Envistar®

A flexible range of air handling units
with integrated control equipment

Envistar® Top

Envistar® Compact

Envistar® Flex

Photo: Jostein Bye Sørum

IV PRODUKT

Air handling with focus on LCC

We have been conserving the Earth's **resources** for more than fifty years

Copenhagen Airport, Harpa Concert Hall in Reykjavik, sports arenas, schools, offices, hospitals, shopping centres and homes in a number of countries all have low energy consumption thanks to IV Produkt. IV Produkt has been involved in a long list of projects. With energy-efficient air handling units, we make it possible to recover energy, increase property value and conserve the Earth's resources.

IV Produkt is a privately-owned company based in Växjö in the Swedish county of Småland that develops and manufactures innovative solutions for air handling. We have been doing this since 1969.

Today, we are the market leader and have the fastest development rate in the industry. Quick turnaround times make us efficient, and the way in which we take responsibility makes it both safe and easy for you as a customer.

Energy efficiency and environmental concerns have been part of our business concept since 1991, prompting us to focus on the life cycle cost, LCC. In other words, the total cost of purchasing, operation, service and environmental impact. We want this cost to be as low as possible and regard it as a natural aspect of our product development. We are ISO certified under 9001 and 14001, which we consider essential.

Development, production and head office in Växjö.

Our products and many years of experience enable us to identify innovative solutions for air handling which are perfect for your particular project.
We will gladly help you personally to achieve our common goal of protecting the Earth's resources.

EUROVENT CERTIFIED PERFORMANCE
AHU 00.09.027 and AHU 05.07.300
Flexomix and Envistar
www.eurovent-certification.com

Eurovent Certification is a certification body which verifies the performance of air handling units in accordance with European and international standards. It allows products from different manufacturers to be compared on equal terms.

Our Envistar and Flexomix air handling units have been tested by Eurovent in accordance with EN 1886 and EN 13053. When performance calculations carry the above mark, you can be sure they have been certified by Eurovent Certification.

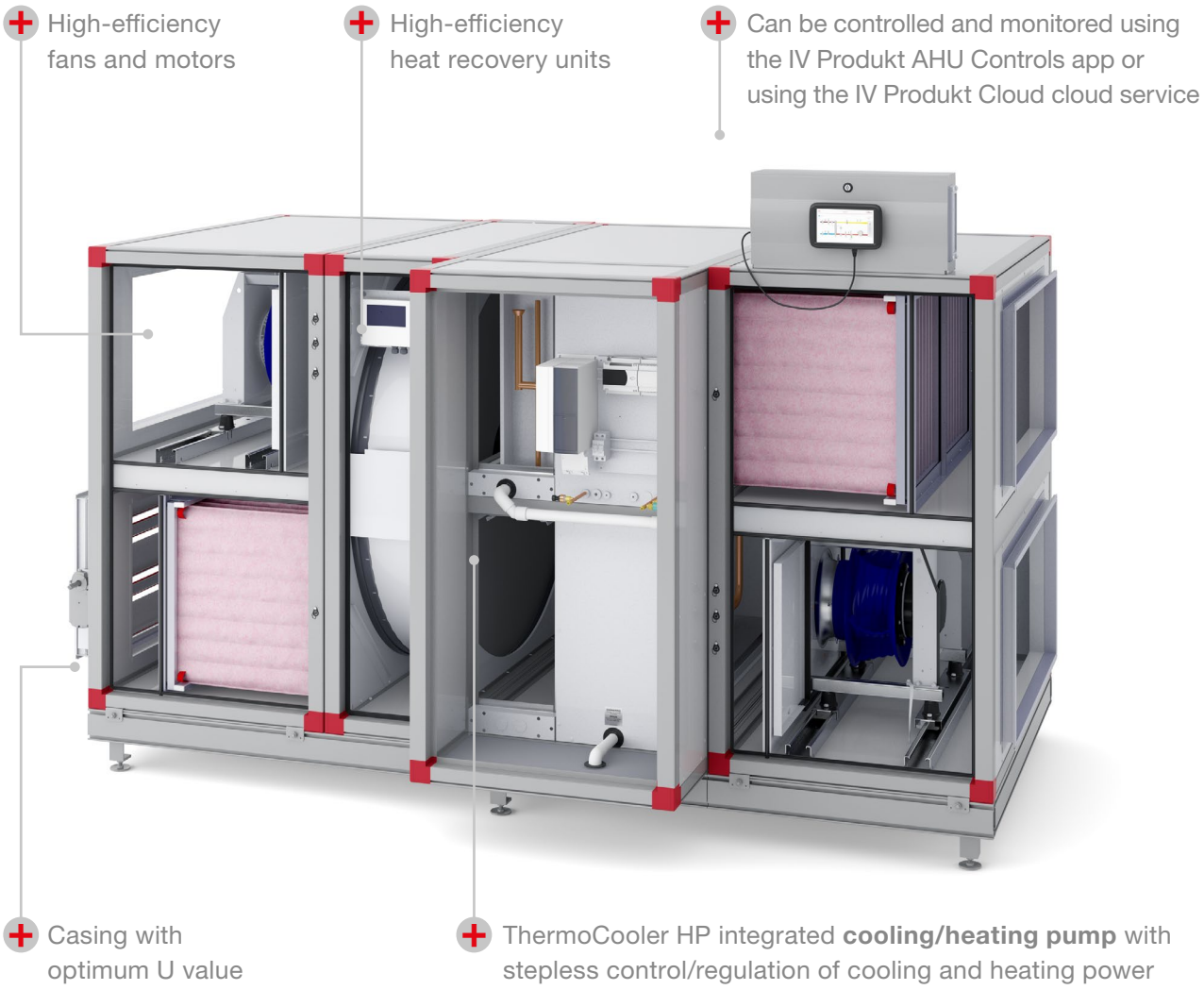
The total **solution** that meets your needs

The Envistar range consists of the Envistar Top, Envistar Compact and Envistar Flex models. These are innovative unit-based solutions that provide high flexibility at the right price. The whole range has integrated control equipment. The units have been developed with consideration to the market's need for low installation and operating costs. The Envistar range can be used in all types of property, e.g. schools, offices, hotels, shopping centres, industrial premises and hospitals.

home concept

We have developed Home Concept for blocks of flats, which is specially adapted for energy-efficient homes. Read more about Envistar Home Concept in the separate brochure.

Envistar®



Envistar® Top

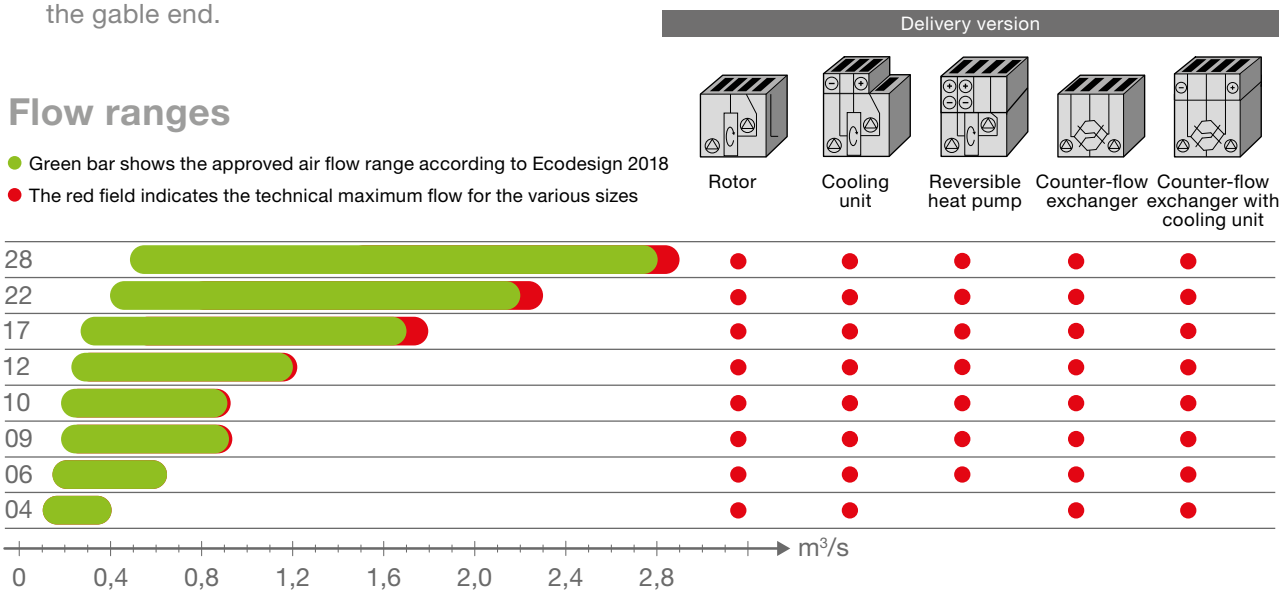
A top-connected duct connection is best suited in approx. 70 percent of systems with air flow ranges up to 2.8 m³/s. Envistar Top saves up to 75 percent of floor space compared to a traditional installation. This makes Envistar Top the most economic and energy-efficient solution for the available floor space. The Envistar Top series has been adapted to allow transport in through narrow door openings and tight passages.

- 8 sizes, air flow 0.10–2.80 m³/s
- Can be controlled and monitored using the IV Produkt AHU Controls app or using the IV Produkt Cloud service
- The EcoCooler cooling unit with cooling recovery. Stepless control/regulation of the cooling power via a frequency inverter
- ThermoCooler HP integrated reversible heat pump with stepless control of cooling and heating power
- Energy recovery unit – rotor or counter-flow exchanger
- Fans with high-efficiency EC motors
- Folded bag filters
- **new!** Two of the connections can be placed on the gable end.

Supplied as module in sections in the sizes 09, 12, 17, 22 and 28.

Flow ranges

- Green bar shows the approved air flow range according to Ecodesign 2018
- The red field indicates the technical maximum flow for the various sizes

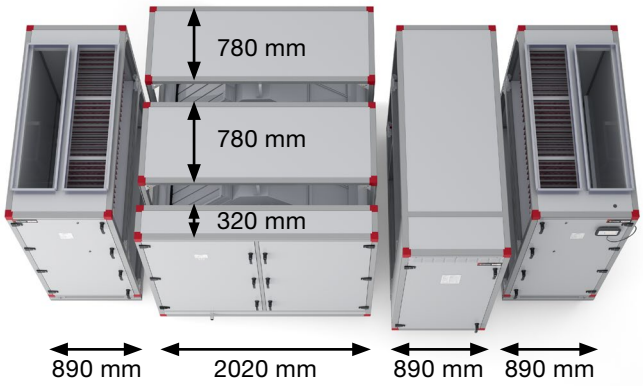


Innovative solutions

More and more customers are choosing a unit with a counter-flow exchanger from our Home Concept. These units are not only suitable for homes, but also for other projects. One of the greatest advantages is that the air flow streams are separated. The unit is available as a single unit or in sections. For some projects, the passage to the fan room can be tight, which is when using sections can be a good approach.

- Air flow 0.13–2.80 m^3/s
- High-efficiency heat recovery unit that can achieve a dry temperature efficiency of 85 percent
- The cooling unit EcoCooler with counter-flow heat exchanger
- Unique patented defrosting technology – Optimised Defrosting System (ODS) – which ensures the highest possible annual efficiency
- No risk of odour transfer

new! Envistar Top with EcoCooler & counter-flow heat exchanger



Envistar Top size 28 with EcoCooler and split counter-flow exchanger.

We want to make day-to-day life easier for the installer

Our ambition is to develop our units according to requests from users and installers, and we know that it can be complicated and expensive to get the unit into the building. We have therefore created the unique solution of splitting the counter-flow exchanger widthways for Envistar Top in sizes 09, 12, 17, 22 and 28. We hope this will make it easier for you to get the unit into the building, and even into tight lifts.

Smart installation approach with Envistar Top

Connection in the top saves space and money

A top-connected unit on each floor means a major saving when it comes to floor space compared to an installation where a larger gable-connected unit supplies the entire building with air. In this example, the total saving is 66 percent.

When the ducts are connected in the top, the unit can be positioned directly behind doors. When the doors are open, the surface in front of the unit functions as a service area. This either means that more lettable space is created or that the construction cost is lowered. The total installation cost for this project is also lower compared to a gable-connected installation.

With cooling unit EcoCooler or reversible heat pump ThermoCooler HP integrated into the unit, roof space is freed up that can be used for a nice terrace with endless possibilities. The property becomes more attractive, space is freed up, the value increases and the rental income increases.

A plant room measuring 30 m² is required for a gable-connected unit, while the corresponding surface area for the three top-connected units is as small as 10 m².

Envistar® Compact

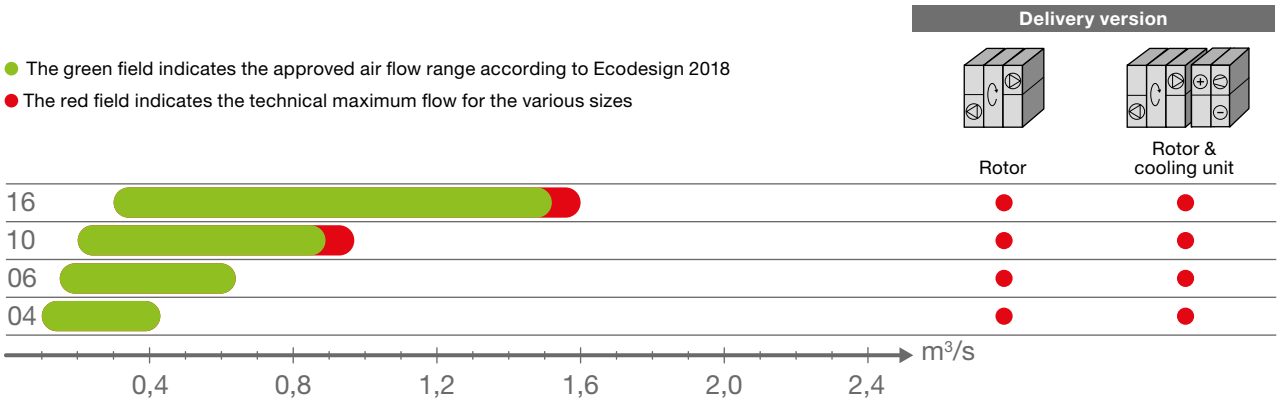
Envistar Compact has extremely compact measurements, which means that it fits perfectly into tight spaces.

