



MODERN INDUSTRIAL

KITCHEN VENTILATION

Aturala[®]



HISTORY

ATREA started as a private company in 1990 in the Czech Republic. Very shortly it began to focus on the production of ventilation units with waste heat recovery and later on, the kitchen industrial ventilation became another part of ATREA's complex product portfolio.

ATREA's high quality products also started to make their mark in the demanding markets of Western Europe. The economic and geographic proximity led ATREA to focus primarily on Germany where it has established itself really well as a result of a good partnership and top-quality products, with the Netherlands, Denmark, Switzerland, UK, Italy, Lithuania and other countries to follow.

Currently, ATREA is also expanding its business abroad with the ventilation and air-conditioning equipment for kitchens. It offers wall to wall ventilation ceilings, kitchen hoods with heat recovery and the control system. With having so much experience throughout the years, this part of ATREA's product range is slowly becoming a success among designers all over Europe.

ATREA's product range

- Kitchen ventilation
 - Wall-to-wall ventilation ceilings and kitchen hoods
- Commercial ventilation
 - Air handling units from 500–15.000 m³/h
- Residential ventilation
 - Air handling units from 170–580 m³/h
- School ventilation

For more information please visit www.atrea.eu



WHY KITCHEN VENTILATION?

ATREA is able to supply a complete solution for kitchen ventilation – from the ventilation ceiling to the air handling unit with heat recovery. Having the whole service in one package gives us a huge competitive advantage, because it is both convenient and comfortable for the customer.

ATREA ventilation system is designed according to the EN 16282. The construction of our ventilation system meets the most stringent criteria in terms of health requirements as well as design. The well-lit space of the entire kitchen, the draft-free supply of fresh air and perfect extraction, all that with the additional benefit of a modern control system, create a pleasant and clean environment for kitchen staff.

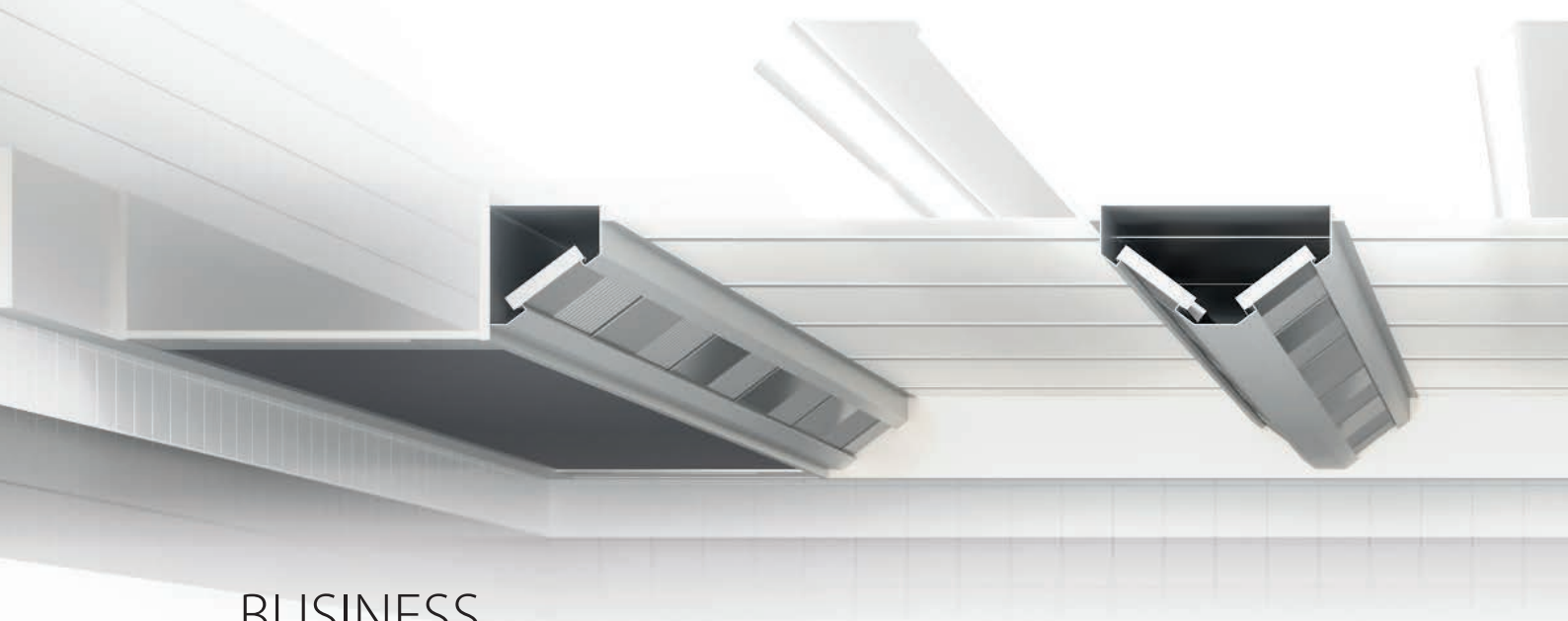


Business

- Attractive design
- Easy maintenance
- Pleasant environment for the cooks
- Light weight
- Brightens up the space
- Air-tight (closed extraction system)

Engineering

- Ventilates the entire area of the kitchen
- Hygienic air exchange
- High filtration efficiency
- Europe-wide TÜV certification
- Integrated supply of fresh air
- Integrated light for the whole area
- Perfect protection for the building construction



BUSINESS ADVANTAGES

○ Attractive design

ATREA's ventilation ceilings take the look of the kitchen to a whole new level. Its appealing design creates an impression of elegant and high class facility together with a cozy working environment.

○ Easy maintenance

It is extremely easy to clean the ceiling. No need to take the whole day off to remove the parts. Simply wash off the dirt using a wet dishrag.

