Air with method

We make air work on your behalf

Venti Oelde

Spotlight on Venti Oelde

Ventilatorenfabrik Oelde GmbH, also known as ”Venti Oelde”, a plant and component constructor, offers a wide range of products and services for the collecting, handling and filtering of air, vapours, gases, dust and airborne solids.

The manufacturing program includes ventilating, air-conditioning and heat recovery plants, industrial fans and recycling systems and plants with the aim of environmental protection as well as dust collection plants.

Venti Oelde, founded in 1930, is a medium-sized company with about 300 employees, located in Oelde to the northeast of the Ruhr area.

The field of ”Dust collection technology” includes the capture, handling and filtering of dusts or solid particles out of air and process gases. The primary elements of the quotation are the planning, manufacture, assembly and commissioning of air-handling plants, using filtering systems which are tailor-made to the customers’ requirements.

The ”Heating and air-conditioning technology” branch comprises the design, production and installation of Venti Oelde air heating systems, ventilating and air-conditioning plants for workshops and factory shops of all sizes.

The range of ”Industrial Fans” includes high-efficiency fans for the transport of gases and dusts and large fans to handle dust-laden process gases or clean air. Fans in special design are built to circulate hot gases with temperatures exceeding 1000 °C. High-pressure fans to handle gases and dust-free air and chips and other materials are also designed and constructed.

Recycling plants for the recovery of re-useable materials, explosion-protected dust collection plants for shredders, environmentally friendly windsifter plants for the separation of materials, and processing plants behind shredders, mills or incineration plants, as well as workplace protection booths, welding fume exhaust systems, oil vapour separators, exhaust air cleaning plants, etc. are all constructed in Oelde.

The maintenance, upkeep, checking, repair, upgrading, rationalisation and extension of plants complete the available services. A large number of field offices, agents and licensees, manned by qualified and experienced personnel, ensure that Venti Oelde keeps in close touch with all business partners worldwide.

Central to company policy are the demands of market leadership in those fields where Venti Oelde is active.

Innovative solutions, particularly oriented to customers' requirements, represent the goal which is consistently followed at all levels and in all areas. We are, therefore, the right partner for companies which are progressive and looking for effective solutions.

Collecting and Filtering

Work with wood and plastic, such as sawing, moulding, boring, sanding and brushing, releases dust, chips and sometimes hazardous substances. These then have to be efficiently collected, transported and filtered.

Our manufacturing program includes a variety of filters. They differ in their construction forms and cleaning methods, such as compressed air and reverse air cleaning, as well as the type and construction of the filter media. This range of choice enables us to select process and filter to suit the individual specifications. This particularly applies to size when only a small area is available. The standardised, modular design facilitates enlarging the filters without problem.

We supply complete plants for every requirement, whether these are suction heads, underground sweep ups, complete ventilation for booths and workshops, with and without material separation and heat recovery.

Venti plants can deal with over 100 suction points. Collected dust and chips are carried to the filter system and the following heat recovery plant via a main duct. Air volumes of over 300,000 m^3/h can be exchanged in this way.

Venti Mobile Dust Collectors are extremely safe, compact and mobile pieces of dust collecting equipment for woodworking machines, where the operating method of the machine or its location mean that it can or must be separately dedusted.

Filter bags which are more than 5000 mm long can be used because of the cleaning method with reverse or compressed air, controlled by the filter resistance. The control, depending on differential pressure, reduces the air consumption to a necessary minimum. This cleaning method to demand means that the filter medium lasts longer. The filter is low-maintenance. Further positive effects are the small space requirement and direct air return, which the excellent filtration efficiency of the individual filter stages makes possible.

Together with our clients we develop special solutions. Dust is generally removed from the suction points of a machining centre through individual flexible hoses. In the machining centre shown this was not possible because of the low workshop ceiling. A special swivel device was developed so as to overcome the long distance to be travelled in X and Y axis.

The energy requirement of woodworking companies is often supplemented by burning wood waste from the production. Not only wood chips, but chip- and fiberboard waste, bonded or coated wood or wood which has been treated with wood preservative are often used. Because of the many impurities contained in these, there are often high concentrations of hydrohalogens, dioxins and furans.

