ABSTRACT

A method for controlling at least one culture parameter in a bioreactor bag (1; 31a, 31b) provided in a bioreactor system, said method comprising the steps of:

- providing bioreactor information to a control unit (5; 35) controlling the bioreactor system;
- controlling the at least one culture parameter in dependence of the bioreactor information.

(Fig. 1)

CLAIMS

1. A method for controlling at least one culture parameter in a bioreactor bag (1; 31a, 31b) provided in a bioreactor system, said method comprising the steps of:
- providing bioreactor information to a control unit (5; 35) controlling the bioreactor system;
- controlling the at least one culture parameter in dependence of the bioreactor information.

2. A method according to claim 1, further comprising the control unit (5; 35) choosing one specific set among a number of different sets of control parameters in dependence of the bioreactor information.

3. A method according to claim 1, further comprising the control unit (5; 35) choosing one specific set among a number of different sets of PID parameters in dependence of the bioreactor information.

4. A method according to any one of the preceding claims, wherein the bioreactor information is size of the bioreactor bag and/or weight of the bioreactor bag and/or information about the cell culture status.

5. A method according to any one of the preceding claims, wherein the culture parameter is temperature, and/or pH, and/or DO.

6. A method according to any one of the previous claims, wherein the bioreactor information is manually input to the control unit (5; 35) or read from a barcode or an RFID tag on the bioreactor bag.

7. A method according to any one of the previous claims, further comprising weighing the bioreactor bag (1) with culture fluid automatically when it is placed into the

bioreactor system and using the weight of the bioreactor bag with culture fluid as bioreactor information for controlling the at least one culture parameter.

8. A method according to any one of the previous claims, wherein controlling the at least one culture parameter comprises heating and/or cooling and/or adding oxygen and/or adding carbon dioxide and/or adding nitrogen and/or adding acid and/or adding base and/or changing the gas flow to the bioreactor in dependence of the bioreactor information.

9. A bioreactor system comprising at least one bioreactor bag (1; 31a, 31b) comprising a culture fluid, the bioreactor system further comprising a control unit (5; 35) for controlling the bioreactor system, **characterised in that** said control unit (5; 35) comprises a receiving means (7; 37) adapted to receive bioreactor information and in that said control unit (5; 35) is adapted to control at least one culture parameter in the at least one bioreactor bag (1; 31a, 31b) in dependence of said bioreactor information.

10. A bioreactor system according to claim 9, wherein the control unit (5; 35) is adapted to choose one specific set among a number of different sets of control parameters in dependence of the bioreactor information.

11. A bioreactor system according to claim 9, wherein the control unit (5; 35) is adapted to choose one specific set among a number of different sets of PID parameters in dependence of the bioreactor information.

12. A bioreactor system according to any one of the claims 9-11, wherein the bioreactor information is size of the bioreactor bag and/or weight of the bioreactor bag and/or information about the cell culture status.

13. A bioreactor system according to any one of the claims 9-12, further comprising at least one sensor (11a, 11b, 41a, 41b) provided inside the bioreactor bag and connected to the control unit (5; 35), said sensor being adapted to measure the culture parameter to be

controlled and/or at least one cell culture status such as biomass, cell growth phase or metabolites.

14. A bioreactor system according to any one of the claims 9-13, wherein the control unit (5; 35) is adapted to control at least one of temperature, pH and DO in the at least one bioreactor bag in dependence of said bioreactor information.

15. A bioreactor system according to any one of the claims 9-14, further comprising at least one heating means and/or cooling means (19; 49a, 49b) adapted to heat or cool the at least one bioreactor bag (1; 31a, 31b), said heating and/or cooling means (19; 49a, 49b) being controlled by the control unit (5; 35) in dependence of said bioreactor information.

