

Title (en)  
DILUTION CRYOSTAT

Publication  
**EP 0188976 B1 19890308 (FR)**

Application  
**EP 85420228 A 19851216**

Priority  
FR 8419488 A 19841217

Abstract (en)  
[origin: US4672823A] A 3He-4He dilution cryostat is provided in which a series of concentric dismountable enclosures permit ready disassembly for servicing and sample changing, and in which a secondary pumping circuit and a secondary cryogenic material delivery circuit provide rapid and convenient internal cooling of the dilution chamber by means of cooled cryogenic material, the dilution chamber being subsequently filled with the same cryogenic material in the liquified state. More particularly, the cryostat possesses a primary pumping circuit by which a 3He-4He mixture is forced through cooling elements to liquify it, transferred into the dilution chamber and an associated evaporator, and the 3He finally recycled. A secondary pumping circuit includes a second evaporator connected to the dilution chamber, tubing connecting this evaporator with the tubing leading to the inlet side of a pump in the principal pumping circuit, and a valve located between the second evaporator and the tubing of the principal pumping circuit. A secondary cryogenic material delivery circuit includes heat exchanging elements connected in series between the pump of the principal pumping circuit and the tubing of the secondary pumping circuit, permitting cooled cryogenic material to be introduced into the first and second evaporators and the dilution chamber to cool them prior to filling them with liquified cryogenic material.

IPC 1-7  
**F25B 23/00**

IPC 8 full level  
**F17C 3/08** (2006.01); **F25B 9/00** (2006.01); **F25B 9/02** (2006.01); **F25B 9/12** (2006.01); **F25D 3/10** (2006.01)

CPC (source: EP US)  
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Cited by  
EP0327457A1; FR2626658A1; WO9314357A1

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DOCDB simple family (publication)  
**EP 0188976 A1 19860730**; **EP 0188976 B1 19890308**; DE 3568628 D1 19890413; FR 2574914 A1 19860620; FR 2574914 B1 19870306; JP H0621755 B2 19940323; JP S61191845 A 19860826; US 4672823 A 19870616

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