

## CO<sub>2</sub> STRIPPING TECHNOLOGY

### High quality liquid CO<sub>2</sub> from low purity CO<sub>2</sub> sources

- Guaranteed liquid CO<sub>2</sub> quality of 1 ppmv oxygen or less.
- Minimum CO<sub>2</sub> purge loss.
- Allows earlier collection (more CO<sub>2</sub>/fermentation).
- Designed to process/reclaim CO<sub>2</sub> gas from usage areas (i.e.: counterpressure, filter, etc.).
- May eliminate errors (depending on system design) associated with fermenter turn-in.
- Reduces CO<sub>2</sub> losses associated with CO<sub>2</sub> condenser/tank purgings.
- Substantially reduces CO<sub>2</sub> emissions.



### PRINCIPLE OF OPERATION

The Wittemann Low Purity CO<sub>2</sub> Recovery and Stripping System is designed

- To provide a process for the production of high purity liquid carbon dioxide from an inlet purity of carbon dioxide gases as low as 80% by volume.
- To provide a finished product of liquid carbon dioxide with a maximum 5 ppm oxygen by volume, or less.
- To minimize beverage contamination (degradation) associated with oxygen.

The Wittemann System does this with the addition of an “Oxygen Removal Tower” and ancillaries (Stripping System) working in conjunction with our “classic” CO<sub>2</sub> Recovery System. This system incorporates the parameters established by a site’s particular operation and needs to efficiently

eliminate potential problems associated with contamination or low purity CO<sub>2</sub>. CO<sub>2</sub> emissions to atmosphere are substantially reduced.

Carbon dioxide vapor at levels considerably lower than 99.7% are available from the early stages of fermentation and other sources. The collection of this Low Purity Vapor-CO<sub>2</sub> in a highly efficient and economical manner is a function of temperature and pressure, which increases the net CO<sub>2</sub> recoverable (reduces vent losses), and of CO<sub>2</sub> stripping, which reduces the oxygen concentration to an acceptable level. Extremely high purity carbon dioxide is required when used in the various stages of production due to the adverse, degenerative effects of oxygen or other gases on a finished product.

ST110706

### Components Legend

1. Disengaging Chamber
2. Liquid CO<sub>2</sub> Feed Pump
3. Stripping Column
4. Primary Reboiler
5. CO<sub>2</sub> Condenser
6. Reflux Condenser
7. Product Pump
8. Secondary Reboiler

### Fluids Legend

- Vapor CO<sub>2</sub>
- Liquid CO<sub>2</sub>
- Cold Refrigerant
- Hot Refrigerant

