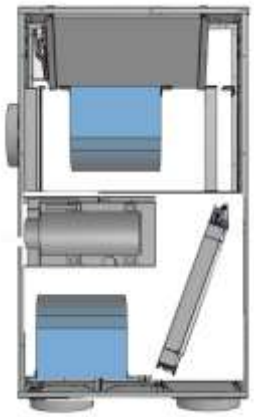
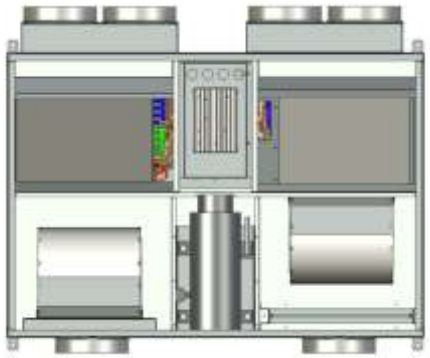
Comparison of similar product types 2.0_VMC

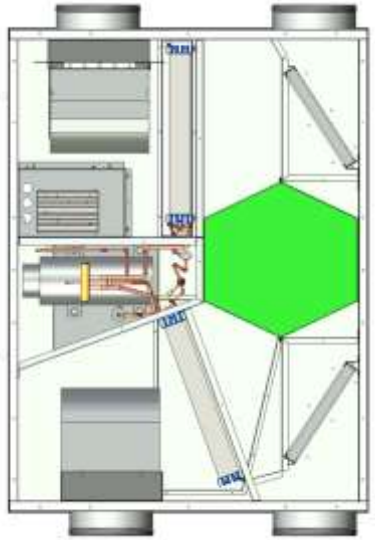
2.0



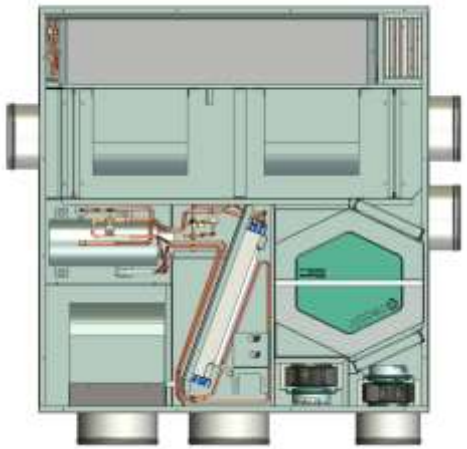
2.0 RINNOVA



HRA-i SLIM



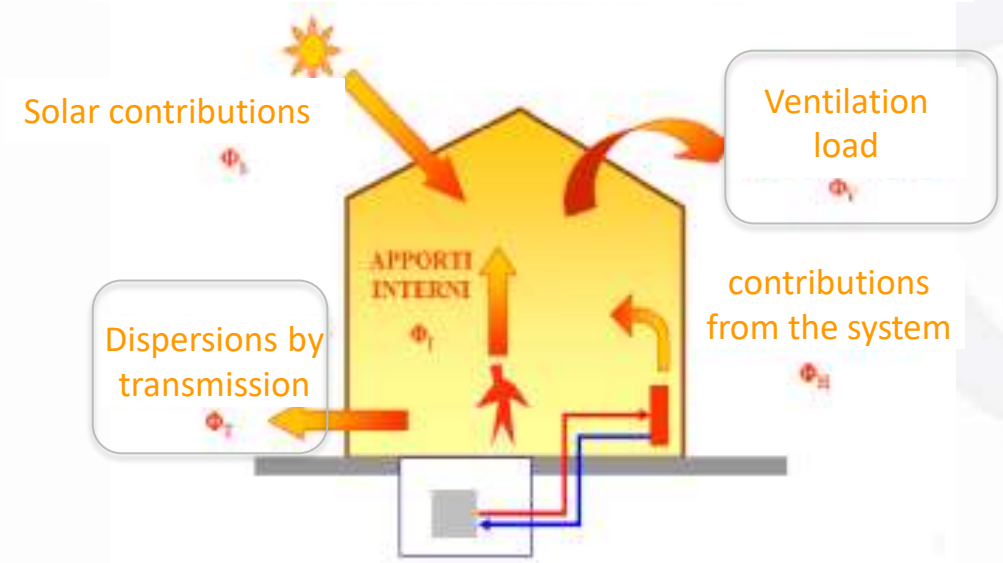
HRA-i PLUS



THE DIFFERENCES

TERMINOLOGY

THERMAL BALANCE OF THE BUILDING (WINTER CASE)



