

**Whole Air Heat Exchanger for Energy
Recovery Ventilation Equipment**

Boulder Developments Ltd

**DHV-150M,DHV-200M,DHV-300M
DHV-400M,DHV-500M,DHV-350M
DHV-600M**



- Thanks a lot for selecting our products
- Please look through the handbook carefully before using our equipments
- Carefully keep this handbook after reading so as to consult at any time.

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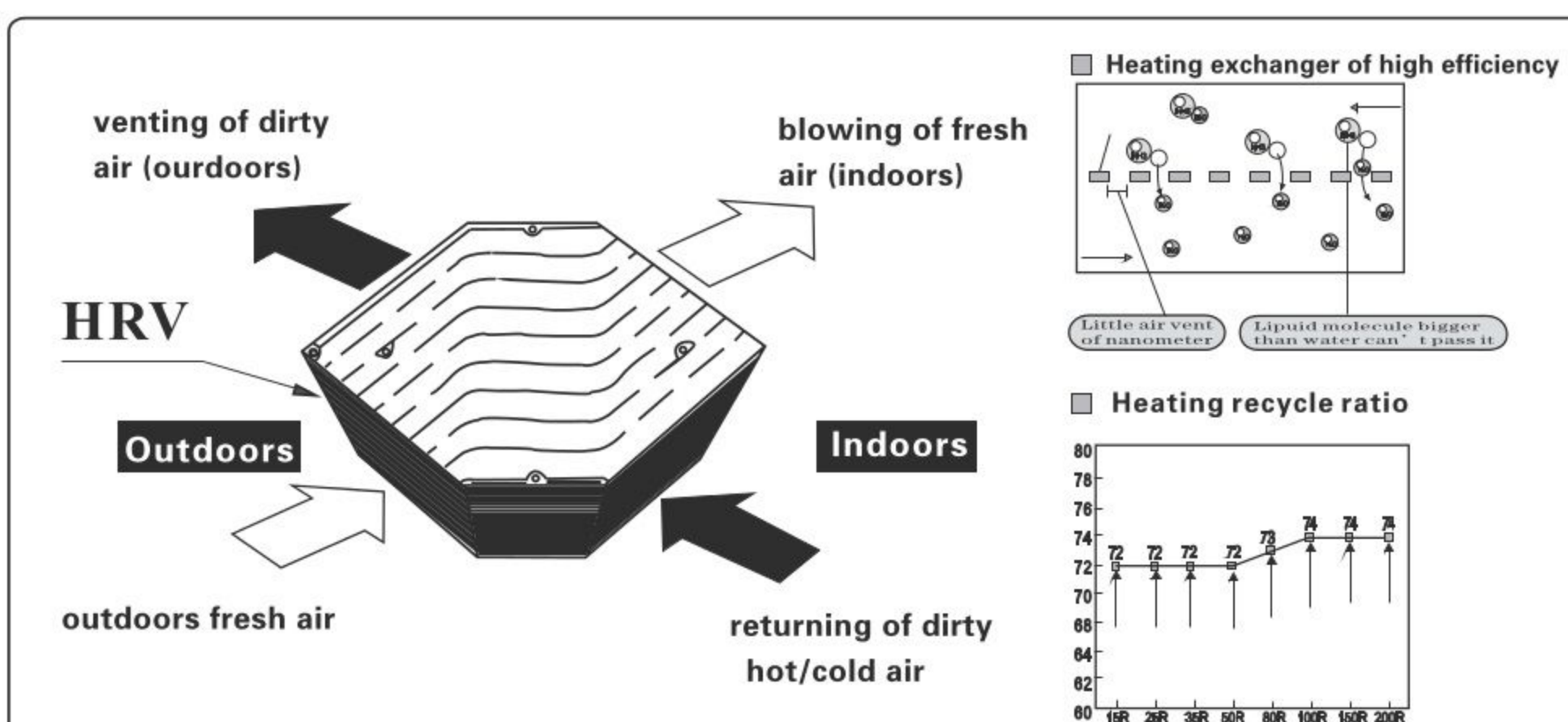
Introduction to the products

Nowadays, as the popular use of the air condition, the air in various locations where air condition is used, has been widely polluted. It has a direct impact on the human's health. In order to improve the air quality of hermetic buildings and save energy, our company produces a new generation of HRV, which thoroughly meets people's desire of having excellent air in their working and living places; Meanwhile it has a high rate of energy recycle. Fresh air and energy saving are the key characters of this product. The use of this kind of HRV, can effectively recycle the energy lost in the ventilation and save energy at most. Owing to the simultaneous venting and blowing, it is comfortable to live indoors. In order to reach the double aims: air cleaning and energy saving, the cooperation work of HRV and air condition system can improve the indoor air quality, keep the proper index of humidity and temperature, and reduce the fresh air burthen and daily cost of air condition operation. This product is applicable to the high class guest house, office, Conventional centre, exhibit building, hospital, apartment, pharmaceutical factory, etc.

