

Title (en)

COLD WEATHER LOW FLOW MINIATURE SPRAY NOZZLE ASSEMBLY AND METHOD

Title (de)

KALTWETTER-MINIATURSPRÜHDÜSENANORDNUNG MIT GERINGEM DURCHFLUSS UND VERFAHREN

Title (fr)

ENSEMBLE BUSE DE PULVÉRISATION MINIATURE À FAIBLE ÉCOULEMENT PAR TEMPS FROID ET PROCÉDÉ

Publication

EP 3743317 A1 20201202 (EN)

Application

EP 19704929 A 20190123

Priority

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- US 2019014746 W 20190123

Abstract (en)

[origin: WO2019147668A1] A low flow compact spray head design for cleaning applications, especially for camera lens wash includes a miniature spray nozzle head (200) which is about 5 mm in diameter or less for a single direction spray nozzle and about 8 mm in diameter or less for a nozzle with multiple sprays. The washer fluid is fed from the bottom of nozzle along a flow axis and is separated into two flows via two power nozzles (220a, 220b) or inlets which turn the flows 90° to become opposing jets impinging upon each other inside an interaction region (230). Uniform stream lines are generated by the two direct facing jets and converge at the nozzle throat to become a uniform spray fan, which is on a plane perpendicular to the axis of cylindrical nozzle head (200). This fluidic circuit design enables a miniature size low flowrate nozzle to operate well consistently with low flow rate (e.g., a flow rate of about 150 mL/min to about 300 mL/min at 25 psi, or even a flow rate of about 250 mL/min at 25 psi or above, at a viscosity of about 25 CP) at cold temperate (-4°F or lower) with 50 percent ethanol. This nozzle design is capable of generating two or more different oriented spray fans (e.g., fans spraying in opposing directions) from one single nozzle.

IPC 8 full level

B60S 1/52 (2006.01); **B05B 1/04** (2006.01); **B05B 1/14** (2006.01); **B08B 3/02** (2006.01)

CPC (source: EP)

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Citation (search report)

See references of WO 2019147668A1

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