DEEKAX®

AIR EXCHANGE EQUIPMENT INSTALLATION AND USER MANUAL

TALTERI

DIVK-C 96 C

THE QUALITY GOALS OF AIR CONDITIONING COME TRUE WITH THE RECOVERY SYSTEM

TALTERI removes used air from interior and brings in fresh air. Humidity and impurities are exhausted through thermal recovery unit that heats the filtered ambient air cost-effectively. The fresh warm air is channelled draught-free and noise-free into the premises in necessary quantities.

ENSURE THE QUALITY OF AIR EXCHANGE!

DEEKAX Air Oy

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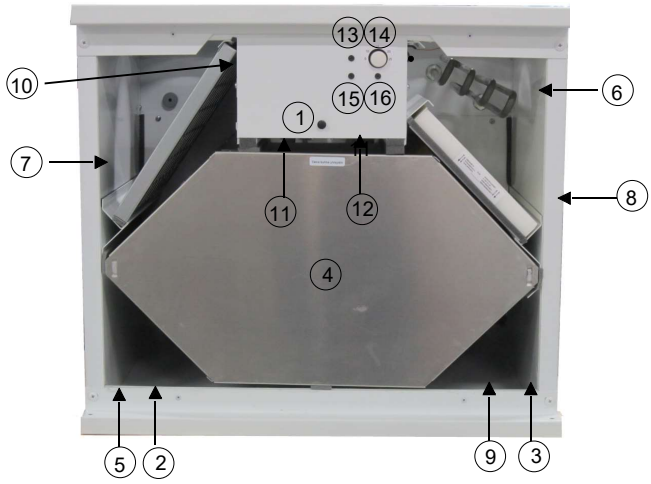
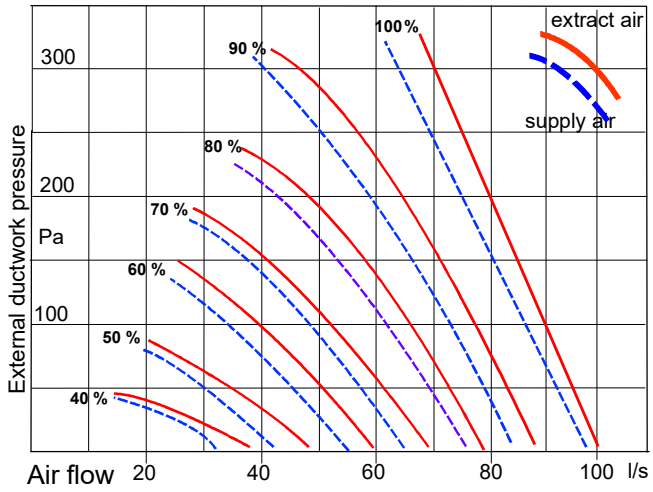
MACHINE PARTS AND TECHNICAL INFORMATION

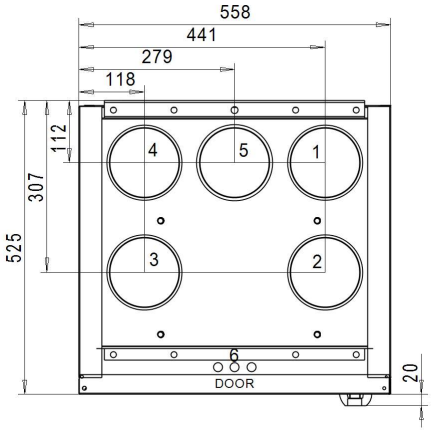
1 Door switch
2 Supply fan 166W
3 Extract fan 166W
4 Heat exchanger
5 Postheating 500W
6 Preheating 1000W
7 Extract air filter (G4) ISO Coarse>75%
8 Suply air filter (F7) ISO ePM1
9 Exhaust of condensing water
10 Summer bypass appliance
11 Preheat manual overheat protection
12 Postheat manual overheat protection
13 Summer bypass control
14 Postheating control
15 Frost protection control
16 Fans balance adjustment



