



Operation instructions

Air handling units of TYPE range





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The device has been manufactured in accordance with the EU standards EN1886, EN13053.

This documentation must always be handed over to the user!

In case of non-compliance with the warranty conditions listed below in the documentation, VentiAir s.r.o. reserves the right to refuse warranty.

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2 INTRODUCTION

2.1 INTRODUCTION

Air handling units from VentiAir are available in standard, under-ceiling, outdoor, swimming pool, chemically resistant and hygienic versions.

This Operational and Technical Documentation contains all the necessary information regarding the air handling units from VentiAir.

Every future user should get acquainted with it, for correct installation, operation and all maintenance to guarantee trouble-free work and satisfaction with the purchased equipment. Before proceeding with installation, you should read this manual and follow the instructions recommended by VentiAir.

Also keep in mind that the operating instructions should be available for service and should always be stored near the unit.

2.2 USE

Air handling units are manufactured in type ranges and its modern construction allows the creation of various variants by connecting modules that implement any air treatment process. These combined function modules are grouped in a common casing, which reduces heat losses by reducing the number of thermal bridges.

In addition to ventilation, VentiAir units also provide air conditioning by heating, cooling, drying or humidifying according to the needs of users. Various forms of energy recuperation and noise attenuation are also available.

The type ranges of air handling units are characterized by a wide scale of air output of 200 - 120,000 m³/h, which allows their use both in small buildings and in buildings with a total need for air exchange: industrial halls, shopping centres, sports halls or public buildings.

This Operational and technical documentation applies to TYPE units with an air output range from approx. 200 to 120,000 m³/h.

2.3 CONSTRUCTION OF UNITS

The skeletal construction of the units is made of aluminium profiles, which are connected by polyamide corners. This solution guarantees its compactness and stability. For units designed for operation at low temperatures, profiles with thermal inserts can be used, which prevent moisture condensation. Additional rigidity of the structure is provided by a mounting frame made of steel profiles.

In case of small REKU-TYPE units, the frame is not part of the construction, the units are made of self-supporting steel construction.

Unit housings are made of multilayer boards filled with rigid polyurethane foam or mineral wool. The boards are covered on both sides with galvanized, painted or stainless steel sheet. The thickness of the outer plates of the unit is 18, 25, 30, 45 or 50 mm depending on the type and ensures perfect thermal and acoustic insulation.

The work of air handling units of VentiAir is ensured to the optimal extent by systems of automatic regulation and control of air conditioning processes and by continuous regulation of the air output of fans.

Indoor units, referred to as standard, are designed to work in rooms such as: engine rooms, garages, cellars, etc. For this reason, they meet strict acoustic requirements. When deciding on the installation of units of this type, it is necessary to take into account the sufficient space for operation and service.

The outdoor units are equipped with a roof, suction and exhalation louver. The roof fulfills the protective function against atmospheric precipitation and its shape and design prevents the accumulation of water and its leakage. The construction of the suction and exhaust louvers prevents rainwater, solid particles, rodents and birds from penetrating into the unit. The medium connection to the heater or cooler and the condensate drain are located inside the units. To protect against the weather, all control components and control dampers are located inside the units.

2.4 OPERATOR SIDE

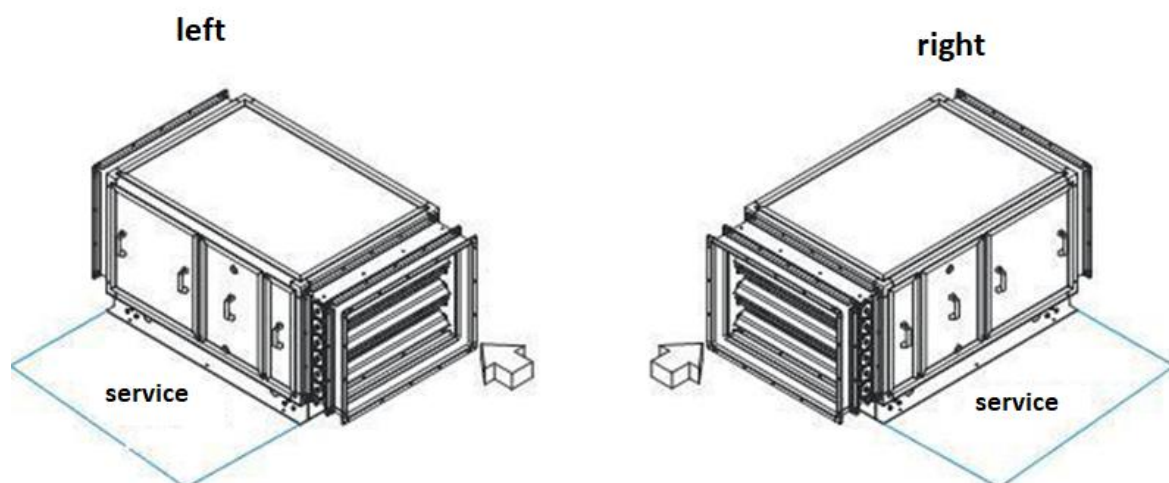
Air handling units are manufactured in right and left versions. The operator side is determined by the direction of air flow in relation to the service side. The operator's side indicates the location of the inspection door, the nozzles for connecting the heat exchangers and the condensate drain.

- right - when viewed in the flow direction, the service side is located on the right side

- left - when viewed in the flow direction, the service side is located on the left side

* in the case of supply / extract units, the operating side is specified separately for the supply and discharge part.

Fig. 1. – Left and right version of the unit

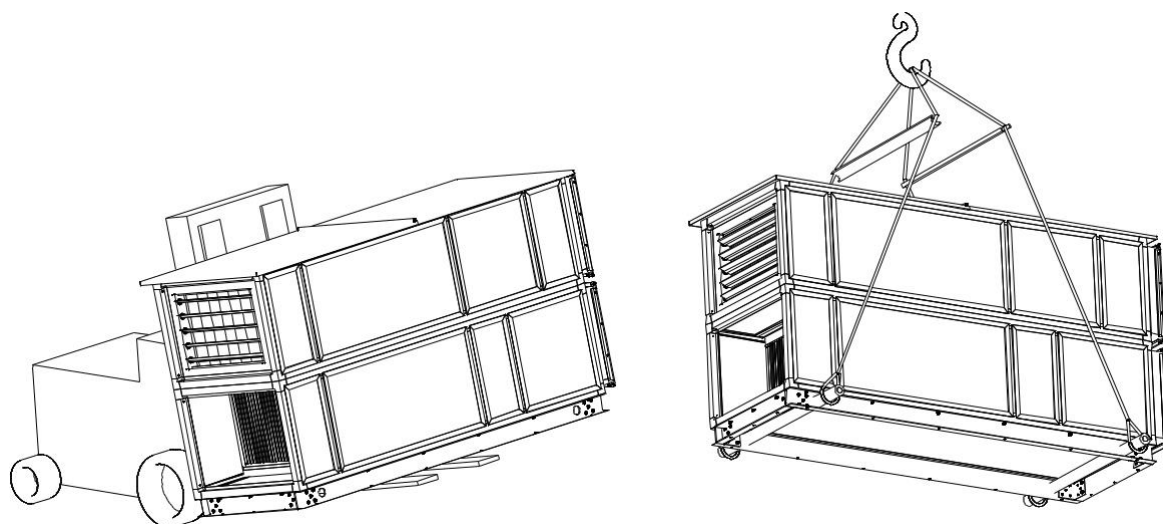


3 METHODS OF TRANSPORTATION AND STORAGE

The air handling units are delivered to the installation site as a whole or in functional blocks to be connected directly on the building. All unit models must be transported as intended for operation, and the blocks cannot be stored on top of each other (due to possible mechanical damage, which is not covered by the manufacturer's warranty).

