



AIR HANDLING UNIT AHU

The Power of
EXPERIENCE



INTRODUCTION

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Expert Middle East is one of the top leaders in HVAC system instruments fabrication, established in 2015.

Certified by ISO 9001, & ISO 14005, Along our successful & progressive journey, we strive to be the integrated service provider of HVAC system equipment in the Middle East by supplying (AHUs, FCU, Condensing units, package DX units, air outlets, air ducts, and air curtains ... etc.)

Also, by our extension through our major projects in Qatar, Oman.

And we will continue, with full commitment to providing customer focused and professional services.

Our Vision



Our vision is to become the top HVAC equipment fabrication company in the Middle East that positively impact society's lifestyle quality through our continuous innovation delivered by our skilled professional to make our customers delighted.



Our Mission



by providing Quality in every single material used by considering every customer as a priority by helping our market increase the return of building investment

Our Values



01

Customer delight:

we do it perfect, fast and save cost.

02

Priority:

we believe in saying no to thousands, to deliver unbelievable response to you.

03

Continuous improvement:

we always up to date on new trends, technologies & customer needs related to our industry

04

Competitive price:

we focus on selling value not to only profit, so our prices always fair.

05

Professionalism:

we proudly have the technical knowledge leaders through all our organization.

06

Integrity:

We expect to be always honest with ourselves first, then our employees and our customers.

Air Handling Unit

NOMENCLATURE

AHU R 14 L 1 H 1 1

AHU
 Air Handling Unit

Function

R: DX Cooling Coil
W: Chilled Water-Cooling Coil

Unit Size

Flow Rate (CMH)/100

Coil Orientation

L: The Header of Coil is Left Sided
R: The Header of Coil is Right Sided

Dehumidifier

0. Not Including Dehumidifier
 1. Including Dehumidifier

Humidifier

0. Not Including Humidifier
 1. Including Humidifier

E: Electric Heater
C: Heating Coil

Heater

0. Not Including Heater
 1. Including Heater

General Specifications



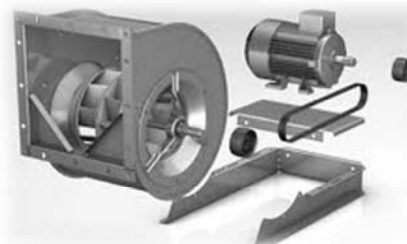
- With an air flow range of 1,400 m³/h to 83,000 m³/h, unit sizes in **21** different models are provided. EX series air handling units are manufactured in Four different panel thickness of 25mm, 42mm, 43mm and 62mm.
- Besides, solutions are offered for application areas such as hospitals (operation and clean room), pharmaceuticals factories, food production factories, chemical production facilities and for similar applications with hygienic air handling units produced in two different panel thickness of 43mm and 62mm.
- Within air handling units, production can be made with different filling materials such as Fiber Glass or Polyurethane.
- Sheet metal thickness between 0.6mm, 0.7mm, 0.8mm, 1mm, 1.25mm and 1.5mm is available for alternative air handling units.
- For panel production material, Expert provides galvanized and Stainless coated sheets. Moreover, Blue, Grey and White Electrostatically painted metal sheets are used at the outer part of units.
- Panels are manufactured in sandwich structure with double sides. Within panels, Polyurethane insulation material with 40 kg/m³ or 68 kg/m³ density is used as sound and thermal isolation filling material.

Moreover, Fiber Glass insulation materials are also available optionally.

- Within Expert air handling units, air adjustment dampers with Frame and blades are made of extruded aluminum sections. Blades are inserted in plastic bearings. They are driven via the plastic gear wheels, fixed in the frame section with plastic holders. Mechanism is encased in separate housing and therefore protected from dust and other influences. A rubber strip attached on blades provides better sealing. Blades open in opposed direction only. The dampers can be regulated manually (standard version) or power operated by pneumatic or electric actuator. Volume control damper is temperature resistant to 70 °C.



