

TACI_V3 Series

TOPAIRE AIR COOLED MODULAR DC INVERTER SCROLL CHILLER
Cooling Capacity: 20 to 47 TR (70 to 165 kW)



50Hz

Product Lineup

Model	TACI 20 V3	TACI 24 V3	TACI 38 V3	TACI 47 V3
Power supply	380-415V/3Ph/50Hz	380-415V/3Ph/50Hz	380-415V/3Ph/50Hz	380-415V/3Ph/50Hz
Appearance				

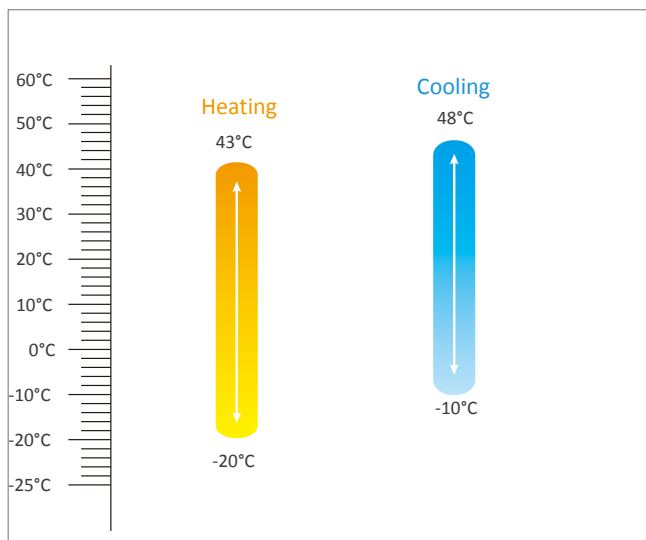
Friendly Environment Refrigerant R32

- ❖ Higher heat transfer coefficient and better performance
- ❖ Less charged volume is needed in the system
- ❖ Less costs and easier to get
- ❖ Lower GWP and carbon emission (GWP: Global Warming Potential)

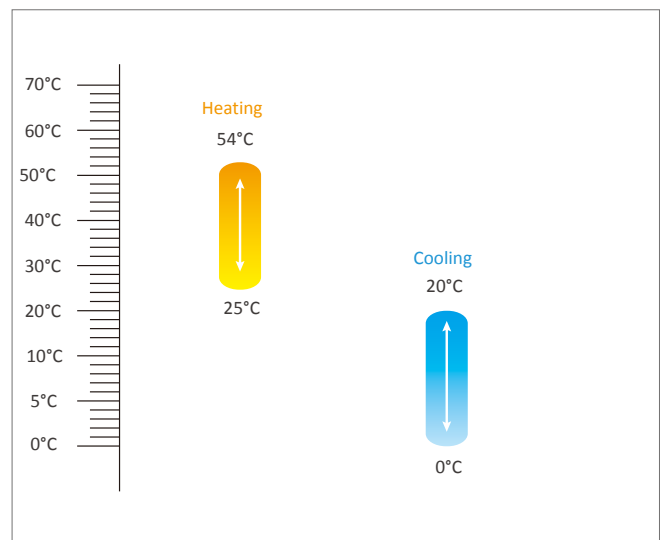
Wide Application

- ❖ One-stop solution for heating, cooling and domestic hot water (Optional)

Wide operation range: -20 °C ~48 °C



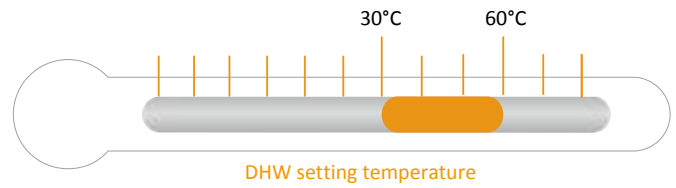
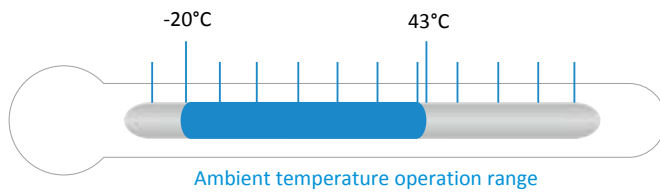
Ambient temperature operation range



Water outlet temperature operation range*

*Antifreeze liquid is needed when water outlet temperature reaches 0°C.

