maratek
SOLUTIONS IN RECYCLING

A Guide to Selecting Solvent Recycling Equipment

Comparison Overview

Solvent Saver Batch (SSB)	Solvent Saver Continuous (SSC)
• Basic, simple recycling	• Advanced, automatic recycling
• Designed for smaller volumes of solvents	• Designed for larger volumes of solvents
• Operates using batch distillation (one cycle at a time)	• Operates using continuous distillation (scheduled start and end times)
• Requires more manual labor to help load and unload the unit	• Virtually no manual labor required
• Generally a less expensive, more economical option	• Generally more expensive, depending on the number of added options
• Limited key options available – vacuum, nitrocellulose, and autofill	• Vast variety of options available

Important Questions to Consider

How much solvent are you planning to recycle per week?

Companies that recycle under 275 gallons per week (about 5 drums) will generally choose the smaller, simpler, Solvent Saver Batch (SSB) models. Whereas those that recycle over 275 gallons per week may prefer the larger and more automated Solvent Saver Continuous (SSC) line. The SSB models operate using waste bags, which are convenient for small volumes of waste, but become less efficient with very large volumes, therefore the bag-free SSC model may be chosen by companies who recycle a lot of waste.

What is the difference between “Batch” and “Continuous” recycling?

Batch recycling recovers solvents cycle by cycle, requiring work only during loading and unloading periods. The user will hold a button or manually fill the distillation vessel and then return approximately eight hours later to collect the drum filled with recovered solvent. At this point, the user may tilt the machine to remove the residual waste bag, and then repeat the process for the next cycle.

Continuous recycling operates a little bit differently. The user may tap a button on their remote PLC tablet to begin the autofill pumping process. The machine will fill itself and sense when to stop pumping new solvent into the distillation vessel. The recycling will begin and the unit will self-clean to remove any waste that begins to build-up. Simultaneously, the unit will re-fill the distillation vessel to maintain a constant volume. The system can therefore be run continuously for as long as desired, and can be controlled and monitored remotely.

Do you prefer more automation?

The SSC line of solvent recyclers are generally more automatic. Autofill comes built in with the standard SSC line, but is still available as an option for the SSB line. The Autofill option allows for completely continuous and automatic recycling. An additional pump is installed to transfer the waste solvent into the unit’s distillation vessel. This pumping process is both continuous and automatic, as it allows for the solvent to be pumped in, distilled, and finally removed from the unit. It is controlled by high level switches and fill sequence timers that are embedded in Maratek’s software. These timers will ensure the unit is continuously feeding new waste solvent to replace the recycled solvent. The SSC line also has a variety of other options to further enhance the automation of the system including auto sludge discharge, remote Ethernet capabilities, volume sensors, and the high viscosity scraper shutdown feature. The only automatic feature of the SSB line is autofill, so depending on how automatic you would like the system you may want to evaluate the options that are available for each.

Does your waste mixture include Nitrocellulose?

Nitrocellulose is a chemical compound that has the potential to create an exothermic reaction under certain reaction conditions. This means the compound may release very large amounts of heat. It is flammable, and can become unstable at high temperatures where it releases toxic fumes like Nitrogen Oxides and Carbon Monoxide. Knowing this, Maratek has engineered an option for all models that makes them Nitrocellulose safe (N). This option includes features such as autocool, a scraper, a steep conical wall, a vacuum, and advanced temperature controls. If your waste mixture contains Nitrocellulose, we recommend adding the “Nitrocellulose Safe (N)” option to your solvent recycling unit.

What are the boiling points of the chemicals in the mixture?

If the boiling points are high, than you may want to consider adding a vacuum to your solvent recycling unit. The vacuum option enables the user to separate and recover chemicals that boil at high temperatures, because it forces them to separate at lower-then-boiling point temperatures.

What standard features do the Solvent Saver Batch (SSB) models include?

