

Title (en)
DIRECT EXPANSION AIR-CONDITIONING UNIT FOR COOLING A TUNNEL

Title (de)
KLIMATISIERUNGSEINHEIT MIT DIREKTVERDAMPFUNG ZUR KÜHLUNG EINES TUNNELS

Title (fr)
UNITÉ DE CLIMATISATION À DÉTENTE DIRECTE POUR LE REFROIDISSEMENT D'UN TUNNEL

Publication
EP 3339128 B1 20210630 (EN)

Application
EP 16425116 A 20161222

Priority
EP 16425116 A 20161222

Abstract (en)
[origin: EP3339128A1] An air-conditioning unit (1) on a train car (4) for cooling a tunnel where trains run comprising: an inlet (10) for sucking air (HOT AIR) from exterior of the train car (4); a refrigerant circuit (7) having a first heat exchanger (12, 12s) operating as an evaporator when the train car (4) runs in a tunnel (3), a second heat exchanger (16, 16s) operating as a condenser when the train car (4) runs in a tunnel (3), an expansion device (29, 29s) which permits the expansion of the condensed fluid by the second heat exchanger (16, 16s), and a compressor (25, 25s); an outlet (13) for cooled air supplied to the exterior of the train car (4) in the tunnel (3); a fan (50) coupled with the first heat exchanger (12, 12s) and blowing the sucked air passed through the first heat exchanger (12, 12s) from the inlet (10) towards the outlet (13); and a heat collector (20) that receives air passing through the second heat exchanger (16, 16s) and stores the received thermal energy. (figure 1)

IPC 8 full level
B61D 27/00 (2006.01)

CPC (source: EP)
B61D 27/00 (2013.01); **B61D 27/0072** (2013.01)

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)
EP 3339128 A1 20180627; EP 3339128 B1 20210630

DOCDB simple family (application)
EP 16425116 A 20161222