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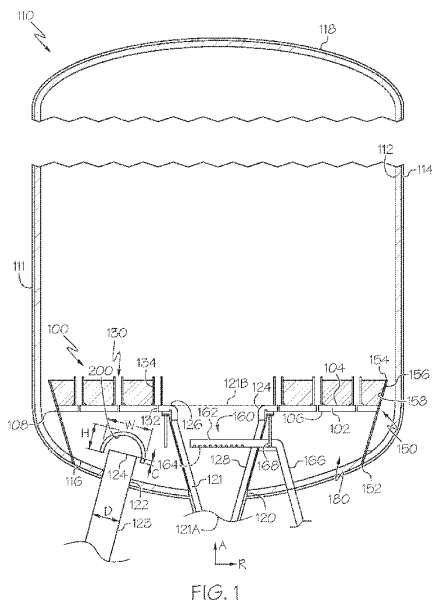
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(54) Title: CHEMICAL PROCESSING VESSELS HAVING FLUID DIRECTORS AND METHODS OF OPERATING THE SAME



(57) Abstract: A chemical processing vessel may include a base, a grid distributor, a solids transport passage, an outer skirt, a fluid inlet, and a fluid director. The solids transport passage may extend between the base and the grid distributor at a central region of the base and grid distributor, respectively. The outer skirt may include a wall disposed radially around a periphery of the base and the grid distributor. The base, the grid distributor, the solids transport passage, and the outer skirt define an annular region between the outer skirt and the solids transport passage. The fluid inlet extends through the base. The fluid director is disposed within the annular region and is shaped to direct a fluid from the fluid inlet into the annular region in a fluid direction that is substantially tangential to the outer skirt. Also disclosed herein are methods of operating a chemical processing vessel.

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