ErP 2018

Utek

indoor air quality and energy saving

The company

For about 20 years we have been designing and producing **ventilation, air conditioning and heat recovery units for the residential and tertiary sector.**

The quality of the production process (ISO 9001 from 2006) and the **attention to health and the environment** (ISO 14001 from 2008) are indispensable for us.

The sales network – the Dealer – It will support you with competence and professionalism: from design and supply of materials, to site support, to after-sales service.

CMV: What it is and how it works

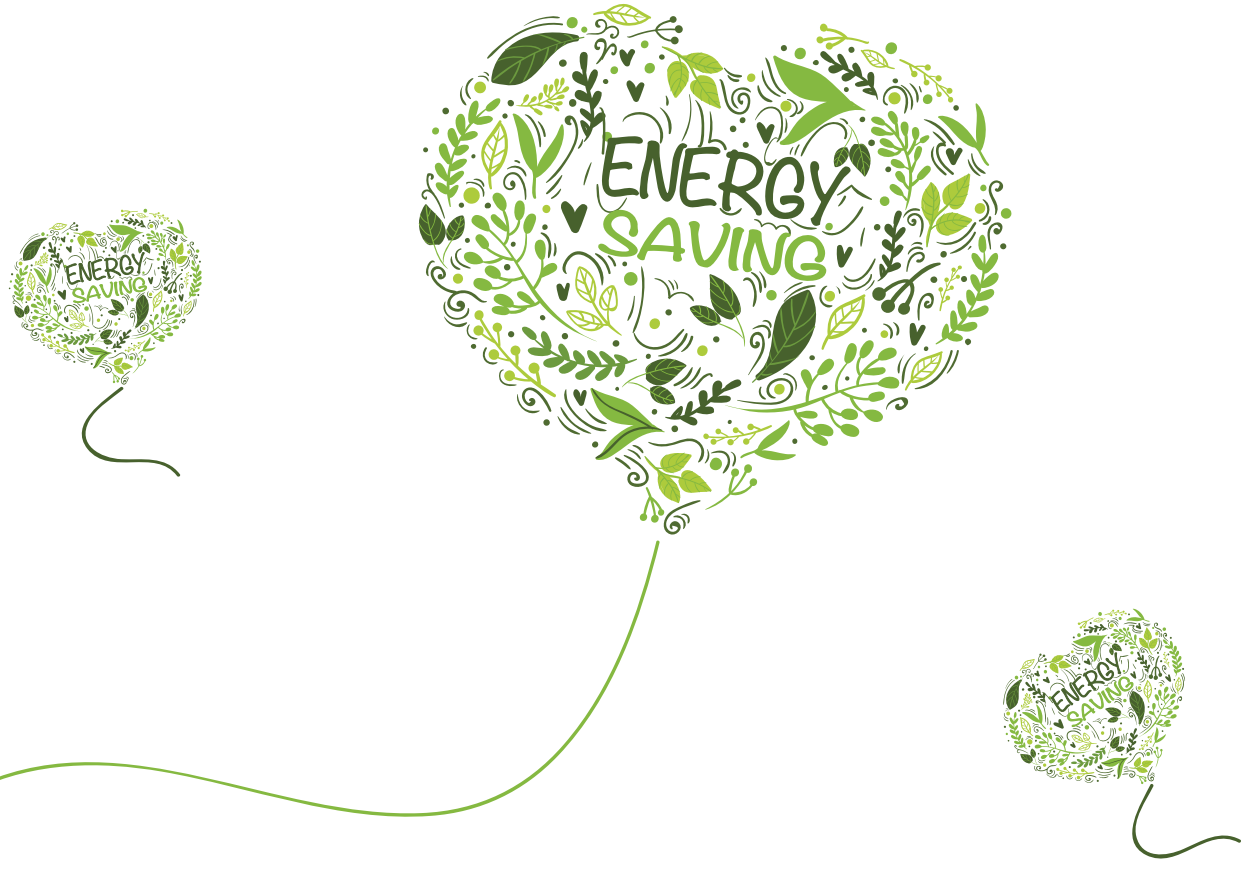
The Controlled Mechanical Ventilation (**CMV**) technology aims at giving a response to the growing demand for low-energy buildings. If, on one hand, airtight casing, high quality thermal insulation, airtight casing, airtight doors and windows and minimum thermal bridges help you to significantly cut your energy bill, on the other hand, these measures can worsen the salubrity of indoor air (invisible air pollution) because the building "does not breathe". The periodic change of air and evacuation of pollutants are extremely important to avoid condensate, molds on walls, stagnation of gases and bad smells...

Most of our time is spent in closed environments (almost 90%) andthe air we breathe contains, in suspension, internal pollutants (materials used in construction) and outside,especially in cities and close to industries (smoke, smog, CO_2). **Opening the windows in air-conditioned environments is a waste of energy and allows noises and pollution to enter**

A "Forced" air exchange system,in operation 24 hours a day throughout the year, replaces the manual opening of windows with considerable advantages: the ventilation control, energy wastage avoided and better air quality, thanks to the filtration... in other words, **high level of comfort with low energy requirements!**

In a traditional residential system, air is sucked up from service rooms (kitchen, bathrooms or laundry) along with its humidity load, noxious substances and bad smells, then it is filtered, pushed through the heat recovery unit and finally expelled outside. Conversely, in a high efficiency heat exchanger, almost all heat is released to the external fresh air which is sucked up, filtered, treated (heated, cooled or dehumidified depending on the season) and finally introduced into the living room and bedrooms.

The most efficient CMV systems consist of a **dual-flow heat recovery unit (centralized and automatically managed** expulsion of stale air and introduction of fresh air, **airflows never in contact, energy recovery** from expelled air) and an air distribution system (ducts, plenum, vents, etc.) Some of our units successfully meet the highest standards in terms of Energy Performance Certification of Buildings, included those set forth in the **KlimaHaus** and **PassivHaus** protocol.



