

Tech Corner

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What is the difference between a HERMS and RIMS mashing system?

HERMS stands for Heat Exchange Re-circulating Mash System. Basically, the idea behind the HERMS system is the wort is separated from the mash and passed through a heat exchanger and then returned to the mash. As an example, the wort can be circulated from the mash tun to the hot liquor tank (HLT) through copper coils and then returned to the mash tun. The heat from the HLT is transferred to the wort.

The advantages of the HERMS system are:

- Greater control over mash temperature and provides a more uniform temperature throughout the mash
- Helps clarify the wort by re-circulating the wort through the grain bed which acts as a filter
- Accelerates starch conversion

A RIMS (Re-circulating Infusion Mash System) mashing system also re-circulates the wort; however, an electric heating element is used in the wort flow to control the mash temperature instead of using heat transfer. The advantages of the RIMS system are similar to the advantages of the HERMS system.

An application for a HERMS or RIMS system is step mashing with a Gott cooler.

In a step mash the temperature of the mash is increased to achieve a series of temperature rest. Normally, the mash temperature is increased by:

- Infusing the mash with hot water from the HLT,
- Applying direct heat to the mash tun,
- Providing heat to the mash through a heat exchanger or electric heating element

With a Gott cooler direct heat is not an option, and applying a series of hot water infusions can leave you with a very thin mash and lower mash efficiency. Therefore, a HERMS or RIMS system will allow you to perform step mashes; however, if you are brewing a large batch it may take a while for the re-circulating mash system to increase the mash temperature to the next rest temperature.

We should mention that the re-circulating mashing systems perform equally well if you have a stainless steel mash tun.

Also, with a stainless steel mash tun you can apply direct heat to the mash tun to perform a step mash, but, you should apply direct heat carefully to avoid caramelizing the wort, that is, unless you are brewing a Scottish Ale where the style allows for kettle caramelization.

If you would like to learn more about mashing and mashing systems come out and join us at the May brew day.