CO_2 Recovery Plant

Mellcon CO2 recovery plants from distillery & brewery are the result of many years of experience and continuous development, based on comprehensive know-how relating to Gas production treatment & Purification technology and refrigeration engineering. we build & offer our customers best solutions, which is a great benefit for the brewery & other industries due to their low investment and operating costs.

Co2 Recovery System:

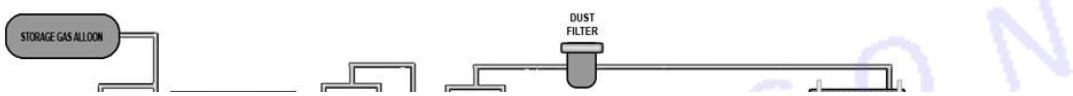
CO2 Recovery Plant takes CO2 gas from the fermentation process passes through a series of purification processes namely - a stainless steel CO2 foam trap to separate the gas, A deodoriser . At the same time, CO2 with a very high degree of purity is indispensable for the production process in a modern brewery. With our CO2 recovery plants we offer systems which meet all requirements of efficient carbon dioxide treatment: maximum purity with lowest O2 content and maximum yield.

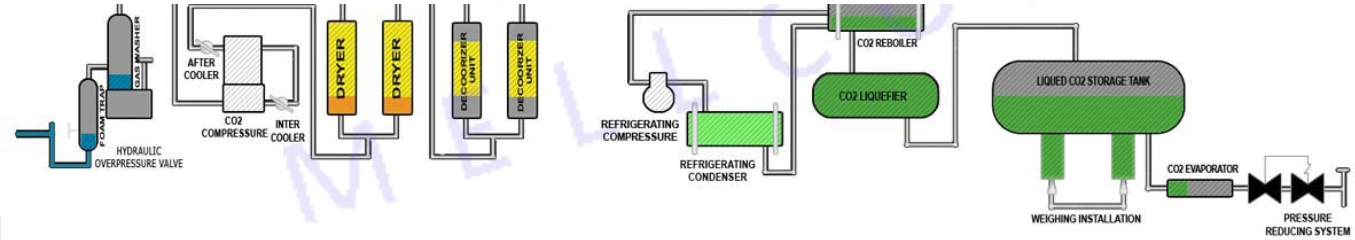
In several steps the carbon dioxide gas is purified thoroughly, so that it complies even with the strict demands of the brewing industry. From the fermentation tanks the CO2 is first led to the foam separator. In this stage, the foam entrained from the fermentation tanks is separated. Through low-pressure gas storage balloon the gas flows into the gas scrubber, where it is cleaned by counter flow of water. In the gas scrubber water-soluble impurities and aerosols are absorbed from the carbon dioxide.

Our CO2 Recovery Plant Mainly Comprises Of Equipments Like:

- CO2 Balloons
- Purification modules like foam traps
- Deodorisers
- Dryers/ Dehydrators
- Refrigerated CO2 Pressure Vessels
- Liquefaction Condensers
- CO2 Strippers (Distillation Columns)
- CO2 Absorbers (MEA, DMEA)
- Vent Condensers
- Evaporation Condensers (NH3 Systems)
- CO2 Storage Tanks
- CO2 Vaporisers

Process





The first step of volume reduction is a two-stage compression. With a dry-running piston compressor the fermentation carbon dioxide is compressed to one sixteenth of the original gas volume. After the CO2 compressor the drying unit of the CO2 recovery plant is installed. It consists of two adsorption tanks filled with drying agent molecular sieves In order to remove the residual moisture from the gas, the carbon dioxide flows through one tank while the other tank is regenerated by heater. In the gas purifier, installed after the drying unit and also consisting of two vessels, substances influencing odour and taste are removed.

With identical plant design, the only difference between the purifier and the dryer is the filling with special activated carbon. In the next phase the CO2 is liquefied in a shell and tube heat exchanger and inert gases like O2 and N2 are removed. All stages of purification in a Mellcon CO2 recovery plant will be precisely adjusted to the specific requirements of a brewery, taking into consideration technological and financial aspects. By compression and condensation the storage volume is reduced to such an extent that temporary storage of even very large quantities of carbon dioxide requires little space.

The compressed gas is liquefied in the condenser and then collected in a storage tank. Thus, the brewer can collect the carbon dioxide produced during fermentation over several days and can then use it for the production process as required. As an option we offer to equip our CO2 recovery plant with a stripping system in order to meet highest requirements in terms of CO2 purity.

From The Breweries

There are lots of applications of our CO2 recovery plants. The fully automatic systems carefully treat the CO2 produced during fermentation. The purified CO2complies with all requirements for food and can thus be used for beer production again. Outside purchasing of carbon dioxide is not necessary. In addition to this contribution to cost reduction, recovery units also contribute to the quality assurance in the brewery, as the beer only comes into contact with carbon dioxide produced by the brewery itself.

Mellcon Can Build Co2 Recovery Plant

- from the processes of fermentation (brewery / distillery)
- from chemical processes
- from natural sources
- from dry ice production
- from bioethanol/biodiesel plants
- from firing systems (flue gas recovery)
- Steam methane and naptha reformers
- Ammonia plants

Contact For Dryers

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