

SYSTEM OF CLEARING OF BURNT GASES

Description

Energy reception has an intermediate phase which consists in conversion of chemical energy in thermal, by direct burning. Burning process is accompanied by formation of solid particles which can have the sizes from nano up to micro metres. After burning these particles are thrown out in atmosphere through chimneys. It leads to environmental contamination, formation of harmful substances which negatively influence health of people. Technical solutions which are used now for clearing of mass of the burnt gases thrown out in atmosphere, do not solve in full a problem of clearing of gases from solid particles and microparticles.

Schemes of a damp filtration of the burnt gases provide clearing of solid particles at level of 98 %. For the purpose of increase of this level it is offered to include the generator of acoustic waves in confuser of the filter for formation of some vertical movements in a point of crossing of streams of the burnt gases and damp air. Air consumption makes 2-5 % from volume of the processed gas. The given technology allows to lower emissions in atmosphere on 1.5 % in comparison with classical schemes. Level of clearing of gas to 99.7 % will allow to raise applications of the given technical solution.

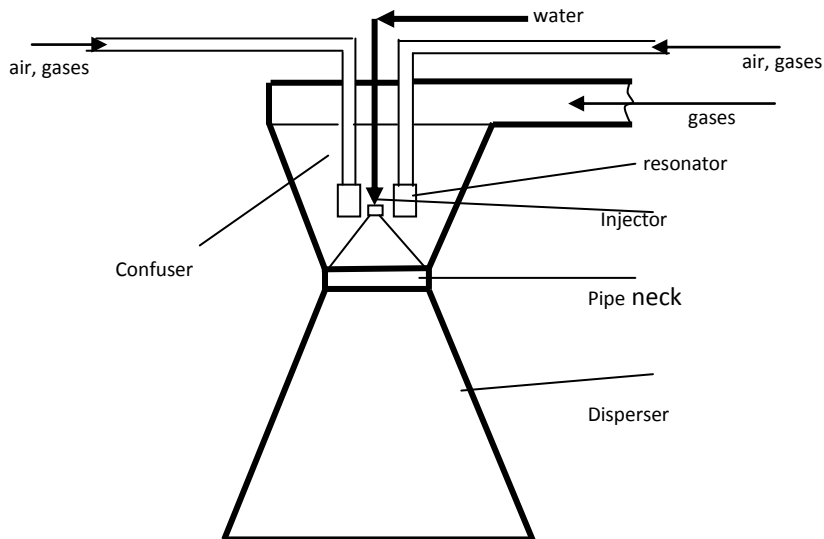


Fig.1. System of clearing of burnt gases

In order to exclude formation of a condensate it is provided additional heating of target gases after a filtration. It promotes to protect the equipment from corrosion.

Innovative Aspect and Main Advantages

These systems which are a little studied provide high level of a filtration. However, essential noise of the resonator established in confuser of the damp filter is registered.

The temperature of target gases after Venture pipe, at inclusion resonance system becomes hardly less than without acoustic system. The given technical solution is characterized by improvement of an intensification of an exchange of mass and temperatures in an acoustic field. The main problem of this solution consists in the raised noise level of these resonators which reaches 140Db and insignificant increase of aerodynamic resistance in the filtering device to 127 mm of a mercury column.

Stage of Development

The elaboration is protected by the patent of Republic of Moldova, N3990.