



Scrubber plant

in fiber-reinforced composite



Scrubber plant

A Scrubber from Tunetanken has been developed to ensure the most efficient solution for cleaning polluting and foul-smelling emissions and flue gases from industry, livestock farming, waste combustion, biogas plants, container ships, etc.

The scrubbers have a long service life, as they are made of fiber-reinforced composite material, a robust and durable material that makes them suitable for contact with high temperatures and aggressive environments. It gives the systems a long and functional life.

Our high-tech scrubber system is composed on the basis of the customer's specific data on the polluting emission or air, so that the purification takes place in accordance with current requirements and legislation. In addition, we can put together the right variant and amount of chemicals in the cleaning fluid to simultaneously optimize efficiency and cost. With a flexible material and design, we can also adapt dimensions, angles and bends to your existing system. The scrubber system can also be adapted for heat recovery.



Tunetanken Scrubbers are made especially for the task at hand.

The scrubber is made of fiber-reinforced composite. A unique material that is also used for the manufacture of heavily loaded products such as wind turbines, ships, aircrafts, bridges, etc.

A material that can also be recycled.

A Tunetanken scrubber is well thought out with regard to establishment – operation – maintenance – service life – environment.

Benefits and equipment

1. Fully molded cylinder

The scrubber has no internal bolt joints and is fully laminated between top, cylinder and bottom. This ensures a tight container and that the cleaning fluid does not corrode in the joints. The cylinder can be divided into several chambers that clean / wash individual particles out of the flue gases.

2. Smooth inside

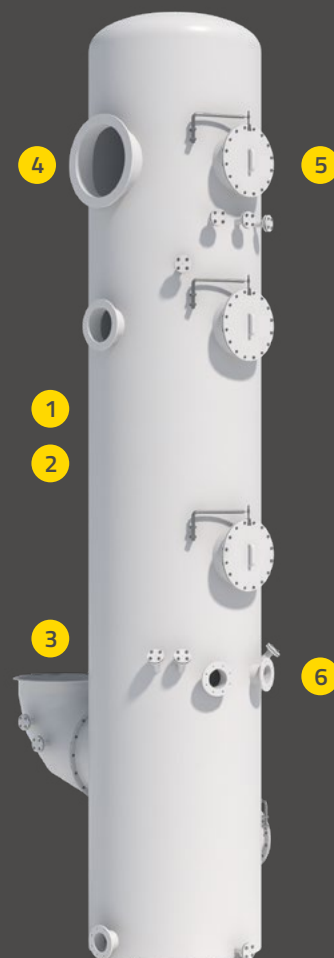
With smooth insides, the scrubber is easily kept clean as the liquid is automatically directed towards the buffer basin at the bottom.

3. Access

The polluted flue gas / air is led into the bottom of the scrubber, where it will automatically rise upwards. This ensures optimal contact between cleaning fluid and air.

4. Outlet

After the cleaning process, the cleaned air is discharged or transported for further treatment, depending on the type of pollution.





Benefits of Tunetanken scrubbers

- > Construction according to data on flue gas / air variant ensures correct cleaning.
- > Fully molded solution in fiber-reinforced composite material that is resistant to aggressive environments.
- > Corrosion resistance ensures long service life.
- > Flexible material is suitable for special needs for dimensions, angles and bends.
- > Simple and easy setup provides a flexible and removable scrubber.
- > Sizes are dimensioned as needed.
- > Temperature resistance $-/+ 100^{\circ} / 90^{\circ} \text{ C}$

Equipment

5. Manholes

For easy access and inspection of internal systems and conditions. Available in several types.

6. Various flanges / sockets

Adapted to air type / flue gas and operation, e.g. connection of measuring equipment, filters, drip catchers or distribution plates.

Extra accessories

- | | |
|-----------------------------|------------------------------------|
| > Demister nozzles. | > Temperature transmitters. |
| > Inlet demister. | > Temperature and pressure nozzle. |
| > Filling bodies. | > Level socket. |
| > Quench nozzles. | > Suction nozzles. |
| > Inlet quench. | > Sampling valves. |
| > Flue gas ducts and bends. | > Swamp. |
| > Water level glass. | > With more. |
| > Thermostat valves. | |





Tunetanken

With more than 50 years of experience working with fiber-reinforced composite materials, their unique advantages and a large standard product programme we have developed our market position as the leading Danish manufacturer of storage tanks, industry systems and silos in composite materials.

Tunetanken markets a large and varied programme of products and facilities for various purposes as well as supplies a large range of industries including agriculture, industry, wastewater and water treatment for energy sector. We produce all our solutions in fiber-reinforced composite materials – the same materials that are used in the manufacturing of space shuttles, air planes and wind mills. With benefits as strength, corrosion resistance and long life cycle, composites are among the popular materials of the future.



Energy

Effective and reliable solutions within the energy sector for a broad variety of purposes. With more than 50 years of experience we are able to deliver tailored solutions, such as scrubbers, chimneys, smoke and air ducts, wood pellet silos as well as cleaning facilities for dangerous flue gasses.

Each product is specially adapted to the specific use. That is why our tanks, silos, industry systems, modular tanks, scrubbers, smoke and air ducts, chimneys etc. create safer and more effective operating conditions for our customers.

Modern composite materials are materials of the future. Their innovative and unmatched properties contribute largely to the development of new sustainable products, which are necessary for a sustainable future.



Composit

Composite is derived from the Latin word »componere«.

Composite materials are made by combining two or more materials (physically, not chemically), thereby creating a new material with specially intended and superior properties.

Technical properties of composite materials derive from the initial qualities and properties of the combined materials, the combination of the fabrics (matrix, reinforcement, hardener, additives), as well as, the production processes and conditions.

Possibilities are endless!