CMV: advantages

A Controlled Mechanical Ventilation system provides:

Better living comfort

The human being is looking for a continuous improvement in living comfort: forced ventilation allows to treat the air, filtered and eliminate polluting and harmful substances… avoiding opening the windows (noise and pollution)

Greater value in the long term

A CMV system improves the energy class of the building (energy performance certificate, APE) and preserves its value over time by eliminating moisture, mold, etc.

Lower operating costs

High efficiency of the recovery of the energy contained in the air: lower operating cost of conventional systems and air exchange without having to open the windows (waste energy)

Lower environmental impact

Less dependence on traditional fuels (availability in decrease and increase in costs)

Objective: energy saving

By 2020, all states in the European Union have to comply with climate and energy directives:
. 20 % cut in greenhouse gas emissions from 1990 levels;
. 20 % improvement in energy efficiency;
. 20 % of energy from renewables

The construction industry accounts for about 40% of total energy consumption; therefore, it represents a priority within the 20-20-20 targets: Directive 2002/91/EC (EPDB Energy Performance of Buildings Directive), replaced by Directive 2010/31/EU (EPDB2) sets the minimum standards for the **construction of new buildings and the renovation of existing buildings.**

Nearly zero-energy buildings it is already a widespread design standard (private buildings from 01-01- 2021, public buildings from 01 - 01 - 2018) for high energy buildings and passive buildings. Passive buildings cover most of their energy needs (heating, cooling, sanitary hot water, ventilation and lighting) with a minimum of energy requirements, without any "conventional" system, but using alternative sources.

Double Flow Controlled Mechanical Ventilation with Heat Recovery is indispensable!

More and more demanding regulations require more and more efficient appliances (Regulations UE nr. 1253/2014 or EcoDesign) and an energy classification of residential ventilation units (Regulations UE nr. 1254/2014). Uniquely declar ed performance allows Consumers a conscious choice.

An advanced management of heat recovery (air quality probes or time bands) **improves air quality and reduces operating costs.**

#ThinkGreenActGreen

CMV: intended use

CMV units are generally used in single and multi-family housing units, offices and new commercial buildings, schools, wellness centres and gyms, hotels and restaurants, museums, cinemas and theatres, manufacturing premises, supermarkets. The operating principle is the same for all intended uses. The unit can be installed either on the floor, behind the wall, in the suspended ceiling or outdoor; the unit is invisible, except for the air supply and return grilles and vents present in the rooms.

CMV: termic by-pass

Winter: the external cold air is introduced into the living room and bedrooms after being heated inside the exchanger by the warm and stale air sucked up from the service rooms

Winter, warmest hours: the free-heating mode (automatic by-pass) is specifically designed to make the most out of the warmest hours of the day; the external air (warmer than the air inside) is introduced directly into the living room and bedrooms without passing through the heat exchanger

Summer: the external air (warmer) is introduced into the living room and bedrooms after being cooled down inside the exchanger by the stale and cooler air sucked up from service rooms

Summer, night and morning: the external cold air is introduced directly into the living room and bedrooms without passing through the exchanger in free-cooling mode (automatic by-pass), while the warm air is expelled directly without releasing its heat.

With the **termic by-pass**, compulsory from 01-01-2016, the outside air is injected directly into the room avoiding the passage in the heat exchanger, and thus the heat exchange. The drive is automatic thanks to the detection of the external and internal temperature.

In some days of the year the bypass goes into operation when the use of external air allows an energetic advantage, without causing discomfort. The UTEK untis are equipped with total by-pass (100% of outdoor air enters the room), indispensable for passive or high-energy buildings.

Plus UTEK

Easier access for maintenance of filters

High efficiency PP or Al counter-flow exchanger, automatic defrosting, also enthalpy version

Dirty filters alarm (differential pressure

Different control systems for a simple or advanced management.

High efficiency motor plug fans

Available with refrigerating unit (series DEH and HRU)

Range

		High efficiency	Medium efficiency	Horizontal	Vertical	On request ent. version	pages
HEAT RECOVERY VENTILATION UNITS for RESIDENTIAL BUILDINGS							
FLAT	130 and 220 m³/h	✓		✓	✓	✓	6
HRE-RES	330 and 460 m³/h	✓		✓		✓	6
MICRO-V 250	250 m³/h	✓			✓	✓	7
REVERSUS	330 and 460 m³/h	✓			✓	✓	7
UVD	690 m³/h	✓			✓	✓	8
MICRO-REV	230 m³/h	✓			✓	✓	8
JD	from 100 to 800 m³/h	✓		✓		✓	8
AURA	24 and 50 m³/h	✓					9
HEAT RECOVERY VENTILATION UNITS for COMMERCIAL and INDUSTRIAL BUILDINGS							
UVT	1.200 m³/h	✓			✓	✓	8
UTA	8.000 and 13.000 m³/h	✓		✓		✓	10
CRHE-H	from 700 to 3.400 m³/h	✓		✓		✓	10
CRHE-V	from 700 to 5.600 m³/h	✓			✓	✓	10
HRE-TOP EC	from 1.000 to 5.600 m³/h	✓		✓		✓	11
UVR & UVR-TOP	from 900 to 6.200 m³/h	✓		✓		✓	11
FAI-ED & FAI-EC	from 300 to 3.500 m³/h		✓	✓	✓	✓	12
DUE-ED & DUO-EC	from 300 toa 4.200 m³/h		✓	✓	✓	✓	12
HEAT RECOVERY VENTILATION UNITS with INTEGRATED AIR/AIR HEAT PUMP (CLIMATIZATION and DEHUM.)							
HRU-AC & HRU-EC	from 500 to 5.000 m³/h		✓	✓		✓	13
DEH & DEH HIDRONIC	150-300 and 250-500 m³/h	✓		✓		✓	13
AIR VENTILATION UNITS							
BOX	from 500 to 6.000 m³/h						14
FAR-EC	from 400 to 7.600 m³/h						14
FAN-T	from 800 to 40.000 m³/h						14
VEN-T	from 1.500 to 12.000 m³/h						14
UNITÀ DI FILTRAZIONE							
CAFIL	from diam. 200 to 710 mm						15

