



D-AHU Modular R

# Air handling units



Compact air handling unit with heat recovery wheel

# Energy efficiency and air quality

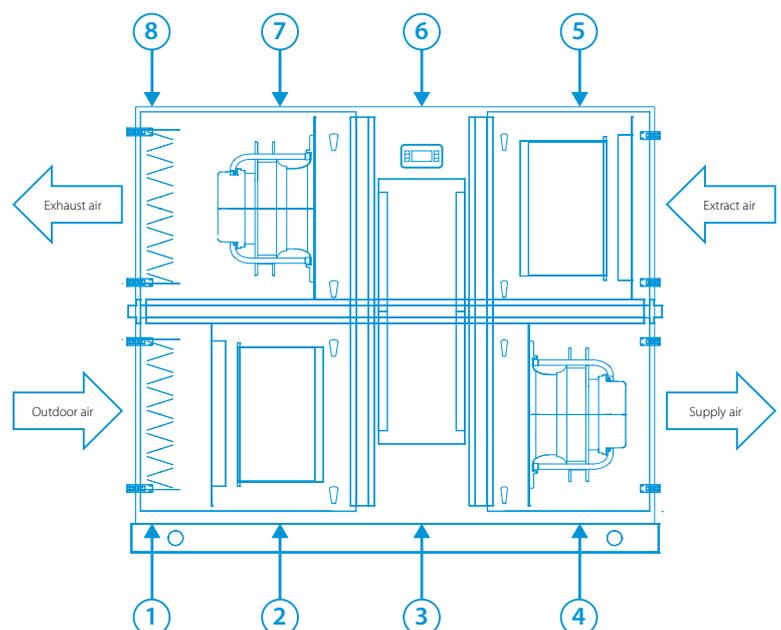


With their Plug & Play design and inherent flexibility, Daikin air handling units can be configured and combined to meet the exact requirements of any building, no matter what it is used for or who is to work there.

**Our systems are designed to be the most environmentally friendly and the most energy efficient.** This means they have a reduced ecological impact, while, at the same time, keeping costs down by minimising energy consumption. When combined with the small physical footprint of the system, these features make our air handling units ideal for all markets.

## Unit configuration

- |                        |                      |
|------------------------|----------------------|
| 1. Outdoor air damper  | 5. Filter extraction |
| 2. Filter supply       | 6. HMI Controls      |
| 3. Heat recovery wheel | 7. Fan exhaust       |
| 4. EC fan supply       | 8. Damper exhaust    |





Efficient,  
economical and  
well balanced

## Heat recovery solutions

They are not only modular and compact, the new series are also extremely efficient.

The inclusion of a heat recovery wheel type heat exchanger in the units ensures it has **85% temperature efficiency** and up to **60% humidity efficiency**.

## A lifetime of savings

While the initial investment and installation are major factors in the overall cost of an air handling unit, Modular series units are designed to reduce energy costs throughout their entire working life. Features such as Constant Air Flow (CAV) or Pressure Control (VAV), economy mode, night mode operation and the programmable timer all provide considerable savings. Savings that ensure a rapid payback of the investment.



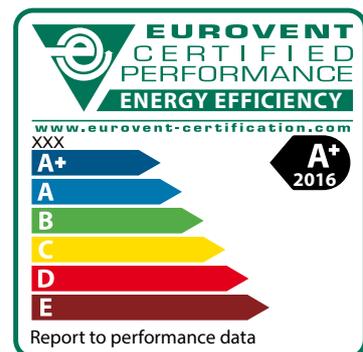
### Strengths

- › Air flow control by measuring at the inlet nozzle
- › Easy commissioning
- › Nominal air flow programmed at factory
- › Silent operation
- › premium efficiency motors with an IE4 rating
- › Eurovent certified.

### Norms and standards

Daikin Modular air handling units are built in compliance with the strictest standards in the marketplace:

- › EN 1886:2007
- › EN 13053:2011
- › EN 13779:2007
- › VDI 6022-1:2011
- › EN 15251:2007
- › EN 308:1997



# Innovative and reliable technology



## Unrivalled compatibility

Daikin's Modular series come in pre-defined sizes and are available as indoor or outdoor versions. This means that modular systems can be designed and installed in a variety of applications. And with an operating range of -25°C (-40°C with electric heaters) to +43°C, they are suitable for any European climate.

Daikin air handling units are wired at the factory and are also pre-commissioned, with each unit's software tuned and the set points already established. On site, all that is required is to plug the system into the power supply, connect any pipes and wires, and switch the unit on.

Like all Daikin air handling units, the Modular series are compatible with all common heating and cooling equipment. They are extremely user-friendly thanks to their full compatibility with ITM and all other Daikin equipment. In combination with Daikin chillers, ERQ and VRV condensing units, they offer a unique package assuring excellent heat recovery and indoor air quality, as well as high quality and reliability.



