

TCL

R32 Tri-thermal ATW Heat Pump

Heating, cooling, hot water with complete solutions to the creative life



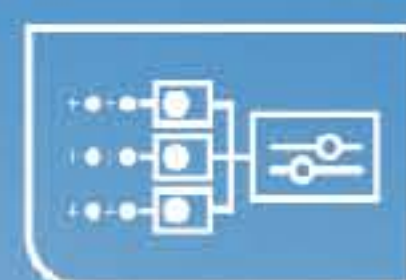
Heating
& Cooling



Hot
Water



Energy
Saving



Cascade
Control



3-Zone
Control



APP
Intelligent
Control



Low
Noise



Disinfect
Mode



Seasonal space heating energy efficiency

η s average up to **A+++** at 35°C

η s average up to **A++** at 55°C



The maximum of leaving water
temperature is **65°C**



Mono 4-16kW



Split 4-16kW



Versatility

● Heating, cooling, hot water with complete solutions, to the creative life

Tri-thermal is an integrated system that provides space heating and cooling as well as domestic hot water, offering a complete, all-year-round solution which can remove the need for traditional gas or oil boilers, or work together with them.

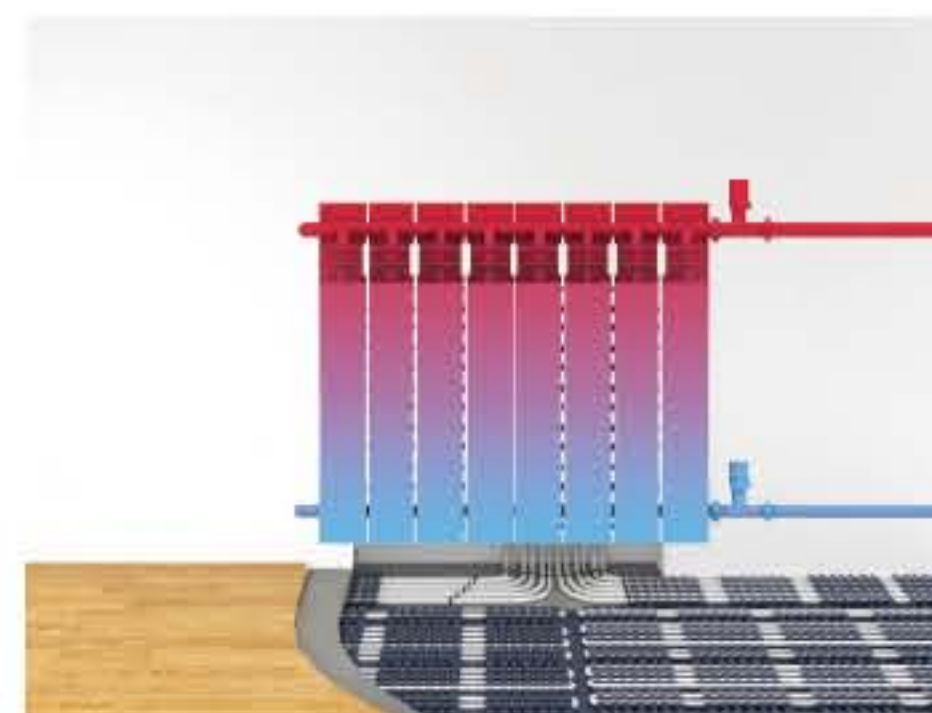
Compact fan coil unit cooling

- Ultra-thin body, comfortable and beautiful
- Multi-angle and all-directional wind supply



