



Air handling with the focus on LCC

## We create a good indoor climate and save energy



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A warm welcome to IV Produkt. With this company brochure, we would like to tell you what we do, how we think and present you a selection of the thousands of projects to which we have delivered.

We are the market leader in the development and manufacture of air-handling units. We have reached this position by having the highest development rate in our industry. We offer high quality and innovative products that make it possible to recover energy and create a good indoor climate. This has been our philosophy for many years, and it has created great success for us.

The head office has been located in Växjö, Småland, since the start in 1969, and we are privately owned. We think in the long-term and we have quick decision paths, which makes it easier to maintain a high rate of development. Thanks to development, production and sales working in close cooperation, we create air-handling units with innovative solutions for cooling, heating and energy recovery installations.

life cycle cost (LCC), the total cost for purchase, operation and service. This is a natural part of our development process. At the same time, optimised LCC creates higher property values.

Our air-handling units are tested and certified by Eurovent Certification, which means you can feel confident as our customer.

Our long-term approach is also clearly mirrored in our investments. We have made large investments in premises for production, offices and a training centre. In order to increase the efficiency and raise the capacity, we have installed the latest technology for production machinery.

At IV Produkt, we contribute to something for which we all havea great responsibility - we are saving the world's energy resources. This means that we work in an industry of the future and have an important task.

Hope you enjoy the broschure and don't hesitate to contact us.

Mattias Sjöberg CEO and shareowner



| TURNOVER MILLION EURO |  |
|-----------------------|--|
| 2005                  |  |
| 2006                  |  |
| 2007                  |  |
| 2008                  |  |
| 2009                  |  |
| 2010                  |  |
| 2011                  |  |
| 2012                  |  |
| 2013                  |  |

Read more about our products and projects at www.ivprodukt.com





Development, production and headquarters in Växjö



#### TITANIC BELFAST - Belfast, Irland

Titanic Belfast is a spectacular and severe building on six floors. The architecture resembles four ships separating from each other. Here visitors can travel through the history of the Titanic and the city of Belfast, where she was built once upon a time. In fact, in the very same place where the museum now stands. With the help of full-scale reconstructions and special effects, visitors can follow the ship's fate through nine different galleries. The museum cost roughly 100 million euro to build. It also includes galleries for temporary exhibitions, a banqueting hall with room for 1000 guests, business premises, restaurants, cafés, conference facilities and much more.

#### Flexomix with EcoCooler

When ordering the air-handling units for Titanic Belfast, the most important requirement was to be able to maintain the same uniform temperature and air humidity all year round. This was because the museum holds many old original objects from the Titanic that must be kept in their original condition, and remain unaffected by the environment in the building. Moreover, requirements were set for a minimal installation footprint, while the air-handling units had to be energyefficient with a high performance. The client chose air-handling units from the modular series, Flexomix. Some of the air-handling units are equipped with the integrated cooling unit, EcoCooler. The solution has received much praise for its efficiency from the staff at Titanic Belfast.



## **Lowered energy use** at BRF Albatrossen

## Energy-saving passive houses – an innovative housing form



The passive houses Portvakten Söder in Växjö are leasehold flats offering the tenants innovative, modern and environmentally friendly living. This project has received vast recognition from the European Union for bringing front edge technology into full scale production.



#### Envistar Home Concept The air-handling units has been developed as an simple solution for improved energy efficiency in apartment buildings, for example, the "million programme", and it is part of IV Produkt's Home Concept. The unique aspect is the handling unit's patented defrosting function, which is crucial for how large the energy saving will be.

ALBATROSSEN – Haninge, Sweden

The Albatrossen housing association in Haninge consists of 380 flats in 19 buildings. The buildings were built at the end of the '60s and the start of the '70s. At that time, the ventilation system used was separate supply and exhaust air without recovery, which resulted in a high energy consumption. For this reason, a comprehensive renovation project project was carried out during 2013, in which the association modernised the ventilation by installing a FTX system. The result has been a significantly lower energy use and a payback time of 5-6 years.

#### PORTVAKTEN – Växjö, Sweden

Passive houses are well-insulated and extremely energy conserving, and for the most part, they are heated by internal heat generated by occupants and heat emitted from household appliances and machines in the flat. Passive houses make extremely high demands on air handling. IV Produkt was therefore contacted early in the project to secure an energy efficient solution for the passive houses.





#### Flexomix in a Passive house version

A centrally located air handling unit with double plate heat exchangers is installed in each house at Portvakten Söder. The efficiency of the heat recovery is as high as 85 percent and the SFPv of the fans is as low as 1.27 kW/m<sup>3</sup>/s.

# Scandinavia's largest airport



**COPENHAGEN AIRPORT** – Copenhagen, Denmark



In 2005 Copenhagen Airport was awarded the title The World's Best Airport. During recent decades, the airport planners have invested in an ample enlargement of the entire airport area and terminals. A lot of people on the move means heavy demands on the air handling units. The units must be extremely reliable and adapt air volumes and temperatures in relation to the number of occupants. Through the last decade IV Produkt has been the main supplier of air handling units to the airport.



