



## FIRST UNDERSTAND THE PROCESS, THEN DESIGN THE SOLUTION

### *Odour and Emission Insights*

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### **Process over Technology:**

**The hidden key to effective air purification.**

*Industrial air purification is often approached as a technical obligation: a standard that must be met, an installation that must be placed at the "end of the pipe." In practice, however, many systems do not perform optimally. Usually, this is not due to the technology itself, but because the technology does not seamlessly align with the process where the emissions originate.*

*The difference between an installation and a solution does not lie in the type of technology (e.g. a scrubber or biofilter), but in the way the problem is approached.*

### **The process is the source, the technology is the means**

Emissions in an industrial environment are rarely constant. They are the result of what happens inside the factory: process changes, product variations, temperature fluctuations and many other influencing factors.

Yet, air purification is often designed based on a single measurement or a theoretical

worst-case scenario. While this may seem safe, in practice it frequently leads to systems that:

- Perform poorly under deviating conditions.
- Consume unnecessary amounts of energy.
- Are maintenance-intensive.
- Require constant manual adjustment.

Measurement is important, but measuring without understanding the underlying process rarely leads to a sustainable solution.

### **When is standard air purification enough?**

Not every emission problem requires a custom-built design. There are situations where standard air purification is an excellent choice. When the production process is stable, emissions are well-defined, flow rates and compositions hardly vary, and the installation remains independent of



flowrates and compositions hardly vary, and the installation remains independent of complex process integration, a standard solution is cost-effective, reliable, and quickly deployable.

Making this distinction explicit is a matter of honest advice. A good solution begins with the right question—not with the most complex technology.

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## **When does customization become necessary?**

In practice, customization is required whenever operational variables become too complex for a standard approach. Technical signals often dictate this transition, particularly when dealing with strongly fluctuating emissions, multiple emission sources of complex combinations of pollutants. Apart from the chemical process, physical limits like floor space or existing infrastructure often ask for a custom engineering approach. And also changing environmental rules require more than a standard product.

In my view, customization does not mean "more technology" or a larger, more complex system. By truly understanding the process, we can often design a simpler, more robust, and more manageable system. The goal is air purification that moves with the process, rather than struggling to keep up.

## **Turnkey air purification: Thinking in systems**

Take a scrubber as an example. As an air purification system, it never functions on its own; it is part of a larger whole that includes:

- Ductwork and air velocities.
- Fans and pressure drops.
- Chemical storage tanks and dosing.
- Pumps, piping, and safety protocols.
- Stacks and discharge conditions.

The purification unit is the heart of the system, but without a well-designed "body," that heart cannot function optimally. A turnkey approach means taking responsibility for the entire system, ensuring the technology does exactly what it was purchased for: reducing odour and emissions without disrupting the process.

## **Reliability, maintenance, and ROI**

An air purification system is not judged on the day of delivery, but in the years that follow. To understand its true value, we must look at how maintenance-friendly the design is and how what happens during malfunctions or peak loads. We also have to consider the operational costs over the entire lifespan and whether the technology is ready for future requirements.

The **Total Cost of Ownership (TCO)** is often more decisive than the initial investment. A well-thought-out system pays for itself through stability, predictability, and lower corrective costs.

## **Strategic partnership as structural value**

In practice, the greatest added value often lies not in the hardware itself, but in the questions asked beforehand. We start by looking at exactly where the emissions are generated and how the process might change throughout the year. We also consider the practical limits of maintenance and daily operation, as well as what happens



if production increases or changes in the future.

By asking these questions early, we create solutions that are not only technically sound but are also supported by the people who work with them daily. This is what clients value most: the difference between simply receiving what was asked for and being provided with what was actually needed.

## **Installation or solution?**

An industrial air purification system only truly works when:

- 1.The process behind the emission is understood.
- 2.The technology is tailored to that process.
- 3.The system is designed as a whole.
- 4.Tomorrow's reality has been taken into consideration.

The distinction between an installation and a solution is not found in the type of equipment, but in the mindset.

If you are unsure whether a standard solution is sufficient or if customization is necessary, remember: a successful project doesn't start with a quote: it starts with a conversation.

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