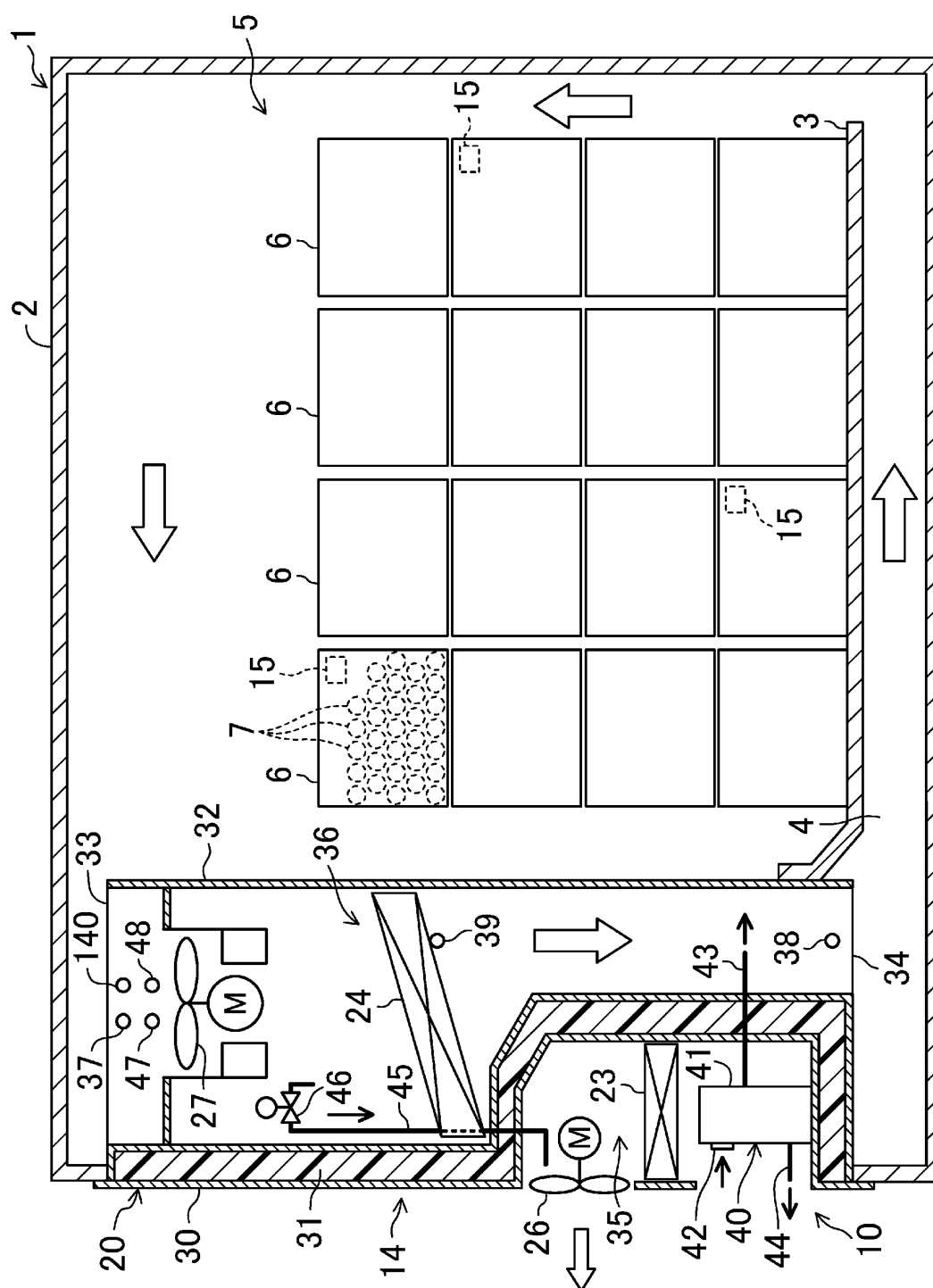
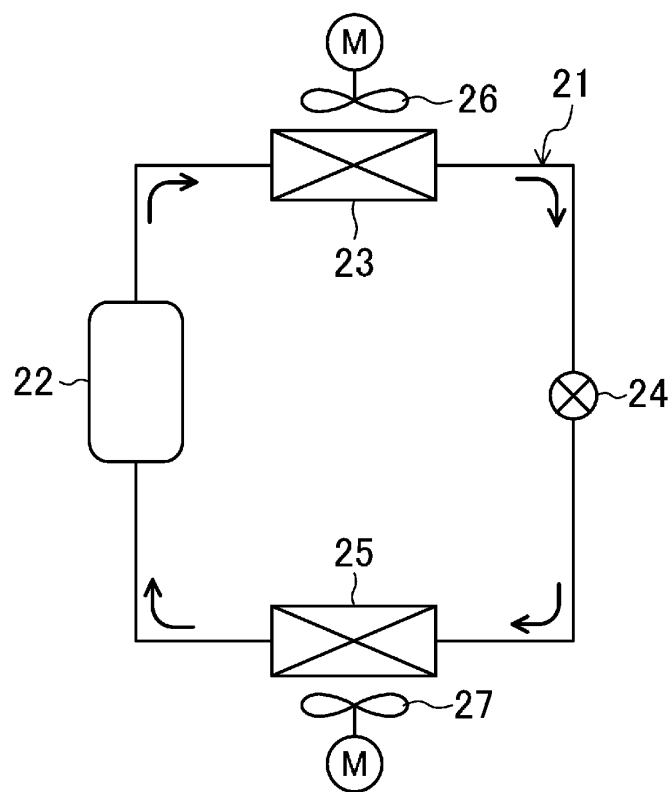


