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Rooftop Air-Cooled
Air conditioner

KIA TAHVIE ARAD KIA TAHVIE ARAD

# DIRECTORY

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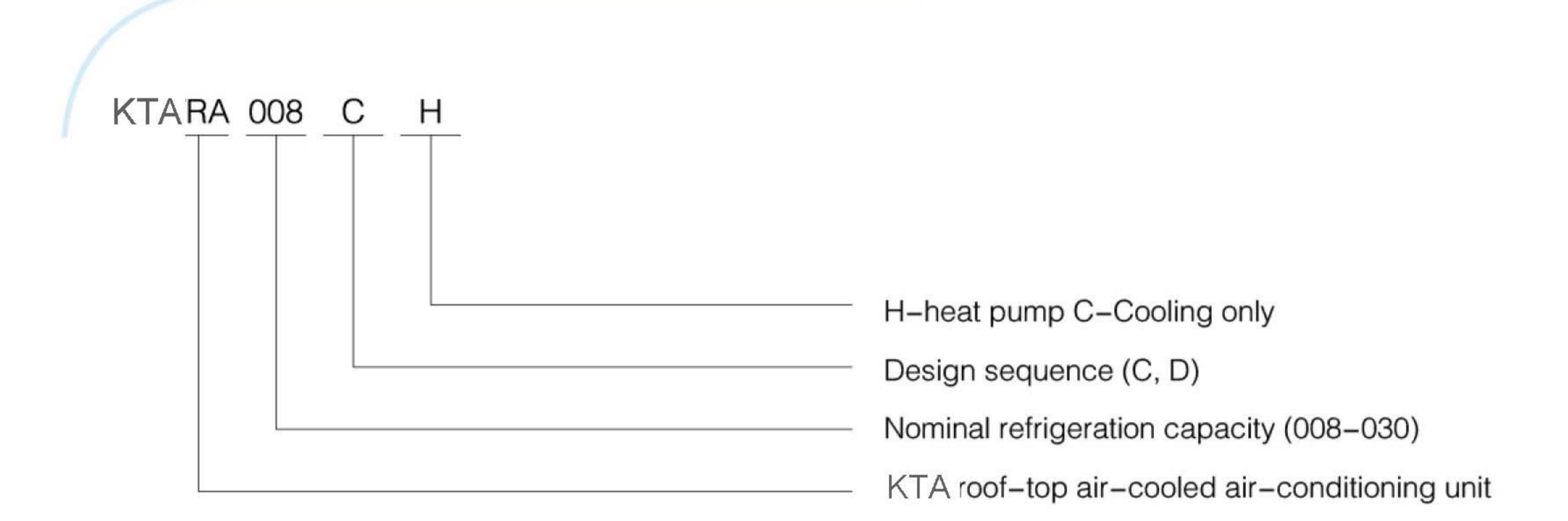


## **Product Overview**

KTA roof-top air conditioners of TRA series are large and medium-sized ones which are of full-air system and possess the function of refrigeration, heating and ventilation. The air conditioners are characterized by high efficiency, energy conservation, matured technology, integrated compact structure, stable and reliable performance and simple cycle. Besides, it's easy to install. They are widely used in mechanical, chemical and electronic and other industrial sites and places requiring comfortable air environment such as department store, super market and meeting room thanks to their compact structure and the suitability for integral installment to save useful space.

The roof-top air conditioners of TRA series are classified into 6 series, two types--cooling only and heat pump. Moreover, auxiliary electric heating system is available for the special needs of different areas and regions.

