and/or the “thermal” insulation of the inner space and/or the soiling of the inner surfaces of the reaction chamber walls (in the sense of reducing it) and/or the possibility of local temperature control in the lower area of the reaction chamber were identified.

It should be noted that this inner space of the reaction chamber cavity is adapted to contain a susceptor disc and, during epitaxial growth processes, also substrates on which epitaxial deposition of semiconductor material occurs.

As known, there is an interest in high thickness uniformity and high quality of the semiconductor material layers deposited on the substrates.

This general object as well as at least these objects are reached thanks to what set forth in the appended claims that form an integral part of the present description.

An aspect of the present disclosure provides 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.

LIST OF FIGURES

The present invention shall become more readily apparent from the detailed description that follows to be considered together with the accompanying drawings in which:

Fig. 1 shows a first schematic and simplified (not in scale) cross-section (in the longitudinal direction) of a first embodiment of a reaction chamber according to the present invention - the figure is subdivided into three views: View A shows only a

chamber, View B shows only the components of the covering system, View C shows the chamber with the covering system housed therein,

Fig. 2 shows a second schematic and simplified cross-section (not in scale) of the embodiment of Fig. 1,

Fig. 3 shows a first schematic and simplified horizontal section (not in scale) at a first elevation of the embodiment of Fig. 1,

Fig. 4 shows a second schematic and simplified horizontal section (not in scale) at a second elevation of the embodiment of Fig. 1,

Fig. 5 shows a third schematic and simplified horizontal section (not in scale) at a third elevation of the embodiment of Fig. 1,

Fig. 6 shows a fourth schematic and simplified horizontal section (not in scale) of the embodiment of Fig. 1,

Fig. 7 shows a fifth schematic and simplified horizontal section (not in scale) at a