

Abstract

WIND TUNNEL TURNING VANE HEAT EXCHANGER

A cooling system for a wind tunnel (100) is disclosed. The heat exchanger (200) of the present disclosure is formed as a turning vane assembly in an airflow duct of a re-circulating wind tunnels. The individual vanes (201) are formed from extruded aluminum with coolant fluid channels (206, 207, 208) running continually down the length of the vane. One or more channels can be used, depending on the application of vane and the cooling capacity needed. The exterior of the vanes are formed in an airfoil shape to efficiently turn the air flow the desired amount in a manner well known in the art. The turning vanes are connected to a fluid supply (204) with single piece connectors (202) that removably attach to the turning vanes. In the depicted embodiment the connectors are attached with screws. In the depicted embodiment the connectors are formed as a single piece in a two-piece injection mold.

Figure: 1