Main Characters of the products


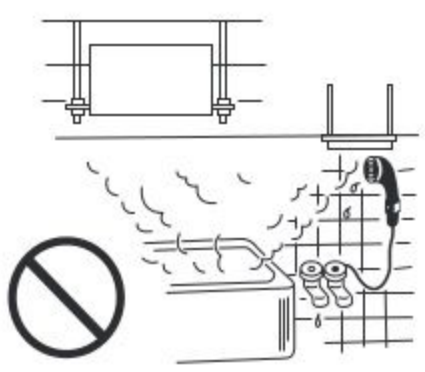
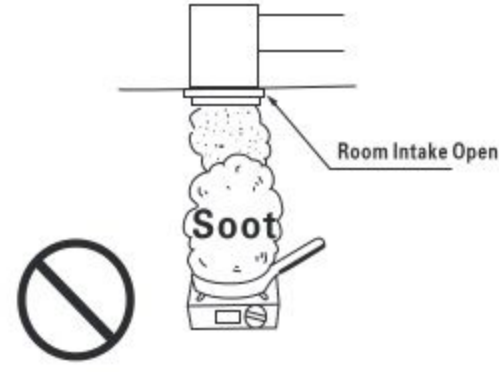
- Save energy and exchange air.
Effectively recycle disappearing energy by exchanging air
Reduce Equipment
- Most energy can be recycled by exchanging air, leading to decrease external pressure dramatically, so appropriately miniaturized air condition becomes possible.
- The function to adjust humidity
Exchange outdoor air and indoor air in both temperature and humidity.
- Comfortably exchange air
Owing to inlet and intake wind at the same time, the difference of indoor temperature is not obvious during exchanging air. Even in hermetic room, it also can steadily exchange air.
- Excellent sound proof effect
The noise between outdoor and indoor can not be exchanged, because HRV core and wind passage of equipment have nice sound proof effect.

HRV heating exchanger and its theory



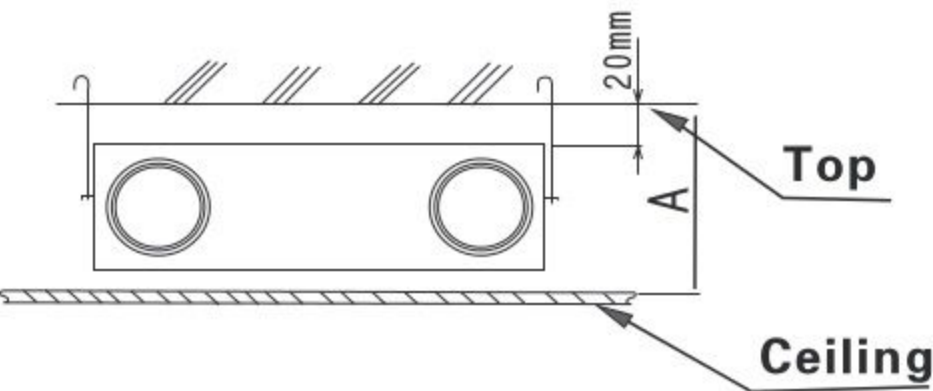
Installation Check-up

- Make sure that you have not installed the equipment or its ventilation railing bars in the following places:

High Temperature or the Sun Heating Place HRV equipment installation should not be in the place where the surrounding temperature is above 40 °C. High temperature will cause distortion or damage to the filter and HRV core. 	Wet Place Do not install in the wet place such as in the bathroom, or you will cause electric shock or electric device malfunction. 	Heavy Oil Smoke Place The filter and the HRV core can not be used if attached by heavy oil smoke. 
Make sure that the installation of the checkup opening is convenient for the maintenance of the filter and the HRV core and the checking of the machine.		Please do not install in the places such as machinery factory or chemical factory where acid, alkali, organic solvent, dopeor other harmful air and erodible air such as dust, oil smoke may produce.

