

# Modular L Pro & Smart

Air Handling Unit



Heat recovery unit  
with premium efficiency filters



# About Daikin AHU

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 compactness, air flow range coverage through 6 sizes and the achieved filtration efficiency make the Modular L a precious ally for your ventilation system. The components used and the structure of the unit meet the ever more stringent requirements concerning energy efficiency, fire regulation and hygiene.**

## The future of ventilation

The new Modular L represents one of the best solutions in terms of decentralised ventilation with unique selling features such as unit height, air flow range, number of sizes and Indoor Air Quality (IAQ) achievement.

## Construction

- › External Pre – painted metal sheet
- › Internal Aluzinc
- › 50 mm double skin panel
- › Mineral wool insulation
- › Hinged and/or removable doors allowing full maintenance access from bottom side
- › All the units feature rectangular duct collars (optional accessory for rectangular - circular transition available)

[Watch the Modular L promotional video on the Daikin YouTube channel](#)

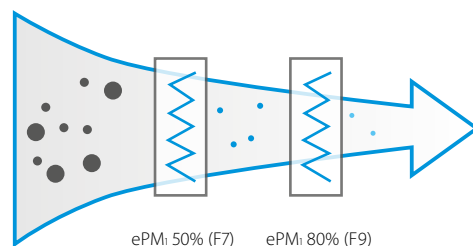


## IAQ matters

According to recent studies, people usually spend 90% of their time indoors and the amount of the air breathed each day is approximately 11000 litres. Hence, providing comfortable environments is our main goal. High IAQ evidently increases productivity levels, physical and psychological well-being and reduces health problems. Furthermore investing in a good indoor climate is an investment in your future and ultimately pays off.

## Superior Indoor Air Quality level:

Double stage filters on both return and supply side



## ASTRA Web

Modular L selection program

- › Astra Web offers a quick and accurate selection of the best ventilation unit
- › Preset parameters ensure that you can always find the optimum and most energy efficient product for your application



## Highlights



Excellent indoor air quality (IAQ) best in class overall efficiency level



Low noise emission thanks to superior unit design and construction



Very compact unit from 280mm height (for unit up to 550 m<sup>3</sup>/h)

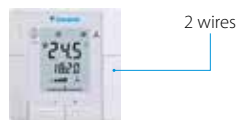


Low power consumption, very low SFP (Specific Fan Power) for an efficient unit operation



Plug&Play control solution, quick unit start-up

### Control logic Modular L Pro



Daikin ALC Thermostat

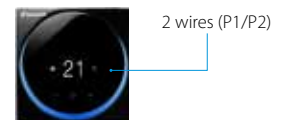
#### Open control platform

- › Unit delivered as a standard with its room thermostat
- › Daikin ITM connection (VRV/SkyAir) capability through Bac-net gateway
- › Intelligent defrost logic to reduce energy consumption
- › Constant Air Volume or Variable Air Volume capability
- › Air quality analysis with the capability of monitoring and control the actual level of CO<sub>2</sub> through an optional sensor (accessory)
- › Full proportional automatic bypass to manage defrost and free cooling
- › Filter alarm in accordance with the EU Reg 1253
- › Open communication protocol (BACnet and Modbus) that guarantees BMS, ITM and Daikin On Site compatibility

### Modular L versions

- › Modular L Pro
- › Modular L Pro with internal heating coil (water)
- › Modular L Smart

### Control logic Modular L Smart



Daikin BRC Thermostat

#### Daikin communication protocol

- › Direct connectivity and communication with VRV / SkyAir units
- › Direct integration with Daikin centralised controllers (F1/F2)
- › Direct integration with Daikin controllers (P1/P2)
- › Air quality analysis with the capability of monitoring and control the actual level of CO<sub>2</sub> through an optional sensor (accessory)
- › ON-OFF automatic bypass to manage free cooling
- › DIII-net integration through Daikin building air conditioning control systems (D-BACS)
- › BMS integration through dedicated interfaces (Modbus, BACnet)