indoor air quality and energy saving

The **enthalpy heat exchanger recover latent and sensible energy from the extracted air;** i.e. it allows transferring water vapour from one flow to the other: the water vapour of the outgoing moist air condensates and is absorbed on one side of the exchanger porous membrane (nanocomposites); the recovered humidity is transferred to the other side of the membrane to the incoming fresh air. **No transfer of vapours, bad smells, etc.** No need for condensate drain; ordinary maintenance. Ideal for cold climates, because the introduced air is dry and would promotes a dry indoor environment if without enthalpy exchanger; moreover, in summer, it gets rid of the incoming air humidity (warmer and damper than indoor air).

HEAT RECOVERY VENTILATION UNITS (HRVU) for RESIDENTIAL BUILDINGS

Comply with EU Regulations 1253/2014 (ecodesign) and 1254/2014 (energy labeling) included into the ClimateHouse®/ KlimaHaus list for Energy

FLAT

High efficiency HRVU with high-efficiency heat recovery
- Plug n' play version (switchboard and prewired control on the machine)

CASING
- Self-supporting casing made up of sandwich panels with injected polyurethane foam insulation core, external structure and internal parts made in Aluzinc® thickness 22 mm and density 42 kg/m³;

CONFIGURATION AND INSTALLATION
- Horizontal: suspended ceiling or floor installation
- Vertical: wall installation (vertical ducts)
- Triple condensate drain

HEAT EXCHANGER
- High efficiency aluminium counterflow heat exchanger
- Automatic defrosting
- Automatic total by-pass

MOTOR FANS
- High efficiency EC plug fans

FILTERS – classified according to EN 779
- G4 exhaust air/ F7 fresh air
- Dirty filters alert: pressure switches or hour counters

AVAILABLE OPTIONS
- Water or electric post-treatment (duct)
- Electric pre-heating (internal)

RANGE
- Nr. 2 models, airflow: 130 and 220 m³/h

ENERGY CLASS (with control EVO-PH): A

Counterflow heat exchanger made of aluminum manufactured by RECUTECH

HRE-RES

High efficiency HRVU with high-efficiency heat recovery
- Plug n' play version (switchboard and prewired control on the machine)

CASING
- Self-supporting casing made up of sandwich panels with injected polyurethane foam insulation cor, external structure and internal parts made in Aluzinc® thickness 25 mm and density 42 kg/m³

CONFIGURATION AND INSTALLATION
- Horizontal: suspended ceiling or floor

HEAT EXCHANGER
- High efficiency aluminium counterflow heat exchanger
- Eurovent certified
- Automatic defrosting
- Automatic total by-pass

MOTOR FANS
- High efficiency EC plug fans

FILTERS – classified according to EN 779
- M5 exhaust air/ F7 fresh air
- Dirty filters alert: pressure switches or hour counters

AVAILABLE OPTIONS
- Water or electric post-treatment (duct)
- Electric pre-heating (duct)

RANGE
- Nr. 2 models; airflow: 330 and 460 m³/h

ENERGY CLASS (with control EVO-PH)
- HRE-RES 1: A ; HRE-RES 2: B

Counterflow heat exchanger made of aluminum manufactured by RECUTECH

MICRO-V

CMV units with high efficiency heat recovery
- Plug n' play version (switchboard and prewired control on the machine)

CASING
- Self-supporting casing made up of white lacquered sheet sandwich panels for the external and Aluzinc® for internal parts with polyethylene insulation sheet 10 mm tick and 2 mm-tick sound proofing and heat insulating sheet

CONFIGURATION AND INSTALLATION
- Vertical: wall installation
- Hidden inside the kitchen furniture

HEAT EXCHANGER
- High efficiency aluminium counterflow heat exchanger
- Automatic defrosting
- Automatic total by-pass

MOTOR FANS
- High efficiency EC plug fans

FILTERS – classified according to EN 779
- G4 exhaust air / F7 fresh air
- Dirty filters alert: by hours counter

AVAILABLE OPTIONS
- Electric pre-heating (internal)
- Sound attenuator module

RANGE
- Nr.1 model, airflow: 250 m³/h

ENERGY CLASS (with control EVO-PH): A

NOTA: MICRO-V is not in the CasaClima list

Counterflow heat exchanger made of aluminum manufactured by RECUTECH

REVERSUS

High efficiency HRVU
- Plug n' play version (switchboard and prewired control on the machine)

CASING
- Self-supporting casing made up of grey plasticized sheet sandwich panels with injected polyurethane foam insulation core, thick. 25 mm and density 42 kg/m³
- 100% recyclable PPE internal frame

CONFIGURATION AND INSTALLATION
- Vertical: wall installation
- Can be configured on site (air ducts)

HEAT EXCHANGER
- High efficiency PP counterflow heat exchanger
- Automatic defrosting
- Automatic total by-pas

MOTOR FANS
- High efficiency EC plug fans

FILTERS - classified according to EN 779
- G4 exhaust air / F7 fresh air
- Dirty filters alert: pressure switches or hour counters

AVAILABLE OPTIONS
- Water or electric post-treatment (duct)

RANGE
- Nr.2 models, airflow: 330 and 460 m³/h

ENERGY CLASS
- REVERSUS (with EVO-PH control): A
- REVERSUS ENT. (with EVO-PH control): B

