

Typical Specification

Operation

The supply and extract ventilation unit shall be as Sentinel Totus D-ERV, as manufactured by Vent-Axia and shall be sized as indicated on the drawings and shall be in accordance with the particular specification.

Supply air to the room shall be pre-heated by the extract air via the integrated aluminium counterflow heat recovery cell. The D-ERV unit shall automatically vary the ventilation rate via EC/DC motors, as it receives signals from one of the optional interconnected sensors. When a signal is received, the fans shall either vary their speed proportionally or on a trickle and boost principle.

The unit shall have the facility to commission the supply and extract fans individually via in-built minimum and maximum speed adjustment, the fans themselves shall have infinitely variable speed control.

Sentinel Totus D-ERV -

Unit specification

The unit shall be manufactured with an aluminium frame construction, and incorporate double skinned panels with a plastisol outer coating making the unit suitable for internal or external mounting. The double skinned panels shall incorporate 60kg/m³ infill giving high thermal and acoustic performance.

The unit shall have a high efficiency aluminium counterflow heat exchanger, supply and extract filters, automatic summer bypass, integral minimum and maximum infinitely variable speed controls with fascia mounted failure indication.

The unit shall have low energy, high efficiency EC/DC fan/motor assemblies with sealed for life bearings. The impellers shall be high efficiency backward curved centrifugal type.

The unit shall have a heat exchanger cell with a thermal efficiency of up to 90% when tested to EN 308. This shall be protected by G4 grade synthetic filters on supply and extract. Complete with a condensate drip tray, internal condensate pump and drain connection.

The unit shall incorporate 2 stage electric frost heaters to protect the cell from freezing under low ambient conditions. The unit shall be constructed with removable side panels allowing full maintenance access.

The removable panels shall provide access to the following:

- ✓ Supply or extract fan
- ✓ Supply and extract filter
- ✓ Heat exchanger
- ✓ Frost heater

Within a separate side access lockable hinged door section access shall be provided for wiring termination and set-up/commissioning. The backlit LCD user interface therein shall be removable for remote mounting if required.

Units shall be as manufactured by Vent-Axia Ltd.

Sentinel Totus D-ERV - Standard controls

All Sentinel Totus D-ERV units shall incorporate the following functions integrally mounted, pre-wired and factory fitted by the manufacturer: -

- ✓ Integral infinitely variable fan speed control on supply and extract.
- ✓ Integral min/max ventilation control/set point.
- ✓ Integral BMS interfaces – control and status indication
- ✓ Cooling and heating interlocks (summer/winter)
- ✓ 0-10V speed adjustment.
- ✓ Integral on/off or trickle boost function from remote switch, e.g. PIR occupancy detector.
- ✓ Automatic frost protection by in-built electric frost heaters.
- ✓ User settable night time purge function to purge the room automatically over night to reduce morning start up loads within the space during hot summer periods.
- ✓ The unit shall be controlled by the 'Sentinel' control devices (enablers and sensors) as detailed in the schedule or on the drawings.

Frost protection and control

The control for the in-built electric frost coils shall be 2 stage fully integrated and automatic and will ensure the energy recovery cell does not freeze up under low ambient conditions. The frost protection system will switch in each of the 2 stages as required when ambient temperature falls below 0° C.