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STAGED DIFFUSOR FOR SLOWING DOWN GAS
FLOW

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STAGED DIFFUSOR FOR SLOWING DOWN GAS FLOW

by

M. P. Ryabokon'



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13. ABSTRACT In the central part of the duct, on the flow side, are several (4-6) gasproof plates, the width of which is 2-3% that of the duct. The positioning of the plates is arrived at experimentally according to the best velocity field beyond the diffuser, thus improving the velocity field. The diffuser comprises smooth expansion sector with straight sides 1, sudden expansion duct 2 and grid 3 in the broad part of the duct. In the central part of the grid are plates as described above. This causes a considerable local rise in resistance and therefore improves the velocity field beyond the diffuser. AA2006992			

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By: M. P. Ryabokon'

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STAGED DIFFUSOR FOR SLOWING DOWN GAS FLOW

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The invention pertains to experimental aerodynamics, in particular to the equipment of wind tunnels.

Staged diffusors are known which contain a short expansible section with straightline generatrixes and a suddenly expanding duct and a grid with a coefficient of resistance equal to two installed in the broad part of the duct.

In the proposed diffusor, to improve the velocity field, installed behind the diffusor in the central part of the grid from the direction of the flow are several (three-four) impenetrable plates, the width of which is 2-3 percent of the size of the grid, in which regard the mutual arrangement of the plates is selected experimentally in accordance with the best velocity field behind the diffusor.

The staged diffusor for slowing down a gas flow is portrayed schematically on the drawing.

The diffusor contains a section of smooth expansion with straightline generatrixes 1, sudden expansion of the duct 2, and

grid 3 installed in the wide portion of the duct. Installed in the central portion of the grid, from the direction of flow, are several (four-six) solid plates 4, the width of which is 2-3% of the size of the grid. The presence of the plates leads to a considerable local increase in resistance and, consequently, to an improvement in the velocity field behind the diffuser.

Subject of Invention

The staged diffuser for slowing down a gas flow, which contains a section of smooth expansion with straightline generatrices, sudden expansion of the duct, and grid with hydraulic resistance equal to two, *which is distinguished* by the fact that to improve the velocity field behind the diffuser, installed in it in the central part of the grid from the direction of the flow are several (four-six) impenetrable plates, the width of which is 2-3% of the size of the grid, in which regard the mutual arrangement of the plates is selected experimentally in accordance with the best velocity field behind the diffuser.

