

Title (en)
FREEZE-DRYING PLANT

Title (de)
GEFRIERTROCKNUNGSANLAGE

Title (fr)
INSTALLATION DE LYOPHILISATION

Publication
EP 4063774 B1 20240410 (DE)

Application
EP 21211699 A 20211201

Priority
DE 202021101537 U 20210324

Abstract (en)
[origin: US2022307767A1] A freeze drying plant for drying products containing liquid has a vacuum chamber configured to receive the products. A reception device has at least one reception plate onto which the products can be applied. A cooling system has a fluid circuit configured to cool and/or to heat the products by a cooling fluid conducted in the fluid circuit. The reception plate has at least one closed fluid space that is connected to the fluid circuit and that cooling fluid flows through. At least one sound generator introduces ultrasound into the products during a drying phase, with the sound generator disposed in the fluid space and being able to be flowed around by cooling fluid.

IPC 8 full level
F26B 5/06 (2006.01); **F26B 5/02** (2006.01); **F26B 23/10** (2006.01)

CPC (source: CN EP US)
F26B 3/20 (2013.01 - EP); **F26B 5/02** (2013.01 - CN EP US); **F26B 5/06** (2013.01 - CN EP US); **F26B 9/06** (2013.01 - CN EP); **F26B 21/086** (2013.01 - CN); **F26B 23/10** (2013.01 - CN EP)

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

DOCDB simple family (publication)
DE 202021101537 U1 20210518; CN 115127308 A 20220930; EP 4063774 A2 20220928; EP 4063774 A3 20221026; EP 4063774 B1 20240410; EP 4063774 C0 20240410; HR P20240546 T1 20240705; PL 4063774 T3 20240701; US 2022307767 A1 20220929

DOCDB simple family (application)
DE 202021101537 U 20210324; CN 202210301624 A 20220324; EP 21211699 A 20211201; HR P20240546 T 20211201; PL 21211699 T 20211201; US 202217703404 A 20220324