

ENTHALPY EXCHANGERS FOR HEAT RECOVERY

INSTALLATION MANUAL



- **MODELS *EHN 501, 801, 1001, 1501***



- **MODELS *EHS 2001, 3001, 5001***



HOKKAIDO

WARNING:

PLEASE READ CAREFULLY THIS MANUAL BEFORE INSTALLING THE ENTHALPY EXCHANGER.

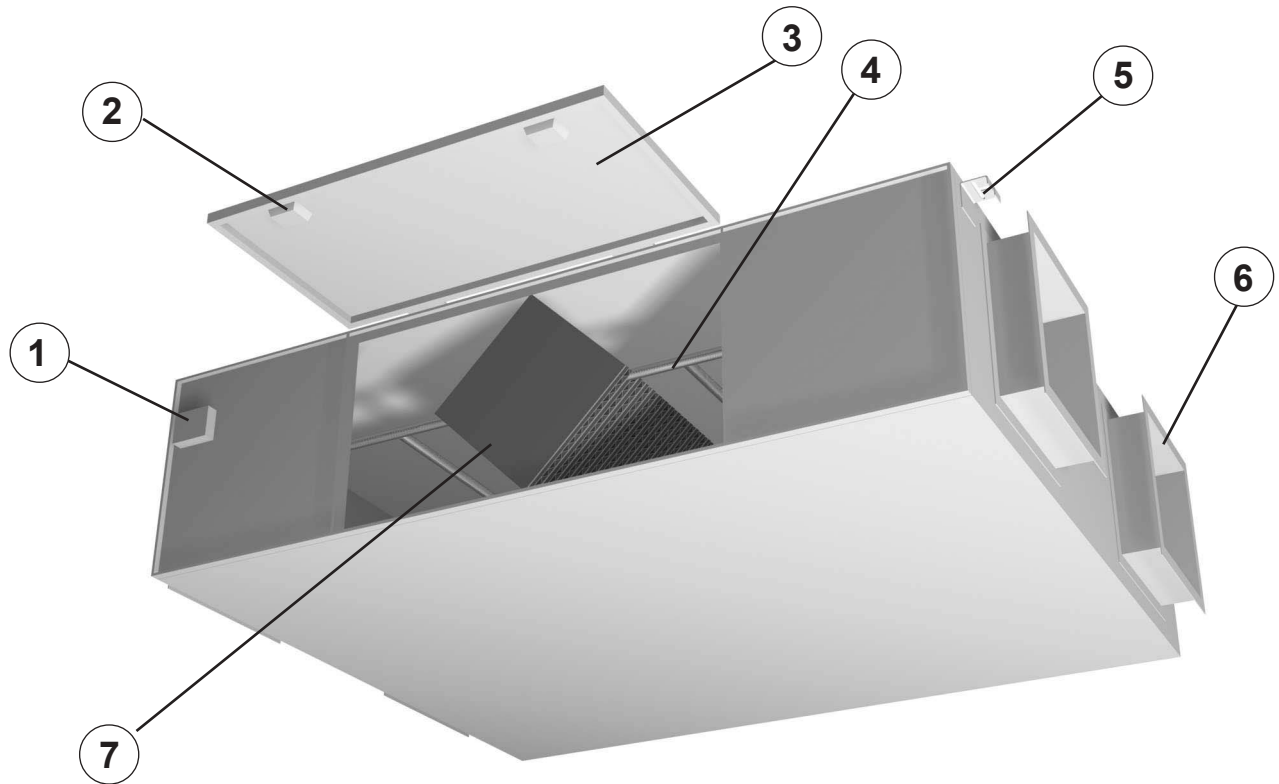
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PRODUCT'S OUTLINE

Structure

Fresh Air Ventilator is composed of body, air channels, blower fan, heat exchanging core, air filter screen and electric control parts.



1. Electric box control
2. Door switch
3. Inspection door
4. Air filter
5. Lifting lug
6. Air inlet/outlet
7. Heat exchanging core

PRODUCT FEATURES

OPERATING ENVIRONMENT

Temperature: -10 ~ 40°C

Humidity: 0 ~ 80%

1. Two-directional Air Exchange

Indoor and outdoor air is exchanged in two directions and equal volume.

2. Filtration Treatment

The outdoor fresh air and indoor air are purified by a filter with antibiotic functions, effectively preventing dust or other pollutants from entering the room.

3. High Efficiency and Energy Saving

The built-in static heat recovery core provides recovery efficiency of over 65%, hence the room temperature is hardly influenced by fresh air and the energy for air treatment is greatly reduced. Furthermore, high-efficiency and low-noise air conditioning fan is adopted for air supply and air exhaust, whose centrifugal-type structure ensures enough air volume and pressure height of the Unit.

4. Simple application

Full range of Models is suitable for different styles of rooms.

Integrated structure makes it easy to use only by switching on power supply and air channel, and its simplified structure is applicable to various rebuilding projects.

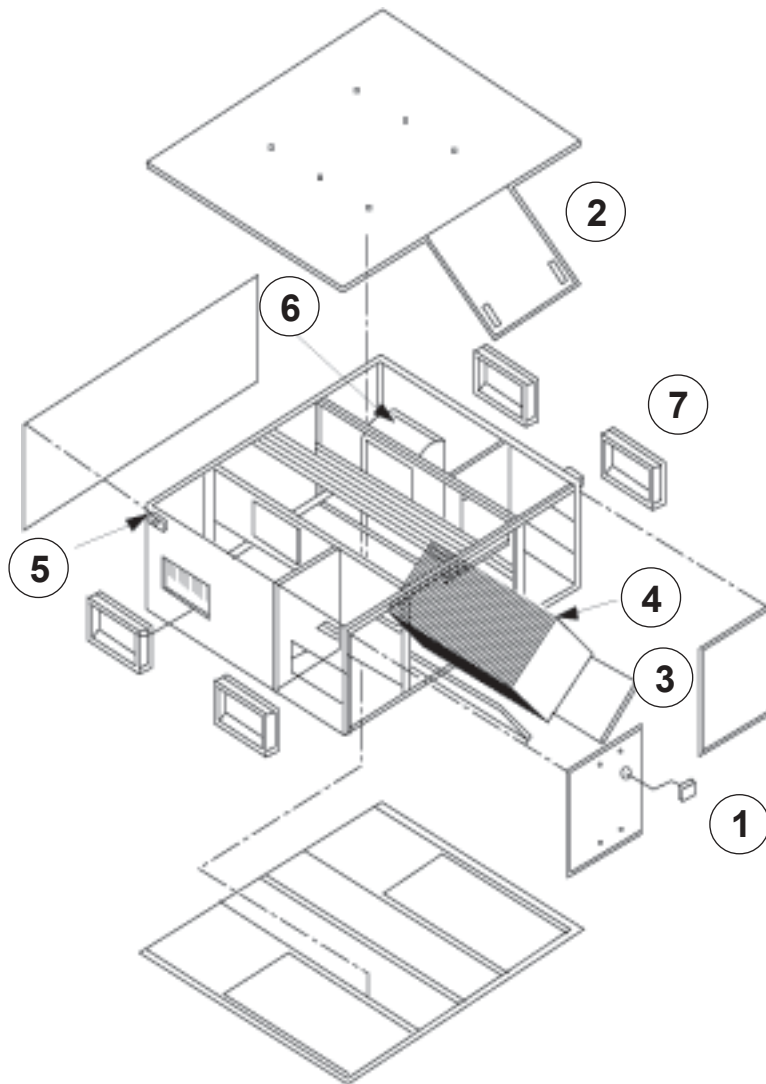
Furthermore, there is inspection door on one side of the Unit; air filter screen, motor and heat exchanging core can be replaced and maintained through opening such door.