- Air handling unit's Fans are produced in standard cellular structure. While Fans can be chosen as forward curved blades or backward curved blades, radial single/double suction fans balanced statically and/or dynamically, they can also be designed with plug-fan. Electrical motor of fans is mounted on to the same chassis. In order to prevent the vibration that can be occurred especially within this chamber to the other part of the air handling unit, rubber-based or elastic (with spring) vibration isolator is used at an amount and size dependent on the capacity, size, fan and motor cycles of the unit.



- Mounting frames are designed for different filter classes used together with air handling units for several different purposes. Thanks to this design, filters can be placed very easily into their sockets with spring systems. With this design, any possible by-pass that can be occurred at filters are reduced to minimal levels. G2, G3 & G4 class filters used as front-side filters, have galvanized frames, and with galvanized string connections, they are mounted with increased resistance to air flow.



- Bag filters with different classes are used as second-level filters in air handling units. Moreover, bag filters are used as pre-filters for hygienic air handling units. Bag filters can be chosen out of F5 to F9 classes and applied. In air handling units, rigid filters can be used as the last filter at between classes F5 to F8 upon need. In order to filter specifically the undesired smell at air handling units, carbon imbued panel or active carbon filters with cartridge are used.



- Heating and cooling coils used in air handling units are manufactured as copper pipes with aluminium fins. All coils are subject to hydrostatic tests before mounting. In order for easy maintenance and mounting, coils are designed with special sliding mechanism. In air handling units with cooling coils, rustproof condensation pan is used.



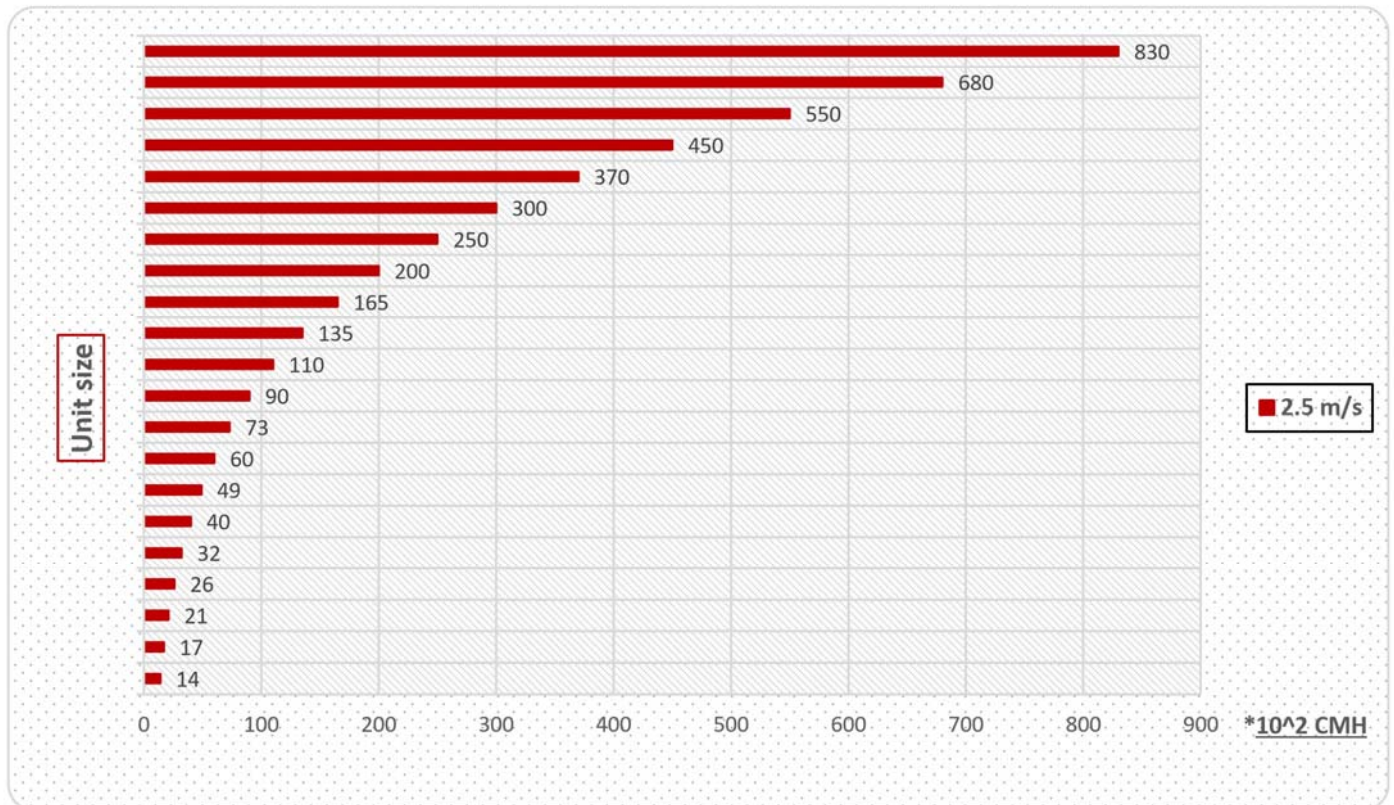
- Optionally, steamy and watery evaporating humidifier units can be produced in standard cell structure. In order to prevent water drops, that formed during humidification within the cell, to get over to the surrounding or to the other parts of the unit, polypropylene drip eliminators are used and mounted to the inner part of the cell.



