

# EFFICIENT VENTILATION FOR DWELLINGS WITH HEAT RECOVERY UNITS

MVHR



# THE IMPORTANCE OF THE MECHANICAL VENTILATION WITH HEAT RECOVERY IN DWELLINGS



## POLLUTANTS

- Allergens
- Mites
- Animals
- Pollen
- VOCs (volatile organic compounds)
- CO (carbon monoxide)
- Paints
- Glues
- Thinners
- Bleaches
- Ammonia
- Moisture
- Water vapour
- Odours
- Burned gases
- Hydrocarbons
- CO<sub>2</sub> (carbon dioxide)
- Fine particles
- Smoke
- Tobacco
- Radon Gas

**30%**  
of the European  
population has allergies  
and is affected by poor air quality  
indoors.

**50%**  
of houses have pollutants,  
which mostly affect  
children  
due to their size and development,  
they inhale twice as much pollutants  
than an adult.

**90%**  
of our time is spent  
indoors  
which is where the pollutants we  
inhale concentrate.

**Indoor air is 8 times  
more contaminated than  
outside air**  
In large urban areas, pollution is very  
high and for this reason, the air that  
is brought into the system must be  
filtered in order to not introduce  
pollutants inside the houses.

## **CONTROLLED MECHANICAL VENTILATION**

Controlled mechanical ventilation and purification systems filter outside air to retain pollen, fine particles and bacteria, while indoor air is exhausted to get rid of the CO<sub>2</sub>, moisture and volatile organic compounds (VOCs).

## **RISK OF CONTAGION**

According to the scientists, **in poorly ventilated indoor spaces, the risk of transmission of diseases that are transmitted through the air may be up to 20 times greater than outdoors.**

## **RISK OF MOISTURE AND CONDENSATION**

In the past, houses leaked air due to their poor air tightness and therefore were not very energy efficient. In contrast, current homes are characterised for being air-tight, which results in poor indoor air quality and poses a risk of moisture accumulating inside the house. For this reason, dwellings must be equipped with a Mechanical Ventilation with Heat Recovery (MVHR) systems.

## **RADON GAS**

Radon is a natural origin radioactive gas that can be accumulated inside dwellings or workplaces. Currently, it is estimated that it is the second cause of lung cancer in Spain, only behind tobacco, causing up to 14% of cases. Controlled mechanical ventilation strategies can eliminate the danger of exposure to radon.



## **ENERGY IMPACT**

Investing in mechanical ventilation technologies allows us to increase energy efficiency and reduce energy consumption.

**SODECA heat recovery units, in addition to ventilating, filtering and disinfecting indoor air, allows us to recover a large part of the energy that is generated inside buildings and use it to improve the air conditioning process.**



**IDEAL FOR  
PASSIVE  
HOUSES**

# EFFICIENT SOLUTIONS FOR DWELLINGS

**SODECA**  
**airhome**

Efficient ventilation equipment for dwellings with heat recovery unit. High efficiency in filtration and compact design, ideal for installation in false ceilings.





