AIRFLOW®

CONSULTANT SPECIFICATION

UNIT SPECIFICATON - SUSURRO 1000

The mechanical ventilation with heat recovery unit shall be the Susurro 1000 as manufactured by Airflow, shall be sized as indicated on the drawings and shall be in accordance with the specification.

The unit shall have a slim design, for ceiling mounting installation, ideal for both new builds and retrofits. The unique capillary tubes system for extract and supply air flow paths ensure a smooth conversion from turbulent to laminar flow and enhance Coanda effect. The incoming air shall be supplied at high velocity into the room ensuring effective mixing of the incoming air and ambient room air. This mixing process shall ensure high quality air throughout the room being supplied as a draught-free zone below ceiling height due to the Coanda effect.

The unit shall be fully insulated with 40mm thermal insulation, thermal transmittance class T2, to provide optimum thermal and acoustic performance and shall include a cross counterflow plate heat exchanger with a 90% thermal efficiency. The Aluminum heat exchanger shall be tested in accordance to EN308 standards and have Eurovent certification. As standard, the unit shall have an ISO ePM1 60% (F7) filter on the supply side and ISO Coarse 60% (G4) filters on the extract side, tested and compliant to ISO 16890 standard. The optional ISO ePM1 70% (F8) and ISO ePM10 60% (M5) filters shall provide additional protection against harmful particles and create ultra-hygienic indoor climate.

The unit shall have low energy consumption electronically commutated (EC) fans providing a quiet operation and achieving low specific fan power values ensuring long term savings on operating costs and shall be suitable for single phase supply (standard units without preheating or postheating coils). The sound power level requirements shall be detailed by the unit's manufacturer and in accordance with the ventilation equipment operation schedule.

The unit shall benefit from a built-in carbon dioxide (CO2) sensor for demand controlled ventilation. This significantly reduces the energy consumption by automatically varying the fans speed proportionally until the desired set points are met.

The unit shall be equipped with an automatic, 100% stepless bypass facility which totally isolates the heat exchanger so that no air passes through it. This prevents overheating the ventilated room in the summer season. The unit shall comply with BB93 and BB101. The unit shall provide ventilation in a single large room with no air duct required when installed directly on an external wall (decentralised ventilation unit) and shall have 315mm (2 ports) duct diameter for horizontal or top connections.

The unit shall be Susurro 1000 as manufactured by Airflow.

KEY FEATURES

- Up to 1456m^3/h (404l/s) @0Pa (free flow)
- Decentralised heat recovery ventilation
- Up to 90% thermal efficiency and low SFP
- Compliant with BB101:2017 and BB93:2015
- NFC technology
- Excellent thermal insulation (thermal transmittance class T2)
- Automatic, 100% summer by-pass
- Integral temperature and CO_2 sensors
- Low energy EC fans
- Low noise level (35dB (A) at nominal air flow)
- ISO ePM1 60% (F7) and ISO Coarse 60% (G4) filters as standard
- Optional ISO ePM1 70% (F8) and ISO ePM10 60% (M5) filters
- Tubular system for optimal laminar air flow
- Slim design with low installation height for efficient space usage
- Digital touch-screen controller
- Two versions available: Susurro and Susurro Dezajno
- CFD (Computational Fluid Dynamics) simulations available to tailor specific projects
- Optional enthalpy heat exchanger
- Optional built-in pre or post heater (electric, LPHW or 3-row change over coils for comfort heating and cooling)

OPERATION

The heat recovery ventilation unit shall provide effective and continuous control of ventilation rate, the integrated heat exchanger and summer by-pass actuator and optional heating/cooling coils facility.

The unit shall be equipped with completely automated control system, optimising its operation so as to achieve minimum heat losses and the most economical operation. The unit shall be designed to be operated in a dry indoor environment (relative humidity not exceeding 80%) and at an ambient temperature in the range from +5°C up to +40°C.

The ventilation unit shall have a variable speed control depending upon the control option chosen in the specification.

The unit shall have be easy to commission the supply and extract fans independently having fully variable fan speed control. Each fan shall have stepless variable speed control (0%-100% fan speed setting, in 10% increments), 0-10V voltage signal, IP54 protection and insulation class B.

The unit shall have a Near-Field Communication (NFC) facility that enables the user (by holding a compatible smartphone near the unit) to download the product datasheet and directly contact Airflow when undertaking maintenance of the unit.

CONTROL OPTIONS

The Susurro 1000 unit shall be controlled by one of the following:

- Touch screen digital controller
- Building Management System (BMS) via Modbus RTU
- On-demand ventilation through built-in CO_2 sensor; this shall help maintain an oxygen rich and healthy indoor air environment even if the room is fully occupied
- Additional external sensors achieving on-demand ventilation
- Additional switches (e.g. manual boost switches)

SUSURRO TOUCH SCREEN DIGITAL CONTROLLER

The Susurro touch screen digital controller is compatible with the Susurro heat recovery units range. This advanced controller comes with intuitive commissioning and user friendly functions. A weekly or monthly scheduling can be set, guaranteeing that the air remains fresh at all times when it is occupied whilst lowering the flow rate of the unit when the room is not in use. The Susurro controller also benefits from the following features:

- Touch control
- Stepless regulation of preheating and posheating options
- Indication of filter clogging
- Boost function - intensive air flow at maximum power for a set period
- Connection to BMS via Modbus RTU
- Optional connection of sensors: CO2, RH, VOC (0-10V)
- Stepless by-pass (temperature control: free cooling, antifreeze protection)
- Offset fan adjustment (over-pressure and under-pressure)
- On-demand control via humidity, CO_2 and VOC sensors
- Separate fan control for ease of commissioning - stepless fans control (0-10V)
- Freecooling functions - night ventilation (cooling)
- Occupancy function - reducing ventilation according to the PIR sensor
- Weekly or monthly ventilation programming allows users to pre-set the ventilation levels scheduled for different days

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