

Title (en)

Arrangement for screening a fluid wall lead-through against high energy electromagnetic radiation, nuclear or corpuscular radiation

Title (de)

Vorrichtung zum Abschirmen einer Fluid-Wanddurchführung gegen hochenergetische elektromagnetische Strahlung, Kernstrahlung oder Korpuskularstrahlung

Title (fr)

Dispositif de protection contre les rayonnements électromagnétiques à haute énergie, les radiations nucléaires ou particulaires au niveau d'une traversée de mur parcourue par un fluide

Publication

EP 0903756 A1 19990324 (DE)

Application

EP 98115752 A 19980821

Priority

DE 19740817 A 19970917

Abstract (en)

Disk-shaped screening components (2, 3) are arranged in the penetration (1) for fluid flow. They intercept radiation, without interfering with the passage of fluid. Each component is made of a material appropriate to absorption of the specific type(s) of radiation concerned. Their number and shape are selected for a desired screening characteristic, appropriate to the radiation concerned. Preferred features: At least part of the component is iron, boron steel or lead to absorb gamma radiation. Polyethylene, preferably boriated polyethylene, is included to retard highly-energetic neutrons. The segmented-disk screening components are assembled in a screw-like configuration, each perpendicular to the axis (4). They are arranged along the axis, each set at a given angle with respect to its neighbor. They are multi-bladed and their edges are angled, to align with the direction of the notional screw thread formed.

Abstract (de)

Die Abschirmvorrichtung besteht aus einer Mehrzahl von scheibenförmigen Abschirmelementen, die z.B. aus Schraubensegmenten (2,3) bestehen, die eine einheitliche Form besitzen und um einen vorgegebenen Winkel gegeneinander versetzt entlang ihrer Achse (4) in der geradlinigen Wanddurchführung (1) hintereinander angeordnet sind. Auf diese Weise ergibt sich eine einfach herzustellende und zu montierende Abschirmvorrichtung von begrenztem Platzbedarf. Die einzelnen Schraubensegmente (2,3) können aus unterschiedlichen Materialien und/oder Verbundmaterialien mit unterschiedlichen Abschirmeigenschaften bestehen. Die Vorrichtung eignet sich daher insbesondere zur Abschirmung gemischter Strahlung. <IMAGE>

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G21F 3/00; G21F 7/01

IPC 8 full level

G21F 3/00 (2006.01); **G21F 7/01** (2006.01)

CPC (source: EP)

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Citation (search report)

- [XA] DD 242576 A1 19870204 - BERGMANN BORSIG VEB [DD]
- [PA] WO 9734305 A1 19970918 - EBARA CORP [JP], et al
- [A] WO 8705738 A1 19870924 - ZAHNRADFABRIK FRIEDRICHSHAFEN [DE]
- [X] PATENT ABSTRACTS OF JAPAN vol. 017, no. 060 (P - 1482) 5 February 1993 (1993-02-05)
- [A] PATENT ABSTRACTS OF JAPAN vol. 096, no. 009 30 September 1996 (1996-09-30)
- [A] DATABASE WPI Section Ch Week 8446, Derwent World Patents Index; Class K07, AN 84-285492, XP002083772
- [A] DATABASE WPI Section Ch Week 8802, Derwent World Patents Index; Class K07, AN 88-010900, XP002083773
- [A] DATABASE WPI Section Ch Week 8846, Derwent World Patents Index; Class K05, AN 88-327063, XP002083774

Cited by

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