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## Patent Search

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### Abstract:

The present invention relates to a triple blade vortex generator (TBVG) insert for heat exchanger. The object of the proposed invention is to improve the performance exchanger. The proposed invention comprises of three blades having perforations [112] configured at an angle of 45° about lateral axis in clockwise direction. Herein fluid flow streamlining over the blades, the blades are kept at 45° of angle. With the use of TBVG inserts, better mix up of fluid is achieved between core fluid flow and wall region by generating recirculation and vortices in the fluid flow, hence disrupting the thermal boundary layer at the wall region resulting in better convective heat and therefore better thermal performance.

Complete Specification

Present invention in general relates to mechanical field and more specifically to a triple blade vortex generator insert for heat exchanger which is precisely equipped for heat exchanger.

Background of the invention:

The background information herein below relates to the present disclosure but is not necessarily prior art.

It has long been known that aerodynamic performance can be improved by generating vortices at selected locations on aerodynamic surfaces. For example, it is a common practice to place vortex generators at certain selected locations on an upper surface of an airfoil to extend the onset of flow separation. By creating the vortex, the momentum fluid particles outside the boundary layer are mixed with the retarded boundary layer air at the surface, thus avoiding or extending the occurrence of flow separation.

A common type of vortex generator is in the form of a small rectangular plate, with the plane of the plate extending vertically upward from the wing surface and slanted moderately relative to the direction of air flow. Another type of prior art vortex generator also has an upright planar configuration, but has its leading edge slanting upward and rearward direction to the forward point of the top edge of the vortex generator, and with the top edge extending generally horizontally and rearwardly to the leading edge. Thus, in side elevation, the configuration of the vortex generator comprises a forward triangular portion and a rear rectangular portion, both the triangular and rearward rectangular portions being aligned with one another.

It has been a long-term effort in the air conditioner industry to promote the function of the heat exchanger in consideration of power conservation. Some of the nu

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