The unit can be connected to ducts at the gables or via two of the connections at the top, and is also available in a configuration for installation outdoors.

Envistar Compact offers a simple and cost-efficient installation.

- 4 sizes
- Air flow 0.10–1.50 m^3/s
- Can be controlled and monitored using the IV Produkt AHU Controls app or using the IV Produkt Cloud service
- Energy optimisation function – ECO
- StarCooler cooling unit
- Rotary heat exchanger
- Outdoor configuration
- Fans with high-efficiency EC motors
- Deep-folded bag filters

Envistar Compact is available in sizes 04, 06, 10 and 16.



Envistar® Flex

Envistar Flex is available with a wide range of fans, motors and heat recovery units to ensure everything you need for energy-optimised air handling.

The units are designed for comfort ventilation of premises, and are suitable for most types of property, e.g. hospitals, schools, offices, shops and industrial premises.

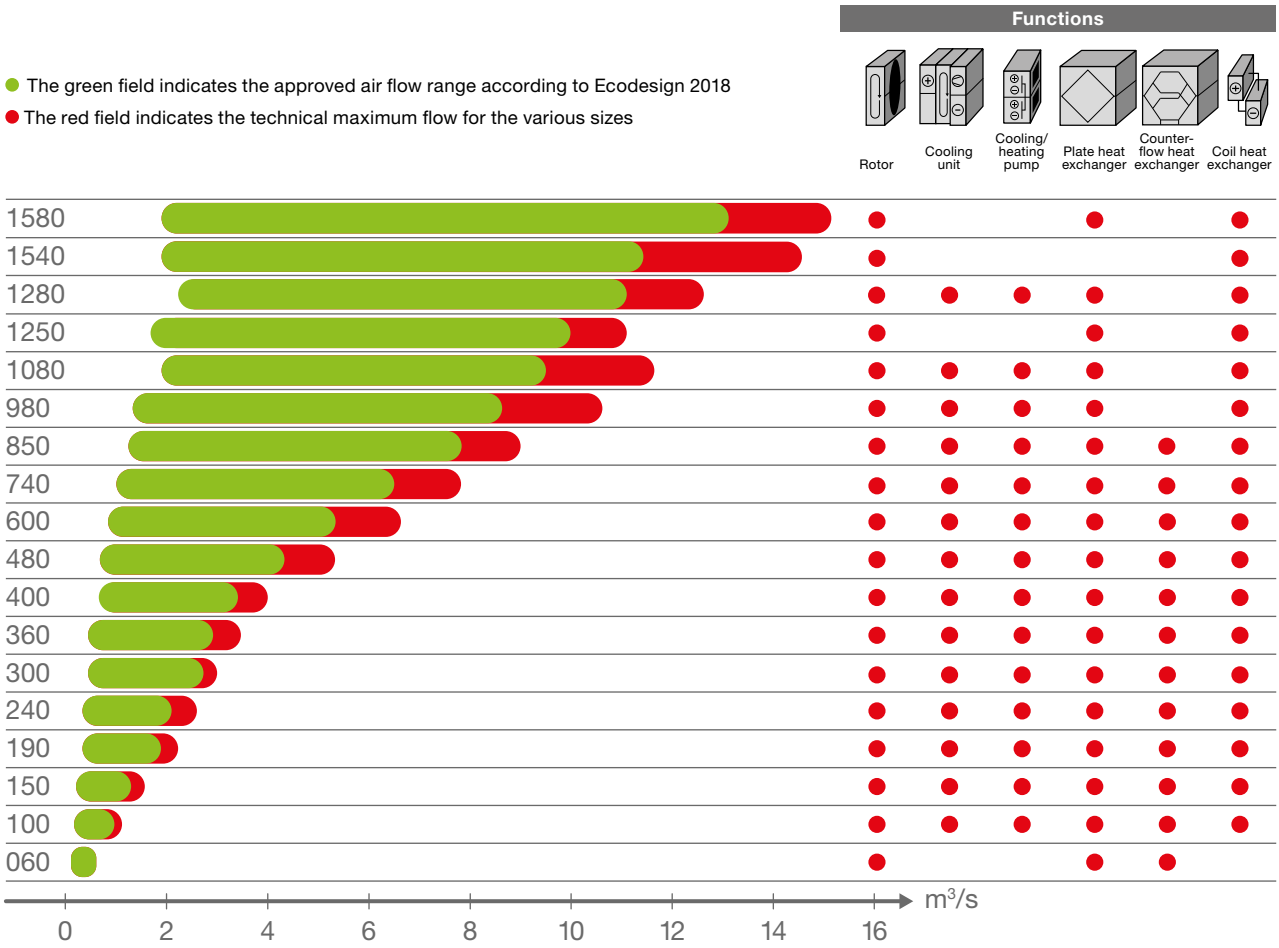
Envistar Flex can be delivered in sections to facilitate transport. Most modules will fit through a 900 mm-wide opening.

- 18 sizes
- Air flow 0.10–13.0 m^3/s
- Can be controlled and monitored using the IV Produkt AHU Controls app or using the IV Produkt Cloud service
- Energy optimisation function – ECO
- Rotary heat exchanger, plate heat exchanger, counter-flow exchanger or coil recovery
- EcoCooler cooling unit, also with cooling recovery. Stepless control of the cooling power via a frequency inverter
- ThermoCooler HP integrated cooling/heating pump with stepless control/regulation of cooling and heating power
- The fans have PM motors with EC or frequency inverter control
- Mixing section, recirculating unit
- Outdoor configuration

Handles all climates

Envistar Flex can be delivered factory-mounted in genuine outdoor version.
The unit is ready to be used, which allows fast and easy installation.

- The green field indicates the approved air flow range according to Ecodesign 2018
- The red field indicates the technical maximum flow for the various sizes



Makes the installers' everyday life easier

When we develop AHUs, a lot of effort is invested to make it easy to transport the units into the property. Thanks to our extensive experience, we have developed many smart solutions that make it easy and cost-effective to position the air handling units on the installation site, without impacting on the building.

- Customised to simplify site transportation
- Minimal unit dimensions and smart quick connections
- Significant cost savings

The aim of Easy Access has been to transport as large units as possible through a normal door with a width of 90 cm. Thanks to this, units with an air flow of approximately 4.5 m^3/s can now be transported through a door with standard dimensions.

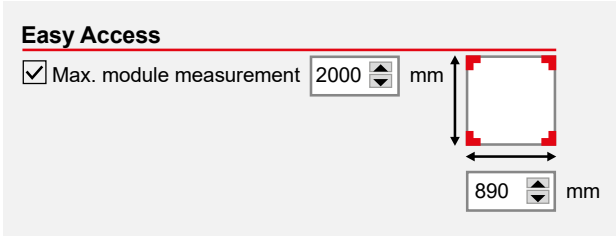
Easy Access gives great savings in time and costs compared to delivering the units in flat packs and assembling on site. Installation is faster, and hole making or other impacts on the building can be avoided.

Quick and easy with smart electrical connections

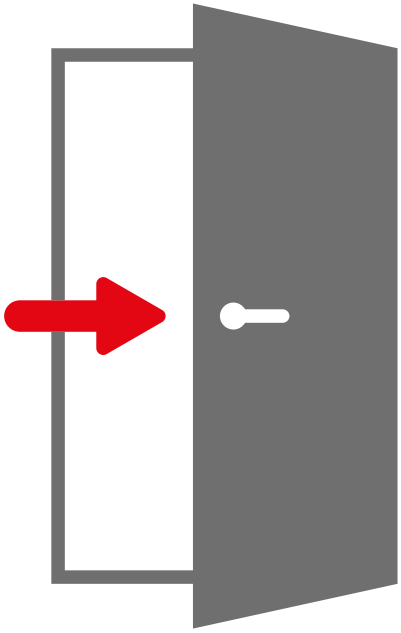
Through smart design, the fitter can quickly and easily handle the units' electrical connections on site in the plant room.

Complete CE-marked units

Our integrated cooling units EcoCooler and reversible heat pumps ThermoCooler HP can, with the new concept Easy Access, be supplied in split versions. The assembled unit is tested in our production facility, to ensure optimal performance and CE marking before delivery. Service personnel, certified by us, join and fill the cooling circuit and perform installation leakage testing on the installation site.



The required maximum module dimensions for the AHU projects can be specified in our product selection program IV Produkt Designer. The program then automatically divides the unit into smaller module parts, which are adapted to the specified dimensions, where possible.



easy access

developed with doors in mind

Scan the code to visit **www.ivprodukt.com/easy-access** and experience the concept.

new! Easy Access for EcoCooler and ThermoCooler HP

An air handling unit with the measurements W 2220 × H 2465 × L 3760 mm can be transportet into the plant room through a door with standard dimensions with our new concept Easy Access. The air handling unit is supplied with the integrated reversible heat pump ThermoCooler HP.

Pleasant indoor climate

The entire Envistar range is available with an integrated cooling unit. As a result, you get a turnkey solution for ventilation and comfort cooling which does not require any outdoor installations.

All the cooling unit's components are built into the air handling unit. You get a complete CE-marked installation, which is always tested at our test facility. A unit with integrated cooling requires significantly less energy than one with an external cooling unit.

Within the Envistar range, there are two different integrated cooling units: EcoCooler and StarCooler.

EcoCooler

EcoCooler is the optimum integrated cooling unit for Envistar Top and Envistar Flex.

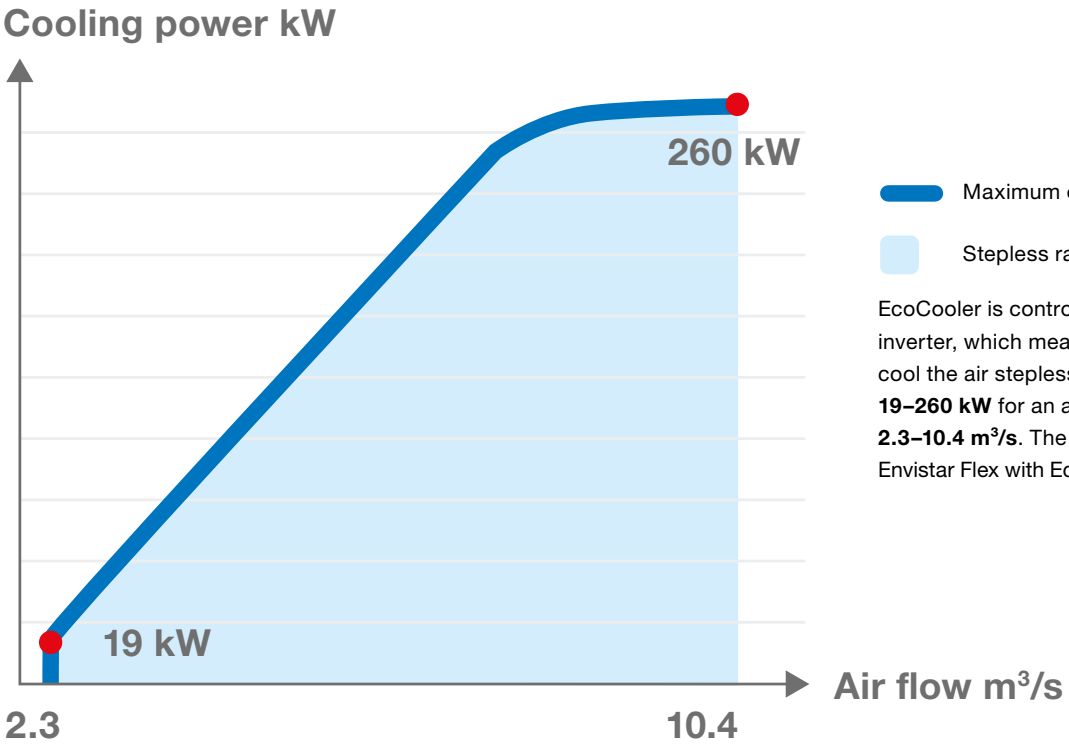
In some buildings, air flow varies greatly, while requirements are strict for accurate control/regulation of the supply air temperature. EcoCooler meets the requirements through stepless control of the cooling power via a frequency inverter.

- Envistar Top with EcoCooler has an air flow of 0.12–2.8 m^3/s and a cooling power of 1.6–75 kW
- Envistar Flex with EcoCooler has an air flow of 0.25–10.4 m^3/s and a cooling power of 3–260 kW
- High EER (COP), 4–7
- Ideal for large variable air flows, VAV
- Available with cooling recovery
- No outdoor installations
- Short build lengths for simple transport and smaller installation space
- Complete CE-marked cooling installation
- No regulatory requirements on annual inspection for Envistar Top in sizes 04, 06, 09, 10 and 12

Envistar Top with EcoCooler.