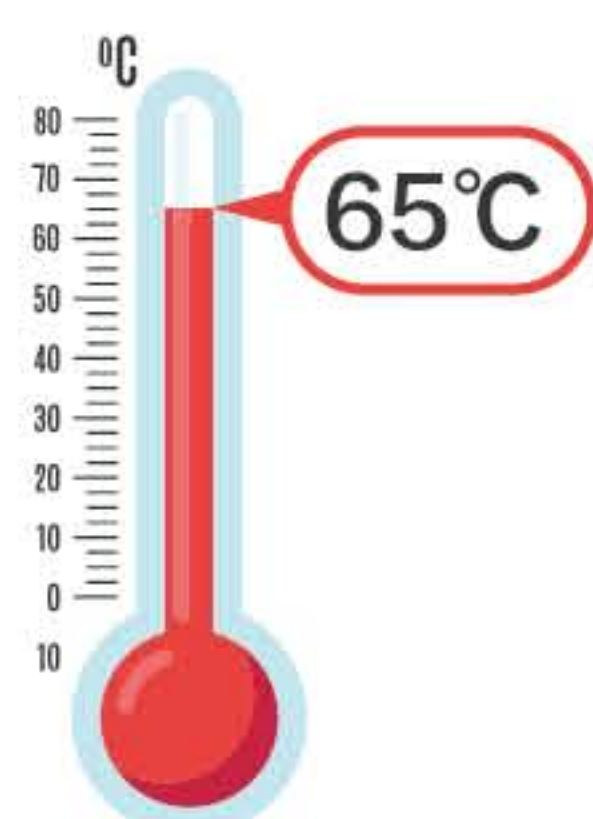
Diversified heating

- Heating by floor heating, radiator and fan coil unit
- Safe and comfort



Domestic hot water

- Provide DHW in time, heating quickly
- The maximum of leaving water temperature is 65°C



Solar kit

- Work only & work with heat pump for DHW



* Auxiliary heat source

- Link with traditional gas boilers, industrial hot water and electric auxiliary heating

High Efficient and Energy Saving

Well-known brand DC inverter compressor (GMCC)

High reliability electrical design

- High-current resistant& high-temperature resistant.

Large pressure ratio design

- Low suction pressure
- High exhaust pressure
- Heating at low ambient temperature

Low oil output design

- Optimized internal tank design
- Less lubricating oil required
- Effectively solves the problem of oil return



DC Inverter motor design

- High efficiency,the highest SCOP is 5.07

Low noise vibration design

- Vibration optimization of twin rotor
- Noise optimization of double-layer mufflers

High reliability volume design

- Large oil storage space
- Suitable for use in partial load conditions and long-pipe

High efficient L-type heat exchanger

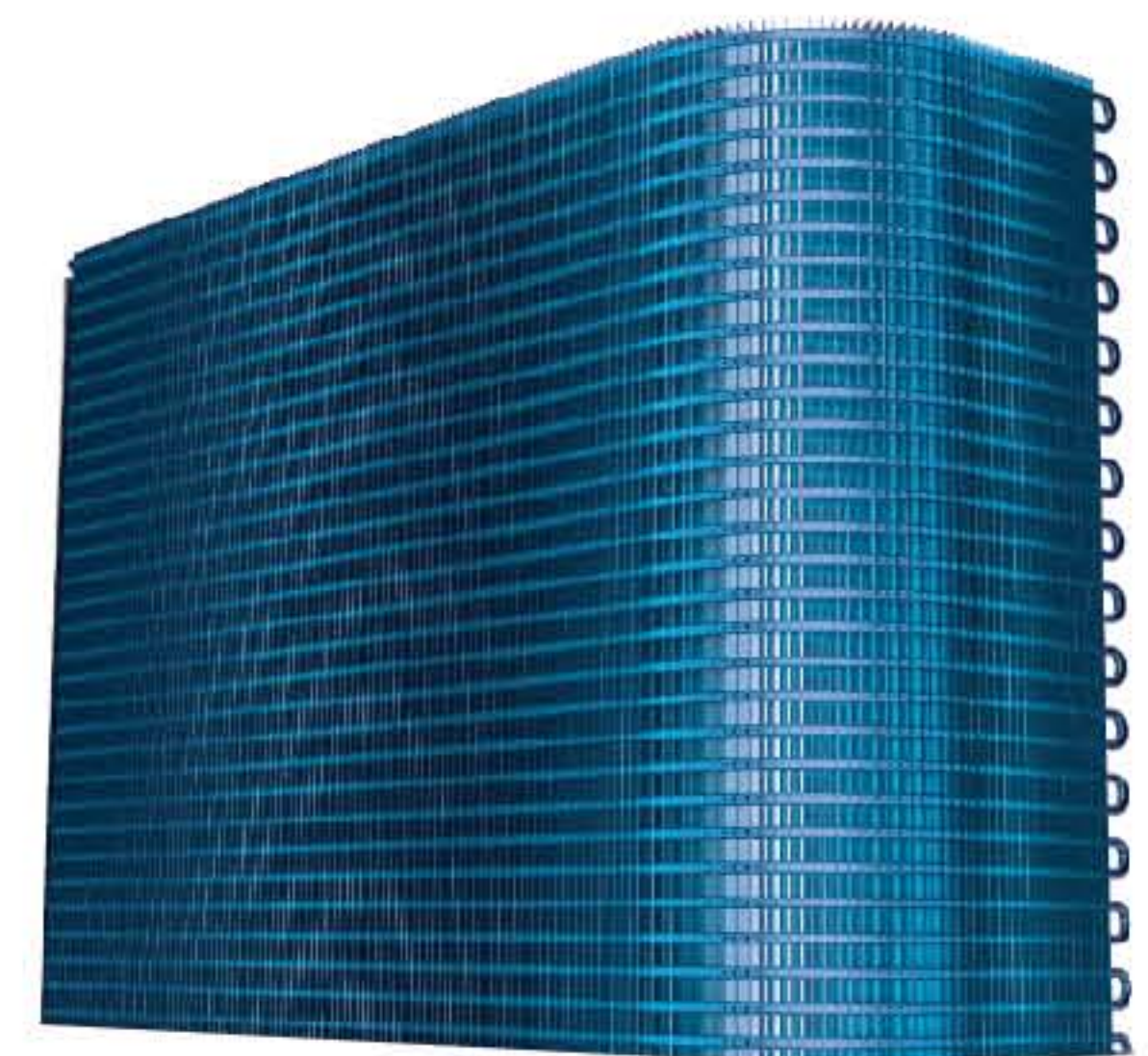
Adopting advanced 3-D dynamic analysis and cross-flow path design, air volume increased 8%, heat exchange more efficient.

