

Comfort Fresh Air

Heat and Energy Recovery Ventilator



UPGRADED WITH SMART CONTROL



WIFI FUNCTION



INDOOR AIR QUALITY MONITORING



GROUP CONTROL



MULTIPLE LINKAGE CONTROL

Comfort Fresh Air

Heat and Energy Recovery Ventilator



Health

Removal of harmful substances,
supply of oxygen-rich air.



Comfort

Fresh air without droughts or
excess humidity.



Convenience

Easy installation and maintenance
for healthy air without efforts.



Sustainability

Higher building ratings, energy
costs savings and reduction of
CO2 emissions.





Comfort Fresh Air

Heat and Energy Recovery Ventilator

Healthy, comfortable and energy-efficient ventilation

Holtop Comfort Fresh air HRV brings in outdoor fresh air and create a healthy living environment with oxygen, comfortable temperature and humidity, and constant dust-free air. The fresh air supply and the stale extract air are balanced. The airflows do not mix and they remain separate. Heat is transferred from the extracted air to the cold incoming air. This means the cold outdoor air is warmed 'for free' so no energy is wasted.

The heat from the exhaust air is transferred to the incoming air via a heat exchanger. The heat recovery efficiency is up to 95%. The high efficiency heat recovery will keep the incoming fresh air temperature close to the indoor temperature, which will greatly increase indoor comfort. This also helps reduce the size of the HVAC equipment needed because it doesn't have to work as hard to heat and cool when the intake air is conditioned by the ERV unit. This benefits end-users by increasing their wellbeing and reducing their energy bills. And, reducing the need for fossil fuels also benefits our environment.

Comfort Fresh Air

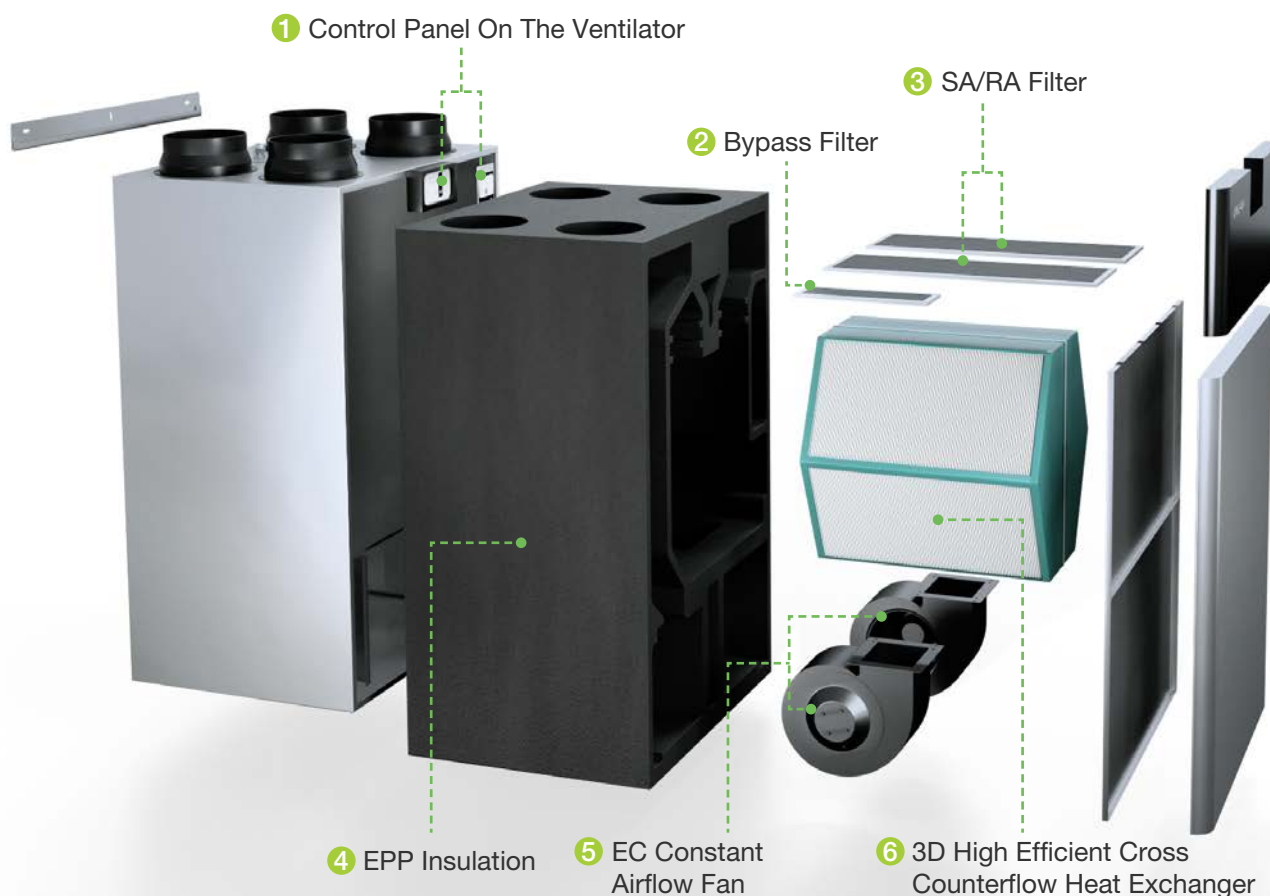
Heat and Energy Recovery Ventilator



■ FEATURES

- High-efficiency heat recovery up to 95%.
- EC constant airflow fans with low energy consumption, 4 speeds.
- The highest efficiency under all conditions due to Constant Flow Control.
- Supply air purification with primary filter (G4) and medium filter (F7) optional.
- Standard 100% bypass.
- Eco-design A or A+ label.
- Enthalpy exchanger available for a better balanced indoor humidity during winter season.
- The lowest operating noise is 31dB(A).
- Two types of installation to suitable room.
- Smart phone control Android / IOS.

