ABSTRACT

INLET GUIDE VANE MECHANISM FOR CENTRIFUGAL COMPRESSOR, CENTRIFUGAL COMPRESSOR AND REFRIGERATION SYSTEM

The present invention relates to an inlet guide vane (IGV) mechanism for a centrifugal compressor. The IGV mechanism comprises: a flow guide body having a front end section, a middle section and a rear end section, wherein the front end section, the middle section and the rear end section respectively have streamline contours in symmetry about the impeller axis and are transitionally connected by smooth curved surfaces, the flow guide body comprises an air inlet pipe arranged along the impeller axis, one end of the air inlet pipe being fixed at the front end section of the flow guide body, and the other end thereof being fixed at the rear end section of the flow guide body; a support structure for fixing the flow guide body at the air inlet end of the centrifugal compressor; and a plurality of inlet guide vanes rotatably fixed in the circumferential direction of the middle section of the flow guide body through a rotating shaft thereof, respectively. The present invention further provides a centrifugal compressor provided with the IGV mechanism, and a refrigeration system provided with the centrifugal compressor. The IGV mechanism for a centrifugal compressor according to the present invention is conducive to reducing airflow losses.

[Figure 2]