Internal thread heat transfer pipe

- Using hydrophilic anti-corrosive fins, heat transfer efficiency increased 6%.

Corrugated fin

- Applying inner thread tube with 10% higher heat exchange efficiency.



Stepless inverter fan motor

- Realize stepless speed regulation, and reduce power consumption by 20% compared with AC motors
- Original built-in drive, high motor efficiency, more reliable
- Stepless regulation of air volume, precise control
- Quiet operation
- Insulation grade E

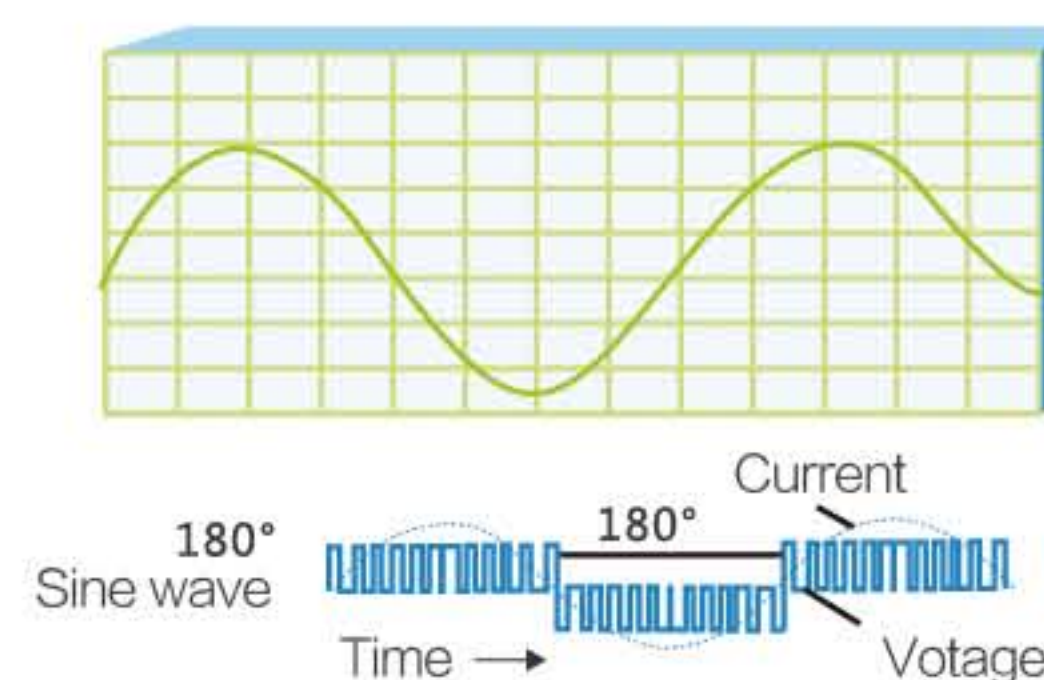
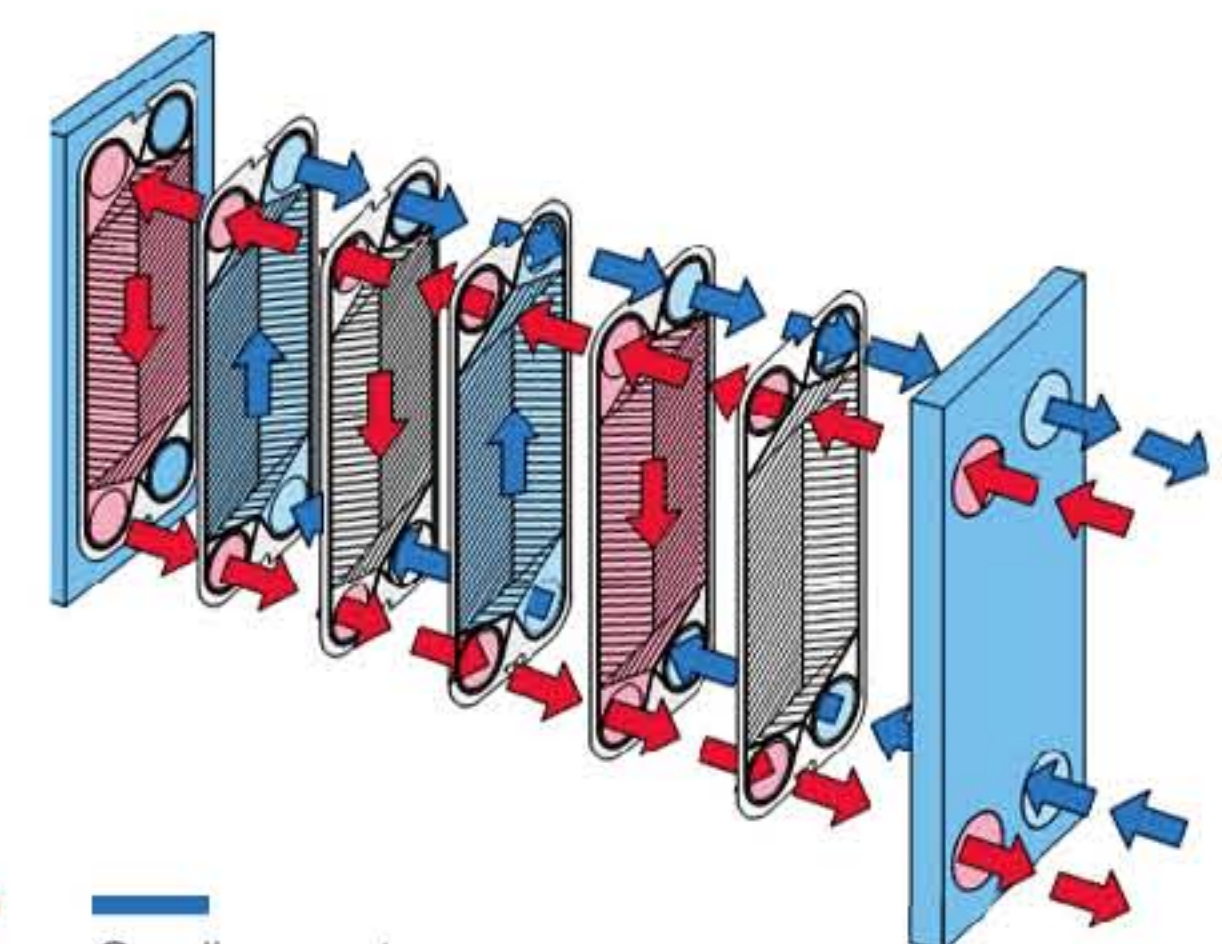