#### Flexomix

IV Produkt is the main supplier of air handling units to Copenhagen Airport, especially thanks to the fact that IV Produkt was early on the scene with direct-driven fans and low sound levels. The latest project was the extension of shopping areas and safety zones with Flexomix air handling units of various sizes.

# **Green light for**



#### ARENASTADEN - Växjö, Sweden



Arenastaden in Växjö includes four competition arenas built to high international standards. For this reason, requirements have also been set for efficient ventilation units to create a comfortable environment for both the competitors and the public. This is particularly true for the Vida Arena, where the cold from the ice meets the heat radiating from a grandstand packed with 6000 spectators when the ice hockey puck is dropped. At that moment, the humidity must not lie like a London fog!

#### Flexomix and Envistar

IV Produkt has delivered all 25 air-conditioning units to Arenastaden in Växjö. For example, the Vida Arena for ice hockey is ventilated by ten units. Four of these are Flexomix 850s, which means moisture does not form when the cold from the ice meets the heat coming from the public. Flexomix not only ventilates efficiently but also recovers the heat from the exhaust air with the help of rotating heat exchangers. The dehumidification and cooling of the indoor air is carried out with the help of water chillers.



Myresjö Arena: Soccer





# Harpa – a concert house







Harpa, in Reykjavik's harbour, is not just the pride of Iceland but also the largest music house in the Nordic countries and one of the most spectacular buildings in Europe. It is also the symbol for the Iceland that arose from the ashes of the financial crash. Music lovers make their way here from all around the world to listen to Iceland's symphony orchestras or to enjoy Mozart's opera, The Magic Flute. The acoustics in this unique building are as magical as the Icelandic sagas!

#### Flexomix

In a concert house, the noise from the ventilation must not disturb the acoustics. When Harpa was built, one of the world's must respected consultants in the field, Artic Consulting, was brought in and collaborated with IV Projekt to produce a solution that wouldn't increase the cost of the building's construction. Thanks to the Flexomix series' modular construction, it was possible to come up with 22 ventilation units that work almost soundlessly and yet fulfil the requirements for energy efficiency. World-beating sound and ventilation in one!





KOSTA BODA ART HOTEL - Kosta, Sweden







#### Flexomix and FlexoPool

A facility like Kosta Boda Art Hotel has many different localities and rooms, each of which makes different demands on air quality. IV Produkt's broad product range made it possible to meet all the varying demands. Both FlexoPool with coil energy recovery and Flexomix with rotary heat exchanger are used at the Kosta Boda Art Hotel.

The Kosta Boda Art Hotel is a new exciting hotel concept where various industrial glass designers have left their unique mark on every hotel room. Kosta Boda is one of the world's most wellknown trademarks when it comes to glassware. The hotel also has a large spa. IV Produkt's broad selection of air handling units has fit in perfectly for the various needs of the hotel rooms, restaurant, conference rooms, gym and pool area, etc.



**EXPERIUM** – Lindvallen, Sälen, Sweden







#### FlexoPool, Flexomix and Envistar Top

With large volumes of water in motion and many activities such as the wave machine and bubble pools in use, Experium has a great need for ventilation and dehumidification in the facility. These premises are served by FlexoPool air handling units designed to operate in swimming pool facilities and other corrosive and aggressive environments. Other rooms are served by eight Flexomix air handling units, and nearby Experium Ski Star has also built a ski lodge where seven Envistar Top units are installed.

At Experium, which is open all year round, visitors can swim in one of Scandinavia's grooviest adventure swimming facilities with Sweden's first machine for indoor surfing. They can also go bowling, go to the cinema, enjoy spa treatment and eat food from every corner of the world. Experium has cost approximately 36 million Euro to build and is one of the biggest investments ever in the Scandinavian alpine region, with IV Produkt as air handling supplier.

## **Green Building high** efficiency heat recovery



The Hagaporten 3 office building is located at a unique spot in Solna and is a magnificent welcoming entrance to Stockholm.



To match the requirements of the Green Building concept,

great efforts were made to achieve a solution with high heat

handling units, IV Produkt's biggest units with a heat recovery

of 80 percent, are installed in the garage. The units are also

equipped with free cooling since the need of cooling in the

air from the offices is used to heat the garage before it is

used for preheating the supply air.

building is substantial. For maximum heat recovery, the warm

recovery and low energy costs. Three Flexomix 3150 air

#### HAGAPORTEN 3 - Solna, Sweden

The building is owned by Skanska Fastigheter AB and was built as corporate headquarter for the Technical and Energy consultant company ÅF. The entire project was designed around low energy use to meet the Green Building EU Project standard. This means that this 28,000 square meter building consumes 25 percent less energy compared to the already high standard of the Swedish Board of Housing and Planning Regulations for New Construction (BBR).