■ DESIGN



■ CASING

The internal structure is made by EPP material, which is light weight, heat preserve, silent, environmental friendly, no odor, etc. It has the good performance for air tightness and thermal insulation.

■ AIR FILTRATION

HOLTOP Comfort Fresh air HRV is equipped with two filters. These filters remove 95% of the dust from the air. A high performance fine dust filter (F7) is optionally available, ideal for areas with a high dust load like highways and airports. People who are allergic to pollen or fine dust benefit from these filters.

The bypass includes the separate primary filter to ensure the cleanness of incoming air.

■ EC CONSTANT AIRFLOW FANS

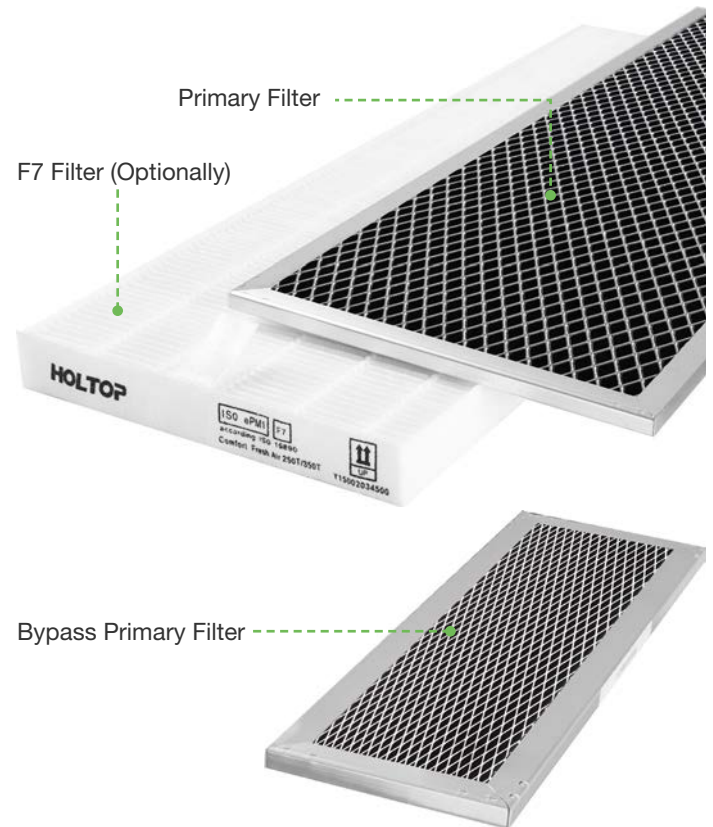
Application of the unique constant airflow fans guarantees the preset air flow rates and the balance between supply and extract air. Balanced ventilation always guarantees high efficiency, independent of the resistance in the duct system or dirty filters. It also saves time when commissioning the system.

■ BYPASS

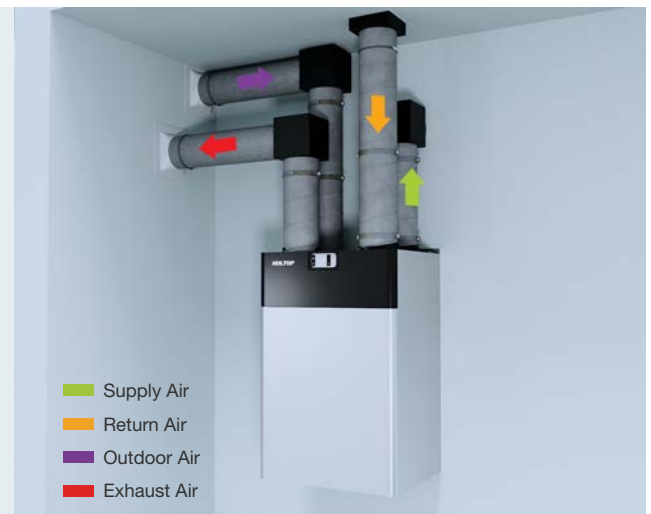
In summer, the 100% bypass contributes to improved comfort and it is controlled automatically on the basis of the measured outdoor temperatures.

■ FLEXIBLE INSTALLATION

Left type or right type is optional. The installation type can be adjusted at site to meet different installation requirements.