Plate heat exchanger

- Withstand high temperature and high pressure
- Compact design, smaller volume and less pressure drop
- High anti-corrosion performance
- High thermal efficiency and lower fouling factor
- Easy installation and maintenance
- Under the same pressure loss, the heat transfer coefficient of the plate heat exchanger is 3~5 times higher than that of the tubular heat exchanger, covering an area of 1 / 3 of the tubular heat exchanger.



Vapor Cooling water

Schematic diagram of plate heat exchanger circulation

Multiple certifications



Reach✓



Environmental friendly refrigerant

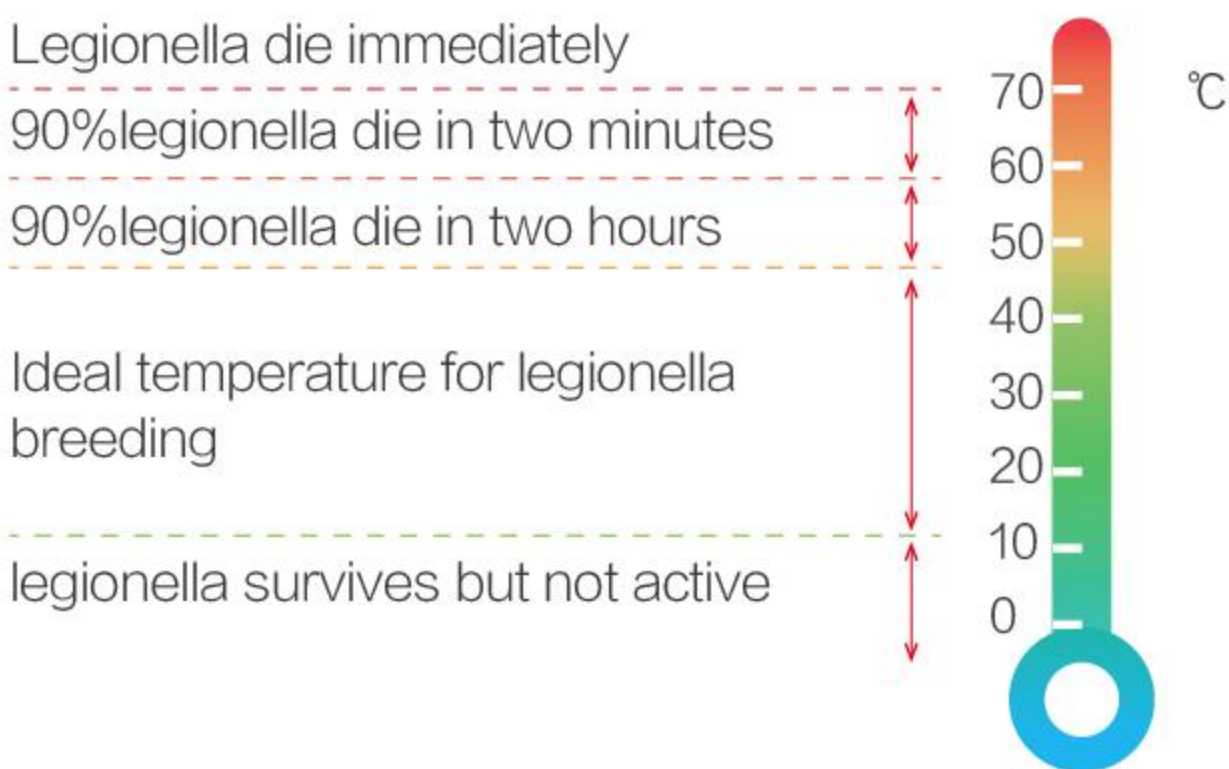
- The GWP of R32 is 675
- CO₂ equivalent is decreased 68% compared with R410a
- Save clients energy and protect the environment



Safe and Comfort

● Anti-bacteria mode

- Designed to gurrantee our safe and health.
- It works by heating the water to about 70 degrees.



● Low level of noise

- Multiple silent modes are optional
Silent mode, night silent mode, super silent mode.
- Optimized right & back side plates design
Based on the 3-D simulation, which greatly decrease the vibration and running noise.



● Provide DHW in time

- **Water pump**
Running smoothly
- **Electrical heater**
Heat DHW quickly
As a back-up facility for inclement weather
- **Solar kit heater**
Energy saving