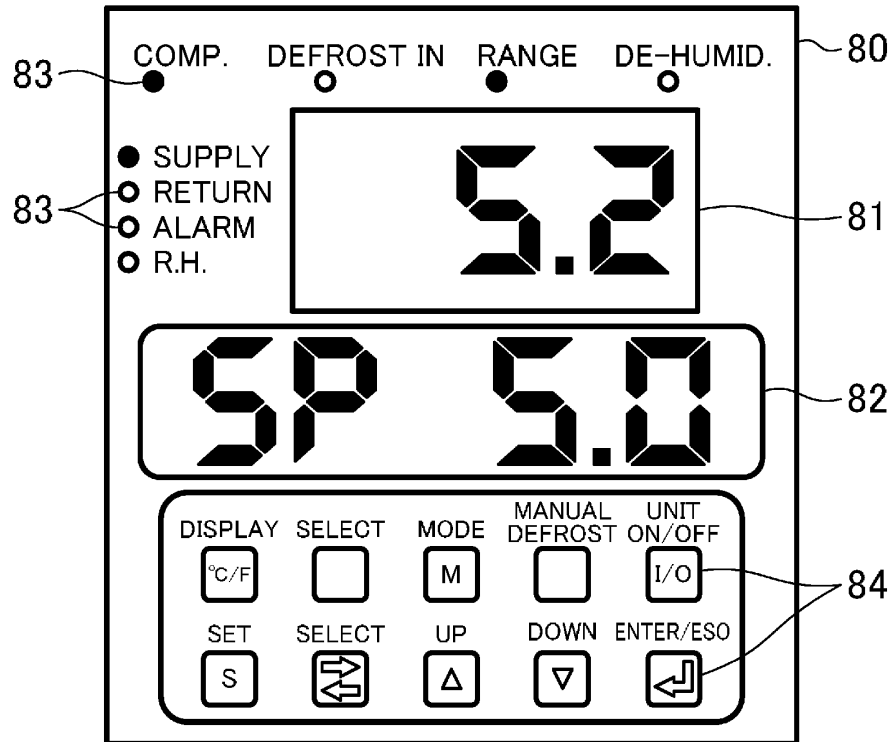
[図1]



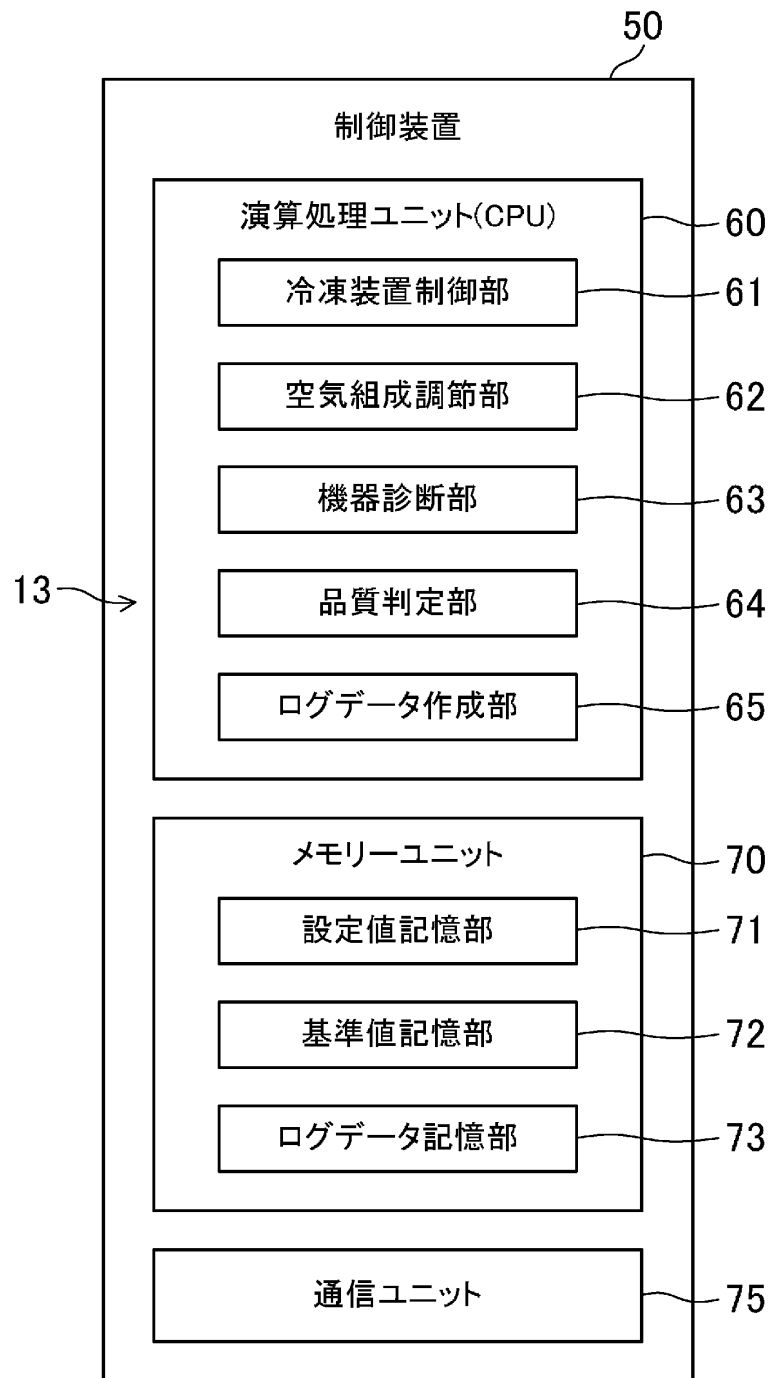
[図2]