MICRO-REV

High efficiency HRVU
- Plug n' play version (switchboard and prewired control on the machine)

CASING
- Self-supporting casing made up of grey plasticized sheet sandwich panels with injected polyurethane foam insulation core, thick. 25 mm and density 42 kg/m³

CONFIGURATION AND INSTALLATION
- Vertical: wall installation

HEAT EXCHANGER
- High efficiency PP counterflow heat exchanger
- Automatic defrosting
- Automatic total by-pas

MOTOR FANS
- High efficiency EC plug fans

FILTERS - classified according to EN 779
- G4 exhaust air / F7 fresh air
- Dirty filters alert: pressure switches or hour counters

AVAILABLE OPTIONS
- Water or electric post-treatment (duct)

RANGE
- Nr.1 model, airflow: 230 m³/h

ENERGY CLASS
- MICRO-REV (with EVO-PH control): A

UVD / UVT

CMV units with high efficiency heat recovery
- Plug n' play version (switchboard and prewired control on the machine)

CASING
- Self-supporting casing made up of sandwich panels with injected polyurethane foam insulation cor, external structure and internal parts made in Aluzinc® thickness 36 mm and density 42 kg/m³

CONFIGURATION AND INSTALLATION
- Vertical: wall
- Attacks on the top

HEAT EXCHANGER
- Counterflow, high efficiency, alluminium
- Automatic defrost
- Automatic TOTAL By-pass

MOTORFANS
- High efficiency EC plug fans

FILTERS – classified according to EN 779
- M5 exhaust air/ F7 fresh air
- Dirty filters alert: pressure switches or hour counters

AVAILABLE OPTIONS
- Water or electric post-treatment (duct)

UVD (residential classification)
- 1 model with air flow 690 m³/h
- ENERGETIC CLASS (con controllo CTR08-PH):

UVT (tertiary classification):
- 1 model with air flow 1.200 m³/h
- efficiency 87 %

Counterflow heat exchanger made of aluminum manufactured by RECUTECH

JD

High efficiency heat recovery module without fans for collective systems
- Passive recovery (exchanger and filters without fans)

CASING
- Self-supporting internally insulated casing with internal and external parts made of Aluzinc®
- Double condensate drain (Greater flexibility of installation)

CONFIGURATION AND INSTALLATION
- Hrizontal:ceiling installation

HEAT EXCHANGER
- JD1 & 2 : High efficiency PP counterflow heat exchanger
- JD 3 & 4 : High efficiency, Al counterflow heat exchanger

FILTERS – classificati secondo EN 779
- JD 1 and 2 : exhaust air G4 / fresh air F7
- JD 3 e 4 : exhaust air M5 / fresh air F7

RANGE
- 4 modelli con portate aria da 100 a 800 m³/h

2 centralized ventilation units in the building service (condominium or apartment buildings) or column, combined with passive recovery JD (exchanger and filters), one each apartment.

analogic

electronic

AURA/AURA evo

High efficiency heat recovery unit for DECENTRALIZED CMV (per singolo ambiente)

STRUCTURE (high resistance, anti-static, anti UV)
- Insulated or PVC telescopic probe
- High efficiency Regenerative recuperator
- DC brushless fan, low consumption
- interior design grid, with filter
- External foldable or aesthetic grid

ELECTRONIC VERSION
- Electronic card on the unit 230V
- Master unit (remote control), up to 12 slave
- 3 speeds + AUTO (sensors T, U.R. and light)

NOTE: CasaClima only size 2

ANALOGIC VERSION
- Automatic operation (adjustable air intake /extr. 35 ÷ 200 sec.) o manuale (IN o OUT)
- Up to 4 units with 1 control / power supply unit

AVAILABLE OPTIONS
- Provision for large construction sites
- APP (IOS system, Android, Microsoft)
- Kit for installation at corner

RANGE
- 2 models with airflow MAX 24 and 50 m³/h

ENERGETIC CLASS: A

UTA

High efficiency HRVU
- Plug n' play version (switchboard and prewired control on the machine)

CASING
- Casing made up of sandwich panels with injected polyurethane foam insulation core, thickness 45 mm and density 42 kg/m³ (internal and external parts made of Aluzinc®)

CONFIGURATION AND INSTALLATION
- Horizontale: on floor

HEAT EXCHANGER
- High efficiency aluminium counterflow heat exchanger
- Automatic defrosting
- Available also with rotative heat exchanger
- Automatic total by-pass

MOTORFANS
- High efficiency EC plug fans

FILTRI – classified according to EN 779
- M5 exhaust air / F7 fresh air
- Dirty filters alert: by differential pressure switches

AVAILABLE OPTIONS
- Post water or electric heating, inside
- Electrical pre heating (internal)
- Additional modules: AF/AC or gas coil, silencer
- Grilled, dampers, silencer and valves H_2O

RANGE
- 2 models with airflow 8.000 and 13.000 m³/h

Counterflow heat exchanger made of aluminum manufactured by RECUTECH

CRHE-H

CRHE-V

CRHE

High efficiency HRVU
- Plug n' play version (switchboard and prewired control on the machine)

CASING
- Casing made up of sandwich panels (internal and external parts made of Aluzinc®) with injected polyurethane foam insulation core, density 42 kg/m³
- CRHE-H 25 mm-tick
- CRHE-V 36 mm-tick
- Frame made up of extruded aluminium profiles

CONFIGURATION AND INSTALLATION
- CRHE-H: horizontal, within
- CRHE-V: vertical, outside
- Available the "mirrored" version with inspection panels/-maintenance on the opposite side

HEAT EXCHANGER
- High efficiency aluminium counterflow heat exchanger
- Automatic defrosting
- Automatic total by-pass

