# Purifying air for a **sustainable future**

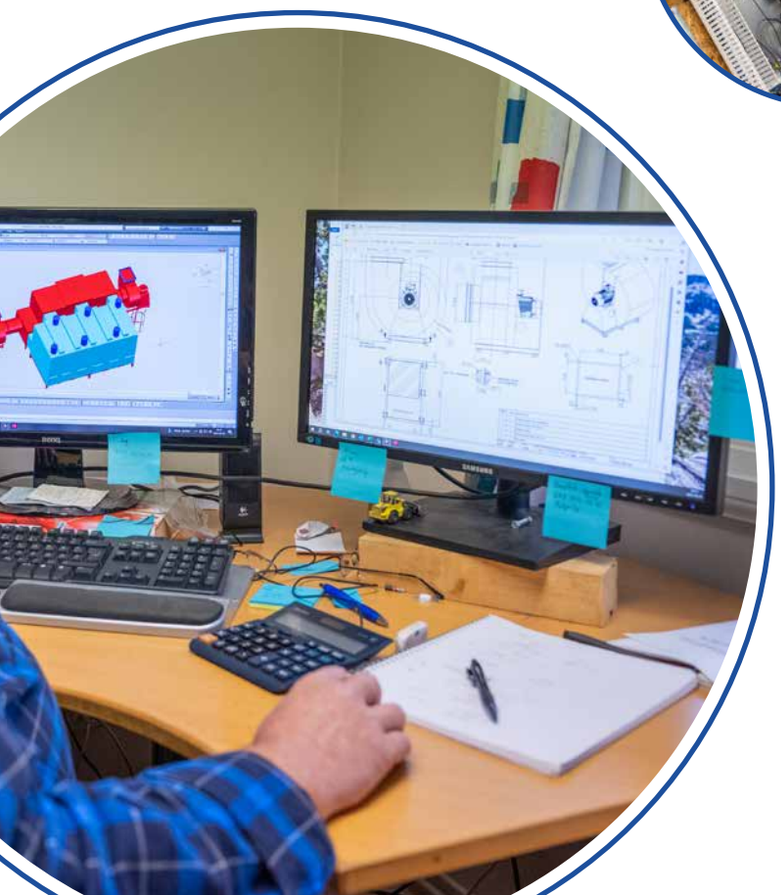
Mölnbacka Industri AB
SWEDEN

# A LONG-TERM PARTNER WITH OUTSTANDING COMPETENCE

Mölnbacka Industri AB (MIAB) has created a unique process for removing solvents and volatile organic compounds (VOCs) from process air. MIAB's system provides a cost-effective solution for reducing VOCs in process air streams. Our facilities are adaptable and can be used in the majority of operational scenarios.

We assist with project planning, construction, programming, and the construction of electrical and automation equipment based on our experience and knowledge. We can design an automated solution specifically for your machine or facility. We can solve your problems and challenges based on your circumstances. Just tell us about your needs, and we have the experience and expertise to do the rest. Of course, we also provide service contracts.

The benefit of hiring MIAB is that you avoid involving additional parties because we have all of the knowledge under one roof. You also get a low-cost, environmentally friendly solution that is simple to expand and supplement with various filters and solutions.



# The MIAB system's functions

- MIAB's system is highly adaptable and can be used in any operational mode, from intermittent to continuous. As a result, the system is both cost-effective in terms of investment and operational expenses.
- Activated carbon is used as an adsorbent because it has incomparably superior physical properties compared to other adsorbents. Activated carbon consists of a large number of pores of varying sizes. This means that activated carbon can adsorb a wide range of solvents. It is primarily because of this property that activated carbon excels as an adsorbent.
- Electricity powers the catalytic combustion. This promotes the use of environmentally friendly electrical energy, which contributes to lower CO2 emissions in the atmosphere. MIAB's system is designed to use the adsorbed solvent's energy to drastically reduce the need for additional energy during the regeneration/ desorption phase.
- The system has fixed carbon beds. The advantage of fixed beds is that the desorption phase is flexible and straightforward. When the filters are saturated with solvent, the activated carbon in MIAB's system is regenerated. As a result, operational costs are significantly reduced.
- Because of the unique design, the solvent concentration during desorption is nearly uniform. As a result, the combustion unit can be designed for a lower and more consistent concentration, which results in less energy consumption.

