CLAIMS

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

~~a chamber;~~

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; ~~and~~

~~a~~ a detector; and

a pressure sensor; wherein the pressure reducing mechanism is configured to reduce a pressure in the ~~chamber; and~~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 ~~sample~~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 information indicating the temperature is due to a temperature increase from a first temperature to a second temperature.~~

~~3. The system according to claim 2,~~

~~wherein the first temperature is due to a temperature drop from an initial temperature of the sample due to the reduction in the pressure in the chamber.~~

~~4. The system according to claim 3,~~

wherein the second temperature is an ambient temperature.

~~5~~3. The system according to claim ~~3~~1,

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

~~6~~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.~~

~~7. The system according to claim 6,~~

5. The system according to claim 4,

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

~~8. The system according to claim 6,~~

6. The system according to claim 4,

wherein the further pressure reducing mechanism is configured to reduce ~~the~~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,

~~9. The system according to claim 8,~~

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

8. The system according to claim ~~10. The system according to claim 9~~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 ~~chamber~~volume enclosed by the chamber and the defective sample to the further pressure in the further chamber.

9. The system according to claim 8,

~~11. The system according to claim 10,~~

~~wherein the valve mechanism comprises a valve.~~

~~12~~10. The system according to claim ~~9~~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 ~~chamber~~enclosed volume to the further pressure in the further chamber.

~~13~~11. The system according to claim ~~6~~4,

————wherein the further chamber comprises a liquid separator.

~~14~~12. The system according to claim ~~6, 4,~~

————wherein the further pressure reducing mechanism comprises a vacuum pump.

~~15~~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.–

~~16~~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.

~~17~~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.

~~18~~16. The system according to claim ~~17~~15,

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

~~19~~17. The system according to claim ~~17~~15,

————wherein the electromagnetic radiation is infrared radiation.

~~20~~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 chamber; and~~

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 ~~sample~~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.