FROM DESIGN,
**TO REALITY...**

VIACLIMATE®


**Product Catalogue**

# ?why VIACLIMATE®

## Objective

Our objective is to improve production processes and to become a leading brand in Turkey and in the World with VIACLIMATE.

## R&D

We keep researching changing air conditioning requirements and designing our products according to technological advancements with the same ambition and enthusiasm we had on our first day.

## Engineering

We utilize all the infrastructure and calculation methods required by engineering principles and standards for our products.

## Customer Satisfaction

VIACLIMATE considers the fullfilment of all customer requirements as top priority to ensure customer satisfaction.

## Design

We will continue providing you with unique products that are more affordable, more efficient and with less energy consumption.

## Quality

We perform quality control, production, testing and design in accordance with the principles stipulated as per the standards issued by accredited international and Turkish organizations.

## After Sales Service

We aim to provide unlimited support for after sales services required for the products starting from the installation process.

# Our Quality Policy

| | |
|---|---|
| Air Handling Unit | TSE |
| Heat Recovery | TSEK 381 |
| Our Production | TSE - HYB |
| Air Handling Unit<br>Heat Recovery<br>Natural Gas Units | CE |
| (VKS) Air Handling Unit | EUROVENT |
| Quality Management System | ISO 9001:2015 |
| Customs Union Conformity | EAC |

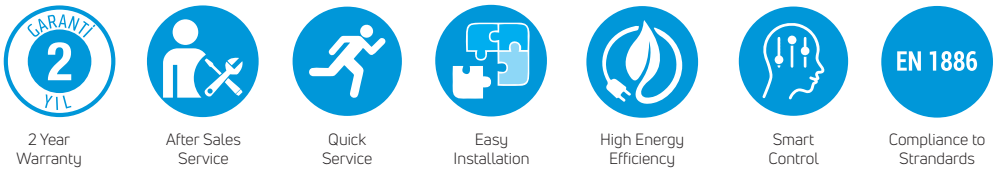
# Table of Contents



Made By VIACLIMATE

# Air Handling Unit content






2 Year Warranty | After Sales Service | Quick Service | Easy Installation | High Energy Efficiency | Smart Control | Compliance to Strandards

# Why **ViaClimate?**

## High Energy Efficiency

- Aims for maximum energy efficiency with case sections and the variety of the components used.
- Ensures high energy efficiency with optimum energy consumption.
- Air handling unit production meets the objectives and requirements of ERP2018.
- Demonstrating their capability to prevent energy losses in Eurovent air leak, thermal conductivity and thermal transmittance tests, Viaclimate air handling units has certified its production of high-efficiency units.


L1

T2

TB2

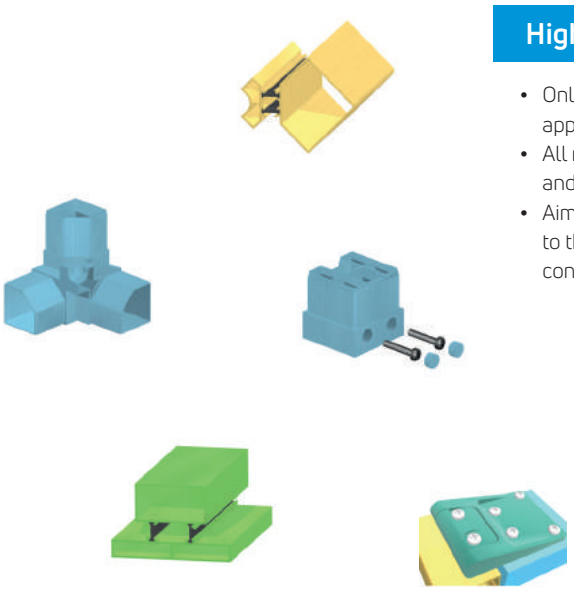
## Flexible Design

- With a wide product range and diversity, it meets customer requirements at the highest level.
- Provides easy and smart control services with automation systems that were designed according to customer needs.
- Ensures easy installation with its modular and compact Case.
- Gives you the opportunity to select custom-made designs should you decide that the standard product range is not suitable for your project.

2 Diffrent Unit Structure

1258 MODEL

Thousands of Configurations

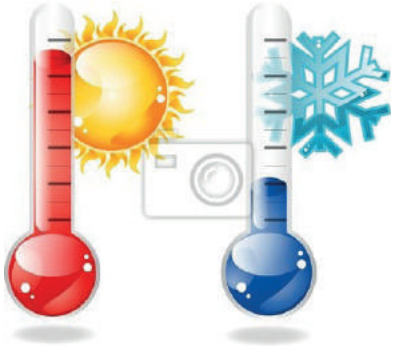


## High-Quality Components

- Only raw materials that meet the specified standards with the approved quality are used during production.
- All materials used in our Products are in accordance with TSE, CE and EN standards.
- Aims to guarantee the quality of the final product that is delivered to the customer, with rigorous and careful preliminary quality control of raw materials and semi-finished products.

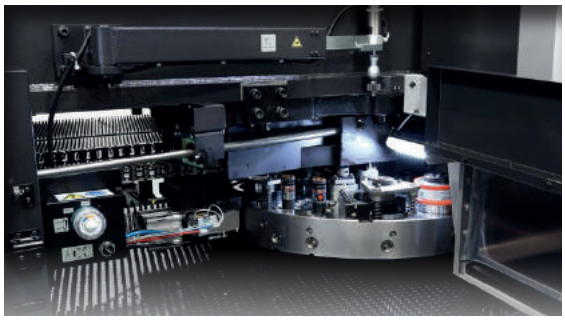
## Optimal Air Conditioning

- Manufactures Products that are designed for outdoor climate conditions, capable of easily adapting to climate conditions in order to achieve a comfortable air level.
- Our Products ensure that the indoor air quality is at the optimum level with maximum efficiency.
- Aims to keep the comfort level at stable conditions with the help of correct designs.



## Precision Manufacturing

- The Products are manufactured with high precision, using state-of-the-art machinery.
- Following the Kaizen culture, our objective is to achieve zero defects with continuous improvements.



## R&D

- We always provide better solutions with the R&D studies carried out by our expert engineering staff.
- We always integCapacity developing and current technologies to our Products professionally, in order to meet your requirements.
- With R&D, in addition to product development, we are also developing new production designs.

## Quality Standards

- The performance values of our Viaclimate air handling units were measured during tests performed by TÜV laboratories according to EN1886, and certified according to Eurovent certification.
- Our entire product range will continue to guarantee compliance with quality standards and customer requirements.

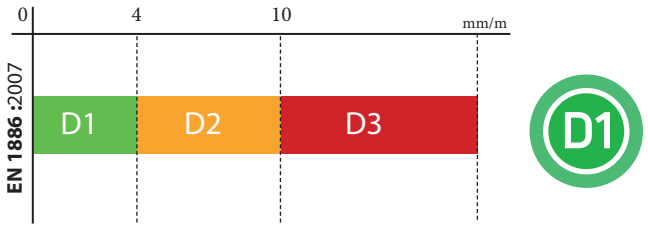
# VKSTB
## Acc. to EN1886

### Mechanical Strength Of Casing Deflection [D]

Test pressure: ±1000 Pa

Maks. bending 4mm ➔ D1(M)
Maks. bending 10 mm ➔ D2(M)
Maks. bending > 10 mm ➔ D3 (M)

Viaclimate VKSTB air handling unit has succesfully passed the Mechanical Strength Of Casing Deflection test performed according to EN1886 standards to be included in D1 class




### Case Air Leakage Class[L]

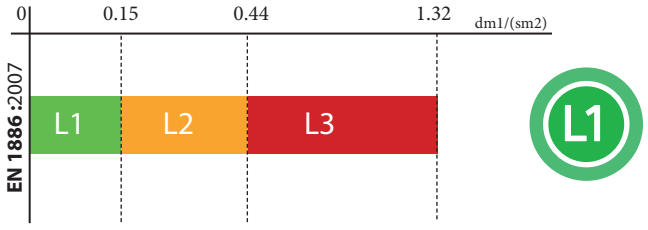
Test pressure: -400 Pa

Maks. leakage Cap. 0,15 l/sm² ➔ L1(M)
Maks. leakage Cap. 0,44 l/sm² ➔ L2(M)
Maks. leakage Cap. 1,32 l/sm² ➔ L3(M)

Test pressure: +700 Pa

Maks. leakage Cap. 0,22 l/sm² ➔ L1(M)
Maks. leakage Cap. 0,63 l/sm² ➔ L2(M)
Maks. leakage Cap. 1,90 l/sm² ➔ L3(M)

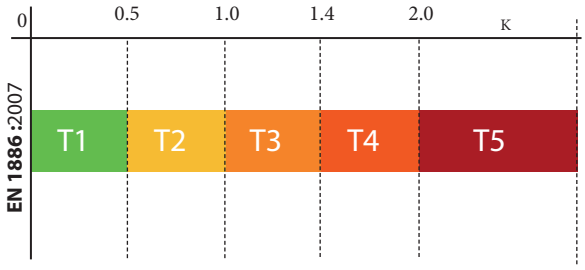
Viaclimate VKSTB air handling unit has succesfully passed the Case Air Leakage Class test performed according to EN1886 standards to be included in L1 class.




### Thermal Transmittance [T]

Thermal transmittance < 0.5 ➔ T1
0.5 < Thermal transmittance <= 1 ➔ T2
1 < Thermal transmittance <= 1.4 ➔ T3
1.4 <Thermal transmittance <=2 ➔ T4

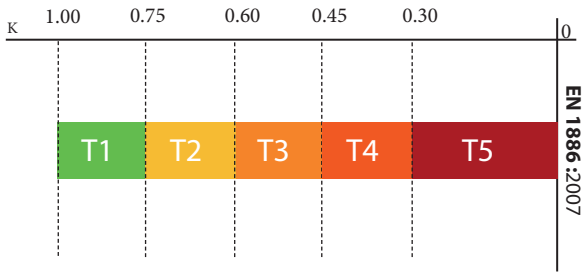
Viaclimate VKSTB air handling unit has succesfully passed the Case thermal transmittance test performed according to EN1886 standards to be included in T2 class.




### Thermal Bridging of Casing Class [TB]

0.75 < Thermal Bridging < 1 ➔ TB1
0.6 < Thermal Bridging <= 0.75 ➔ TB2
0.45 <Thermal Bridging <= 0.6 ➔ TB3
0.3 < Thermal Bridging <= 0.45 ➔ TB4

Viaclimate VKSTB air handling unit has succesfully passed the Case Thermal Bridging of Casing Class test performed according to EN1886 standards to be included in TB2 class.



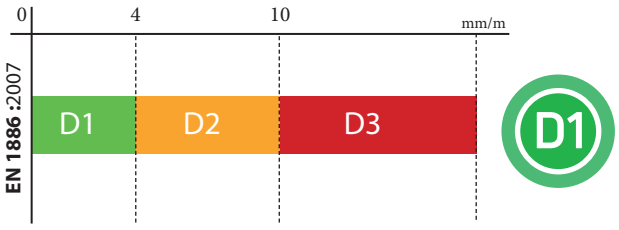
# VKSStandart
## Acc. to EN1886

### Mechanical Strength Of Casing Deflection [D]

Test pressure: ±1000 Pa

Maks. bending 4mm ➔ D1(M)
Maks. bending 10 mm ➔ D2(M)
Maks. bending > 10 mm ➔ D3 (M)

Viaclimate VKSTB air handling unit has succesfully passed the Mechanical Strength Of Casing Deflection test performed according to EN1886 standards to be included in D1 class




### Case Air Leakage Class[L]

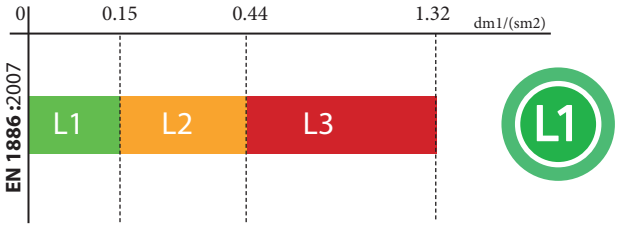
Test pressure: -400 Pa

Maks. leakage Cap. 0,15 l/sm² ➔ L1(M)
Maks. leakage Cap. 0,44 l/sm² ➔ L2(M)
Maks. leakage Cap. 1,32 l/sm² ➔ L3(M)

Test pressure: +700 Pa

Maks. leakage Cap. 0,22 l/sm² ➔ L1(M)
Maks. leakage Cap. 0,63 l/sm² ➔ L2(M)
Maks. leakage Cap. 1,90 l/sm² ➔ L3(M)

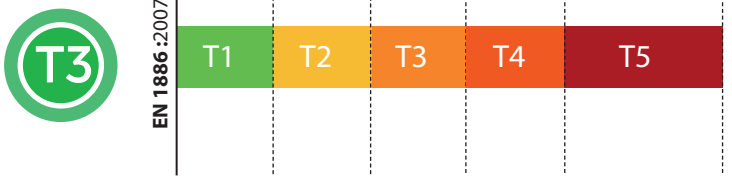
Viaclimate VKSTB air handling unit has succesfully passed the Case Air Leakage Class test performed according to EN1886 standards to be included in L1 class.




### Thermal Transmittance [T]

Thermal transmittance < 0.5 ➔ T1
0.5 < Thermal transmittance <= 1 ➔ T2
1 < Thermal transmittance <= 1.4 ➔ T3
1.4 <Thermal transmittance <=2 ➔ T4

Viaclimate VKSTB air handling unit has succesfully passed the Case thermal transmittance test performed according to EN1886 standards to be included in T3 class.







### Thermal Bridging of Casing Class [TB]

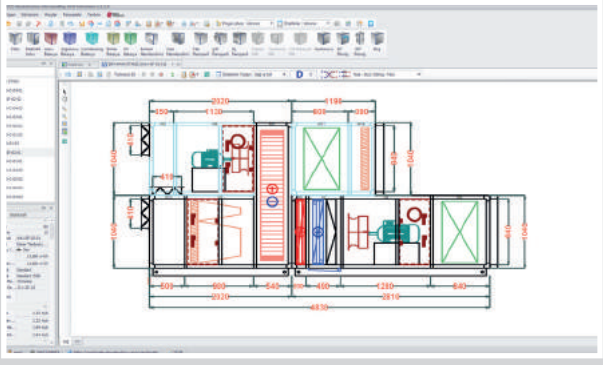
0.75 < Thermal Bridging < 1 ➔ TB1
0.6 < Thermal Bridging <= 0.75 ➔ TB2
0.45 <Thermal Bridging <= 0.6 ➔ TB3
0.3 < Thermal Bridging <= 0.45 ➔ TB4

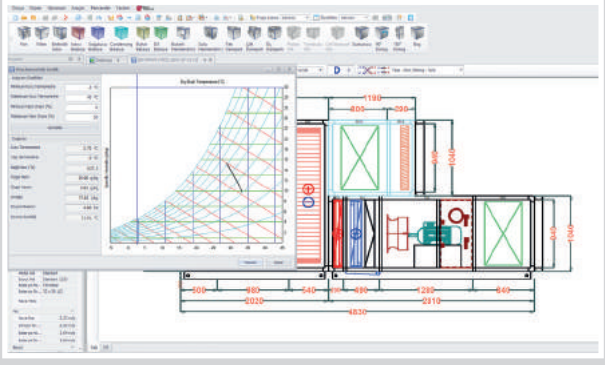
Viaclimate VKSTB air handling unit has succesfully passed the Case Thermal Bridging of Casing Class test performed according to EN1886 standards to be included in TB3 class.

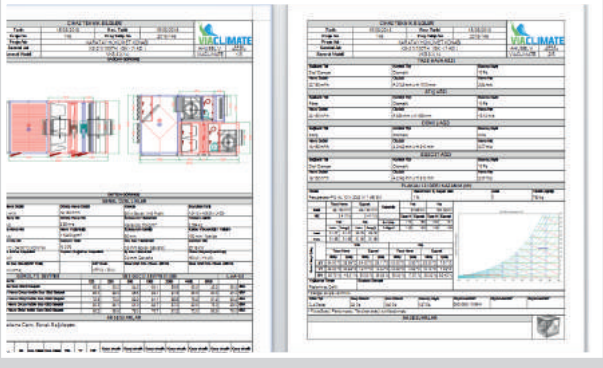
# ViaClimate AHU Selection

## Selection Program

- Based on the Viaclimate AHU selection program which was developed with a customer focus, our VKSTB, VKSStandard air handling units are easily designed by our expert engineers according to your requirements.
- In compliance with ERP2016 and ERP2018.
- Technical reports can be geneCapacityd after you select the Products that are suitable to your requirements.
- Thanks to the transparency of the selection program, you can easily review and compare the technical specifications of the products you purchase.
- The dll's of the components that are in compliance with Eurovent, which is included in the infrastructure of the selection program, will opeCapacity according to the design of the Viaclimate air handling units.
- Provides technical details of the air handling units that were designed according to summer and winter conditions, such as temperature, humidity, efficiency, air flow Capacity, pressure loss etc.







**Viaclimate AHU Selection provides;**

hundreds of different Eurovent-certified air handling unit designs up to the range of +153 mm starting from the interior dimensions of 610x610 mm (height x width).

# Product Overview

Air Flow Capacity (m3/h x 1,000)

2 20 40 60 80 100 120 140 160 180 200 220

%100 Fresh Air Handling Unit

%100 Fresh Air Handling Unit with Heat Recovery


%100 Fresh Air Conditioner

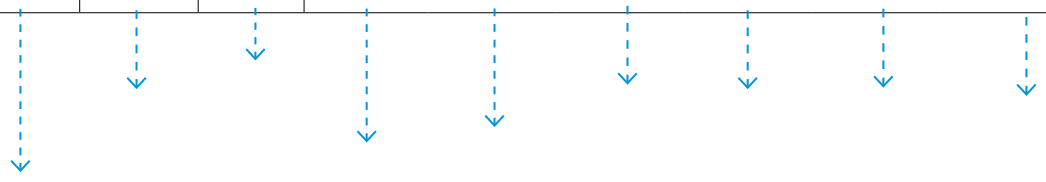
Partial Fresh Air Handling Unit

Mixed Air Handling Unit

Mixed Air Handling Unit with Heat Recovery

# VKSTB
## Selection Chart

| VIACLIMATE VKSTB Air Handling Unit | | | Air Flow Capacitys Based on Speed Classification Acc. to EN 13053 Standard (m3/h) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | V1 | V2 | V3 | V4 | V5 | V6 |
| Model | Height | Width | 1,6 (m/s) | 1,8 (m/s) | 2 (m/s) | 2,2 (m/s) | 2,5 (m/s) | 3 (m/s) |
| 4 X 4 | 772 | 772 | 2157 | 2427 | 2697 | 2966 | 3371 | 4045 |
| 4 X 5 | 772 | 925 | 2697 | 3034 | 3371 | 3708 | 4214 | 5056 |
| 4 X 6 | 772 | 1078 | 3236 | 3641 | 4045 | 4450 | 5056 | 6068 |
| 4 X 7 | 772 | 1231 | 3775 | 4247 | 4719 | 5191 | 5899 | 7079 |
| 4 X 8 | 772 | 1384 | 4315 | 4854 | 5393 | 5933 | 6742 | 8090 |
| 5 X 5 | 925 | 925 | 3371 | 3792 | 4214 | 4635 | 5267 | 6320 |
| 5 X 6 | 925 | 1078 | 4045 | 4551 | 5056 | 5562 | 6320 | 7585 |
| 5 X 7 | 925 | 1231 | 4719 | 5309 | 5899 | 6489 | 7374 | 8849 |
| 5 X 8 | 925 | 1384 | 5393 | 6068 | 6742 | 7416 | 8427 | 10113 |
| 5 X 9 | 925 | 1537 | 6068 | 6826 | 7585 | 8343 | 9481 | 11377 |
| 5 X 10 | 925 | 1690 | 6742 | 7585 | 8427 | 9270 | 10534 | 12641 |



**Minimum height - width: 772mm - 772mm**
**Step height - width: 153mm - 153mm**
**Maximum height - width: 3220mm - 6280mm**

**Minimum air flow Capacity: 2157 m3/h**
**Maximum air flow Capacity: 202254 m3/h**
**VKSTB model sections: 629 pcs.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 20 X 31 | 3220 | 4903 | 83598 | 94048 | 104498 | 114948 | 130622 | 156747 |
| 20 X 32 | 3220 | 5056 | 86295 | 97082 | 107869 | 118656 | 134836 | 161803 |
| 20 X 33 | 3220 | 5209 | 88992 | 100116 | 111240 | 122364 | 139049 | 166859 |
| 20 X 34 | 3220 | 5362 | 91688 | 103149 | 114610 | 126072 | 143263 | 171916 |
| 20 X 35 | 3220 | 5515 | 94385 | 106183 | 117981 | 129779 | 147477 | 176972 |
| 20 X 36 | 3220 | 5668 | 97082 | 109217 | 121352 | 133487 | 151690 | 182028 |
| 20 X 37 | 3220 | 5821 | 99779 | 112251 | 124723 | 137195 | 155904 | 187085 |
| 20 X 38 | 3220 | 5974 | 102475 | 115285 | 128094 | 140903 | 160118 | 192141 |
| 20 X 39 | 3220 | 6127 | 105172 | 118318 | 131465 | 144611 | 164331 | 197197 |
| 20 X 40 | 3220 | 6280 | 107869 | 121352 | 134836 | 148319 | 168545 | 202254 |

The data on the Viaclimate VKSTB Air Handling Unit Chart only shows a few of the values from our selection chart.
You can contact us for further information.

# VKSStandart
## Selection Chart

| VIACLIMATE VKSStandart Air Handling Unit | | | Air Flow Capacitys Based on Speed Classification Acc. to EN 13053 Standard (m3/h) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | V1 | V2 | V3 | V4 | V5 | V6 |
| Model | Height | Width | 1,6 (m/s) | 1,8 (m/s) | 2 (m/s) | 2,2 (m/s) | 2,5 (m/s) | 3 (m/s) |
| 4 X 4 | 732 | 732 | 2157 | 2427 | 2697 | 2966 | 3371 | 4045 |
| 4 X 5 | 732 | 885 | 2697 | 3034 | 3371 | 3708 | 4214 | 5056 |
| 4 X 6 | 732 | 1038 | 3236 | 3641 | 4045 | 4450 | 5056 | 6068 |
| 4 X 7 | 732 | 1191 | 3775 | 4247 | 4719 | 5191 | 5899 | 7079 |
| 4 X 8 | 732 | 1344 | 4315 | 4854 | 5393 | 5933 | 6742 | 8090 |
| 5 X 5 | 885 | 885 | 3371 | 3792 | 4214 | 4635 | 5267 | 6320 |
| 5 X 6 | 885 | 1038 | 4045 | 4551 | 5056 | 5562 | 6320 | 7585 |
| 5 X 7 | 885 | 1191 | 4719 | 5309 | 5899 | 6489 | 7374 | 8849 |
| 5 X 8 | 885 | 1344 | 5393 | 6068 | 6742 | 7416 | 8427 | 10113 |
| 5 X 9 | 885 | 1497 | 6068 | 6826 | 7585 | 8343 | 9481 | 11377 |
| 5 X 10 | 885 | 1650 | 6742 | 7585 | 8427 | 9270 | 10534 | 12641 |

**Minimum height - width: 732mm - 732mm**
**Step height - width: 153mm - 153mm**
**Maximum height - width: 3180mm - 6240mm**

**Minimum air flow Capacity: 2157 m3/h**
**Maximum air flow Capacity: 202254 m3/h**
**VKSStandard model sections: 629 pcs.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 20 X 31 | 3180 | 4863 | 83598 | 94048 | 104498 | 114948 | 130622 | 156747 |
| 20 X 32 | 3180 | 5016 | 86295 | 97082 | 107869 | 118656 | 134836 | 161803 |
| 20 X 33 | 3180 | 5169 | 88992 | 100116 | 111240 | 122364 | 139049 | 166859 |
| 20 X 34 | 3180 | 5322 | 91688 | 103149 | 114610 | 126072 | 143263 | 171916 |
| 20 X 35 | 3180 | 5475 | 94385 | 106183 | 117981 | 129779 | 147477 | 176972 |
| 20 X 36 | 3180 | 5628 | 97082 | 109217 | 121352 | 133487 | 151690 | 182028 |
| 20 X 37 | 3180 | 5781 | 99779 | 112251 | 124723 | 137195 | 155904 | 187085 |
| 20 X 38 | 3180 | 5934 | 102475 | 115285 | 128094 | 140903 | 160118 | 192141 |
| 20 X 39 | 3180 | 6087 | 105172 | 118318 | 131465 | 144611 | 164331 | 197197 |
| 20 X 40 | 3180 | 6240 | 107869 | 121352 | 134836 | 148319 | 168545 | 202254 |

The data on the Viaclimate VKSStandard Air Handling Unit Chart only shows a few of the values from our selection chart.
You can contact us for further information.