Using fabric filters to clean flue gas permits not only a reduction of dusty emissions below the statutory residual dust values but the above-mentioned hazardous substances can be lowered to below the permissible limiting values by dry sorption. During the planning stage for flue gas cleaning plants our engineers pay particular attention to the special on-site conditions of the wood waste combustion plant.

Filters with integrated cyclone pre-separators have proved particularly successful in dealing with large amounts of chips resulting from planing and sawing plants. The useful life of the filter bags is considerably increased, the energy costs for compressed or reverse air reduced to an absolute minimum.

Pressure-shock-resistant round bag filter plants with amply sized explosion vents are used in the chipboard industry for surface sanding machines where a large amount of dust is produced. Ducts and pipework with explosion vents prevent the pressure wave from being transferred to downstream equipment. Should, however, a dust explosion occur despite all the safety measures taken, the explosion vents minimise the damage and downtime.

Our compact bag filters can be located without difficulty in any corner of the workshop and are as efficient as one would expect a modern bag filter system to be. “Big Bags”, dust collecting sacks, dust-bins or pneumatic conveying plants can be used to remove the dust.

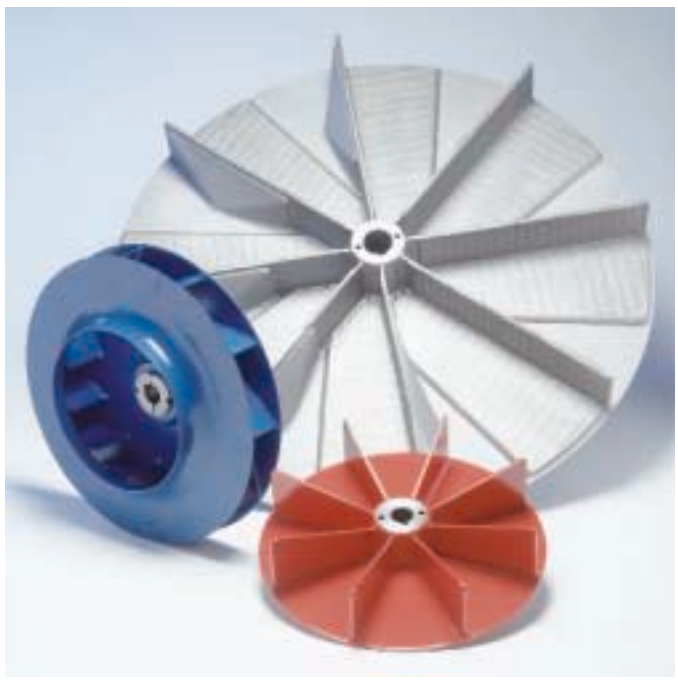
Work protection benches with integrated filter unit are an ideal and inexpensive answer to open machining of different workpieces.

Fans –
Efficient Many Talented Workhorses

Venti builds centrifugal fans in almost any form, size or design. Fans are working worldwide in the woodworking industry as handling, process, exhaust gas and ventilating fans. Our fans are characterised by their resistance to wear, operational smoothness, low dust caking, resistance to corrosion and quietness.

Proven efficiencies of 85 % for fans with impellers with shrouds (closed) and of 65 % without shrouds (open) are impressive proof of our technical capabilities. These excellent figures enable you to achieve a measurable reduction of your energy costs.

Appropriate duct diameters and the best possible ducting system arrangement also help to save energy. Our engineers construct individually adapted solutions for every system with computer-controlled programs.



Fans which are continually exposed to extreme weather conditions or which operate in a humid medium can be provided with a hot-galvanised corrosion protection. We use fans made from rust-proof or acid-resistant steel for chemically aggressive media.

Venti Oelde supplies high-quality sound reduction systems to lower the noise level in the working environment and to solve the problem of noise transmissions to the neighbourhood. Housing insulation, sound reduction enclosures and also absorption silencers are supplied in accordance with your specifications.

Fans, filters, ducting and other components handling hot gases are provided with an appropriate thermal insulation.

Transporting, Separating and Disposal with System

Anything which is transported by air, must be separated from it again. In our range of products there are separating systems which we have developed and manufacture ourselves.

