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# HOSPITAL & HEALTHCARE

## Air Management Solutions

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**Specialist AHU Applications**  
by Mansfield Pollard



Data Centres



Clean & Controlled  
Environments



Hospital &  
Healthcare



Aggressive  
Environments



Manufacturing &  
Food Production

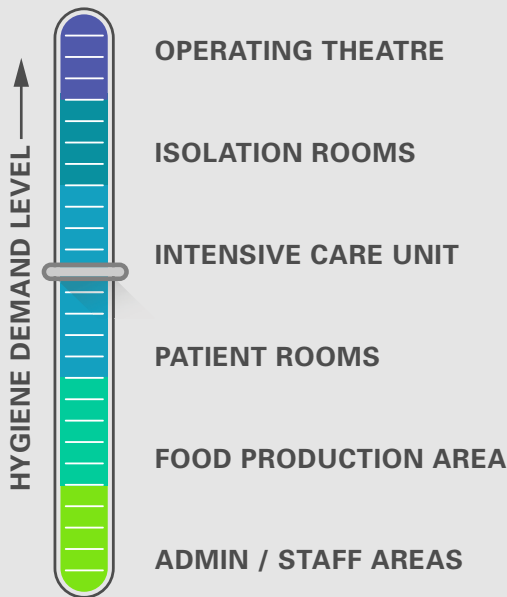


Retail, Hotels  
& Office

# OPTIMUM PERFORMANCE

## HYGIENE DEMAND BASED SOLUTIONS

In healthcare premises, certain activities will necessitate the provision of ventilation equipment with additional special features in order to achieve and maintain specific conditions. These may be needed in order to assist with the treatment of patients or maintain the health and safety of staff.



## TAILOR-MADE AIR HANDLING OR MODULAR AHU SOLUTIONS

Working directly with the NHS, private healthcare organisations and with construction & engineering contractors, our approach is always one of ultimate flexibility to guarantee both our modular and tailor-made units achieve:

- maximum energy efficiency
- legislative compliance
- minimum unit footprint
- required performance levels / spec.

## SPECIALIST CARE NEEDS SPECIALIST AIR

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From fast-track modular AHU's through to tailor-made air management solutions for any healthcare environment, Mansfield Pollard deliver the perfect solution on time, every time.

# SPECIALIST CARE NEEDS SPECIALIST AIR

**“ When healthcare facilities need more than heating and ventilation - we always deliver**



## **PATIENT CENTRED INNOVATION**

- Control your environment based on diverse needs of care teams and patients throughout the facility such as specific temperature or air quality demands.
- Optimise air quality to protect patients and staff from potential contaminants and particulates
- Reduce AHU noise pollution contributing to overall comfort of your facility
- Adapt to special needs like humidification to keep the focus on patient care.

Mansfield Pollard design, manufacture and install air management systems for control of infection, air movement and odour, whilst maintaining temperature, humidity, air quality and noise at comfortable levels for all patients and staff

**All MP specialist healthcare solutions guarantee hygienic components, easy clean design and the highest system efficiency.**



### **Infection Control**

Separate extract / supply airflows & room pressure management.



### **Hazard Control**

Multi filtration stages & microbially inert design.



### **Climate Control**

Heating / cooling and humidity control options.



### **Energy Control**

High efficiency energy recovery and variable speed fans.

# EXCEPTIONAL AIR QUALITY

**A continuous supply of clean, fresh air is of critical concern for all air handling systems serving healthcare buildings**



## OUTSTANDING HYGIENE

Our AHU's are designed to prevent dust and bacterial traps, moisture pooling, corrosion and contamination.



### Smooth Interior Panels

Special finish laminate / stainless steel provides resistance to corrosion, scratches, chemicals & water.



### Oversize Drain Pans

Custom made stainless steel 4 point inclined to promote easy access and encourage rapid run off.



### Tailor-made Base Frame

Minimum 300mm rise on HTM 03-01 units allows easy under unit access for cleaning & drain trap installation.



