

Construction of Wind Tunnel for Aerodynamic

Authors : Elmo Thiago Lins Cöuras Ford, Valentina Alessandra Carvalho do Vale, José Ubiragi de Lima Mendes

Abstract : The study of the aerodynamics is related to the improvement in the acting of airplanes and automobiles with the objective of being reduced the effect of the attrition of the air on structures, providing larger speeds and smaller consumption of fuel. The application of the knowledge of the aerodynamics not more limits to the aeronautical and automobile industries. In that way, being tried the new demands with relationship to the aerodynamic study in the most several areas of the engineering, this work presents the stages of the project and construction of a wind tunnel for application in aerodynamic rehearsals. Among the several configurations of existent wind tunnels, opted to build open circuit, due to smaller construction complexity and installation; operational simplicity and cost reduced. Belonging to the type blower, to take advantage of a larger efficiency of the motor; and with diffusion so that flowed him of air it wins speed before reaching the section of rehearsals. The guidelines for project were: didactic practices: study of the layer it limits and analyze of the drainages on proof bodies with different geometries. For the pressure variation in the test section a connected manometer used a pitot tube. Quantitative and qualitative results showed to be satisfactory.

Keywords : wind tunnel, aerodynamics, air, airplane

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