

Title (en)  
PROCESS HEAT RECOVERY SYSTEM

Title (de)  
SYSTEM ZUR PROZESSWÄRMERÜCKGEWINNUNG

Title (fr)  
PROCÉDÉ DE RÉCUPÉRATION DE CHALEUR DE PROCESSUS

Publication  
**EP 4053452 B1 20230927 (EN)**

Application  
**EP 21425009 A 20210305**

Priority  
EP 21425009 A 20210305

Abstract (en)  
[origin: EP4053452A1] A process heat recovery system (1) wherein a heat exchanger (2) of shell- and-tube type works either as a boiler or as a boiler feedwater preheater, with boiler water or boiler feedwater circulating on shell-side, so as to cool a hot process fluid circulating on tube-side. The heat exchanger (2) is connected to a steam drum (3) by downcomer piping (12) and riser piping (14) for water circulation between the heat exchanger (2) and the steam drum (3). The heat exchanger (2) receives either the boiler water from the steam drum (3) by the downcomer piping (12), when the heat exchanger (2) works as a boiler, or the boiler feedwater by a boiler feedwater piping (27), when the heat exchanger (2) works as a boiler feedwater preheater. The heat exchanger (2) delivers by the riser piping (14) to the steam drum (3) either boiler water, when the heat exchanger (2) works as a boiler, or preheated boiler feedwater, when the heat exchanger (2) works as a boiler feedwater preheater. The heat exchanger (2) is provided with shell-side plates or baffles (29) for imparting prevailing flow directions to circulating water so that, when the heat exchanger (2) works as a boiler, the shell-side water flow, crosswise the tubes, has a prevailing vertical direction, whereas, when the heat exchanger (2) works as a boiler feedwater preheater, the shell-side water flow, crosswise the tubes, has a prevailing horizontal direction.

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