

## Title (en)

METHOD AND DEVICE FOR REDUCING BIOFOULING ON THE MEMBRANES OF PRESSURE-DRIVEN MEMBRANE SEPARATION PROCESSES

## Title (de)

VERFAHREN UND VORRICHTUNG ZUR VERMINDERUNG VON BIOFOULING AN MEMBRANEN DRUCKGETRIEBENER MEMBRANTRENNVERFAHREN

## Title (fr)

PROCÉDÉ ET DISPOSITIF DE RÉDUCTION DU BIO-ENCRASSEMENT SUR MEMBRANES DANS UN PROCESSUS DE SÉPARATION À MEMBRANES SOUS PRESSION

## Publication

**EP 2197569 A1 20100623 (DE)**

## Application

**EP 08804591 A 20080923**

## Priority

- EP 2008062672 W 20080923
- AT 15572007 A 20071003

## Abstract (en)

[origin: WO2009043760A1] The invention relates to a method and a device for reducing biofouling on membranes during the purification of an aqueous medium by way of pressure-driven membrane separation processes. Ingredients causing biofouling are removed from the aqueous medium to be purified by attachment thereof to sacrificial filters (3) that are arranged in the supply line (2) to the pressure-driven membrane separation installation (4).

## IPC 8 full level

**B01D 61/04** (2006.01); **B01D 61/16** (2006.01); **B01D 65/08** (2006.01); **C02F 1/44** (2006.01)

## CPC (source: EP)

**B01D 61/025** (2013.01); **B01D 61/027** (2013.01); **B01D 61/04** (2013.01); **B01D 61/145** (2013.01); **B01D 61/147** (2013.01); **B01D 61/16** (2013.01); **B01D 65/08** (2013.01); **B01D 2311/04** (2013.01); **B01D 2321/30** (2013.01); **C02F 1/441** (2013.01); **C02F 1/444** (2013.01); **Y02A 20/131** (2017.12)

## C-Set (source: EP)

1. **B01D 2311/04** + **B01D 2311/2626** + **B01D 2311/2649**
2. **B01D 2311/04** + **B01D 2311/2649**

## Citation (search report)

See references of WO 2009043760A1

## Citation (examination)

- GIMBEL ET AL: "Grundlagen der Tiefenfiltration", 1 January 2004, WASSERAUFBEREITUNG - GRUNDLAGEN UND VERFAHREN / DEUTSCHER VEREIN DES GAS- UND WASSERFACHES; [LEHR- UND HANDBUCH WASSERVERSORGUNG], MÜNCHEN ; WIEN : OLDENBOURG, 1992-, DE, PAGE(S) 174 - 183, ISBN: 3-486-26365-X, XP008163940
- NAHRSTEDT A ET AL: "From basic investigations to pilot plant tests of depth filtration with permeable synthetic collectors", WATER SCIENCE AND TECHNOLOGY: WATER SUPPLY, IWA PUBLISHING, GB, vol. 1, no. 2, 1 January 2001 (2001-01-01), pages 141 - 150, XP008175757, ISSN: 1606-9749
- WOLFGANG UHL ET AL: "Improving simultaneous removal of BDOC and turbidity in rapid filters by application of permeable synthetic collectors", vol. 51, no. 4, 1 January 2002 (2002-01-01), pages 229 - 237, XP008175758, ISSN: 0003-7214, Retrieved from the Internet <URL:http://www.iwaponline.com/jws/051/jws0510229.htm>
- GIMBEL R ET AL: "Removal of different kinds of particles in deep bed filters consisting of permeable synthetic collectors (PSC)", WATER SCIENCE & TECHNOLOGY; THE ROLE OF PARTICLE CHARACTERISTICS IN SEPARATION PROCESSES, SELECTED PROCEEDINGS OF THE IAWQ/IWSA JOINT SPECIALIST GROUP ON PARTICLE SEPARATION, 4TH INTERNATIONAL CONFERENCE ON THE ROLE OF PARTICLE CHARACTERISTICS IN SEP, vol. 36, no. 4, 1 January 1997 (1997-01-01), pages 249 - 258, XP008175759, ISSN: 0273-1223, [retrieved on 19980724], DOI: 10.1016/S0273-1223(97)00441-1
- T. MULDER ET AL: "Application of permeable collectors in deep-bed filtration", SEPARATIONS TECHNOLOGY, vol. 1, no. 3, 1 January 1991 (1991-01-01), pages 153 - 165, XP055180822, ISSN: 0956-9618, DOI: 10.1016/0956-9618(91)80010-W
- T. MULDER ET AL: "Particle deposition in fibre balls: A basis to develop synthetic collectors for deep-bed filters", COLLOIDS AND SURFACES, vol. 39, no. 1, 1 January 1989 (1989-01-01), pages 207 - 226, XP055180554, ISSN: 0166-6622, DOI: 10.1016/0166-6622(89)80188-X

## Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

## Designated extension state (EPC)

AL BA MK RS

## DOCDB simple family (publication)

**WO 2009043760 A1 20090409**; AT 505282 A4 20081215; AT 505282 B1 20081215; CN 101861200 A 20101013; CN 101861200 B 20130102; EP 2197569 A1 20100623; SA 08290598 B1 20121124; TN 2010000147 A1 20111111

## DOCDB simple family (application)

**EP 2008062672 W 20080923**; AT 15572007 A 20071003; CN 200880110275 A 20080923; EP 08804591 A 20080923; SA 08290598 A 20080921; TN 2010000147 A 20100405