○ Pleasant environment for the cooks

It has been proved several times, that a nice environment has a significant impact on employees. Thus, we have come up with a solution that creates a cozy and adequately illuminated workplace.

○ Light weight

Because of an ideal type of a construction design, there are not any high demands for the statics of the construction ceiling.

○ Brightens up the space

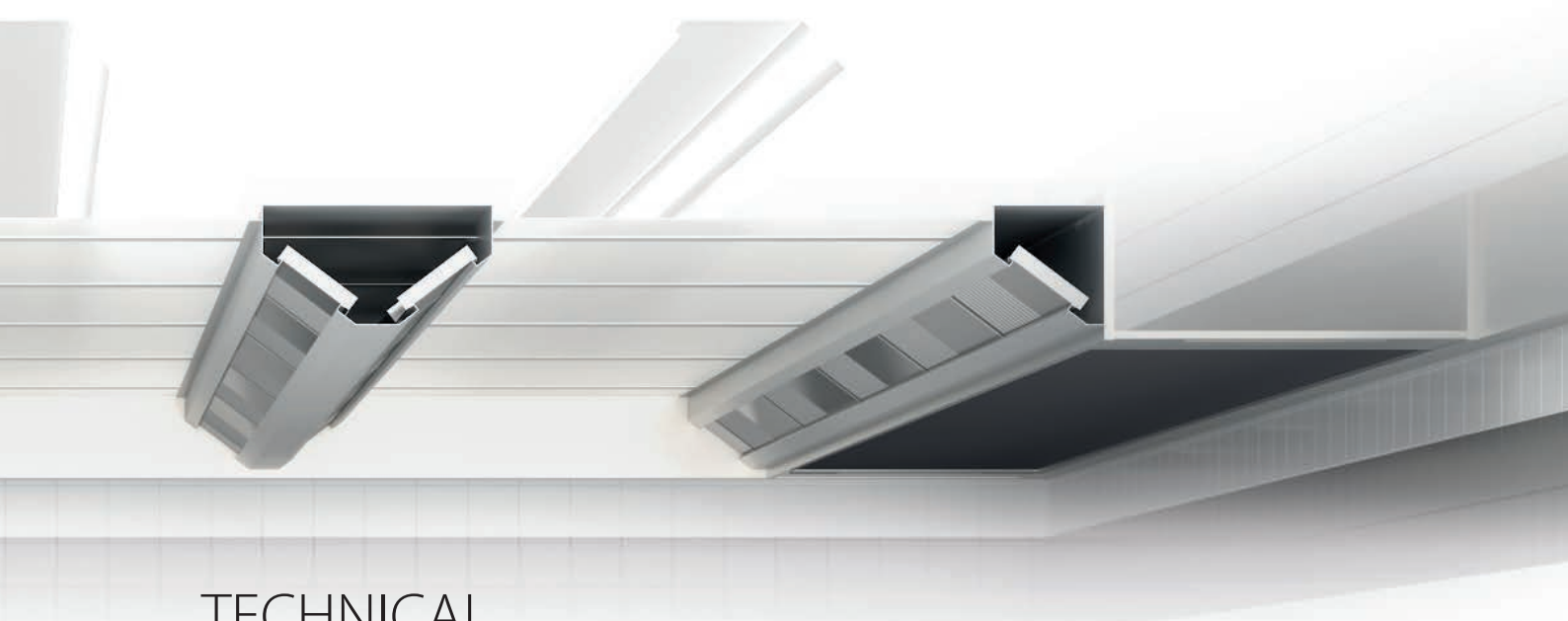
Thanks to the used materials of the ceiling, the lights spread out all over the workplace.

○ Air-tight

We use a closed extraction system, which ensures that the polluted air will not get to the building construction. Therefore, no mold can be formed.

WALL-TO-WALL
VENTILATION
AND EXTRACTION
CEILINGS





TECHNICAL ADVANTAGES

- Ventilates the entire area of the kitchen

Ventilation ceiling are a great solution for kitchens where several convection ovens are placed. There is no need for kitchen hoods, the ceiling extracts all the polluted air and supplies the kitchen with fresh and clean air.

- Hygienic air exchange

When cooking, many harmful substances are created. In order to prevent their presence, the exhaust air must be extracted perfectly, as well as supplying fresh outdoor air, which cannot be achieved by opening windows to ventilate.

- High filtration efficiency

It is possible to add the UV-C filtration according to the customer's requirements. This filtration ensures the disintegration of fat particles and eliminates the odors from cooking.

- Europe-wide TÜV certification

Our product is TÜV certified. This certification monitors the quality of the used material and the design quality. It outlines that the ceiling is made under certain conditions, by certain tools. It also has to fulfill a certain prescribed quality.

- Integrated supply of fresh air

the supply is integrated in the ceiling, with the help of a fabric diffuser, which is made exclusively for each project.



THE BEST ODOUR AND GREASE FILTERS WITH AN EFFICIENCY OF UP TO 95 % OWN DEVELOPMENT, CONSTRUCTION AND PRODUCTION

The ATREA lamellar and cyclone filters are among the best on the market. Thanks to their own, original design, the filters have a very high efficiency which does not allow even the smallest aerosol particles from the air to penetrate the devices or ventilation ducts. Cyclone filters operate at 95 % efficiency, lamella filters at 75 % efficiency.

The lamella-type separator

Has been in our offer for several years. Its design is so unique that by the time the new standard for kitchen facilities (EN16282) was issued, this separator already met its most stringent requirements. All technical specifications of this separator can be found in a separate catalogue.

The cyclone-type separator

Is a first-class novelty in our product range that has been developed. It is a separator that, thanks to its design, ensures the separation of even the smallest aerosol particles in the air. At the same time, it is made in such a way that even with a very high separation efficiency, it is clogged as little as possible with the separated aerosol.

Both series of separators have undergone rigorous testing at a leading European DMT laboratory. The separators have passed both flame retardancy and flame separation tests. This allows us to meet the most stringent standards (VDI 2052, EN1 6282, DIN 18869-5, etc.) required in kitchen operations.