**CONTROLLED  
MECHANICAL  
VENTILATION**



**COUNTERFLOW  
PLATE HEAT  
EXCHANGER**



**HIGH  
EFFICIENCY AND  
LOW CONSUMPTION**



**THERMAL  
AND NOISE  
INSULATION**



**EC TECHNOLOGY  
MOTORS**



**BY-PASS  
BUILT-IN**



**Compact design**  
with a low profile  
(210 mm height AIRHOME 150)



**Interchangeable nozzles**  
depending on the position  
of the equipment



**Easy installation**  
false ceiling or wall



**High efficiency filters  
F7 removable**



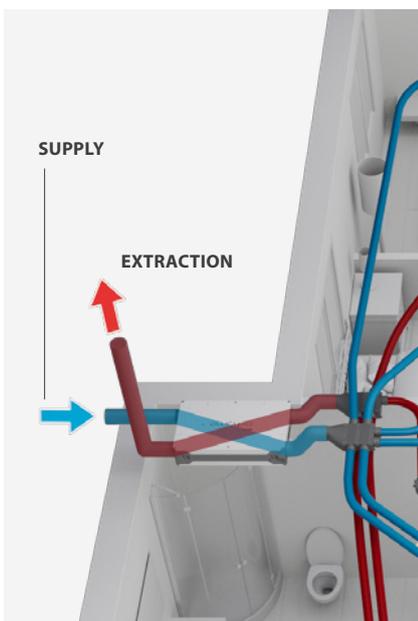
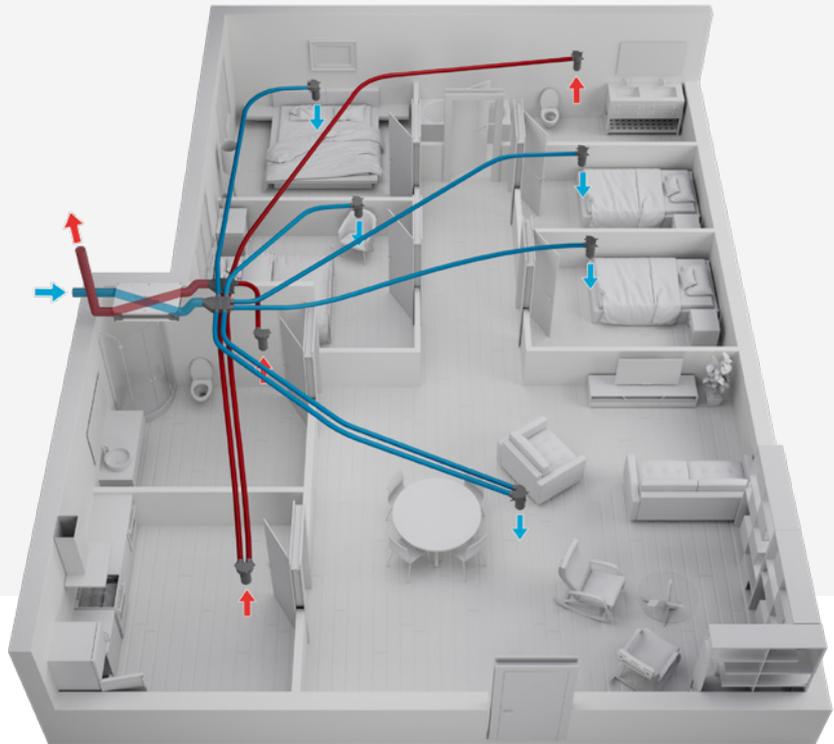
**Remote control and IAQ  
probes** (T, RH, CO<sub>2</sub>, TVOCs)  
built-in



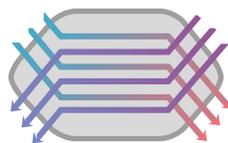
Compatible with  
**Modbus RTU**

# HEAT RECOVERY UNIT

← ■ EXTRACTION  
→ ■ SUPPLY



The heat exchanger component in the recovery unit transfers heat from the exhaust air extraction circuit to the external clean air supply circuit. The greater the thermal efficiency of the exchanger, the less need there will be to supply additional air conditioning.



## Counterflow heat exchanger

85-90% thermal efficiency.  
With no leaks between air circuits.

*The exchangers can be of the sensible heat or enthalpy type. Sensible heat exchangers only recover the heat present in air, whereas the enthalpy exchanger also recovers moisture, which means that efficiency can be higher in very humid environments (although they require regular cleaning for safe operation).*



**IDEAL FOR  
PASSIVE HOUSES**



**AIR  
TREATMENT**



**FILTRATION**



**HEAT EXCHANGER**



**ENERGY  
SAVINGS**



**CONTROL OF  
AIRFLOW  
BY ZONES**



CHARACTERISTICS	AIRHOME-150	AIRHOME-300	AIRHOME-350/V
Flow @ 100Pa	<b>150 m<sup>3</sup>/h</b>	<b>300 m<sup>3</sup>/h</b>	<b>350 m<sup>3</sup>/h</b>
Thermal efficiency EN 308	81.1%	83.1%	87.0%
UNE 13141-7	80.2%	82.6%	86.0%
Constant flow regulation	YES	YES	SÍ
Sound pressure at maximum flow (1.5 m) [dB(A)]	26	36	38
Electric power (W)	60	180	267
Installation	False ceiling/Wall	False ceiling/Wall	Pared
Interchangeable nozzles	YES	YES	SÍ
Nozzle diameter [mm]	125	160	160
Outside air supply filters	F7	F7	F7
Remote control	Included	Included	Incluido
Compatible with MODBUS RTU	YES	YES	SÍ
Probes in premises extraction air	T°, RH, VOCs, CO2	T°, RH, VOCs, CO2	T°, RH
Dimensions [mm]	970 x 600 x 210	1170 x 820 x 270	480 x 595 x 905
Weight [kg]	23	36	40

# DOUBLE FLOW SYSTEM WITH HEAT RECOVERY UNIT

Double flow ventilation with heat recovery unit allows renewing the indoor air by extracting it from humid areas such as kitchens and baths.