Right Type (Default)



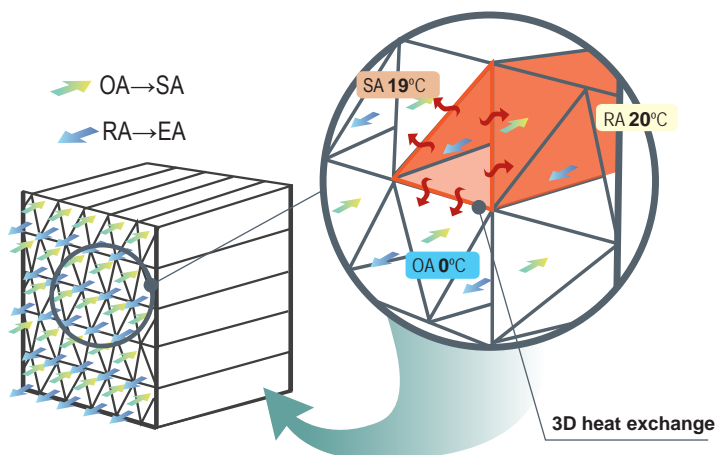
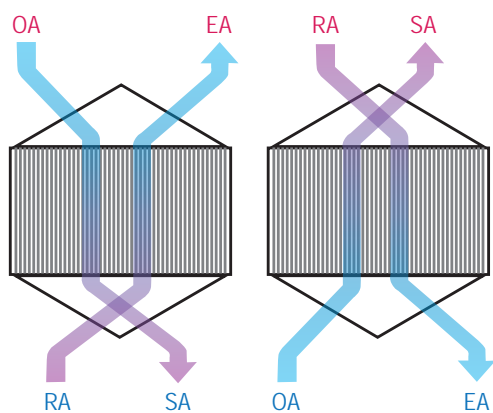
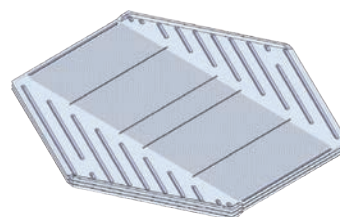
Left Type

3D HIGH EFFICIENT CROSS COUNTERFLOW HEAT EXCHANGER

Holtop cross counter-flow heat exchanger has a unique 3D heat exchange channel, the heat can be transferred from 3 directions. This structure can fully ensure the maximum heat exchange area. The large heat exchange surface allows the unit to achieve higher level of efficiency.

The air flows counterflowly to extend the heat exchange time and make heat transfer more thoroughly. The heat recovery efficiency is up to 95%.

The frame material of the heat exchanger is ABS, and the core material is special resin. This material has the characteristics of high thermal performance, good air tightness, tear resistance, oxidation resistance, and mildew resistance. The core is washable, and the service life is up to 15 years.



Special Resin
Material



3D Heat Exchange
Design

95%

High
Efficiency up
to 95%



Washable

15_y

Longer Service
Life up to 15 years

OPTIONAL ENTHALPY EXCHANGER

ADVANTAGES

■ Enhanced comfort through optimum indoor air quality

- High efficiency with up to 90% heat recovery and up to 80% humidity recovery.
- No more dry air in winter.
- Pleasant reduction in humidity in summer.

■ Increased durability of the building fabric

A constant humidity level prevents cracks in sensitive materials such as wood flooring and extends their lifetime.

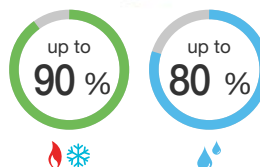
■ No frosting under - 30°C

Because of its high permeability to water molecules, no condensation water will form on the surface of the membrane, and condensation and ice blockage will not occur under extreme conditions of - 30°C.

■ More cost efficiency

Condensate-free operation under normal conditions means there is no need for a condensate drain. This saves your customers money.

Users can replace the enthalpy exchanger at any time directly.



Special
Polymer
Membrane



Anti-mold And
Anti-bacteria



High Strength
and Stability



Washable



Long Service
Life

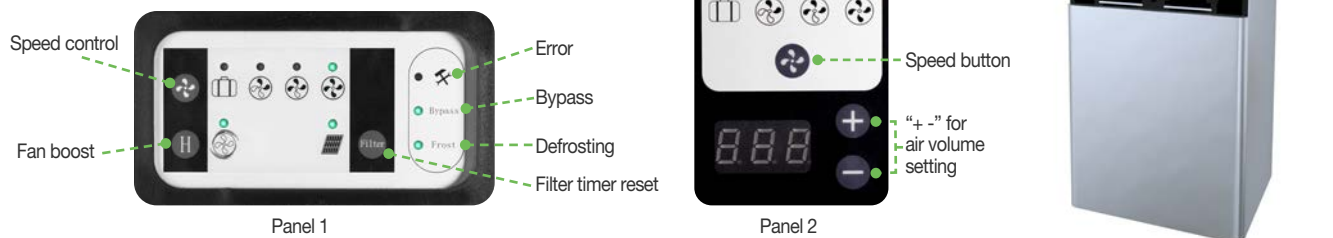
Advanced LCD Remote Control Panel



CONTROL FUNCTIONS

LOCAL CONTROL PANEL

There are two control panels on the machine body. Panel 1 is for daily simple settings and Panel 2 is for advance parameter setting.



