Title (en)

RANDOM DROPLET LIQUID JET APPARATUS AND PROCESS

Publication

EP 0196074 A3 19870408 (EN)

Application

EP 86104112 A 19820204

Priority

US 23132681 A 19810204

Abstract (en)

[origin: EP0196074A2] Fluid or liquid jet marking apparatus and process wherein the treating fluid or liquid (10) is in the form of ink, dyestuff or other printing, marking or coloring medium, is delivered under pressure to an array of jet orifices (14) from which the medium issues continuously as streams (16) that break randomly into discrete droplets in flight. The moving random droplets are selectively charged as they pass through a selectively energizable electrostatic field (18). The paths of charged droplets are controlled by a deflection means (20) which establishes a second electrostatic field through which the droples pass. Depending on whether the droplets are charged, they are either caught by a collector (22), or impinge on a receiving substrate such as a textile, paper or any other desired medium, product or substance. In the apparatus, the streams (16) break up randomly into droplets. Since the apparatus is not provided with a separate stimulator, vibrator or perturbation device, the orifice plate can have virtually an unlimited cross-machine length. It has been found that by controlling certain equipment parameters, such random droplet brakup can occur within a narrow distribution around a mean droplet size to produce results very much the same as with perturbed systems that use separate, regularly cyclical varicosity inducing means, and in many cases are superior to perturbed systems in a large variety of applications as the length of the orifice plate is not limited in size. The undesirable effects of droplet to droplet size and spacing variation become narrowed with increased pressure on the fluid or liquid supply and decreased diameter of the jet orifices.

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B41J 3/04

IPC 8 full level

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CPC (source: EP KR)

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Citation (search report)

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Designated contracting state (EPC)

AT BE CH DE FR IT LI LU NL SE

DOCDB simple family (publication)

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