

Cost-effective and advanced systems KITCHEN VENTILATION



- ▶ low purchase and operation cost ▶ perfect ventilation
- ▶ modular design ▶ automatic controls ▶ heat recovery
- ▶ consultancy ▶ design ▶ service



SKV

ventilation and lighting
ceilings with „B“-type
automatic control

SKV

ventilation and lighting
ceilings with aut. control

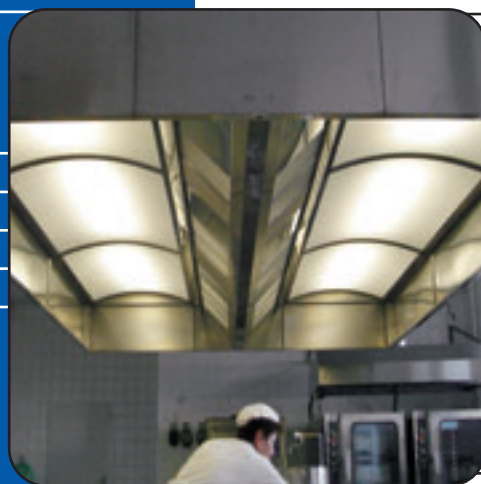


DiNER

kitchen hoods
with heat recovery
with automatic control

VARIANT

kitchen hoods
with air supply
and full-area lighting



DUPLEX

unit ventilators
with heat recovery
exchangers

Atrea[®]

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E-mail: kuchyne@atrea.cz

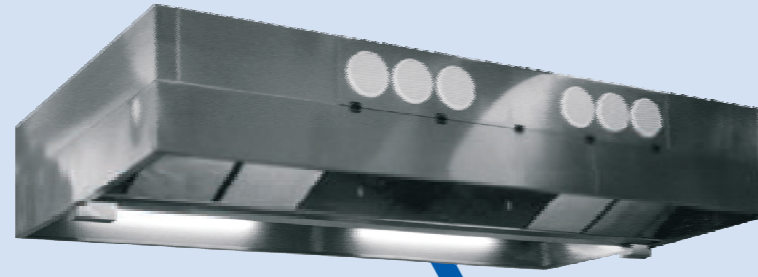
www.atrea.cz

SKV - „B“-type



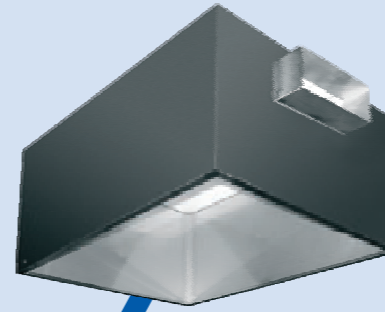
*Air exhaust + supply
Full-area lighting*

DiNER



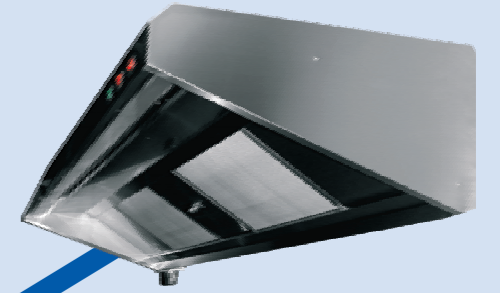
*Air exhaust + supply
+ heat recovery*

KUBUS



Air exhaust

KOMPAKT



*Air exhaust
(Built-in fan)*

SKV - „C“-type



*Air exhaust + supply
Full-area lighting*

OP, RG, SM



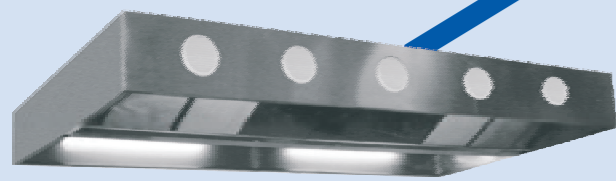
Automatic control

DUPLEX units



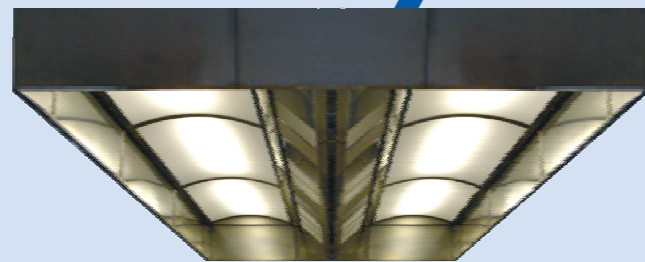
*Heat recovery
heating, cooling*

VARIANT



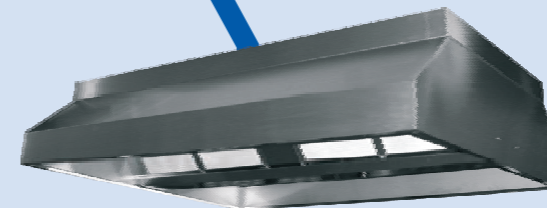
Air exhaust + supply

VARIANT - LUX



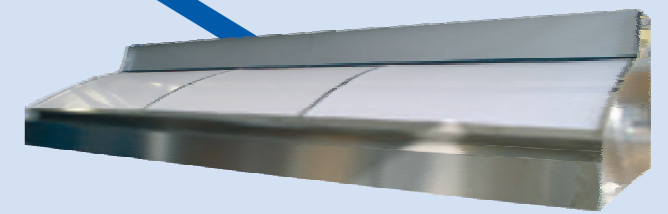
*Air exhaust + supply
Full-area lighting*

