

Title (en)  
DRYING METHOD AND DEVICE FOR SLUDGE

Title (de)  
TROCKNUNGSVERFAHREN UND -VORRICHTUNG FÜR SCHLAMM

Title (fr)  
PROCÉDÉ ET DISPOSITIF DE DÉSHYDRATATION DE BOUES

Publication  
**EP 4054985 A4 20231108 (EN)**

Application  
**EP 20884881 A 20201106**

Priority  
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Abstract (en)  
[origin: WO2021089924A1] The application relates to a sludge drying method (100) according to one embodiment. The method comprises treating (116) sludge chemically in a chemical conditioning tank (248) for producing sludge flocs in the sludge, separating (120), in an electric dryer by means of an electric field, water present in the sludge from its solid material, and compressing (120), in the electric dryer, water mechanically out of the sludge. The method further comprises pretreating (112) the to-be-dried sludge with ultrasound for at least weakening the cell structure of the sludge, thereby enabling the internal water stored in sludge cells to be removed in the electric dryer.

IPC 8 full level  
**C02F 11/15** (2019.01); **B01D 61/56** (2006.01); **C02F 9/00** (2023.01); **C02F 11/121** (2019.01); **C02F 11/131** (2019.01); **C02F 11/143** (2019.01); **C02F 11/147** (2019.01); **F26B 1/00** (2006.01); **F26B 3/347** (2006.01); **F26B 5/02** (2006.01); **F26B 5/14** (2006.01); **G01N 21/3563** (2014.01); **C02F 11/123** (2019.01)

CPC (source: EP FI)  
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Citation (search report)  
• [A] EP 3539932 A1 20190918 - KUBINGER ULRICH [AT]  
• [A] US 2004084380 A1 20040506 - KICINSKI ANDREW J [US]  
• [A] CN 108911472 A 20181130 - UNIV HOHAI  
• [A] QIAN XU ET AL: "Characterization of the structure and interaction of sludge biosolids during the conditioning-electro-dewatering pro", COLLOIDS AND SURFACES A : PHYSIOCHEMICAL AND ENGINEERINGS ASPECTS, ELSEVIER, AMSTERDAM, NL, vol. 484, 31 July 2015 (2015-07-31), pages 108 - 117, XP029271965, ISSN: 0927-7757, DOI: 10.1016/J.COLSURFA.2015.07.056  
• See references of WO 2021089924A1

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