

Title (en)  
A MICROBUBBLE GENERATOR

Title (de)  
MIKROBLÄSCHENGENERATOR

Title (fr)  
GÉNÉRATEUR DE MICRO-BULLES

Publication  
**EP 2558189 A4 20131002 (EN)**

Application  
**EP 11769190 A 20110418**

Priority  
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Abstract (en)  
[origin: WO2011129775A1] A microbubble generator comprising a pump configured to mix a liquid and a gas to form a pressurized gas-liquid mixture therein; a contact chamber in fluid connection with the pump and configured to enhance dissolution of the gas in the pressurized gas- liquid mixture therein; and a valve in fluid connection with the contact chamber and configured to discharge a microbubble emulsion comprising the liquid and microbubbles of the gas.

IPC 8 full level  
**B01D 17/02** (2006.01); **B01D 19/00** (2006.01); **B01D 61/20** (2006.01); **B01D 65/00** (2006.01); **B01D 65/08** (2006.01); **B01F 25/60** (2022.01); **B03D 1/02** (2006.01); **C02F 1/24** (2006.01); **C02F 1/44** (2006.01); **C02F 1/72** (2006.01); **C02F 1/74** (2006.01); **C02F 1/78** (2006.01); **C02F 3/12** (2006.01); **C02F 7/00** (2006.01); **C02F 1/66** (2006.01); **C02F 103/00** (2006.01); **C02F 103/30** (2006.01); **C02F 103/32** (2006.01); **C02F 103/42** (2006.01)

CPC (source: EP US)  
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Citation (search report)  
• [X] US 5759408 A 19980602 - JAERVENPAAE VILJO [FI]  
• [X] DE 102008033780 A1 20100121 - KURTZE INGOLF [DE]  
• [X] DE 202008004126 U1 20080828 - TENG MIN CHIEN [TW]  
• [X] DE 10251923 A1 20040519 - FAN SEPARATOR GMBH [DE]  
• See references of WO 2011129775A1

Cited by  
CN106927558A; US10654732B2

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