

AVZ MÜNSTER RENOVATING THE VENTILATION SYSTEM FOR THE CLEANROOM OF THE RESEARCH CENTRE



Design and implementation of an air duct system with statically appropriate attachment to the facade



VENTAFLEX®



MORE EFFICIENCY FOR AIR DUCT SYSTEMS



Renovating the ventilation system for the cleanroom of the AVZ with an air flow of 5000 m³/h over two strands at the facade



The AVZ building belongs to the Institute of Mineralogy at the Westphalian Wilhelms University in Muenster. The building's facade from the 1960s consists of exposed aggregate concrete slabs and is not designed for heavy loads – a trouble spot for the entire planning. Until VENTAFLEX was contacted, there seemed to be no financially reasonable way to construct the system over the facade. A challenge for planners and system builders

Practical comparison between VENTAFLEX® and fiberglass insulated spiral ducts

With an insulated air ducting system with the specifications

Length:	50 m
Model range:	630
Insulation thickness:	5 cm
Δ t:	20 K

Thus the following performance must be achieved:

VENTAFLEX® :	900 W
Third party piping:	1.430 W

Conclusion:

The VENTAFLEX® - System reduces ongoing operational costs and offers energy and cost savings of up to 40%.

The task

1. Air output of 5,000 m³/h; connection lines to the centralised ventilation installation
2. Structural options very limited, since it was only possible to mount to the exposed aggregate concrete slabs of the facade
3. Requirement: 1 degree of temperature fluctuation in the air duct system

The VENTAFLEX solution

- ▶ 1. Two specially constructed 25 m strands were attached to the facade. These and all the connections to the centralised ventilation installation are from series 630.
- ▶ 2. VENTAFLEX ducts are 70% lighter than comparable spiral ducts, so there was no structural problem mounting them on the facade.
- ▶ 3. The excellent insulating properties of the VENTAFLEX ducts minimise the

temperature fluctuation within the system to under 1 degree.

The AVZ project is the third project on the Münster campus in which VENTAFLEX was used. The project leader of Willers, the company performing the installation, emphasised that there were no processing problems despite difficult installation conditions. Additionally Ventaflex's quick reaction to unforeseeable adjustments were praised

Overview of benefits

- **Costs savings** with the materials
- **More installation options** due to the variety of designs
- **Savings in operating costs** (up to 40% less energy loss, up to 10% less pressure loss)
- **Lower installation costs** (up to 60% less installation time)
- **Up to 70% weight reduction** – important for the structural engineering and handling
- **Rapid individual adaptations**



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Further references at www.ventaflex.de