In the picture right handed(R) model



Dimensions: Height 495 mm, widht 558 mm,
depth 525 mm, weight 51 kg



DUCT OUTLETS
HANDEDNESS RIGHT

1 EXHAUST AIR OUT
2 OUTDOOR AIR FOR THE SYSTEM
3 EXTRACT AIR FOR THE SYSTEM
4 INTERIOR AIR SUPPLY
5 KITCHEN EXHAUST

DUCT OUTLETS
HANDEDNESS LEFT

4 EXHAUST AIR OUT
3 OUTDOOR AIR FOR THE SYSTEM
2 EXTRACT AIR FOR THE SYSTEM
1 INTERIOR AIR SUPPLY
5 KITCHEN EXHAUST

6 WIRING

Kitchen exhaust air volumes

Adjusting voltage	%	40	60	80	100
Kitchen exhaust air volumes	dm^3/s	34	51	69	85
The total power level to the channel	L_{WA}	50	59	66	70

Fan speed%		40	50	60	70	80	90	100
The fan input power W		25	41	66	103	154	205	285
Sound pressure level LpA of the installation space dB(A)		21	27	31	35	38	40	43
Exhaust air (P)	Hz	P T	P T	P T	P T	P T	P T	P T
and Supply air (T)	63	46 53	51 60	54 63	57 68	59 71	61 74	62 75
Sound power	125	40 52	47 59	51 63	55 66	57 70	58 73	61 76
level in	250	38 50	44 56	49 61	53 65	56 68	59 71	61 74
air duct	500	39 47	46 53	50 57	54 62	58 65	60 68	63 72
by octave	1000	35 50	41 57	45 61	48 64	51 67	54 69	56 72
band Lw	2000	28 47	34 55	39 61	44 65	47 68	50 71	53 74
	4000	17 39	25 48	31 54	36 58	41 62	45 66	48 70
	8000	4 29	12 40	20 48	26 54	33 58	38 62	43 65
The total power level Lwa		38 52	44 60	49 65	53 69	56 72	59 75	61 78

TALTERI DIVK-C96 INSTALLATION

The air exchange unit is meant for warm inner facilities. Suitable installation spots are, among others, office, dressing or household facilities and technical or warm storages. In case the temperature of the installation location is lower than room temperature, the factory settings of the appliance must be changed to obtain faultless functioning. The unit can not be installed into cold outer premises or garages.

UPPER BASE DUCT

The channelling is usually mounted to the upper base thermal insulation. The steam barrier puncture must be carefully sealed. While installing the unit to channels, steel steam barrier plate, supplied as extra, will come handy. The steam barrier plate is attached securely between the roof trusses, 10mm smaller hole must be cut into the gasket mat and channels are installed through the plate. The steam barrier must be hermetically taped.
The unit can be attached right to the steam barrier plate with four M8 thread bars at desired height. Note the measurements of the steam barrier plate during the installation process.
The bolts and thread bars are purchased separately.

WALL ATTACHMENT

The wall mounting kit includes a ceiling mounting plate, a wall-mounting plate and 15 mm thick insulation pieces
A wall-mounting plate is installed about 25 mm below the roof surface.
The wall attachment plate will be fixed to the wall and then the unit lifted up to the attachment plate, checked into perfectly horizontal position and then drill holes for the metal screw through the mounting plate in to the bottom of the machine.
Roof moldings can be put around the machine.