### Connection side

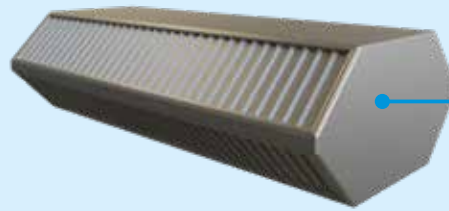
All the main units are available on right or left connection side (rule: looking in the supply air direction, standing below the ceiling suspended unit)

# Flexibility to meet your needs



## Heat exchanger

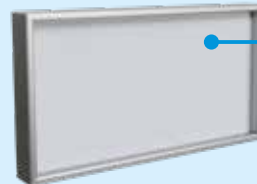
- › Premium quality counterflow plate heat exchanger
- › Up to 91% of the thermal energy recovered
- › VDI 6022 compliant
- › High grade aluminium that allows best corrosion protection
- › Completely joint sealing
- › No screws or rivets in any part



## Filters (double stage)

- › Up to ePM1 50% (F7) + ePM1 80% (F9) filtration efficiency
- › Fresh air filters\* (ePM1 50% (F7) ...)
- › Return air filters\* (ePM10 75% (M5) ...)
- › Easy removing from bottom access
- › No tools are needed to change the filters

\*Optional additional filter and pre-filter stage (G4 (ISO Coarse 55%), M5 (ePM10 75%), F7 (ePM1 50%) or F9 (ePM1 80%))