### Specialised Coils

Vinyl coated or electro-tinned cooling coils and bare copper tubes & fins on heating coil to prevent bacteria build up



## EASY MAINTENANCE

Our AHU's are designed to allow easy inspection and access to ALL component sections



### Access Panels & View Ports

Large access sections fitted with compression latches and plexi-glass viewports for unimpaired inspection.



### Coil Runners

All coil sections have custom built mounting slides / rails to enable easy withdrawal for maintenance.



### Custom Filter Frames

Choice of material allowing efficiency filter withdrawal for maintenance and minimise air bypass leakage.



### Quick Release Fan

A unique design mechanism allowing fan assemblies to be quickly changed to minimise unit downtime

# ENERGY EFFICIENT & BUILT TO LAST

## HIGH INTENSITY CASING

- ✓ Closed section, **corrosion resistant aluminium** pentapost framework (100Mpa min. tensile).
- ✓ **Fully welded corners** inside and out with welded angular gusset piece to form a rigid frame.
- ✓ 'Tray-in-tray' **double skinned panel** external 200µ PVC top coat finish & internal hot dipped galvanised steel Z275.
- ✓ Full length base frame for added strength & mobility.
- ✓ **Anti-peel panels with safe edges** on all access sections and full unit deburring for maximum unit longevity and safety.

## DURABILITY & INSULATION

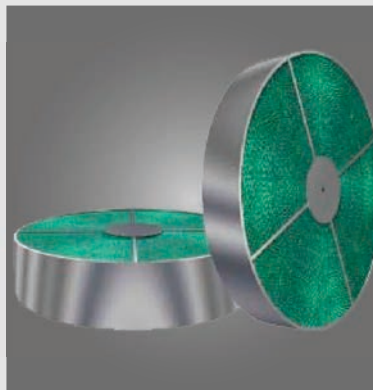
- ✓ Corrosion & weather protection via **anti-corrosive** frames, welded corner joints and high quality materials / fixings.
- ✓ External AHU's fitted with a single pitched extended PVC coated roof and weatherproof flashings as required.
- ✓ Base frames can be **hot dipped galvanised** for additional protection.
- ✓ Mineral wool insulation of **60kg/m<sup>3</sup>** Euroclass **rated A1** non-combustible & **Water-repellent** to prevent moisture build up, damp & rot
- ✓ Excellent **acoustic** performance:

## HIGHLY EFFICIENT HEAT AND COOLING RECOVERY SOLUTIONS



### RUN AROUND COIL

- Up to 68% efficiency
- No contamination risk between supply & extract.
- Twin, run & standby pump for mission critical areas



### THERMAL WHEEL

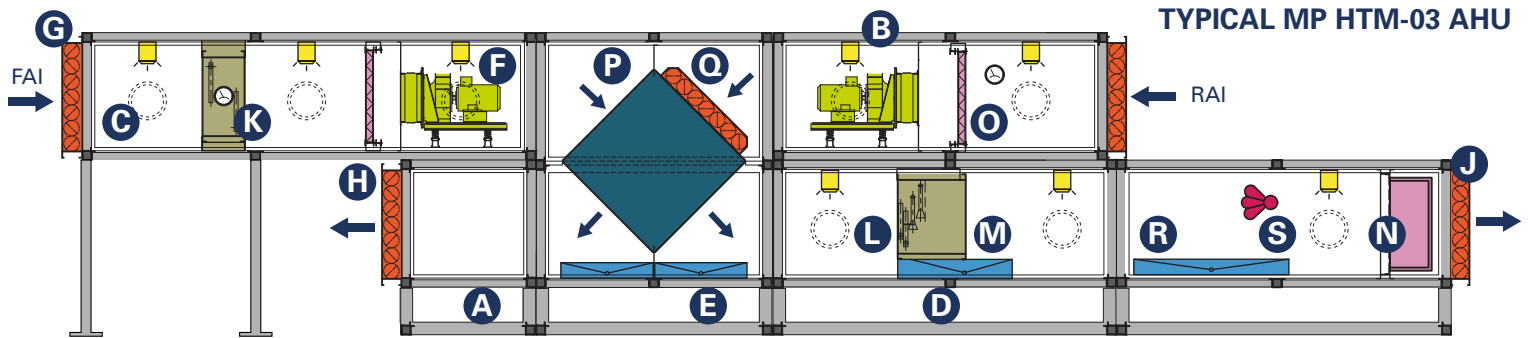
- Up to 90% efficiency for less critical areas
- High corrosion resistance.
- Low maintenance & operating costs



