



Optimal conditions
through
tailor-made
solutions

AIR HANDLING UNITS



Daikin Air Handling Units

The air in buildings is more than just air to breathe, it effects the performance of all those who work there and of the machinery that is installed. It needs to be clean, fresh, at the right temperature and at the right humidity at all times if optimal performance of man or machine is to be achieved.

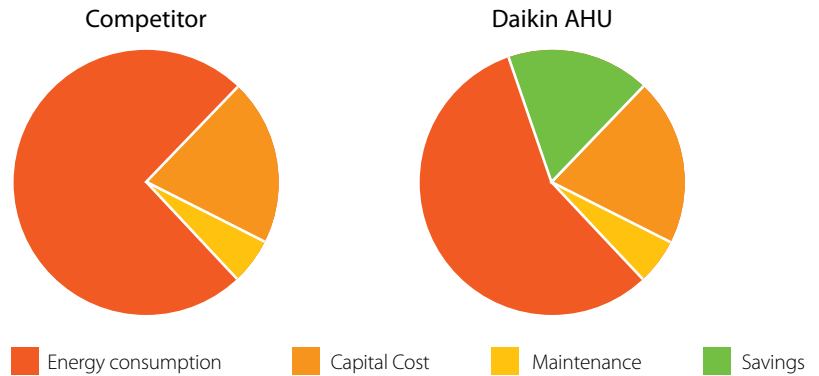
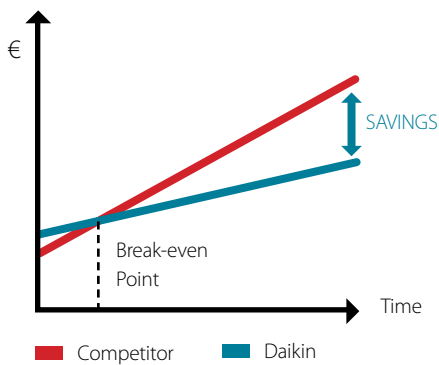
The Daikin air handling units, with their plug-and-play design and inherent flexibility, can be configured and combined specifically to meet the exact requirements of any building no matter what it is used for or who is to work there. Our systems are designed to be the most environmentally friendly and the most energy efficient on the market thus reducing their ecological impact while, at the same time, keeping costs down through the minimisation of energy consumption. When combined with the small physical footprint of the system, these features make our air handling units ideal for all markets.

The high efficiency system

Return on investment

The air handling unit (AHU) is critical to an effective climate control system and, although the initial investment can appear high, the savings generated by our advanced designs and operating efficiencies guarantee a rapid return on the investment made. Our AHU series has been designed to deliver exceptional performance thus driving down the energy consumed and so lowering energy bills. Taken over the expected 15-year life-span of the equipment, this will result in an enormous saving, especially in a time of ever increasing energy prices.

AHU Life Cycle Cost (LCC)



Controls

Daikin have engineered a control system to efficiently manage all components selected either independently or through external supervision system. The control package includes the control panel, advanced microprocessor, sensors for temperature, humidity and air quality, and more other features.

- › Fully integrated electronic control panel
- › Packaged solution
- › Connectivity with VRV and ERQ: Maximum energy efficiency stemming from almost zero down flow turbulence, optimised air flow and the application of advanced discharge rectifier technology
- › Around 85% air separation efficiency, greatly reducing both heat loss and required indoor unit heating capacity
- › The Daikin fresh air package provides a complete plug and play solution, including AHU, ERQ or VRV condensing unit and all unit controls (EKEQ, EKEX, DDC controller) factory mounted and configured.

Software

ASTRA is the powerful software that Daikin has developed to offer a quick and comprehensive service for the customer in order to make the technical choice and the economic valorization of each AHU. It is a complete tool that can configure any type of product and respond exactly to the strictest design needs. The result is a comprehensive economic offer including all the technical data and drawings, the psychrometric diagram with the relative air treatment and the fans' performance curves. However, Daikin didn't stop there, they went further. MECCANO is the other powerful software developed and designed to quickly convert the offer in the executive order. Technical drawings to be sent and approved by the client, executive drawings for the production, bill of material, code generation for each component used are just a few of the many functions of the instrument.

The ASTRA-MECCANO integration has therefore made possible the complete automated management of the process by reducing the time of the offer and of the delivery and improving the service to our customers.

The working concept at a glance

Typical configurations for Daikin air handling units provide a versatile range of functions. Our systems offer numerous options for customisation through an extensive range of variations and added functionality.