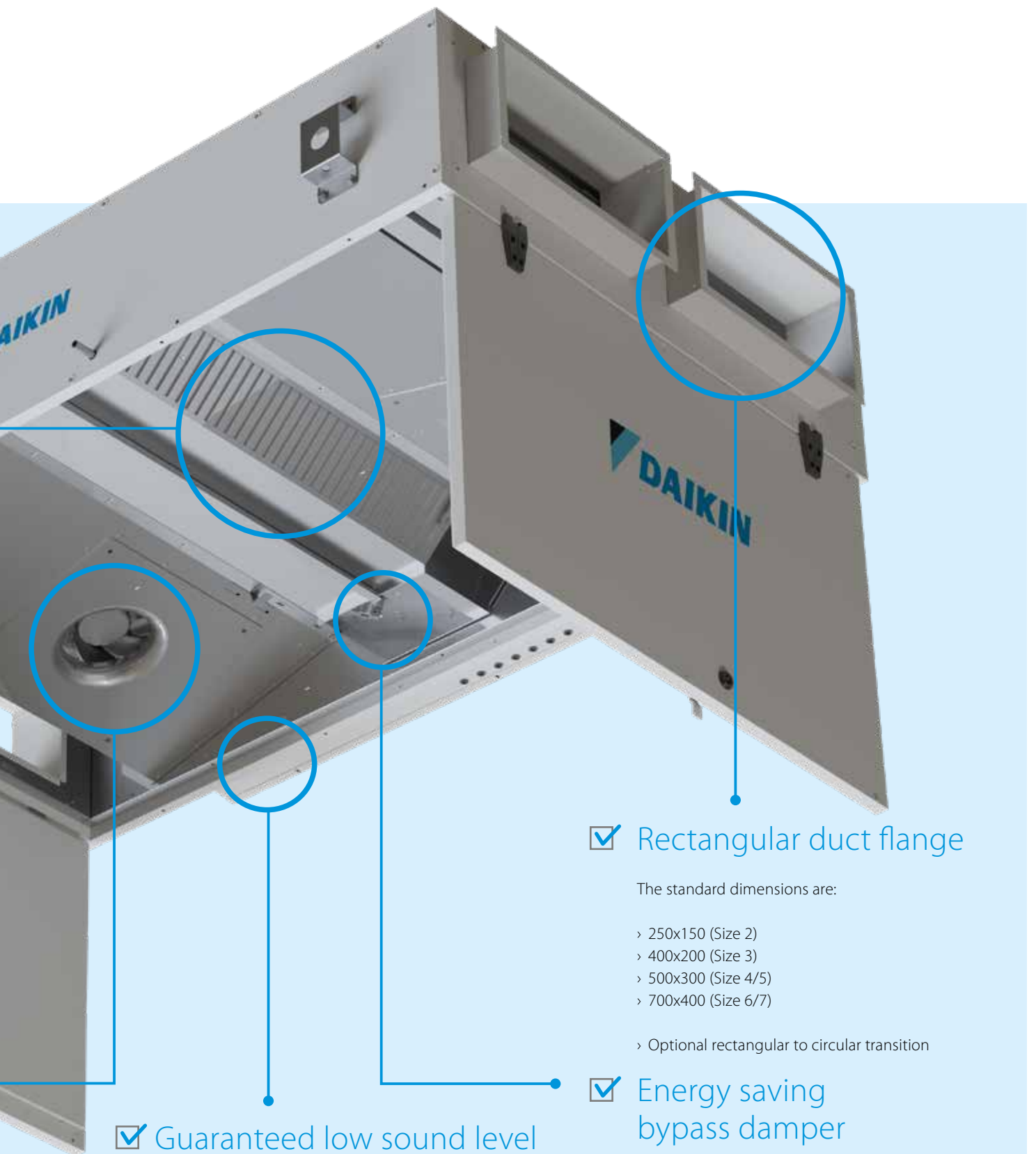


## Supply/Return fan

- › Fan/motor combination with very low noise level
- › Reduced energy consumption
- › Inverter driven with IE4 motor efficiency
- › Infinitely variable speed
- › Ultra-efficient blade profiling
- › Maintenance-free ball bearings
- › No screws or rivets in any part







✓ **Guaranteed low sound level**

- › 50mm double skin panel thickness
- › mineral wool insulation on all sides

✓ **Easy and fast maintenance**

- › Hinged or fully removable bottom doors
- › Accessible from bottom panels

✓ **Rectangular duct flange**

The standard dimensions are:

- › 250x150 (Size 2)
- › 400x200 (Size 3)
- › 500x300 (Size 4/5)
- › 700x400 (Size 6/7)
- › Optional rectangular to circular transition

✓ **Energy saving bypass damper**

- › 0-100% modulating by-pass fully automated
- › antifreeze and free cooling operations



# Modular L Pro & Smart

The product has been designed and built in order to achieve the best hygienic performance. The unit has been tested and certified according to the Hygienic Standard VDI 6022



Since 2015 Daikin is proud member of RLT association, participating to the RLT certification scheme.



## Association and Certification

Since 2010 Daikin is Eurovent certified, actively working on the development of the certification schemes together with EU legislation.