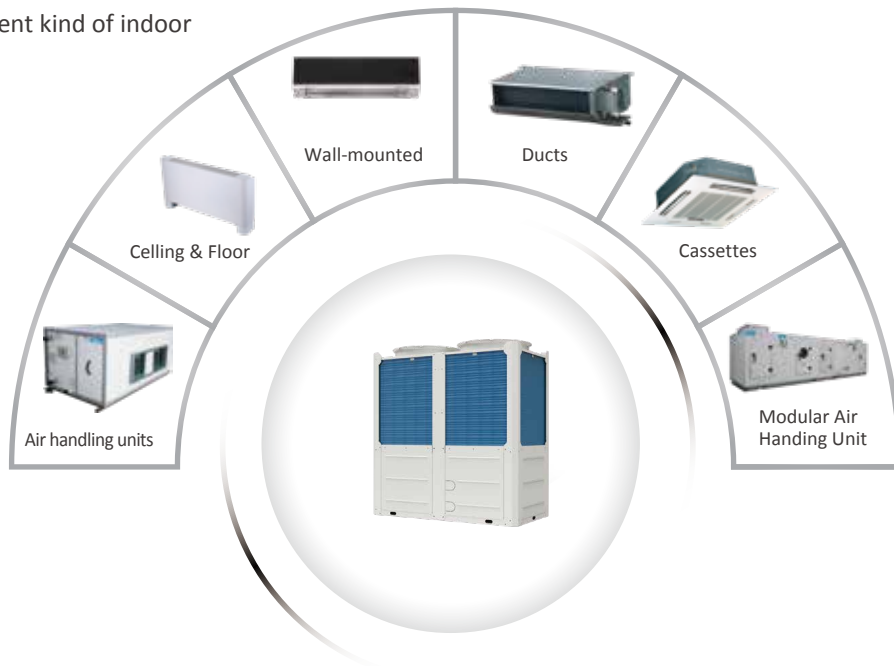
❖ Domestic hot water for comfortable use (OPTIONAL)



without the help of electric heater

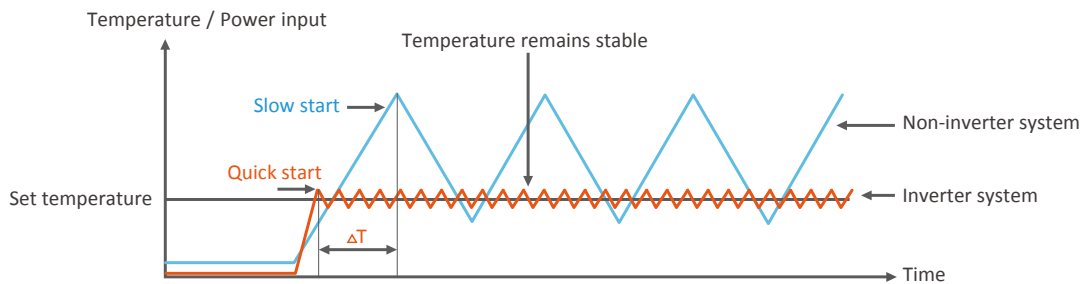
Water temp is up to 55°C at ambient temperature -4°C

