

Title (en)
HEAT PUMP LAUNDRY DRYING APPLIANCE WITH ENHANCED OPERATION FLEXIBILITY

Title (de)
WÄRMEPUMPENTROCKNER MIT VERBESSERTER, FLEXIBLERER BETRIEBSWEISE

Title (fr)
SÈCHE-LINGE À POMPE DE CHALEUR EN MODE D'OPÉRATION PLUS FLÉXIBLE ET PLUS EFFICACE

Publication
EP 3019655 B1 20190626 (EN)

Application
EP 13745362 A 20130709

Priority
EP 2013064499 W 20130709

Abstract (en)
[origin: WO2015003742A1] An appliance for drying laundry (100) comprising an appliance cabinet (110), a laundry treatment chamber (105) inside the cabinet, a drying air recirculation path for causing recirculation of the drying air into/out from the laundry treatment chamber, a drying air propeller (225) driven by a drying air propeller motor (240; 340f) for causing the drying air to recirculate along the drying air recirculation path, a drying air moisture condensing and heating system (205-220,270) located in the drying air recirculation path for dehydrating the moisture-laden drying air leaving the laundry treatment chamber and heating the dehydrated drying air before it re-enters into the laundry treatment chamber, wherein the drying air moisture condensing and heating system comprises a heat pump operating with a refrigerant fluid, the heat pump comprising a refrigerant fluid compressor (205) and a refrigerant fluid expansion device (220). The refrigerant fluid compressor is a variable-output compressor, capable of being driven to work at different compressor working modes, each compressor working mode corresponding to a respective compressor power consumption course and/or compressor rotational speed course and/or frequency course of the supply current/voltage of the compressor. The refrigerant fluid expansion device is a variable expansion device, controllable to provide different refrigerant fluid mass-flow rates. The appliance has a user interface (121) comprising a laundry drying cycle selector (205) operable by a user for selecting one out of a number of default laundry drying cycles (C1, C2, C3,..., Ck), and a control unit (245) adapted to control the machine operation, comprising commanding the compressor to work at a default output corresponding to the selected default laundry drying cycle, controlling the expansion device to provide a default refrigerant fluid mass-flow rate corresponding to the selected default laundry drying cycle, and commanding the drying air propeller motor to work at a default average speed corresponding to the selected default laundry drying cycle. The user interface comprises a command input means (255) operable by the user for imparting to the appliance a command in response to which the control unit: commands the compressor to work at a changed compressor output course with respect to the default output; controls the expansion device to provide a correspondingly changed refrigerant fluid mass-flow rate with respect to the default refrigerant fluid mass-flow rate corresponding to the selected default laundry drying cycle, and commands the drying propeller motor to work at a changed average speed with respect to the default average speed corresponding to the selected drying cycle.

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