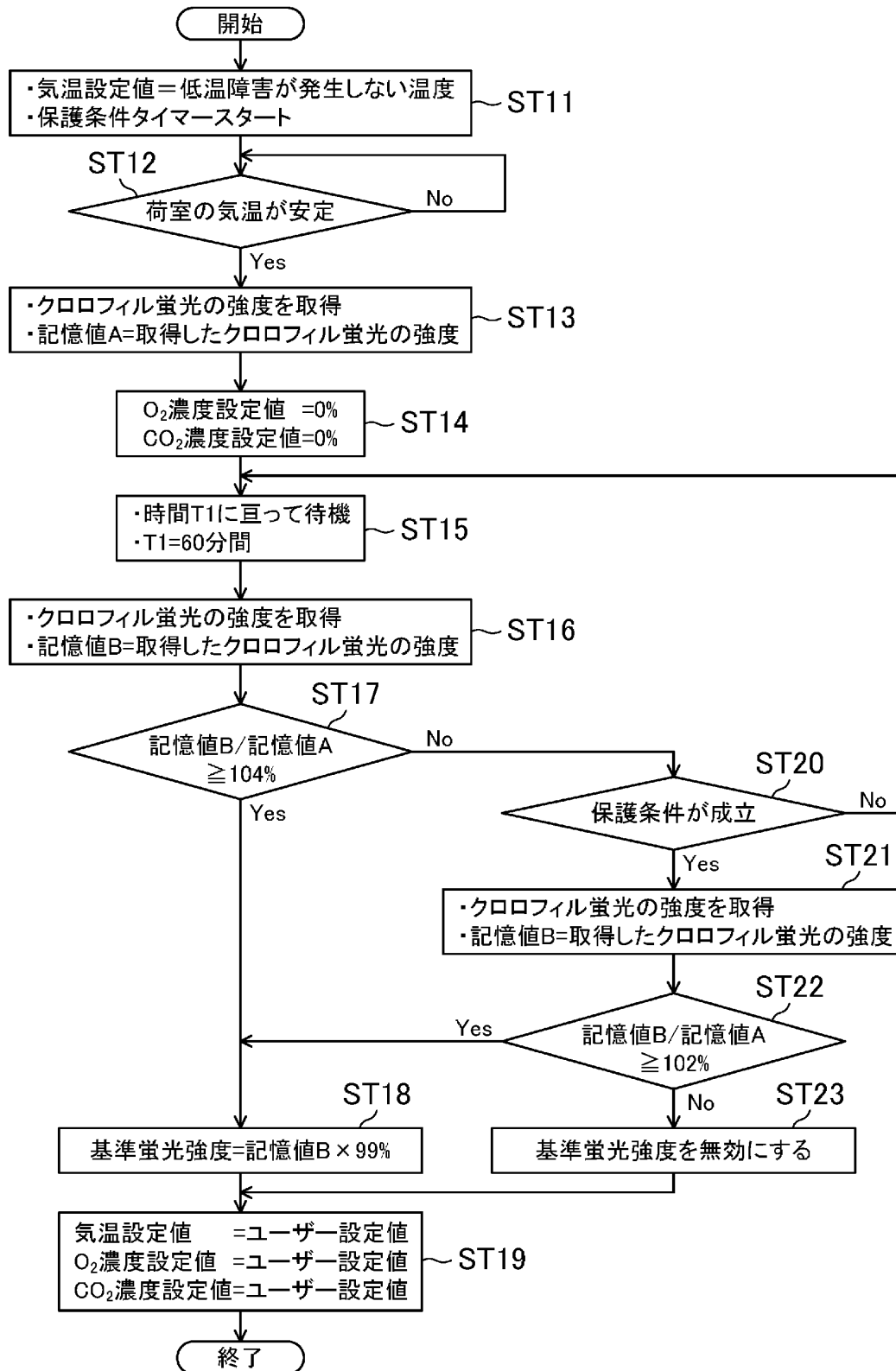
[図3]