We use cyclone-separators, fabric filter plants and wet scrubbers to separate air and material.

Venti Oelde offers complete solutions from storing in silos, including removal by means of appropriate discharge devices to the required conveying plants and material separators. Specially developed and tested spark extinguishing plants and infrared monitoring plants for the separate plant sections prevent fires and explosions being transferred to production and loading plants.

A chain trough conveyor was chosen in this case as dust/chips removal equipment from the filter since it can be most easily lengthened when the planned filter extension is carried out at a later date. The chips pass through the pressure-shock-resistant and flameproof rotary airlock below the filter onto the medium-pressure conveying plant.

We can supply high- and medium-pressure conveying plants to transport large volumes of dust or chips and/or to overcome large distances. It goes without saying, that when sizing these plants we place particular emphasis on energy-saving, wear-protected and low-maintenance equipment.

High-pressure fans and rotary compressors, where required with sound enclosure, feed and discharge locks as well as ducting systems with any necessary change-over devices have been developed by us with the demands of the woodworking industry in mind.

Material separators to remove pieces of material from the air-stream, such as lumps, sawn off pieces, veneer strips, are also included in our manufacturing program.

Safety through competence

Dust fires and explosions happen on a daily basis. These occurrences place lives in danger, cause large amounts of damage and lead to long operational downtimes.

The cause is usually sparks transferred into fire hazardous areas of the plant via the transport systems. These occur during machining or when drying combustible materials.

Venti Oelde can offer an extinguishing plant to cover this particular risk. The plant is able to recognise sparks in pneumatic exhaust ducts and to extinguish them automatically before they reach the endangered filter plant.

Further protective measures are isolating the individual plant systems from explosions.

When ducts carrying material pass through fire protection barriers, safety elements, such as quick-closing fire-gates or fire protection dampers, can be used to isolate individual fire sections from one another.

The pressure-shock-resistant and flameproof rotary airlock, developed by Venti Oelde and tested by the Deutsche Montan Technologie GmbH (German Mining Technology Ltd.) in the mining test plant, ensures fire protection isolation, e.g. between filter and chips silo. The construction corresponds with the applicable standards and guidelines according to the state-of-the-art.

Of particular importance in a safety concept is the local monitoring equipment, such as, for example, infrared detectors, spark recognition plants, pressure monitors and level detectors. Evaluation of the signals received and the measures which must be taken accordingly is carried out by the controls, designed by Venti Oelde.

Amply sized explosion vents in the return air ducts and an 180 degree bend prevent the pressure wave being propagated in the workshop.

Venti provides a good working environment

Venti technology ensures a good working environment on an economic basis.

The statutory rules state the maximum permissible amounts of substances hazardous to health for different workplaces in industry and trade. On the basis of these rules our engineers develop complete solutions for workplaces, booths, rooms and workshops of all sizes.

One of our tasks is to achieve an optimum balance between investment and operational costs. All our experience gained in other areas of industry is put into these considerations and often make the development of completely new systems possible.

The application of intelligent Venti air handling technology will not only improve the working environment but will also bring about an increase in production. Constant air temperatures and humidity must, for example, be met when manufacturing laminate and wood parquet flooring, so as to ensure the correct sizes of the finished product. With exact planning it is possible to regulate temperature and humidity in the working area according to the specifications. By placing heat exchangers in the air-stream up to about 75 % heating energy can be recovered. We can thus lower your operating costs, increase your productivity and enable you to optimise your work process.

The thermal wheel “Ventitherm” is a rotating heat exchanger with an efficiency of 75 %. It is automatically cleaning, low-maintenance and is controlled according to figures taken inside and outside. Combined with supply air and discharge air equipment and an intelligent air distribution, this permits an economical replacement of conventional workshop heating. The integrated supplementary heating is, therefore, only used when the outside temperatures are extremely low.

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Venti Oelde – for innovative solutions

- Industrial fans
- Dust collection and process air cleaning plants
- Exhaust air treatment plants
- Ventilating, heating and air conditioning plants
- Recycling and waste processing plants

Venti Oelde

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