Although each transport device is secured with foil and protectors, special care must be taken during transport and unloading. Depending on the size and thus also the weight of the unit (all necessary information is given on the labels), unloading can be done using a forklift or a crane. Units that are expected to be transported by forklift (Fig. 2.1 a) are additionally equipped with wooden beams, which are screwed to the frame of the unit block, thus ensuring its stability during unloading and protecting against mechanical damage. If the equipment is transported by crane, it must be taken into account that all existing safety regulations must be applied. Special openings located in the longitudinal frames facilitate transport by crane. In order not to damage the sides of the device, safety spacers must be used above the unit, the length of which must always be greater than the largest transverse dimension. (Fig. 2)

Fig.2. – Transportation by forklift and crane



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After delivery of a certain type of unit to the destination, it is necessary to check it (whether the packaging or parts of the unit have been damaged, whether all nozzles are sufficiently secured for storage, etc.) and check whether the documentation is complete. Places that meet following basic requirements can be used for storage:

- no atmospheric influences (precipitation)
- air temperature is from -20 to 30 °C, relative humidity up to 80% at 20 °C
- there are no aggressive substances, gases, dust on spot, which due to their chemical properties may have a corrosive effect on the device or its parts

All damage caused by improper transport, unloading or storage is not covered by the manufacturer's warranty!

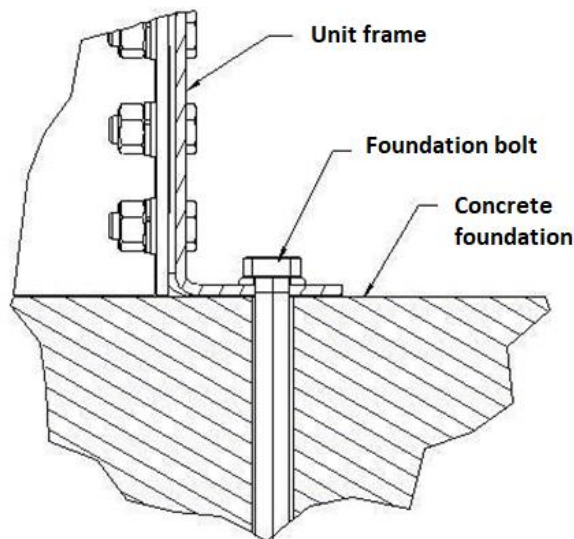


4 LOCATION AND INSTALLATION

There are two ways how to position the unit. A steel frame can be placed on the floor, on which the unit will be placed, or a full-area foundation can be made. It is also necessary to keep in mind the appropriate strength of parts on which the unit will be mounted (the calculation of the strength should be performed by a qualified person).

From a technical point of view, the height of the unit placement is very important. If the device is equipped with siphons for draining condensate from certain sections, the required height between the unit and the surroundings must be taken into account. In some cases, it may be necessary to make a hole in the foundation to maintain the height for the siphon to be mounted. It is necessary to note the different heights of the unit and the humidifying chamber, and prepare, if necessary, a suitable floor correction for the humidifying section itself, or place the unit on a frame of suitable height.

Fig.3. – Installation of the unit on the foundation



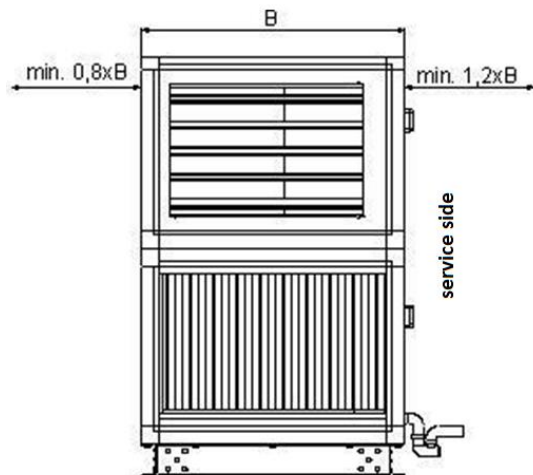
4.1 SELECTION OF INSTALLATION PLACE

The actual placement of the unit must be performed according to the following principles of correct assembly:

- the unit should be located in a room so that the connection of the installation (pipes, cables, ventilation ducts) does not make it difficult to access the inspection openings,
- between the operator side of the unit and all obstacles in the room (columns, walls, etc.) it is necessary to provide a suitable free space for unobstructed installation, operation and service or repair work



Fig. 4. Location of the unit



4.2 JOINING BLOCKS OF UNITS

Before fixing the units, which are delivered in sections with regard to transport, it is necessary to connect and seal the individual sections using steel corner reinforcements connected by screws.

For outdoor units, supplied in parts, the installation of the roof is carried out only after the unit blocks have been connected and fixed.

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Fig. 5. – Connection of roof