# **VKSTB** General Features

### Case Structure

- Designed according to EN1886 standards.
- Double-walled, sound-insulated units.
- 60mm panel thickness,
- 110 kg/m3 A1 class rock wool.
- Aluminum Case with no heat bridge
- Hygienic case design

### Standard Accessories

- Emergency Stop
- Air Damper
- Negative Pressure Trap
- Drift Eliminator
- ...

### Filter

- G2 - G4 Panel
- M5 - F9 Bag
- M5 - F9 Compact
- H10 - 14 Hepa
- Panel Carbon
- Cartridge Carbon

### Other Components

- Muffler
- Empty Case
- Mixed Air Damper
- Diffuser

### Humidifiers

- Steam Humidifier
- Water Humidifier
- Evaporative

# **VKSTB** General Features

### Opsional Accessories
- Thermal Pacco Switch
- Internal Lighting
- Door Switch
- Roof Sheet
- MCC, DDC Control Panel
- .....

### Fan
- EC
- Plug
- EC Radial
- Double Inlet
- Double Inlet(Back Sloping)
- Ex-proof varieties


### Heat Exchanger
- Water Heater
- Water Cooler
- Powered
- Gas-filled (DX)
- Steam-filled
- Natural gas-filled

### Heat Recovery
- Aluminum Plated (Optional By-pass)
- Heat-Pipe
- Rotary (Enthalpy, Condensing, Absorption)
- Double Battery

# **VKSStandart** General Features

### Standard Accessories
- Emergency Stop
- Air Damper
- Negative Pressure Trap
- Drift Eliminator
- ...

### Case Structure
- Designed according to EN1886 standards.
- Double-walled, sound-insulated units.
- 60mm panel thickness,
- 90 kg/m3 A1 class rock wool.
- Aluminum Case with heat bridge.
- Straight case design

### Filter
- G2 - G4 Panel
- M5 - F9 Bag
- M5 - F9 Compact
- H10 - 14 Hepa
- Panel Carbon
- Cartridge Carbon

### Other Components
- Muffler
- Empty Case
- Mixed Air Damper
- Diffuser

### Humidifiers
- Steam Humidifier
- Water Humidifier
- Evaporative

### Opsional Accessories
- Thermal Pacco Switch
- Internal Lighting
- Door Switch
- Roof Sheet
- MCC, DDC Control Panel
- .....


### Fan
- EC
- Plug
- EC Radial
- Double Inlet
- Double Inlet(Back Sloping)
- Ex-proof

### Heat Exchanger
- Water Heater
- Water Cooler
- Powered
- Gas-filled (DX)
- Steam-filled
- Natural gas-filled

### Heat Recovery
- Aluminum Plated (Optional By-pass)
- Heat-Pipe
- Rotary (Enthalpy, Condensing, Absorption)
- Double Battery

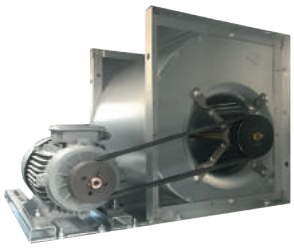
# Components

## EC Fan Mechanism

- Systems to which high-efficiency directly coupled fan and EC motor are connected.
- EC motors of IE4 and higher energy classes are used.
- The motor group can be controlled with 0-10V signal.
- Capable of operating with a lower noise level on high pressures.

## Plug Fan Mechanism

- Systems that are comprised of a freely opeCapacityd, back sloping, high-performance, directly coupled fan, a motor and a motor shaft.
- AC motors of IE2 or IE3 energy classes are used.
- Capable of performing precise flow-pressure control with the help of a frequency inverter.



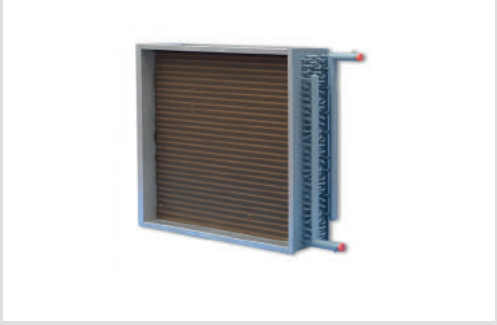
## Belt-and-Pulley Drive Mechanism

- Systems where a double suction radial fan and a motor is installed on a chassis, and the motor power is transmitted to the fan with the help of a V-belt.
- 380V 50Hz motors of IE2 or IE3 energy classes are used.
- Manufactured with forward sloping thick-bladed or back sloping thin-bladed fans.

## Ex-proof Mechanism

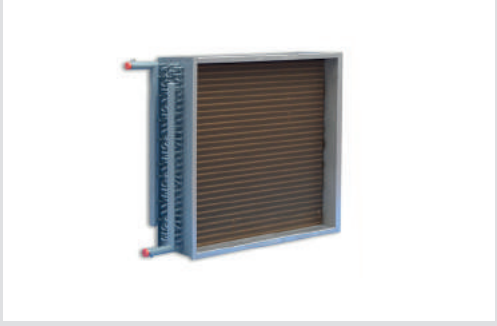
- Systems where an ATEX-certified double suction radial fan and a motor is installed on a chassis, and the motor power is transmitted to the fan with the help of a V-belt, in ventilation systems that are suitable for use in explosive environments.
- Manufactured with forward sloping thick-bladed or back sloping thin-bladed fans with ex-proof feature.
- Non-sparking 380V 50Hz motors of IE2 or IE3 protection classes are used.

# Components



## Water Cooler Heat Exchanger

- Components that ensure heat transfer from water to air with the movement of cold water running inside the coil.
- Designed for (6°C-10°C), (7°C- 12°C) or other conditions according to water regime.
- Used with a drift eliminator as standard.
- Used with a double sloped insulated condensate tray made of stainless sheet as standard.



## Water Heater Heat Exchanger

- Components that ensure heat transfer from water to air with the movement of hot water running inside the coil.
- Designed for (90°C-70°C), (80°C-60°C), (70°C-50°C), (60°C-40°C) or other conditions according to water regime.

## Gas Heat Exchanger (Dx)

- Used for air cooling applications with condensing units (external unit).
- External unit is designed according to the pipe inlet and outlet diameters.
- Number of inlets and outlets are increased for more than one VRF external unit.
- Used with a drift eliminator as standard.
- Used with a double sloped insulated condensate tray made of stainless sheet as standard.

## Natural Gas Heat Exchanger

- Components that ensure heat transfer by running air through the heating energy geneCapacityd by the natural gas-fired unit.
- ON/OFF, gradual or proportional atmospheric burners are used.
- Heat exchanger part is made of aluminum material with high thermal conductivity factor.
- Contains a high-efficiency atmospheric burner and an ignitable unit with aluminum piping.
- Burners and equipment used by Viaclimate are CE certified.

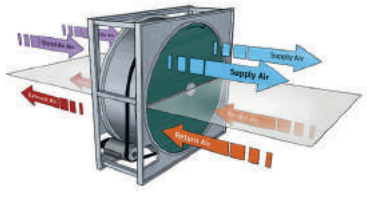
## Electric Heater

- Heating equipment where the electrical energy is transmitted to air via heating coils.
- 380V and electric arcs with equal phase distributions come as standard.
- Manufactured according to the required capacity and number of steps.
- Comes standard with a mechanical safety thermostat.

# Components

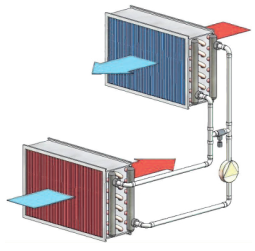

## Aluminum-Plated Heat Recovery

- Systems where the thermal energy in the return air is transferred to the air blowing energy without requiring power.
- Comes standard with a condensate tray on the exhaust air outlet.
- Does not have any moving parts and practically does not require any maintenance.
- Has an energy efficiency of approximately up to 70%.




## Rotary Heat Recovery

- Used for the purpose of recovering thermal energy in the return air thanks to the material equipped on the Product.
- Has an energy efficiency of approximately up to 80%.
- Comes in 4 different types: heat, cooling, humidity transfer, drying.



## Water Type (Run Around) Heat Recovery

- Components that carry out the heat transfer between air and the internal fluid (water).
- Has an energy efficiency of approximately up to 60%.


## Heat-Pipe Heat Recovery

- Systems that are capable of transferring the heat that is geneCapacityd by evaporation through long distances with minimal temperature difference.
- Has an energy efficiency of approximately up to 65%.

# Components

## Steam Humidifier

- Systems that ensure that the water in the cylinder vaporizes and reaches the air handling unit with the help of a nozzle, in order to geneCapacity steam without pressure with electrodes that receive electrical current.
- A double-pitched, insulated condensate tray that is made of stainless sheet is used as standard.

## Water Type Humidifier

- Used for the purpose of achieving the suitable humidity levels in the environment to be conditioned.
- Ensures a high humidification Capacity.
- These are hygienic systems where return water is not used.
- A double-pitched, insulated condensate tray that is made of stainless sheet is used as standard.

## Evaporative Humidifier

- With air running through wetted water pads and evaporating the water, air humidity is increased.
- Stainless steel Case.
- Antibacterial caseulosic water pads.
- Automatad water refilling system.
- A double-pitched, insulated condensate tray that is made of stainless sheet is used as standard.

## Mixture Damper

- Component that ensures that exhausted air and fresh air are mixed at the desired ratio.
- Lower air quality compared to systems with heat recovery.
- Ensures thermodynamic heat recovery in air handling units.
- Achieves the required air mixing ratio mechanically or through optional damper motors that have proportional control.

# Components

## Preliminary and Intermediate Filtration

- Fiber-based materials located at the fresh air inlets of the Products, that hold thick particles in the air that is released to the environment.(G2 - G4 Filter)
- Intermediate filter is a compact type that utilizes filter bags after the preliminary filtering. (M5-F7 Filter)

## Final Filtration

- Bag type, compact or rigid filters that hold the finest particles and that are used for hygienic type air handling units.
- Usually, F9 filter is used for air handling units, while H13-H14 class filters are used in the environments.

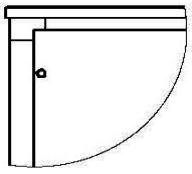
## Muffler

- Sound absorbing casettes that are designed to minimize the air noise geneCapacityd by the moving parts of the unit, in order to maintain comfort.
- Rock wool with fiberglass is used as a sound absorbing material.
- The standard product is demountable.
- Special fabrics are used on the muffler surfaces so that the sound absorbing product does not get deformed.


## Emergency Stop

- Equipment that stops and shuts the system down in unexpected emergencies.

# Optional Components



## Roof Sheet

- Mounted on the top panel in order to protect the Products from adverse weather conditions.
- Made from galvanized electrostatic powder painted metal sheets.

## Hood

- Placed on the fresh air inlet and exhaust air outlet in air handling units to be opeCapacityd outdoors, in order to protect the Product from the negative effects of snow and rainwater.
- Made from galvanized electrostatic powder painted metal sheets.

## Door Switch

- Located inside the inspection hatches of the Products.
- Component that stops any moving parts and turns the internal lighting on during any intervention.

## Lighting

- Helps with visibility for a better intervention to the internal parts of the Product.
- Located on the air handling unit with an ON/OFF switch.

## Automation Equipment

- Components that are used to manage the electrical and automation control of the Product.
- See page 28 for further information.

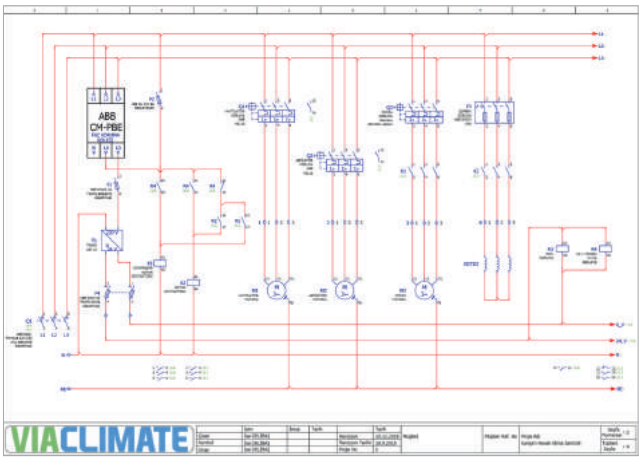
# Electrical Automation
## Flow Chart

Viaclimate receives your valuable orders.

After an information exchange between the electrical automation division and the sales & marketing division, the working scenarios of your Products are determined.

The unique PLC and field equipment for the Product are selected.

The project for the MCC and DCC panels are drawn on E Plan according to the designed scenario.

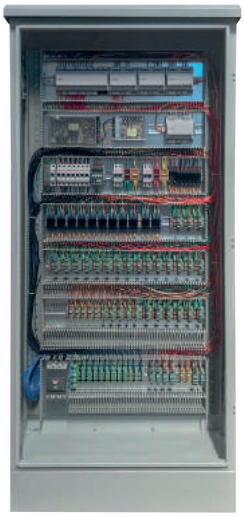



The software for the scenario that is unique to the Product is created, and uploaded to the control card (PLC).

# Electrical Automation
## Flow Chart

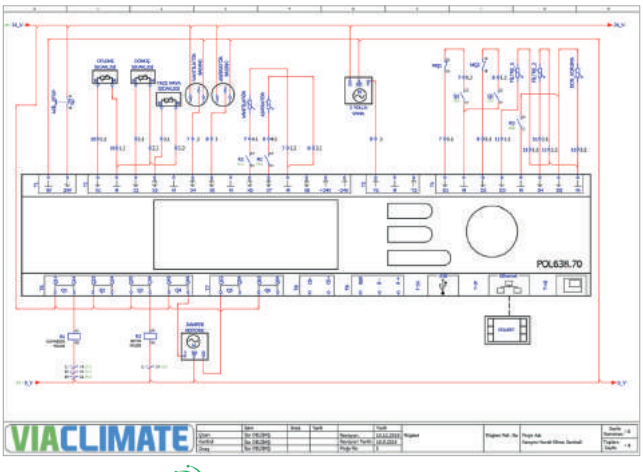
After the testing procedure is completed, the Products are ready for shipment.

Electrical and automation testing for the capacity, leakage, mode change, withdrawn power, insulation, Lvd, IEC for the Products are completed within one to three days.



The testing procedure for the manufactured Product begins.

Cabling for the field equipment, motor and communication is performed in parallel with mechanical production.




The panel production is completed by the expert Viaclimate Electrical Automation team.

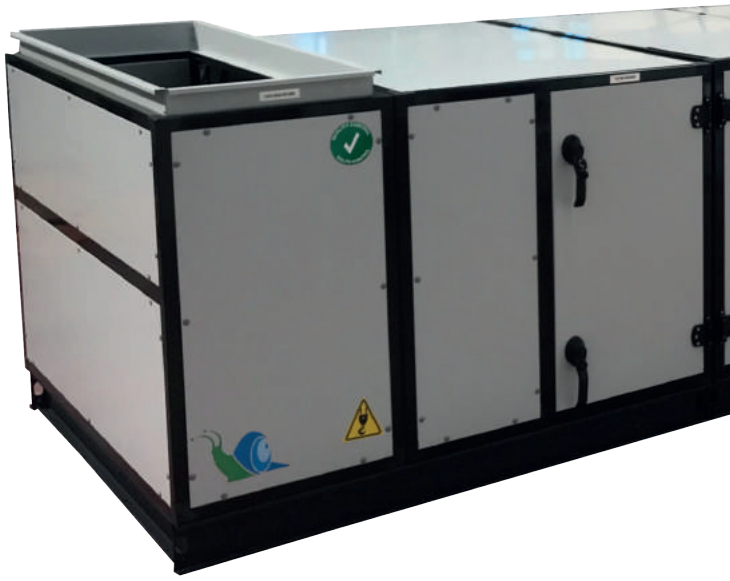
# Electrical Automation
## Checkpoints

### Analog Inputs

- Temperature sensor
- Humidity sensor
- Pressure sensor
- Frost protection temperature sensor

### Analog Outputs

- Valve motor
- Motor frequency
- Damper motor
- Humidifier



### Digital Inputs

- Differential pressure switch
- Frost thermostat
- Temperature thermostat

### Digital Outputs

- Electric heater step
- Fan start - stop
- Damper motor
- Valve motor

# Electrical Automation
## Checkpoints

### Alarms

- Motor thermal failure
- Belt broken
- Filter contamination
- Frost
- Electric heater failure


### Checkpoints

- Room thermostat
- Return air
- Fresh air
- Touch screen
- ModBus (RS485)
- BACnet

### Other Points

- Time programming
- Summer, winter, mid-season mode change
- VRF external unit integration
- Feed water temperature
- Freecooling, freeheating
- Lighting

### Safety Points

- Emergency stop
- Safety thermostat
- By-pass damper
- Rotary speed
- Heat recovery fluid velocity (water type)
- Temperature thermostat
- Motor protection
- Door switch

# Electrical Automation
## Components

### MCC Panel Control

- Fixed frequency (With contactor)
- Variable frequency (With frequency inverter)
- Pacco switch
- Warning lights
- Switchgear


### DDC Panel Control

- Temperature sensor
- Differential pressure switch
- Differential pressure sensor
- Air quality sensor
- Humidity sensor
- Three or two-way valve motor
- Damper motor
- Frost thermostat
- Frequency inverter
- Emergency Stop
- Frost temperature sensor
- Room thermostat
- Touch screen

Brands of electrical automation equipment may differ from the project and specifications.

# Hygienic Air Handling Unit
## content



2 Year Warrantyi


After Sales Service


Quick Service


Easy Installation


High Energy Efficiency


Smart Control


Excaseent Hygiene

Compliance to Standards

Compliance to Standards

Compliance to Standards

# Why **ViaClimate?**

## High Energy Efficiency

- Air handling unit production meets the objectives and requirements of ERP2018.
- Low energy consuming, high-pressure mechanism design
- Minimum leak proof panel - Case design


## Excellent Hygiene

- Oval hygienic design in the case
- Materials in accordance with ISO846
- Class4 leak proof dampers
- Special opening seals
- Copper collector heat exchangers
- Detachable mufflers covered with special fabric
- Demountable panel design
- F9 tightness class filter
- Double-suction condensate tray
- Stainless metal sheet interior
- Antibacterial silicon




## Quality Standards

- The performance values of our Viaclimate air handling units were measured during tests performed by TÜV laboratories according to EN1886, and certified according to Eurovent certification.
- Hygienic Air Handling Units are in accordance with VDI 6022, DIN 1946-4, VDI 3803 and EN 13053 standards.
- Our entire product range will continue to guarantee compliance with quality standards and customer requirements.

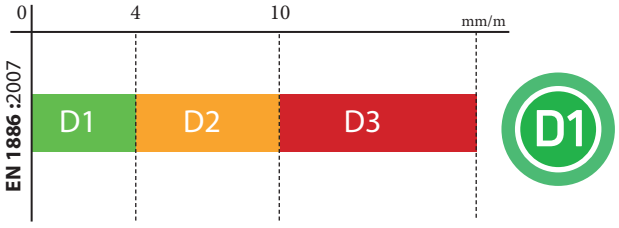
# HijyenV
## Acc. to EN1886

### Mechanical Strength Of Casing Deflection [D]

Test pressure: ±1000 Pa

Maks. bending 4mm ➔ D1(M)
Maks. bending 10 mm ➔ D2(M)
Maks. bending > 10 mm ➔ D3 (M)

Viaclimate VKSTB air handling unit has succesfully passed the Mechanical Strength Of Casing Deflection test performed according to EN1886 standards to be included in D1 class




### Case Air Leakage Class[L]

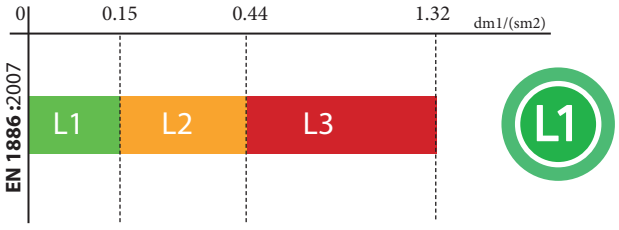
Test pressure: -400 Pa

Maks. leakage Cap. 0,15 l/sm² ➔ L1(M)
Maks. leakage Cap. 0,44 l/sm² ➔ L2(M)
Maks. leakage Cap. 1,32 l/sm² ➔ L3(M)

Test pressure: +700 Pa

Maks. leakage Cap. 0,22 l/sm² ➔ L1(M)
Maks. leakage Cap. 0,63 l/sm² ➔ L2(M)
Maks. leakage Cap. 1,90 l/sm² ➔ L3(M)

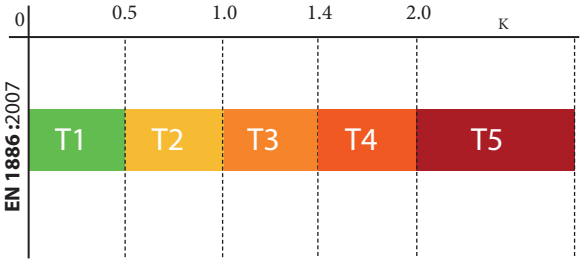
Viaclimate VKSTB air handling unit has succesfully passed the Case Air Leakage Class test performed according to EN1886 standards to be included in L1 class.




### Thermal Transmittance [T]

Thermal transmittance < 0.5 ➔ T1
0.5 < Thermal transmittance <= 1 ➔ T2
1 < Thermal transmittance <= 1.4 ➔ T3
1.4 <Thermal transmittance <=2 ➔ T4

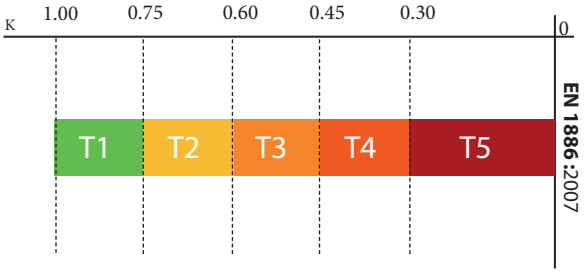

Viaclimate VKSTB air handling unit has succesfully passed the Case thermal transmittance test performed according to EN1886 standards to be included in T2 class.




### Thermal Bridging of Casing Class [TB]

0.75 < Thermal Bridging < 1 ➔ TB1
0.6 < Thermal Bridging <= 0.75 ➔ TB2
0.45 <Thermal Bridging <= 0.6 ➔ TB3
0.3 < Thermal Bridging <= 0.45 ➔ TB4


Viaclimate VKSTB air handling unit has succesfully passed the Case Thermal Bridging of Casing Class test performed according to EN1886 standards to be included in TB2 class.

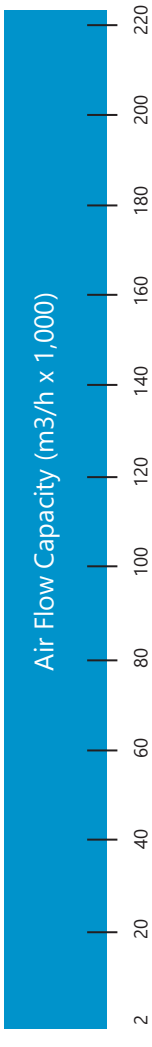


# ViaClimate AHU Selection

## Selection Program

- Based on the Viaclimate AHU selection program which was developed with a customer focus, our VKSTB, VKSStandard air handling units are easily designed by our expert engineers according to your requirements.
- In compliance with ERP2016 and ERP2018.
- Provides technical details of the air handling units that were designed according to summer and winter conditions, such as temperature, humidity, efficiency, air volume, pressure loss etc.
- Selection program enables the placement of cleaning hatches that are in accordance with Hygiene standards.
- Selection program allows the design of a detachable muffler and drift eliminator.
- Internal equipment support is provided in accordance with hygiene standards (epoxy coating, copper collector etc.).

