




5 Documents

Publication numbers	Title	Current assignees
EP4341623 A1	Container for phase-change material	SUN ICE ENERGY PTE
EP4323077 A1	Skating rink that retains refrigeration energy by way of a phase-change material	SUN ICE ENERGY PTE
WO202447252 A1	Device for cooling a data center computer server by using a phase change material	SUN ICE ENERGY PTE
WO2023156619 A1	Device for regulating the humidity level for a heating, ventilation and/or air-conditioning system	SUN ICE ENERGY PTE
WO202326206 A1	Heating and/or cooling unit with phase-change material	SUN ICE ENERGY PTE

Container for phase-change material

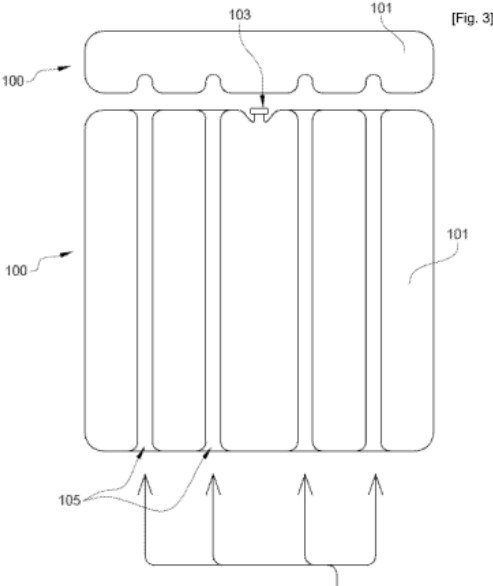
EP4341623 A1

<div>Current assignees</div> <div>SHENGZI NEW ENERGY TECHNOLOGY SUN ICE ENERGY PTE*</div> <div>Inventors</div> <div>MOUCHET JACQUES</div> <div>Priority data including date</div> <div>2021FR-0005277 2021-05-20 2022WO-IB54737 2022-05-20</div>	<div>IPC - International classification</div> <div>A63C-019/10 F25D-003/00*</div> <div>CPC - Cooperative classification</div> <div>A63C-019/10 F25D-003/00/5* F25D-2303/08222</div>
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US20240159443		A1	2024-05-16	   	CN117280172		A	2023-12-22	   
EP4341623		A1	2024-03-27	   	WO2022/243965		A1	2022-11-24	   

(EP4341623)













The present invention relates to a container (100) for phase change material, said container being characterised in that it comprises: – a enclosed shell (101) comprising a filling port (103); – a phase change material housed in said shell (101); – at least one recess (105) for receiving at least one refrigerant duct.



Skating rink that retains refrigeration energy by way of a phase-change material

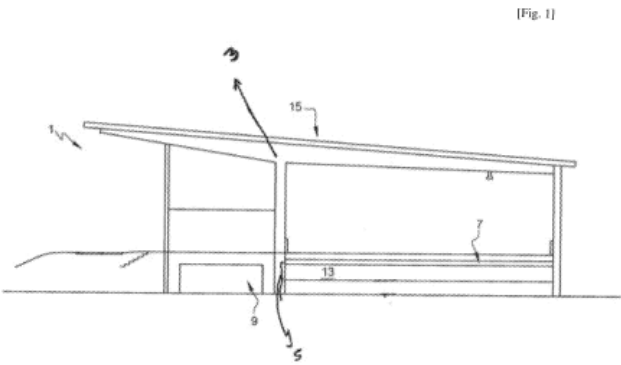
EP4323077 A1

<div>Current assignees</div> <div>SHENGZI NEW ENERGY TECHNOLOGY</div> <div>SUN ICE ENERGY PTE*</div> <div>Inventors</div> <div>MOUCHET JACQUES</div> <div>Priority data including date</div> <div>2021FR-0003962 2021-04-16</div> <div>2022WO-IB53572 2022-04-15</div>	<div>IPC - International classification</div> <div>A63C-019/10* F25B-009/00 F25B-029/00</div> <div>F25C-003/02</div> <div>CPC - Cooperative classification</div> <div>A63C-019/10* F25B-039/02 F25C-003/02</div>
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EP4323077	A1	2024-02-21	   	WO2022/219602	A1	2022-10-20	   
CN117202973	A	2023-12-08	   				

(EP4323077)

The present invention relates to a covered artificial skating rink (1) made up of a closed building built over a slab (5) intended to be covered with ice, characterized in that the skating rink (1) comprises: - a refrigeration device (9) connected to a refrigerant network (11) in which a refrigerant fluid circulates; - a phase-change material (13) connected to the refrigeration device (9) via the refrigerant network; the phase-change material (13) being configured to keep the ice (7) covering the slab at a temperature below the melting temperature of the ice.