❖ Compatible with different kind of indoor



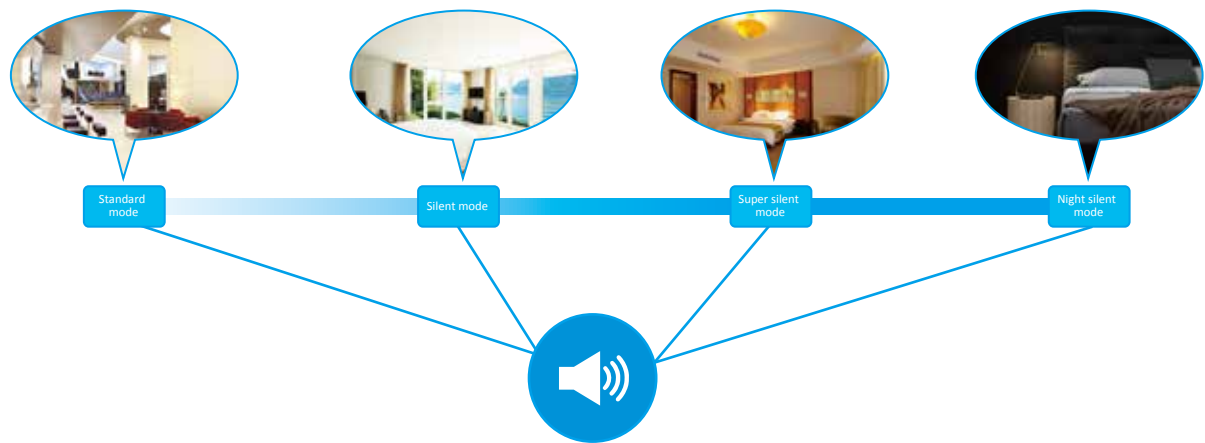
All DC Inverter

- ❖ Comply with ErP 2021
- ❖ High energy efficiency level A++ for energy saving
- ❖ DC Inverter technology allows precise consumption on real load
- ❖ Stable water temperature improves comfort



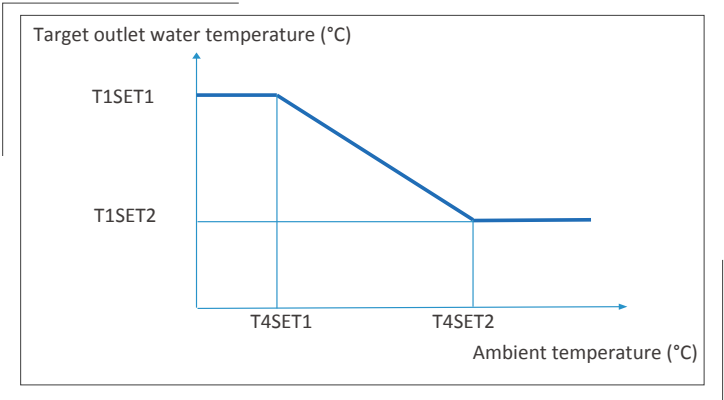
Several silent modes to ensure quiet operation

Different silent modes enable noise reduction to suit time of day and ambient noise levels.



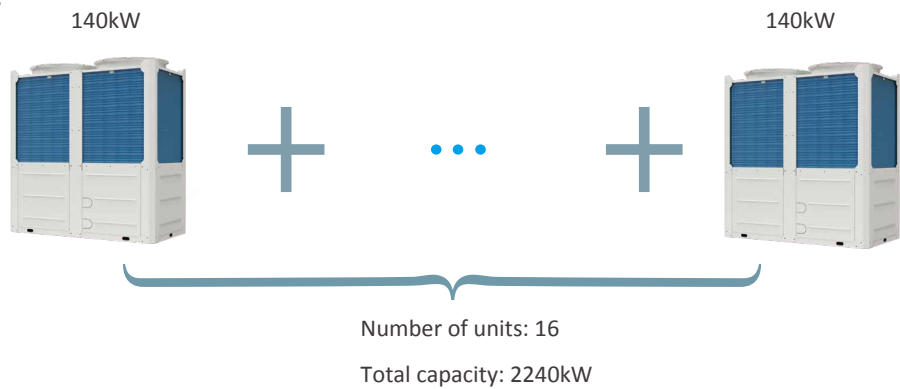
Climate Curve Enhance Energy Saving

- ❖ With the help of climate curve function, water temperature will automatically change as outside air temperature changes, which is energy saving while provide satisfying comfort.



