

RAYSORB SOLVENT RECOVERY SYSTEM

This RaySolv solvent recovery technology combines the proven performance of activated carbon adsorption with a unique, dry regeneration method.

Solvents are separated from solvent laden air by activated carbon adsorption.

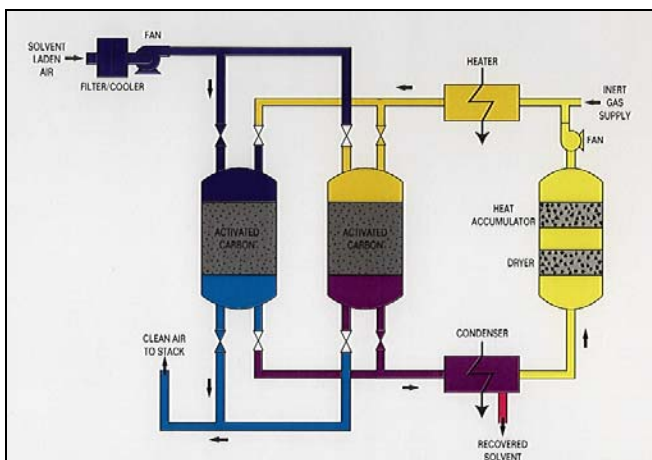
Regeneration is accomplished with heating and cooling of closed-loop recirculated inert gas. As the first step in the regeneration process, a small amount of nitrogen gas is used to purge the air from the adsorber vessel until its concentration is reduced to a safe level. The recirculating inert gas is then heated before entering the adsorber vessel to desorb the solvent and co-adsorbed moisture. The more volatile water vapor desorbs ahead of the solvent vapors, and as it recirculates, it is selectively adsorbed onto the dryer desiccant bed. The dry solvent laden inert gas is then cooled to condense and remove the solvent vapors. After the solvent in the carbon bed is depleted and condensation ceases, the heating and cooling of the recirculating inert gas is terminated. Regeneration is complete and the recirculation is stopped when the activated carbon bed is cooled and reconditioned, the water from the dryer is desorbed and the heat from the activated carbon bed is transferred to the heat accumulator. Since in the regeneration loop much of the heat energy is recycled between the hot and the cold sides by the use of a heat pump and by heat storage between regeneration cycles, the RAYSORB system is designed to be extremely energy efficient.



6,000 CFM RAYSORB Solvent Recovery System - Skid Mounted



RAYSORB Solvent Recovery System recovers 300 lb/hr. of Methylene Chloride/ Ethanol solvent mixture



RAYSORB System Flow Diagram

RAYSORB system advantages include:

- Recovers dry water soluble solvents without additional processing to separate water phase
- No process waste water is generated
- Dry regeneration eliminates corrosion
- Inert atmosphere minimizes the risk of bed fires with Ketones
- Energy efficient operation
- Recovery efficiency is precisely controlled by the adjustment of regeneration heating and cooling temperatures