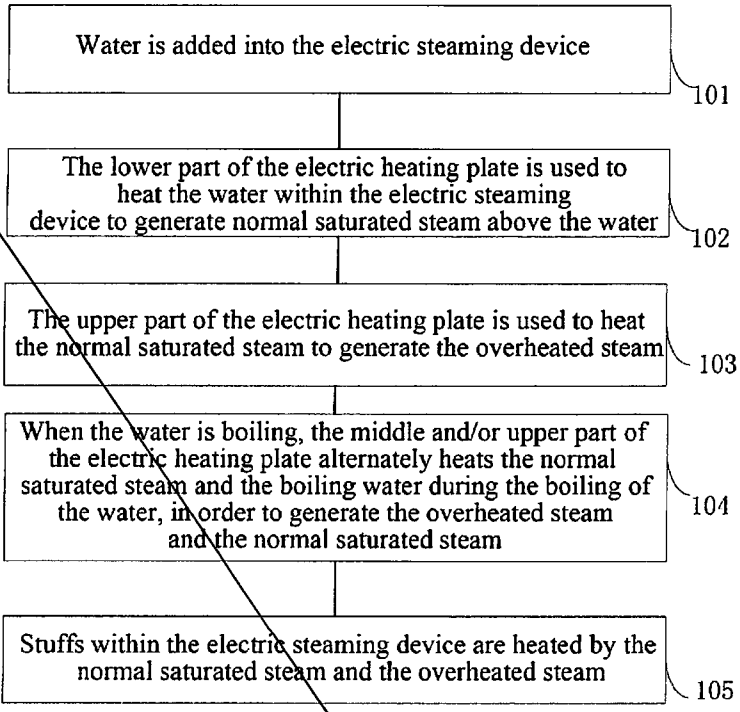

Water is added into the electric steaming device
101
The lower part of the electric heating plate is used to heat the water within the electric steaming device to generate normal saturated steam above the water
102
The upper part of the electric heating plate is used to heat the normal saturated steam to generate the overheated steam
103
When the water is boiling, the middle and/or upper part of the electric heating plate alternately heats the normal saturated steam and the boiling water during the boiling of the water, in order to generate the overheated steam and the normal saturated steam
104
Stuffs within the electric steaming device are heated by the normal saturated steam and the overheated steam
105

Fig. 1

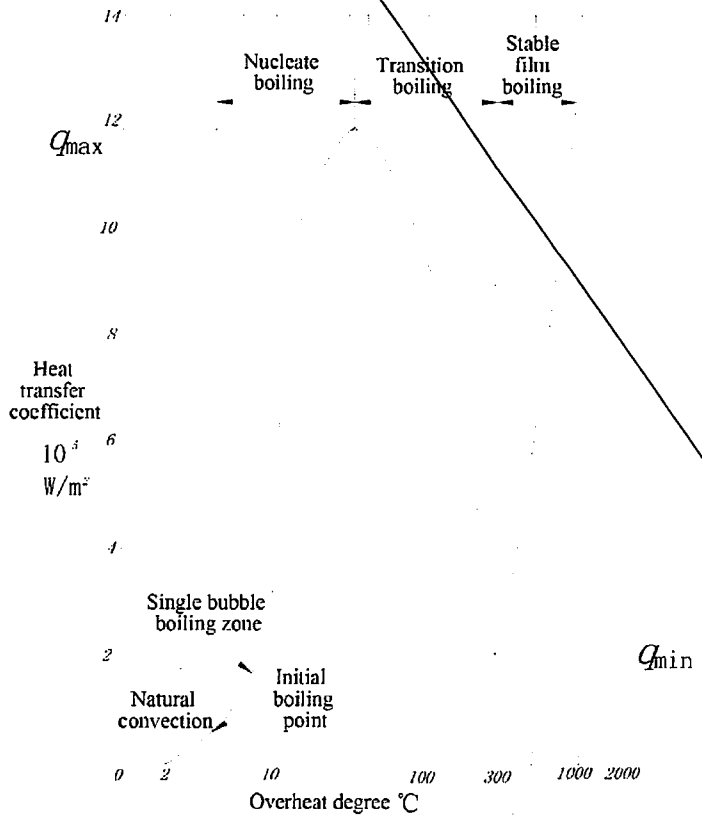

Nucleate boiling
Transition boiling
Stable film boiling
q_{max}
q_{min}
Heat transfer coefficient
10^3 W/m²
Single bubble boiling zone
Natural convection
Initial boiling point
14
12
10
8
6
4
2
0
2
10
100
300
1000
2000
Overheat degree ℃

