

Title (en)

GRAVITY FILTER FILTERING DEVICE FOR SOFTENING AND PURIFYING DRINKING WATER

Title (de)

FILTERVORRICHTUNG FÜR SCHWERKRAFTFILTER ZUM ERWEICHEN UND REINIGEN VON TRINKWASSER

Title (fr)

DISPOSITIF DE FILTRATION À FILTRE GRAVITAIRE POUR ADOUCISSEMENT ET PURIFICATION D'EAU POTABLE

Publication

EP 4003919 A1 20220601 (EN)

Application

EP 20747116 A 20200709

Priority

- RU 2019123494 A 20190725
- IB 2020056454 W 20200709

Abstract (en)

[origin: WO2021014261A1] The invention is intended for softening and purifying drinking water and can be used to improve the quality of drinking water purification in household pitcher-type filters. A gravity filter filtering device is proposed for the softening and purification of drinking water, which comprises a fixing system for fixing the filtering device in the filter funnel, which has openings for inlet of water to be treated and outlet of air, a filter element made of porous block material in the form of a hollow vertical vessel having a porous or hermetically sealed bottom, and arranged therein, a layer of ion-exchange material and a treatment water flow distributor comprising a fixing element, wherein the layer of ion-exchange material is disposed between an inner surface of the filter element and the treatment water flow distributor which is in the form of a vertical or horizontal body having openings of a size that are smaller than the particle size of the ion-exchange material. The porous block material of the filter element is obtained by compression under heating of a mixture of powdered components comprising activated carbon particles and a polymer binder. The system for fixing the filtering device is connected to the filter element in a hermetically sealing manner. The technical result is a simplified design, while providing increased capacity for stable softening of water and while maintaining highly effective water purification.

IPC 8 full level

C02F 1/00 (2006.01); **B01D 27/02** (2006.01); **C02F 1/28** (2006.01); **C02F 1/42** (2006.01); **C02F 101/20** (2006.01); **C02F 101/36** (2006.01)

CPC (source: EP RU)

B01D 27/02 (2013.01 - RU); **C02F 1/003** (2013.01 - EP); **C02F 1/28** (2013.01 - RU); **C02F 1/42** (2013.01 - RU); **C02F 1/283** (2013.01 - EP); **C02F 1/42** (2013.01 - EP); **C02F 2001/425** (2013.01 - EP); **C02F 2101/20** (2013.01 - EP); **C02F 2101/36** (2013.01 - EP); **C02F 2201/006** (2013.01 - EP); **C02F 2303/22** (2013.01 - EP); **C02F 2307/04** (2013.01 - EP)

Citation (search report)

See references of WO 2021014261A1

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

DOCDB simple family (publication)

WO 2021014261 A1 20210128; EP 4003919 A1 20220601; RU 2708855 C1 20191211

DOCDB simple family (application)

IB 2020056454 W 20200709; EP 20747116 A 20200709; RU 2019123494 A 20190725