

## TA-AHE



### > Application

TA-AHE energy recovery unit provides proper levels of ventilation with energy saving by transferring heat and moisture between exhaust and fresh air stream. It is widely applicable to residential and commercial buildings such as offices, hospitals, hotel rooms and public occasions with heat transfer and energy saving requirements. It is a great appliance to cooperated with your air conditioner system to reaching your room comfort and energy saving.

### > Specifications

**Air Flow Range:** 150 to 2000 m<sup>3</sup>/h

**Frame:** Galvanized with powder coating

**Insulation Material:** UL listed NBR (NKS-55F);  
Density  $\geq$  40KG/m<sup>3</sup>

**Heat Exchanger:** PSY or graphene coating heat exchanger.  
High efficiency and washable.

**Filter:** Initial G4 carbon filter, H12 HEPA medium efficiency filter, and H13 HEPA high efficiency filter

**Anti-bacteria components:** newly developed photohydrogen ion sterilization module are combined together

**Control Options:**  
Basic 3-speed controller  
Digital basic function controller (RS485 Modbus optional)  
Digital intelligent controller  
Optional bypass air outlet and BLDC motor are available



### > Packaging

- Individual in carton of FCL sea shipment worthy quality.
- Extra pallet will be provided of LCL or air shipment. Pallet is with corner protection and forklift gap.

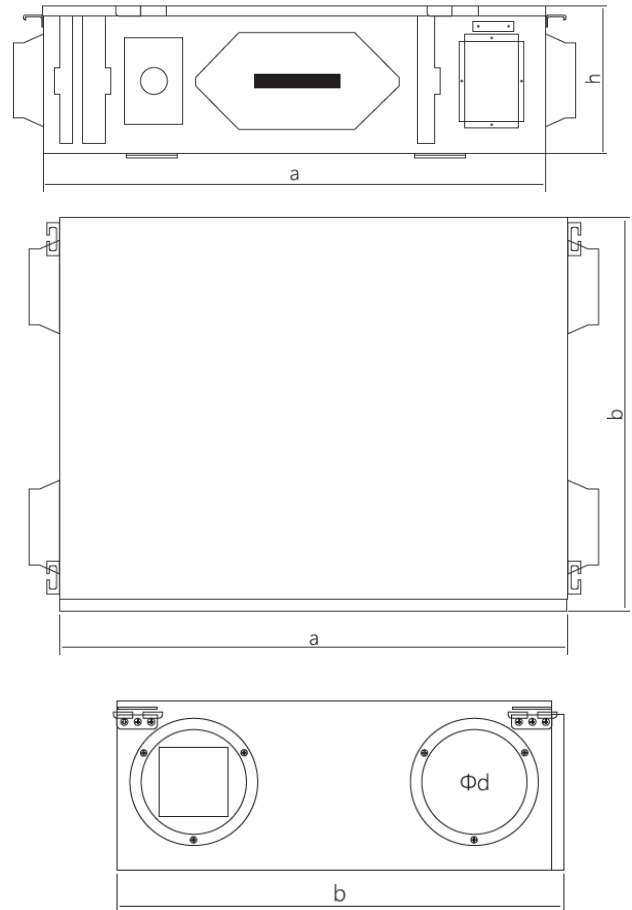
### > New edition

Newly developed bottom removal type  
Convenient for site maintenance like filter removal and heat exchanger replacement



## technical description

### > Installation Dimension Diagram



Model	Dimensions mm				Weight KG
	a	b	h	d	
TA-AHE015N	780	514	186	120	20
TA-AHE025N	866	643	228	150	27
TA-AHE035N	880	688	260	150	32
TA-AHE050N	1110	845	260	200	45
TA-AHE080N	1143	809	342	200	52
TA-AHE100N	1143	809	342	200	55
TA-AHE130N	1143	809	342	200	58
TA-AHE150N	1245	956	360	250	60
TA-AHE200N	1245	956	360	250	63

