



Electro Optical Components, Inc.

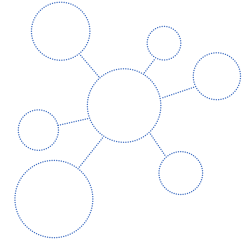
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CO₂ Capturing



What Is CO₂ Capturing?

CO₂ capturing involves separating carbon dioxide (CO₂) from the air or industrial processes, liquefied it and store it in the underground reservoirs or other storage media. This technology is crucial in the fight against global warming, as it helps reduce the CO₂ emissions and/or the current concentration to slow down and stop our Earth's temperature rise.



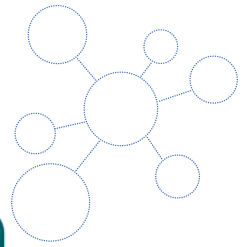
Why CO₂ Capturing ?

The Climate change stands as one of humanity's greatest challenges. At smartGAS, we're setting new standards in environmental protection with our innovative NDIR gas sensors.

FLOW^{EVO} (Plus), SILAREX WR (Plus) and BASIC^{EVO}

Let's have a look at two example processes

Processes of CO₂ Capturing

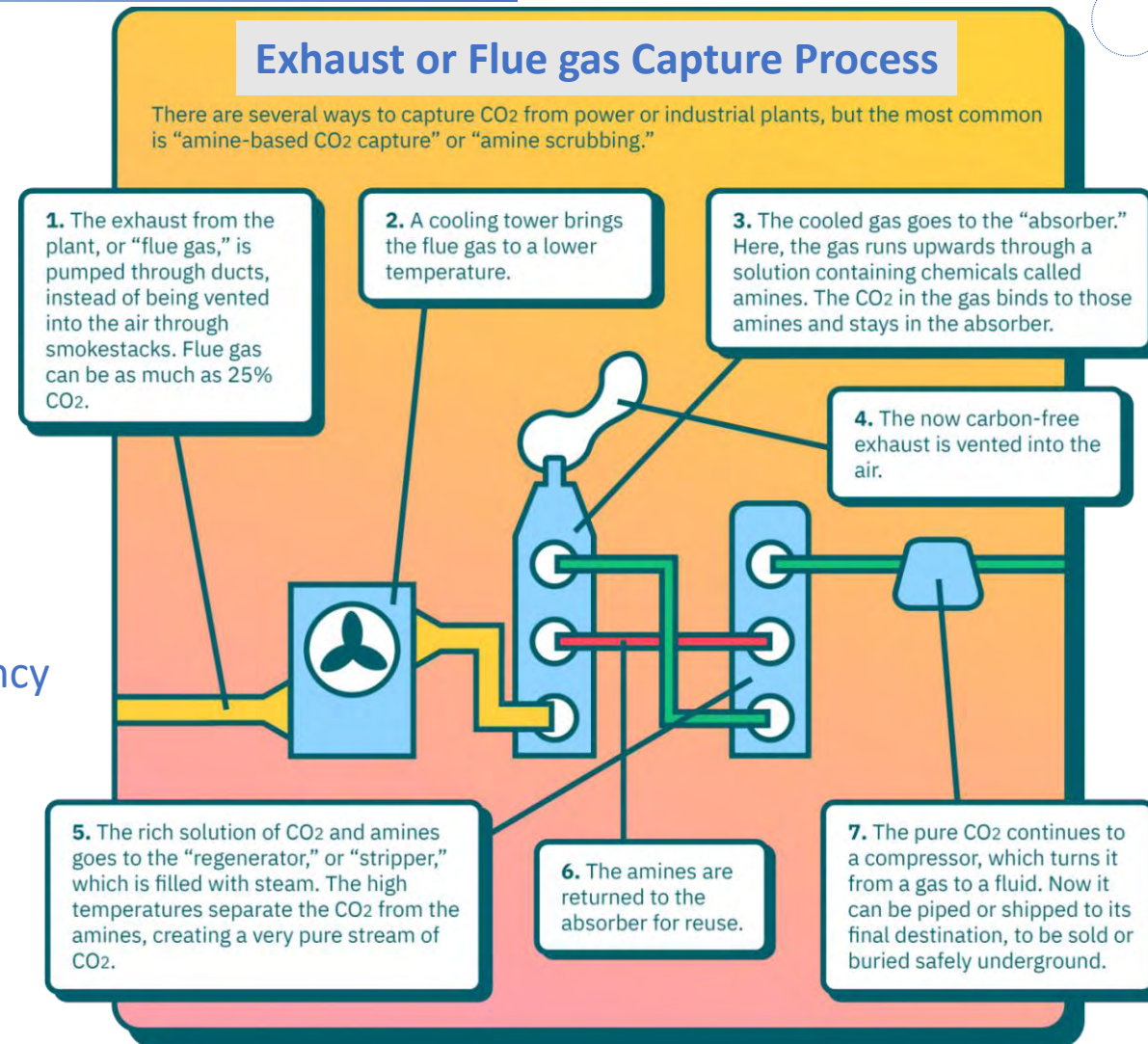


Exhaust or Flue Gas CO₂ Capturing

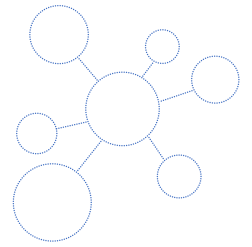
The process will capture CO₂ from industrial plants where this concentration is typical in the range of Vol.%.