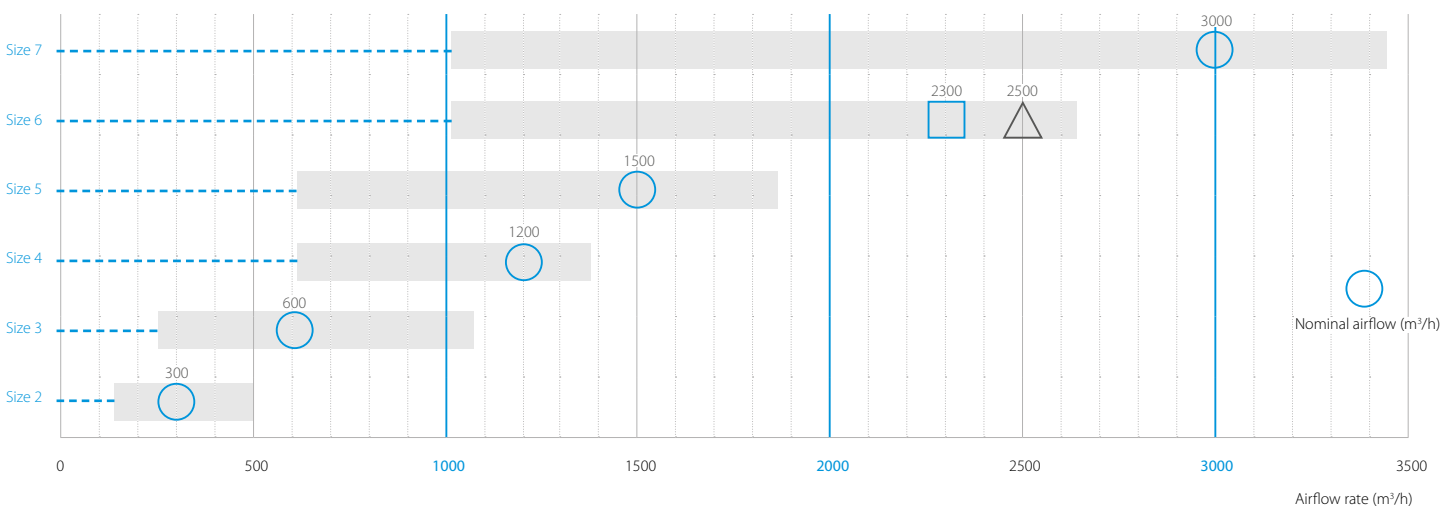


Modular L is EPBD certified.



## Air flow range

Modular L is available in 6 sizes covering a wide range of applications such as hotels, offices, schools and light commercial buildings.



Modular L Pro & Smart together



Only Modular L Pro



Only Modular L Smart

From 150 up to 3400 m³/h

Max airflow calculated @100 Pa of ESP



## Accessory list

Accessories	Control platform		Accessory location			
	Pro	Smart	Fresh air	Exhaust air	Return air	Supply air
Filter iso Coarse (G4), ePM10 (M5), ePM1 50% (F7) and ePM1 80% (F9)	•	•	•		•	
Rectangular-circular duct transition	•	•	•	•	•	•
Silencer	•	•				
CO <sub>2</sub> sensor	•	•			•	
Humidity sensor	•				•	
Pre Heating Coil (electrical or water)	•	only electrical	•			
Heating and/or cooling water Coil	•					•
Constant Air Volume System (CAV) to comply with ventilation needs	•					
Variable Air Volume System (VAV) for energy saving based on local occupancy	•					
Constant speed	•	•				
Rails (for limited false ceiling space)	•	•				

## Technical details

D-AHU Modular L (Pro & Smart)			02	03	04	05	06	07
Airflow		m <sup>3</sup> /h	300	600	1200	1500	2500*	3000
Heat exchanger thermal efficiency <sup>1</sup>		%	90	90	90	90	91*	90
External static pressure	Nom.	Pa	100	100	100	100	100	100
Current	Nom.	A	0,52	1,26	2,17	2,74	5,04*	6,09
Power input	Nom.	kW	0,12	0,29	0,50	0,63	1,16*	1,40
SFPv <sup>2</sup>		kW/m <sup>3</sup> /s	1,25	1,52	1,3	1,35	1,46*	1,5
ERP compliant			ErP 2018 Compliant					
Electrical supply	Phase	ph	1	1	1	1	1	1
	Frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60
	Voltage	V	220/240 Vac	220/240 Vac	220/240 Vac	220/240 Vac	220/240 Vac	220/240 Vac
Main unit dimensions	Width	mm	920	1100	1600	1600	2000	2000
	Height	mm	280	350	415	415	500	500
	Length	mm	1660	1800	2000	2000	2000	2000
Rectangular duct flange	Width	mm	250	400	500	500	700	700
	Height	mm	150	200	300	300	400	400
Unit Sound Power Level (Lwa)		dB	50	57	57	53	61*	58
Unit Sound Pressure Level <sup>3</sup>		dBA	33	39	39	35	43*	40
Weight unit		kg	125	180	270	280	355	360

