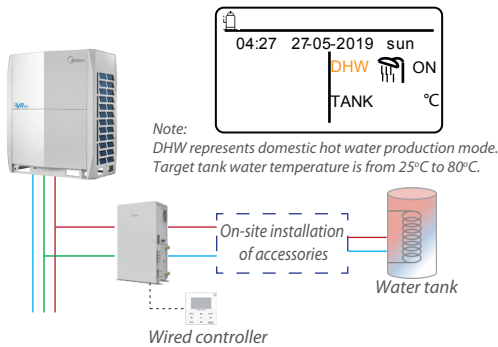
- Scenario 1:** The hydro module operates heating mode only and heating mode is controlled by hot water outlet temperature.
- Scenario 2:** The hydro module operates heating mode only and heating mode is controlled by room setting temperature.



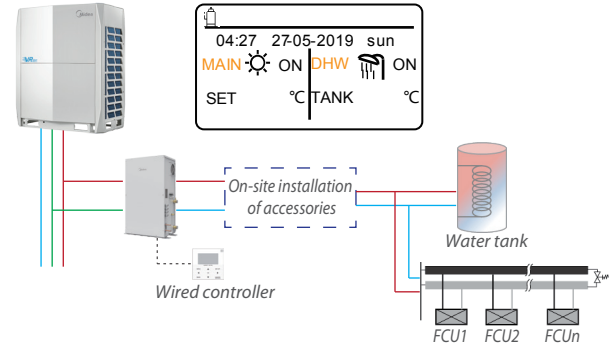
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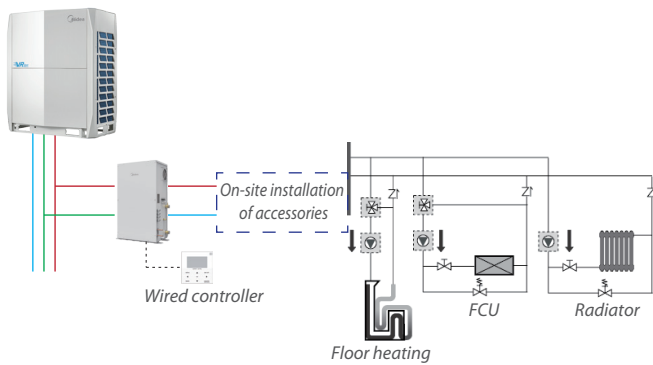
- **Scenario 3:** The hydro module produces domestic hot water only.



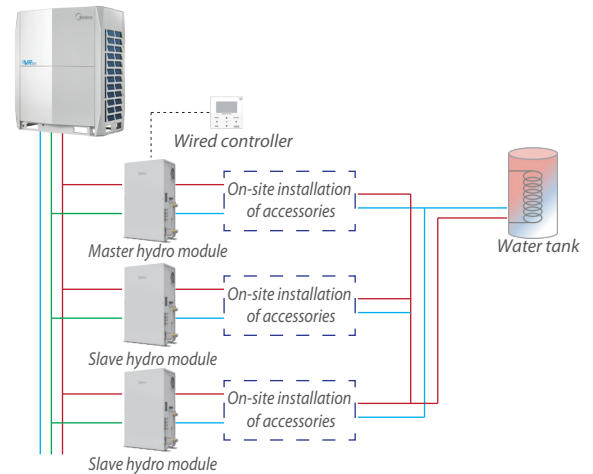
- **Scenario 4:** The hydro module produces domestic hot water and operates heating mode at the same time.



- **Scenario 5:** The hydro module operates heating mode only with multi setting temperature which means the hydro module connect to different terminals (floor heating, fan coil units, radiators etc.) at the same time.



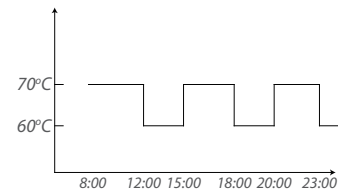
- **Scenario 6:** Multi hydro modules connect to one water tank.



