



# Industrial Fans

Heavy Duty Centrifugal Fans . Custom Designed and Standard



# History & Technology.



The origins of TLT-Turbo started way back in the 19th century in the year of 1827 when the company Dinglerwerke was created.

Since 1827, TLT-Turbo has undergone many exciting innovations, mergers and changes.

The origins of the centrifugal fan at TLT-Turbo began with the Ventilator department of Deutsche Babcock AG in Oberhausen, which only manufactured fans for the company's own power plant division. After the merger of the Ventilator department into TLT-Turbo, their operations covered all its worldwide industrial applications.

In 1970, the merger of the fan group Buettner-Schilde-Haas bought extensive knowledge to the group. The very first fabricated centrifugal fan had been built in the 19th century by Benno Schilde. Originally, fans were constructed of cast iron, which was extremely cost-intensive. Schilde replaced this with his own newly developed design made of sheet steel.

In 1996, the Ventilator department of KKK in Frankenthal was also incorporated into TLT.

With this extensive expertise in centrifugal fans, TLT-Turbo has been able to continually satisfy industry's ever more stringent and demanding requirements for fans over the years.

On the basis of our decades of development and experience we have created a blower programme with guaranteed versatility in industrial use.

Particular emphasis was placed on the following criteria:

- ▶ Low operating costs
- ▶ Low failure rate - even under difficult conditions
- ▶ Long service life
- ▶ Good sound insulation

The company's performance is demonstrated by our sophisticated range of products, which have proven themselves in international markets under very difficult or even extremely adverse conditions.

The high standard of quality of TLT-Turbo's products corresponds to the very latest technology and offers an optimal solution for every application.

As long ago as 1979, TLT-Turbo granted one of its first licenses to China.

Further licenses were subsequently granted to the USA, India and South Korea.

TLT-Turbo thus also has long-standing and positive experience with local partners in all these countries.

## Centrifugal fans for almost every application.



Benno Schilde in front of his first centrifugal fan in 1878.



LD booster fans downstream of a gasometer in a steel mill. The housings are made gas-tight because of the high proportion of CO gas in the extracted gas.

# Industrial Fans.

We offer fans in a variety of different series and sizes. This enables us to cover the very diverse requirements of the various industries.

Our programme can be subdivided into two broad areas:

- ▶ Standard
- ▶ Custom Designed

Both the standard and custom designed fans offer various diameters of impellers, and the custom designed programme also offers varying wheel widths.

With the standard models, each nominal size has its own fixed housing dimensions, whereas with the custom designed models, housing dimensions are always matched to the impeller.



To minimize noise, we can create sophisticated soundproofing solutions.

For high availability deployments with dusty media, we have a selection of different modern wear-protection types in our range.

For corrosive media we have stainless steel and rubber linings as ready solutions.

We also supply gas tight fans for the promotion of eg toxic gases.

We also offer solutions for weight and inertial reduction, such as, inter alia scalloping or hollow shaft.

This diversity means that we can supply fans to a variety of industries:

- ▶ Steel industry
- ▶ Power plants
- ▶ Cement industry
- ▶ Petrochemicals
- ▶ Industrial Applications including Fertilizer, Mining, Dairy, Timber, and many others.



Impeller with welded composite armour plate.



Impeller with screw-on wear protection.



The rotor of a sintering fan.

On bearings with a separate oil supply. The impeller is bolted to the hollow shaft.

The hollow shaft is used both for weight reduction and to reduce the moment of inertia. This increases the margin between normal operating speed and critical speed. Two cones, one on either side, protect the bolts that connect the shaft to the impeller from the aggressive medium.



Impellers with wear protection.

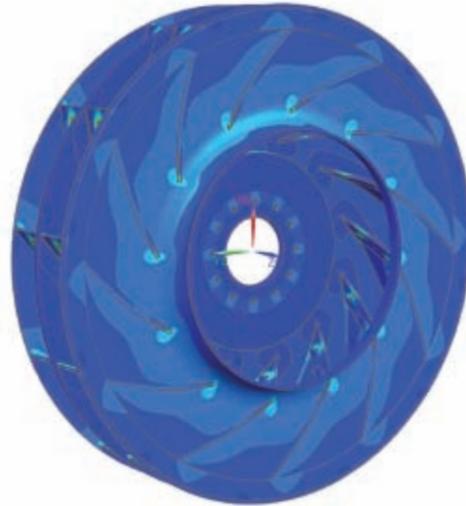
Material: highly wear-resistant high-chromium high-carbon Fe-based alloys (various manufacturers)

# Centrifugal Fans.



The best technology for top quality.

Among our computational tools, TLT-Turbo uses FEA for its strength calculations and CFD for numerical flow simulation. This helps to ensure the high quality of our products.



*Graphical representation of an FEA calculation for a centrifugal impeller.*

Weight is saved by cut offs from hubdisc (scallop).

It is always advantageous to keep the weight low, because this achieves a greater margin between normal operating speed and critical speed.



TLT-Turbo has one of the largest balancing benches, which can balance impellers and rotors up to a diameter of 4500 mm (177 in) and a weight of 20,000 kg (44,000 lbs).



This flange bending machine uses cold forming to press the various radii on impeller cover plates and suction nozzles.



# A Passion for Solutions.

Germany . China . South Africa . USA

Austria . Chile . Hungary . India . Russia . South Korea



○ Business Location w/ Manufacturing and Service Workshop

● Business Location

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**TLT-Turbo**

a company of  POWERCHINA

Website



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