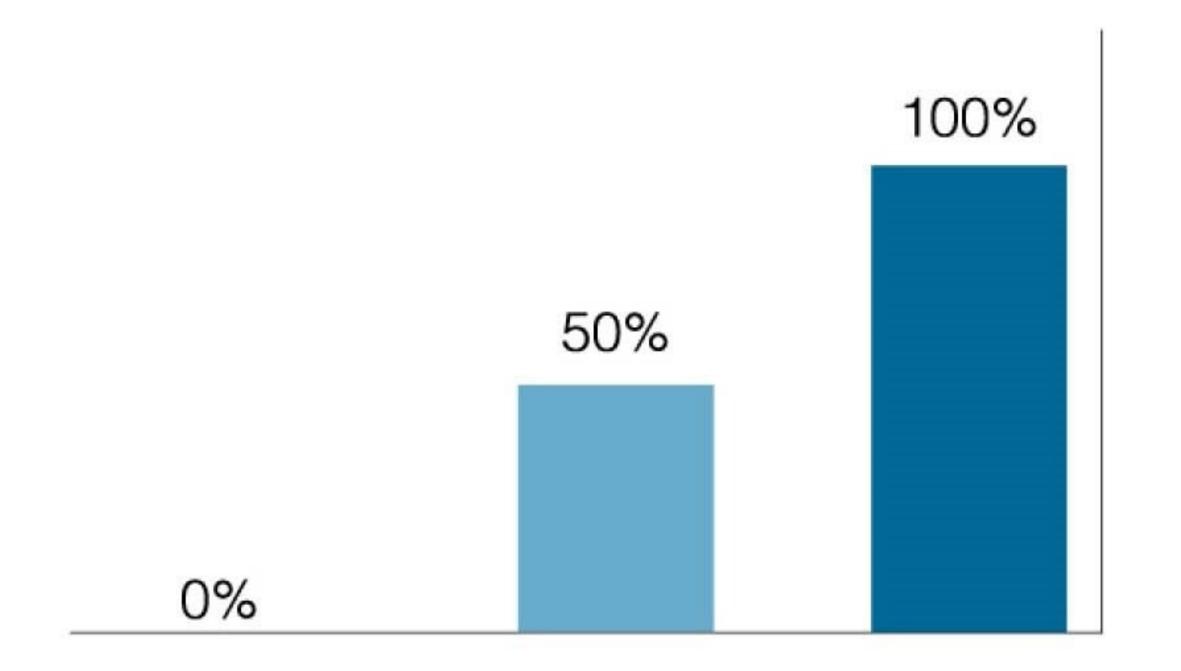
## **Model Description**



#### Characteristics

## High-efficient, Energy-saving, Reliable

Being integral, roof-top air conditioners can avoid the heat loss caused by the connection of copper pipes. Meanwhile, the air conditioners modeled TRA015 and above are designed with double systems which can better adjust the energy and therefore the partial load efficiency is higher and more energy-saving. Besides, a balanced running time of the compressor guarantees a longer life span.



## Integral design and easy installation

Since the unit adopts integral design, there is no need being connected with copper pipe. What's more, they have been tested before delivery. When install it, you only need to connect the air duct and power source before starting the machine, which avoids the technical work such as pipe connection, evacuating and refrigerant injection of split type and therefore it reduces construction difficulty.



## High-quality components and reliable performance

All these series of air conditioners use high-efficiency scroll compressors and high-quality refrigeration parts of world brand, which ensures a long service life of the whole machine. Compared with traditional semi-hermetic and hermetic piston compressors, they enjoy more reliability, higher EER and smooth and quiet operation.

#### Industrial design and elegant appearance

The unit structure is fixed by metal flat which ensures stable and firm structure and smooth operation. The external panel is electrostatic sprayed by spraying equipment of Hankel, to improve anticorrosive performace

## Advanced process and reliable quality

The products have passed the ISO9001 certification. The production process (such as evacuating, injecting, leak detecting and pilot running) adopts multi-process of automatic detection to ensure the air tightness of the system. All the products have been tested before leaving the factory to guarantee a sound performance.

#### Intelligent control

The unit adopts micro-programmed control technology. With advanced control logic, it can realize intelligent control. In line with relevant parameters such as temperature, the controller automatically adjusts the operation state of the machine to meet the needs of indoor conditions, so as to reach the optimum performance. Intelligent control system, which supports one-key start, can also carry out couples of functions such as temperature control, various protections, time setting, status display, alarm display and the setting of parameter and password, making the operation more human friendly.

### Perfect protection device

To ensure the safe operation of the unit, it is equipped with compressor exhaust temperature protection switch, overload protection device, low and high pressure switch, filter, environmental temperature control device and delay initiating device.



# Specification Data( Cooling only )

	Model TRA		008CC	010CC	015CC	020CC	025CC	030DC		
kW		kW	25.0	32.0	51.5	64.0	80.0	100.0		
Cooling	Capacity	kcal/h	21500	27520	44290	55040	68800	86000		
		Btu/h	85379	109286	175882	218571	273214	341518		
Cooling po	wer input	kW	9.9	12.1 19.6 24.9 31.1				39.7		
Energy regulation %			0,	0、100						
	Power Supply		380V/3N~/50Hz							
Compressor	Тур	oe .			Hermet	ic scroll				
Complessor	Quantity	units	1	1	2	2	2	4		
	Тур	e	Axial flow direct driving type							
Condenser fan	Airflow	m³/h	13000	13000	26000	34000	34000	46000		
Condenser fair	Motor Power	kW	0.75	0.75	0.75+0.75	1.1+1.1	1.1+1.1	1.5+1.5		
	Quantity	units	1	1	2	2	2	2		
	Тур	Type Double suction centrifugal type ( Belt drive )								

	Static pressure	Pa	100	100	200	200	200	250			
(	Outdoor fresh ai	r		10~15%							
Return air filter				Nylon filter							
Refrigerant	Мо	del		R22							
Remigerant	Charge Mass	kg	7.5	8.5	6.2 + 6.2	7.5 + 7.5	8.5 + 8.5	9.0 + 9.0			
	Length	mm	1504	1504	2096	2352	2352	2352			
Dimensions	Width	mm	1582	1582	1719	2150	2150	2150			
	Height	mm	1007	1007	1210	1658	1658	1658			
Unit Weight kg			410	440	728	945	1055	1225			

#### Note:

- 1.Rated cooling capacity is based on nominal air flow, 27 ℃ DB / 19 ° C WB for indoor air, 35 ℃ DB outdoor ambient temperature.
- 2. The cooling only unit without heating specification data.
- 3. KTA reserve the right to make changes to the above specifications without prior notice.
- 4.Dimensions only that the standard model sizes