As an optional addition to mechanical filtration, we offer state of the art UV-C technology from the Swiss company Oxytec, which destroys any remaining fat particles and most odours. For 100% odour elimination in the exhaust air, we recommend active carbon filters.



AEROSOL
SEPARATORS

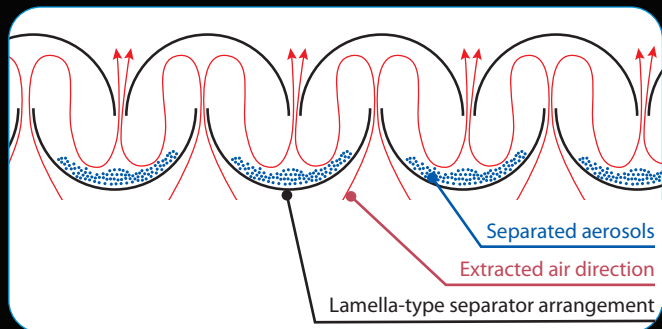
EN 16282

VDI 2052

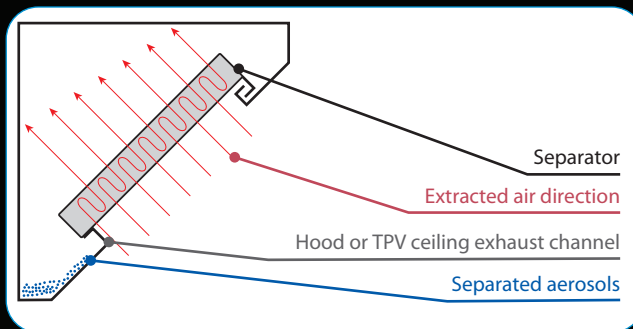
DIN
18869-5

DMT

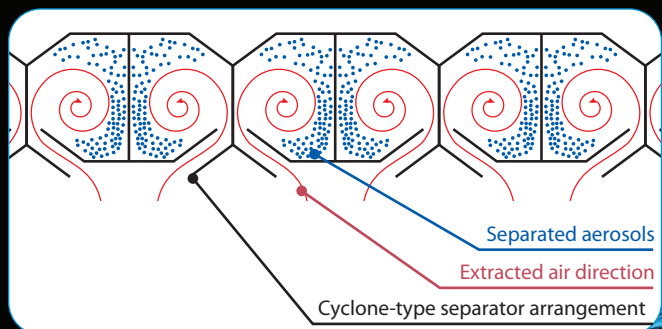
The lamella-type separator functionality schema