TV-TOWER – Tallin, Estonia

#### Envistar with EcoCooler

Originally, it was intended for IV Produkt to supply air-handling units without integrated controls and cooling. However, the customer had a change of mind when IV Produkt presented its total solution, which includes heating, integrated cooling and prefabricated controls equipment. With a supplier who took total responsibility, the installation was easier, quicker and more cost effective compared to systems from different suppliers.

Flexomix

## A sky-high TV tower that became a major tourist attraction in Tallinn

The TV tower was built while Estonia was part of the former Soviet Union, to be more precise, in advance of the Olympic Games in Moscow, 1980, when the sailing competitions were held on the outskirts of Tallinn. After a complete renovation in 2012, the tower is a major tourist attraction today, providing visitors with a fantastic panoramic view from a height of 170 metres. Among the things to be found here, are a restaurant with an outdoor terrace and interactive multimedia systems that present Estonia and Tallinn. The view straight down through the platform's glass floor is fantastic. The TV tower is a landmark in Tallinn and concerts, performances, exhibitions and open-air events are also held here.

## **Fresh air and right temperature** – puts people in a better shopping mood



Right temperature and good air quality are tremendously important factors for creating an attractive atmosphere where customers will enjoy shopping.

#### **MEDIAMARKT** – Sweden



#### Flexomix with EcoCooler/StarCooler

The great numbers of electrical apparatuses that are switched on all day long in the Mediamarkt stores require a sizable amount of air change and substantial cooling, which in turn means that an air handling unit with cooling energy recovery is needed. The solution was the Flexomix with an integrated EcoCooler cooling unit with cooling energy recovery.

A store filled with a vast selection of products is not everything – the right temperature and good air quality are tremendously important factors for creating an attractive atmosphere where customers will enjoy shopping. With hundreds of TV sets and other electronic products constantly switched on and emitting heat, the cooling load is enormous - 70W/m<sup>2</sup>. IV Produkt offered a cost efficient solution of air handling units with integrated cooling.









## **References from all over the world**

- from mines and underground railways to airports and shopping centres

- 1: Finland The Office complex of the Technopolis chain in Tampere was designed and built with low Life Cycle Cost (LCC) as a prioritized objective, the building is equipped with 15 Flexomix units.
- 2: Denmark The Skejby Hospital in Århus is Northern Europe's largest hospital and has Flexomix air handling units to meet the very high demands on energy efficiency.
- Sweden Kungsmad School in Växjö has selected 11 space efficient Envistar Top units that require only 2 m<sup>2</sup> of installation space each.
- Sweden The Gekås Ullared AB department store, with more than 4 million visitors yearly and high air quality demand, is serviced by 60 Flexomix units.



- and 3 Envistar Top units.

## **The Widest** Range on the Market

### **Envistar**<sup>®</sup>

- Airflow range: 0,1-9,0 m<sup>3</sup>/s (360-32400 m<sup>3</sup>/h)
- Integrated control equipment
- Integrated cooling units
- Available in 20 sizes

#### Envistar<sup>®</sup> Home Concept

The Envistar range is available with solution for energy efficient apartment blocks in renovation and new construction.

- Available for Top, Compact and Flex
- Available with rotor or counter-flow heat exchanger
- Airflow: 0,1-2,25 m<sup>3</sup>/s (360-8100 m<sup>3</sup>/h)
- Manages 4 70 flats/AHU

#### EcoHeater Home Concept

- Airflow range: 0,2-2,1 m<sup>3</sup>/s (720- 7560 m<sup>3</sup>/h)
- Extract air handling unit with built-in heat pump
- Available in 5 sizes and several capacity variants

### **Flexomix**<sup>®</sup>

- Airflow range: 0.2-34.0 m<sup>3</sup>/s (720-122.400 m<sup>3</sup>/h)
- Modular unit system with 30 functional sections
- Integrated cooling unit
- Available in 20 sizes

### **FlexoPool**<sup>®</sup>

- Dehumidification units for water parks and swimming pools
- Airflow range: 0.5-30.0 m<sup>3</sup>/s (1.800-108.000 m<sup>3</sup>/h)
- Control equipment
- 8 sizes as standard

#### **EcoCooler** cooling unit

- Available for use with the Envistar Flex and Flexomix units
- Airflow range: 0,15-8,5 m<sup>3</sup>/s (540-30.600 m<sup>3</sup>/h)
- Cooling capacity: 3 to 210 kW
- Available in 14 sizes and several capacity variants



Envistar<sup>®</sup> Top Envistar<sup>®</sup> Compact Envistar<sup>®</sup> Flex













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IV Produkt AB, Box 3103, 350 43 Växjö, Sweden Phone: +46 470 75 88 00 • Fax: +46 470 75 88 76 info@ivprodukt.se • www.ivprodukt.se