5. Being safe and Reliable

Low-noise blower fan and internal silencing treatment prevents noise pollution.

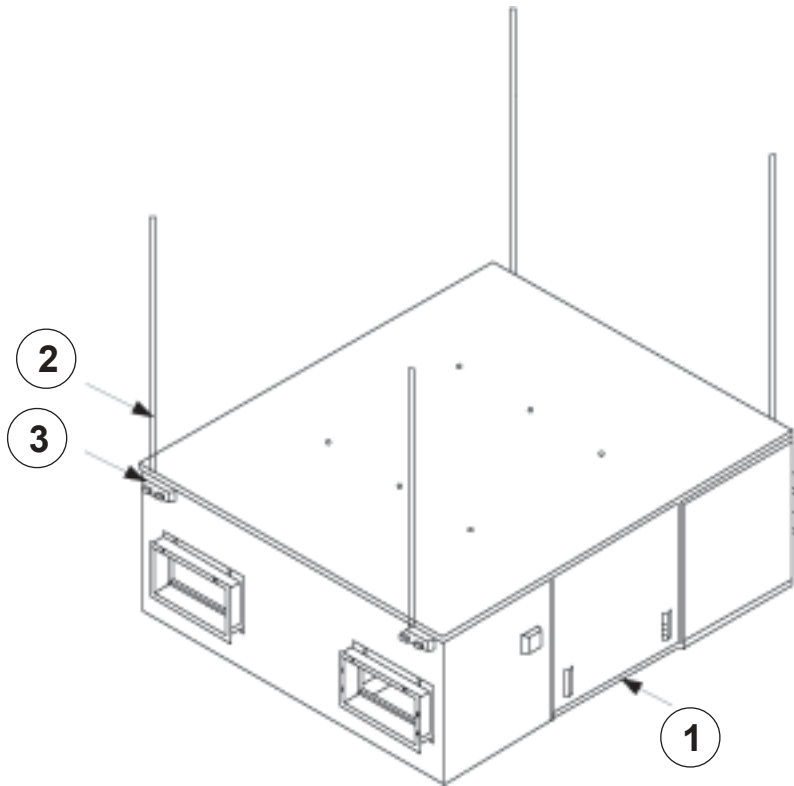
All moving parts except blower fan offer reliable operation and long service life almost without maintenance.

PRODUCT FEATURES



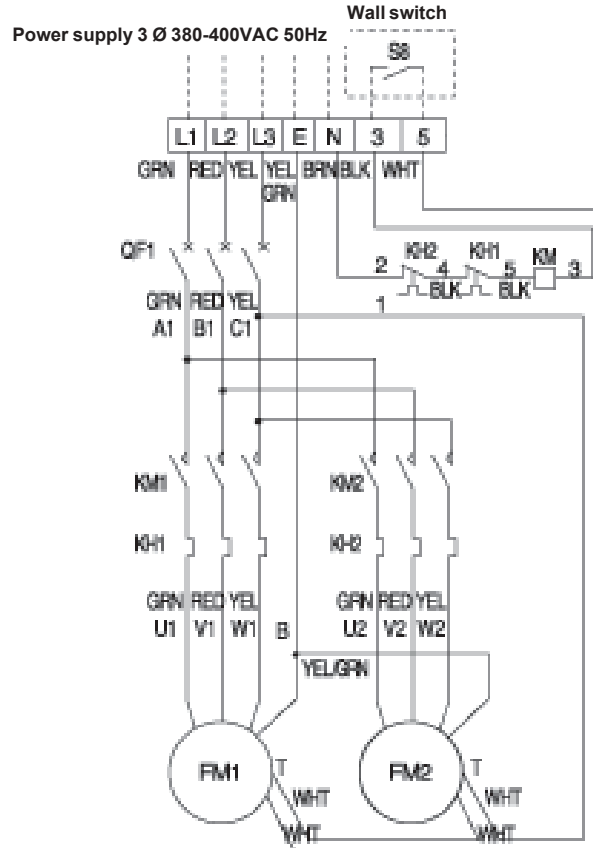
1. Electric control box
2. Inspection door
3. Air filter
4. Heat exchanging core
5. Lifting lug
6. Fan motor
7. Air inlet/outlet

PRODUCT FEATURES



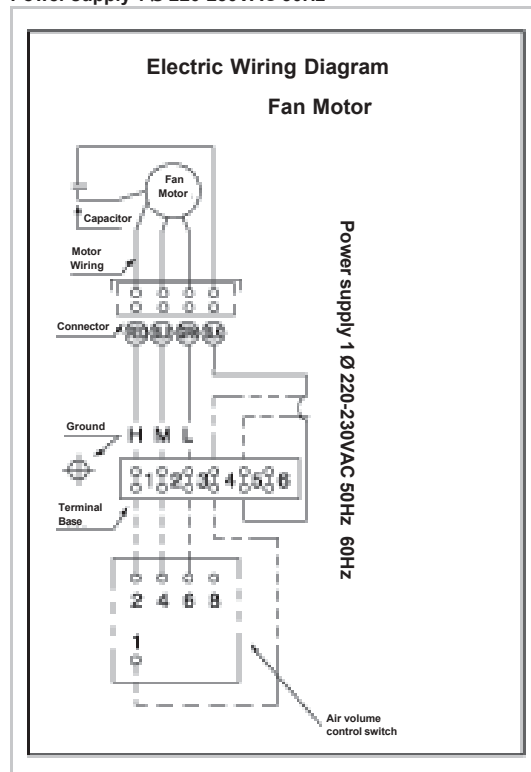
1. Body
2. Suspension metal pole
3. Nut

WITH 3-SPEED SWITCH



- Notes: 1. The switch (10A) is optional accessory.
 2. Wiring in figure [] is BVR 1.0.