Device for cooling a data center computer server by using a phase change material

WO202447252 A1

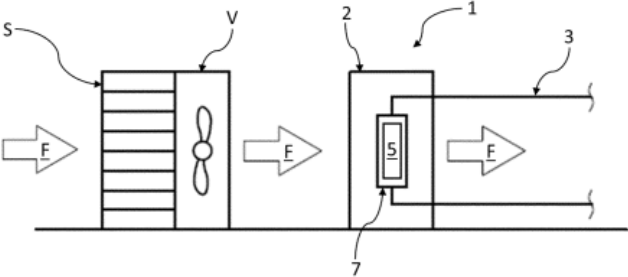
<div>Current assignees</div> <div>SUN ICE ENERGY PTE*</div> <div>Inventors</div> <div>MOUCHET JACQUES</div> <div>Priority data including date</div> <div>2022FR-0008844 2022-09-02</div>	<div>IPC - International classification</div> <div>H05K-007/20*</div> <div>CPC - Cooperative classification</div> <div>H05K-007/20/727*</div>
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<div>Famille</div> <div><div>WO2024/047252</div><div>A1</div><div>2024-03-07</div><div></div></div>

(WO2024/047252)

The present invention relates to a cooling device (1) for cooling at least one computer server for a data center, the device (1) comprising: - a phase change material (5) configured to exchange heat with at least one of the components of the server; - at least one heat exchanger (7) connected to a heat transfer fluid circuit (3); the device (1) being configured to cool at least one component of the server by storing heat generated by the component in the phase change material (5), and to release the heat stored in the phase change material (5) via the heat exchanger (7).

FIG. 1



Device for regulating the humidity level for a heating, ventilation and/or air-conditioning system

WO2023156619 A1

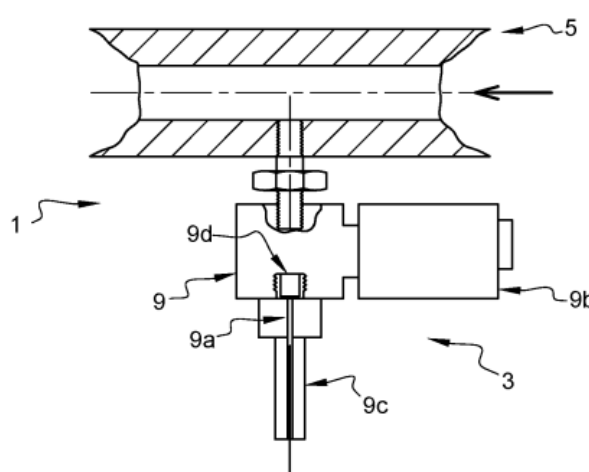
Current assignees SUN ICE ENERGY PTE*	IPC - International classification F24F-001/037* F24F-006/02 F24F-006/18 F24F-011/00
Inventors MOUCHET JACQUES	CPC - Cooperative classification F24F-001/037* F24F-006/02 F24F-006/18 F24F-011/00/08 F24F-2110/20
Priority data including date 2022SG-1001552Q 2022-02-17	

Famille
[WO2023/156619](#) A1 2023-08-24    

(WO2023/156619)

The invention relates to a device (1) for regulating the humidity level for a heating, ventilation and/or air-conditioning system, the system being configured to regulate the temperature of a volume and comprising at least one air ventilation circuit generating a flow of air emerging into the volume, characterized in that the device comprises: - a humidity sensor configured to measure the humidity level of the volume regulated in temperature by the heating, ventilation and/or air-conditioning system; - a device (3) for supplying water to the ventilation circuit so that the water is evaporated by the flow of air generated by the ventilation circuit; the water supply device (3) supplying water according to the value of the humidity level measured by the relative humidity sensor.

Fig. 1



Heating and/or cooling unit with phase-change material

WO202326206 A1

Current assignees SHENGZI NEW ENERGY TECHNOLOGY SUN ICE ENERGY PTE* Inventors MOUCHET JACQUES Priority data including date 2021FR-0008875 2021-08-24 2022WO-IB57915 2022-08-24	IPC - International classification F28D-007/10 F28D-020/00 F28D-020/02* F28D-021/00 F28F-001/16 CPC - Cooperative classification F28D-007/10/6 F28D-020/02/1* F28D-020/02/8 F28D-2020/0078 F28D-2021/0068 F28F-001/16
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[CN117693661](#) A 2024-03-12     [WO2023/026206](#) A1 2023-03-02    

(WO2023/026206)

The present invention relates to a heating and/or cooling unit (1) for at least one thermal-control fluid (A), said unit (1) comprising at least one loop (3) in which a heat-transfer fluid (F) flows, said loop (3) comprising: a phase-change material (5) configured to store energy; at least one heat exchanger (7) configured, on the one hand, for said heat-transfer fluid (F) to pass therethrough and, on the other hand, to cool or heat said storage material (5), characterised in that said heat exchanger (7) comprises a first structure in which a conduit for the heat-transfer fluid (F) is provided and a second structure surrounding the first structure, a space between said structures defining a housing in which said phase-change material (5) is disposed, the unit (1) being configured to cool or heat said thermal-control fluid (A) by means of the second structure of said exchanger.

