

Title (en)

PORTABLE COOLING APPARATUS WITH REFRIGERANT LIQUID RECOVERY

Title (de)

TRAGBARE KÜHLVORRICHTUNG MIT KÜHLFLÜSSIGKEITSRÜCKGEWINNUNG

Title (fr)

APPAREIL DE REFROIDISSEMENT PORTABLE À RÉCUPÉRATION DE LIQUIDE RÉFRIGÉRANT

Publication

**EP 3412271 A1 20181212 (EN)**

Application

**EP 18176564 A 20180607**

Priority

IT 201700062432 A 20170607

Abstract (en)

Cooling apparatus 1, preferably for coffins, including a cooling circuit 2 of the type comprising a compressor 9, a condenser 10, one or more expansion valves 18, a heat exchanger 24 and a collection reservoir 14. The cooling apparatus 1 further comprises a cooling plate 3 removably connectable with fast-coupling with the circuit 2 and preferably of the disposable type, to carry out a heat exchange state with the inside of a coffin. The cooling plate 3 is composed of at least one serpentine 6 permanently installed in the coffin and pre-loaded with under pressure refrigerant fluid. The cooling circuit 2 further comprises: a control electronic system 33 incorporating a control unit of the functional states of the cooling circuit 2. Moreover, the cooling circuit 2 comprises a three-way solenoid valve 20 on a delivery duct 4 of the cooling plate 3 to allow a refrigerant liquid recovery from the cooling plate 3 at the end of the operative phase of the cooling apparatus 1 governed by the control system 33; as well as a unidirectional valve 32 placed between said three-way solenoid valve 20 and said heat exchanger 24 to prevent the backflow of refrigerant fluid in the recovery phase of said refrigerant fluid.

IPC 8 full level

**A61G 17/00** (2006.01); **F25D 19/02** (2006.01)

CPC (source: EP US)

**A61G 17/002** (2013.01 - EP US); **F25B 45/00** (2013.01 - EP); **F25D 15/00** (2013.01 - EP); **F25B 41/40** (2021.01 - EP US); **F25B 2400/19** (2013.01 - EP); **F25D 31/001** (2013.01 - EP); **F25D 2400/12** (2013.01 - EP)

Citation (applicant)

- EP 0230595 A1 19870805 - ZORSOL S A S DI ALBERTO CIPELL [IT]
- EP 0631097 A1 19941228 - NUOVA ZORSOL SRL [IT]
- US 2008229774 A1 20080925 - JEFFERS EDWARD [US], et al
- US 2017115042 A1 20170427 - CANTADORI ANDREA [IT]

Citation (search report)

- [AD] EP 0631097 A1 19941228 - NUOVA ZORSOL SRL [IT]
- [A] DE 2549922 A1 19770518 - NETHERY HOWARD J

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)

**EP 3412271 A1 20181212**; **EP 3412271 B1 20211103**; IT 201700062432 A1 20181207; PT 3412271 T 20220203

DOCDB simple family (application)

**EP 18176564 A 20180607**; IT 201700062432 A 20170607; PT 18176564 T 20180607