1 Kcal/h = 1,1628 Watt
P (capacity) = Q (air flow) x c x DT

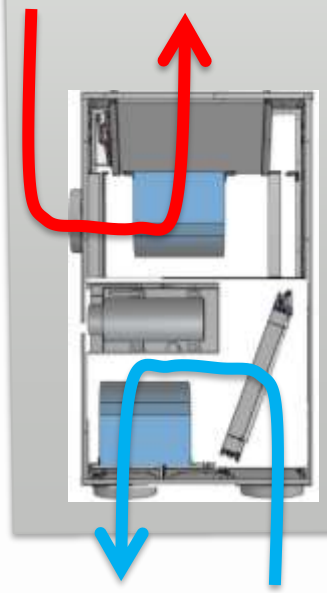
Water
P (Kcal/h)
Q (Lt/h)
C (specific heat) = 1
DT (°C) delta T water in-out
Air
P (Kcal/h)
Q (Lt/h)
C (specific heat) = 0,295
DT (°C) delta T temperature in-out

Pv (ventilation load) = Q (freh air flow m^3/h) x DT (T indoor air - T outdoor air) x c x 1,1628 = Watt
= Q x DT x 0,295 x 1,1628 = Watt
= Q x DT x 0,34 = Watt

Example:
House 100m^2 x h 2,7m = 270m^3 → x 0,5 Vol/h = Fresh air flow= 270 x 0,5 =135 m^3/h
T outdoor = -5°C, T indoor = 20°C → DT= 20 - (-5) = 25
Pv = 135 x 25 x 0,34 = 1275 Watt = 1,147 kW

