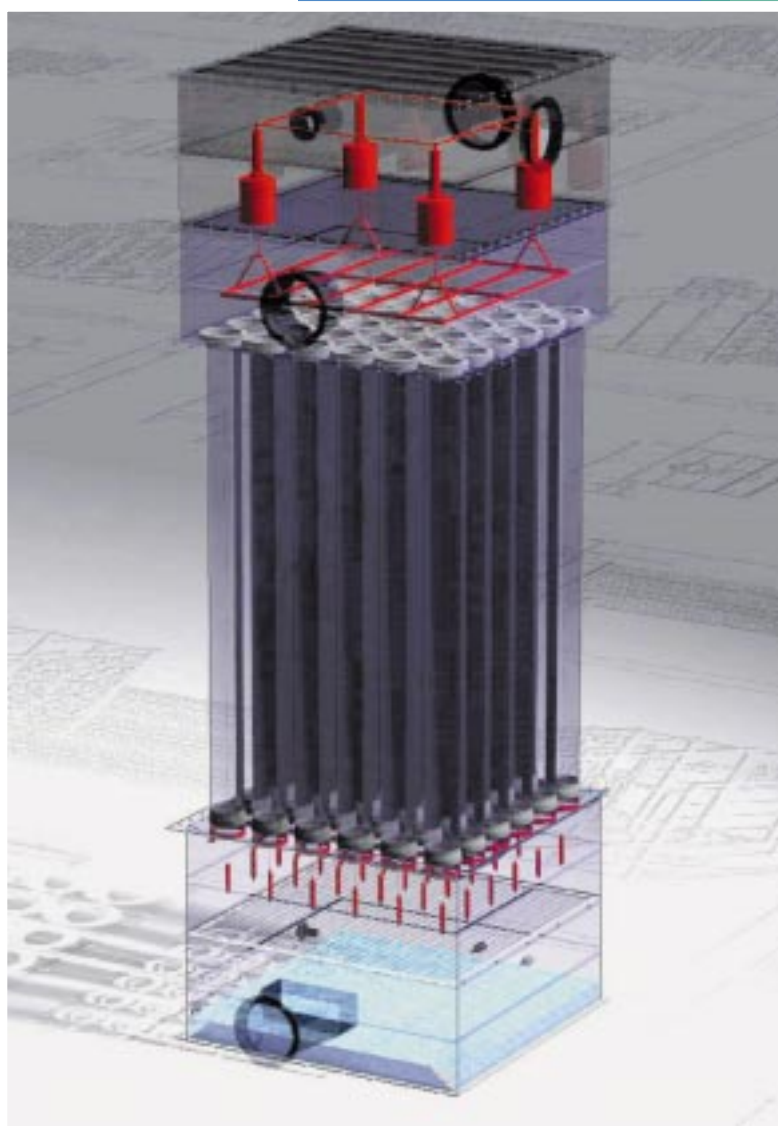


WET TUBULAR ELECTROSTATIC PRECIPITATOR WEP-T



MIKROPUL

DUST COLLECTION
GAS CLEANING
PRODUCT RECOVERY
ENGINEERING
SERVICES

Process and Applications



WEP-T in lab

Process

The efficient collection of very fine liquid or solid particles from humid gases requires sophisticated air pollution control equipment.

Wet electrostatic precipitators from MikroPul offer an extremely high collection efficiency - even on sub-micron particles - while maintaining a low energy consumption and a high degree of reliability.

The unit can be supplied in various designs, depending upon the application.

Its basic operation feature is the constant liquid film on the inside tube surface which acts as the collection electrode, resulting in continuous cleaning at much higher efficiencies compared to a dry process. Reentrainment and

back corona effects are avoided. As the continuous liquid film acts as the grounding electrode, it is possible to use conducting or non-conducting materials, such as plastics, for the tube construction.

