

Title (en)  
Injector mixer under pressure.

Title (de)  
Injektormischer unter Druck.

Title (fr)  
Injecteur mélangeur sous pression.

Publication  
**EP 0305251 A1 19890301 (FR)**

Application  
**EP 88402000 A 19880801**

Priority  
FR 8711273 A 19870807

Abstract (en)  
[origin: JPH01159038A] PURPOSE: To increase a flow rate and to uniformly inject air bubbles to liquid by supplying air toward a tangent direction by an air injection space which is parallel and is perpendicular to pressurized liquid inlet conduits and forming an inlet conduit, a mixing cylinder and an outflow conduit to the respectively specified sizes. CONSTITUTION: This mixer is provided with a pressurized liquid supplying means, an atm. air supplying means 9 and at least one inlet conduits 3 and is provided with a converging inflow conduit 6, the air injection space 8, a cylindrical mixing cylinder 7 and a diverging truncated outflow conduit 5 in this order as the component elements of the respective inlet conduits 3. The air injection space 8 is formed flat and perpendicular to the ordinate line 24 of the inlet conduits and supplies the air toward the tangent direction. The diameter 13 of the mixing cylinder 11 is constant and is slightly larger than the diameter 14 of the inflow conduit 6. The length of the mixing cylinder 11 is set much larger than the diameter 13 and to about 4 to 9 times and the length of the outflow conduit 5 is set equal to or longer than the length of the cylinder 11. The diversion angle  $\alpha$  of the truncated part is set at about 1 to 3 deg..

Abstract (fr)  
L'invention concerne un injecteur de liquide multiple composé de plusieurs tubes d'injection 2 élémentaires identiques, disposés en couronne autour d'un tube central. Chaque tube 2 comporte une conduite d'entrée 3 elle-même comprenant un tronc de cône 6 convergent et un cylindre 7, suivie d'une zone d'aération 4 comprenant une chambre d'aération 8 alimentée tangentiellement par une conduite 9 perpendiculaire aux tubes 2, un entonnoir 10 de centrage du jet, suivi d'un cylindre de mélange 11, et enfin une conduite de sortie divergente 12.

IPC 1-7  
**B01F 5/04**

IPC 8 full level  
**B01F 3/04** (2006.01); **B01F 5/00** (2006.01); **B01F 5/04** (2006.01); **C02F 1/24** (2006.01); **D21C 5/02** (2006.01)

CPC (source: EP US)  
**B01F 25/3121** (2022.01 - EP US); **Y10S 261/75** (2013.01 - EP US)

Citation (search report)

- [X] FR 2521869 A1 19830826 - DEBRECENI MEZOEGAZDASAGI [HU]
- [A] US 4210166 A 19800701 - MUNIE JULIUS C [US]
- [A] GB 1385166 A 19750226 - POPOV V F
- [A] GB 802691 A 19581008 - GASKELL & CHAMBERS LTD
- [A] FR 2459679 A1 19810116 - MATINCENDIE SA
- [A] CH 585064 A5 19770228 - LENZBURG SAUERSTOFFWERK AG
- [A] GB 577397 A 19460516 - HENRY ALFRED ERNEST TALLEY
- [A] DE 2345246 B1 19740509 - BRAUKMANN HEINRICH

Cited by  
EP0715018A1; EP1234611A3; US5650044A; US5979665A; EP2128452A1; FR2727441A1; US5624609A; US6843471B2; US6197153B1; WO2016193604A1; WO2010149958A3; WO2021204306A1

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