

Title (en)
TUBULAR HEAT EXCHANGER HAVING DOUBLE END PLATES

Publication
EP 0246942 B1 19910515 (FR)

Application
EP 87400982 A 19870429

Priority
FR 8607193 A 19860521

Abstract (en)
[origin: US4770239A] A heat exchanger comprises a cylinder and a bundle of heat exchange tubes passing through its interior heat exchange chamber for receiving a hot fluid to be cooled while circulating through the tubes from an inlet to an outlet end. A support for the bundle of heat exchange tubes at each cylinder end comprises a relatively thin, cylinder end closing plate to which respective ends of the heat exchange tubes are affixed, a much thicker, rigid plate affixed to the interior cylinder wall at a distance from the thin plate, the heat exchange tubes passing through bores in the thicker, rigid plate with a clearance, the thin plates and the much thicker, rigid plates defining heat exchange chamber compartments therebetween and another heat exchange chamber compartment extending between the thicker, rigid plates, and rigid tubular sections extending through the heat exchange chamber compartments and interconnecting the thin plate and the much thicker, rigid plate for bracing the plates, the rigid tubular sections concentrically surrounding the ends of the heat exchange tubes whereby annular spaces are defined between the rigid tubular sections and the heat exchange tube ends, the annular spaces being in communication with the clearances, and the rigid tubular sections defining orifices wherethrough the heat exchange chamber compartments communicate with the annular spaces.

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F28F 9/02

IPC 8 full level
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CPC (source: EP US)
F28F 9/0229 (2013.01 - EP US)

Cited by
DE4407594A1; CN105115324A; DE19714423C2; DE3820494A1; DE4445687A1

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