Power supply 1 Ø 220-230VAC 50Hz



With 3-speed switch electric wiring diagram

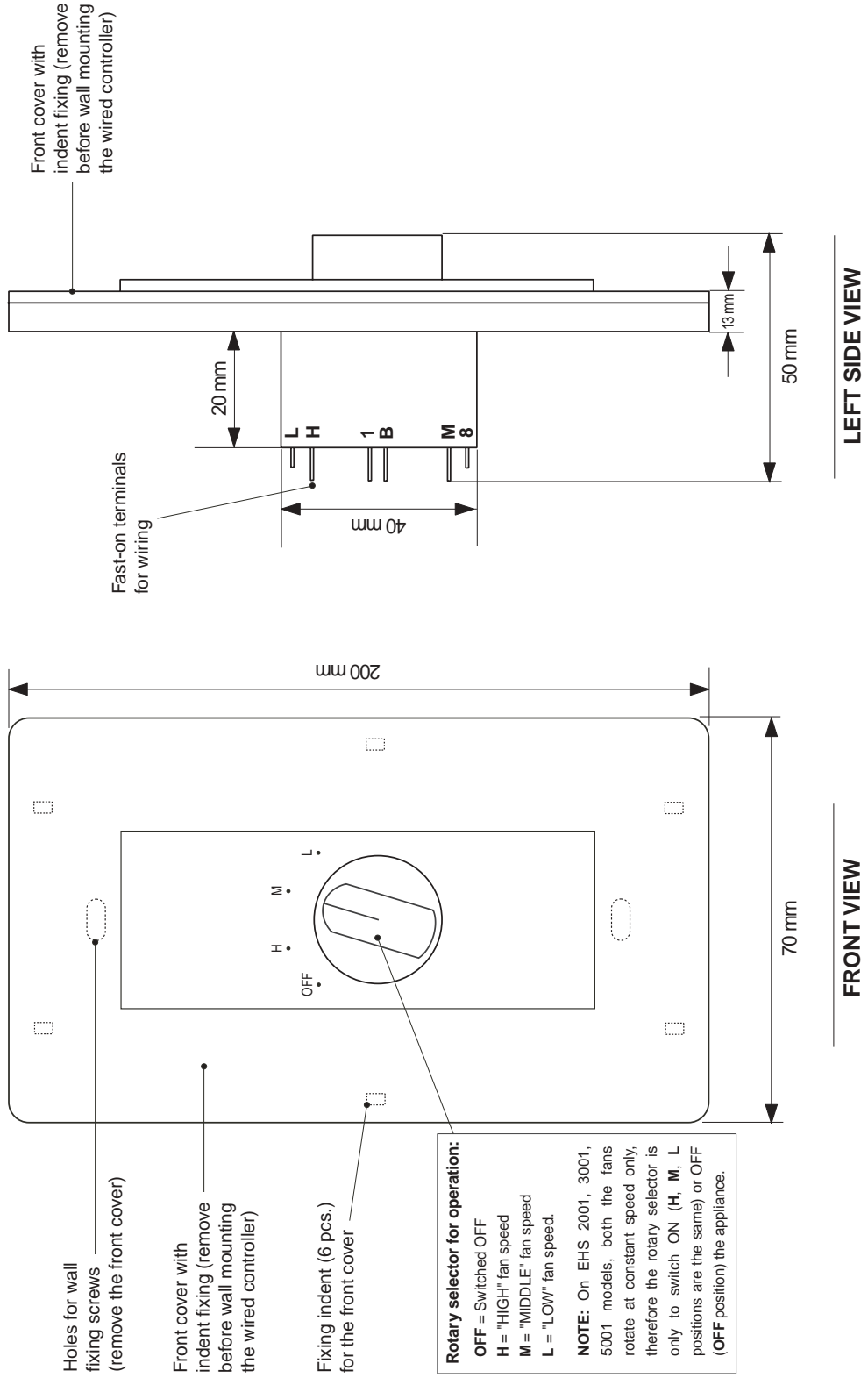
1. Please confirm the sequence of wire before wiring.
2. Power supply wire must be connected to the connector marked "4" and "5", or it will cause damages to the motor.
3. Two motors are in parallel connection.
4. " — — — " shows available supply.



1. If the supply cord is damaged, it must be replaced by the Manufacturer, its Service Agent or similiary qualified persons in order to avoid a hazard.

