

HTM-03 AIR HANDLING UNIT

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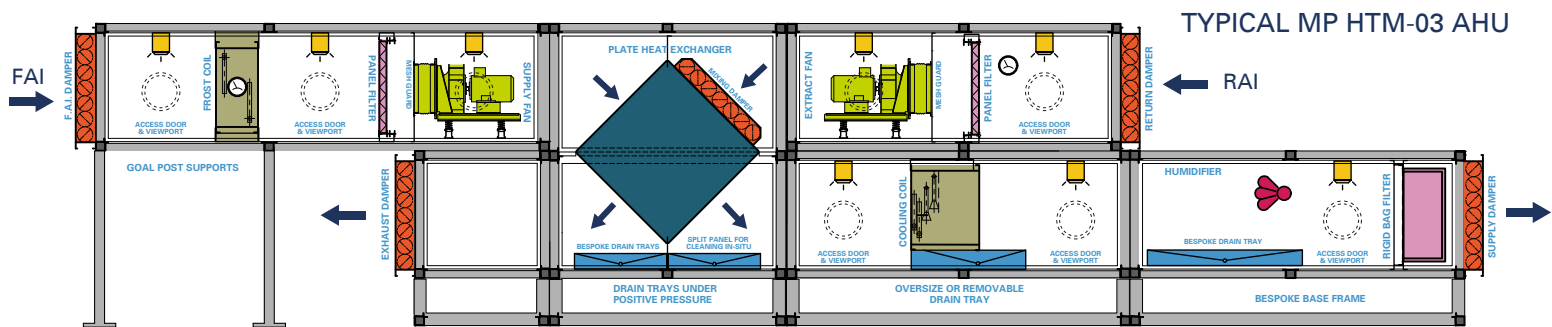
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HTM-03 Air Handling Units

Owing to the nature and extent of activities carried out in healthcare buildings and similar establishments, there is a need for a wide range of **SPECIALISED VENTILATION SYSTEMS**. As a bespoke manufacturer, Mansfield Pollard is perfectly placed to provide any size, airflow and component combination of air handling unit to suit any purpose.

We have supplied clean fresh air for 100's of hospitals and cleanroom premises and our units are the preferred choice for many healthcare providers. We treat each project as individually as the environment that it serves to create the most **ENERGY EFFICIENT** and **COST EFFECTIVE** solution. Our in-house specialists, agile workforce and lean manufacturing ensure an industry leading turnaround time of only **4-6 WEEKS**.



Unit Features

OUTSTANDING HYGIENE:

Maintaining indoor air quality is of paramount importance for healthcare and other critical environments. Our AHU's are designed to prevent dust and bacterial traps, moisture pooling, corrosion and contamination.

- ❖ **ULTRA SMOOTH INTERIOR PANELS:** (special finish laminate / stainless steel provides maximum resistance to corrosion, cleaning chemicals, scratches & water absorption. All seams are protected by anti-bacterial, silicon free sealant.
- ❖ **OVERSIZED BESPOKE DRAIN PANS:** with 4 point incline to promote easy access and encourage rapid run off. Option for removable trays .
- ❖ **BESPOKE BASE FRAME:** with a minimum 300mm rise allows easy under unit access for cleaning purposes and appropriate installation of glass drainage traps.
- ❖ **SPECIALISED COILS:** Cooling coils are vinyl coated or electro-tinned to prevent corrosion and bacterial build up. Heating coils have bare copper tubes & fins to minimise electrolytic action. All coils fitted with independent drainage systems.

EASY MAINTENANCE:

Quality materials and a superior build can lead to an AHU working life in excess of 30 years. Routine inspection / service and maintenance is critical and our AHU's are designed to allow easy access to all component sections.

- ❖ **QUICK RELEASE FAN :** a unique design mechanism to allow fan assemblies to be quickly changed minimising downtime.
- ❖ **BESPOKE FILTER FRAMES:** manufactured from stainless / galvanised or powder coated steel our frames allow efficient filter withdrawal and also minimise bypass leakage.
- ❖ **ACCESS PANELS & VIEW PORTS:** Access sections are fitted with specialised compression latches and hinges. Pressure gauges and plexi-glass viewports with IP65 rated 240v LED lights allow unimpaired visual inspection.
- ❖ **COIL RUNNERS:** All coil sections have custom built mounting slides / rails to enable quick withdrawal and replacement as necessary.

SIMPLE INSTALLATION:

- ❖ Tailored to the **site access**, location and size of the unit.
- ❖ **Modular, flat pack** or **plug & play** options to suit.