## Simple and quick installation

The series' Plug & Play design is more than just a convenient feature for installers. It also offers cost saving benefits as there is no need for expensive adjustments before the unit is commissioned. Plug & Play makes everyone's life simpler, safer and more economical.

## ASTRA Web Modular selection program

- > ASTRA Web offers a quick and accurate selection of the best AHU
- > Preset parameters will guide you to the optimum solution
- > High selection quality, thanks to the huge number of the pre-defined units embedded within the software.





# Customised regulation and control systems

All Modular air handling systems come with a regulation and control system (with or without connection to a BMS).

The MicroTech III controller is designed to work with most applications. It can thus manage a chilled water system or direct-expansion system while providing management of the heat recovery loop for constant or variable speeds.

This allows for precise temperature control based on P.I.D. regulation, and constantly optimises the operating parameters of the air handling unit.

- › LCD display with 164 x 44 pixels.
- › 3-key control panel.
- › Rotating knob control for greater ease of use.
- › Memory for data backups.
- › Alarm relays for general types of incidents.
- › Password-controlled access for configuration changes.
- › Maintenance reports showing all run-time hours and general operating conditions.
- › Alarm log to facilitate the analysis of incidents.

The MicroTech III controller provides the option of controlling the set-points for ambient air temperature, air return and supply air, and the possibility of regulating air quality with the addition of a CO<sub>2</sub> probe. For additional information about these features, please contact your Daikin representative.



The POL638 standard software has been customised to manage the control signals of Daikin's ERQ and VRV IV systems.

# Always in control



## Intelligent control and monitoring

### Intelligent Touch Manager II

- Mini BMS with full integration across all product types.
- › Intuitive user interface.
  - › Direct access to all of the internal unit's functions via touch-screen or Web interface.
  - › Plug & Play commands, air intake, return air or exterior air control, and air quality control (CO2).

### BACnet Interface

- Integrated control system for seamless connection between VRV, chilled water systems, air handling units and BMS systems.
- › Interface for BMS system.
  - › Communication via BACnet protocol.
  - › Quick and easy installation.
  - › Easy monitoring via the ITM II, Internet browser, or the ModBus communication module or BACnet (optional).

**Daikin is expanding its line of air handling units with a new version of the Modular D-AHU that has the latest counter-flow plate heat exchanger. This technology provides up to 90% output!**

- › Plug & Play design
- › Built-in regulation
- › Heat exchanger with up to 90% output
- › Compatible with direct-expansion and chilled water systems
- › Eurovent Class A /A+

This product line will be available in early 2017. For more information, please contact your Daikin sales representative.

### Strengths

"Plug & Play" design of the Modular models is a substantial plus for installers.

Daikin Modular series models have very well insulated housings and high-performance heat recovery controls and components. Because of their smooth internal surfaces and a special noise reduction laminar straightener (NRLS), they are also incredibly quiet in operation.

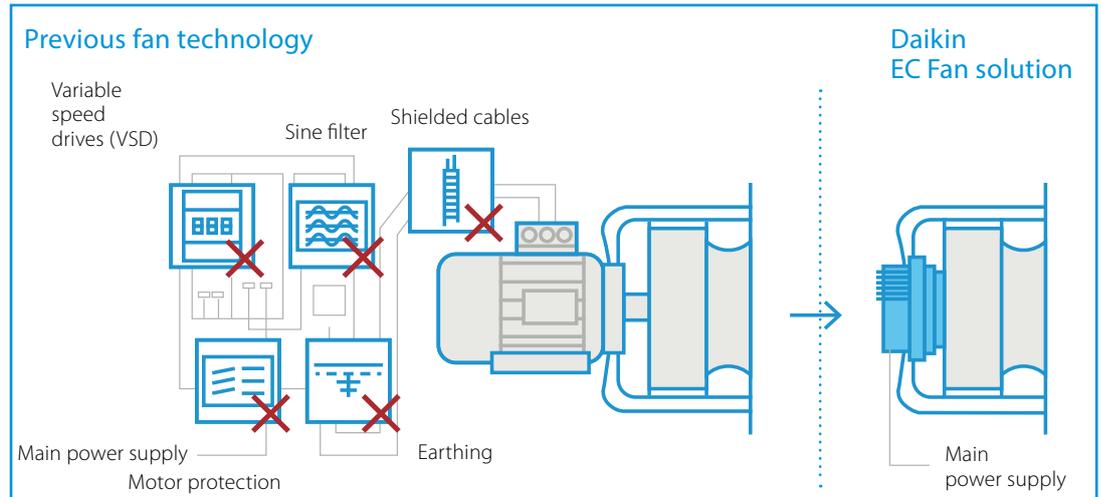
- › Variable Air Volume (VAV) and Constant Air Volume (CAV) capabilities.
- › These units are quieter due to the NRLS (noise-reduction laminar straightener accessory).