ADVANCED LCD REMOTE CONTROL PANEL (OPTIONAL)



No.	Functions	Local Control Panel	LCD Remote Control Panel
1	Fan speed control	√	√
2	Adjustable air volume for each speed	√	√
3	Constant airflow	√	√
4	Balance rate setting	√	√
5	One-key fan boost	√	√
6	Auto bypass	Light indicate	Bypass setting available
7	Temperature display	x	√
8	Humidity control	√	√
9	Humidity display	x	√
10	Defrosting	Light indicate	Defrosting setting available
11	Filter replacement alarm	√	√
12	Filter timer reset	√	√
13	Fault alarm	√	√
14	Error code display	x	√
15	RS485	√	√
16	Right & Left installation switching	√	√
17	Restore factory setting	√	√
18	Auto restart once power on incident power cut off	√	√
19	Traveling mode	√	√
20	Sleep mode	x	√
21	Timer function(4 periods)	x	√
22	Time & date display and setting	x	√
23	Power consumption statistics	x	√
24	CO2 display and control	x	Optional
25	Temperature setting for heater	x	√
26	WIFI function	Optional	Optional
27	Fire signal interface	√	√
28	Fault signal interface	√	√
29	Running signal interface	√	√
30	Force start signal interface	√	√

Your home indoor climate in your hand with **SMART LIFE** app



WIFI FUNCTION

Wifi function is available to control and monitor the ventilation system from anywhere in the world using a smart phone. User can monitor the indoor air quality at your hand for healthy living.



■ MONITORING INDOOR AIR QUALITY

Monitor local weather, temperature, humidity, CO2 concentration at your hand for healthy living.

■ VARIABLE SETTING

Timely switch, speed settings, bypass/ time/filter alarm/ temperature setting.

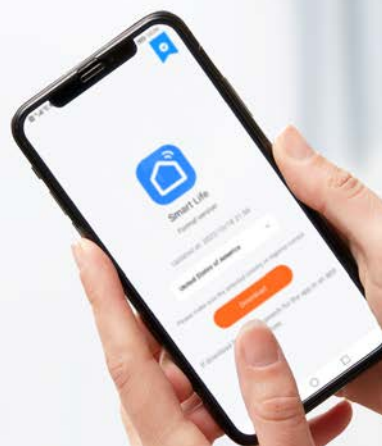
■ GROUP CONTROL

Smart control according to local weather.

One APP can control multiple units.

Linkage control with other appliances with Tuya IoT.

SMART LIFE app is available at Google Play market and App Store.