Read more about EcoCooler in the separate brochure. Envistar Compact is delivered with the StarCooler cooling unit, which uses capacity regulation.

Stepless control



Maximum output

Stepless range

EcoCooler is controlled by the frequency inverter, which means that the unit can cool the air steplessly between **19–260 kW** for an air flow between **2.3–10.4 m³/s**. The example shows Envistar Flex with EcoCooler in size 1280.

Cooling recovery

The EcoCooler cooling unit is available with an integrated rotary heat exchanger for cooling recovery in sequence with the cooling unit. This maximises energy utilisation and ensures a low connected power load.

The rotary heat exchanger can be selected in different configurations for optimal energy recovery. The rotors are also available with a hygroscopic surface, further reducing energy use.

On a hot summer's day with an outdoor temperature of 28°C, we can recover sufficient cooling from the extract air to cool the supply air to 23.5°C. In this case, we only need to cool the air by 7.5°C instead of 12°C in order to achieve an inlet temperature of 16°C.

Heat pump & cooling unit in one

The reversible ThermoCooler HP cooling/heating pump can be integrated into Envistar Top and Envistar Flex.

All parts of the cooling/heating pump are incorporated in a module section, which is located in the air handling unit. This means that you receive a total solution for heating ventilation air and comfort cooling in one unit. Since everything is integrated in the air handling unit, there is no need for heating coils, run-around coils or outdoor cooling installations. The installation is complete, CE-marked and always tested in our test facility before delivery.

A unit with integrated cooling/heating pump is more energy efficient than a traditional cooling installation with external cooling unit and heating coil.

ThermoCooler HP

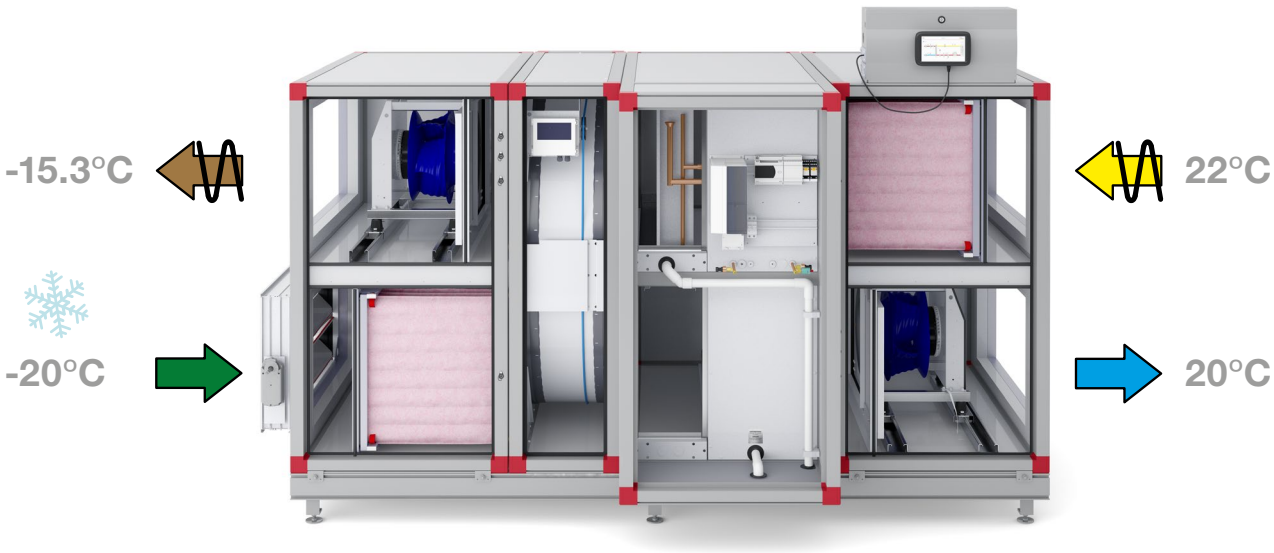
The scroll compressors have PM motors and are speed controlled. The expansion valves are electronic and the unit dimensions are adapted to facilitate transport into the building.

ThermoCooler HP is the optimal integrated cooling/heating pump for Envistar Flex.

In some buildings, air flow varies greatly, while requirements are strict for accurate control/regulation of the supply air temperature. ThermoCooler HP meets the requirements through stepless control of the cooling and heating power via a frequency inverter.

- Envistar Top with ThermoCooler HP air flow 0.25–2.8 m^3/s, cooling power 3–49 kW
- Envistar Flex with ThermoCooler HP air flow 0.25–10.4 m^3/s, cooling power 3–175 kW
- High EER (COP) up to 6.0 in the cooling application
- High COP (6–15) in the heating mode, depending on outdoor temperature
- Ideal for large variable air flows (VAV)
- Complete CE-marked cooling and heating installation

Also sufficient in winter



On a cold winter's day ThermoCooler HP can blow in a supply air temperature of 20 °C with a return air temperature of 22 °C.

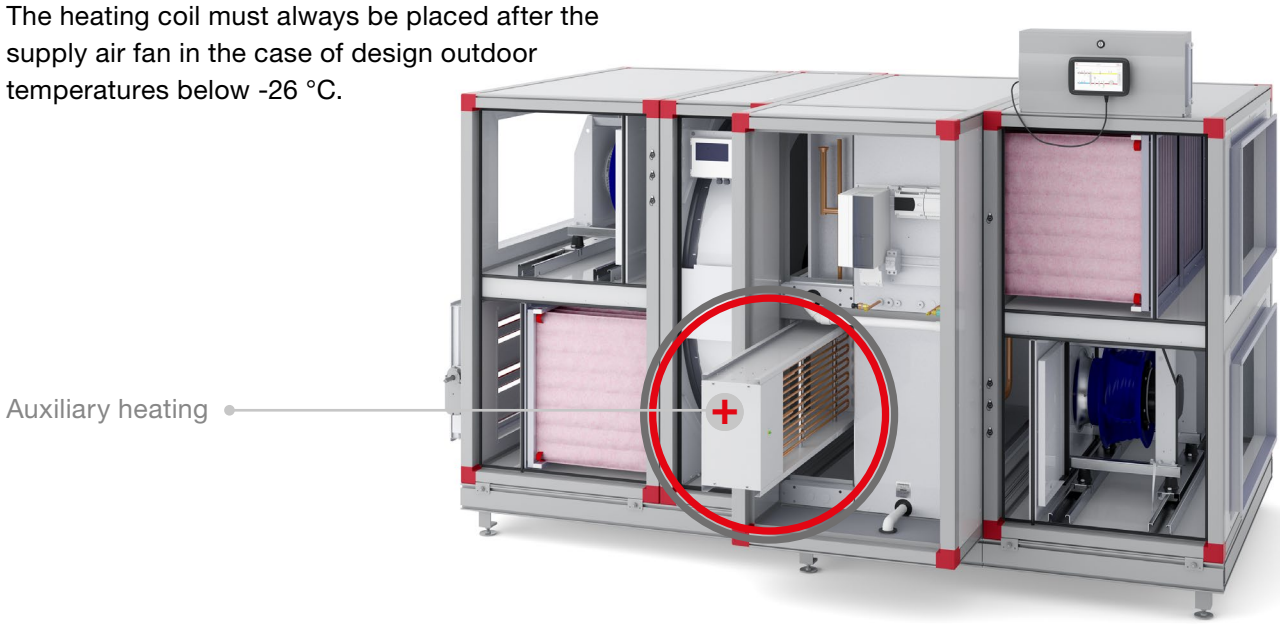
ThermoCooler HP can together with the rotor achieve a dry temperature efficiency of over 90 %, excluding the electricity from the compressor.

Auxiliary heating as an option

If the return air temperature becomes colder than the design temperature, or if there is an imbalance in the air flow, auxiliary heating is available as an option. The auxiliary heating gets its power supply via ThermoCooler HP and can be easily mounted retrospectively if necessary. With design outdoor temperatures under -18 °C, auxiliary heating is standard.

One of the biggest advantages with ThermoCooler HP is that there is no need for heating coils with outdoor temperatures down to around -20°C. This assumes a return air temperature of at least 22°C.

The IV Produkt Designer program is used to calculate whether a heating coil is needed. The heating coil must always be placed after the supply air fan in the case of design outdoor temperatures below -26 °C.



ThermoCooler HP creates many winners

- High reliability
- Long technical life
- No defrost cycle required
- Low installation and operating costs
- Requires no outdoor installations
- Saves floor space

Accuracy in every detail

When we developed ThermoCooler HP, high reliability, long technical life, low operating costs and stepless control of temperature/power were our most important criterias.

After a lot of research, calculations, comprehensive field-testing and accurate measurements in our Innovation Center, we have decided to place the heating/cooling pump's extract air coil before the rotor. This means there is no risk of the coil freezing. Unnecessary defrosting cycles are avoided, as they affect the supply air temperature. The unit therefore has a very high reliability and long technical life.

As a natural part of our product development, we consider how products will be used and transported. That is why we have designed ThermoCooler HP to facilitate transport through narrow passages.

Simple installation

As the whole installation for cooling and additional heating for ventilation is integrated in one unit, there is no need for expensive and large run-around coils or plumbing. The responsibility for the installation lies with the supplier instead of several different parties.

Investment that pays for itself

The installation costs for ThermoCooler HP are considerably lower than a traditional installation. Contrary to a traditional installation, ThermoCooler HP does not require external cooling and heating installations connected to the air handling unit. This can often save more than 30 % of the total installation costs.

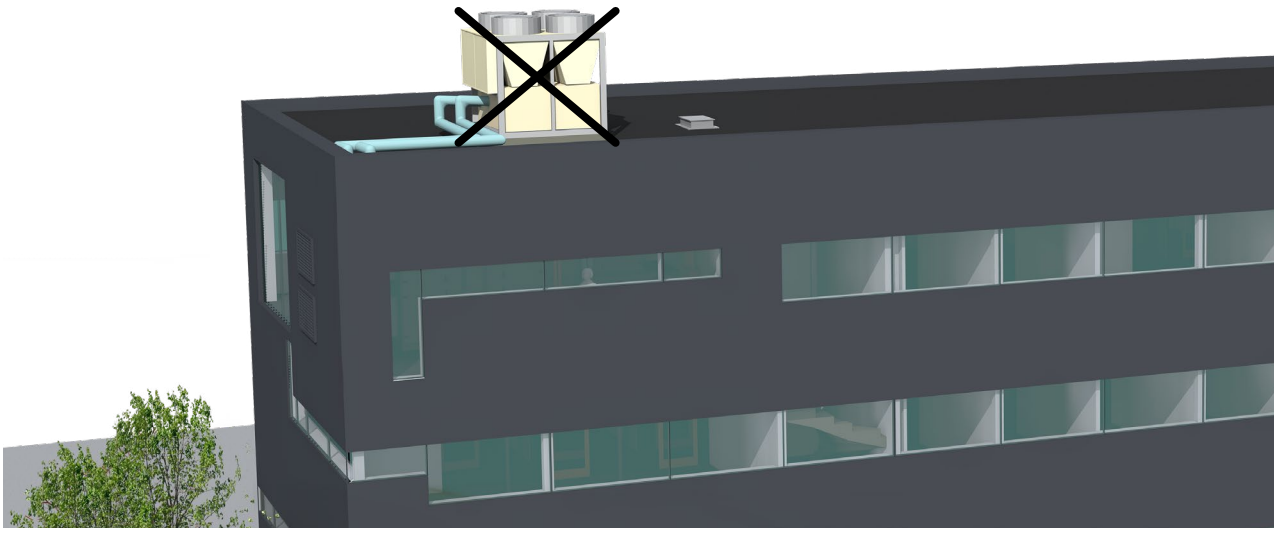
The energy use and operating costs for ThermoCooler HP are considerably lower than a traditional installation.

You no longer need expensive outdoor cooling installations

New installation approach with EcoCooler & ThermoCooler HP

As EcoCooler and ThermoCooler HP are integrated in the air handling unit, there is no need for an outdoor cooling machine and dry coolers.

In many places there is a lack of both land and building space, which means higher prices. The EcoCooler cooling unit or ThermoCooler HP cooling/heating pump free up space on the roof creating a fifth facade. The roof surface can be used as a pleasant terrace with endless possibilities. The property becomes more attractive, space is freed up, the value increases and the rental income increases.