## technical description

### Technical parameters

Model	Power Supply	Power Input	Nominal Air Flow m <sup>3</sup> /h	ESP Pa	Enthalpy Efficiency %		Temperature Efficiency %	Noise dB
					Cooling	Heating		
TA-AHE015N	220-240V 1P 50/60Hz	75W	150	115	62-66	70-73	75-78	27
TA-AHE025N	220-240V 1P 50/60Hz	82W	250	130	62-66	70-74	75-78	29
TA-AHE035N	220-240V 1P 50/60Hz	96W	350	140	63-67	69-72	75-78	29
TA-AHE050N	220-240V 1P 50/60Hz	128W	500	160	65-68	69-72	75-78	31
TA-AHE080N	220-240V 1P 50/60Hz	180W	800	160	65-68	69-72	75-78	36
TA-AHE100N	220-240V 1P 50/60Hz	260W	1000	170	65-68	71-75	75-78	38
TA-AHE130N	220-240V 1P 50/60Hz	275W	1300	170	65-68	71-75	75-78	39
TA-AHE150N	220-240V 1P 50/60Hz	310W	1500	175	65-68	71-75	75-78	45
TA-AHE200N	220-240V 1P 50/60Hz	370W	2000	200	65-68	71-75	75-78	48

#### Note:

1. In case specifications, structural changes to the latest data provided by the company, whichever is the concern of this update, please refer to company's website.
2. Non-standard sizes are available based on customers' requirement.



### TA-AHE Double Skin Horizontal ERV

Horizontal double air outlet design  
 Air flow up to 8000m<sup>3</sup>/h. Optional higher air flow is also available based on customer requirement.  
 Heat or energy recovery  
 Double skin panel with PU insulation of 20 mm  
 Aluminum profile with anti-cold bridge structure  
 Quiet operation  
 Improved design with higher external static pressure  
 Innovative access space design  
 Double filters

Model	Air Flow m <sup>3</sup> /h	Voltage V	Power Input W	ESP Pa	Enthalpy Efficiency %		Temperature Efficiency %	Connection Size mm	Dimension mm
					Cooling	Heating			
TA-AHE100H	1000	220/380	300	200	60-65	65-70	68-72	300x200	1200x900x500
TA-AHE150H	1500	220/380	400	230	60-65	65-70	68-72	300x200	1200x900x500
TA-AHE200H	2000	220/380	1100	250	60-65	65-70	68-72	300x250	1200x900x500
TA-AHE250H	2500	220/380	1500	250	60-65	65-70	68-72	300x250	1300x1100x550
TA-AHE300H	3000	220/380	1600	260	60-65	65-70	68-72	350x300	1400x1200x500
TA-AHE400H	4000	380	2200	300	60-65	65-70	68-72	400x300	1600x1400x600
TA-AHE500H	5000	380	3000	300	60-65	65-70	68-72	450x300	1600x1500x750
TA-AHE600H	6000	380	3600	350	60-65	65-70	68-72	500x400	1700x1600x750
TA-AHE800H	8000	380	4400	400	60-65	65-70	68-72	500x400	1800x1700x800

\*Model last letter with H means horizontal installation ERV

## technical description



### TA-AHE Double Skin Vertical ERV

Horizontal double air outlet design  
 Air flow up to 8000m<sup>3</sup>/h. Optional higher air flow is also available based on customer requirement.  
 Heat or energy recovery  
 Double skin panel with PU insulation of 20 mm  
 Aluminum profile with anti-cold bridge structure  
 Quiet operation  
 Improved design with higher external static pressure  
 Innovative access space design  
 Double filters