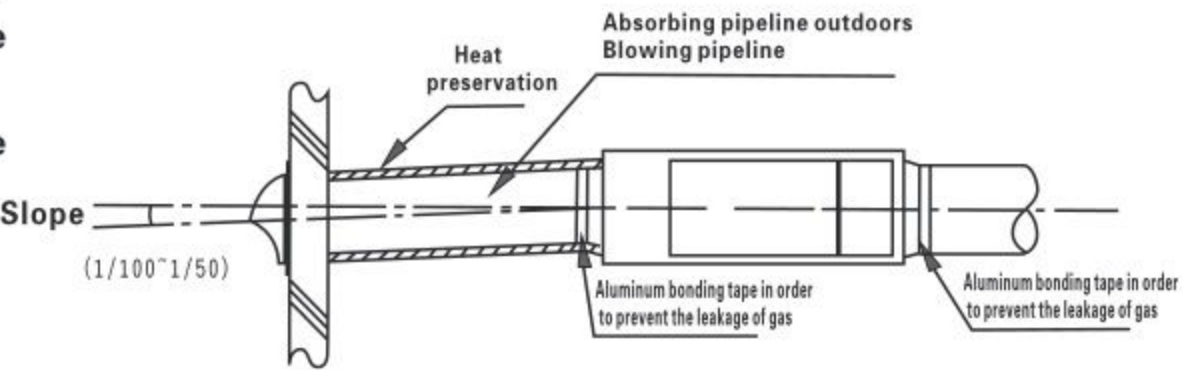
Pipe Installation

Make sure the height between the ceiling and the top will never be less than the size required in the following table:



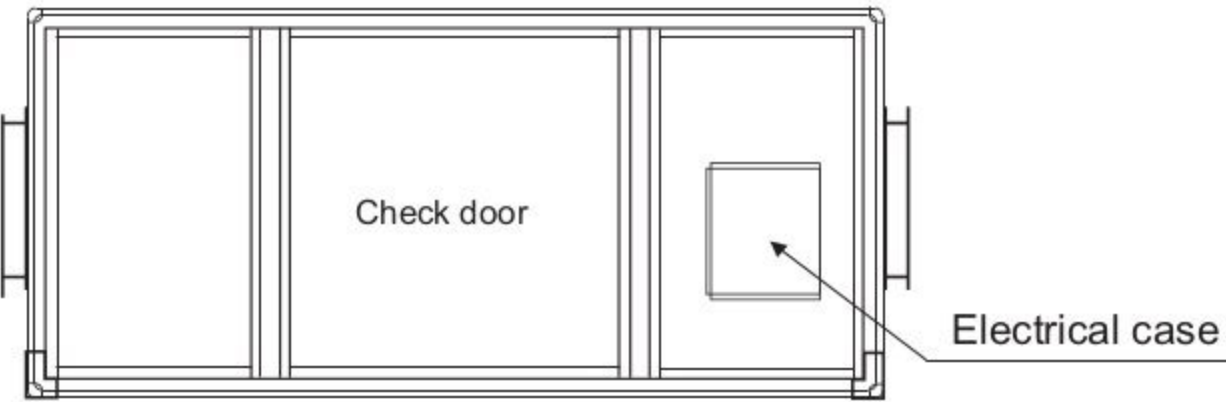
Model	Ceiling height A	Model	Ceiling height A
DHV-150M	650	DHV -200M	650
DHV -250M	650	DHV -300M	650
DHV -400M	650	DHV -500M	650
DHV -600M	650		

- During the pipe installation, severe bending, several bending and reducing the diameter of the joining pipe should be avoided.
- In outdoor pipe installation, the pipe should be a little tilted in order to prevent the penetration of rains.
- In order to prevent outdoor pipe (indoor pipe if necessary) from freezed dew, heat insulating layer should be made.
- The joining parts of the pipes and its mouths should be cemented by the aluminum bonding tape in order to prevent the leakage of gas.
- The distance between indoor inlet port and indoor intake port should be as far as possible.