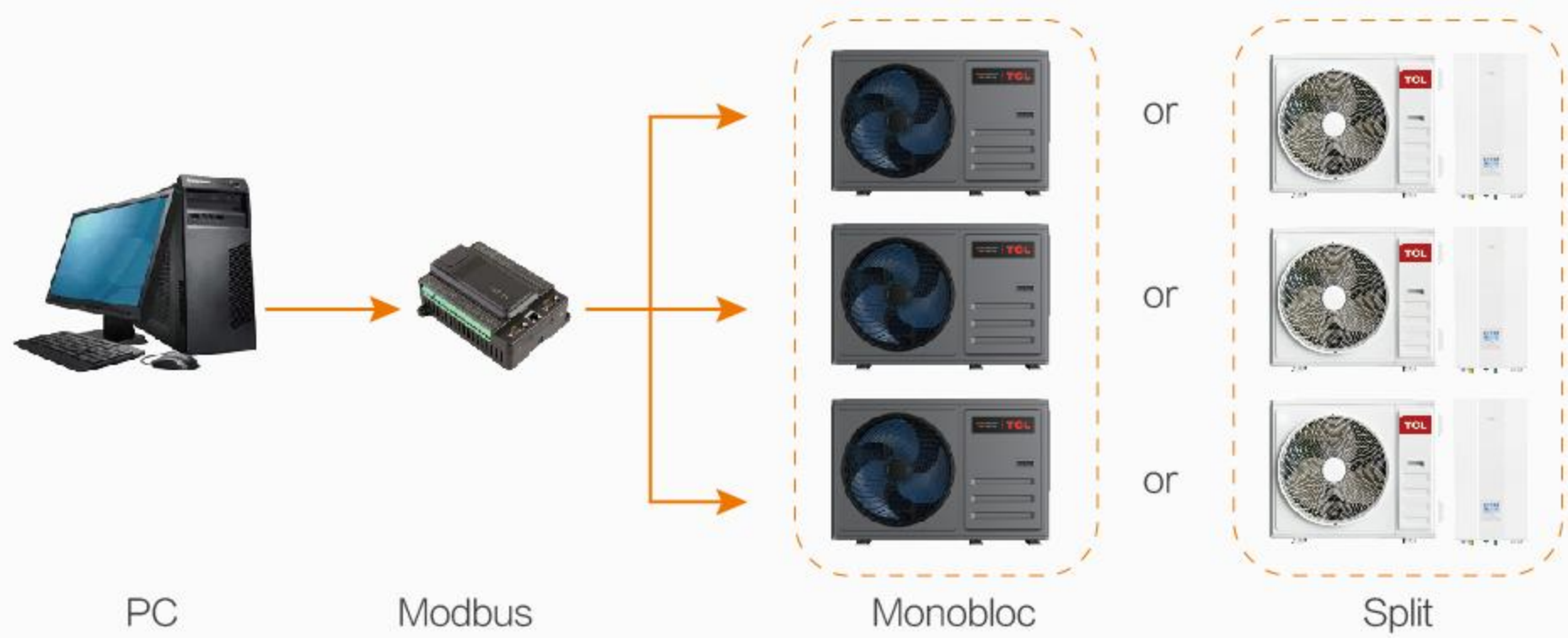


● 3-zone control

- Connect max 3 zones at the same time and achieve different temperatures control in different zones.



Intelligent control



● Wired controller

- Liquid crystal, two-way communication, backlight at night
- Access to wifi with internet control
- Multiple languages are available
- Can set the parameters and query for faults
- Daily schedule and weekly schedule accurately control time and operation mode to prevent forgetting



● APP controller

- Modes adjustment
- Cascade control
- Power consumption record
- Sanitary hot water priority mode
- Unit status & fault information display
- Temp, Pump flow rate, timer setting, etc.



Mono product parameters



Heating&Cooling



Hot water



Energy Saving



Low Noise



Cascade Control



3-Zone Control



Disinfect Mode



Easy Installation



4/6kW



8-16kW

Model name			THMLd-4D/3HBp-A	THMLd-6D/3HBp-A	THMLd-8D/3HBp-A	THMLd-10D/3HBp-A	THMLd-12D/3HBp-A	THMLd-14D/3HBp-A	THMLd-16D/3HBp-A	THMLd-12S/6(9)HBp-A	THMLd-14S/6(9)HBp-A	THMLd-16S/6(9)HBp-A
Power supply	V/Ph/Hz		220-240/1/50			220-240/1/50				380-415/3/50		
Heating A7W35	Capacity	kW	4.20	6.22	8.00	9.50	12.10	14.50	16.00	12.10	14.50	16.00
	Rated input	kW	0.82	1.27	1.60	1.98	2.42	3.05	3.54	2.42	3.05	3.54
	COP		5.10	4.90	5.00	4.80	5.00	4.75	4.52	5.00	4.75	4.52
Heating A7W45	Capacity	kW	4.35	6.35	8.00	9.50	12.05	14.25	16.00	12.05	14.25	16.00
	Rated input	kW	1.14	1.69	2.11	2.60	3.14	3.83	4.42	3.14	3.83	4.42
	COP		3.80	3.75	3.80	3.65	3.84	3.73	3.62	3.84	3.73	3.62
Heating A7W55	Capacity	kW	4.40	6.00	7.40	9.00	12.00	14.00	16.00	12.00	14.00	16.00
	Rated input	kW	1.49	2.03	2.38	3.00	3.85	4.65	5.49	3.85	4.65	5.49
	COP		2.95	2.96	3.11	3.00	3.12	3.01	2.91	3.12	3.01	2.91
Cooling A35W18	Capacity	kW	4.50	6.00	8.00	9.50	12.00	13.50	15.00	12.00	13.50	15.00