16. A bioreactor system according to any one of the claims 9-15, further comprising at least one adding means (21; 51a, 51b) adapted to add oxygen and/or carbon dioxide, and/or nitrogen and/or acid and/or base to the at least one bioreactor, said adding means (21; 51a, 51b) being controlled by the control unit (5; 35) in dependence of said bioreactor information.

17. A bioreactor system according to any one of the claims 9-16, wherein the receiving means (7; 37) is adapted to receive the bioreactor information by manual input to the control unit (5; 35) or by reading from a barcode or an RFID tag on the bioreactor bag.

18. A bioreactor system according to any one of the claims 9-17, further comprising at least one load cell (13) provided on a support (3) for the bioreactor bag and adapted to weigh the at least one bioreactor bag with culture fluid, said receiving means (7) further being connected to said load cell (13) and the control unit (5) is adapted to control at least one culture parameter in the at least one bioreactor bag (1) in dependence of the weight of the at least one bioreactor bag.

19. A bioreactor system according to any one of the claims 9-18, comprising two bioreactor bags (31a, 31b) on one support (33), wherein said control unit (35) being

adapted to control each said bioreactor bag (31a, 31b) independently in dependence of the bioreactor information of each said bioreactor bag.

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[HRISHIKESH RAY CHAUDHURY]
OF REMFRY & SAGAR
ATTORNEY FOR THE APPLICANT[S]

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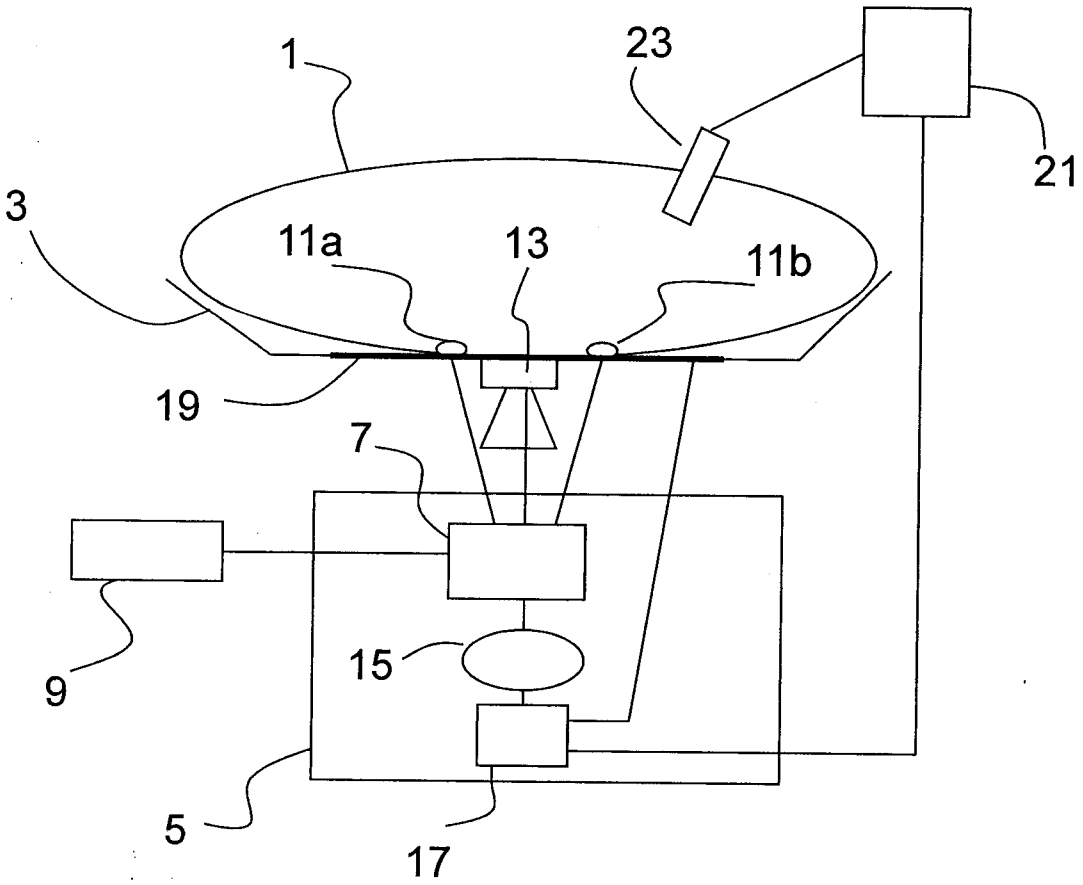

