**Health Technical Memorandum**

**03-01: Specialised ventilation for healthcare premises**

*Part A: Design and validation*

Specialised ventilation The following departments will usually have specialised ventilation requirements, either for a single room or throughout a suite of rooms:

a. operating department;

b. laser surgery unit;

c. operative imaging unit;

d. intensive treatment unit;

e. infectious diseases isolation unit;

f. wards housing immunocompromised patients;

g. manufacturing pharmacy;

h. specialised imaging, X-ray and scanning unit;

j. pathology containment laboratories;

k. mortuary and dissection suite;

m. research laboratories;

n. sterile services department;

Location and access AHUs should be located in an accessible area secured from unauthorised entry. Siting units in ceiling voids above occupied spaces is not appropriate.

Air-supply volumes The minimum air supply volume for a room is determined by the greater of the following three criteria:

a. the minimum fresh-air requirement;

b. the minimum supply volume for the room load as determined by the maximum heating or cooling supply temperature differential;

c. the desired air-change rate.

Fire precautions should be incorporated in accordance with Firecode (the Health Technical Memorandum 05 series). See also Chapter 3.

AHU drainage system All items of plant that could produce moisture must be provided with a drainage system. The system will comprise a drainage tray, glass trap, air break and associated drainage pipework.

Fire aspects, damper types and locations Ductwork must be fire-stopped where it penetrates fire compartment walls, floors and enclosures, cavity barriers and

Sub-compartment walls or enclosures, and must be provided with weather proof collars where roofs or external walls are penetrated.

Smoke-diverting dampers must be provided on recirculation air systems to automatically divert any smoke-contaminated return air to the outside of the building in the event of a fire.

Flexible ducting Flexible ductwork may be used for final connections to grilles and diffusers, provided it is constructed to meet the fire precautions recommended in BS 8313. It must not pass through fire compartment or sub-compartment enclosures, or through cavity barriers.

General requirements The basic requirements for an automatic control system are as follows:

• Facilities to start set-back and stop the plant;

• Facilities to control the volumetric air flow;

• Facilities to control the system or room pressure;

• Temperature control and indication;

• Humidity control and indication;

• Devices to monitor and indicate the plants operating state;

• Alarms to indicate plant failure, low air flow and filter state.

Ultra-clean ventilation systems Not withstanding any variation in the design philosophy, all UCV systems will be required to completely achieve the performance standards set out in Chapter 8. As with conventional theatres, each UCV operating suite should have its own dedicated AHU to the standard set out in Chapter 4.

Plant Information to be provided on schematic drawings

Summary of test regime Records

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*Part B: Operational management and performance verification*

Management responsibilities – general It is a management responsibility to ensure that inspection, service and maintenance activities are carried out safely without hazard to staff, patients or members of the public.

Ventilation system records and logbooks should be kept of the commissioning information, operational management routine, monitoring and maintenance.

All ventilation systems should be subject to, at least, a simple visual inspection annually.

Ventilation systems serving critical care areas should be inspected quarterly and their performance measured and verified annually. The quarterly inspection should be a simple visual check; the annual verification will be a more detailed inspection of the system together with the measurement of its actual performance.

All records should be kept for at least five years.

Energy management policy

Maintenance policy

Contract maintenance appointment that clearly defines the responsibilities of both parties and establishes a clear maintenance brief

Emergency action and contingency plans available in the event of a power failure,

Documentation of all assets (as-fitted drawings and their maintenance) and comprehensive operational manuals for all items of plant that include requirements for servicing, maintenance tasks and frequencies of inspection

Planned preventative maintenance - Set maintenance frequencies should be identified for each part of the ventilation distribution and plant;