	Rated input	kW	0.81	1.22	1.67	2.07	3.00	3.60	4.35	3.00	3.60	4.35
	EER		5.55	4.92	4.80	4.60	4.00	3.75	3.44	4.00	3.75	3.44
Cooling A35W7	Capacity	kW	4.50	6.00	7.00	8.00	11.60	12.95	14.30	11.60	12.95	14.30
	Rated input	kW	1.28	1.93	2.14	2.53	4.20	4.98	5.70	4.20	4.98	5.70
	EER		3.50	3.11	3.27	3.16	2.76	2.60	2.51	2.76	2.60	2.51
SCOP ²	LWT at 35°C		4.60	4.65	5.07	5.05	4.77	4.63	4.56	4.77	4.63	4.56
	LWT at 55°C		3.35	3.49	3.47	3.51	3.48	3.43	3.48	3.54	3.46	3.49
Seasonal space heating energy efficiency class ²	LWT at 35°C		A+++									
	LWT at 55°C		A++									
Electric heater power input	kW		3	3	3	3	3	3	3	6(9)	6(9)	6(9)
MOP(Maximum overcurrent protection) ³	A		18	18	19	19	32	32	32	14	14	14
MCA(Minimum circuit amps)	A		12	14	16	17	25	26	27	10	11	12
Compressor	Type		Twin rotary DC inverter									
Outdoor fan	Motor type		Brushless DC motor									
	Number of fans		1									
Throttle type			Electronic expansion valve									
Air side heat exchanger	Type		Finned tube									
Water side heat exchanger	Type		Plate type									
Refrigerant	Type		R32									
	Factory charge	kg	1.30	1.30	1.40	1.40	1.74	1.74	1.74	1.74	1.74	1.74
Sound power Level ⁴	dB		56	59	60	61	64	66	68	64	66	68
Sound pressure level ⁵	dB		44	46	47	50	53	54	55	53	54	55
Net dimensions (W×H×D)	mm		1220×709×390			1293×860×495						
Packing dimension (W×H×D)	mm		1315×840×430			1395×996×535						
Net/Gross weight	kg		76.0/87.0	76.0/87.0	95.0/116.0	95.0/116.0	112.0/133.0	112.0/133.0	112.0/133.0	124.0/145.0	124.0/145.0	124.0/145.0
Piping connections			R5/4"	R5/4"	R5/4"	R5/4"	R5/4"	R5/4"	R5/4"	R5/4"	R5/4"	R5/4"
Operation range	Cooling	℃	- 5 ~ 43									
	Heating	℃	- 25 ~ 35									
	DHW	℃	- 25 ~ 43									
Water outlet	Cooling	℃	5 ~ 20									
	Heating	℃	25 ~ 65									
	DHW	℃	20 ~ 60									