Fig. 1

(HRISHIKESH RAY CHAUDHURY)
OF REMFRY & SAGAR
ATTORNEY FOR THE APPLICANT[S]

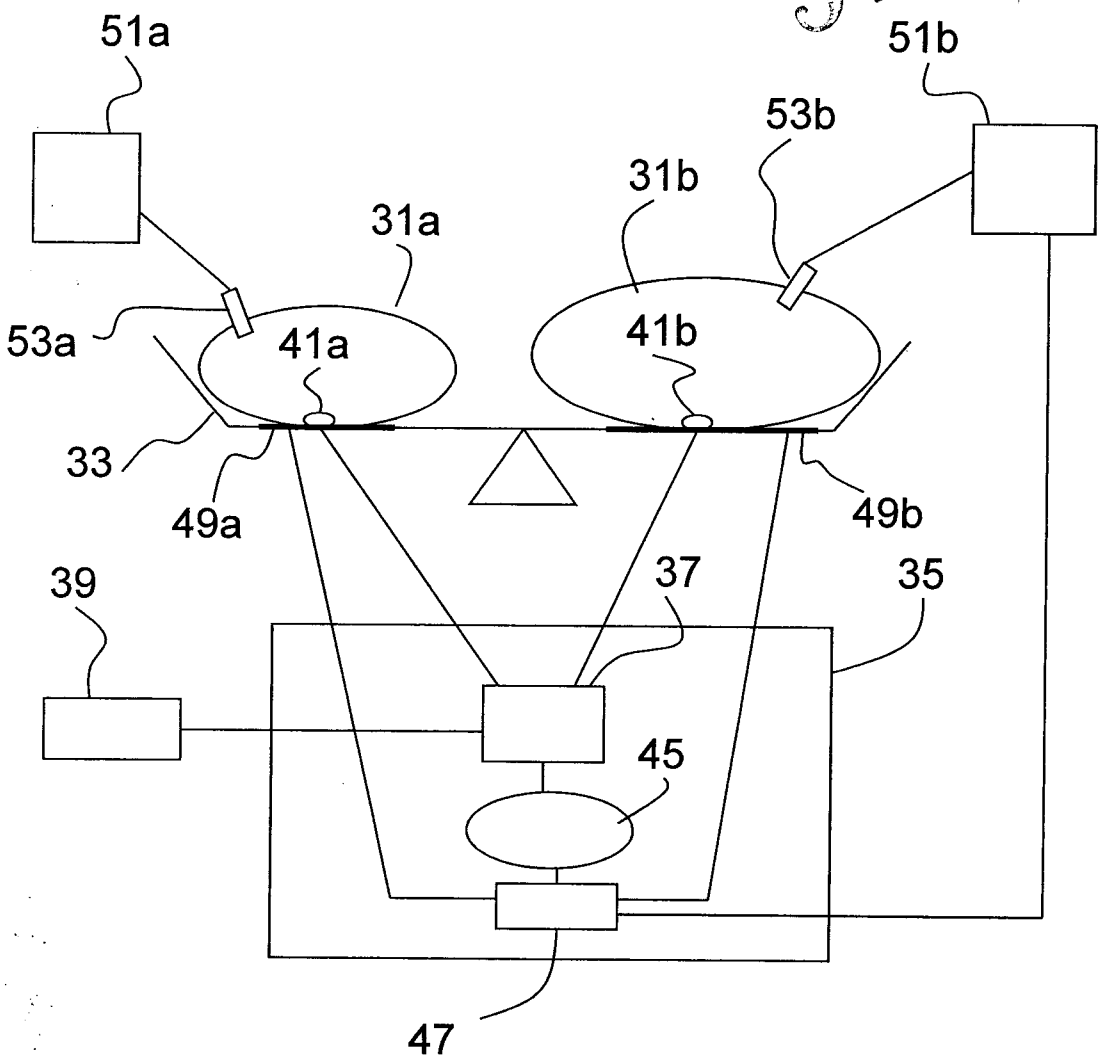

Fig. 2

(HRISHIKESH RAY CHAUDHURY)
OF REMFRY & SAGAR
ATTORNEY FOR THE APPLICANT[S]

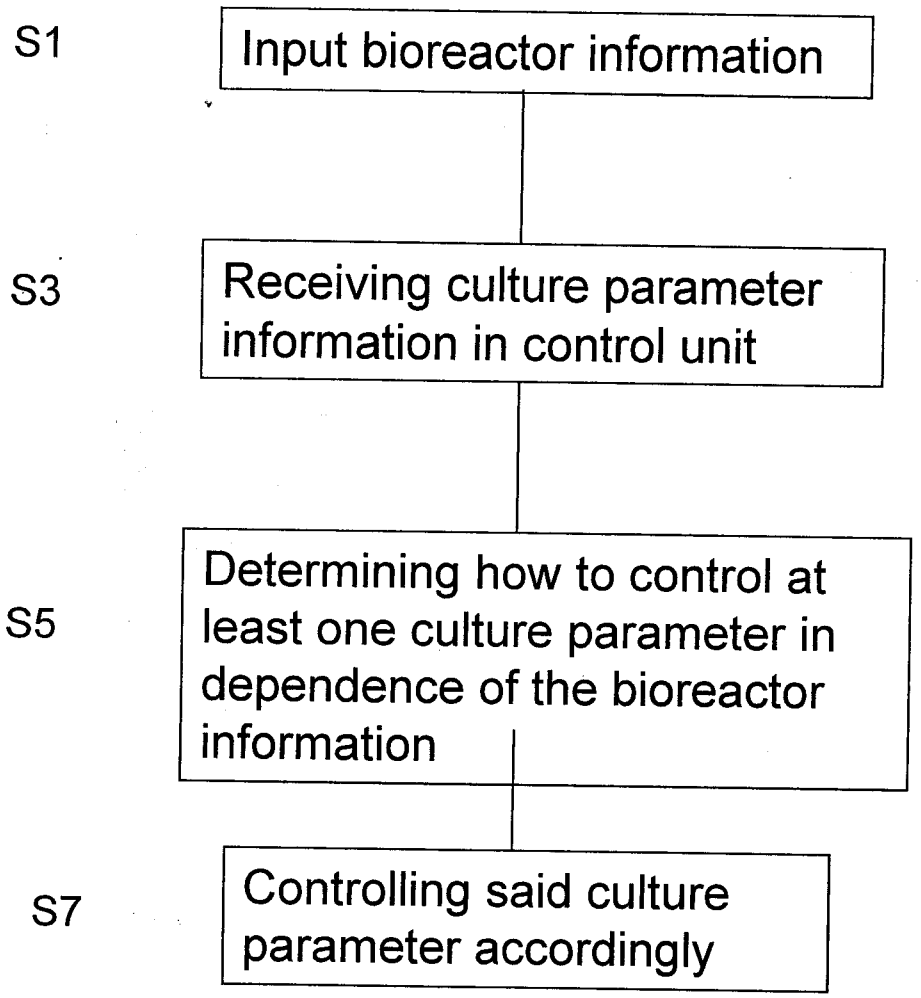

Fig. 3

(HRISHIKESH RAY CHAUDHURY)
OF REMFRY & SAGAR
ATTORNEY FOR THE APPLICANT[S]