# Specification Data( Heat pump )

						ı		1		
	Model TRA			010CH	015CH	020CH	025CH	030DH		
		kW	25.0	32.0	51.5	64.0	80.0	100.0		
Cooling C	Capacity	kcal/h	21500	27520	44290	55040	68800	86000		
		Btu/h	85379	109286	175882	218571	273214	341518		
Cooling po	Cooling power input kW			12.1	19.6	24.9	31.1	39.7		
	kW		26.0	33.0	53.0	66.0	82.0	103.0		
Heating C	Capacityt	kcal/h	22360	28380	45580	56760	70520	88580		
		Btu/h	88795	112701	181004	225402	280045	351763		
Heating po	wer input	kW	9.4	11.9	18.6	23.9	30.1	38.2		
Energy re	gulation	%	0,	100		0、50	. 100			
	Power Supply		380V/3N~/50Hz							
C	typ	oe .			Hermetic	scroll				
Compressor	Quantity	units	1	1	2	2	2	4		
	typ	oe .			Axial flow direct driving type					

	Quantity	units	1	1	2	2	2	2		
	typ	e	Double suction centrifugal type (Belt drive )							
	Airflow	m³/h	5500	6500	10000	12000	15000	18000		
Evaporator fan	Motor Power	kW	1.5	2.2	3.0	3.0	5.5	5.5		
	Static Pressure	Pa	100	100	200	200	200	250		
	Outdoor fresh	air			10~	15%				
	Return air filte	r	Nylon filter							
Optional auxiliary	electric heating	kW	9.0	9.0	18.0	20.4	24.0	30.0		
Refrigerant	Mod	el			R	22				
Remigerant	Charge Mass	kg	7.5	8.5	6.2 + 6.2	7.5 + 7.5	8.5 + 8.5	9.0 + 9.0		
	Length	mm	1504	1504	2096	2352	2352	2352		
Dimensions	Width	mm	1582	1582	1719	2150	2150	2150		
	Height	mm	1007	1007	1210	1658	1658	1658		
Unit \	Unit Weight kg			440	728	945	1055	1225		

#### Note:

- 1.Rated cooling capacity is based on nominal air flow, 27℃ DB / 19 ℃ WB for indoor air, 35 ℃ DB outdoor ambient temperature.
- 2.Rated heating capacity is based on nominal air flow, 20 ℃ DB for indoor air,7 ℃ DB /6℃WB outdoor ambient temperature.
- 3. KTA reserve the right to make changes to the above specifications without prior notice.
- 4.Dimensions only that the standard model sizes



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# Variable conditions cooling performance correction factor table

Return air te	emperature °C	Ambient temperature(DB) ℃					
DB	WB	21	25	30	35	40	45
21	15	1.019	1.011	0.927	0.887	0.796	0.721
23	17	1.071	1.041	1.000	0.925	0.831	0.782
25	18	1.126	1.095	1.039	0.961	0.875	0.823
27	19	1.162	1.121	1.071	1	0.911	0.887
30	22	1.219	1.165	1.141	1.088	1.056	0.998

# Variable conditions heating performance correction factor table

Return air	Ambient temperature(DB) Relative humidity 85%										
temperature °C DB	15	10	7	0	-5	-10					
16	1.173	1.101	1.035	0.861	0.714	0.529					
18	1.164	1.088	1.017	0.844	0.694	0.518					
20	1.154	1.074	1	0.826	0.674	0.507					
22	1.122	1.058	0.983	0.806	0.649	0.496					
25	1.074	1.034	0.958	0.775	0.611	0.479					

# Electrical Parameters Table --Cooling only

Model TRA	008CC	010CC	015CC	020CC	025CC	030DC		
Power Supply		380V/3N ~ /50Hz						
section area (mm2)	5*10	5*10	3*25+2*16	3*25+2*16	3*50+2*25	3*70+2*35		
Qty	5	5	5	5	5	5		