HIGH INTENSITY CASING:

- ❖ Closed section, **corrosion resistant aluminium** 6063-T6 / 6063A-T6 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 (in a range of **colour options for coding purposes**)
- ❖ **Anti-peel panels with safe edges** on all access sections and full unit deburring for maximum unit longevity and safety.

Real levels achieved in specification test (standard model box)

	Mechanical Strength	Leakage Class	Thermal Transmittance	Thermal Bridging
25mm Panel	D3	L2 (L3)	T3	TB3
50mm Panel	D2	L1 (L3)	T2	TB2 (TB3)

Component Features

DAMPERS:



- ❖ Standard air tightness is in accordance with **class 2 (EN1751)**.
- ❖ Manual isolating dampers fitted to enable maintenance & cleaning.
- ❖ **AVAILABLE OPTIONS:**

- Manual control / BMS linked motor / solenoid.
- Aluminium finish as standard with other options: galvanised / stainless steel / plastic.

COOLING COILS:



- ❖ Standard construction is from corrosion resistant materials to minimise electrolytic action from condensation.
- ❖ Sufficient tube spacing allows easy access for decontamination.

- ❖ Independent drainage systems.
- ❖ Oversized, 4 point incline stainless steel drain pans prevents pooling and facilitates fast run-off
- ❖ **AVAILABLE OPTIONS:**
 - Vinyl coated or electro plated tin fins.

FOG/FROST COILS:



- ❖ Plain tube construction without fins.
- ❖ Easy access for decontamination.
- ❖ **AVAILABLE OPTIONS:**
 - Water, steam or electric

ATTENUATION:



- ❖ Designed & manufactured by **in-house** specialists.
- ❖ **Unlimited** airway configuration and sizes.
- ❖ Optimum acoustic and aerodynamic **performance**.
- ❖ Melinex lining prevents element ingress into the airstream

AVAILABLE OPTIONS:

- Galvanised / stainless steel / powder coated / corrosion resistant plastic (CRP) **casings**.
- Formed steel **flanges** as standard - rolled steel / spigot ends available.

DURABILITY:

- ❖ 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 weather cowls/louvres as required.

AIR TIGHTNESS:

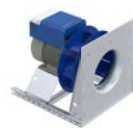
- ❖ **Fully welded** internal and external corner joints,
- ❖ Panels fitted on heavy duty **neoprene gaskets** with PVC sealant ensures air leakage rate is < 1%.

SOUND & HEAT INSULATION:

- ❖ Mineral wool insulation of **60kg/m³**
- ❖ Euroclass **rated A1** non-combustible
- ❖ **Water-repellent** to prevent moisture build up, damp & rot
- ❖ Excellent **acoustic** performance:

Octave Band (Hz)	63	125	250	500	1K	2K	4K
25mm Panel (dB)	18	17	25	42	45	44	39
50mm Panel (dB)	18	18	35	41	45	44	40

FANS:



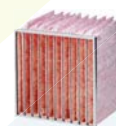
- ❖ Direct drive, backward curved impellers, energy optimised for operation.
- ❖ Rotating bladeless diffuser for **high efficiency** and favourable acoustics.
- ❖ Impellers statically and dynamically balanced in accordance with **ISO 1940**.
- ❖ Open spring vibration isolators & flexible duct connection **to prevent noise transmission**.
- ❖ Suitable for **inverter drives** with IE2 or IE3 available for 400v, 3 phase 50Hz electrical supply.
- ❖ E.C. motors for maximum efficiency.
- ❖ Fan inlet cone measuring device to monitor airflow.
- ❖ Fully factory run tested prior to despatch.

FILTERS:

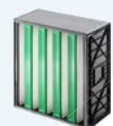
- ❖ Option for front withdrawal.
- ❖ Option for galvanised / stainless steel / powder coated frames (front withdrawal) to minimise bypass leakage.
- ❖ Filters fitted and supplied are graded and type tested in accordance with **ISO 16890**.
- ❖ Filter housings can be fitted with a differential pressure gauge / switch / pressure tap points.
- ❖ Differential pressure switch is motor isolator wired



PANEL



BAG



HEPA

HEAT RECOVERY:



- ❖ Energy recovery options based on specification requirements can increase energy efficiency by over **75%**.
- ❖ Bespoke oversized **stainless steel drain tray**.
- ❖ All plate heat exchangers have specialised vinyl fins.
- ❖ Runaround coils / thermal wheel may be used dependent upon specification requirements.