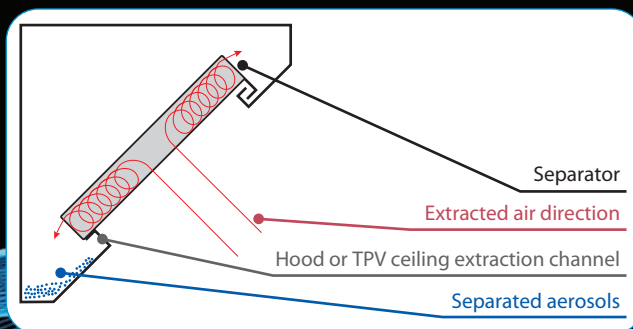
Separator placement



The cyclone-type separator functionality schema

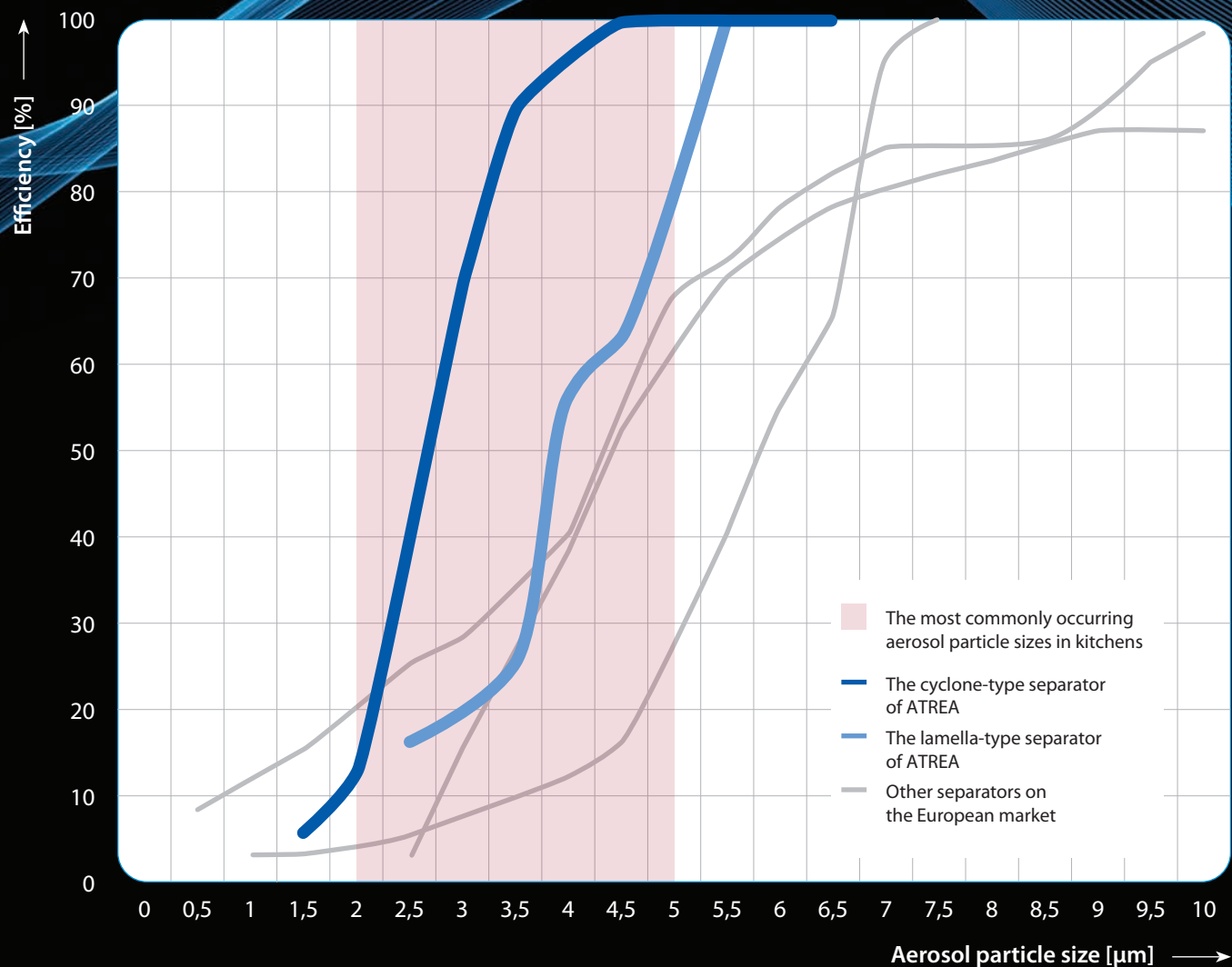


Separator placement



Comparison of the efficiency of aerosol separators

The aerosol particle size in kitchens is assumed to be 0.5–10 μm, most commonly 2–5 μm.



KITCHEN VENTILATION DESIGN METHODOLOGY

EN16282

This is the first European standard which was designed for calculation and design of kitchen ventilation. It is based on the VDI 2052 as most European producers design kitchen ventilation systems according to this regulation. It has repeatedly proven itself over the past few years as the perfect standard for designing kitchen ventilation. Although the new EN16282 standard is based on VDI 2052, some points may vary (e.g. the recommended overlaps of hoods over the cooking block).

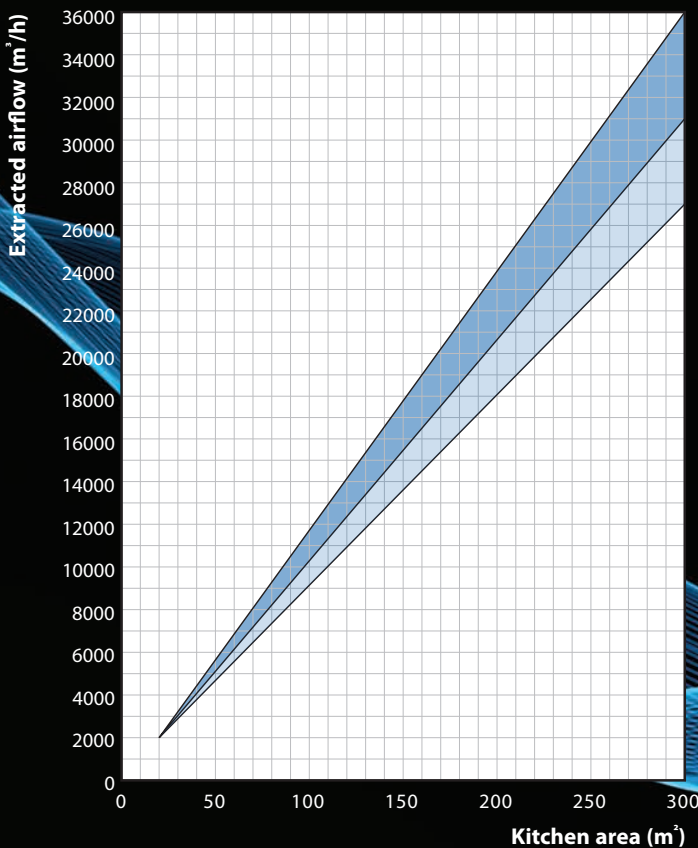
VDI 2052

Germany's VDI 2052 is currently the most widely used standard for the design of kitchen ventilation space. It was adopted not only by the Czech Republic, but also by a lot of other countries throughout Europe. For calculations made according to the VDI 2052 it is necessary to know several factors that affect the final calculation.

The most important factors include:

- Kitchen area
- Use of the kitchen space
- List of proposed appliances (power, placing)
- Simultaneous factor of proposed technology

Based on these parameters, it is possible to design both the most suitable and also the most functional system.



Range of frying, grilling and baking

Range of washing (rinsing)

Range of cooking and steaming

Total kitchen range

Nomogram proposal for kitchen ventilation according to the VDI2052



SELECTION SOFTWARE

ATREA is the only producer with highly sophisticated software available also for designing the kitchen ventilation systems together with the commercial and residential ventilation.

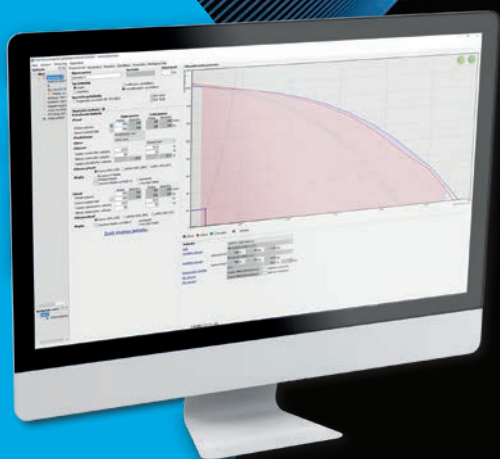
ATREA offers its proprietary design software that is a highly useful and practical tool to select not only the kitchen ventilation system, but also for DUPLEX air handling units and provide great marketing support!

Very detailed calculations on all specifications are standard.

The software checks whether all components were selected and whether the selected system is working. This way you can avoid any possible mistakes.