Detail of roof plate assembly

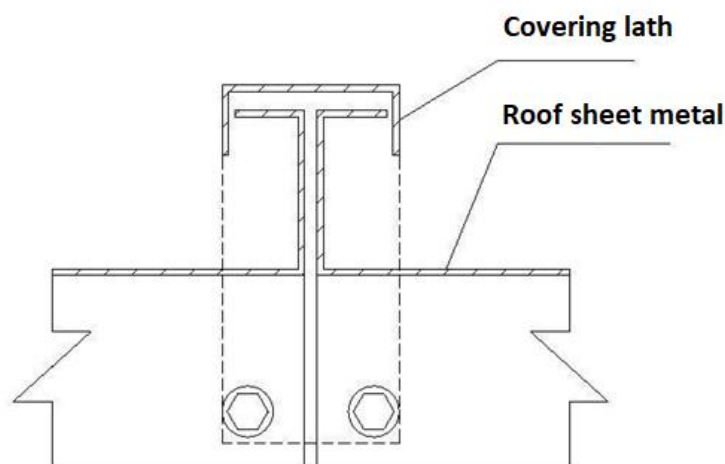
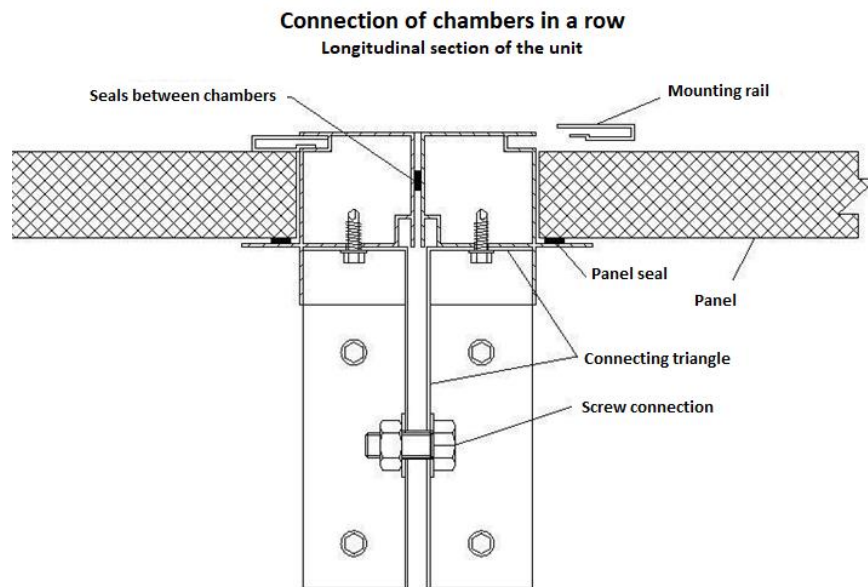
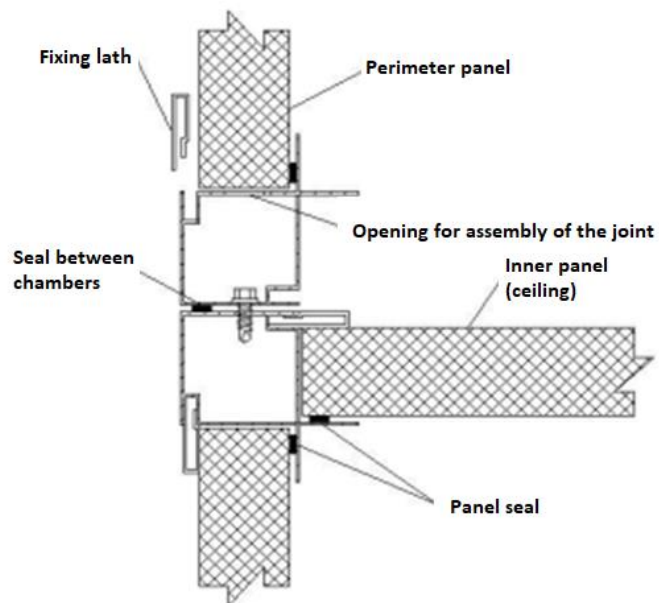


Fig. 6. - Connection of suction and discharge part for assembly units



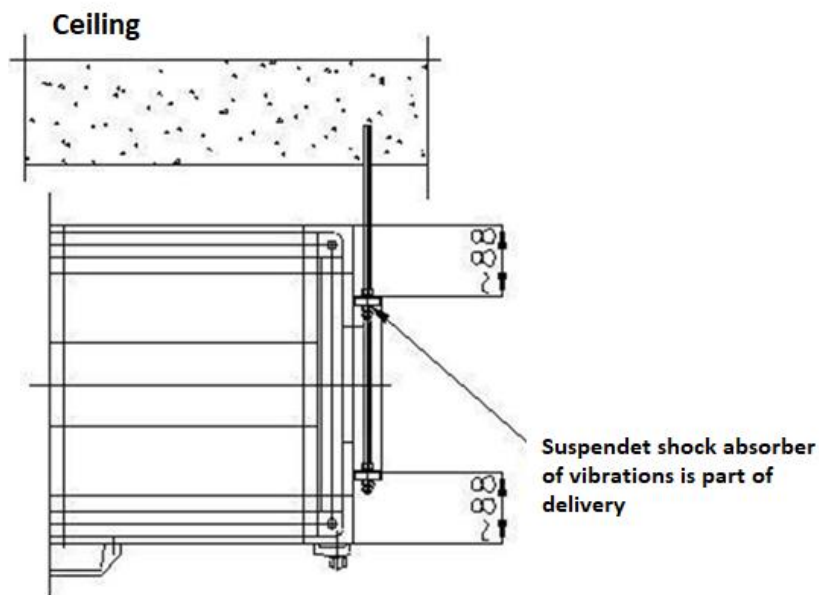
Connection of chambers on top of each other
Transverse section of the unit



4.3 LOCATION AND INSTALLATION OF CEILING UNITS

Sufficient space for service must be taken into account when installing the unit. The unit is mounted in this position using brackets attached to the side walls of the section. The units are suspended from the ceiling using M8 mounting anchors.

Fig. 7. – Installation of unit in a suspended position ceiling – ceiling, suspended rubber shock absorber (part of delivery)



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Fig. 8. – Assembly of unit in a lying position – assembly holder - FLOOR