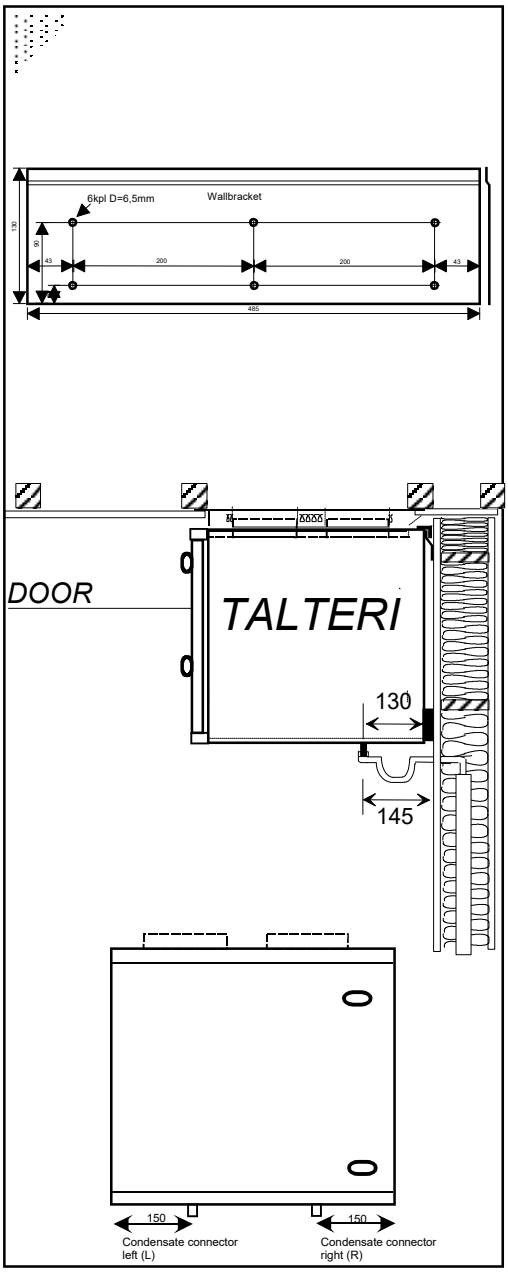
KITCHEN EXHAUST DUCT

The channel output (5) in intended for exhaust channel of the cooker hood.
If the exhaust channel of the cooker hood is not in use, it must close.

If the cooker hood is connected to the kitchen extract duct (past heat recovery), all the basic ventilation holes of the cooker hood closing damper must be closed and in the kitchen is needed a separate extract valve which is connected to the extract air duct.

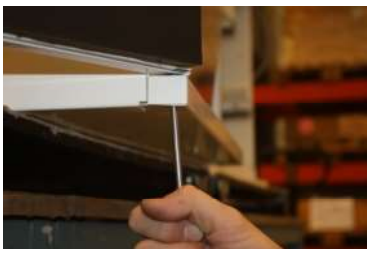
CONDENSATE

Condensate drain is connected to the machine condensate connector (3/8 "external thread).
Condensate can be made at a least 10 mm in the bore copper pipe or Relatively stiff hose.
The water pipe Making about 10 cm in the water trap and the tube is connected to a floor drain.
The water line shouldnt be connected directly to the sewer.



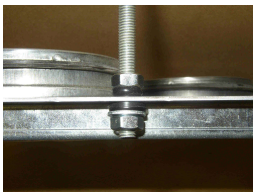
DOOR REVERSAL EXHANGE

Door reversal can be changed by pushing the hinge pin e.g with narrow tip screwdriver from the machine below or from above.