STANDARD



Air exhaust

STANDARD - LUX



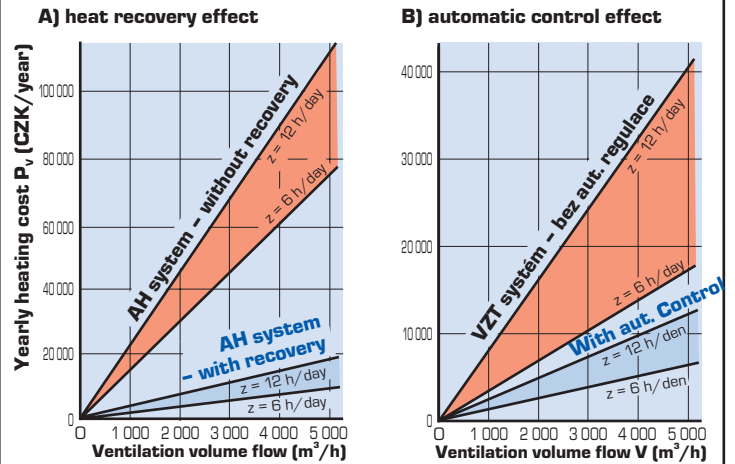
*Air exhaust
Full-area lighting*

PRESENT PROBLEMS OF KITCHEN VENTILATION ...

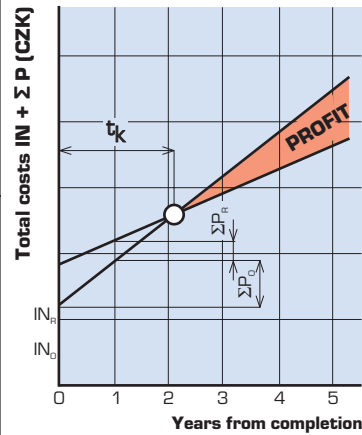
- improper location of kitchen appliances in the kitchen area
- wrong air system design concept in respect to kitchen appliances
- unbalanced air system
- selected wrong ventilation rates
- air-handling equipment too noisy
- no heat recovery installed
- no automatic control installed
- poor maintenance
- supply and exhaust ductwork not insulated
- no ducted automatic shutoff damper installed
- exhaust air outlet incorrectly placed on a facade
- air system design without possibility to maintain or clean
- kitchen area insufficiently heated
- insufficient thermal insulation properties of a building's envelope
- incorrect opening position of cooker lids
- incorrect exhaust duct installation of "B"-type appliances
- use of textile filters
- incorrect airflow pattern in the kitchen area



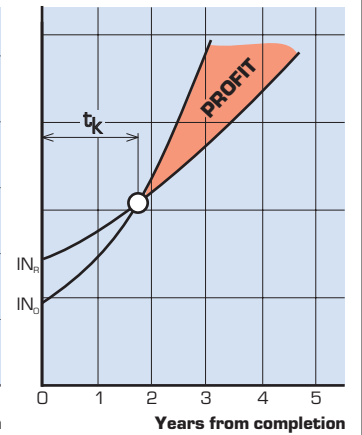
VENTILATION ENERGY USE



PAYBACK
- standard energy cost

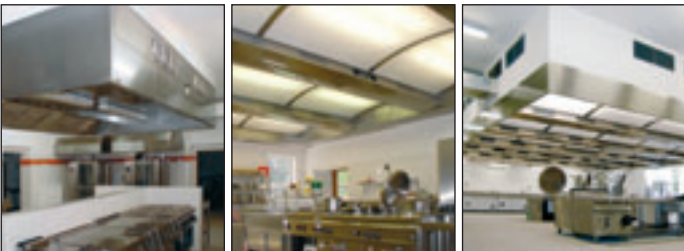


- increasing energy cost



... AND THEIR SOLUTION

- concentrating kitchen appliances in a cooking centers; fresh air supply always on window side
- complying with all design rules according to the VDI 2052 and Atrea documentation
- necessary balancing by an installer; providing a report handed over to a user
- selecting ventilation rate only according to ATREA documentation
- installing noise source outside kitchen area, or selecting noise attenuators (with cleaning possibility !)
- installing efficient heat recovery system (plate cross-flow hPS cleanable exchangers with resistance against moisture) for all air systems with daily operating time above 8 hours and volume flow above approx. $1\ 500\ m^3/h$
- installing automatic airflow control based on temperature or RH
- designing sufficiently insulated tight ductwork sloped towards drain traps
- providing tight automatic supply and return air shutoff dampers
- locating exhaust air outlet always to the building's highest place
- complying to flue-gas exhaust requirements of cooking appliances manufacturers (based on type)
- selecting integrated kitchen hoods with air supply (Variant, Variant SKV)
- selecting SKV ventilation and lighting ceilings



ATREA SELECTION SOFTWARE

The software is designed for calculating and designing ventilation of all types of kitchen areas (except residential kitchens). The software supports calculation of exhaust through hoods and ceilings.

Calculation is performed in accordance with the VDI 2052 directive, based on heat and humidity production by installed appliances.

The software provides complete selection of the following hood types: STANDARD, KUBUS, VARIANT, KOMPAKT and DiNER - step by step specify hood size, connection port size including optional inlets and outlets, number and type of grease filters, and fan type. The software calculates hood pressure drop, weight and price. The program's feature is simple and predictable control.



An important part of the software is a print module that enables printout of:

- complete technical report
- hood specification including detailed dimensions, connection ports and pressure drop
- price specification
- catalog sheets of hoods, ceilings and controls
- electric wiring diagram

All printable outputs may be exported to WORD or Acrobat - PDF format and edited.

Selected kitchen hood may be saved in an AutoCAD - DXF format.