## Multiple Functions

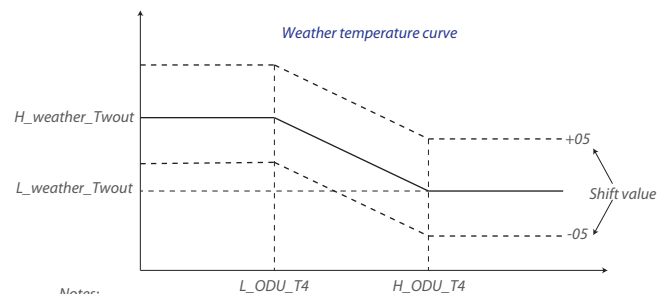
- **Preset temperature function:** Preset temperature function only applies when the hydro module operates heating mode only and heating mode is controlled by hot water outlet temperature.

NO.	TIME	TEMP.
1	8:00	70 °C
2	12:00	60 °C
3	15:00	70 °C
4	18:00	60 °C
5	20:00	70 °C
6	23:00	60 °C



- **Weather temperature set function:** Weather temperature set function only applies when the hydro module operates heating mode only.

- » When the heating mode is controlled by room setting temperature, the actual setting water outlet temperature of hydro module is calculated by the weather temperature curve.
- » When the heating mode is controlled by water outlet temperature, the actual setting water outlet temperature of hydro module is calculated by the weather temperature curve if the weather temperature curve function is activated.



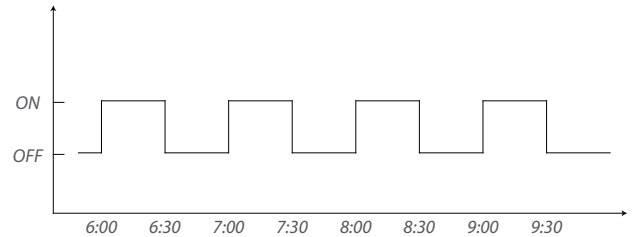
Notes:  
 H\_ODU\_T4: high outdoor temperature  
 L\_ODU\_T4: low outdoor temperature  
 L\_weather\_Twout: the desired outlet water temperature when the outdoor temperature equals or drops below the low ambient temperature  
 H\_weather\_Twout: the desired outlet water temperature when the outdoor temperature equals or rises above the high ambient temperature

- Disinfection function:** Disinfection mode only applies when the hydro module produces domestic hot water only. It is used for high temperature disinfection of water tanks.

DOMESTIC HOT WATER (DHW)		
DISINFECT	DHW PUMP	
CURRENT STATE	ON	→ CURRENT STATE=ON disinfection mode is activated
OPERATION DAY	FRI.	→ Set when the disinfection mode is activated
START	23:00	→ Set what time the disinfection mode is activated
SCROLL		

- DHW-PUMP function:** DHW-PUMP function can be activated regularly to ensure that the tap is hot water in 24 hours, improving comfort. The operating cycle can be determined by the distance from the tap to the water tank and the insulation of the water pipes. The longer the tap is, the worse the insulation is, the more frequently the DHP-PMUP needs to be turned on.

NO.	TIME
1	8:00
2	12:00
3	15:00
4	18:00



## Specifications

Model			SMK-140/RN3
Power supply			220-240V~50/60Hz
Heating Capacity <sup>1</sup>		kW	14
Operating temperature range	Heating	°C	-20~30
	Domestic hot water	°C	-20~43
Water temperature		°C	25~80
Water flow rate	Nominal (Min.-Max.)	m <sup>3</sup> /h	2.4 (1.2-2.9)
Allowable water pressure		Bar	1-10
Unit dimensions (W×H×D)		mm	450x795x300
Weight		kg	58
Refrigerant pipe	Connection type		Brazing
	Liquid pipe diameter	mm	Φ9.53
	Gas pipe diameter	mm	Φ12.7
Water pipe	Connection type		External thread
	Inlet pipe diameter	mm	Φ25.4
	Outlet pipe diameter	mm	Φ25.4
Controller			Standard wired controller

Note:

Nominal heating capacities are based on the following conditions: ambient temperature 7°C DB/6°C WB; Water inlet/outlet temperature 40°C DB/45°C.