



ventilation technology

Solutions competence for
ventilation technology systems

ATB
Technik in Bewegung



ATB ANTRIEBSTECHNIK AG,
Welzheim, Germany



ATB AUSTRIA ANTRIEBSTECHNIK AG,
Spielberg, Austria

brand quality

ATB competence

ATB is a leading manufacturer of electrical drive systems for industrial applications and appliances. As a partner to highly respected producers, we facilitate the production of innovative products around the world.

ATB product quality

Drive system dependability is an absolute priority in motor manufacture. Our motor design and production technology guarantee maximum operational reliability.

ATB programme range

Whether for standard motors, or customised applications, individual components or package solutions comprised of motors and electronics, we offer the ideal concept for a wealth of drive tasks in virtually every area of application.

ATB innovation

The ATB mission statement is to constantly develop the very latest drive solutions. The new ATB FLEXIDRIVE is symbolic of this innovative strength.

ATB flexibility

The specialist ATB domain is the provision of tailor-made industrial, appliance and variable speed motors. All operational procedures are flexible and orientated to individual needs.

ATB economy

ATB industrial, appliance and variable speed motors have convincing price-performance ratios with regard to both purchase and operation.

ATB punctuality

Our SME structure ensures that enquiries, special requests and orders are rapidly dealt with. This means short delivery periods and a high degree of punctuality.

ATB service

Our motors are virtually maintenance-free. In the case of a service requirement, all the required spare parts are quickly available.

ATB human resources

The competence of our employees in sales, production and engineering provides the impetus for maximum customer satisfaction. At our plants in Welzheim near Stuttgart and Spielberg in Austria, a workforce of 1,400 manufacture high-quality drive solutions.

ATB presence

ATB contact persons are always in close proximity to the customer. We have a comprehensive sales network throughout Europe.

ATB ventilation technology with new system competence

Today, market dynamism demands an increasing concentration of available resources on areas of core competence. Therefore, in order to ensure that its customers can focus fully on their main business activities, ATB makes available its comprehensive know-how in the ventilation and drive technology sectors. Indeed, it is this long-term experience in the design and implementation of ventilation and drive systems, which makes ATB such a strong and reliable partner.

Optimised ventilation drive systems

ATB's objective is the provision of individually optimised ventilation drive systems. To this end, the company combines comprehensive motor competence and proven know-how from widely differing and frequently challenging areas of application. This raises the level of customer advantage derived from our equipment and provides decisive technological and economic synergy effects.

Our engineers create ideal technical solutions in close cooperation with the customer. Their work focuses on the drive technology, flow technology and electronics sectors. Company branch management is also available for special assignments with an extensive range of application know-how.

New developments for minimum batch and industrial, serial production

As a result of its optimised organisation and equipment, ATB has the ability to implement customer orders in a quick and uncompromising manner. This applies to every new development, irrespective of whether a small series for SMEs, or industrial mass production, is envisaged.

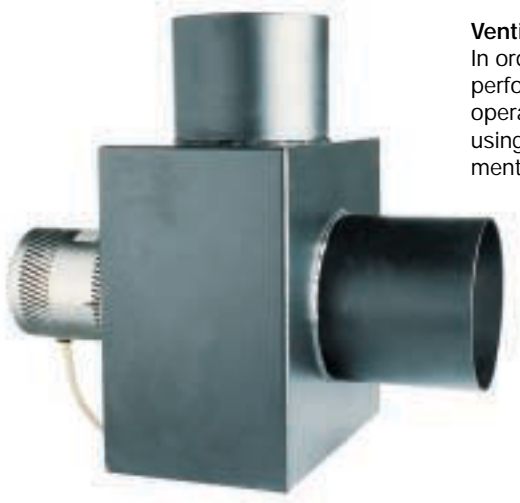
ATB is simply a competent and innovative partner for special tasks in the fields of ventilation and drive technology for every type of application



Customer assignments are ATB's constant focus
we supply individual ventilation solutions
for every type of application

demand & practice

Low energy consumption through optimised utilisation



Ventilators consume energy

In order to optimise ventilation system performance, ATB determines the correct operating points. These are established using both mathematical and measurement techniques.

