

Casing

- Double-sealed panels filled with insulating material.
- Insulation class A1 or A2-s1 d0.
- All materials used are durable, with no accumulated humidity that might provide a supportive medium for microorganisms reproduction.
- Interior surfaces are smooth, without adsorption properties. No porous materials are used.
- Mechanical resistance not less than D2 class.
- Tightness is not worse than class L3 (leakage allowed not more than 2 % of the nominal air flow).
- The passage through the F7 air filters shall not exceed 2 % of the nominal air flow.
- Thermal conductivity is not higher than T4.
- Cold bridges are no worse than TB3.

Air filters

- Only filters that are tested in accordance with EN 779 or EN 1822 can be used.
- Each filter must be marked accordingly. Recommended is class ISO ePM2,5 \geq 50 % in the extract air before the heat recovery unit. In case of single-stage supply air filtering min. ISO ePM1 \geq 50 %.
- The surface of the bag-type air filter must have at least 10 m² for 1 m² openings the area.
- Max. permitted maximum final pressure loss:
Filter class ISO ePM1 \geq 70 % 300 Pa.
Filter class ISO ePM1 \geq 50 % 200 Pa.
Filter class ISO ePM2,5 \geq 50 % 200 Pa.
Filter class ISO ePM10 \geq 50 % 200 Pa.

Heat exchangers

- The system for supplying and discharging air should be recuperated, except where there is not enough room for it or the payback time is too long.
- Depending on the quality of the exhaust air quality, such types of heat exchangers are recommended: ETA2 – rotary or plate with overpressure; ETA3 – rotary or plate with overpressure; ETA4 – Separate Flow (Run Around coil) or Heat Pipe.
- A stainless steel or aluminum condensate tray is designed. Rotary heat exchanger condensate tray is necessary in exceptional cases.
- A rotor is recommended to be fitted with a purge section.

- To reduce the need for frost it is recommended to use adiabatic cooling by humidifying exhaust air.

Dampers

- Air leakage class 2 for dampers that are closed while the system is in operation, e.g. mixing dampers or bypass dampers.
- Air velocity for dampers max. 8 m/s (except recirculation air and bypass dampers).
- The position of the damper must be visible from the outside of the damper.

Cooling coils

- Installation rails for cooling coils in stainless steel or aluminium.
- Condensate tray in stainless steel or aluminium.
- Minimum fin spacing: 2 mm for cooling coil without dehumidification; 2.5 mm for cooling coil with dehumidification.

Fans

- Fans with backward curved blades are preferred. Energy saving motors are recommended.
- Fan impeller generally protected against corrosion.
- It is recommended to use fans without belt drive (especially open impeller). Base frame of fan and motor in hot-dip galvanized steel sheeting.

Humidifier section

- Humidifiers must not be placed directly upstream of filters or attenuator (exception: steam humidifiers).
- All components must be demountable. All parts in contact with water to be accessible for inspection and cleaning and consisting of corrosion-resistant and disinfectant resistant material.
- Sealing compounds must not be of material that can be metabolised.

Sound attenuator section

- Pressure drop max. 80 Pa
- Surface quality material to be permanently abrasion-resistant and made of material that is durable when exposed to cleaning processes (e.g. glass fibre).
- Splitters to be demountable for cleaning without having to remove other parts.



* The photo is intended for informational purposes only, exact details may vary.