

Title (en)

ENVIRONMENTAL CONTROL SYSTEM INCORPORATING A CATALYTIC REACTOR FOR THE DECOMPOSITION OF OZONE

Title (de)

UMGEBUNGSLUFTREGELEINRICHTUNG MIT EINEM EINGEBAUTEN KATALYTISCHEN OZONZERSETZUNGSREAKTOR

Title (fr)

SYSTEME DE CLIMATISATION INCORPORANT UN REACTEUR CATALYTIQUE POUR LA DECOMPOSITION DE L'OZONE

Publication

EP 0944426 A1 19990929 (EN)

Application

EP 97938381 A 19970818

Priority

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Abstract (en)

[origin: WO9806480A1] An environmental control system for use in a transportation machine, with the system being effective for receiving and conditioning a heated, ozone-containing airstream prior to delivering the airstream to a habitable space within the machine. The system comprises a catalytic reactor (74) including a housing and a core structure disposed within a generally cylindrical portion of the housing. The core structure is made of a catalytically-active metal alloy which is effective for decomposing at least a portion of the ozone present in the air as the ozone-containing air flows between the inlet end and outlet end of the core structure. The catalytically-active metal alloy comprises a silver-containing metal alloy and may comprise an alloy having silver and copper as the principle constituents. The catalytically-active metal alloy may optionally be thermally activated for use in low temperature applications. The core structure is brazed to the housing of the reactor and may comprise a plurality of fin assemblies, each configured as an annular ring, which are generally concentrically disposed relative to one another about an axially extending centerline axis of the reactor, and with each of the fin assemblies being brazed to radially adjacent ones of the fin assemblies so as to prevent nesting between radially adjacent pairs of the fin assemblies. The system may further include at least one heat exchanger disposed downstream of the catalytic reactor for the purpose of cooling the airstream discharging from the reactor prior to delivering the airstream to the habitable space of the machine.

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