### PLATE HEAT EXCHANGER

- Up to 80% efficiency & separate airstreams
- Low air leakage and high efficiency
- Custom built stainless steel drain tray

# HTM 03-01 SPECIALISTS



- A** Main plant should be located far enough from the floor to permit the correct installation of drainage systems and easy access for maintenance and cleaning.
- B** Plants should have a high standard of air tightness - the double skinned method of construction is recommended. Panels available in different colours at no extra cost.
- C** Viewing ports and internal illumination are required to facilitate routine patrol inspection and should be placed at a convenient height.
- D** All items of plant that produce moisture must be provided with a drainage system comprising a drainage tray, glass trap, air break and associated pipework.
- E** The drainage tray should be constructed of a corrosion resistant material and should have a slope of approx 1 in 20 in all directions to prevent pooling.
- F** The AHU should be arranged so most items are under positive pressure - any item of plant requiring a drain should be on the positive pressure side of the fan.
- G** Motorised low leakage shut off dampers immediately behind the intake and discharge of each supply & extract system must close automatically if the power fails.
- H** The quality of motorised dampers is critical they should be rigid, have square connections fitted, minimal linkage play and less than 2% leakage on shut-off.
- I** Energy recovery must be fitted to all healthcare ventilation systems. It may be omitted only where it would clearly be uneconomic.
- J** A manually operated isolating damper should be installed between the main AHU and its distribution system to enable isolation when cleaning
- K** Main and branch heater batteries should be constructed of solid drawn copper tube with copper fins, generally connected in parallel.
- L** To minimise electrolytic action on the air-side electro-tinned copper fins and tubes are preferred for cooling coils. Aluminium fins should be vinyl coated
- M** All parts of the coil & associated ductwork in contact with moisture must be manufactured from corrosion resistant materials so stainless steel is preferred.
- N** Materials used for filters and filter media should not be capable of sustaining combustion. The media should be such that particles do not detach and enter the airstream
- O** All filter sections should be provided with a means of visually checking the differential pressures across them. Direct reading dial-type gauges are preferred
- P** Energy recovery must be fitted to all healthcare ventilation systems. It may be omitted only where it would clearly be uneconomic.
- Q** A plate heat exchanger or run-around coil is suitable. Thermal wheel may be used providing they are fitted with a purge sector. Cleaning access required both sides
- R** Operating-theatres do not generally require humidifiers, but provision for retrofitting in terms of space provision and a capped drainage system should be provided.
- S** Where humidification is required, it will be subject to specific requirements to ensure that the unit will operate safely and not be a source of contamination.

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Our experienced engineers & industry leading selection software has the flexibility to allow units to be tailored to fit the constraints of the plant room and meet HTM 03-01 design guides, the consultants specification and individual hospital engineer's requirements.

# reference PROJECTS

“ **Mansfield Pollard is an acknowledged leader in the field of healthcare air management**



## **Luton & Dunstable University Hospital**

Modular HTM 03-01 air handling units for new operating theatre extension



## **Nottingham Spire Hospital**

x12 air handling units for new hospital including ICU and isolation rooms



## **Charing Cross Hospital**

x4 HTM 03-01 air handling units serving new resus and major surgery area



## **Edgbaston BMI The Priory**

x11 AHU's including HTM 03-01 serving a multi million pound extension.



## **Peterborough City Hospital**

x3 medical grade AHU's serving an LINAC bunker on the new cancer ward



## **William Harvey Hospital**

Modular HTM 03-01 air handling unit serving new PET & CT scanning room

Specialist AHU Applications  
**HOSPITAL & HEALTHCARE**

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