

TCL

R32 Tri-thermal ATW Heat Pump

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



Heating



Cooling



Hot water



High Efficiency



Energy Saving



Intelligent Control



Disinfect Mode



Low Noise



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



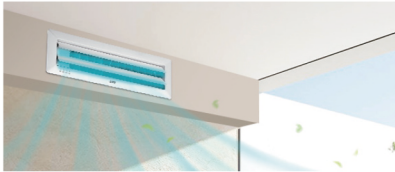
Versatility

● Heating, cooling, hot water with complet 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.

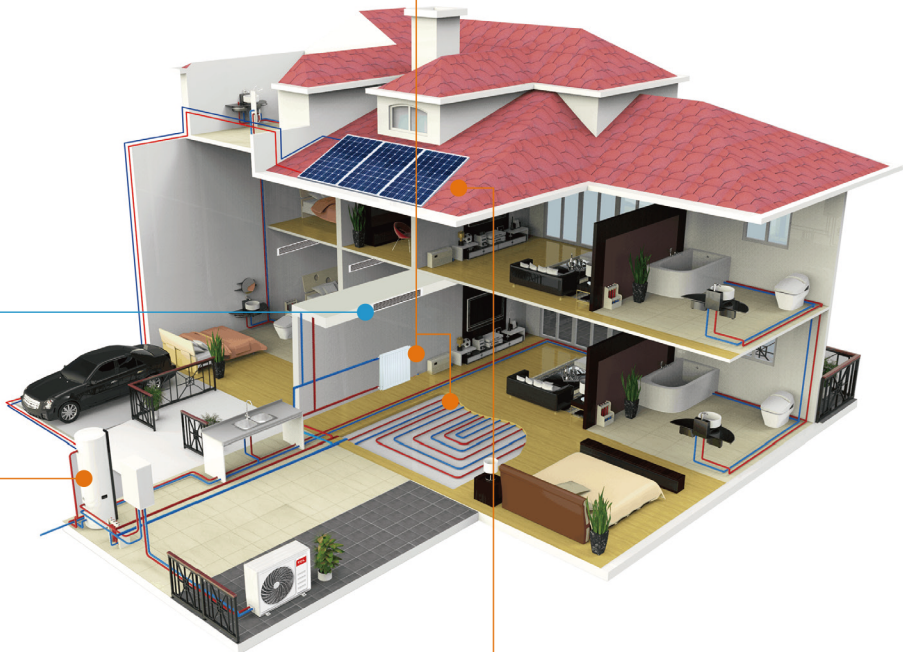
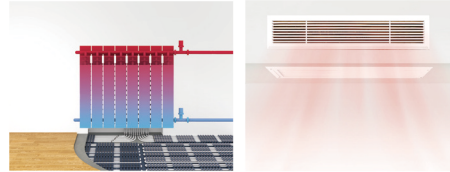
Compact fan coil unit cooling

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



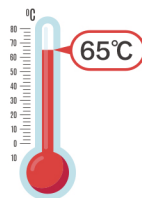
Diversified Heating

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



Domestic hot water

- Provid 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 4.82

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.

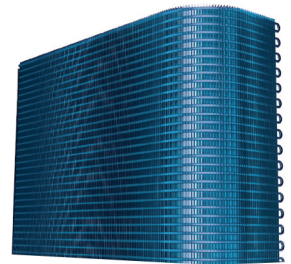
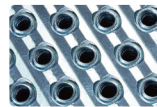
Internal thread heat transfer pipe

- 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

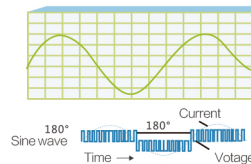
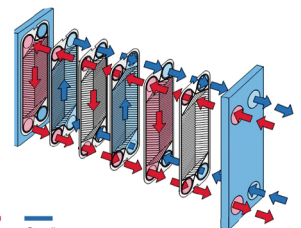


Plate heat exchanger

- 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

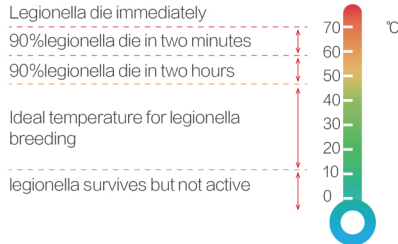
- The GWP of R32 is 675
- CO₂ equivalent is decreased 86% compared with R410a
- Save clients energy and protect the environment



Safe and Comfort

● Anti-bacteria mode

- Designed to guarantee 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**
Energ saving

