

AIR HANDLING UNIT (standard)

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MP Air Handling Units

For over 40 years, Mansfield Pollard have **designed, manufactured** and **installed** over 10,000 air handling units.

Our depth of capability is unsurpassed as we continue to provide custom built AHU's for all environments with duties ranging from **0.5m³/s** to over **50m³/s**. 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 techniques ensure an industry leading average turnaround time of only **4-6 weeks**.

- ❖ Plexiglass **view ports** with **IP65** rated 240v LED lights allow unimpaired visual inspection.
- ❖ Component sections can have **custom built** mounting slides or rails to enable quick withdrawal and replacement.

SIMPLE INSTALLATION:

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

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

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.
- ❖ Base frames **hot dipped galvanised** for additional protection.

Air Handling Unit Features

SUPERIOR CONSTRUCTION :

- ❖ 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 & 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.

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)

EASY MAINTENANCE:

- ❖ Access sections have **specialised** compression latches and hinges.
- ❖ Walk-in units have reinforced **galvanised mesh floors** with twisted transverse bars to provide surface grip.

DAMPERS:



- ❖ Standard air tightness is in accordance with **class 2 (EN1751)**.
- ❖ **AVAILABLE OPTIONS:**
 - Manual control / BMS linked motor / solenoid.
 - Aluminium finish as standard with other options: galvanised / stainless steel / plastic.

HEAT TRANSFER COILS:



- ❖ Standard construction is seamless drawn copper tube to **BS2871** expanded into aluminium plate fins with die formed spacing collars.
- ❖ Flow & return connections **BSP(M)**.
- ❖ Performance is in accordance with **EN 1216**.
- ❖ **AVAILABLE OPTIONS:**
 - Custom built 304 grade stainless steel **drain tray**.
 - Galvanised or stainless steel **casings**.
 - Plain copper / **tinned copper** fins available.
 - **Polyester** coated aluminium hydrophilic / **blgold** coated fins.
 - Enclosed headers/return bends for **high pressure systems**.
 - Talc reinforced **polypropylene** eliminator blades.

ELECTRIC HEATER COILS:



- ❖ Sized to suit the required duty and electric supply.
- ❖ Manual & automatic thermal **safety cut-out** for interlocking with the system fan motor starters.
- ❖ Airflow **sensing** device (by controls specialists).
- ❖ 1/2" galvanised steel **mesh guards** are fitted when adjacent to an access section to prevent accidental contact.

CROSS FLOW HEAT EXCHANGER:



- ❖ Sized to achieve the dry thermal recovery duty or the minimum value specified within the **ERP Directive 2009/125/EC**.
- ❖ Bespoke 304 grade **stainless steel drain tray** to encourage rapid run-off.
- ❖ Options for corrosion resistant aluminium foil, PET, epoxy and stainless steel construction.
- ❖ Damper options include bypass and recirculation.

ATTENUATION:



- ❖ Designed & manufactured by **in-house** specialists.
- ❖ **Unlimited** airway configuration and sizes.
- ❖ Optimum acoustic and aerodynamic **performance**.
- ❖ **AVAILABLE OPTIONS:**
 - Glass cloth faced **mineral wool** / slab with melinex lining.
 - Galvanised / stainless steel / powder coated / corrosion resistant plastic (CRP) **casings**.
 - Formed steel **flanges** as standard - rolled steel / spigot ends available.



- ❖ In-house **acoustic control** specialists.
- ❖ Integrated attenuation packages.
- ❖ HVAC control solutions to suit any customer requirements including preconfigured AHU and HVAC software.

FILTERS:

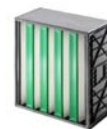
- ❖ Option for front or side withdrawal.
- ❖ Option for galvanised or stainless steel holding frame (front withdrawal) to minimise bypass leakage.
- ❖ Filters fitted and supplied are graded and type tested in accordance with **ISO 16890**.
- ❖ Filter housings can be fitted with a differential pressure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



coarse

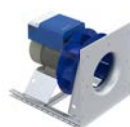


medium-fine



specialist

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.

THERMAL WHEEL:



- ❖ To achieve the dry thermal recovery duty (up to 80%) or the minimum value specified within the **ERP Directive 2009/125/EC**.
- ❖ Maintenance free roller bearings in a self supporting case with adjustable wheel seal.
- ❖ Adjustable purge sector to reduce mixing of air streams
- ❖ Gear motor and belt drive system for speed control & auto clean function.
- ❖ Design / material mass to suit dependent upon use:
 - Condensation wheel (aluminium)
 - Enthalpy wheel (aluminium with enthalpic coating)
 - Sorption wheel (aluminium with sorption coating)
 - Powder coated frame & epoxy coated wheel

NON-STANDARD COMPONENTS:

- ❖ Option to seamlessly integrate all 'non-standard' components into our AHU's including:
 - Humidifiers and gas burners.
 - Heat recovery (run-around) & direct expansion (DX) coils .