

Product Specification

Colourfan[®] Supply Fan Small Ventilation Units

1.1. General

- A. Provide a supply fan unit to meet the performance and configuration as indicated in the schedule and detail drawings. The supply fan unit shall be tested in accordance with BS EN ISO 5801:2008, BS 848-1:2007 and shall be of the Colourfan type as manufactured by VES Andover Ltd a company accredited with BS EN ISO 9001:2008.

1.2 Unit Construction

- A. The unit shall be provided pre-assembled comprising of a rigidly constructed single skinned galvanised sheet steel case, centrifugal backward curved fan with direct drive motor, pleated panel filter and circular spigots.
- B. The unit shall be supplied with a pleated panel filter as standard. Grade as indicated in the schedule and detail drawings.
- C. The unit shall be available with optional fitted electric or hot water heating as indicated in the schedule and detail drawings.
- D. The unit shall be available in plantroom or weatherproof construction as indicated in the schedule and detail drawings.
- E. Weatherproof units shall be fitted with an inlet cowl as standard, finished to match the unit casework.
- F. 1. Sizes 0-6 The unit casework shall incorporate high quality dual layer memory rubber gasket seals on service doors and panels.
2. The unit casework shall incorporate high quality leak resistant neoprene gaskets seals on service doors and panels.
- G. 1. Sizes 0-6 The unit shall be available with optional fitted flame retardant acoustic lining as standard to ensure maximum thermal insulation and reduced noise transmission.
2. Sizes 7-9 The unit shall be provided pre-assembled comprising of a rigidly constructed 25mm tubular aluminium case, double skinned galvanised sheet steel panels.
- H. Access for maintenance shall be via removable panels, allowing access for the cleaning or removal of internal components as indicated in the schedule and detail drawings.
- I. Plantroom units shall be suitable for top or bottom access as indicated in the schedule and detail drawings. Weatherproof units shall be suitable for top access only via a removable weather lid.
- J. Plantroom units shall incorporate mounting brackets compatible with drop-rod systems.
- K. 1. Sizes 0-6 Weatherproof units shall be supplied as standard with mounting feet. Plantroom units shall be available with optional mounting feet as indicated in the schedule.
2. Sizes 7-9 Weatherproof units shall be supplied as standard with supplied as standard on a galvanised sheet steel channel base, the frame shall be 100mm high.
- L. Weatherproof units shall be supplied powdercoated signal grey RAL7004 as standard. Alternative colour according to schedule.

1.3. Fans

- A. The fan impeller shall be of PA6 glass-fibre reinforced, backward curved plastic blade construction with galvanised steel mounting plate.
- B. The fan impeller shall be statically and dynamically balanced to G 2.5 / G 6.3 according to ISO1940 part 1.
- C. The fan impeller shall be mated with an aerodynamic bell inlet eye for high efficiency and low noise generation.

1.4. Motors

- A. The fan shall incorporate an external rotor motor to IP44 environmental protection rating and shall be supplied with thermal protection cut out as standard.
- B. The integrated motor shall be supplied epoxy painted blue to RAL5002.

1.5 Filtration

- A. The filters shall be 98mm pleated filter media as standard, with rigid wax treated cardboard moisture resistant frame.
- B. Filters shall be to BS EN 779 Classification, grade as indicated in the schedule and detail drawings.

1.6. Heating

- A. The unit shall be available with hot water or electric element heating as indicated in the schedule and detail drawings.
- B. The hot water heater battery shall be of copper tube, aluminium fin block construction, with galvanised sheet steel casework. The flow and return pipe connections shall be handed as indicated in the schedule and detail drawings.
- C. The hot water heater battery shall be available with alternative fin coatings by special order, as indicated in the schedule.
- D. The hot water heater battery shall be available with an optional fitted and pre-wired valve and actuator where indicated in the schedule and detail drawings.
- E. The electric heater battery shall be suitable for single or three-phase supply with thyristor control as indicated in the schedule and detail drawings.
- F. The electric heater battery shall consist of an element array sized to suit the power requirement and supply phase as indicated in the schedule and detail drawings. The elements shall consist of a tubular incoloy shroud containing compressed magnesium oxide powder packed around a Nickel Chromium resistance wire. The element array shall be evenly spread across the open area of the duct.
- G. Where multiple elements are required to achieve the required power rating and supply phase as indicated in the schedule, elements shall be terminated with electrical connectors.
- H. The electric heater battery shall be fitted as standard with a 130 °C non-adjustable thermal safety cut out, with manual reset.
- I. All electric heaters shall be 1500 V flash tested, and resistance tested for correct component assembly. Test certificates shall be available on request.

1.7. Operation Environment

- A. The unit shall be designed to operate with process air temperatures from -20 °C to 40 °C and humidity of up to 80%.

1.8. Controls

The unit shall be fully compatible with a standard range of controls, options can include pre-wired, factory fitted and tested or loose for wall mounting. Control packages shall include all necessary components to effectively operate the ventilation system as supplied by VES.

- A. BlueSense controls combine integrated and pre-wired, factory fitted and tested control package, energy efficient speed controller and air quality sensor or PIR providing effective and efficient control of the fans, heater and other energy consuming components of the ventilation system. The BlueSense package shall have the following features:-
 - CPA control panel with integral energy efficient speed controller
 - Speed control adjustment to aid commissioning complete with minimum and maximum speed limitations
 - Demand ventilation control using air quality sensor calibrated to measure CO₂ and / or VOC
 - Programmable, versatile LCD room unit with built in temperature sensor, control optimisation and access lock feature
 - Precise closed loop air quality temperature, humidity or pressure control with P, PI commissioning
- B. The CPA controls range shall contain the following:-
 - Start stop from remote volt free contacts
 - 7 day time clock with battery backup
 - Precise closed loop temperature control with P, PI commissioning
 - Additional input for supply or extract duct temperature control
 - Supply and extract fan control
 1. Programmable, versatile LCD room unit with built in temperature sensor, control optimisation and access lock feature
 2. Interface suitable for remote source e.g BMS, with inputs responding to 0-10 VDC control signal from remote source to control the temperature.
- C. If controls are not specified the unit shall come complete pre-wired to an external isolator
- D. If speed control is indicated in the schedule the unit shall be supplied with an internally mounted speed controller, pre-wired to an integral control package or external isolator.

1.9. Ancillaries

- A. The unit shall be fully compatible with a standard range of spigot mounted silencers. The silencers shall be suitable for duct mounting or direct mounting to the unit as indicated in the schedule.
- B. The silencer shall be a rigidly constructed single skinned galvanised sheet steel lining incorporating internal splitters lined with resin bonded mineral wool. Polythene and perforated metal sheet lining shall be available where indicated in the schedule.
- C. The silencer casework shall be provided naturally finished in high quality galvanised steel as standard. Internal and External powder coat available as indicated in the schedule. Colour to be in accordance with schedule.