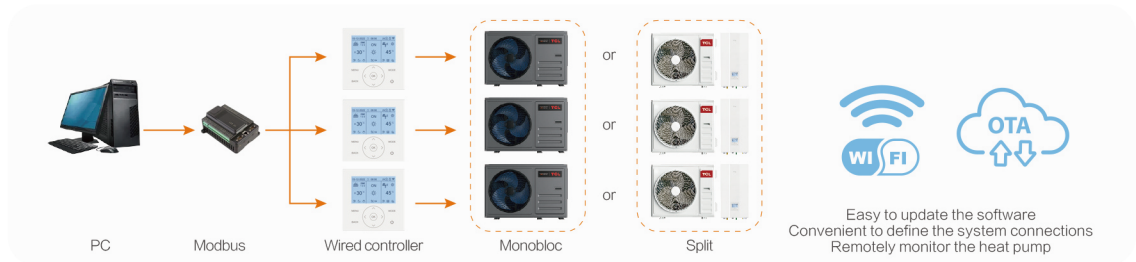


● 3-zone control

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

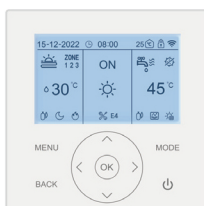


Intelligent control



● 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

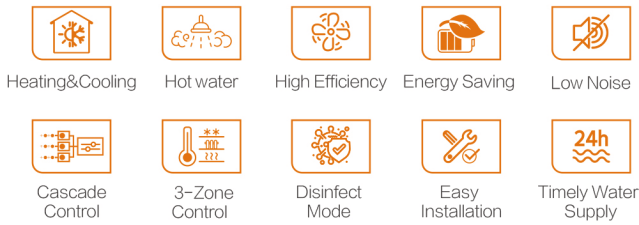


● APP Controller

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



Mono product parameters



4-16kW

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	4.10	6.10	8.00	9.50	12.10	14.50	16.00	12.10	14.50	16.00	
	Rated input kW	0.81	1.21	1.60	1.98	2.42	3.05	3.54	2.42	3.05	3.54	
	COP	5.06	5.04	5.00	4.80	5.00	4.75	4.52	5.00	4.75	4.52	
Heating A7W45	Capacity kW	4.30	6.30	8.00	9.50	12.05	14.25	16.00	12.05	14.25	16.00	
	Rated input kW	1.15	1.71	2.11	2.60	3.14	3.83	4.42	3.14	3.83	4.42	
	COP	3.74	3.68	3.80	3.65	3.84	3.73	3.62	3.84	3.73	3.62	
Heating A7W55	Capacity kW	4.40	6.10	7.40	9.00	12.00	14.00	16.00	12.00	14.00	16.00	
	Rated input kW	1.51	2.05	2.38	3.00	3.85	4.65	5.49	3.85	4.65	5.49	
	COP	2.91	2.98	3.11	3.00	3.12	3.01	2.91	3.12	3.01	2.91	
Cooling A35W18	Capacity kW	4.50	6.55	8.00	9.50	12.00	13.50	15.00	12.00	13.50	15.00	
	Rated input kW	0.83	1.35	1.67	2.07	3.00	3.60	4.39	3.00	3.60	4.39	
	EER	5.42	4.85	4.80	4.60	4.00	3.75	3.42	4.00	3.75	3.42	
Cooling A35W7	Capacity kW	4.60	6.95	7.00	8.00	11.60	12.95	14.30	11.60	12.95	14.30	
	Rated input kW	1.35	2.34	2.14	2.53	4.20	4.98	5.70	4.20	4.98	5.70	
	EER	3.41	2.97	3.27	3.16	2.76	2.60	2.51	2.76	2.60	2.51	
SCOP ²	LWT at 35°C	4.75	4.82	4.90	4.87	4.70	4.58	4.56	4.70	4.58	4.56	
	LWT at 55°C	3.27	3.48	3.44	3.41	3.48	3.35	3.44	3.48	3.35	3.44	
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)	
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	1.25	1.25	1.50	1.50	1.74	1.74	1.74	1.74	1.74	1.74
Sound power Level ³	dB	56	58	60	61	64	66	68	64	66	68	
Sound pressure level ⁴	dB	44	45	47	50	53	54	55	53	54	55	
Net dimensions (W × H × D)	mm	1220 × 704 × 383			1293 × 860 × 495							
Packing dimension (W × H × D)	mm	1322 × 840 × 424			1395 × 996 × 535							
Net/Gross weight	kg	74.0/97.0	74.0/97.0	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	/	R1"	R1"	R5/4"	R5/4"	R5/4"	R5/4"	R5/4"	R5/4"	R5/4"	R5/4"	
Operation range	Cooling	°C -5 ~ 43										
	Heating	°C -25 ~ 35										
	DHW	°C -25 ~ 43										
Water outlet	Cooling	°C 5 ~ 20										
	Heating	°C 25 ~ 65										
	DHW	°C 20 ~ 60										

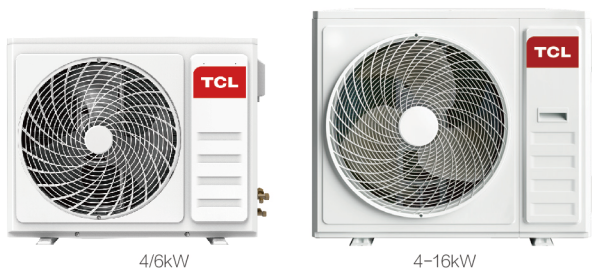
Abbreviations:

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



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	4.10	6.10	8.00	9.50	12.10	14.50	16.00	12.10	14.50	16.00
	Rated input	kW	0.81	1.21	1.60	1.98	2.42	3.05	3.54	2.42	3.05	3.54
	COP		5.06	5.04	5.00	4.80	5.00	4.75	4.52	5.00	4.75	4.52
Heating A7W45	Capacity	kW	4.30	6.30	8.00	9.50	12.05	14.25	16.00	12.05	14.25	16.00
	Rated input	kW	1.15	1.71	2.11	2.60	3.14	3.83	4.42	3.14	3.83	4.42
	COP		3.74	3.68	3.80	3.65	3.84	3.73	3.62	3.84	3.73	3.62
Heating A7W55	Capacity	kW	4.40	6.10	7.40	9.00	12.00	14.00	16.00	12.00	14.00	16.00
	Rated input	kW	1.51	2.05	2.38	3.00	3.85	4.65	5.49	3.85	4.65	5.49
	COP		2.91	2.98	3.11	3.00	3.12	3.01	2.91	3.12	3.01	2.91
Cooling A35W18	Capacity	kW	4.50	6.55	8.00	9.50	12.00	13.50	15.00	12.00	13.50	15.00
	Rated input	kW	0.83	1.35	1.67	2.07	3.00	3.60	4.39	3.00	3.60	4.39
	EER		5.42	4.85	4.80	4.60	4.00	3.75	3.42	4.00	3.75	3.42
Cooling A35W7	Capacity	kW	4.60	6.95	7.00	8.00	11.60	12.95	14.30	11.60	12.95	14.30
	Rated input	kW	1.35	2.34	2.14	2.53	4.20	4.98	5.70	4.20	4.98	5.70
	EER		3.41	2.97	3.27	3.16	2.76	2.60	2.51	2.76	2.60	2.51
SCOP ²	LWT at 35°C		4.75	4.82	4.90	4.87	4.70	4.58	4.56	4.70	4.58	4.56
	LWT at 55°C		3.27	3.48	3.44	3.41	3.48	3.35	3.44	3.48	3.35	3.44
Seasonal space heating energy efficiency class ²	LWT at 35°C	A+++										
	LWT at 55°C	A++										
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										
	Type	R32										
Refrigerant	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 ³	dB	56	58	60	61	64	66	68	64	66	68
	Sound pressure level ⁴	dB	44	45	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 × 400				1135 × 970 × 530						
Net/Gross weight	kg	40.0/43.0	40.0/43.0	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	
	Gas Dia.	mm	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	
	Max. pipe length	m	30	30	30	30	30	30	30	30	30	
Installation height	Outdoor unit above	m	20	20	20	20	20	20	20	20	20	
	Outdoor unit below	m	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.



Model name			SMKLD-6D/3HBp-A	SMKLD-10D/3HBp-B	SMKLD-10S/6HBp-B	SMKLD-10S/9HBp-B	SMKLD-16D/3HBp-A	SMKLD-16S/6(9)HBp-A	
Function			Heating and cooling						
Water outler	Cooling	°C	5 to 20						
	Heating	°C	25 to 65						
	DHW	°C	20 to 60						
Power supply		V/Ph/Hz	220-240/1/50	220-240/1/50	380-415/3/50	380-415/3/50	220-240/1/50	380-415/3/50	
Electric heater power input		kW	3	3	6	9	3	6	
Sound power level ¹		dB	38	42	42	42	44	44	
Sound pressure level(1m) ²		dB	28	30	30	30	32	32	
Net dimensions (W × H × D)		mm	420 × 790 × 270						
Packed dimensions (W × H × D)		mm	530*1035*355						
Net/gross weight		kg	41.0/47.0	41.0/47.0	42.0/48.0	42.0/48.0	42.0/48.0	43.0/49.0	
Water circuit	Piping connections		R1"						
	Safety valve set pressure		Mpa						
	Drainage pipe connection		mm						
	Expansion tank	Volume	L	8					
		Max. water pressure	MPa	0.3					
		Pre-pressure	Mpa	0.1					
	Heat exchanger		Type	Plate type					
water pump head		m	9						
Refrigerant circuit	Liquid Dia.		mm						
	Gas Dia.		mm						
	Excessive operating refrigerant pressure		MPa	4.3	4.3	4.3	4.3	4.3	4.3
Operating temperature	Ambient temperature		°C						
	Water pressure		MPa						

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°C DB, 85% R.H.; EWT 30°C, LWT 35°C.
4. Outdoor air temperature 35°C DB; EWT 23°C, LWT 18°C.



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