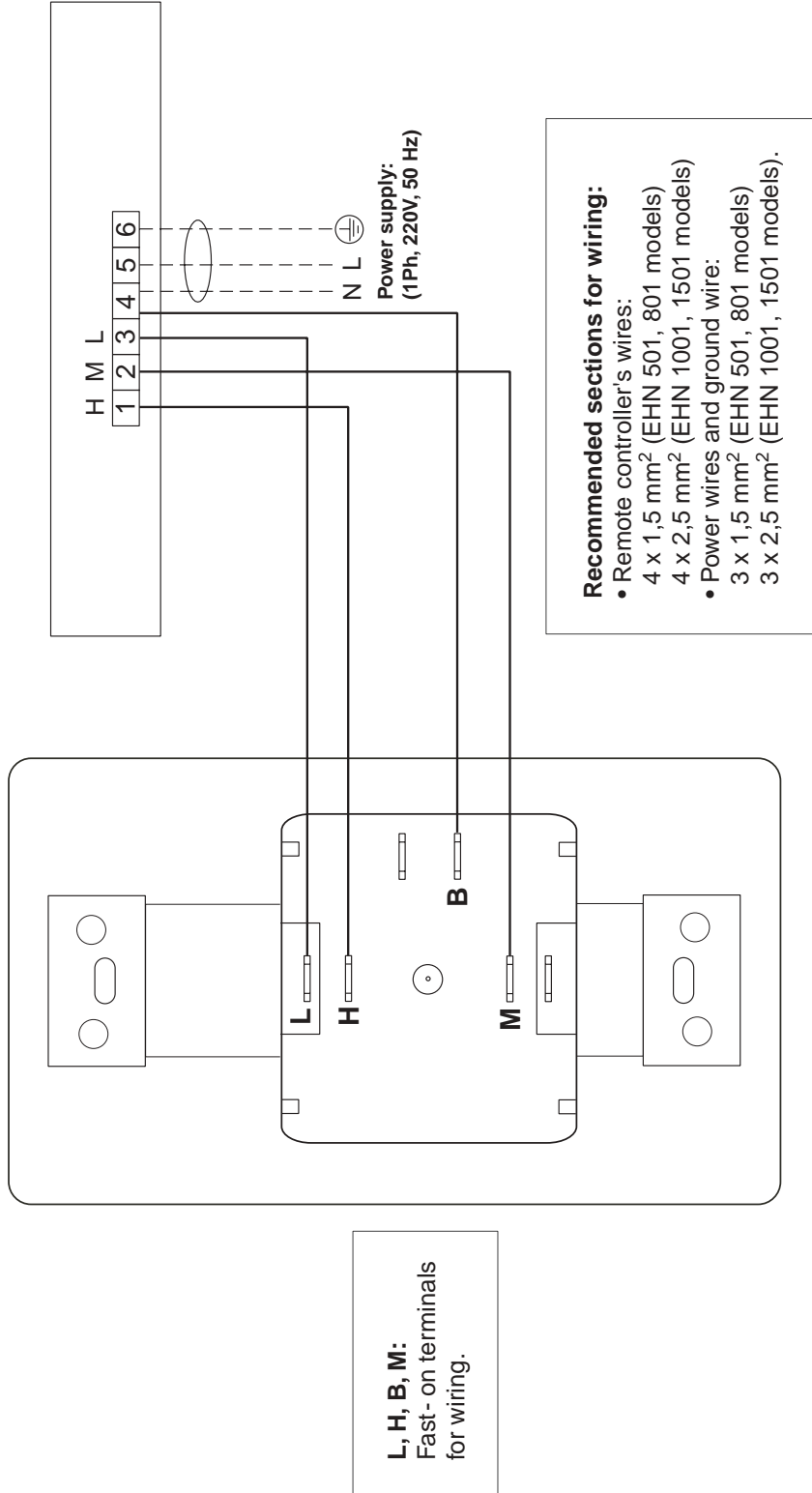
Models **HO** **KAIDO** EHN 501, 801, 1001, 1501 / EHS 2001, 3001, 5001: Enthalpy exchangers for heat recovery

Installation drawing for the wired remote controller



Models HO **KK** AIDO EHN 501, 801, 1001, 1501: Enthalpy exchangers for heat recovery

Wiring diagram for the remote controller

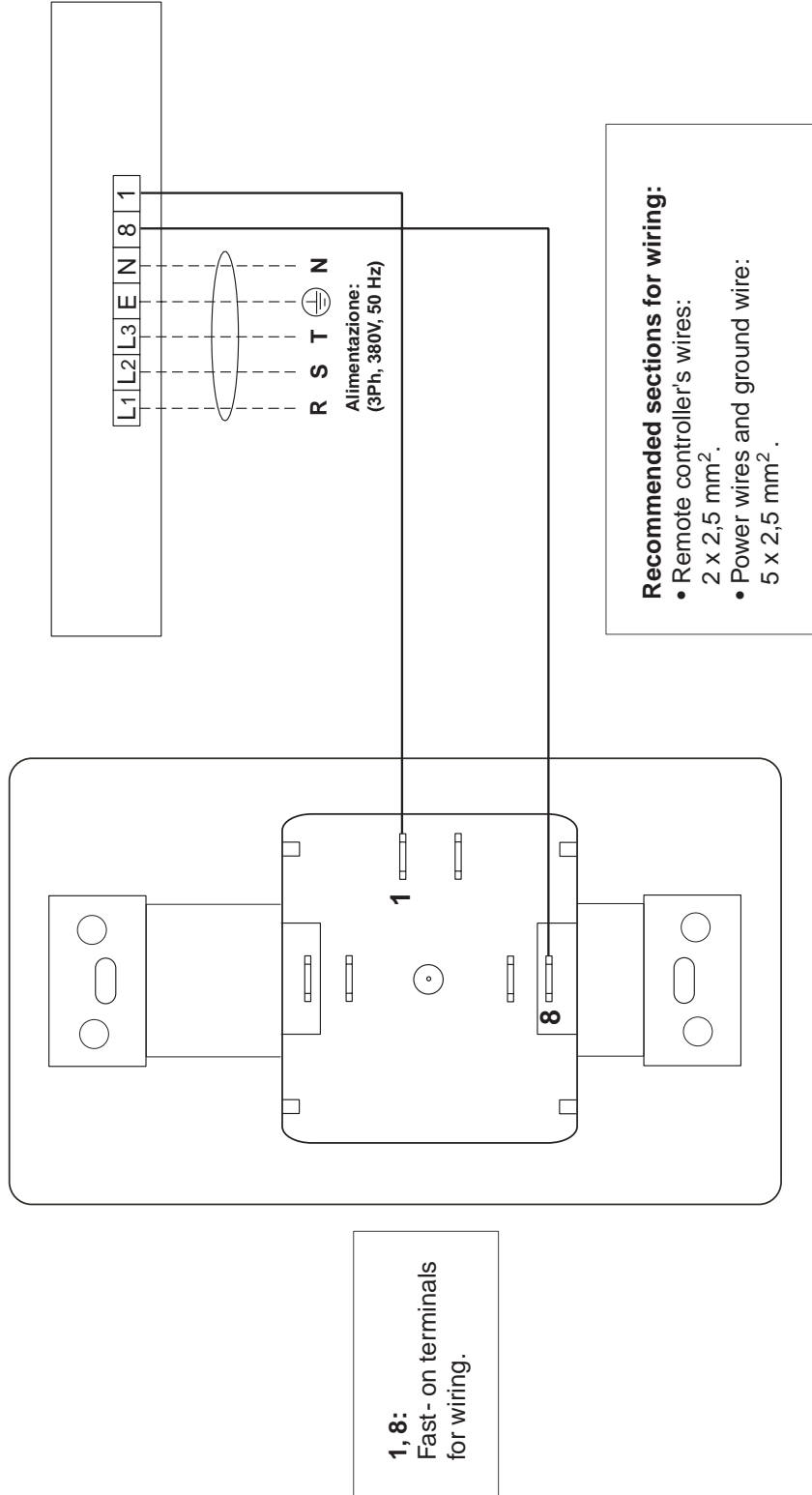


L, H, B, M:
Fast-on terminals
for wiring.