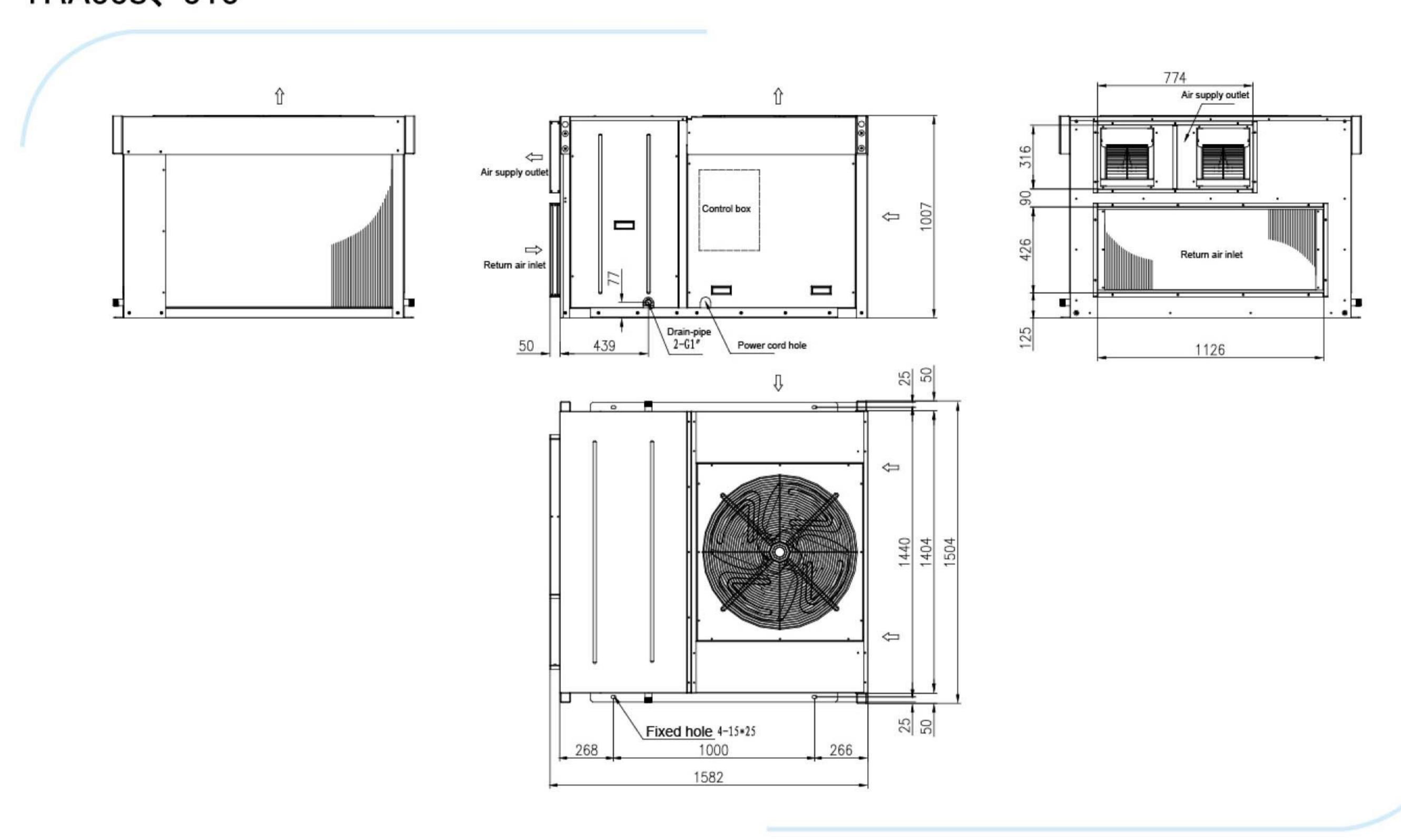
# Electrical Parameters Table --Heat pump

Model TRA	008CH	010CH	015CH	020CH	025CH	030DH		
Power Supply	380V/3N ~ /50Hz							
section area (mm2)	5*10	5*10	3*25+2*16	3*25+2*16	3*50+2*25	3*70+2*35		
Qty	5	5	5	5	5	5		

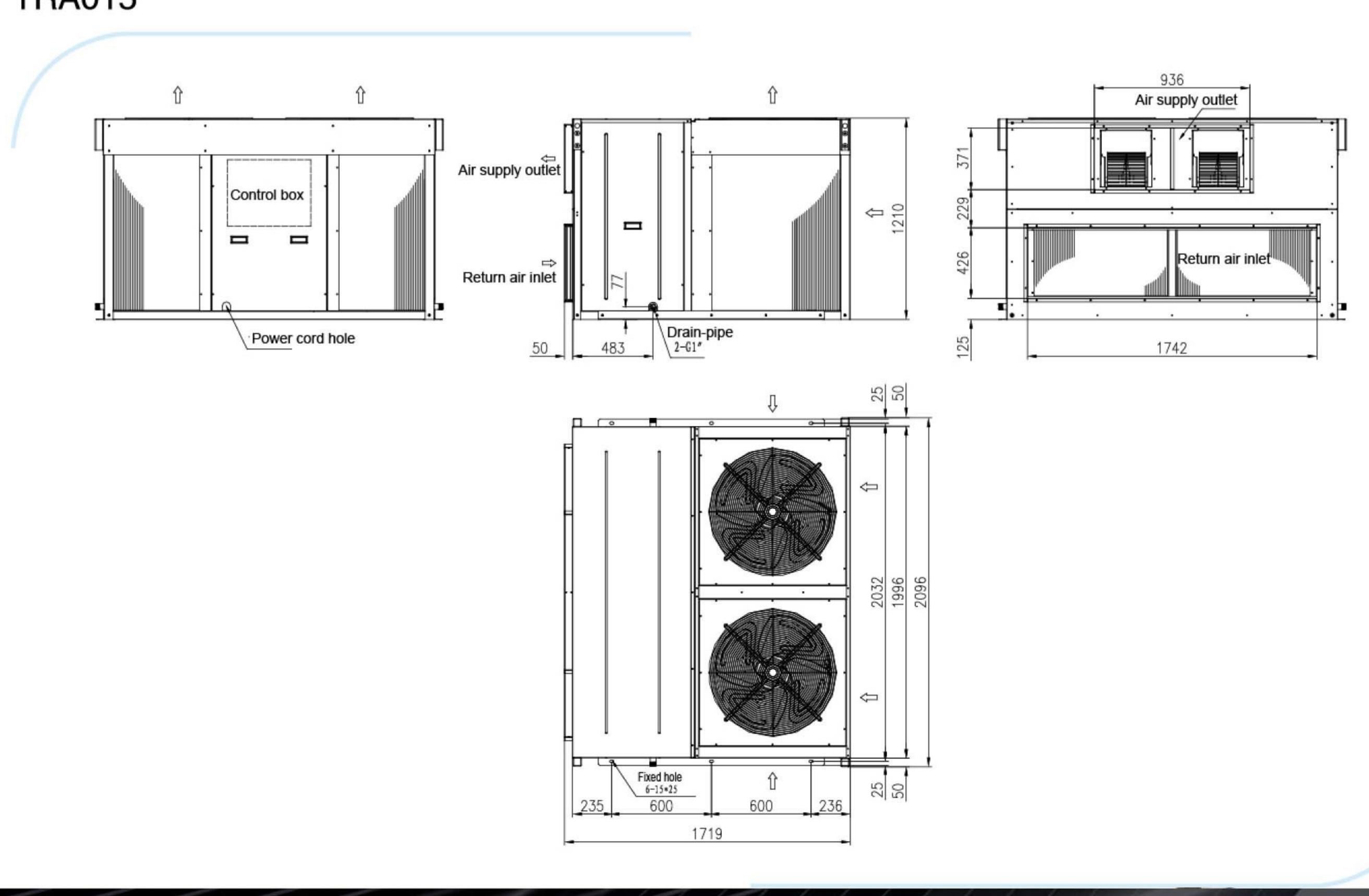
Note: The electrical heating unit parameters are shown in brackets

