

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



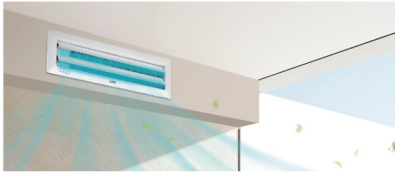
Versatility

● Heating, cooling, hot water with 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.

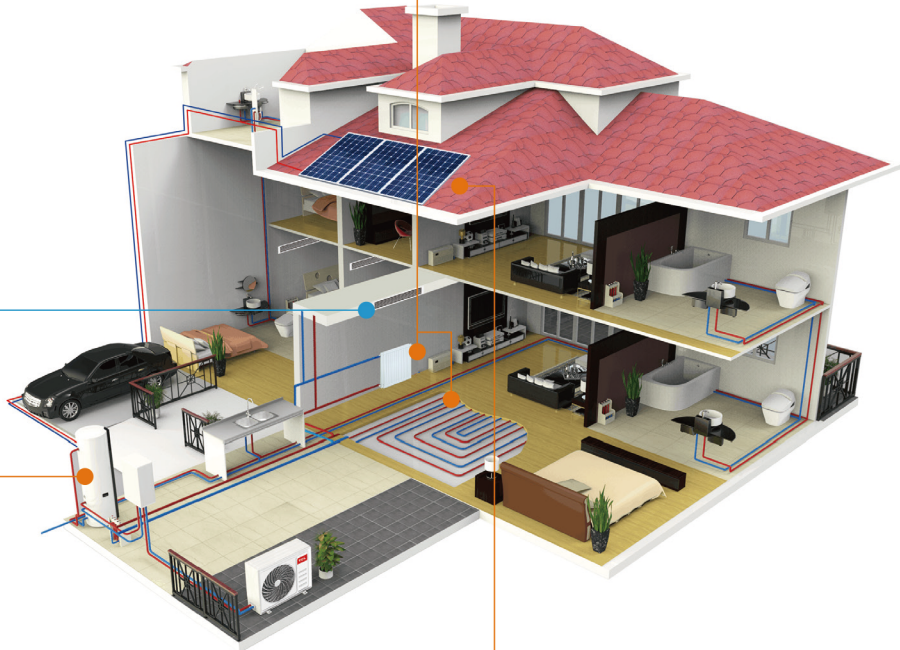
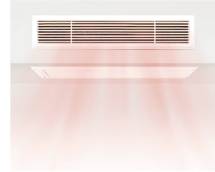
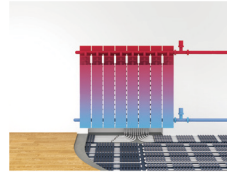
Compact fan coil unit cooling

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



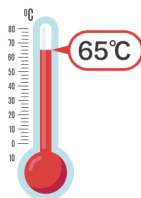
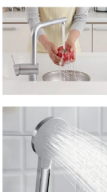
Diversified Heating

- 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 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

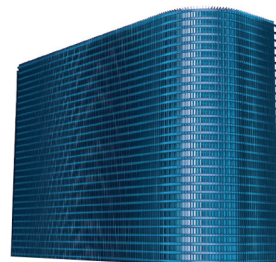
Adopting advanced 3-D dynamic analysis and cross-flow path design, air volume increased 8%, heat exchange more efficient.

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

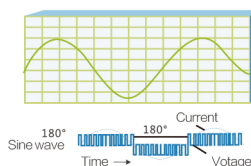
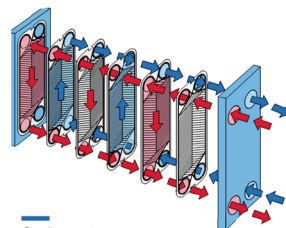


