

Title (en)

AIR-OUTLET PROTECTION STRUCTURE, OUTDOOR UNIT OF AIR CONDITIONER AND METHOD FOR DESIGNING AIR-OUTLET PROTECTION STRUCTURE

Title (de)

LUFTAUSLASS-SCHUTZSTRUKTUR, AUSSENEINHEIT EINER KLIMAAANLAGE UND VERFAHREN ZUM ENTWURF DER LUFTAUSLASS-SCHUTZSTRUKTUR

Title (fr)

STRUCTURE DE PROTECTION DE SORTIE D'AIR, UNITÉ EXTÉRIEURE DE CLIMATISEUR ET PROCÉDÉ DE CONCEPTION POUR STRUCTURE DE PROTECTION DE SORTIE D'AIR

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Application

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Abstract (en)

The invention discloses an air outlet protection structure, an outdoor unit of an air conditioner and a method for designing an air outlet protection structure. The air outlet protection structure comprises: a central circular disk (10); and a radiating rib (20), extending from an outer edge of the central circular disk (10) to a direction away from the central circular disk (10). An included angle between a first side surface (21) of the radiating rib (20) and a central axis of the central circular disk (10) is α , as formula (I), where V_r is a flowing velocity of an airflow in a rotation direction of a blade, V_z is a flowing velocity of the airflow in an axial direction of a blade shaft, l is a distance from a point on the first side surface (21) of each radiating rib (20) to the central axis of the central circular disk (10), and f is a rotation frequency of the blade shaft. The air outlet protection structure, the outdoor unit of the air conditioner and the method for designing an air outlet protection structure are determined according to the characteristics of a flow field of an air duct, and can reduce the hindering effect of an air outlet protection apparatus on a fluid as far as possible, thereby improving the air output volume of a fan and reducing the noise of the entire outdoor unit of the air conditioner.

IPC 8 full level

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