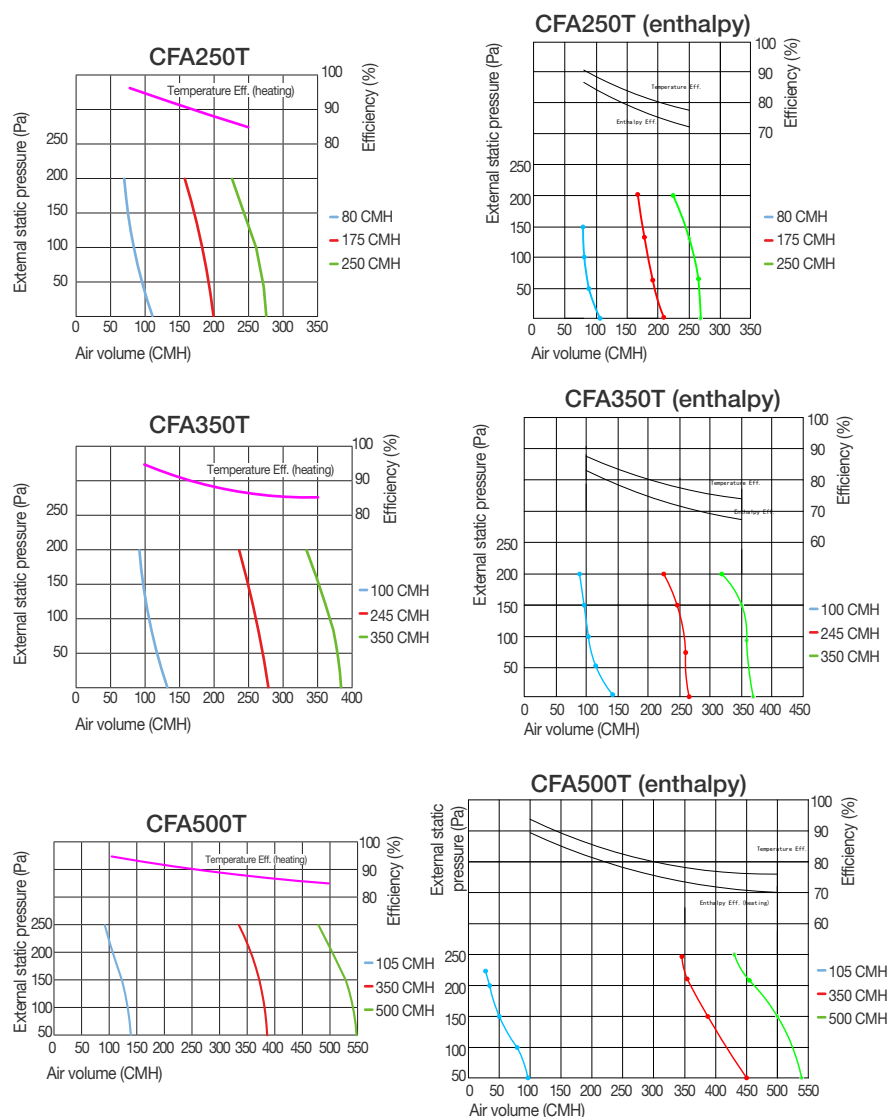
TECHNICAL DATA

TECHNICAL PARAMETERS

Model No.	CFA250T	CFA350T	CFA500T	CFA250T (enthalpy)	CFA350T (enthalpy)	CFA500T (enthalpy)
Unit voltage [V/50 (60) Hz]	230	230	230	230	230	230
Airflow [m³/h]	250	350	500	250	350	500
External Static Pressure [Pa]	130	150	160	130	150	160
Temperature Efficiency [%]	90	87	88	83	77	78
Enthalpy Efficiency [%]	-	-	-	78	72	73
Max. Power [W]	137	272	412	137	285	440
Transported air temperature [°C]	-25...+40					
Casing material	Galvanized steel					
Insulation	EPP					
Connected air duct diameter [mm]	144	144	196	144	144	196
Noise [dB(A)]*	35	37	39	35	37	39
Energy Efficiency Class	A+	A	A	A+	A	A
Weight [kg]	40	40	50	40	40	50

Note: This data is measured under the condition of 70% of the maximum air volume and 50Pa static pressure..

PERFORMANCE CHARTS



CFA250T

Reference	Airflow (m³/h)	Pa	P (W)	SFP*(W/l/s)
1	250	100	83.8	1.21
2	250	50	82.6	1.19
3	175	100	53.6	1.10
4	175	50	46.8	0.96
5	80	100	31.8	1.43
6	80	50	20.7	0.93

CFA250T (enthalpy)

Reference	Airflow (m³/h)	Pa	P (W)	SFP*(W/l/s)
1	250	100	79.3	1.14
2	250	50	77.5	1.12
3	175	100	51.6	1.06
4	175	50	44.9	0.92
5	80	100	30.1	1.36
6	80	50	21.3	0.96

CFA350T

Reference	Airflow (m³/h)	Pa	P (W)	SFP*(W/l/s)
1	350	100	256.0	2.63
2	350	50	254.1	2.61
3	245	100	97.6	1.43
4	245	50	84.4	1.24
5	100	100	35.1	1.26
6	100	50	30.6	1.10

CFA350T (enthalpy)

Reference	Airflow (m³/h)	Pa	P (W)	SFP*(W/l/s)
1	350	100	246.2	2.53
2	350	50	242.0	2.49
3	245	100	106.3	1.56
4	245	50	86.1	1.27
5	100	100	32.7	1.18
6	100	50	26.2	0.94

CFA500T

Reference	Airflow (m³/h)	Pa	P (W)	SFP*(W/l/s)
1	500	100	201.8	1.45
2	500	50	198.7	1.43
3	350	100	80.5	0.83
4	350	50	68.8	0.71
5	105	100	34.2	1.17
6	105	50	30.0	1.03

CFA500T (enthalpy)

Reference	Airflow (m³/h)	Pa	P (W)	SFP*(W/l/s)
1	500	100	375.5	2.70
2	500	50	372.6	2.68
3	350	100	125.5	1.29
4	350	50	115.7	1.19
5	105	100	33.5	1.15
6	105	50	30.7	1.05

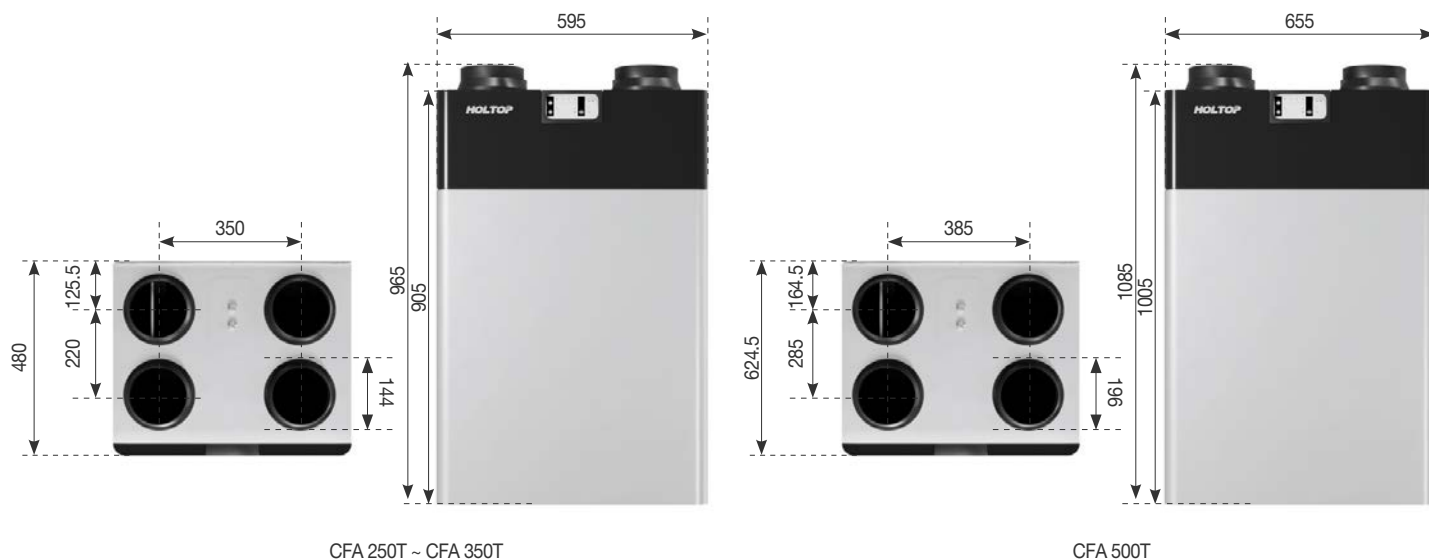
* SFP includes power consumption of both fans and the control.

