

Title (en)
Steam condensing apparatus

Title (de)
Dampfkondensator

Title (fr)
Condenseur de vapeur

Publication
EP 0794401 A3 19980923 (EN)

Application
EP 97300956 A 19970214

Priority
US 61056796 A 19960306

Abstract (en)
[origin: EP0794401A2] An air-cooled steam condenser (30) also uses heat pipe technology so as to provide steam tubes that are freeze proof under any ambient conditions, and offering a simple approach to the management of noncondensable gases. Steam flows through the main condenser (32) with concurrent steam and condensate flow downwards. The heat transfer surface area and fan air flow are designed such that all of the steam does not completely condense, and steam vapour continuously exits each tube row. This continuous flow of steam vapour purges these tube rows of noncondensable gases. The excess steam flows into the lower header (34) to a secondary condenser section (36) that utilizes heat pipes (48). In the secondary condenser section (36), the excess steam condenses on the evaporator side external surface of the heat pipes (48). The noncondensable gases that remain in the lower header (34) are vented with an air removal system (52) similar to conventional condensers. Condensate in the lower header (34) is collected for reuse in the power generation cycle. <IMAGE>

IPC 1-7
F28B 1/06

IPC 8 full level
F28B 1/06 (2006.01); **F28D 15/02** (2006.01)

CPC (source: EP KR)
F28B 1/00 (2013.01 - KR); **F28B 1/06** (2013.01 - EP); **F28D 15/02** (2013.01 - EP); **F28F 19/04** (2013.01 - EP); **F28B 2001/065** (2013.01 - EP)

Citation (search report)
• [X] DE 3114948 A1 19830105 - BALCKE DUERR AG [DE]
• [A] DE 3106973 A1 19821104 - BALCKE DUERR AG [DE]
• [A] US 4149588 A 19790417 - WATERS ELMER D
• [A] GB 2093176 A 19820825 - NUOVO PIGNONE SPA

Cited by
EP2149682A1; CN113035386A; CN113532141A; CN103977891A; US2014223882A1; CN105833582A; EP2635865A4; EP2429690A4; US8425223B2; US8596073B2; US8186152B2; US8157512B2; CN108917418A; EP3480548A1; KR20200085283A; US11703285B1; US11378339B2; US8015790B2; US8359824B2; WO2019091869A1

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EP 97300956 A 19970214; AU 1509397 A 19970304; BR 9701200 A 19970305; CA 2199209 A 19970305; ID 970656 A 19970303; JP 5542497 A 19970225; KR 19970005136 A 19970220; MX 9701495 A 19970227; SG 1997000345 A 19970215; TW 86103123 A 19970313