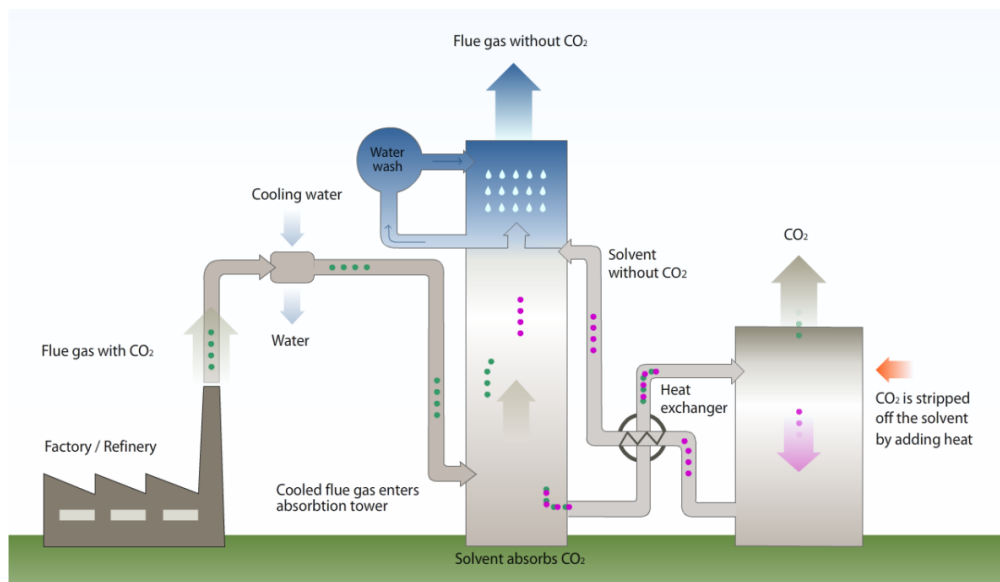


Carbon Capture Plants, Power Generation Industry: Measurement of the “rich” and “lean” Amine Concentration and the amount of CO₂ captured (CO₂ Loading).

Carbon capture and sequestration (CCS) is the process of capturing waste carbon dioxide (CO₂) from large point sources, such as fossil fuel power plants, transporting it to a storage site, and depositing it where it will not enter the atmosphere, normally an underground geological formation. The aim is to prevent the release of large quantities of CO₂ into the atmosphere. It is a potential means of mitigating the contribution of fossil fuel emissions to global warming and ocean acidification. The most commonly used process for post-combustion CO₂ capture is made possible with advanced amine-based scrubbing technologies. A CO₂ rich gas stream, such as a power plant’s flue gas, is “bubbled” through an amine solution. The CO₂ bond with the amines as it passes through the solution while other gases continue up through the flue. The CO₂ in the resulting CO₂-saturated amine solution is then removed from the amines, “captured” and is ready for carbon storage. The amines themselves can be recycled and re-used. The entire process is very energy intensive resulting in large operating cost so optimizing the amine activity & usage by on line analysis is a critical step in reducing overall costs and measuring the efficiency of the CO₂ capture at the same time.



Application: Acid titration of Amine and Free & Total CO₂ in caustic absorbing solution. The Process Analyzer ADI 2045TI can perform an automatic cleaning and validation reducing maintenance and costly downtimes. The method has been tested with different capture chemicals and is compatible with laboratory tests.

Typical Range: 0-100% Amine, 0-100% CO₂