ECODESIGN INFORMATION

Ecodesign information according to Commission Regulation (EU) 1254/2014

Model	CFA250T	CFA350T	CFA500T	CFA250T (enthalpy)	CFA350T (enthalpy)	CFA500T (enthalpy)
Energy class-Average	A+	A	A	A	A	A
Specific energy consumption-Average (KWh/m ² .a)	-42.58	-41.12	-41.12	-40.97	-40.83	-41.23
Specific energy consumption-Cold (KWh/m ² .a)	-82.78	-80.93	-81.06	-80.28	-79.36	-79.89
Specific energy consumption-Warm (KWh/m ² .a)	-16.92	-15.68	-15.61	-15.83	-16.13	-16.45
Type of airflow	DF	DF	DF	DF	DF	DF
Declared type	RVU	RVU	RVU	RVU	RVU	RVU
Type of motor	Variable speed drive					
Type of heat recovery system	Recuperative					
Thermal efficiency of heat recovery (%)	90	87	88	83	77	78
Maximum flow rate (m ³ /h)	250	350	500	250	350	500
Electric power input of the fan drive at maximum flow rate (W)	137	272	412	137	285	440
Sound power level dB(A)	35	37	39	35	37	39
Reference flow rate (m ³ /s)	0.049	0.068	0.097	0.049	0.068	0.097
Reference pressure difference (Pa)	50	50	50	50	50	50
Specific power input (SPI) (W/(m ³ /h))	0.35	0.43	0.44	0.40	0.35	0.33
Control factor	0.65	0.65	0.65	0.65	0.65	0.65
Type control system	Local demand control					
Maximum internal and external leakage rates (%)	< 5% Internal, <5% External					
Visual filter warning	Timer	Timer	Timer	Timer	Timer	Timer
The annual electricity consumption (AEC) (kWh electricity/a)	2.30	2.72	2.77	2.57	2.30	2.19
The annual heating saved-Average (KWh primary energy/a)	47.66	47.25	47.39	46.72	45.91	46.04
The annual heating saved-Cold (KWh primary energy/a)	93.23	92.44	92.71	91.39	89.81	90.07
The annual heating saved-Warm (KWh primary energy/a)	21.55	21.37	21.43	21.12	20.76	20.82

DIMENSIONS (Unit: mm)



OTHER ACCESSORIES

OPTIONAL PERHEATER FOR INTELLIGENT DEFROSTING

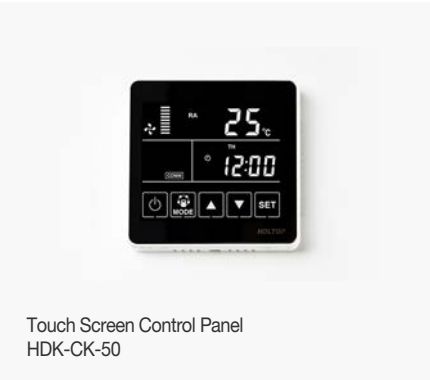
The intelligent frost protection with preheater guarantees the high efficiency at extremely low outdoor temperatures. Compared to other solutions for frost protection, it means extra savings on the energy bill.



SPECIFICATIONS OF PERHEATER

Model	Rated Airflow	Power Consumption (kw)	Heating power (kw)	Temp. rise (°C)	Current (A)	Volt (V)	Frequency	Size L x W x H (mm)	Connected air duct diameter (mm)
AS-EC35-1	250/350	1.1	1	13/10	4.68	230	50	350x250x250	144
AS-EC65-1	500	1.7	1.6	10	7.5	230	50	350x280x270	196

OTHER ACCESSORIES



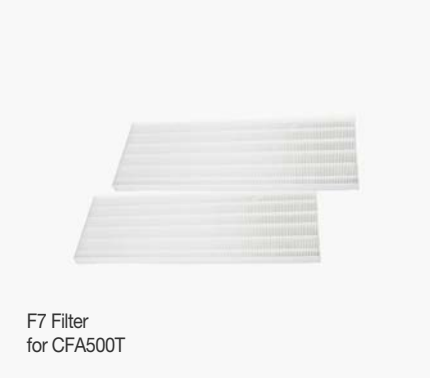
Touch Screen Control Panel
HDK-CK-50



CO2 Sensor



F7 Filter
for CFA250T, 350T



F7 Filter
for CFA500T



Smart Air Quality Detector



Wifi Module

APPLICATIONS

■ PROVIDES COMFORTABLE BREATHING ENVIRONMENT IN VARIOUS PREMISES

With a full range of components designed to work together, Holtop Comfort Fresh Air HRV can be integrated into a home simply and effectively to provide fresh air and comfort.



