Title (en)

METHOD FOR ADAPTING OPERATION PARAMETERS DURING DRYING IN A HEAT PUMP DRYER

Title (de)

VERFAHREN ZUR ANPASSUNG VON BETRIEBSPARAMETERN BEIM TROCKNEN IN EINEM WÄRMEPUMPENTROCKNER

Title (fr)

PROCÉDÉ POUR ADAPTER DES PARAMÈTRES DE FONCTIONNEMENT LORS DU SÉCHAGE DANS UN SÉCHOIR DE POMPE À CHALEUR

Publication

EP 3124680 B1 20180620 (EN)

Application

EP 15178434 A 20150727

Priority

EP 15178434 A 20150727

Abstract (en)

[origin: EP3124680A1] According to the invention a method for operating a heat-pump dryer (2) during a drying program is provided. The dryer comprises: a cabinet (4), a drum (16) arranged within the cabinet and being adapted to receive laundry (18) for drying the laundry within the drum using drying air (F), an air channel (20) adapted to guide the drying air from at least one air outlet (24) at the drum (16) to at least one air inlet (22) at the drum for providing an air circulation arrangement, a drying air fan (28) adapted to convey the drying air (F) through the air circulation arrangement, a heat pump system (44) comprising a first heat exchanger (32) adapted to heat the drying air, a second heat exchanger (34) adapted to cool the drying air for humidity condensation, and a compressor (36) adapted to circulate refrigerant through the first and second heat exchangers, a temperature sensor adapted to detect a refrigerant temperature (Tr) of the heat pump system (44), and a) a fan motor (70) adapted to drive the drying air fan (28) selectively in a first rotation direction (CW) or in a second rotation direction (CCW) or to drive the drying air fan selectively at least at a first rotation speed or at a second rotation speed, and a drum motor (30) adapted to drive the drum (16) selectively in a first rotation direction (CW) or in a second rotation direction (CCW), or b) a motor (30) adapted to drive in a synchronized manner the drying air fan (28) and the drum (16) selectively in a first rotation direction (CW) or in a second rotation direction (CCW). The method comprises: starting a drying program, monitoring the refrigerant temperature (Tr) of the heat pump system (44), and in dependency of the temperature (Tr) of the heat pump system, adapting at least one of: l) the temporal ratio of rotating the drum (16) in the first rotation direction (CW) to rotating the drum in the second rotation direction (CCW), m) the temporal ratio of rotating the drying air fan (28) in the first rotation direction (CW) to rotating the drying air fan in the second rotation direction (CCW), and n) the temporal ratio of rotating the drying air fan at the first rotation speed to rotating the drying air fan at the second rotation speed or changing rotating the drying air fan at the second rotation speed to rotating the drying air fan at the first rotation speed, wherein the first rotation speed is higher than the second rotation speed.

IPC 8 full level

D06F 58/20 (2006.01); **D06F 58/38** (2020.01)

CPC (source: CN EP US)

D06F 58/38 (2020.02 - CN EP US); D06F 25/00 (2013.01 - CN EP US); D06F 58/02 (2013.01 - CN EP US); D06F 58/206 (2013.01 - CN EP US); D06F 2101/14 (2020.02 - CN EP US); D06F 2101/20 (2020.02 - CN EP US); D06F 2103/04 (2020.02 - CN EP US); D06F 2103/06 (2020.02 - CN EP US); D06F 2103/10 (2020.02 - CN EP US); D06F 2103/32 (2020.02 - CN EP US); D06F 2103/34 (2020.02 - CN); D06F 2103/36 (2020.02 - CN EP US); D06F 2103/38 (2020.02 - CN EP US); D06F 2103/44 (2020.02 - CN); D06F 2103/50 (2020.02 - CN EP US); D06F 2105/24 (2020.02 - CN EP US); D06F 2105/26 (2020.02 - CN EP US); D06F 2105/46 (2020.02 - CN EP US); D06F 2105/52 (2020.02 - CN EP US)

Cited by

CN112941801A; EP3901356A4; CN113718500A; EP4083303A4

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 3124680 A1 20170201; **EP 3124680 B1 20180620**; CN 106436241 A 20170222; CN 106436241 B 20201124

DOCDB simple family (application)

EP 15178434 A 20150727; CN 201610601620 A 20160727