

Title (en)  
SUPER-MICRO BUBBLE GENERATION DEVICE

Title (de)  
VORRICHTUNG ZUR ERZEUGUNG VON SUPERMIKROBLASEN

Title (fr)  
DISPOSITIF DE PRODUCTION DE SUPER-MICROBULLES

Publication  
**EP 2460582 A4 20151028 (EN)**

Application  
**EP 10804452 A 20100728**

Priority  
• JP 2009177693 A 20090730  
• JP 2010062705 W 20100728

Abstract (en)  
[origin: WO2011013706A1] A super-micro bubble generation device which can generate super-micro bubbles using a simple method and can be installed by a method which provides a higher degree of freedom of installation to enable the device to be designed so as to be suitable for a place where the device is to be installed and to meet functional requirements. A super-micro bubble generation device is provided with a compressor (2) for delivering gas under pressure, and also with a bubble generation medium (3) for discharging the gas, which has been delivered under pressure, as super-micro bubbles into liquid. The bubble generation medium (3) consists of a high-density compound which is an electrically conductive substance. The super-micro bubble generating device is also provided with a liquid jetting device (4) for jetting liquid in the direction substantially perpendicular to the direction in which the bubble generation medium (3) discharges the super-micro bubbles, said liquid being the same kind of liquid as the liquid into which the super-micro bubbles are discharged.

IPC 8 full level  
**B01F 5/02** (2006.01); **B01F 3/04** (2006.01)

CPC (source: EP US)  
**B01F 23/23123** (2022.01 - EP US); **B01F 23/23124** (2022.01 - EP); **B01F 23/231265** (2022.01 - EP); **B01F 23/2373** (2022.01 - EP US); **B01F 25/21** (2022.01 - EP)

Citation (search report)  
• [Y] US 4522151 A 19850611 - ARBISI DOMINIC S [US], et al  
• [Y] JP 2007260529 A 20071011 - IJUIN KENJI  
• [A] GB 1362789 A 19740807 - BRITISH OXYGEN CO LTD  
• [A] JP 2008132437 A 20080612 - KUBOTA KK  
• [A] WO 9209360 A1 19920611 - ATOMAER PTY LTD [AU]  
• [Y] JP 2006061817 A 20060309 - JFE ENG KK  
• See references of WO 2011013706A1

Cited by  
WO2022117598A1; WO2022200391A1; WO2023214041A1

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 SE SI SK SM TR

DOCDB simple family (publication)  
**WO 2011013706 A1 20110203**; DK 2460582 T3 20200817; EP 2460582 A1 20120606; EP 2460582 A4 20151028; EP 2460582 B1 20200624; ES 2807880 T3 20210224; PL 2460582 T3 20201116

DOCDB simple family (application)  
**JP 2010062705 W 20100728**; DK 10804452 T 20100728; EP 10804452 A 20100728; ES 10804452 T 20100728; PL 10804452 T 20100728