Plate heat exchanger

- 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

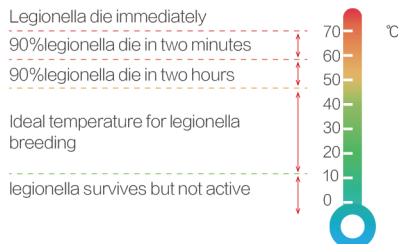
- The GWP of R32 is 675
- CO₂ equivalent is decreased 86% compared with R410a
- Save clients energy and protect the environment



Safe and Comfort

● Anti-bacteria mode

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



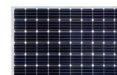
● Low level of noise

- 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**
Energy saving

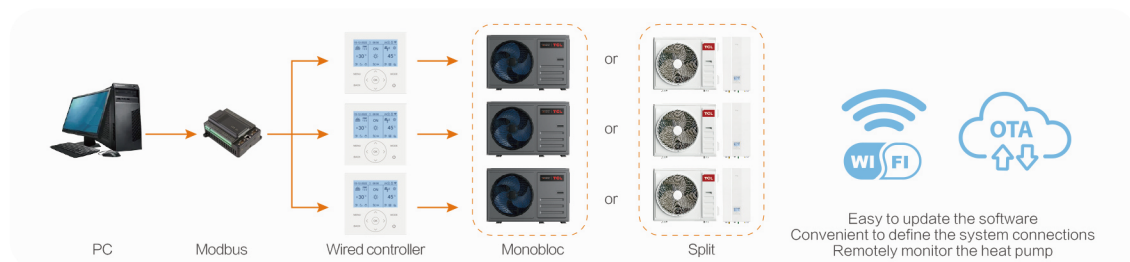


● 3-zone control

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



Intelligent control



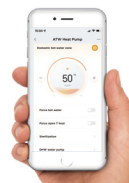
● Wired Controller

- 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



High Efficiency



Energy Saving



Low Noise



Cascade Control



3-Zone Control



Disinfect Mode



Easy Installation



Timely Water Supply



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		A+++									
Electric heater power input			kW	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
Sound pressure level ⁴			dB	44	45	47	50	53	54	55	53	54
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
Piping connections			/	R1"	R1"	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



Heating



Cooling



Hot water



Intelligent Control



High Efficiency



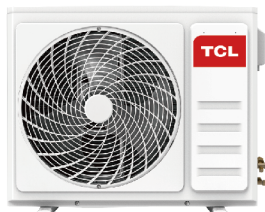
Energy Saving



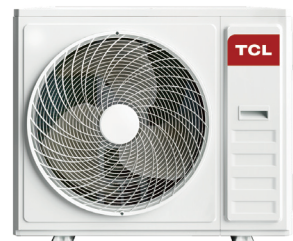
Disinfect Mode



Low Noise



4/6kW



4-16kW

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	4.10	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
SCOP²	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 class²	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 level³		dB	56	58	60	61	64	66	68	64	66	68
Sound pressure level⁴		dB	44	45	47	50	53	54	55	53	54	55
Net dimensions (W×H×D)		mm	845×700×375				1010x860x494					
Packed dimensions (W×H×D)		mm	960×732×400				1135x970×530					
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	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.



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	℃	5 to 20					
	Heating	℃	25 to 65					
	DHW	℃	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	inch	R1"					
	Safety valve set pressure	Mpa	0.3					
	Drainage pipe connection	mm	DN25					
	Expansion tank	Volume	8					
		Max. water pressure	0.3					
		Pre-pressure	0.1					
	Heat exchanger	Type	Plate type					
	water pump head	m	9					
Refrigerant circuit	Liquid Dia.	mm	Φ6.35					
	Gas Dia.	mm	Φ15.9					
	Excessive operating refrigerant pressure	MPa	4.3	4.3	4.3	4.3	4.3	4.3
Operating temperature	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℃.



TECHNICAL SUPPORT,GLOBAL SALES COMPANY:
GD TCL INTELLIGENT HEATING&VENTILATING EQUIPMENT CO.,LTD.
Address: No.7, Yuanlin Road,Nantou Zhongshan,Guangdong,China
Web : hao.tcl.com Mail : info.cac@tcl.com