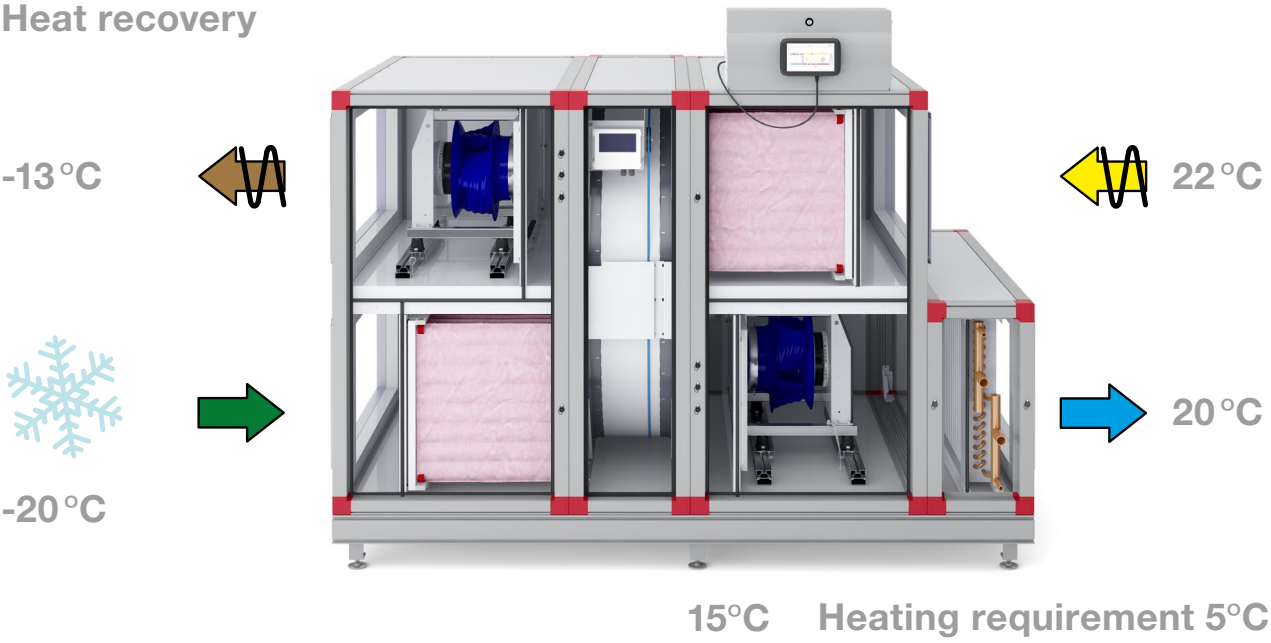
Did you know that...

operating costs for the EcoCooler or ThermoCooler HP to cool a 300 m² office building are only 1000 – 1500 kWh/year due to climate and operating time

We conserve resources

Air that is extracted via ventilation systems often contains a lot of heat. We do not want to let this heat go to waste and aim to recover as much of it as possible. We do this by using various types of heat exchangers. We recover the heat from the extract air and use it to pre-heat the cold air from outside. There are several different types of high-efficiency heat recovery units in the Envistar range. This allows us to offer the best solution at the same time as conserving the Earth's resources.

Heat recovery



On a cold winter's day with an outdoor temperature of -20°C, we can recover sufficient heat from the extract air to heat the supply air to 15°C using a rotary heat exchanger. In this case, we only need to heat the air by 5°C instead of 40°C in order to achieve an inlet temperature of 20°C.

Rotary heat exchanger

- High-efficiency heat recovery unit with a dry temperature efficiency of up to 87 %
- For each unit size, there are different power variants of rotor to optimise heat recovery and life cycle costs
- Available with hygroscopic surface for improved cooling recovery

Counter-flow exchanger

- High-efficiency heat recovery unit that can achieve a dry temperature efficiency of 85 percent
- Patented defrosting technology – ODS
- No risk of odour transfer
- **new!** Choose the concept **Easy Access** for air flow up to about 2.8 m^3/s, and the exchanger will go through a door opening with standard dimensions!

Coil recovery

- To optimise the energy recovery process, many different configurations are available
- No risk of odour transfer

Plate heat exchanger

- A complete unit which uses heat recovery according to the air-air principle
- Available in various configurations for optimal efficiency
- No risk of odour transfer

Efficiency

In the industry, the performance of heat recovery units is presented in different ways. For example, we might talk about dry and wet temperature efficiency.

According to the EN 308 standard, dry efficiency should be reported. This method is used to avoid giving a misleadingly high performance by incorrectly utilising the air humidity.

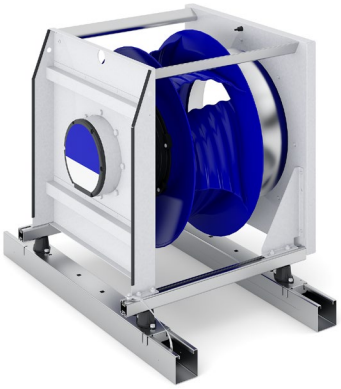
Top performance

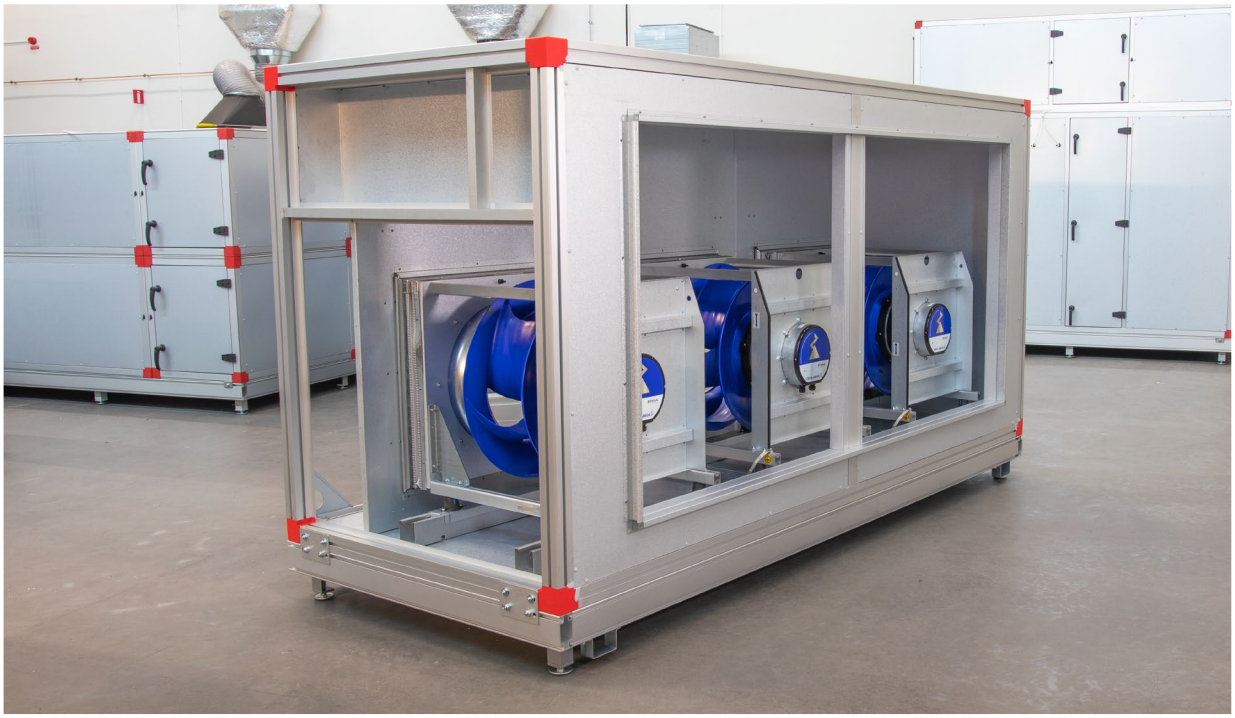
The Envistar range is available with a wide range of high-efficiency fans and motors in order to optimise efficiency of the fans and minimise electricity consumption. Each fan impeller and motor is balanced and test-run together to guarantee function. That results in low vibration levels and ensures a long technical life. The fans are constructed and mounted for best servicing.

Fans with high efficient PM-motors

The fans are controlled via EC-controlling or frequency converters for best speed regulation.

- For Envistar Flex, single, dual or triple fans can be supplied for optimal performance
- Fan impeller in aluminium, composite or epoxy-coated steel
- Fan impeller with rotating diffuser and airfoil blades, which provide a higher fan efficiency
- Permanent magnet motor, efficiency class equivalent to IE4 or higher
- Each unit size is available with various fans and motors in order to optimise efficiency and reduce electricity consumption, i.e. optimise to the lowest possible specific fan power value (SFPv)





Envistar Flex size 1080 with triple fans

Casing gives added **benefits**

Thanks to our rapid pace of development, we are continually getting better at energy-optimised air handling.

As a result of product development, the entire range has a casing with optimum energy performance and design.

We have worked on innovative solutions throughout the entire manufacturing process, enabling us to offer AHUs with minimised heat losses through the casing. According to the EN 1886 standard, the classification of the casing is determined by the U value. The lower the number, the better the insulation capacity.

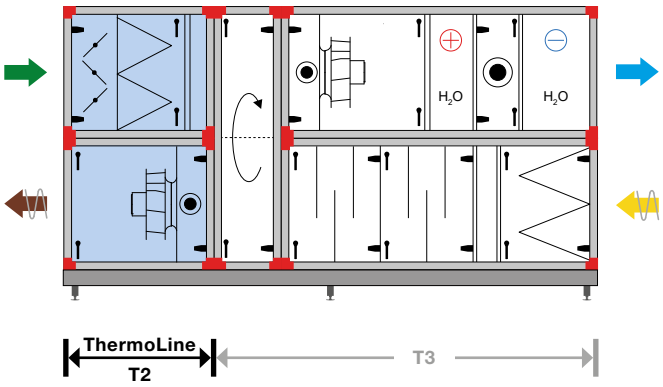
ThermoLine

Two configurations of the casing are available. The standard version is classified under casing class T3, which has a U value of 1.24*. For the best energy performance, you can now also choose ThermoLine, which is a class T2 casing and has a U value of 0.88*.

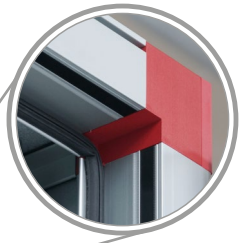
A casing class of T2 reduces cold bridges. In fan rooms with high air humidity, this reduces the risk of condensation forming on the unit casing.

Class T2: U value 0.5–1.0
Class T3: U value 1.0–1.4

Indoor AHUs

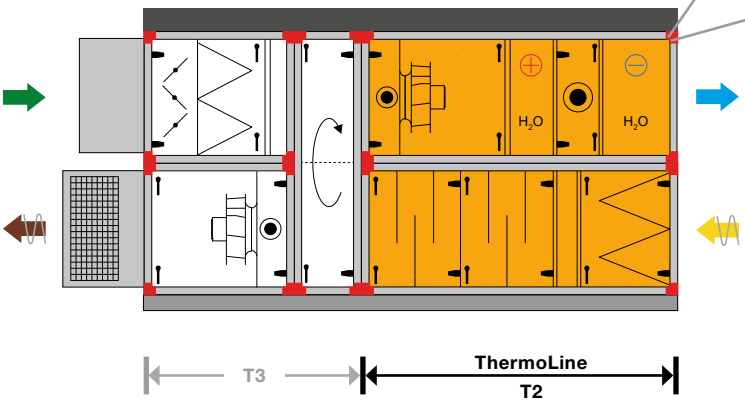


A major advantage of the casing design is that we can choose different casing classes for selected parts of the unit. For example, we can select the inlet and exhaust air sections for a **ThermoLine** – T2 indoor unit to offer the most energy-efficient and cost-effective solution.



The black plastic insert in the profile breaks the cold bridge and is a characteristic of the **ThermoLine** – T2 casing.

Outdoor AHUs



In the case of outdoor air handling units, the supply and extract air sections are the primary cause of heat losses. Using **ThermoLine** – T2 for these sections offers the most energy-efficient and cost-effective solution.

The pay-back period for ThermoLine depends on the installation's operating conditions and energy prices.

* Measured by Eurovent in model box in accordance with EN 1886.

Hygienic design simplifies cleaning and maintenance

Hygienic design according to VDI 6022 means, among other things:

- extended options for inspection of all unit components
- easier cleaning of units, fans, heat exchangers and coils
- drip trays under cooling coils have inclines towards drains
- high requirements for material selection for gaskets, seals and attachments
- extended requirements for technical and operating information.

Hygienic design for air handling unit according to VDI 6022 places specific requirements on the duct system and operation and maintenance. When ordering the unit in hygienic design, the instructions and other documentation are included according to the requirements in VDI 6022.

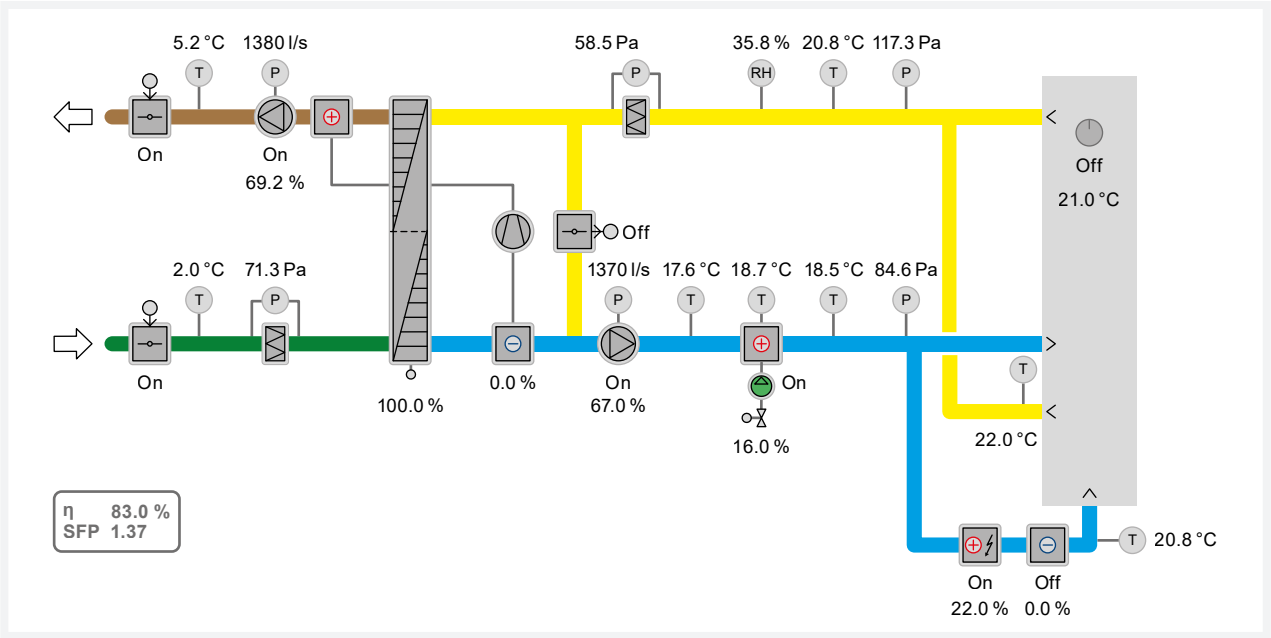
Customised material

The standard material for both internal and external doors and panels is alu-zink in corrosion class C4.

