Title (en)

A THERMALLY ACTUATED INK JET

Title (de)

THERMISCH BETÄTIGTER TINTENSTRAHL

Title (fr)

JET D'ENCRE A COMMANDE THERMIQUE

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Abstract (en)

[origin: WO9903681A1] Ink jet printer ejection nozzle (2904) has ink drop (2915) ejected by motion (2914) of thermal actuator bending when heated by current flowing through it. 29 embodiments are disclosed where flaps, paddles or nozzle chamber walls are integrally or remotely actuated by thermal bending to produce an ink drop at the nozzle, or where thermal actuators move shutters to open nozzles allowing ink under cyclic pressure to form a drop, or where a thermal actuator unlatches a magnetic flap allowing it to move by magnetic pulse to produce an ink drop. The thermal bend actuators comprise multi-layer metals or metals layered with or embedded in high coefficient of thermal expansion materials. Methods of manufacturing arrangements or arrays of these nozzles as micro electromechanical systems using planar monolithic depositing, lithographic and etching processes are disclosed. Includes 195 pages of description and 681 figures, including 47 page summary of ink jet technology.

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