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(54) Title: RIGID ELECTRODE IONIZATION FOR PACKED BED SCRUBBERS

(57) Abstract: An ionizing particulate scrubber is provided for the removal of particulate from a gaseous exhaust stream, said scrubber comprising two sections: a charging section and a collection section. The charging or ionizing section comprises one or more cylindrical tubular ground chambers each with a rigid threaded rod electrode extending through the center thereof. A transformer/rectifier (T/R) is provided to supply high voltage DC power to the electrode such that the cylindrical tubular ground chambers act as the ground to enable a corona to form on the threaded rod electrode. As the gas stream passes through the current flowing from the electrode to the cylindrical tubular ground chambers walls, the particulate contained within the stream is electrostatically charged. The collection system comprises either a fixed or fluid bed packed section which is constantly irrigated from above. Ground rods in the packing and liquid sump allow the entire section to act as a grounded collector for the charged particulate. The gas stream and charged particulate are immediately sent from the charge section to the collection section of the system, and clean gas is then passed through an entrainment separator section to remove liquid droplets.



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