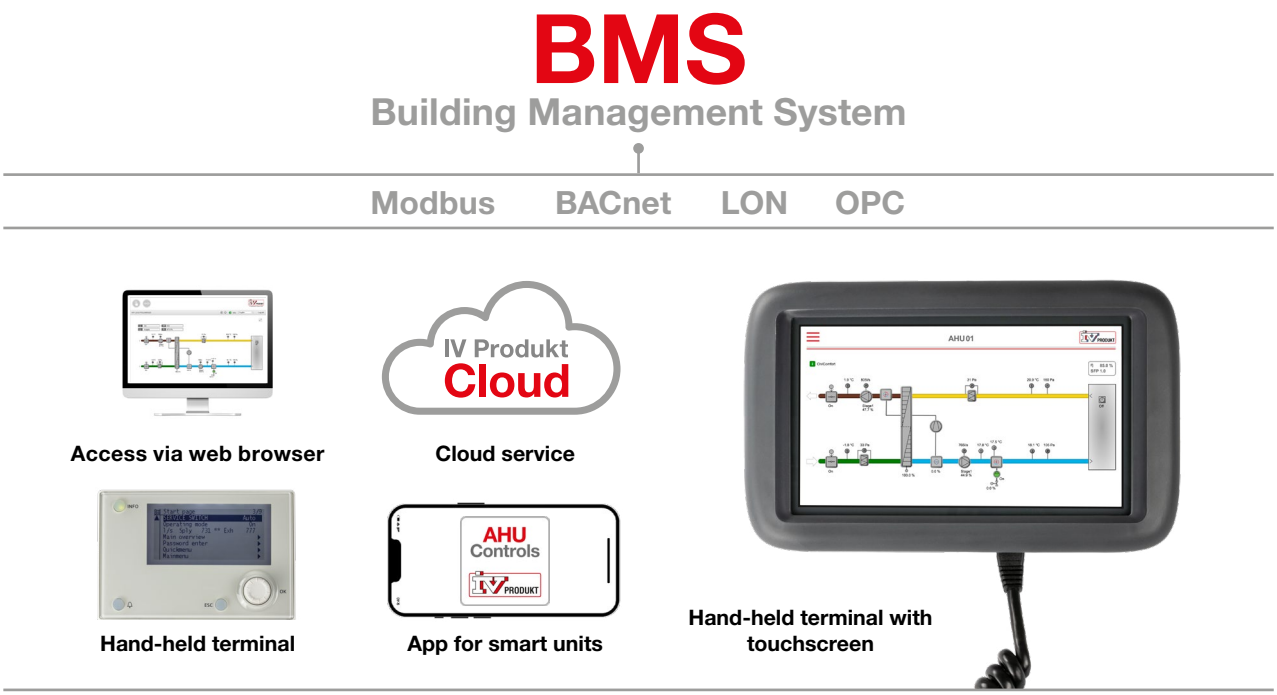
Certain environments require a higher corrosion class. In which case it is possible to have a stainless steel or painted interior. Certain fittings are also available in a painted or stainless steel configuration.

The architecture requires, among other things, that the colour matches the colouring of the building. In which case there is an option for a painted exterior.

Control communication with endless possibilities



When you order a unit from the Envistar range, you receive a complete air handling unit that has been function-tested and is ready to be commissioned. We are continuously developing the software and adding new smart features, enabling the lowest energy use and the best indoor climate. The functions can be adapted as required and some examples of application are zone control, various fire functions and dew point control. The unit is supplied with project-specific wiring and control diagrams, and a handset that allows you to optimise flows and temperatures. A hand-held terminal with touchscreen is now available as an optional extra.



Keeping track of your kilowatt hours!

We are now offering an optional extra for our air handling units in the Envistar range in the form of the in-house developed software Energy Watch which helps you to keep track of your kilowatt hours.

Energy Watch is a unique function for monitoring and optimising the energy use in the air handling unit.

You can easily see the meter values and information in the app, the hand-held terminal or in BMS system.

Developed by IV Produkt

Energy watch measures and shows:

Heat recovery

- Recovered energy and power
- Heat recovery unit efficiency

Fans

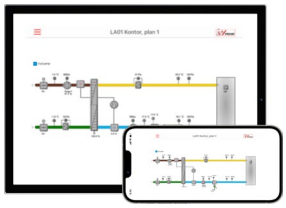
- Energy input and power
- Specific fan power, SFP/SFPv
- Density correction of the air flow with measurement at four points for the best possible accuracy

Additional heating

- Energy input and power
- Alarm for leaking heating valve

Take control using our IV Produkt AHU Controls app

You can now control our unit using the IV Produkt AHU Controls app. You connect the unit to the internal network in the property, if the building has Wi-Fi. If you cannot connect the unit to the internal network, we offer an optional Wi-Fi router for the unit.



- Control your unit easily via smartphone or tablet
- Start up the unit and adjust the values
- React quickly in the event of an alarm
- See event logging and history
- Clear interface and summary flow chart

AHU Controls

Download on the App Store

GET IT ON Google Play

The app is available to download free of charge for iOS och Android™. You can adjust setpoints and settings, see any alarms and much more without needing to be in the plant room.

Gives you full control – wherever you are

IV Produkt
Cloud

IV Produkt Cloud service

IV Produkt Cloud is a cloud service for our air handling units with integrated control, in which you and your colleagues will be able to keep track of your systems no matter where you are.
The cloud service is always accessible wherever there is internet access. In other cases, there is an optional 4G router.

IV Produkt Cloud is available as a free subscription called Free, and a paid subscription called Service+. The new administrative service Digital Wallet helps you manage your subscriptions.

FREE

- Completely free subscription
- See status and flow chart and reset alarms
- Service+ included the first month

SERVICE+

- Full access to change control functions and adjust values
- Alarm notifications, history and upgrades
- Good for balancing and commissioning
- Remote support capability from us at IV Produkt

Lower your costs with Digital Wallet

For you who have multipleair handling units and wish to manage your own account. Switch between Free and Service+ subscriptions as the requirements of the system change.

new!

DIGITAL
WALLET

Make everyday life **easier**

We want to make everyday life easier for consultants, installers and contractors. Our program IV Produkt Designer will help design and dimension the air handling unit.

We have developed a tool which enables you to perform calculations using the data for your project. Using the program **IV Produkt Designer**, you can easily and quickly design your unit to meet different needs. You will receive a dimension drawing with technical data containing specific fan power values, temperature efficiency, sound data and much more.

Captions, AMA, are available for each project run in the application, and can be exported to a Word document. The caption is a documentation of the unit and forms the basis for instructions, operation and maintenance, and can be used to copy information to project documents. There is also a plugin for IV Produkt Designer to connect the program to MagiCAD for AutoCAD. The file contains all data that is needed for planning. Another plugin makes it possible to export project files to Revit.

You can also perform a separate LCC and investment calculation for an existing or new unit in the program. This gives you the opportunity to calculate the profitability of replacing a unit.

IV Produkt Designer can be downloaded free of charge from www.ivprodukt.com, or contact us and we will of course be happy to help you.

1200
420
890
1200
820
2740
4530
820

The most profitable sustainability investment

It is easy to make investment decisions with calculations from IV Produkt Designer. The calculation includes accounting of

- Energy savings
- Economy och payback-period
- Calculation of increased property value

An older ventilation unit that appears to be in good condition may be unexpectedly profitable to replace. It is easy to calculate energy savings and payback period when replacing e.g. a unit from the 1990s. Given that it is over 20 years old, today's units are significantly more efficient.

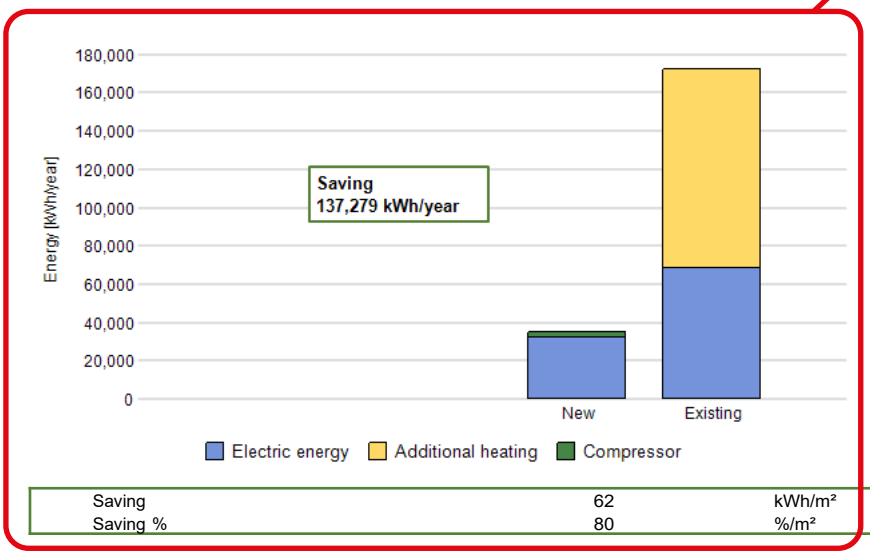
On this page and the next you can see an example of a completed project with replacement of older ventilation units.

IV PRODUKT
Air handling with the focus on LCC

Envistar Flex	*Investment calculation*	
Project name		
Name of AHU	LA03	
Size	850 20,000/20,000 m³/h	

Energy

	New	Existing	
Temperatures			
Supply air temperature	20.0	20.0	°C
Return air temperature	22.0	22.0	°C
Annual average temperature	10.0	10.0	°C
Running data			
Flow supply air	20,000	20,000	m³/h
Flow extract air	20,000	20,000	m³/h
SFP value	1.63	3.50	kW/(m³/s)
Exchanger's temperature efficiency (dry)	87.8	40.0	%
Running time	3,500	3,500	hours/year
Energy performance			
Ventilated area	2,200	2,200	m²
Calculated energy performance, ventilation	15.8	78.2	kWh/m²
Annual energy usage			
Supplyair fan and Extractair fan	31,745	68,056	kWh
Compressor	3,105		kWh
Additional heating	0	104,073	kWh
Total	***34,850***	***172,129***	***kWh***



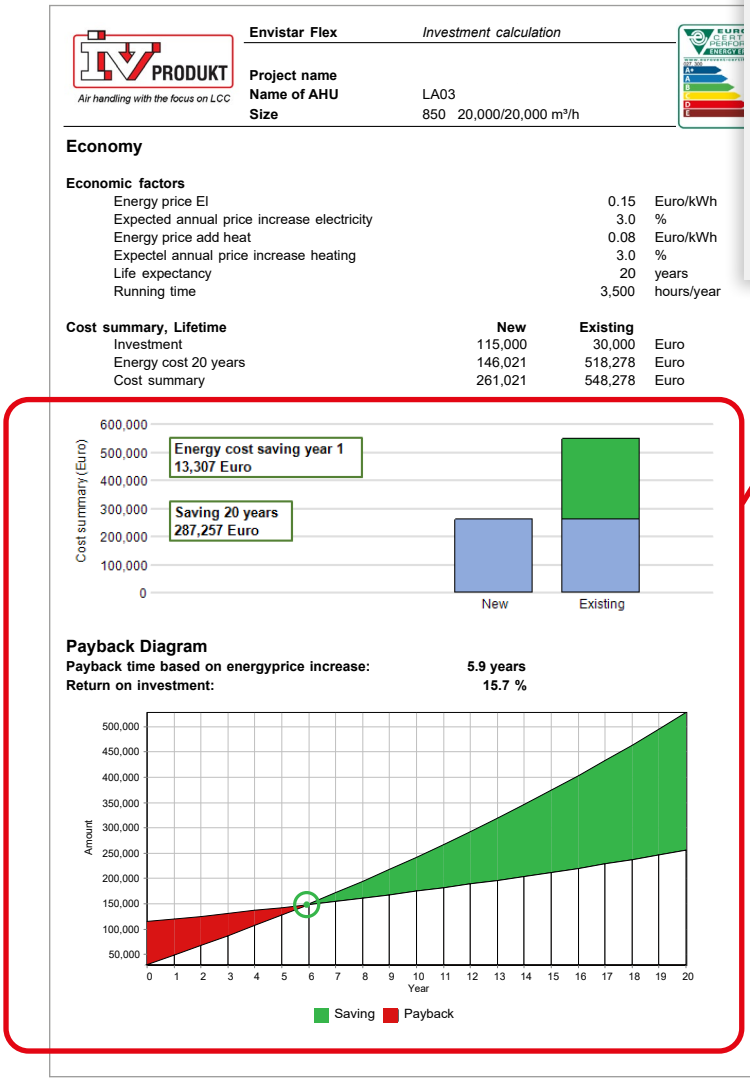
Saving	62	kWh/m²
Saving %	80	%/m²

ENERGY

- Savings: **137,000** kWh/year
- Equivalent to **62** kWh/m²/year
- Means savings of 80%
- Can be used in the sustainability report.