User benefits

The **advantages** of the wet electrostatic precipitator WEP-T over competitive products are as follows:

- very high collection efficiencies at high flow velocities
- lower energy consumption and operating costs
- high throughput and compact design
- no build-up of sticky particles
- wide choice of materials of construction
- continuous operating without need for auxiliary equipment

Applications

The MikroPul WEP-T is a high efficiency collector for fine liquid and/or solid particles in gases with high humidity and low temperatures. The WEP-T is especially suitable for processes where venturi scrubbers or bag filters cannot be used for process or economic reasons. It is also excellent as a droplet and fine dust separator in combination with an upstream scrubber.

Typical applications are:

- Chip board plants
- Fiberglass forming lines
- Incinerators, hazardous or medical waste, etc.
- Soil regeneration
- Pigment production
- Sinter plants
- Tempering operations
- Galvanising plants
- Sulphuric acid plants
- Iron and steel rolling mills
- Coating operations
- Tar collection
- Automotive recycling plants



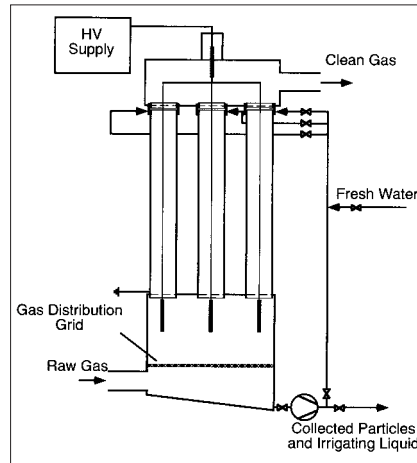
Test WEP-T for approx. 1.000 Bm³/h

Technology and Competence

Technology

The raw gas enters the base of the WEP-T and flows up through a distribution grid which ensures an even flow through each tube. The gas flows vertically up the tubes. A microprocessor controlled high voltage generator supplies the central discharge electrodes. The charged particles/droplets migrate to the collection electrode, which is formed on the inner tube surface by the liquid film. The liquid film is generated differently in each of the three basic precipitator designs:

- ▶ Continuous and homogenous moisturising supply system, suitable for all applications (WEP-TR)
- ▶ Generation of condensate on the collection electrode by cooling, suitable for gases with high dew point (WEP-TC)
- ▶ For collection of droplets or droplet/particle-mixtures directly, without further conditioning (WEP-TB)



Design of a wet tubular electrostatic precipitator WEP-TR with irrigating liquid

The counter-flowing liquid film collects the impurities and flows out at the base of the unit. In the constantly cleaned version, the liquid can be recirculated and prepared for treatment. The clean gas leaves the WEP-T at the top. The WEP-T is easily adapted to any gas volume and condition. An optional modular construction with tube diameters up to 500 mm allows customised design. Materials of construction include steel, stainless steel, FRP and various plastics.

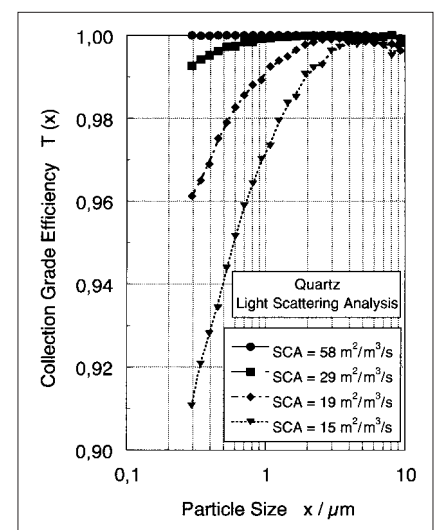
Competence

MikroPul uses the most modern methods for continuous improvement for all products. As one of the world's oldest vendors of efficient and reliable air pollution control equipment, we focus on quality without compromise. Development means for us to

transfer well-balanced concepts into practical solutions.

Our capabilities range from numeric methods of flow simulation to optimisation of gas distribution in our systems and characterisation of separation efficiencies down to the submicron range. Our well equipped lab enables us to find an appropriate solution for your specific problem in a minimum time.

These are the basics for an optimum design in gas cleaning equipment, with due consideration of customers specific needs. The wet electrostatic precipitator WEP-T is another example of first-class and forward looking products, combined with the experience of decades and know-how on a worldwide basis. From MikroPul - working in our customer's interests.



Collection grade efficiency at different dimensions (SCA = filter area / flow volume)

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