Exhaust air

- 1** Bag filter with factory-mounted differential pressure manometer and hinged door.
- 2** Exhaust air fan (with hinged door, opening, drive monitoring, mounted and cabled lighting and ON/OFF switch)
- 3** Mixing box with damper and factory-mounted actuators
- 4** Heat recovery system (plate heat exchanger or rotation exchanger)
- 5** Damper section including ventilation grilles, factory-mounted actuators



Fans

- > Forward bladed fan
- > Backward bladed fan
- > Backward airfoil blades fan
- > Plug fan
- > EC plug fan

Exchangers

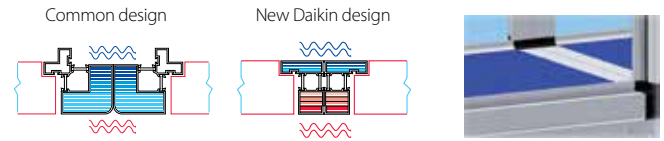
- > Water coils
- > Steam coils
- > Direct expansion coil
- > Superheated water coils
- > Electric coils

Humidifiers

- > Evaporative humidifier without pump (loss water)
- > Evaporative humidifier with re-circulating pump
- > Air washer without pump (loss water)
- > Air washer with re-circulating pump
- > Steam humidifier with direct steam production
- > Steam humidifier with local distributor
- > Atomized water spray humidifier

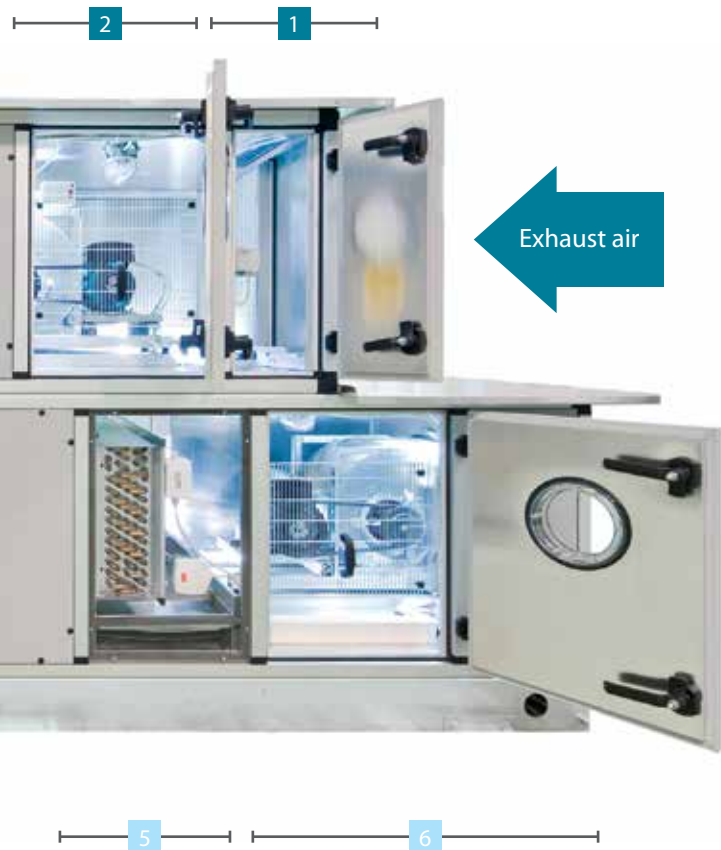
Unique section-to-section thermal break profile

- Thermal bridge free for the entire AHU
- Smooth interior surface with improved IAQ (Indoor Air Quality)



Infinitely variable sizes

- 1 cm increment for width & height dimensions



Supply air

- 1 Damper section including ventilation grilles, factory-mounted actuators
- 2 Bag filter with factory-mounted differential pressure manometer and hinged door
- 3 Heat recovery system (plate heat exchanger or rotation heat exchanger)
- 4 Mixing box with damper and factory-mounted actuators
- 5 R-410A with heat recovery system with galvanised condensate tray and drip protection
- 6 Supply air fan (with hinged door, opening, drive monitoring, mounted and cabled lighting and ON/OFF switch)

Heat recovery systems

- › Heat wheel, sensible or sorption
- › Plate heat exchanger
- › Run-around coils

Other section

- › Attenuator section
- › Mixing box section with actuators or
- › Manual controlled dampers
- › Empty section
- › Gas burner section