# Product Overview




# HijyenV
## Selection Chart

| VIACLIMATE HijyenV Air Handling Unit | | | Air Flow Capacitys Based on Speed Classification Acc. to EN 13053 Standard (m3/h) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | V1 | V2 | V3 | V4 | V5 | V6 |
| Model | Height | Width | 1,6 (m/s) | 1,8 (m/s) | 2 (m/s) | 2,2 (m/s) | 2,5 (m/s) | 3 (m/s) |
| **4 X 4** | 772 | 772 | 2157 | 2427 | 2697 | 2966 | 3371 | 4045 |
| **4 X 5** | 772 | 925 | 2697 | 3034 | 3371 | 3708 | 4214 | 5056 |
| **4 X 6** | 772 | 1078 | 3236 | 3641 | 4045 | 4450 | 5056 | 6068 |
| **4 X 7** | 772 | 1231 | 3775 | 4247 | 4719 | 5191 | 5899 | 7079 |
| **4 X 8** | 772 | 1384 | 4315 | 4854 | 5393 | 5933 | 6742 | 8090 |
| **5 X 5** | 925 | 925 | 3371 | 3792 | 4214 | 4635 | 5267 | 6320 |
| **5 X 6** | 925 | 1078 | 4045 | 4551 | 5056 | 5562 | 6320 | 7585 |
| **5 X 7** | 925 | 1231 | 4719 | 5309 | 5899 | 6489 | 7374 | 8849 |
| **5 X 8** | 925 | 1384 | 5393 | 6068 | 6742 | 7416 | 8427 | 10113 |
| **5 X 9** | 925 | 1537 | 6068 | 6826 | 7585 | 8343 | 9481 | 11377 |
| **5 X 10** | 925 | 1690 | 6742 | 7585 | 8427 | 9270 | 10534 | 12641 |

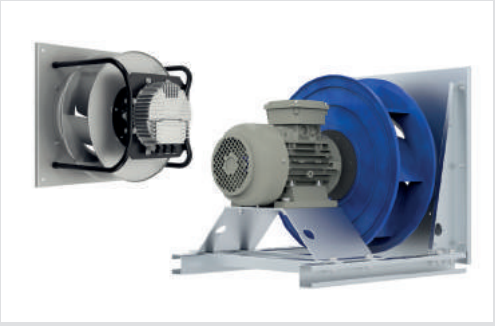
**Minimum height - width: 772mm - 772mm**
**Step height - width: 153mm - 153mm**
**Maximum height - width: 3220mm - 6280mm**

**Minimum air flow Capacity:2157 m3/h**
**Maximum air flow Capacity:202254 m3/h**
**VKSTB model sections: 629 pcs.**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **20 X 31** | 3220 | 4903 | 83598 | 94048 | 104498 | 114948 | 130622 | 156747 |
| **20 X 32** | 3220 | 5056 | 86295 | 97082 | 107869 | 118656 | 134836 | 161803 |
| **20 X 33** | 3220 | 5209 | 88992 | 100116 | 111240 | 122364 | 139049 | 166859 |
| **20 X 34** | 3220 | 5362 | 91688 | 103149 | 114610 | 126072 | 143263 | 171916 |
| **20 X 35** | 3220 | 5515 | 94385 | 106183 | 117981 | 129779 | 147477 | 176972 |
| **20 X 36** | 3220 | 5668 | 97082 | 109217 | 121352 | 133487 | 151690 | 182028 |
| **20 X 37** | 3220 | 5821 | 99779 | 112251 | 124723 | 137195 | 155904 | 187085 |
| **20 X 38** | 3220 | 5974 | 102475 | 115285 | 128094 | 140903 | 160118 | 192141 |
| **20 X 39** | 3220 | 6127 | 105172 | 118318 | 131465 | 144611 | 164331 | 197197 |
| **20 X 40** | 3220 | 6280 | 107869 | 121352 | 134836 | 148319 | 168545 | 202254 |

The data on the Viaclimate VKSTB Hygienic Air Handling Unit Chart only shows a few of the values from our selection chart.
You can contact us for further information.

# HijyenV
## Subjective Features



### Moving Mechanism

- Ensures air circulation for hygienic areas.
- Used in accordance with hygiene standards.

### Filter

- Holds the particles in the fresh air required for hygienic areas.
- Usually used in conjunction with preliminary filtration and final filtration.
- Easily detachable. Easy-to-clean case and easy installation.

### Humidifier

- Meets the humidity requirements of hygienic areas.
- Generally, steam type humidifiers are used.
- A nozzle and a condensate tray that are made of stainless metal sheet are used as standard.

### Heat Exchanger

- Components that help the air conditioning of hygienic areas.
- A stainless sheet Case, epoxy coating and a copper collector are used.
- Easily detachable. Easy-to-clean case and easy installation.

# HijyenV
## Subjective Features

### Muffler

- Sound absorbing casettes that are designed to minimize the air noise in order to maintain comfort in hygienic environments.
- Rock wool with fiberglass is used as a sound absorbing material.
- Special antibacterial fabrics are used to protect muffler chambers against contact with air.
- Easily accessible for cleaning the case and the chambers.
- Chamber Case is made of 304 grade stainless steel sheet.

### Drift Eliminator

- Used in all air handling units that feature cooling or humidification as standard.
- Drift eliminators made of raw materials in accordance with ISO 846 are used in Hygienic Air Handling Units.
- Drift eliminator is installed as a slide-in component for easy cleaning (easy access).
- Drift eliminator Case is made of 304 grade stainless steel sheet.

### Condensate Tray

- Used in all air handling units that feature cooling or humidification as standard.
- Easily accessible and easy to clean in Hygienic Air Handling Units.
- Insulated and double-pitched as standard.
- Condensate tray is made of 304 grade stainless steel sheet.

### Lighting

- In consideration of the 24/7 operation of Hygienic Air Handling Units, it provides the lighting for interventions to be made in dark environments or times of day.
- Equipment are in suitable for Hygienic Air Handling Units.
- Comes mounted on the unit as standard.

Refer to the Air Handling Unit section “components” (page 18-23) for further information regarding Hygienic Air Handling Unit components.

# Electrical Automation

## MCC Panel Control

- Fixed frequency (With contactor)
- Variable frequency (With frequency inverter)
- Pacco switch
- Warning lights
- Switchgear

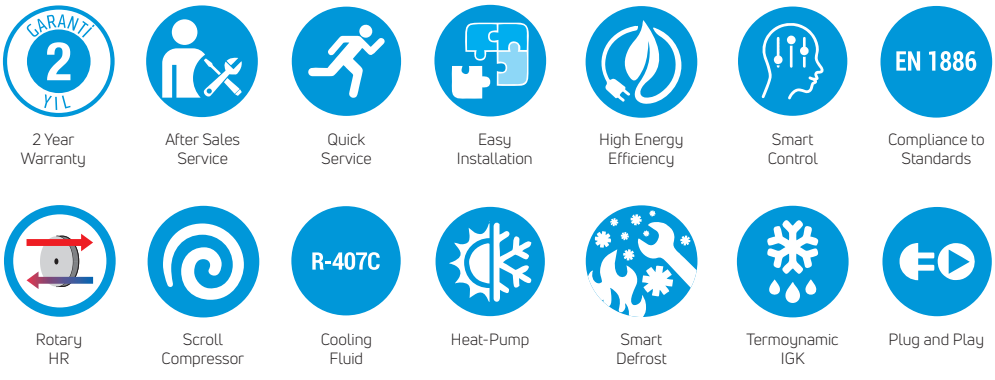

## DDC Panel Control

- Temperature sensor
- Differential pressure switch
- Differential-Pressure sensor
- Air quality sensor
- Humidity sensor
- Three or two-way valve motor
- Damper motor
- Frost thermostat
- Frequency inverter
- Emergency Stop
- Frost temperature sensor
- Room thermostat
- Touch screen

Brands of electrical automation equipment may differ from the project and specifications. See pages 24 - 27 for the electrical automation process.

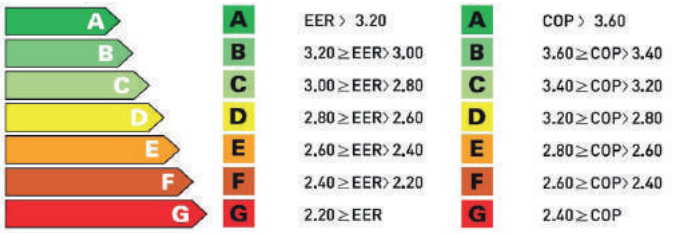
# Heat-Pump Air Handling Unit
## content





## High Energy Efficiency

- High efficiency heat recovery exchanger with Rotary
- Compressors with minimum energy consumption
- Energy-efficient moving parts with EC fan
- Automatic free cooling operation



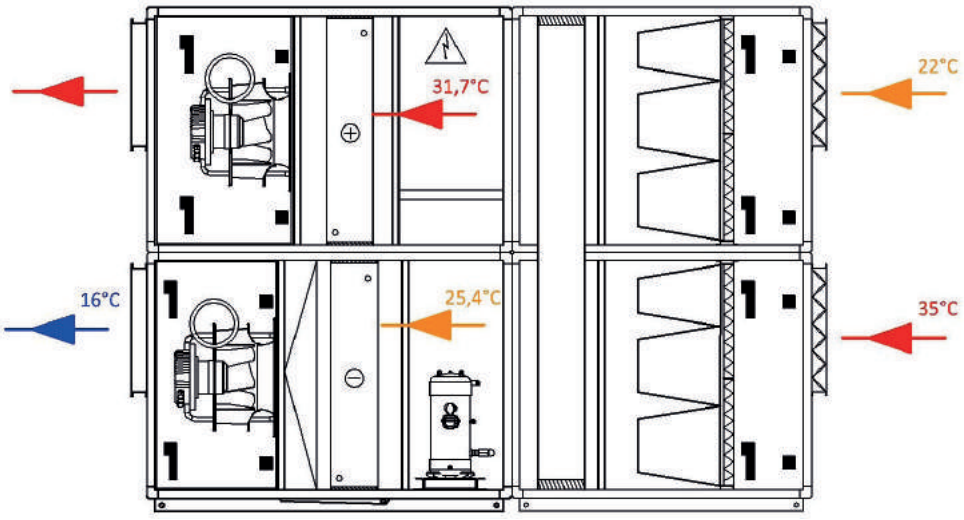

## Optimal Air Conditioning Modes

- Cooling mode
- Heat- pump (Heating) mode
- Ventilation mode
- Heat recovery mode
- Sleep mode
- Moisture transfer

## Smart Defrost Mode

- Hot gas by-pass
- Thermodynamic Heat Recovery
- Optional heater circuit
- Optional defrosting electric heater circuit

## Excellent Design

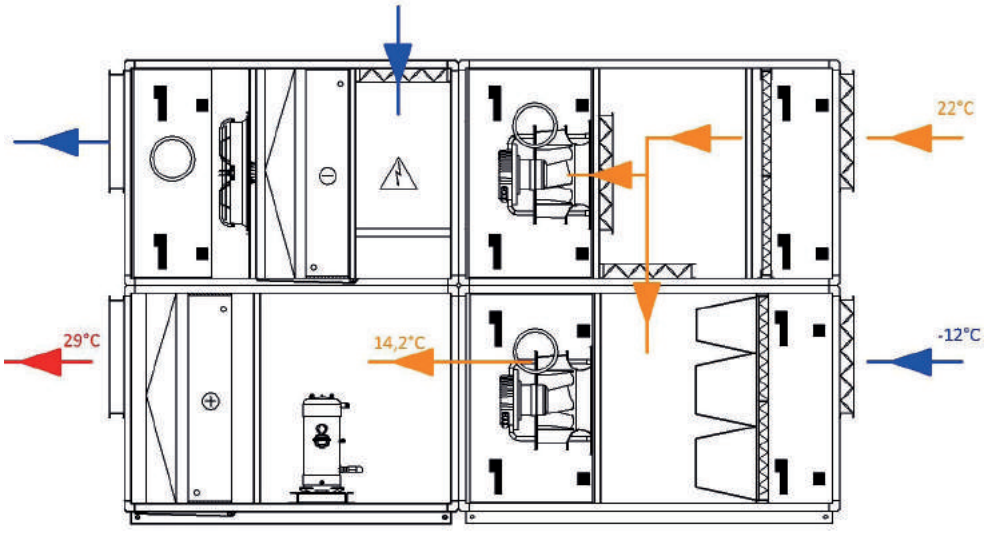



Heat-Pump Rotary Heat Recovery Air Handling Unit was designed by VIACLIMATE in order to meet your heating, cooling, ventilation demands under summer and winter conditions with;

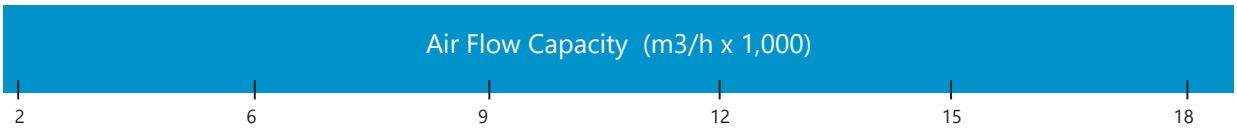
- High performance
- Low energy consumption
- 100 % fresh air

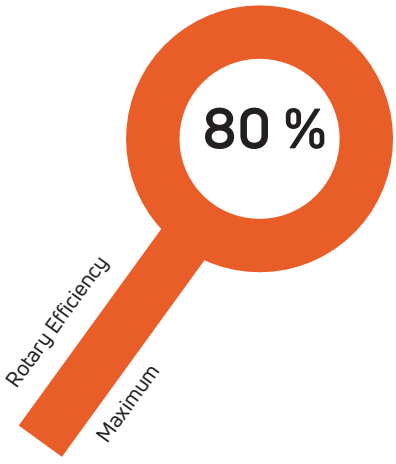
Heat-Pump Mixed Air Heat Recovery Air Handling Unit was designed by VIACLIMATE in order to meet your heating, cooling, ventilation demands under summer and winter conditions with;

- High performance
- Low energy consumption
- Partial fresh air

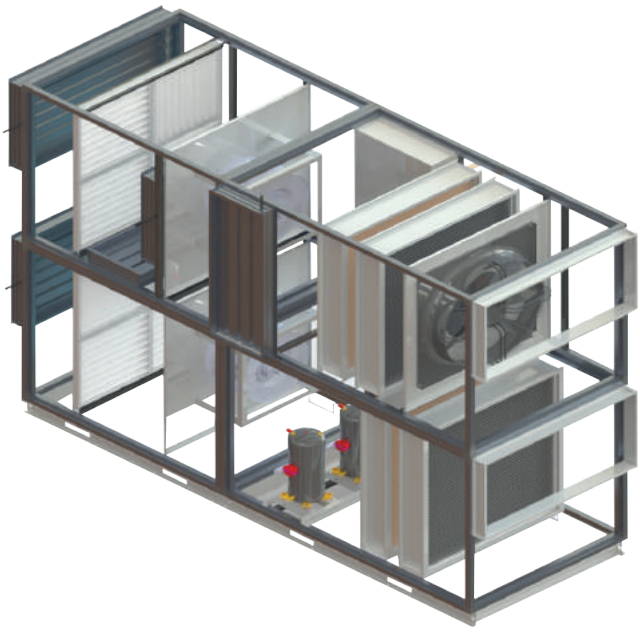


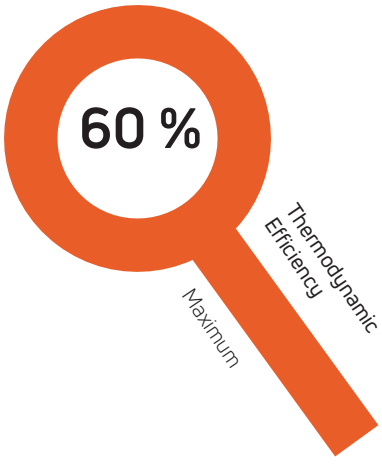
# Products Overview




Product Name : VIACLIMATE Rotary Heat-Pump Air Handling Unit
Product Code: VIARHP






Product Name :VIACLIMATE Mixed Air Heat-Pump Air Handling Unit
Product Code: VIAKHP

Air flow Capacity chart is intended for visual and informative purposes.

# Heat-Pump Air Handling Unit
## Selection Chart

| VIACLIMATE Rotary Heat-Pump Air Handling Unit | | | RHPVIA7 | RHPVIA10 | RHPVIA16 | RHPVIA20 | RHPVIA32 | RHPVIA34 | RHPVIA40 |
|---|---|---|---|---|---|---|---|---|---|
| Blowing Temperature * | | SUMMER °C | 16.1 | 15.92 | 16.24 | 16.05 | 15.78 | 17.24 | 16.1 |
| | | WINTER °C | 33.8 | 34.02 | 34.12 | 33.85 | 34 | 33.12 | 33.8 |
| Minimum Air Flow Capacity | | $m^3/h$ | 2000 | 4000 | 7000 | 9000 | 11000 | 13000 | 16000 |
| Nominal Air Flow Capacity | | $m^3/h$ | 3000 | 5000 | 8000 | 10000 | 12000 | 15000 | 18000 |
| Exterior Static Pressure | | Pa | 300 | 300 | 300 | 300 | 350 | 350 | 350 |
| Cooling Capacity ** | | kW | 38.69 | 64.4 | 104.41 | 123,42 | 164.72 | 192.72 | 241.6 |
| Heat-Pump Heating Capacity*** | | kW | 40.32 | 65 | 105.57 | 141.1 | 208.7 | 245.62 | 306.13 |
| Water Heater Capacity**** | | kW | 15.68 | 26.13 | 41.8 | 52.26 | 62.71 | 78.39 | 94.07 |
| EER | | | 3.50 | 4.21 | 4.93 | 5.79 | 4.79 | 4.40 | 4.79 |
| COP | | | 3.65 | 4.25 | 4.98 | 5.74 | 6.07 | 5.61 | 6.07 |
| Motor Power | | kW | 5.8 | 7.8 | 9.2 | 9.6 | 10.4 | 19.8 | 20.4 |
| Compressor Power | | kW | 5.25 | 7.5 | 12 | 15 | 24 | 24 | 30 |
| Total Product Power | | kW | 13.05 | 17.3 | 23.2 | 26.6 | 36.4 | 45.8 | 52.4 |
| Product Power Input | | V/Ph/Hz | 400/3/50 | | | | | | |
| Product External Dimensions | Height | mm | 1664 | 1664 | 1970 | 1970 | 2276 | 2276 | 2582 |
| | Depth | mm | 1078 | 1384 | 1537 | 1843 | 1996 | 2302 | 2302 |
| | Length | mm | 3620 | 3620 | 3680 | 4180 | 4180 | 4240 | 4280 |

* The blowing temperature calculation does not include any external heater or cooler heat exchanger capacity under external design conditions.
**Cooling capacity calculation is based on reference values of external air: 35 °C, 50% RH.
***Heat-Pump heating capacity calculation is based on reference values of external air: -5 °C,, 80% RH.
**** For temperatures below -5 °C, a heat exchanger with a water regime of 80/60 is recommended as an option.
Prefer smart defrost mode options in order to eliminate the effects of frost conditions (below -5 °C).
The defrosting period is between 2-8 min/h thanks to the smart defrost mode.

| VIACLIMATE Mixed Air Heat-Pump Air Handling Unit | | | KHPVIA7 | KHPVIA10 | KHPVIA16 | KHPVIA20 | KHPVIA32 | KHPVIA34 | KHPVIA40 |
|---|---|---|---|---|---|---|---|---|---|
| Blowing Temperature * | | SUMMER °C | 16 | 16.2 | 16.5 | 16.6 | 16.8 | 17.1 | 16.5 |
| | | WINTER °C | 30.1 | 29.8 | 29.5 | 29 | 29.1 | 27.8 | 28.9 |
| Minimum Air Flow Capacity | | $m^3/h$ | 2000 | 4000 | 7000 | 9000 | 11000 | 13000 | 16000 |
| Nominal Air Flow Capacity | | $m^3/h$ | 3000 | 5000 | 8000 | 10000 | 12000 | 15000 | 18000 |
| Exterior Static Pressure | | Pa | 300 | 300 | 300 | 300 | 350 | 350 | 350 |
| Cooling Capacity ** | | kW | 39.13 | 65.32 | 104.41 | 130.65 | 156.54 | 192.15 | 235.36 |
| Heat-Pump Heating Capacity*** | | kW | 38.4 | 63.46 | 105.57 | 126.9 | 153.61 | 186.08 | 228.78 |
| Water Heater Capacity**** | | kW | 42.21 | 70.35 | 112.56 | 140.7 | 168.84 | 211.05 | 252.26 |
| EER | | | 3.54 | 4.27 | 4.93 | 5.31 | 4.55 | 4.39 | 4.67 |
| COP | | | 3.48 | 4.15 | 4.98 | 5.16 | 4.47 | 4.25 | 4.54 |
| Motor Power | | kW | 5.8 | 7.8 | 9.2 | 9.6 | 10.4 | 19.8 | 20.4 |
| Compressor Power | | kW | 5.25 | 7.5 | 12 | 15 | 24 | 24 | 30 |
| Total Product Power | | kW | 12.05 | 16.3 | 22.2 | 25.6 | 35.4 | 44.8 | 51.4 |
| Product Power Input | | V/Ph/Hz | 400/3/50 | | | | | | |
| Product External Dimensions | Height | mm | 892 | 892 | 1045 | 1045 | 1198 | 1198 | 1351 |
| | Depth | mm | 1078 | 1384 | 1537 | 1843 | 1996 | 2302 | 2302 |
| | Length | mm | 3820 | 3820 | 3880 | 4480 | 4480 | 4540 | 4580 |

*The blowing temperature calculation does not include any external heater or cooler heat exchanger capacity under external design conditions.
** Cooling capacity calculation is based on reference values of external air: 35 °C, 50% RH.
*** Heat-Pump heating capacity calculation is based on reference values of external air: -12 °C, 50% RH.
**** For temperatures below -12 °C, a heat exchanger with a water regime of 80/60 is recommended as an option.
Prefer smart defrost mode options in order to eliminate the effects of frost conditions (below -12 °C).
The defrosting period is between 2-12 min/h thanks to the smart defrost mode.
Fresh air ratio is 40%.

# Heat-Pump Air Handling Unit

## General Features

### Standard Accessories

- Emergency Stop
- Air Damper
- Negative Pressure Trap
- Drift Eliminator
- Door Switch
- Roof Sheet

### Case Structure

- Designed according to EN1886 standards.
- Double-walled, sound-insulated units with heat bridge.
- 60mm panel thickness,
- 110 kg/m3 A1 class rock wool.
- Aluminum Case with no heat bridge


### Filter

- G2 - G4 Panel
- M5 - F7 Bag

### Other Components

- Mixed Air Damper
- Compressor
- MCC, DDC Control Panel

# Heat-Pump Air Handling Unit

## General Features

### Heat- Pump Cycle

- Compressor
- Oil Separator
- Filter
- Four-Way Valve
- Expansion Valve
- Solenoid Valve
- Sight Glass
- Compensator


### Fan

- EC

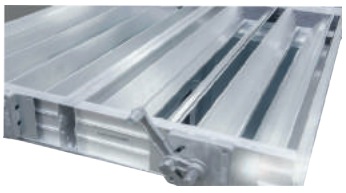
### Heat Exchanger

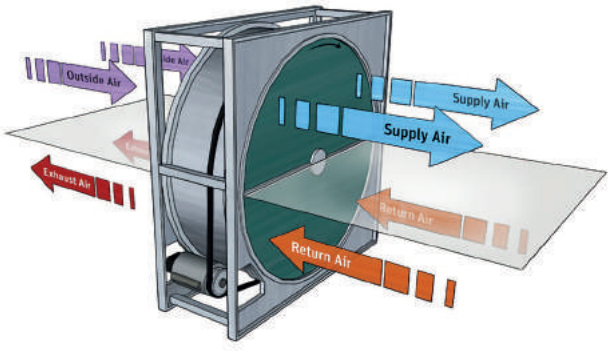
- Water Heater
- Evaporator
- Condenser

### Heat Recovery

- Sorption Rotary

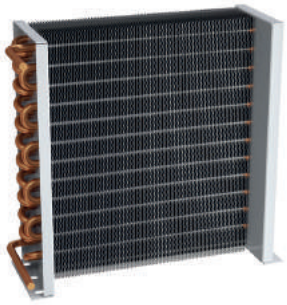
# Components






Refer to the Air Handling Unit section "components" (page 18-23) for further information regarding Heat-Pump Air Handling Unit components.

# Components



## Condenser

- Condenser component in the circuit under summer conditions.
- Evaporator component in the circuit under winter conditions.
- Anodized or treated with hydrophilic coating as an option.

## Compressor

- High-efficiency scroll compressor
- R407 C coolant usage as standard
- R134A, R410A coolant usage as an option

## Thermostatic Expansion Valve

- Reduces the pressure of the high-pressure coolant in liquid form that arrives from the condenser down to the evaporator pressure.
- Expansion valve is a cooling control equipment that starts, stops and modulates the flow of the coolant according to the load requirements of the cooling system.
- Used as standard.

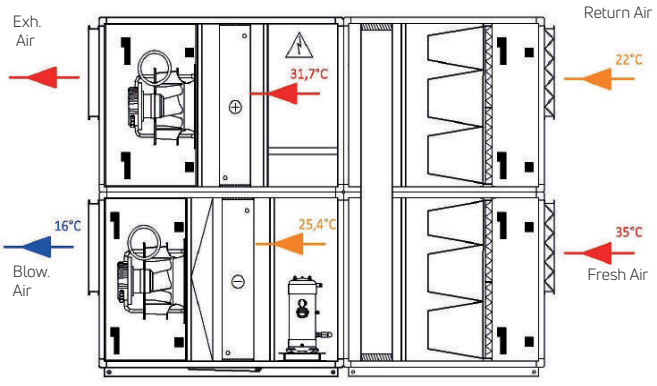
## Elektronic Expansion Valve

- Plays an important role for the evaporator to receive the sufficient amount of coolant in variable flow Capacity systems (VRF/VRV); where the flow Capacity of the coolant is constantly changing.
- Electronic expansion valves opeCapacity more efficiently as compared to thermostatic expansion valves.
- Used optionally.

