

PRACTICE REPORT 57

Application examples for planners of complex construction projects

VENTAFLEX®

More efficiency in air conduction



**New construction of a commercial large-scale plant
for the production of insect protein in France**

Application area for VENTAFLEX®:
**Well dimensioned air ducts for the ventilation
of the rearing- and processing areas**

A revolutionary concept: Insect protein is expected to answer the issue of nutrition

Food of a special kind – and VENTAFLEX® products
fullfill all technical requirements unrivalled

Task

The principle is easy: organic waste feeds insects, which is supposed to serve as an enviromentally-friendly protein source being processed to animal feed. The French Biotech-company Agronutris has ventured a revolutionary step into the future in order to industrialize the extraction of insect protein on a large scale. Additionally the concept of this project is to build industrial premises with the greatest possible sustainability on the basis of the most modern technology currently being available. This way 16.000 sqm of a great rearing- and processing plant at full capacity utilization exploits up to 70.000 t organic residual material of the insects.

Principally only VENTAFLEX® air ducts were suitable for the fluidic challenging and complex air supply of the plant. Since highly concentrated ammonia arises during the production process, the air ducts must have a surface with specially good resistance against chemical influences. And this way an enquiry reached us from France last year: By this we have the confirmation that VENTAFLEX® products are proven and sustainable at the same time. All advantages of the system were able to prove themselves at this project: weight, insulation, flow behaviour, chemical resistance ... up to the possibility to produce any customized special component, which is demanded by function and architecture.

We are proud to be part of this sustainable mission of the nutrition market.



*Individually manufactured at the VENTAFLEX®
production: 180 customized building inlets and
special Y-pieces*



*Challenging logistics of 46 truck loads:
delivery always scheduled just in time*



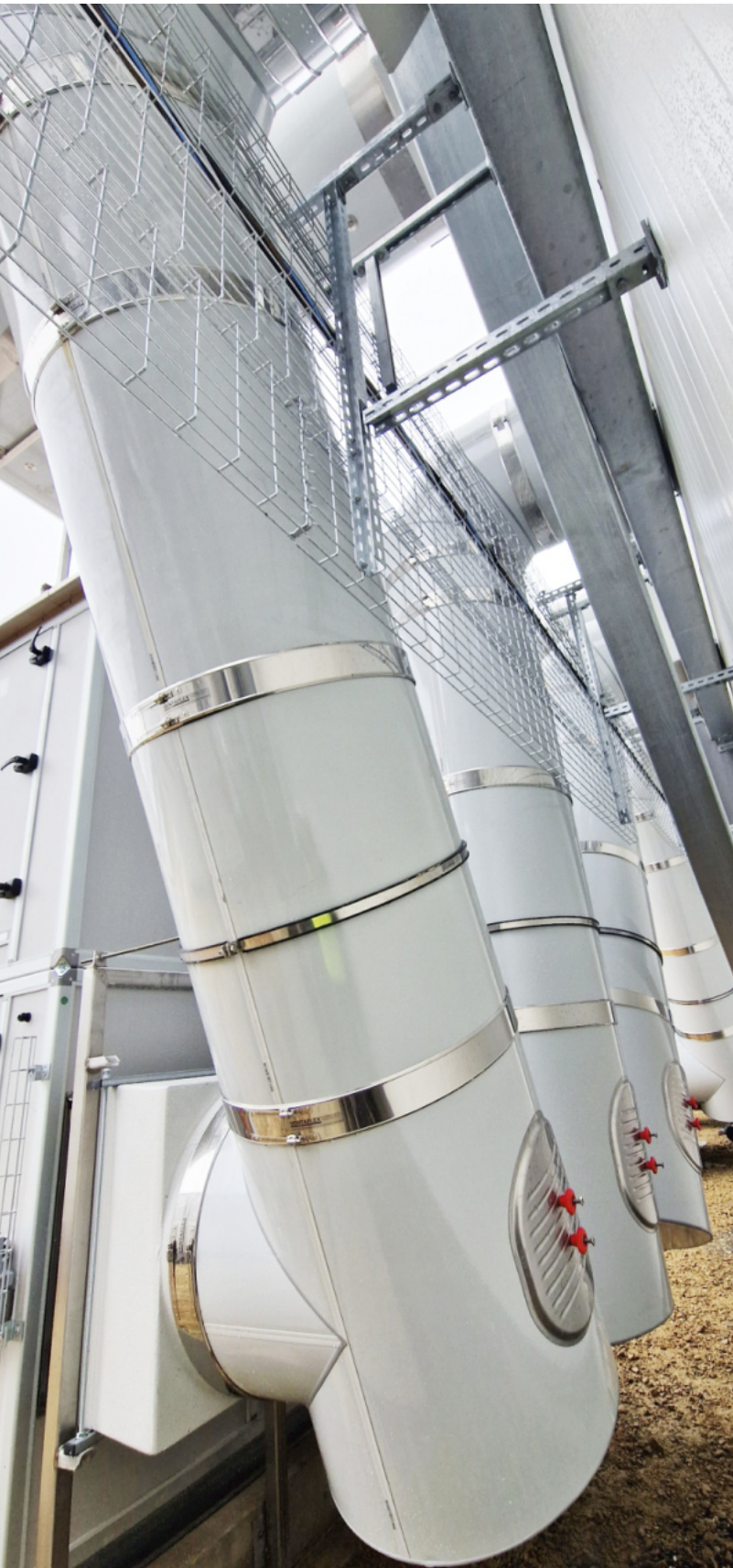
Advantages due to the VENTAFLEX® system

- +** Special chemical and biological resistance of the GRP-material
- +** Certified hygiene conformity of the ducts according to VDI 6022
- +** Individual adaption to the conditions by customized production
- +** Up to 70 % less weight – important for statics and handling
- +** Transportation of great air volume – due to big cross sections
- +** Reduction of the operating costs – up to 40 % less energy loss, up to 10 % less pressure loss and up to 99 % less leakage loss

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**Air volume:
450.000 m³**



*Highly complex system with great effectiveness:
a special focus is put on the least possible loss of flow.
Here the connection of VENTAFLEX® air ducts to the HVAC unit is shown*



Demanding connections to the existing architecture of the facade



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18 HVAC systems for the supply air, exhaust air and outgoing air

**Material use:
1000 VENTAFLEX®
components**



VENTAFLEX® air ducts score with resistance – outside against atmospheric influences, inside against aggressive ammonia steam. The innovative system has another advantage, which comes into effect in the food industry: the smooth surfaces of the ducts are germ-resistant, easy to clean and hygiene-certified.

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