# Installation is simple and safe

There is no need for costly adjustments before placement in operation, or for earthing and shielding measures. Plug-and-Play is very simple in terms of ventilation and air-conditioning technology

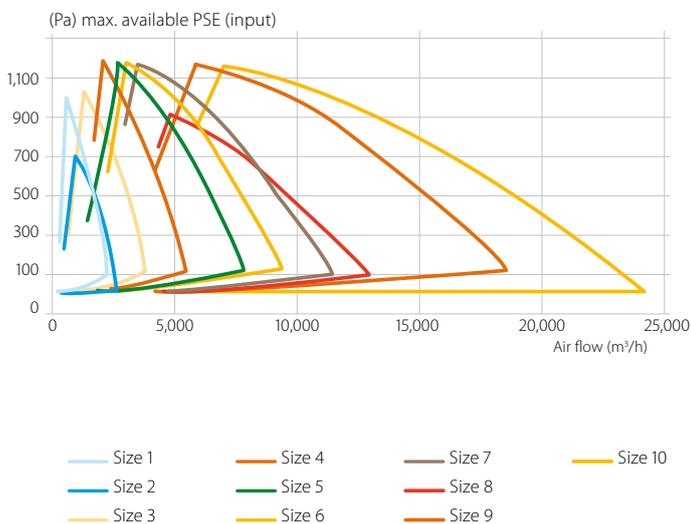


- Benefits**
- › More compact solution
  - › High energy efficiency thanks to new electronics
  - › Airfoil blade
  - › More quiet solution (even more with NURLS technology)