ECONOMY

- Payback period: **5.9** years
- Energy cost savings year 1: approx. **13,300€**
- Savings over 20 years: approx. **287,000€**
- The increase in property value is greater than the investment cost.



IV PRODUKT
Air handling with the focus on LCC

Envistar Flex *Investment calculation*

Project name
Name of AHU LA03
Size 850 20,000/20,000 m³/h

Economy

Economic factors

Energy price El	0.15	Euro/kWh
Expected annual price increase electricity	3.0	%
Energy price add heat	0.08	Euro/kWh
Expectel annual price increase heating	3.0	%
Life expectancy	20	years
Running time	3,500	hours/year

Cost summary, Lifetime	**New**	**Existing**	
Investment	115,000	30,000	Euro
Energy cost 20 years	146,021	518,278	Euro
Cost summary	261,021	548,278	Euro

Payback Diagram

Payback time based on energyprice increase: **5.9 years**
Return on investment: **15.7 %**

PROPERTY VALUE

IV PRODUKT
Air handling with the focus on LCC

Envistar Flex *Investment calculation*

Project name
Name of AHU LA03
Size 850 20,000/20,000 m³/h

Changed real estate value
The calculation show how the installation of more energy efficient air handling increase the real estate value.

Energy cost saving / Increased operatioal net	13,307	Euro/year
Expected return	8.0	%
Calculated increased value	**166,338**	**Euro**

Energy saving / Expected return = Calculated increased value

13,307 / 0.08 = 166,338 Euro

Other potential aspects on real estate value increase have not been included in the calculation.

Increase in property value

Energy savings reduce the property's total operating costs. The net operating income is calculated by deducting operating costs from total rental income. If you divide the net operating income by the property's required rate of return, you get the property value.

A higher net operating income thus leads to an increase in property value. And a higher property value creates opportunities for making new investments.

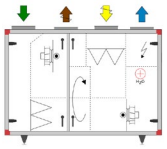
$$\frac{\text{net operating profit}}{\text{required rate of return \%}} = \text{property value}$$

$$\frac{13{,}300€}{8\ \%} = 166{,}000€$$

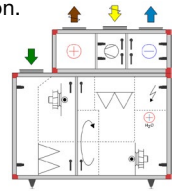
Envistar® Top

Configuration with rotor

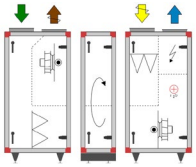
Right or left handed configuration selected during planning. Below is an example of a right-handed configuration.



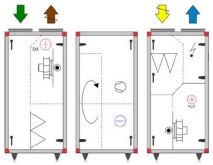
Sizes 04, 06 and 10



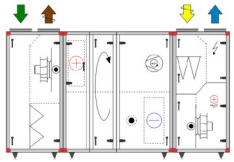
Sizes 04, 06 and 10 with cooling unit



Sizes 09, 12, 17, 22 and 28



Sizes 09, 12, 17[i] and 22[i] with cooling unit



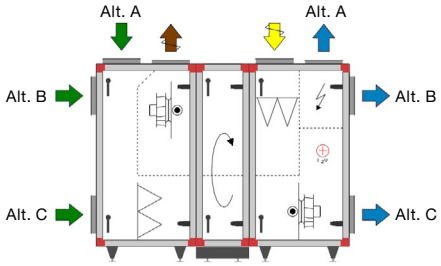
Size 17[h], 22[h] and 28 with cooling unit

Outdoor air · Supply air · Extract air · Exhaust air

Technology

- Duct connections upward
- 8 sizes
- Air flow 0.10–2.8 m³/s
- EC motors with very high efficiency
- EcoCooler cooling unit with cooling recovery (optional extra)
- ThermoCooler HP reversible heat pump (optional extra)
- Control equipment Siemens Climatix
- Energy optimisation function – ECO
- Rotary heat exchanger
- Saves up to 75% floor space
- Damper for recirculated air operation as an option

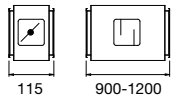
Alternative duct connection



Available external pressure

See IV Produkt Designer for object-specific data.

Duct accessories



For object-specific data, see the product selection program IV Produkt Designer

Capacity and technical data

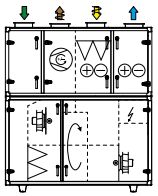
Size	Dimensions (mm)				Air handling unit excluding cooling unit					Air handling unit with integrated cooling unit							
	Width	Height excl./ incl. cooling unit	Length excl./incl. cooling unit	Duct connection	Air flow (m³/s) [a]			External fuse protection [c]	Weight [d] (kg)	Power variant	Air flow (m³/s) [a]			Cooling power (kW)	Refrigerant volume (kg)	External fuse protection [c]	Weight [d] (kg)
					Min	SFP_V 1.5	Max. [b]				Min.	SFP_V 1.6	Max. [b]				
04	748	1365/1910	1570	Ø 250 500 × 200 [g]	0,10	0,30	0,43	10A	255	2V	0,12	0,30	0,35	6.5	1.0 [l]	10A	380
06	890	1365/1910	1720	600 × 250	0,15	0,50	0,68	10A	305	2V	0,15	0,49	0,60	12.2	1.4 [h]	20A	440
09	1020	1435/1600	2000 [e] 2370	700 × 300	0,20	0,70	0,98	10A	450	2V	0,20	0,72	0,95	19.2	1.7 [h]	25A	570
10	1020	1435/1980	1990	700 × 300	0,20	0,70	0,98	10A	395	2V	0,20	0,69	0,95	18.3	1.7 [h]	25A	550
12	1200	1530/1915	2000 [e] 2370	900 × 300	0,25	0,98	1,20	10A	530	1V 2V	0,25	0,98	1,15	18.3 20.3	2.1 [h] 2.1 [h]	20A 25A	660 660
17	1400 [k]	1835	2200 [f] 2670	1000 × 350	0,30	1,53	1,90	10A	685	2V	0,41	1,50	1,80	29,0	5,1	25A	924
17	1400 [k]	1835	2200 [f] 3410 [j]	1000 × 350	0,30	1,53	1,90	10A	685	2V	0,42	1,46	2,09	35,6	3,7 [h]	25A	950
22	1616 [k]	1885	2200 [f] 2670	1200 × 350	0,40	2,00	2,30	16A	825	1V 2V	0,57	1,70	2,10	32,0 35,0	5,2 [i] 5,2 [i]	32A 32A	1040 1040
22	1616 [k]	1885	2200 [f] 3410 [j]	1200 × 350	0,40	2,00	2,30	16A	825	2V	0,57	1,86	2,87	47,2	5,1 [h]	40A	1150
28	1880 [k]	1995	2200 [f/j] 3090 [j]	1400 × 350	0,40	2,65	3,00	20A	960	1V 2V	0,80	2,55	3,00	69 77	7,0 [h] 7,0 [h]	50A 50A	1405 1430

a - For units with dampers, F7 filter supply air, M5 filter extract air, rotor, water coil 60/30°C with supply air temp +20°C and duct pressure: 150 Pa (size 04), 200 Pa (size 06-28)
b - Technical Maximum Flow
c - 3×400 V+N+PE 50 Hz, fuse with type C characteristics
d - Including water coil heating (not filled with liquid)
e - Supplied in three sections that have a max. width of 790 mm
f - Supplied in three sections that have a max. width of 890 mm
g - Top 04 with cooling unit has duct connection 500 x 200 mm
h - The refrigerant can be selected between R454B or R410A. Technical data shows that R454B and R410A have similar performances. For more detailed data download the IV Produkt Designer.
i - Refrigerant R513A
j - For length see the product selection program IV Produkt Designer
k - Above the rotor, width increases by 50 mm.
l - Refrigerant R410A

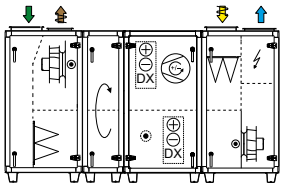
Envistar® Top with ThermoCooler HP

Configuration with rotor

Right or left handed configuration selected during planning.
Below is an example of a right-handed configuration.



Rotor and reversible heat pump
sizes 06 and 10



Rotor and reversible heat pump
sizes 09, 12, 17 and 22

Outdoor air Supply air Extract air Exhaust air

Technology

- 7 sizes
- Air flow 0.25–2.80 m³/s
- Control equipment Siemens Climatix
- Cooling/heating pump ThermoCooler HP
- Rotary heat exchanger

Capacity and technical data

	Dimensions (mm)				Air handling unit with integrated cooling/heating pump								
					Air flow (m³/s) [a]								
Size	Width	Height	Length	Duct connection	Min.	SFP_V 1.5	SFP_V 1.6	Max. [b]	Cooling power (kW)	Refrigerant volume [c] (kg)	External fuse protection [d] vent.	External fuse protection [e] kvp	Weight (kg)
06	890	1910	1720	600x250	0,25	0,45	0,50	0,60	12.7	1.6	16A	Common	310
09	1020	1435	2790 [f]	700x300	0,30	0,64	0,70	0,98	14.7	2.5	16A	Common	450
10	1020	1980	1990	700x300	0,30	0,70	0,73	0,98	15.7	2.4	16A	Common	400
12	1200	1530	2790 [f]	900x300	0,43	0,94	1,0	1,20	23.5	3.7	25A	Common	540
17	1450	1835	2990 [g]	1000x350	0,50	1,40	1,50	1,80	27.5	5.2	25A	Common	980
22	1665	1885	2990 [g]	1200x350	0,68	1,80	1,95	2,30	33.0	6.0	32A	Common	1190
28	2270	1995	3090 [g]	1400x350	0,92	2,40	2,60	2,90	44 / 48 [h]	9.6	40A / 50A [h]	Common	1355

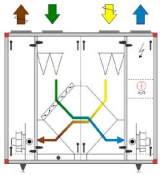
a - For units with damper, supply air filter ePM1 50%, extract air filter ePM10 60%, Blank NE rotor and duct pressure 200 Pa
b - Technical Maximum Flow
c - The refrigerant can be selected between R454B or R410A. Technical data shows that R454B and R410A have similar performances. For more detailed data download the IV Produkt Designer.
d - 3×400 V+N+PE 50 Hz, fuse with type C characteristics
e - External fuse protection for the ThermoCooler HP reversible heat pump
f - Supplied in four sections that have a max. width of 790 mm
g - Supplied in four sections that have a max. width of 890 mm
h - Power variant 1V resp. 2V

For heating powers and object-specific data,
see the product selection program IV Produkt Designer

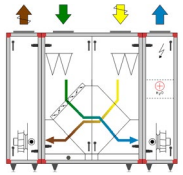
Envistar® Top

Configuration with counter-flow exchanger

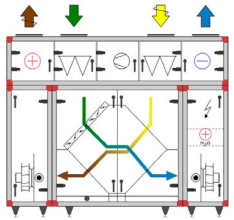
Right or left handed configuration selected during planning.
Below is an example of a right-handed configuration.



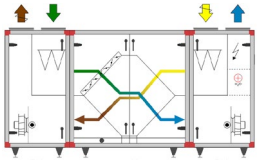
Unit configuration sizes 04, 06 and 10



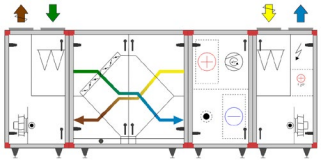
In sections for sizes 04, 06 and 10



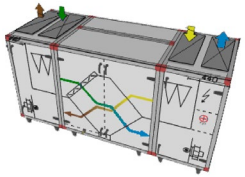
Unit configuration or in sections, sizes 04, 06 and 10 with cooling unit



Sizes 09 and 12



Sizes 09, 10, 12, 17, 22 and 28 with cooling unit



Sizes 09, 10, 12, 17, 22 and 28, split counter-flow exchanger

Outdoor air · Supply air · Extract air · Exhaust air

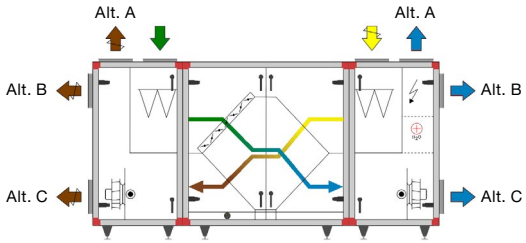
Technology

- Duct connections upward
- 8 sizes
- Air flow 0.13–2.80 m³/s
- EC motors with very high efficiency
- Control equipment Siemens Climatix
- Energy optimisation function – ECO
- Energy recovery unit – counter-flow exchanger
- Saves up to 75% floor space

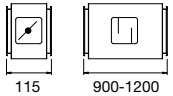
Available external pressure

See IV Produkt Designer for object-specific data.

Alternative duct connections



Duct accessories



Smoke-bypass

Sits on the heat exchanger exhaust air section on the reverse side of the unit.

