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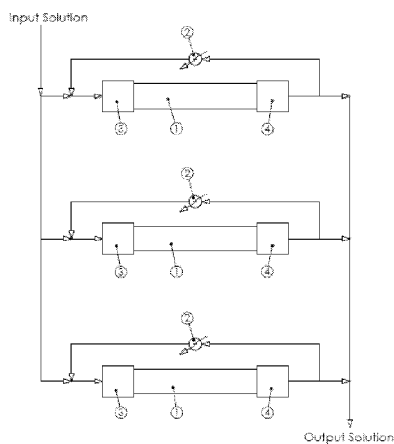
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TION



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 PFAS destruction including remov-
ing nitrate from water containing PFAS, combining the water with a sensitizer and
a sufficient quantity of base to create a treatment solution having a pH of about 10
or more, and irradiating the treatment solution with UV light in a photoreactor to
destroy a portion of the PFAS. The nitrate may be removed electrolytically such as
by electrolytically reducing nitrate to nitrogen gas and/or ammonia. The nitrate may
be removed by filtration through a selective membrane, such as by reverse osmosis,
forward osmosis, nanofiltration, and/or ultrafiltration. The system may include elec-
trolytic cell system including a first cell with a cathode contacting the water contain-
ing PFAS in the first cell, a second cell including an anode in an electrolytic solution,
a power source, and a salt brine and/or membrane separating the first and second cells.

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