

Title (en)  
Washer-dryer with a drying unit

Title (de)  
Waschtrockner mit einer Trocknungseinheit

Title (fr)  
Lave-sèche-linge doté d'une unité de séchage

Publication  
**EP 2439329 A1 20120411 (DE)**

Application  
**EP 10401174 A 20101008**

Priority  
EP 10401174 A 20101008

Abstract (en)

The washer-dryer (1) comprises a lye container (2) for receiving washing or rinsing liquid, where a drum driven by a motor (13) for receiving laundry to be treated is rotatably mounted in the container, a process air channel (20) for providing process air for drying the laundry, an additional secondary process air channel, and a control device. The process air channel comprises: a fan for generating the process air; an air-heating coil; a condensation channel (16), in which the fresh water is sprayed to withdraw the moisture from the process air by condensation; and a drying unit. The washer-dryer (1) comprises a lye container (2) for receiving washing or rinsing liquid, where a drum driven by a motor (13) for receiving laundry to be treated is rotatably mounted in the container, a process air channel (20) for providing process air for drying the laundry, an additional secondary process air channel, and a control device. The process air channel comprises: a fan for generating the process air; an air-heating coil; a condensation channel (16), in which the fresh water is sprayed to withdraw the moisture from the process air by condensation; a drying unit provided with adsorptive drying agents, where the process air flows through the drying unit; and an additional, separately controllable air heating coil for heating the drying agent for providing a desorption process to withdraw moisture from the drying unit. The drying unit is arranged in a form of a bypass channel region of the process air channel, where a part of the process air stream is passed through the drying unit by closure devices. A first end of the secondary process air channel opens into the lye container or at the lower end of the condensation channel, and a second end opens in the front region of the drum. The secondary air channel comprises a fan for providing the secondary air stream, and a heater for providing a desorption process to withdraw moisture from the drying unit. The drying agent is made from: zeolites in pelletized form or conical shape with a particle size of 1-6 mm in diameter; or an open pored, plastic, mineral or ceramic material in granulated form, monolithic body shape or pebble-shape. The channel end opening into the lye container or in the condensation channel is provided with an apparatus for preventing water entry in the secondary air channel. The fan is adapted to promote the process air in a first direction and further the process air in an opposite direction to pressurize the drying agents with heated air to provide the desorption process. The condensation channel is adapted to temporarily heat a portion of the washing or rinsing liquid during the desorption process. The control device is adapted to: switch on the heater during a washing phase and the fan during a drying phase to provide the desorption of the drying agent; and control the heating device and the blower for providing an absorption process of the drying agent. An independent claim is included for a method of operating a washer-dryer.

Abstract (de)

Die Erfindung betrifft einen Waschtrockner (1) mit einem Laugenbehälter (2) zur Aufnahme von Waschflüssigkeit, in dem eine mittels einem Motor (13) angetriebene Trommel (3) zur Aufnahme zu behandelnder Wäsche (8) drehbar gelagert ist, und mit einem Prozessluftkanal (20) zur Bereitstellung von Prozessluft (PL) zum Trocknen der Wäsche (8), der ein Gebläse (19) zum Erzeugen der Prozessluft (PL), ein Luft-Heizregister (21) und einen Kondensationskanal (16), in den Frischwasser eingesprüht werden kann, um durch Kondensation Feuchtigkeit aus der Prozessluft (PL) zu entziehen, umfasst. Um die Energiebilanz bei einem Wasch-Trocknungs-Vorgang oder einem separaten Trocknungsvorgang zu verbessern, umfasst der Prozessluftkanal (20) eine mit adsorptiven Trocknungsmittel (20a) versehene Trocknungseinheit (20), die von der Prozessluft (PL) durchströmt werden kann. Die Erfindung betrifft auch einen Waschtrockner (1) mit einer Umlufteinrichtung (26) und ein Verfahren zum Betreiben eines Waschtrockners (1) mit einer Trocknungseinheit (20).

IPC 8 full level  
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**D06F 58/24** (2013.01 - EP US)

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