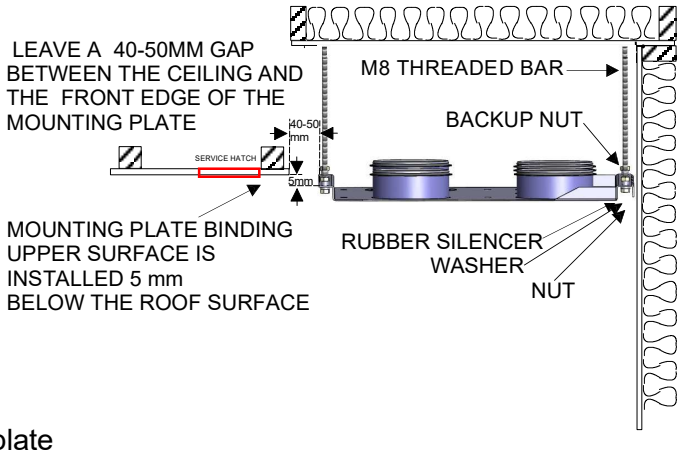


DIVK-C 96 INSTALLATION TO A SUSPENDED CEILING

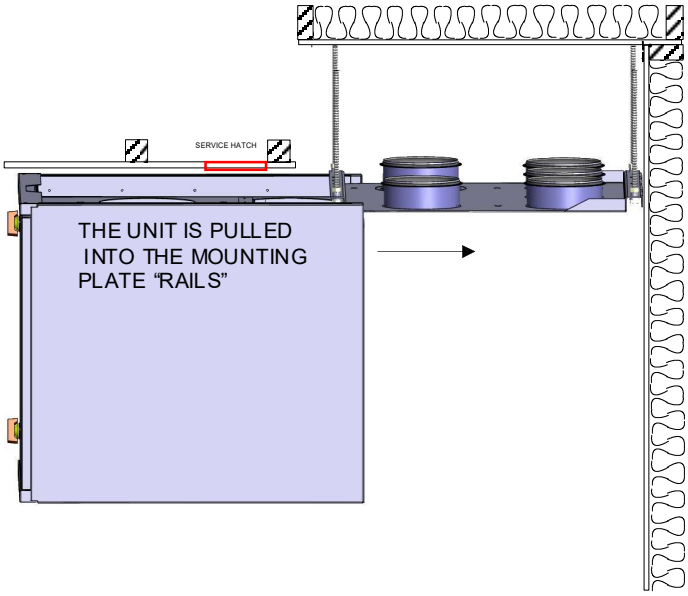
The ceiling-mounting plate is attached to the roof with M8, thread bars (not included in the delivery).

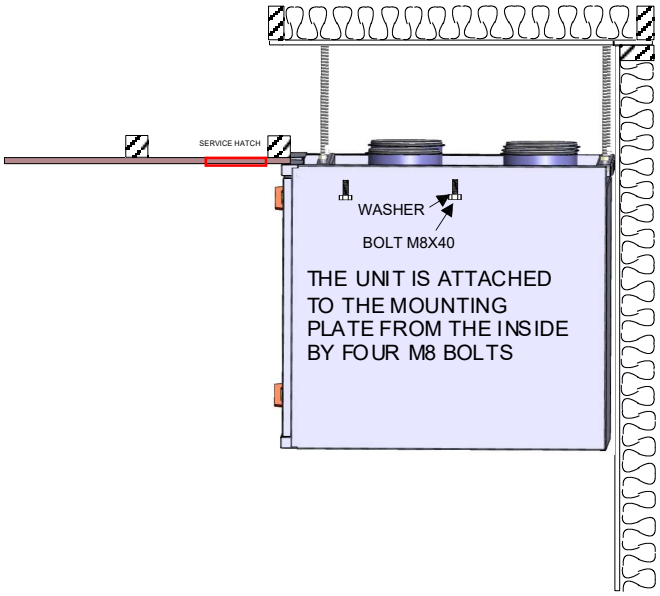


The head of the threaded bar can not reach below the bottom of the plate.

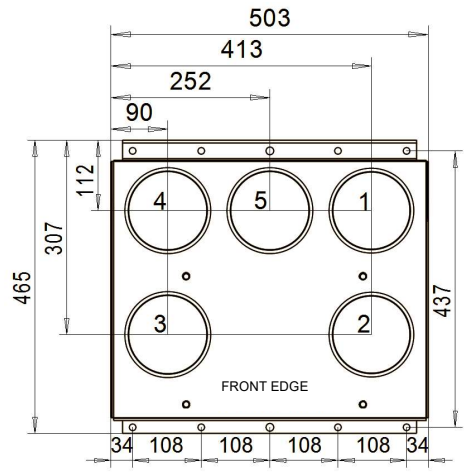


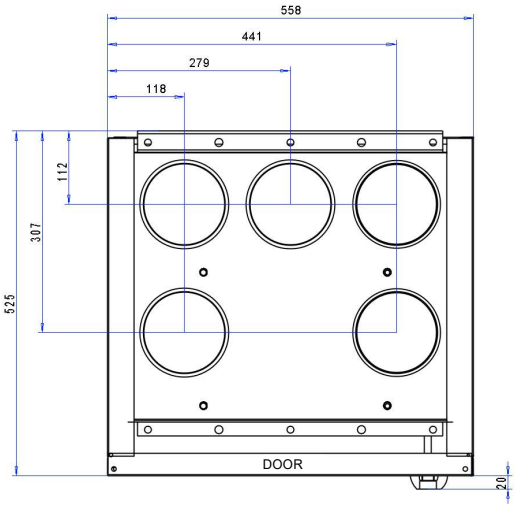
The unit will be pushed to the mounting plate and tightened with four M8 bolts against the mounting plate so that the cover seal of the unit is evenly sealed against the mounting plate, not tighter.





