

Title (en)
A DEVICE FOR MANIPULATING FLUIDS

Title (de)
VORRICHTUNG ZUR MANIPULATION VON FLÜSSIGKEITEN

Title (fr)
DISPOSITIF DE MANIPULATION DE FLUIDES

Publication
EP 4308278 A1 20240124 (EN)

Application
EP 21931371 A 20210318

Priority
FI 2021050194 W 20210318

Abstract (en)
[origin: WO2022195155A1] The device for manipulating fluids comprises a curved nozzle (105) with curved inner surfaces, a throttle section (109) for ensuring an extreme high meeting probability for active molecules, a suspension section (104) for the desirable clarification reactions and disturbance isolation, and a tube section for a replacement dissolving of the clarified fluid. The curved nozzle (105) comprises at least two nozzle channels (105A, 105B), each channel having leading (105C) and trailing (105D) edges and a curved shape towards the flow between said leading and trailing edges (105C, 105D), so the convex shape towards the main flow for generating a pressure difference within the flows through the curved nozzle, the pressure difference high enough for soluble ingredients separation in the fluid. The cross area of the channel (105A, 105B) is smaller at the leading edge (105C) than at the trailing edge (105D), thereby providing a pressure difference between said leading and trailing edges (105C, 105D) and accelerated flows through the curved nozzle channels (105C) in use, so to provide a low pressure area (106) around and downstream of the leading edge (105C), thereby causing at least a separation of soluble ingredients of the fluid in use due to the flow of the first fluid through the nozzle. In particularly, the device causes a separation of soluble ingredients of the fluid into the middle of the fluid flow stream, activation of molecules in the fluid, clarification reactions between the activated molecules and the second fluid, and replacement dissolving in the clarified fluid.

IPC 8 full level
B01F 25/30 (2022.01); **B01F 25/40** (2022.01); **F15D 1/02** (2006.01)

CPC (source: EP KR)
B01D 19/0094 (2013.01 - EP KR); **B01F 23/232** (2022.01 - KR); **B01F 23/237611** (2022.01 - KR); **B01F 25/31242** (2022.01 - EP KR); **B01F 25/4333** (2022.01 - EP KR); **B01F 25/4338** (2022.01 - EP KR)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
WO 2022195155 A1 20220922; EP 4308278 A1 20240124; KR 20230173106 A 20231226

DOCDB simple family (application)
FI 2021050194 W 20210318; EP 21931371 A 20210318; KR 20237035661 A 20210318