

Title (en)

Apparatus for charging particles in a gas stream and collecting the particles therefrom.

Title (de)

Apparat zur Aufladung von Teilchen in einem Gasstrom und zur Sammlung der Teilchen daraus.

Title (fr)

Appareil pour charger des particules dans un courant de gaz et recueillir celles-ci.

Publication

EP 0019464 A1 19801126 (EN)

Application

EP 80301590 A 19800515

Priority

- US 4025779 A 19790518
- US 4025879 A 19790518
- US 4025979 A 19790518
- US 4026079 A 19790518

Abstract (en)

Apparatus for electrically charging particles in a gas stream comprises an ionizer having at least one plate (19) for connection to one terminal of a high voltage unidirectional current source and a plurality of needles forming at least one corona discharge electrode (21) for connection to the other terminal of said source. For collecting the charged particles, the apparatus includes, downstream of the ionizer, a non-corona deflector electrode (23) for connection to the terminal of the high voltage source having the same polarity as the charge on the particles, and a collecting plate which can be a continuation of plate (19). Preferred embodiments of the invention include circuitry that in combination with the ionizer quenches arcs while maintaining the voltage across the ionizer. A further preferred feature is the inclusion of a wash header by means of which the collecting plate can be continuously irrigated. The apparatus is operated with a voltage gradient in the ionizer of 6KV/cm or higher, and a corona current between the needles and plate (19) having a density of at least 4 ma/m<2>.

IPC 1-7

B03C 3/38; **B03C 3/40**; **B03C 3/68**

IPC 8 full level

B03C 3/38 (2006.01); **B03C 3/40** (2006.01); **B03C 3/68** (2006.01)

CPC (source: EP)

B03C 3/38 (2013.01); **B03C 3/40** (2013.01); **B03C 3/68** (2013.01)

Citation (search report)

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Designated contracting state (EPC)

AT BE DE FR GB IT NL SE

DOCDB simple family (publication)

EP 0019464 A1 19801126; **EP 0019464 B1 19840208**; BR 8003092 A 19801223; CA 1135328 A 19821109; DE 3066477 D1 19840315; ES 491478 A0 19810601; ES 8105585 A1 19810601; NO 801464 L 19801119

DOCDB simple family (application)

EP 80301590 A 19800515; BR 8003092 A 19800516; CA 352095 A 19800516; DE 3066477 T 19800515; ES 491478 A 19800514; NO 801464 A 19800516