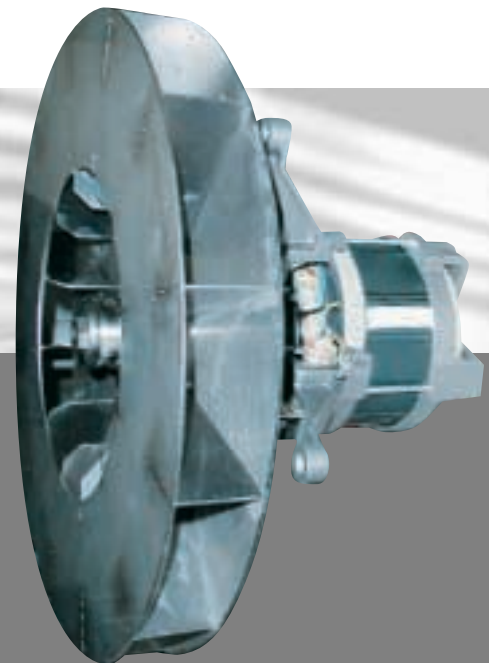
Booster fan with housing
for wood-fired boiler

Highly modern, in-house test stands, on-site plant and machinery measurements and specialist know-how, all serve to cut your power requirement to a minimum. As a result of our experience with complex installation situations, we are also capable of answering selective challenges to the complete satisfaction of the customer. The very latest technology is used for this purpose. The economic operation of aeration and deaeration units is secured by the latest control systems. ATB is pleased to assist in the development of function optimised, low-cost equipment solutions for specific applications.

Increased performance through correct flow distribution

Ventilators create air flows

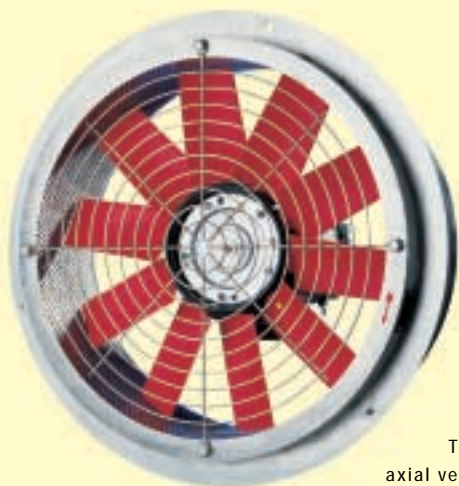
ATB engineers measure the distribution speeds and the pressure inside machinery and plant with the aim of improving flow distribution. The data obtained provides valuable pointers to the selection of the ideal ventilation system and makes a vital contribution to the evening out of the air flows. Uniform air distribution is of decisive importance in drying and baking ovens, fermentation units and smoke chambers, etc.



Circulatory fan for
commercial baking ovens

ctice

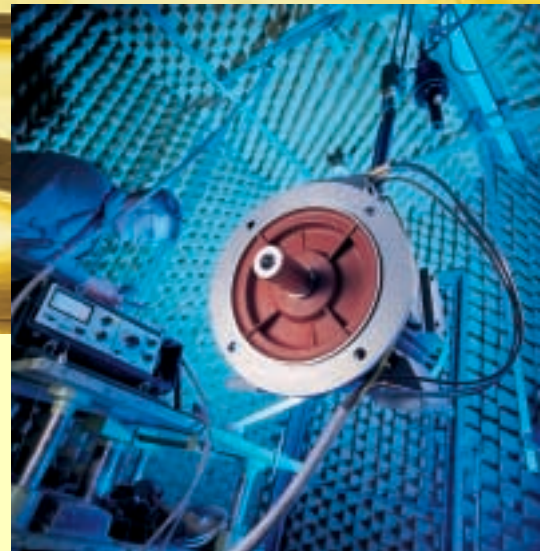
Low-noise operation due to the latest technology



The low-noise ATB SILENCE 450-axial ventilator for railway air conditioning

Ventilators cause noise

Low-noise units benefit both people and the environment. Therefore, ATB is constantly making every effort to cut basic noise levels by means of innovation. To this end, noise-emitting components are analysed and ventilators precisely matched to their function within a complete unit. A range of primary measures such as changes to the blade profile, inlet nozzles and supply situation result in a considerable reduction in ground noise



Noise laboratory test

levels. Secondary measures, such as ATB's in-house developed, noise-insulated ventilator housings also provide an efficient means of cutting undesirable noise impact.

Reliable operative strengths through ATB know-how

Ventilators often have to deal with aggressive media at high temperatures
Ventilators are frequently subjected to aggressive and hot conditions, in which they are subject to special loads. As a rule, if they are not designed to match these situations, then preventable defects occur within a short space of time. ATB aims to supply reliability and operational readiness over a long period. Therefore, ambient conditions, the medium to be transported and the general installation situation are all analysed prior to the installation of our ventilation systems. Only after such examinations we do select the motor, control components and materials best suited for long-term, trouble-free operation.



