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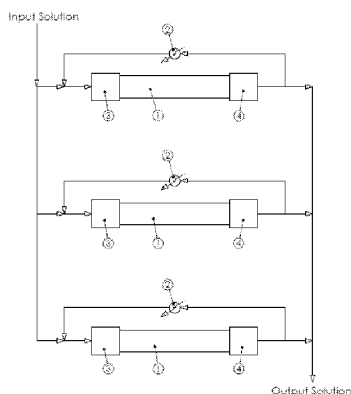
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(54) Title: METHODS AND SYSTEMS OF IODINE CAPTURE FROM AQUEOUS SOLUTIONS



ITEM NO.	DESCRIPTION
1	Photochemical Reactor
2	Recycling/Cooling
3	Sensor Module
4	Ports For Sampling Or Adding Reagents Or Venting

Figure 1

(57) Abstract: Methods, systems and devices for removing iodide from an aqueous solution including submerging an iodophilic electrode in an aqueous solution containing iodide, applying a current to the electrode, and electrochemically oxidizing the iodide to iodine within the electrode. The electrode may include an iodophilic material and an electrically conductive material. It may also include a binder. The iodophilic material may be a starch, chitosan, carboxycellulose, cationic polymer, or an anion exchange membrane material, for example. After oxidizing the iodide to iodine within the electrode, the electrode may be submerged in a second solution and a current may be applied to reduce the iodine and release it from the electrode in the form of iodide into the second solution.

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