MEASURES OF THE MOUNTING PLATE





ELECTRICAL CONNECTIONS

DIVK- C96 + EC KITCHEN HOOD

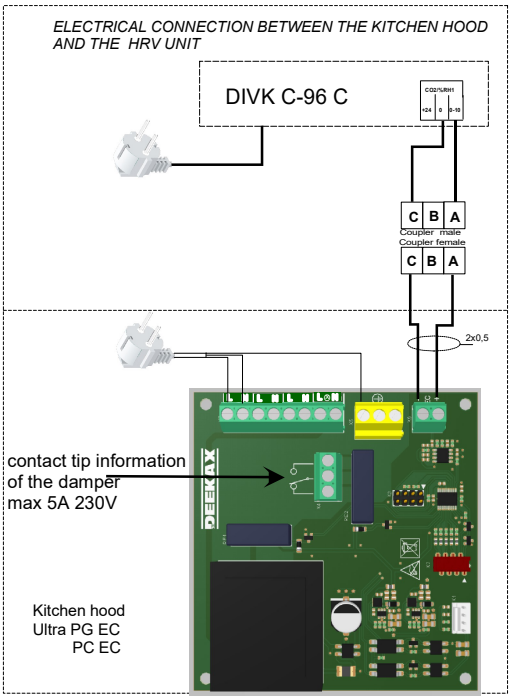
Electrical connections must be done following the installation manual and wiring diagram.
ELECTRICAL CONNECTIONS CAN BE DONE ONLY BY AN ENTREPRENEUR WITH RESPECTIVE INSTALLATION RIGHTS.

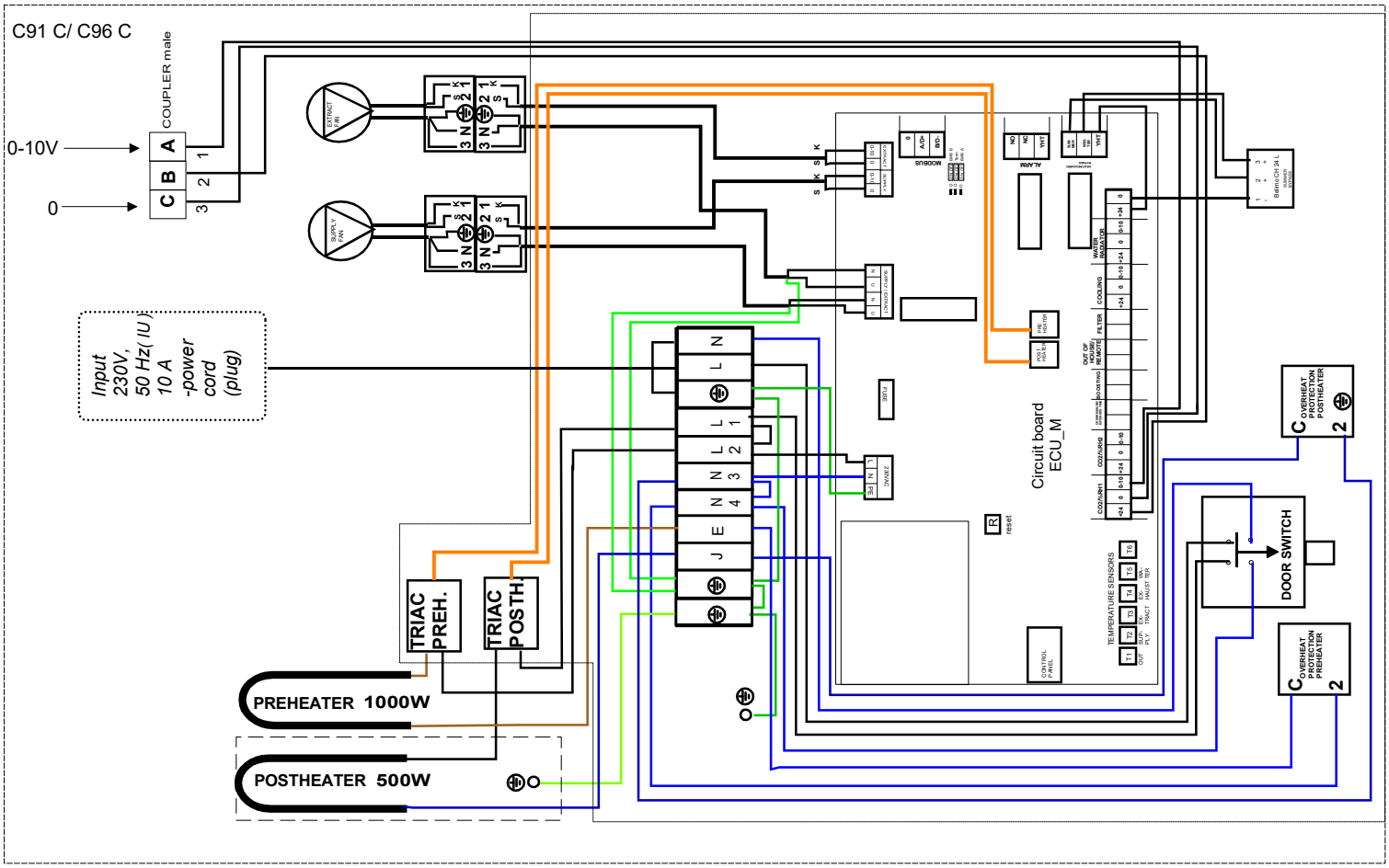
INSTALLATION INSTRUCTIONS OF THE ELECTRICAL CONNECTIONS
The heat recovery unit is equipped with a power plug.
230V, fuse max. 10A.