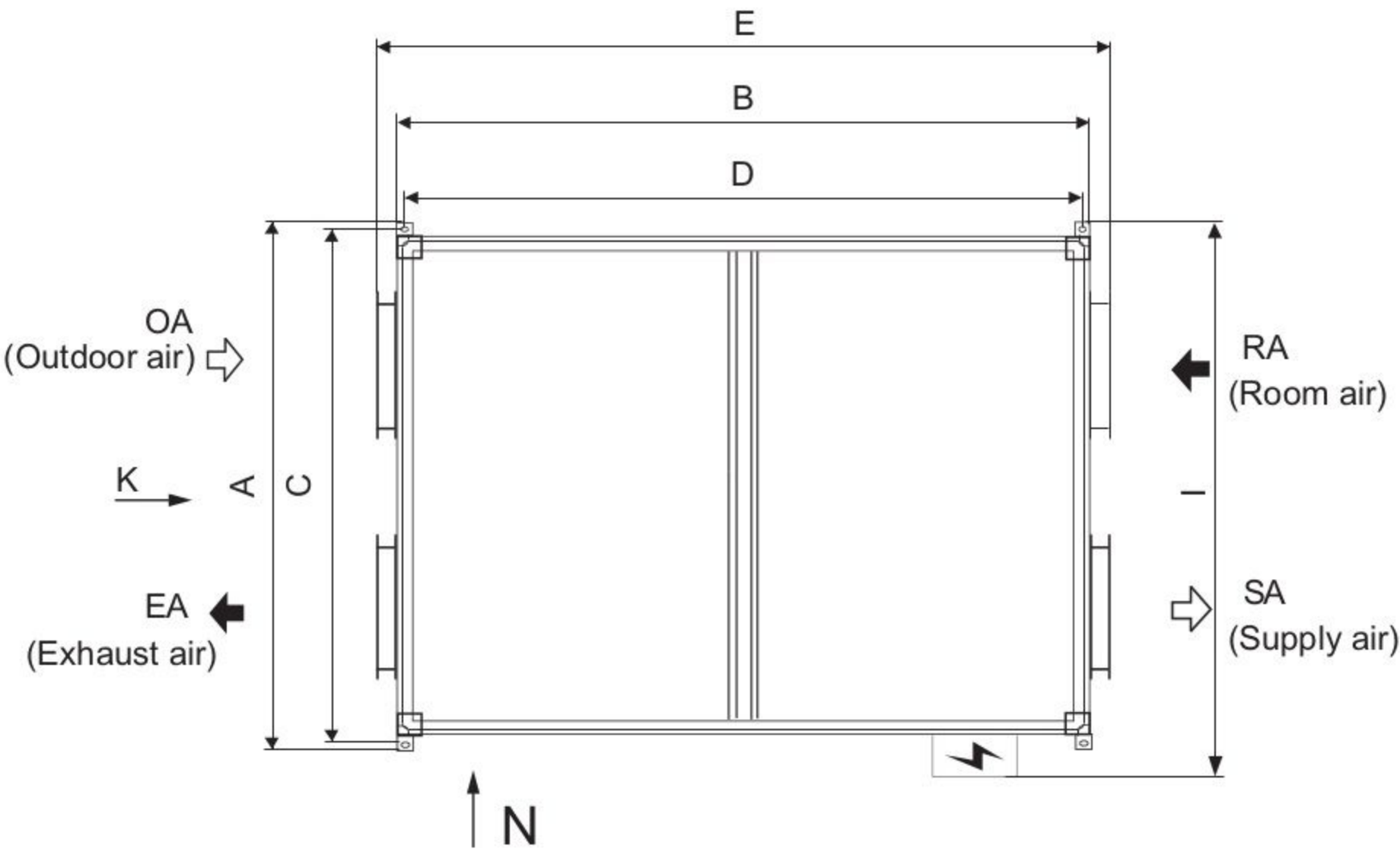
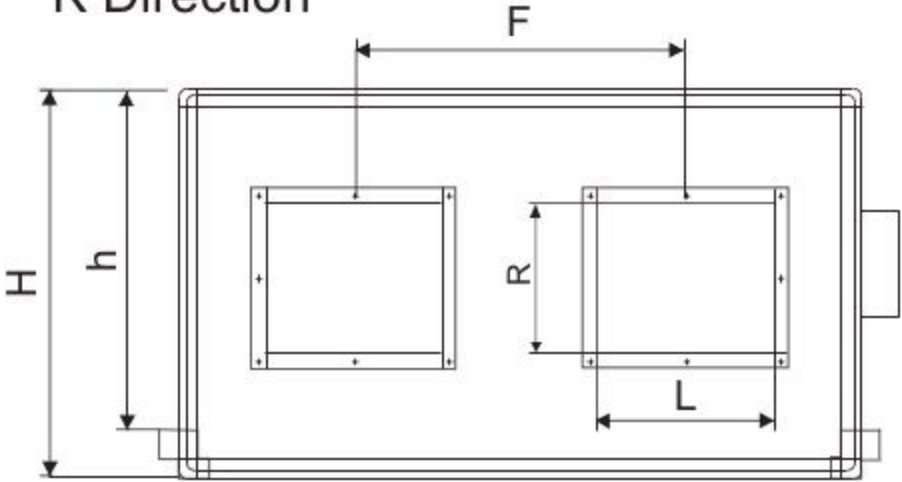


External dimension

N Direction



K Direction



Note: If these statistics of products, due to the change of the design, are not in accordance with above ones, our company will not further inform. Please take statistics on your products as standard size.

