

MICRA 150 E



MICRA 150 E is a single-room air handling unit with air warming up function. It is designed to provide the ideal single-room ventilation of social and commercial premises, flats and cottages. MICRA 150 E is the most suitable solution for arrangement of ready-made and refurbished premises. It has easy mounting without air ducts.

FEATURES

- Efficient supply and exhaust ventilation of separate premises (rooms)
- Posistor 350 W air heater with overheating protection
- Polystyrene plate counter-flow heat exchanger with recuperation efficiency 82-92%
- EC fans with low energy demand (9 to 40 W)
- Integrated automation with 3 operation modes (from 60 up to 150 m³/h)
- Silent operation (30-38 dBA)
- Air cleaning with two built-in G4 filters
- Easy mounting
- Compact sizes

CASING

Metal polymer coated casing decorated with mirror-polished stainless steel. 10 mm foamed synthetic rubber layer provides heat- and sound-insulation. The modern unit design let it match well with any interior type. The front panel is easily opened for the unit servicing (e.g. for filter cleaning or replacement) and fitted with a protecting opening sensor that cuts power supply off if the panel is opened. Air is supplied to the unit and exhausted from the premise through two Ø 125 mm air ducts.

AIR FILTRATION

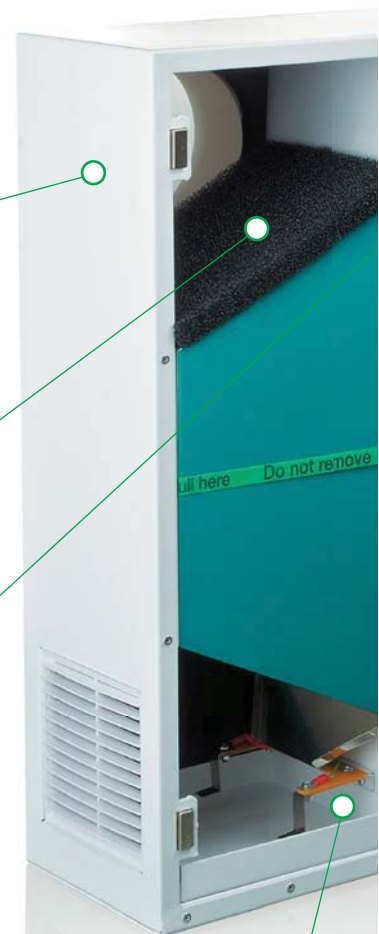
Supply and exhaust air flows are cleaned with two built-in G4 filters. The filters serve to provide supply of fresh air free of dust, pollen, insects and prevent the unit components from soiling.

AIR SUPPLY AND EXHAUST

High-efficient EC motors with external rotor and forward curved blades are designed for air supply and exhaust. The fan motors have built-in overheating protection and ball bearings for longer service life. Due to EC technologies Micra 150 E is featured with low energy demand and reliable operation.

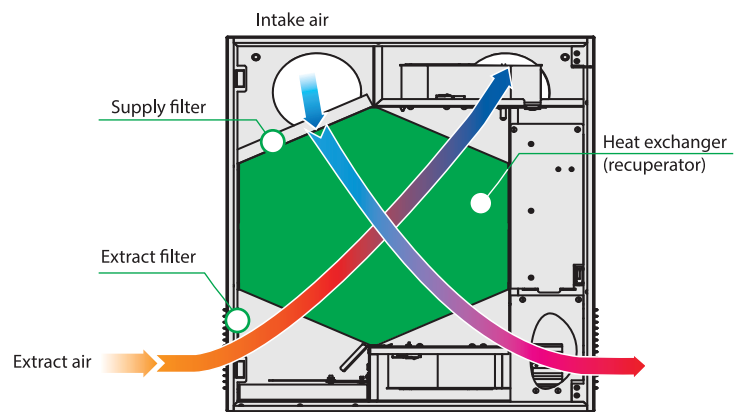
CONDENSATE DRAIN PAN

Some condensate that may be generated during heat recovery process is collected in a special drain pan. As the drain pan is filled with condensate, the unit switches automatically off which is confirmed by a light indicator on the control panel. Remove condensate from the drain pan and restart the unit to continue the unit operation.



▶ OPERATING LOGIC

The intake air from outside flows through the filter and the heat exchanger and is supplied to the room with the supply centrifugal fan. Warm stale air from the room flows through the filter and the heat exchanger and is exhausted outside through the wall by the exhaust centrifugal fan. In the heat exchanger heat energy of warm extract air from the room is transferred to clean cold air flow from outside. Heat exchange results in minimization of heat losses and lower heating costs. The extract and supply air flows are fully separated, so no contaminations, odours and microbes come to supply air flow.



▶ HEAT EXCHANGER

The unit incorporates a high-tech plate counter-flow polystyrene heat exchanger with heat exchange efficiency 82-92%. In winter period the heat exchanger utilizes heat energy of extract air to warm up intake air and decrease the operating load on the heating system. In summer period supply air is cooled down by colder intake air.