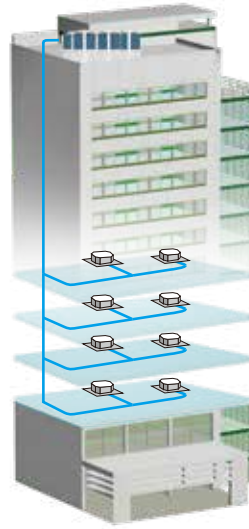
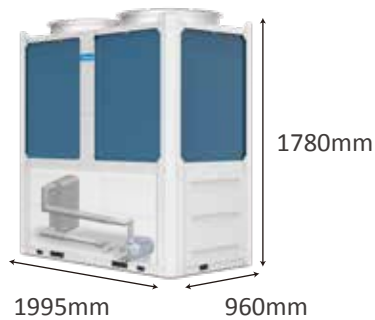
Flexibility

- ❖ Modular design
Modularity is perfect when an extension of capacity becomes required as the building load range from 75kW~2240kW.



❖ Space saving and simplified installation

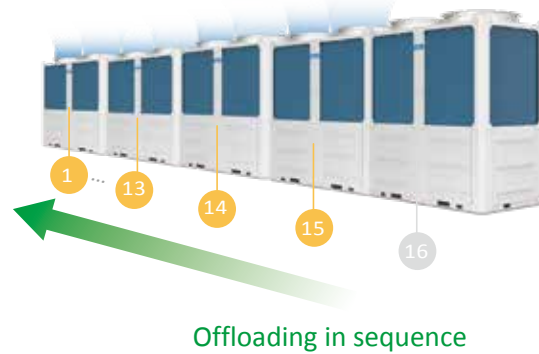
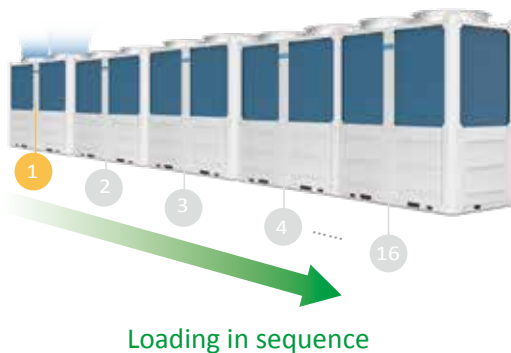
Single unit covers a minimum area of only 1.9m² , which greatly saves a lot of space for group control. The hydraulic models (optional) has the water pump components inside the unit, which can save the installation cost and time and make installation easier.



High reliability

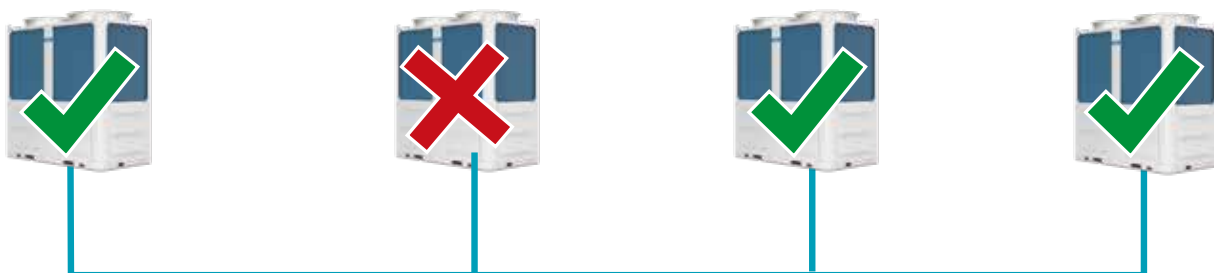
❖ Alternative cycle duty operation

In one combination system, all units operate as alternative in cycle duty to keep equal running time, provide higher stability, better reliability and longer lifespan.



❖ Back-up function

In a combination system, if one unit failed, other units can back-up the failed one and continuing the operation.