Unlike a simple ventilation system, outdoor air is treated and routed to the dry areas of the houses.



## DOUBLE FLOW SYSTEM WITH HEAT RECOVERY UNIT

A double flow system ventilates and filters the air as well as eliminates pollutants, microbes, viruses and allergens. These solutions improve the quality of life and comfort of people living in homes.

### AIRHOME solutions recover the existing energy in dwellings to improve the level of comfort

#### BENEFITS

- Control the airflow by zones and with a low noise level
- Ensure an optimum quality air thanks to its filtering system
- Prevent energy loss
- Energy savings



#### MODEL DWELLING 01



2 BEDROOMS 1 BATH

Three dry areas (living room and two bedrooms) and two humid areas (bath and kitchen).

#### MODEL DWELLING 02



3 BEDROOMS 2 BATHS

Four dry areas (living room and three bedrooms) and three humid areas (two baths and kitchen).

#### MODEL DWELLING 03

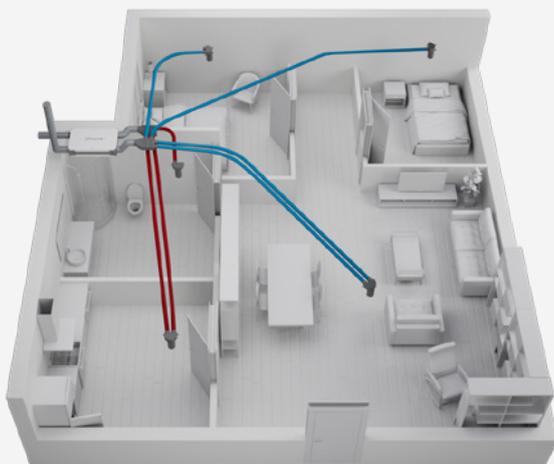


4 BEDROOMS 2 BATHS

Five dry areas (living room and four bedrooms) and three humid areas (two baths and kitchen).

MODEL DWELLING

01.



2H/1B



2 BEDROOMS 1 BATH

This type of dwelling with three dry areas (living room and two bedrooms) and two humid areas (bath and kitchen).

SODECA recommends the following flows:

**EXTRACTION:**

Kitchen: 60 m<sup>3</sup>/h  
Bath: 30 m<sup>3</sup>/h

**SUPPLY:**

Master bedroom: 30 m<sup>3</sup>/h  
Bedroom: 15 m<sup>3</sup>/h  
Living room: 45 m<sup>3</sup>/h

COMPONENTS:

ITEM CODE	PRODUCT NAME	QUANTITY
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1353781	<b>AIRHOME-150</b>	1
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ITEM CODE	PRODUCT NAME	QUANTITY
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1501058	<b>KIT-AIRHOME-2H/1B</b>	1
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*Includes:*

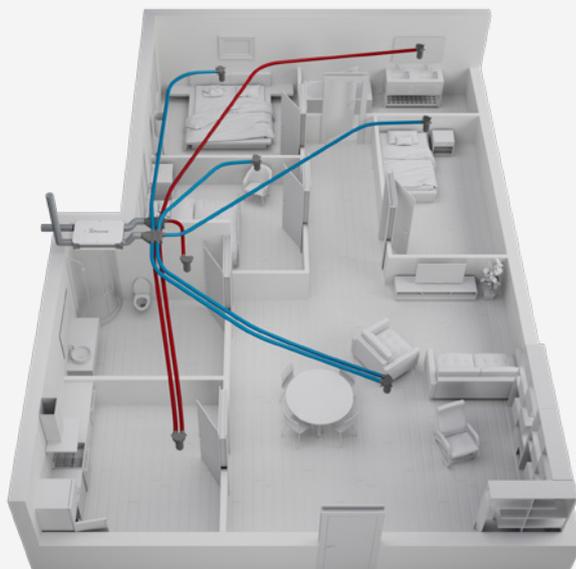
	AIRHOME-150	1
	BE-AC-125	2
	BI-AC-125	3
	VMC-CLP 125 + 4X75	2
	VMC-PL 2X75	5
	VMC-EXT DN125	5
	VMC-RC 125	5
	VMC-CSR 75 50M	1
	VMC-JG 75 50U	1

KIT-AIRHOME-2H/1B



MODEL DWELLING

02.

