

Title (en)
ACCESSIBLE COOLING SYSTEM, ESPECIALLY FOR CRYOPRESERVING BIOLOGICAL SAMPLES, AND METHOD FOR THE OPERATION THEREOF

Title (de)
BEGEHBARE KÜHLANLAGE, INSBESONDERE ZUR KRYOKONSERVIERUNG BIOLOGISCHER PROBEN, UND VERFAHREN ZU DEREN BETRIEB

Title (fr)
INSTALLATION FRIGORIFIQUE ACCESSIBLE À UNE PERSONNE DEBOUT ET DESTINÉE NOTAMMENT À LA CRYOCONSERVATION D'ÉCHANTILLONS BIOLOGIQUES, ET PROCÉDÉ POUR FAIRE FONCTIONNER UNE TELLE INSTALLATION

Publication
EP 2671034 A2 20131211 (DE)

Application
EP 12702189 A 20120201

Priority
• DE 102011010121 A 20110202
• EP 2012000451 W 20120201

Abstract (en)
[origin: CA2825234A1] A cooling system (1), especially for cryopreserving biological samples (2), comprises a cooling chamber (100) delimited by a bottom area (110), side walls (120), and a top area (130), and a cooling device (200) for cooling the cooling chamber (100) using liquid nitrogen (220). The bottom area (110) is designed for direct cooling using the liquid nitrogen, and the cooling chamber (100) is dimensioned such that an operator (3) can access and move around in the cooling chamber (100). The bottom area (110) has a platform (111) which is permeable to vapor of the liquid nitrogen (220) and forms a support zone for the operator (3). Methods for operating the cooling system are also described.

IPC 8 full level
F25D 3/10 (2006.01)

CPC (source: EP US)
A01N 1/0257 (2013.01 - EP); **F25D 3/10** (2013.01 - US); **F25D 3/102** (2013.01 - EP US); **F25D 13/04** (2013.01 - EP); **F25D 25/00** (2013.01 - EP US); **F25D 29/001** (2013.01 - EP US)

Citation (examination)
• US 3648474 A 19720314 - MOLINE SHELDON W
• US 3447334 A 19690603 - KIMBALL JOHN G
• See also references of WO 2012104080A2

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 102011010121 A1 20120802; **DE 102011010121 B4 20160901**; CA 2825234 A1 20120809; CA 2825234 C 20181127; CN 103459949 A 20131218; CN 103459949 B 20160601; EP 2671034 A2 20131211; JP 2014504716 A 20140224; US 2014000307 A1 20140102; WO 2012104080 A2 20120809; WO 2012104080 A3 20130124; WO 2012104080 A8 20121108

DOCDB simple family (application)
DE 102011010121 A 20110202; CA 2825234 A 20120201; CN 201280015818 A 20120201; EP 12702189 A 20120201; EP 2012000451 W 20120201; JP 2013552134 A 20120201; US 201213983342 A 20120201