

Title (en)
Intermediate heat exchanger for a nuclear reactor with fast neutrons.

Title (de)
Zwischenwärmeaustauscher für Kernreaktor mit schnellen Neutronen.

Title (fr)
Echangeur intermédiaire pour réacteur nucléaire à neutrons rapides.

Publication
EP 0006795 A1 19800109 (FR)

Application
EP 79400389 A 19790613

Priority
FR 7818711 A 19780622

Abstract (en)
[origin: ES481716A1] Intermediate exchanger comprising a vertically axed cylindrical internal ferrule, an external ferrule coaxial to the internal ferrule, two plates with annular horizontal tubes located in the vicinity of the upper and lower ends of said ferrules, a bundle of straight tubes extending between the tubed plates in the form of cylindrical layers coaxial to the ferrules, said layers being mutually reinforced by transverse belts formed by horizontal bands carrying hollow members located between the tubes of the layers and in contact with the latter, collectors for the admission and discharge of the secondary fluid circulating within the said tubes being respectively provided beneath the lower plate and above the upper plate, the inner ferrule forming a pipe for the supply of the secondary fluid to the admission collector, while the outer ferrule is upwardly extended by a pipe for the discharge of the same secondary fluid collected in the discharge collector after passing through the tubes, and inlet and outlet ports distributing about the axis of the outer ferrule for the admission and discharge, in the vicinity of the tubed plates, of a primary fluid which exchanges calories with the secondary fluid through the wall of the tubes, wherein the bundle of tubes has means able to bring about a larger supply in the area occupied by the tubes of the inner layers than in the area occupied by the tubes of the outer layers, said means creating, in the circulation of primary fluid within the exchanger, a variable pressure drop.

Abstract (fr)
Echangeur intermédiaire pour réacteur nucléaire à neutrons rapides comportant une virole interne (5) cylindrique à axe vertical, une virole externe (6) coaxiale à la virole interne (5), deux plaques à tubes annulaires (7, 8), un faisceau de tubes droits (9) s'étendant entre les plaques à tubes (7, 8) selon des nappes entretoisées mutuellement par des ceintures transversales (10), des collecteurs d'admission (12) et d'évacuation (14) d'un fluide secondaire, et des fenêtres d'entrée (17) et de sortie (18) réparties autour de l'axe de la virole externe (6) pour l'admission et l'évacuation, au voisinage des plaques à tubes (7, 8), d'un fluide primaire échangeant des calories avec le fluide secondaire. Le faisceau de tubes (9) comporte des moyens aptes à réaliser une alimentation plus importante dans la région occupée par les tubes des nappes internes que dans la région occupée par les tubes des nappes externes.

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Citation (search report)
• US 3292691 A 19661220 - JOSEF WELTER, et al
• FR 2003749 A1 19691114 - DEGGENDOR WERFT EISENBAU

Cited by
CN106461344A; EP0041452A3; EP0036347A1; FR2477692A1; US10408542B2; WO2015173103A1

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