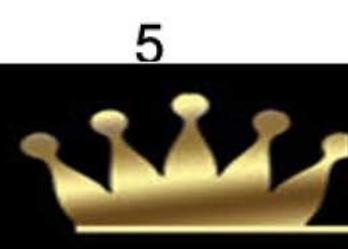
## **Unit Dimensions**

TRA008、010

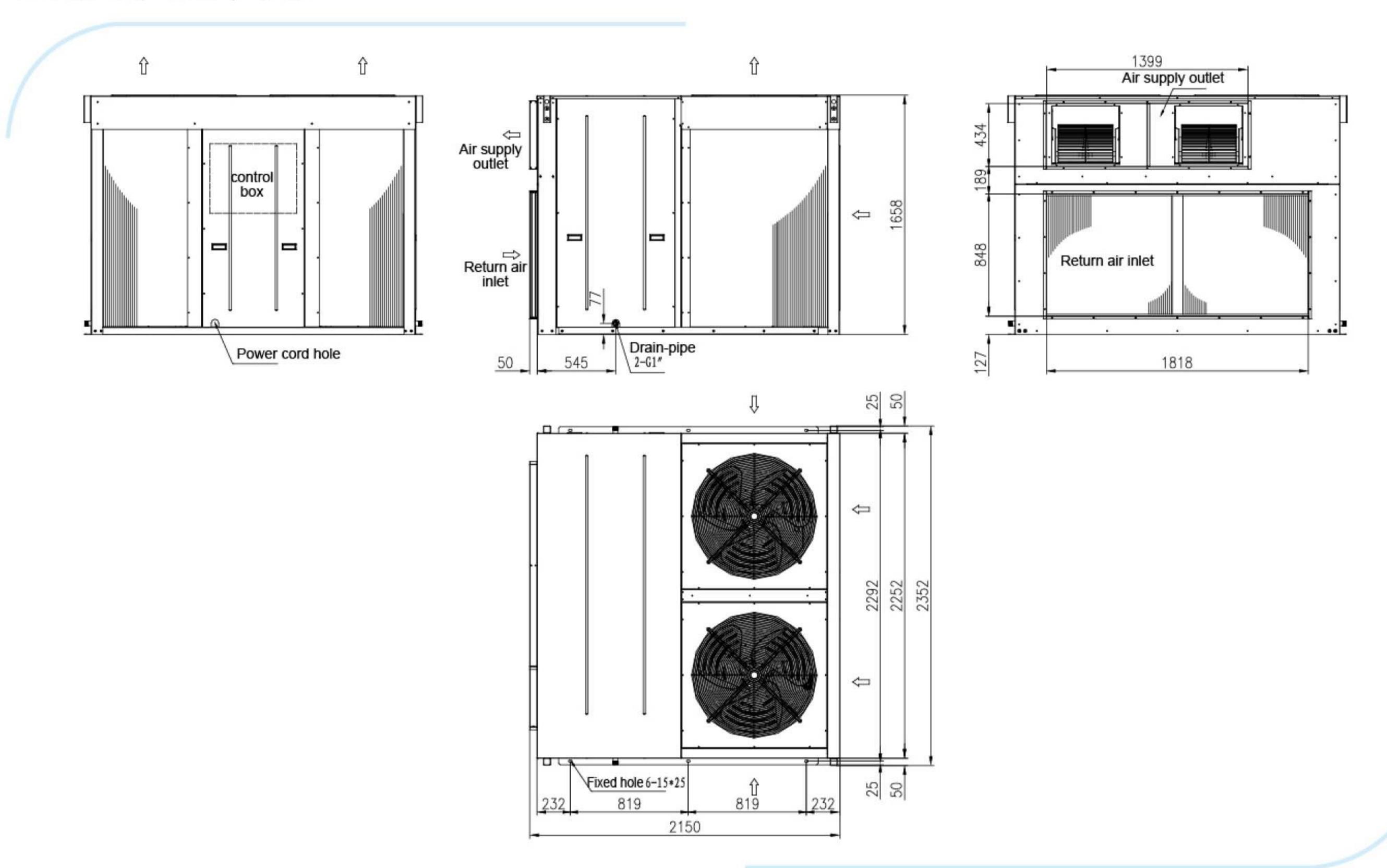


## **TRA015**

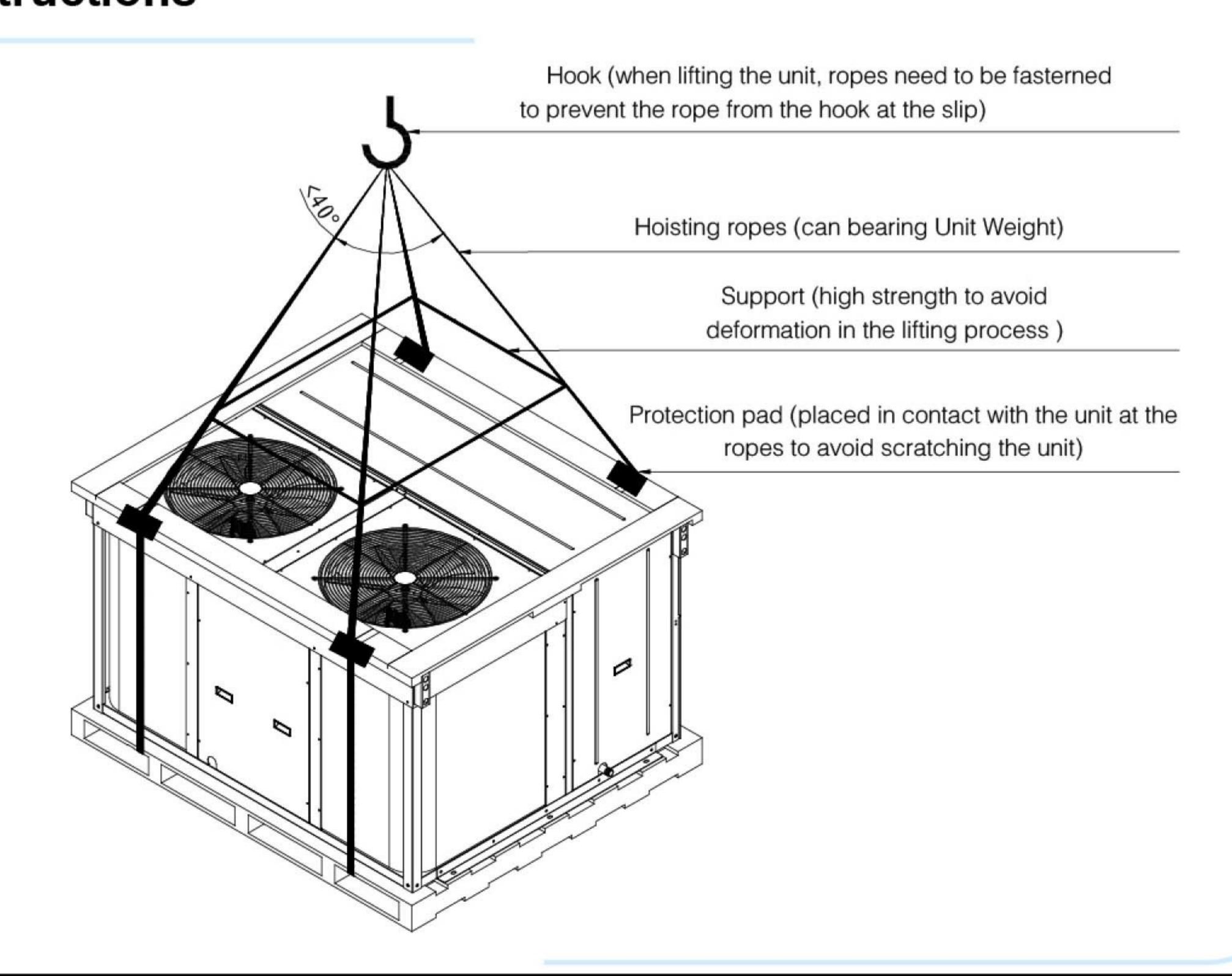




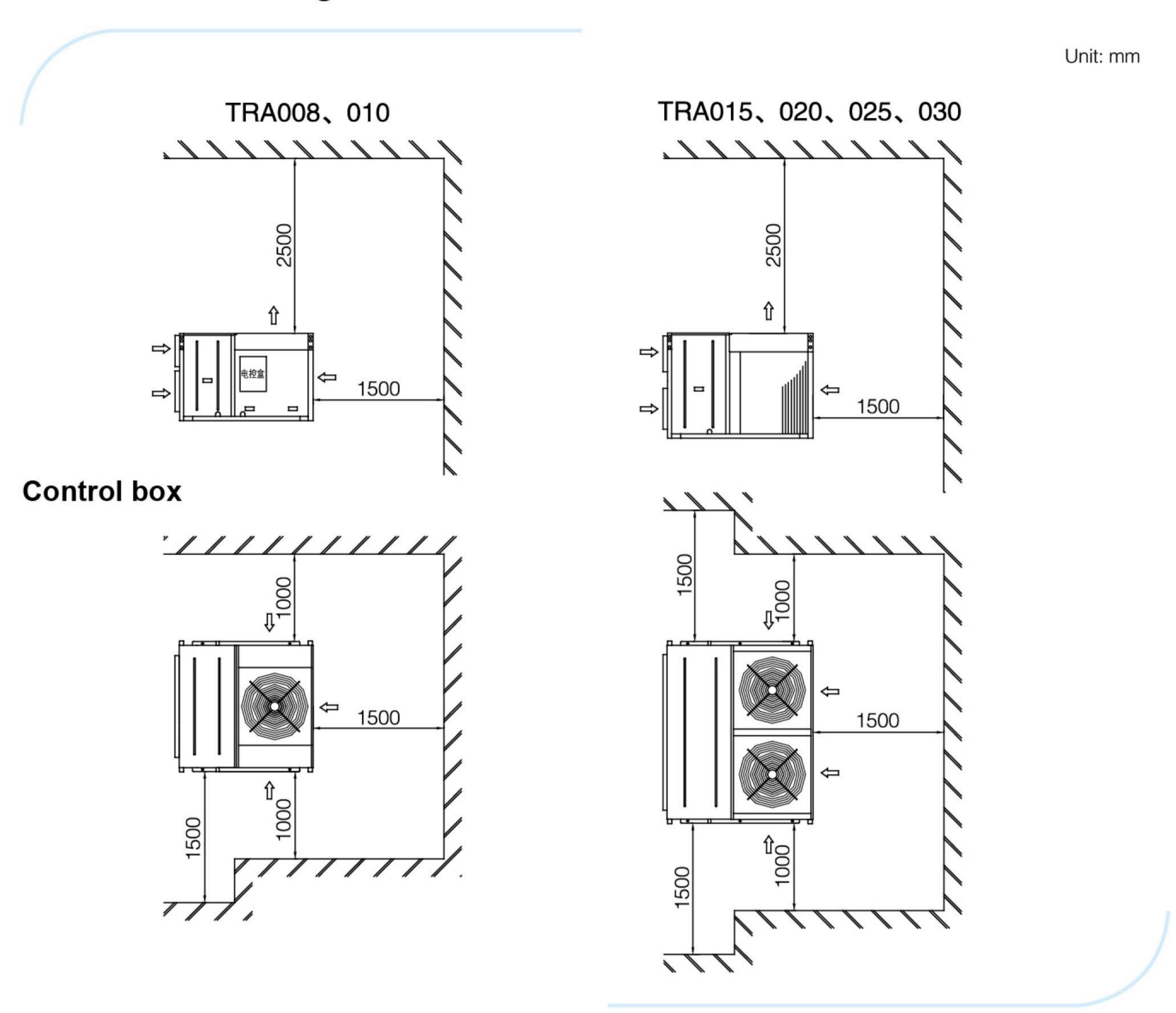
#### TRA020、025、030



## Unit lifting instructions



## Installation drawing



Since the re-circulating hot air may seriously affect the