

The invention relates to refrigeration engineering and deals with design of evaporating apparatus. A vertical vortex evaporative condenser includes vortex heat exchanger as pipe with large diameter with Π -like ribs fixed at outer surface, ridge with nozzles for sprinkling its outer surface, separator, collectors for water collection, circulation pump for back water supplied to nozzle ridge and filter installed in front of circulation pump. At that pipe of heat exchanger is installed vertically, axial fan with profiled blades is installed in the lower part of the heat exchanger pipe in such way that air flow inside pipe after fan forms angle $30 \dots 60^\circ$ to its generatrix, nozzles are installed with intervals in height of pipe of heat exchanger in such way that sprinkled water forms counter-flow to air flow. In the lower part of heat exchange pipe circular lower collector for water flowing down by inner and outer surfaces of heat exchange pipe collection is installed, at that the body of the fan is placed with gap in the collector, separator is installed in the upper part of heat exchange pipe and is equipped with upper water collector with perforated bottom and cone-like rib, this directs water flow as film at outer surface of heat exchanger. The technical result is in increase of heat and mass exchange of evaporation apparatus.