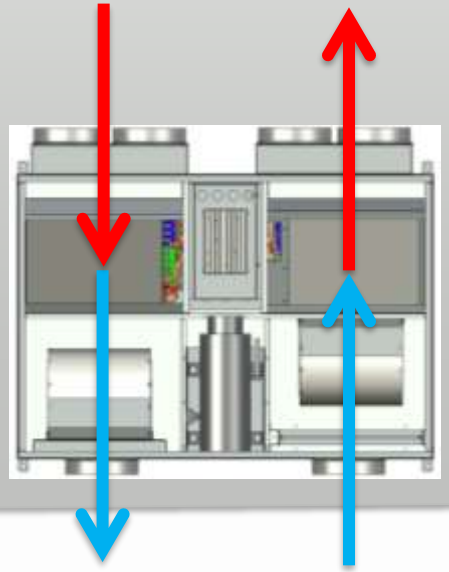
innova
renewing energies

2.0



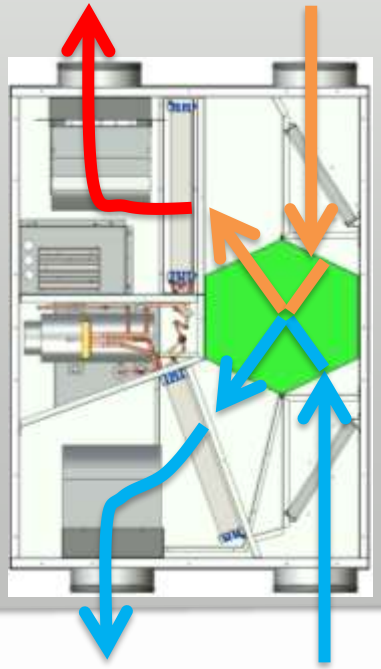
INDOOR AIR CONDITIONER

2.0 RINNOVA



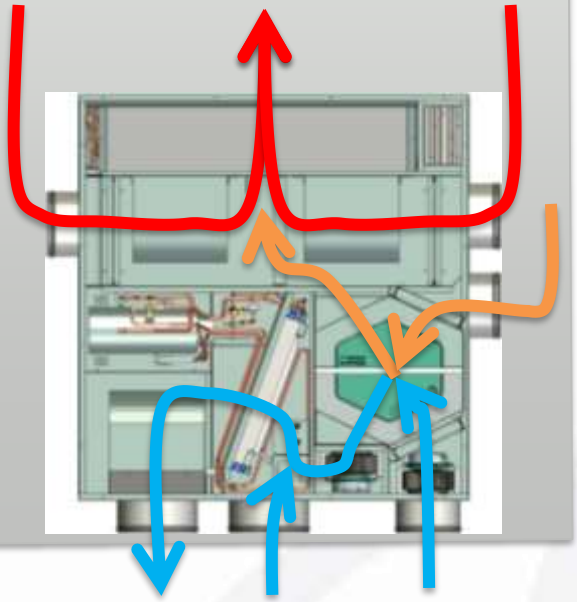
MVHR
MECHANICAL VENTILATION
THERMODYNAMIC HEAT
RECOVERY

HRA-i SLIM



MVHR
MECHANICAL VENTILATION
THERMODYNAMIC + STATIC
HEAT RECOVERY

HRA-i PLUS

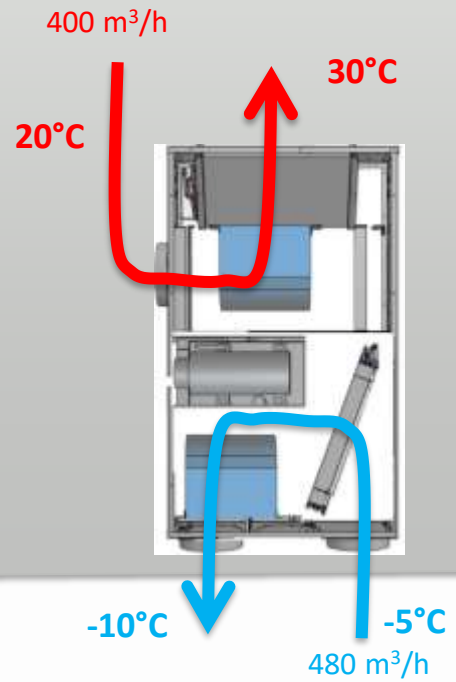


COMPACT UNIT
INDOOR AIR CONDITIONER +
MECHANICAL VENTILATION
THERMODYNAMIC + STATIC
HEAT RECOVERY

MVHR = **M**echanical **V**entilation **H**eat **R**ecovery

2.0

INDOOR AIR CONDITIONER



THE UNIT HEATS AND COOLS THE SINGLE INDOOR ROOM

THE UNIT HEATS/COOLS THE INDOOR AIR AND IT USES THE OUTDOOR AIR AS A SOURCE TO TAKE / DISPOSE THE THERMAL CAPACITY

IT DOES NOT RENEW THE INDOOR AIR (NO FRESH AIR)

2.0 12 HP

Heating capacity A+7/A20 = 2,36 kW - COP 3,28

Heating capacity A-5/A20= 1,40 kW

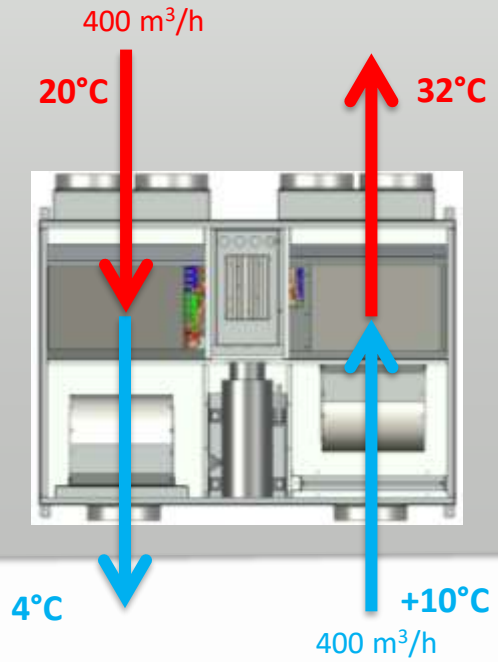
Air flow indoor/outdoor = 400/480 m³/h

2.0 RINNOVA

MVHR

MECHANICAL VENTILATION

THERMODYNAMIC HEAT RECOVERY



IT TAKES CARE OF THE IAQ INDOOR AIR QUALITY
In addition, with favorable external air, it generates a first step in heating and cooling