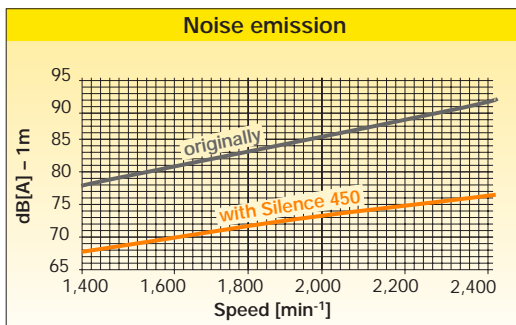
Circulatory fan for the medical technology sector



Engineering with CAD and FE

solutions

Noise reduction as exemplified by a railway ventilation system



In this case, the ATB SILENCE system was used to cut noise emissions by 10 dB(A)-1m. This successfully "silenced" the excessively loud air conditioning unit mounted on a railway carriage roof. ATB designed and produced a special housing to achieve this notable noise reduction, using non-woven, insulation material and perforated metal sheet. Measurements on the company chamber test stand were employed to optimise both the profiles and number of ventilator

blades, as well as the hub ratio, to the particular requirements of this application. The entire system was tested and designed in accordance with railway regulations. Impact loads of 5 g in all directions were easily compensated for.



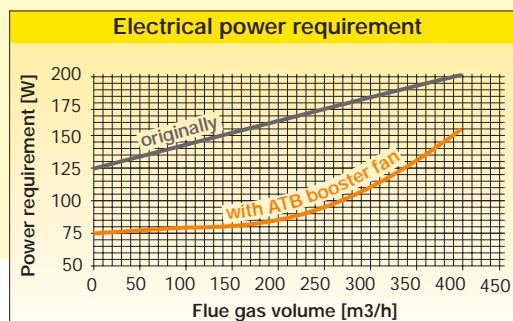
Energy reduction as exemplified by a booster fan



Wood fired boiler

The challenge was to produce a booster fan for the transport of the waste gases from firing plants. The technical demands included media temperatures of up to 500 °C, low flow resistance even when stationary and a minimum power requirement. These targets were all achieved in impressive fashion by means of an intelligent combination of suitable materials (austenitic steels), hot bearing grease and heat baffle plates.

The innovative technology used, guarantees minimum through flow resistance even during standstills, which means that the system can be switched off once a sufficient draught has been created in the flue. This results in enormous annual energy savings. Measures aimed at matching performance to the boiler such as voltage control or motor pole reversal also guarantee top efficiency during partial load operation.



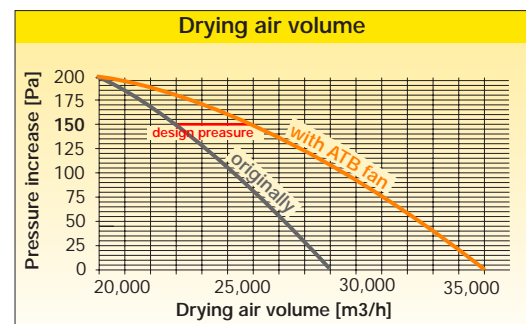


Timber drying plant

Performance optimisation as exemplified by timber drying plants

A series of axial ventilators has been developed, which are suitable for the reversing operation needed for air circulation in timber drying plants. The requirement is for large volumes of air in the low-pressure range, minimum power consumption and low weight, in combination with maximum housing tensile strength and simple erection. The ventilators are operated in an aggressive environment (wood constituents) at 100% humidity and temperatures of up to 135 °C.

In order to solve this task, a special blade was designed with a symmetrical laminar profile. Together with an optimum hub ratio and adjusted blade widths, this provided a considerable increase in air handling performance and at the same time, a marked cut in noise emissions. All in all, efficiency was raised by an impressive 12%. In addition, the aggressive ambient conditions were dealt with by the selection of tough materials and temperature resistant lubricants.



Brand quality through highest standards

In-house testing facilities offer the possibility of completing electrical, heating, noise and EMI measurements on both motors and complete devices.

In addition, air volume and pressure increase measurement on both motors and ventilators can also be carried out. Pressure increases of up to 10,000 Pa; air volumes of up to 100,000 m³/h.

Several fully automatic test stands are available to meet the highest demands in the electrical and thermal measurement areas.

Three-phase infinitely adjustable 3-phase range from 0-750 V, 20-200Hz frequency, maximum output of 150 kW, torque of 1000 Nm at 3000 min⁻¹.

Furthermore, ATB operates a high-speed test stand for applications of up to 40,000 min⁻¹.

Optimum facilities are also available for heating measurements and a highly modern noise laboratory permits structure- and air-borne noise measurement in accordance with EN 60034.

All test stands are electronically networked and therefore provide clear and comprehensive documentation of all the testing sequences.

ATB also has portable measuring devices for on the spot machine and plant measurement.

