Title (en)

COMPACT STORAGE AND HEAT EXCHANGE SYSTEM FOR THERMAL SYSTEMS, RELATIVE PLANT AND METHOD

Title (de)

KOMPAKTES LAGER- UND WÄRMEAUSTAUSCHSYSTEM FÜR THERMISCHE SYSTEME, ENTSPRECHENDE ANLAGE UND VERFAHREN

Title (fr)

SYSTÈME COMPACT DE STOCKAGE ET D'ECHANGE DE CHALEUR POUR SYSTÈMES THERMIQUES, INSTALLATION CORRESPONDANTE ET PROCEDE

Publication

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Application

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Abstract (en)

The present invention concerns a storage system (3) for thermal solar systems (1), which is connectable to a first circuit (50) for the circulation of a first heat transfer fluid and to a second circuit (40) for the circulation of a second primary heat transfer fluid, wherein said storage system (3) comprises:a first tank (10) for the storage of a secondary fluid to be heated; anda second tank (11) for the storage of said second primary heat transfer fluid, said second tank (11) being hydraulically separated from said first tank (10) and being configured to be hydraulically connected to said second circuit (40);wherein a first heat exchange conduit (31) is arranged inside said first tank (10), said first heat exchange conduit (31) being configured to be hydraulically connected to said first circuit (50), for exchanging heat between said secondary fluid contained in said first tank (10) and said first primary heat transfer fluid;wherein a second heat exchange conduit (32) is arranged inside said second tank (11), said second heat exchange conduit (32) being configured to be hydraulically connected to said first circuit (50), for exchanging heat between said second primary heat transfer fluid in said second tank (11) and said first primary heat transfer fluidsaid storage system (3) further comprisingat least one portion (56) of said first circuit (50) hydraulically connected to the inlet and outlet of said first heat exchange conduit (31) and at least to the inlet of said second heat exchange conduit (32),first flow diverter means (501) which are arranged in said at least one portion (56) of said first circuit (50) to divert the flow of said first primary heat transfer fluid from said first circuit (50) towards the inlet of said first heat exchange conduit (31) or towards said second heat exchange conduit (32), and vice versa, andsecond flow diverter means (502) which are arranged in said at least one portion (56) of said first circuit (50), downstream of said first flow diverter means (501) and of said outlet of said first heat exchange conduit (31), said second flow diverter means (502) being adapted to divert the flow of the first primary heat transfer fluid coming from the outlet of said first heat exchange conduit (31) or from said first circuit (50) towards the inlet of said second heat exchange conduit (32) or towards said first circuit (50).The present invention also concerns a solar thermal system (1) comprising such storage system (3) and a method for operating such system (1).

IPC 8 full level

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EP 2041496 B1 20170531 - HANSEN LARS [NO]

Citation (search report)

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- [Y] EP 2196743 A2 20100616 - MOBILE COMFORT HOLDING [FR]
- [Y] DE 202015001818 U1 20160613 - STIEBEL ELTRON GMBH & CO KG [DE]
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- [A] EP 2041496 B1 20170531 - HANSEN LARS [NO]

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