

### UNIT SPECIFICATION - DUPLEXbase PT 3500

The mechanical ventilation with heat recovery unit shall be the DUPLEXbase PT 3500 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, designed for space-saving with built-in heating and cooling coils available as options. The unit can be installed indoors in the floor standing vertical position. Moreover, the direction of air flow can be configured upon commissioning of the unit. 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 have the following characteristics:

- Double sided metal sheet
  - Mineral wool filling insulation
  - Thickness: 0.75mm/0.45mm
  - Painted metal sheet colour: white (RAL 9010)
- 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 are two condensate drains, the required water traps are to be provided by the installer.

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

- Extracts up to 3500 m<sup>3</sup>/h (0.97 m<sup>3</sup>/s) at 300 Pa (ErP 2018 compliant)
  - Excellent heat recovery efficiency up to 93%
  - Compact design and high flexibility in unit positioning
  - Meets the (EU) Ecodesign regulation 1253/2014 requirements
  - Filter access doors for easy maintenance
  - 2 year warranty\*
- \*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: 600x440x96 mm  
 Number: 2 pcs

Extracted air filter:  
 Type of filter: ePM10 50% (M5) pleated cartridge  
 Dimensions: 600x440x96 mm  
 Number: 2 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: 400 V/ 50 Hz
- IP class: IP 54

### DIGITAL CONTROL SYSTEM RD6

- Main board RD6-CL 230V-EC / 230V-EC for control and communication with following built-in or external components:
- EC fans speed control (according to selected mode)
- Automatic heat and cool recovery control (by-pass control)
- Evaluates and prevents all emergency conditions according to the measured values
- Possibility of setting basic and user scenes and weekly calendars to select modes, power, temperatures and other functions
- Ethernet connection for communication over the Internet
- Inputs for external signals - control e.g. from kitchens, toilets and similar
- Possibility of connecting air quality sensors (e.g. CO<sub>2</sub> concentration or relative humidity) either by contact, 0-10V voltage, or via bus registers.
- Outputs for continuous control of electric preheater and heater (pulse switched 10V)
- Possibility of connecting various controllers such as basic or touch screen
- Connection to supervisory control system via Modbus TCP protocol
- Communication by BACnet protocol (optional)
- Communication via KNX protocol (optional)
- Registration of multiple users
- Establishing service access
- Integrated web server enables control and monitoring of ventilation unit via LAN/internet
- Remote access via PC, notebook, tablet or smartphone
- Modbus interface is included as standard, it mediates communication with local supervising control system (BMS)

### RD6 TOUCH CONTROLLER

The RD6 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.