AIRFLOW

CONSULTANT SPECIFICATION

UNIT SPECIFICATON - DUPLEXbase PS 650

The mechanical ventilation with heat recovery unit shall be the DUPLEXbase PS 650 as manufactured by Airflow, shall be sized as indicated on the drawings and shall be in accordance with the specification.

Compact central ventilation unit with heat recovery, certified by the German institute Passivhaus. The unit can be installed indoors on the floor or in a ceiling-suspended configuration, or floor-standing outdoors (accessories required). Moreover, the direction of air flow can be configured upon commissioning of the unit.

As standard, the unit is equipped with control system featuring bypass of heat recovery exchanger. All other accessories are delivered as loose along with the unit and installed on site.

The unit casing consists of frameless construction with sandwich panels, manufactured without thermal bridges. The sandwich-mounted panels create a 30mm thick casing, containing the following layers, from outside to inside:

• Outer layer from painted metal sheet. Colour: grey aluminium, (RAL 9007), thickness 0,8mm
• Polyurethane insulation
• Inner layer made of galvanised metal sheet, thickness 0,8 mm
Casing characteristics according to DIN EN 1886:

- Mechanical stability: D1
- Casing leakage: L2 (Compliant with Approved Document Part L,Volume 2, Conservation of fuel and power, Buildings other than dwellings)
- Thermal transmittance: T2
- Thermal bridges class: TB1

Class of building material according to DIN EN 13501: B-s1-d0.
Condensate drain pan made of stainless steel (316L).

In the condensate drain pan, there is one condensate drain, the required water trap is part of the delivery.
2-part service door on hinges allow free access to all built-in components, heat recovery core, filter guide rails, fans etc.
Each unit goes through a final thorough check and functionality test prior to being dispatched.

KEY FEATURES

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- *Excluding motors. Motor warranty is one year from date of purchase.

COMPONENTS

In order to switch off the electrical power supply, e.g., during service works, the service power switch is located next to the terminal board.

Built-in sensors: Outdoor temperature sensor: ADS TEa
Supply air temperature sensor: ADS TU1
Extracted air temperature sensor: ADS TEb
Exhausted air temperature sensor: ADS TU2
Pressure switch of supply air filter: 0 - 500 Pa (on / off)
Pressure switch of exhaust air filter: 0 - 500 Pa (on / off)

Outdoor air filter:
Type of filter: ePM1 55% (F7) pleated cartridge
Dimensions: 500x235x48 mm
Number: 1 pcs
Extracted air filter:
Type of filter: ePM10 50% (M5) pleated cartridge
Dimensions: 500x235x48 mm
Number: 1 pcs
All filters are ISO 16890 compliant.

100% automatic summer bypass damper:

A bypass damper is fitted in the ventilation unit as standard and designed to bypass the heat exchanger during hot seasons to avoid overheating in the ventilated premises. In addition, the damper can also be used for night pre-cooling.

Moreover, the summer bypass can be used to prevent the plate heat exchanger from freezing (defrosting using bypass). If required, an option of intelligent cool recovery is also available. Frame made of zinc-coated metal (class 2, thickness 1 mm), flap with tight-closing aluminium blinds.

Heat recovery feature:

Wide-area counterflow plate heat exchanger from high-impact polystyrene (hPS) provides high efficiency of heat recovery and it is resistant against corrosion to a high extent. Furthermore, it is chemically stable when in contact with extracted air that is polluted from a wide range of applications. The exchanger is resistant against impurities, and it can be operated in the temperature range from -25°C to +80°C. It features class H1 according to DIN 13779.

Supply /Exhaust fan:

EC-fan with stepless control with backward curved blades.

- Voltage: 230 V/ 50 Hz
- IP class: IP 54

DIGITAL CONTROL SYSTEM RD5

- Independent, stepless control of both fans
- Integrated time plan with daily and weekly schedule
- Selectable control based on supply air temperature /extracted air temperature / room temperature
- Night precooling
- Monitoring of filter clogging*
- Antifrost protection
- Stepless control of bypass damper position, automatic control of heat recovery and cool recovery
- Stepless control based on demand for ventilation using 2 analogue inputs 0-10 V (e.g. sensor, converter of measured pressure or analogue signal)
- 4 programmable inputs (configurable delay of start or run-down)
- Contact allowing external operation (ON/OFF)
- Emergency STOP contact (e.g. fire sensor, smoke detector)
- Integrated data logging with the possibility of email messaging (various kinds of events can be sent to selected recipients)
- Simple software update via the Internet
- Control of preheater, postheater, cooler & heat pump*
- ModBus interface is included as standard, it mediates communication with local supervising control system (BMS)
- Integrated web server enables control and monitoring of ventilation unit via LAN/Internet.) providing remote access via PC, notebook, tablet or smartphone.
  *An accessory is required to enable this feature

CP TOUCH CONTROLLER

The white CP touch controller, is intuitive, user-friendly with a touch screen and integrated room-temperature sensor, to be mounted on the wall. The user can set up and control all control system functions and display operational parameters of the unit, its alerts, and errors.
An intuitive user interface, as well as a service menu protected by password, are available as standard with the controller. Users can access all commonly needed functions and select operational parameters.

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