MOTOVENTILATORI
- High efficiency EC plug fans

FILTRI – classified according to EN 779
- G4 exhaust air / F7 fresh air
- Dirty filters alert: by differential pressure switches

AVAILABLE OPTIONS
- Post-treatment: AF / AC, gas or electric, internal
- Grilles, dampers, silencers and valves H_2O

RANGE
- CRHE-H: 4 models, airflow from 700 to 3.000 m³/h
- CRHE-V: 6 models, airflow from 700 to 5.300 m³/h

H = horizontal layout
V = vertical layout

Counterflow heat exchanger made of aluminum manufactured by RECUTECH

UVR & UVR-TOP

High efficiency HRVU
- Plug n' play version (switchboard and prewired control on the machine)
- Rotary exchanger

CASING
- Casing made up of sandwich panels (internal and external parts made of Aluzinc®) with injected polyurethane foam insulation core, thickness 45 mm and density 42 kg/m³
- Frame made of extruded aluminum profiles
- Without thermal break (T3-TB3) or with (T2-TB2)
- In 1 pcs. or (optional) supplied in 2/3 parts

CONFIGURATION AND INSTALLATION
- Horizontal or vertical, on the floor

HEAT EXCHANGER
- Rotary, counter flow, high efficiency, alluminium
- Automatic defrost
- Automatic total By-pass

MOTORFANS
- High efficiency EC high efficiency

FILTERS – classified according to EN 779
- M5 exhaust air / F7 fresh air
- Dirty filters alert: by differential pressure switches

AVAILABLE OPTIONS
- Post-heating hot water or electric, inside
- Post treatment: AF/AC or gas, on the duct
- Electric pre-heating, inside
- Grilles, dampers, silencers and valves H_2O

RANGE
- 6 models with airflow from 600 to 7.000 m³/h

In the rotary exchanger the hot exhaust air transfers heat to the rotor and then expelled; the heat accumulated by the rotor is transferred to the fresh air inlet and introduced into the premises. The rotation speed can be adjusted (5÷10 R.P.M.) to optimize heat exchange. A recovery unit with rotary exchanger allows a small space (smaller than static) and lower load losses; presents less condensation / freezing problems and is therefore ideal for unfavorable climates (Nordic); on the other hand it has a slightly lower yield, It may require more maintenance (moving organ) and allows a slight leakage between the flows.

Counterflow heat exchanger made of aluminum manufactured by RECUTECH

HRE-TOP EC

High efficiency HRVU
-Plug n'play version (switchboard and prewired control on the machine)

CASING
- Casing made up of sandwich panels (internal and external parts made of Aluzinc®) with injected polyurethane foam insulation core, thickness 36 mm and density 42 kg/m³
- Frame made up of extruded aluminium profiles
- Frame made up of extruded aluminium profiles
- Frame made up of extruded aluminium profiles

CONFIGURATION AND INSTALLATION
- Horizontal: on floor

HEAT EXCHANGER
- Counterflow, high efficiency, alluminium
- Automatic defrost
- Automatic total By-pass

MOTORFANS
- High efficiency EC plug fans

FILTERS - classified according to EN 779
- M5 exhaust air / F7 fresh air
- Dirty filters alert: by differential pressure switc

AVAILABLE OPTIONS
- Post-treatment: AF/AC, gas or electric, internal
- Grilles, dampers, silencers and valves H_2O

RANGE
- 4 models with airflow from 1.000 to 5.600 m³/h

Counterflow heat exchanger made of aluminum manufactured by RECUTECH

FAI ED & FAI-EC

Medium efficiency HRVU
- Satisfy ErP-2018 requirements (efficiency >73 %)

CASING
- Casing made up of sandwich panels (internal and external parts) made of Aluzinc® with injected polyurethane foam insulation core thickness 25 mm and density 42 kg/m³
- Frame made up of extruded aluminium profiles

CONFIGURATION AND INSTALLATION
- Horizontal or vertical
- Available the "mirrored" version with inspection panels/-maintenance on the opposite side

HEAT EXCHANGER
- Counterflow, high efficiency, alluminium
- Automatic defrost
- Automatic total By-pass

H = horizontal layout
V = vertical layout verticale

MOTORFANS
- FAI-ED Centrifughi AC a 3 o 4 velocità
- FAI-EC: elettronici EC ad alta efficienza

FILTERS – classified according to EN 779
- M5 exhaust air / F7 fresh air
- Dirty filters alert: by differential pressure switches

AVAILABLE OPTIONS
- Plug n' play versions (switchboard and prewired control on the machine)
- Electrical pre-heater, inside
- Post water or electric heating, inside
- Post treatment: AF / AC or gas, in to the duct
- Grilles, dampers, silencers and valves H_2O

RANGE
- FAI-ED: 5 models with airflow from 300 to 3.000 m³/h
- FAI-EC: 4 models with airflow from 300 to 2.500 m³/h

Counterflow heat exchanger made of aluminum manufactured by COVENT

DUO-ED & DUO-EC

Medium efficiency HRVU
- Satisfy ErP-2018 requirements (efficiency > 73 %)

CASING
- Casing made up of sandwich panels (internal and external parts made of Aluzinc® with injected polyurethane foam insulation core, thickness 25 mm and density 42 kg/m³
- Frame made up of extruded aluminium profiles

CONFIGURATION AND INSTALLATION
- Horizontal: ceiling or floor
- Available the "mirrored" version with inspection panels/ maintenance on the opposite side

HEAT EXCHANGER
- Counterflow, high efficiency, alluminium
- Automatic defrost
- By-pass automatic or manual for freecooling

MOTORFANS
- DUO-ED: AC centrifugal at 3 or 4 speeds
- DUO-EC: high efficiency EC electrical

FILTERS – classified according to EN 779
- M5 exhaust air / F7 fresh air
- Dirty filters allert: pressure switches or hour counter