It includes:

- Selecting a ventilation ceiling, kitchen hood, air-handling unit including the accessories
- Showing parameters of the selected appliance and its components
- Selecting the control system with accessories in a functional set
- Electrical wiring diagrams
- Displaying and printing the components installed, an h-x- diagram and HVAC diagrams
- Price specifications of individual components
- Print output to a printer or PDF
- Exporting drawings and diagrams do DXF in 2D or 3D
- Sending the design and export by e-mail
- Additionally, the design software includes a full catalogue of ATREA's products in PDF format



Very positive feedback from designers from all over Europe is used for further improvement with the goal to create fast and easy design.

TYPES OF KITCHEN VENTILATION CEILING

ATREA delivers **complete solution**
= **turn-key project management!**



TPV

Standard design of the fully illuminated ventilated ceiling. The lighting not only has a design effect, but also creates a more pleasant working environment for the kitchen staff than a standard stainless steel design.



TPV-N

Stainless steel design of the TPV ventilation ceiling with stainless steel fillings between the air ducts.



TPV-K

Stainless steel design of the TPV ventilation ceiling with white painted aluminium panels between the air ducts.

ORDERING PROCEDURE HOW IT WORKS



Leader in ventilation and heat recovery

The procedure

1. Technical documents
2. Consultancy for free
3. Price offer
4. Kitchen measurement
5. Production
6. **Installation & delivery**

Required technical documents

- List of kitchen appliances
- Power of each appliance
- Appliances layout in the kitchen
- Ceiling height
- Project drawing in .dwg file



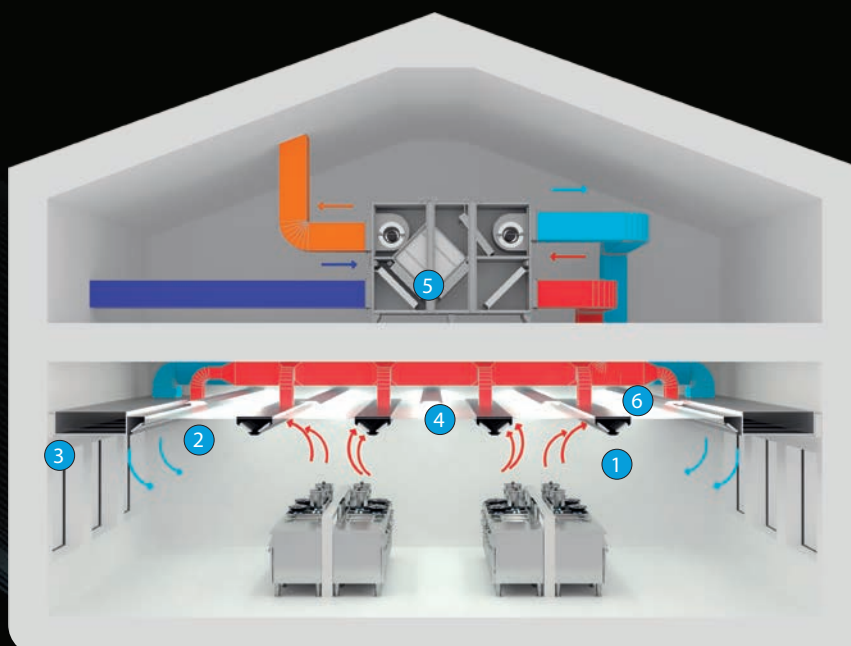
Testimonials – our customers experience



Škoda Auto – Mladá Boleslav



Potrefená Husa – Liberec



1. Extraction ducts with aerosol separators
2. Transparent, translucent panels
3. Supply ducts with diffusers
4. LED lightning
5. HVAC unit
6. Overhead extraction ducts



ŠKODA AUTO MLADA BOLESLAV

KITCHEN VENTILATION CEILING / TPV



In 2019, the construction of a new central kitchen for the entire Škoda Auto production area began. This kitchen is unique in its size. The area of the cooking kitchen itself occupies 860 m² and with the preparation rooms it is more than 1,000 m², thus the biggest commercial kitchen in the Czech republic and one of the largest in Europe. The central cooking room is designed for automatic operation so that more than 35,000 meals a day can be prepared. Not only several large kettles, but also several multi-functional pans, boilers and a dough processing line (dumpling room) have been designed for this workload. Great emphasis was placed on the proper functioning of the entire HVAC system because more than 3,000 kW of total input power is required for the gastro technology. Two rooftop heat recovery units with an output of 90,000 m³/h are used to ensure ventilation of the entire cooking area. They can exchange the air in the entire cooking room 40 times per hour.



For more information please visit www.atrea.eu

AIREST VÁCLAV HAVEL INTERNATIONAL AIRPORT



TPV



Václav Havel Airport underwent a reconstruction of the airport kitchen. This kitchen provides food for the entire air traffic. The reconstruction of the kitchen operation was carried out 10 years ago, when unfortunately we were replaced by a technically unsatisfactory and paradoxically more expensive solution. Subsequently, the airport management decided to replace this system with the originally proposed solution, which is a full ventilation ceiling TPV, after long term dissatisfaction (poor lighting of the space, dripping grease from the ceiling, disruption of the building structures, laborious and demanding maintenance). This is the third installation and further installations are in the pipeline.



MILITARY HOSPITAL PITESTI, ROMANIA

KITCHEN VENTILATION CEILINGS / TPV



TPV



The project involved the installation of a ceiling through which the exhaust air is extracted from the kitchen area, on an area of 96 m². The ceiling is equipped with high efficient fat separators, transparent polycarbonate panels with LED lighting, extraction channels regulated by manual dampers, and fresh air supply diffuzors. The total airflow capacity is 10,000 m³/h for both, exhaust and supply. In addition to the permanent supply of fresh air for which no energy is consumed during heating, this solution has allowed a much more efficient organization of cooking and storage appliances in the kitchen. The production capacity of the canteen is 350 meals per day.