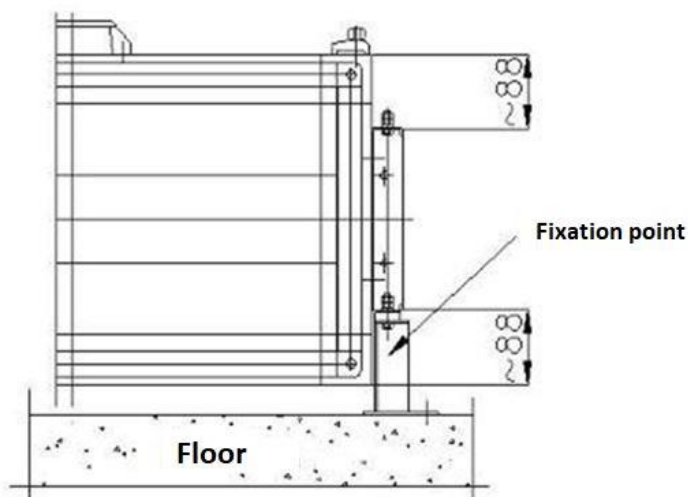
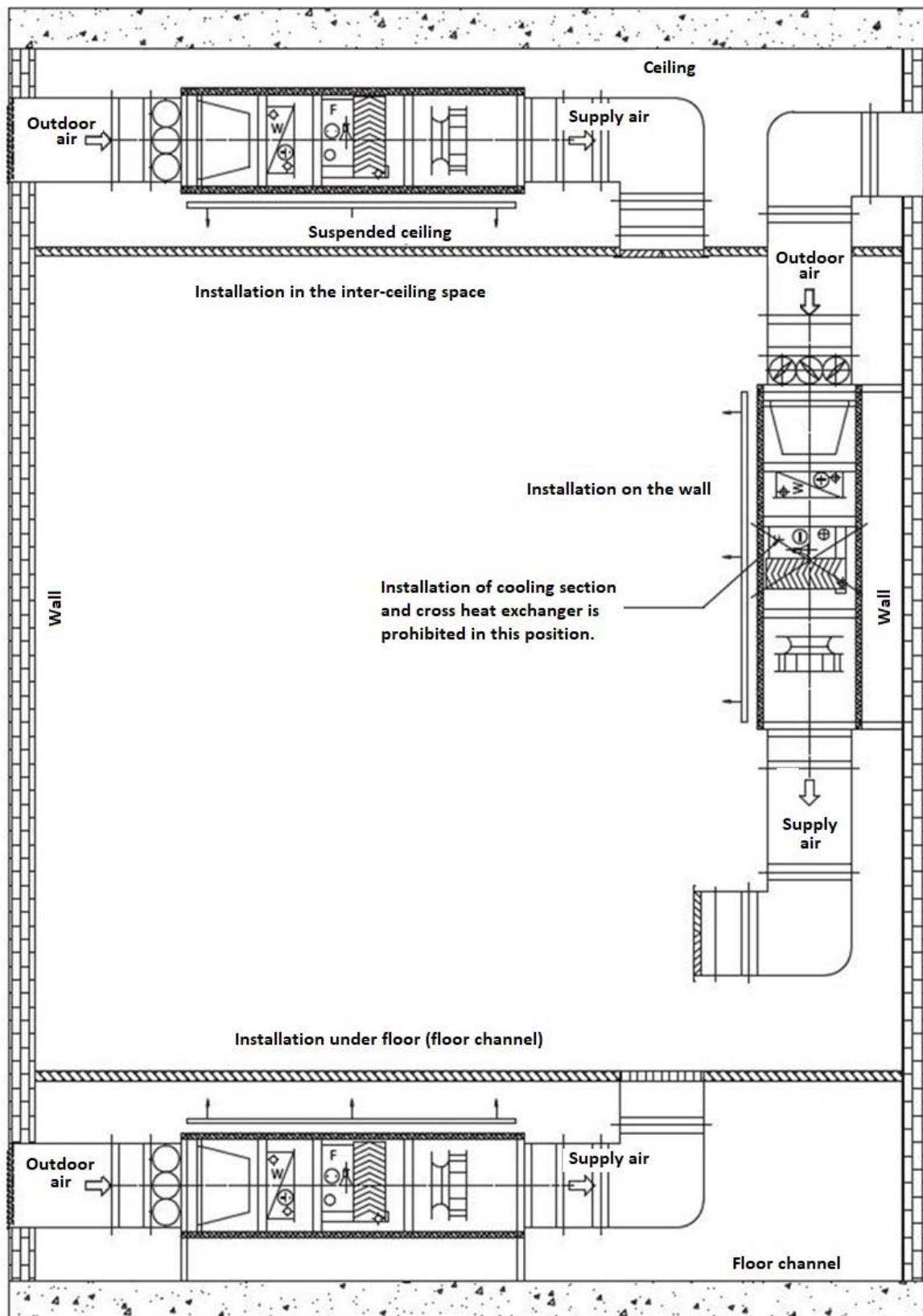


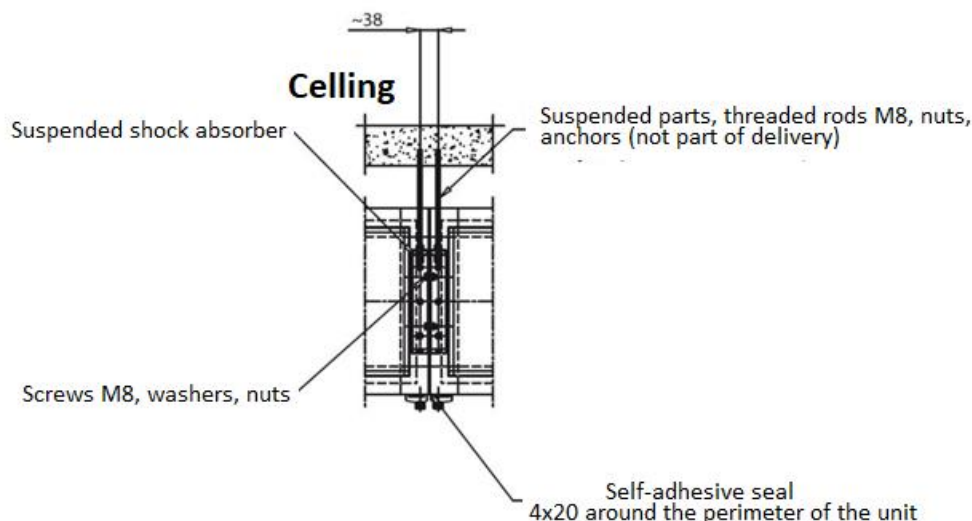
Fig. 9. – Ways how to install units – operational position



Installation on wall in vertical position can be performed with unit without coolers or cross heat exchangers. Units suspended in a vertical position are installed using brackets mounted by the manufacturer. The device should be equipped with a supporting structure ready for the unit.

Ceiling units cannot be installed in a position where the side wall of the units is parallel to the ceiling or floor.

Fig. 10. – Way how to join sections



4.4 CONNECTION OF AIR DUCTS

The air ducts are connected to the unit by means of flexible sleeves that prevent fan vibrations from being transmitted to the air ducts and compensate any minor deviations between the installation location and the unit.

Air duct and sleeve flanges are connected by means of screws. The air ducts shall be fitted with their own suspension or strut-up parts so that their load is not transmitted to the unit.

The outer frames of the flexible sleeves need to be supplemented with grounding wires that connect the unit housing skeleton to the air duct frame.

For proper operation of the unit, it is also essential that the method of conducting the air ducts near the unit is as simple as possible so that all shaped parts do not disturb the air flow. Such a measure prevents noise in the air duct system.

4.5 CONNECTION OF HEAT EXCHANGERS

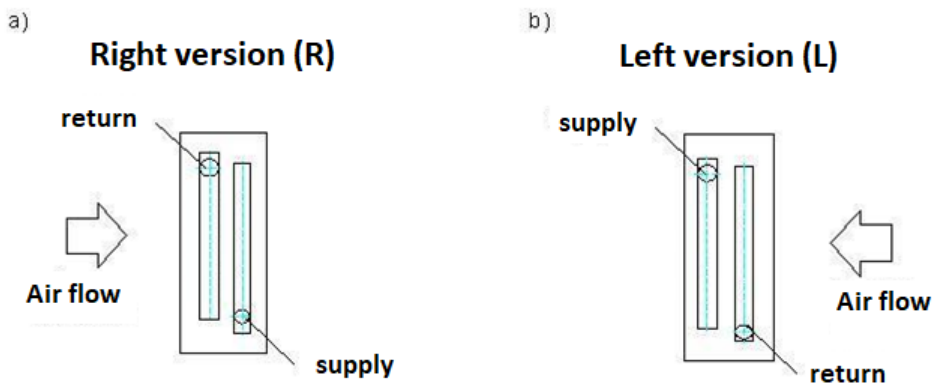
Connection of heaters and coolers to the water installation should be carried out in such a way that the resulting tension does not cause mechanical damage to the heat exchangers. In order to avoid the influence of thermal linear dilatation of the pipe, compensation should be used. Piping of the media supplying the exchanger which would apply a mechanical tension on the heater or cooler is not permitted.