## Four-Way Valve

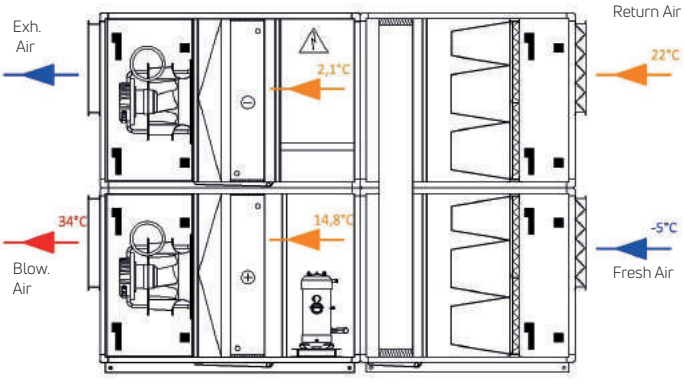
- Ensures that the Heat-Pump coolant system provides heating and cooling.
- Performs hot gas by-pass in case of defrost.
- Directs the fluid to the evaporator or to the condenser according to the operating conditions.

# Rotary Heat-Pump
## Scenarios



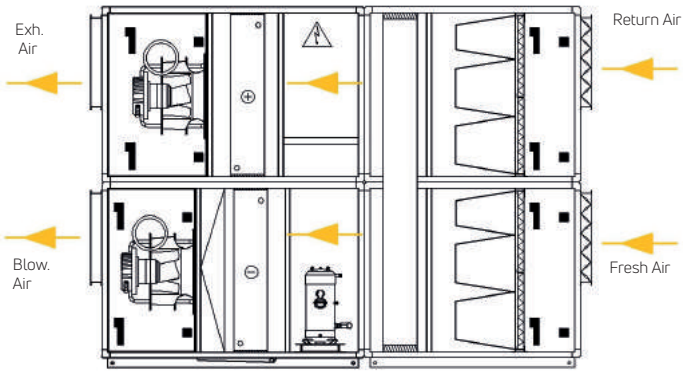

Summer Mode

| Scenario 1 | | | |
|---|---|---|---|
| **VIARHP Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 100 % | Comfort | Active |
| Evaporator | 0 - 100 % | Cooling | As per need |
| Condenser | 0 - 100 % | Heating | As per need |
| Rotary | 0 - 100 % | Heat Recovery | Active |
| Ventilator | 0 - 100 % | Air Flow | Active |
| Exhausted Unit | 0 - 100 % | Air Flow | Active |




Winter Mode

| Scenario 2 | | | |
|---|---|---|---|
| **VIARHP Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 100 % | Comfort | Active |
| Evaporator | 0 - 100 % | Heating | As per need |
| Condenser | 0 - 100 % | Cooling | As per need |
| Rotary | 0 - 100 % | Heat Recovery | Active |
| Ventilator | 0 - 100 % | Air Flow | Active |
| Exhausted Unit | 0 - 100 % | Air Flow | Active |



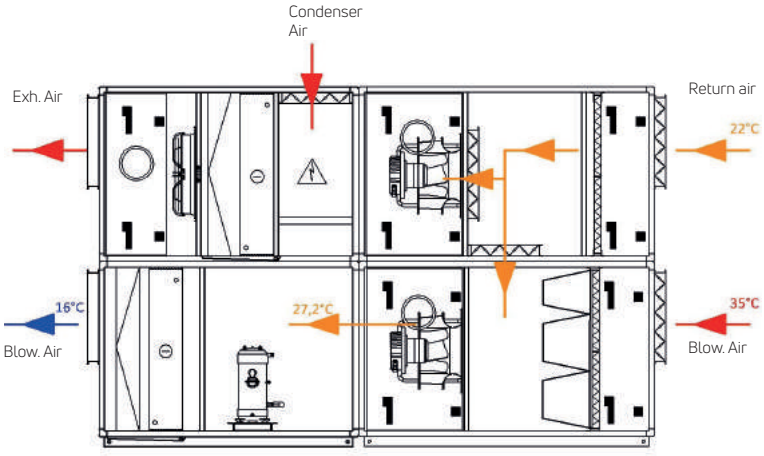

Air Circulation Mode

| Scenario 3 | | | |
|---|---|---|---|
| **VIARHP Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 100 % | Comfort | Active |
| Evaporator | 0 - 100 % | Cooling | Passive |
| Condenser | 0 - 100 % | Heating | Passive |
| Rotary | 0 - 100 % | Heat Recovery | Active |
| Ventilator | 0 - 100 % | Air Flow | Active |
| Exhausted Unit | 0 - 100 % | Air Flow | Active |

In air circulation mode, VIARHP may also perform free-cooling.

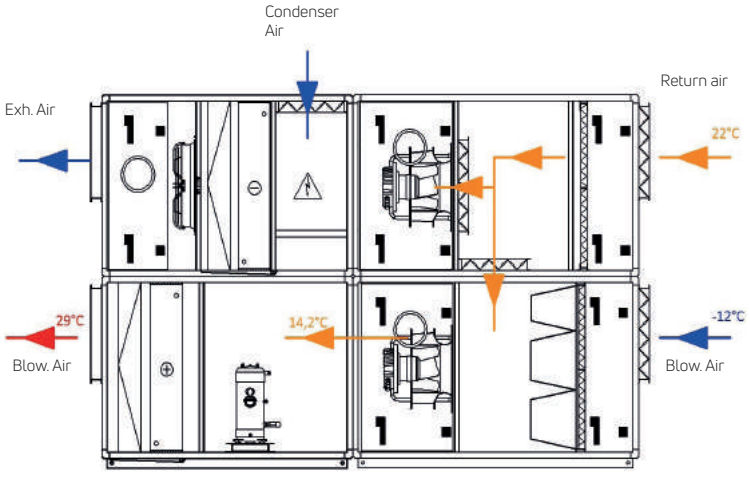
# Mixed Air Heat-Pump

## Scenarios



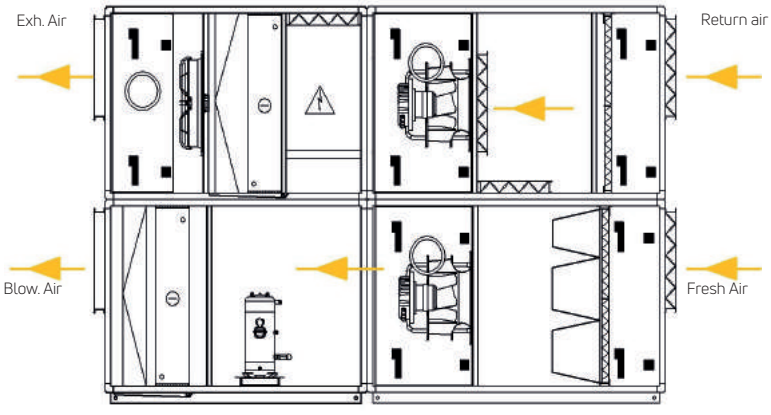

Summer Mode

| Scenario 1 | | | |
|---|---|---|---|
| **VIAKHP Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 40 % | Comfort | Active |
| Evaporator | 0 - 100 % | Cooling | As per need |
| Condenser | 0 - 100 % | Heating | As per need |
| Mixture | 0 - 60 % | Mixture | Active |
| Ventilator | 0 - 100 % | Air Flow | Active |
| Exhausted Unit | 0 - 100 % | Air Flow | Active |




Winter Mode

| Scenario 2 | | | |
|---|---|---|---|
| **VIAKHP Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 40 % | Comfort | Active |
| Evaporator | 0 - 100 % | Cooling | As per need |
| Condenser | 0 - 100 % | Heating | As per need |
| Mixture | 0 - 60 % | Mixture | Active |
| Ventilator | 0 - 100 % | Air Flow | Active |
| Exhausted Unit | 0 - 100 % | Air Flow | Active |




Free-cooling Mode

| Scenario 3 | | | |
|---|---|---|---|
| **VIAKHP Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 100 % | Comfort | Active |
| Evaporator | 0 - 100 % | Cooling | Passive |
| Condenser | 0 - 100 % | Heating | Passive |
| Mixture | 0 - 60 % | Mixture | Passive |
| Ventilator | 0 - 100 % | Air Flow | Active |
| Exhausted Unit | 0 - 100 % | Air Flow | Active |

# Electrical Automation
## Checkpoints

### Alarms
- Motor thermal failure
- Filter contamination
- Frost
- Compressor thermal failure
- Rotary motor
- Low pressure
- High pressure
- Electric heater failure

### Analog İnputs
- Temperature sensor
- Humidity sensor
- Pressure sensor types
- Frost protection temperature sensor

### Checkpoints
- Return air
- Fresh Air
- Room thermostat
- Touch panel
- ModBus (RS485)
- BACnet






### Analog Outputs
- Valve motor
- Motor frequency (0 - 10V)
- Damper motor
- Electronic Expansion Valve

### Other Points
- Time programming
- Automatic mode change
- Feed water temperature
- Free cooling

### Digital İnputs
- Differential pressure switch
- Condenser High pressure
- Compressor High pressure
- Compressor Low pressure
- Frost thermostat

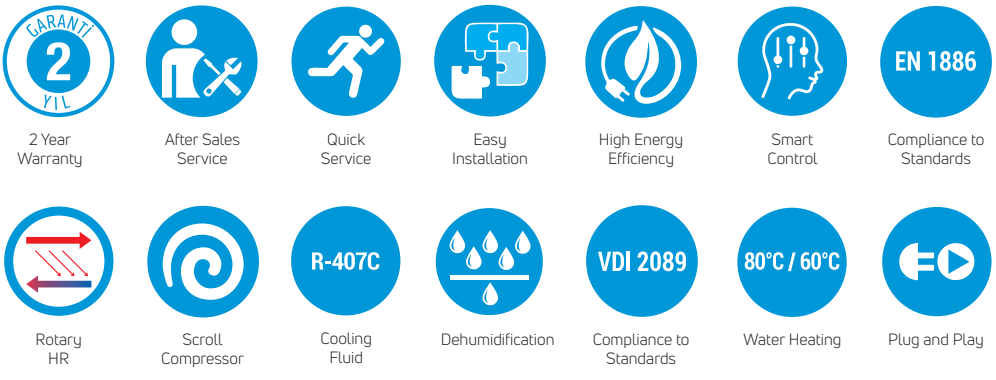
### Safety Points
- Emergency Stop
- Safety thermostat
- High gas pressure
- Low gas pressure
- Condensation pressure
- Motor protection
- Frost thermostat
- Temperature thermostat
- Door Switch

### Digital Outputs
- Electric heater step
- Fan start - stop
- Compressor start
- Four-Way Valve
- Valve motor

Brands of electrical automation equipment may differ from the project and specifications.
See pages 24-27 for the electrical automation process.

# Pool Dehumidification Unit
## content





## High Energy Efficiency

- High-efficiency plated heat recovery
- High-efficiency heat-pipe heat recovery
- Energy-efficient plug fan mechanism
- Energy-efficient EC fan mechanism
- High level automated control


## Human Health

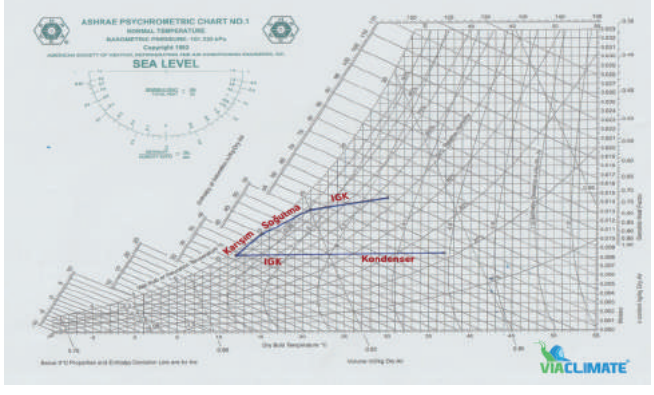
- Negative pressure pool environment
- Suitable ambient temperature
- Fresh air requirement
- Dehumidification process
- Corrosion, humidity etc. prevention

## Plug and Play

- IntegCapacityd cooling cycle
- IntegCapacityd MCC and DDC panels
- Automation field equipment installed
- Feeding and signaling cables installed
- An architecture that does not require any external units

## Design Criteria

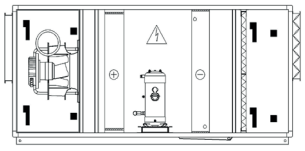
- VDI 2089 (Dehumidification capacity)
- VDI 2089 (Fresh air quantity)
- VDI 2089 (Ambient conditions)
- ERP 2018 (Energy efficiency)
- EN 1886 (Mechanical performance)

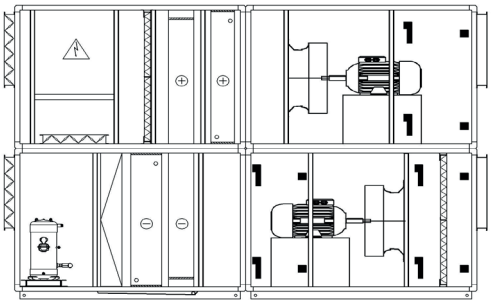


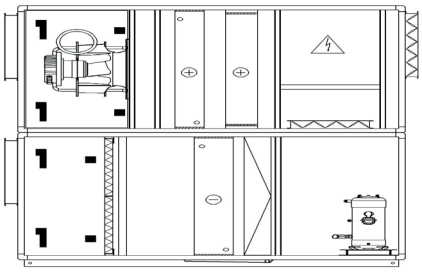
## Smart Automation

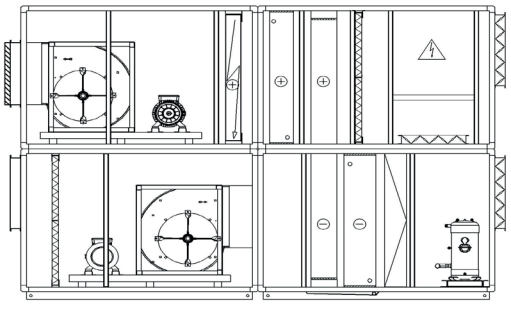
- Automatic assignment to the most efficient scenario
- High level DDC control
- Free-cooling
- Remote control
- Time programming

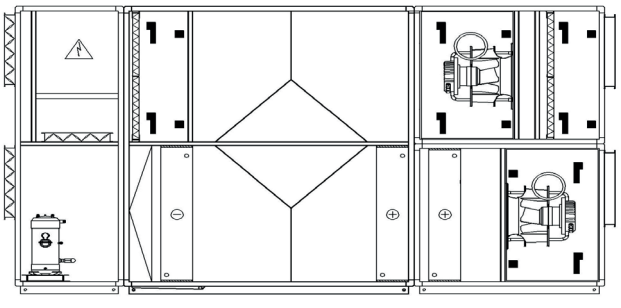
## Extra Designs







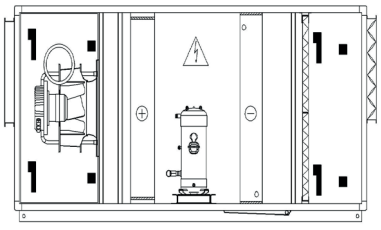




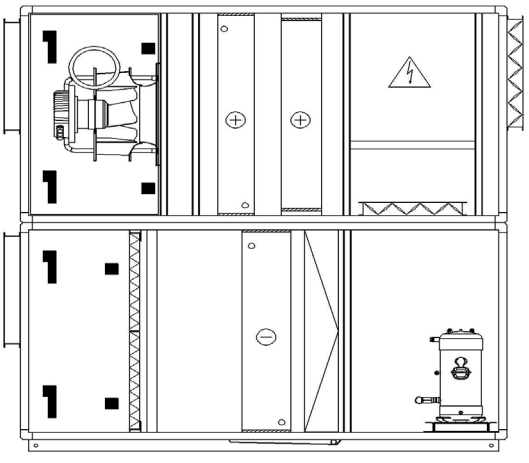
# Products Overview

Air Flow Capacity (m3/h)

400 1000 2000 6000



VIAPOOLs

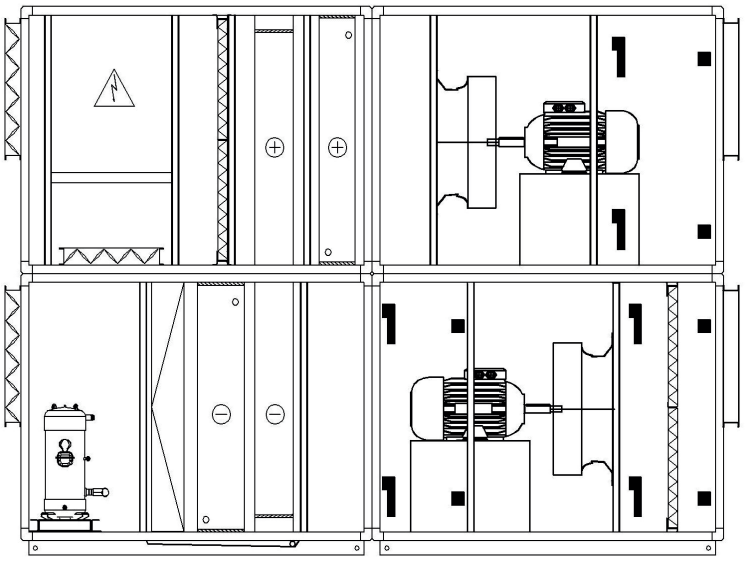


VIAPOOLm

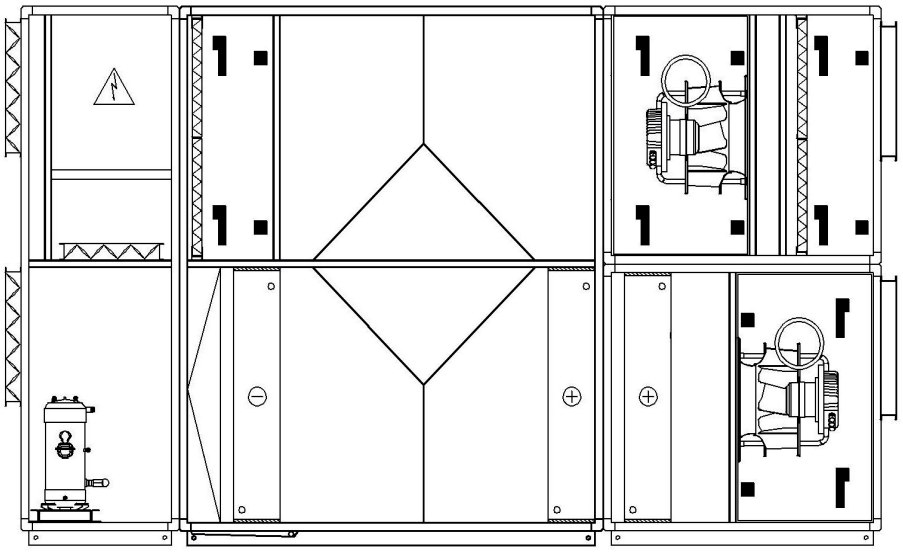
Air flow Capacity chart is intended for visual and informative purposes.

Air Flow Capacity (m3/h)

3000 — 25000



VIAPOOL



VIAPOOLp

Air flow Capacity chart is intended for visual and informative purposes.

# Pool Dehumidification Unit

## Selection Chart

| VIACLIMATE Pool Dehumification Unit | | | VIAPOOLs 400 | VIAPOOLs 750 | VIAPOOLs 1000 |
|---|---|---|---|---|---|
| **Pool Surface** | | $m^2$ | 8 | 15 | 20 |
| **Dehumidification Capacity*** | | kg/h | 1.77 | 3.32 | 4.43 |
| **Air Flow Capacity** | | $m^3/h$ | 400 | 750 | 1000 |
| **Exterior Static Pressure** | | Pa | 100 | 100 | 100 |
| **Motor Power** | | kW | 0.17 | 0.17 | 0.75 |
| **Compressor Power** | | kW | 0.97 | 1.46 | 1.71 |
| **Total Product Power** | | kW | 1.14 | 1.63 | 2.46 |
| **Product Power Input** | | V/Ph/Hz | | 400/3/50 | |
| **Filter Efficiency** | | ISO16890 | | ePM10 | |
| **Product External Dimensions** | **Height** | mm | 400 | 400 | 500 |
| | **Width** | mm | 400 | 400 | 500 |
| | **Length** | mm | 1200 | 1200 | 1200 |

Tablo 1

* In calculating the dehumidification capacity, the water temperature was taken as 28 °C , ambient temperature 30 °C - 54 % RH and outdoor air absolute humidity 9 g/kg.

| VIACLIMATE Pool Dehumification Unit | | | VIAPOOLm 2000 | VIAPOOLm 3000 | VIAPOOLm 4000 | VIAPOOLm 5000 | VIAPOOLm 6000 |
|---|---|---|---|---|---|---|---|
| **Pool Surface** | | $m^2$ | 40 | 60 | 80 | 100 | 120 |
| **Dehumidification Capacity*** | | kg/h | 12 | 15.9 | 22 | 30 | 34 |
| **Air Flow Capacity** | | $m^3/h$ | 2000 | 3000 | 4000 | 5000 | 6000 |
| **Exterior Static Pressure**** | | Pa | 200 | 250 | 250 | 250 | 250 |
| **Water Heater Capacity ***** | | kW | 16 | 23 | 30 | 37 | 44 |
| **Motor Power******** | | kW | 1.05 | 1.8 | 2.95 | 2.95 | 3.35 |
| **Compressor Power** | | kW | 4.25 | 4.9 | 5.91 | 8.55 | 9.8 |
| **Total Product Power** | | kW | 5.3 | 6.7 | 8.86 | 11.5 | 13.15 |
| **Product Power Input** | | V/Ph/Hz | | | 400/3/50 | | |
| **Filter Efficiency** | | ISO16890 | | | ePM10 | | |
| **Product External Dimensions** | **Height** | mm | 1584 | 1585 | 1586 | 1587 | 1588 |
| | **Width** | mm | 732 | 885 | 1038 | 1191 | 1344 |
| | **Length** | mm | 1470 | 1470 | 1470 | 1570 | 1570 |

Tablo 2

* In calculating the dehumidification capacity as per the VDI 2089 standards; the water temperature was taken as 28 °C, ambient temperature 30 °C - 54 % RH, outdoor air absolute humidity 9 g/kg and pool water depth > 1,35 m for reference.
When dehumidification is on active mode with 30% fresh air, the outdoor air temperature is 5°C - 85 % RH.
**Total exterior static pressure blowing and return lines were calculated sepaCapacityly.
*** In calculating the water heating capacities, for operation with 30% fresh air and dehumidification on passive mode, the outdoor air temperature is -15 °C and the battery outlet temperature is 38 °C
****Motor power is the unit power of the plug fan EC motor.

# Pool Dehumidification Unit
## Selection Chart

| VIACLIMATE Pool Dehumification Unit | | | VIAPOOL 3000 | VIAPOOL 5000 | VIAPOOL 8000 | VIAPOOL 10000 | VIAPOOL 12000 | VIAPOOL 15000 | VIAPOOL 18000 | VIAPOOL 20000 | VIAPOOL 25000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pool Surface** | | $m^2$ | 60 | 105 | 165 | 210 | 250 | 310 | 380 | 420 | 520 |
| **Dehumidification Capacity*** | | kg/h | 19 | 32 | 50 | 63 | 75 | 94 | 113 | 125 | 156 |
| **Air Flow Capacity** | | $m^3/h$ | 3000 | 5000 | 8000 | 10000 | 12000 | 15000 | 18000 | 20000 | 25000 |
| **Exterior Static Pressure** | | Pa | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| **Water Heating Capacity**** | | kW | 32 | 51 | 81 | 102 | 122 | 152 | 183 | 203 | 253 |
| **Motor Power ***** | | kW | 2.2 | 3 | 4 | 5.5 | 7.5 | 7.5 | 11 | 11 | 15 |
| **Compressor Power** | | kW | 5.8 | 9.2 | 12.8 | 18.4 | 20.6 | 27.6 | 30.9 | 36.8 | 41.2 |
| **Total Product Power** | | kW | 10.2 | 15.2 | 20.8 | 29.4 | 35.6 | 42.6 | 52.9 | 58.8 | 71.2 |
| **Product Power Input** | | V/Ph/Hz | 400/3/50 | | | | | | | | |
| **Filter Efficiency** | | ISO16890 | ePM10 | | | | | | | | |
| **Product External Dimensions** | **Height** | mm | 1584 | 1584 | 2196 | 2196 | 2196 | 2808 | 2808 | 2808 | 3114 |
| | **Width** | mm | 732 | 1191 | 1191 | 1497 | 1803 | 1497 | 1803 | 2109 | 2109 |
| | **Length** | mm | 3340 | 3340 | 3440 | 3440 | 3490 | 3590 | 3640 | 3890 | 3890 |

Tablo 3

*In calculating the dehumidification capacity as per the VDI 2089 standards; the water temperature was taken as 28 °C, ambient temperature 30 °C- 54 % RH, outdoor air absolute humidity 9 g/kg and pool water depth > 1,35 m for reference.
** In calculating the water heating capacities the outdoor air temperature was taken as -15 °C - 90% RH.

*** Motor power is the unit power of the plug fan AC motor. (Can be manufactured with EC fan as an option.

| VIACLIMATE Heat Recovery Pool Dehumidification Unit | | | VIAPOOLp 3000 | VIAPOOLp 5000 | VIAPOOLp 8000 | VIAPOOLp 10000 | VIAPOOLp 12000 | VIAPOOLp 15000 | VIAPOOLp 18000 | VIAPOOLp 20000 | VIAPOOLp 25000 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pool Surface** | | $m^2$ | 60 | 105 | 165 | 210 | 250 | 310 | 380 | 420 | 520 |
| **Dehumidification Capacity*** | | kg/h | 19 | 32 | 50 | 63 | 75 | 94 | 113 | 125 | 156 |
| **Air Flow Capacity** | | $m^3/h$ | 3000 | 5000 | 8000 | 10000 | 12000 | 15000 | 18000 | 20000 | 25000 |
| **Exterior Static Pressure** | | Pa | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| **Heat Recovery Capacity** | | kW | 9.8 | 16.8 | 25.4 | 32.4 | 35.7 | 48 | 61.2 | 65.6 | 72 |
| **Water Heating Capacity**** | | kW | 34 | 56 | 89 | 112 | 136 | 168 | 204 | 224 | 280 |
| **Motor Power***** | | kW | 2.2 | 4 | 5.5 | 7.5 | 7.5 | 11 | 11 | 15 | 15 |
| **Compressor Power** | | kW | 2.9 | 5 | 7.4 | 10 | 11.6 | 14.8 | 17 | 19.5 | 23.85 |
| **Total Product Power** | | kW | 7.3 | 13 | 18.4 | 25 | 26.6 | 36.8 | 39 | 49.5 | 5385 |
| **Product Power Input** | | V/Ph/Hz | 400/3/50 | | | | | | | | |
| **Filter Efficiency** | | ISO16890 | ePM10 | | | | | | | | |
| **Product External Dimensions** | **Height** | mm | 1584 | 1584 | 2196 | 2196 | 2196 | 2808 | 2808 | 2808 | 3114 |
| | **Width** | mm | 732 | 1191 | 1191 | 1497 | 1803 | 1497 | 1803 | 2109 | 2109 |
| | **Length** | mm | 4290 | 4440 | 4640 | 4690 | 4690 | 5340 | 5340 | 5390 | 5390 |

Tablo 4

*In calculating the dehumidification capacity as per the VDI 2089 standards; the water temperature was taken as 28°C, ambient temperature 30°C - 54 % RH, outdoor air absolute humidity 9 g/kg and pool water depth > 1,35 m for reference.
** In calculating the water heating capacities the outdoor air temperature was taken as -15°C - 90% RH.
*** Motor power is the unit power of the plug fan AC motor. (Can be manufactured with EC fan as an option)
Heat recovery is manufactured with aluminum plated or heat-pipe options.

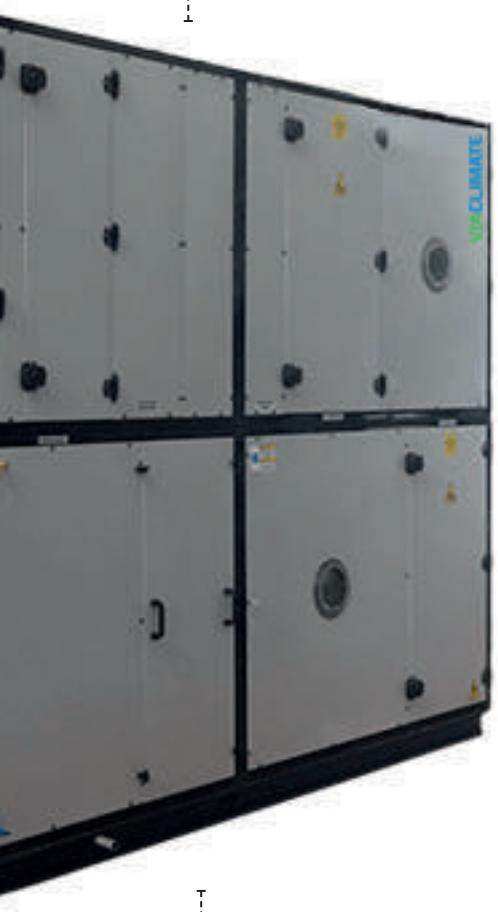
### Standard Accessories
- Emergency Stop
- Air Damper
- Negative Pressure Trap
- Drift Eliminator


### Case Structure
- Designed according to EN1886 standards.
- Double-walled, sound-insulated units.
- 60mm panel thickness,
- 90 kg/m3 A1 class rock wool.
- Aluminum profile Case.
- Straight case design

### Filter
- G2 - G4 Filter
- M5 - F7 Bag

### Other Components
- Mixed Air Damper
- Dehumidification Cycle
- MCC, DDC Control Panel

### Optional Accessories
- Internal Lighting
- Door Switch
- Roof Sheet
- .....

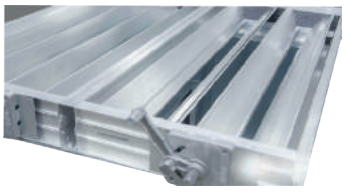


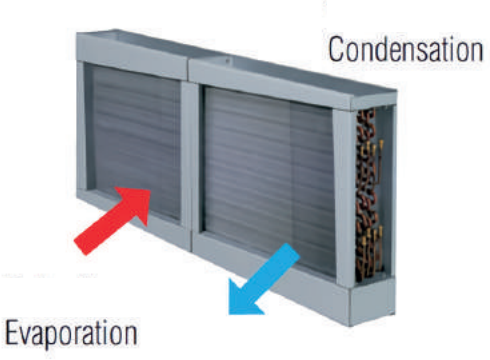
### Fan
- EC
- Plug
- Double Inlet
- Double Inlet( Back Sloping)

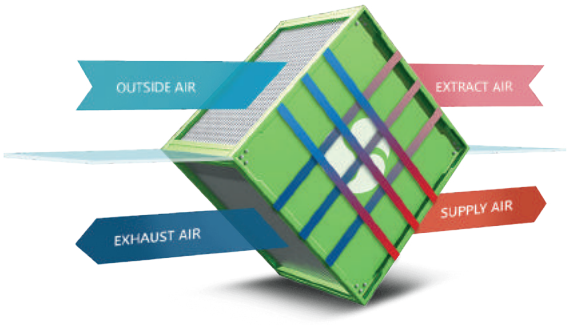
### Heat Exchanger
- Water Heater
- Evaporator
- Condenser
- Electric Heater

### Heat Recovery
- Aluminum Plated
- Heat-Pipe

# Components





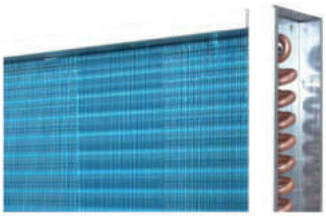




Refer to the Air Handling Unit section "components" (page 24-28) for further information regarding Pool Dehumidification Unit components.

# Dehumidification Cycle

## Evaparator

- Cooling component of the circuit. (Dehumidification)
- Drift eliminator comes as standard
- A double-pitched, insulated condensate tray that is made of stainless sheet comes as standard
- Anodized or treated with hydrophilic coating as an option



## Condenser

- Condensing component of the circuit.
- Anodized or treated with hydrophilic coating as an option

## Compressor

- High-efficiency scroll compressor
- R407 C coolant usage as standard
- R410A coolant usage as an option

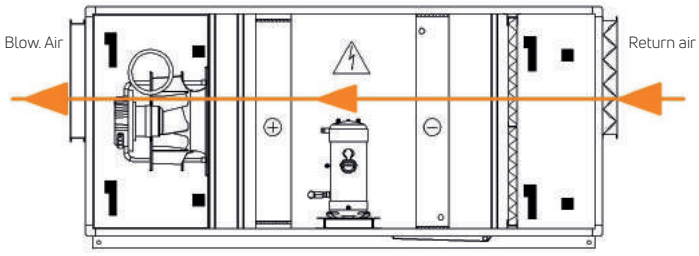
## Thermostatic Expansion Valve

- Reduces the pressure of the high-pressure coolant in liquid form that arrives from the condenser down to the evaporator pressure.
- Expansion valve is a cooling control equipment that starts, stops and modulates the flow of the coolant according to the load requirements of the cooling system.
- Used as standard.

## Electronic Expansion Valve

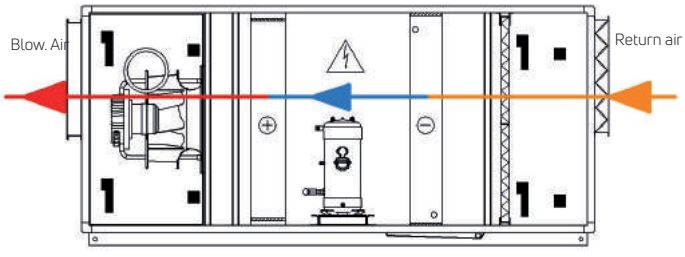
- Plays an important role for the evaporator to receive the sufficient amount of coolant in variable flow Capacity systems (VRF/VRV); where the flow Capacity of the coolant is constantly changing.
- Electronic expansion valves opeCapacity more efficiently as compared to thermostatic expansion valves.
- Used optionally.

# VIAPOOLs Operating
## Scenarios




*The pool is not in use.

| Scenario 1 | | | |
|---|---|---|---|
| **VIAPOOLs Operation** | **Capacity** | **Result** | **Status** |
| Cooling | 0 - 100 % | Dehumidification | Passive |
| Condenser | 0 - 100 % | Heating | Passive |
| Ventilator | 0 - 100 % | Air Flow | Active |

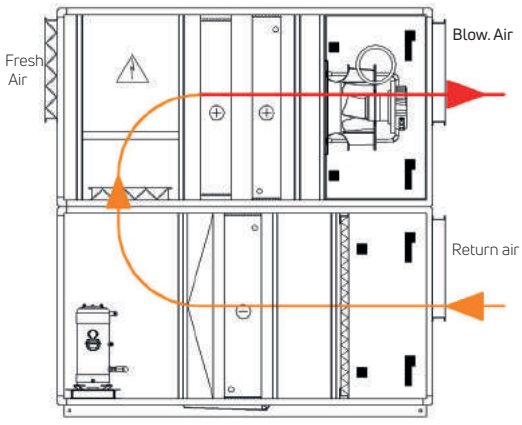



* The pool is in use.

| Scenario 2 | | | |
|---|---|---|---|
| **VIAPOOLs Operation** | **Capacity** | **Result** | **Status** |
| Cooling | 0 - 100 % | Dehumidification | Active |
| Condenser | 0 - 100 % | Heating | Active |
| Ventilator | 0 - 100 % | Air Flow | Active |

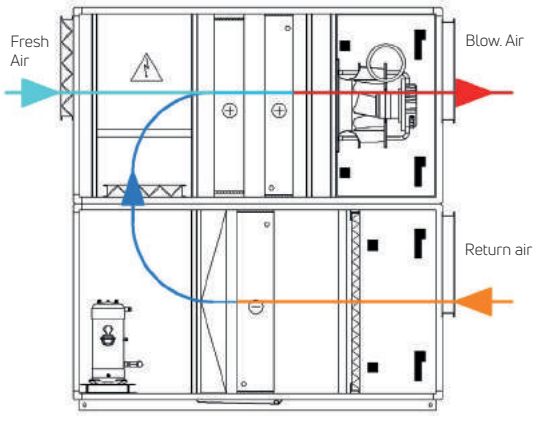
Senaryoları verilen ürünün teknik detayları sayfa 54 Tablo 1 'de yer almaktadır.

# VIAPOOLm Operating
## Scenarios




*The pool is not in use.

| Scenario 1 | | | |
|---|---|---|---|
| **VIAPOOLm Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 30 % | Dehumidification | Passive |
| Cooling | 0 - 100 % | Dehumidification | Passive |
| Condenser | 0 - 100 % | Heating | Passive |
| Water Heater | 0 - 100 % | Heating | As per need |
| Ventilator | 0 - 100 % | Air Flow | Active |

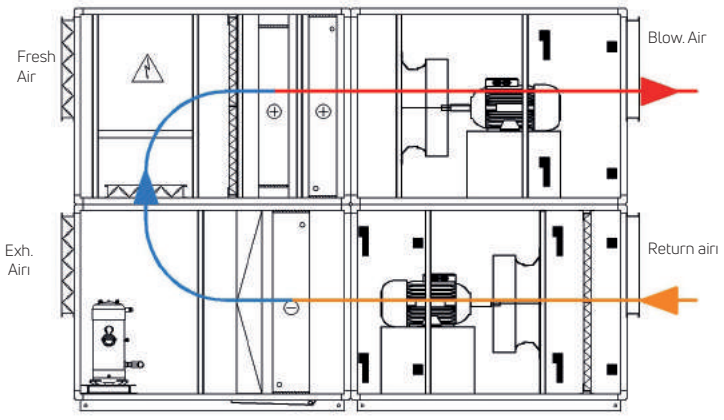



* The pool is in use.

| Scenario 2 | | | |
|---|---|---|---|
| **VIAPOOLm Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 30 % | Dehumidification | Active |
| Cooling | 0 - 100 % | Dehumidification | Active |
| Condenser | 0 - 100 % | Heating | Active |
| Water Heater | 0 - 100 % | Heating | As per need |
| Ventilator | 0 - 100 % | Air Flow | Active |

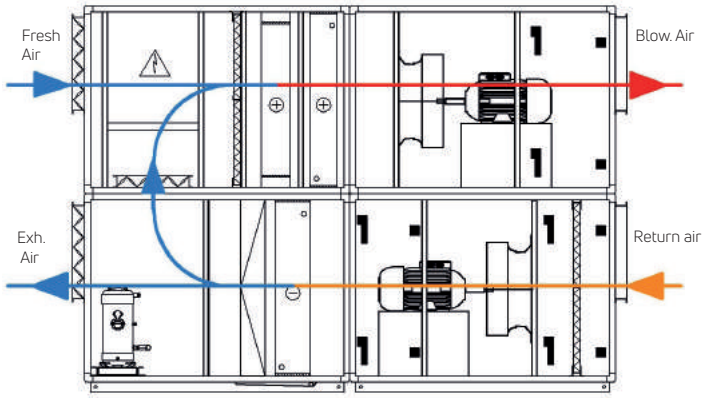
Technical details of the product for which the scenarios are specified are shown on page 54, Table 2.

# VIAPOOL Operating
## Scenarios



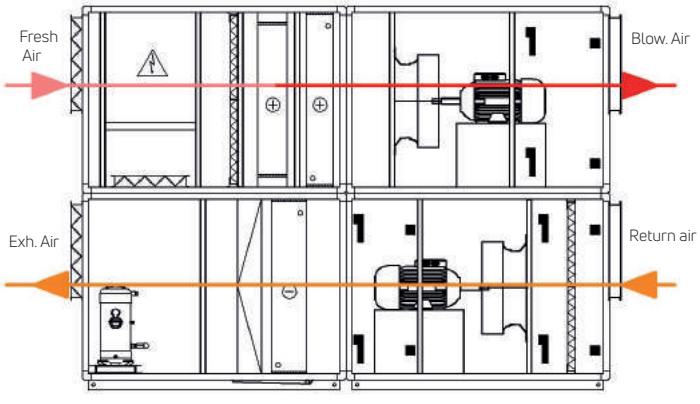

* The pool is not in use.

| Scenario 1 | | | |
|---|---|---|---|
| **VIAPOOL Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 30 % | Dehumidification | Passive |
| Cooling | 0 - 100 % | Dehumidification | As per need |
| Condenser | 0 - 100 % | Heating | As per need |
| Water Heater | 0 - 100 % | Heating | As per need |
| Ventilator | 0 - 100 % | Air Flow | Active |
| Exhausted Unit | 0 - 100 % | Air Flow | Passive |




* The pool is in use.

| Scenario 2 | | | |
|---|---|---|---|
| **VIAPOOL Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 30 % | Dehumidification | Active |
| Cooling | 0 - 100 % | Dehumidification | Active |
| Condenser | 0 - 100 % | Heating | Active |
| Water Heater | 0 - 100 % | Heating | As per need |
| Ventilator | 0 - 100 % | Air Flow | Active |
| Exhausted Unit | 0 - 100 % | Air Flow | Active |

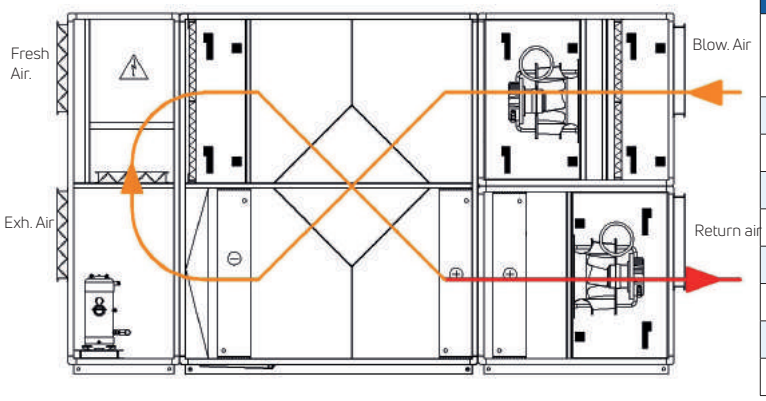



* The pool is in use during the summer and mid season.
*Free-cooling is used in the scenarios for which operation is performed.

| Scenario 3 | | | |
|---|---|---|---|
| **VIAPOOL Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 100 % | Dehumidification | Active |
| Cooling | 0 - 100 % | Dehumidification | Passive |
| Condenser | 0 - 100 % | Heating | Passive |
| Water Heater | 0 - 100 % | Heating | As per need |
| Ventilator | 0 - 100 % | Air Flow | Active |
| Exhausted Unit | 0 - 100 % | Air Flow | Active |

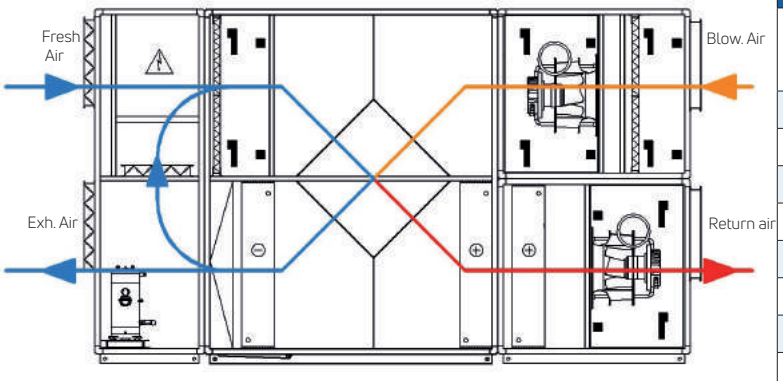
Technical details of the product for which the scenarios are specified are shown on page 55, Table 3.

# VIAPOOLp Operating
## Scenarios



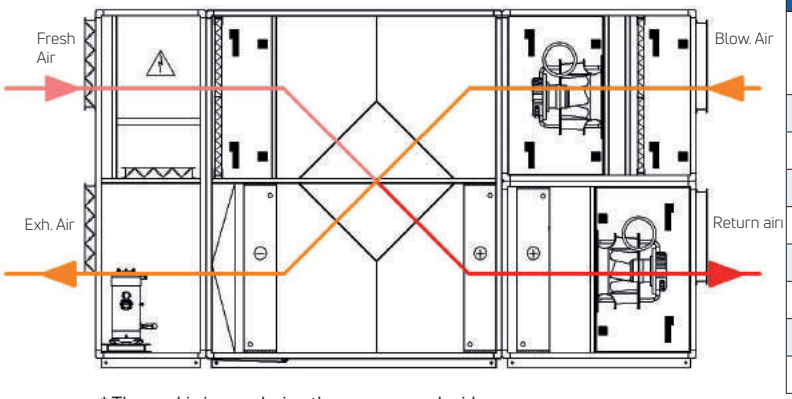

*The pool is not in use by people during the winter season.

| Scenario 1 | | | |
|---|---|---|---|
| **VIAPOOLp Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 30 % | Dehumidification | Passive |
| Cooling | 0 - 100 % | Dehumidification | As per need |
| Heat Recovery | 100 % | Dehumidification | Active |
| IGK By-pass | 100 % | Air Flow | Passive |
| Condenser | 0 - 100 % | Heating | As per need |
| Water Heater | 0 - 100 % | Heating | As per need |
| Ventilator | 0 - 100 % | Air Flow | Active |
| Exhausted Unit | 0 - 100 % | Air Flow | Passive |




The pool is in use.

| Scenario 2 | | | |
|---|---|---|---|
| **VIAPOOLp Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 30 % | Dehumidification | Active |
| Cooling | 0 - 100 % | Dehumidification | Active |
| Heat Recovery | 100 % | Dehumidification | Active |
| IGK By-pass | 100 % | Air Flow | Passive |
| Condenser | 0 - 100 % | Heating | Active |
| Water Heater | 0 - 100 % | Heating | As per need |
| Ventilator | 0 - 100 % | Air Flow | Active |
| Exhausted Unit | 0 - 100 % | Air Flow | Active |




* The pool is in use during the summer and mid season.
*Free-cooling is used in the scenarios for which operation is performed.

| Scenario 3 | | | |
|---|---|---|---|
| **VIAPOOLp Operation** | **Capacity** | **Result** | **Status** |
| Fresh Air | 0 - 30 % | Dehumidification | Active |
| Cooling | 0 - 100 % | Dehumidification | Passive |
| Heat Recovery | 100 % | Dehumidification | Passive |
| IGK By-pass | 100 % | Air Flow | Active |
| Condenser | 0 - 100 % | Heating | Passive |
| Water Heater | 0 - 100 % | Heating | As per need |
| Ventilator | 0 - 100 % | Air Flow | Active |
| Exhausted Unit | 0 - 100 % | Air Flow | Active |

Technical details of the product for which the scenarios are specified are shown on page 55, Table 4.

# Electrical Automation
## Checkpoints

### Alarms

- Motor thermal failure
- Belt broken
- Filter contamination
- Frost
- Compressor thermal failure
- Low pressure
- High pressure

### Analog Inputs

- Temperature sensor
- Humidity sensor
- Pressure sensor
- Frost protection temperature sensor

### Checkpoints

- Return air
- Fresh Air
- Room thermostat
- Touch panel
- ModBus (RS485)
- BACnet


### Analog Outputs

- Valve motor
- Motor frequency
- Damper motor

### Other Points

- Time programming
- Automatic mode change
- Feed water temperature
- Free cooling

### Digital Inputs

- Differential pressure switch
- Condenser High pressure
- Compressor High pressure
- Compressor Low pressure
- Frost thermostat

### Digital Outputs

- Electric heater step
- Fan start - stop
- Compressor start
- Valve motor

### Safety Points

- Emergency Stop
- Safety thermostat
- By-pass damper
- High gas pressure
- Low gas pressure
- Condensation pressure
- Motor protection
- Door Switch

Brands of electrical automation equipment may differ from the project and specifications.
See pages 24-27 for the electrical automation process.

# Kitchen Exhaust and Air Handling Unit
## content



# Why **ViaClimate?**

## High Efficiency (Odor, Oil, Fume)

- Standardization of the equipment and kitchen exhaust systems were ensured by German VDI 2052 and English DW/172.
- High performance with optimum flow speed and minimum energy.
- Minimum energy consumption thanks to low pressure loss.

## Eco Friendly

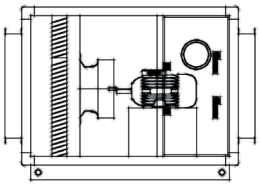
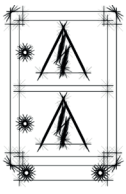
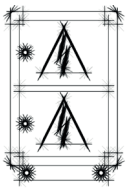
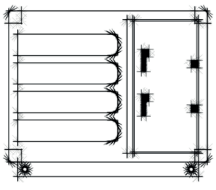
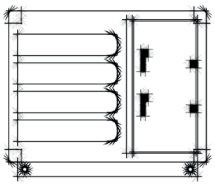
- Extracts the oil, fumes and contaminated air geneCapacityd during the cooking activities in kitchens, and provides fresh air to the atmosphere.
- Minimizes the risk of fire.
- Electrostatic cases with recycled steel Cases and aluminum collectors are used.

## A Product Design That Is Suitable to Your Kitchen

- While selecting a Kitchen Exhaust Unit, you may review reference kitchens and see which product will be the correct solution for your kitchen.
- Odor and oil density is at a low level in environments such as cafeterias.
- Odor and oil density is at a medium level in environments such as natural gas cooking units, stone ovens, wood-fired ovens etc.
- Odor and oil density is at a high level in environments such as wood-fired cooking ovens, natural gas meat grill units etc.
- Odor and oil density is at a very high level in environments such as wood and coal-fired meat grill units, electrical fryers (fast food) etc.

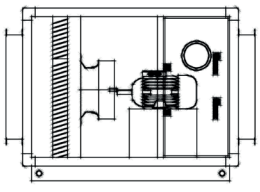
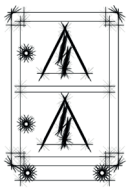
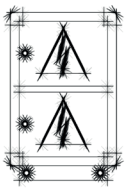
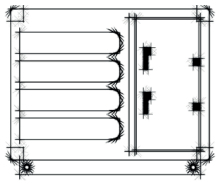
## Efficient Filtering

### Very High Density

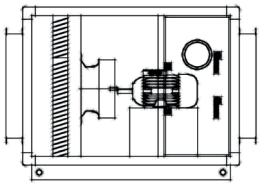
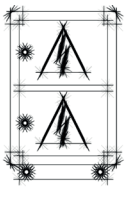
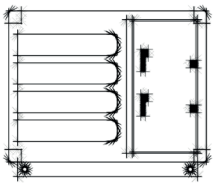
In addition to high-temperature kitchen exhaust fans, two-stage electrostatic filtration and two-stage active carbon filtration is carried out for environments that have a very high density of fumes, odor and oil.

### High Density

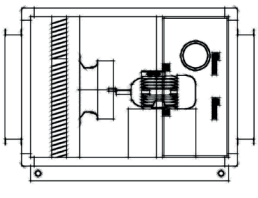
In addition to high-temperature kitchen exhaust fans, two-stage electrostatic filtration and two-stage active carbon filtration is carried out for environments that have a high density of fumes, odor and oil.

### Medium Density

In addition to high-temperature kitchen exhaust fans, two-stage electrostatic filtration and two-stage active carbon filtration is carried out for environments that have a medium density of fumes, odor and oil.

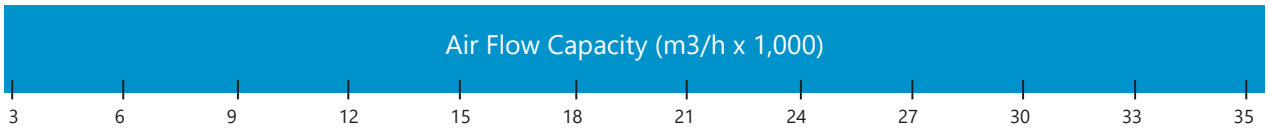
### Low Density



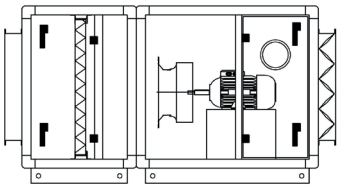
High-temperature kitchen exhaust fans with metal oil filters will meet the requirements of environments that have a low density of fumes, odor and oil.

Please contact us to learn about your kitchen density.

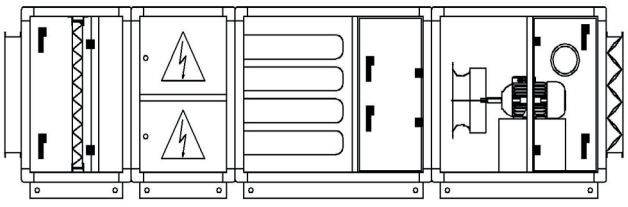
# Products Overview



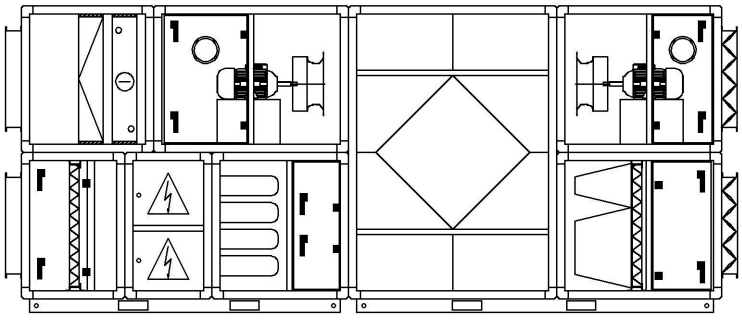

**Viaclean Kitchen Exhaust Fan**



**Viaclean Kitchen Exhaust Units**



**Viaclean 100% Fresh Air Heat Recovery Kitchen Air Handling and Exhaust Units**



Air flow Capacity chart is intended for visual and informative purposes.

# Kitchen Exhaust and Air Handling Unit
## Selection Chart

| VIACLIMATE Kitchen Exhaust Fan | | | ViacleanS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 4x4 | 4x6 | 4x8 | 8x6 | 8x9 L | 8x9 H | 12x9 L | 12x9 H | 12x12 | 15x12 |
| Air Flow Capacity | | $m^3/h$ | 3000 | 5000 | 7000 | 10000 | 13000 | 15000 | 19000 | 22000 | 28000 | 35000 |
| Exterior Static Pressure | | Pa | 300 | 300 | 300 | 300 | 500 | 500 | 500 | 500 | 500 | 500 |
| Metal Filter | | mm | 610x610 | 610x915 | 610x1220 | 1220x915 | 1220x1220 | 1220x1220 | 1830x1220 | 1830x1220 | 1830x1830 | 2135x1830 |
| Total Product Power | | kW | 0,75 | 1,5 | 2,2 | 4 | 7,5 | 11 | 11 | 11 | 11 | 15 |
| Product Power Input | | V/Ph/Hz | 400 / 3 / 50 | | | | | | | | | |
| Product External Dimensions | Height | mm | 852 | 852 | 852 | 1464 | 1464 | 1464 | 2076 | 2076 | 2076 | 2535 |
| | Width | mm | 732 | 1038 | 1344 | 1038 | 1497 | 1497 | 1497 | 1497 | 1956 | 1956 |
| | Length | mm | 1250 | 1250 | 1250 | 1400 | 1550 | 1700 | 1700 | 1850 | 1850 | 1900 |

| VIACLIMATE Kitchen Exhaust Unit | | | ViacleanM | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 4x4 | 4x6 | 4x8 | 8x6 | 8x9 L | 8x9 H | 12x9 L | 12x9 H | 12x12 | 15x12 |
| Air Flow Capacity | | $m^3/h$ | 3000 | 5000 | 7000 | 10000 | 13000 | 15000 | 19000 | 22000 | 28000 | 35000 |
| Exterior Static Pressure | | Pa | 300 | 300 | 300 | 300 | 500 | 500 | 500 | 500 | 500 | 500 |
| Metal - Active Carbon Filter | | mm | 610x610 | 610x915 | 610x1220 | 1220x915 | 1220x1220 | 1220x1220 | 1830x1220 | 1830x1220 | 1830x1830 | 2135x1830 |
| Electrostatic Filter Model | | | 300 | 500 | 700 | 500xx | 700xx | 700xx | 700xxx | 700xxx | 900xxx | 900xxxx |
| Electrostatic Power | | kW | 0.2 | 0.2 | 0.2 | 0.4 | 0.4 | 0.4 | 0.6 | 0.6 | 0.8 | 1 |
| Total Product Power | | kW | 1.7 | 2.4 | 4.2 | 5.9 | 7.9 | 11.4 | 11.6 | 11.6 | 15.8 | 19.5 |
| Product Power Input | | V/Ph/Hz | 400 / 3 / 50 | | | | | | | | | |
| Product External Dimensions | Height | mm | 852 | 852 | 852 | 1464 | 1464 | 1464 | 2076 | 2076 | 2076 | 2535 |
| | Width | mm | 732 | 1038 | 1344 | 1038 | 1497 | 1497 | 1497 | 1497 | 1956 | 1956 |
| | Length | mm | 3020 | 3020 | 3170 | 3320 | 3320 | 3470 | 3620 | 3620 | 3660 | 3810 |

| VIACLIMATE Kitchen Air Handling and Exhaust Unit | | | ViacleanL | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 4x5 | 4x7 | 4x9 | 8x7 | 8x10 L | 8x10 H | 12x10 L | 12x10 H | 12x13 |
| Air Flow Capacity | | $m^3/h$ | 3000 | 5000 | 7000 | 10000 | 13000 | 15000 | 19000 | 22000 | 28000 |
| Blowing Temperature * | | °C | 15,9 | 15,6 | 15,6 | 15,8 | 15,7 | 16,3 | 15,4 | 16,1 | 16,9 |
| Exterior Static Pressure | | Pa | 300 | 300 | 300 | 300 | 500 | 500 | 500 | 500 | 500 |
| Dx Capacity | | kW | 18 | 32 | 45 | 63 | 83 | 91 | 120 | 133 | 160 |
| Metal - Active Carbon Filter | | mm | 610x610 | 610x915 | 610x1220 | 1220x915 | 1220x1220 | 1220x1220 | 1830x1220 | 1830x1220 | 1830x1830 |
| Roughing - Bag Filter | | mm | 610x610 | 610x915 | 610x1220 | 915x915 | 915x1220 | 915x1220 | 1220x1525 | 1220x1525 | 1220x1830 |
| Electrostatic Filter Model | | | 300 | 500 | 700 | 500xx | 700xx | 700xx | 700xxx | 700xxx | 900xxx |
| Electrostatic Power | | kW | 0.2 | 0.2 | 0.2 | 0.4 | 0.4 | 0.4 | 0.6 | 0.6 | 0.8 |
| Total Product Power | | kW | 3.9 | 6.2 | 8.2 | 13.4 | 22.4 | 22.4 | 26.6 | 30.6 | 37.8 |
| Product Power Input | | V/Ph/Hz | 400 / 3 / 50 | | | | | | | | |
| Product External Dimensions | Height | mm | 1584 | 1584 | 1584 | 2808 | 2808 | 2808 | 4032 | 4032 | 4032 |
| | Width | mm | 882 | 1188 | 1494 | 1188 | 1647 | 1647 | 1647 | 1647 | 2106 |
| | Length | mm | 3820 | 3900 | 3900 | 4840 | 4950 | 5140 | 5470 | 5820 | 5820 |

*In calculating the blowing temperature, DX Battery air inlet condition was taken as 35 °C. (By-Pass line active)

# **Viaclean** General Features

## Standard Accessories

- Emergency Stop
- Air Damper
- Negative Pressure Trap (Comes standard with ViacleanL)
- Drift Eliminator (Comes standard with ViacleanL)


## Case Structure

- Designed according to EN1886 standards
- Aluminum profile Case structure
- Straight, easy to clean interior
- 60mm double-walled panels
- 1 mm Electrostatic powder painted exterior sheet; 0,8 mm galvanized interior sheet
- 90 kg/m3 rock wool with A1 fire rating as per DIN4102
- EPDM seal for case tightness
- Double-pitched, insulated oil drain tray that is made of stainless steel
- Aluminum damper on air exhaust
- Roof sheet that provides protection against external weather conditions.

## Filter

- G2 Metal Oil Filter
- Active Cartridge Carbon
- Electrostatic

# **Viaclean** General Features **Kitchen Exhaust and Air Handling Unit**

### Optional Accessories

- Thermal Pacco Switch
- Internal Lighting
- Door Switch
- Roof Sheet
- MCC, DDC Control Panel
- F7 Filter
- Muffler
- Diffuser

### Fan

- EC
- Plug
- Double Inlet(Back Sloping)
- Ex-proof

### Heat Exchanger

- Gas-filled (DX) (ViacleanL model)

# Components

## Plug Fan Mechanism

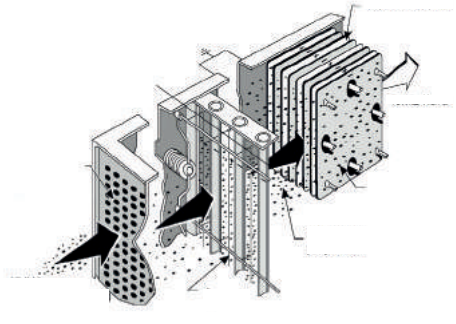
- Freely opeCapacityd, back sloping, high-performance, directly coupled fan
- High-efficiency system
- AC motors of IE2 or IE3 energy classes
- Operating capacity of up to 2300 Pa Differential Pressure
- 100% velocity control with frequency inverter

## Active Carbon Cartridge Filter

- Capable of holding bad odors and toxic gases.
- Easy replacement of existing carbon granules
- Molecular filtration acc. to EN 779 standard

## Metal Filter

- Holds oil particles
- Washable
- Aluminum wire structure
- Class G2 acc. to EN 779 standard
- Operating capability up to 200°C an d 80 % rH



## Elektrostatik Filter

- Ionizes smoke, odor and oil from the air and destroys the particles
- Aluminum-alloy collector case material
- Washable case material
- Molecular filtration acc. to EN 779 standard

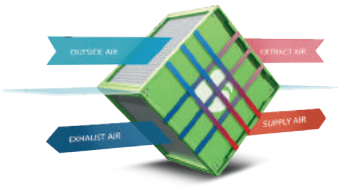
# Optional Components

## F7 Filter

- High particle holding capacity
- Class M5-F9 acc. to EN 779 standard

## EC Fan Mechanism

- Systems to which high-efficiency directly coupled fan and EC motor are connected.
- EC motors of IE4 and higher energy classes are used.
- The motor group can be controlled with 0-10V signal.
- Capable of operating with a lower noise level on high pressures.




## Aluminum Plated Heat Recovery

- Systems where the thermal energy in the return air is transferred to the air blowing energy without requiring power.
- Free cooling during mid seasons thanks to the by-pass line
- Comes standard with a condensate tray on the exhaust air outlet.
- Does not have any moving parts and practically does not require any maintenance.
- Has an energy efficiency of approximately up to 50-70% in dry systems.

## Gas-filled (DX) Battery

- Used for air cooling and heating applications with condensing units (external unit).
- External unit is designed according to the pipe inlet and outlet diameters.
- Number of inlets and outlets are increased for more than one VRF external unit.
- Used with a drift eliminator as standard
- A double-pitched, insulated condensate tray that is made of stainless sheet is used as standard.

## Muffler

- Sound absorbing casettes that are designed to minimize the air noise geneCapacityd by the moving parts of the unit, in order to maintain comfort.
- Rock wool with fiberglass is used as a sound absorbing material.
- The standard product is demountable.

## Frequency Converter

- Adjusts the motor frequency
- IP20 or IP21 protection class
- Prolongs the service life of the moving parts
- Take-off platform and braking system
- Automated energy optimization
- Electronic thermal relay
- 0-100 V remote control capability with a potentiometer

# Electrical Automation
## Checkpoints and Features

### Alarms

- Motor thermal failure
- Belt broken
- Filter contamination
- Electrostatic failure

### Other Points

- Time programming

### Analog Outputs

- Motor frequency
- Damper motor


### Digital Outputs

- Fan start - stop

### Safety Points

- Emergency Stop
- Electrostatic Filter Door Switch
- Electrostatic grounding
- Door Switch
- Motor protection

### Digital Inputs

- Differential pressure switch

**Viaclean 100% Fresh Air Heat Recovery Kitchen Air Handling Units Electrical Automation control features**

» MCC and DDC panel design from a single control point
» Blowing and exhaust air flow Capacity adjustment with frequency inverter
» Capability of operating with an air quality sensor
» Capability of preventing air flow to indoors with an exhaust air damper while the Product is off
» Fire extinguishing system
» Control and alarm for filter level (SepaCapacityly applied for each filter level.)
» Phase protection
» Capability of working under summer and winter conditions
» Ambient temperature control
» Operation time scheduling
» Free cooling or Free heating operation
» Modbus (RS485) communication protocol
» VRF external unit integration with Heat Recovery Kitchen Exhaust Unit
» Full inverter VRF External unit

Brands of electrical automation equipment may differ from the project and specifications.
See pages 24-27 for the electrical automation process.

# Rooftop Packaged Air Conditioner
## content



2 Year Warranty


After Sales Service

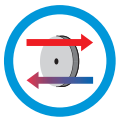

Quick Service


Easy Installation


High Energy Efficiency


Smart Control

Compliance to Standards


Rotary HR


Scroll Compresör

Cooling Fluid


Heat-Pump


Smart Defrost

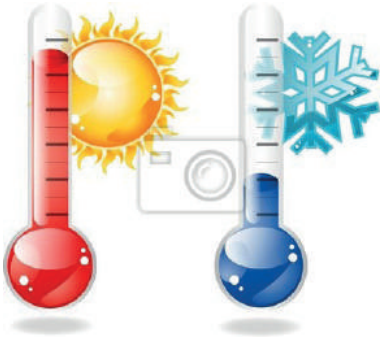

Thermodynamic HR


Plug and Play

# Why **ViaClimate?**

## High Energy Efficiency

- Ensures high energy efficiency with low energy consumption.
- High-efficiency scroll compressor.
- Design that features an economizer.
- Energy-efficient automated control.
- Free-cooling operation
- Heat recovery option
- Packaged air conditioner production meets the objectives and requirements of ERP2018.

## Optimal Air Comfort

- Design according to the ambient comfort level and EN 14511-2013 Standard
- Meeting the heating and cooling requirements of the site in addition to fresh air needs
- Keeping the comfort level at stable conditions
- Meeting fresh air demands according to the air quality sensor
- Affordable heating performance with a natural gas heater
- Capacity to keep the environmental conditions at positive pressure conditions

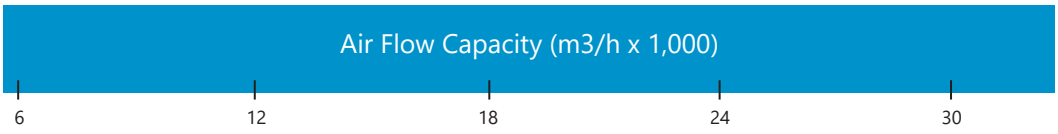
## Plug and Play

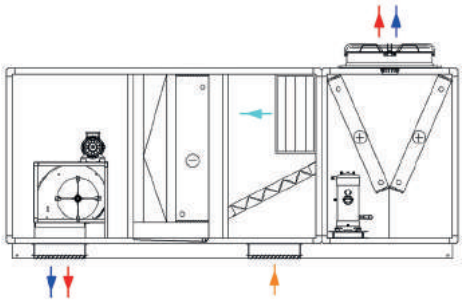
- An architecture that does not require any external units
- IntegCapacityd cooling cycle
- IntegCapacityd MCC and DDC panels
- Easier to install compared to individual systems

## Smart Defrost Mode

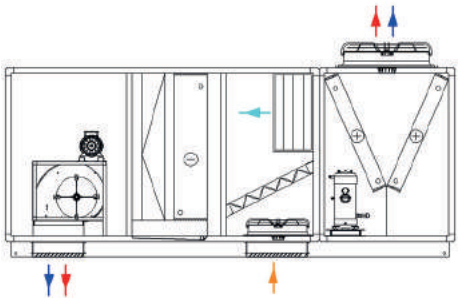
- Hot gas by-pass
- Thermodynamic Heat Recovery
- Optional heater circuit
- Optional defrosting electric heater circuit

# Products Overview

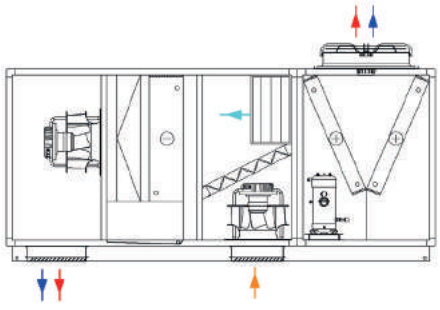


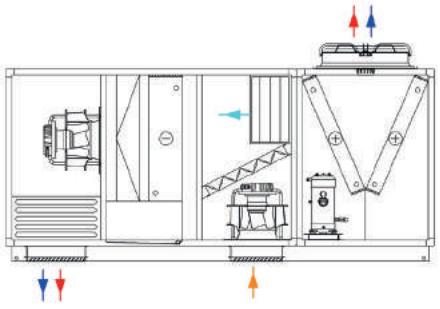
Single Fan  Heat-Pump Roof Top



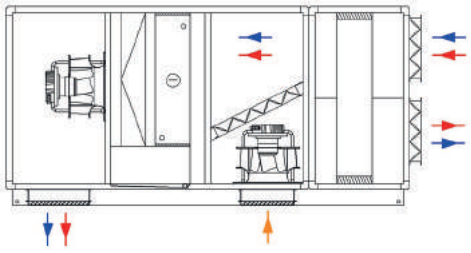
Power Exhaust Fan Heat-Pump
Roof Top



Double Fan Heat-Pump
Thermodynamic Heat Recovery
Roof Top



Double Fan Natural Gas Heater
Roof Top



Double Fan Heat-Pump Rotary
Heat Recovery
Roof Top

Some configurations of VIACLIMATE Roof Top are given above for illustration purposes.

# Rooftop Packaged Air Handling Unit
## Selection Chart

| VIACLIMATE Rooftop Packaged Air Handling Unit | | RTV12 | RTV16 | RTV20 | RTV24 | RTV26 | RTV38 | RTV42 | RTV50 | RTV60 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Air Flow Capacity** | $m^3/h$ | 6000 | 8000 | 10000 | 12000 | 15000 | 18000 | 20000 | 25000 | 30000 |
| **Exterior Static Pressure** | Pa | 300 | 300 | 400 | 400 | 400 | 500 | 500 | 500 | 500 |
| **Cooling Capacity *** | kW | 37.02 | 49.35 | 61.7 | 74.04 | 92.55 | 111.06 | 123.4 | 154.35 | 185.1 |
| **Total Withdrawn Power** | kW | 10.25 | 16.38 | 20.29 | 24.57 | 32.73 | 34.62 | 40.88 | 51.1 | 61.32 |
| **EER** | | 3.61 | 3.01 | 3.04 | 3.01 | 2.83 | 3.21 | 3.02 | 3.02 | 3.02 |
| **Heat-Pump Heating Capacity**** | kW | 47.13 | 65.74 | 81.99 | 98.61 | 125.28 | 145.68 | 164.28 | 205.35 | 246.42 |
| **Total Withdrawn Power** | kW | 11.25 | 15.96 | 19.77 | 23.94 | 30.64 | 34.56 | 39.44 | 49.3 | 59.16 |
| **COP** | | 4.19 | 4.12 | 4.15 | 4.12 | 4.09 | 4.22 | 4.17 | 4.17 | 4.17 |
| **Water Heater Capacity** | kW | 38 | 50 | 62 | 76 | 90 | 110 | 120 | 152 | 184 |
| **Natural Gas Heater Capacity** | kW | 40 | 60 | 75 | 100 | 110 | 125 | 150 | 175 | 200 |
| **Electric Heater 1st Step** | kW | 18 | 24 | 30 | 36 | 44 | 54 | 60 | 75 | 90 |
| **Electric Heater 2nd Step** | kW | 36 | 48 | 60 | 72 | 88 | 108 | 120 | 150 | 180 |
| **Product Power Input** | V/Ph/Hz | 400/3/50 | | | | | | | | |
| **Filter Efficiency** | ISO16890 | ePM10 | | | | | | | | |

Table of dimensions is not given as it has multiple variations for Rooftop Packaged Air Conditioner configurations (return fan, heat recovery, heater options etc.).
*In calculating the cooling capacity, the outdoor temperature 35 °C , 50 % RH values were taken as reference.
* In calculating the cooling capacity, the evaporator inlet temperature 27 °C, 50 % RH values were taken as reference.
** In calculating the Heat-Pump heating capacity, the outdoor temperature 7 °C , 80 % RH values were taken as reference.
** In calculating the Heat-Pump heating capacity, evaporator inlet temperature 20 °C , 50% RH values were taken as reference.
In calculating the optional heater capacity, the outdoor temperature 5 °C , 80 % RH values were taken as reference.
In calculating the EER and COP values, the EN 14511 Standard was taken as reference.


# Rooftop Packaged Air Handling Unit
## General Features

### Case Structure
- Designed according to EN1886 standards.
- Double-walled, sound-insulated units with heat bridge.
- 60mm panel thickness,
- 110 kg/m3 A1 class rock wool.
- Aluminum Case with no heat bridge

### Fan
- EC
- Plug
- Double Suction
- Axial Fan

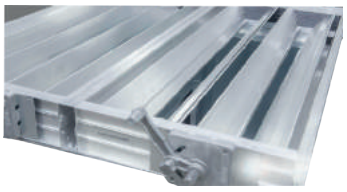

### Filter
- G2 - G4 Panel
- M5 - F7 Bag

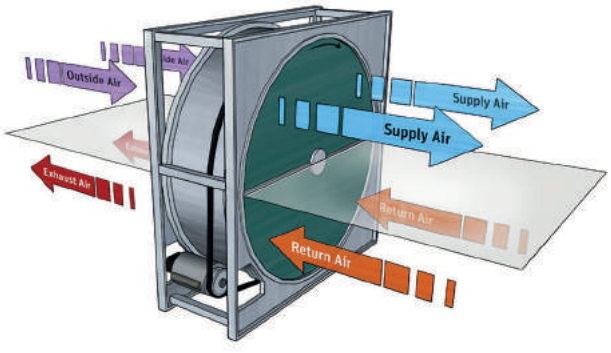
### Heat Exchanger
- Water Heater
- Evaporator
- Condenser

### Cooling
- Compressor
- Oil Separator
- Filter
- Four-Way Valve
- Expansion Valve
- Solenoid Valve
- Sight Glass
- Compensator

### Standard Accessories
- Emergency Stop
- Air Damper
- Negative Pressure Trap
- Drift Eliminator
- Door Switch
- Roof Sheet

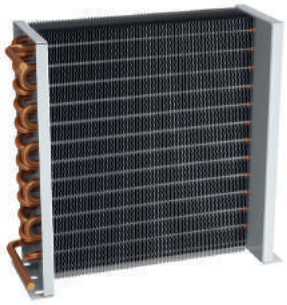
# Components






Refer to the Air Handling Unit section "components" (page 18-23) for further information regarding Rooftop Packaged Air Handling Unit components.

# Components



## Condenser

- Condenser component in the circuit under summer conditions.
- Evaporator component in the circuit under winter conditions.
- Anodized or treated with hydrophilic coating as an option.

## Compressor

- High-efficiency scroll compressor
- R407 C coolant usage as standard
- R134A, R410A coolant usage as an option

## Thermostatic Expansion Valve

- Reduces the pressure of the high-pressure coolant in liquid form that arrives from the condenser down to the evaporator pressure.
- Expansion valve is a cooling control equipment that starts, stops and modulates the flow of the coolant according to the load requirements of the cooling system.
- Used as standard.

## Electronic Expansion Valve

- Plays an important role for the evaporator to receive the sufficient amount of coolant in variable flow Capacity systems (VRF/VRV); where the flow Capacity of the coolant is constantly changing.
- Electronic expansion valves opeCapacity more efficiently as compared to thermostatic expansion valves.
- Used optionally.

## Four-Way Valve

- Ensures that the Heat-Pump coolant system provides heating and cooling.
- Performs hot gas by-pass in case of defrost.
- Directs the fluid to the evaporator or to the condenser according to the operating conditions.

# Electrical Automation
## Checkpoints

### Alarms

- Motor thermal failure
- Belt broken
- Filter contamination
- Frost
- Compressor thermal failure
- Rotary motor
- Low pressure
- High pressure
- Electric heater failure

### Analog Inputs

- Temperature sensor
- Humidity sensor
- Pressure sensor types
- Frost protection temperature sensor

### Checkpoints

- Return air
- Fresh Air
- Room thermostat
- Touch panel
- ModBus (RS485)
- BACnet

### Analog Outputs

- Valve motor
- Motor frequency (0 - 10V)
- Damper motor
- Electronic Expansion Valve

### Other Points

- Time programming
- Automatic mode change
- Feed water temperature
- Free cooling

### Digital Inputs

- Differential pressure switch
- Condenser High pressure
- Compressor High pressure
- Compressor Low pressure
- Frost thermostat

### Digital Outputs

- Electric heater step
- Fan start - stop
- Compressor start
- Four-Way Valve
- Valve motor

### Safety Points

- Emergency Stop
- Safety thermostat
- High gas pressure
- Low gas pressure
- Condensation pressure
- Motor protection
- Frost thermostat
- Temperature thermostat
- Door Switch

Brands of electrical automation equipment may differ from the project and specifications.
See pages 24 - 27 for the electrical automation process.

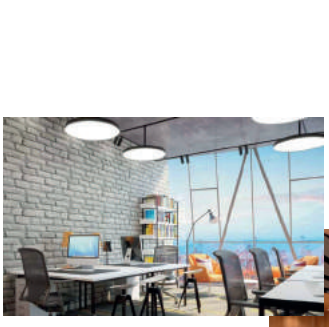
# Ceiling Type Heat Recovery Units
## content



# Why **ViaClimate?**

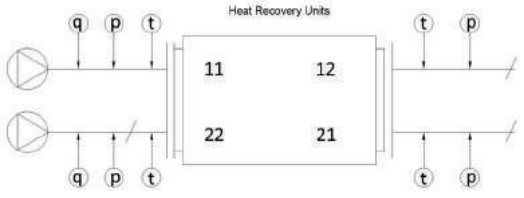
## High Energy Efficiency

- Ensures high efficiency with the product structure and the variety of the components used thanks to optimal energy consumption.
- Ceiling type heat recovery unit production meets the objectives and requirements of ERP2018.
- Heat recovery exchangers have min. 52% efficiency.

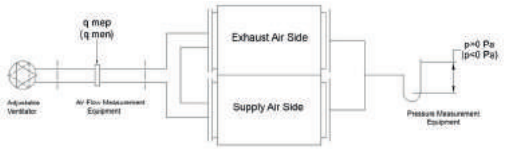



## Flexible Areas of Use

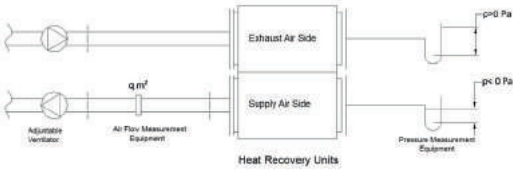
- Educational institutions
- Commercial areas
- Conference halls, theaters and movie theaters
- Accommodation areas
- ...




Test 1: Pressure Reduction Capacity



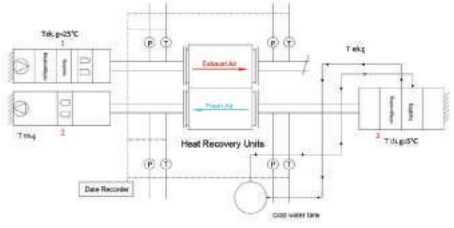

Test 2: External Leak




Test 3: Internal Leak

## EN308 Tests

- Viaclimate Quality Management Department carries out EN308 tests at our factory in accordance with TSEK Criteria.
- In addition to EN308 tests, our Products also undergo grounding, continuity, coil insulation and voltage tests. (EN60204)



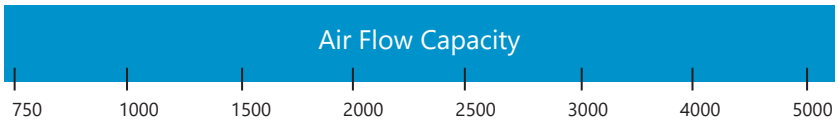

Test 4: Temperature and Humidity

## Quality Standards

- The performance values of our Viaclimate ceiling type heat recovery units were measured during tests performed according to TSE Standards, and certified according to TSE criteria. (TSEK 381)

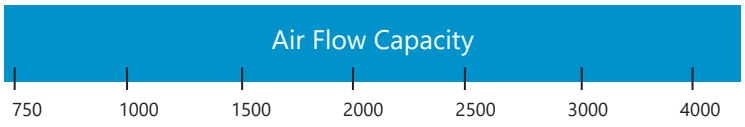
TSEK TSE-HYB CE

# Products Overview



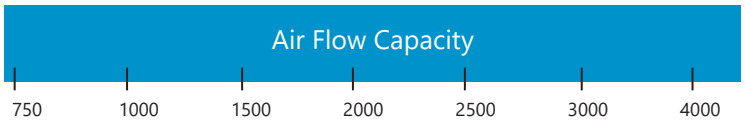

**ViaClimate Heat Recovery Product**

*AC or EC fan option




**ViaClimate Dx Battery Heat Recovery Product**

* AC or EC fan option




**ViaClimate Heat-Pump Heat Recovery Product**

* AC or EC fan option

# Ceiling Type Heat Recovery
## Selection Chart

| Standard VIACLIMATE Ceiling Type Heat Recovery | | | HRUBOX 1000 | HRUBOX 2000 | HRUBOX 3000 | HRUBOX 4000 | HRUBOX 5000 |
|---|---|---|---|---|---|---|---|
| Air Flow Capacity | | $m^3/h$ | 1000 | 2000 | 3000 | 4000 | 5000 |
| Exterior Static Pressure | | Pa | 80 | 200 | 210 | 150 | 120 |
| Motor Power* | | kW | 0.15 | 0.45 | 0.55 | 0.75 | 1.27 |
| Total Product Power | | kW | 0.3 | 0.9 | 1.1 | 1.5 | 2.54 |
| Product Power Input | | V/Ph/Hz | 220/1/50 | | | | |
| Noise Level** | | dB | 41 | 48 | 42 | 48 | 48 |
| Product External Dimensions | Height | mm | 420 | 500 | 550 | 615 | 655 |
| | Width | mm | 850 | 980 | 1080 | 1210 | 1400 |
| | Length | mm | 1000 | 1300 | 1550 | 1800 | 1800 |

* Manufactured with an AC fan.
** Sound pressure at a distance of 3 meters from the Product, at a frequency of 250 Hz.
Electric heater is provided as an option.
Water heater is provided as an option.
Power input of electric heater models is 400 V.

| Standard VIACLIMATE Ceiling Type Heat Recovery | | | HRUBOX EC 750 | HRUBOX EC 1000 | HRUBOX EC 1500 | HRUBOX EC 2000 | HRUBOX EC 2500 | HRUBOX EC 3000 | HRUBOX EC 4000 | HRUBOX EC 5000 |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Flow Capacity | | $m^3/h$ | 750 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 | 5000 |
| Exterior Static Pressure | | Pa | 200 | 150 | 230 | 290 | 250 | 150 | 180 | 140 |
| Motor Power * | | kW | 0.16 | 0.17 | 0.05 | 0.05 | 0.05 | 0.05 | 0.075 | 0.075 |
| Total Product Power | | kW | 0.33 | 0.34 | 0.1 | 0.1 | 0.1 | 0.1 | 0.15 | 0.15 |
| Product Power Input | | V/Ph/Hz | 220/1/50 | | | 400/3/ 50 | | | | |
| Noise Level** | | dB | 40 | 40 | 40 | 48 | 49 | 42 | 48 | 50 |
| Product External Dimensions | Height | mm | 390 | 395 | 435 | 435 | 535 | 535 | 615 | 655 |
| | Width | mm | 700 | 755 | 760 | 905 | 1105 | 1105 | 1210 | 1400 |
| | Length | mm | 960 | 1110 | 1110 | 1410 | 1610 | 1705 | 1800 | 1800 |

* Manufactured with an EC fan.
** Sound pressure at a distance of 3 meters from the Product, at a frequency of 250 Hz.
Electric heater is provided as an option.
Water heater is provided as an option.
Power input of electric heater models is 400 V.

# Ceiling Type Heat Recovery
## Selection Chart

| VIACLIMATE Dx Battery Ceiling Type Heat Recovery | | | HRUBOX DX 1000 | HRUBOX DX 2000 | HRUBOX DX 3000 | HRUBOX DX 4000 |
|---|---|---|---|---|---|---|
| Air Flow Capacity | | $m^3/h$ | 1000 | 2000 | 3000 | 4000 |
| Exterior Static Pressure*** | | Pa | 80 | 140 | 150 | 120 |
| Dx Capacity** | | kW | 6 | 12 | 18 | 24 |
| Motor Power* | | kW | 0.375 | 0.45 | 0.55 | 1.27 |
| Total Product Power | | kW | 0.75 | 0.9 | 1.1 | 2.54 |
| Product Power Input | | V/Ph/Hz | 220/1/50 | | | |
| Product External Dimensions | Height | mm | 420 | 500 | 550 | 615 |
| | Width | mm | 850 | 980 | 1080 | 1210 |
| | Length | mm | 1300 | 1600 | 1850 | 2100 |

* Manufactured with an AC fan.
**Dx Battery is installed in the Product during production.
**In calculating the Dx capacities, ambient return air 22 °C, dx battery input temperature 30 °C values were considered.
***Exterior pressure losses were calculated by inclugin the dx battery pressure loss.
A dry contact is provided as standard for integration with the VRF external unit.
Drift eliminator and condensate tray come as standard.
Electric heater is provided as an option.
Power input of electric heater models is 400 V.

| VIACLIMATE Dx Battery Ceiling Type Heat Recovery | | | HRUBOX EC DX 750 | HRUBOX EC DX 1000 | HRUBOX EC DX 1500 | HRUBOX EC DX 2000 | HRUBOX EC DX 2500 | HRUBOX EC DX 3000 | HRUBOX EC DX 4000 |
|---|---|---|---|---|---|---|---|---|---|
| Air Flow Capacity | | $m^3/h$ | 750 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 |
| Exterior Static Pressure*** | | Pa | 130 | 90 | 160 | 225 | 180 | 75 | 110 |
| Dx Capacity** | | kW | 4,5 | 6 | 9 | 12 | 15 | 18 | 24 |
| Motor Power* | | kW | 0.169 | 0.17 | 0.5 | 0.5 | 0.5 | 0.5 | 0.75 |
| Total Product Power | | kW | 0.338 | 0.34 | 1 | 1 | 1 | 1 | 1.5 |
| Product Power Input | | V/Ph/Hz | 220/1/50 | | | 400/3/50 | | | |
| Product External Dimensions | Height | mm | 390 | 395 | 435 | 435 | 535 | 535 | 615 |
| | Width | mm | 700 | 755 | 760 | 905 | 1105 | 1105 | 1210 |
| | Length | mm | 1260 | 1410 | 1410 | 1710 | 1910 | 2005 | 2100 |

* Manufactured with an EC fan.
**Dx Battery is installed in the Product during production.
**In calculating the Dx capacities, ambient return air 22 °C, dx battery input temperature 30 °C values were considered.
***Exterior pressure losses were calculated by inclugin the dx battery pressure loss.
A dry contact is provided as standard for integration with the VRF external unit.
Drift eliminator and condensate tray come as standard.
Electric heater is provided as an option.
Power input of electric heater models is 400 V.

# Ceiling Type Heat Recovery
## Selection Chart

| VIACLIMATE Ceiling Type Heat Pump Heat Recovery | | | HRUBOX HP 1000 | HRUBOX HP 2000 | HRUBOX HP 3000 | HRUBOX HP 4000 |
|---|---|---|---|---|---|---|
| Air Flow Capacity | | $m^3/h$ | 1000 | 2000 | 3000 | 4000 |
| Exterior Static Pressure | | Pa(maks.) | 80 | 140 | 150 | 50 |
| Cooling Capacity* | | kW | 7,9 | 15,87 | 23,81 | 31,74 |
| Heat-Pump Heating Capacity** | | kW | 10,1 | 20 | 30,26 | 39,84 |
| EER | | | 2,68 | 3,16 | 3,16 | 2,99 |
| COP | | | 3,43 | 3,98 | 4,01 | 3,75 |
| Compressor Power | | kW | 2,2 | 4,13 | 6,45 | 8,1 |
| Motor Power*** | | kW | 0,75 | 0,9 | 1,1 | 2,54 |
| Total Product Power | | kW | 2,95 | 5,03 | 7,55 | 10,64 |
| Product Power Input | | V/Ph/Hz | 400/3/50 | | | |
| Product External Dimensions | Height | mm | 420 | 500 | 550 | 615 |
| | Width | mm | 1150 | 1280 | 1380 | 1510 |
| | Length | mm | 1300 | 1600 | 1850 | 2100 |

Performs both heating and cooling air conditioning operations thanks to the heat-pump system.

*In calculating the cooling capacity, the outdoor temperature 35 °C 40% RH values were taken as reference.
**In calculating the Heat-Pump heating capacity, the outdoor temperature 5 °C 75 % RH values were taken as reference.
*** Manufactured with an AC fan.
Heat recovery exchanger capacity is included in the calculation of Heating, Cooling, EER, COP values. Heat exchanger (electric, water) is recommended as an option for temperatures below 5 °C.

| VIACLIMATE Ceiling Type Heat Pump Heat Recovery | | | HRUBOX EC HP 750 | HRUBOX EC HP 1000 | HRUBOX EC HP 1500 | HRUBOX EC HP 2000 | HRUBOX EC HP 2500 | HRUBOX EC HP 3000 | HRUBOX EC HP 4000 |
|---|---|---|---|---|---|---|---|---|---|
| Air Flow Capacity | | $m^3/h$ | 750 | 1000 | 1500 | 2000 | 2500 | 3000 | 4000 |
| Exterior Static Pressure | | Pa | 130 | 90 | 160 | 225 | 180 | 75 | 110 |
| Cooling Capacity* | | kW | 6.07 | 7.9 | 11.9 | 15.87 | 20 | 23.81 | 31.74 |
| Heat-Pump Heating Capacity** | | kW | 7.89 | 10.1 | 14.6 | 20 | 24.5 | 30.26 | 39.84 |
| EER | | | 2,81 | 3,11 | 3,20 | 3,09 | 3,64 | 3,20 | 3,31 |
| COP | | | 3,66 | 3,98 | 3,92 | 3,90 | 4,45 | 4,06 | 4,15 |
| Compressor Power | | kW | 1,82 | 2,20 | 2,72 | 4,13 | 4,50 | 6,45 | 8,10 |
| Motor Power*** | | kW | 0,338 | 0,34 | 1 | 1 | 1 | 1 | 1,5 |
| Total Product Power | | kW | 2,16 | 2,54 | 3,72 | 5,13 | 5,50 | 7,45 | 9,60 |
| Product Power Input | | V/Ph/Hz | 400/3/50 | | | | | | |
| Product External Dimensions | Height | mm | 390 | 395 | 435 | 435 | 535 | 535 | 600 |
| | Width | mm | 1000 | 1055 | 1060 | 1205 | 1405 | 1405 | 1535 |
| | Length | mm | 1260 | 1410 | 1410 | 1710 | 1910 | 2005 | 2155 |

* In calculating the cooling capacity, the outdoor temperature 35 °C 40% RH values were taken as reference.
** In calculating the Heat-Pump heating capacity, the outdoor temperature 5 °C 75 % RH values were taken as reference.
*** Manufactured with an EC fan.
Heat recovery exchanger capacity is included in the calculation of Heating, Cooling, EER, COP values. Heat exchanger (electric, water) is recommended as an option for temperatures below 5 °C.

# Ceiling Type Heat Recovery
## Optional Heaters

| VIACLIMATE Electric Heater | | | HRUE 4 | HRUE 6 | HRUE 8 | HRUE 10 | HRUE 12 | HRUE 14 |
|---|---|---|---|---|---|---|---|---|
| Electric Heating Capacity | | kW | 4 | 6 | 8 | 10 | 12 | 14 |
| Electric Heater Step | | | 1 | 1 | 1 | 1 | 2 | 2 |
| Total Power | | kW | 4 | 6 | 8 | 10 | 12 | 14 |
| Current | | A | 9 | 13 | 17 | 20 | 24 | 29 |
| Fuse | | | 3x10 | 3x16 | 3x20 | 3x25 | 3x32 | 3x40 |
| Power Input | | V/Ph/Hz | 400/3/50 | | | | | |
| Heater Dimensions | Height | mm | 250 | 310 | 330 | 330 | 390 | 390 |
| | Width | mm | 270 | 340 | 370 | 370 | 440 | 440 |
| | Length | mm | 250 | 300 | 350 | 350 | 400 | 400 |

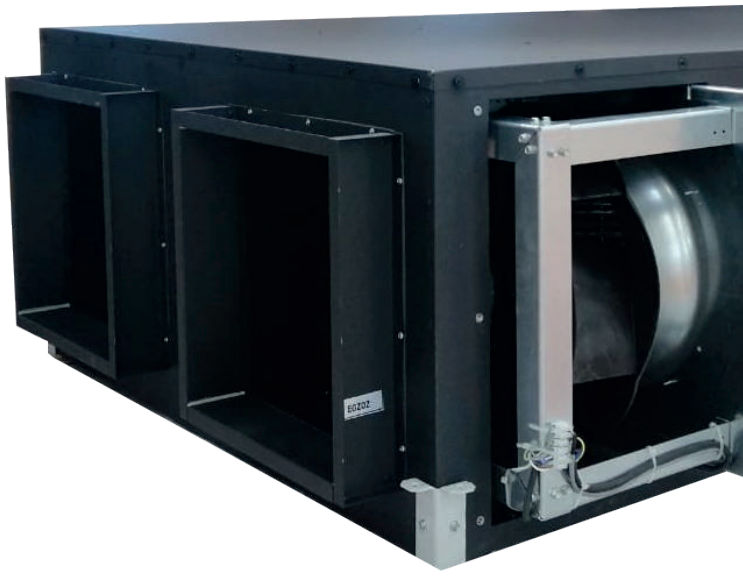
Duct Type Electric Heaters come standard with input fuse installations and contactor assigments completed.
Electric heater coils are manufactured using stainless steel sheets or epoxy-coating as standard.
The installation is packaged together with the heat recovery Product

| VIACLIMATE Water Heater | | | HRUW 8 | HRUW 12 | HRUW 16 | HRUW 20 | HRUW 28 |
|---|---|---|---|---|---|---|---|
| Heating Capacity | | kW | 8 | 12 | 16 | 20 | 28 |
| Water Side Pressure Loss | | Pa | 22 | 24 | 22 | 28 | 30 |
| Water Regime | | °C | 80/60 | | | | |
| Water Heater Connector Diameter | | inç | 3/4 " | 3/4 " | 3/4 " | 1 " | 1 " |
| Isıtıcı Ölçüleri | Yükseklik | mm | 250 | 310 | 330 | 390 | 390 |
| | En | mm | 270 | 340 | 370 | 440 | 440 |
| | Boy | mm | 150 | 150 | 150 | 150 | 150 |

Comes embedded in the ceiling type heat recovery Product as standard.
Motor valve and Case installation is optional.
The control card has a valve motor output as standard.
Electric heater control is provided as an option

# Ceiling Type Heat Recovery
## General Features

### Standard Components
- HRU Standard Control Units



### Case Structure
- Rigid design with Galvanized Sheet
- Easily cleaned interior
- Comes standard with electrostatic powder painted exterior surface.
- 10 mm NFAK acousting insulation

### Filter
- G4 Panel

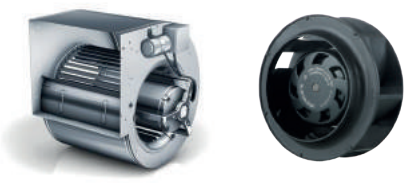
# Ceiling Type Heat Recovery
## General Features

### Optional Components
- Water Heater
- Water Cooler
- Electric Heater
- Gas-filled (DX)
- Water Heat Exchanger Control Valve and Motors
- F7 Filter
- HRU Plus Control Unit


### Fan
- EC
- AC

### Heat Recovery
- Cross current Aluminum Plated (Optional By-pass)
- Counter current Aluminum Plated
- Caseulosic Plated

# Components



## AC Fan

- Double-suction, high-performance and efficiency, self-motorized AC fans
- Capable of operating up to 500 Pa Differential-Pressure in total
- Silent operation
- 5-Step Speed Control

## EC Fan

- Back sloping, high-performance and efficiency, self-motorized EC fans
- Capable of operating up to 500 Pa Differential-Pressure in total
- Silent operation
- Proportional control with a 0-10V signal.

## Filter

- G4 class filter according to EN 779 standard
- Optional F7 class bag filter

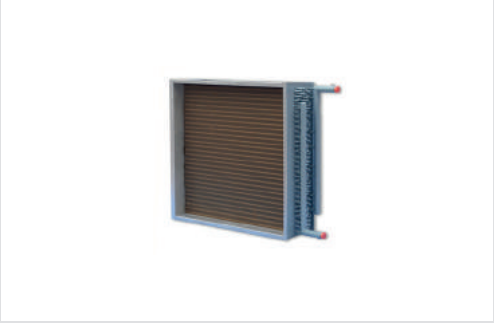
## Aluminum Heat Recovery Exchanger

- Air-to-air heat recovery
- Min. 52% heat recovery efficiency
- High heat transfer, low pressure loss


## HRU Standard Control Unit

- Manual and automatic fan speed control feature
- Heater control feature
- Failure reporting
- Ambient temperature thermostat.

# Optional Components



## Water Cooler Heat Exchanger

- Components that ensure heat transfer from water to air with the movement of cold water running inside the coil.
- Designed for (6°C-10°C) , (7°C- 12°C) or other conditions according to water regime.
- Used with a drift eliminator as standard.
- Used with a double sloped insulated condensate tray made of stainless sheet as standard.

## Water Heater Heat Exchanger

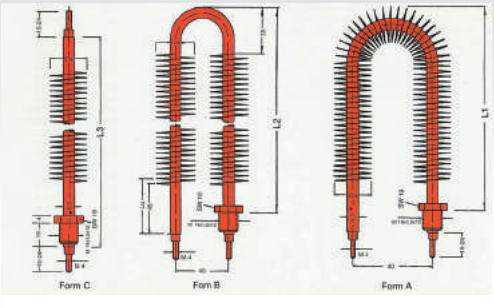
- Components that ensure heat transfer from water to air with the movement of hot water running inside the coil.
- Designed for (90°C-70°C), (80°C-60°C), (70°C-50°C), (60°C-40°C) or other conditions according to water regime.

## Gas Heat Exchanger (Dx)

- Used for air cooling and heating applications with condensing units (external unit).
- Design compatible with R410 coolant
- Used with a drift eliminator as standard.
- Used with a double sloped insulated condensate tray made of stainless sheet as standard.

## Bypass Air Damper

- Plate frost protection
- Free-cooling operation
- IntegCapacityd damper control motor



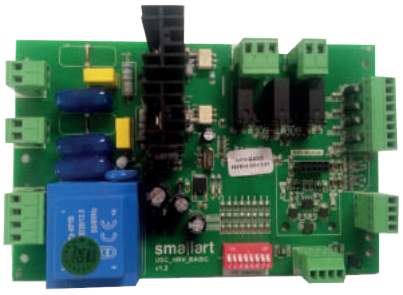

## Electric Heater

- Heating equipment where the electrical energy is transmitted to air via heating coils.
- 380V and electric arcs with equal phase distributions come as standard.
- Manufactured according to the required capacity and number of steps.
- Comes standard with a mechanical safety thermostat.

# Electrical Automation

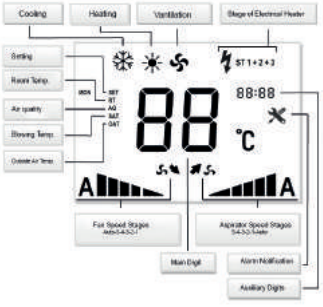
## HRU Standard Control Unit

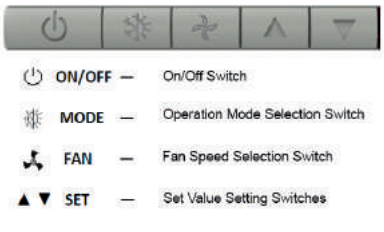
» Manual and automatic fan speed control in AC motors
» Capability of operating with an air quality sensor
» Control and alarm for filter level
» Heater control
» Damper control
» Operating with 7 different scenarios
» Building automation or central computer connectivity with Modbus (RS485) connection
» Product deactivation according to the information sent by the fire station
» Failure reporting
» Motor technical protection
» Summer, winter ventilation position
» Weekly scheduling
» Temperature control via room control panel




## HRU Pro Control Unit

» Manual and automatic fan speed control in EC and AC motors
» Capability of operating with an air quality sensor
» Control and alarm for filter level
» Compressor input and control
» Heating and cooling control in Heat-Pump Products with 4-way valve control output
» Heat recovery Rotary control
» Temperature sensor input and automatic heater activation option
» Preliminary heater control with outdoor air temperature sensor
» Heater or valve control input
» By-Pass damper control and exchanger frost protection
» Operating with 13 different scenarios
» Remote control with Modbus (RS485) connection
» Product deactivation according to the information sent by the fire station
» Failure reporting
» Weekly scheduling
» Temperature control via room control panel





# Air Unit Heater
## content



2 Year Warranty


After Sales Service


Quick Service


Easy Installation


Air Circulation


Wired Controller

## Areas of Use

- Factory
- Workshop
- Gym
- Storage
- Garage

Air Unit Heaters increase the ambient temperature during winter and mid season in areas with high ceilings.

## Advantages

- Can be integCapacityd to the existing water heating system.
- Can be controlled individually with a room thermostat and a speed switch.
- Ensures air circulation.
- A practical solution that can be easily and quickly installed.
- Air blow direction can be adjusted thanks to the mobile air discharge grill.
- Lower initial investment cost compared to central heating systems.

# Air Unit Heater
## Selection Chart

| VIACLIMATE Air Unit Heater | | | Air Input Temperature | Air Output Temperature | Air Input Temperature | Air Output Temperature |
|---|---|---|---|---|---|---|
| | | | 10°C | 35°C | 15°C | 38°C |
| **Operating Conditions** | **Model** | **Blowing Capacity m³/h** | **Heating Capacity kcal/h** | | **Heating Capacity kcal/h** | |
| **90-70°C** | VAHA-70 | 900 | 5100 | | 6600 | |
| | VAHA-71 | 950 | 5400 | | 7000 | |
| | VAHA-72 | 1000 | 5650 | | 7400 | |
| | VAHA-73 | 1250 | 7100 | | 9200 | |
| | VAHA-74 | 1500 | 8500 | | 11000 | |
| | VAHA-75 | 2000 | 11400 | | 14700 | |
| | VAHA-76 | 2500 | 14200 | | 18350 | |
| | VAHA-77 | 3000 | 17000 | | 22000 | |
| | VAHA-78 | 4000 | 22700 | | 29400 | |
| | VAHA-79 | 5000 | 28400 | | 36700 | |
| **80-60°C** | VAHA-60 | 900 | 6200 | | 7700 | |
| | VAHA-61 | 950 | 6600 | | 8200 | |
| | VAHA-62 | 1000 | 6900 | | 8600 | |
| | VAHA-63 | 1250 | 8700 | | 10700 | |
| | VAHA-64 | 1500 | 10400 | | 12900 | |
| | VAHA-65 | 2000 | 13800 | | 17200 | |
| | VAHA-66 | 2500 | 17300 | | 21400 | |
| | VAHA-67 | 3000 | 20700 | | 25700 | |
| | VAHA-68 | 4000 | 27600 | | 34300 | |
| | VAHA-69 | 5000 | 34500 | | 42800 | |
| **70-50°C** | VAHA-50 | 900 | 7300 | | 7700 | |
| | VAHA-51 | 950 | 7700 | | 8200 | |
| | VAHA-52 | 1000 | 8200 | | 8600 | |
| | VAHA-53 | 1250 | 10200 | | 10700 | |
| | VAHA-54 | 1500 | 12200 | | 12900 | |
| | VAHA-55 | 2000 | 16300 | | 17200 | |
| | VAHA-56 | 2500 | 20300 | | 21400 | |
| | VAHA-57 | 3000 | 24400 | | 25700 | |
| | VAHA-58 | 4000 | 32500 | | 34300 | |
| | VAHA-59 | 5000 | 40600 | | 42800 | |
| **60-40°C** | VAHA-40 | 900 | 8400 | | 9900 | |
| | VAHA-41 | 950 | 8900 | | 10500 | |
| | VAHA-42 | 1000 | 9400 | | 11000 | |
| | VAHA-43 | 1250 | 11700 | | 13800 | |
| | VAHA-44 | 1500 | 14000 | | 16500 | |
| | VAHA-45 | 2000 | 18700 | | 22000 | |
| | VAHA-46 | 2500 | 23400 | | 27500 | |
| | VAHA-47 | 3000 | 28000 | | 33000 | |
| | VAHA-48 | 4000 | 37400 | | 44000 | |
| | VAHA-49 | 5000 | 46700 | | 55000 | |

*Heating capacities according to the air input and output temperatures are as shown in the table.
* VIACLIMATE Air Unit Heater code VRHA has an Axial Fan.

# Air Unit Heater

## Selection Chart

| VIACLIMATE Air Unit Heater | | | Air Input Temperature | Air Output Temperature | Air Input Temperature | Air Output Temperature |
|---|---|---|---|---|---|---|
| | | | 10°C | 35°C | 15°C | 38°C |
| **Operating Conditions** | **Model** | **Blowing Capacity m³/h** | **Heating Capacity kcal/h** | | **Heating Capacity kcal/h** | |
| **90-70°C** | VRHA-70 | 900 | 5100 | | 6600 | |
| | VRHA-71 | 950 | 5400 | | 7000 | |
| | VRHA-72 | 1000 | 5650 | | 7400 | |
| | VRHA-73 | 1250 | 7100 | | 9200 | |
| | VRHA-74 | 1500 | 8500 | | 11000 | |
| | VRHA-75 | 2000 | 11400 | | 14700 | |
| | VRHA-76 | 2500 | 14200 | | 18350 | |
| | VRHA-77 | 3000 | 17000 | | 22000 | |
| | VRHA-78 | 4000 | 22700 | | 29400 | |
| | VRHA-79 | 5000 | 28400 | | 36700 | |
| **80-60°C** | VRHA-60 | 900 | 6200 | | 7700 | |
| | VRHA-61 | 950 | 6600 | | 8200 | |
| | VRHA-62 | 1000 | 6900 | | 8600 | |
| | VRHA-63 | 1250 | 8700 | | 10700 | |
| | VRHA-64 | 1500 | 10400 | | 12900 | |
| | VRHA-65 | 2000 | 13800 | | 17200 | |
| | VRHA-66 | 2500 | 17300 | | 21400 | |
| | VRHA-67 | 3000 | 20700 | | 25700 | |
| | VRHA-68 | 4000 | 27600 | | 34300 | |
| | VRHA-69 | 5000 | 34500 | | 42800 | |
| **70-50°C** | VRHA-50 | 900 | 7300 | | 7700 | |
| | VRHA-51 | 950 | 7700 | | 8200 | |
| | VRHA-52 | 1000 | 8200 | | 8600 | |
| | VRHA-53 | 1250 | 10200 | | 10700 | |
| | VRHA-54 | 1500 | 12200 | | 12900 | |
| | VRHA-55 | 2000 | 16300 | | 17200 | |
| | VRHA-56 | 2500 | 20300 | | 21400 | |
| | VRHA-57 | 3000 | 24400 | | 25700 | |
| | VRHA-58 | 4000 | 32500 | | 34300 | |
| | VRHA-59 | 5000 | 40600 | | 42800 | |
| **60-40°C** | VRHA-40 | 900 | 8400 | | 9900 | |
| | VRHA-41 | 950 | 8900 | | 10500 | |
| | VRHA-42 | 1000 | 9400 | | 11000 | |
| | VRHA-43 | 1250 | 11700 | | 13800 | |
| | VRHA-44 | 1500 | 14000 | | 16500 | |
| | VRHA-45 | 2000 | 18700 | | 22000 | |
| | VRHA-46 | 2500 | 23400 | | 27500 | |
| | VRHA-47 | 3000 | 28000 | | 33000 | |
| | VRHA-48 | 4000 | 37400 | | 44000 | |
| | VRHA-49 | 5000 | 46700 | | 55000 | |

* Heating capacities according to the air input and output temperatures are as shown in the table.
* VIACLIMATE Air Unit Heater code VRHA has a Radial Fan.

# Shelter Ventilation System
## content



## Effective Filtration

- Under normal conditions, the shelter is provided with filtered fresh air, using a G4 filter, thanks to the By-Pass air damper which comes standard with the Shelter Fresh Air Handling Unit.
- In cases of potential danger; G4, Active Carbon Filter, Nuclear HEPA Filter will be used.
- The air is cleansed of all toxic gases and contaminating particles thanks to the lead separator and lead lining on interior panels, which can be purchased optionally.

## Double Mode Operation

- The emergency and regular dampers of the Shelter Unit have spring-loaded return mechanism and ON/OFF control.
- The relevant damper position is opened according to the operating mode of the Product (regular time, danger conditions).
- Viaclimate electrical automation department provides double mode operation control services.

## Protection from Nuclear Attacks

- Viaclimate shelter units utilize nuclear-type filters.
- Specially designed by Viaclimate engineers to protect you from the sudden (light, heat, pressure, initial radiation) and residual fallout effects of nuclear weapons and weapons of chemical and biological warfare.

# Shelter Ventilation System
## General Features

### Case Structure
- Unit type according to EN1886 standards
- Two different designs according to air flow Capacity
- 60mm double-walled panels
- 90 kg/m3 A1 class rock wool
- By-Pass aluminum air damper

### Radioactive Hepa Filter
- H13 class, resistant against high temperatures
- Filters out even radioactive materials thanks to its superior filtration capabilities
- Galvanized sheet Case

### Moving Mechanism
- Back sloping, high-performance, V-belt drive fan
- AC motor of IE2 or IE3 energy class

### Lead Separator
- Reduces the effects of harmful X rays, IP20 or IP21 protection class
- Lead separator panels

### G4 Filter
- G4 class according to EN 779 standard
- SepaCapacitys coarse and finer particles
- Galvanized sheet Case

### Active Carbon Filter
- Molecular filtration according to EN 779 standard
- Holds foul odors and toxic gases
- Galvanized sheet Case

# Shelter Ventilation System
Selection Chart

| VIACLIMATE Shelter Unit | | | Duct Type ** | | | Handling Unit Type *** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | SSV 400 | SSV 850 | SSV 1700 | SSV 3400 | SSV 5100 | SSV 6800 | SSV 7650 | SSV 10200 |
| Air Flow Capacity | | $m^3/h$ | 400 | 850 | 1700 | 3400 | 5100 | 6800 | 7650 | 10200 |
| Exterior Static Pres-sure | | Pa | 350 | 350 | 400 | 400 | 350 | 350 | 350 | 350 |
| Roughing - Active Carbon - Radioacti-ve Filter | | mm | 305x305 | 305x305 | 305x610 | 610x610 | 610x915 | 610x1220 | 915x915 | 915x1220 |
| Lead Separator * | | mm | 305x305 | 305x305 | 305x610 | 610x610 | 610x915 | 610x1220 | 915x915 | 915x1220 |
| Total Product Power | | kW | 0,37 | 0,75 | 1,5 | 3 | 4 | 5,5 | 5,5 | 7,5 |
| Product Power Input | | V/Ph/Hz | 400 / 3 / 50 | | | | | | | |
| Product Dimensions | Height | mm | 550 | 550 | 550 | 832 | 832 | 832 | 1138 | 1138 |
| | Width | mm | 550 | 600 | 650 | 732 | 1038 | 1344 | 1038 | 1344 |
| | Length | mm | 800 | 850 | 900 | 2500 | 2610 | 2610 | 2760 | 2950 |

* Lead separator comes as optional.

** Duct type shelter units are self motorized and have directly coupled fans.

*** Handling Unit type shelter units have double-suction, thin-bladed fans.

Lead plating on the interior surfaces of the Products is optional in Shelter Units.

# Electrical Automation

Viaclimate Shelter Ventilation Unit Electrical Automation control features

- MCC and DDC panel design from a single control point
- Double mode operation
- Air flow Capacity adjustment with frequency inverter
- Filter contamination warnings
- Capability of operating in conjunction with an air quality sensor
- Modbus (RS485) communication protocol
- Operation time scheduling

# Exhausted Unit and Ventilator
## content



# Why **ViaClimate?**

## High Energy Efficiency

- Viaclimate Exhausted Units are manufactured using AC or EC motors of IE3 or higher classes, as per the ERP 2018 regulations.
- V-belt drive fans, plug fans or EC motor fans used in our Products ensure high energy efficiency.
- Has a modern Case, structure and static, dynamic balance settings in order to secure high efficiency and energy savings.


## Ventilation

- Used for the purpose of meeting the fresh air demands, ensuring air circulation and maintaining the correct ambient pressure in ventilation and air conditioning systems.
- Optional filter groups filter out the air sent indoors by the fresh air line and meet fresh air requirements.

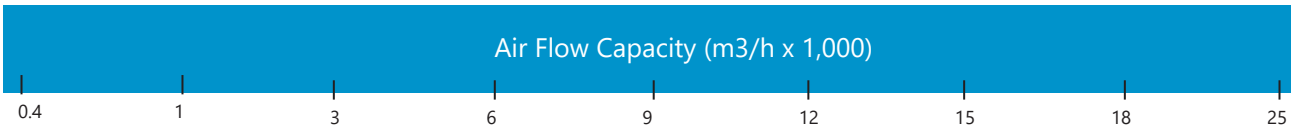
## Flexible Areas of Use

- Areas of use: offices, cafeterias, markets, restaurants, meeting rooms, shopping malls, banks, hospitals, kitchens, industrial facilities etc.
- Wet areas.

## Quality Standards

- Featuring low or high suction and blowing capacities in order to clean the environmental air in locations that do not require heating and cooling, according to the physiological features of the environmental air to be used, our Products are manufactured at a high quality level.

# Products Overview









Air flow Capacity chart is intended for visual and informative purposes.

# Exhausted Units and Ventilators

## Selection Chart

| VIACLIMATE Caseular Fans | | | AIRBOX AC 25 | AIRBOX AC 40 | AIRBOX AC 60 | AIRBOX AC 80 | AIRBOX AC 100 | AIRBOX AC 120 | AIRBOX AC 150 | AIRBOX AC 180 | AIRBOX AC 200 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Air Flow Capacity | | $m^3/h$ | 2500 | 4000 | 6000 | 8000 | 10000 | 12000 | 15000 | 18000 | 20000 |
| Exterior Static Pressure | | Pa | 300 | 300 | 350 | 500 | 350 | 750 | 500 | 350 | 350 |
| Fan Type | | Thick/Thin | 7-7/225R | 9-9/250R | 12-9/280R | 12-12/315R | 15-15/355R | 15-15/400R | 18-18/450R | 500R/500R | 500R/500R |
| Total Product Power | | kW | 0,75 | 1,1 | 2,2 | 2,2 | 3 | 4 | 5,5 | 5,5 | 7,5 |
| Product Power Input | | V/Ph/Hz | 400 / 3 / 50 | | | | | | | | |
| Product External Dimensions | Height | mm | 832 | 832 | 985 | 1138 | 1291 | 1444 | 1444 | 1597 | 1750 |
| | Width | mm | 732 | 732 | 885 | 1038 | 1191 | 1344 | 1344 | 1497 | 1650 |
| | Length | mm | 910 | 910 | 1060 | 1060 | 1210 | 1210 | 1360 | 1510 | 1510 |

| VIACLIMATE EC Caseular Fans | | | AIRBOX EC 25 | AIRBOX EC 40 | AIRBOX EC 60 | AIRBOX EC 80 | AIRBOX EC 100 | AIRBOX EC 120 | AIRBOX EC 150 | AIRBOX EC 180 |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Flow Capacity | | $m^3/h$ | 2500 | 4000 | 6000 | 8000 | 10000 | 12000 | 15000 | 18000 |
| Exterior Static Pressure | | Pa | 300 | 500 | 450 | 500 | 350 | 750 | 500 | 350 |
| Fan Type | | mm | Ø250 | Ø310 | Ø355 | Ø400 | Ø400 | Ø450 | Ø500 | Ø560 |
| Total Product Power | | kW | 0,5 | 1,23 | 1,9 | 2,5 | 3,35 | 5,25 | 5,7 | 5 |
| Product Power Input | | V/Ph/Hz | 220/1/50 | | | | 400/3/50 | | | |
| Product External Dimensions | Height | mm | 832 | 985 | 985 | 1138 | 1291 | 1444 | 1444 | 1597 |
| | Width | mm | 732 | 885 | 885 | 1038 | 1191 | 1344 | 1344 | 1497 |
| | Length | mm | 732 | 885 | 885 | 1038 | 1191 | 1344 | 1344 | 1497 |

| VIACLIMATE Duct Type Fans | | | VKY 190 | VKY 225 | VKY 250 | VKY 280 | VKY 355 | VKY 400 | VKY 450L | VKY 450H |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Flow Capacity | | $m^3/h$ | 395 | 865 | 1250 | 1440 | 1740 | 3315 | 4725 | 6000 |
| Exterior Static Pressure | | Pa | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Total Product Power | | W | 60 | 135 | 230 | 230 | 210 | 430 | 800 | 1100 |
| Product Power Input | | V/Ph/Hz | 220/1/50 | | | | | | | 400/3/50 |
| Product External Dimensions | Height | mm | 150 | 200 | 200 | 250 | 350 | 400 | 500 | 500 |
| | Width | mm | 300 | 400 | 400 | 500 | 600 | 700 | 800 | 850 |
| | Length | mm | 400 | 400 | 400 | 600 | 700 | 800 | 900 | 900 |

| VIACLIMATE Roof Type Fans | | | VCY 190 | VCY 225 | VCY 250 | VCY 280 | VCY 355 | VCY 400 | VCY 450L | VCY 450H |
|---|---|---|---|---|---|---|---|---|---|---|
| Air Flow Capacity | | $m^3/h$ | 405 | 870 | 1280 | 1510 | 1780 | 3340 | 4760 | 6040 |
| Exterior Static Pressure | | Pa | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Total Product Power | | W | 60 | 135 | 230 | 230 | 210 | 430 | 800 | 1100 |
| Product Power Input | | V/Ph/Hz | 220/1/50 | | | | | | | 400/3/50 |
| Product External Dimensions | Height | mm | 300 | 300 | 300 | 380 | 380 | 450 | 480 | 480 |
| | Width | mm | 300 | 300 | 350 | 350 | 450 | 600 | 700 | 700 |
| | Length | mm | 300 | 300 | 350 | 350 | 450 | 600 | 700 | 700 |

The exterior static pressure losses of the Exhausted Unit designs carried out according to air flow Capacitys are at the maximum level.

# Exhausted Units and Ventilators

## General Features

### Case Structure

- Designed according to EN1886 standards.
- Double-walled, sound-insulated units. 60mm panel thickness,
- 90 kg/m3 A1 class rock wool.
- Aluminum profile Case with heat bridge.
- Straight case design

### Fan

- EC
- Plug
- EC Radial
- Double Inlet
- Double Inlet (Back Sloping)
- Ex-proof


### Filter

- G2 - G4 Panel
- M5 - F9 Bag
- Panel Carbon

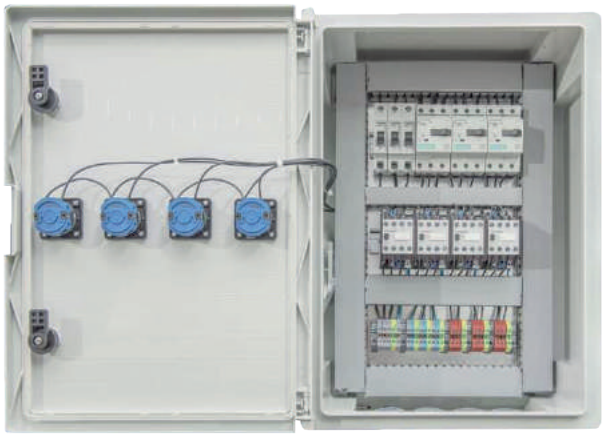
### Optional Accessories

- Air Damper
- Thermal Pacco Switch
- Emergency Stop
- Internal Lighting
- Door Switch
- Roof Sheet
- Hood
- MCC Control Panel
- ...

# Electrical Automation

## MCC Panel Control

- Fixed frequency (Star)
- Fixed frequency (Delta)
- Fixed frequency (Star-Delta)
- Variable frequency (With frequency inverter)
- Pacco switch
- Warning lights

## DDC Panel Control

- Differential pressure switch
- Fark-Pressure sensor
- Air quality sensor
- Damper motor
- Frequency inverter
- Emergency Stop

Brands of electrical automation equipment may differ from the project and specifications.
See pages 24 - 27 for the electrical automation process.

## TECHNICAL SERVICE TRACKING CHART

| | 3-MONTH | 4-MONTH | 6-MONTH | ANNUAL |
|---|---|---|---|---|
| Air Handling Unit | | ✓ | | |
| Hygienic Air Handling Unit | ✓ | | | |
| Pool Dehumidification Unit | ✓ | | | |
| Heat-Pump Air Handling Unit | ✓ | | | |
| Rooftop Packaged Air Handling Unit | ✓ | | | |
| Kitchen Exhaust and Air Hand-ling Unit | ✓ | | | |
| Ceiling Type Heat Recovery Units | | | ✓ | |
| Exhausted Unit / Ventilator | | | | ✓ |
| Shelter Ventilation System | | | | ✓ |
| Air Unit Heater | | | | ✓ |

Periodic maintenance will be performed on the products commissioned by VIACLIMATE Technical Service Personnel in order to ensure continuous system efficiency and to prevent any loss of performance in the long term.

| | |
|---|---|
| 3-MONTH | Periodic maintenance that encompasses Hygienic Air Handling Units, Pool Dehumidification Units, Packaged Heat-Pump Air Handling Units, Rooftop Packaged Air Handling Units, Kitchen Exhaust and Air Handling Units. Includes the general inspection of the operational mecha-nisms of the product; Filter cleaning and, if necessary, replacement; Inspection of power supplies. |
| 4-MONTH | Periodic maintenance that encompasses Air Handling Units. Includes the inspection of operational mechanisms that vary according to the moving parts; inspection and, if necessary, the replacement of belt-and-pulley mechanisms; inspection and, if necessary, replacement of air filters; inspection of power supplies. |
| 6-MONTH | Maintenance that encompasses Ceiling Type Heat Recovery Units. Includes the inspection of exchangers; Filter cleaning and, if necessary, replacement; inspection of moving parts and power supplies. |
| ANNUAL | Maintenance that encompasses the Exhausted Unit / Ventilator, Shelter Ventilation System, Air Unit Heaters. Includes the general inspection of the products; inspec-tion and, if necessary, replacement of moving parts; Filter cleaning and, if necessary, replacement. |

*The content of the periodic maintenance procedures to be carried out by VIACLIMATE technical personnel may vary depending on the product

**Since the products that have not been commissioned by VIACLIMATE technical personnel or products for which periodic maintenance procedures have been omitted will not be covered within the scope of product warranty, we as VIACLIMATE recommend that the periodic maintenance of the products is performed in a timely manner.

- In performing their service duties, VIACLIMATE Technical Service Teams aim to look out for the safety of the customer, ensure customer satisfaction and continuously expand our service network with our references.
- With our services, we ensure that our Products have longer and more efficient service lives by selecting all spare parts in accordance with the standards.

# Your Notes

# Your Notes

VIACLIMATE®
AIR TECHNOLOGIES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