AVAILABLE OPTIONS
- Plug n' play versions (switchboard and prewired control on the machine) or simplified sheet
- Electric pre-heating, water(AC/AT) or electric post-heating, post treatment (AF/AC or gas)
- Grilles, dampers, silencers and valves H_2O

RANGE
- DUO-ED: 6 models with airflow from 300 to 4.000 m³/h
- DUO-EC: 5 models with airflow from 300 to 4.000 m³/h

Counterflow heat exchanger made of aluminum manufactured by RECUTECH

CLIMATE UNITS

HRU e HRU-EC

Medium efficiency Air/air conditioning unit with heat recovery unit
- With heat pump thermodynamic circuit
- Plug n' play version (switchboard and prewired control on the machine)

CASING
- Casing made up of double panels (internal and external parts made of Aluzinc®) with injected polyurethane foam insulation core, thickness 36 mm and density 42 kg/m³
- Frame made up of extruded aluminium profiles

CONFIGURATION AND INSTALLATION
- Horizontal: sceiling or floor
- Available the "mirrored" version with inspection panels/-maintenance on the opposite side

HEAT EXCHANGER
- Cross-flow aluminium heat exchanger
- Anti-frosting strategy

FILTERS – classified according to EN 779
- M5 exhaust air / F7 fresh air
- Dirty filters alert: by differential pressure switches

HRU VERSION
- Rotative or scroll compressor, gas R410A
- multi-speed AC fans
- 5 models:, airflow: from 500 to 5.000 m³/h

HRU-EC VERSION
- Rotative or scroll compressor with inverter, gas R410A
- EC electronic fans
- 5 models:, airflow: from 500 to 5.000 m³/h

AVAILABLE OPTIONS (into the duct)
- Electrical pre-heater
- Water (AC or AF/AC) or electric post-treatment

HRU and HRU-EC are equipped with heat pump for air exchange with neutralization of external thermal loads. The unit allows passive and active recovery of the expelled air energy; active thermodynamic recovery (refrigerator circuit) It allows to provide energy to the environment in a quantity exceeding to that extracted from the ventilation. HRU-EC version managed in 2 modes: T mandate (keeps the T request, thanks to the compressor with inverters and EC fans), or T recovery (regulates the flow temperature to maintain the set reset temperature).

Counterflow heat exchanger made of aluminum manufactured by RECUPERATOR

VMC and DEUMIDIFICATION UNITS

Complies with the Regulations UE ecodesign 1253/2014 and 1254/2014
Included into the ClimateHouse®/ KlimaHaus list for Energy

DEH

High efficiency Heat recovery dehumidification and air renewal unit
- Plug n' play version (switchgear and prewired control on the machine)

CASING
- Self-supporting structure made in Aluzinc®(internal and external parts) up and down in single insulated sheet, side in double panels thickness 22 mm and density 42 kg/m³

CONFIGURATION AND INSTALLATION
- Horizontal: suspended ceiling installation

CONTROL PANEL (remote)
- Contact for dehumidification start/stop (by external management system)
- R.H probe integrated for management of the dehumidification, you can deactivate it from the control
- Integration sensitive power control summer and winter
- Home automation protocol MODBUS RTU / RS485

ENERGETIC CLASS: B

HEAT EXCHANGER
- High efficiency PP counterflow heat exchanger
- Automatic defrosting

MOTORFANS
- High efficiency EC plug fans

FILTERS – classified according to EN 779
- G4 exhaust air / F7 fresh air/ F7 recirculation

DEHUMIDIFY & VERSIONS
- With refrigeration system, R134a
- With hydronic battery (H_2O IN 7 °C / OUT 12 °C)

AVAILABLE OPTIONS
- Sonde CO_2 and VOC/CO_2

RANGE
- DEH 1 airflow 150 m³/h (VMC) - 300 m³/h dehumidify
- DEH 2 portate 250 (VMC) - 500 deumidifica m³/h

DEH is used for combination with radiant cooling even of existing plants. One only unit for high efficiency CMV and CMV + dehumidification when needed. Indeed, if the humidity level is too high, to avoid condensation I can not cool.

The moisture problem must be resolved as quickly as possible; in dehumidification/recirculation mode the air flow can be doubled compared to CMV mode. The air is then treated and dehumidified (ventilation + recirculation from clean rooms).

BOX

Ventilation units boxed at high prevalence

CASING

- Self supporting structure made in 1 mm thick. Aluzinc®sheet, with 5 mm thick. adhesive internal insulation
- Anti-vibration joint on fan delivery
- Motor fixed on anti-vibration supports

MOTORFANS

- Centrifugal fans forward blades, double suction, coupled with the impeller, high efficiency (ErP-2015)

RANGE

- Several models, airflow: up to 6.000 m³/h

FAR-EC

High head electronic in-box ventilation units

CASING

- Casing made up of sandwich panels (internal and external parts made of Aluzinc®) with injected polyurethane foam insulation core, thickness 25 mm and density 42 kg/m³
- Frame made up of extruded aluminium profiles
- Motor's support structure made in galvanized steel

For combination with several housing units:
- Collective VMC, with JD recuperators
- industrial processes

MOTORFANS

- Electronic EC hight efficency (ErP-2015)

AVAILABLE OPTIONS

- Manual speed control CVR
- Pressure operation and constant flow Kit
- Evolved control (CO_2, U.R., T, …)

RANGE

- Nr.8 models; airflow: from 400 to 7.600 m³/h

FAN-T

Ventilator with belts and pulleys transmission (Belts and pulleys)

CASING

- Casing made up of Aluzinc® panels (internal and external parts)
- Available with 5 mm-tick polyethylene insulation core or double sandwich panel with polyurethane foam, thickness 25 mm and density 42 kg/m³
- Frame made up of extruded aluminium profiles