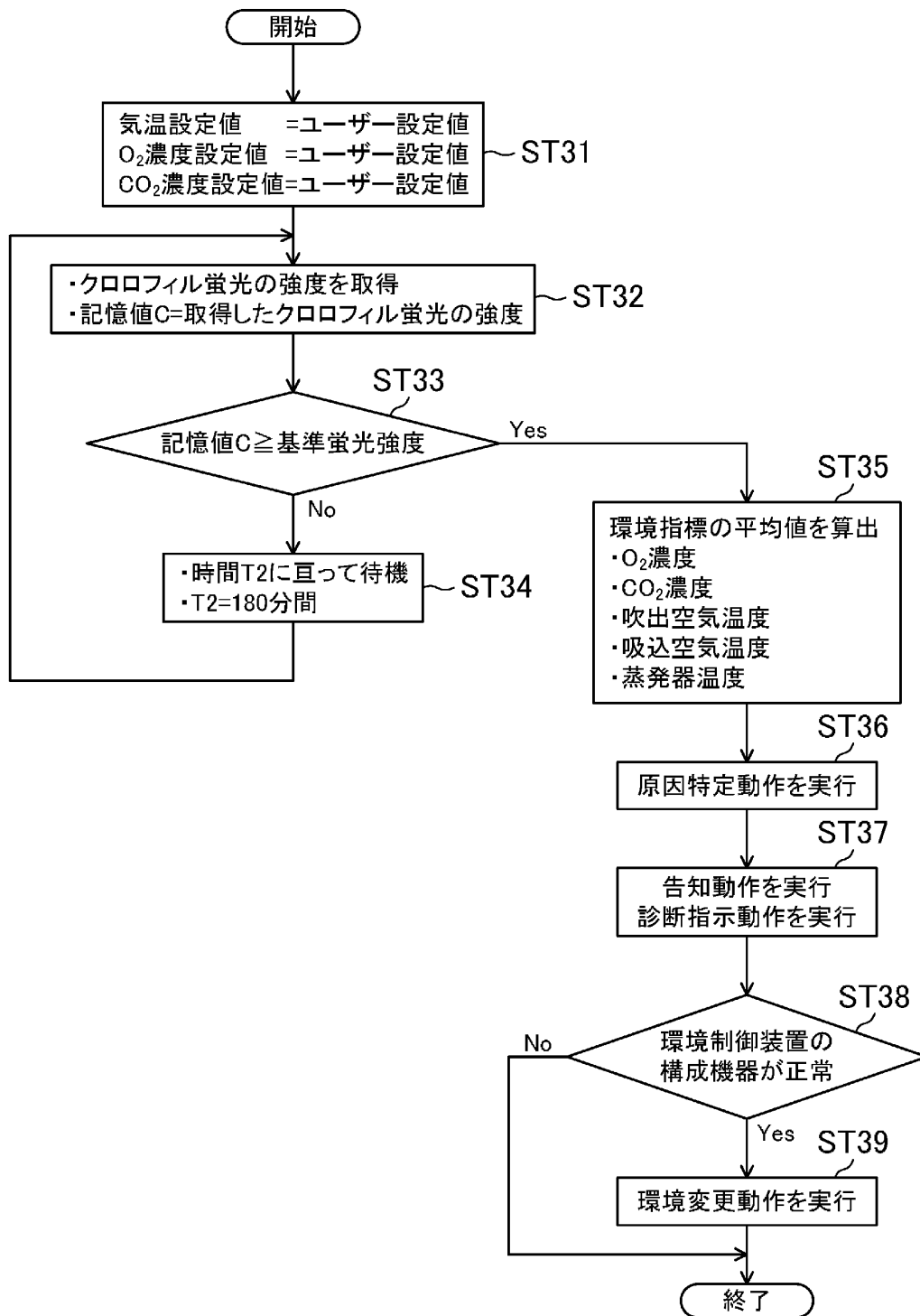
[図4]