Model	Air Flow m <sup>3</sup> /h	Voltage V	Power Input W	ESP Pa	Enthalpy Efficiency %		Temperature Efficiency %	Connection Size mm	Dimension mm
					Cooling	Heating			
TA-AHE100V	1000	220/380	300	200	60-65	65-70	68-72	300x200	1200x450x900
TA-AHE150V	1500	220/380	400	230	60-65	65-70	68-72	300x200	1200x450x900
TA-AHE200V	2000	220/380	1100	250	60-65	65-70	68-72	300x250	1200x450x900
TA-AHE250V	2500	220/380	1500	250	60-65	65-70	68-72	300x250	1300x500x1000
TA-AHE300V	3000	220/380	1600	260	60-65	65-70	68-72	350x300	1400x550x1200
TA-AHE400V	4000	380	2200	300	60-65	65-70	68-72	400x300	1600x600x1400
TA-AHE500V	5000	380	3000	300	60-65	65-70	68-72	450x300	1700x600x1550
TA-AHE600V	6000	380	3600	350	60-65	65-70	68-72	500x400	1800x600x1600
TA-AHE800V	8000	380	4400	400	60-65	65-70	68-72	500x400	1900x700x1700

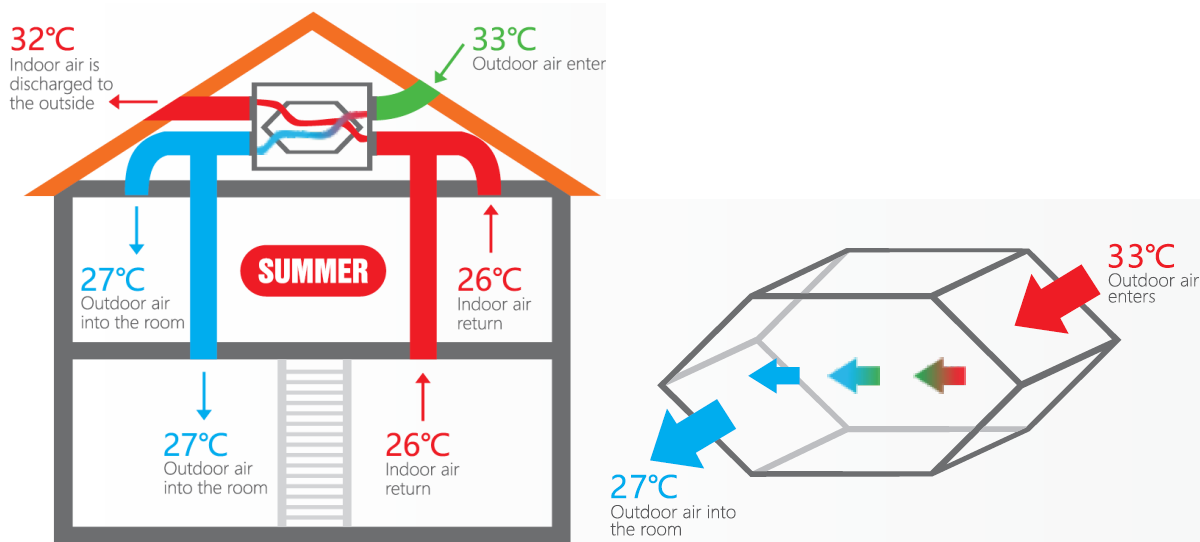
\*Model last letter with V means vertical installation ERV

> [Comparison of ERV heat exchanger](#)

