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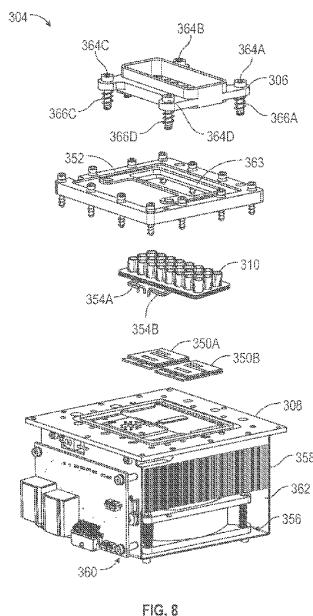
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(54) Title: THERMO-CYCLER FOR ROBOTIC LIQUID HANDLING SYSTEM



(57) Abstract: A reaction vessel comprises a lower chamber with a first volume, and an upper chamber with a second volume greater than the first volume. A thermocycling system for heating the reaction vessel includes a lower heating zone to heat the lower chamber, an upper heating zone to heat the upper chamber, and a lid heater to heat an opening of the upper chamber. A method comprises loading a sample into a lower chamber of a reaction vessel, thermocycling the lower chamber using a lower heating zone of the thermo cycler, combining an additive into the sample to produce a combination filling the lower chamber and at least partially filling an upper chamber of the reaction vessel, and incubating the upper and lower chambers using the lower heating zone and an upper heating zone. The lower and upper chambers can have different wall thicknesses to facilitate heat transfer.

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