FlashCO2 technology

CO_2 Recovery Plants (e.g. PSA off-gas)

Medium-rich CO_2 streams, generated from various syngas processes typically found in refineries and petrochemical complexes, are a new alternative for production of high purity CO_2.

By utilising an innovative process of combining conventional physical absorption by means of chilled MeOH and CO_2 liquefaction technologies, the FlashCO_2 process eliminates the requirement for steam stripping while keeping power consumption at an attractive level.

The overall CO_2 recovery of the FlashCO_2 unit is 92%, 12% more than the minimum required 80%.

The benefits of using FlashCO_2 technology for the removal of CO_2 from hydrogen plants compared to Amine technology are:

FlashCO_2 Advantages

- When using the FlashCO_2 technology, total output from hydrogen production can be boosted to 110% at a low cost
- FlashCO_2 technology represents a large-scale option for long-term CO_2 emissions reduction
- Can reduce greenhouse gases emitted from fossil fuel-based plants
- Liquid CO_2 can be produced at low cost
- Units can be stand-alone and serve several incoming streams
- Other valuable fuel gas products can be recovered from the CO_2 process.
- Liquid CO_2 can be produced at high purity/ high value levels for further down-stream processing and at food grade quality at low cost.
- No effluent treating is required
- No liquid or solid chemical waste
- No steam consumption (flash regeneration of MeOH solvent)
- Low energy consumption (typically 1 GJ/ton CO_2)
- Already installed plants shows that FlashCO_2 technology provides a range of advantages, making it a very attractive solution for CO_2 capture from hydrogen plants in both the short and long term