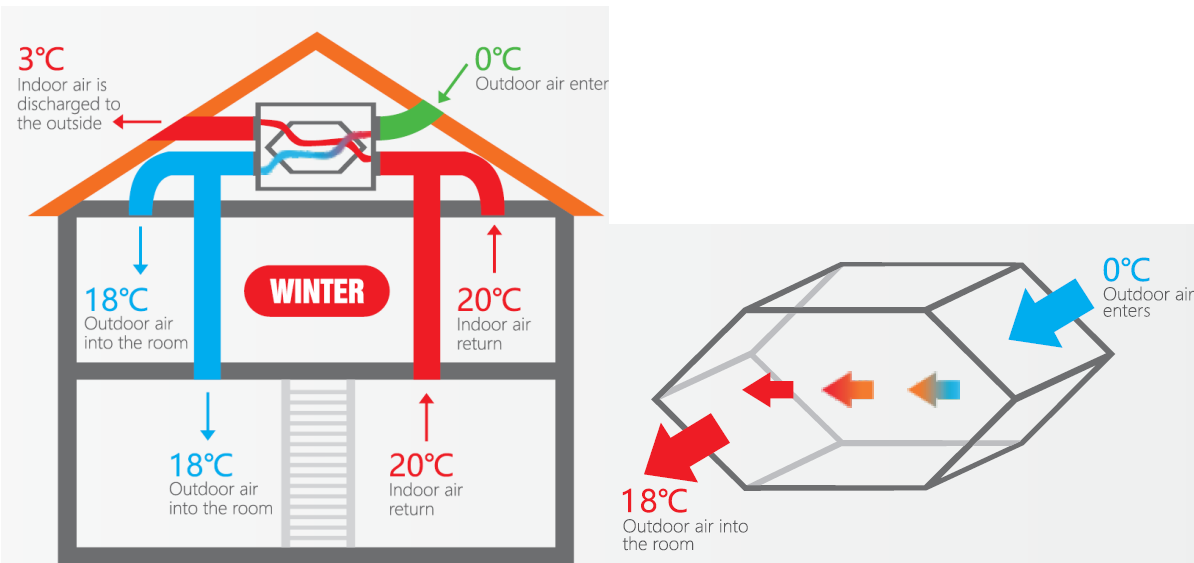
Item	Aluminum foil	Paper	Graphene Modified Antibacterial Water-Permeable flesh air Membrane
<b>Sensible heat efficiency</b>	High	Medium	High
<b>Enthalpy exchange efficiency</b>	-	Medium	Highest
<b>Attenuation efficiency period (years)</b>	-	1	10+
<b>Moisture permeability</b>	No	Absorbent	Water molecule permeable
<b>Air permeability</b>	Good	General	Very good
<b>Antibacterial aging</b>	General	Short time	Long time
<b>Antibacterial grade</b>	-	-	≥99%
<b>Mildew resistance grade</b>	3	2	0-1
<b>Secondary pollution</b>	Yes	Yes	NO
<b>Resistance</b>	Low	High	15%~20% less than paper
<b>Dew point</b>	highest	high	low(10°C less than paper cores)
<b>Weather resistance</b>	-	-	(-25 to 60°C)
<b>Clean</b>	Can be cleaned many times	Not cleanable	Can be cleaned many times, performance is unchanged
<b>Dimensional deformation</b>	NO	Yes	NO
<b>pressure resistance</b>	Good	General	Good
<b>Service life(year)</b>	-	1-2	10+
<b>Cost</b>	Slightly higher	Cheap	Slightly higher

## technical description

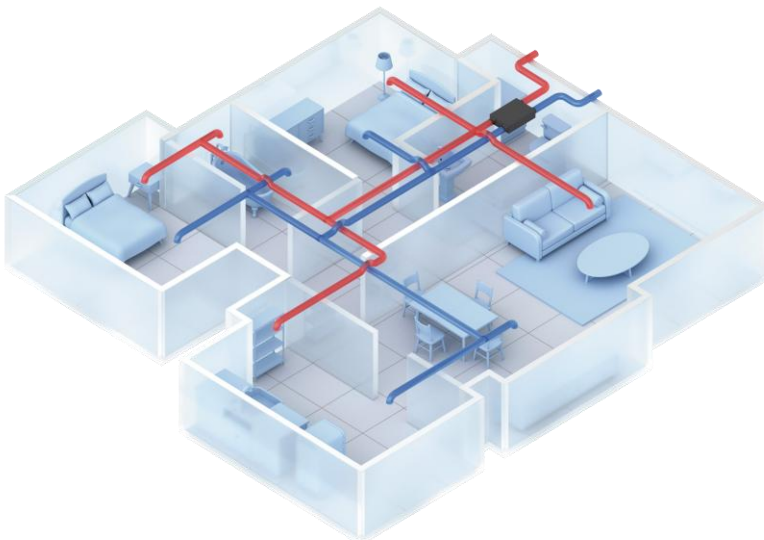
### Energy Recovery Ventilator Principle



