

Air washer for removing volatile organic compounds and microparticles



Environmental
technology

Description

This invention relates to a washer that cleans the air of volatile organic compounds and microparticles. The washer consists of a column with a number of perforated discs inside it and of an exhaust fan for sending waste fumes and microparticles to a column reactor. While an aqueous suspension - which may be a mixture of a microporous material, natural zeolite or iron oxide nanoparticles - passes through the spinal discs, the polluted air is injected upstream. Volatile organic compounds and contaminated air microparticles are adsorbed by the aqueous suspension and can be re-used.

Application

Burnt oil vapors, dusts (rubber car tires, truck linings dust, dirt, microorganisms, etc.) and volatile organic compounds (VOCs), contribute significantly to air pollution in cities.

Unlike current air washers, which require a power unit, the prototype developed by the inventor simultaneously extracts and washes contaminated air.

In addition, residues retained as fat burned oil could be reused after treatment, either as a lubricant or for some other application.

Air purification, i.e. removing unwanted contaminants from a gas stream using a liquid to wash unwanted pollutants will become necessary when tighter pollution rules are implemented.

Stage of development

Experimental prototype.

IP status

Solicitud de patente No. MX/a/2014/001909

Inventors

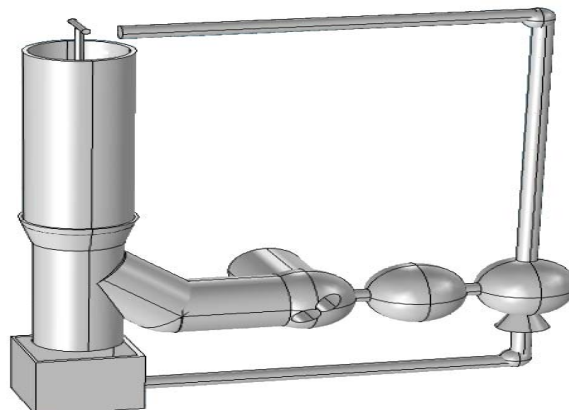
Dr. Raúl Suárez Parra
(Instituto de Energías Renovables)

Market potential

It is expected that the demand for air purification equipment in the US (business segments and consumers) will grow in the next years. In Mexico, the commercial potential depends on the implementation of tighter rules to combat environmental pollution.

Transferring conditions

- ✓ Technological development agreement (optional).
- ✓ Licensing (includes front payment and royalties)



Contacto UNAM:

UNAM Contact:

Ing. César León
cesar.leon@unam.mx
+52 (55) 56 58 56 50
Ext. 208

La información de esta ficha es propiedad de la Universidad Nacional Autónoma de México. Únicamente con fines informativos.

The information in this document is property of the Universidad Nacional Autónoma de México. Informational purposes only.

Technologías UNAM
UNAM Technologies