Easy control

- ❖ Remote alarm, on/off control, cooling/heating control.

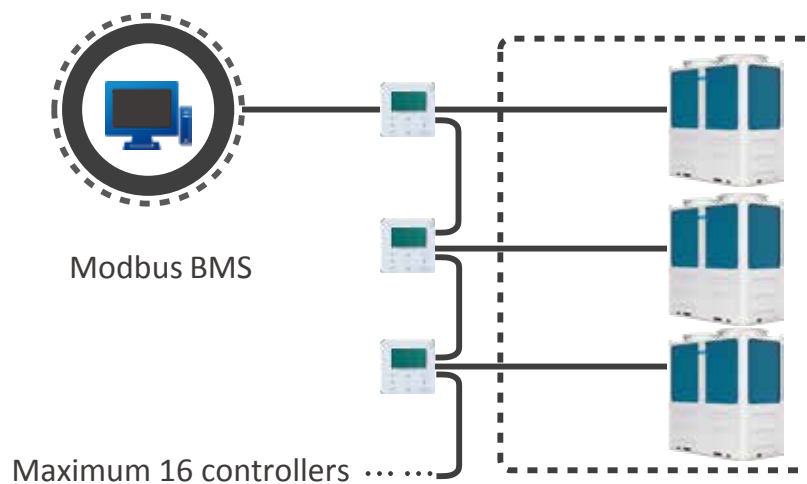


- ❖ One-touch water temperature switching

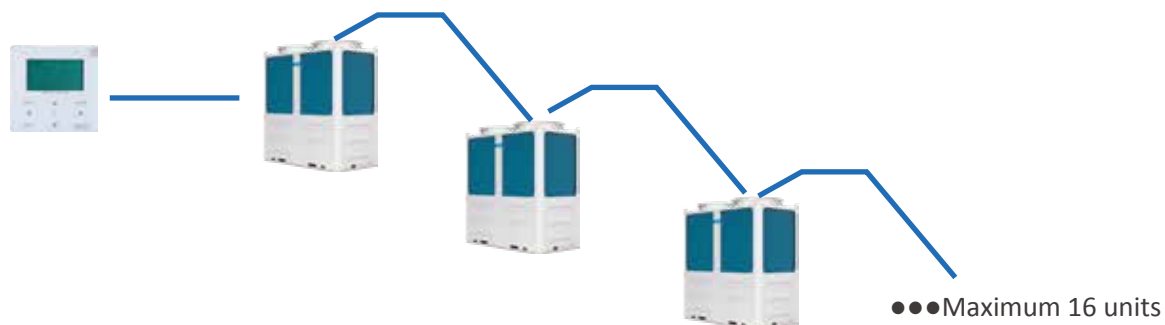
For cooling and heating mode, different water temperatures can be switched just by one-touch.



- ❖ Modbus is an open protocol that is widely used, especially in BMS building control systems. The controller is standard with Modbus protocol, which allows to access to the BMS control system for better management.



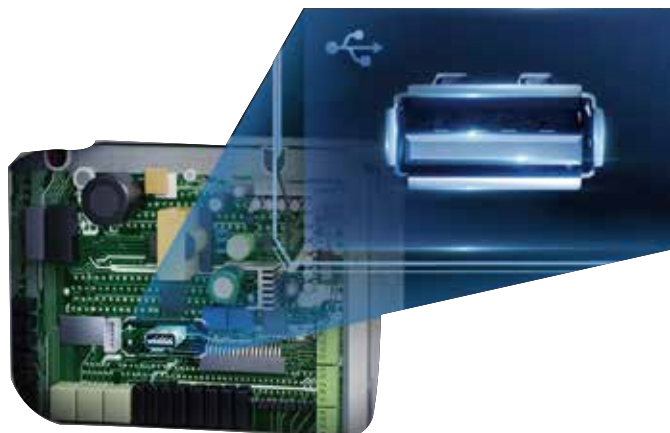
- ❖ The modular design provides a powerful advantage when building loads rise. Multiple units can be connected in parallel for greater system capability which ranges from 75~2240kW and can be controlled by one controller.