External dimension

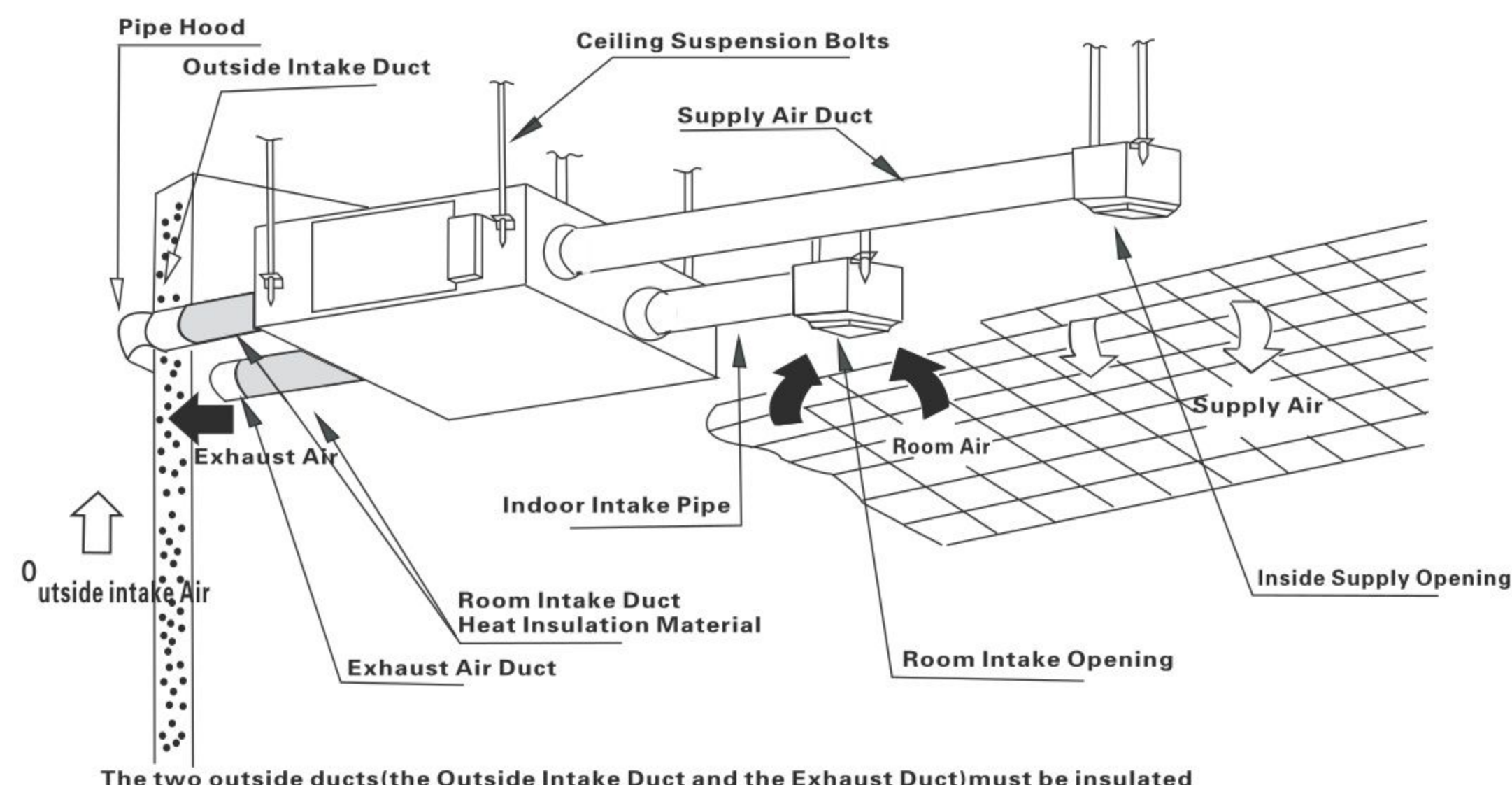
Model	A	B	C	D	E	F	H	h	I	L×R (outlet)	L×R (inlet)
DHV-150M	980	1400	940	1360	1500	430	558	400	1020	230×210	300×260
DHV-200M	1120	1480	1080	1440	1580	470	558	400	1160	230×260	330×300
DHV-250M	1220	1520	1180	1480	1620	520	558	400	1260	300×260	330×300
DHV-300M	1320	1680	1280	1640	1780	570	558	400	1360	330×300	369×310
DHV-400M	1520	1680	1480	1640	1780	670	558	400	1560	369×310	450×375
DHV-500M	1720	2000	1680	1940	2100	770	838	680	1760	450×375	500×400
DHV-600M	1980	2000	1940	1940	2100	900	838	680	2020	500×400	550×450