Filters

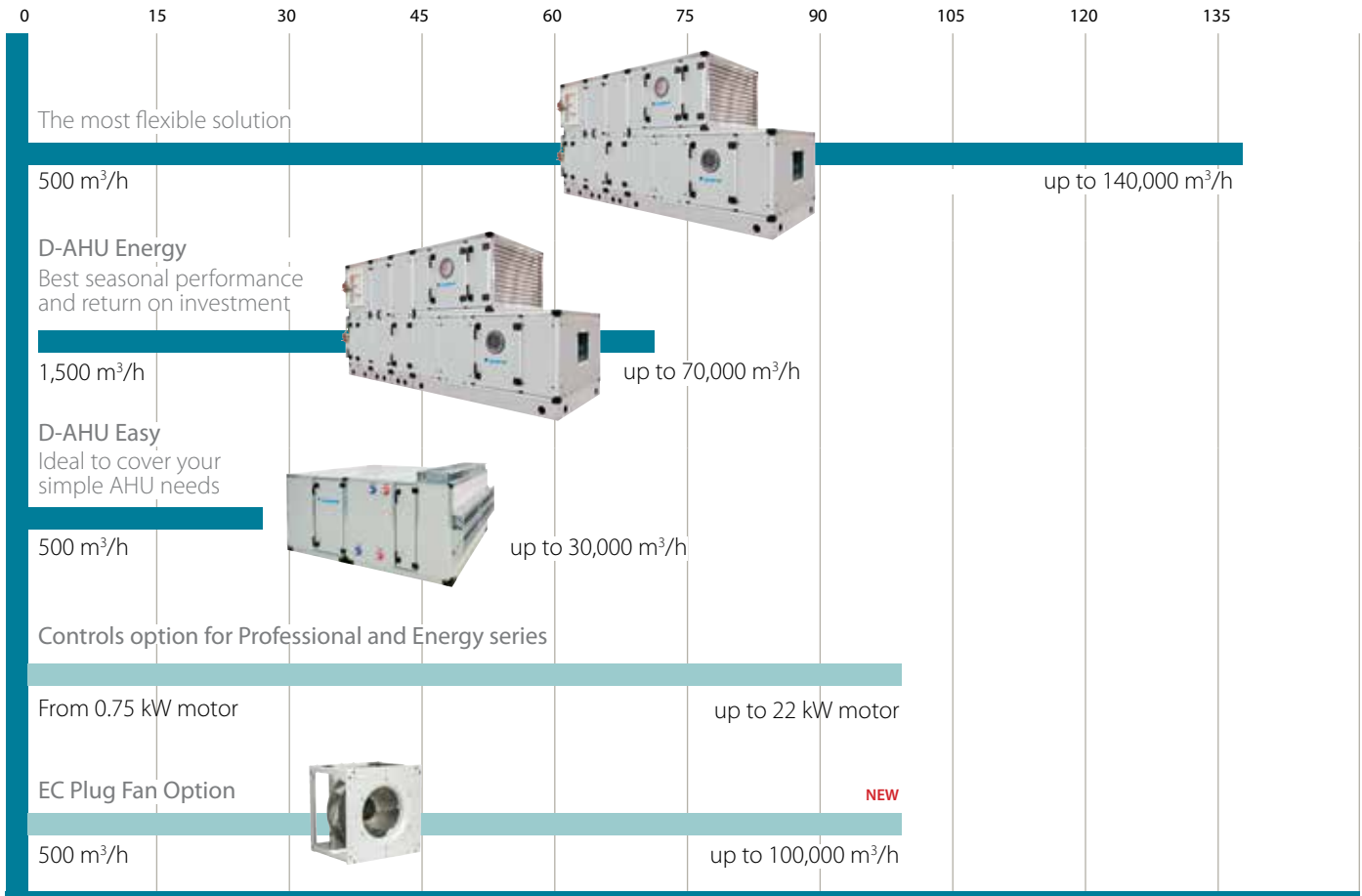
- › Synthetic pleated filter
- › Flat filter aluminium mesh
- › Rigid bag filter
- › Soft bag filter
- › High efficiency filter
- › Carbon absorption filter
- › Carbon deodorizing filter

Accessories

- › Frost protection
- › Manometers
- › Drive guard
- › Roof
- ...

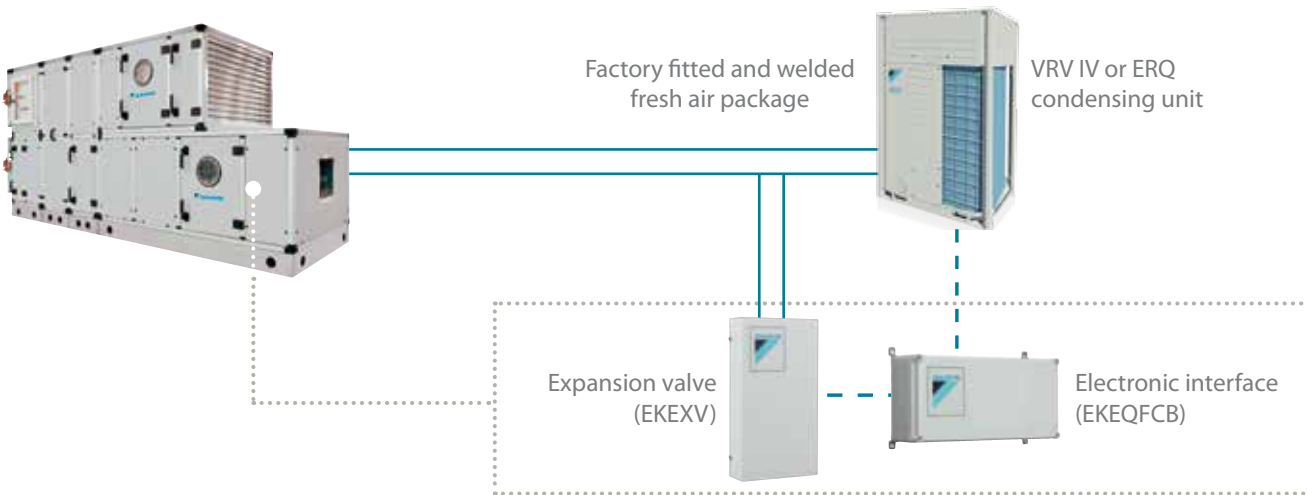
Overview

Air flow (m³/h x 1,000)



Daikin fresh air package

Plug & play connection to VRV IV or ERQ



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