Publication

EP 0583851 A3 19940309

Application

EP 93202885 A 19860917

Priority

- EP 86307161 A 19860917
- US 78308785 A 19851002
- US 90269786 A 19860905

Abstract (en)

[origin: EP0219974A2] An improved condenser for use in air conditioning or refrigeration systems. A pair of spaced headers (10,12) have a plurality of tubes (20) extending in hydraulic parallel between them and each tube (20) defines a plurality of hydraulically parallel, fluid flow paths (46,48,50,52,54,56,58,60) between the headers (10,12). Each of the fluid flow paths (46,48,50,52,54,56,58,60) has a hydraulic diameter in the range of about 0.015 to about 0.07 inches.

[origin: EP0219974A2] The condenser comprises a pair of flow headers (10,12), one of which has a vapour inlet whilst the other has a condensate outlet (26). Flattened distribution tubes (20) between the headers define discrete hydraulically parallel fluid pathways. Each fluid pathway has an hydraulic diameter between 0.015 to 0.040 inches. There are several condenser tubes each extending between and in fluid communication with the headers.

IPC 1-7

F28D 1/053; F28F 1/02; F25B 39/04

IPC 8 full level

F25B 39/04 (2006.01); **F28D 1/047** (2006.01); **F28D 1/053** (2006.01); **F28F 1/02** (2006.01); **F28F 3/02** (2006.01); **F28F 9/02** (2006.01)

CPC (source: EP KR)

F25B 39/04 (2013.01 - EP KR); **F28D 1/0478** (2013.01 - EP); **F28D 1/05383** (2013.01 - EP); **F28F 1/022** (2013.01 - EP); **F28F 3/025** (2013.01 - EP); **F28F 9/0243** (2013.01 - EP); F25B 2500/01 (2013.01 - EP); F28D 2021/0084 (2013.01 - EP); F28F 2260/02 (2013.01 - EP)

Citation (search report)

- [DE] EP 0237164 A1 19870916 - MODINE MFG CO [US]
- [X] GB 2133525 A 19840725 - NIPPON DENSO CO
- [Y] WO 8401208 A1 19840329 - KNOWLTON BRYCE H, et al
- [Y] US 2136641 A 19381115 - SMITH HARRY F
- [A] US 1958226 A 19340508 - JOSEPH ASKIN
- [A] US 3907032 A 19750923 - DEGROOTE RAYMOND S, et al
- [A] US 2373218 A 19450410 - ARNOLD ARTHUR B
- [A] GB 1601954 A 19811104 - COVRAD LTD

Cited by

DE10054158A1; DE10137907A1; US6302193B1; US8713963B2; US8439104B2; EP1203922A2; US6546997B2; US8234881B2; US8938988B2; US7677057B2; US7757753B2; US7980094B2; US6772602B2; US7802439B2; US7832231B2; US7895860B2; EP1992891B1

Designated contracting state (EPC)

AT DE FR GB IT NL SE

DOCDB simple family (publication)

EP 0219974 A2 19870429; **EP 0219974 A3 19890802**; **EP 0219974 B1 19961106**; AT E145051 T1 19961115; AT E160441 T1 19971215; BR 8604768 A 19870630; CA 1317772 C 19930518; DE 3650648 D1 19971030; DE 3650648 T2 19990415; DE 3650658 D1 19980102; DE 3650658 T2 19980514; EP 0583851 A2 19940223; EP 0583851 A3 19940309; EP 0583851 B1 19971119; ES 2002789 A6 19881001; JP H0587752 B2 19931217; JP S62175588 A 19870801; KR 880004284 A 19880603; KR 950007282 B1 19950707; MX 167593 B 19930331

DOCDB simple family (application)

EP 86307161 A 19860917; AT 86307161 T 19860917; AT 93202885 T 19860917; BR 8604768 A 19861002; CA 518329 A 19860916; DE 3650648 T 19860917; DE 3650658 T 19860917; EP 93202885 A 19860917; ES 8602364 A 19861002; JP 23135986 A 19861001; KR 860008158 A 19860929; MX 391086 A 19861001