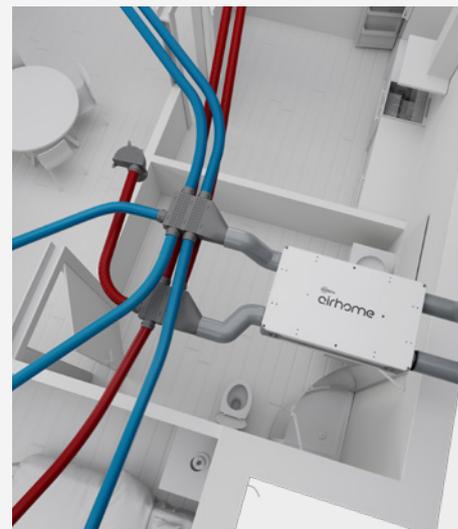


3H/2B



3 BEDROOMS 2 BATHS

This type of dwelling with four dry areas (living room and three bedrooms) and three humid areas (two baths and kitchen).



SODECA recommends the following flows:

**■ EXTRACTION:**

- Kitchen: 60 m<sup>3</sup>/h
- Bath: 30 m<sup>3</sup>/h
- Bath: 30 m<sup>3</sup>/h

**■ SUPPLY:**

- Master bedroom: 30 m<sup>3</sup>/h
- Bedroom: 15 m<sup>3</sup>/h
- Bedroom: 15 m<sup>3</sup>/h
- Living room: 60 m<sup>3</sup>/h

COMPONENTS:

ITEM CODE	PRODUCT NAME	QUANTITY
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1353781	<b>AIRHOME-150</b>	1
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ITEM CODE	PRODUCT NAME	QUANTITY
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1501059	<b>KIT-AIRHOME-3H/2B</b>	1
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*Includes:*

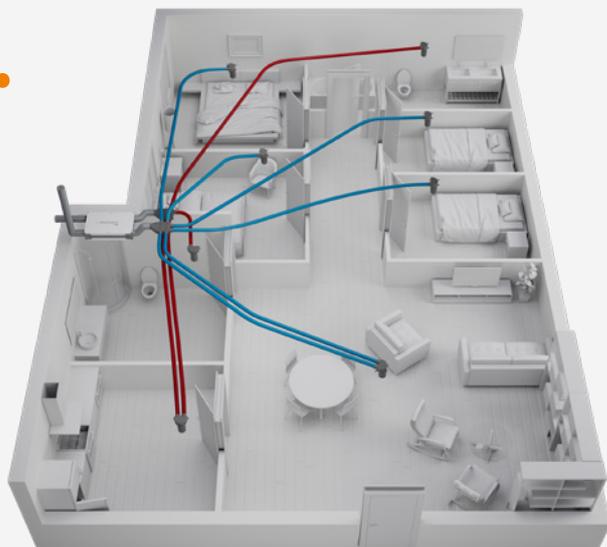
	AIRHOME-150	1
	BE-AC-125	3
	BI-AC-125	4
	VMC-CLP 125 + 4X75	2
	VMC-ME 2X75	1
	VMC-PL 2X75	7
	VMC-EXT DN125	7
	VMC-RC 125	7
	VMC-CSR 75 50M	2
	VMC-JG 75 50U	1

KIT-AIRHOME-3H/2B



MODEL DWELLING

03.

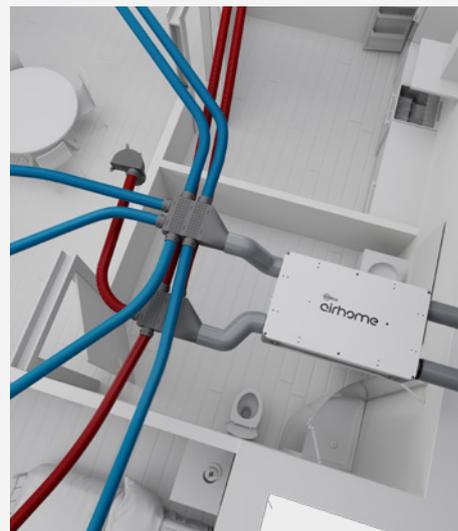


4H/2B



4 BEDROOMS 2 BATHS

This type of dwelling with five dry areas (living room and four bedrooms) and three humid areas (two baths and kitchen).