Total heat recovery spec

Model	Voltage (V)	Rated power (W)			Airflow(m ³ /h)			static pressure (Pa)	heat recovery efficiency (cooling)(%)			heat recovery efficiency (heating)(%)			Noise dB(A)			weight (Kg)	package dimension (mm)
		H	M	L	H	M	L		H	M	L	H	M	L	H	M	L		
DHV-150M	220	520	480	410	1500	1350	1200	180	67	68	69	70	71	72	52	50	48	110	1590×1100×720
DHV-200M	220	800	650	600	2000	1800	1600	200	67	68	69	70	71	72	54	52	50	131	1670×1240×720
DHV-250M	220	1100	1000	800	2500	2300	2100	250	67	68	69	70	71	72	56	54	52	145	1710×1340×720
DHV-300M	220	1400	1300	1100	3000	2800	2600	250	67	68	69	70	71	72	60	58	56	167	1870×1440×720
DHV-400M	380	2000	-	-	4000	-	-	280	-	68	-	71	-	-	62	-	-	199	1870×1860×960
DHV-500M	380	2200	-	-	5000	-	-	300	-	68	-	71	-	-	64	-	-	291	2200×1860×960
DHV-600M	380	3000	-	-	6000	-	-	320	-	68	-	71	-	-	64	-	-	302	2200×2120×960

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Installation Diagram



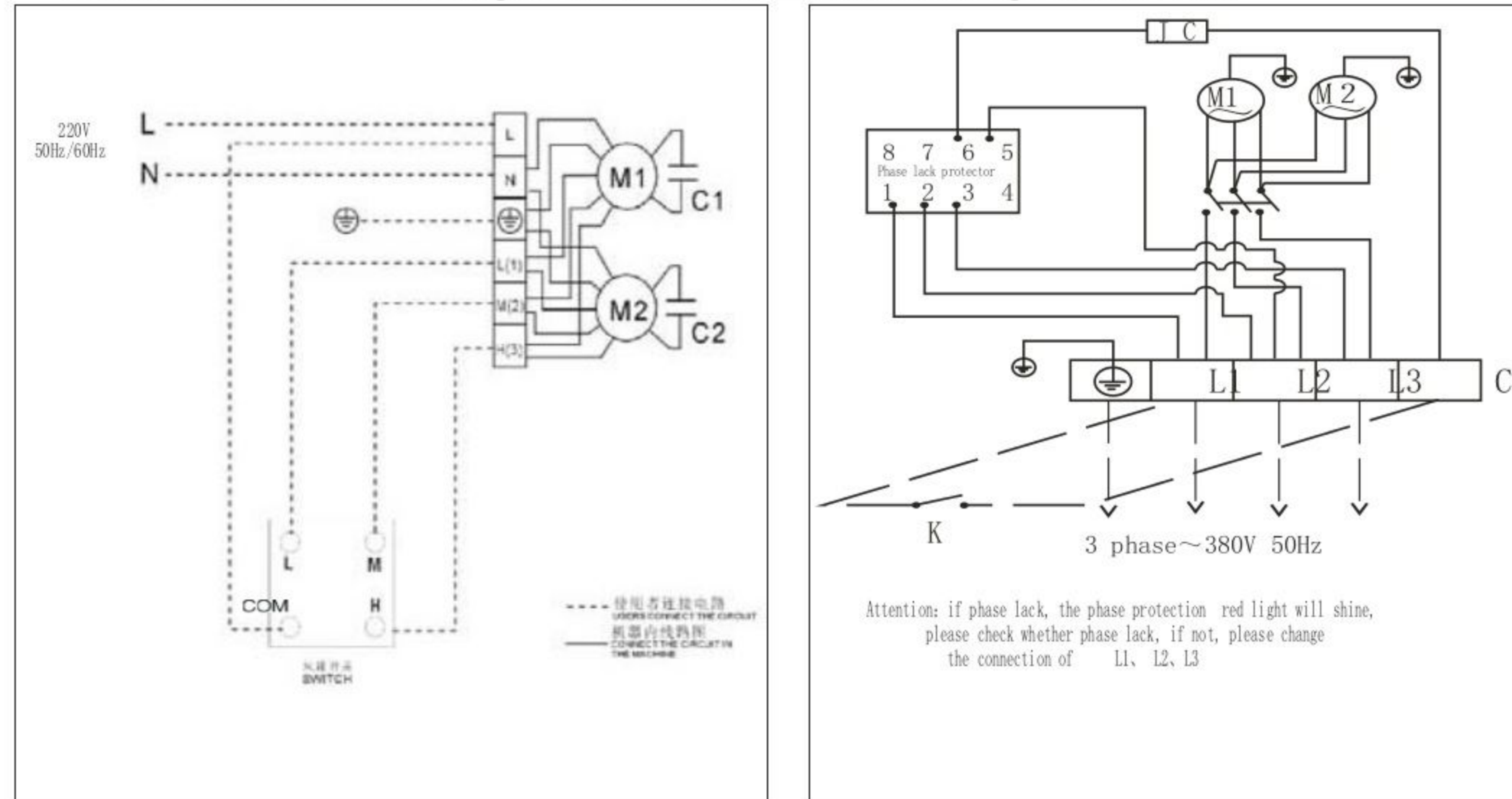
The two outside ducts(the Outside Intake Duct and the Exhaust Duct)must be insulated

Installation Precautions

- Do not install in the place where there is a heat source or fire.
- Do not install in the place where combustible gas may leak.
- Do not install in the place where a lot of oil smoke may produce, such as kitchen, etc.
- Do not install in the wet place such as in the bathroom, etc.
- Please do not install in the places such as machinery factory or chemical factory where acid, alkali, organic solvent, dope or other harmful air and erodible air such as dust, oil smoke may produce.
- The checkup opening should be installed on the dismounting side of the filter and the HRV core.
- Install in the strong enough and stable places.
- According to the installation situation, it is recommended to install electricity leakage breaker.
- HRV machine should be installed in the inside of heat insulating layer (heat should be prevented from outside).
- Intake port installation position should be in the place where the air will not return directly.
- The distance between indoor inlet port and indoor intake port should be as far as possible.
- Choose the appropriate type of pipe.
- Fresh air inlet pipe and ventilation pipe should be in a warm state in order to prevent the leakage.
- Install a net device or the alike outside the inlet opening in order to prevent birds.
- Do not install, dismantle or refit by yourself (entrust the installation project to the sales shop or the special installation company).
- The joint parts of the pipes and its mouths should be cemented by the aluminum bonding tape in order to prevent the leakage of gas.
- When the mental pipe drills through metal boards or metal nets of wooden buildings, do make a heat insulating layer between the pipe and the wall.

Connection of circuit

Please use the schematic diagram as follow to connect controlling circuit of HRV :



Explanation:

- wire connection in broken lines in the wiring diagram must be conducted by the builder.
- After completion of wiring, check again there is no wrong wiring before power"ON".
- We recommend that you use a switch with more than 3mm distance to break contact and more than 10A rated current.
- We recommend that you use the polyvinyl chloride insulated and sheathed cables for fixed wiring with $\phi 1.38$, $\phi 1.78$ in diameter or 1.5 mm^2 – 2.5 mm^2 in conformity.

Try to operate

- Make sure to check line connection state and try to operate after installation.
- Open the power after finishing line connection, and try to operate as right table to check state of blowing air.
- It can be considered something wrong with connection when operation is not in common. Please turn off special breaker and connect correctly at once in order to prevent from electric shock.

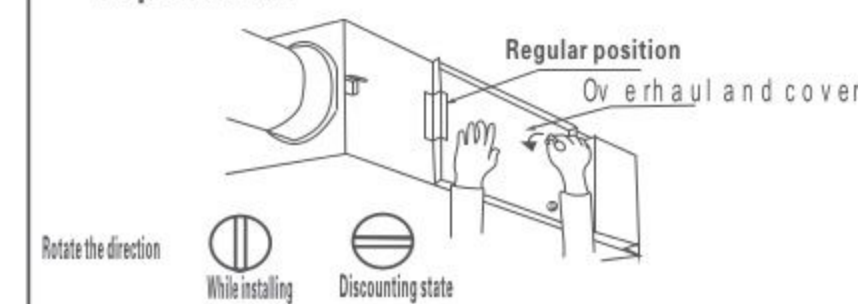
Switch setup	Checked sides
Adjusting Switch of Wind Volume	The state of blowing air
Strong (Extra Strong)	Check wind volume from inlet and intake port is in the charge of "Strong (extra strong), weak" or not
Weak	

Maintenance

- Make sure to turn off running switch and special breaker before maintenance.
- Long-term usage of **HRV**, filter is always covered with dust or dirty objects, leading to poor air exchange effect. In this case, please regularly clean **HRV** according to dirty degree, esp. in April and May. There is lots of flying dust, which gathers on the filter, resulting in poor air exchange. So remember to clean filter more than twice a month during this period.
- Never use naphtha and metal brush when clean filter and **HRV** core.
- Never clean **HRV** equipment and its core, but use soft cleaned brush to brush the dirty side gently or cleaner to remove dust.

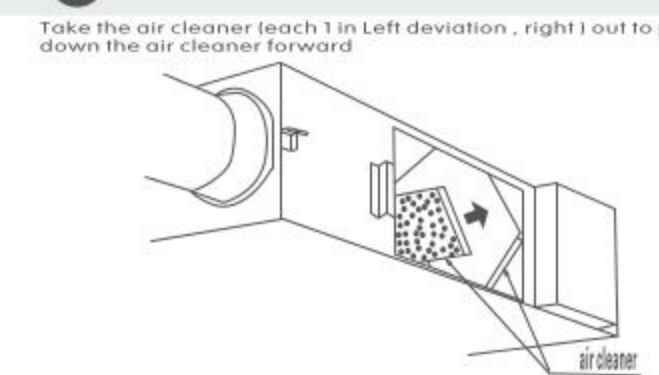
1 Pull down and overhaul covering

Lock two knobs rotate 90°, it is stamp to overhaul to pull down



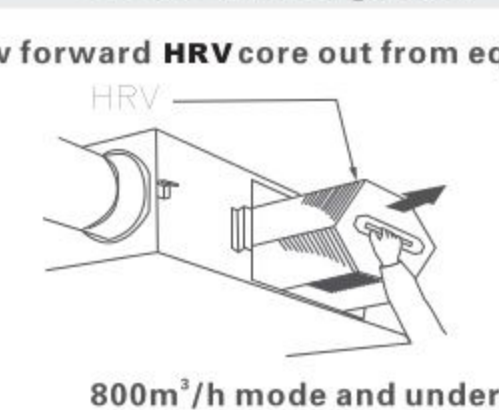
2 Pull down the air cleaner

Take the air cleaner (each 1 in Left deviation, right 1) out to pull down the air cleaner forward



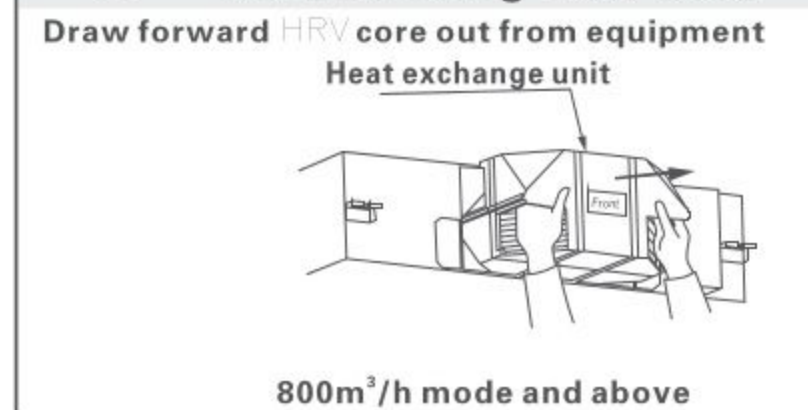
3 Discounting HRV core

Draw forward **HRV** core out from equipment



3 discounting HRV core

Draw forward **HRV** core out from equipment



4 Using vacuum cleaner

Remove dust on the filter by cleaner



4 Washing filter

Wash filter in water no more than 60 °C with neutral detergent when it is too dirty



5 Drying filter fully

Install filter after full-dry



6 Removing dust and foreign objects on the HRV core



After cleaning, please return **HRV** core and filter cover over hauled lid