▶ HEATER

The unit is equipped with a semiconductor posistor heater which is used to warm up supply air up to the comfortable air temperature and has a number of advantages compared to standard tubular electric heaters - maintaining of rated operating temperature combined with operational economy, fire safety (no overheating), environmental friendliness, self-regulation, high electric durability, high specific power, low infrared radiation, easy and reliable maintenance. The heater efficiency is in direct proportion to the air flow that goes through the heater and reaches 90-95%.

▶ FREEZING PROTECTION

The air handling unit **MICRA 150 E** is equipped with a built-in freezing protection. During heat recovery in cold season thermal energy of warm extract energy is transferred to cold intake air. If some condensate is produced in the heat exchanger, it is collected in a specially designed drain pan. The electronic freeze protection is applied to prevent condensate freezing during cold outside temperatures. If exhaust air temperature drops down below the set point, the supply fan is stopped. Warm extract air warms the heat exchanger up and the exhaust air temperature rises. After that the supply fan is turned on and the unit reverts to the previous operation mode.



▶ CONTROL AND OPERATION MODES

The unit is equipped with a control panel. The delivery set includes a remote control panel. The control system supports the following 3 operation modes:

- **1 speed** - air capacity 60 m³/h and air warming up function;
- **2 speed** - air capacity 105 m³/h and air warming up function;
- **3 speed** - air capacity 150 m³/h and air warming up function.

The following functions are available:

- Extra heating of supply air;
- High speed activation timer adjustable from 20 to 60 minutes;
- Fan speed adjustment;
- Week-scheduled operation;
- Filter replacement and alarm indication.



MICRA 60 VENTILATION SYSTEM ARRANGEMENT EXAMPLE

Install one or several **MICRA 150 E** unit in each premise to be ventilated. One unit is capable to provide efficient ventilation of up to 60 m² area. Ventilation system based on the single room air handling unit with heat recovery **MICRA 150 E** provides permanent air exchange in a premise, saves heat in winter and cold in summer.



The air handling unit **MICRA 150 E** is mounted on a face wall from inside. The wall thickness must be no less than 100 mm. First mark the holes for the air ducts with a cardboard master plate included into the delivery set. Drill the holes and fix the cardboard master plate to the wall with dowels and screws.

Insert the air ducts into the holes. Use the metal master plate to fix the air ducts in a required position and to align the pipes and the air ducts. Mount a double metal hood on outer wall side to protect the unit from water ingress and outer objects. After positioning of the air ducts between the outer hood and the metal plate fill the gaps between the air ducts and the wall with a mounting foam through special slots in the metal plate. After foam hardens remove the metal master plate and cut protruding parts of the air ducts to be flush with wall surfaces. For mounting of the unit casing open the decorative panel and remove the heat exchanger. While mounting the unit direct the branch pipes to the plastic air ducts and fix it to the wall with dowels and screws. The unit is supplied with a pre-wired power cable and a socket. The unit may be connected to the fixed wiring system through terminal leads. For doing that disconnect the power cable from the terminal box and connect the leaded outside power cables. After completing the casing mounting and wireworks re-install the heat exchanger and close the front panel. The unit is ready for operation.

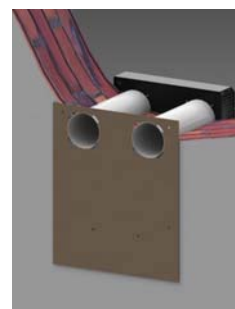
To arrange the most optimal ventilation system supplement the **Micra 150 E** unit with the extract fan **VENTS VN** in the bathroom.



1



2



3



4

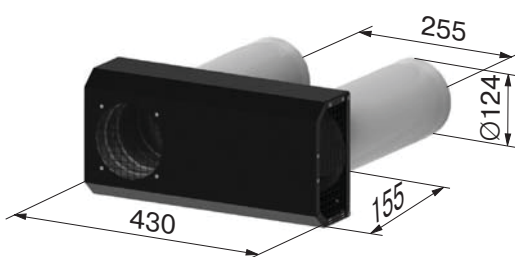
▶ TECHNICAL DATA

Model	MICRA 150 E		
Ventilation mode	1	2	3
Voltage [V/50 Hz]	230		
Maximum fan power [W]	9	16	40
Heater power [W]	350		
Maximum unit current (including heater operation) [A]	1,68		
Air capacity [m ³ /h]	60	105	150
RPM [min ⁻¹]	450	780	2000
Noise level at 3 m distance [dB(A)]	30	35	38
Heat recovery efficiency [%]	92	87	82
Maximum transported air temperature [°C]	-25...+50		
Pipe diameter [mm]	125		
Heat insulation thickness [mm]	10		
Weight [kg]	20		

▶ OVERALL DIMENSIONS [MM]



▶ ACCESSORIES



Mounting kit **MK MICRA 150**:

- two plastic air ducts (Ø 125 mm, length 500 mm);
- double outer metal hood.