CLAIMS

1. A reaction chamber for an epitaxial reactor, the chamber being provided with a cavity wherein reaction and deposition processes of semiconductor material on substrates occur, and comprising a covering system located within said cavity, wherein said cavity is surrounded by four walls, wherein said covering system comprises:

- a lower covering element resting on a lower wall of said cavity, and
- an upper covering element resting on said lower covering element;

wherein said lower covering element and said upper covering element define an inner space included in said cavity and an outer space included in said cavity, and create four walls surrounding said inner space,

wherein the walls of said inner space are spaced from the walls of said cavity by means of an empty space,

wherein said inner space is adapted to accommodate at least one substrate subject to deposition of semiconductor material,

wherein said inner space is isolated from said outer space.

2. The reaction chamber according to claim 1,

wherein the walls of the chamber are made entirely of quartz, and

wherein the covering system is made entirely of quartz.

3. The reaction chamber according to claim 2,

wherein said covering system is configured so as to house at least one rotating disc of a substrate support susceptor, said disc being made of graphite and adapted to be heated by induction.

4. The reaction chamber according to claim 1 or 2 or 3,

wherein said covering system further comprises a base covering element, which rests directly on a lower wall of said cavity, and

wherein said lower covering element rests on said base covering element.

5. The reaction chamber according to claim 4, wherein said base covering element rests directly on said lower wall of said cavity only by means of feet.

6. The reaction chamber according to claim 4 or 5, wherein said base covering element is in the form of a flat rectangular slab.

7. The reaction chamber according to claim 4 or 5 or 6, wherein said base covering elementis made of transparent quartz.

8. The reaction chamber according to claim 4 or 5 or 6 or 7, wherein said base covering element consists of two pieces which mechanically couple to each other, in particular wherein a first one of the two pieces is located upstream and a second one of the two pieces is located downstream in relation to a reaction gas flow direction.

9. The reaction chamber according to claim 4 or 5 or 6 or 7 or 8, wherein said base covering elementhas a central hole adapted for the passage of a rotation shaft of a substrate supporting susceptor.

10. The reaction chamber according to any one of the preceding claims 1 to 9, wherein said upper covering element is in the form of a flat rectangular slab preferably with two shoulders at two opposite edges of the flat slab.

11. The reaction chamber according to claim 10, wherein said upper covering element is made of transparent quartz.

12. The reaction chamber according to claim 10 or 11, wherein said upper covering element consists of a single piece.

13. The reaction chamber according to any one of the preceding claims 1 to 12, wherein said lower covering element is in the form of a flat rectangular slab preferably with shoulders in correspondence of at least some edges of the flat slab.

14. The reaction chamber according to claim 13, wherein said lower covering element is made of opaque quartz.

15. The reaction chamber according to claim 13 or 14, wherein said lower covering element consists of two pieces which mechanically couple to each other, in particular wherein a first one of the two pieces is located upstream and a second one of the two pieces is located downstream considering a reaction gas flow direction.

16. The reaction chamber according to claim 13 or 14 or 15, wherein said lower covering element has a central hole adapted to receive a disc of a substrate supporting susceptor.

17. The reaction chamber according to claim 15 or 16, wherein said lower covering element has shoulders at two opposite edges of the flat slab and/or

shoulders at said central hole.

18. An inner covering element for a reaction chamber of an epitaxial reactor, said element being configured so as to be a component of the covering system of the reaction chamber according to any one of claims 1 to 17.

19. The inner covering element according to claim 18, said element being entirely made of quartz.

20. An epitaxial reactor comprising at least one reaction chamber according to any one of claims 1 to 17.