# Products

**MIAB has been at the forefront of developing air purification plants since its inception in 1989. MIAB's facilities achieve efficient purification with very low energy consumption by purifying process air from solvents using adsorption filters and catalytic oxidation.**

## MIAB FD

This type is suitable for large air flows with relatively low solvent concentrations. Most emissions, such as those from painting processes, have a low concentration of solvents in the process air. The facility consists of adsorption filters and catalytic oxidation.


## MIAB F

Purification of process air with activated carbon. This type is suitable for relatively small air flows and small amounts of solvent. The facility consists of a carbon filter. The carbon is sent to be regenerated and then reused.

## MIAB D

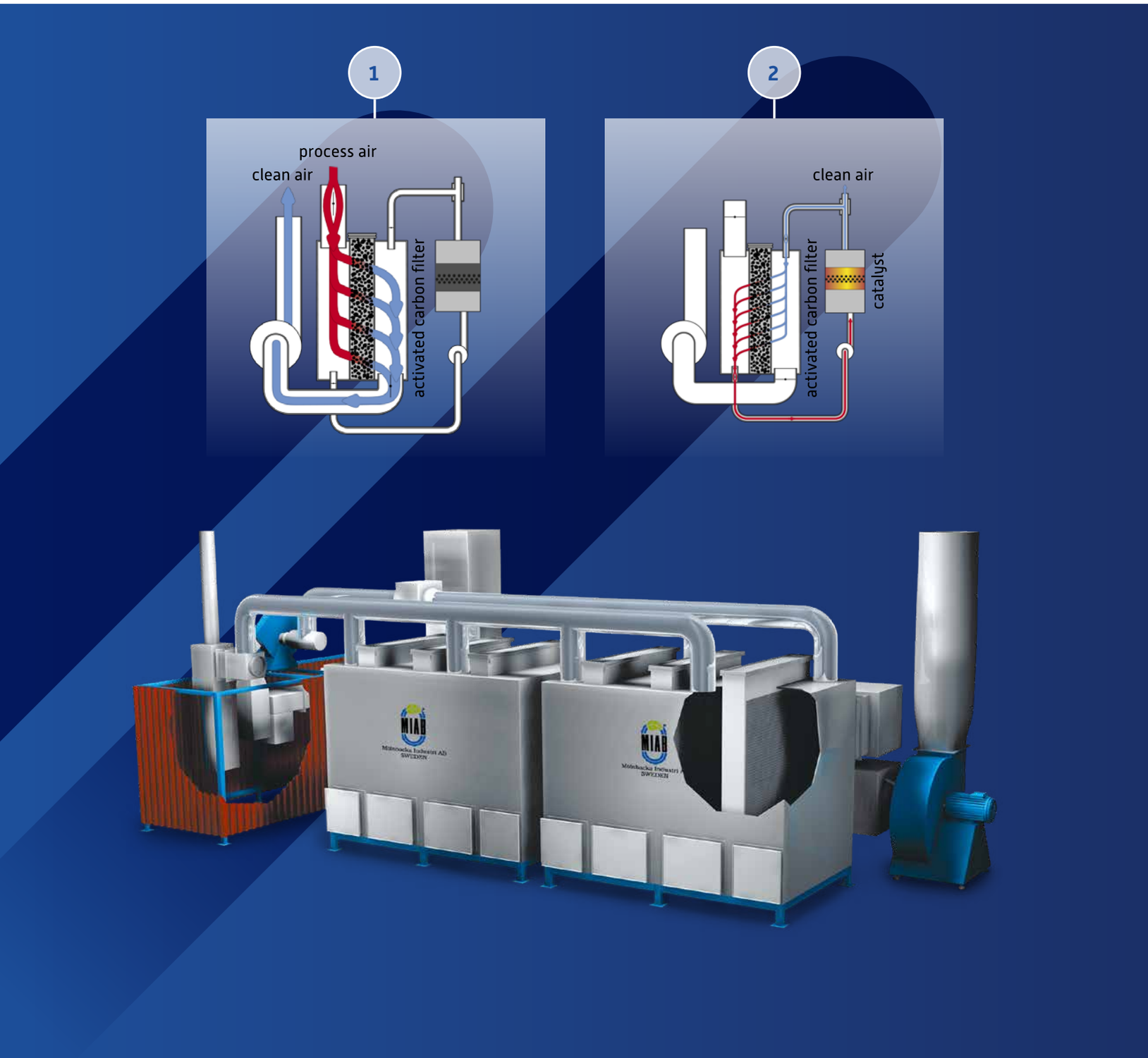
This type is suitable for relatively small air flows with a high concentration of solvents. The facility consist of a catalytic oxidation unit.

