

Title (en)

Integral thin film injection system for thermal ink jet heads and methods of operation.

Title (de)

Integrales Dünnschicht-Injektionssystem für einen thermischen Tintenspritzdruckkopf und Arbeitsmethoden.

Title (fr)

Système d'injection intégral à couches minces pour une tête imprimante à projection thermique et méthodes d'opération.

Publication

EP 0317171 A2 19890524 (EN)

Application

EP 88310572 A 19881110

Priority

US 12030087 A 19871113

Abstract (en)

A novel thermal ink jet printhead and related methods of operation are described. Methods of manufacture of the printhead wherein multiple heater resistors (18,20) are connected in series between a source of ink supply (10) and an output ink ejection orifice (24). A primary heater resistor (20) is located in an ink ejection chamber (16) and adjacent an output ink ejection orifice (24). This resistor (20) propels ink away from the printhead, whereas another heater resistor (18) (or resistors) is removed from the primary heater resistor (20) and is located in an adjacent ink injection chamber (14), and is operative to inject ink toward the primary heater resistor (20). In this manner, ink ejection operational frequency is increased and cavitation wear on the heater resistors (20) is minimized. Simultaneously, hydrodynamic back pressure in the ink ejection chamber (16) is reduced, and control over ink drop size and viscosity is improved.

IPC 1-7

B41J 3/04; **H01L 49/02**

IPC 8 full level

B41J 2/05 (2006.01); **B41J 2/14** (2006.01)

CPC (source: EP)

B41J 2/14056 (2013.01); **B41J 2/14129** (2013.01); **B41J 2002/14387** (2013.01)

Cited by

US6499832B2; US7101024B2; US6726308B2; EP0894625A3; US6902257B2; US7011392B2; EP0465071A3; EP0507134A3; KR100460244B1; EP0955166A1; US6126277A; CN100346969C; EP0492638A3; EP0786343A3; EP1195253A4; EP2598334A4; EP1447222A1; CN110682683A; EP1125746A1; US6146915A; EP0863005A1; US6155674A; EP0899109A3; US6102530A; AU752431B2; CN1299905C; US7263773B2; US6789880B2; US7252776B2; US6375309B1; US6249295B1; WO0208122A1; US6676244B2; US6676844B2; US6652077B2; US11260668B2; US6471338B2; US6209991B1; US7344227B2; US7195341B2; US6561625B2; US6868605B2; WO9937486A1; US7275308B2; US6585355B2; EP1221374A2; US6478408B2; EP1149705A1; US6685846B2; US11642891B2; EP1174268A1; US6533399B2; US6749762B2; EP1172212A2; KR100563360B1

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 0317171 A2 19890524; **EP 0317171 A3 19900718**; JP H01156075 A 19890619

DOCDB simple family (application)

EP 88310572 A 19881110; JP 28561488 A 19881111