CLAIMS

1. A cryopump comprising:

a pump inlet (5);

a two stage refrigerator;

a first stage array thermally coupled to a first stage of said two stage refrigerator; and

a cryopanel structure coupled to a second stage of said two stage refrigerator; wherein

said cryopanel structure comprises at least three flat panels (25);

said first stage array being mounted between said pump inlet and said cryopanel structure, and comprising a plurality of slats (12), characterised by said plurality of slats (12) being mounted such that each of the flat panels (25) has a corresponding slat (12) positioned adjacent thereto and such that a respective bottom edge of said corresponding slat (12) is parallel to, and located above a top edge of that flat panel (25)..

2. A cryopump according to claim 1, wherein said plurality of slats (12) are mounted to extend at an angle of between 110° and 160° with respect to said flat panels (25) towards said pump inlet (5).

3. A cryopump according to claim 1 or 2, wherein said plurality of slats (12) are mounted such that at least some of said slats (12) shield one surface (24) of an adjacent flat panel (25) of said cryopanel structure from gas molecules entering said pump through said pump inlet (5).

4. A cryopump according to any preceding claim wherein surfaces of said plurality of flat panels (25) comprise coated portions (24) coated with an adsorbent material and further portions (22) that are not coated with said adsorbent material.

5. A cryopump according to claim 4, wherein one surface (24) of at least some of said panels (25) is coated with said adsorbent and the other surface (22) is not coated.

6. A cryopump according to 5 when dependent upon claim 3, said coated surface (24) being said surface shielded by an adjacent one of said plurality of slats (12).

7. A cryopump according to any preceding claim, wherein said plurality of slats (12) are arranged parallel to each other, and said plurality of flat panels (25) are arranged parallel to each other.

8. A cryopump according to any preceding claim, wherein said plurality of flat panels (25) are arranged to extend parallel to a longitudinal axis of said pump.

9. A cryopump according to any preceding claim, wherein said plurality of slats (12) and said plurality of flat panels (25) are rectangular.

10. A cryopump according to any preceding claim, wherein said plurality of slats (12) are configured to overlap when viewed through said pump inlet in a direction parallel to said flat panels (25).

11. A cryopump according to any preceding claim, wherein said plurality of flat panels (25) are all the same size and/or, wherein said plurality of slats (12) are all the same size.

12. A cryopump according to any one of claims 1 to 10, wherein said flat panels (25) and said slats (12) at either edge of the panel or slat array are smaller than those towards a middle.

13. A cryopump according to any one of claims 4 to 6, or claims 7 to 12 when dependent upon claim 4, wherein said adsorbent material is configured to adsorb type III gases such as hydrogen, helium and neon.

14. A cryopump according to any one of claims 4 to 6, 13 or claims 7 to 12 when dependent upon claim 4, wherein said adsorbent material comprises a molecular sieve that coats said coated surface.

15. A cryopump according to any one of claims 4 to 6, 13 or claims 7 to 12 when dependent upon claim 4, wherein said adsorbent material comprises one of: charcoal, activated carbon, zeolite or a porous metal surface.