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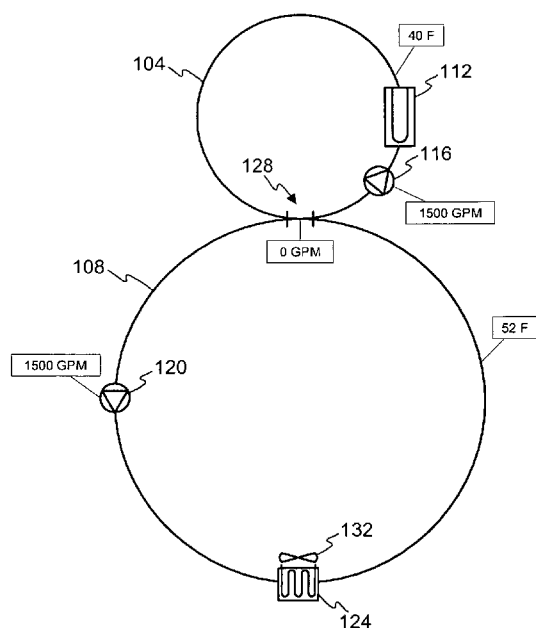
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(54) Title: DEMAND FLOW PUMPING

Fig. 2



(57) Abstract: Demand Flow operates chilled water plants at substantially improved efficiency, regardless of plant load conditions. In general, Demand Flow utilizes an operating strategy which controls chilled and condenser water pumping according to a constant Delta T line, which is typically near or at design Delta T. This reduces or eliminates Low Delta T Syndrome and reduces energy usage by chilled and condenser water pumps for given load conditions. Operation of chilled water pumps in this manner creates a synergy which generally balances flow rates throughout the plant, reducing undesirable bypass mixing and energy usage at air handler fans and other components of the chilled water plant. At plant chillers, application of Demand Flow increases the refrigeration effect through refrigerant sub-cooling and superheating, while preventing stacking. Demand Flow includes a critical zone reset feature which allows the constant Delta T line to be reset to adjust to changing load conditions.



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