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(54) Title: EFFICIENCY ENHANCING APPARATUS AND METHODS FOR A HEAT EXCHANGE SYSTEM

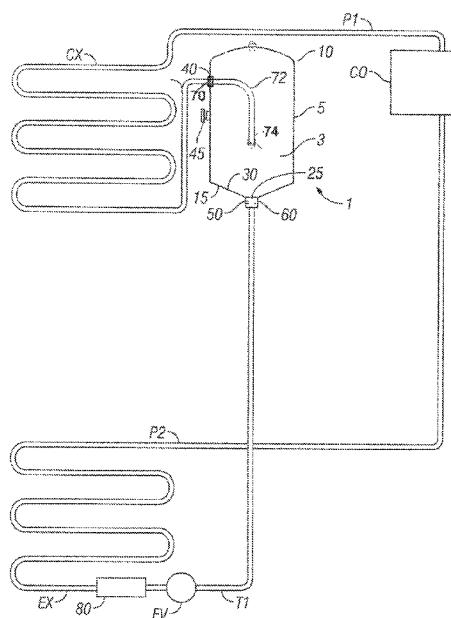


FIG. 7

(57) Abstract: A method and apparatus for improving refrigeration and air conditioning efficiency for use with a heat exchange system having a compressor, condenser, evaporator, expansion valve, and circulating refrigerant. The apparatus includes a liquid refrigerant containing vessel having a refrigerant entrance and a refrigerant exit with the vessel positioned in the heat exchange system between the condenser and the evaporator, and means for creating a turbulent flow of liquefied refrigerant. The apparatus further preferably includes a refrigerant bypass path to sub-cool a portion of the refrigerant within the vessel; a disk positioned at the liquid refrigerant entrance to develop a low pressure area on the back side and create a turbulent flow of refrigerant entering the vessel; and a refrigerant valve incorporated into the refrigerant path downstream of the expansion valve and before the coil which develops a vortex that continues through the refrigerant coil.



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