When connecting the exchanger to the pipe, it is necessary to hold the exchanger's pipe joints with the wrench so as not to damage the collector.



In order to facilitate possible disassembly without the need to remove the medium from installation, it is recommended to use ball valves before and after heat exchangers.

Fig. 11. – How to connect the water exchanger a) right version, b) left version

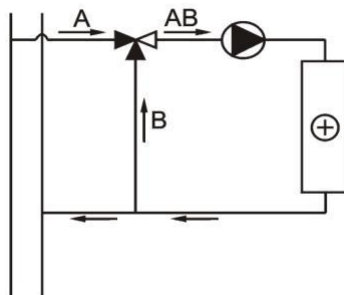


4.6 HYDRAULIC CIRCUITS

Valves supplied with VentiAir control can only be used in mixing systems.

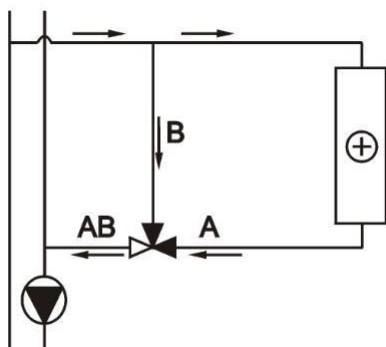
The examples recommended below are for illustration only, they do not contain a detailed installation.

System with mixing valve and pump in secondary circuit – (qualitative regulation):

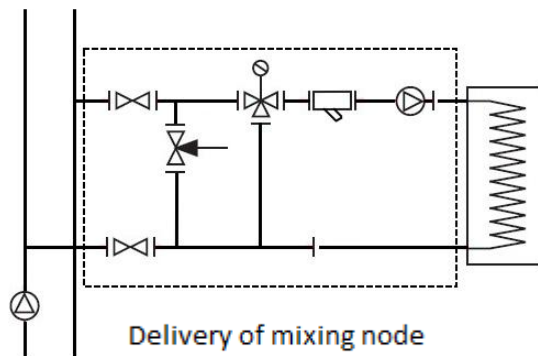


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System with mixing valve and pump in primary circuit – (quantitative regulation):



System with mixing valve, pump in primary and secondary circuit – (qualitative regulation). This system is advantageous because it does not interfere with the flow in the primary circuit (media flows in both circuits are constant).



The diameters of the water heat exchanger pipe joints are given in the technical data sheet of the unit.

4.7 CONDENSATE DRAINAGE

Safety retaining vessels, which are located in the cooling and heat recovery sections (plate and rotary heat exchanger), are equipped with pipe joints to drain condensate away from the unit.

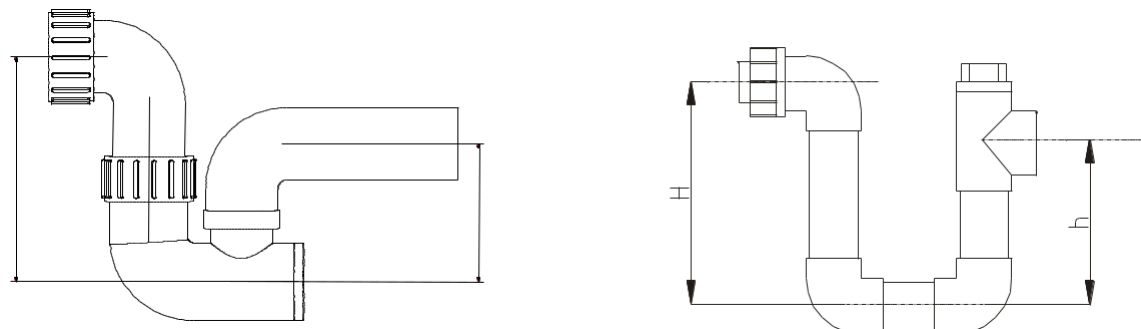
A siphon must be connected to the discharge pipe joint to allow condensate to be drained at different pressures inside and outside the section.

The siphon and condensate drain must be secured from freezing.

Two types of siphons are used in units:

- spherical
- classic (sections that work under pressurized conditions)

Fig. 12. – Types of siphons – spherical (left) and flow type (right)



The size of the H siphon depends on the pressure difference inside and outside the section from which the condensate is drained

Total pressure of fan	Dimension H	Dimension h
[Pa]	[mm]	[mm]
<600	100	50
600÷1000	140	70
1000÷1400	190	95
1400÷1800	240	120
1800÷2200	290	145
2200÷2600	340	170

4.8 CONNECTION OF ELECTRIC INSTALLATION

Connection of the electrical installation should be carried out by an authorized person. All connections must be made on the basis of The operational and technical documentation of regulation.

5 PREPARATION FOR PUTTING INTO OPERATION

Before running the air handling unit, it is required to be put into operation. It should be remembered that only qualified and trained personnel is allowed to perform this action. Before putting of the unit into operation, it is necessary to have a thorough familiarization with the instructions and connection diagrams contained in the operational and technical documentation, as well as to carry out the following tasks:

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- (a) check the correct location of the unit
- (b) check the correct implementation and connection of all ventilation devices to the mains
- (c) check, if all hydraulic, refrigeration and electrical installations are correctly connected to the appropriate unit sections
- (d) check, if all devices requiring connection to electricity are fitted with appropriate cabling and are ready for operation
- (e) check, if the room in which the device is installed is thoroughly tidy and that the inside of the unit does not contain any 'foreign bodies' which could cause a malfunction
- (f) check, if siphons and of condensate drainage (if any) installations are made properly
- (g) check, if installation of the control parts is correct
- (h) check the condition of the unit parts, control parts and all supply lines (on possible damage during assembly work)

5.1 ELECTRIC WIRING

It is necessary to check connection of electrical wiring and the security of all electrical appliances used in accordance with diagrams of all electrical parts and components (supplied by the manufacturer) that have been fitted to the unit.

5.2 ELECTRIC HEATERS

Check the connection of electric heaters according to the supplied diagrams and check, if the heater is not damaged or soiled. Remember that heaters cannot touch any parts located inside the section of the unit.

5.3 WATER AND GLYCOL HEATERS

First of all, it is necessary to check the connection of the pipe (power supply and drainage) and then the condition of the heater slats. Step by step, check the setting of the antifreeze thermostat (4 °C ... set by the manufacturer) and check the strength of the capillary adhesion to the surface of the heater. The control valve of the heater shall be fitted in accordance with the marking on its body.

