

Title (en)
HEAT EXCHANGER FOR A MOLTEN SALT STEAM GENERATOR IN A CONCENTRATED SOLAR POWER PLANT (III)

Title (de)
WÄRMETAUSCHER FÜR SALZSCHMELZEDAMPFERZEUGER IN EINEM KRAFTWERK MIT KONZENTRIERTER SOLARKRAFT (III)

Title (fr)
ÉCHANGEUR DE CHALEUR POUR GÉNÉRATEUR DE VAPEUR DE SEL FONDU DANS UNE CENTRALE À ÉNERGIE SOLAIRE CONCENTRÉE (III)

Publication
EP 3502608 A1 20190626 (EN)

Application
EP 17209929 A 20171222

Priority
EP 17209929 A 20171222

Abstract (en)
A heat exchanger (1), wherein the bundle of parallel U-bent tubes (2) is connected via a connection to a first end, where a first hemispherical bonnet (16) distributes the first fluid to the tubes (2) of the first straight section (9), and to a second end, where a second hemispherical bonnet (16) collects the first fluid from the tubes (2) of the second straight section (10), each said connection being made of a tube sheet (11, 12) which is designed to withstand the difference between the second fluid low pressure inside the intershell space (5) and the first fluid high pressure inside the respective bonnet (16), wherein the tube sheet comprises a circular plate (12) having a central circular orifice and wherein the tube sheet further comprises a hemispherical shell (11) located over said orifice and tightly connected to said circular plate (12), so as to make a physical separation between the first fluid and the second fluid.

IPC 8 full level
F28F 9/22 (2006.01); **F28D 7/06** (2006.01); **F28D 7/16** (2006.01)

CPC (source: EP)
F28D 7/06 (2013.01); **F28D 7/16** (2013.01); **F28D 7/1669** (2013.01); **F28F 9/22** (2013.01)

Citation (applicant)
• WO 2009148822 A2 20091210 - LUMMUS TECHNOLOGY INC [US], et al
• US 2384714 A 19450911 - EUGEN VILLIGER
• US 2693942 A 19541109 - GUALA JOHN R
• US 3400758 A 19680910 - SUK LEE MAN
• US 4493368 A 19850115 - GRONNERUD ROLF [NO], et al
• WO 2005019758 A1 20050303 - ABB LUMMUS GLOBAL INC [US], et al
• US 1782409 A 19301125 - CHUTE STANLEY J
• GB 2020793 A 19791121 - BELLELI IND MECC
• J. HEAT TRANSFER, vol. 129, no. 10, 2007, pages 1425 - 1431
• J. HEAT TRANSFER, vol. 132, no. 10, 2010, pages 101801

Citation (search report)
• [Y] WO 2008095248 A1 20080814 - HATCH & ASSOCIATES [AU], et al
• [Y] US 5261485 A 19931116 - THORNTON LANCE [US], et al
• [A] CN 206755944 U 20171215 - SAMGAS TRANS & DISTRIBUTION EQUIPMENT NINGBO CO LTD
• [A] US 4557322 A 19851210 - NIPPLE STEPHEN B [US]

Cited by
CN113267068A

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3502608 A1 20190626; EP 3502608 B1 20210630; ES 2885829 T3 20211215

DOCDB simple family (application)
EP 17209929 A 20171222; ES 17209929 T 20171222