

Cascade system control

Maximum 8 units can be combined to reach maximum 128kw



Mono product parameters



Model name		THMLd-4D/3	THMLd-6D/3 FBp-A	THMLd-8D/3 FBp-A	THMLd-10D/3 FBp-A	THMLd-12D/3 FBp-A	THMLd-14D/3 FBp-A	THMLd-16D/3 FBp-A	THMLd-12S/9(6) FBp-A	THMLd-14S/9(6) FBp-A	THMLd-16S/9 FBp-A
EU Model		HB043SP0	HB063SP0	HB083SP0	HB103SP0	HB123SP0	HB143SP0	HB163SP0	HB126TP0	HB146TP0	HB166TP0
Power supply	V/Ph/Hz	220~ 240/1/50						380~ 415/3/50			
	Capacity kW	4.20	6.20	8.00	9.50	12.10	14.50	15.00	12.10	14.50	15.00
Heating A7W35	Ratedinput kW	0.82	1.27	1.60	2.07	2.50	3.08	3.49	2.50	3.08	3.49
	COP	5.10	4.90	5.00	4.60	4.84	4.71	4.30	4.84	4.71	4.30
Heating A7W45	Capacity kW	4.30	6.20	8.00	9.50	12.05	14.25	15.00	12.05	14.25	15.00
	Ratedinput kW	1.12	1.63	2.13	2.59	2.96	3.58	4.17	2.96	3.58	4.17
Heating A7W55	COP	3.85	3.80	3.76	3.68	4.08	3.98	3.60	4.08	3.98	3.60
	Capacity kW	4.40	6.00	8.00	9.50	12.00	14.00	15.00	12.00	14.00	15.00
Cooling A35W18	Ratedinput kW	1.42	2.00	2.50	3.06	3.63	4.31	5.17	3.63	4.31	5.17
	COP	3.10	3.00	3.20	3.10	3.31	3.25	2.90	3.31	3.25	2.90
Cooling A35W7	Capacity kW	4.50	6.00	8.30	10.00	12.00	13.50	16.00	12.00	13.50	16.00
	Ratedinput kW	0.97	1.33	1.66	2.17	3.10	3.63	4.32	3.10	3.63	4.32
SCOP <sup>2</sup>	COP	4.65	4.50	5.00	4.60	3.88	3.72	3.70	3.88	3.72	3.70
	Capacity kW	4.50	6.00	7.20	8.80	11.60	12.95	14.00	11.60	12.95	14.00
Seasonal space heating energy efficiency class <sup>2</sup>	Ratedinput kW	1.61	2.18	2.18	2.84	4.33	5.02	5.38	4.33	5.02	5.38
	COP	2.80	2.75	3.30	3.10	2.68	2.58	2.60	2.68	2.58	2.60
Electric heater power input kW	LWT at 35°C	4.95	4.83	5.33	4.83	4.64	4.58	4.50	4.64	4.58	4.50
	LWT at 55°C	3.58	3.68	3.88	3.85	3.76	3.63	3.57	3.76	3.63	3.57
Compressor	Type	Twin rotary DC inverter									
	Motor type	Brushless DC motor									
Outdoor fan	Number of fans	1	1	1	1	1	1	1	1	1	1
	Throttle type	Electronic expansion valve									
Air side heat exchanger	Type	Finned tube									
	Water side heat exchanger	Plate type									
Refrigerant	Type	R290									
	Factory charge kg	0.74	0.74	1.10	1.10	1.25	1.25	1.25	1.25	1.25	1.25
Sound power Level <sup>3</sup>	dB	57	59	60	61	64	66	69	64	66	69
Sound pressure level <sup>4</sup>	dB	44	46	48	49	51	53	56	51	53	56
Net dimensions (W×H×D)	mm	1220×704×390		1293×860×494							
Packing dimension (W×H×D)	mm	1315×810×430		1395×996×535							
Net/Gross weight	kg	75.0/86.0	75.0/86.0	104/125	104/125	120/141	120/141	120/141	131/152	131/152	131/152
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 ~ 46									
	Heating °C	- 25 ~ 35									
	DHW °C	- 25 ~ 43									
Water outlet	Cooling °C	5 ~ 20									
	Heating °C	25 ~ 80									
	DHW °C	20 ~ 70									

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.