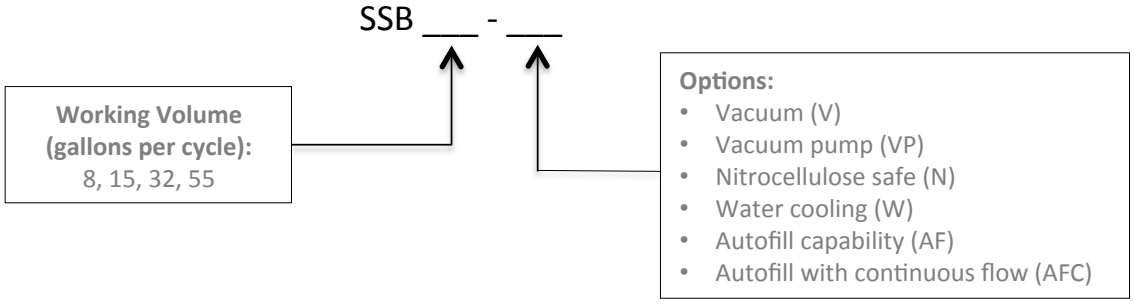
	SSB 8	SSB 16	SSB 32	SSB 55	SSB 75	SSB 100
Working volume per cycle*	8 US gallons	16 US gallons	32 US gallons	55 US gallons	75 US gallons	100 US gallons
Thermal oil heating system	✔	✔	✔	✔	✔	✔
Air cooled condenser	✔	✔	✔	✔	✔	✔
PLC touchscreen tablet	✔	✔	✔	✔	✔	✔
Tilting capability			optional	✔	✔	✔

* volume may be doubled or tripled by running multiple cycles per day

What options are offered for the Solvent Saver Batch (SSB) models?

- Autofill capability (AF)
- Autofill with continuous flow (AFC)
- Vacuum (V)
- Vacuum pump (VP)
- Nitrocellulose safe (N)
- Water cooling (W)

What is the naming convention for the Solvent Saver Batch (SSB) models?



What standard features do the Solvent Saver Continuous (SSC) models include?

- Touchpad PLC with remote control box to completely automate the system for continuous processing
- All the latest safety features
- Temperature sensors/ controls
- All wetted parts made from stainless steel
- Electric heating with thermal oil
- Automatic fill
- 220V or 440V
- Sizes: 5, 10, 30, 50, 100+ gallons / hour

What options are offered for the Solvent Saver Continuous (SSC) models?

Option	Symbol	Description
Vacuum with solvent pumping	VP	Reduces the boiling point of the waste solvent and lowers the amount of energy required to run the system.
Nitrocellulose safe	N	Allows the user to safely distill solvents that contain nitrocellulose.
Volume sensors in collection containers	LS	The system will automatically stop when the containers are full to avoid overflow/spillage.
Dual dose pumping system	DD	Allows the user to feed from more than one drum/ tote during the automatic processing.
Scraper with high viscosity scraper shutdown	S	Rotates during operation to ensure that there are virtually no solids building up on the internal walls of the vessel (self cleaning). Also detects and monitors the torque applied to the internal scraper to prevent the accumulation of solids.
Allen Bradley PLC	AB	Upgrades the PLC/ touchpad to state-of-the-art Allen Bradley control systems.
Water Cooling	W	Cool the condenser using water instead of air.
Rapid Oil Cooling	O	Uses oil as a coolant to rapidly remove heat from the system.
Automatic sludge discharge	SD	Automatically pumps out waste discharge from the distillation unit.
Remote Ethernet	RE	Remote monitoring of unit.

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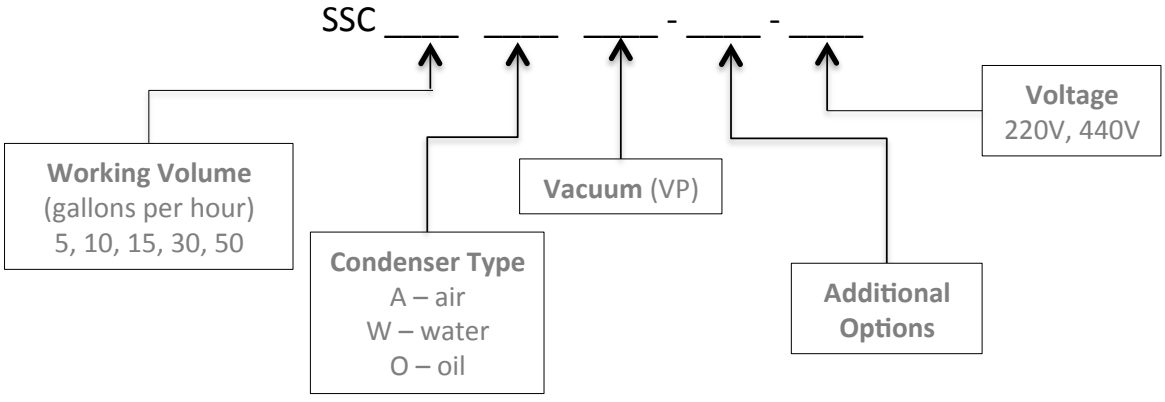

How do I obtain a solvent recycling system?

Maratek offers flexible purchasing options, as well as a solvent recycling rental program in some situations. Call us at 1 800 667 6272 to find out which method best suits your recycling needs.