# Technology

## MIAB FD

- The system consists of two units:
- An adsorption unit with an activated carbon filter and a main fan.
- A catalytic oxidation unit.

1. The air is purified and the solvent is concentrated in the carbon filter.
2. Regeneration of the carbon filter and destruction of the solvent in the oxidation unit.



# Vårt bidrag för en hållbar planet

Vi på Jacobi har valt kokosnötter som vår primära råvara för att producera aktivt kol. Det aktiva kolet använder våra kunder för att ta bort föroreningar inom en rad olika områden; som vatten, luft, gaser, livsmedel och läkemedel.

Allt började 2004 när vi byggde vår första anläggning i Sri Lanka. I dag är Jacobi världens största tillverkare av aktivt kol baserat på kokosnötsskal.

Det är goda nyheter för vår planet, eftersom kokosnötter är den mest hållbara råvaran för tillverkning av aktivt kol.

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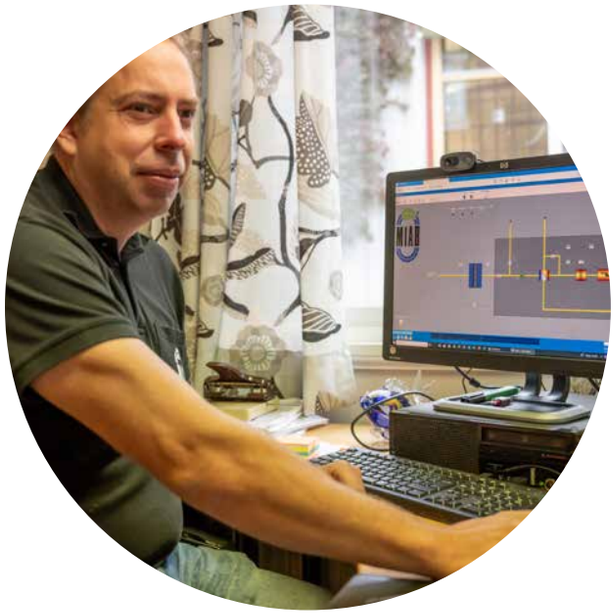
# Control system

MIAB's purification system is completely automated, requiring only minimal supervision and control. When the factory starts production, the purification plant starts automatically. When production stops, the system detects the lack of solvents entering the purification process and shuts it down automatically.