Summer: Indoor Cooling Reference

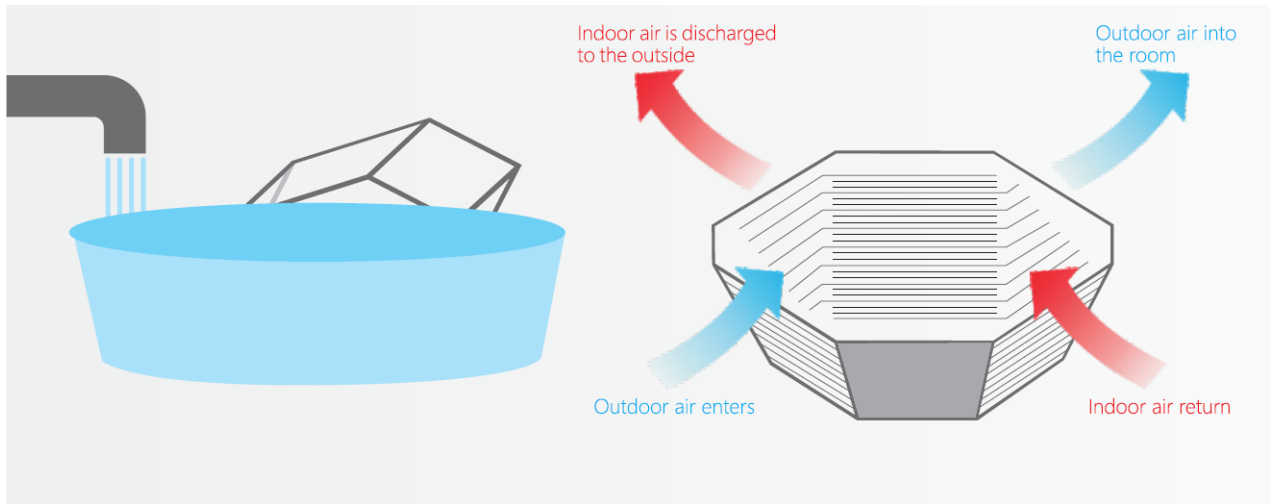


Winter: Indoor Heating Reference



# technical description

## Energy Recovery Exchanger Principle



$$\text{Heat recovery efficiency\%} = \frac{\text{Enthalpy value of fresh air} - \text{Enthalpy value of air supply}}{\text{Enthalpy value of fresh air} - \text{Enthalpy value of indoor air return}} \times 100\%$$

## Selection Guide

The formula of calculating the room volume:

Volume = Length x Width x Height (below the air outlet)

Numbers of heat recovery exchanger = Room volume x Required air changes rate ÷ Rated fresh air volume per exchanger.

Example:

In a room, area: S=65(m<sup>2</sup>), height:h=3m, member: n=25 (persons), calculated by the fresh air volume everyone needs.

\*1. The air volume everyone need: q=30 m<sup>3</sup>/h, so total fresh air volume Q<sub>1</sub>=n×q=25×30=750(m<sup>3</sup>/h).

\*2. If calculated by the fresh air changes rate. The fresh air change rate P=4, so the fresh air Q<sub>2</sub>=P×S×h=4×65×3=780(m<sup>3</sup>/h)

Due to Q<sub>2</sub>>Q<sub>1</sub>, so there we take Q<sub>2</sub> for reference.

Combine with the products models, here we suggest TA-AHE080N as the suitable model.

## Installation Reference

Duct design requirements:

First of all, it's necessary to consider the hosting position, and then choose the hard pipeline as the preferred choice.

The arrangement of the pipe line should keep a small resistance to the pipeline system in order to reduce the wind pressure lost.

Meet customers' requirement about the height of overall interior suspended ceiling design.

The selection of the discharge position and air supply outlet.

Advice for selection of ventilator's hoisting position:

Whether the ceiling is strong enough.

The lifting space is large enough.

The pipeline installation is convenient.

The tube is installed along with the beam to keep minimized wind resistance.

The distance between the air supply outlet and discharge positions must be kept at more than 1.2 meters.

Air detection switch should be installed in the position that can respect the whole room's air quality.