5.4 EVAPORATORS, WATER AND GLYCOL COOLERS

In case of coolers, it is necessary to check the tightness and correct connection of the medium pipe, then the condition of the slats. In addition, it is necessary to check the condensate drainage settings in line with the direction of air flow and the correct installation of the siphon.

5.5 FILTERS

In case of pocket filters, **the foil securing the filter part** must be removed. In addition, it is necessary to check the correct attachment of the filters, their tightness and general condition (purity). Subsequently, the permissible final drop of static pressure on the presostat/pressure switch (if fitted) should be adjusted. Since these values vary depending on the type of filter used, you need to check the parameters in the table below.

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Filter class	Max. end pressure loss
	[Pa]
G3	250
G4	250
F5	300
F7	350
F9	400

5.6 PLATE HEAT EXCHANGER

In the plate exchanger, it is necessary to check the condition of the slats for any contamination or mechanical damage on their surface. In addition, it is necessary to check the control flap located on the exchanger and the control flap controlling the by-pass, which should be closed before the unit is put into operation. Correct the attachment of condensate drainage to the direction of air flow and siphon throughput.

5.7 ROTARY HEAT EXCHANGER

A rotary heat exchanger should be thoroughly inspected before putting into operation. First of all, it is necessary to inspect the surface of the exchanger for any mechanical damage that could affect its effectiveness and tightness. Subsequently, we check the correctness of the electrical connection, the rotation speed of the exchanger and the correct installation (the rotor of the exchanger must not stutter on any parts that may be a source of resistance).

5.8 FAN SYSTEM

The fan section should be thoroughly inspected before the unit is put into operation. First of all, check that all unnecessary items (both transport security and parts used during assembly) are removed from the inside of the section and the immediate surroundings of the unit. Sucking in any free object can cause damage to the unit. The fan rotor must rotate freely and in any case must not touch the parts of the body. In addition, you need to check:

- correctness of electrical connection (in accordance with diagrams)
- correctness of connection of the fan motor (the mains voltage must be the same as the value indicated on the motor label)
- correctness of connection of grounding conductor (if the fan system is fitted with rubber dampers)
- correctness of rotation direction of the engine (must be the same as the direction of the arrow shown on the fan cover). If the rotor rotates in the opposite direction, two phase conductors on the motor terminal block should be exchanged between each other.
- correctness of installation of shock absorbers in the fan section
- correct attachment of all wires in the fan section

If all these requirements have been met, it is possible to close all the doors of the unit. It should be remembered that in case of an open inspection door, operation of the unit is possible only for a few seconds, only to find out, if the function of the fan section is correct.

6 FIRST PUTTING INTO OPERATION

The preparation of the units for putting into operation and the putting into operation itself may only be performed by trained and qualified personnel. In the first phase, the control damper at outdoor air input must be closed. This operation must always be performed, otherwise there is a risk of overloading and damaging the fan engine. At the moment when the fan operation is faultless (no interferences, friction, etc. occur), it is necessary to gradually open the control damper and at the same time check the air flow in the previously made installation and the value of the current taken by the engine/engines. If the unit is equipped with its own automatic control system, the degree of opening of the control damper must be checked. To ensure later fault-free operation and correct operation of the control damper, the opening of the control damper at the inlet should be ensured when the fan section (variant with control) is put into operation (the pressure switch does not signal a state without compression). The control damper should be opening until 100%, or until the intensity of the current drawn by the fan reaches a nominal value. If the installation is correctly designed, the selected unit should reach the expected operating parameters (air output, pressure) at nominal current consumption by the fan engine. If the expected air output has not been reached or exceeded, the solution is to change the fan engine speed. In extreme cases, it is necessary to change the engine to a



larger one, while making sure that all measurements performed were performed correctly. The test operation of the unit from the moment of its putting into operation should take about 0.5 hours. During this time, phenomena such as loud or disturbing mechanical noises, odours coming from the unit or vibrations of the unit are not permitted. If the above phenomena are detected, the unit should be shut down and its individual sections checked again (after disconnecting the power supply). If no disturbances occur during the 30-minute operation of the unit, the unit can be disconnected and inspected.

It is especially important to check:

- fixation of the filters and the degree of their contamination or damage (in case the filters are excessively dirty, they must be cleaned, in the extreme case replaced)
- correctness of condensate drain
- engine temperatures and fan bearings condition

Before putting the unit into permanent operation, it is important to check the functions of the antifreeze thermostat. This operation can be performed, if the air coming to the exchanger has a temperature lower than that set on the thermostat, or using a cooling spray. Switching on of the thermostat is proof of its correct function.

7 OPERATION AND MAINTENANCE

Air handling units are designed for continuous operation, so it is important to ensure regular inspections of individual components of the units, especially those whose wear is biggest, i.e. filters and bearings. Replacing filters is the user's responsibility. The basic technical data of the unit, among other things necessary for these operations, are contained in the Technical Data Sheet supplied with each device. The sheet contains: type, kind, dimensions of more important parts, i.e. filters, heat exchangers, fans, electric engines, etc.

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7.1 FILTERS

Air handling units are equipped with plate or pocket filters of class G3 - F9.

The combination and configuration of filters is arbitrary depending on the functional configuration of the unit.

It is important that filters of the same filter class are fitted when replacing the filter. The filters are for single use only.

Dirt on the filter limits its permeability, which reduces the unit's performance. If the pressure drop across the filter exceeds the expected value, it must be replaced.

Exceeding the allowable degree of filter contamination can cause a decrease in the air output of the unit, and can even lead to the filters being pulled out of the mounting structure and damaging the fan. The unit must be shut down during filter replacement. The filter section also needs to be cleaned.

The units must always be operated with air filters fitted.

The replacement interval of the inlet filters depends mainly on the degree of air pollution. Proper use of inlet filters extends the service life of the filters of the second or third filtration stage.

7.2 WATER AND GLYCOL HEATER

Water heaters are equipped with anti-freeze thermostats as standard, which should be protected against freezing during operation. If the heating medium supply is closed or the unit is paused and at

the same time there is a possibility of lowering the temperature below + 4 °C, the heater must be emptied thoroughly.

As the heat output of the heater is lower due to dust contamination of the heater surface, it is necessary to check the condition of the heater lamellas at least once every four months. Dust on the lamellas increases air resistance.

The heaters can be cleaned using both sides of the vacuum cleaner. This operation is carried out by blowing through with an air stream or washing with warm water with an admixture of detergents which do not cause corrosion of the aluminium lamellas.

It is important that the heater is de-aerated. Bleed valves must be installed in the line supplying the medium to the heater.

When the unit is not in operation, the flow of heating medium should be kept to a minimum so that the temperature inside the device does not exceed + 60 °C. Higher temperatures can damage some components (engine, bearings, plastic parts, etc.).