Fig. 2

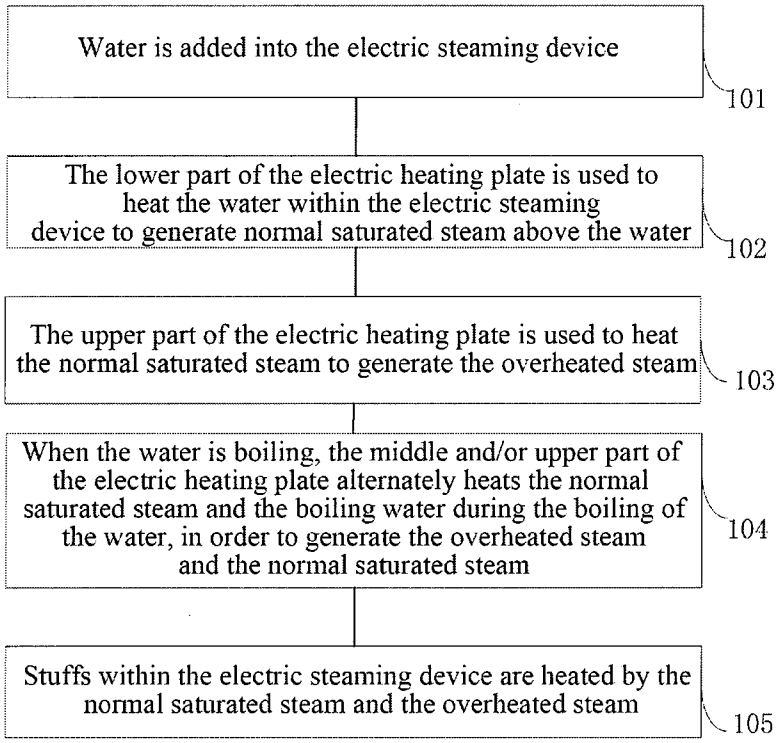

Water is added into the electric steaming device
101
The lower part of the electric heating plate is used to heat the water within the electric steaming device to generate normal saturated steam above the water
102
The upper part of the electric heating plate is used to heat the normal saturated steam to generate the overheated steam
103
When the water is boiling, the middle and/or upper part of the electric heating plate alternately heats the normal saturated steam and the boiling water during the boiling of the water, in order to generate the overheated steam and the normal saturated steam
104
Stuffs within the electric steaming device are heated by the normal saturated steam and the overheated steam
105

Fig. 1

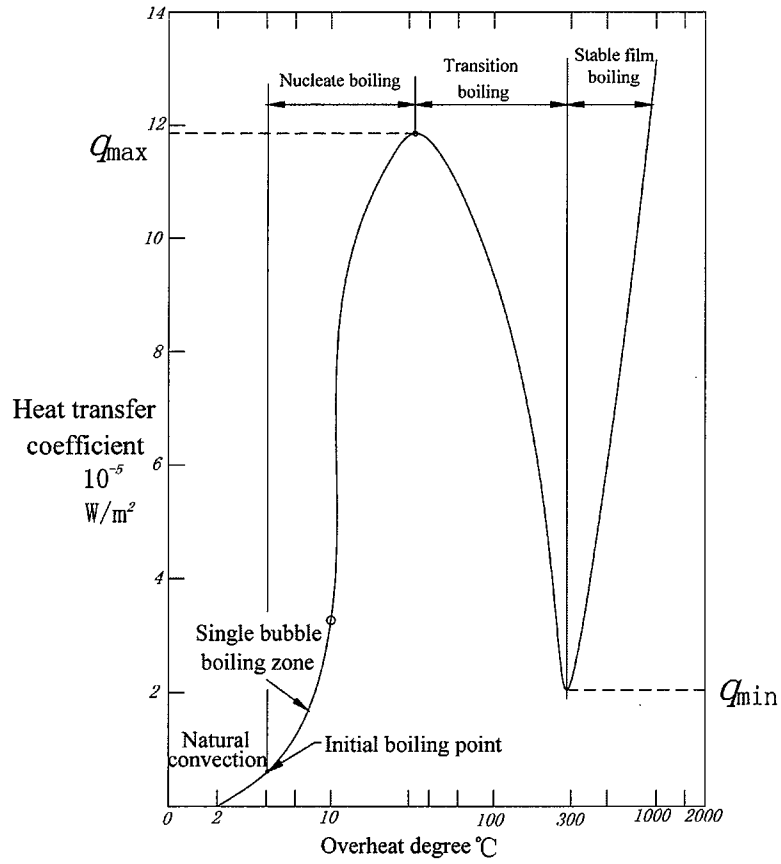

Nucleate boiling
Transition boiling
Stable film boiling
q_{max}
q_{min}
Heat transfer coefficient 10^{-5} W/m²
Single bubble boiling zone
Natural convection
Initial boiling point
Overheat degree ℃
14
12
10
8
6
4
2
0
2
10
100
300
1000
2000

Fig. 2