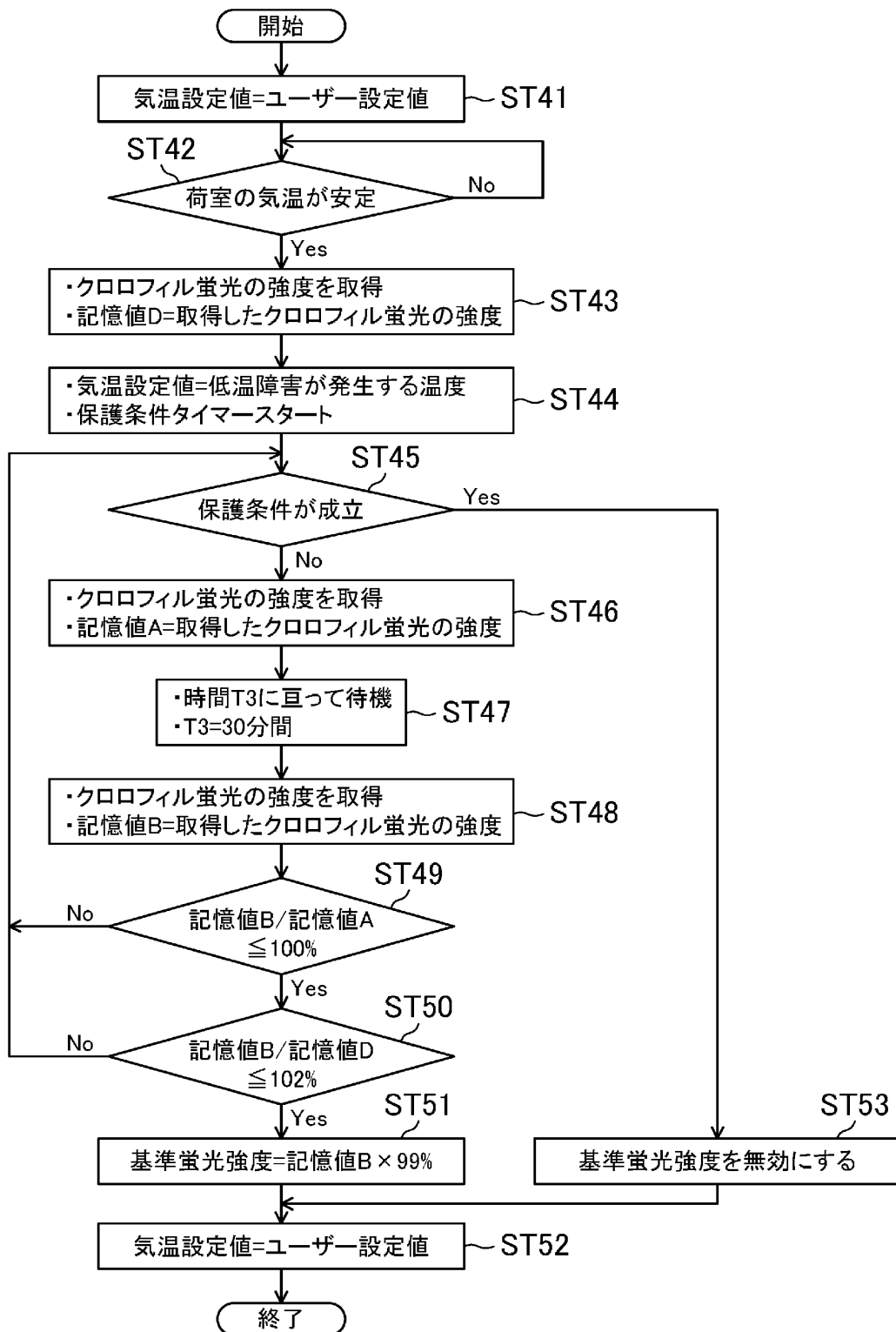
[図5]



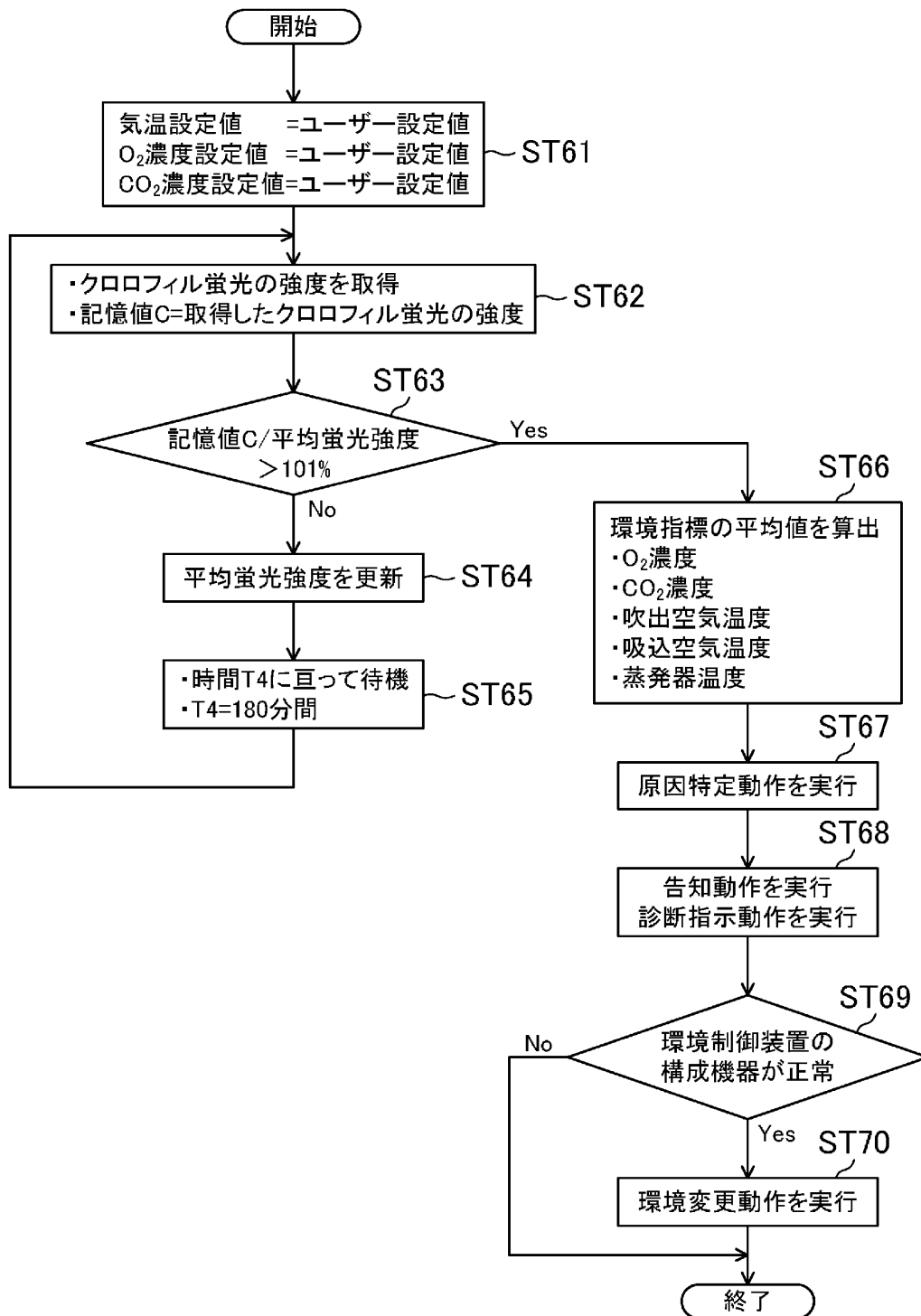
[図6]