Abbreviations:

DHW:Domestic hot water

LWT:Leaving water temperature

Notes:

1.Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811/2013; (EU) No 813/2013; OJ 2014/C 207/02.

2.Seasonal space heating energy efficiency class tests in average climate conditions.

3.Sound power test condition : EN12102- 1.

4.Sound pressure level is the maximum value tested under the two conditions of A7W35 and A35W18.

Split product parameters



Heating



Cooling



Hot water



Intelligent
Control



High
Efficiency



Energy
Saving



Disinfect
Mode



Low
Noise



4/6kW



8-16kW

Model name			THF-4D/ HBpO-A	THF-6D/ HBpO-A	THF-8D/ HBpO-B	THF-10D/ HBpO-B	THF-12D/ HBpO-A	THF-14D/ HBpO-A	THF-16D/ HBpO-A	THF-12S/ HBpO-A	THF-14S/ HBpO-A	THF-16S/ HBpO-A
Power supply	V/Ph/Hz		220-240/1/50		220-240/1/50		220-240/1/50			380-415/3/50		
Heating A7W35	Capacity	kW	4.20	6.22	8.00	9.50	12.10	14.50	16.00	12.10	14.50	16.00
	Rated input	kW	0.82	1.27	1.60	1.98	2.42	3.05	3.54	2.42	3.05	3.54
	COP		5.10	4.90	5.00	4.80	5.00	4.75	4.52	5.00	4.75	4.52
Heating A7W45	Capacity	kW	4.35	6.35	8.00	9.50	12.05	14.25	16.00	12.05	14.25	16.00
	Rated input	kW	1.14	1.69	2.11	2.60	3.14	3.83	4.42	3.14	3.83	4.42
	COP		3.80	3.75	3.80	3.65	3.84	3.73	3.62	3.84	3.73	3.62
Heating A7W55	Capacity	kW	4.40	6.00	7.40	9.00	12.00	14.00	16.00	12.00	14.00	16.00
	Rated input	kW	1.49	2.03	2.38	3.00	3.85	4.65	5.49	3.85	4.65	5.49
	COP		2.95	2.96	3.11	3.00	3.12	3.01	2.91	3.12	3.01	2.91
Cooling A35W18	Capacity	kW	4.50	6.00	8.00	9.50	12.00	13.50	15.00	12.00	13.50	15.00
	Rated input	kW	0.81	1.22	1.67	2.07	3.00	3.60	4.39	3.00	3.60	4.39
	EER		5.55	4.92	4.80	4.60	4.00	3.75	3.42	4.00	3.75	3.42
Cooling A35W7	Capacity	kW	4.50	6.00	7.00	8.00	11.60	12.95	14.30	11.60	12.95	14.30
	Rated input	kW	1.28	1.93	2.14	2.53	4.20	4.98	5.70	4.20	4.98	5.70
	EER		3.50	3.11	3.27	3.16	2.76	2.60	2.51	2.76	2.60	2.51
SCOP ²	LWT at 35°C		4.60	4.65	5.07	5.05	4.78	4.63	4.56	4.70	4.58	4.56
	LWT at 55°C		3.35	3.49	3.47	3.51	3.48	3.47	3.48	3.48	3.35	3.44
Seasonal space heating energy efficiency class ²	LWT at 35°C		A+++									
	LWT at 55°C		A++									
MOP(Maximum overcurrent protection) ³		A	18	18	19	19	32	32	32	14	14	14
MCA(Minimum circuit amps)		A	12	14	16	17	25	26	27	10	11	12
Compressor	Type		Twin rotary DC inverter									
Outdoor fan	Motor type		Brushless DC motor									
	Number of fans		1									
Throttle type			Electronic expansion valve									
Air side heat exchanger	Type		Finned tube									
Refrigerant	Type		R32									
	Factory charge	kg	1.30	1.30	1.65	1.65	1.84	1.84	1.84	1.84	1.84	1.84
Sound power level ⁴		dB	56	59	60	61	64	66	68	64	66	68
Sound pressure level ⁵		dB	44	46	47	50	53	54	55	53	54	55
Net dimensions (W×H×D)		mm	845×700×375			1010×860×494						
Packed dimensions(W×H×D)		mm	960×732×430			1135×970×530						
Net/Gross weight		kg	45.5/48.0	45.5/48.0	62.0/75.0	62.0/75.0	78.0/90.5	78.0/90.5	78.0/90.5	90.0/102.5	90.0/102.5	90.0/102.5
Piping connections	Type		Flare	Flare	Flare	Flare	Flare	Flare	Flare	Flare	Flare	Flare
	Liquid Dia.	mm	Φ6.35	Φ6.35	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52	Φ9.52
	Gas Dia.	mm	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9	Φ15.9
	Min. pipelength	m	2	2	2	2	2	2	2	2	2	2
	Max. pipe length	m	30	30	30	30	30	30	30	30	30	30
Installation height	Outdoor unit above	m	20	20	20	20	20	20	20	20	20	20
	Outdoor unit below	m	20	20	20	20	20	20	20	20	20	20
Operating range	Cooling	°C	- 5 ~ 43									
	Heating	°C	- 25 ~ 35									
	DHW	°C	- 25 ~ 43									