SODECA recommends the following flows:

**EXTRACTION:**

- Kitchen: 60 m<sup>3</sup>/h
- Bath: 30 m<sup>3</sup>/h
- Bath: 30 m<sup>3</sup>/h

**SUPPLY:**

- Master bedroom: 30 m<sup>3</sup>/h
- Bedroom: 15 m<sup>3</sup>/h
- Bedroom: 15 m<sup>3</sup>/h
- Bedroom: 15 m<sup>3</sup>/h
- Living room: 45 m<sup>3</sup>/h

COMPONENTS:

ITEM CODE	PRODUCT NAME	QUANTITY
1353781	<b>AIRHOME-150</b>	1

ITEM CODE	PRODUCT NAME	QUANTITY
1501060	<b>KIT-AIRHOME-4H/2B</b>	1

Includes:

AIRHOME-150	1
BE-AC-125	3
BI-AC-125	5
VMC-CLP 125 + 4X75	2
VMC-ME 2X75	1
VMC-PL 2X75	8
VMC-EXT DN125	8
VMC-RC 125	8
VMC-CSR 75 50M	3
VMC-JG 75 50U	1

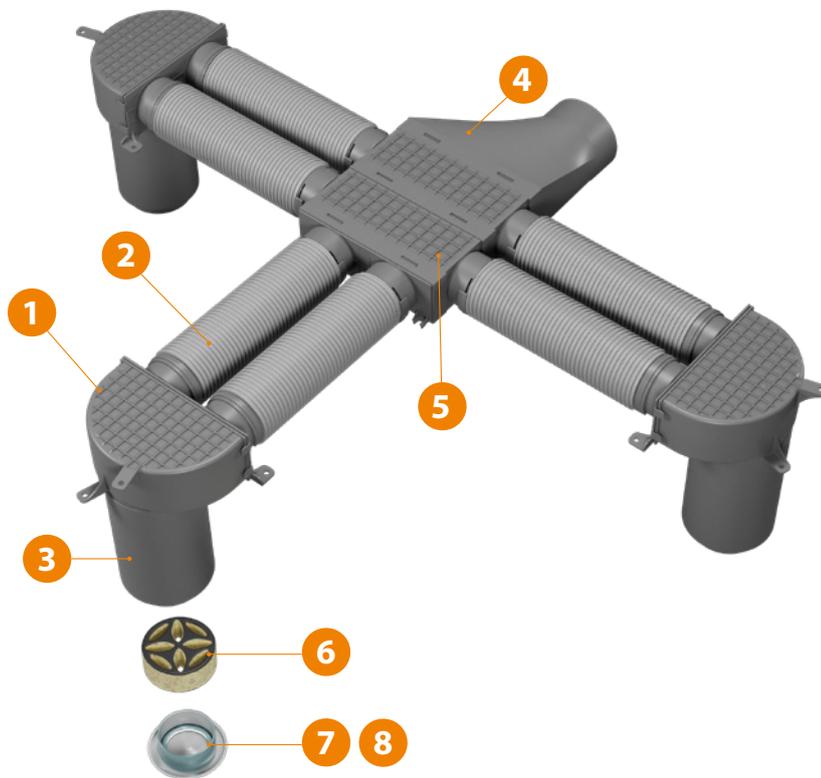
KIT-AIRHOME-4H/2B



COMPATIBLE  
**ACCESSORIES**  
WITH THE DOUBLE  
FLOW SYSTEM



## COMPATIBLE ACCESSORIES WITH THE **DOUBLE FLOW SYSTEM** WITH HEAT RECOVERY UNIT



- 1. VMC-PL 2X75
- 2. VMC-CSR 75 50M
- 3. VMC-EXT DN125
- 4. VMC-CLP 125 + 4X75
- 5. VMC-ME 2X75
- 6. VMC-RC 125
- 7. BE-AC-125
- 8. BI-AC-125

