

POOL AIR HANDLING UNIT

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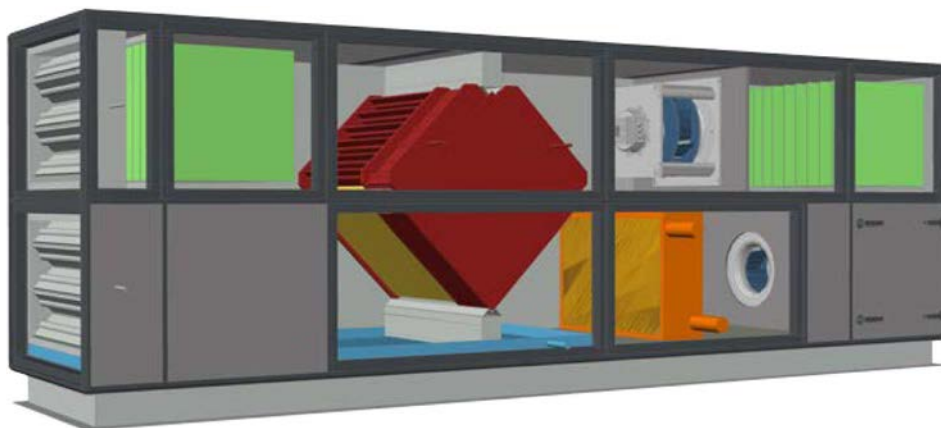
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Pool Air Handling Units

Owing to the aggressive nature of the environment of swimming pools, spas and similar establishments there is a need for a **SPECIALISED VENTILATION SYSTEM**. As a bespoke manufacturer, Mansfield Pollard is perfectly placed to provide any size, airflow and component combination of air handling unit, tailor made and fit for purpose.

We have provided a comfortable indoor climate for 100's of similar premises and our units are the preferred choice for many leisure centres, schools and gyms. 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.



Unit Features

OUTSTANDING DURABILITY:

Corrosion protection is of critical importance in any aggressive environment and our handling units have a number of specialist features to ensure industry leading longevity and performance levels.

- ❖ **ULTRA STRONG FRAMEWORK:** Closed section, corrosion resistant aluminium 6063-T6 / 6063A-T6 extruded pentapost framework (100Mpa min. tensile). with all corners welded inside and out to prevent moisture ingress.
- ❖ **SPECIALISED MATERIALS:** optional grades of materials and protective coatings dependent upon environment served. Including stainless steel, powder & epoxy coating, polycarbonate resins to prevent component deterioration.
- ❖ **BUILDING FABRIC:** Corrosion of the building fabric is also a necessary consideration and keeping the ventilated area under slightly negative pressure reduces moisture being driven into the building walls.

CONTROL & EFFICIENCY:

Full control of the ventilation system including maintaining appropriate air pressure, humidity & temperature and maximising thermal and electrical energy efficiency lies at the heart of our specialist AHU's. Our in-house controls engineers will custom design and build a solution enabling the best operational fit for the pool environment.

- ❖ **HEAT RECOVERY :** Specialist heat recovery solutions minimise the need for supplementary heating and can recover up to 85% of energy that would otherwise be lost (dependent upon prevailing conditions).
- ❖ **MODULATING FANS:** humidity and temperature demands automatically regulate the fan speed maximising energy efficiency.
- ❖ **OPERATIONAL MODES:** AHU's are designed to maintain optimum conditions with no input from the end user including re-circulation, winter and free cooling modes when selected.

SPECIALIST AHU RANGE

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 moisture resistant frame.
- ❖ 'Tray-in-tray' double skinned panel - external 'plastisol' 200µ PVC top coat finish & same internal 200µ PVC top coat finish provides extreme corrosion and chemical resistance.
- ❖ **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

HEAT RECOVERY:



- ❖ Energy recovery options based on requirements can increase energy efficiency by over **75%**.
- ❖ Bespoke oversized **stainless steel drain tray**.
- ❖ Integrated mixing section with bypass dampers to facilitate temperature & humidity control.

AVAILABLE OPTIONS:

- Epoxy, PET and stainless steel construction.
- Runaround coils / thermal wheel may be used dependent upon specification requirements.

DAMPERS:



- ❖ Motorised low leakage shut off dampers **class 2 (EN1751)**.
- ❖ Powder / epoxy coated damper blades with polyurethane inter-meshing gears for high corrosion resistance.

- ❖ IP66 protection class actuators specially designed for a high humidity environment.

HEAT TRANSFER COILS:



- ❖ Corrosion resistant system to minimise electrolytic action:
- ❖ Poly coated fins.
- ❖ Epoxy powder coated framework.

- ❖ Talc reinforced polypropylene droplet eliminators.
- ❖ Heresite & other coatings available if additional protection is required.
- ❖ Custom built 304 grade stainless / treated drain drays.



ADDITIONAL SERVICES:

- ❖ In-house **acoustic control** specialists.
- ❖ Integrated attenuation packages.
- ❖ Independently tested acoustic products.
- ❖ Able to achieve the most stringent noise and vibration reduction specifications.

POOL Air Handling Unit

WEATHER PROTECTION:

- ❖ 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.

MOISTURE PROTECTION:

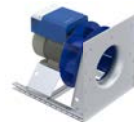
- ❖ **Fully welded** internal and external corner joints.
- ❖ Panels fitted on heavy duty **neoprene gaskets**.
- ❖ **PVC sealant** provide prevents moisture ingress.
- ❖ **Glands** are fitted to cable entry and exit points.

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



PANEL



BAG



SPECIALIST

- ❖ In-house **specialist ductwork**.
- ❖ Licenced manufacturer and installer of fire rated ductwork (Promat DURASTEEL®).
- ❖ Options for Galvanised / stainless / aluminium.
- ❖ Powder coated / wet spray & plastic overlay.