Notes:

1. Relevant EU standards and legislation: EN14511; EN14825; EN50564; EN12102; (EU) No 811:2013; (EU) No 813:2013; OJ 2014/C 207/02:2014.
2. Seasonal space heating energy efficiency class tested in average climate conditions.
3. Test standard: EN12102- 1.
4. Sound pressure level is the maximum value tested under the two conditions of A7W35 and A35W18.



Heating



Cooling



Hot water



Intelligent Control



High Efficiency



Energy Saving



Disinfect Mode



Low Noise



Model name			SMKLd-4(6)D/3HBp- A	SMKLd-8(10)D/3HBp- B	SMKLd-12(14,16)D/3HBp-A
Function			Heating and cooling		
Water outler	Cooling	℃	5 to 20		
	Heating	℃	25 to 65		
	DHW	℃	20 to 60		
Power supply		V/Ph/Hz	220-240/1/50	220-240/1/50	220-240/1/50
Electric heater power input		kW	3	3	3
Sound power level ¹		dB	38	42	44
Sound pressure level(1m) ²		dB	28	30	32
Net dimensions (W×H×D)		mm	420×790×270		
Packed dimensions (W×H×D)		mm	530×1035×355		
Net/gross weight		kg	44.0/50.0	41.0/47.0	42.0/48.0
Water circuit	Piping connections		inch	R1"	
	Safety valve set pressure		Mpa	0.3	
	Drainage pipe connection		mm	DN25	
	Expansion tank	Volume	L	8	
		Max. water pressure	MPa	0.3	
		Pre-pressure	Mpa	0.1	
	Heat exchanger		Type	Plate type	
Refrigerant circuit	water pump head		m	9	
	Liquid Dia.		mm	Φ6.35	Φ9.52
	Gas Dia.		mm	Φ15.9	Φ15.9
Operating temperature range	Excessive operating refrigerant pressure		MPa	4.3	4.3
	Ambient temperature		℃	+5 ~ +35	
	Water pressure		MPa	0.1 ~ 0.3	

Notes:

1. Test standard: EN12102- 1.

2. Sound pressure level is the maximum value tested under the two conditions of Note3 and Note4 for different combination between outdoor unit and hydronic box..

3. Outdoor air temperature 7℃ DB, 85% R.H.; EWT 30℃, LWT 35℃.

4.Outdoor air temperature 35℃ DB; EWT 23℃, LWT 18℃.