MOTORFANS

- Forward blades centrifugal fans (ErP-2015)

AVAILABLE OPTIONS

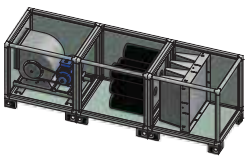
- Manual speed control RVT

RANGE

- Several models; airflow: up to 35.000 m³/h

VEN-T

Ventilating and thermo-ventilating unit, with transmission fan (belt and pulleys)



CASING

- Casing made up of sandwich panels (internal and external parts made of Aluzinc®) with injected polyurethane foam insulation core sp.25 mm and density 42 kg/m³
- Frame made up of extruded aluminium profile

MOTORFANS

- Forward blades centrifugal fans (ErP-2015)
- Transmission belt and pulleys

FILTERS – classified according EN 779

- Section: pocket filters and pre-filters
- Section: active carbon filters

AVAILABLE OPTIONS

- Manual speed control RVT
- Post water heating (AC) or electrical into the duct
- Post treatment (AF / AC) into the duct

RANGE

- 7 modelli con portate d'aria da 1.500 a 12.000 m³/h

CAFIL

Air-filter plenum for channel installation (Pre-filter or better filtration)

CASING

- 10/10-tick structure made of Aluzinc® sheet
- Circular spigots with rubber sealing ring
- Inspection panel
- Filter holding frame equipped and perimeter tightness sealing

FILTERS - classified according to EN 779

- G4 pleated filter made of synthetic fibre
- F7 low-load-loss filter
- F9 low-load-loss filter

RANGE

- Nr. 10 models, airflow: 200 to 710 mm

Accessories

SENSORS (only for units set on VAV variable air volume)

CO_2/VOC sensor

CO_2 sensor

Relative Humidity sensor

REGULATORS & PANELS

Constant air volume transformation KIT - CAV (1)

Constant pressure transformation KIT - COP (1)

Speed switch - CV3 and 4 (2)

Card simplified management unit

(1) – only for units WITH regulation and EC fans

(2) – only for units WITHOUT regulation

Channel PRE and POST-heating BATTERIES

Hot water post-heating coil (80 – 70 °C) – WB-HW
Temperate water post-heating coil (45 – 35 °C) – WB-TW

Cold/hot water post-treatment coil – WB-CHW
Electrical post-heater– REL-M (1phase) or REL-T (3 phases)

Electrical pre- heater (anti-frost) thermostatic or electronic

VARIOUS

Distribution plenum on X-AIR machine (for FLAT, HRE and JD)

Protection hood with grille (leaves, birds, rain)

Rain roof

Siphon

Silencers

Dampers

Servomotors

Pressure (COP) or constant flow (CAV) kit

HRVU Control Systems

The units are supplied complete with control system and connection to the power supply network; Available 3 versions:
- Simplified CTR08-PH: essential functions of the CMV unit
- Complete EVO-PH: color touch screen interface for management and control of all functions: alarms and parameter settings.