The kitchen hood is supplied with its own voltage (230V).
The kitchen hood has a power plug.

The control voltage (0-10V)for the fans is supplied by a separate cable from the kitchen hood to the plug located above the HRV unit.

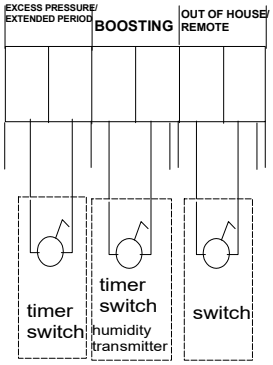
ELECTRICAL CONNECTION BETWEEN THE KITCHEN HOOD AND THE HRV UNIT





ACCESSORIES

- control pre-data



Excess pressure (Fireplace switch)
- timer
  - lift up supply air fan control 2 V

Boosting
- timer
- humidity transmitter
- switch
  - lift up fans to 10 V

Out of house
- switch
  - reduse fans to 2 V

THE INTRODUCTION OF THE VENTILATION UNIT

BEFORE OPERATING YOUR AIR EXCHANGE SYSTEM, MAKE SURE THAT:

- There are no loose objects within the unit or the air impeller;
- The coverings of construction-time are removed from the outlet- and exhaust air holes;
- All isolations and steam barriers are in order;
- The heat transfer and fans are in their places;
- The condensing water outlet is installed and the water is drained out;
- The air impellers and their adjusters are in working order;
- Afterheating is regulated and working.

USAGE AND CORRECT LEVEL OF AIR EXCHANGE

The air exchange level is regulated by changing the working speed of the air impeller from the operating panel. Airflow of different adjustable positions can be seen from table on the page 2.
Adjustable position 1 is for basic air exchange for an empty house.
Adjustable position 2 and 3 are normal working positions.
Adjustable position 4 is a efficiency position (i.e. for saunas).
The correct usage positions will be found by experience; observing the purity of the air or sultriness when coming in from outside, observing moisture on the windows or drying of the sauna.