EER of the unit or even cause higher condensing pressure or troubles to air blower and motor, more attentions must be paid to providing sufficient installation space and good ventilation when installing the units.

# Requirements for installation

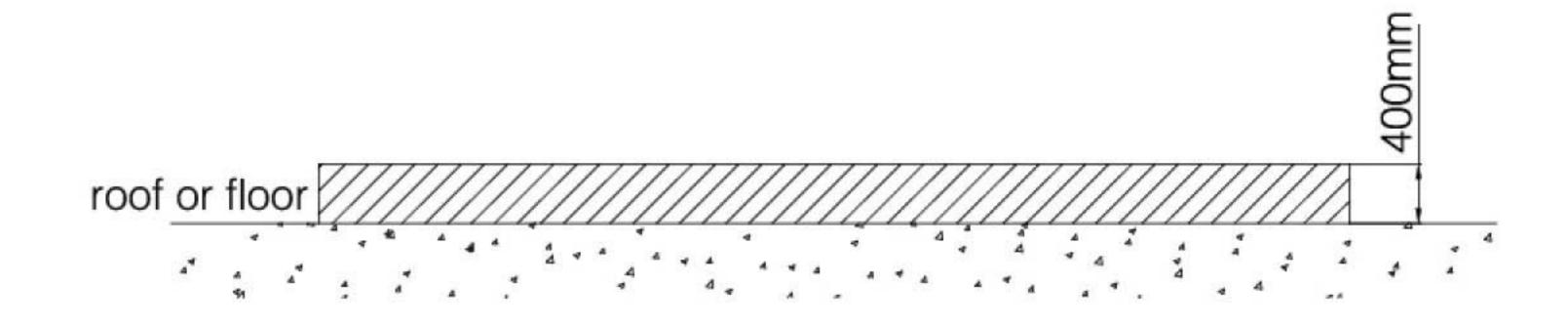
Before installing, professional workers should check the weight capacity of roofs. As for the foundation, it can be built by reinforced concrete, beams or channel steel. The foundation, for whose design you can refer to the foundation drawing of the unit, had better be set up on pillar or on wall. Between the unit and the foundation, rubber cushion or spring shock absorber can be used to reduce shock and noise (Supply if you order):

