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(54) Title: DUAL CHANNEL SHOWERHEAD CONDUCTANCE OPTIMIZATION FOR UNIFORM RADIAL FLOW DISTRIBUTION

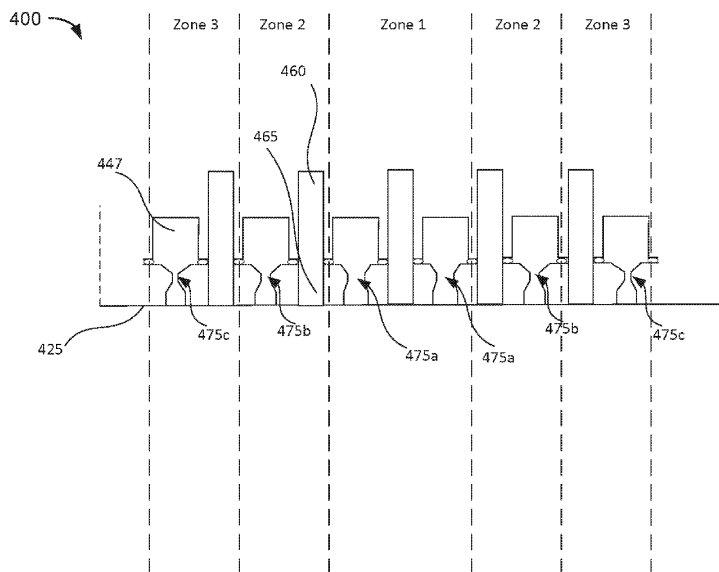


FIG. 4B

(57) Abstract: A dual-channel showerhead may include a first plate defining two or more channels and a second plate including a bottom surface and defining a plurality of apertures. Each of the two or more channels may be fluidly coupled with one of the plurality of apertures to define a fluid path extending from the first plate through the bottom surface. The plurality of apertures may be arranged in a series of rings. A first subset of apertures of the plurality of apertures may extend through the first plate and the bottom surface. A second subset of apertures in a first ring of the series of rings may include a first opening area. Each aperture of the second subset in a second ring may include a second opening area smaller than the first opening area, such that a flow conductance of the first ring is within 5% of the second ring.

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