USAGE DURING CONSTRUCTION

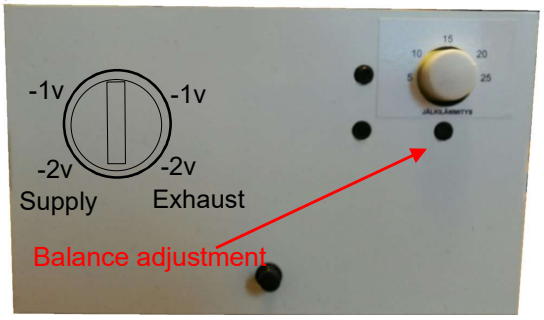
The air exchange unit should be started as soon as the construction work allow.
Efficient air exchange promotes drying of the constructions and prevents damage.
In case channelling has not been completed, fans and adjustments are missing,filter paper must be used in place of fans to keep the channels clean andprovide sufficient counterpressure for preventing overload. The unit must be used with full power and check the drainage of the condensing water.
The appliance, filters and heat exchangers must be cleaned and the systemadjusted after the construction works are completed.

BASIC ADJUSTMENT OF AIRFLOW

The unis alone can not produce good indoor air in case the channels and fans are installed carelessly and main adjustments are not made.
Regulate the inlet and outlet fans to the planned positions and start the unit at design power speed. Measure the airflow in outside- and exhaust air channels.
The outlet must be 5-10% higher than inlet. Check the pressure level of thechannels by checking from the vents and adjust it accordingly to obtain the pressure levels for vents; adjust and lock the pattern.Draw measuring- and adjustment records!

AIR VOLUME RATIO TRANSFORMATION FOR SUPPLY AND EXHAUST AIR FLOW (Balance adjustment)

If there is a need to reduce the control signal voltage (in connection with the ventilation control) for inlet or exhaust fan, there is a potentiometer in the DIVK-C96 C electrical enclosure.The supply fan voltage can be reduced 0-2 V by turning counter-clockwise.The exhaust fan voltage can be reduced 0-2 V by turning clockwise.This adjustment must not be changeed after adjusting the air flow.



THE SUMMER BYPASS OF THE HEAT RECOVERY UNIT MUST BE IN THE WINTER POSITION WHILE THE AIRFLOWS ARE BEING ADJUSTED.

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CONDENSING WATER AND FREEZING PREVENTION

When outlet air freezes, the humidity in lto-exchanger turns into water, flows down to the condensing basin and from there, through the hose and water-lock, into the open drain. During very cold weather the water would freeze in to the exchanger unless the anti-freezing thermostat stops the intlet air impeller for the fusion period.

There is double protection against freezing in DIVK-C96. If necessary pre-heating warm up the outside air and/or anti-icing termostat will use supply fan as in cycles during thaw cycle.
The frost protection temperature measured in the exhaust air temperature.
The basic regulation for frost protection is about +5 °C
Preheater turns on when the exhaust air temperature fall to the setpoint. The supply fan shuts down if the exhaust air temperature falls to 5 degrees lower than the set valut. The preaheater can be coupled off by setting the set value +10 °C when the supply fan is switched off +5°C
During very cold weather and when there is higher humidity there can be ice formation in the heat exchanger. If such a case occurs, setting the value (clockwise) obtained by raising the defrost cycle to start earlien.
In the dry conditions(e.g.office), the setpoint can be reduced if necessary.

AFTERHEATING AND SUMMER BYPASS OF INLET AIR

Machine has a Triac controller operated with 500 Watt heated inlet air of electric post-heating.
The temperature of inlet air is usually regulated to + 16 °C
The temperature may be adjusted to higher duging winter so there woud be no feeling of draft. In case of severe frost and efficiency mode the heating power might turn out insufficient in such circumstances, the air exchange should be reduced. The overheating protection launched during malfunctioning must be annulled manually.

For the summertime exhaust air is directed past the HR cell with manual summer bypass, so the exhaust air will not warm up the outdoor air.
When the outside air temperature is higher than the set value summer bypass thermostat prevent the post-heating coupling.