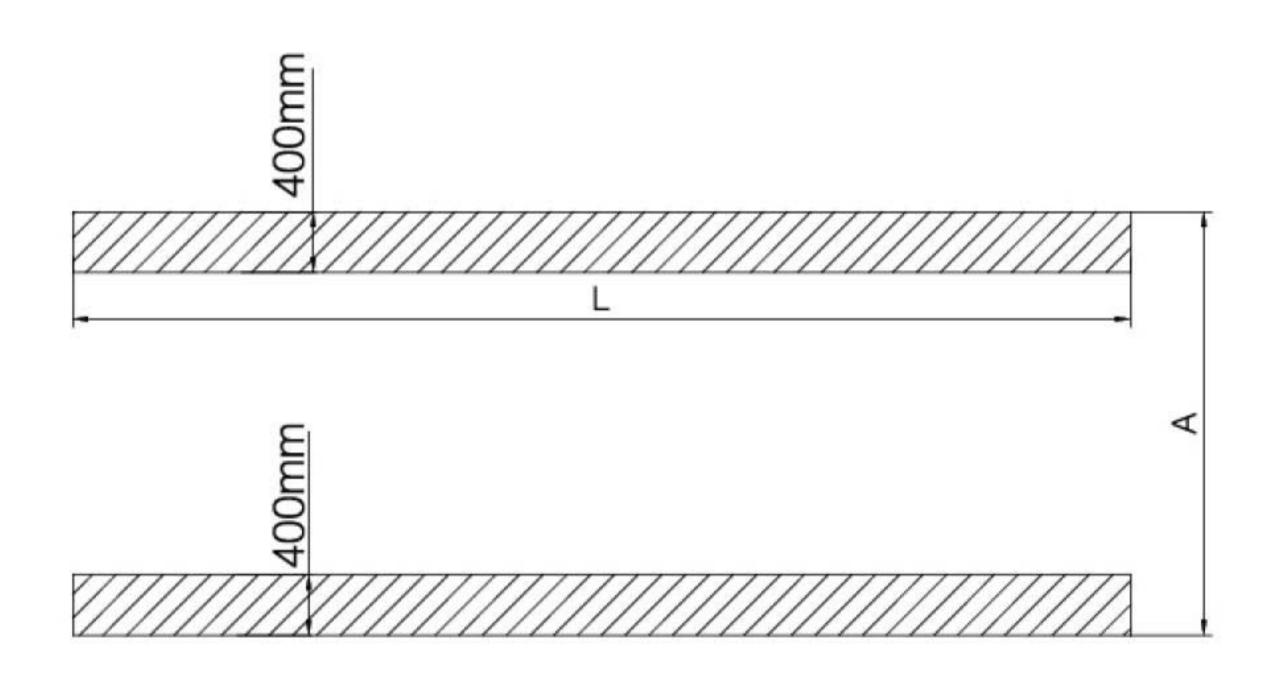
When installing air channel, multi-leaf dampers must be fixed on delivery conduit in order to adjust air output.

Flexible coupling method should be adopted when connecting the air supply outlet and return air inlet with the external air duct.



# Foundation drawing of the unit installation





TRA	008CC/CH	010CC/CH	015CC/CH	020CC/CH	025CC/CH	030DC/DH
L(mm)	1700	1700	2300	2600	2600	2600
A(mm)	1800	1800	2000	2400	2400	2400

Remarks

1. Ensure that the foundation is flat.

2. Reinforced concrete foundation is suggested but foundation that is made of beams or channel steel is also available.

## Maintenance of the unit

Professional workers must carry out maintenance and routine check to the unit.

Fin type heat exchanger must be cleaned by clear water or special cleaner every half a year.

When it snows, you should clean up the snow on the fan and the screen of the cooling fan.

# Operating recommendation

Room temperature setting should be proper. We suggest that refrigeration temperature be 26-28℃ and the heating temperature be 18-23℃.

You had better not let windows and doors open for a long time which will increase the cooling and heating load; you had better draw the curtains to avoid the sunshine when it is cooling.

You should often clean return air filter for dust and dirt will lead to the loss of cooling and heating capacity, the cycle of which is determined by environmental conditions.