IT EXTRACTS EXHAUST AIR AND RECOVERS THE HEAT WITH THE THERMODYNAMIC HEAT RECOVERY (REFRIGERANT CIRCUIT)

IT SUPPLIES HEATED OR COOLED OUTDOOR AIR = FRESH AIR

2.0 RINNOVA DUCT 40

Q= 400m³/h → house 296m² or commercial/tertiary room (example school classroom with 16pax)

Total heating capacity A-5/A20 = 3,62 kW

Space heating capacity without fresh air load A-5/A20 = 3,62 – (400x25x0,34/1000) = 0,22 kW

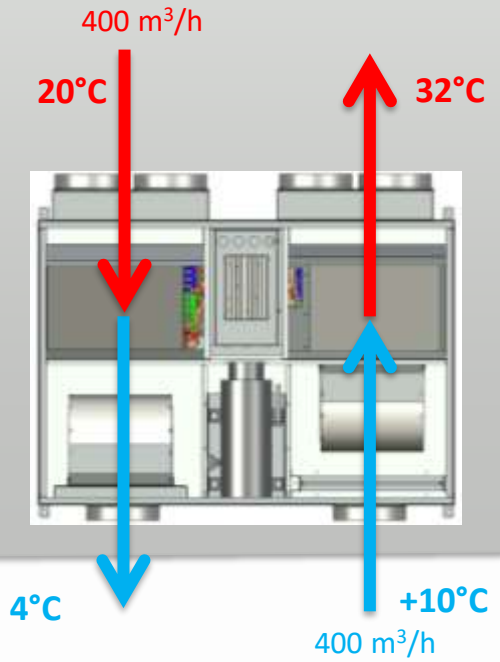
COP = 4,3

Espulsion exhaust air/supply fresh air = 400/400 m³/h

2.0 RINNOVA

MVHR

MECHANICAL VENTILATION
THERMODYNAMIC HEAT
RECOVERY



IT TAKES CARE OF THE IAQ INDOOR AIR QUALITY
In addition, with favorable external air, it generates a first step in heating and cooling

IT EXTRACTS EXHAUST AIR AND RECOVERS THE HEAT WITH THE THERMODYNAMIC HEAT RECOVERY (REFRIGERANT CIRCUIT)

IT SUPPLIES HEATED OR COOLED OUTDOOR AIR = FRESH AIR

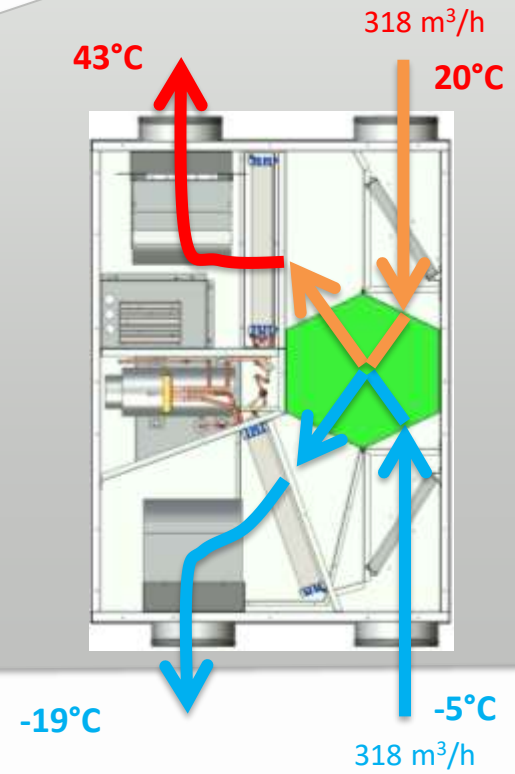
2.0 RINNOVA DUCT 40

Q= 400m³/h → house 296m² or commercial/tertiary room (example school classroom with 16pax)
Total heating capacity A+10/A20 = 2,98 kW
Space heating capacity without fresh air load A10/A20 = 3,62 – (400x10x0,34/1000) = 1,62 kW
COP = 4,0
Espulsion exhaust air/supply fresh air = 400/400 m³/h

