

Abstract

Device and method for producing a semiconductor wafer with reduced autodoping

The invention relates to a layer deposition arrangement (1) for an epi-reactor for producing a
5 semiconductor wafer having at least one epitaxial layer, wherein the layer deposition
arrangement (1) comprises a hole susceptor unit (1.1) and a preheat ring (1.2), wherein the
hole susceptor unit (1.1) has a hole susceptor unit upper side (1.12) and a hole susceptor unit
lower side (1.13), wherein, at least during an epi-deposition mode, (i) the preheat ring (1.2)
surrounds the hole susceptor unit (1.1) spaced apart at least in sections via a gap unit (1.3), in
10 particular in the form of an air gap ring, wherein the hole susceptor unit (1.1) is designed to
rotate at a pre-definable rotational velocity around a vertical axis of the hole susceptor unit
(1.1) in relation to the preheat ring (1.2), and (ii) the layer deposition arrangement (1)
furthermore comprises at least one sealing ring unit (1.4), which is arranged on the layer
deposition arrangement (1) and is designed so as to provide a physical barrier unit at the gap
15 unit (1.3) between the hole susceptor unit upper side (1.12) and the hole susceptor unit lower
side (1.13).

Figure of the abstract: Figure 1