Construction of Mechanic Regulation of Turbine Ventilator using Whirling Turbine

Josef Sedlak[1], Jiri Malasek[2], Martin Ondra[2], Ales Polzer[1]
[1]Department of Machining Technology, Institute of Manufacturing Technology, Faculty of Mechanical Engineering, Brno University of Technology, Technická 2896/2, Brno 616 69, Czech Republic. E-mail: sedlak@fme.vutbr.cz, polzer@fme.vutbr.cz
[2]Department of Handling and Building Machines, Institute of Automotive Engineering, Faculty of Mechanical Engineering, Brno University of Technology, Technická 2896/2, Brno 616 69, Czech Republic. E-mail: malasek@fme.vutbr.cz, m.rtin@seznam.cz

An article deals with a definition, concept, development, calculation and construction of a prototype of mechanical regulation of a turbine ventilator using a whirling turbine reducing an amount of ventilated air.
The whole mechanical regulation solution is situated at a central shaft with arms. At low air velocity, a rotation nozzle is pulled out fully from its cover and works with a maximum suction capacity. The rotation nozzle starts to pull in its cover at higher air velocity, which protects the blades from push of air, which would slow down the whole turbine. A vertical move of the turbine is provided by an inner mechanism functioning basically as a centrifugal regulator. The advantage of this concept lies in not only suction regulation, but also protection of the rotation nozzle from a damage in case of adverse weather (the rotation nozzle stays inserted). The article describes individual development stages from a concept up to construction, including the final visualisation of the prototype solution of the mechanical regulation of the turbine ventilator using the whirling turbine.
The mentioned innovative solution of the mechanical regulation is very up-to-date thanks to its simplicity and non-service operation. It is just the matter of time when one of the producers would be interested in the turbine ventilator solution and it would be introduced into a market space.

Keywords: Turbine Ventilator, Whirling Turbine, Mechanical Regulation, Drained Air, Suction Capacity

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