For more information please visit www.atrea.eu

HOTEL SPO SJENJAK TUZLA, BOSNIA AND HERZEGOVINA

KITCHEN VENTILATION CEILING / TPV



TPV



SPO Sjenjak is a newly constructed building located in Tuzla used for residential and business purposes.

On the top building floor, there is also a luxury restaurant with a moderate size kitchen (55 m²).

ATREA TPV ventilation and lighting ceiling, together with a DUPLEX Basic ventilation unit and control system, was chosen as a solution to fulfill the kitchen requirements in terms of efficient air extraction and workplace luminosity.



POTREFENA HUSA LIBEREC, CZECH REPUBLIC

KITCHEN VENTILATION CEILING / TPV



TPV



In this case we have handled the project of a luxury restaurant Potrefená Husa in the Czech Republic. The ceiling area is 33 m² and the ventilation ceiling includes a DUPLEX 10100 Basic-N outdoor unit and a control system – thus the entire package including installation.



For more information please visit www.atrea.eu

PETRAM RESORT SAVUDRIJA, CROATIA

KITCHEN VENTILATION CEILING / TPV



TPV



Petram Resort and Residences, the largest and most attractive tourism project built in Croatia in the last ten years. The complex has 252 luxury properties – 55 tourist villas, an aparthotel with 179 vacation apartments and 18 residential apartments.

On the last floor of the hotel there is a superb restaurant, which has an ATREA TPV ventilation ceiling with UV-C and a fire protection system. ATREA kitchen hoods are also installed in smaller restaurants in the complex itself.



HOODS

KUBUS / MODIS 2 / GRANDE / VARIANT / OPTIMA



KUBUS



KUBUS

A simple exhaust-only hood suitable for appliances such as dishwashers and convection ovens for kitchens of all types and sizes. The operation of such appliances does not result in the particles of fat being contained in exhaust air so it is not necessary to install grease filters.

Advantages:

- Fully welded construction
- Durable AISI 304 stainless steel



MODIS 2

MODIS 2

The kitchen hoods of the MODIS 2 series are part of a complete product line – ATREA assembled hoods. The unique design solution based on a modular system offers the customer the option of delivery in a disassembled system without a connection port, disassembled with a connection port (on-site assembly of the hood, either by yourself or by the manufacturer), or delivery as a whole. They can be assembled side by side to create a longer assembly, or hung back to back to create a central assembly above the cooking block.

Advantages:

- 5 years warranty
- Czech product from a renowned manufacturer with more than 25 years of professional experience
- An attractive design
- Integrated LED lights
- Delivery within 3 working days



HOODS

KUBUS / MODIS 2 / GRANDE / VARIANT / OPTIMA



GRANDE



GRANDE

The all stainless steel, welded hood Grande has been developed to meet both the strict technical parameters of VDI 2052 and EN 16282 and the design requirements of the customer. Thanks to these parameters, it can be used both for extracting cooking blocks with huge loads and as a design element of the exhaust.

Advantages:

- Stainless steel design
- Energy saving lighting
- Wireless light control
- Suppression of prefabricated joints to a minimum (appearance of the all-welded version)
- Huge accumulation space
- High efficiency of separators



VARIANT

VARIANT

VARIANT kitchen hoods provide efficient extraction with waste air filtration and at the same time supply of treated fresh air for kitchens of all sizes and configurations, also with automatic operation control on request.

Advantages:

- Integrated fresh air supply to the kitchen area
- Integrated LED lights with IP65 protection
- Low weight
- Elegant design
- Possibility to direct the fresh air supply
- Compactness



HOODS

KUBUS / MODIS 2 / GRANDE / VARIANT / OPTIMA



Integrated Heat Recovery Core

OPTIMA



OPTIMA

Unique compact hood with heat recovery, reheating, filtration, air supply and lighting. OPTIMA is suitable for both new buildings and renovations with limited space for installation of air handling unit. All functions are provided directly in the hood, only the fans of the required parameters are installed in the central supply and exhaust ducts.

Advantages:

- Compactness
- Integrated fresh air supply
- Sophisticated control system by ATREA
- Built-in heat recovery exchanger with up to 68 % efficiency
- Built in coils: electrical re-heater or water heating / cooling coil
- Integrated LED lights with IP65 protection

HOODS

KUBUS / MODIS 2 / GRANDE / VARIANT / OPTIMA



LARGE-SCALE HOODS

TPV large-scale hood

Standard design of large-scale hood with transparent lighting panels.

TPV-N large-scale hood

Full stainless steel design of TPV large-scale hood.

TPV-K large-scale hood

Stainless steel design of TPV large scale hood with white painted aluminium panels between the air ducts.



HOODS

KUBUS / MODIS 2 / GRANDE / VARIANT / OPTIMA



LARGE-SCALE HOODS

LARGE-SCALE HOODS

Large-scale hoods are suitable for kitchens with multiple cooking centres. The indisputable advantage of this solution is the resulting appearance and lower purchase costs compared to the installation of several hoods and complex ductwork. They are available in a complex design with dimensions as required, optionally with air supply. ATREA large-area hoods have become the standard for functional and architectural ceiling solutions for open design kitchens.

