

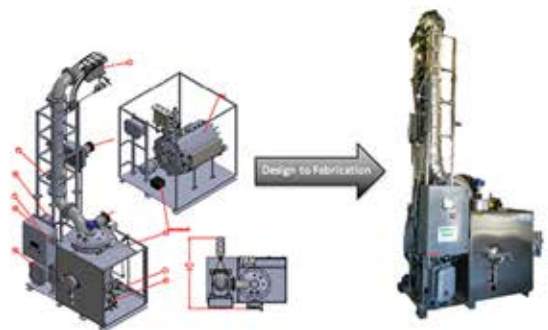
maratek

solvent saver

Fractionation
Steam Heating
Heat Integration
Specialty Designs

SSE

Solvent Saver - Engineered
Application Engineered Solvent Recycling



Solvent Saver - Engineered

Engineering Capability

You use a lot of solvent. You spend a lot of money dealing with the waste. To stay competitive, you have to keep your costs low. But to keep regulators happy and the environment safe, you have to demonstrate green initiatives. What can a company do?

Maratek's team of engineers use a variety of tools to properly test, assess, design and implement custom on-site recycling units. These units are tailored to be compatible with the chemicals that are to be recycled. Our team will determine the appropriate method of separation – including all of the features that will make recycling automatic, user friendly, and highly efficient. Some of the features include specialized fractionation columns, membrane evaporation, scrapers, and absorption towers. Depending on the chemical to be recycled, Maratek will properly design a solution to enable you to complete on-site recycling, which will ultimately save money, time, and help the environment.



Engineering Tools

Maratek's solvent distillation systems are designed, pilot tested, and fabricated in-house. We use SolidWorks and process simulation software to pilot test results and develop final process designs. Our engineers create a custom designed engineering package that includes:

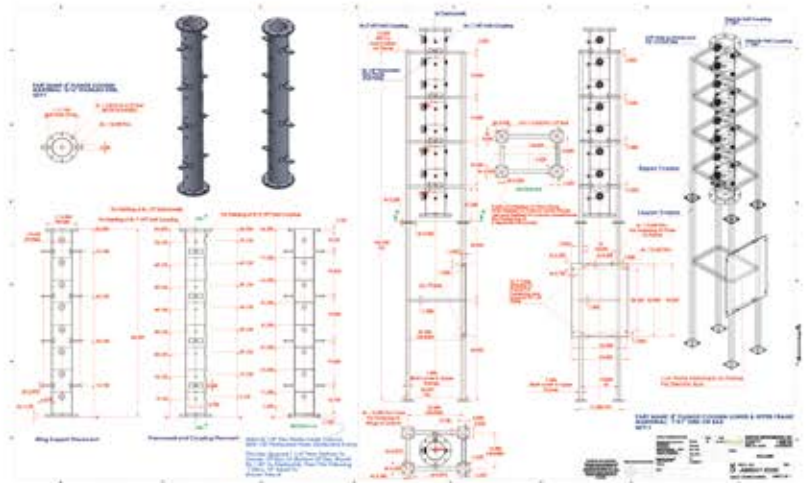
- Process flow diagram (PFD)
- P & ID
- General arrangement
- Vessel drawings
- Equipment specification sheets
- Energy usage software

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Fractionation Columns

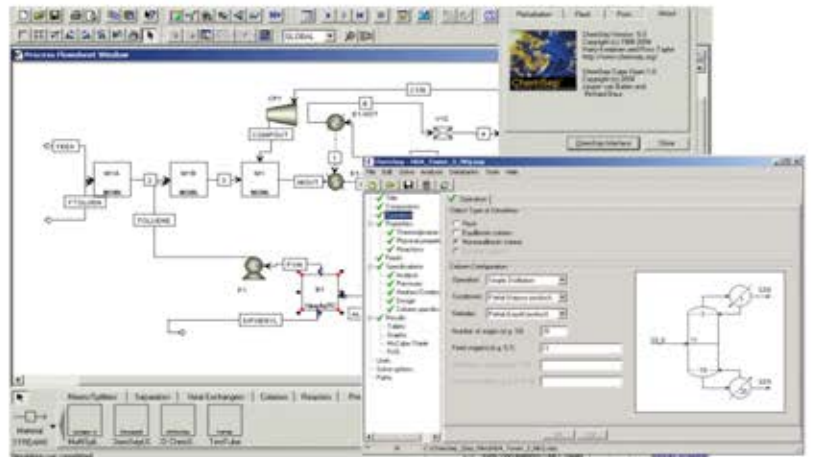
Specialized fractionation distillation columns can be engineered to help separate solvents into a number of components. The fractionation columns are generally added when the chemical components have similar boiling points, to further ease the separation process. The engineering team at Maratek use SolidWorks to design and implement the fractionation columns in order to optimize the solvent recovery rate.



Fractionation designed using SolidWorks

Heat Integration

Maratek's team analyzes the entire overall process to determine ways in which the overall energy consumption can be minimized. The engineers use process flow diagrams (PFD) and simulation software to model and optimize these recycling processes. The Software allows Maratek to determine the feasible separation of solvent mixtures, and helps the engineers evaluate condensers, fractionation columns, heating/cooling mechanisms and more, enabling the overall process to be even more environmentally friendly.



Overall recycling process depicted using process simulation software

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Steam Heating

Steam heating is a customized option that allows systems to be heated using steam instead of traditional thermal oil and electricity. Companies may choose to use this approach to conserve energy, because steam releases a much higher amount of energy over a shorter period of time. Steam heating is rapid, even, and can be effectively controlled by varying the pressure. Therefore, steam heating is extremely easy to control, and conserves a large portion of the unit's energy.

Fabrication, Installation & Service

Our experienced manufacturing shop will fabricate the equipment to assemble the system components. After final inspection, the equipment and or system is shipped to the customer site for installation. We also provide the operating manuals to train plant operators and on site start-up services to complete the project.

Let our staff of experienced engineers guarantee your company of the correct process design and equipment for your application.

All of the process design and fabrication is done in-house in North America so that you do not have to worry about a group of unfamiliar and untested subcontractors. The benefit to you is a controlled schedule and improved quality at a lower cost.

Sample Testing

No matter what the solvent contains, the first step for many custom equipment designs is to send in a sample to Maratek's team.



We will complete laboratory tests on the mixture to determine it's ideal recovery process.

