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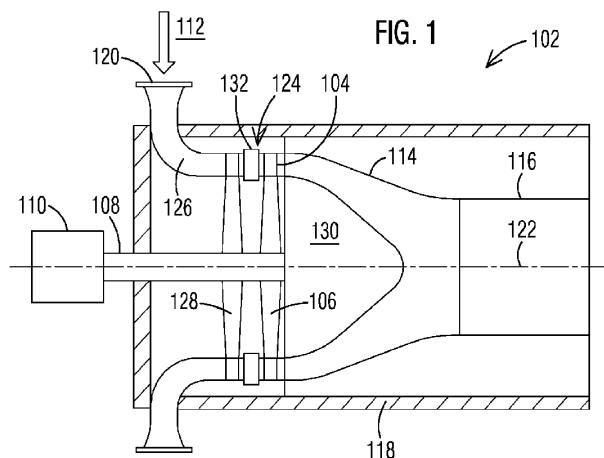
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(54) Title: REACTION ZONE FOR A FLUID PROCESSING TURBOHEATING MACHINE



(57) Abstract: A turboheating machine for fluid processing includes an outer casing, a rotor, a first energy imparting stage comprising a bladed impeller disk disposed coupled to the shaft, receiving a process fluid and increasing a first amount of kinetic energy of the process fluid in a energy imparting step, a diffuser for converting the kinetic energy imparted to the process fluid in the energy imparting stage into heat energy sufficient to initiate a desired chemical reaction in the process fluid, and a reaction zone disposed downstream of the diffuser for receiving the process fluid discharged from the diffuser, where the first reaction zone is sized and configured to continue the chemical reaction in the process fluid to a predetermined extent and discharging the process fluid at the outlet.

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