7.3 ELECTRIC HEATER

The electric heater consists of uncovered heaters on which dust can accumulate when not in use. When the heater is put back into operation, its heavy contamination can cause the smell of smoke and even the risk of fire. It is important to check the technical condition and degree of contamination of radiators and electrical connections every four months, and especially at the beginning of the heating season. Contamination must be removed by vacuuming. It is also necessary to check the security against overheating.

7.4 WATER OR GLYCOL COOLER

The design of the cooler is the same as the design of the water heater, but in addition to the same procedure as for water heaters, it is necessary to remember to check the cleanliness of the drop eliminator, collection tank and permeability of condensate drain. In case of contamination, the drop eliminator must be washed with warm water with detergent.

7.5 DIRECT EVAPORATOR

Operational-service actions related to evaporators are the same as actions intended for maintenance of the water heater and cooler. When washing the radiator with hot water, the refrigeration installation must be emptied by draining the refrigerant into the tank. Not respecting this instruction may result in an uncontrolled increase of refrigerant pressure and damage to the refrigeration installation.

7.6 PLATE HEAT EXCHANGER

The service actions for this exchanger are checking the degree of contamination of the lamellas and their technical condition. The plate heat exchanger is cleaned by vacuuming, blowing through with a air stream or washing the air ducts with water with the addition of detergents which do not cause corrosion of aluminium. If the heat exchanger has been operated at sub-zero temperatures, it must be thoroughly dried before the unit can be put back into operation.

It is necessary to check that the heat exchanger control damper and the associated bypass control damper are working properly. If the defrost function is not active, the bypass control damper must

7.7 ROTARY HEAT EXCHANGER

If the rotary heat exchanger is contaminated with dust, it must be cleaned using methods described for cleaning of, e.g. a plate heat exchanger. It is also necessary to dust off the engine and gearbox.

While inspecting the rotary heat exchanger we must find out whether the rotor rotates freely. Sensible resistance may be caused due to too much pressure on the sealing brushes. In this case, the brush setting must be corrected. It is also important to check the tension status of the drive belt. If there is a play in the belt tension, the belt must be shortened.

The rotor and engine bearings are lubricated continuously, so there is no need to lubricate them later.

7.8 REGULATION DAMPERS

The lamella control dampers are especially exposed to dirt, which can adversely affect their proper function. Therefore, these components need to be inspected and maintained more frequently.

If dirt is detected that makes the operation of the damper difficult, it must be cleaned with compressed air. If these actions do not bring the expected effect, the dampers must be cleaned by pressure washing with the addition of detergent, which does not cause metal corrosion.

7.9 CASING

a) The casing of the units in the basic version does not require any other service work besides regular cleaning

b) Hygienic units must be cleaned regularly according to the operator's operating rules. It is necessary to use disinfectants and cleaning agents that do not cause corrosion or damage to the unit casing

c) The casing of the units in pool and chemically resistant design is treated inside with a special anti-corrosion coating. It must be checked regularly once every 6 months and any damage repaired with a varnish supplied by the equipment manufacturer. It is also necessary to renew this coating once a year.

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8 SAFETY OF USE

a) All work connected with the correct function of the unit (connection, putting into operation, operation, inspections) must be carried out in accordance with the applicable regulations concerning the operation of electrical equipment and safety and health,

b) Before connecting the device to the protective installation, it is forbidden to perform any work connected with the connection of electrical voltage to any electrical circuit,

c) It is forbidden to perform any work (maintenance, repair) without first disconnecting the electrical voltage from all circuits of the unit,

d) If parts of the cover are removed from any section of the unit, the operation of the device is prohibited,

e) The station from which the equipment will be operated must be equipped with protective measures ensuring the necessary safety during the operation of the unit,

f) Persons carrying out repair and maintenance work or inspection of the equipment must be suitably qualified in accordance with the relevant legal regulations.

9 CONTROL MEASUREMENT OF OPERATING PARAMETERS

In case of regular inspections and maintenance work on the equipment, it is always necessary to check the basic operating parameters of the unit.

First of all, it is necessary to measure whether the temperature and humidity of the processed air before and after the section correspond to the previously set values. Furthermore, it is necessary to check the correctness of the operating parameters of the media in the connected heating and cooling circuits, the correctness of the function of electrical appliances (measurement of their power inputs), and the correctness of the operation of fan systems. All work associated with the performance of regular inspections and service work must be properly documented.

10 EQUIPMENT LEAK INFORMATION ACCORDING TO EU COMMISSION REGULATION No. 12532014

- declared maximum internal leaks <2%
- declared maximum external leaks <2%
- transfer only for regenerative heat exchangers <5%

11 DETAILED WARRANTY CONDITIONS FOR VENTIAIR PRODUCTS

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11.1 SCOPE AND VALIDITY OF THE WARRANTY

VentiAir s.r.o. guarantees the correct function of the device in accordance with the technical operating conditions. The warranty covers constructional and material defects of the device. The basis for providing a guarantee is a tax document of purchase.

The warranty includes free repair of the device for:

5 years from the date of delivery for the following products: TYPE air handling units

Equipment that is not directly part of the unit and is shipped with it is covered by the manufacturer's warranty. This applies mainly to: steam generators, humidifiers, cooling units, gas chamber heating modules, frequency converters, etc.

Furthermore, the warranty is limited to 2 years from the date of delivery for all electric engines - as part of fans, drive of rotary heat exchangers, servo drives, etc. The warranty is limited to 2 years from the date of delivery to all rotary heat exchangers.

The warranty on the components of the measurement and control system is provided for a period of 2 years.

Warranty claims arise on the date of delivery of the device and end on the last day of the warranty period for the product.

Delivery date is the date specified in the purchase contract.

11.2 EXCLUSION

The warranty does not cover defects caused by:

- action of mechanical forces,
- pollution,
- conversions,
- design changes,
- actions connected with the maintenance and cleaning of the equipment,
- accidents,
- natural disasters,
- exposure to chemical influences,
- exposure to atmospheric influences (discoloration, surface corrosion, etc.),
- improper storage,
- unauthorized repairs,
- incorrect installation of the device,
- freezing of water in the exchanger due to low temperatures
- incorrect operation of the device (see technical operating conditions).

The warranty also does not apply to:

- parts that wear out during normal operation. This also applies to consumables (seals, belts, filters, bulbs, bearings, contactors, thermal fuses, fuses, etc.),
- losses caused by the necessary downtime of the equipment while waiting for warranty repair. This also applies to property losses, i.e. indirect and direct losses

If the service technician upon arrival finds that the arrival was unjustified and the repair is only in performing maintenance work, or the defect occurred due to the reasons listed in the paragraph "Exclusion", the complaint will be rejected. All costs associated with the arrival will be borne by the complainant.

The warranty does not apply to claims due to incorrect design documents or the selection of incorrect technical parameters by the buyer or subcontractor.