Size 04	ø 200 mm
Size 06	ø 250 mm
Size 09	ø 315 mm
Size 10	ø 315 mm
Size 12	ø 315 mm
Size 17	ø 315 mm
Size 22	ø 500 mm
Size 28	ø 500 mm

Capacity and technical data

Size	Dimensions (mm)					Air handling unit					Air handling unit with integrated cooling unit							
	Width	Height excl./incl. cooling unit	Length, unit	Length, in sections	Duct connection	Air flow (m³/s) [a] Min	Air flow (m³/s) [a] SFP_V 1,5	Air flow (m³/s) [a] Max [b]	External fuse protection [c]	Weight [d] (kg)	Power variant	Air flow (m³/s) [a] Min.	Air flow (m³/s) [a] SFP_V 1.6	Air flow (m³/s) [a] Max. [b]	Cooling power (kW)	Refrigerant volume [e] (kg)	External fuse protection [c]	Weight [d] (kg)
04	748	1540	1820	2067	Ø 315 / 500 × 200	0,13	0,36	0,42	10A	310	2V	0,12	0,35	0,35	6.3	1.0	10A	361
06	890	1625	1960	2207	Ø 315 / 600 × 250	0,18	0,49	0,60	10A	390	2V	0,15	0,49	0,60	11.2	1.4	20A	416
09	1020	1530	–	3040	700 × 300	0,25	0,69	0,95	10A	580	2V	0,25	0,75	0,95	14.1	1.8	25A	541
10	1020	1990/2020	2215	2466	700 × 300	0,25	0,73	0,95	10A	610	2V	0,25	0,75	0,95	17.5	1.7	25A	547
12	1200	1530	–	3040	900 × 300	0,30	0,83	1,15	10A	650	2V	0,30	0,92	1,15	20.6	2.7	25A	616
17	1400	1835	–	3235	1000 × 350	0,42	1,40	1,65	10A	870	2V	0,50	1,35	1,65	27.4	3.7	25A	1145
22	1616	1885	–	3800	1200 × 350	0,55	1,80	2,25	16A	1185	2V	0,68	1,75	2,0	40.0	5.1	40A	1500
28	1880	1995	–	3800	1400 × 350	0,55	2,30	2,80	20A	1410	1V / 2V	0,80 / 0,92	2,25	2,6	45 / 51	7.0	50A	1760

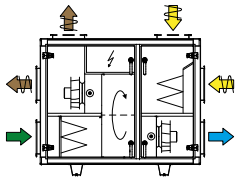
a - For units with dampers, F7 filter supply air, M5 filter extract air, counter-flow exchanger, water coil 60/30°C with supply air temp +20°C and duct pressure: 150 Pa (size 04), 200 Pa (size 6-12)
b - Technical Maximum Flow
c - 3×400 V+N+PE 50 Hz, fuse with type C characteristics
d - Including water coil heating (not filled with liquid)
e - The refrigerant can be selected between R454B or R410A. Technical data shows that R454B and R410A have similar performances. For more detailed data download the IV Produkt Designer.

For object-specific data, see the product selection program IV Produkt Designer

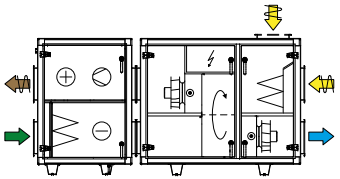
Envistar® Compact

Configurations

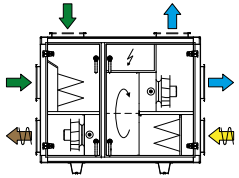
Connections for outdoor air, supply air, extract air and exhaust air can be positioned on the upper or lower level. The unit can be supplied in right or left handed configuration. Below is an example of a right-handed configuration.



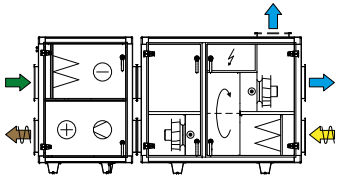
Supply air bottom



With cooling unit, supply air bottom



Supply air top



With cooling unit, supply air top

Outdoor air · Supply air · Extract air · Exhaust air

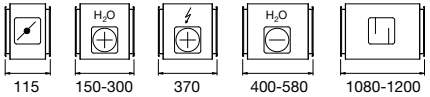
Technology

- Duct connections upward/side
- 4 sizes
- Air flow 0.10–1.50 m³/s
- EC motor with very high efficiency
- Cooling unit as an option
- Control equipment Siemens Climatix
- Energy optimisation function – ECO
- Rotary heat exchanger
- Indoor or outdoor version
- Compact dimensions

Available external pressure

See IV Produkt Designer for object-specific data.

Duct accessories



Capacity and technical data

Size	Dimensions (mm)				Air handling unit excluding cooling unit					Air handling unit with integrated cooling unit							
	Width	Height	Length excl./ incl. cooling unit	Duct connection	Air flow (m³/s) [a] Min	Air flow (m³/s) [a] SFP_V 1.5	Air flow (m³/s) [a] Max. [b]	External fuse protection [c]	Weight [d] (kg)	Power variant	Air flow (m³/s) [a] Min.	Air flow (m³/s) [a] SFP_V 1.6	Air flow (m³/s) [a] Max. [b]	Cooling power (kW)	Refrigerant volume [e] (kg)	External fuse protection [c]	Weight [d] (kg)
04	748	1,250	1,435/2,475	Ø 315	0.10	0.32	0.44	10A	189	1	0.20	0.25	0.35	4.7	1.5	10A	337
										2	0.25			5.8	1.5	10A	342
06	890	1,312	1,555/2,525	500 × 300	0.15	0.47	0.65	10A	227	1	0.33	0.37	0.61	6.6	2.5	10A	427
										2	0.43			8.2	2.5	10A	427
10	1,020	1,413	1,616/2,586	700 × 400	0.20	0.65	0.97	10A	284	1	0.55	0.62	0.92	12	3.0	10A	539
										2	0.70			14	3.0	16A	539
16	1,295	1,688	1,860/2,830	1,000 × 500	0.30	1.31	1.65	10A	429	1	0.74	1.13	1.63	16	6.0	16A	741
										2	0.90			18	6.0	16A	741
										3	1.08			22	6.0	20A	751

a - For units with dampers, F7 filter supply air, M5 filter extract air, rotor, water coil 60/30°C with supply air temp +20°C and duct pressure: 150 Pa (size 04), 200 Pa (sizes 6–16)
b - Technical Maximum Flow
c - 3×400 V+N+PE 50 Hz, fuse with type C characteristics
d - Excluding water coil heating (duct-mounted)
e - Refrigerant R513A

For object-specific data, see the product selection program IV Produkt Designer

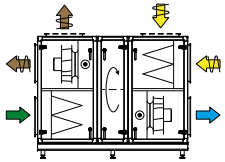
Envistar® Flex

Configurations

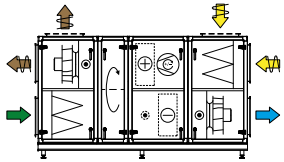
Connections for outdoor air, supply air, extract air and exhaust air can be positioned on the upper or lower level. The unit can be supplied in right or left handed configuration. Below is an example of a right-handed configuration.

Available external pressure

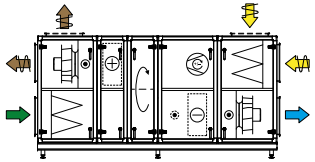
See IV Produkt Designer for object-specific data.



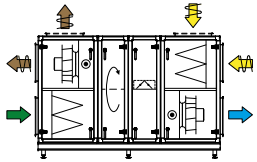
Comb. 1 Rotor



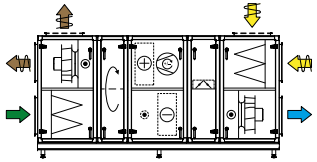
Comb. 2 Rotor and cooling unit



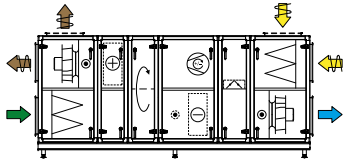
Comb. 3 Cooling unit with cooling recovery



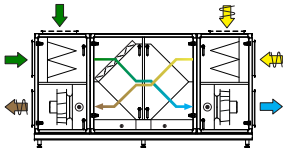
Comb. 4 Rotor and recirculating unit



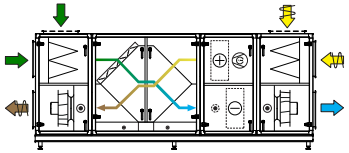
Comb. 5 Rotor, cooling unit and recirculating unit



Comb. 6 Cooling unit with cooling recovery and recirculating unit



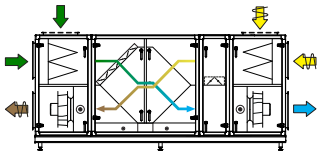
Comb. 7 Counter-flow heat exchanger



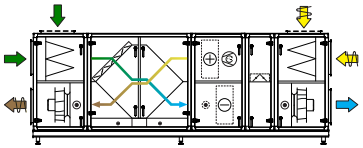
Comb. 8 Counter-flow heat exchanger and cooling unit

Technology

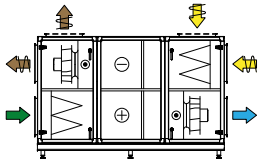
- 18 sizes
- Air flow 0.10–13.0 m^3/s
- The fans have PM motors with EC or frequency inverter control
- EcoCooler cooling unit with or without cooling recovery (optional extra)
- ThermoCooler HP reversible heat pump (optional extra)
- Control equipment Siemens Climatix
- Energy optimisation function – ECO
- Rotary heat exchanger, plate heat exchanger or coil recovery
- Indoor or outdoor version
- Recirculating unit as an option



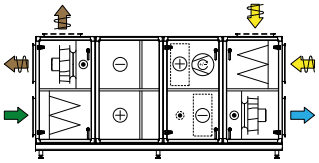
Comb. 9 Counter-flow heat exchanger and recirculating unit



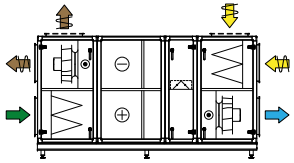
Comb. 10 Counter-flow heat exchanger, cooling unit, recirculating unit



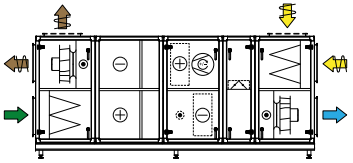
Comb. 11 Run-around coil unit



Comb. 12 Run-around coil unit and cooling unit



Comb. 13 Run-around coil unit and recirculating unit



Comb. 14 Run-around coil unit, cooling unit, recirculating unit

Outdoor air | Supply air | Extract air | Exhaust air

Capacity and technical data

Size	Dimensions (mm)			Control cabinet placement	Air handling unit excluding cooling unit					Air handling unit with integrated cooling unit							
	Width [a]	Height [b]	Duct connection		Air flow (m³/s) [c]			External fuse protection [e]	Weight [f] comb. 1 (kg)	Output variant	Air flow (m³/s) [c]			Cooling power (kW)	Refrigerant volume [g] (kg)	External fuse protection [h]	Weight [f] comb. 2 (kg)
					Min	SFP_V 1.5	Max. [d]				Min.	SFP_V 1.6	Max. [d]				
060	890	960	500 × 300	On unit roof	0.11	0.42	0.60	10A	395	–	–	–	–	–	–	–	–
100	1,020	1,090	700 × 300	On unit roof	0.17	0.68	0.99	10A	450	2V	0.22	0.70	1.01	17.8	1.7	10A	620
150	1,120	1,470	800 × 500	On unit roof	0.29	1.12	1.70	10A/16A	595	2V	0.33	1.14	1.63	26.3	2.9	16A	830
190	1,400	1,470	1,000 × 500	On unit roof	0.38	1.56	2.00	10A/16A	670	2V	0.42	1.54	2.09	35.6	3.7	20A	950
240	1,400	1,686	1,000 × 600	On supply air end	0.47	1.74	2.60	10A–25A	755	2V	0.49	1.72	2.44	36.6	4.1	20A	1,100
300	1,616	1,686	1,200 × 600	On supply air end	0.54	2.18	3.00	10A–25A	835	2V	0.57	2.15	2.87	47.2	5.1	25A	1,200
360	1,616	2,060	1,200 × 800	On supply air end	0.66	2.50	3.80	16A–25A	1,020	2V	0.74	2.55	3.71	59.5	6.0	32A	1,550
400	1,880	1,900	1,400 × 700	On supply air end	0.66	2.91	4.00	16A–25A	995	2V	0.80	2.90	4.00	66.3	6.8	32A	1,480
480	1,990	2,060	1,400 × 800	On supply air end	0.85	3.50	5.10	16A–40A	1,375	1V	0.93	3.48	4.66	51.4	8.1	32A	1,930
										2V				84.6	8.1	40A	1,990
600	2,200	2,270	1,600 × 800	On supply air end	1.06	4.40	6.00	16A–40A	1,560	1V	1.16	4.40	5.78	64.7	7.6	32A	2,165
										2V		4.40		89.0	7.6	40A	2,210
										3V		4.40		104.6	6.2	50A	2,235
740	2,480	2,675	2,000 × 900	In units next to TF fans	1.21	5.72	8.30	16A-63A	1,970	2V	1.42	5.80	7.08	95.6	10.1	40A	3,265
										3V		5.80		129.8	9.3	63A	3,325
850	2,560	2,935	2,200 × 1,000	In units next to TF fans	1.41	6.82	10.0	25A–63A	2,200	1V	1.61	6.75	8.06	101.0	11.5	40A	3,660
										2V		6.75		121.5	9.3	50A	3,675
										3V		6.75		151.4	9.3	63A	3,815
980	2,860	3,085	2,400 × 1,100	In units next to TF fans	1.69	7.70	10.6	25A–63A	2,485	1V	1.95	7.70	9.77	105.5	14.6	40A	3,890
										2V				162.0	10.4	80A	3,900

Download the product selection program IV Produkt Designer for technical data for sizes 1080, 1250, 1280, 1540 and 1580.

Length (mm)

The sizes 060–850 are counter-flow heat exchangers and size 980 is a plate heat exchanger.

Size	Combination (indicates indoor version)													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
060	1,760	–	–	2,200	–	–	2,310	–	2,752	–	2,310	–	2,750	–
100	1,760	2,580	3,000	2,200	3,020	3,440	2,505	3,295	2,947	3,737	2,310	3,130	2,750	3,570
150	2,060	2,880	3,300	2,500	3,320	3,740	3,090	3,880	3,532	4,322	2,610	3,430	3,050	3,870
190	2,060	2,880	3,300	2,500	3,320	3,740	3,090	3,880	3,532	4,322	2,610	3,430	3,050	3,870
240	2,200	3,020	3,440	2,640	3,460	3,880	3,645	4,435	4,087	4,877	2,750	3,570	3,190	4,010
300	2,200	3,020	3,440	2,640	3,460	3,880	3,800	4,590	4,242	5,032	2,750	3,570	3,190	4,010
360	2,200	3,090	3,510	2,842	3,732	4,152	4,100	4,990	4,742	5,632	2,600	3,490	3,242	4,132
400	2,200	3,090	3,510	2,642	3,532	3,952	3,800	4,690	4,242	5,132	2,600	3,490	3,042	3,932
480	2,200	3,090	3,510	2,842	3,732	4,152	4,100	4,990	4,742	5,632	2,600	3,490	3,242	4,132
600	2,200	3,090	3,510	2,842	3,732	4,152	4,400	5,290	5,042	5,932	2,600	3,490	3,242	4,132
740	2,820	3,710	4,130	3,462	4,352	4,772	5,020	5,910	5,662	6,552	3,220	4,110	3,862	4,752
850	2,820	3,710	4,130	3,462	4,352	4,772	5,280	6,170	5,922	6,812	3,220	4,110	3,862	4,752
980	2,820	3,710	4,130	3,462	4,352	4,772	5,110	6,000	5,752	6,642	3,220	4,110	3,862	4,752

Control cabinet increases the length by 290 mm on sizes 240–600.

a - Control cabinet increases the width by 170 mm on sizes 240 to 600. Above the rotor, width increases by 50 mm.

b - Stand increases the height by 200 mm for sizes 100–600. On sizes 740–980, the stand is standard. Control cabinet increases the height by 290 mm on sizes 100–190.

c - For units with dampers, F7 filter supply air, M5 filter extract air, rotor, water coil 60/30°C with supply air temp +20°C and duct pressure 200 Pa

d - Technical Maximum Flow

e - External fuse protection for the Envistar Flex unit. 3×400 V+N+PE 50 Hz, fuse with type C characteristics. Fuse protection varies depending on choice of fans/power variants

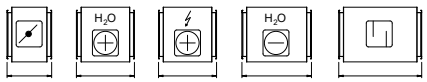
f - Including water coil heating (not filled with liquid)

g - The refrigerant can be selected between R454B or R410A. Technical data shows that R454B and R410A have similar performances. For more detailed data download the IV Produkt Designer.

h - 3×400 V+N+PE 50 Hz, fuse with type C characteristics

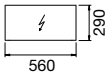
For object-specific data, see the product selection program IV Produkt Designer

Duct accessories



115 150-380 370-500 580 1080

Control cabinet



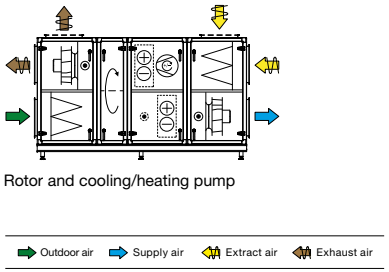
Depth 170 mm

For position, see table above.

Envistar® Flex with ThermoCooler HP

Configurations

Connections for outdoor air, supply air, extract air and exhaust air can be positioned on the upper or lower level. The unit can be supplied in right or left handed configuration. Below is an example of a right-handed configuration.



Rotor and cooling/heating pump

Technology

- 14 sizes
- Air flow 0.25–10.4 m³/s
- Control equipment Siemens Climatix
- Cooling/heating pump ThermoCooler HP
- Rotary heat exchanger
- Indoor or outdoor configuration

Capacity and technical data

	Dimensions (mm)					Air handling unit with integrated cooling/heating pump								
							Air flow (m³/s) [c]							
Size	Width	Height [a]	Length [b]	Duct connection	Control cabinet position	Output variant	Min.	SFP_V 1.5	SFP_V 1.6	Max. [d]	Cooling power (kW)	Refrigerant volume [e] (kg)	External fuse protection [f] kvp	Weight (kg)
100	1,360	1,090	2,550	700 × 300	On unit roof	2V	0.25	0.64	0.70	0.95	13.6	2.5	10A	620
150	1,460	1,470	2,850	800 × 500	On unit roof	2V	0.38	1.05	1.16	1.61	21.9	4.1	16A	820
190	1,740	1,470	2,850	1,000 × 500	On unit roof	2V	0.50	1.45	1.57	2.12	28.2	5.2	20A	940
240	1,740	1,686	2,990	1,000 × 600	On supply air end	2V	0.58	1.65	1.78	2.48	29.9	6.3	20A	1,070
300	1,956	1,686	3,020	1,200 × 600	On supply air end	2V	0.68	2.03	2.27	2.91	43.0	7.4	25A	1,160
360	1,956	2,060	3,550	1,200 × 800	On supply air end	2V	0.85	2.44	2.62	3.64	46.4	9.1	32A	1,465
400	2,200	1,900	3,090	1,400 × 700	On supply air end	2V	0.92	2.82	3.05	3.93	47.2	9.6	32A	1,380
480	2,330	2,060	3,850	1,400 × 800	On supply air end	2V	1.07	3.33	3.56	4.61	58.0	11.9	40A	1,930
600	2,540	2,270	3,850	1,600 × 800	On supply air end	2V	1.34	3.95	4.40	5.75	84.0	9.4/5.2	50A	2,165
740	2,820	2,675	4,150	2,000 × 900	In units next to TF fans	2V	1.71	5.33	5.70	7.34	103	12.6/5.4	63A	2,500
850	2,900	2,935	4,150	2,200 × 1,000	In units next to TF fans	2V	1.98	6.40	6.80	8.47	118	12.6/8.1	80A	2,800
980	3,200	3,085	4,150	2,400 × 1,100	In units next to TF fans	2V	2.38	7.20	7.75	9.95	132	15.7/11.3	80A	3,200
1080	3,340	3,195	4,310	2,400 × 1,100	In units next to TF fans	2V	2.38	8.00	8.50	10.14	149	10.6/8.7/8.7	80A	4,050
1280	3,520	3,375	4,310	2,600 × 1,200	In units next to TF fans	2V	2.70	8.80	9.35	11.46	173	13.1/9.5/9.5	100A	4,380

a - Stand increases the height by 200 mm on sizes 100–600. On sizes 740–980, the stand is standard. Control cabinet increases the height by 290 mm on sizes 100–190.

b - Control cabinet increases the length by 290 mm on sizes 240–600.

c - For units with dampers, F7 filter supply air, M5 filter extract air, rotor with supply air temp +20°C and duct pressure 200 Pa

d - Technical Maximum Flow

e - The refrigerant can be selected between R454B or R410A. Technical data shows that R454B and R410A have similar performances. For more detailed data download the IV Produkt Designer.

f - External fuse protection for the ThermoCooler HP reversible heat pump. 3×400 V+N+PE 50 Hz, fuse with type C characteristics. Go to previous page to see fuse protection for Envistar Flex.

For heating powers and object-specific data, see the product selection program IV Produkt Designer

Knowledge drives the whole industry forwards

At IV Produkt, we will show future generations that ventilation is an industry of the future. Through training, product development and an informative website, we will become a knowledge company and drive the industry forwards.

We are happy to share the knowledge we have accrued with you. Take advantage of our knowledge online, contact us or visit IV Produkt Competence Center, which is an established meeting place for knowledge, conferences and training.

Documentation – where and whenever you want it

Here, you can find brochures and technical documentation for all our products.

Order unique Operation & Maintenance

Enter your order no to find unique documentation for your unit.

Order no (e.g. 1234-5678) **Search**

Applies to units delivered from 2014 onwards.

- Dimensions and weights
- Performance and power
- Other documentation

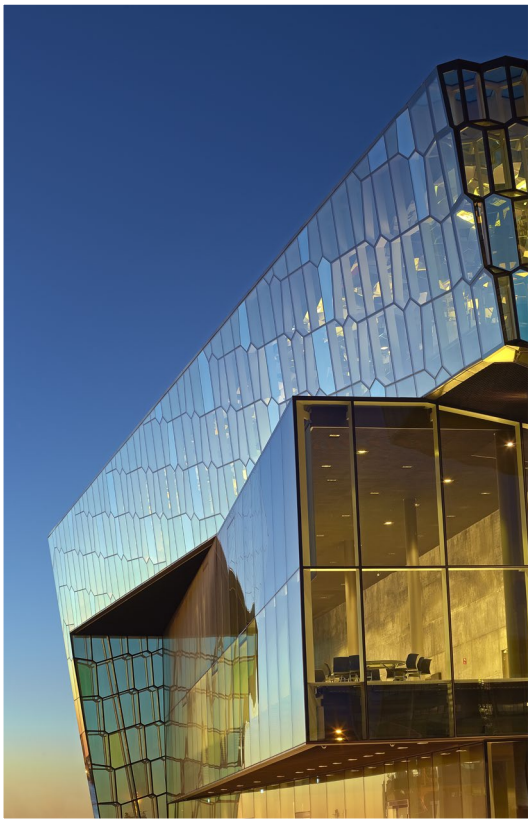
Unique order documentation is created for each unit we supply. This relates to operation and maintenance instructions, building product declaration, technical data, configuration and control diagram. By entering the order number at ivprodukt.com, you can digitally download the documentation for the unit. This service is available for all units delivered from 1 January 2014.

Projects we have delivered to...

Here is just a tiny selection of the thousands of projects in which, together with consultants and installation firms, we have used our wide range of products to deliver innovative solutions for energy-efficient and cost-effective air handling.

Scania in Oskarshamn, Sweden

Gothia Towers in Gothenburg, Sweden



Harpa Concert Hall in Reykjavik, Iceland

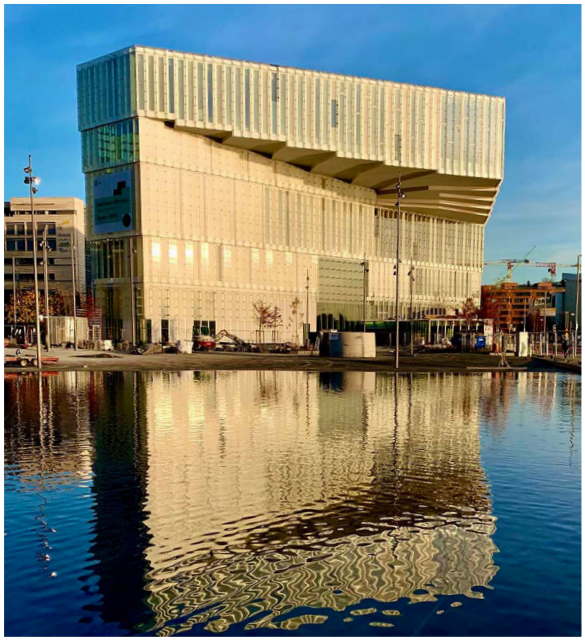
Northern Europe's biggest hospital, Aarhus University Hospital, Skejby, Denmark

Titanic Museum in Belfast, United Kingdom

... over the years

UNN PET medical center, Tromsø, Norway. Architect: LINK arkitektur.

Nationalmuseum in Stockholm, Sweden
Photo: Hans Thorwid



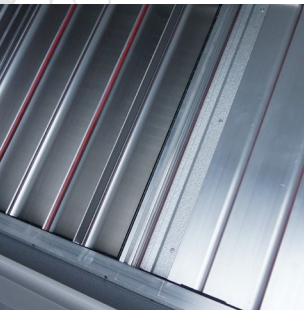
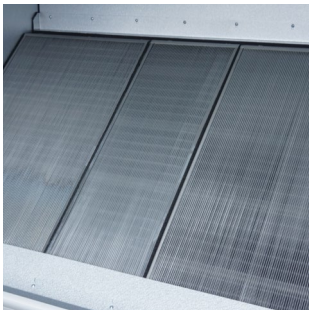
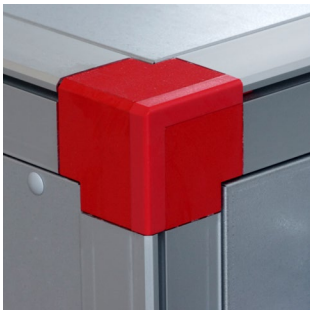
The Deichman Bjørvika Library in Oslo, Norway
Photo: Nicholas Vogt

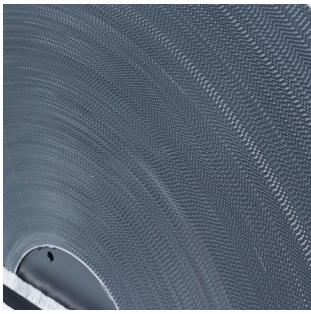
Bieberhaus in Hamburg, Germany

IV PRODUKT

Air handling with focus on LCC

© IV Produkt AB E.240411.EN



This is just part of our wide range. For our full range, see www.ivprodukt.com or contact us to find out more.

You are welcome
to contact us

Head office
Box 3103, Sjöuddevägen 7
SE-350 43 Växjö
Switchboard: +46 (0)470 75 88 00
Control support: +46 (0)470 75 89 00
info@ivprodukt.se
www.ivprodukt.com

IV Produkt Ltd
Sweden House, 4th Floor,
5 Upper Montagu Street,
LONDON W1H 2AG
Phone: 020 7258 5152

IV PRODUKT
Air handling with focus on LCC