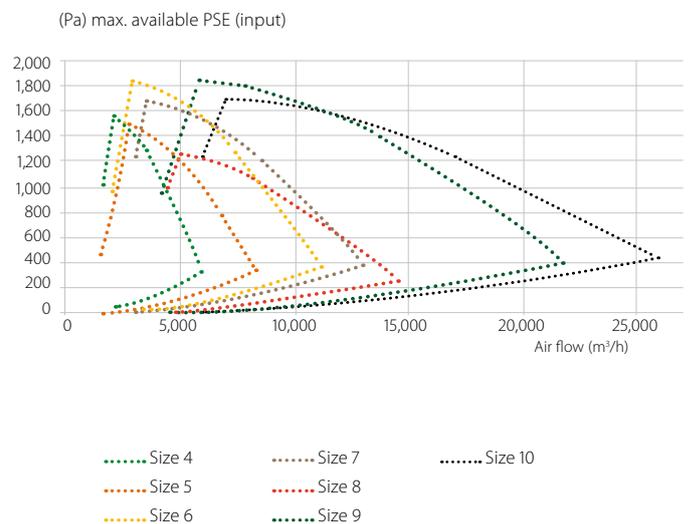
## Range

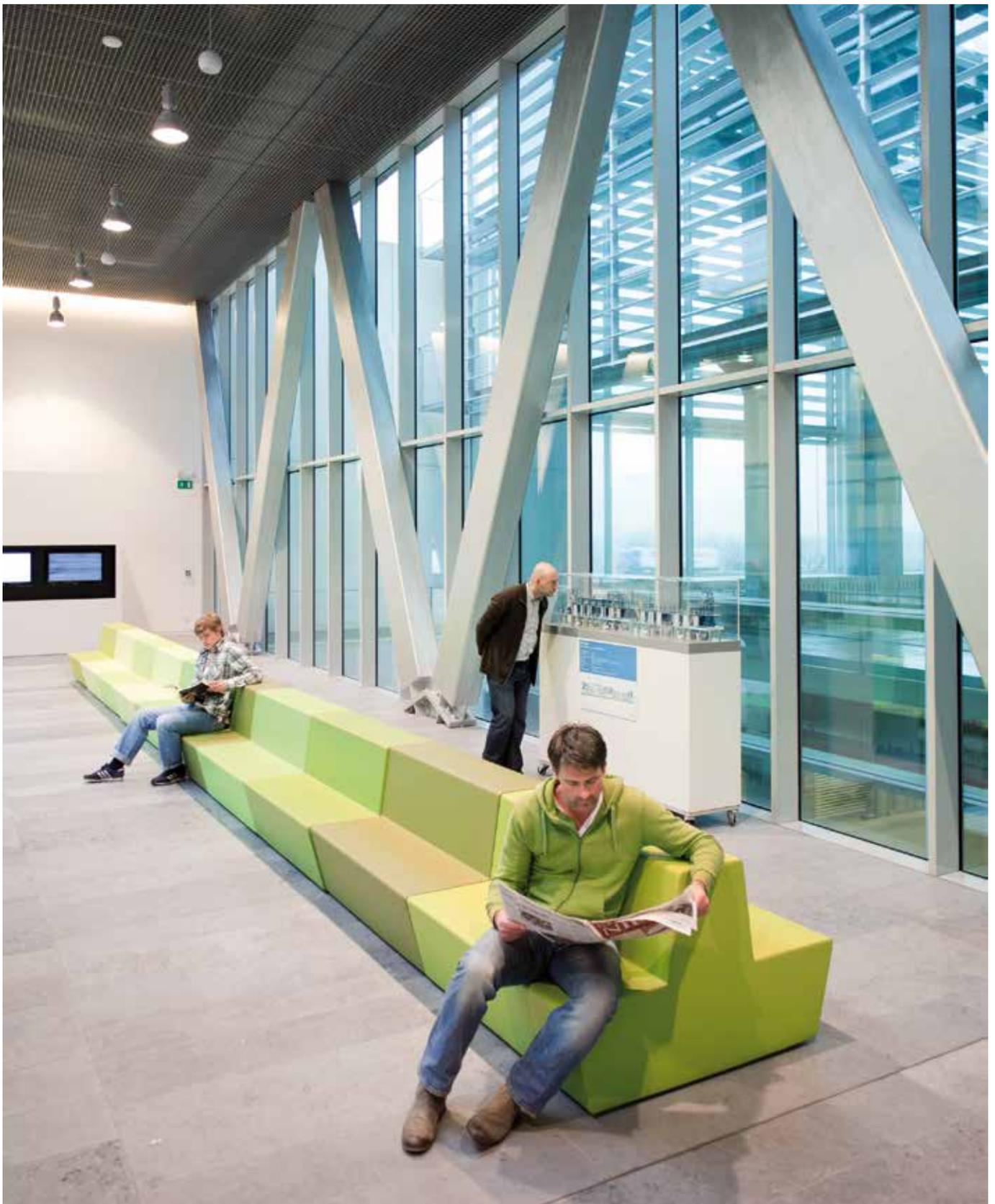
| D-AHU Modular            |                      | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9      | 10     |
|--------------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| Airflow                  | m <sup>3</sup> /h    | 1,200 | 1,700 | 2,700 | 4,100 | 5,500 | 6,100 | 7,000 | 9,100 | 11,500 | 15,000 |
| Temp. efficiency winter  | %                    | 81.30 | 76.60 | 76.90 | 77.20 | 76.80 | 77.10 | 78.10 | 77.20 | 77.20  | 77.90  |
| External static pressure | Nom. Pa              | 200   | 200   | 200   | 200   | 200   | 200   | 200   | 200   | 200    | 200    |
| Current                  | Nom. A               | 2.64  | 3.98  | 2.20  | 3.3   | 4.10  | 4.60  | 4.98  | 6.48  | 8.52   | 10.68  |
| Power input              | Nom. kW              | 0.59  | 0.89  | 1.40  | 2.03  | 2.60  | 2.84  | 3.10  | 4.14  | 5.20   | 6.68   |
| SFPv                     | kW/m <sup>3</sup> /s | 1.78  | 1.88  | 1.86  | 1.78  | 1.70  | 1.68  | 1.60  | 1.64  | 1.63   | 1.60   |
| Electrical supply        | Phase                | ph    | 1     | 1     | 1     | 3+N   | 3+N   | 3+N   | 3+N   | 3+N    | 3+N    |
|                          | Frequency            | Hz    | 50    | 50    | 50    | 50    | 50    | 50    | 50    | 50     | 50     |
|                          | Voltage              | V     | 230   | 230   | 400   | 400   | 400   | 400   | 400   | 400    | 400    |
| Dimensions unit          | Length               | mm    | 1,320 | 1,320 | 1,540 | 1,740 | 1,740 | 1,920 | 1,920 | 2,180  | 2,460  |
|                          | Depth                | mm    | 1,700 | 1,700 | 1,800 | 1,920 | 2,080 | 2,280 | 2,400 | 2,450  | 2,280  |
|                          | Height overall       | mm    | 720   | 820   | 990   | 1,200 | 1,400 | 1,400 | 1,600 | 1,940  | 1,940  |
| Weight unit              | kg                   | 325   | 350   | 475   | 575   | 750   | 790   | 950   | 1,330 | 1,410  | 1,750  |
| Sound level at 1m        | Lp dB(A)*            | 36    | 43    | 38    | 41    | 42    | 41    | 41    | 39    | 42     | 40     |

### STD fan performances (standard levels)



### HP fan performances (high levels)





**Daikin Europe N.V.** Naamloze Vennootschap Zandvoordestraat 300 · 8400 Oostende · Belgium · [www.daikin.eu](http://www.daikin.eu) · BE 0412 120 336 · RPR Oostende (Responsible Editor)



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