The basic regulation about +15 °C

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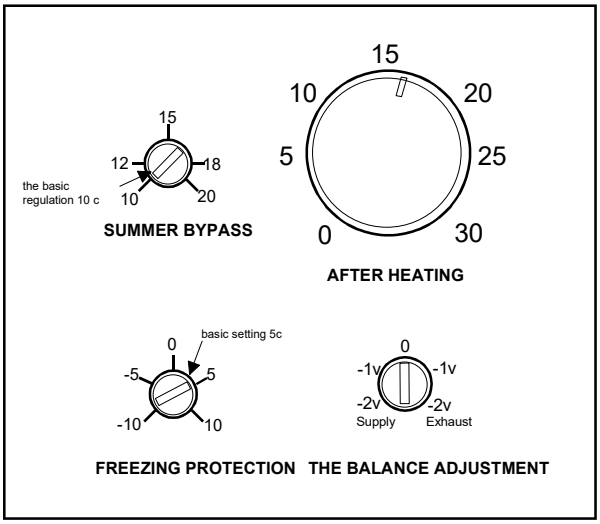

OVERHEAT PROTECTIONS

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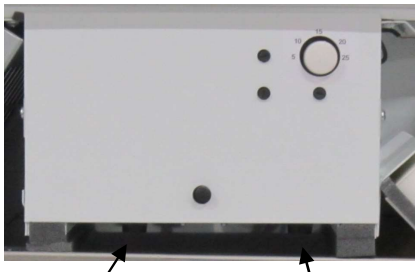
The overheat protection has been activated in case the barnier temperature has risen +90 °C (for instance in case of power failure).
Remove the threaded cap from the overheat protector button and press the button.



Preheater overheat protection

Postheater overheat protection

REMOVING THE FAN

The fans can be removed for cleaning or replacement.
Before removing the fan, remove the HR cell and filters.
There is a cover plate in the front of the fan, remove it by removing the screws, 2 pcs.
Unplug the fan plug connector.
The fan is removed from the housing with end plate.

The fan cover plate screws

MAINTENANCE OF TALTERI

For producing good indoor climate continuously, the air exchange systems require regular maintenance. The metallic grease filter of stove hood must always be kept clean for fire safety reasons. Cleansing with hot water or dishwasher once a month is necessary. Substances suitable for machine washing may darken the aluminium parts of the filter.
The inlet and outlet filters of Talteri must be cleansed at least twice a year.

In summertime the summer cassette plate will be set to summer mode when the external air should come in fresh and clean.

The heat recovery cell will be pulled out of the unit and washed thoroughly in autumn just before the heating season begins –the heat recovery will then be at its best. Check the condition of sealing and push the heat recovery cell back to its place.

The inner painted walls of the unit are easy to clean. Check the condition of sealing, clean the outlet hose of condensing water and make sure the water flows freely and without any obstructions.

The impellers, air exchange adjusters and thermostats are components that do not require regular maintenance. Electrical works can be carried out only by a qualified electrician.

During the frosty period the heat recovery cell is defrozen by using the preheater. The power of the preheater is mainly adequate to keep the heat recovery cell defrozen. In extreme conditions, if the power of the preheater is not sufficient, the supply fan power will be reduced or stopped by the freezing protection thermostat when the exhaust air temperature drops below the set value (0°C). The supply fan starts when the exhaust air temperature rises above the set value.

Under extreme conditions (humidity /harsh cold) the Ito-element may freeze over and the anti-freeze protection defreezing cycles are not able to defrost it. If such a case occurs, the machine has to be stopped, opened and the cold flow stopped and the ice given the necessary time to melt. Check the drainage of condensing water! In case the water-lock dries out and makes pulping noise, you can pour a drop or two of cooking oil.

In really cold weather, the head recovery unit heats the preheated inlet air with afterheating. The functionality can be proved by comparing the temperature of inlet air to the set value of the inlet air afterheating.

The overheat protection has been activated in case the temperature has risen +90 C (for instance, in case of power failure). Reset the overheat temperature by pressing the switch under the threaded contact protection.

The channels must be checked if the impeller works but the air exchange is inadequate or the temperature changes in the channels between the interior and the machine. Temperature changes and humidity concentration in channels must be prevented by improving the isolation.