- Silencer modules are manufactured in standard cell structure. The attenuators should have adequate silencing capabilities and low air resistance with the introduction of VDI 6022, specific hygiene requirements for hygienic AHUs. Certified for use by VDI 6022 Parts 1 and 3, Din 1946 Part 4, and VDI 3802. High protection against damage, High temperature resistance materials.



Air Handling Unit Selection

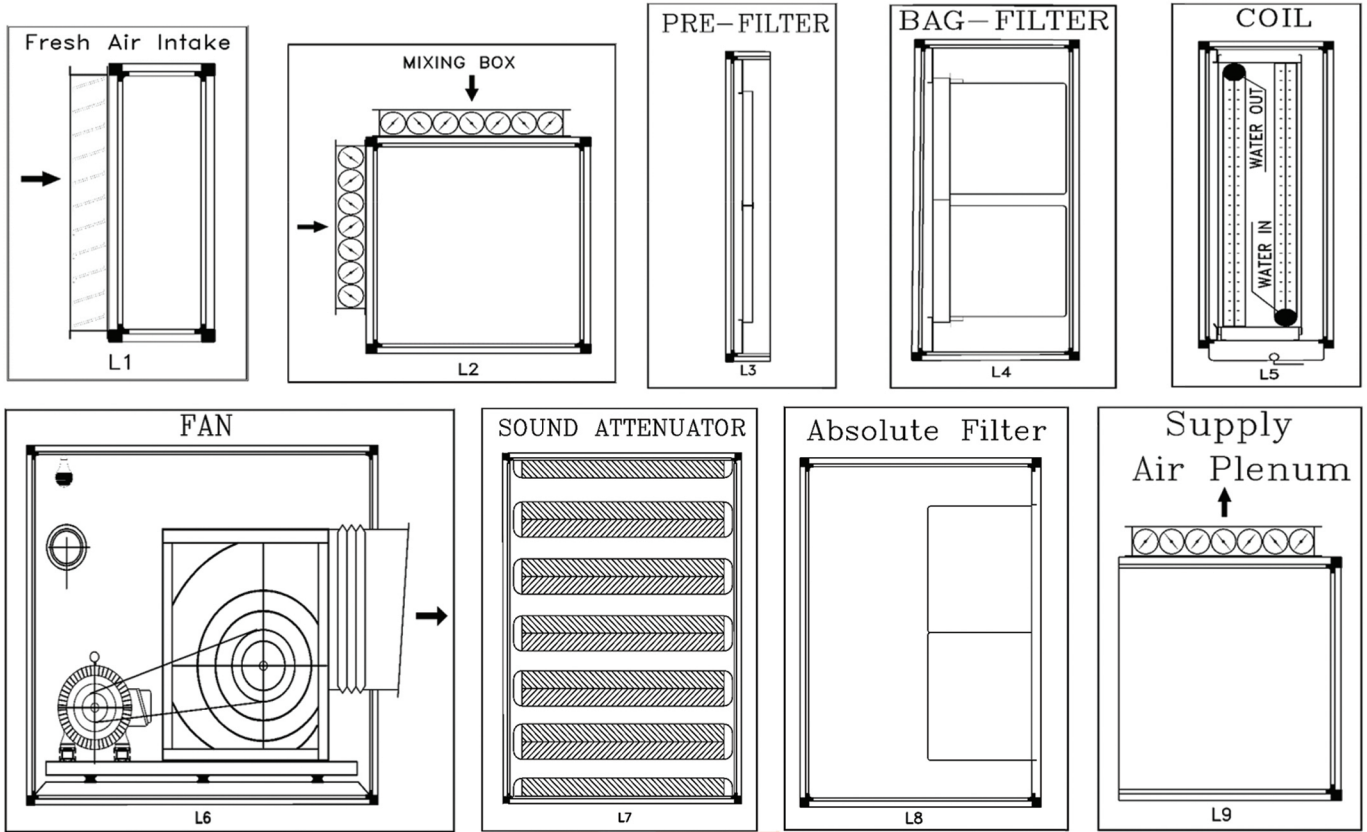


- This selection depending on AHU Flow rate (CMH) AT Coil Face velocity =2.5 m/s , to obtain Ahu size

EX-165	1830	1480	150	650	150	600	350	550	1600	750	1200	900
EX-200	1990	1600	150	650	150	600	350	550	1750	750	1200	900
EX-250	2270	1660	500	750	150	600	350	550	1900	750	1200	900
EX-300	2440	1540	500	750	150	600	350	550	2050	750	1200	1200
EX-370	2580	2020	500	750	150	600	350	550	2150	750	1200	1200
EX-450	3420	1945	700	850	150	600	350	550	2200	750	1200	1200
EX-550	3620	2180	700	1000	150	600	350	550	1850	750	1200	1200
EX-680	4120	2300	700	1100	150	600	350	550	2050	750	1200	1200
EX-830	4540	2540	700	1200	150	600	350	550	2150	750	1200	1200

1. This section is our standard in manufacturing, but final dimension is added after receive submittal