REAR VIEW

Models **HO** **KK** **AIDO** EHS 2001, 3001, 5001: Enthalpy exchangers for heat recovery

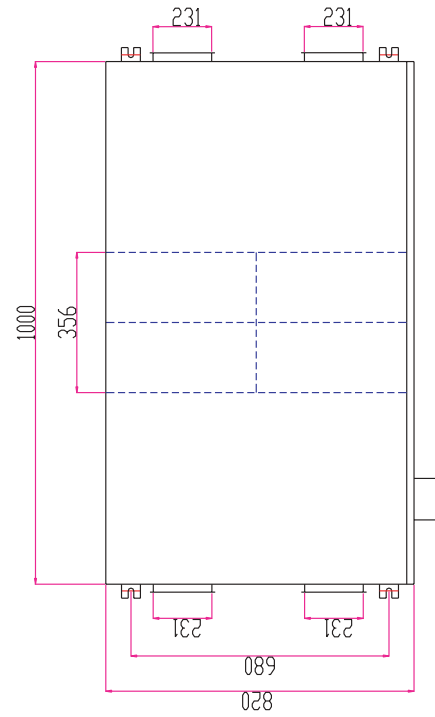
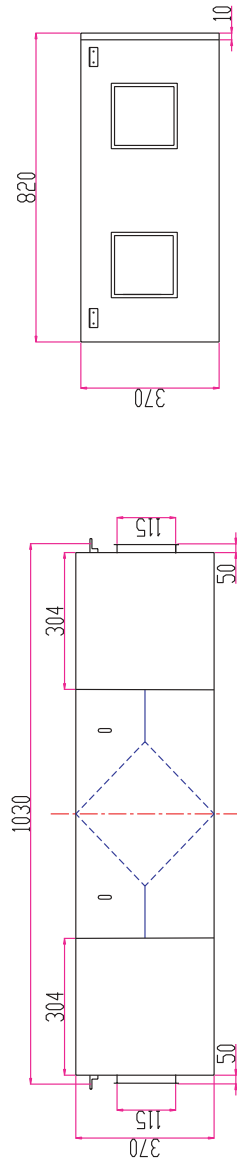
Wiring diagram for the remote controller



Models **HO** **KK** **AIDO** EHN 501, 801, 1001, 1501 / EHS 2001, 3001, 5001: Enthalpy exchangers for heat recovery

Model EHN-501: Drawings and dimensions

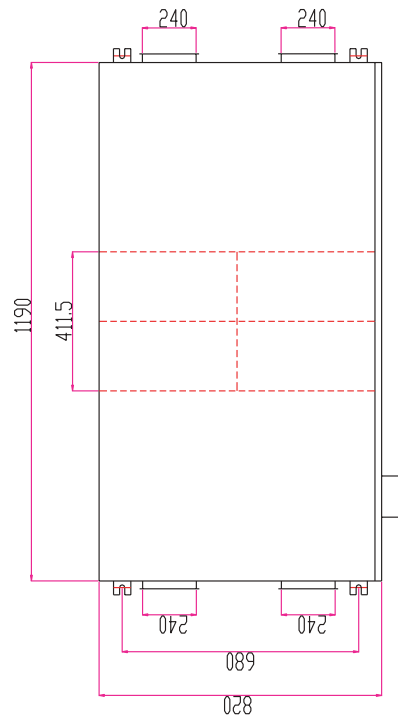
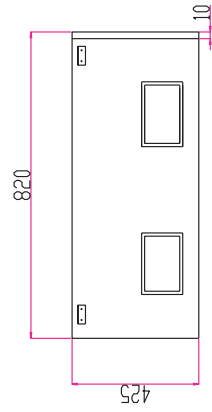
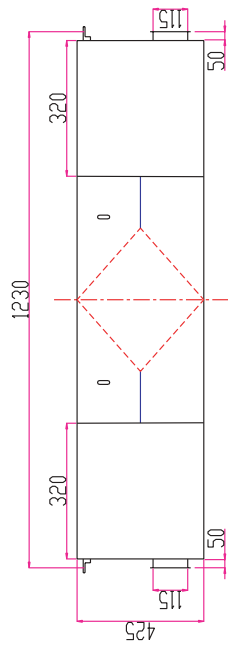
unit: mm



Models **HO** **KK** **AIDO** EHN 501, 801, 1001, 1501 / EHS 2001, 3001, 5001: Enthalpy exchangers for heat recovery

