CLAIMS

1. A system for detecting a defective sample, the system comprising:

   a chamber with an open side, wherein the chamber is configured to attach to the defective sample at the open side of the chamber such that a volume is enclosed by the chamber and the defective sample;

   a pressure reducing mechanism coupled with the chamber;

   a detector; and

   a pressure sensor; wherein the pressure reducing mechanism is configured to reduce a pressure in the volume enclosed by the chamber and the defective sample, thereby causing a temperature drop from an initial temperature of the defective sample to a first temperature;

   wherein the detector is configured to detect information indicating a temperature of the defective sample, the information indicating the temperature due to a temperature increase from the first temperature to a second temperature, for detecting the defective sample; and

   wherein the pressure sensor is configured to sense the reduction in the pressure.

2. The system according to claim 1,

   wherein the second temperature is an ambient temperature.

3. The system according to claim 1,

   wherein the temperature drop is due to evaporation of water in the defective sample or on a surface of the defective sample.

4. The system according to claim 1,

   wherein the pressure reducing mechanism comprises:

a further chamber coupled to the chamber; and

a further pressure reducing mechanism coupled to the further chamber.

5. The system according to claim 4,

wherein the further chamber is constantly kept at vacuum by the further pressure reducing mechanism.

6. The system according to claim 4,

wherein the further pressure reducing mechanism is configured to reduce a further pressure in the further chamber to be lower than the pressure in the volume enclosed by the chamber and the defective sample.

7. The system according to claim 6,

wherein the reduction of the pressure in the volume enclosed by the chamber and the defective sample is caused by exposure of the pressure in the enclosed volume to the further pressure in the further chamber.

8. The system according to claim 7, the system further comprising:

a valve mechanism;

wherein the further chamber is coupled to the chamber such that the valve mechanism is between the further chamber and the chamber;

wherein the valve mechanism is configured to be switched between a first position and a second position such that the switching of the valve mechanism from the first position to the second position causes the exposure of the pressure in the volume enclosed by the chamber and the defective sample to the further pressure in the further chamber.

9. The system according to claim 8,

wherein the valve mechanism comprises a valve.

10. The system according to claim 7,

wherein the chamber is configured such that the pressure in the volume enclosed by the chamber and the defective sample is increased prior to exposure of the pressure in the enclosed volume to the further pressure in the further chamber.

11. The system according to claim 4,

wherein the further chamber comprises a liquid separator.

12. The system according to claim 4,

wherein the further pressure reducing mechanism comprises a vacuum pump.

13. The system according to claim 1,

wherein the defective sample is detected by comparing the information indicating the temperature of the defective sample with further information indicating a temperature of a non-defective sample.

14. The system according to claim 1,

wherein a defective region in the defective sample is detected by detecting a differential rate of increase in temperature between the defective region and a non-defective region.

15. The system according to claim 1,

wherein the detector is configured to detect the information indicating the temperature by detecting electromagnetic radiation emitted by the defective sample.

16. The system according to claim 15,

wherein the electromagnetic radiation is transmitted through at least a portion of the volume enclosed by the chamber and the defective sample.

17. The system according to claim 15,

wherein the electromagnetic radiation is infrared radiation.

18. The system according to claim 1, further comprising:

a data-recording unit coupled to the pressure sensor and the detector;

wherein the data-recording unit is configured to record the temperature increase and the pressure.

19. A method for detecting a defective sample, the method comprising:

reducing a pressure in a volume enclosed by a chamber and the defective sample using a pressure reducing mechanism coupled with the chamber, thereby causing a temperature drop from an initial temperature of the defective sample to a first temperature, wherein the chamber has an open side and the chamber is configured to attach to the defective sample at the open side of the chamber;

sensing the reduction in the pressure using a pressure sensor; and

detecting the defective sample by detecting information indicating a temperature of the defective sample, the information indicating the temperature due to a temperature increase from the first temperature to a second temperature, using a detector.

20. The method according to claim 19, further comprising:

recording the temperature increase and the pressure using a data-recording unit coupled to the pressure sensor and the detector.