Note: Maximum 8 TACI 47 V3 are allowed in one system

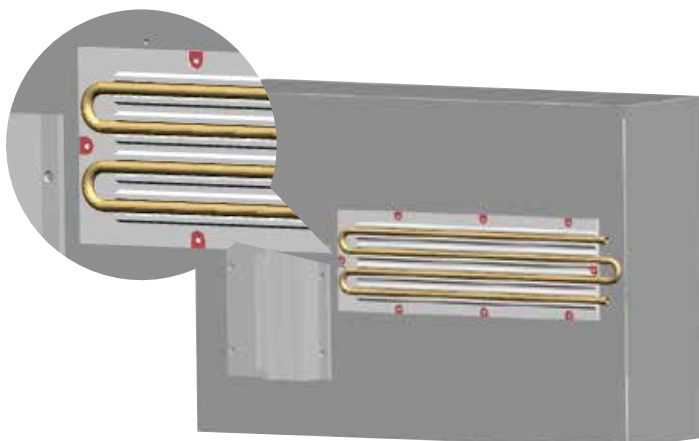
USB function

- ❖ There is no need to carry any heavy equipment, only carry a USB disk to utilize program upgrade, which makes on-site service easier.



Refrigerant cooling for PCB

- ❖ Refrigerant cooling technology effectively reduce the temperature of electronic components for inverter system under harsh working conditions , which ensures stable and safe operation of the control system.



Specification



Model name			TACI 20 V3	TACI 24 V3
Power supply		V/Ph/H	380~415/3/50	380~415/3/50
Cooling ¹	Capacity	RT	20	23.5
		kW	70	82
	Rated input	kW	26.8	27.8
	EER		2.61	2.95
Heating ²	Capacity	kW	75	90
	Rated input	kW	23.7	28.1
	COP		3.16	3.2
Seasonal space heating energy efficiency class (LWT at 35°C)			A++	A++
MOP(Max. overcurrent protector)	A		54	60
Air side heat exchanger	Type		Finned tube	Finned tube
	Fan motor type		DC motor	DC motor
	Fan motor rated	W	780	920
	Fan motor quantity		2	2
	Air flow rate	m³/h	28500	35000
Water side heat exchanger	Type		Plate	Plate
	Volume	L	5.17	7.05
	Rated water flow	m³/h	12.04	15
	Water flow range	m³/h	8.0~15.5	10.2 ~ 18
	Water pressure drop	kPa	65	75
Refrigerant system	Refrigerant type		R32	R32
	Refrigerant charge ³	kg	9	16 (11.5+4.5)
	Throttle type		EXV	EXV
Sound power level ⁴	dB		86	86
Sound pressure level(1m) ⁵	dB(A)		69	65
Net dimensions (W×H×D)	mm		2000×1770×960	2220×2315×1135
Packed dimensions (W×H×D)	mm		2085×1890×1030	2250×2445×1180
Net/Gross weight	kg		440/455	635/660
Water pipe connections	mm		DN50	DN50
Water pressure range	MPa		0.05 ~ 1.0	0.05 ~ 1.0
Water flow switch	Action flow	m³/h	8.0	10
Vent Valve	Max working	Mpa	1.0	1.0
Safety valve	Action pressure	Mpa	0.6	0.6
Controller			KJRM-120H2/BMWK	KJRM-120H2/BMWK
Operating temperature range	Cooling	°C	-10 to 48	-10 to 48
	Heating	°C	-20 to 43	-20 to 43
Water outlet temperature range	Cooling ⁴	°C	0 to 20	0 to 20
	Heating	°C	25 to 54	25 to 54

Notes:

- Outdoor ambient temperature 35°C DB. EWT 12°C, LWT 7°C;
 - Outdoor ambient temperature 7°C DB/6°C WB. EWT 40°C, LWT 45°C;
 - The total amount of refrigerant for TACI24V3 is 16kg, including the 11.5 kg already charged before delivery and the 4.5 kg to be charged. For refrigerant charging operation guidance, please refer to Service Manual.
 - Test standard: EN12102-1. Outdoor ambient temperature 35°C DB. EWT 12°C, LWT 7°C
 - Capacity and efficiency data calculated in accordance with EN14511; EN14825
 - Seasonal space heating energy efficiency class tested in average climate conditions.
 - Outdoor ambient temperature 35°C DB. EWT 12°C, LWT 7°C
- Sound pressure level is the test average measured in a semi-anechoic chamber. The test position is 1m right in front of the unit for four sides and (1+H)/2m (where H is the height of the unit) above the floor. During in-situ operation, sound pressure levels may be higher as a result of ambient noise.

Model name			TACI 38 V3	TACI 47 V3
Power supply		V/Ph/H	380~415/3/50	380~415/3/50
Cooling ¹	Capacity	RT	37.5	47.0
		kW	130	165.3
	Rated input	kW	50.5	56.0
	EER		2.57	2.95
Heating ²	Capacity	kW	138	180
	Rated input	kW	44.5	57.0
	COP		3.10	3.16
Seasonal space heating energy efficiency class (LWT at 35°C)			A++	A+
MOP(Max. overcurrent protector)	A		106	120
Air side heat exchanger	Type		Finned tube	Finned tube
	Fan motor type		DC motor	DC motor
	Fan motor rated	W	1600	820
	Fan motor quantity		2	4
	Air flow rate	m³/h	50000	70000
Water side heat exchanger	Type		Plate	Plate
	Volume	L	11.1	6.96×2
	Rated water flow	m³/h	22.36	28.2
	Water flow range	m³/h	15.6~28.5	20~36.1
	Water pressure drop	kPa	65	96
Refrigerant system	Refrigerant type		R32	R32
	Refrigerant charge ³	kg	15.5(11.5+4)	16 (5.5+10.5)*2
	Throttle type		EXV	EXV
Sound power level ⁴	dB		92	92
Sound pressure level(1m) ⁵	dB(A)		73	72
Net dimensions (W×H×D)	mm		2220×2300×1135	2752×2413×2220
Packed dimensions (W×H×D)	mm		2250×2425×1180	2810×2446×2245
Net/Gross weight	kg		670/690	1400/1420
Water pipe connections	mm		DN65	DN80
Water pressure range	MPa		0.05 ~ 1.0	0.05 ~ 1.0
Water flow switch	Action flow	m³/h	15.6	20.0
Vent Valve	Max working	Mpa	1.0	1.0
Safety valve	Action pressure	Mpa	0.6	0.6
Controller			KJRM-120H2/BMWK	KJRM-120H2/BMWK
Operating temperature range	Cooling	°C	-10 to 48	-10 to 48
	Heating	°C	-20 to 43	-20 to 43
Water outlet temperature range	Cooling ⁴	°C	0 to 20	0 to 20
	Heating	°C	25 to 54	25 to 54

Notes:

1. Outdoor ambient temperature 35°C DB. EWT 12°C, LWT 7°C;
2. Outdoor ambient temperature 7°C DB/6°C WB. EWT 40°C, LWT 45°C;
3. The total amount of refrigerant for TACI38V3 is 15.5kg, including the 11.5 kg already charged before delivery and the 4 kg to be charged.

For refrigerant charging operation guidance, please refer to Service Manual.

4. Test standard: EN12102-1. Outdoor ambient temperature 35°C DB. EWT 12°C, LWT 7°C

5. Capacity and efficiency data calculated in accordance with EN14511; EN14825

6. Seasonal space heating energy efficiency class tested in average climate conditions.

7. Outdoor ambient temperature 35°C DB. EWT 12°C, LWT 7°C

Sound pressure level is the test average measured in a semi-anechoic chamber. The test position is 1m right in front of the unit for four sides and (1+H)/2m (where H is the height of the unit) above the floor. During in-situ operation, sound pressure levels may be higher as a result of ambient noise.

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