In these processes the smartGAS sensors can take over the measurement of a lot of critical parameters like

- Monitoring the CO₂ concentration at the inlet in the range of Vol.%
- Monitoring and Optimizing the process efficiency of the Stripper in the range of Vol.%
- Monitoring the CO₂ Purity after the release from the compressor in the range of Vol.%
- as well as Monitoring other gases CO, SO₂, NO to monitor and control the process input itself



Processes of CO₂ Capturing

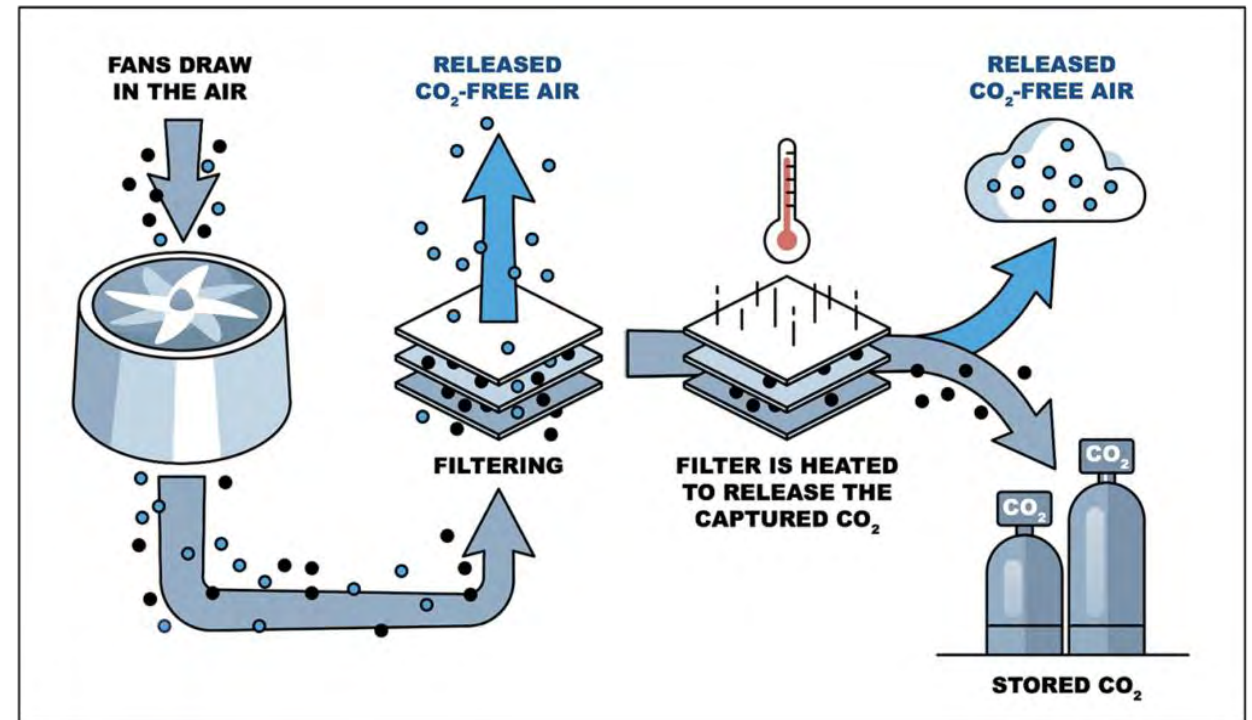


Direct Air CO₂ Capturing

The process will capture CO₂ directly from the environment Air where the concentration typical is below 1000ppm

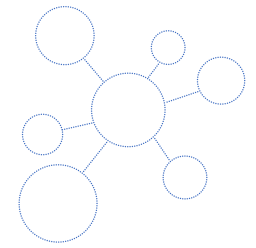
In these processes the smartGAS sensors can take over the measurement of a lot of important parameters like

- Monitoring the CO₂ concentration at the inlet in the range of ppm
- Monitoring and Optimizing the process efficiency (Inlet to Filter Outlet) in the range of ppm
- Monitoring the CO₂ Purity after the release in the range of Vol.%
- as well as Monitoring other gases may cause filter damage like CO and SO₂ in the range of ppm



Direct Air Capture Process

smartGAS CO₂ Sensors for CO₂-Capturing



Here an Overview of the smartGAS CO₂ Sensors and examples of usage in CO₂ capturing
Other measured gases mainly depends on the real situation of the gas source

	Range	Noise (LDL)	Temp. and Pressure Compensated	
BASIC ^{EVO}	0-1000ppm to 0-20Vol.%	low	T : compensated P : yes (with CONNECT)	Diffusion Sensor for Direct Air Capture - Air Channel Systems
FLOW ^{EVO}	One Range 0-100ppm up to 0-1000ppm	low	T : highly stabilized ± 0,5K P : yes	Direct Air Capture Inlet
FLOW ^{EVO} Plus		very low		High accuracy for Direct Air Capture Inlet
FLOW ^{EVO}	One Range 0-1000ppm up to 0-100Vol.%	low	T : compensated P : yes (with CONNECT)	Process efficiency and purity after compressor outlet
FLOW ^{EVO} Plus		very low	T : highly stabilized ± 0,5K P : yes	High accuracy Process efficiency and purity after compressor outlet
SILAREX WR (wide range)	Three Ranges one signal 0-100ppm 0-1000ppm 0-10000ppm up to 0-25000ppm	low in each range	T : stabilized ± 2K P : yes	Wide Range Sensor For system with high concentration changes
SILAREX WR Plus (wide range)		very low in each range	T : highly stabilized ± 0,5 K P : yes	High accuracy Wide Range Sensor For system with high concentration changes