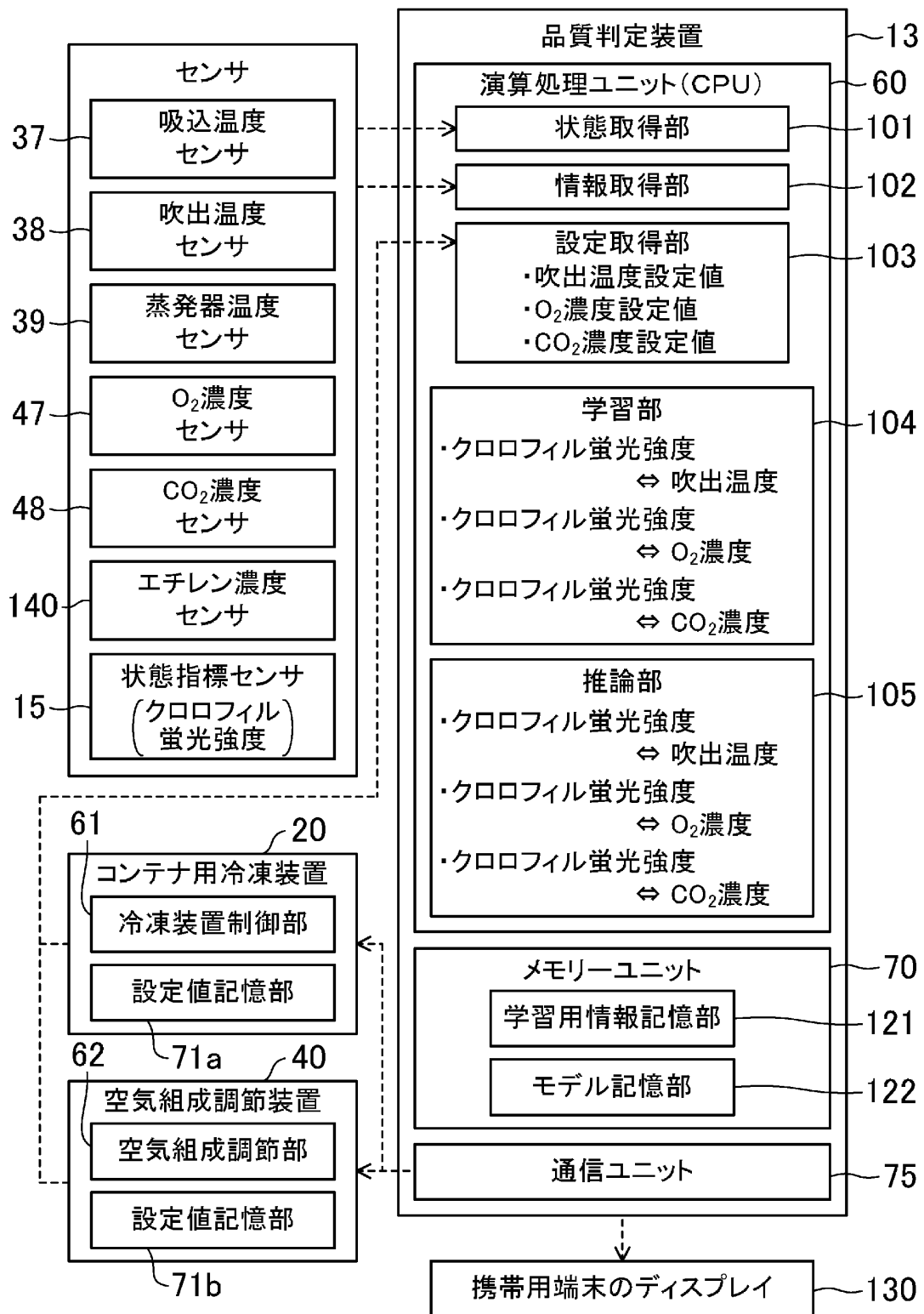
[図7]