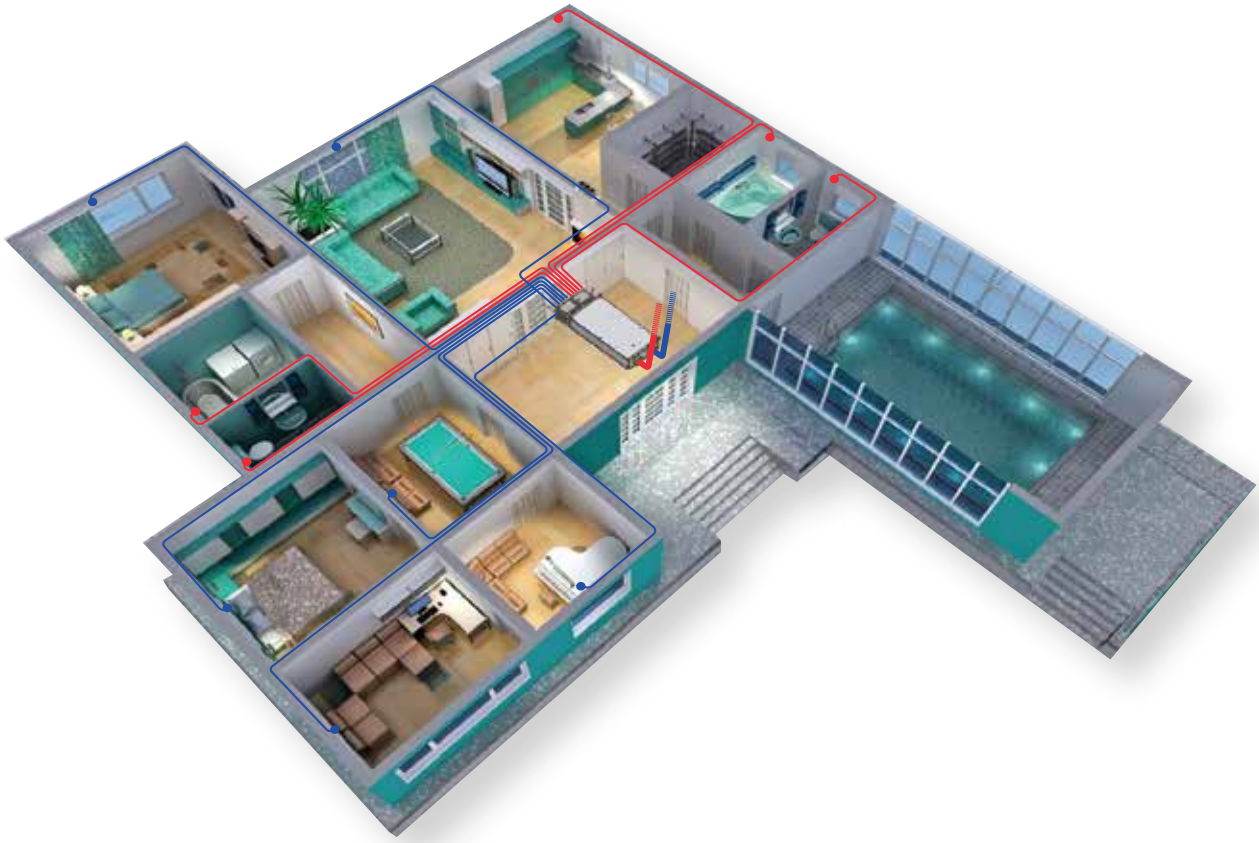


	CTR08-PH	EVO-PH	EVO D-PH-IP
FAN MANAGEMENT			
1 Manual selection of the fan speed			
a) OFF + 3 speed levels	✓	✓	✓
b) OFF + adjustment between (MIN-MAX)	✓	✓	✓
2 Imbalance between supply and return airflows: for electronic or dual-inverter fans		✓	✓
3 Unit power reduction: reduction of the fan maximum speed (not available for units equipped with 3-speed fans)		✓	✓
4 Automatic fan speed selection, if coupled to a CO_2 , CO_2 /VOC, UR sensor or to a 0-10V remote signal		✓	✓
5 Booster function (fans at maximum speed); time can be set by the User	✓	✓	✓
6 PIR function (presence detector), time can be set by the User		✓	✓
7 Humidity function: fans at maximum speed if the humidistat exceeds the threshold		✓	✓
8 Fire function: return fan at maximum speed, supply fan turned off		✓	✓
9 Independent control of the single fans			✓
10 Fan automatic speed selection if coupled with a pressure/constant volume Kit		✓	✓
AIR DEFROSTING AND/OR POST-TREATMENT MANAGEMENT			
11 Prevention of heat exchanger freezing			
a) Imbalance between airflows (MAX extraction/ MIN introduction)	✓		
b) Air flow balance (progressive, then MAX)		✓	✓
c) Pre-heating electric proportional	✓	✓	✓
d) Pre-heating electric on-off		✓	✓
e) By by-pass opening		✓	✓
f) Closing a clean contact (personalized strategy)		✓	✓
12 Control of air intake temperature (or outlet)		✓	✓
a) Post-electric heating on-off or proportional		✓	✓
b) Post-heating water on-off or proportional		✓	✓
c) Post-cooling water on-off or proportional		✓	✓
d) Through the progressive management by-pass, the post treatment		✓	✓
e) Dehumidification through combination of post-cooling water + post heating water or electric		✓	✓
ALARMS (DIAGNOSTICS)			
13 Visualization of the machine operation status			
a) Simplified (LED)	✓		
b) Detailed (digital display)		✓	✓
14 Remote signal of the unit operation status Closed contact = fans ON; open contact = fans OFF		✓	✓
15 Check the status of the filters through the unit maintenance timer or by reading the signal from the differential pressure switches	✓	✓	✓
16 Check the status of the fans through direct tachometric signal or differential pressure switches	✓	✓	✓
17 Remote signalling of general alarm or clogged filters Closed contact = no alarms; open contact = ongoing alarm		✓	✓
HOME AUTOMATION			
18 Publishing of all status and alarm signals on the bus line			✓
19 Receipt of all remote management controls from the bus line			✓
OTHER FUNCTIONS			
20 Bypass management on-off or modulating	✓	✓	✓
21 Remote fan switch ON/OFF		✓	✓
22 Weekly chrono-programming		✓	✓
23 "Master & slave" management of more identical units (up to 4) with a single control panel		✓	✓
24 Possibility to change the language of the remote control panel (English, Italian etc.)		✓	✓
25 Web server			✓
26 Management recirculation dampers; Maximum recirculation forcing (if provided)		✓	✓
27 Forcing dehumidification function (if provided)		✓	✓

AIR+ SISTEMA DI DISTRIBUZIONE

The AIR + air distribution system is a complete range of accessories – **positioning on site simple and quick, in suspended ceiling or underlay** – for air distribution to individual local (new buildings or to renovate).

Circular and oval sections are available, plenum distribution and air recovery, silencers, various fittings, diaphragms, valve terminals, plenum environment for grilles and valves ventilation, ecc. The product is made of **antibacterial and antimycotic material.**



Cla
Air distribution product

Completion of the proposal – for the tertiary sector – **a wide range of dampers** (calibration, sealing, overpressure), **silencers, grilles, filter boxes, flow regulators…and special performances.**

Calculation programs

Air distribution unit and system, budgeting

UTEK provides an user-friendly and intuitive-to-use software, **specific for CMV design**

- preparation of the house plan or use of an imported CAD (2D or 3D) file
- calculation of the room volume and airflows
- selection of the unit: UTEK or fictitious model (airflow / load-loss estimate) for final choice
- position of the exchanger and air distribution drawing (plenum, pipes, connections, vents, etc.)
- system balancing/load-loss estimate
- assessment/choice of the CMV unit (software www.AirFactory.it to assess the performance)
- printing of documents (plans with balancing, aeraulic calculations, specifications)

The list of materials with codes, descriptions, and prices is generated in a customizable XLS file.

Choice of the unit

UTEK provides a web software for the selection and configuration of its heat recovery units: **a tool for Distributors and designers.**

Starting from project data, the configurator allows you to choose the unit (the system proposes alternatives)
. you can set T and UR, unbalance the airflow, add the post-treatment, choose control, the accessories… the summary will allow you to check all the features/options of the recuperator and know consumption, efficiency and noise of the working point
. detailed descriptions; you can store selections, edit them, print them

Made in Italy

UTEK reserves the right to at any time the necessary changes to improve products without prior notice .

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