

Title (en)  
WATER SOFTENING DEVICE

Title (de)  
WASSERENTHÄRTUNGSVORRICHTUNG

Title (fr)  
DISPOSITIF D'ADOUCCISSEMENT D'EAU

Publication  
**EP 3962867 A4 20221228 (EN)**

Application  
**EP 20929889 A 20200408**

Priority  
CN 2020083801 W 20200408

Abstract (en)  
[origin: WO2021203313A1] A water softening device includes a bottom wall, a top wall, a circumferential wall, an internal pipe and a water softening medium. The top wall includes a top toroid sieve for water to flow out. The circumferential wall includes a bottom inlet sieve for water to flow in. The internal pipe includes an internal channel and a throttling hole. The internal channel includes a first channel located below the throttling hole and a second channel located above the throttling hole. The first channel and the second channel are in fluid communication with each other via the throttling hole. The internal pipe includes at least one communicating slot to communicate the first channel and the annular space. The internal channel serves as a counter pressure regulator so that the water flow distribution can be evened in the water softening medium.

IPC 8 full level  
**C02F 1/42** (2006.01); **A47L 15/42** (2006.01); **B01J 47/022** (2017.01); **C02F 1/00** (2006.01)

CPC (source: CN EP)  
**B01J 47/022** (2013.01 - EP); **C02F 1/006** (2013.01 - EP); **C02F 1/42** (2013.01 - EP); **C02F 5/00** (2013.01 - CN); **A47L 15/4229** (2013.01 - EP); **C02F 2201/003** (2013.01 - EP); **C02F 2201/004** (2013.01 - EP); **C02F 2201/005** (2013.01 - EP); **C02F 2201/006** (2013.01 - EP); **C02F 2209/03** (2013.01 - EP); **C02F 2301/043** (2013.01 - EP); **C02F 2303/22** (2013.01 - EP); **C02F 2307/12** (2013.01 - EP)

Citation (search report)  
• [XAI] WO 2014004607 A1 20140103 - 3M INNOVATIVE PROPERTIES CO [US], et al  
• [XAI] EP 1136447 A1 20010926 - BARNSTEAD THERMOLYNE CORP [US]  
• [XAI] EP 2272801 A2 20110112 - AQUIS WASSER LUFT SYSTEME GMBH [CH]  
• [A] JP 2009131768 A 20090618 - INAX CORP  
• [A] US 3831754 A 19740827 - HESKETT D  
• [A] WO 2004101443 A1 20041125 - BIECHELE GUENTER [DE], et al  
• [A] US 2014144822 A1 20140529 - SENNINGER MARK M [US], et al  
• See also references of WO 2021203313A1

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 2021203313 A1 20211014**; CN 112351955 A 20210209; CN 112351955 B 20240514; EP 3962867 A1 20220309; EP 3962867 A4 20221228

DOCDB simple family (application)  
**CN 2020083801 W 20200408**; CN 202080001415 A 20200408; EP 20929889 A 20200408