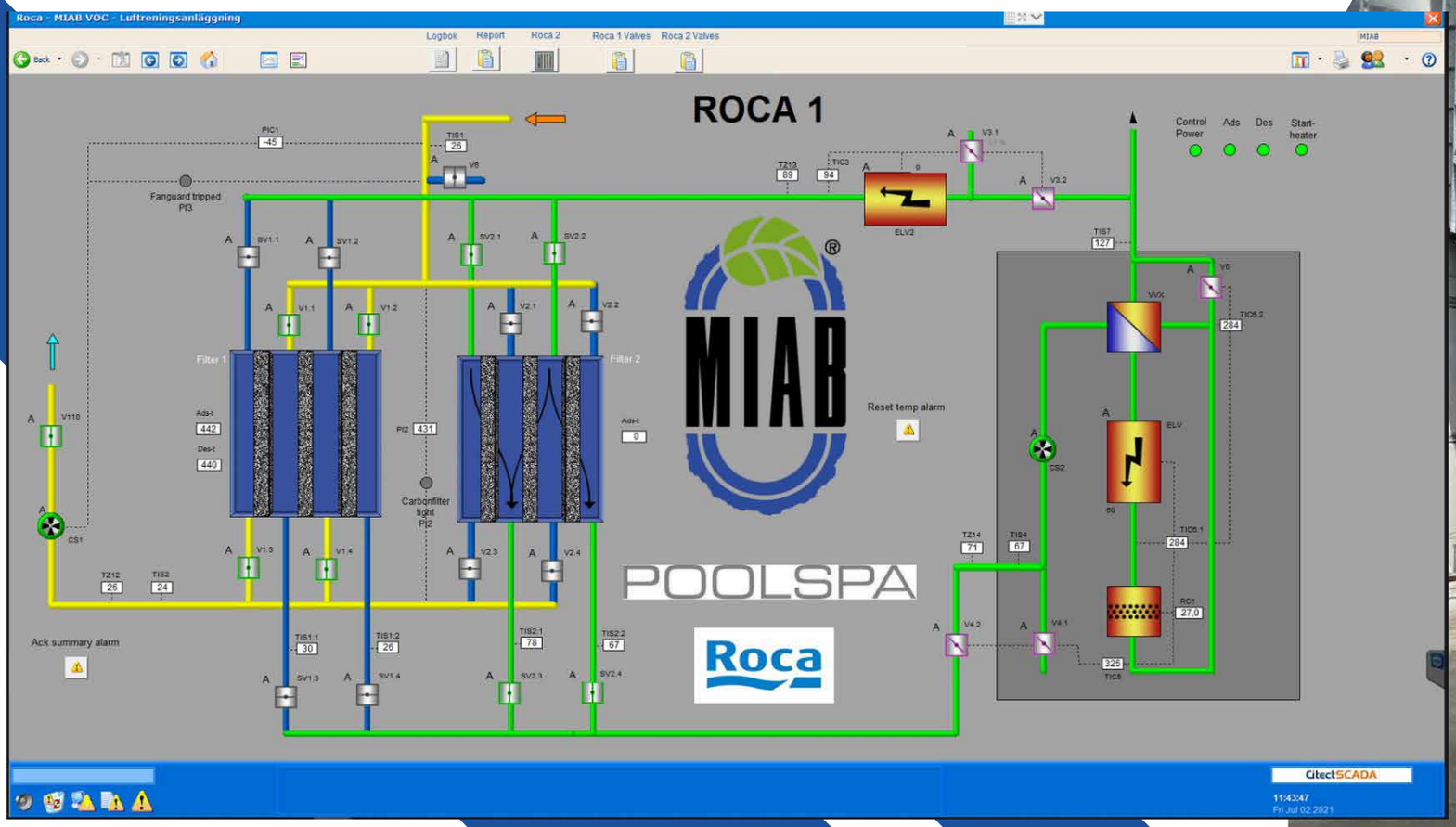
While production is active, a PLC (Programmable Logic Controller) monitors and controls the purification system, which receives signals from sensors within the system.

Both the client and MIAB's service centre can remotely control the operating system. To achieve the highest level of operational economy and purification efficiency, all operational parameters can be adjusted instantly.

To ensure the plant's functionality and high availability, all plant parameters are recorded and logged.

Among the logged parameters are availability, the amount of oxidised solvent, energy consumption, operating time, and process-related data such as alarms, temperatures, and pressure drop information. Any deviations are automatically reported via email to MIAB's service centre.

The system can generate reports on a continuous basis that describe the plant's availability and the amount of VOCs oxidised

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FALCO
ppm
INDUSTRIAL


SCANIA

# Focus on environment and sustainability

MIAB places a high value on sustainability, and we are proud that our facilities help our customers achieve higher levels of sustainability. Our sustainability efforts are integrated into our quality and environmental management systems. Since 2007, we have been ISO 14001 and 9001 certified.

## Our operations and facilities have the greatest impact on the following Swedish environmental objectives:


Swedish environmental goal
**– A non-toxic environment**

Swedish environmental goal
**– Clean air**

Swedish environmental goal
**– Limited climate impact**

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