1. Winter design condition: Outdoor: -10°C, 90% Indoor: 22°C, 50%

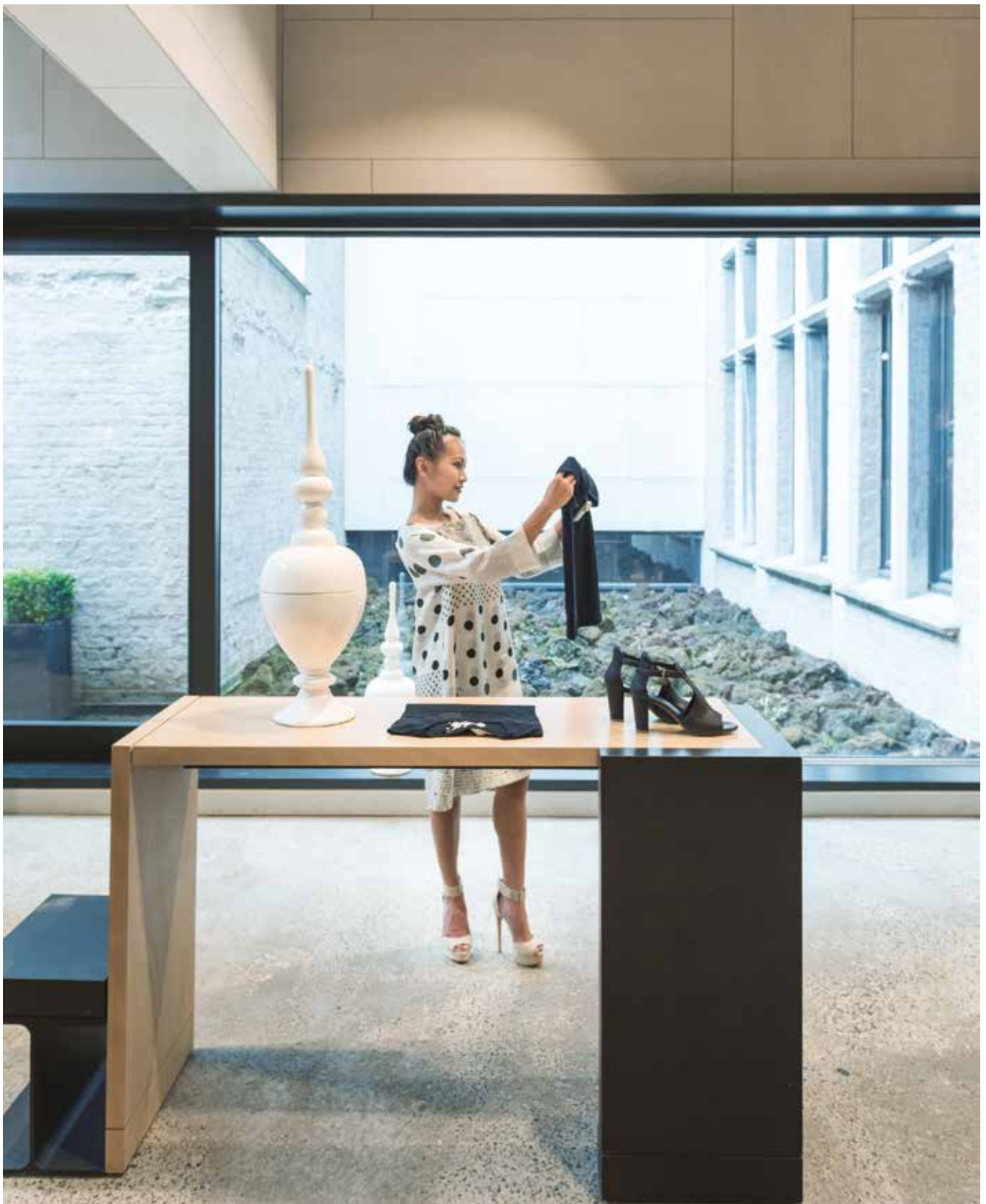
2. SFPv is a parameter that quantifies the fan efficiency (the lower it is the better will be). This reduces if airflow decreases.

3. EN 3744. Surrounding, Directivity (Q) = 2, @ 1,5m distance

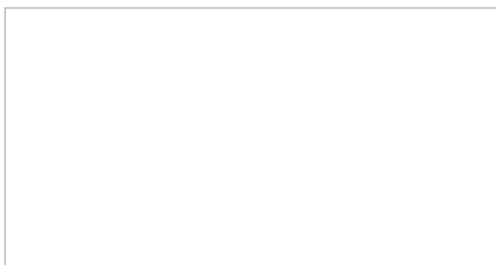
4. Electrical current is based on 230V

\*Nominal air flow for Smart version: 2300 m<sup>3</sup>/h

\*Smart version thermal efficiency, current, power input and sound values may differ from the Pro version



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



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