[図8]



[図9]



```

graph TD
    A[吹出温度設定値] -- 111 --> C[第1状態推定モデル  
(クロロフィル蛍光強度 ⇄ 吹出温度)]
    B[センサの測定値  
・吸込温度  
・蒸発器温度  
・エチレン濃度  
・O2濃度  
・CO2濃度] -- 112 --> C
    C -- 103 --> D[学習部  
クロロフィル蛍光強度の推定値]
    D -- 104 --> E[パラメータ調節部]
    E -- 105 --> A
    E -- 106 --> C
  
```

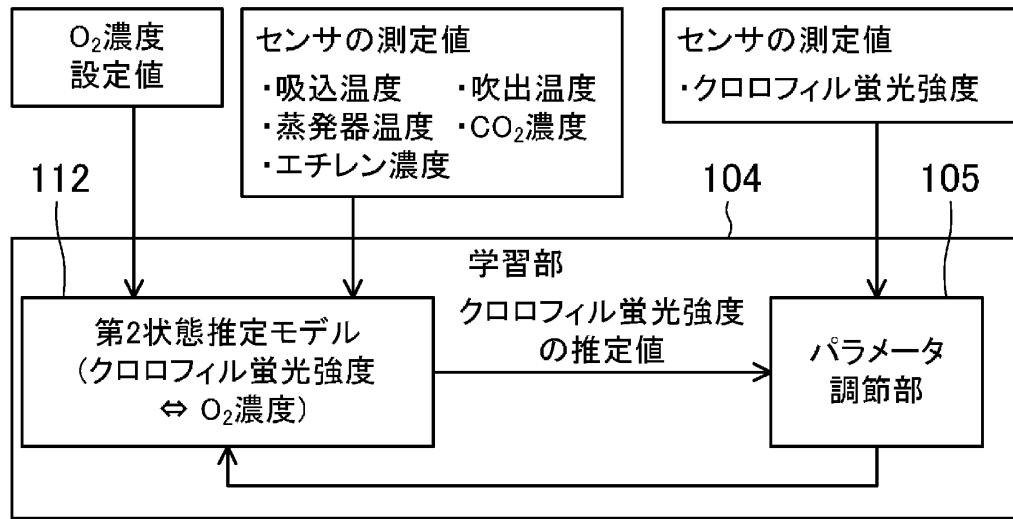
Figure 1 is a block diagram of the chlorophyll fluorescence intensity estimation system. The system includes a first state estimation model (101) that receives an outlet temperature setpoint (111) and sensor measurement values (112) as inputs. The sensor measurement values include inlet temperature, evaporator temperature, ethylene concentration, O₂ concentration, and CO₂ concentration. The first state estimation model (101) outputs an estimated chlorophyll fluorescence intensity (103). This estimated value is compared by a learning unit (102) to produce a chlorophyll fluorescence intensity estimation value (104). The estimation value (104) is then used by a parameter adjustment unit (105) to adjust the outlet temperature setpoint (111) and provide feedback to the first state estimation model (101).

```

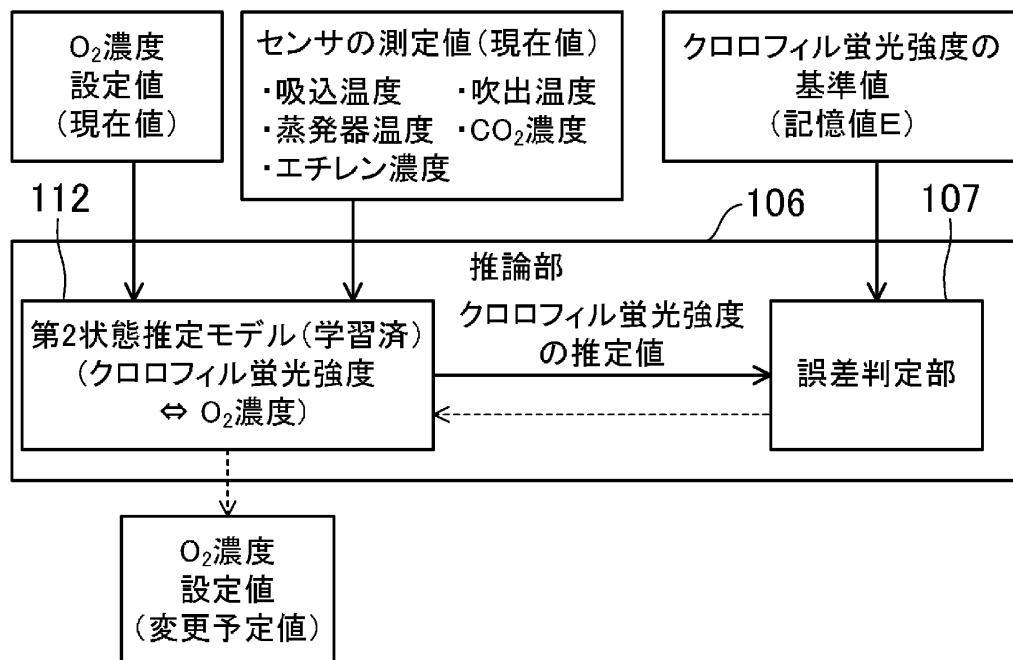
graph TD
    111[吹出温度設定値  
(現在値)] --> 106
    106[センサの測定値 (現在値)  
・吸込温度  
・蒸発器温度  
・エチレン濃度  
・O2濃度  
・CO2濃度] --> 106
    107[クロロフィル蛍光強度の  
基準値  
(記憶値E)] --> 106
    106 --> 108[推論部]
    subgraph 108 [推論部]
        109[第1状態推定モデル (学習済)  
(クロロフィル蛍光強度  
⇔ 吹出温度)]
        110[誤差判定部]
        109 -- "クロロフィル蛍光強度  
の推定値" --> 110
        110 -.-> 109
    end
    109 -.-> 111[吹出温度  
設定値  
(変更予定値)]