### INCLUDED IN THE KIT:



	1.	2.	3.	4.	5.	6.	7.	8.
ITEM CODE	1505609	1505618	1505612	1505607	1505606	1505613	1023946	1023950
PRODUCT NAME	<b>VMC-PL 2X75</b>	<b>VMC-CSR 75 50M</b>	<b>VMC-EXT DN125</b>	<b>VMC-CLP 125 + 4X75</b>	<b>VMC-ME 2X75</b>	<b>VMC-RC 125</b>	<b>BE-AC 125</b>	<b>BI-AC 125</b>

*Code 1505617 VMC-JG 75 50U is not illustrated, but is included in the kit.*

## COMPATIBLE ACCESSORIES WITH THE **DOUBLE FLOW SYSTEM** WITH HEAT RECOVERY UNIT

### OTHER ACCESSORIES:

	ITEM CODE	PRODUCT NAME		ITEM CODE	PRODUCT NAME
	1023946	<b>BE-AC-125</b>		1353044 1353046	<b>VMC-ADR 125</b> <b>VMC-ADR 160</b>
	1023950	<b>BI-AC-125</b>		1352997 1352999	<b>VMC-ADK 125</b> <b>VMC-ADK 160</b>
	1505613	<b>VMC-RC 125</b>		1353008 1353010	<b>VMC-ADL 125</b> <b>VMC-ADL 160</b>
	1505609	<b>VMC-PL 2X75</b>		1353040 1353042	<b>VMC-AN 125</b> <b>VMC-AN 160</b>
	1505612	<b>VMC-EXT DN125</b>		1505616	<b>VMC-R 75</b>
	1505618 1505619	<b>VMC-CSR 75 50M</b> <b>VMC-CSR 75 25M</b>		1505617	<b>VMC-JG 75 50U</b>
	1505606	<b>VMC-ME 2X75</b>		1505620	<b>VMC-CUTTER</b>
	1505607 1505608	<b>VMC-CLP 125 + 4X75</b> <b>VMC-CLP 160 + 4X75</b>		1505621	<b>VMC-PLNC</b>
	1505610 1505611	<b>VMC-CCP 125 + 8X75</b> <b>VMC-CCP 160 + 8X75</b>		1505622	<b>VMC-TPN 75</b>
	1505614 1505615	<b>VMC-BL 125 10M</b> <b>VMC-BL 160 10M</b>		1505623	<b>VMC-MGT 75</b>

# OTHER SOLUTIONS



## SIMPLE FLOW MULTI-NOZZLE UNITS



### EVM

Compact, multi-nozzle extractfan with adjustable outlet and three speeds



### EVP

Low profile extract unit, for installation in false ceilings, and extract from 4 different zones, in single-family homes or apartments

## HEAT RECOVERY UNITS



### REB

Heat recovery units with EC Technology motor and built-in by-pass



### UNIREC

High efficiency single zone heat recovery ventilators for domestic installations

## IN-LINE DUCT FANS



**SV**  
Low noise, in-line duct extractor fans mounted inside an acoustic casing



**SV/FILTER**  
Low noise in-line duct extractors with different stages of filtration



**SVE/PLUS**  
Low noise in-line duct extractor fans mounted inside a 40 mm phonoabsorbent acoustic insulated casing



**NEOLINEO**  
In-line fans for small ducts with removable covers and small size with long life ball bearings



**CL/PLUS/EC**  
In-line extract fans for rectangular ducts with a 40 mm thick acoustic casing to reduce noise and EC Technology motor

## ROOF-MOUNTED EXTRACT FANS



**CTD**  
Centrifugal roof mounted extract fans for household ventilation



**RCH**  
Chimney extract fan and cap for hybrid extraction in community housing



**TIRACANO**  
Chimney smoke extract fans

## BATHROOM EXTRACT FANS



### EDMF

Extra flat bathroom extractor fans with a modern appearance and design



### EDQUIET/S

Low consumption household extractor fans with very low noise levels



### EDD

Household extractor fans with a modern appearance and design

## COLLECTIVE EXTRACT FAN UNITS



### CJV/EW

Extract fans with automatic operation, vertical air outlet, EC Technology motor and constant pressure control for homes

## EFFICIENT VENTILATION FOR DWELLINGS WITH HEAT RECOVERY UNITS



### HEADQUARTER

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