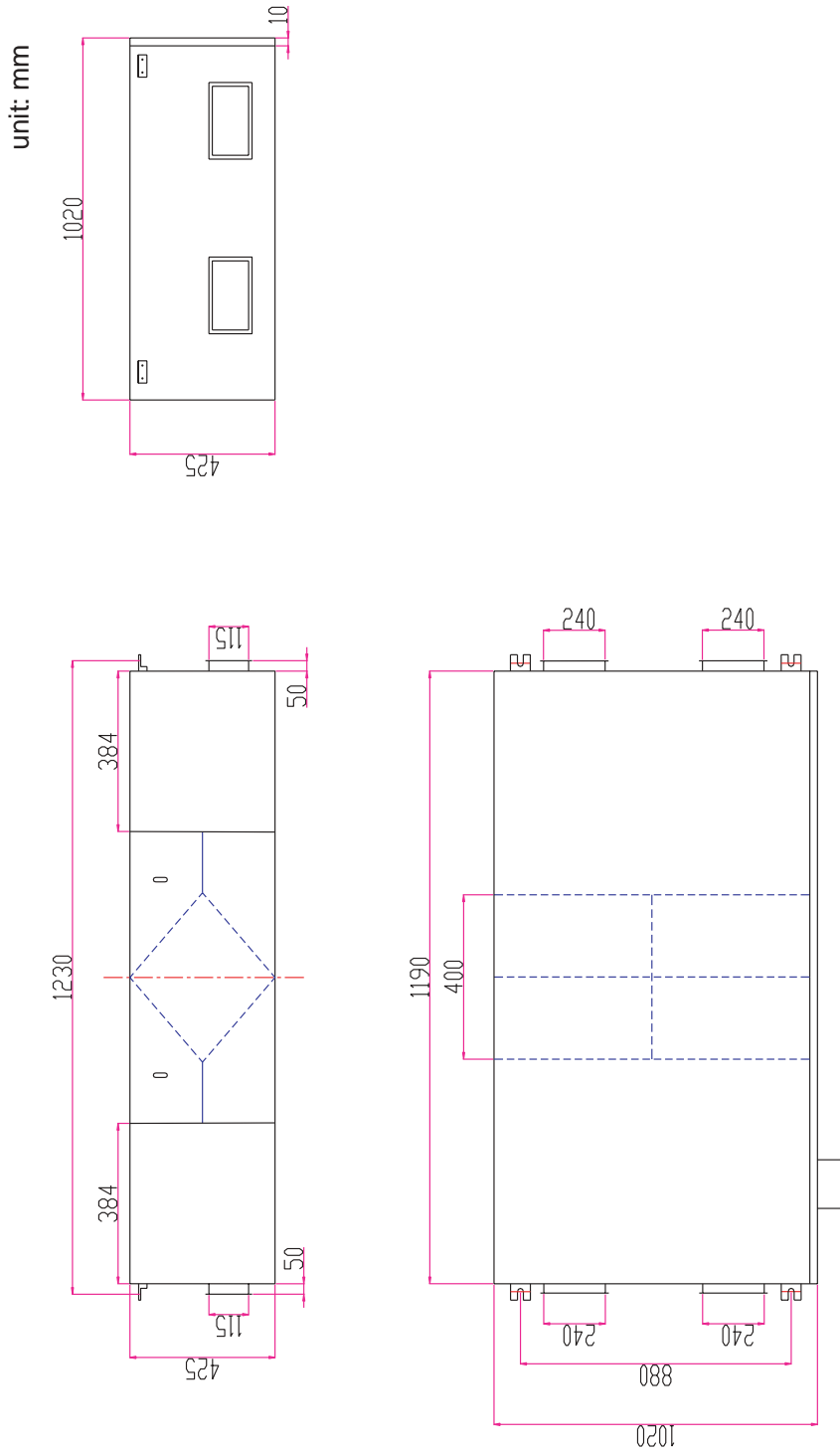
Model EHN-801: Drawings and dimensions

unit: mm



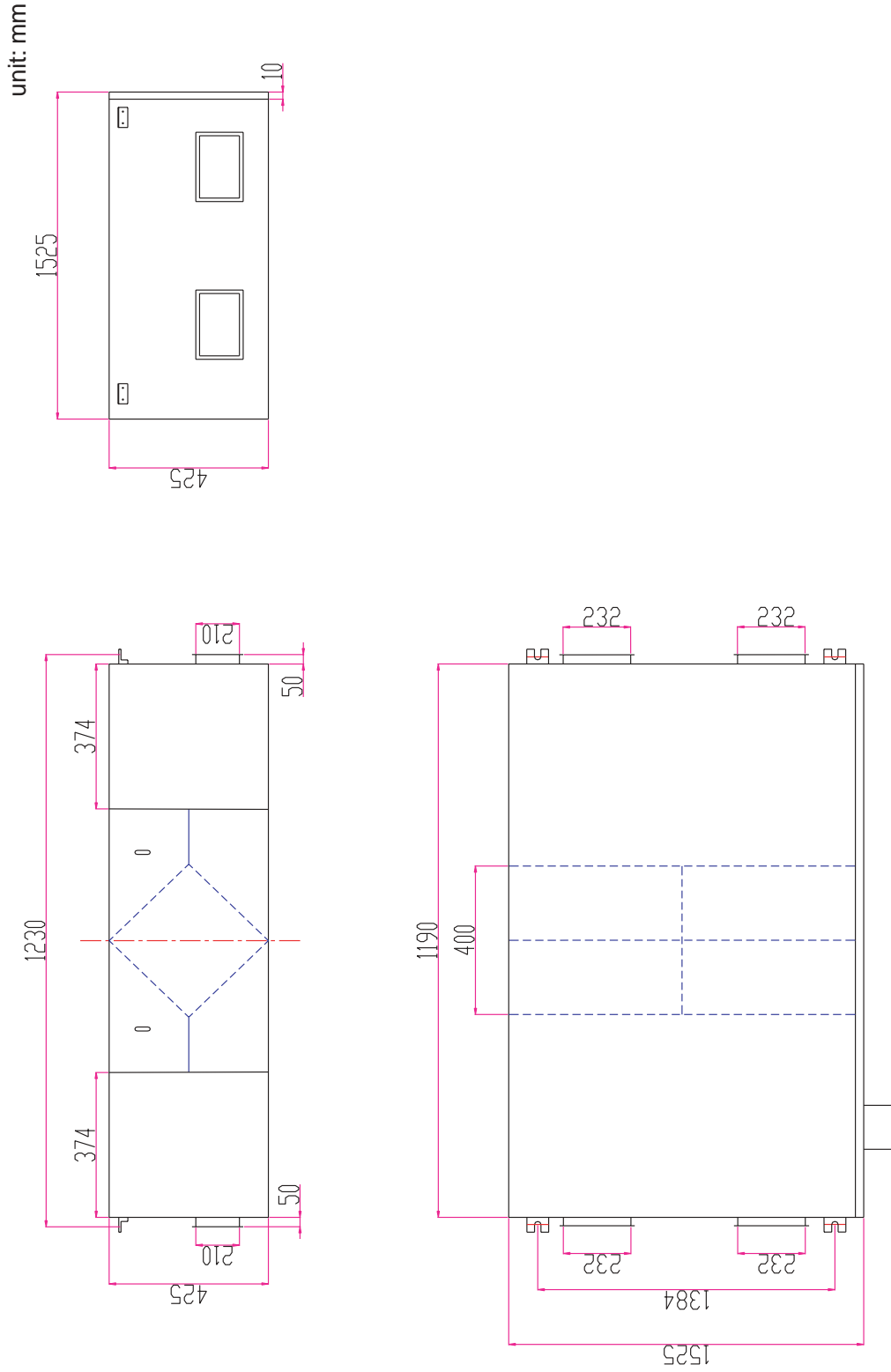
Models HO  AIDO EHN 501, 801, 1001, 1501 / EHS 2001, 3001, 5001: Enthalpy exchangers for heat recovery

