



Europäisches Patentamt
European Patent Office
Office européen des brevets



Publication number:

0 335 475 A3

12

EUROPEAN PATENT APPLICATION

21 Application number: 89201159.4

51 Int. Cl.⁵: **B04B 15/02**

22 Date of filing: 18.03.85

30 Priority: 30.04.84 US 605360

43 Date of publication of application:
04.10.89 Bulletin 89/40

60 Publication number of the earlier application in
accordance with Art.76 EPC: 0 185 672

84 Designated Contracting States:
AT BE CH DE FR GB LI LU NL SE

88 Date of deferred publication of the search report:
02.01.91 Bulletin 91/01

71 Applicant: **BECKMAN INSTRUMENTS, INC.**

Executive Office 2500 Harbor Boulevard Box
3100
Fullerton California 92634(US)

72 Inventor: **Wedemeyer, Robert Carl**
1035 Pine Street Apt 303
San Francisco California 94109(US)
Inventor: **Giebeler, Robert Henry, Jr.**
21084 Red Fir
Cupertino California 95014(US)

74 Representative: **Arthur, John William et al**
FITZPATRICKS 4 West Regent Street
Glasgow G2 1RS Scotland(GB)

54 Improved thermoelectric temperature control assembly for centrifuges.

57 A thermoelectric temperature control assembly for transferring heat to or from a heat sink (30) in a centrifuge of the type having a rotor (14), a temperature controlled vessel, and a housing (20, 22, 24, 26) enclosing the vessel (18). A plurality of thermoelectric devices (50, 52, 54) are mounted in an electrically and thermally nonconducting substrate (40) located between the vessel (18) and the heat sink (30) such that the upper and lower surfaces of the devices (50, 52, 54) are in direct thermal contact with the vessel (18) and heat sink (30) respectively. The weight of the vessel (18) lessens the thermal resistance of the thermal contacts, and this effect may be enhanced by providing mechanical means (19, 21), supported by the housing (20, 22, 24, 26) for pressing the vessel (18) downwardly against the devices (50, 52, 54).

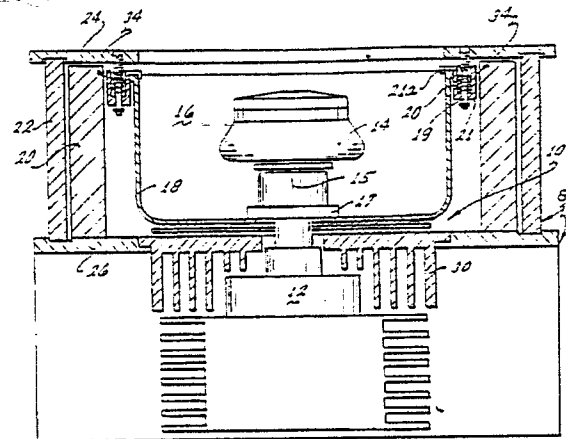


Fig. 1

EP 0 335 475 A3



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Y	US-A-3 326 727 (FRITTS) * Figure 2; column 3, lines 19-34 * - - - -	1	B 04 B 15/02
Y	US-A-3 232 063 (EICHHORN) * Figures 1,3,4; column 3, lines 6-17 * - - - -	1	
A	US-A-3 444 695 (WAYE) * Figure 3 * - - - -	1	
D,A	US-A-3 347 453 (GOERGEN) * Figure 1A * - - - -	1	
A	US-A-3 409 212 (DURLAND) - - - -		
A	US-A-3 412 566 (TOWNSEND et al.) - - - -		
A	US-A-3 554 815 (OSBORN) - - - -		
A	US-A-3 804 324 (SINN) - - - - -		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B 04 B H 01 L
Place of search	Date of completion of search	Examiner	
The Hague	11 October 90	VERDONCK J.C.M.J.	
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention		E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	