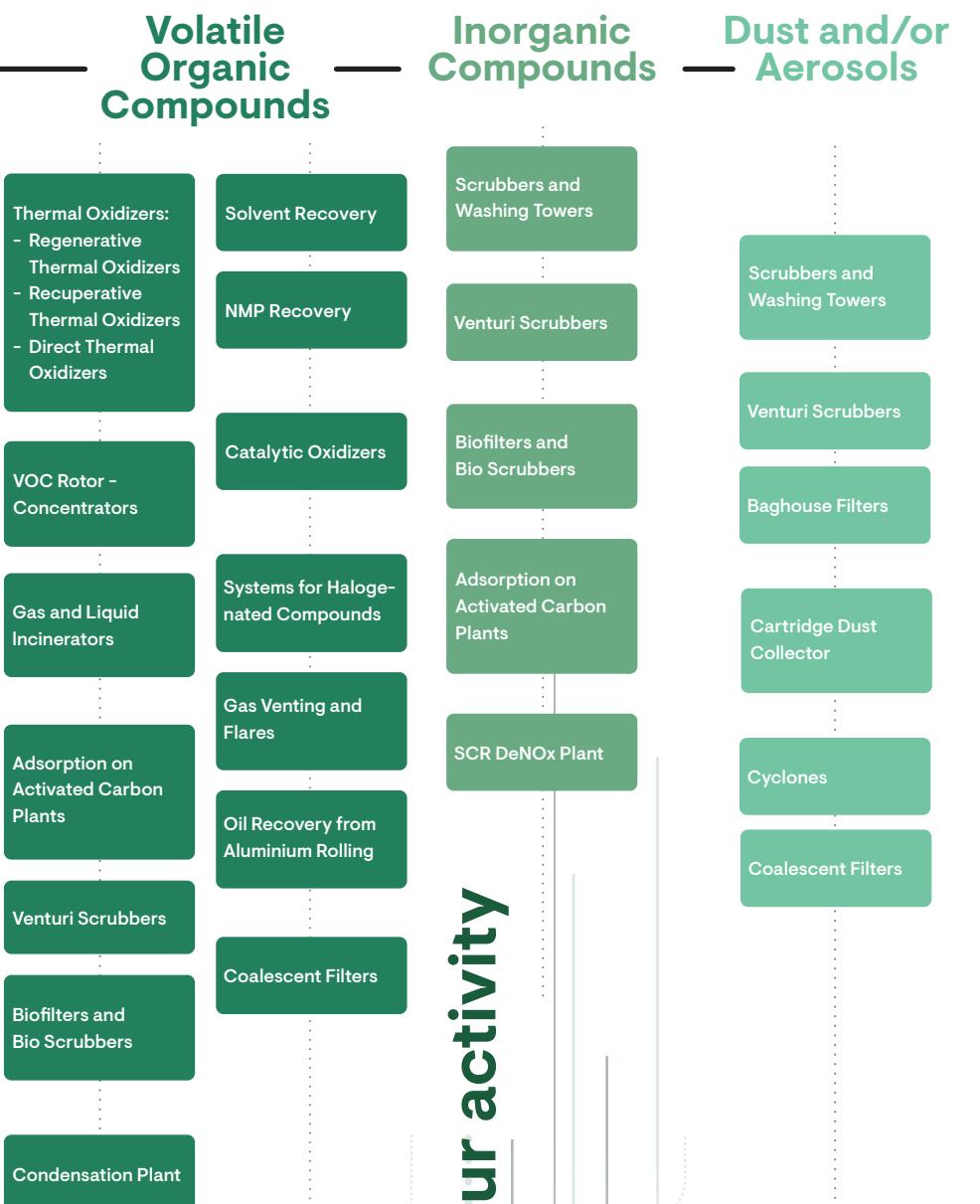


## Emissions of gaseous Pollutants

Our other Product Categories:

Biogas & Bioenergy  
Oil & Gas  
Aluminium & Metals

Li-ion Batteries &  
H<sub>2</sub> Fuel Cells



Our activity



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Certificate nr. 6886

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# Air Protection Technology



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Since 1995, **Airprotech** is globally active with a wide range of solutions and products for the purification of industrial emissions, including VOC (volatile organic compounds), VIC (volatile inorganic compounds), aerosols, mists, odours and dust.

Due to the large experience in different application fields, the specific know-how and the global presence, **Airprotech** is one of the market leaders for the design, manufacturing and turnkey supply of exhaust gas purification systems and environmental technologies for air pollution control.

## Aluminium & Metals

Airprotech has a long and wide experience in the design and supply of emission control systems for a wide range of applications in the production and transformation processes of ferrous and non-ferrous metals. Airprotech offers advanced solutions for the automotive sector, flat products painting lines, aluminium foil lamination, foundries and galvanising plants.

The colour coating line is a pre-coating line that forms coats through the advance application and baking of coating materials onto strips: solvent-based or water-based coatings contain solvents that evaporate and must be treated with a thermal oxidiser. Airprotech offers a high quality technology and environmentally-friendly process for treating baths and solvent cleaning with heat recovery. The thermal oxidation solution can be also applied to the steel strips coating line.

Moving towards a circular economy is an opportunity to move towards sustainable development. Airprotech designs plants for the recovery of "cooling oil" from rolling processes, with a focus on the minimisation and valorisation of the waste. Airprotech's innovative system has a double effect: it controls the emission of cooling oil mist and recovers the oil to be reused in the process.



## Recovery Plants

### Rolling Oil Recovery Systems

The cold rolling process for producing thin aluminium foil uses a lubricating and cooling oil composed of a mixture of hydrocarbons. To comply with emission regulations, this oil must be treated in a scrubber and absorbed by a heavier washing oil; the resulting product is then sent to a distillation column in order to separate the two oils. The cooling oil is recovered and reused in the rolling process thus respecting circular economy, while the absorbing oil is returned to the scrubber. Besides the sustainability aspects, the system guarantees a significant economic return on investment and a very short payback period.

## Thermal Oxidation Plants

### Thermal Oxidizers

Regenerative Thermal Oxidizers are based on highly efficient thermal processes with a regenerative heat exchanger consisting of beds of ceramic material that act as a "preheater" and "recuperator" of heat depending on the direction of the airflow. The thermal recovery arrives at 96% and the heat generated by the VOC oxidation allows the plant to operate in autothermal mode without additional fuel, so reducing the plant's energy consumption. Any residual heat from the regenerative thermal oxidisers can be used by a downstream heat recovery system.



### Regenerative Thermal Oxidizers

The thermal oxidation process is particularly cost-effective when the energy recovered from the purified gas by the downstream heat recovery system can be reused in the production process. Thermal oxidizers consist of a main combustion chamber for thermal oxidation of the pollutants at high temperatures and heat exchangers to recover the high residual heat in the cleaned air: before the hot cleaned air is released into the atmosphere, any residual heat can be used by a downstream heat recovery system. This allows the plant to produce hot water, thermal oil, hot air or steam, depending on the quantity and calorific value of the pollutants.