2. We able to add and remove any additional sections upon request
3. Electric heater has same dimension as coil
4. Steam Humidifier length is 1250 mm with all unit at R.H =%50
5. Eliminator length is 200 mm with all unit

Unit Size	Width (W)	Height (H)	L ₁	L ₂	L ₃	L ₄	L ₅		L ₆	L ₇	L ₈	L ₉
							1:4 Rows	5:8 Rows				
EX-014	770	580	100	350	150	600	350	550	800	750	1200	700
EX-017	790	640	100	350	150	600	350	550	900	750	1200	700
EX-021	880	640	100	350	150	600	350	550	900	750	1200	700
EX-026	830	820	100	350	150	600	350	550	900	750	1200	700
EX-032	930	820	100	350	150	600	350	550	1000	750	1200	700
EX-040	1030	880	100	350	150	600	350	550	1100	750	1200	900
EX-049	1150	880	100	350	150	600	350	550	1100	750	1200	900
EX-060	1350	880	100	350	150	600	350	550	1100	750	1200	900
EX-073	1350	1080	150	450	150	600	350	550	1250	750	1200	900
EX-090	1430	1120	150	450	150	600	350	550	1250	750	1200	900
EX-110	1550	1240	150	550	150	600	350	550	1400	750	1200	900
EX-135	1640	1420	150	550	150	600	350	550	1400	750	1200	900





Head Office : 6th October, 1st Distract
Central St., Building No.85
TEI : 02-38376257 - **Fax :** 02-38377311
Mob : 01000749984
Factory : 6th October, Industrial Zone,
Zone 121
E-mail : expert@expert-mideast.com
Website: www.expert-mideast.com