Model EHN-1001: Drawings and dimensions



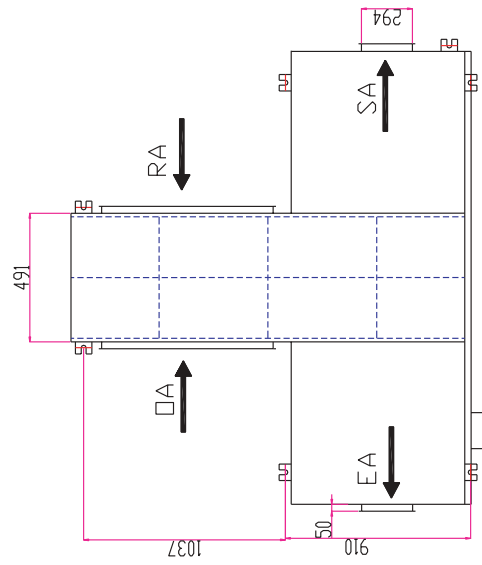
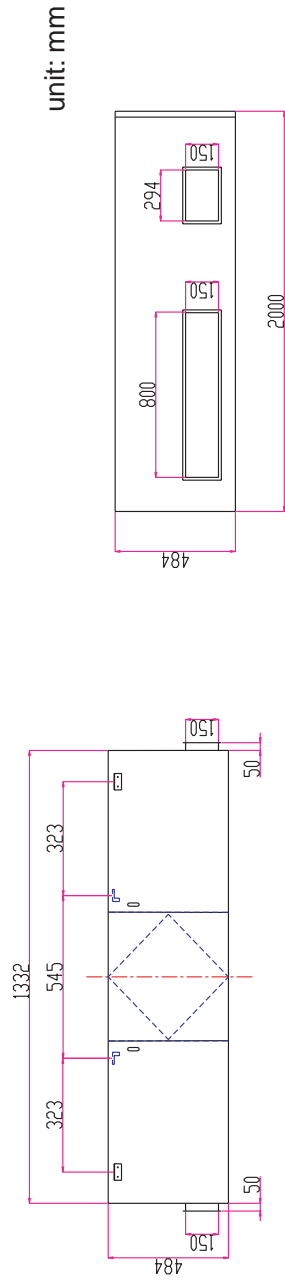
Models **HO** **K** **AIDO** EHN 501, 801, 1001, 1501 / EHS 2001, 3001, 5001: Enthalpy exchangers for heat recovery

Model EHN-1501: Drawings and dimensions



Models **HO** **KK** **AIDO** EHN 501, 801, 1001, 1501 / EHS 2001, 3001, 5001: Enthalpy exchangers for heat recovery

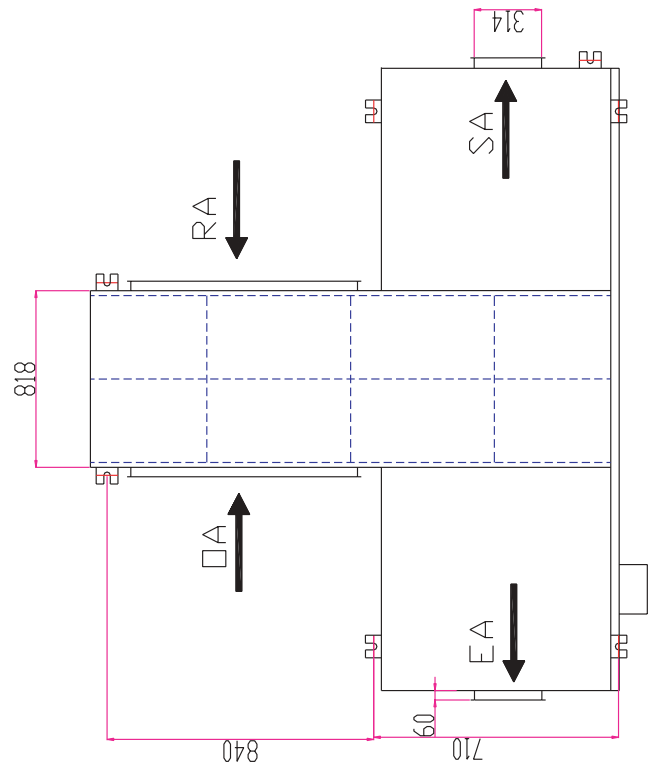
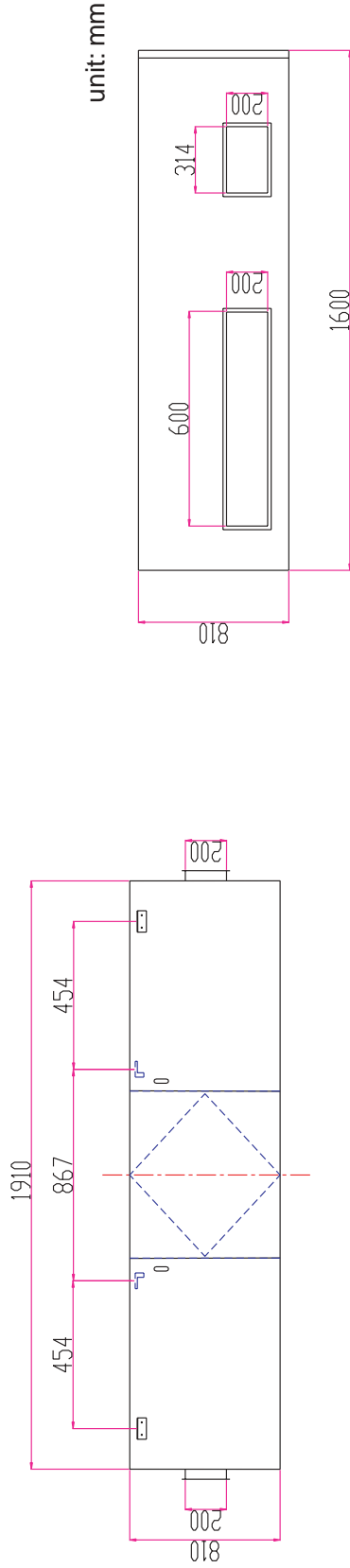
Model EHN-2001: Drawings and dimensions



OA = Outdoor fresh
 RA = Foul air
 EA = Foul air expelled out
 SA = Fresh air taken in

Models **HO** **KK** **AIDO** EHN 501, 801, 1001, 1501 / EHS 2001, 3001, 5001: Enthalpy exchangers for heat recovery