```

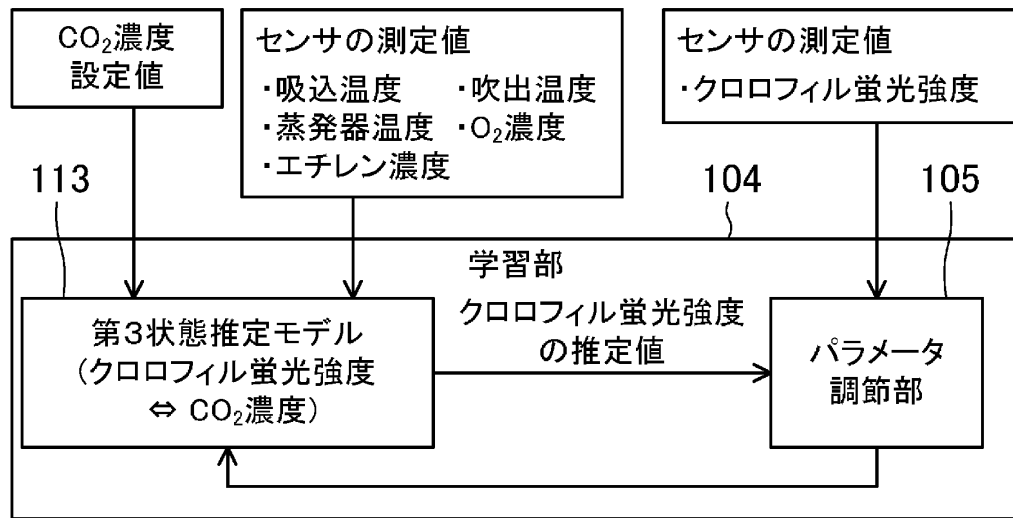
[図12]



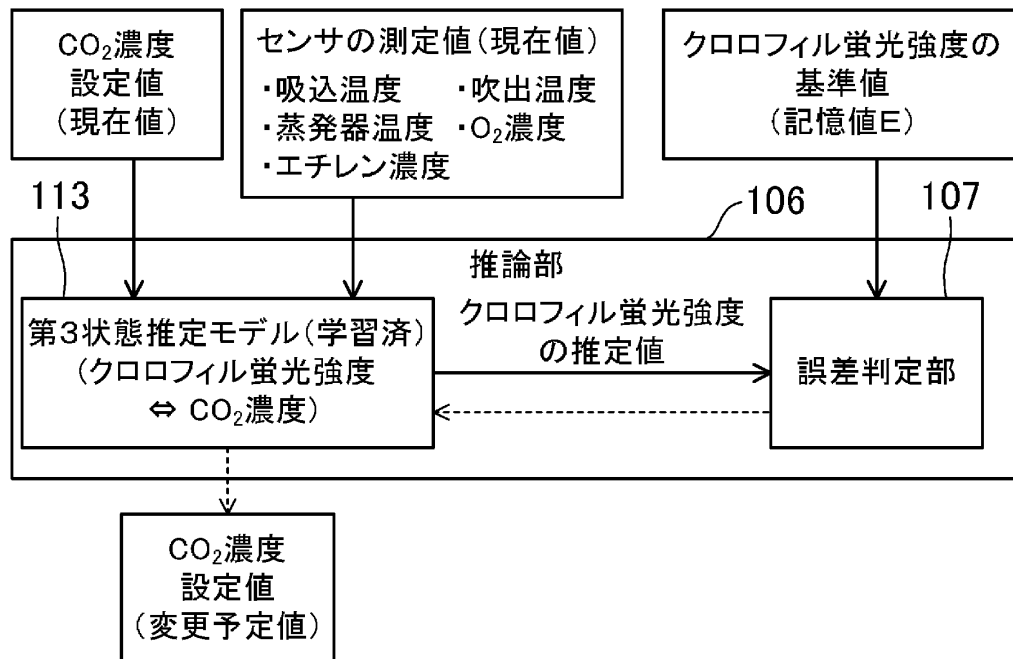
[図13]



[図14]



[図15]



[図16]