HRA-i SLIM

MVHR

MECHANICAL VENTILATION
THERMODYNAMIC + STATIC
HEAT RECOVERY



IT TAKES CARE OF THE IAQ INDOOR AIR QUALITY
In addition, with favorable external air, it generates a first step in heating and cooling

IT EXTRACTS EXHAUST AIR AND RECOVERS THE HEAT WITH THE STATIC HEAT RECOVERY (CROSS FLOW) + THERMODYNAMIC HEAT RECOVERY (REFRIGERANT CIRCUIT)

IT SUPPLIES HEATED OR COOLED OUTDOOR AIR = FRESH AIR

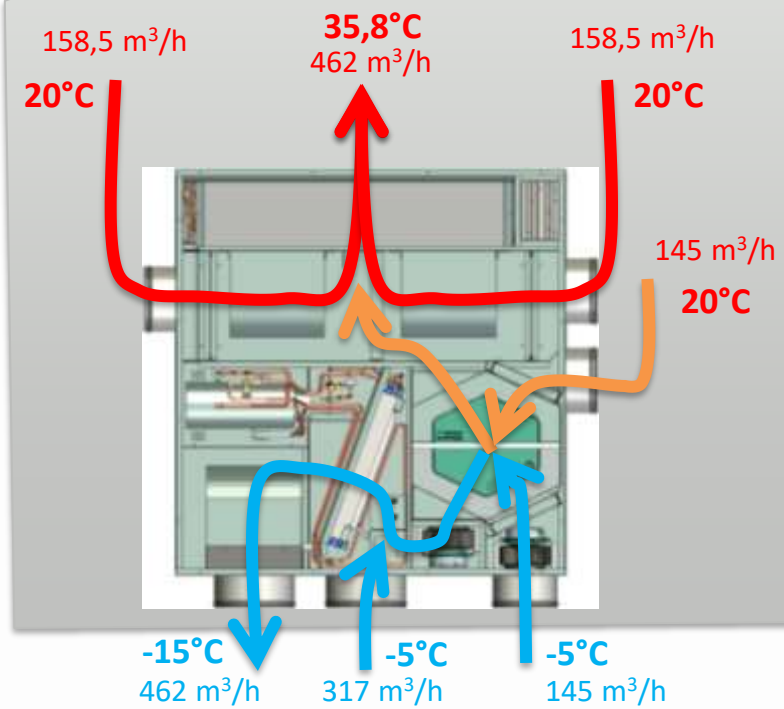
HRA-i SLIM 30H

Q= 318m³/h → house 235m² or commercial/tertiary room (example school classroom with 13pax)
Total heating capacity A-5/A20 = 5,15 kW (2,23 from static heat rec. + 2,92 kW from thermodynamic heat rec.)
Space heating capacity without fresh air load A-5/A20 = 5,15 – (318x25x0,34/1000) = 2,45 kW
COP = 5,4
Espulsion exhaust air/supply fresh air = 318/318 m³/h

HRA-i PLUS

COMPACT UNIT

INDOOR AIR CONDITIONER + MECHANICAL VENTILATION THERMODYNAMIC + STATIC HEAT RECOVERY



IT TAKES CARE OF THE HEATING+COOLING+IAQ INDOOR AIR QUALITY

IT EXTRACTS EXHAUST AIR AND RECOVERS THE HEAT WITH THE STATIC HEAT RECOVERY (CROSS FLOW) + THERMODYNAMIC HEAT RECOVERY (REFRIGERANT CIRCUIT)

THE UNIT HEATS AND COOLS THE FRESH AIR + RECIRCULATING AIR

The total air flow guaranteeS the correct diffusion/temperature of the capacity generated by the unit

HRA-i PLUS 50/15

Fresh air flow = 145 m^3/h → house 107 m^2 or commercial/tertiary room (ex. classroom with 6pax)

Totale Air flow (fresh air + recirc. air) = 462m^3/h → 462/290=1,59 Vol/h

Total heating capacity A-5/A20 = 3,71 kW (di cui 1,06 dal rec.statico e 2,65 dal rec.termodin.)

Space heating capacity without fresh air load A-5/A20 = 3,71 – (145x25x0,34/1000) = 2,47 kW

Espulsion exhaust air/supply fresh air = 145/145 m^3/h (+317 m^3/h recirculating air)