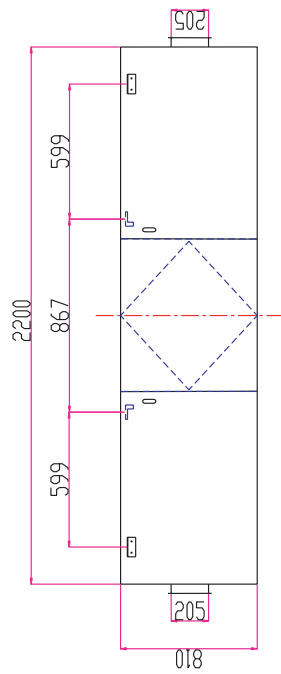
Model EHN-3001: Drawings and dimensions



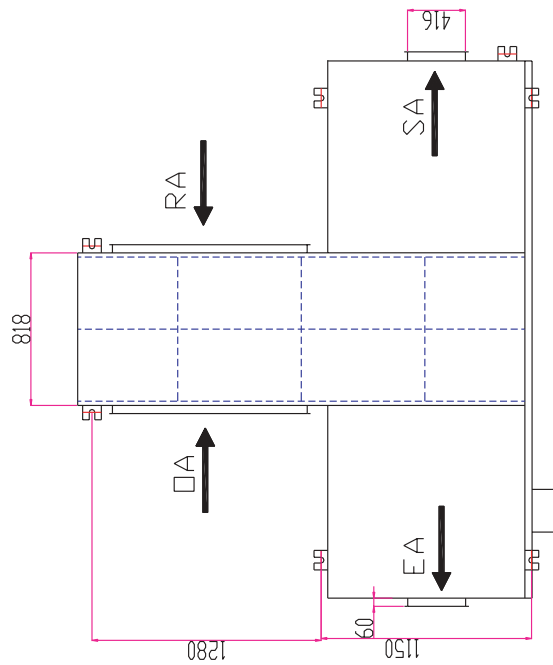
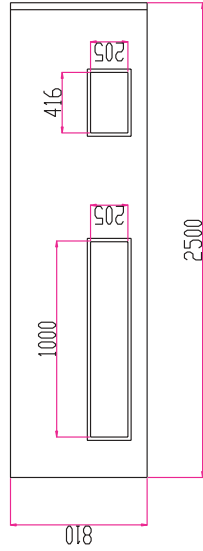
OA = Outdoor fresh
 RA = Foul air
 EA = Foul air expelled out
 SA = Fresh air taken in

Models **HO** **KK** **AIDO** EHN 501, 801, 1001, 1501 / EHS 2001, 3001, 5001: Enthalpy exchangers for heat recovery

Model EHN-5001: Drawings and dimensions



unit: mm



OA = Outdoor fresh
 RA = Foul air
 EA = Foul air expelled out
 SA = Fresh air taken in

MAINTENANCE AND TROUBLESHOOTING

A. Cleaning the air filters and the heat exchanging core

Name of part	Maintenance	
	Interval	Method
Air filters	According to the environmental conditions; at least once every 3 months or more frequently, if possible.	Wash with water and let dry in the shadow, far from any heating sources.
Heat exchanging core	According to the environmental conditions; at least once every 6 months or more frequently, if possible.	Blow with compressed air, not from too close distance. Never use water to clean the heat exchanging core.

B. How to solve the most common malfunctions.

Problem	Possible reason	What to do
No air flow through air inlet /air outlet	No power supply from the network. Connections on the power supply lines are wrong. The fuse is broken. Connections of the wired remote controller are wrong.	Turn on the main power switch. Check the power supply lines and restore them if necessary. Replace the fuse. Check the connections of the wired remote controller and restore them if necessary.
Reduced air flow through air inlet / air outlet	Air filters clogged by dirtiness or dust. There are obstacles inside the air channels. On 3-phase models, there is phase-inverted connection on the power lines and the fans cannot rotate correctly.	Clean the air filters. Clear the ait channels. Reverse any two power lines.

TECHNICAL DATA REFERENCE TABLE

Models	Power input (Power supply)	Fan speed	Air volume (m ³ /h)	Static pressure (Pa)	Current (A)	Temperature exchange efficiency (%)	Enthalpy efficiency (Winter) (%)	Enthalpy efficiency (Summer) (%)	Minimum size of access opening (mm)	Noise level dB(A)	Weight kg
EHN-501	60W x 2 1P/AC220V/50Hz	High	550	92	0.40 x 2	75	72	50	500 x 400	< 40	60
		Middle	500	88	0.35 x 2	77	74	52	500 x 400		
		Low	450	84	0.30 x 2	79	76	54	500 x 400		
EHN-801	130W x 2 1P/AC220V/50Hz	High	850	119	1.4 x 2	72	70	47	500 x 400	< 42	90
		Middle	800	103	1.2 x 2	74	72	48	500 x 400		
		Low	750	84	1.0 x 2	75	74	51	500 x 400		
EHN-1001	200W x 2 1P/AC220V/50Hz	High	1100	154	1.0 x 2	71	69	47	500 x 400	< 43	105
		Middle	1000	139	0.8 x 2	73	72	49	500 x 400		
		Low	900	117	0.7 x 2	76	74	51	500 x 400		
EHN-1501	320W x 2 1P/AC220V/50Hz	High	1650	153	1.9 x 2	73	70	48	500 x 400	< 44	115
		Middle	1500	115	1.7 x 2	75	72	50	500 x 400		
		Low	1400	82	1.5 x 2	77	74	52	500 x 400		
EHN-2001	250W x 2 3P/AC380V/50Hz	Constant	2000	65	1.09 x 2	72	69	47	500 x 400	< 55	170
EHN-3001	370W x 2 3P/AC380V/50Hz	Constant	3000	140	1.33 x 2	72	70	47	600 x 600	< 60	360
EHN-5001	1100W x 2 3P/AC380V/50Hz	Constant	5000	185	3.3 x 2	71	68	46	600 x 600	< 64	470

NOTES: (1) The data collected in the above table refer to the following operating conditions:
 • Operation in winter season (Heat.): Outdoor air temperature 5°C (D.B.) / 2°C (W.B.) | Room temperature 20°C (D.B.) / 14°C (W.B.)
 • Operation in summer season (Cool.): Outdoor air temperature 35°C (D.B.) / 29°C (D.B.) | Room temperature 27°C (D.B.) / 20°C (W.B.)
 (2) Noise levels in the above table are measured at 1,5 m distance below the machine's body.

EC DECLARATION OF CONFORMITY

We **TERMAL Srl** - Via della Salute,14 - 40132 Bologna - Italy

DECLARE

under our sole responsibility that the products **HOKKAIDO**

- **EHN 501, EHN 801, EHN 1001, EHN 1501**
- **EHS 2001, EHS 3001, EHS 5001**

conform with the following directives:

- *EMC Directive 89/336/EEC and its following 92/31 EEC by D.L. n. 476 dated December 4th, 1992.*
- *LV Directive 73/23 EEC and applied standards EN 60335-2-40.*

President
Giorgio Giatti



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**Due to on-going technological development of the products by the manufacturer,
we reserve the right to vary the technical specifications at any time without notice.**