

CO₂ RECOVERY SYSTEM - FLUE GAS

- PROVIDES A RELIABLE, HIGH QUALITY SOURCE OF CO₂ THAT MEETS FOOD AND BEVERAGE GRADE REQUIREMENTS (ISBT STANDARDS)
- ELIMINATES PROBLEMS ASSOCIATED WITH PURCHASED CO₂ SUCH AS PRICES, INCONSISTENT DELIVERIES, QUALITY, ETC.
- CAN BE SOURCE OF REVENUE BY SELLING ON THE MARKET
- MICROPROCESSOR BASED CONTROL SYSTEM FOR EASE OF OPERATION AND MONITORING
- ECONOMICAL SOURCE OF CO₂ AS IT IS A BY-PRODUCT FROM THE FLUE GAS OF EXISTING STEAM BOILER OR POWER GENERATOR
- PROVEN TECHNOLOGY WITH INSTALLATIONS AROUND THE GLOBE.

Our extraction technology can remove in excess of 95% of the CO₂ contained in the boiler flue gas stream. The key to this capability is the solvent. Uniquely energy efficient, the solution has a much greater CO₂ carrying capacity than other chemical solvents, is oxygen tolerant (unlike other chemical solvents), and actually protects the surfaces it contacts from corrosion. This last feature means carbon steel can be extensively used throughout the system. In summary, this stack gas CO₂ recovery system is uniquely efficient in operation and is less expensive to install, operate and maintain. The flue gas produced from an existing steam boiler (or new boiler or power generator) consisting of products of carbon dioxide, water vapor, nitrogen, and oxygen is piped to a flue gas cooler/scrubber where it is cooled to the required temperature as well as scrubbed of any impurities that may be in the flue gas. From the flue gas cooler/scrubber, the flue gas enters the flue gas

compressor to increase the pressure and minimize backpressure on the boiler. Now that the CO₂ enriched flue gas has been cooled, cleaned and compressed, it then passes to the CO₂ absorber. In the absorber tower the carbon dioxide is absorbed into the special Econamine FG solution which is designed to absorb CO₂ gas from flue gas streams containing oxygen in excess of 1%. The remaining products of combustion (nitrogen and oxygen) are vented to the atmosphere from the top of the absorber. The Econamine FG solution, rich in absorbed carbon dioxide, is then pumped to the stripper tower where heat from a reboiler is used to boil off the carbon dioxide in gaseous form at a controlled pressure. At this point the carbon dioxide is cooled to minimize carryover of FG solution and the CO₂ is now ready for further processing in purification, compression, drying and liquefying equipment.



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