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11.3 THE CUSTOMER'S RIGHTS ARE FULFILLED

- by repair or free replacement of parts which VentiAir s.r.o. found defective,
- by elimination of other equipment defects.

The term "repair" does not include the actions contained in the operating instructions (maintenance, cleaning), to which the user is obliged by own resources or through an authorized VentiAir s.r.o. service centre.

11.4 THE WARRANTY IS VALID, IF:

- the equipment is operated in accordance with the Operational and technical documentation, and if regular service is performed by a partner authorized by the equipment manufacturer and listed in the Equipment Inspection and Maintenance Sheet

Complaints must be made to VentiAir s.r.o. Complaints must be in writing, on a correctly filled in "Defect / fault report" which must contain following information:

- the exact address of the place where the installation is located,
- the type of fault found, the signs of malfunction and, if possible, the serial number of the unit together with the name of the damaged part.

11.5 WARRANTY CONDITIONS

The condition of the warranty for VentiAir brand products is the performance of regular service actions on the device by an authorized service according to the scope and regulation of the manufacturer.

At least two service inspections per year are required for proper operation of the equipment. The customer will arrange an inspection by an authorized service centre. The costs associated with the inspection are borne by the customer. In case of non-payment of the amount for the previously provided performance, the company VentiAir s.r.o. has the right to refuse to perform warranty actions or services.

11.6 FOR WARRANTY IT IS NECESSARY TO PRESENT

- complete and correctly completed warranty card (proof of purchase) and complete documents from the first putting into operation
- a duly completed inspection and maintenance sheet for the equipment

Defects that occurred during the warranty period will be removed as soon as possible, within a period not longer than 30 days from the date of reporting the defect to an authorized service, in the regional technical office VentiAir s.r.o. or at the headquarters of VentiAir s.r.o.

11.7 WARRANTY COSTS

- The costs associated with the delivery of the equipment to the service, consultant or manufacturer shall be borne by the person complaining.
 - The costs associated with the repair during the warranty period are fully borne by VentiAir s.r.o.
 - In the event of rejection of warranty claims by VentiAir s.r.o., the costs associated with the processing shall be borne by the customer.
 - In the event of rejection of the warranty claims by VentiAir s.r.o., the claimed product will be sent to the place of delivery to the account of the addressee.

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VentiAir s.r.o. reserves the right to decide on how to eliminate faults and defects.

Decision of VentiAir s.r.o. concerning warranty claims is considered final.

In the event of any disputes concerning the warranty acts, the disputes will be resolved by the court competent for the registered office of the guarantor.

VentiAir s.r.o. may not meet the repair deadlines if the processes taking place in VentiAir s.r.o. will be disrupted as a result of, for example: natural disasters, social unrest or other factors that may affect the implementation of the complaint procedure within the deadline, or if due to unavailable spare parts the defect cannot be removed within the deadline specified in the warranty.

The warranty provider requires the customer to have free access to the equipment. If the equipment covered by the warranty is mounted under ceilings or at big heights, the customer is obliged to provide suitable transport and lifting equipment. In the event of a complaint about heat exchangers, their hydraulic disassembly is on the user's side.

One of the main goals of VentiAir s.r.o. is to provide its customers with maximum satisfaction with the purchased product, which thanks to its functionality and reliability contributes to increasing the comfort of everyday life

12 REPORT ON EQUIPMENT PUT INTO OPERATION

Date of putting into operation

Person who put the equipment into operation

Stamp:

Signature:

External pressure [Pa] Inlet:..... Outlet:

Air flow output [m³/h] Inlet:..... Outlet:

Current of the engine [A] Inlet:..... Outlet:

Notes:

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13 EQUIPMENT INSPECTION AND MAINTENANCE SHEET

Date of inspection / maintenance				
Person who makes inspection / maintenance	Stamp	Stamp	Stamp	Stamp
	Signature	Signature	Signature	Signature
Parts exchanged	Filters <input type="checkbox"/>	Filters <input type="checkbox"/>	Filters <input type="checkbox"/>	Filters <input type="checkbox"/>
	Bearings <input type="checkbox"/>	Bearings <input type="checkbox"/>	Bearings <input type="checkbox"/>	Bearings <input type="checkbox"/>
	Belt <input type="checkbox"/>	Belt <input type="checkbox"/>	Belt <input type="checkbox"/>	Belt <input type="checkbox"/>
Parts cleaned	Filters <input type="checkbox"/>	Filters <input type="checkbox"/>	Filters <input type="checkbox"/>	Filters <input type="checkbox"/>
	Regulation dampers <input type="checkbox"/>	Regulation dampers <input type="checkbox"/>	Regulation dampers <input type="checkbox"/>	Regulation dampers: <input type="checkbox"/>
	Fans: <input type="checkbox"/>	Fans <input type="checkbox"/>	Fans <input type="checkbox"/>	Fans <input type="checkbox"/>
	Heat exchangers <input type="checkbox"/>	Heat exchangers <input type="checkbox"/>	Heat exchangers <input type="checkbox"/>	Heat exchangers <input type="checkbox"/>
	Regulation <input type="checkbox"/>	Regulation <input type="checkbox"/>	Regulation <input type="checkbox"/>	Regulation <input type="checkbox"/>
Parts checked	Filters <input type="checkbox"/>	Filters <input type="checkbox"/>	Filters <input type="checkbox"/>	Filters <input type="checkbox"/>
	Regulation dampers <input type="checkbox"/>	Regulation dampers <input type="checkbox"/>	Regulation dampers <input type="checkbox"/>	Regulation dampers: <input type="checkbox"/>
	Fans <input type="checkbox"/>	Fans <input type="checkbox"/>	Fans <input type="checkbox"/>	Fans <input type="checkbox"/>
	Heat exchangers <input type="checkbox"/>	Heat exchangers <input type="checkbox"/>	Heat exchangers <input type="checkbox"/>	Heat exchangers <input type="checkbox"/>
	Regulation <input type="checkbox"/>	Regulation <input type="checkbox"/>	Regulation <input type="checkbox"/>	Regulation <input type="checkbox"/>

14 FAILURE ANNOUNCEMENT

Failure announcement

Complaint Nr.		Date
CUSTOMER / PURCHASER (name, address)		BUILDING, PLACE OF INSTALLATION (name, address)
Equipment data		
Date of sales		
Serial Nr.		
Name		
Switchboard nr.		
Putting into operation		
Company to put the equipment into operation		
Date		
EXACT DESCRIPTION OF THE FAILURE		
<p>1) The costs of the provided service will be calculated based on the valid price list at the service company authorized by VentiAir s.r.o.</p> <p>2) If the service technician upon arrival finds that the arrival was unauthorized, the complaint will not be accepted. All costs associated with the arrival, calculated according to the rates valid in the authorized service of VentiAir s.r.o. will be borne by the applicant.</p>		
Notes:		Date and signature of the claimant:

