

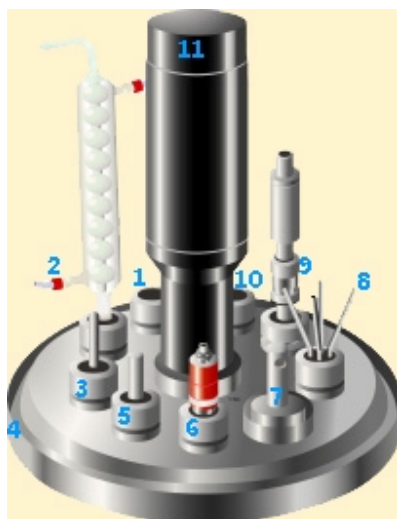
# FERMENTER

## BioG-Series Fermenter-Head Plate

- Standard uniform size of ports on head plate, easily change allocation and number of port
- Mechanical seal minimize risk of contamination
- Easy handling due to connection vessel and head plate used with one touch clamp
- One touch connection condenser and cooling waterline which leads to easy handlings
- Use easy replaceable in-let, out-let filter
- Evaporating gas condensing is possible without continuous tap water supply.
- Deodorization device reduce incurred odor during fermentation (option)

### Sensors

- pH sensor
- DO sensor
- Foam/Level Sensor
- Temperature Sensor
- Motor Speed encoder



### Port

- Inoculum port
- Sampling port
- Condenser port
- Sparger port
- Peristaltic Pump Addition Port
- Spare port
- Four sensor ports

### 1. Sparger Port

### 2. Condenser

Joint easily uncouples from condenser used by one touch coupling

### 3. Temperature Port

Temperature probe in a blind pocket

### 4. Clamp

Vessel easily uncouples to facilitate cleaning and autoclaving with simple one touch clamp

### 5. Sampling Port

### 6. pH Sensor Port

### 7. Inoculum Port

### 8. Peristaltic Pump Port

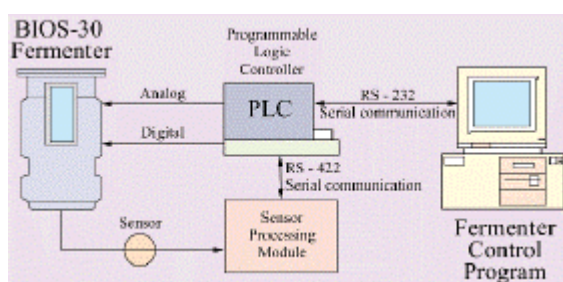
Mechanical space saving designed port to connect four other peristaltic pump addition line in a one port

### 9. DO Sensor Port

### 10. Foam Sensor Port

### 11. Motor with speed encoder

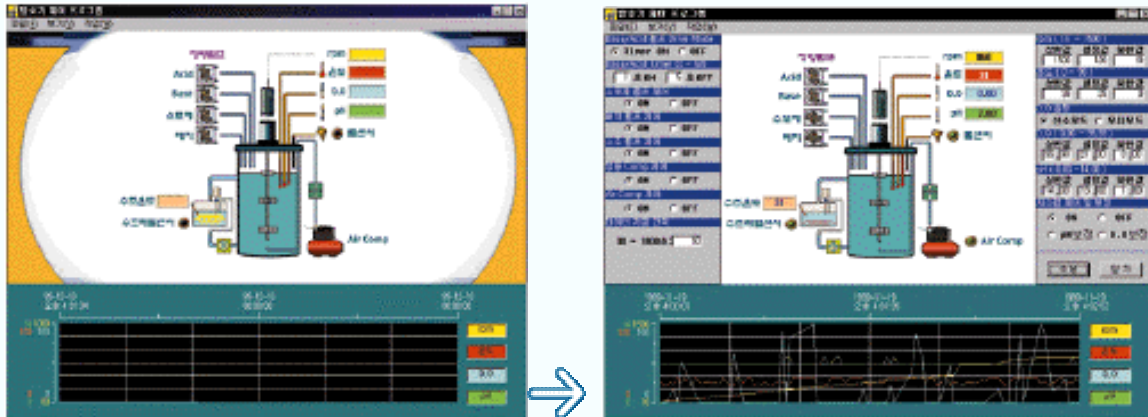
## Fermenter Control System



The fermenter control program with PLC(Programmable Logic Controller) controls the entire system based on various parameters, in addition, the system has dynamic interface function with sensor data, monitor and control system through input data source. The system has a capable of cell culture and data exchangeable feature used with PC and RS232 C communication port, and provide convenient and stable system with loop PID control algorithm of PLC.

## Fermenter Control Program

BioG series Fermenter Control Program is the reliable fermentation processing system that monitors and controls of operating the unit under the Windows 95/98 environments. The system has a capable of producing real time graphs, report in Excel and word and analysis of all the data from unit. In addition, The system has a excellent features of saving various programable parameters for diffrent fermentation tests and retriave saved parameters to operate system. The system is a well designed structure and developed control program system to meet user's requirements.



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