■ HOW TO SELECT THE RIGHT MODEL FOR YOUR HOUSE?

1. Calculation of airflow according to air exchange

$$L = V_{\text{prem.}} \cdot \text{Ach} \text{ [m}^3/\text{h]},$$

where $V_{\text{prem.}}$ – premise volume [m^3],

Ach – minimum air exchange per hour, refer air exchange table.

Premise		Air exchange rate
Domestic premises	Living room of apartments or hostel residential premises	3 m ³ /h for 1 m ² in residential premises
	Kitchen in flat or hostel	6-8
	Bathroom	7-9
	Shower cabin	7-9
	WC	8-10
	Home laundry room	7
	Cloakroom	1.5
	Storeroom	1
	Garage	4-8
	Cellar	4-6

rate.

$$L = L_1 \cdot N_L \text{ [m}^3/\text{hour]},$$

where L_1 – rated value for air volume per one person, m³/h*person,

N_L – number of inhabitants in the premises

20-25 m³/h per one person at low physical activity

45 m³/h per one person at light physical activity

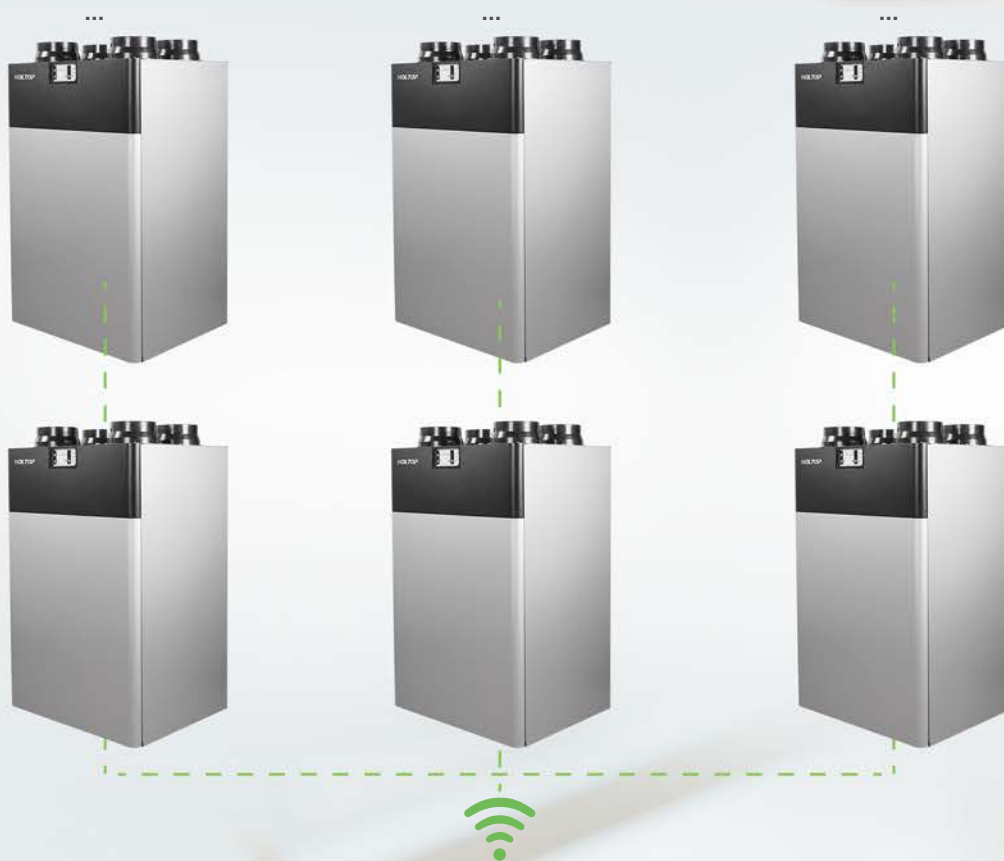
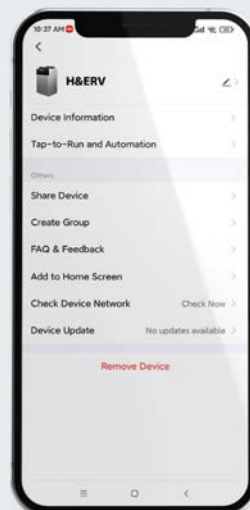
60 m³/h per one person at heavy physical activity

2. Calculation of airflow according to number of inhabitants.

3. Choose the bigger result as the required airflow. Then choose the model with the required airflow accordingly.

GROUP CONTROL

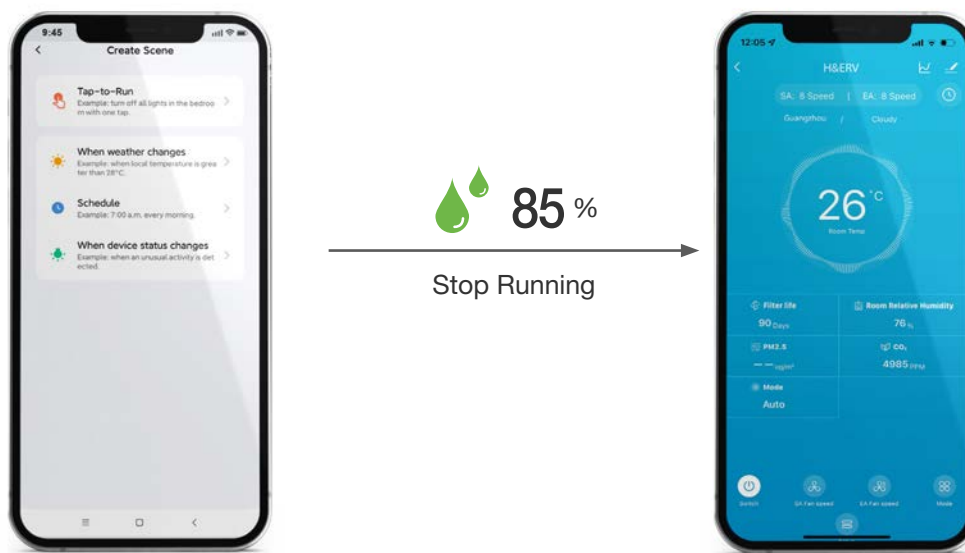
The ventilator can create group control at the APP, the quantity is **not limited**. User can control all the ventilators in the group easily.



SCENE CONTROL

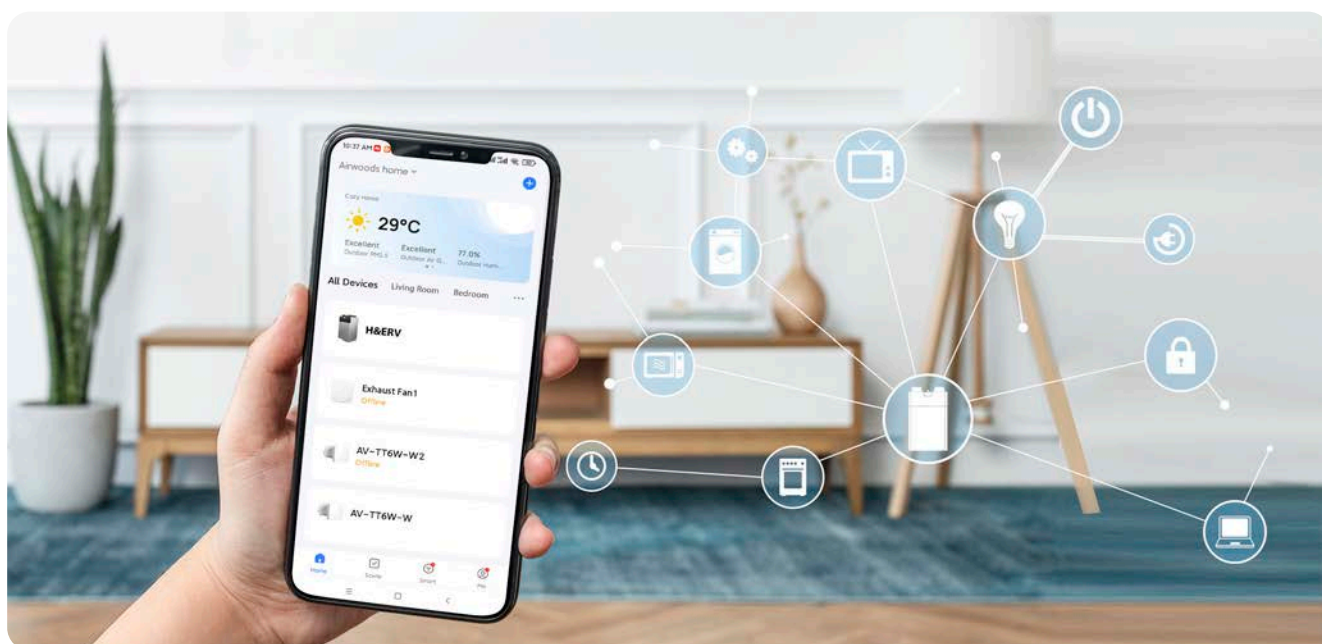
User can create the scene according to the weather changes, schedule or the device status changes.

For example, when the weather shows the outdoor relative humidity is higher than 85%, user can set the ventilator to stop running, to prevent the outdoor humidity coming inside. The unit will run according to the setting automatically.



LINKAGE CONTROL

Users can add the devices with Tuya APP to their home screen. For example, they can add all the single room ventilators, exhaust fans or light switches in the APP and control them at their will.



BEIJING HOLTOP AIR CONDITIONING CO., LTD.

No. 5 Yard, 7th Guanggu Street, Badaling Economic Development Zone, Yanqing District, Beijing, China

INTERNATIONAL MARKETING CENTER

Room 2101, Headquarter Center No. 25, Tian An Hi-Tech Ecological Park, No. 555 Panyu Ave, Guangzhou, China

Tel: 86-20-39388201-8023

Skype: susanwoo08

Website: www.holtop.com

E-mail: info@holtop.com