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TCL Heat Pump EU TCL Heat Pump EU TCL Heat Pump

**TCL**

**R290** **Tri-thermal ATW Heat Pump**

Environmental Protection

Energy Saving

3-zone Control

Update Online

Strong Heating

Cascade Control

Remote monitoring

Easy to Maintenance

Seasonal space heating energy efficiency  
η s average up to A+++ at 35°C  
η s average up to A++ at 55°C

80°C  
The maximum  
of leaving water  
temperature is 80°C



# 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.

- **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 70℃
- **Compact fan coil unit cooling**
  - Ultra-thin body, comfortable and beautiful
  - Multi-angle and all-directional wind supply
- **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

## DC inverter system



GMCC compressor  
High efficiency,the highest SCOP is 5.33



Brushless DC Motor  
Realize stepless speed regulation



Precise flow feedback  
Energy saving and comfort temperatures

## High efficient L-type heat exchager (Self made)

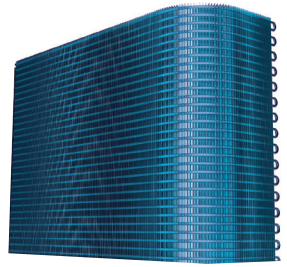
Adopting advanced 3-D dynamic analysis and cross-flow path design, airvolume increased 8%, heat exchange more efficient.

**Internal thread heat transfer pipe**

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

**Corrugated fin**

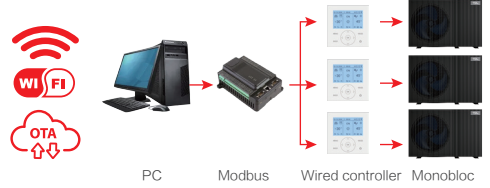
- Applying inner thread tube with 10% higher heat exchange efficiency.



# Intelligent control

## Update Online

- Easy to update the software
- Convenient to define the system connections
- Remotely monitor the heat pump



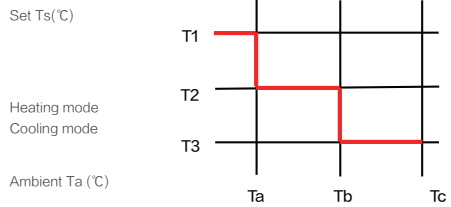
## APP Controller

- Modes adjustment
- Power consumption record
  - Sanitary hot water priority mode
  - Unit status & fault information display
  - Temp, Pump flow rate, timer setting ect.
  - Capacity、 power consumption and COP



## Wired Controller

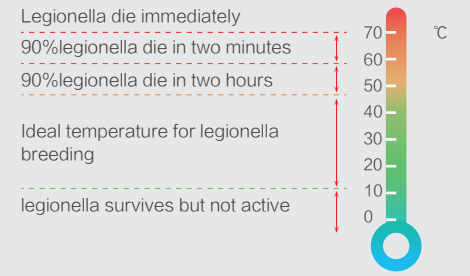
- Dual wire controller control
- 12 multiple languages
- Build in room temperature sensor, could be installed on wall
- Two colors optional (Black and White)



# Safe and Comfort

## Anti-bacteria mode

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



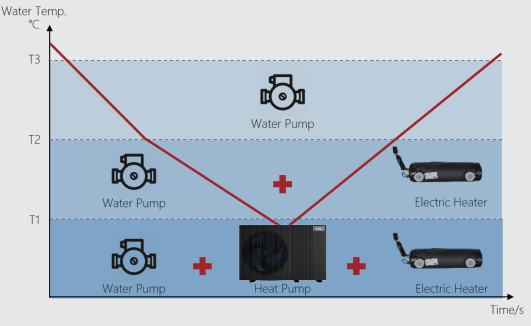
## Provide DHW in time

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



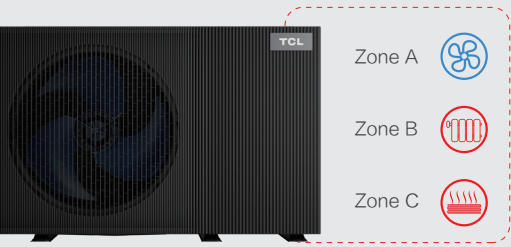
## 3 level freeze protection

When the temp is lower than T3, water pump on.  
When the temp is lower than T2, electric auxiliary heat on.  
When the temp is lower than T1, compressor on.  
T3> T2> T1



## 3-zone control

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



## Natural environmental friendly refrigerant.

The GWP of R290 is 3.  
Good performance in cold environment  
Maintain higher temperature in the water system, reaching 80℃



## Multiple certifications



## Hermetic design

The electric control part of the unit has explosion-proof treatment. Let users feel more at ease.



## Holiday mode

Running in heating mode with low setting temperature(20~25℃) during the holiday period avoid freezing breakage