Advantages:

- 5 years warranty
- Czech product from a renowned manufacturer with more than 25 years of professional experience
- Attractive design
- Integrated full lighting panel
- Possibility of built-in UV-C filtration

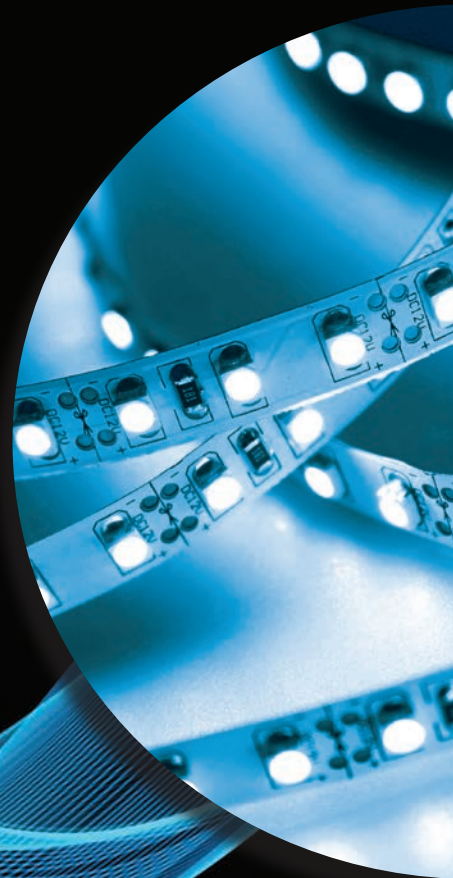
OPTIONAL ACCESSORIES



Leader in ventilation and heat recovery

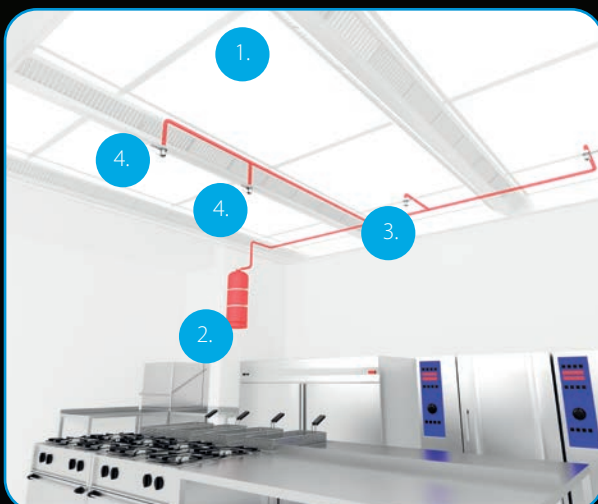
LED lights

- Possible for all types of kitchen ventilation ceilings (as a standard for TPV Exclusive)
- Optimal luminosity
- Low operating cost



Self-extinguishing system

- It will automatically detect fire and start extinguishing it
- Protects the ventilation system and kitchen appliances
- Compact solution
- Attractive design
- Meets the fire safety conditions



1. ATREA wall-to-wall ventilation ceiling
2. Stored pressure fire extinguisher
3. Self-extinguishing system
4. Automatic nozzles

UV-C TECHNOLOGY

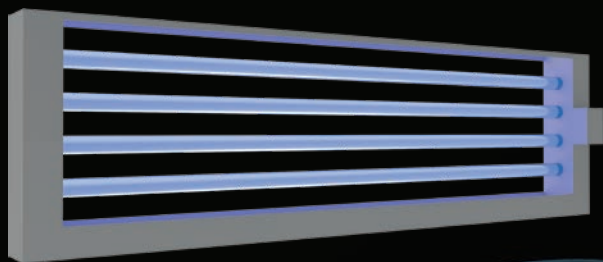
Up to **99.9% efficiency!**



UV-C TECHNOLOGY

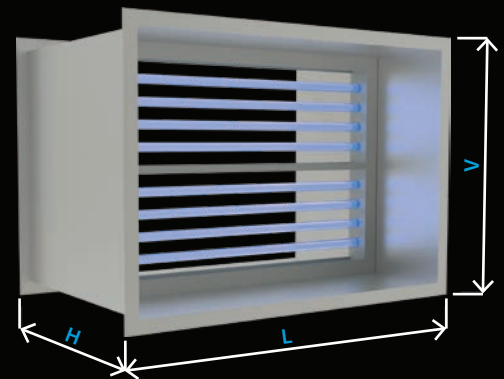
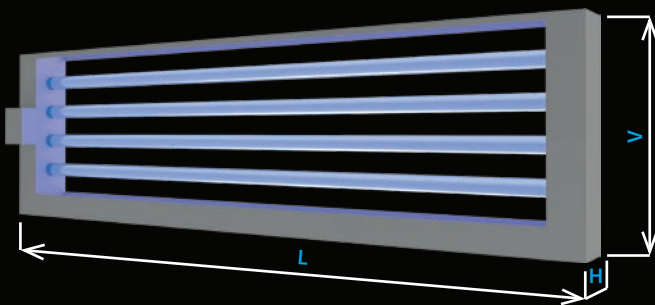
The ATREA kitchen ventilation system also solves the problem of reliable waste air filtration, where, in addition to the standard mechanical grease filtration, a second stage of UV-C filtration can also be fitted – thus achieving a **top efficiency of up to 99.9 %** in the disposal of exhausted aerosols!

The result is significantly lower maintenance and, most importantly, cleaner exhaust air without unpleasant odours. Proof of the quality and functionality of this system is also the European-wide TÜV certification.



Type	V_{max} [m ³ /h]	Length L [mm]	Height V [mm]	Depth H [mm]	Power input [W]
UV-C lamp 1 000 m ³ /h, 158 W	1 000	1 712	178	72	158
UV-C lamp 2 000 m ³ /h, 316 W	2 000	1 712	304	72	316
UV-C lamp 3 000 m ³ /h, 474 W	3 000	1 712	304	72	474
UV-C Box 2 000 m ³ /h, 400 W	2 000	350	950	650	400
UV-C Box 4 000 m ³ /h, 800 W	4 000	650	950	650	800
UV-C Box 8 000 m ³ /h, 1 600 W	8 000	650	950	650	1 600

Dimensions



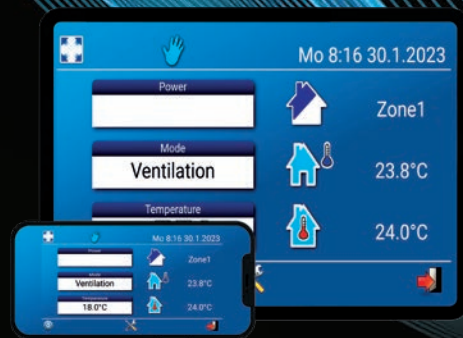
Advantages:

- The entire system is kept completely clean, no aging of the system
- The waste air is odourless
- Significantly lower cleaning and maintenance costs
- Minimum risk of fire
- Meets the strictest criteria and requirements for environmental cleanliness
- The module can be easily integrated into an existing system
- Does not create pressure loss in the duct
- Long lifetime of UV-C lamps
- It also effectively removes bacteria, viruses, yeasts and mould spores

AUTOMATIC CONTROL SYSTEM

Automatic control system for kitchen ventilation is an optional accessory for kitchen hoods and the ventilation ceilings. The digital control system ensures economical operation of ventilation depending on the actual heat production of kitchen appliances and prevents uneconomic fan operation time during cooking or at a reduced heat load.

ATREA has its OWN control system.



Control system

- Meets all requirements for the most advanced system
- Ensuring a perfect hygienic conditions in the kitchen
- External signal for convection oven for maximal output
- Control of the ventilation performance (0–10 V)
- Possibility to switch to fully automatic ventilation performance according to the actual strain in the kitchen
- Controlling based on the temperature and humidity
- Option of dividing space into zones a defining their operation
- Remote access
- Holiday mode (possible to use for state holidays)
- Start and finish delay option



Main control panel



- Suitable for offices
- Touchscreen and full-colour display
- Similar design to the ATREA web interface for easy control and orientation
- Built-in temperature sensor for free-ambient temperature control
- Password protected service access for enhanced safety
- 50 m distance reach
- Automatic screensaver

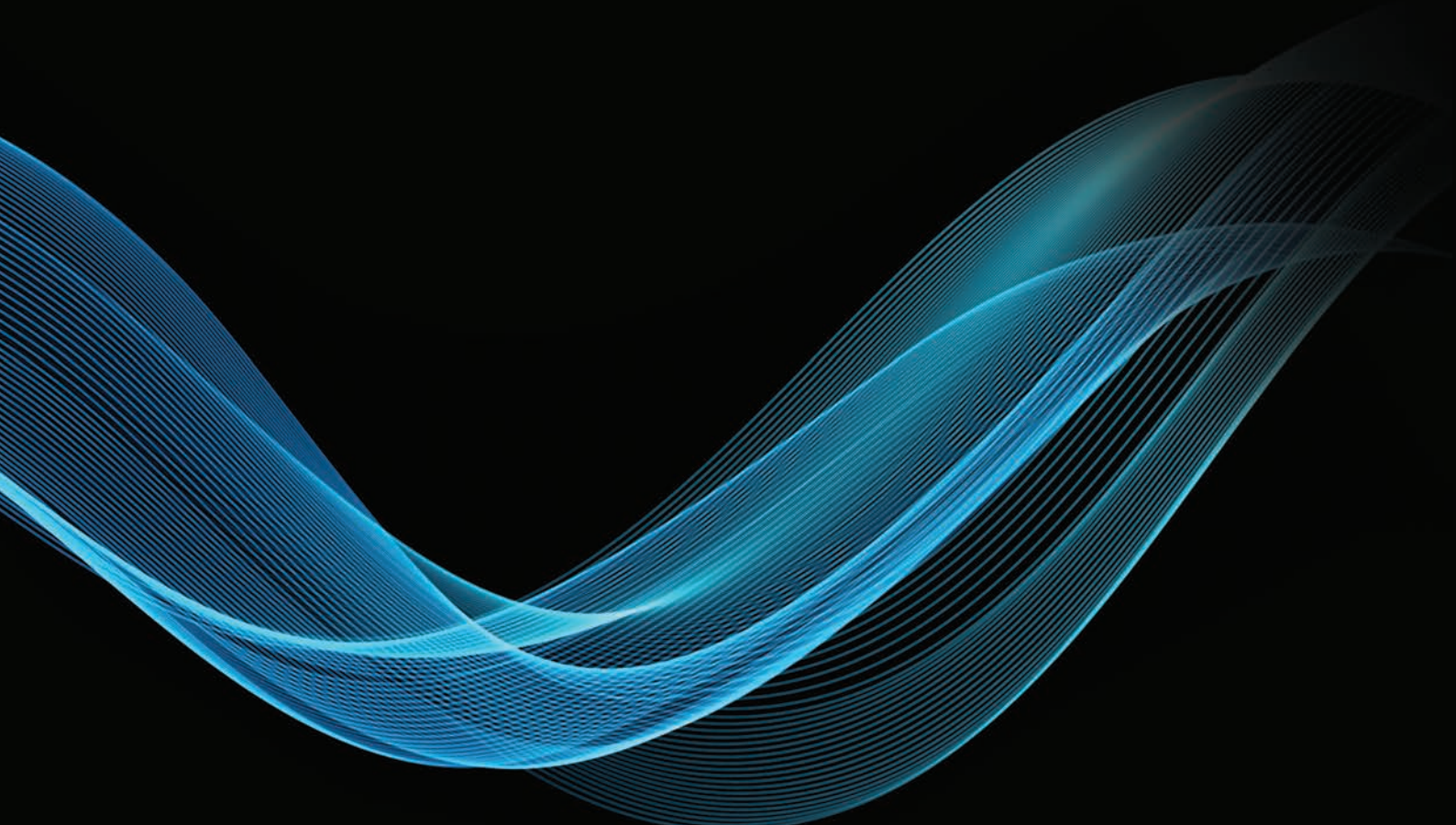
Manual control panel



- Suitable for kitchens
- Cheaper and simpler option
- Intuitive and easy power and temperature setting
- Simple on/off button
- Ingress protection IP43

Web server as standard
with the use of DUPLEX units.





Atreaal®

CZ

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